



Cole-Parmer

Delivering Solutions You Trust

Industrial Catalogue



Production and Manufacturing

Process Engineering

Research and Development



Flowmeters

Material Handling

Mixers

Pumps

Test and Measurement



To order, contact Cole-Parmer Instrument Company Limited at:
Unit 3, River Brent Business Park, Trumpers Way, Hanwell, London W7 2QA
Tel: Call free 0500 345 300 or 020 8574 7556 Fax: 020 8574 7543
www.coleparmer.co.uk, e-mail: sales@coleparmer.co.uk

Cole-Parmer provides products and services to the scientific and technical communities worldwide.

We also deliver solutions to help solve your fluid handling needs. Inside this catalogue, you'll find many of our newest products not featured in our 2005-06 general catalogue, along with the basics you expect.

Our full offering is available on our website

www.coleparmer.co.uk

Visit us today!

Cole-Parmer Instrument Company Ltd

Unit 3, River Brent Business Park,
Trumpers Way, Hanwell,
London W7 2QA

Phone: 020 8574 7556

Call Free 0500 345 300

Fax: 020 8574 7543

E-mail: sales@coleparmer.co.uk

**Call Free
0500-345-300**

www.coleparmer.co.uk

Delivering Solutions You Trust

Cole-Parmer Instrument Co. Ltd. Terms and Conditions of Sale

Conditions

These Terms and Conditions of Sale, and those posted on Cole-Parmer's Web site at www.coleparmer.co.uk, are applicable to all sales of products and services by Cole-Parmer Instrument Company and its subsidiaries and affiliates, and terms or conditions included in any document which are inconsistent with these Terms and Conditions shall not be binding on Cole-Parmer.

Prices

Prices quoted are exclusive of VAT, packing and carriage. VAT will be added to all goods and services supplied at the prevailing rate. Whilst every effort is made to maintain the prices shown in this catalogue, the Company reserves the right to modify prices at any time without notice.

Delivery

Any time for delivery stated by the Company shall be treated as an estimate only. Whilst every effort will be made to despatch goods on time, no liability can be accepted by the Company for failure to deliver within the advertised times. The Company shall not be liable for any loss or damage whatsoever (including consequential loss of profit or revenue) arising directly or indirectly from any delay on the delivery of all or any of the goods and services, howsoever caused.

Payment Terms

Unless otherwise expressly stipulated by the Company, credit account invoices are due and payable 30 days from the date of invoice. If an invoice becomes overdue for payment the full outstanding account becomes overdue and payable. Payment can be made by cheque or major credit cards, made payable to Cole-Parmer Instrument Company Ltd.

Packing and Carriage Charge

a) All ex-stock orders over £350 net value and under 25 kilos are delivered Free to UK mainland (except North Scotland) addresses.

b) All ex-stock orders under £350 net value and under 25 kilos are delivered to UK mainland address (except North Scotland) and charged as follows:

Standard Delivery: 2-4 days, £6.95 excl. VAT

Next Day Delivery: 24 hours, £8.95 excl. VAT

c) All orders under 25 kilos delivered to Northern Ireland, North Scotland and Channel Islands are as follows:

Standard Delivery: 2-4 days, £15.00 excl. VAT

d) All orders above 25 kilos and all orders for delivery outside the UK mainland are quoted for separately.

e) All non-stock orders will be quoted for separately. Any orders received for non-stock items, the Company will notify the customer in advance of lead times and any additional carriage charge applicable.

Limited Warranty

Cole-Parmer Instrument Company Ltd. ("CPUK") warrants products sold by CPUK to be free from defects in materials and workmanship for a period of one year from the date of shipment, under normal use and service, unless a different warranty period is specified in the CPUK catalogue, product packaging, or web site. CPUK's sole responsibility and the customer's exclusive remedy for any claim arising out of the purchase of any product from CPUK is, at CPUK's option, repair, replacement, or credit, where applicable. Unless otherwise agreed in writing, the foregoing warranty is limited to the country in which the product is sold. No CPUK employee, agent or representative has the authority to bind CPUK to any warranty other than the foregoing unless in writing and signed by a duly authorized officer of CPUK. CPUK makes no warranty and shall have no obligation except as stated in its returned goods policy with respect to expendable or consumable products. CPUK DISCLAIMS ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. In no event: (i) shall the cost of the customer's exclusive remedy exceed the purchase price of the subject product; (ii) shall CPUK be liable for any special, indirect, incidental, consequential, or exemplary damages, howsoever arising, even if CPUK has been advised of the possibility of such damages.

In no event will a warranty cover damage caused by or resulting from accident, neglect, customer abuse, misuse, modification, improper operation, maintenance or service, or unauthorized installation, alterations or repairs to the products, and in such instances the associated repair charges will be billed to the customer.

CPUK will not be responsible for shipping damage resulting from inappropriate or insufficient packaging of returned items. Items being returned must be carefully packed to prevent damage in shipment and insured against possible damage or loss.

Shortages or Damage in Transit

Claims for shortages or damage in transit must be notified in writing to the Company within three days of receipt of goods, or in the case of non-delivery within 48 hours of receiving the invoice, otherwise no liability can be accepted by the Company. Packages which have been damaged in transit should be returned to the Company as detailed under "Return of Goods".

Return of Goods

Under no circumstances will Cole-Parmer Instrument Company accept the return of any goods without prior approval by a Company official who will issue the customer a goods return number. Any goods returned which have been used in a process must also be accompanied with a 'Certificate of Decontamination' as detailed below under COSHH Regulations. Any returned goods must be accompanied with the Cole-Parmer

issued goods return number and the customers' letterhead instructions. The Company will be pleased to refund or credit the customer the carriage charge for returned goods found to be defective.

Supply of Goods

In the event that the Company is unable to supply goods as ordered by the customer, the Company reserves the right to offer goods of equal or superior quality comparable to or compatible with the goods ordered at the same price.

Cancellation of Orders

Where cancellation is accepted, the company will charge the customer a 30% restocking and handling charge on the net order value and where the minimum handling charge is £50.00 per order. Under no circumstances will cancellation be accepted for items specially manufactured or ordered on the customers' behalf.

New Accounts

The company will be pleased to consider any request for opening a credit account against a satisfactory bank and two trade references. Please allow two weeks for account opening procedures to be completed. If you require goods sooner, please send a cheque with your first order, or for immediate despatch of goods pay by any major credit cards.

COSHH Regulations

No goods that have been used, by law, may be returned for whatever reason without passing and being accompanied by a 'Certificate of Decontamination', which should record the media used and nature of potential contamination. Any goods returned without this documentation and suspected of being used may be quarantined and disposed of without further inspection.

Property and Title

No property or title to goods shall pass from the Company to the customer unless and until the full amount of the value of the goods as invoiced has been credited to the Company's bank account without recourse or the Company has received the full amount in cash and the customer shall indemnify the Company against any loss or damage to the goods prior to the passing of property therein whilst in the customers custody. Risk of

damage or loss of the goods shall pass to the customer at the time of delivery or, if the customer wrongfully fails to take delivery of the goods, at the time when the Company has tendered delivery of the goods.

Table of Contents

| | Page |
|---------------------------|-------|
| What's New | 3 |
| Mixers | 4-14 |
| Flowmeters | 15-33 |
| Pumps | 34-55 |
| Flow Essentials | 56-66 |
| Tubing | 56-58 |
| Fittings | 59-63 |
| Valves | 64-66 |
| Material Handling | 67-72 |
| Containers | 67 |
| Trolleys | 68-70 |
| Safety Cabinets | 71 |
| Tanks | 72 |
| Test and Measurement | 73-97 |
| Balances | 73-75 |
| Conductivity | 76 |
| Dataloggers and Recorders | 77-80 |
| Force | 81-82 |
| Humidity | 83 |
| pH | 84-86 |
| Pressure | 87-89 |
| Temperature | 90-97 |
| Index | 98 |

Mixers and Flowmeters



- Laboratory Mixers - [Page 5-8](#)
- Constant Torque Mixers - [Page 6-8](#)
- Large Scale Mixers - [Page 12](#)
- In-line flowmeters - [Page 19](#)
- Turbine flowmeters - [Page 26-29](#)
- Ultrasonic and Vortex flowmeters - [Page 30](#)

Pumps and Fittings



- Diaphragm Pumps - [Page 45](#)
- AOD Pumps - [Page 46-47](#)
- Submersible Pumps - [Page 48](#)
- Drum Pumps - [Page 52-53](#)
- Vacuum Pumps - [Page 54](#)
- Barbed Fittings - [Page 59](#)

Material Handling and Test & Measurement



- Trolleys - [Page 68-69](#)
- Platform Trucks - [Page 70](#)
- Storage Cabinets - [Page 71](#)
- Balances - [Page 73](#)
- Dataloggers - [Page 77-79](#)
- Force Gauges - [Page 81](#)
- Tamper Evident Torque Testers - [Page 82](#)
- Humidity Controllers - [Page 83](#)
- pH - [Page 84-85](#)
- Pressure Manometers - [Page 87](#)
- Gas Regulators - [Page 89](#)
- IR Datalogging Thermometer - [Page 90](#)
- Hotplates and Magnetic Stirrers - [Page 92](#)
- Baths - [Page 93](#)



Mixers

Mixer Selection Guide

Cole-Parmer offers a broad selection of mixers and mixer products to suit almost any application. Proper selection of a mixer requires knowledge of certain application variables:

Viscosity Value Conversion Table

| Centipoise* (cp) | Centistokes (cSt) | Saybolt Second Universal (SSU) | Typical liquid |
|------------------|-------------------|--------------------------------|---|
| 1 | 1 | 31 | Water Milk No. 4 fuel oil Cream |
| 3.2 | 4 | 40 | |
| 12.6 | 15.7 | 80 | |
| 16.5 | 20.6 | 100 | |
| 34.6 | 43.2 | 200 | Vegetable oil SAE 10 oil Tomato juice SAE 30 oil |
| 88 | 110 | 500 | |
| 176 | 220 | 1000 | |
| 352 | 440 | 2000 | |
| 880 | 1100 | 5000 | Glycerine SAE 50 oil Honey Glue |
| 1561 | 1735 | 8000 | |
| 1760 | 2200 | 10,000 | |
| 3000 | 4500 | 20,000 | |
| 5000 | 6250 | 28,000 | Mayonnaise Molasses B Sour cream SAE 70 oil |
| 8640 | 10,800 | 50,000 | |
| 15,200 | 19,000 | 86,000 | |
| 17,640 | 19,600 | 90,000 | |

* Centipoise = centistokes x specific gravity where specific gravity is assumed to be 0.8 (except for water).
To find the exact cp of your fluid: cp = cSt x (weight per liter x 0.4542)

Select Mixer Power Tables

| 75 W power mixers | |
|-------------------|-----------------|
| Mixing Volume | Viscosity (cps) |
| 200 L | 1 |
| 100 L | 100 |
| 50 L | 250 |
| 20 L | 500 |
| 4 L | 1000 |
| 2 L | 2000 |
| 1.5 L | 2500 |
| 0.75 L | 5000 |
| 0.5 L | 5000 |

| 50 W power mixers | |
|-------------------|-----------------|
| Mixing Volume | Viscosity (cps) |
| 200 L | 1 |
| 100 L | 25 |
| 50 L | 100 |
| 20 L | 250 |
| 4 L | 500 |
| 2 L | 500 |
| 1.5 L | 1000 |
| 0.75 L | 1500 |
| 0.5 L | 2000 |

| 25 W power mixers | |
|-------------------|-----------------|
| Mixing Volume | Viscosity (cps) |
| 100 L | 1 |
| 50 L | 10 |
| 20 L | 25 |
| 4 L | 250 |
| 2 L | 500 |
| 1.5 L | 500 |
| 0.75 L | 1000 |
| 0.5 L | 1000 |

Positioning a Mixer in a Cylindrical Vessel

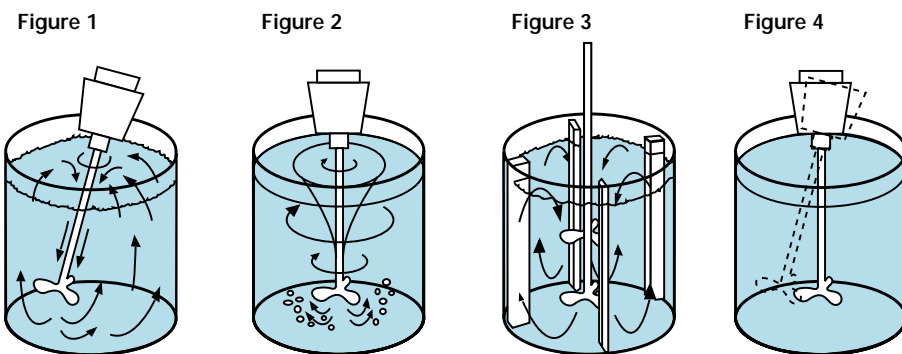


Figure 1: Aiming the shaft off center avoids vortexing and allows strong top-to-bottom turnover. This is the best position for most mixing and blending.

Figure 2: A center stirrer with a straight-blade propeller creates vortexing in an unbaffled vessel. Vortexing speeds up dispersion and dissolution of light liquids and hard-to-wet powders.

Figure 3: Baffles prevent vortexing and excessive aeration created by center-mounted stirrers with straight blade propellers. Four vertical baffles should be equidistant around the circumference of the vessel. Baffle width should be 1/12 the diameter of the tank.

Figure 4: You may want more than one kind of stirring action for multiple-step mixing. For example, if you first need to dissolve light powders, you can center the stirrer to create a vortex. Then you can reposition the stirrer at an angle to maintain a uniform suspension or to blend in other fluids. Portable clamp-mount stirrers make repositioning easy.

1) Liquid viscosity: Different types of liquids display different characteristics when force is applied. Four most common types of liquid behavior are listed below—all of our mixers are to be used with fluids exhibiting Newtonian, pseudoplastic, or thixotropic behaviors. Refer to the “Viscosity Value Conversion Table” opposite for typical viscosities of common liquids and use the “Select Mixer Power Tables” opposite to estimate the power of the mixer you will need for your application.

Dilatant Liquids—viscosity increases as shear rate increases. Mixers can bog down and stall after initially mixing such liquids. Dilatant liquids include slurries, clay, and candy compounds.

Newtonian Liquids—viscosity remains constant regardless of shear rate or agitation. As mixer speed increases, flow increases proportionately. Newtonian liquids include water, mineral oils, and hydrocarbons.

Pseudoplastic Liquids—viscosity decreases as shear rate increases, but initial viscosity may be sufficiently great to prevent mixing. Typical pseudoplastic liquids are gels, latex paints, and lotions.

Thixotropic Liquids—as with pseudoplastic liquids, viscosity decreases as shear rate or agitation increases. When agitation is stopped or reduced, hysteresis occurs and viscosity increases. Often the viscosity will not return to its initial value. Thixotropic liquids include soaps, tars, shortening, glue, inks, and peanut butter.

2) Container capacity: tank diameter, batch height and vessel shape.

3) Process type: a mixer can be utilized for a range of different processes including agitation, blending, dissolving and solid suspension. The type of process will effect the positioning of the mixer, (see the “Positioning a mixer in a cylindrical vessel” opposite), the torque requirements, the running speed of the mixer and the type of impeller used.

Gentle Agitation—of a liquid

Blending—mixing of two or more liquids

Dissolving—of powder into a liquid. Consideration needs to be given to percentage weight of powder versus liquid.

Solid Suspension—of particulate matter in a liquid. Consideration needs to be given to the particle size, percentage weight of solid versus liquid and the specific gravity of the solid.

4) Duty cycle: the time interval devoted to starting, running, stopping, and idling when a device is used intermittently.

5) Power supply: electric (230 VAC) or air-drive mixers for areas where electricity is unsafe or impractical.

General Purpose Laboratory Mixer



- ▶ Speed range from 40 to 2000 rpm
- ▶ Clear front panel layout for ease of operation
- ▶ Mixers feature a through-type shaft that allows a shaft to be extended through the top of the mixer to allow variable depth adjustment
- ▶ Motor cut-out feature in permanent overload situation
- ▶ Continuous duty

These reliable, variable-speed mixers feature a low-speed and high-speed setting to cover the range from 40-2000 rpm. Low speed setting offers increased torque performance. Choose from a basic analogue speed control (01UK0-00) or digital display for precision speed control and reproducible settings (Models 01UK0-10, -20). The digital models are available in either a standard model for aqueous to medium viscosity liquids or the heavy duty model for more viscous liquids or larger batch sizes.

All mixers include a chuck which will accept shafts up to 10mm (3/8") in diameter and a 13mm (1/2") diameter mounting rod for connection to a stand. Order shaft, propeller, clamp and stand separately from pages 7 and 8.



01UK0-10
Standard Mixer with digital display

01UK0-20
Heavy Duty Mixer with digital display

More info

For a range of magnetic stirrers see page 92



| Cat. No. | Mounting type | Speed (Low/High gear) | Max Torque (Low/High gear) | Motor Output Power | Max Viscosity mPas | Max Volume† | Dimensions (w x d x h) mm | Shpg wt | Price |
|-------------|----------------------------------|-----------------------|----------------------------|--------------------|--------------------|-------------|---------------------------|---------|---------|
| IB-01UK0-00 | 13 mm dia, 160 mm L mounting rod | 40 to 400 rpm | 160 / 16 Ncm | 27 W | 60,000 | 25 L | 72 x 176 x 205 | 5 kg | £466.00 |
| IB-01UK0-10 | | 200 to 2000 rpm | 160 / 16 Ncm | 27 W | 60,000 | 25 L | 72 x 176 x 205 | | £618.00 |
| IB-01UK0-20 | | | 225 / 22 Ncm | 37 W | 100,000 | 40 L | 82 x 176 x 221 | | £691.00 |

†For water-like solution

Specifications

Supply Power: 240 VAC 50Hz

Overload Protection: Overheat protection reset by power switch

Protection Class: IP40

Maximum Shaft Diameter: 10mm (3/8")

Operating Ambient: 0 to 40°C

Duty Cycle: Continuous

Accessories

IB-01UK0-70 Shaft Guard for 01UK0-XX and 01UK1-XX, made of PMMA this can be adjusted between 187 and 312mm vertically, shpg wt 0.5 kg£37.00

IB-01UK0-75 Flexible Shaft for 01UK0-XX and 01UK1-XX, supplied with an 8.5mm chuck this can be used up to a max torque of 150 Ncm, shpg wt 1 kg.....£286.00

IB-01UK0-76 Coupling for Flexible Shaft, coupling to allow 01UK-75 to accept 10mm dia shafts, shpg wt 0.2 kg£77.00

Constant Torque Mixer

- ▶ Constant speed and torque under changing loads - desired speed is held constant even under changing viscosities
- ▶ Digital speed torque setting and monitoring
- ▶ Changes in viscosity can be monitored on digital display
- ▶ Clear front panel layout for ease of operation
- ▶ Mixers 01UK1-00, -10 feature a through-type shaft that allows a shaft to be extended through the top of the mixer to allow variable depth adjustment
- ▶ Motor cut-out feature in permanent overload situation - overload mode with 200% power reserve for limited time
- ▶ RS2322 interface for full computer controllability
- ▶ Continuous duty

Constant speed and torque mixers are ideal for applications where viscosity varies during the mixing process, as in the case of pseudoplastic and thixotropic fluids. Choose from the three models based on batch size and the viscosity of the media.

All models feature digital control, digital display and an RS232 and analogue output (0 to 10VDC) for data logging of speed and torque. For connection options see the accessories section below. All mixers include a chuck which will accept shafts up to 10mm (3/8") in diameter and a 13mm (1/2") diameter mounting rod for connection to a stand. Order shaft, propeller, clamp and stand separately from pages 7 and 8.



01UK1-00

01UK1-10

01UK1-20



| Cat. No. | Mounting type | Speed (Low/High gear) | Max Torque (continuous/intermittent duty) | Motor Output Power | Max Viscosity mPas | Max Volume† | Dimensions (w x d x h) mm | Shpg wt | Price |
|-------------|----------------------------------|---------------------------------|---|--------------------|--------------------|-------------|---------------------------|---------|-----------|
| IB-01UK1-00 | 13 mm dia, 160 mm L mounting rod | 50 to 2000 rpm | 20 / 40 Ncm | 50 W | 10,000 | 40 L | 72 x 176 x 206 | 5 kg | £785.00 |
| IB-01UK1-10 | | 12 to 400 rpm 60 to 2000 rpm | 200 / 400 Ncm | 100 W | 100,000 | 40 L | 82 x 176 x 211 | | £1,334.00 |
| IB-01UK1-20 | | 4 to 108 rpm 17 to 540 rpm | 700 / 800 Ncm | 100 W | 350,000 | 100 L | 82 x 176 x 292 | | £1,650.00 |

†For water-like solution

Specifications

Supply Power: 240 VAC 50Hz

Overload Protection: Overheat protection reset by power switch

Protection Class: IP40

Output: RS232 via Sub HDD 15-pin plug

Remote Control: Start/Stop via contact closure

Maximum Shaft Diameter: 10mm (3/8")

Operating Ambient: 0 to 40°C

Duty Cycle: Continuous

Analogue Output: 0-10VDC for speed, 0-10VDC for torque

Accessories

IB-01UK0-70 Shaft Guard for 01UK0-XX and 01UK1-XX, made of PMMA this can be adjusted between 187 and 312mm vertically, shpg wt 0.5 kg£37.00

IB-01UK0-75 Flexible Shaft for 01UK0-XX and 01UK1-XX, supplied with an 8.5mm chuck this can be used up to a max torque of 150 Ncm, shpg wt 1 kg£286.00

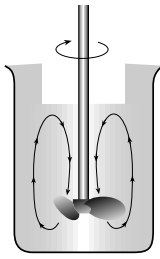
IB-01UK0-76 Coupling for Flexible Shaft, coupling to allow 01UK-75 to accept 10mm dia shafts, shpg wt 0.2 kg£77.00

IB-01UK1-70 RS232 Cable, connect mixer to a serial PC port (Sub HDD 15-pin plug to Sub 9-D socket), shpg wt 0.2 kg£42.00

IB-01UK1-72 Connector Cable, connect mixer to plug connectors to wire in to custom system (Sub HDD 15-pin plug to plug connectors), shpg wt 0.2 kg£42.00

Selecting Your Impeller

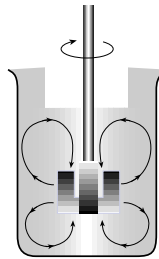
Use the following flow diagrams and key points to determine the impeller best suited for your mixing application.



A Propeller-Type Impeller

Action:

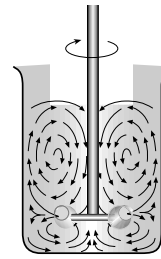
- For medium to high viscosities
- Ideal for homogenizations and suspensions
- Generates primarily axial flow



B Anchor-Type Impeller

Action:

- Low speed range
- For mixing of liquids with middle up to high viscosity



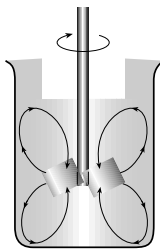
C Visco Jet Mixing System

Turbulent flows are created at the taper end by acceleration, displacement and retardation. These flows advance through the stirred medium and result in the new dynamic mixing motion suitable for homogenizing both low and

high-viscosity liquids.

Your advantages:

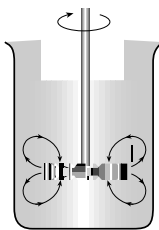
- Only one system for nearly every mixing task
- No air intake
- No foaming
- No heating
- Careful and gentle mixing
- Short mixing periods
- Less power consumption through low mixing speed



D Blade and Half-Moon Impeller

Action:

- Middle speed range
- For stirring of liquids with low up to middle viscosity



E Radial Flow Impeller

Action:

- Ideal for the gassing of liquids
- For medium to high viscosities
- Generates primarily radial flow



C IB-01UK2-52 VISCO JET® 60mm SS

Material: 316ss

Impeller dia.: 60mm

Shaft: 500mm x 10mm dia

For use between 200-800 rpm and with a vessel dia. 80-150mm.

Price: £228.00



C IB-01UK2-54 VISCO JET® 80mm SS

Material: 316ss

Impeller dia.: 80mm

Shaft: 500mm x 10mm dia

For use between 200-700 rpm and with a vessel dia. 115-200mm.

Price: £262.00



C IB-01UK2-58 VISCO JET® 80mm POM

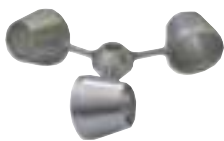
Material: impeller plastic (POM), hub brass, shaft 316ss

Impeller dia.: 80mm

Shaft: 500mm x 10mm dia

For use between 200-700 rpm and with a vessel dia. 115-200mm.

Price: £44.00



C IB-01UK2-56 VISCO JET® 120mm SS

Material: 316ss

Impeller dia.: 120mm

Shaft: 500mm x 10mm dia

For use between 120-500 rpm and with a vessel dia. 170-300mm.

Price: £329.00



C IB-01UK2-60 VISCO JET® 120mm POM

Material: impeller plastic (POM), hub brass, shaft 316ss

Impeller dia.: 120mm

Shaft: 500mm x 10mm dia

For use between 120-500 rpm and with a vessel dia. 170-300mm.

Price: £56.00



A IB-01UK2-62 SS Impeller

Material: 304ss

Propeller dia: 58mm

Shaft: 400mm L x 8mm dia

Price: £37.00



A IB-01UK2-66 Ringed SS Propeller

Material: 316ss

Propeller dia: 33mm

Shaft: 400mm L x 8mm dia

Price: £66.00



A IB-01UK2-64 PTFE Impeller

Material: PTFE

Propeller dia: 75

Shaft: 35m L x 8mm dia

Price: £127.00



A IB-01UK2-68 Ringed SS Propeller

Material: 316ss

Propeller dia: 45mm

Shaft: 400mm L x 8mm dia

Price: £70.00

Mixers

Laboratory/Small Scale Mixers



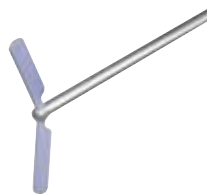
A IB-01UK2-70 Ringed SS Propeller
Material: 316ss
Propeller dia: 66mm
Shaft: 400mm L x 8mm dia
Price: £92.00



D IB-01UK2-78 Square Blade Impeller
Material: 304ss
Blade size: 70 x 70mm
Shaft: 450mm L x 8mm dia
Price: £33.00



B IB-01UK2-88 Anchor Impeller
Material: PTFE
Blade size 65 x 40 x 5mm
Shaft: 350mm L x 8mm dia
Price: £134.00



D IB-01UK2-80 Collapsible Blade Impeller
Material: 304ss
Blade size: 90 x 10mm
Shaft: 400mm L x 8mm dia
Price: £32.00



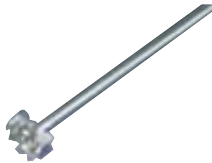
D IB-01UK2-72 Crossed Blade Impeller
Material: 304ss
Blade: 50 x 12mm
Shaft: 400mm L x 8mm dia
Price: £31.00



D IB-01UK2-82 Half Moon Impeller
Material: PTFE
Blade size 65 x 18 x 3mm
Shaft: 350mm L x 8mm dia
Price: £101.00



D IB-01UK2-74 Straight Blade Impeller
Material: 304ss
Blade: 50 x 12mm
Shaft: 400mm L x 8mm dia
Price: £29.00



B IB-01UK2-84 Radial Flow Impeller
Material: 316ss
Turbine diameter 29mm
Shaft: 400mm L x 8mm dia
Price: £50.00



D IB-01UK2-76 Pivoting Blade Impeller
Material: 304ss
Blade: 60 x 15mm
Shaft: 400mm L x 8mm dia
Price: £28.00



B IB-01UK2-86 Radial Flow Impeller
Material: 316ss
Turbine diameter 50mm
Shaft: 400mm L x 8mm dia
Price: £58.00



Stands

IB-01UK2-00 Plate Stand, base plate is 200 x 315mm, support rod is 16mm dia and 700mm long, shpg wt 5.2 kg£86.00

IB-01UK2-10 Universal Stand, base plate is 430 x 415mm, support rod is 25mm dia and 700mm long, shpg wt 5.8 kg.....£126.00

IB-50001-92 Stand, corrosion resistant, electropolished cast steel base and 303 SS support rod is 16mm dia and 735mm long, shpg wt 5.9 kg£130.00



Clamps

Clamps ensure sturdy connection between mixer and stand

IB-08041-22 Clamp, for use with all stands, shpg wt 0.5 kg£15.28

IB-01UK2-25 Clamp, for use with all stands, shpg wt 0.5 kg£49.00

IB-01UK2-35 Cross sleeve clamp, for use with 01UK2-00 stand, shpg wt 0.5 kg£31.00

IB-04560-24 Cross sleeve clamp, for use with all stands, shpg wt 0.5 kg£55.00



01UK2-25

01UK2-35

Lightnin® General Purpose Mixers

- ▶ Each mixer includes a 316 SS shaft and an A-310 impeller for high-efficiency mixing
- ▶ Process capacity up to 200 L
- ▶ Choose from three control types
Fixed speed models
Variable speed with remote analogue controller
Variable speed with remote digital controller
- ▶ Choose from three mounting styles
Universal clamp mixers mount directly to a ring stand or tank rim.
Boss head mixers require the heavy-duty dual clamp 04560-24 (sold below).
4" Tri-Clamp® mounting flange to use with tanks with a sanitary quick-connect mixer port to provide a closed system mixer.

General purpose direct-drive mixers are excellent for pilot studies of chemical, food, and waste-water treatment processes. All mixers feature a fuse-protected TENV continuous-duty motor; operate on 230 VAC, 50/60 Hz; have an on/off indicator light and are supplied with a stainless steel shaft and impeller.

Fixed Speed Mixers

Fixed speed models operate at a fixed speed of 1450 rpm. The mixer head position can be adjusted via the adjustment knob. The shaft is connected to the motor by a collet style chuck and is a non-through type design.

Remote Control Mixers

These variable speed mixers feature a remote speed controller connected to the mixer via a 1.5 m cable that lets you position the controller safely away from splashing liquids. Choose either an analogue controller or digital controller with 4 digit LED display. Through-type shaft and motor angle adjustment knob give you precise control of stirring angle and propeller depth. The shaft is connected to the motor by a collet style chuck and the through type design allows adjustment to the extension of the shaft without having to move the mixer.



035UK-10 with stand 04546-00

Digital controller



035UK-60

| Cat. No. | Mounting type | Speed | Power | Shaft length | Impeller dia | Max Volume† | Shpg wt | Price |
|---|---------------------|----------------|-------|--------------|--------------|-------------|---------|----------|
| Fixed speed mixer | | | | | | | | |
| IB-035UK-00 | Universal clamp | 1450 rpm | 30 W | 457 mm | 64 mm | 100 L | 6 kg | £460.00 |
| Variable speed mixer with remote analogue controller | | | | | | | | |
| IB-035UK-10 | Universal clamp | 90 to 2300 rpm | 50 W | 610 mm | 64 mm | 200 L | 5 kg | £554.00 |
| IB-035UK-20 | Boss head* | | | | | | | £525.00 |
| IB-035UK-30 | 4" Tri-clamp flange | | | | | | | £1034.00 |
| Variable speed mixer with remote digital controller | | | | | | | | |
| IB-035UK-40 | Universal clamp | 90 to 2300 rpm | 50 W | 610 mm | 64 mm | 200 L | 5 kg | £698.00 |
| IB-035UK-50 | Boss head* | | | | | | | £667.00 |
| IB-035UK-60 | 4" Tri-clamp flange | | | | | | | £1178.00 |

* Requires heavy-duty dual clamp 04560-24 sold under accessories

† For water-like solution

Specifications

Supply Voltage: 230 VAC 50/60 Hz

Duty cycle: continuous

Shaft: 3/8" dia (one end accepts 5/16" bore impeller)

Wetted parts: 316 SS

Accessories

- IB-04560-24 Heavy-duty dual clamp. Required for boss head mount mixers. Shpg wt 1.0 kg£120.00
- IB-04546-00 Mixer stand has a black cast-iron base and a stainless steel rod. Rod measures 680 mm H x 16 mm dia. Shpg wt 8.2 kg£132.00
- IB-50001-90 Controller support platform. Mount remote controller adjacent to mixer head. Includes dual-rod clamp. Shpg wt 1.0 kg£66.00

Lightnin® Computer Compatible Digital Mixers

- ▶ RS-232 interface for computer control and validation documentation
- ▶ Free Mixer-Connect™ software allows you to record power, torque, flow, temperature, speed, timer, direction of rotation and impeller style.
- ▶ LCD display shows speed and either power, torque, flow, process temperature or operating time.
- ▶ Each mixer includes a 316 SS shaft, three impellers for different mixing processes and a temperature probe
- ▶ Process capacity up to 400 L
- ▶ Universal mounting clamp allows mixers to mount directly to a stand or tank rim.
- ▶ Reversible rotation for 'up-pumping' experiments
- ▶ Choose from two mixer types—standard and high torque

Lightnin® LabMaster™ mixers deliver precise, programmable control of mixing speed and process power—both in the lab and at the plant! Patented mixing impellers (three included) provide maximum efficiency in high-viscosity, gas-liquid contacting, blending, and solids suspension processes. Take advantage of the reversible rotation feature—other mixers only pump downward, but this mixer can pump upward for your “up-pumping” experiments.

Mixers come with an RS-232 interface kit, Mixer-Connect™ software, temperature probe, and a 3 m RJ11 to RJ22 communication cable. Easily measure, calculate, display, or record eight true repeatable fluid mixing scale-up parameters— power, torque, flow, temperature, speed, timer, direction of rotation, and impeller style—using the Mixer-Connect™ software and a computer. Use the software to control and obtain data from five mixers simultaneously! It also enables you to collect, monitor, plot, and record data for up to 32 LabMaster™ mixers without bulky interface devices. Validation data can be easily exported. Monitor input on the display or format input to ASCII files for storage on your computer.

Repeatable data entry via the splash-proof digital keypad greatly enhances process consistency and ensures accurate scale-up. Visible and audible prompts guide you through program and data entry. View current running speed; and set running speed, direction, units, time, and impeller style in the SET mode. In the RUN mode, you can view current running speed and power, torque, flow, time, or temperature readings. Easily program the mixer to “scan” each of the measured parameters. The pumping capacity feature calculates flow rates for six different impeller designs—ideal for flow pattern studies and determining tank turnover rates.

Compact housing is made of chemical-resistant ABS plastic. The universal clamp lets you mount the mixer on tank rim, ring stand, or lattice framework. The clamp swivels 270° in two planes for quick setup.

Choose from two mixer types—standard and high torque.

Standard Mixers offer excellent flow and fluid shear characteristics for low- to medium-viscosity liquids. The through-shaft design lets you adjust the extension of the mixer shaft without moving the mixer drive accommodates shafts up to 3/8" diameter.

High-Torque Mixers are recommended for your high-viscosity or high-torque applications. The nonthrough-shaft design accommodates shafts up to 1/2" diameter.



View current running speed and power, torque, flow, time, or temperature readings in the RUN mode.



A-310
04540-25



R-100
04560-30



A-100
04540-20



A-320
04560-63

| Cat. No. | Description | Mounting type | Speed | Power | Shaft length | Max Volume | Shpg wt | Price |
|--|-------------|-----------------|----------------|-------|--------------|------------|---------|----------|
| Computer compatible mixer with RS-232 interface kit, software and temperature probe | | | | | | | | |
| IB-50325-25 | Standard | Universal clamp | 50 to 1800 rpm | 30 W | 610 mm | 100 L | 8.7 kg | £1140.00 |
| IB-50325-45 | High-torque | Universal clamp | 15 to 500 rpm | 80 W | 610 mm | 400 L | 7.3 kg | £1339.00 |

† For water-like solution

Windows - Reg TM Microsoft Corporation

Specifications

Supply Voltage: 230 VAC 50/60 Hz

Duty cycle: continuous

Shaft: 3/8" dia (one end accepts 5/16" bore impeller)

Wetted parts: 316 SS

Impellers: Standard model 1 x A310 (3.4" dia x 5/16" bore), 1 x A-100 (2.7" dia x 5/16" bore), 1 x R-100 (2.0" dia x 5/16" bore)

High-torque model 1 x A320 (5.0" dia x 3/8" bore), 1 x A-100 (3.1" dia x 5/16" bore), 1 x R-100 (2.0" dia x 5/16" bore)

Software system requirements DOS 5.0 or later, Windows® 95/98 or Windows® 3.11 or better, 4 MB RAM, 2 MB hard disk space.

Accessories

IB-04562-60 Replacement temperature probe Measures 216 mm L x 6 mm dia; 1 m cable£70.00

Lightnin® General Purpose Air-Drive Mixers

- ▶ Air-driven mixers ideal for hazardous environments
- ▶ Each mixer includes a 316 SS shaft and an A-310 impeller for high-efficiency mixing
- ▶ Process capacity up to 400 L
- ▶ Choose from three mounting styles
 Universal clamp mixers mount directly to a ring stand or tank rim.
 Boss head mixers require the heavy-duty dual clamp 04560-24 (sold below).
 4" Tri-Clamp® mounting flange to use with tanks with a sanitary quick-connect mixer port to provide a closed system mixer.

Safely use these air-drive mixers whenever electrical power is hazardous or impractical. Ideal for mixing solvents, laquers and volatile chemicals without the possibility of spark ignition.

All air-drive mixers accept an air input line pressure from 2 to 6.2 bar. Mixers are supplied with a 316 stainless steel shaft and impeller, a needle valve for controlling mixing speed and a muffler to ensure quiet operation. We recommend using an in-line filter/regulator and air lubricator which can be ordered from the accessories below.

For a closed system mixing application use the 4" Tri-Clamp® mounting flange mounting. These variable-speed mixers are ideal for sanitary applications and other applications requiring no vapor loss. A mechanical dry running seal requires no lubrication and withstands pressures up to 1.7 bar. For information on mixers with Viton® V-ring seal, suitable for pressures between -1 and 8 bar, or for ANSI flange connections, call our Application Specialists on 0500 345 300. Also call our Application Specialists to order a tank with 4" sanitary quick-connect fittings.

| Cat. No. | Mounting type | Speed | Power | Shaft length | Impeller dia | Max Volume | Shpg wt | Price |
|---------------------------------------|---------------------|----------------|-------|--------------|--------------|------------|---------|----------|
| Variable speed air-drive mixer | | | | | | | | |
| IB-50322-10 | Universal clamp | 30 to 1800 rpm | 50 W | 610 mm | 64 mm | 200 L | 3.7 kg | £562.00 |
| IB-50322-00 | Boss head* | | | | | | | £529.00 |
| IB-035UK-70 | 4" Tri-clamp flange | 40 to 350 rpm | 80 W | 610 mm | 193 mm | 400 L | 4 kg | £831.00 |
| IB-035UK-80 | Universal clamp | | | | | | | £854.00 |
| IB-035UK-90 | 4" Tri-clamp flange | | | | | | | £1411.00 |

* Requires heavy-duty dual clamp 04560-24 sold under accessories

For water-like solution

Specifications

Air inlet: 1/4" NPT(F)

Air consumption: 226 LPM at 5.5 bar

Max air pressure: 6.5bar

Duty cycle: continuous

Wetted parts: 316 SS

Shaft: 3/8" dia (one end accepts 5/16" bore impeller)

Accessories

IB-04560-24 Heavy-duty dual clamp. Required for boss head mount mixers.

Shpg wt 1.0 kg £120.00

IB-04546-00 Mixer stand has a black cast-iron base and a stainless steel rod.

Rod measures 680 mm H x 16 mm dia. Shpg wt 8.2 kg £132.00

IB-07042-75 Air filter/regulator 1/4" NPT(F) inlet/outlet ports, 0 to 8.6 bar, 5 µm filter £50.00

IB-07042-70 Air lubricator; 1/4" NPT(F) ports £38.12

IB-07042-80 Replacement filter for 07042-75 £12.76



More info



See page 13 and 72 for a range of mixing tanks
 If you require help in selecting your mixer refer to
 the mixer selection guide
 on page 4 or call our
 application specialists
 on Free Call 0500 345 300.

Lightnin® Industrial Batch Mixers



- ▶ Process capacity up to 20,000 L
- ▶ All product wetted parts are made of 316 stainless steel - each mixer is supplied complete with 316 SS shaft and impeller.
- ▶ Robust aluminium housing is IP54 rated
- ▶ Universal mounting clamp allows mixers to mount directly to a stand or tank rim.
- ▶ The optimum position for mixing can be located and repeated using the unique positioning and indexing system
- ▶ Choose from two mixer types—standard direct drive mixers and high torque gear drive mixers.
- ▶ Use as 230 VAC 50 Hz 3-phase fixed speed mixer or purchase the optional inverter 036UK-50 or 036UK-60 to obtain a variable speed mixer with a 230 VAC 50 Hz 1-phase input to the inverter

Use these Batch mixers in a wide range of applications. Choose a Direct Drive model for small batch mixing or high shear applications. Select a gear drive model for mixing large batches or more viscous Liquids. Mixing shafts may be cut to suit tank depth. Contact our Applications Specialist on 0500 345 300 for help on sizing a mixer for your application.

All mixer drives have 230 VAC 50 Hz 3-phase TEFC motors. Connect the mixer to a 230 VAC 3-phase supply for use as a fixed speed mixer, or order inverter 036UK-50 or 036UK-60 for variable speed mixing. Inverters require a 230 VAC 1-phase input and will supply a 3-phase output to the mixer. The inverter is supplied as a separate inverter box, with an analogue speed control and on/off switch and can be wall mounted. Inverter requires cabling to the mixer (cable not supplied).



036UK-50



Mixer supplied with A-310 impeller

Ordering Information

| Cat. No. | Description | Speed | Power | Max Volume | Drive Dimensions (H x dia) | Shaft dimensions | Impeller (overall dia) | Shpg wt | Price |
|-------------|-------------|---------------------------|-------|------------|----------------------------|------------------|------------------------|---------|----------|
| IB-036UK-01 | Standard | 1370 rpm (90 - 1370 rpm)* | 180 W | 1500 L | 270 mm x 203 mm | 915 mm x 13 mm | 115 mm | 7 kg | £416.00 |
| IB-036UK-06 | Standard | 1380 rpm (90 - 1370 rpm)* | 250 W | 2000 L | 320 mm x 225 mm | 1220 mm x 13 mm | 115 mm | 9 kg | £539.00 |
| IB-036UK-11 | Standard | 1400 rpm (90 - 1370 rpm)* | 750 W | 3750 L | 380 mm x 290 mm | 1500 mm x 16mm | 230 mm | 20 kg | £739.00 |
| IB-037UK-01 | High-torque | 290 rpm (20 - 290 rpm)* | 250 W | 7500 L | 415 mm x 231 mm | 1500 mm x 16mm | 230 mm | 14 kg | £999.00 |
| IB-037UK-06 | High-torque | 290 rpm (20 - 290 rpm)* | 370 W | 10,000 L | 415 mm x 231 mm | 1500 mm x 16mm | 230 mm | 14 kg | £1166.00 |
| IB-037UK-11 | High-torque | 290 rpm (20 - 290 rpm)* | 750 W | 20,000 L | 520 mm x 273 mm | 1500 mm x 20mm | 255 mm | 23 kg | £1317.00 |

For water-like solution

* Speed range when used in conjunction with inverter 036UK-50 (order separately from accessories)

Specifications

Supply Voltage: 230 VAC 50 Hz 3-phase
Duty cycle: continuous

Wetted parts: 316 SS
Mounting: Universal clamp

Accessories

- IB-036UK-50 Inverter for batch mixers, for 036UK-01, -06 and 037UK-01, -06 230 VAC 1-phase input, 3-phase output Shpg wt 2 kg.....£230.00
- IB-036UK-60 Inverter for batch mixers, for 036UK-11 and 037UK-11 230 VAC 1-phase input, 3-phase output Shpg wt 2 kg.....£310.00
- IB-04600-10 Manual mixer stand, 2.10 m maximum height (see page 13 for full specification) Shpg wt 24 kg£480.00
- IB-04600-20 Winch mixer stand, 2.05 m maximum height (see page 13 for full specification) Shpg wt 34 kg£750.00

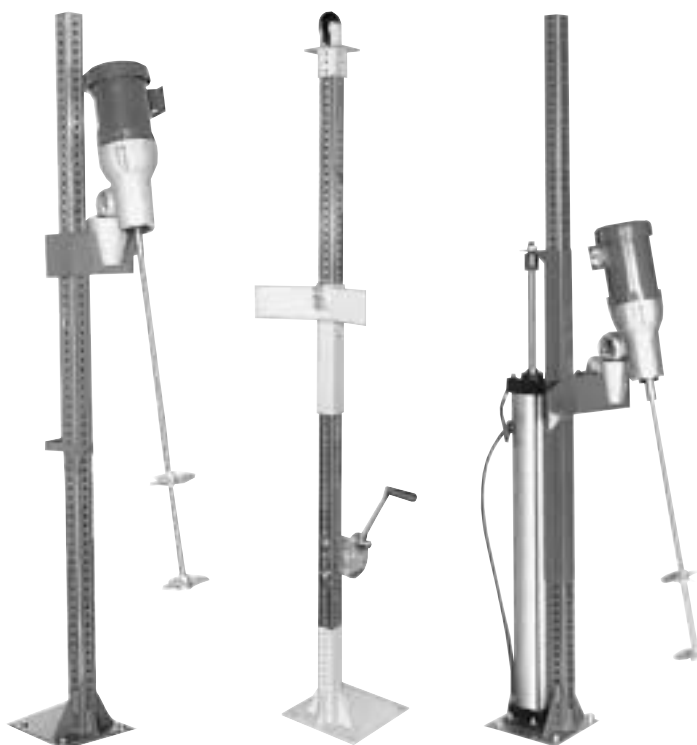
Industrial Mixer Lift Stands

- ▶ Heavy duty mixer stands
- ▶ Accommodate loads of up to 91 kg

These heavy-duty mixer stands are constructed from heavy-gauge steel and square steel tubing. Use with any of our clamp mount mixers. Stands allow you to easily raise or lower your mixer into drums or tanks up to 122 cm diameter. Each stand includes a 30.5 cm square base plate with four 14 mm mounting holes for permanent attachment to floors, dollies, etc.

Use the manual stand for lighter mixers. Move the mixer up or down in 2.5 cm increments; stand holds mixer in place with a clevis pin. The winch stand is ideal for heavier mixers. Raise the mixer to any height; winch holds the mixer in place. Choose the air-powered stand for your heaviest mixers. Air motor holds mixer in place at any level.

| Cat. No. | Movement description | Minimum height | Maximum height | Shpg wt | Price |
|-------------|----------------------|----------------|----------------|---------|---------|
| IB-04600-10 | Manual | 76 cm | 208 cm | 24 kg | £480.00 |
| IB-04600-20 | Winch | 107 cm | 208 cm | 24 kg | £750.00 |
| IB-04600-30 | Air | 107 cm | 208 cm | 42 kg | £970.00 |



Cylindrical Tanks with Covers

- ▶ Rounded corners simplify cleaning
- ▶ Tanks available in HDPE, Polypropylene or PVDF
- ▶ Tank capacities from 19 L to 1893 L

Cylindrical tanks are rotation-molded in one seamless piece and have an outside rim flange for strength and ease of handling.

To order larger tanks, tanks with different dimensions, or tanks for special applications, call our Application Specialists on 0500 345 300 for more information.

Tanks with 114 L capacity or less have a raised-center bottom for complete drainage. Tanks with 200 L capacity or more have a spoked bottom.

High-density polyethylene (HDPE) tanks with needle-type polypropylene spigot have 1 1/8"-12 female screw thread on the spigot. The spigot is mounted on a welded polyethylene boss and accepts 16 mm ID tubing.

Polyvinylidene fluoride (PVDF) tanks offer the highest chemical resistance, and a maximum service temperature of 110°C.

PVDF tanks are stress-crack resistant and easy to clean. Tanks 379 L and larger have a fiberglass-reinforced polyester outer casing for extra support. The casing is steel reinforced, chemical resistant, and maintenance free.



Ordering Information

| Litres | H cm | OD* cm | Cal Liters | HDPE tanks | | | HDPE tanks with spigot | | | Polypropylene tanks | | | PVDF tanks | | |
|--------|------|--------|------------|-------------|--------|-----------|------------------------|--------|---------|---------------------|--------|-----------|-------------|--------|-----------|
| | | | | Cat. no. | Wall | Price | Cat. no. | Wall | Price | Cat. no. | Wall | Price | Cat. no. | Wall | Price |
| 19 | 38 | 28 | 2 | IB-06317-50 | 4.7 mm | £33.44 | IB-06317-51 | 4.7 mm | £52.00 | IB-06317-53 | 4.7 mm | £58.00 | IB-06948-00 | 2.4 mm | £440.00 |
| 57 | 69 | 33 | 4 | IB-06317-65 | 4.7 mm | £82.00 | IB-06317-66 | 4.7 mm | £114.00 | IB-06317-68 | 4.7 mm | £102.00 | IB-06948-06 | 2.4 mm | £821.00 |
| 114 | 76 | 46 | 10 | IB-06317-70 | 4.7 mm | £130.00 | IB-06317-71 | 4.7 mm | £146.00 | IB-06317-73 | 4.7 mm | £164.00 | IB-06948-08 | 2.4 mm | £800.00 |
| 208 | 91 | 56 | 10 | IB-06317-75 | 6.3 mm | £212.00 | IB-06317-76 | 6.3 mm | £227.00 | IB-06317-78 | 6.3 mm | £243.00 | IB-06948-10 | 3.1 mm | £1,400.00 |
| 303 | 122 | 61 | 20 | IB-06317-80 | 6.3 mm | £350.00 | - | - | - | IB-06317-83 | 6.3 mm | £450.00 | - | - | - |
| 379 | 112 | 71 | 20 | IB-06317-10 | 6.3 mm | £420.00 | - | - | - | IB-06317-13 | 6.3 mm | £570.00 | IB-06948-12 | 7.9 mm | £2,320.00 |
| 568 | 124 | 79 | 40 | IB-06317-20 | 6.3 mm | £590.00 | - | - | - | IB-06317-23 | 6.3 mm | £700.00 | IB-06948-14 | 7.9 mm | £3,080.00 |
| 757 | 130 | 91 | 100 | IB-06317-31 | 6.3 mm | £650.00 | - | - | - | IB-06317-34 | 6.3 mm | £770.00 | IB-06948-16 | 7.9 mm | £3,620.00 |
| 1041 | 124 | 107 | 100 | IB-06317-41 | 6.3 mm | £870.00 | - | - | - | IB-06317-44 | 6.3 mm | £1,020.00 | IB-06948-18 | 7.9 mm | £4,500.00 |
| 1363 | 124 | 122 | 100 | IB-06317-85 | 6.3 mm | £1,100.00 | - | - | - | IB-06317-88 | 6.3 mm | £1,290.00 | - | - | - |
| 1893 | 157 | 135 | 100 | IB-06318-86 | 7.9 mm | £1,630.00 | - | - | - | - | - | - | - | - | - |

*Measured at bottom of tank. Add 5 cm for approximate OD at top of tank

In-Line Static Mixers

Mix fluids as you pump them through a pipe line

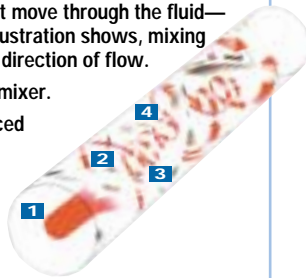
- ▶ These economical, long-lasting, in-line mixers are more convenient than most motorized mixers.
- ▶ In-line mixers prevent overmixing and undermixing, and resist fouling in your pipes or tubes.
- ▶ Virtually maintenance-free and need no spare parts

In-line mixers are efficient and can withstand large pressure changes—up to 103.4 bar with smallest sizes. Mixing elements in pipe and tube mixers are securely attached to the mixer walls, so internal pressure changes cannot collapse elements and stop flow.

Technical info

With in-line static mixers, the mixer does not move through the fluid—the fluid moves through the mixer. As this illustration shows, mixing takes place around the centerline and in the direction of flow.

- 1 Pump pushes a stream of liquid into the mixer.
- 2 The stream of liquid is then split and forced to the opposite outside walls.
- 3 A vortex is created along the centerline axis of the pipe.
- 4 The vortex is sheared and the process recurs with the opposite rotation. This clockwise/counterclockwise motion mixes the liquid to ensure a homogeneous end product.



Use the Reynolds equation and the table below to determine the minimum number of elements you need for efficient mixing.

$$\text{Reynolds equation: } Re = \frac{834QS}{\mu D}$$

- Re = Reynolds number
- Q = Flow rate (Lpm)
- S = Specific gravity
- μ = Viscosity (centipoise)
- D = Inside pipe diameter (inches)

| Reynolds number | Elements required |
|-----------------|-------------------|
| > 1000 | 6 |
| 500 to 1000 | 12 |

Note: If the Reynolds number is less than 500, call our Application Specialists for assistance.

Disposable In-Line Mixers

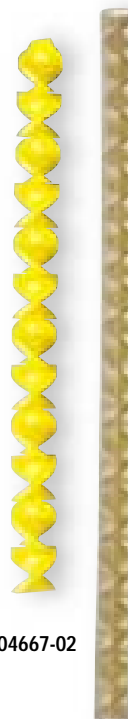
Ideal for your one-time mixing applications, these disposable polyacetal mixers are available unmounted or mounted in polypropylene tubing. Adjust unmounted mixer length to get optimal mixing action—shorten by cutting or extend by using more than one mixer.

Unmounted Mixers can be used with any standard tubing having the same tubing ID as the element OD given in the table. They work well with flexible tubing.

| Catalogue number | Element OD (tubing ID) | Number of elements | Mixer length | Price/pk of 10 |
|------------------|------------------------|--------------------|--------------|----------------|
| IB-04667-02 | 3/16" | 12 | 2 3/8" | £20.50 |
| IB-04667-12 | | 24 | 4 5/8" | £23.74 |
| IB-04667-04 | 1/4" | 12 | 3" | £20.50 |
| IB-04667-14 | | 24 | 6" | £23.74 |
| IB-04667-06 | 3/8" | 12 | 4 3/4" | £23.74 |
| IB-04667-16 | | 24 | 9 1/2" | £29.85 |
| IB-04667-08 | 1/2" | 12 | 5" | £35.25 |
| IB-04667-18 | | 24 | 10" | £46.40 |

Mounted Mixers can be used with any compression fitting with the same tubing OD.

| Catalogue number | Element OD (tubing ID) | Number of elements | Mixer length | Price/pk of 10 |
|------------------|------------------------|--------------------|--------------|----------------|
| IB-04668-02 | 5/16" | 12 | 3 1/2" | £33.81 |
| IB-04668-12 | | 24 | 5 3/4" | £38.12 |
| IB-04668-04 | 3/8" | 12 | 4 1/4" | £33.81 |
| IB-04668-14 | | 24 | 7 1/4" | £38.12 |
| IB-04668-06 | 1/2" | 12 | 6 1/2" | £40.64 |
| IB-04668-16 | | 24 | 11 1/4" | £49.28 |
| IB-04668-08 | 5/8" | 12 | 8 1/2" | £57.00 |
| IB-04668-18 | | 24 | 14 1/2" | £64.00 |



04667-02

Pipe Mixers

Install these mixers directly into your process line to achieve a 100% mixed output—mixing elements are welded inside the pipe. All mixers have threaded ends. Choose PVC, 316 stainless steel, Kynar®, or Teflon® PFA. The clear PVC mixers are ideal for a visual check of your mixing processes. Models with removable elements are available on request—call our Application Specialists for details.



| Catalogue number | NPT(M) | Pipe ID | No. of elements | Mixer length | Price |
|---|--------|---------|-----------------|--------------|---------|
| Clear PVC schedule 40 pipe mixers | | | | | |
| IB-04669-85 | 3/8" | 0.473" | 6 | 61/2" | £56.00 |
| IB-04669-87 | | | 12 | 11" | £64.00 |
| IB-04669-89 | 1/2" | 0.602" | 6 | 7" | £72.00 |
| IB-04669-91 | | | 12 | 12" | £81.00 |
| IB-04669-92 | 3/4" | 0.804" | 6 | 9" | £77.00 |
| IB-04669-93 | | | 12 | 15" | £90.00 |
| IB-04669-94 | 1" | 1.029" | 6 | 11" | £85.00 |
| IB-04669-95 | | | 12 | 18" | £111.00 |
| IB-04669-96 | 1 1/2" | 1.590" | 6 | 15" | £102.00 |
| IB-04669-97 | | | 12 | 28" | £128.00 |
| IB-04669-98 | 2" | 2.047" | 6 | 19" | £124.00 |
| IB-04669-99 | | | 12 | 35" | £140.00 |
| Standard PVC schedule 80 pipe mixers | | | | | |
| IB-04669-00 | 1/2" | 0.62" | 6 | 5" | £132.00 |
| IB-04669-06 | | | 12 | 10" | £221.00 |
| IB-04669-02 | 3/4" | 0.82" | 6 | 7" | £136.00 |
| IB-04669-08 | | | 12 | 14" | £225.00 |
| IB-04669-04 | 1" | 1.05" | 6 | 10" | £149.00 |
| IB-04669-10 | | | 12 | 19" | £242.00 |
| IB-04669-78 | 1 1/2" | 1.50" | 6 | 15" | £173.00 |
| IB-04669-79 | | | 12 | 26" | £288.00 |
| IB-04669-83 | 2" | 1.939" | 6 | 18" | £202.00 |
| IB-04669-81 | | | 12 | 33" | £335.00 |
| 316 stainless steel pipe mixers | | | | | |
| IB-04669-12 | 1/2" | 0.62" | 6 | 5" | £181.00 |
| IB-04669-18 | | | 12 | 10" | £254.00 |
| IB-04669-14 | 3/4" | 0.82" | 6 | 7" | £190.00 |
| IB-04669-20 | | | 12 | 13" | £260.00 |
| IB-04669-16 | 1" | 1.05" | 6 | 9" | £196.00 |
| IB-04669-22 | | | 12 | 17" | £325.00 |
| IB-04669-23 | 1 1/2" | 1.61" | 6 | 13" | £278.00 |
| IB-04669-24 | | | 12 | 26" | £462.00 |
| IB-04669-25 | 2" | 2.067" | 6 | 17" | £437.00 |
| IB-04669-26 | | | 12 | 33" | £749.00 |
| Kynar schedule 80 pipe mixers | | | | | |
| IB-04669-28 | 1/2" | 0.546" | 6 | 5" | £198.00 |
| IB-04669-29 | | | 12 | 9" | £341.00 |
| IB-04669-30 | 3/4" | 0.82" | 6 | 6" | £203.00 |
| IB-04669-34 | | | 12 | 12" | £335.00 |
| IB-04669-32 | 1" | 1.05" | 6 | 8" | £225.00 |
| IB-04669-36 | | | 12 | 15" | £339.00 |
| IB-04669-38 | 1 1/2" | 1.50" | 6 | 12" | £287.00 |
| IB-04669-40 | | | 12 | 24" | £399.00 |
| IB-04669-42 | 2" | 1.939" | 6 | 16" | £360.00 |
| IB-04669-44 | | | 12 | 31" | £480.00 |
| Teflon PFA schedule 80 pipe mixers | | | | | |
| IB-04668-20 | 1/2" | 0.546" | 6 | 5" | £285.00 |
| IB-04668-22 | | | 12 | 9" | £499.00 |
| IB-04668-24 | 3/4" | 0.742" | 6 | 6" | £311.00 |
| IB-04668-26 | | | 12 | 12" | £517.00 |

Kynar - Reg TM Elf Atochem North America

Teflon - Reg TM E. I. DuPont de Nemours & Co.

Flowmeter Selection Guide

Cole-Parmer offer a wide variety of flowmeters and flow controllers for any application. To help you choose the best flowmeter for your application we have included some frequently asked questions about three popular flowmeter technologies. Use the application selection table opposite to narrow your selection.

Variable Area Flowmeters/Rotameters

1. How does a rotameter work?

Rotameters, or variable area flowmeters, operate on the principle that the variation in area of flow stream required to produce a constant pressure differential is proportional to the flow rate. The flowing fluid enters the bottom of the meter, passes upward through a metering tube, and around the float, exiting at the top. The flow rate is read by noting the position of the float against the calibrated scale etched on the glass.

2. Where do I take the reading?

With the Cole-Parmer flowmeters, the reading is taken at the center of the float. It is recommended that the float be at eye level to minimise reading errors.

3. What is the difference between correlated and direct reading rotameters?

A direct reading flowmeter indicates the flow rate on its scale in specific engineering units (e.g. ml/min). Direct reading scales are designed for a specific gas or liquid at a given temperature and pressure.

A correlated flowmeter is scaled along either a 65mm or a 150mm length, from which a reading is taken. The reading is then compared to a correlation table for a specific gas or liquid. This will give the actual flow in engineering units. One correlated flowmeter can be used with a variety of fluids or gases.

4. Can I use a rotameter in a vacuum application or with back pressure?

Yes, but if you have a valve, it must be placed at the outlet (top of the flowmeter).

5. What are the differences between a 150-mm vs. a 65-mm flowmeter?

A 150-mm flowmeter has a 150 mm scale length and is graduated accordingly. It provides better resolution than the more economical 65-mm flowmeter.

6. Must a rotameter be mounted vertically?

Generally, rotameters must be mounted vertically, because the float must center itself in the fluid stream. Some of our rotameters have spring loaded floats and therefore may be mounted in any orientation.

7. What are the advantages of using a variable area flowmeter?

—inexpensive, somewhat self-cleaning, no power required, available in different materials for chemical compatibility.

8. What are the limitations of using a variable area flowmeter?

—no output for data transmission, sensitive to differing gas types, and not suitable for applications with varying pressure and temperature.

Mass Flowmeters

1. How does a mass flowmeter work?

A volume of gas has a known mass at standard conditions. As pressure and temperature are applied, the volume will change, but the mass remains constant. Mass flowmeters measure flow based on the molecular mass of the gas; this measurement is independent of temperature and pressure.

2. Can a mass flowmeter give a total accumulation of gas?

Yes, most mass flowmeters have outputs of either 0-5 VDC or 4-20 mA.

3. Do I need a filter?

Mass flowmeters require clean gases; generally any particles larger than 50 µm require a filter upstream of the meter. Check each meter for specific requirements.

4. What are the advantages of using a mass flowmeter?

—measure mass directly, can handle applications whose stream temperature and line pressures fluctuate.

5. What are the limitations of using a mass flowmeter?

—calibrated to a specific gas type.

Flowmeter type

| | Page |
|----------------------------------|---------------|
| Doppler | 32 |
| Flow controllers..... | 17, 18, 20-22 |
| Gear | 31-32 |
| Mass | 16-17 |
| Magnetic | 33 |
| Transmitter | 22-23, 25-33 |
| Turbine | 25-29 |
| Ultrasonic..... | 30 |
| Variable Area, inline | 18, 20-22 |
| Variable Area, panel mount | 19, 23-24 |
| Vortex..... | 30 |

Turbine Flowmeters

1. How does a turbine flowmeter work?

As liquid or gas flows through the turbine, it turns an impeller blade that is sensed by infrared beams, photo-electric sensors, or magnets. An electrical pulse is then generated and converted to a frequency output proportional to the flow rate.

2. Can I use a turbine flowmeter with small particles?

No. Turbine flowmeters are best used with clean, low-viscosity liquids. (although the slurry turbine body on page 34 can handle small particles).

3. What if I have air in my liquid?

Some turbine flowmeters can be used with air. However, if there are air bubbles or vapor pockets in the liquid, the reading will be inaccurate. There should be a laminar (stable) flow through the cross-section of the pipe.

4. What are the advantages of using a turbine flowmeter?

—good accuracy with liquids, easy to install and maintain, signal output for totalizing, low flow rates available.

5. What are the limitations of using a turbine flowmeter?

—sensitive to viscosity changes, straight pipe line required, clean liquids and gases only.

Application Selection Guide

| Application | Flowmeter Type | Page |
|---|----------------|-------|
| Flowmeters for micro flow rates | Variable Area | 18-24 |
| | Gas Mass | 16-17 |
| Flowmeters for high flow rates | Gas Mass | 16-17 |
| | Turbine | 25-29 |
| | Doppler | 32 |
| | Magnetic | 33 |
| Direct reading flowmeters for routine gases | Variable Area | 18-24 |
| | Gas Mass | 16-17 |
| | Turbine | 25 |
| High-accuracy flowmeters | Turbine | 25-29 |
| | Gear | 25-29 |
| | Ultrasonic | 30 |
| | Vortex | 30 |
| High-pressure flowmeters | Variable Area | 18-24 |
| | Turbine | 25-29 |
| | Gear | 31-32 |
| High-temperature flowmeters | Gear | 31 |
| | Turbine | 25-29 |
| Ultra-low pressure drop flowmeters | Variable Area | 18-24 |
| Fluids with particulates | Doppler | 32 |
| | Magnetic | 33 |
| High-viscosity fluids | Gear | 31-32 |
| | Doppler | 32 |
| Dark fluids | Variable Area | 18-24 |
| | Turbine | 25-29 |
| | Gear | 31-32 |
| | Doppler | 32 |
| Noninvasive flowmeters | Doppler | 32 |
| Flowmeters with no moving parts | Gas Mass | 16-17 |
| | Doppler | 32 |
| | Ultrasonic | 30 |
| | Vortex | 30 |

Flowmeters

Gas Mass Flowmeters

Compact Gas Mass Flowmeters

- ▶ Flow rates are unaffected by pressure and temperature variations within stated limitations
- ▶ 0 to 5 VDC and 4 to 20 mA analog output
- ▶ Nonclogging straight sensor tube provides high accuracy
- ▶ All meters include a NIST traceable certificate of calibration

Flowmeters combine an advanced straight sensor tube with a restrictor flow element to provide high accuracy and repeatability. Gas flow rates are unaffected by temperature and pressure variations within limitations.

Flowmeters include a detachable 3½-digit LCD that can be tilted up to 90° for easy reading. Mount display up to 1m away from the sensor with extension cable 32662-70. Attach optional totalizer 32650-70 to display total accumulated flow. Flowmeters come with a certificate of calibration traceable to NIST standards.

Select from aluminum or 316 stainless steel (SS) models. Wetted materials are anodized aluminum, brass, and Viton® for aluminum models; SS and Viton® for SS models.

Accuracy

These precalibrated flowmeters operate at inlet pressures between 0.34 and 4.12 bar and at gas temperatures between 15 to 25°C while maintaining the stated percent full scale accuracy and linearity. When operating beyond 0.34 to 4.12 bar, add ±0.01%/0.07 bar full scale; if operating beyond 15 to 25°C, add ±0.15%/°C full scale.



Flowmeter 32648-17 shown with totalizer 32650-70



Specifications

Accuracy (including linearity)

Models up to 5 sL/min: ±1% full scale
All other models: ±1.5% full scale
(see below for details)

Repeatability: ±0.5% full scale

Response time: 2 seconds (typical) to within ±2% of actual flow rate from 25 to 100% of full-scale

Output: linear 0 to 5 VDC (1000 Ω minimum load), 4 to 20 mA (50 to 250 Ω loop resistance)

Operating ambient: 5 to 50°C

Maximum system pressure: 34.5 Bar

Temperature coefficient: ±0.15%/°C full scale

Pressure coefficient: ±0.01%/0.07 Bar full scale

Maximum particulate size: 5 microns

Leak integrity: 1 x 10⁻⁷ sccs He (max)

Transducer input power: 12 VDC, 200 mA max; polarity protected

Connections (included)

Models up to 50 sL/min: 1/4" compression fittings
100 and 200 sL/min models: 3/8" compression fittings
500 sL/min models: 1/2" compression fittings
1000 sL/min models: 3/4" NPT(F) fittings

Dimensions (not including fittings)

Models up to 5 sL/min: 76mmW x 142mmH x 25.4mmD
15 to 100 sL/min models: 92mmW x 152mmH x 32mmD
200 sL/min models: 170mmW x 168mmH x 45mmD
500 sL/min models: 178mmW x 187mmH x 64mmD
1000 sL/min models: 186mmW x 210mmH x 86mmD

| Flow rate | Pressure drop at max flow | Air/N ₂ | O ₂ | H ₂ | Ar | Price Each | Air/N ₂ | O ₂ | H ₂ | Ar | Price Each |
|-------------------------------------|---------------------------|--------------------|----------------|----------------|-------------|--|--------------------|----------------|----------------|-------------|------------|
| | | Cat. no. | Cat. no. | Cat. no. | Cat. no. | | Cat. no. | Cat. no. | Cat. no. | Cat. no. | |
| Aluminum gas mass flowmeters | | | | | | 316 stainless steel gas mass flowmeters | | | | | |
| 0 to 10 sccm | 3 mbar | IB-32648-00 | IB-32649-00 | IB-32654-00 | IB-32657-00 | £390.00 | IB-32648-50 | IB-32649-50 | IB-32654-50 | IB-32657-50 | £650.00 |
| 0 to 20 sccm | | IB-32648-02 | IB-32649-02 | IB-32654-02 | IB-32657-02 | £390.00 | IB-32648-52 | IB-32649-52 | IB-32654-52 | IB-32657-52 | £650.00 |
| 0 to 50 sccm | | IB-32648-04 | IB-32649-04 | IB-32654-04 | IB-32657-04 | £390.00 | IB-32648-54 | IB-32649-54 | IB-32654-54 | IB-32657-54 | £650.00 |
| 0 to 100 sccm | 3 mbar | IB-32648-06 | IB-32649-06 | IB-32654-06 | IB-32657-06 | £390.00 | IB-32648-56 | IB-32649-56 | IB-32654-56 | IB-32657-56 | £650.00 |
| 0 to 200 sccm | | IB-32648-08 | IB-32649-08 | IB-32654-08 | IB-32657-08 | £390.00 | IB-32648-58 | IB-32649-58 | IB-32654-58 | IB-32657-58 | £650.00 |
| 0 to 500 sccm | | IB-32648-10 | IB-32649-10 | IB-32654-10 | IB-32657-10 | £390.00 | IB-32648-60 | IB-32649-60 | IB-32654-60 | IB-32657-60 | £650.00 |
| 0 to 1 sL/min | 3 mbar | IB-32648-12 | IB-32649-12 | IB-32654-12 | IB-32657-12 | £390.00 | IB-32648-62 | IB-32649-62 | IB-32654-62 | IB-32657-62 | £650.00 |
| 0 to 2 sL/min | | IB-32648-14 | IB-32649-14 | IB-32654-14 | IB-32657-14 | £390.00 | IB-32648-64 | IB-32649-64 | IB-32654-64 | IB-32657-64 | £650.00 |
| 0 to 5 sL/min | | IB-32648-16 | IB-32649-16 | IB-32654-16 | IB-32657-16 | £390.00 | IB-32648-66 | IB-32649-66 | IB-32654-66 | IB-32657-66 | £650.00 |
| 0 to 15 sL/min | 5 mbar | IB-32648-19 | IB-32649-19 | IB-32654-19 | IB-32657-19 | £500.00 | IB-32648-68 | IB-32649-68 | IB-32654-68 | IB-32657-68 | £830.00 |
| 0 to 30 sL/min | 82 mbar | IB-32648-34 | IB-32649-34 | IB-32654-34 | IB-32657-34 | £500.00 | IB-32648-84 | IB-32649-84 | IB-32654-84 | IB-32657-84 | £830.00 |
| 0 to 50 sL/min | 227 mbar | IB-32648-36 | IB-32649-36 | IB-32654-36 | IB-32657-36 | £500.00 | IB-32648-86 | IB-32649-86 | IB-32654-86 | IB-32657-86 | £830.00 |
| 0 to 100 sL/min | 557 mbar | IB-32648-42 | IB-32649-42 | IB-32654-42 | IB-32657-42 | £610.00 | IB-32648-92 | IB-32649-92 | IB-32654-92 | IB-32657-92 | £950.00 |
| 0 to 200 sL/min | 275 mbar | IB-32648-43 | IB-32649-43 | IB-32654-43 | IB-32657-43 | £750.00 | IB-32659-00 | IB-32659-02 | IB-32659-04 | IB-32659-06 | £1150.00 |
| 0 to 500 sL/min | 412 mbar | IB-32648-44 | IB-32649-44 | IB-32654-44 | IB-32657-44 | £800.00 | IB-32659-10 | IB-32659-12 | IB-32659-14 | IB-32659-16 | £1220.00 |
| 0 to 1000 sL/min | 687 mbar | IB-32648-45 | IB-32649-45 | IB-32654-45 | IB-32657-45 | £890.00 | IB-32659-20 | IB-32659-22 | IB-32659-24 | IB-32659-26 | £1370.00 |

Accessories

Totalizer gives accumulated flow from the 0 to 5 VDC output signal from the controller. Mounts on top of the flow display for up to a seven-digit total.

IB-32650-70 Totalizer **£153.00**

Analogue Signal-to-RS Converter lets you collect and analyze data on your computer. Includes software; a bidirectional A/D and D/A signal conditioner with switch selectable 0 to 5 VDC and 4 to 20 mA inputs; and screw terminal connectors and a 240VAC UK power supply.

IB-03277-70 Analogue signal-to-RS-232 converter **£210.00**

IB-03277-75 Analogue signal-to-RS-485 converter **£210.00**

Output Cables make it easy to connect your flowmeter to other instruments. Cables feature DB9(F) connectors and are 1m long.

IB-32650-60 Output cable for 4 to 20 mA signal **£22.00**

IB-32650-65 Output cable for 0 to 5 VDC signal. **£22.00**

Power Supply allows flowmeters to be powered by AC voltage.

IB-03277-UK Power supply, 240 VAC UK Power supply **£30.00**

Extension Cable lets you extend display up to 1m for remote reading.

IB-32662-70 Extension cable **£22.00**

Viton—Reg TM DuPont Dow Elastomers L.L.C.

Compact Gas Mass Flow Controllers

- ▶ Available in flow ranges from 10 sccm to 1000 sL/min
- ▶ Precisely control flow rates with a built-in valve
- ▶ Controllers handle up to 34.5 bar with a leak integrity of 1×10^{-7} sccs He
- ▶ All models include a calibration certificate to NIST traceable standards

Controllers feature an advanced straight-tube sensor with a restrictor flow element to ensure laminar gas flow for accurate and repeatable results. Gas flow rates are unaffected by temperature and pressure variations within limitations.

Flow rates may be controlled by either adjusting the local setpoint potentiometer or by remotely supplying either a 4 to 20 mA or a 0 to 5 VDC signal. Send data with the 0 to 5 VDC or 4 to 20 mA output signal. Order analogue signal-to-RS converter for easy data collection and analysis on your computer.

All controllers include a detachable 3½-digit LCD that can be tilted up to 90° for easy reading. Mount display up to three feet away from the sensor with extension cable 32662-70. Attach the optional totalizer 32650-70 to display total accumulated flow.

Built-in polarity reversal circuit protection and resettable fuses protect the controller. Aluminum models have wetted materials of anodized aluminum, brass, and Viton®; stainless steel (SS) models have wetted materials of SS and Viton®.

Accuracy

These precalibrated flowmeters operate at inlet pressures between 0.34 and 4.12 bar and at gas temperatures between 15 to 25°C while maintaining the stated percent full scale accuracy and linearity. When operating beyond 0.34 to 4.12 bar, add $\pm 0.01\%/0.07$ bar full scale; if operating beyond 15 to 25°C, add $\pm 0.15\%/^{\circ}\text{C}$ full scale.



Controller 32661-06 shown with totalizer 32650-70

Adjust your flow rate locally with the built-in setpoint potentiometer



Specifications

Accuracy (including linearity)

Models up to 10 sL/min: $\pm 1\%$ full-scale
All other models: $\pm 1.5\%$ full-scale
(see below for details)

Repeatability: $\pm 0.5\%$ full-scale

Response time: 2 seconds (typical) to within $\pm 2\%$ of actual flow rate from 25 to 100% of full-scale

Output: linear 0 to 5 VDC (1000 Ω minimum load), 4 to 20 mA (50 to 500 Ω loop resistance)

Operating ambient: 0 to 50°C

Maximum system pressure: 34.5 bar

Temperature coefficient: $\pm 0.15\%/^{\circ}\text{C}$ full-scale

Pressure coefficient: $\pm 0.01\%/0.07$ bar full-scale

Maximum particulate size: 5 microns

Leak integrity: 1×10^{-7} sccs He (max)

Transducer input power: 12 VDC; 1100 mA max; polarity protected

Connections

Models up to 50 sL/min: 1/4" compression fittings
100 and 200 sL/min models: 3/8" compression fittings
500 sL/min models: 1/2" compression fittings
1000 sL/min models: 3/4" NPT(F) fittings

Dimensions (not including the fittings)

Models up to 15 sL/min:
109mmW x 143mmH x 25.4mmD
30 to 100 sL/min models:
132mmW x 152mmH x 31.8mmD

| Flow rate | Pressure drop at max flow | Air/N ₂ | | | | Price Each | O ₂ | | | | Price Each |
|-------------------------------------|---------------------------|--------------------|-------------|-------------|-------------|--|----------------|-------------|-------------|-------------|------------|
| | | Cat. no. | Cat. no. | Cat. no. | Cat. no. | | Cat. no. | Cat. no. | Cat. no. | Cat. no. | |
| Aluminum gas mass flowmeters | | | | | | 316 stainless steel gas mass flowmeters | | | | | |
| 0 to 10 sccm | 0.07 Bar | IB-32660-00 | IB-32660-26 | IB-32660-52 | IB-32660-78 | £590.00 | IB-32661-00 | IB-32661-26 | IB-32661-52 | IB-32661-78 | £720.00 |
| 0 to 20 sccm | | IB-32660-02 | IB-32660-28 | IB-32660-54 | IB-32660-80 | £590.00 | IB-32661-02 | IB-32661-28 | IB-32661-54 | IB-32661-80 | £720.00 |
| 0 to 50 sccm | | IB-32660-04 | IB-32660-30 | IB-32660-56 | IB-32660-82 | £590.00 | IB-32661-04 | IB-32661-30 | IB-32661-56 | IB-32661-82 | £720.00 |
| 0 to 100 sccm | 0.07 Bar | IB-32660-06 | IB-32660-32 | IB-32660-58 | IB-32660-84 | £590.00 | IB-32661-06 | IB-32661-32 | IB-32661-58 | IB-32661-84 | £720.00 |
| 0 to 200 sccm | | IB-32660-08 | IB-32660-34 | IB-32660-60 | IB-32660-86 | £590.00 | IB-32661-08 | IB-32661-34 | IB-32661-60 | IB-32661-86 | £720.00 |
| 0 to 500 sccm | | IB-32660-10 | IB-32660-36 | IB-32660-62 | IB-32660-88 | £590.00 | IB-32661-10 | IB-32661-36 | IB-32661-62 | IB-32661-88 | £720.00 |
| 0 to 1 sL/min | 0.07 Bar | IB-32660-12 | IB-32660-38 | IB-32660-64 | IB-32660-90 | £590.00 | IB-32661-12 | IB-32661-38 | IB-32661-64 | IB-32661-90 | £720.00 |
| 0 to 2 sL/min | | IB-32660-14 | IB-32660-40 | IB-32660-66 | IB-32660-92 | £590.00 | IB-32661-14 | IB-32661-40 | IB-32661-66 | IB-32661-92 | £720.00 |
| 0 to 5 sL/min | | IB-32660-16 | IB-32660-42 | IB-32660-68 | IB-32660-94 | £590.00 | IB-32661-16 | IB-32661-42 | IB-32661-68 | IB-32661-94 | £720.00 |
| 0 to 15 sL/min | 0.27 Bar | IB-32660-19 | IB-32660-45 | IB-32660-71 | IB-32660-95 | £720.00 | IB-32661-19 | IB-32661-45 | IB-32661-70 | IB-32661-95 | £870.00 |
| 0 to 30 sL/min | | IB-32660-20 | IB-32660-46 | IB-32660-72 | IB-32660-97 | £720.00 | IB-32661-20 | IB-32661-46 | IB-32661-72 | IB-32661-97 | £870.00 |
| 0 to 50 sL/min | 0.76 Bar | IB-32660-22 | IB-32660-48 | IB-32660-74 | IB-32660-98 | £720.00 | IB-32661-22 | IB-32661-48 | IB-32661-74 | IB-32661-98 | £870.00 |
| 0 to 100 sL/min | | IB-32660-24 | IB-32660-50 | IB-32660-76 | IB-32660-99 | £840.00 | IB-32661-24 | IB-32661-50 | IB-32661-76 | IB-32661-99 | £980.00 |
| 0 to 500 sL/min | 3.23 Bar | IB-32665-00 | IB-32665-02 | IB-32665-04 | IB-32665-06 | £1090.00 | IB-32666-00 | IB-32666-02 | IB-32666-04 | IB-32666-06 | £1680.00 |
| 0 to 1000 sL/min | | IB-32665-10 | IB-32665-12 | IB-32665-14 | IB-32665-16 | £1390.00 | IB-32666-10 | IB-32666-12 | IB-32666-14 | IB-32666-16 | £2130.00 |

Accessories

Totalizer gives accumulated flow from the 0 to 5 VDC output signal from the controller. Displays up to a 7-digit total.

IB-32650-70 Totalizer£152.00

Analogue Signal-to-RS Converter lets you collect and analyze data on your computer. Includes software; a bidirectional A/D and D/A signal conditioner with switch selectable 0 to 5 VDC and 4 to 20 mA inputs; and screw terminal connectors and a 240VAC UK power supply.

IB-03277-70 Analogue signal-to-RS-232 converter.....£210.00

IB-03277-75 Analogue signal-to-RS-485 converter.....£210.00

Cable makes it easy to connect your flowmeter to any instrument that accepts analogue signals. Cables feature DB15(F) connectors with bare wire ends; 1m long.

IB-32662-65 Cable.....£35.00

Power Supply allows flowmeters to be powered by AC voltage.

IB-32662-60 Power supply, 240 VAC. Includes a UK plug£71.00

Extension Cable lets you extend display up to 1m for remote reading.

IB-32662-70 Extension cable£22.00

Viton—Reg TM DuPont Dow Elastomers L.L.C.

Low Cost Cole-Parmer Direct Reading Acrylic Flowmeters

From only
£20.00

- ▶ Available with or without flow control valve.
- ▶ Use with air sampling equipment, chromatography systems, gas analyzers, and water treatment systems.
- ▶ Machined from solid acrylic blocks, these variable area flowmeters have integral metering tubes for precise readings.
- ▶ Flowmeters are designed for front-panel mounting—inlet and outlet ports and mounting studs extend through the panel for easy installation.
- ▶ Bench mount a flowmeter with a tripod base (order separately below tables).

Specifications

| Materials of construction | | | | |
|---------------------------|----------|-------|---------|-----------------|
| Acrylic flowmeters | Fittings | Valve | O-rings | Float |
| 50-mm | Brass | Brass | Buna N | 316 SS or glass |
| 100-mm | Brass | | | |
| 127-mm | PVC | | | |

Accuracy

- 50-mm flowmeters: ±5% full-scale
- 100-mm flowmeters: ±3% full-scale
- 127-mm flowmeters: ±2% full-scale

Repeatability: ±0.5% full-scale

Maximum pressure: 6.9 bar

Media type: liquids or gases

Maximum operating temperature: 65°C

Connections

- 50-mm, and 100-mm flowmeters: 1/4" NPT(F)*
- 127-mm flowmeters: 1" NPT(F)

Dimensions

- 50-mm flowmeters: 25.4mmW x 102mmH x 54mmD
- 100-mm flowmeters: 35mmW x 165mmH x 54mmD
- 127-mm flowmeters: 44.5mmW x 276mmH x 121mmD

Shpg wt: 0.5 kg



100-mm flowmeter
32461-60



100-mm flowmeter
32458-52



100-mm flowmeter
32461-60 shown
with tripod base
32462-55



For Liquid Applications

| Flow rate | Without Control Valve | | With Control Valve | |
|-------------------------------------|-----------------------|------------|--------------------|------------|
| | Cat. no. | Price Each | Cat. No. | Price Each |
| Flowmeters with 50-mm scale | | | | |
| 5-50 mL/min | IB-32457-30 | £20.00 | IB-32460-30 | £27.00 |
| 10-100 mL/min | IB-32457-32 | £20.00 | IB-32460-32 | £27.00 |
| 20-240 mL/min | IB-32457-34 | £20.00 | IB-32460-34 | £27.00 |
| Flowmeters with 100-mm scale | | | | |
| 4-50 mL/min | IB-32458-30 | £30.00 | IB-32461-30 | £37.00 |
| 10-120 mL/min | IB-32458-32 | £30.00 | IB-32461-32 | £37.00 |
| 25-225 mL/min | IB-32458-34 | £30.00 | IB-32461-34 | £37.00 |
| 40-400 mL/min | IB-32458-36 | £30.00 | IB-32461-36 | £37.00 |
| 40-660 mL/min | IB-32458-38 | £30.00 | IB-32461-38 | £37.00 |
| 100-1500 mL/min | IB-32458-40 | £30.00 | IB-32461-40 | £37.00 |
| 200-3000 mL/min | IB-32458-42 | £30.00 | IB-32461-42 | £37.00 |
| 0.8-9 LPM | IB-32458-44* | £55.00 | IB-32461-44* | £62.00 |
| 1.5-20 LPM | IB-32458-46* | £55.00 | IB-32461-46* | £62.00 |
| Flowmeters with 127-mm scale | | | | |
| 1-15 LPM | IB-32462-20 | £90.00 | - | - |
| 4-36 LPM | IB-32462-22 | £90.00 | IB-32466-54 | £130.00 |
| 5-75 LPM | IB-32462-24 | £90.00 | IB-32466-56 | £130.00 |

* Models indicated with an asterisk have a 1/4" NPT(F); use tripod 32462-60

Tripod Bases

IB-32462-50 Tripod base, mounts one flowmeter with 50-mm scale. Includes three leveling screws and spirit level£29.85

IB-32462-55 Tripod base, mounts one flowmeter with 100-mm scale. Includes three leveling screws and spirit level (not suitable for 1/4" NPT(F) connection flowmeters)£29.85

IB-32462-50 Mounts one high flow 100mm scale (for *) with 1/4" NPT(F) connection.....£29.85

For Air Applications

| Flow rate | Without Control Valve | | With Control Valve | |
|-------------------------------------|-----------------------|------------|--------------------|------------|
| | Cat. no. | Price Each | Cat. no. | Price Each |
| Flowmeters with 50-mm scale | | | | |
| 0.04-0.5 LPM | IB-32457-40 | £20.00 | IB-32460-40 | £27.00 |
| 0.1-1 LPM | IB-32457-42 | £20.00 | IB-32460-42 | £27.00 |
| 0.4-5 LPM | IB-32457-44 | £20.00 | IB-32460-44 | £27.00 |
| 1-10 LPM | IB-32457-46 | £20.00 | IB-32460-46 | £27.00 |
| 2-25 LPM | IB-32457-48 | £20.00 | IB-32460-48 | £27.00 |
| 4-50 LPM | IB-32457-50 | £20.00 | IB-32460-50 | £27.00 |
| 10-100 LPM | IB-32457-52 | £20.00 | IB-32460-52 | £27.00 |
| Flowmeters with 100-mm scale | | | | |
| 0.4-5 LPM | IB-32458-50 | £30.00 | IB-32461-50 | £37.00 |
| 1-10 LPM | IB-32458-52 | £30.00 | IB-32461-52 | £37.00 |
| 2-20 LPM | IB-32458-54 | £30.00 | IB-32461-54 | £37.00 |
| 3-30 LPM | IB-32458-56 | £30.00 | IB-32461-56 | £37.00 |
| 4-50 LPM | IB-32458-58 | £30.00 | IB-32461-58 | £37.00 |
| 10-100 LPM | IB-32458-60 | £30.00 | IB-32461-60 | £37.00 |
| 14-140 LPM | IB-32458-62* | £55.00 | IB-32461-62* | £62.00 |
| 30-280 LPM | IB-32458-64* | £55.00 | IB-32461-64* | £62.00 |
| Flowmeters with 127-mm scale | | | | |
| 100-700 LPM | IB-32462-30 | £90.00 | IB-32466-66 | £130.00 |
| 100-1400 LPM | IB-32462-32 | £90.00 | IB-32466-68 | £130.00 |
| 400-3400 LPM | IB-32462-34 | £90.00 | IB-32466-70 | £130.00 |

Viton—Reg TM DuPont Dow Elastomers L.L.C.

* Models indicated with an asterisk have a 1/4" NPT(F) connection; use tripod 32462-60

Cole-Parmer Acrylic In-Line Flowmeters

- ▶ Direct reading for use with air or water
Flow range for air - 3.3 LPM to 2,200 LPM
Flow range for water - 0.67 LPM to 70 LPM
- ▶ Easy to install - mount vertically in your system with threaded brass inserts that do not come in contact with the medium
- ▶ Built in guide rod stabilizes aluminum or stainless steel float which makes readings easier to take

Specifications

Repeatability: ±0.5% full scale

Maximum Operating Temperature: 65°C

Materials of Construction:

Body: acrylic
Guide Rod: Stainless steel
Float: see ordering table

Maximum Pressure: 6.9 bar

Media Type: Liquid or gases

Dimensions:

Meters with 1/4" connections 25.4mm W x 135.5mm H x 28.6mm D

Meters with 1/2" connections 38.1mm W x 235.5mm H x 41.3mm D

Meters with 3/4" connections 38.1mm W x 286.0mm H x 41.3mm D



| Flowmeters for air | | | | | |
|--------------------|--------|----------|--------------------------|--------------|------------|
| Flow range | Float* | Accuracy | Connections (full scale) | Cat. No. | Price Each |
| 200 to 1700 LPH | Al | ±5% | 1/4" NPT(M) | IB-32445-12 | £40.64 |
| 500 to 3000 LPH | SS | ±5% | 1/4" NPT(M) | IB-32445-14 | £40.64 |
| 1000 to 8500 LPH | SS | ±5% | 1/4" NPT(M) | IB-32445-16 | £40.64 |
| 80 to 340 LPM | Al | ±3% | 1/2" NPT(F) | IB-32445-18† | £62.00 |
| 100 to 700 LPM | SS | ±3% | 1/2" NPT(F) | IB-32445-20† | £62.00 |
| 150 to 1500 LPM | SS | ±3% | 1/2" NPT(F) | IB-32445-22† | £62.00 |
| 200 to 2200 LPM | SS | ±3% | 3/4" NPT(F) | IB-32445-23† | £81.00 |

* Al = aluminium, SS = stainless steel

† Dual-scale flowmeter reads in units per hour and minute

| Flowmeters for water | | | | | |
|----------------------|--------|----------|--------------------------|--------------|------------|
| Flow range | Float* | Accuracy | Connections (full scale) | Cat. No. | Price Each |
| 4 to 50 LPH | Al | ±5% | 1/4" NPT(M) | IB-32445-66 | £40.64 |
| 15 to 100 LPH | SS | ±5% | 1/4" NPT(M) | IB-32445-68 | £40.64 |
| 30 to 230 LPH | SS | ±5% | 1/4" NPT(M) | IB-32445-70 | £40.64 |
| 2 to 10 LPM | Al | ±3% | 1/2" NPT(F) | IB-32445-72† | £62.00 |
| 2 to 20 LPM | SS | ±3% | 1/2" NPT(F) | IB-32445-74† | £62.00 |
| 4 to 40 LPM | SS | ±3% | 1/2" NPT(F) | IB-32445-76† | £62.00 |
| 6 to 60 LPM | SS | ±3% | 3/4" NPT(F) | IB-32445-78† | £84.00 |
| 8 to 70 LPM | SS | ±3% | 3/4" NPT(F) | IB-32445-80† | £84.00 |

High-Flow Acrylic In-Line Flowmeters

- ▶ Direct reading for use with air or water
Flow range for air - up to 11,000 LPM
Flow range for water - up to 400 LPM
- ▶ Integrated union fittings on both ends for easy assembly and disassembly
- ▶ Ideal for chemical and plant service applications

Specifications

Accuracy: ±5% full scale

Maximum Pressure: 6.9 bar

Media Type: Liquid or gases

Maximum Operating Temperature: 65°C

Materials of Construction:

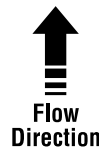
Body: acrylic
O-Rings: Buna-N
Connections: PVC
Float: Stainless steel

Dimensions:

Meters with 1 1/2" connections 88.9mm W x 340mm H x 88.9mm D

Meters with 2" connections 104.8mm W x 346mm H x 104.8mm D

New



| Flowmeters for air | | | | |
|--------------------|---------|---------------|-------------|------------|
| Flow range | Shpg wt | Connections | Cat. No. | Price Each |
| 300 to 3000 LPM | 2.3 kg | 1 1/2" NPT(F) | IB-324UK-00 | £185.00 |
| 450 to 4600 LPM | 2.3 kg | 1 1/2" NPT(F) | IB-324UK-02 | £185.00 |
| 550 to 5500 LPM | 2.3 kg | 1 1/2" NPT(F) | IB-324UK-04 | £185.00 |
| 700 to 7000 LPM | 2.8 kg | 2" NPT(F) | IB-324UK-06 | £420.00 |
| 800 to 9000 LPM | 2.8 kg | 2" NPT(F) | IB-324UK-08 | £420.00 |
| 1000 to 11000 LPM | 2.8 kg | 2" NPT(F) | IB-324UK-10 | £420.00 |

| Flowmeters for water | | | | |
|----------------------|---------|---------------|-------------|------------|
| Flow range | Shpg wt | Connections | Cat. No. | Price Each |
| 10 to 120 LPM | 2.3 kg | 1 1/2" NPT(F) | IB-324UK-50 | £185.00 |
| 15 to 150 LPM | 2.3 kg | 1 1/2" NPT(F) | IB-324UK-52 | £185.00 |
| 20 to 200 LPM | 2.3 kg | 1 1/2" NPT(F) | IB-324UK-54 | £185.00 |
| 25 to 230 LPM | 2.8 kg | 2" NPT(F) | IB-324UK-56 | £420.00 |
| 30 to 300 LPM | 2.8 kg | 2" NPT(F) | IB-324UK-58 | £420.00 |
| 40 to 400 LPM | 2.8 kg | 2" NPT(F) | IB-324UK-60 | £420.00 |

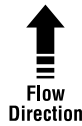
Direct Reading Variable Area Flowmeters

- ▶ Flow Range:
Gas - 5 cc/min to 120LPM
Liquid - 1cc/min to 4.4LPM
- ▶ Accuracy better than $\pm 2.5\%$ full scale
- ▶ Choose from models without a valve to monitor flow, or with a valve to monitor and control flow.

These versatile flowmeters are available in a wide range of direct reading scales. Choose from water, air, argon, carbon dioxide, helium, methane, nitrogen, oxygen or contact our application specialists for other options.

Flowmeters are available in either a 30 mm or 100 mm scale. Non-wetted parts for all models include an aluminium frame with a transparent TPX protective plastic front cover. Inlet and outlet connections are 1/4" BSPP(F) and the flowmeter has two M5 (male) threads for panel mounting. Alternatively the flowmeter can be used with bench stand 001UK-99 where panel mounting is not practical.

Flowmeters with the valve option come with the valve mounted on the inlet of the flowmeter, but can be reconfigured to mount the valve on the outlet. For positive pressure applications with liquids and gases, position the valve at the inlet; for vacuum applications, position at the outlet.



Standard 100mm Direct Reading Flowmeters for Liquids

| Flow Range | Float Material | | Nickel Plated Brass | | Stainless Steel | |
|---|----------------|----------|---------------------|-------------|-----------------|-------------|
| | | | Without valve | With Valve | Without valve | With Valve |
| Direct reading for water, 100-mm Scale | | | | | | |
| 1 to 10 cc/min | SS | Cat. no. | IB-001UK-50 | IB-002UK-50 | IB-003UK-50 | IB-004UK-50 |
| 2 to 25 cc/min | SS | | IB-001UK-54 | IB-002UK-54 | IB-003UK-54 | IB-004UK-54 |
| 4 to 60 cc/min | SS | | IB-001UK-58 | IB-002UK-58 | IB-003UK-58 | IB-004UK-58 |
| 30 to 280 cc/min | SS | Cat. no. | IB-001UK-62 | IB-002UK-62 | IB-003UK-62 | IB-004UK-62 |
| 40 to 480 cc/min | SS | | IB-001UK-66 | IB-002UK-66 | IB-003UK-66 | IB-004UK-66 |
| 50 to 750 cc/min | SS | | IB-001UK-70 | IB-002UK-70 | IB-003UK-70 | IB-004UK-70 |
| 0.1 to 1.2 LPM | SS | Cat. no. | IB-001UK-74 | IB-002UK-74 | IB-003UK-74 | IB-004UK-74 |
| 0.3 to 3.0 LPM | SS | | IB-001UK-78 | IB-002UK-78 | IB-003UK-78 | IB-004UK-78 |
| 0.4 to 4.4 LPM | SS | | IB-001UK-82 | IB-002UK-82 | IB-003UK-82 | IB-004UK-82 |
| | | Price | £74.50 | £97.00 | £109.50 | £132.00 |

Standard 100mm Direct Reading Flowmeters for Gases

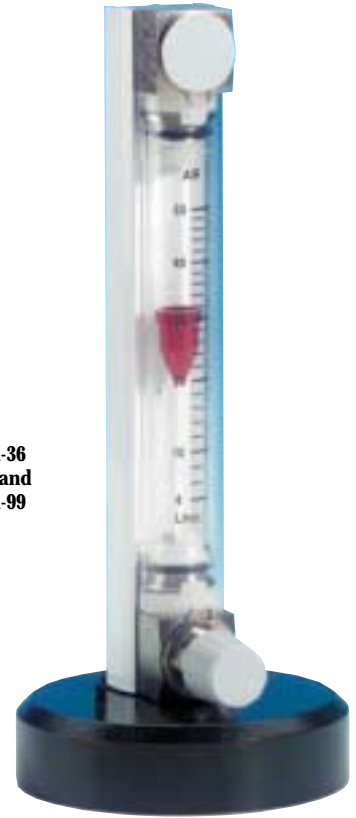
| Flow Range | Float Material | | Nickel Plated Brass | | Stainless Steel | |
|---|----------------|----------|---------------------|-------------|-----------------|-------------|
| | | | Without valve | With Valve | Without valve | With Valve |
| Direct reading for air, 100-mm Scale | | | | | | |
| 5 to 100 cc/min | Dural | Cat. no. | IB-001UK-00 | IB-002UK-00 | IB-003UK-00 | IB-004UK-00 |
| 20 to 250 cc/min | Dural | | IB-001UK-04 | IB-002UK-04 | IB-003UK-04 | IB-004UK-04 |
| 50 to 750 cc/min | Dural | | IB-001UK-08 | IB-002UK-08 | IB-003UK-08 | IB-004UK-08 |
| 0.1 to 1.2 LPM | SS | Cat. no. | IB-001UK-12 | IB-002UK-12 | IB-003UK-12 | IB-004UK-12 |
| 0.2 to 2.0 LPM | Dural | | IB-001UK-16 | IB-002UK-16 | IB-003UK-16 | IB-004UK-16 |
| 0.6 to 5.0 LPM | Dural | | IB-001UK-20 | IB-002UK-20 | IB-003UK-20 | IB-004UK-20 |
| 1 to 10 LPM | SS | Cat. no. | IB-001UK-24 | IB-002UK-24 | IB-003UK-24 | IB-004UK-24 |
| 1 to 13 LPM | Dural | | IB-001UK-28 | IB-002UK-28 | IB-003UK-28 | IB-004UK-28 |
| 2 to 26 LPM | SS | | IB-001UK-32 | IB-002UK-32 | IB-003UK-32 | IB-004UK-32 |
| 4 to 50 LPM | Dural | Cat. no. | IB-001UK-36 | IB-002UK-36 | IB-003UK-36 | IB-004UK-36 |
| 10 to 100 LPM | SS | | IB-001UK-40 | IB-002UK-40 | IB-003UK-40 | IB-004UK-40 |
| 20 to 120 LPM | SS | | IB-001UK-44 | IB-002UK-44 | IB-003UK-44 | IB-004UK-44 |
| | | Price | £74.50 | £97.00 | £109.50 | £132.00 |

| Flow Range | Float Material | | Stainless Steel | |
|--|----------------|----------|-----------------|-------------|
| | | | Without valve | With Valve |
| Direct reading for argon (Ar), 100-mm Scale | | | | |
| 5 to 80 cc/min | Dural | Cat. no. | IB-005UK-00 | IB-006UK-00 |
| 20 to 200 cc/min | Dural | | IB-005UK-01 | IB-006UK-01 |
| 40 to 660 cc/min | Dural | | IB-005UK-02 | IB-006UK-02 |
| 0.1 to 1.0 LPM | SS | Cat. no. | IB-005UK-03 | IB-006UK-03 |
| 0.2 to 1.7 LPM | Dural | | IB-005UK-04 | IB-006UK-04 |
| 0.4 to 4.0 LPM | Dural | | IB-005UK-05 | IB-006UK-05 |
| 1 to 8.0 LPM | SS | | IB-005UK-06 | IB-006UK-06 |
| 1 to 11 LPM | Dural | Cat. no. | IB-005UK-07 | IB-006UK-07 |
| 2 to 22 LPM | SS | | IB-005UK-08 | IB-006UK-08 |
| 4 to 44 LPM | Dural | | IB-005UK-09 | IB-006UK-09 |
| 10 to 90 LPM | SS | | IB-005UK-10 | IB-006UK-10 |
| | | Price | £109.50 | £132.00 |

| Flow Range | Float Material | | Stainless Steel | |
|---|----------------|----------|-----------------|-------------|
| | | | Without valve | With Valve |
| Direct reading for carbon dioxide (CO₂), 100-mm Scale | | | | |
| 10 to 100 cc/min | Dural | Cat. no. | IB-005UK-11 | IB-006UK-11 |
| 20 to 250 cc/min | Dural | | IB-005UK-12 | IB-006UK-12 |
| 50 to 750 cc/min | Dural | | IB-005UK-13 | IB-006UK-13 |
| 0.1 to 1.1 LPM | SS | Cat. no. | IB-005UK-14 | IB-006UK-14 |
| 0.2 to 1.8 LPM | Dural | | IB-005UK-15 | IB-006UK-15 |
| 0.6 to 4.4 LPM | Dural | | IB-005UK-16 | IB-006UK-16 |
| 1 to 11 LPM | Dural | | IB-005UK-17 | IB-006UK-17 |
| 2 to 20 LPM | SS | Cat. no. | IB-005UK-18 | IB-006UK-18 |
| 4 to 40 LPM | Dural | | IB-005UK-19 | IB-006UK-19 |
| 10 to 80 LPM | SS | | IB-005UK-20 | IB-006UK-20 |
| | | Price | £109.50 | £132.00 |

Viton - DuPont Dow Elastomers, L.L.C.

002UK-36
with stand
001UK-99



Specifications

Accuracy: $\pm 2.5\%$ FS

Repeatability: $\pm 0.5\%$

Connection: 1/4" BSPP(F)

Maximum Pressure: 20 bar

Operating Temperature: -15 to 120°C

Wetted Parts:

Brass model nickel plated brass, Viton®, PTFE and float material (see ordering table)
SS model 316 SS, Viton®, PTFE and float material (see ordering table)

Dimensions:

32 mm W x 210 mm L x 36 mm D

Shpg wt: 0.75 kg

| Flow Range | Float Material | Stainless Steel | | |
|--|----------------|-----------------|---------------|-------------|
| | | | Without valve | With Valve |
| Direct reading for helium (He), 100-mm Scale | | | | |
| 5 to 100 cc/min 20 to 280 cc/min 50 to 800 cc/min | Dural | Cat. no. | IB-005UK-21 | IB-006UK-21 |
| | Dural | | IB-005UK-22 | IB-006UK-22 |
| | Dural | | IB-005UK-23 | IB-006UK-23 |
| 0.1 to 1.8 LPM 0.2 to 3.0 LPM 0.2 to 5.6 LPM 0.5 to 9.0 LPM | SS | Cat. no. | IB-005UK-24 | IB-006UK-24 |
| | Dural | | IB-005UK-25 | IB-006UK-25 |
| | Acetal | | IB-005UK-26 | IB-006UK-26 |
| | Dural | | IB-005UK-27 | IB-006UK-27 |
| 1 to 28 LPM 2 to 60 LPM 5 to 120 LPM 20 to 270 LPM | Dural | Cat. no. | IB-005UK-28 | IB-006UK-28 |
| | SS | | IB-005UK-29 | IB-006UK-29 |
| | Dural | | IB-005UK-30 | IB-006UK-30 |
| | SS | | IB-005UK-31 | IB-006UK-31 |
| Price | | | £109.50 | £132.00 |

| Flow Range | Float Material | Stainless Steel | | |
|--|----------------|-----------------|---------------|-------------|
| | | | Without valve | With Valve |
| Direct reading for nitrogen (N₂), 100-mm Scale | | | | |
| 5 to 100 cc/min 20 to 250 cc/min 60 to 600 cc/min | Dural | Cat. no. | IB-005UK-43 | IB-006UK-43 |
| | Dural | | IB-005UK-44 | IB-006UK-44 |
| | Dural | | IB-005UK-45 | IB-006UK-45 |
| 0.1 to 1.2 LPM 0.2 to 2.0 LPM 0.6 to 5.0 LPM | SS | Cat. no. | IB-005UK-46 | IB-006UK-46 |
| | Dural | | IB-005UK-47 | IB-006UK-47 |
| | Dural | | IB-005UK-48 | IB-006UK-48 |
| | Dural | | IB-005UK-49 | IB-006UK-49 |
| 1 to 13 LPM 2 to 27 LPM 4 to 50 LPM 10 to 100 LPM | Dural | Cat. no. | IB-005UK-50 | IB-006UK-50 |
| | SS | | IB-005UK-51 | IB-006UK-51 |
| | Dural | | IB-005UK-52 | IB-006UK-52 |
| | SS | | IB-005UK-52 | IB-006UK-52 |
| Price | | | £109.50 | £132.00 |

| Flow Range | Float Material | Stainless Steel | | |
|--|----------------|-----------------|---------------|-------------|
| | | | Without valve | With Valve |
| Direct reading for methane (CH₄), 100-mm Scale | | | | |
| 10 to 150 cc/min 40 to 360 cc/min 0.1 to 1.1 LPM | Dural | Cat. no. | IB-005UK-32 | IB-006UK-32 |
| | Dural | | IB-005UK-33 | IB-006UK-33 |
| | Dural | | IB-005UK-34 | IB-006UK-34 |
| 0.1 to 1.7 LPM 0.4 to 2.8 LPM 0.4 to 4.4 LPM 1 to 7.0 LPM | SS | Cat. no. | IB-005UK-35 | IB-006UK-35 |
| | Dural | | IB-005UK-36 | IB-006UK-36 |
| | Acetal | | IB-005UK-37 | IB-006UK-37 |
| | Dural | | IB-005UK-38 | IB-006UK-38 |
| 1 to 18 LPM 2 to 36 LPM 5 to 70 LPM 15 to 140 LPM | Dural | Cat. no. | IB-005UK-39 | IB-006UK-39 |
| | SS | | IB-005UK-40 | IB-006UK-40 |
| | Dural | | IB-005UK-41 | IB-006UK-41 |
| | SS | | IB-005UK-42 | IB-006UK-42 |
| Price | | | £109.50 | £132.00 |

| Flow Range | Float Material | Stainless Steel | | |
|--|----------------|-----------------|---------------|-------------|
| | | | Without valve | With Valve |
| Direct reading for oxygen (O₂), 100-mm Scale | | | | |
| 5 to 90 cc/min 20 to 220 cc/min 40 to 600 cc/min | Dural | Cat. no. | IB-005UK-53 | IB-006UK-53 |
| | Dural | | IB-005UK-54 | IB-006UK-54 |
| | Dural | | IB-005UK-55 | IB-006UK-55 |
| 0.1 to 1.1 LPM 0.2 to 1.8 LPM 0.4 to 4.4 LPM | SS | Cat. no. | IB-005UK-56 | IB-006UK-56 |
| | Dural | | IB-005UK-57 | IB-006UK-57 |
| | Dural | | IB-005UK-58 | IB-006UK-58 |
| | Dural | | IB-005UK-58 | IB-006UK-58 |
| 1 to 12 LPM 2 to 25 LPM 4 to 50 LPM 10 to 100 LPM | Dural | Cat. no. | IB-005UK-60 | IB-006UK-60 |
| | SS | | IB-005UK-61 | IB-006UK-61 |
| | Dural | | IB-005UK-62 | IB-006UK-62 |
| | SS | | IB-005UK-63 | IB-006UK-63 |
| Price | | | £109.50 | £132.00 |

Accessories

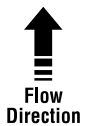
- IB-001UK-99 Bench stand, mounts one flowmeter£32.00
- IB-001UK-92 Traceable certificate, for flowmeter calibration£90.00
- IB-001UK-94 UKAS certificate, for flowmeter calibration£195.00

High Accuracy Direct Reading Variable Area Flowmeter

- ▶ Flow Range:
Air - 5 ml/min to 10 LPM
Water - 15 ml/min to 1.2 LPM
- ▶ High accuracy of ±1% full scale
- ▶ Long 180 mm scale allows accurate readings to be made
- ▶ Choose from models without a valve to monitor flow, or with a valve to monitor and control flow.

Long length 180 mm scales allow accurate readings to be taken making them ideal for use in the laboratory and other testing applications. Select from the economical brass flowmeter or the 316 stainless steel flowmeter for aggressive media or high purity applications. Non-wetted parts for all models include an aluminium frame with a transparent TPX protective plastic front cover. Inlet and outlet connections are 1/4" BSPP(F) and the flowmeter has two M5 (male) threads for panel mounting. Alternatively the flowmeter can be used with bench stand 001UK-99 for use on a laboratory bench top.

If required order factory traceable certificate or UKAS calibration certificate for your flowmeter in the accessories below.



Specifications

- Accuracy: ±1.0% FS
- Repeatability: ±0.25%
- Connection: 1/4" BSPP(F)
- Maximum Pressure: 20 bar
- Operating Temperature: -15 to 120°C
- Wetted Parts:
Brass model nickel plated brass, Viton®, PTFE and Float material (see ordering table)
SS model 316 SS, Viton®, PTFE and Float material (see ordering table)

Dimensions:
32 mm W x 302 mm L x 36 mm D

Shpg wt: 1.5 kg

| Flow Range | Nickel Plated Brass | | Stainless Steel | |
|--|---------------------|-------------|-----------------|-------------|
| | Without valve | With Valve | Without valve | With Valve |
| Direct reading for water, 180-mm Scale with Dural float | | | | |
| 15 to 170 cc/min | Cat. no. | IB-022UK-00 | IB-022UK-10 | IB-022UK-20 |
| 25 to 250 cc/min | Cat. no. | IB-022UK-03 | IB-022UK-13 | IB-022UK-23 |
| Direct reading for air, 180-mm Scale with SS float | | | | |
| 0.05 to 1.3LPM | Cat. no. | IB-022UK-06 | IB-022UK-16 | IB-022UK-26 |
| 1 to 10 LPM | Cat. no. | IB-022UK-09 | IB-022UK-19 | IB-022UK-29 |
| Price | | £111.75 | £134.25 | £146.75 |

Accessories

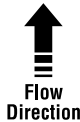
- IB-001UK-99 Bench stand, mounts one flowmeter with 180mm scale£32.00
- IB-001UK-92 Traceable certificate, for flowmeter calibration£90.00
- IB-001UK-94 UKAS certificate, for flowmeter calibration£195.00

Direct Reading Flow Transmitters and Hi/Low Alarm Variable Area Flowmeters

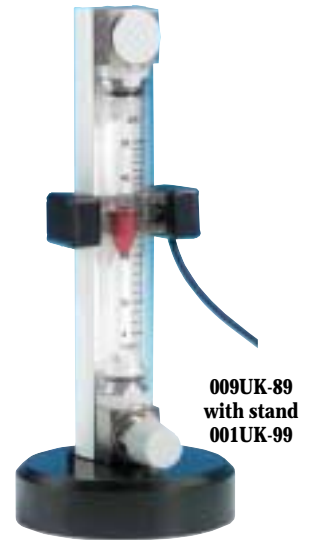
- ▶ Flow Range:
Direct reading for air - 5 cc/min to 120LPM
Direct reading for water - 1cc/min to 4.4LPM
- ▶ Accuracy better than $\pm 2.5\%$ full scale
- ▶ Chose from models with:
4-20mA transmitter output for control and datalogging
Flowsense set point alarm for non-invasive hi or low flow detection

All flowmeters feature an easy to view direct reading scale. Select 4-20mA transmitter output signal for datalogging and control application or the Flowsense alarm models where hi or low flow detection is required. Models are ideal for process applications or order with bench stand 001UK-99 for use in a laboratory where panel mounting is not practical.

Flowmeters have a 100 mm direct reading scale. Non-wetted parts for all models include an aluminium frame with a transparent TPX protective plastic front cover. Inlet and outlet connections are $\frac{1}{4}$ " BSPP(F) and the flowmeter has two M5 (male) threads for panel mounting



009UK-09
with stand
001UK-99



009UK-89
with stand
001UK-99

Flowmeters with 4-20mA transmitter

| Flow Range | Float Material | | Stainless Steel | |
|--|----------------|----------|-----------------|-------------|
| | | | Without valve | With Valve |
| Direct reading for water, 100-mm Scale with 4-20mA output | | | | |
| 15 to 100 cc/min | SS | Cat. no. | IB-009UK-00 | IB-009UK-50 |
| 30 to 250 cc/min | SS | | IB-009UK-01 | IB-009UK-51 |
| 75 to 500 cc/min | SS | | IB-009UK-02 | IB-009UK-52 |
| 0.15 to 1LPM | SS | Cat. no. | IB-009UK-03 | IB-009UK-53 |
| 0.4 to 3 LPM | SS | | IB-009UK-04 | IB-009UK-54 |
| 0.5 to 4 LPM | SS | | IB-009UK-05 | IB-009UK-55 |
| | | Price | £419.50 | £442.00 |

| Flow Range | Float Material | | Stainless Steel | |
|--|----------------|----------|-----------------|-------------|
| | | | Without valve | With Valve |
| Direct reading for air, 100-mm Scale with 4-20mA output | | | | |
| 0.4 to 4 LPM | Dural | Cat. no. | IB-009UK-09 | IB-009UK-59 |
| 1.5 to 10 LPM | Dural | | IB-009UK-10 | IB-009UK-60 |
| 3 to 15 LPM | Dural | | IB-009UK-11 | IB-009UK-61 |
| 3 to 22 LPM | SS | Cat. no. | IB-009UK-12 | IB-009UK-62 |
| 5 to 35 LPM | Dural | | IB-009UK-13 | IB-009UK-63 |
| 10 to 75 LPM | Dural | | IB-009UK-14 | IB-009UK-64 |
| | | Price | £419.50 | £442.00 |

Specifications

Accuracy: $\pm 2.5\%$ FS
Repeatability: $\pm 0.5\%$
Connection: $\frac{1}{4}$ " BSPP(F)
Maximum Pressure: 20 bar

Operating Temperature: -5 to 60°C
Dimensions: 32mmWx210mmLx36mm
Wetted Parts: SS model 316 SS, Viton®, PTFE and float material (see ordering table), Epoxy

Transmitter: 2-wire 4-20mA loop powered (requires 8-30VDC power supply, not included) and 2m output cable
Shpg wt: 1.5 kg

Flowmeters with flowsense alarm

| Flow Range | Float Material | | Stainless Steel | |
|--|----------------|----------|-----------------|-------------|
| | | | Without valve | With Valve |
| Direct reading for water, 100-mm Scale with flowsense alarm | | | | |
| 1 to 10 cc/min | SS | Cat. no. | IB-009UK-21 | IB-009UK-71 |
| 2 to 25 cc/min | SS | | IB-009UK-22 | IB-009UK-72 |
| 4 to 60 cc/min | SS | | IB-009UK-23 | IB-009UK-73 |
| 30 to 280 cc/min | SS | Cat. no. | IB-009UK-24 | IB-009UK-74 |
| 40 to 480 cc/min | SS | | IB-009UK-25 | IB-009UK-75 |
| 50 to 750 cc/min | SS | | IB-009UK-26 | IB-009UK-76 |
| 0.1 to 1.2 LPM | SS | Cat. no. | IB-009UK-27 | IB-009UK-77 |
| 0.3 to 3.0 LPM | SS | | IB-009UK-28 | IB-009UK-78 |
| 0.4 to 4.4 LPM | SS | | IB-009UK-29 | IB-009UK-79 |
| | | Price | £205.50 | £228.00 |

| Flow Range | Float Material | | Stainless Steel | |
|--|----------------|----------|-----------------|-------------|
| | | | Without valve | With Valve |
| Direct reading for air, 100-mm Scale with flowsense alarm | | | | |
| 5 to 100 cc/min | Dural | Cat. no. | IB-009UK-30 | IB-009UK-80 |
| 20 to 250 cc/min | Dural | | IB-009UK-31 | IB-009UK-81 |
| 50 to 750 cc/min | Dural | | IB-009UK-32 | IB-009UK-82 |
| 0.1 to 1.2 LPM | SS | Cat. no. | IB-009UK-33 | IB-009UK-83 |
| 0.2 to 2.0 LPM | Dural | | IB-009UK-34 | IB-009UK-84 |
| 0.6 to 5.0 LPM | Dural | | IB-009UK-35 | IB-009UK-85 |
| 1 to 10 LPM | SS | Cat. no. | IB-009UK-36 | IB-009UK-86 |
| 1 to 13 LPM | Dural | | IB-009UK-37 | IB-009UK-87 |
| 2 to 26 LPM | SS | | IB-009UK-38 | IB-009UK-88 |
| 4 to 50 LPM | Dural | Cat. no. | IB-009UK-39 | IB-009UK-89 |
| 10 to 100 LPM | SS | | IB-009UK-40 | IB-009UK-90 |
| 20 to 120 LPM | SS | | IB-009UK-41 | IB-009UK-91 |
| | | Price | £205.50 | £228.00 |

Viton - DuPont Dow Elastomers, L.L.C.

Specifications

Accuracy: $\pm 2.5\%$ FS
Repeatability: $\pm 0.5\%$
Connection: $\frac{1}{4}$ " BSPP(F)
Maximum Pressure: 20 bar

Operating Temperature: -5 to 60°C
Dimensions: 32mmWx210mmLx36mm
Wetted Parts: SS model 316 SS, Viton®, PTFE and float material (see ordering table)

Alarm: 2 x npn open collector (alarm o/p, setup o/p) with 150mA 24VDC max output, 3m output cable (requires 12VDC, 30mA power supply, not included)
Shpg wt: 1.5 kg

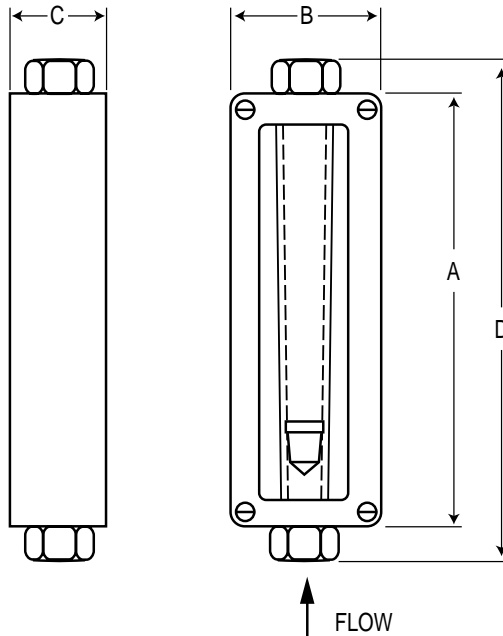
Accessories

- IB-001UK-99 Bench stand, mounts one flowmeter with 180mm scale.....£32.00
- IB-001UK-92 Traceable certificate, for flowmeter calibration£90.00
- IB-001UK-94 UKAS certificate, for flowmeter calibration.....£195.00

In-Line Direct Reading Variable Area Flow Transmitter

- ▶ Flow Ranges:
Water 0.075 to 12 LPM
Air 0.5 to 220 LPM
- ▶ Clear Direct Reading Scale
- ▶ 4-20mA transmitter output for control or datalogging
- ▶ Heavy duty flowmeters are fully enclosed in epoxy die cast aluminium case
- ▶ ATEX Zone 2 approved

These in-line direct reading flow transmitters are ideal for use in chemical manufacturing, water monitoring and airflow monitoring applications. They feature an easy to view Direct reading scale and a 4-20mA transmitter output signal for control or datalogging. Select from scales for either water or air at standard conditions (20°C and 1013 mbar) or contact our sales consultants for customized scales for other gases and fluids at different working pressures and temperatures.



More info

Contact our sales consultants on 0500 345 300 for Customized scales for gases and fluids at different working pressures and temperatures



| In-line Flowmeter With Water Flow Scale at 20°C | | | | | | | | | |
|---|--------------|-----------------|------------|-------|------|-------|----------------|------------|--|
| Flow Range | Adapter | Float Material | Dimensions | | | | Standard Model | | |
| | | | A | B | C | D | Cat. No. | Price Each | |
| 75 to 500 cc/min | 3/8" BSPP(F) | Stainless Steel | 175mm | 80mm | 56mm | 210mm | IB-053UK-00 | £507.00 | |
| 0.15 to 1 LPM | 3/8" BSPP(F) | Stainless Steel | 175mm | 80mm | 56mm | 210mm | IB-053UK-10 | £507.00 | |
| 0.4 to 3 LPM | 3/8" BSPP(F) | Stainless Steel | 175mm | 80mm | 56mm | 210mm | IB-053UK-20 | £507.00 | |
| 0.5 to 4 LPM | 3/8" BSPP(F) | Stainless Steel | 175mm | 80mm | 56mm | 210mm | IB-053UK-30 | £507.00 | |
| 1 to 8 LPM | 1/2" BSPP(F) | Stainless Steel | 220mm | 125mm | 80mm | 240mm | IB-053UK-40 | £553.00 | |
| 1.5 to 12 LPM | 1/2" BSPP(F) | Stainless Steel | 220mm | 125mm | 80mm | 240mm | IB-053UK-50 | £553.00 | |

Specifications

Accuracy: ±2% FS

Repeatability: 0.5% of flow

Max Pressure: 16 Bar

Temp Range: -15 to +60°C

Wetted Materials: 316SS, Borosilicate glass, Viton®

Max Pressure Drop: 25 mbar

Leadwire: Cable 2m

Power/Output: 2-wire 4-20mA loop powered voltage 8-30VDC

Loop Resistance: 800Ω max @ 24V

Approvals:

Standard model - EEx nA II T6
(suitable for Zone 2 Hazardous Area use)

| In-line Flowmeter With Air Flow Scale at 20°C & 1013mBar | | | | | | | | | |
|--|--------------|-----------------|------------|-------|------|-------|----------------|------------|--|
| Flow Range | Adapter | Float Material | Dimensions | | | | Standard Model | | |
| | | | A | B | C | D | Cat. No. | Price Each | |
| 0.4 to 4 LPM | 3/8" BSPP(F) | Dural | 175mm | 80mm | 56mm | 210mm | IB-052UK-00 | £507.00 | |
| 1.5 to 10 LPM | 3/8" BSPP(F) | Dural | 175mm | 80mm | 56mm | 210mm | IB-052UK-10 | £507.00 | |
| 3 to 15 LPM | 3/8" BSPP(F) | Stainless Steel | 175mm | 80mm | 56mm | 210mm | IB-052UK-20 | £507.00 | |
| 3 to 22 LPM | 3/8" BSPP(F) | Dural | 175mm | 80mm | 56mm | 210mm | IB-052UK-30 | £507.00 | |
| 5 to 35 LPM | 3/8" BSPP(F) | Stainless Steel | 175mm | 80mm | 56mm | 210mm | IB-052UK-40 | £507.00 | |
| 10 to 75 LPM | 3/8" BSPP(F) | Dural | 175mm | 80mm | 56mm | 210mm | IB-052UK-50 | £507.00 | |
| 20 to 150 LPM | 1/2" BSPP(F) | Dural | 220mm | 125mm | 80mm | 240mm | IB-052UK-60 | £553.00 | |
| 30 to 220 LPM | 1/2" BSPP(F) | Stainless Steel | 220mm | 125mm | 80mm | 240mm | IB-052UK-70 | £553.00 | |

Viton—Reg TM DuPont Dow Elastomers L.L.C.

Specifications

Accuracy: ±2% FS

Repeatability: 0.5% of flow

Max Pressure: 16 Bar

Temp Range: -15 to +60°C

Wetted Materials: 316SS, Borosilicate glass, Viton®, Dural, Epoxy

Max Pressure Drop: 6 mbar

Leadwire: Cable 2m

Power/Output: 2-wire 4-20mA loop powered voltage 8-30VDC

Loop Resistance: 800Ω max @ 24V

Approvals:

Standard model - EEx nA II T6
(suitable for Zone 2 Hazardous Area use)

In-Line Stainless Steel Variable Area Flowmeters

- ▶ Flow Ranges:
Water 20 to 25,000 LPH
Air 0.5 to 700 m³/h
- ▶ Clear 100mm Direct Reading Scale
- ▶ Rugged Design - constructed of 316 SS
- ▶ Optional Alarm

These in-line stainless steel variable area flowmeters are ideal for use in high pressure chemical manufacturing, water monitoring, airflow monitoring applications.

They feature an easy to view 100mm Direct reading scale. Select from scales for either water or air at standard conditions (20°C and 1013 mbar) or contact our sales consultants on 0500 345 300 for customized scales for other gases and fluids at different working pressures and temperatures.



How they work

Fluid, passing through an orifice within the tube, causes a profiled float to assume a position where the dynamic forces created by the flow are balanced by the weight of the float. A magnet in the float is sensed by the FloTrak system, providing a direct reading flow rate scale. FloTrak uses a unique magnetic sensing concept, providing the most reliable magnetically coupled flowmeter available.

Ordering Information

Specifications

Instrument Type: Direct Reading 100mm Scale
Accuracy: ± 2% FS
Repeatability: 0.5% of flow
Max Pressure: 100 Bar
Temperature Range: Ambient -30 to +65°C
 Media -40 to +200°C
Protection: IP65
Installation Length: 250mm
Materials: 316SS
Alarm (optional): NAMUR type single adjustable set point. Supplied with 2m fly lead
Approvals: Display with alarm units EEx ia IIC TC

| In-line Flowmeter With Water Flow Scale at 20°C | | | | | | |
|---|--------------|-------------------|-------------|------------|-------------------------|------------|
| Flow Range | Adapter | Max Pressure Drop | Display | | Display with Alarm Unit | |
| | | | Cat. No. | Price Each | Cat. No. | Price Each |
| 20-160 LPH | 3/4" BSPP(F) | 75 mbar | IB-054UK-00 | £371.00 | IB-055UK-00 | £508.00 |
| 25-250 LPH | 3/4" BSPP(F) | 75 mbar | IB-054UK-05 | £371.00 | IB-055UK-05 | £508.00 |
| 40-400 LPH | 3/4" BSPP(F) | 75 mbar | IB-054UK-10 | £371.00 | IB-055UK-10 | £508.00 |
| 60-600 LPH | 3/4" BSPP(F) | 75 mbar | IB-054UK-15 | £371.00 | IB-055UK-15 | £508.00 |
| 0.1-1 m ³ /h | 1" BSPP(F) | 100 mbar | IB-054UK-20 | £390.00 | IB-055UK-20 | £527.00 |
| 0.2-1.6 m ³ /h | 1" BSPP(F) | 100 mbar | IB-054UK-25 | £390.00 | IB-055UK-25 | £527.00 |
| 0.25-2.5 m ³ /h | 1" BSPP(F) | 100 mbar | IB-054UK-30 | £390.00 | IB-055UK-30 | £527.00 |
| 0.4-4 m ³ /h | 1" BSPP(F) | 200 mbar | IB-054UK-35 | £390.00 | IB-055UK-35 | £527.00 |
| 0.6-6 m ³ /h | 2" BSPP(F) | 100 mbar | IB-054UK-40 | £520.00 | IB-055UK-40 | £657.00 |
| 1-10 m ³ /h | 2" BSPP(F) | 100 mbar | IB-054UK-45 | £520.00 | IB-055UK-45 | £657.00 |
| 2-16 m ³ /h | 2" BSPP(F) | 250 mbar | IB-054UK-50 | £520.00 | IB-055UK-50 | £657.00 |
| 2.5-25 m ³ /h | 2" BSPP(F) | 500 mbar | IB-054UK-55 | £520.00 | IB-055UK-55 | £657.00 |

Specifications

Instrument Type: Direct Reading 100mm Scale
Accuracy: ± 2% FS
Repeatability: 0.5% of flow
Max Pressure: 100 Bar
Temperature Range: Ambient -30 to +65°C
 Media -40 to +200°C
Protection: IP65
Installation Length: 250mm
Materials: 316SS
Alarm (optional): NAMUR type single adjustable set point. Supplied with 2m fly lead
Approvals: Display with alarm units EEx ia IIC TC

| In-line Flowmeter With Air Flow Scale at 20°C & 1013mBar | | | | | | |
|--|--------------|-------------------|-------------|------------|-------------------------|------------|
| Flow Range | Adapter | Max Pressure Drop | Display | | Display with Alarm Unit | |
| | | | Cat. No. | Price Each | Cat. No. | Price Each |
| 0.5-5 m ³ /h | 3/4" BSPP(F) | 75 mbar | IB-056UK-00 | £449.00 | IB-057UK-00 | £586.00 |
| 1-11 m ³ /h | 3/4" BSPP(F) | 75 mbar | IB-056UK-05 | £449.00 | IB-057UK-05 | £586.00 |
| 2-17 m ³ /h | 3/4" BSPP(F) | 75 mbar | IB-056UK-10 | £449.00 | IB-057UK-10 | £586.00 |
| 3-30 m ³ /h | 1" BSPP(F) | 100 mbar | IB-056UK-15 | £468.00 | IB-057UK-15 | £605.00 |
| 5-45 m ³ /h | 1" BSPP(F) | 100 mbar | IB-056UK-20 | £468.00 | IB-057UK-20 | £605.00 |
| 7-70 m ³ /h | 1" BSPP(F) | 100 mbar | IB-056UK-25 | £468.00 | IB-057UK-25 | £605.00 |
| 10-110 m ³ /h | 1" BSPP(F) | 200 mbar | IB-056UK-30 | £468.00 | IB-057UK-30 | £605.00 |
| 20-170 m ³ /h | 2" BSPP(F) | 100 mbar | IB-056UK-35 | £598.00 | IB-057UK-35 | £735.00 |
| 30-300 m ³ /h | 2" BSPP(F) | 100 mbar | IB-056UK-40 | £598.00 | IB-057UK-40 | £735.00 |
| 50-450 m ³ /h | 2" BSPP(F) | 250 mbar | IB-056UK-45 | £598.00 | IB-057UK-45 | £735.00 |
| 70-700 m ³ /h | 2" BSPP(F) | 500 mbar | IB-056UK-50 | £598.00 | IB-057UK-50 | £735.00 |

Low-Flow Liquid or Gas Flow Systems

- ▶ Combine sensors, power supply, and indicator to create your own flow system
- ▶ Flow ranges
Liquid 13 ml/min to 10 LPM
Gas 20 ml/min to 50 LPM
- ▶ Long lifetime - over 35,000 mean-time life hours

to build a complete System...

- 1 Flow sensor
- 2 Power supply adapter
- 3 Flow rate indicator



1 Flow Sensors

Select these flow sensors for your low-flow gas or liquid applications. All units feature a 0 to 5 VDC output for sending data to a recorder, datalogger, or computer. Sensors for liquids can be used with a wide variety of transparent, low-viscosity (under 10 cSt) liquids. Mount horizontally for best results.

Wetted materials for Ryton® sensors are glass-filled polyphenylene sulfide (Ryton®), glass, stainless steel, sapphire, and viton®.

| Catalogue number | Flow rates | Pressure drop at max flow | Connections (tube OD) | Price Each |
|------------------------------------|-------------------|---------------------------|-----------------------|------------|
| Ryton® sensors for liquids* | | | | |
| IB-32703-50 | 13 to 100 mL/min | 690 mbar | 1/8" | £144.00 |
| IB-32703-52 | 50 to 500 mL/min | 690 mbar | 1/4" | £144.00 |
| IB-32703-54 | 60 to 1000 mL/min | 345 mbar | 1/4" | £144.00 |
| IB-32703-55 | 0.1 to 2 LPM | 415 mbar | 1/4" | £144.00 |
| IB-32703-56 | 0.2 to 5 LPM | 415 mbar | 3/8" | £177.00 |
| IB-32703-58 | 1 to 10 LPM | 415 mbar | 3/8" | £236.00 |
| Ryton® sensors for gases | | | | |
| IB-32700-00 | 20 to 100 mL/min | 50 mbar | 1/8" | £144.00 |
| IB-32700-02 | 40 to 200 mL/min | 20 mbar | 1/4" | £144.00 |
| IB-32700-04 | 100 to 500 mL/min | 5 mbar | 1/4" | £144.00 |
| IB-32700-06 | 0.2 to 1 LPM | 5 mbar | 1/4" | £144.00 |
| IB-32700-08 | 0.4 to 2 LPM | 5 mbar | 1/4" | £144.00 |
| IB-32700-10 | 1 to 5 LPM | 5 mbar | 1/4" | £144.00 |
| IB-32700-12 | 2 to 10 LPM | 7 mbar | 3/8" | £177.00 |
| IB-32700-14 | 4 to 20 LPM | 7 mbar | 3/8" | £236.00 |
| IB-32700-16 | 10 to 50 LPM | 7 mbar | 3/8" | £236.00 |
| IB-32700-18 | 20 to 100 LPM | 7 mbar | 1/2" | £236.00 |
| IB-32700-20 | 40 to 200 LPM | 12 mbar | 1/2" | £236.00 |
| IB-32700-22 | 100 to 500 LPM | 50 mbar | 1/2" | £254.00 |

*Flow rates given are for water and other low-viscosity fluids less than 10 centistokes.

Specifications

Accuracy: ±3% full scale including linearity

Repeatability
Ryton®: ±1% full scale

Output: 0 to 5 VDC

Max operating ambient: 50°C

Temp coefficient: ±0.2% per °C

Max pressure

Sensors for liquids: 7 bar at 20°C
Sensors for gases: 2.76 bar at 20°C

Pressure sensitivity: ±0.07% per mm Hg (for air at 1 to 3 atm)

Max particulate size
Sensors for liquids: 7 microns
Sensors for gases: 25 microns

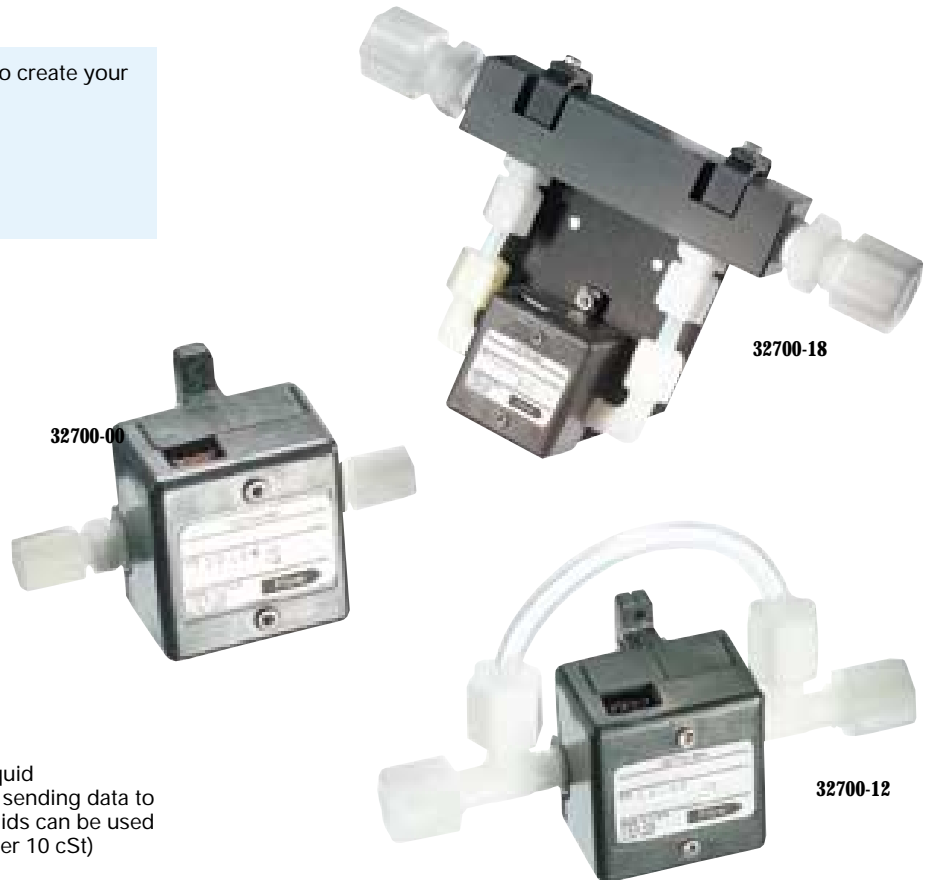
Power (not included)
Ryton®: 10 to 15 VDC, 30 mA

Dimensions (models up to 5 L/min)
Ryton®: 60mmL x 41mmW x 38mmH

Shpg wt: 0.5 kg

Kalrez, Viton—Reg TM DuPont Dow Elastomers L.L.C.

Ryton—Reg TM Phillips Petroleum Co.



2 Power Supply/Adapters

A power supply is required for these flow sensors. Order either power supply 03290-UK below or if using your own power supply order cable assembly 32700-80.

IB-03290-UK 240VAC UK Power Supply for Ryton® Sensors.....£40.00

IB-32700-80 Cable assembly for Ryton® Sensors cable is 91cm long. Required when using your own power supply.....£12.76

3 Flow Rate Indicators



Sub-Miniature 12 VDC-Powered Indicator is ideal for applications where AC power is not readily available. This 3 1/2-digit LCD indicator includes an isolated transformer that converts the 12 VDC from your power supply to a regulated 9 VDC to power the display. View readings in mL/min or L/min on a 3 1/2-digit LCD. Panel cutout is 40.6mmL x 22.4mmH.

IB-32706-72 DC-powered indicator.....£72.00

Need a digital signal?

Use an analogue signal to RS converter to connect your flowmeter to your computer for data collection and analysis. Select either and RS-232 or RS-485 protocol. Converters include software; a bidirectional A/D and D/A signal conditioner with switch selectable 0 to 5 VDC and 4 to 20 mA inputs; and screw terminal connections, and a 240 VAC UK power supply.

IB-03277-70 Analogue signal-to-RS-232 converter£229.00

IB-03277-75 Analogue signal-to-RS-485 converter£229.00

Commercial Grade Flowmeters/Totalizers



A low-cost solution to light-duty process applications

- ▶ Displays either flow rate or accumulated flow in LPM or GPM
- ▶ Battery-powered to eliminate the need for expensive wiring
- ▶ Two totalizers allow for process or period-specific volume monitoring
- ▶ ATEX Zone 2 approved

These general purpose in-line flowmeters/totalizers display flow rate and accumulated flow in GPM or LPM. The NEMA enclosure is suitable for indoor/outdoor use in dusty, dirty and wet environments. This compact design makes them ideal for use in light manufacturing, pilot-plant, or quality control areas.

All flowmeters measure linearly across a range and record a cumulative volume plus a resettable volume. Meters are factory-calibrated using water but can store two application-specific K-factors determined in-process. To conserve power, the six-digit display automatically turns on with flow and then turns off four minutes after flow ceases.

Meters operate on two lithium batteries. Replacement battery kits and calibration containers can be ordered from the "Accessories" section below.

Wetted components are the Nylon or aluminum housing, Nylon rotor, tungsten carbide shaft, 316 SS rings, and ceramic bearings.

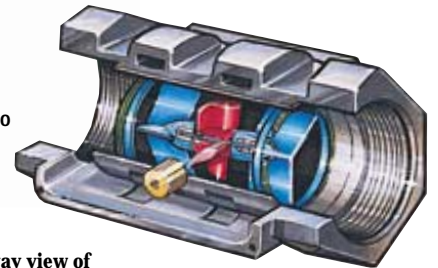


Flowmeter/totalizer 05610-04

More info

How They Work

Signal generators in the rotor produce electronic pulses that are translated into calibrated flow units and displayed.



Cutaway view of flowmeter/accumulator



Specifications & Ordering Information

Accuracy: ±1.5% of reading

Repeatability: ±0.5% of reading

Operating temp: -10 to 60°C

Display: six-digit LCD, 1/2"H (with floating decimal)

Power: two 3 V lithium batteries

Battery life: 4000 hours nominal

Dimensions: 102 mmL x 51 mmW x 64 mmH

| Flow rates | Flowmeters connections | Housing material | Maximum pressure | Pressure drop at max flow | Maximum particulate size | Flowmeters/Totalizers | |
|-------------------------------------|------------------------|------------------|--------------------|---------------------------|--------------------------|-----------------------|---------|
| | | | | | | Catalogue number | Price |
| 1 to 10 LPM (0.3 to 3.0 GPM) | 1" NPT(F) | Nylon | 10.3 bar (150 psi) | 138 mbar (2 psi) | 25 microns | IB-05610-01 | £279.00 |
| | | Aluminum | 20.7 bar (300 psi) | | | IB-05610-02 | £264.00 |
| 10 to 190 LPM (3 to 50 GPM) | 1" NPT(F) | Nylon | 10.3 bar (150 psi) | 345 mbar (5 psi) | 350 microns | IB-05610-04 | £271.00 |
| | | Aluminum | 20.7 bar (300 psi) | | | IB-05610-06 | £258.00 |
| 100 to 1,000 LPM (30 to 300 GPM) | 2" NPT(F) | Aluminum | 20.7 bar (300 psi) | 483 mbar (7 psi) | 350 microns | IB-05610-08 | £564.00 |

Accessories

IB-05610-70 Calibration container; HDPE, 5-gal. capacity.....£58.00

IB-05610-71 Calibration container; HDPE, 5-liter capacity£52.00

IB-05610-96 Replacement battery kit.....£25.17

More info

Need to dispense?

An aluminum nozzle, connectors, and connecting hose are available for easy fluid dispensing for flowmeters/totalizers with 1 to 10 LPM and 10 to 190 LPM flow ranges. Call our Application Specialists for more information.



Flowmeter not included

Heavy-Duty Flowmeters/Totalizers

- ▶ Battery power eliminates the need for expensive wiring
- ▶ Two totalizers allow for process or period-specific volume monitoring
- ▶ ATEX zone 2 approved

These heavy-duty in-line flowmeters/totalizers display flow rate and accumulated flow in LPM (or GPM). The compact, yet robust design makes them ideal for use in manufacturing, pilot-plant, or quality control areas.

All flowmeters measure linearly across a range and record a cumulative volume plus a resettable volume. Meters are factory-calibrated using water but can store two application-specific K-factors determined in process. To conserve power, the six-digit display automatically turns on with flow and then turns off four minutes after flow ceases.

Wetted components are 316 SS or aluminum housing, PVDF rotor and supports, tungsten carbide shaft, 316 SS retainers, and ceramic bearings. The internal parts are simple to replace for easy maintenance (contact Cole-Parmer Applications if necessary).

Meters operate on two lithium batteries. Calibration containers and replacement battery kits can be ordered from the "Accessories" section below.

New



Flowmeter 05609-19 with LPM display and ANSI flange connection.



Flowmeter 05609-25 with LPM display and sanitary Tri-Clover connection.



Flowmeter 05609-23 with LPM display and NPT(F) connection.

Technical info

Signal generators in the rotor produce electronic pulses that are translated into calibrated flow units and displayed.

ATEX
Zone 2



Specifications & Ordering Information

Repeatability: ±0.1% of reading

Operating temp: -10 to 60°C

Maximum pressure: 103 bar (1500 psi)

Display: 6-digit LCD, ½"H (with floating decimal)

Power: two 3 V lithium batteries

Battery life: 9000 hours nominal

Maximum particulate size

Models with ≤ 37.9 LPM or 10 GPM max flow rate: 125 µm

Models with ≥ 37.9 LPM or 10 GPM max flow rate: 500 µm

| Catalogue number | Flow range | Accuracy | Connections | Body material | Dimensions (W x H x D) mm | Price |
|--|----------------------------------|--------------|---|--|--|--|
| IB-05609-01 IB-05609-03 IB-05609-05 | 3.8 to 37.9 LPM (1 to 10 GPM) | ±2% of rdg | ½" NPT(F) ½" NPT(F) ¾" Tri-Clover** | Aluminum 316 SS 316 SS | 114 x 51 x 48 114 x 51 x 48 127 x 51 x 48 | £332.00 £389.00 £462.00 |
| IB-05609-07 IB-05609-09 IB-05609-11 | 7.6 to 75.7 LPM (2 to 20 GPM) | ±1.5% of rdg | ¾" NPT(F) ¾" NPT(F) 1" Tri-Clover* | Aluminum 316 SS 316 SS | 111 x 51 x 51 111 x 51 x 51 127 x 51 x 51 | £339.00 £396.00 £469.00 |
| IB-05609-13 IB-05609-15 IB-05609-17 IB-05609-19 | 18.9 to 190 LPM (5 to 50 GPM) | ±1.5% of rdg | 1" NPT(F) 1" NPT(F) 1½" Tri-Clover* 1" ANSI† | Aluminum 316 SS 316 SS 316 SS | 114 x 51 x 57 114 x 51 x 57 140 x 51 x 57 121 x 108 x 108 | £344.00 £403.00 £477.00 £587.00 |
| IB-05609-21 IB-05609-23 IB-05609-25 IB-05609-27 | 38 to 380 LPM (10 to 100 GPM) | ±1% of rdg | 1½" NPT(F) 1½" NPT(F) 2" Tri-Clover* 1½" ANSI† | Aluminum 316 SS 316 SS 316 SS | 137 x 70 x 73 137 x 70 x 73 165 x 70 x 73 203 x 127 x 127 | £477.00 £565.00 £638.00 £750.00 |
| IB-05609-29 IB-05609-31 IB-05609-33 IB-05609-35 | 6 to 760 LPM (20 to 200 GPM) | ±1% of rdg | 2" NPT(F) 2" NPT(F) 2½" Tri-Clover* 2" ANSI† | Aluminum 316 SS 316 SS 316 SS | 162 x 86 x 83 162 x 86 x 83 178 x 86 x 83 241 x 152 x 152 | £600.00 £744.00 £819.00 £925.00 |

*Sanitary flange †150# ANSI flange

Accessories

- IB-05610-70 Calibration container; HDPE, 5-gallon capacity.....£58.00
- IB-05610-71 Calibration container; HDPE, 5-liter capacity.....£52.00
- IB-05610-96 Replacement battery kit.....£25.17

Stainless Steel Turbine Flowmeters

These stainless steel turbine meters suitable for totalising and flow rate measuring of gases and liquids. The flowmeter body contains a turbine blade that rotates as the fluid flows down the line. An external magnetic pickup coil detects the passage of each blade and sends signals to the display. For use in ATEX zone 2 use turbine bodies with intrinsically safe pickups and select a display with the relevant hazardous area rating.

- ▶ Suitable for gas or liquids
- ▶ Choice of BSP or flange end fittings
- ▶ Handle particulates up to 17mm in diameter - for media with particulate matter use slurry body 302UK-XX
- ▶ Durable materials of construction for use in rigorous industrial applications
- ▶ Large LCD displays show both flow rate and totalised flow
- ▶ Select displays with optional output signals and batch functions

New



305UK-00 with 301UK-10



ATEX
Zone 2

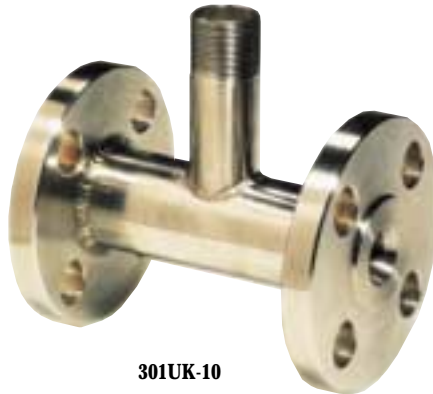


to build a complete **System . . .**

- 1 Turbine Body
- 2 Display



30100-UK



301UK-10

1 Turbine Bodies

| BSPP Stainless Steel Turbine Bodies For Liquids | | | | With Standard Pickups | | With Intrinsically Safe Pickups | |
|---|-----------|----------------|-------------|-----------------------|------------|---------------------------------|------------|
| Flow Range | Accuracy | Connections | Body Length | Cat. No. | Price Each | Cat. No. | Price Each |
| 1-10 LPM | ± 0.5% FS | 1/2" BSPP(M) | 70 mm | IB-30106-UK | £460.00 | IB-3UK00-10 | £600.00 |
| 2-20 LPM | ± 0.5% FS | 1/2" BSPP(M) | 70 mm | IB-30100-UK | £460.00 | IB-3UK00-20 | £600.00 |
| 5-50 LPM | ± 0.5% FS | 3/4" BSPP(M) | 70 mm | IB-30101-UK | £473.00 | IB-3UK00-30 | £613.00 |
| 14-140 LPM | ± 0.5% FS | 3/4" BSPP(M) | 76 mm | IB-30102-UK | £473.00 | IB-3UK00-40 | £613.00 |
| 27-270 LPM | ± 0.5% FS | 1" BSPP(M) | 76 mm | IB-30103-UK | £521.00 | IB-3UK00-50 | £661.00 |
| 55-550 LPM | ± 0.5% FS | 1 1/2" BSPP(M) | 114 mm | IB-30104-UK | £558.00 | IB-3UK00-60 | £698.00 |
| 114-1140 LPM | ± 0.5% FS | 2" BSPP(M) | 133 mm | IB-30105-UK | £606.00 | IB-3UK00-70 | £746.00 |

Specification

Max Pressure: 250 Bar
 Max Pressure Drop: 250mbar
 Temperature: -20 to +120°C
 Wetted Parts: Body, Internal Supports and Rotor 316 Stainless Steel

| BSPP Stainless Steel Turbine Bodies For Gases | | | | With Standard Pickups | | With Intrinsically Safe Pickups | |
|---|----------|----------------|-------------|-----------------------|------------|---------------------------------|------------|
| Flow Range | Accuracy | Connections | Body Length | Cat. No. | Price Each | Cat. No. | Price Each |
| 0.3-4 m³/hr | ± 3% FS | 1/2" BSPP(M) | 70 mm | IB-30206-UK | £418.00 | IB-3UK01-10 | £558.00 |
| 0.5-7 m³/hr | ± 3% FS | 1/2" BSPP(M) | 70 mm | IB-30200-UK | £418.00 | IB-3UK01-20 | £558.00 |
| 1-14 m³/hr | ± 3% FS | 3/4" BSPP(M) | 70 mm | IB-30201-UK | £442.00 | IB-3UK01-30 | £582.00 |
| 2.5-35 m³/hr | ± 2% FS | 3/4" BSPP(M) | 76 mm | IB-30202-UK | £442.00 | IB-3UK01-40 | £582.00 |
| 5-70 m³/hr | ± 1% FS | 1" BSPP(M) | 76 mm | IB-30203-UK | £473.00 | IB-3UK01-50 | £613.00 |
| 10-140 m³/hr | ± 1% FS | 1 1/2" BSPP(M) | 114 mm | IB-30204-UK | £503.00 | IB-3UK01-60 | £643.00 |
| 18-252 m³/hr | ± 1% FS | 2" BSPP(M) | 133 mm | IB-30205-UK | £545.00 | IB-3UK01-70 | £685.00 |

Specification

Max Pressure: 250 Bar
 Max Pressure Drop: 12.5mbar
 Temperature: -20 to +120°C
 Wetted Parts: Body, Internal Supports and Rotor 316 Stainless Steel

More info

Use slurry body for media that contains particulates

| Flanged Stainless Steel Turbine Bodies For Slurries | | | | | | | |
|---|--------------|-----------|----------------------|-------------|-------------------|-------------------|------------|
| Cat. No. | Flow Range | Accuracy | Connections | Body Length | Max Pressure Drop | Max Particle Size | Price Each |
| IB-302UK-00 | 114-1140 LPM | ± 1.5% FS | 2" ANSI 150LB Flange | 165 mm | 0.3 Bar | 5 mm | £623.00 |
| IB-302UK-10 | 227-2270 LPM | ± 1.5% FS | 3" ANSI 150LB Flange | 165 mm | 0.3 Bar | 10 mm | £802.00 |
| IB-302UK-20 | 454-4540 LPM | ± 1.5% FS | 4" ANSI 150LB Flange | 210 mm | 0.3 Bar | 13 mm | £1194.00 |
| IB-302UK-30 | 908-9080 LPM | ± 1.5% FS | 6" ANSI 150LB Flange | 240 mm | 0.3 Bar | 17 mm | £1685.00 |

Specification

Max Pressure: Flange Rule
 Temperature: -20 to +120°C
 Wetted Parts: Body, Internal Supports and Rotor 316 Stainless Steel

Specification

Max Pressure: Flange Rule
Temperature: -20 to +120°C
Wetted Parts: Body, Internal Supports and Rotor 316 Stainless Steel

| Flanged Stainless Steel Turbine Bodies For Liquids | | | | | | |
|--|--------------|-----------|-------------------------|-------------|-------------------|------------|
| Cat. No. | Flow Range | Accuracy | Connections | Body Length | Max Pressure Drop | Price Each |
| IB-300UK-00 | 1-10 LPM | ± 0.5% FS | 0.75" ANSI 150LB Flange | 127 mm | 250 mbar | £525.00 |
| IB-300UK-05 | 2-20 LPM | ± 0.5% FS | 0.75" ANSI 150LB Flange | 127 mm | 250 mbar | £525.00 |
| IB-300UK-10 | 5-50 LPM | ± 0.5% FS | 1" ANSI 150LB Flange | 127 mm | 250 mbar | £555.00 |
| IB-300UK-15 | 14-140 LPM | ± 0.5% FS | 1" ANSI 150LB Flange | 140 mm | 250 mbar | £555.00 |
| IB-300UK-20 | 27-270 LPM | ± 0.5% FS | 1" ANSI 150LB Flange | 152 mm | 250 mbar | £555.00 |
| IB-300UK-25 | 55-550 LPM | ± 0.5% FS | 1.5" ANSI 150LB Flange | 165 mm | 250 mbar | £645.00 |
| IB-300UK-30 | 114-1140 LPM | ± 0.5% FS | 2" ANSI 150LB Flange | 165 mm | 250 mbar | £702.00 |
| IB-300UK-35 | 227-2270 LPM | ± 0.5% FS | 3" ANSI 150LB Flange | 165 mm | 250 mbar | £917.00 |
| IB-300UK-40 | 454-4540 LPM | ± 0.5% FS | 4" ANSI 150LB Flange | 210 mm | 250 mbar | £1369.00 |
| IB-300UK-45 | 908-9080 LPM | ± 0.5% FS | 6" ANSI 150LB Flange | 240 mm | 250 mbar | £1929.00 |

Specification

Max Pressure: Flange Rule
Temperature: -20 to +120°C
Wetted Parts: Body, Internal Supports and Rotor 316 Stainless Steel

| Flanged Stainless Steel Turbine Bodies For Gases | | | | | | |
|--|----------------|----------|-------------------------|-------------|-------------------|------------|
| Cat. No. | Flow Range | Accuracy | Connections | Body Length | Max Pressure Drop | Price Each |
| IB-301UK-00 | 0.3-4 m³/Hr | ± 3% FS | 0.75" ANSI 150LB Flange | 127 mm | 12.5 mbar | £508.00 |
| IB-301UK-05 | 0.5-7 m³/Hr | ± 3% FS | 0.75" ANSI 150LB Flange | 127 mm | 12.5 mbar | £508.00 |
| IB-301UK-10 | 1-14 m³/Hr | ± 3% FS | 1" ANSI 150LB Flange | 127 mm | 12.5 mbar | £542.00 |
| IB-301UK-15 | 2.5-35 m³/Hr | ± 2% FS | 1" ANSI 150LB Flange | 140 mm | 12.5 mbar | £542.00 |
| IB-301UK-20 | 5-70 m³/Hr | ± 1% FS | 1" ANSI 150LB Flange | 152 mm | 12.5 mbar | £542.00 |
| IB-301UK-25 | 10-140 m³/Hr | ± 1% FS | 1.5" ANSI 150LB Flange | 165 mm | 12.5 mbar | £577.00 |
| IB-301UK-30 | 18-252 m³/Hr | ± 1% FS | 2" ANSI 150LB Flange | 165 mm | 12.5 mbar | £623.00 |
| IB-301UK-35 | 35-490 m³/Hr | ± 1% FS | 3" ANSI 150LB Flange | 165 mm | 12.5 mbar | £802.00 |
| IB-301UK-40 | 70-980 m³/Hr | ± 1% FS | 4" ANSI 150LB Flange | 210 mm | 12.5 mbar | £1194.00 |
| IB-301UK-45 | 140-1960 m³/Hr | ± 1% FS | 6" ANSI 150LB Flange | 240 mm | 12.5 mbar | £1685.00 |



2 Displays

- ▶ Displays Flow Rate and Total
- ▶ Large LCD 40mm x 90mm with seven 17mm and eleven 8mm digits
- ▶ Selectable Units
 TOTAL: L, m3, kg, lb, GAL, USGAL, bbl (barrels) or no unit
 FLOWRATE: L, m3, GAL, kg, lb, bbl (barrels) or no unit
 TIME UNITS: /second, /minute, /hour or /day
- ▶ Two totals (one resettable and an accumulated total that is not resettable)
- ▶ Data protection - All settings are backed up on an EEPROM and the accumulated total is backed up every minute
- ▶ Password protection
- ▶ Optional output signals and batch functions



305UK-00

These factory configured displays are head mounted on to the turbine itself, or can be mounted remotely when used in conjunction with the remote cable 305UK-99. The large digital display shows a seven digit total and a five digit flow. The setup is easily configurable via the three touch buttons on the display. The unit is powered via a lithium battery with an average life of six years.

IB-305UK-99 Cable 1m For Remote Display Mounting£10.00

| Display For Turbine Bodies | | | | | | | |
|----------------------------|---------------------------------|-----------|-------------------|------------------|-------------------------------------|--|------------|
| Cat. No. | ATEX Zone | Display | | Functions | | | Price Each |
| | | Flow Rate | Accumulated Total | Batch Controller | 4-20mA o/p in relation to flow rate | pulse o/p in relation to accumulated total | |
| IB-305UK-00 | - | | | | | | £271.00 |
| IB-305UK-03* | Zone 2 (EEX IA IIC T4 RATED) | ✓ | ✓ | X | X | X | £400.00 |
| IB-305UK-20 | - | | | | | | £329.00 |
| IB-305UK-23* | Zone 2 (EEX IA IIB T4 RATED) | ✓ | ✓ | X | ✓ | ✓ | £475.00 |
| IB-305UK-40 | - | | | | | | £415.00 |
| IB-305UK-43* | Zone 2 (EEX IA IIB T4 RATED) | ✓ | ✓ | ✓ | X | ✓ | £600.00 |

* To use in an ATEX zone 2 environment you must use turbine bodies with intrinsically safe pickups

Specification

Display: 40mm x 90mm with seven 17mm and eleven 8mm digits
Casing: ABS - IP65
Dimensions: 130mm L x 114mm H x 71mm D (panel cutout 115mm L x 96mm H)
Power: Lithium Battery

Input Signal: Coil/Sine Wave (minimum 10mV peak to peak)
Input Frequency: 0.01Hz to 10KHz
Linearisation: 15 point
Operating Temperature: -20 to +80°C

Pilot-Scale Ultrasonic Flowmeter/Transmitter

- ▶ Ideal for measuring high-purity solutions, slurries and corrosive chemicals
- ▶ Flow through design with no intrusions produces almost no pressure loss
- ▶ No mechanical seals to leak or moving parts to wear out
- ▶ Segregated design for remote placement of sensor or transmitter/display



This design is ideal for use with fluids that have physical or chemical properties different from general-use water. The sensor utilizes PFA (perfluoroalkoxy) tubing, which is a high-purity, chemically inert fluoropolymer much like PTFE or FEP. The sensor housing is made of durable ABS plastic for placement in aggressive environments. A 5m cable allows for distant installation of the sensor.

All programming of the controller is done through the 4-button panel. To improve accuracy, the controller allows the user to program and linearize measurement for up to 15 data points. The controller panel also includes indication for an alarm that can be programmed on either flow rate (high and/or low) or totalized flow. For datalogging and process integration, the controller offers a low-flow cut-off at a user programmable 0 to 10% of full scale.

What's included: flow sensor, including 5m cable and controller.

Specifications & Ordering Information

Fluid type: water, slurries, chemicals
Accuracy: ±2% of reading (water)
Linearity: user determinable, 15-point
Repeatability: ±0.5%
Operating temperature
 Sensor: 10 to 40°C
 Controller: 0 to 50°C

Operating pressure: 5.17 bar max
Wetted materials: PFA
Connection(s): PFA tube-end (100mm lead)
Input power: 24 VDC ±10%,
 150 mA (1.5 A peak)
Enclosure rating: IP20, Controller

Display type: backlit LCD, 2-line
Special indicators: 2 LED, alarm
Output signal(s): 4 to 20 mA or 0 to 10 V
 Scaled pulse, open collector, 30 VDC at 20 mA
Pulse frequency (max): 5 Hz, 10 Hz or 1,000 Hz

Relay type: 2-point alarm, open collector, 30 VDC at 20 mA
Panel cutout: 94mmW x 43mmH
Dimensions
 Controller 97mmW x 48mmH x 178mmD
 Sensor 122mmL x 25mmW x 51mmH

| Flow range | Connections | Voltage Output (0 to 10 V) | | Current Output (4 to 20 mA) | |
|--|-------------|----------------------------|----------|-----------------------------|----------|
| | | Catalogue number | Price | Catalogue number | Price |
| 110 to 9,000 mL/min (0.03 to 2.38 GPM) | 3/8" | IB-32986-80 | £1813.00 | IB-32986-86 | £1813.00 |
| 230 to 18,000 mL/min (0.61 to 4.76 GPM) | 1/2" | IB-32986-82 | £1813.00 | IB-32986-88 | £1813.00 |

IB-32986-99 Outlet-mounted power supply, 90-264 VAC to 24 VDC£58.00

Lab-Scale Vortex Flowmeters/Transmitters



- ▶ Ideal for ultrapure and aggressive fluids with minimal solids or conductivity
- ▶ Simple body design ensures no contamination of the process
- ▶ No moving parts to wear out, maintain or dislodge into the system

Specifications & Ordering Information

Fluid type: ultrapure water; water-like solutions
Accuracy: ± 3% of F.S. (add ± 1 digit for display units)
Repeatability: ± 0.5%
Response time: 1 sec. (63% resp.)
Operating temperature: 0-90°C

Operating pressure: 0 to 5.17 bar
Wetted materials: PFA, PF Elastomer
Connection(s): PFA tube end (75mm lead)
Input Power: 12 to 24 VDC
Protection classification: IP64
Display type: 3-digit LED

Pulse frequency (max): 867 Hz
Output signal(s)
 Pulse: unscaled, open collector, 10 mA at 30 VDC
 Analogue: 3-wire 4 to 20 mA,
Relay type (display unit only): open collector, 80 mA at 30 VDC
Dimensions (body only): 46mmL x 41mmW x 61mmH

The one-piece meter body is molded in PFA (perfluoroalkoxy), which is a high-purity, chemically inert fluoropolymer much like PTFE or FEP. The electronics housing is made of durable, chemically resistant PBT resin for placement in aggressive environments. A 3-m cable allows for one-piece wiring within most systems. Programming of two alarms included with the display version is done through the three-button keypad. Each alarm can be programmed to activate either below/at or above/at a set flow rate.

| Flow range (display resolution) | Connections | Sensor with pulse output | | Transmitter with analogue output | | Transmitter with display/alarms | |
|------------------------------------|-------------|--------------------------|---------|----------------------------------|---------|---------------------------------|---------|
| | | Cat. no. | Price | Cat. no. | Price | Cat. no. | Price |
| Measurement in metric units | | | | | | | |
| 0.50 to 4.00 L/min | 1/2" | IB-32996-50 | £544.00 | IB-32996-60 | £544.00 | IB-32996-70* | £669.00 |
| 2.0 to 16.0 L/min | 3/4" | IB-32996-52 | £544.00 | IB-32996-62 | £544.00 | IB-32996-72 | £669.00 |
| 4.0 to 40.0 L/min | 1" | IB-32996-54 | £544.00 | IB-32996-64 | £544.00 | IB-32996-74 | £669.00 |

* Connection size is 3/8"

High Accuracy Oval Gear Flowmeters



Internal view of 134UK-00 showing gears



More info

Centipoise = centistokes x specific gravity

- ▶ Available in flow ranges from 8.3ml/min to 250 LPM
- ▶ High accuracy either ±0.5% or ±1% of reading
- ▶ Free factory calibration report issued with each flowmeter
- ▶ Accuracy is unaffected by viscosity changes
- ▶ Flow conditioning is not required

These oval gear flowmeters without displays are ideal for use in food, petroleum, pharmaceutical, or waste treatment applications. They can handle a wide range of fluid viscosities with exceptional accuracy and durability, without the need to recalibrate. Low pressure drop even allows for gravity flow application.



Specifications

For PPS Body Material

Viscosity Range: 1 to 1000 cp
 Max operating ambient: 80°C
 Wetted Components:
 PPS body & rotor, 316 SS shaft, Viton® o-rings

For Aluminum Body Material

Viscosity Range: 1 to 1000 cp
 Max operating ambient: 80°C
 Wetted Components:
 Aluminum body, PPS rotor, 316 SS shaft, Nitrile o-rings

For 316 SS Body Material

Viscosity Range: 1 to 1000 cp
 Max operating ambient: 120°C
 Wetted Components:
 316 SS body, rotor & shaft, Viton® o-rings

| Cat. No. | Flow Rates* | Accuracy % of reading | Pulse O/P | Maximum Particle Size | Max Pressure | Body Material | Connections | Dimensions | Shpg wt (kg) | Price Each |
|--|-------------|-----------------------|-----------|-----------------------|--------------|---------------|------------------------|--------------------------|--------------|------------|
| Flowmeter with Reed Switch Output (does not require external power) | | | | | | | | | | |
| IB-134UK-75 | 0.5-50 LPH | +/- 1% | 1547 PPL | 0.127 mm | 5 Bar | Aluminum | 1/8" BSPP(F) | 65mmL x 50mmW x 50mmH | 1.0 | £225.00 |
| IB-134UK-80 | | | | | 10 Bar | 316 SS | 1/8" BSPP(F) | 65mmL x 50mmW x 50mmH | 1.4 | £320.00 |
| IB-134UK-00 | 1-100 LPH | +/- 1% | 1000 PPL | 0.127 mm | 5 Bar | PPS | 1/4" BSPP(F) | 65mmL x 50mmW x 50mmH | 0.5 | £230.00 |
| IB-134UK-05 | | | | | 10 Bar | 316 SS | 1/4" BSPP(F) | 65mmL x 50mmW x 50mmH | 1.0 | £320.00 |
| IB-134UK-10 | | | | | 55 Bar | 316 SS | 1/4" BSPP(F) | 65mmL x 50mmW x 50mmH | 1.4 | £330.00 |
| IB-134UK-15 | | | | | 5 Bar | PPS | 1/4" BSPP(F) | 65mmL x 50mmW x 50mmH | 0.5 | £255.00 |
| IB-134UK-20 | 15-500 LPH | +/- 1% | 400 PPL | 0.127 mm | 10 Bar | 316 SS | 1/4" BSPP(F) | 65mmL x 50mmW x 50mmH | 1.0 | £325.00 |
| IB-134UK-25 | | | | | 55 Bar | 316 SS | 1/4" BSPP(F) | 65mmL x 50mmW x 50mmH | 1.4 | £335.00 |
| IB-134UK-30 | 1-30 LPM | +/- 0.5% | 114 PPL | 0.28 mm | 55 Bar | Aluminum | 1/2" BSPP(F) | 100mmL x 96mmW x 105mmH | 2.3 | £355.00 |
| IB-134UK-35 | | | | | 55 Bar | 316 SS | 1/2" BSPP(F) | 100mmL x 96mmW x 105mmH | 5.5 | £770.00 |
| IB-134UK-40 | 6-120 LPM | +/- 0.5% | 72 PPL | 0.28 mm | 55 Bar | Aluminum | 1" BSPP(F) | 143mmL x 112mmW x 138mmH | 2.8 | £495.00 |
| IB-134UK-45 | | | | | 55 Bar | 316 SS | 1" BSPP(F) | 143mmL x 112mmW x 138mmH | 5.9 | £1215.00 |
| IB-134UK-50 | | | | | Flange Rule | 316 SS | 1" ANSI 150LB Flange | 170mmL x 112mmW x 138mmH | 5.5 | £1400.00 |
| IB-134UK-55 | | | | | Flange Rule | 316 SS | 1" Triclover Flange | 170mmL x 112mmW x 138mmH | 5.5 | £1600.00 |
| IB-134UK-60 | 10-250 LPM | +/- 0.5% | 29 PPL | 0.38 mm | 55 Bar | Aluminum | 1.5" BSPP(F) | 150mmL x 144mmW x 163mmH | 3.5 | £725.00 |
| IB-134UK-65 | | | | | 55 Bar | 316 SS | 1.5" BSPP(F) | 150mmL x 144mmW x 163mmH | 7.5 | £1800.00 |
| IB-134UK-70 | | | | | Flange Rule | 316 SS | 1.5" ANSI 150LB Flange | 212mmL x 144mmW x 163mmH | 7.5 | £2000.00 |

*Flow rates listed are for fluids above 5 centipoise

Viton - DuPont Dow Elastomers, L.L.C.

Digital Flowrate/Totaliser



Monitor both flowrate and totalised value with these displays and the oval flowmeters. All units can be run from an internal lithium battery, eliminating the need for any external power leads.

| Cat No | Output | | | Linearisation | Price Each |
|--|--------|-------|-------|---------------|------------|
| | 4-20mA | Pulse | Relay | | |
| Rate Indicator / Totalizer / Contoller With No Comms | | | | | |
| IB-895UK-30 | | | | NO | £370.00 |
| IB-895UK-35 | ✓ | ✓ | | 15 point | £420.00 |
| IB-895UK-40 | | | 3 | NO | £395.00 |
| Rate Indicator / Totalizer / Contoller With RS485 2-Wire Modbus Communication | | | | | |
| IB-897UK-30 | | | | NO | £400.00 |
| IB-897UK-35 | ✓ | ✓ | | 15 point | £450.00 |
| IB-897UK-40 | | | 3 | NO | £425.00 |

Gear Flowmeters with Mechanical Totaliser Display

- ▶ No external power source required
- ▶ Free factory calibration report issued with each flowmeter
- ▶ Resettable and non-resettable totals
- ▶ Accuracy is unaffected by viscosity changes

These oval gear flowmeters with mechanical displays feature two total displays: one resettable and one non-resettable. The resettable display reads from 1 to 9,999 liters and the non-resettable display from 1 to 999,999 liters. These flowmeters do not require an external power supply. Displays can be rotated in 90° increments for a better view.

Flowmeters accurately handle a wide range of viscosities without the need to recalibrate. Meter design minimizes the number of wearable and replaceable parts, extending product life. All models have NEMA 13 (IP54) enclosure and are issued with a free factory calibration report.



138UK-00



138UK-20

| Cat. No. | Flow Rates* | Accuracy % of reading | Maximum Particle Size | Max Pressure | Body Material | Connections | Dimensions | Shpg wt (kg) | Price Each |
|-------------|-------------|-----------------------|-----------------------|--------------|---------------|------------------------|-----------------------|--------------|------------|
| IB-138UK-00 | 1-30 LPM | +/- 0.5% | 0.28 mm | 55 Bar | Aluminum | 1/2" BSPP(F) | 100mm x 115mm x 125mm | 1.9 | £350.00 |
| IB-138UK-05 | | | | | 316 SS | 1/2" BSPP(F) | 100mm x 115mm x 125mm | 2.8 | £840.00 |
| IB-138UK-10 | 6-120 LPM | +/- 0.5% | 0.28 mm | 55 Bar | Aluminum | 1" BSPP(F) | 143mm x 115mm x 157mm | 3.7 | £475.00 |
| IB-138UK-15 | | | | | 316 SS | 1" BSPP(F) | 143mm x 115mm x 157mm | 5.5 | £1,450.00 |
| IB-138UK-20 | 6-120 LPM | +/- 0.5% | 0.28 mm | Flange Rule | 316 SS | 1" ANSI 150LB Flange | 170mm x 115mm x 184mm | 5.5 | £1,650.00 |
| IB-138UK-25 | | | | | 316 SS | 1" Triclover Flange | 170mm x 115mm x 184mm | 5.5 | £1,650.00 |
| IB-138UK-30 | 10-250 LPM | +/- 0.5% | 0.38 mm | 55 Bar | Aluminum | 1.5" BSPP(F) | 150mm x 115mm x 184mm | 4.2 | £775.00 |
| IB-138UK-35 | | | | | 316 SS | 1.5" BSPP(F) | 150mm x 115mm x 184mm | 7.5 | £1,850.00 |
| IB-138UK-40 | | | | | 316 SS | 1.5" ANSI 150LB Flange | 212mm x 115mm x 184mm | 7.5 | £2,060.00 |

* Flow rates listed are for fluids with viscosities above 5 centipoise

Viton - DuPont Dow Elastomers, L.L.C.

Specifications

For Aluminum Body Material

Viscosity Range: 1 to 1000 cp

Max operating ambient: 80°C

Wetted Components:

Aluminum body, PPS rotor, 316 SS shaft, Nitrile o-rings

For 316 SS Body Material

Viscosity Range: 1 to 1000 cp

Max operating ambient: 120°C

Wetted Components:

316 SS body, rotor & shaft, Viton® o-rings

Handheld Doppler Flowmeter

- ▶ Measure flow velocities in pipe sizes from 1" up to 60" in diameter
- ▶ Non invasive measurement ensures there is no contamination of fluid
- ▶ Suitable for slurries or dirty fluids

Measure flow velocity almost anywhere with this handheld doppler flowmeter. It is compact, lightweight, and battery-powered making it ideal for portable applications. Use this noninvasive flowmeter where slurries and dirty fluids are present—such as in process, construction, mining, food, and sewage/water treatment industries. Install sensor outside of pipes* with diameters ranging from 1" to 60". View flow velocity in m/s or feet/sec (switch selectable) on a 4-digit LCD. Flowmeter includes a case, sensor with 1.7m cable, tube of transducer couplant, and four AA batteries.

*Not recommended for use with transit (clay), concrete, or some fiberglass pipes.

IB-32986-00 Handheld doppler flowmeter£885.00

IB-09376-01 Replacement batteries, AA. Pack of four£5.07/pk

Specifications

Range: 0.1 to 9 m/s (0.30 to 30 ft/sec)

Accuracy: ±2% full scale

Repeatability: ±1% full scale

Display: single-line 4-digit LCD

Liquid type: fluids with particulates or bubbles; 100 ppm, 100 microns, or larger

How they work

A unique flow-monitoring device utilizes the frequency shift (Doppler effect) of an ultrasonic signal to measure the flow velocities of liquids. A generating crystal in the transducer transmits a high-frequency signal through the pipe wall into the liquid. This signal is reflected by suspended particles or gas bubbles in the moving liquid and is then detected by a receiving crystal located in the sensor. The difference between transmitted and detected frequencies is directly proportional to the liquid's flow velocity.

Operating ambient: -20 to 60°C

Power: four alkaline AA batteries (included)

Dimensions: 10mm W x 120mm H x 40mm D

Shpg wt: 2.7 kg



bürkert Magnetic Flowmeter/Transmitter

- ▶ Excellent for metering dirty liquids or slurries with a conductivity greater than 20 µS
- ▶ No moving parts—ideal for wastewater systems, food industry, pharmaceutical, and nonhazardous industrial/chemical applications
- ▶ Simulation-Mode allows you to safely simulate all flow conditions including alarm points before operating system.
- ▶ Teach-In auto calibration function for specific installations
- ▶ Features 4 to 20 mA signal, a pulse output, and two 3 A relay outputs

Ideal for process applications—select from a variety of true union connections.

Large, 8-digit LCD lets you view both flow rate, volume, and menu-guided instructions. Flowmeters accommodate pipe diameters from ½" to 2". Fittings are available in PVC, stainless steel, and brass.



Magnetic flowmeter
33124-10
shown with
brass in-line fitting
33124-50



The magmeter electrode contains no moving parts and is constructed of PVDF and 316L SS.

Specifications and Ordering Information



- Accuracy:** ±2% of reading
Linearity: ±1% of reading + 0.1% of full-scale
Repeatability: ±0.25% of reading
Fluid conductivity: greater than 20 µS
Operating temp: 0 to 60°C
Maximum fluid temperature
 PVC: 0 to 50°C;
 PP, PVDF, brass, stainless steel:
 0 to 80°C
Wetted parts: PDVF and 316L SS
Enclosure rating: IP65, NEMA 4
Materials of construction
 Housing: polycarbonate
 Front plate foil: polyester
 Sensor: body in PVDF, electrodes in 316L SS
 O-rings: FPM standard
Transmitter
 Power supply: 18 to 32 VDC, three wire
 Output signal: 4 to 20 mA
 Pulse output: open collector NPN and PNP, 0 to 30 V, 100 mA, protected
 Relay output: 2 relays, freely programmable, 3 A, 230 V
Maximum load: 900 Ω at 30 VDC; 500 Ω at 24 VDC; 100 Ω at 15 VDC
Display: 8-digit, alphanumeric LCD, ½"H

GO to ColeParmer.co.uk
 Search online for all our new items—
 product lines are continually updated!



33124-10



PVC true union fitting 33120-52
 allows for easy installation/removal

| Velocity range | Catalogue number | Price |
|--------------------------------------|------------------|----------|
| 0.05 to 10 m/sec (0.16 to 33 ft/sec) | WF-33124-10 | £1209.00 |

In-Line Fittings

These in-line fittings are required for installing magnetic flowmeters. Use PVC for your general-purpose applications; true union connection is easy to install and remove. Stainless steel (SS) offers a good choice for more chemically aggressive fluids. Brass has good chemical resistance. Choose the ASTM Tri-Clamp® process connection for your sanitary applications.

| Fitting size | PVC, true union | | Brass, NPT(F) | | SS, NPT(F) | | SS, Tri-Clamp | |
|--------------|-----------------|---------|---------------|---------|-------------|---------|---------------|---------|
| | Cat. no. | Price | Cat. no. | Price | Cat. no. | Price | Cat. no. | Price |
| ½" | WF-33120-50 | £71.00 | WF-33124-50 | £85.00 | WF-33120-62 | £162.00 | — | — |
| ¾" | WF-33120-52 | £79.00 | WF-33124-52 | £95.00 | WF-33120-64 | £179.00 | WF-33120-82 | £285.00 |
| 1" | WF-33120-54 | £79.00 | WF-33124-54 | £95.00 | WF-33120-66 | £196.00 | WF-33120-84 | £313.00 |
| 1¼" | WF-33120-56 | £102.00 | WF-33124-56 | £113.00 | WF-33120-68 | £230.00 | WF-33120-86 | £375.00 |
| 1½" | WF-33120-58 | £113.00 | WF-33124-58 | £119.00 | WF-33120-70 | £237.00 | WF-33120-88 | £595.00 |
| 2" | WF-33120-60 | £129.00 | WF-33124-60 | £129.00 | WF-33120-72 | £288.00 | WF-33120-90 | £472.00 |



Stainless steel NPT(F) fitting
33120-64

Liquid Pump Selection Guide

Cole-Parmer is dedicated to providing the widest selection of quality pumps available. Whether you're involved in an experimental and research laboratory, industrial production, or original equipment manufacturing (OEM), we've got the right model for your application. To help you choose the best pump for your application, we've included this general information section. Refer to the "Guide to Liquid Pumps" below.

Transfer Applications

Pumps used most often for general transfer application include centrifugal, drum, diaphragm and air operated diaphragm (AOD) pumps.

Centrifugal pumps (pages 49-51) offer high flow rates, low pressures, and pulseless flow at a low price. These must be gravity fed or be utilized with a priming chamber. You can control the flow rate by restricting the flow at the outlet with a nozzle or valve, and in most cases, you can restrict the outlet indefinitely without damaging the pump. However, centrifugal pumps should not be run dry.

Diaphragm pumps (page 45) pulse one or two flexible diaphragms to gently displace liquid. These low-cost utility pumps are ideal for general transfer of fluids.

Dispensing, Metering & Sampling Applications

Pumps used most often for dispensing, metering and sampling applications include diaphragm, gear, peristaltic, piston and syringe pumps.

Diaphragm pumps (pages 39-40) are ideal for accurate industrial dosing and metering applications. Pumps can be run for long periods of maintenance free operation and provide cost effective solutions for the set rate dosing of solvents or chemicals into a process system.

Gear pumps (page 44) provide dosing and metering solution where pulseless flow is required.

Peristaltic pumps (pages 41-43) major advantage is the use of tubing as the pump chamber. The fluid does not contaminate the pump, nor does the tubing contaminate the fluid. This makes the pump easy to clean and sanitize, change of tubing can be done in seconds. These pumps are self priming and can be run dry without damage

Piston pumps (pages 36-38) are highly accurate over long periods of operation and provide excellent repeatability. Long periods between maintenance make these suitable for continuous duty applications.

Liquid Pump Terminology

Cavitation Process in which small bubbles are formed and implode violently

Dead Head The ability of a pump to continue running without damage when discharge is closed off. Only recommended for centrifugal pumps.

Density Weight per unit volume, expressed as grams per cubic centimeter.

Discharge Head The outlet pressure of a pump in operation.

Flooded Suction Liquid flows to pump inlet from an elevated source by means of gravity. Recommended for centrifugal pump installations.

Flow A measure of the liquid volume capacity of a pump. Given in liters per minute (LPM), or milliliters per minute (mL/min).

Fluids In this catalogue, the terms fluid and liquid are both used to mean a pure liquid or a liquid mixed with gases or solids that acts essentially like a liquid in pumping applications.

Head A measure of pressure, expressed in meters of head. Indicates the height of a column of water being moved by the pump (without friction losses).

Pressure The force exerted on the walls of a tank, pipe, by a liquid. Normally measured in bar.

Prime Charge of liquid required to begin pumping action when liquid source is lower than pump.

Seals Devices mounted in the pump housing and/or on the pump shaft that prevent leakage of liquid from the pump.

Self-Priming Pumps that draw liquid up from below pump inlet (suction lift), as opposed to pumps requiring flooded suction.

Shear Rate The velocity of a liquid per unit distance between two surfaces.

Specific Gravity The ratio of the weight of a given volume of liquid to pure water.

Sump A well or pit in which liquids collect below floor level; sometimes refers to an oil or water reservoir.

Total Head Sum of discharge head minus the suction head.

Viscosity The "thickness" of a liquid or its ability to flow. Most liquids decrease in viscosity and flow more easily as they get warmer.

Guide To Liquid Pumps

Use the guide below to help you select the best type of pump for your application. This information is intended as a general guideline and will not hold true for all pumps within a classification; check individual pump specifications on the given pages for complete details.

| Pump type | Page(s) | Max flow LPM | Max pressure | Self-priming | Pulseless flow | Fluid viscosity | Particulate matter | Run dry | Advantages |
|-------------|-----------|----------------|----------------|--------------|----------------|-----------------|--------------------|---------|---|
| AOD | 46-47 | 17 to 480 | up to 8 bar | Excellent | Fair | Heavy | Yes | Yes | Cost effective transfer pump |
| Centrifugal | 49-51 | 18 to 700 | up to 8 bar | Poor | Excellent | Light | No | No | Fluid transfer at high flow rates and low pressures |
| Diaphragm | 39-40, 45 | 0.013 to 18.9 | up to 17.3 bar | Good | Poor | Medium | No | Yes | High-accuracy; for applications such as pH/ORP control |
| Drum | 52-53 | 27 to 240 | up to 2.1 bar | Poor | Excellent | Medium | No | No | Economical transfer duty pump |
| Gear | 44 | 0.32 to 5.4 | up to 8.6 bar | Poor | Excellent | Medium | No | No | Pulseless flow at high pressures |
| Peristaltic | 41-43 | 0.009 to 2.9 | up to 2.1 bar | Excellent | Fair | Heavy | Yes | Yes | Noncontaminating, available in a wide variety of tubing materials |
| Piston | 36-38 | 0.0004 to 1.03 | up to 6.9 bar | Good | Poor | Medium | No | No | Highest pressure and accuracy, ideal for HPLC applications |
| Submersible | 48 | 80 to 500 | up to 1.6 bar | Poor | Excellent | Light | No | No | Use for emptying tanks or sumps |
| Syringe | 35 | 0.008 to 0.15 | up to 51.7 bar | N/A | Excellent | Light | No | Yes | Low flow rates at high pressures |

Cole-Parmer Syringe Pumps

- ▶ Pulse free
- ▶ High accuracy dispensing of $\pm 0.5\%$ and repeatability of $\pm 0.2\%$.
- ▶ Flow rates down to $0.001 \mu\text{L/hr}$



Single-Syringe Infusion Pumps

- ▶ Obtain precise flow rates down to $0.2 \mu\text{L/hr}$
- ▶ Wide dynamic range (6000:1) provides excellent flexibility.
- ▶ Microprocessor motor control and precision gearing change settings while the pump is running.
- ▶ Nonvolatile memory retains settings even when you turn pump off.

On start-up, the alphanumeric LCD indicates current operating parameter and prompts you through setup. Microprocessor automatically selects display units based on syringe being used.

IB-74900-05 Syringe infusion pump,
Single Channel 240 VAC 50/60Hz.....£1108.00

Specifications

| | |
|--|--|
| Power: 240VAC | Type: Infusion |
| Max no syringes: 1 | Output: None |
| Accuracy: $\pm 0.5\%$ | Reproducibility: $\pm 0.2\%$ |
| Syringe sizes accepted: $10\mu\text{L}$ to $60\mu\text{L}$ | Flow rate per syringe: $0.2\mu\text{L/hr}$ to 500mL/hr |
| Syringe travel rate: 9.5×10^{-6} mm/min | Linear Force: 9 kg |
| Dimensions: 230mmW x 140mmH x 150mmD | Shpg wt: 2.8 kg |

Accessories

Gastight® high performance syringes

Gastight® high performance syringes have negligible sample loss at maximum pressures of 13.7 bar, depending on bore diameter.

These essentially inert syringes have plungers coated with Teflon (except $50 \mu\text{L}$ and $100 \mu\text{L}$ models which have stainless steel plunger with a removable Teflon tip).



Attach $1/8"$ ID tubing directly by sliding over syringe tip.

| Cat. No. | Capacity | Needle Gauge | Price/ea |
|--------------------------------------|-------------------|--------------|----------|
| Syringe with Teflon Luer lock | | | |
| IB-07939-32 | 50 μL | 22s | £30.57 |
| IB-07939-33 | 100 μL | 22s | £30.57 |
| IB-07939-34 | 250 μL | 22s | £30.57 |
| IB-07939-35 | 500 μL | 22 | £30.57 |
| IB-07939-80 | 1 mL | 22 | £36.88 |
| IB-07939-82 | 2.5 mL | 22 | £35.94 |
| IB-07939-83 | 5 mL | 22 | £34.89 |
| IB-07939-84 | 10 mL | 22 | £45.63 |
| IB-07939-85 | 25 mL | 22 | £104.00 |
| IB-07939-86 | 50 mL | 22 | £133.00 |



Dual-Syringe Pumps With RS232 Interface

- ▶ Flow rates down to $0.001 \mu\text{L/hr}$
- ▶ Wide dynamic range (100,000:1) allows flow rates from a slow trickle to a steady stream.
- ▶ RS-232 interface lets you easily control pumps from your computer.
- ▶ Nonvolatile memory retains settings even when you turn pump off.
- ▶ Programmable model lets you enter up to eight commands to perform a variety of functions including flow rate hold, pause and change direction; each command can be set to run for up to 12 hours.

Program infusion/withdrawal pumps to sequence operations: either withdrawal followed by infusion or infusion followed by withdrawal. Simple keypad programming will have you up and running quickly. Pumps also feature two TTL inputs and two TTL outputs. The TTL inputs let you use a foot switch or a process timer to control pump operation. Use TTL outputs for 5 V signal and run indicator.

IB-74900-15 Dual syringe infusion pump, Dual Channel
240 VAC£1785.00

IB-74900-25 Dual syringe infusion/withdrawal pump,
Dual Channel 240 VAC 50/60Hz£2072.00

IB-74901-05 Programmable dual syringe infusion/withdrawal pump,
Dual Channel 240 VAC 50/60Hz£2670.00

Specifications

| | |
|---|---|
| Type: 74900-15 Infusion 74900-25, 74901-05 Infusion/Withdrawal | Power: 240VAC |
| Output: RS232, 2 x TTL outputs | Max no syringes: 2 |
| Accuracy: $\pm 0.5\%$ | Reproducibility: $\pm 0.2\%$ |
| Syringe sizes accepted: $10\mu\text{L}$ to 140mL | Flow rate per syringe: $0.001\mu\text{L/hr}$ to 147mL/min |
| Syringe travel rate: 9.5×10^{-6} mm/min | Linear Force: 18 kg |
| Dimensions: 280mmW x 140mmH x 230mmD | Shpg wt: 5.5 kg |

Disposable Plastic Syringes

Use these disposable, sterile, polypropylene syringes for general purpose applications. Syringes come in an easy to open sealed package and can be autoclaved out of the package. A tip shield is included.



| Cat. No. | Capacity | Graduations | Price/bx |
|------------------------------------|----------|-------------|------------------|
| Syringe with luer-lock tips | | | |
| IB-07940-00 | 1 mL | 1/100 mL | £47.19/bx of 100 |
| IB-07940-02 | 3 mL | 1/10 mL | £9.22/bx of 100 |
| IB-07940-06 | 5 mL | 1/5 mL | £17.19/bx of 100 |
| IB-07940-12 | 10 mL | 1/5 mL | £18.13/bx of 100 |
| IB-07940-16 | 20 mL | 1 mL | £20.31/bx of 40 |
| IB-07940-20 | 30 mL | 1 mL | £24.06/bx of 40 |

Series Q Piston Pump Systems

- ▶ No valves to clog up or service
- ▶ High accuracy, better than ±1%
- ▶ Millions of maintenance free cycles

The Q series piston pumps offer superb repeatability over a lifetime of low cost maintenance - pump heads have a typical service life in excess of 50 million cycles making them ideal for continuous duty dispensing.

Pump systems are made up of a piston pump head and a fixed speed motor. Flow rate adjustment can be made by turning the flow control knob on the pump head assembly while the pump is operating or at rest. For high accuracy adjustment order the dial indicator kit 07104-98 which allows you to view the percentage of maximum flow in 1/1000 increments.

To order your system first select a pump head suitable for your media and then select the motor which meets the flow rate (refer to the pump head ordering table) and pressure requirements (refer to the motor ordering table).

to build a
**complete
System...**

- 1 Series Q pump head
- 2 Series Q drive



**Pump head model
07104-62**



**Dial indicator kit 07104-98
(not included)**

1 Series Q Pump Head

| Catalogue Number | Max flow for drive | | | Wetted parts | | | Piston Dia | Max Temp | Port Connections | Price |
|--|--------------------|------------|-------------|--------------|---------------|----------------|------------|----------|--------------------------|---------|
| | 07108-09 | 07108-45 | 07104-15 | Piston | Cylinder body | Cylinder liner | | | | |
| Piston Pumphead, Kynar body | | | | | | | | | | |
| IB-07104-52 | 0.4 ml/min | 27 ml/min | 115 ml/min | 316 SS | Kynar | Carbon | 1/8" | 60°C | 1/4" OD Compression | £275.00 |
| IB-07104-54 | 1.6 ml/min | 106 ml/min | 460 ml/min | Ceramic | Kynar | Ceramic | 1/4" | 100°C | 1/4" OD Compression | £240.00 |
| IB-07104-64 | 3.6 ml/min | 240 ml/min | 1035 ml/min | Ceramic | Kynar | Ceramic | 3/8" | 100°C | 1/4" OD Compression | £240.00 |
| Piston Pumphead, 316 SS body | | | | | | | | | | |
| IB-07104-50 | 0.4 ml/min | 27 ml/min | 115 ml/min | 316 SS | 316 SS | Carbon | 1/8" | 60°C | 1/4" NPT(F) or 1/4" Hose | £375.00 |
| IB-07104-62 | 1.6 ml/min | 106 ml/min | 460 ml/min | 316 SS | 316 SS | Carbon | 1/4" | 60°C | 1/4" NPT(F) or 3/8" Hose | £315.00 |
| IB-07104-72 | 3.6 ml/min | 240 ml/min | 1035 ml/min | 316 SS | 316 SS | Carbon | 3/8" | 60°C | 1/4" NPT(F) or 3/8" Hose | £315.00 |
| Autoclavable Sanitary Piston Pumphead, 316 SS body and 3A-approved for use with foods | | | | | | | | | | |
| IB-07117-20 | 1.6 ml/min | 106 ml/min | 460 ml/min | Ceramic | 316 SS | Ceramic | 1/4" | 177°C | 1/4" OD Compression | £400.00 |
| IB-07117-22 | 3.6 ml/min | 240 ml/min | 1035 ml/min | Ceramic | 316 SS | Ceramic | 3/8" | 177°C | 1/4" OD Compression | £400.00 |

† Stated rpm is for 50Hz operation, running on a 60Hz electrical supply will increase rpm by approximately 18%

Kynar - Reg TM Elf Atochem North America

Specifications

Accuracy: ±1%

Suction Lift: 4.5m

Max viscosity: 500 cp

Shpg wt: 1 kg

2 Series Q Drive

- ▶ Set flow anywhere from 0 to 100% of maximum flow rate
- ▶ Rated for continuous duty

| Catalogue Number | Description | Max pressure for given piston dia | | | Dimensions (L x W x H) | Shpg Wt kg | Price |
|------------------|--|-----------------------------------|----------|----------|------------------------|------------|---------|
| | | 1/8" | 1/4" | 3/8" | | | |
| IB-07108-09 | 5 RPM 230 VAC 50/60 HZ Fixed Speed TEFC Motor † | 1.38 bar | 5.17 bar | 3.45 bar | 273 x 124 x 146mm | 4.6 | £474.00 |
| IB-07108-45 | 333 RPM 230 VAC 50/60 HZ Fixed Speed TEFC Motor † | 6.9 bar | 6.9 bar | 6.9 bar | 273 x 124 x 146mm | 4.6 | £474.00 |
| IB-07104-15 | 1437 RPM 230 VAC 50/60 HZ Fixed Speed TEFC Motor † | 6.9 bar | 6.9 bar | 3.45 bar | 248 x 121 x 137mm | 4.1 | £377.00 |

† Stated rpm is for 50Hz operation, running on a 60Hz electrical supply will increase rpm by approximately 18%

Specifications

Power: 240 VAC 50/60Hz

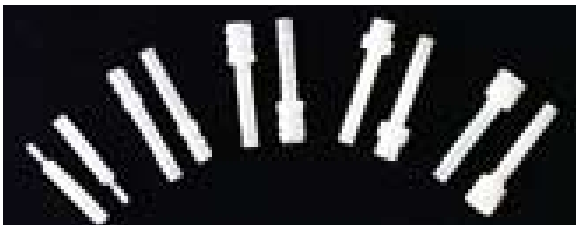
Motor: TEFC (totally enclosed, fan cooled)

Accuracy: ±1%

Temperature: 4 to 40°C

Accessories

IB-07104-98 Dial indicator kit, Allows fine adjustment of the pumps flow rate settings and provides a continuous reading of the percentage of maximum flow. The dial consists of a primary dial showing increments of 1/1000 of the maximum flow and a secondary dial indicating each 10%£111.00



Kynar tubing adapters to provide alternative connections to the 1/4" compression fittings.

- IB-07115-81 Tubing adapter for 1/8" ID tubing£27.00/pk of 2
- IB-07115-83 Tubing adapter for 1/4" ID tubing£27.00/pk of 2
- IB-07115-88 Tubing adapter for 3/8" ID tubing£27.00/pk of 2
- IB-07115-89 Tubing adapter for 1/4-28 unf thread£27.00/pk of 2
- IB-07115-97 Tubing adapter for 1/8" OD tubing£28.00/pk of 2

Ismatec High-Pressure Programmable Piston Pumps

Get high pressures, accurate dispensing, and great repeatability—all with one pump



Series Q Kynar® pump head supplied with pump 780UK-20

High-pressure piston pump 780UK-12 with Series Q 316 SS pump head



- ▶ High repeatability.
- ▶ Robust stainless steel housing which is IP65 rated.
- ▶ Drives feature six dispensing modes—volume within a preset time, volume in steps, time, intermittent in time or volume, drip-free, or valve operation.
- ▶ Control speed, start/stop flow, or change fluid direction manually or remotely via an analogue input signal or RS-232 interface.
- ▶ Four programme memories for saving individual application parameters or PC programmed command sequences.
- ▶ Series Q piston pump heads (included) have no valves to clog or wear out.
- ▶ Valve mode lets you control an external diverter valve (not included) for dispensing two different liquids in the same batch.
- ▶ Pumps can handle fluids with viscosities up to 500 cp.
- ▶ Produce flow rates as low as 0.04 mL/min.
- ▶ 3A sanitary standard options available for food and pharmaceutical applications.

Pumps include: a Series Q piston pump head with mounting hardware and a 6-ft power cord with three-prong U.K. plug.

Specifications & Ordering Information

| Catalogue number | Flow range (mL/min) | Pressure bar | Piston dia | Max temp °C | Pump head materials of construction | | | Autoclavable pump head | Shpg wt kg | Price |
|---|---------------------|--------------|------------|-------------|-------------------------------------|---------------|----------------|------------------------|------------|-----------------|
| | | | | | Piston | Cylinder body | Cylinder liner | | | |
| High-pressure piston pumps with Series Q pump heads | | | | | | | | | | |
| IB-780UK-00 | 0.04 to 144 | 6.9 | 1/8" | 60 | 316 SS | 316 SS | Carbon | Yes | 10.9 | £2740.00 |
| IB-780UK-02 | | 4.1 | | 60 | 316 SS | Kynar® | Carbon | No | 8.2 | £2600.00 |
| IB-780UK-04 | 0.13 to 576 | 4.1 | 1/4" | 60 | 316 SS | Kynar® | Carbon | No | 8.2 | £2570.00 |
| IB-780UK-06 | | 6.9 | | 60 | 316 SS | Carbon | Carbon | Yes | 10.9 | £2660.00 |
| IB-780UK-08 | | 4.1 | | 100 | Ceramic | Kynar® | Ceramic | No | 8.2 | £2580.00 |
| IB-780UK-10 | 0.13 to 576 | 4.1 | 1/4" | 100 | Ceramic | Kynar® | Carbon | No | 8.2 | £2570.00 |
| IB-780UK-12 | | 6.9 | | 177 | Ceramic | 316 SS | Ceramic | Yes | 10.0 | £2660.00 |
| IB-780UK-14 | | 6.9 | | 177 | Ceramic | 316 SS | Carbon | Yes | 8.2 | £2660.00 |
| IB-780UK-16 | 0.29 to 1300 | 4.1 | 3/8" | 60 | 316 SS | Kynar® | Carbon | No | 8.2 | £2570.00 |
| IB-780UK-18 | | 6.9 | | 60 | 316 SS | Carbon | Carbon | Yes | 8.2 | £2660.00 |
| IB-780UK-20 | | 4.1 | | 100 | Ceramic | Kynar® | Ceramic | No | 8.2 | £2550.00 |
| IB-780UK-22 | 0.29 to 1300 | 4.1 | 3/8" | 100 | Ceramic | Kynar® | Carbon | No | 8.2 | £2570.00 |
| IB-780UK-24 | | 6.9 | | 177 | Ceramic | 316 SS | Ceramic | Yes | 8.7 | £2660.00 |
| IB-780UK-26 | | 6.9 | | 177 | Ceramic | 316 SS | Carbon | Yes | 8.2 | £2660.00 |
| IB-780UK-32 | 0.51 to 2300 | 4.1 | 1/2" | 100 | Ceramic | Kynar® | Ceramic | No | 8.5 | £2700.00 |
| High-pressure piston pumps with Series Q pump heads; meet 3A Sanitary Standard 02-08A1 for use with foods. | | | | | | | | | | |
| IB-780UK-28 | 0.04 to 144 | 6.9 | 1/4" | 177 | Ceramic | 316 SS | Ceramic | Yes | 8.2 | £2900.00 |
| IB-780UK-30 | 0.13 to 576 | 6.9 | 3/8" | 177 | Ceramic | 316 SS | Ceramic | Yes | 10.9 | £2900.00 |

Ismatec—TM Ismatec SA Kynar—Reg TM Elf Atochem North America

Accuracy: ±0.1%

Connections

Series Q pump heads with 316 SS cylinder bodies: 1/4" NPT(F) ports with 3/8" hose barb fittings (model 78021-00 includes 1/4" hose barb fittings)
Series Q pump heads with Kynar® cylinder bodies: 1/4" OD compression fittings

Speed: 10.0 to 1800 rpm

Remote control inputs: 0 to 5 VDC, 0 to 10 VDC, 0 to 20 mA, or 4 to 20 mA via DB15 female port; RS-232 via DB9 female port; start/stop and reverse direction via contact closure; footswitch via three-pin DIN port

Dimensions

Series Q pump heads:
156mmW x 260mmH x 356mmD

Power: 115/230 VAC, 50/60 Hz

Suction lift: 15 ft H2O

Tabletop Filling Systems

- ▶ Dispense from <1 to 60 mL
- ▶ Maintain high accuracy of $\pm 0.5\%$ or better with high cycle rate
- ▶ Handle a wide range of viscosities
- ▶ Self priming
- ▶ Stainless steel piston pumps suitable for autoclaving
- ▶ Rugged design and suitable for daily or continuous service

Tabletop batch filling systems can be setup in a manufacturing or laboratory facility. Ideal for repetitive dispensing of free-flowing, semi-viscous fluids. The stainless steel pumps are autoclavable making these suitable for pharmaceutical solutions, cosmetic products and food additives.

For a filling system select either the single head tabletop filler or the dual head tabletop filler to double the fill rate. Select the piston pumps based on the dispense volume required and the viscosity of the liquid.

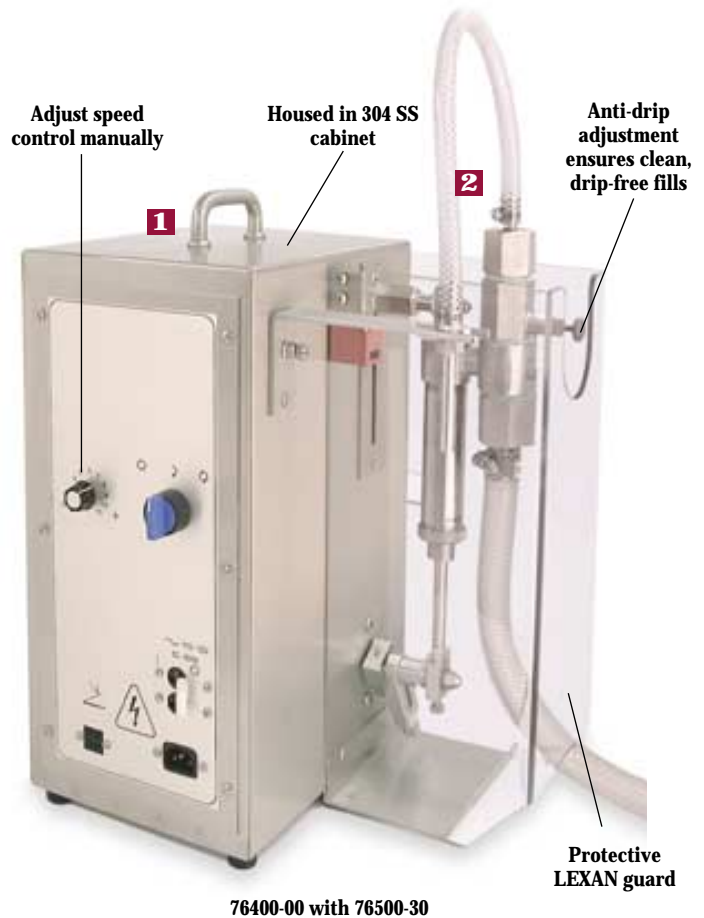
Media to the filling system is self priming and can be supplied from a floor level reservoir or an overhead supply. Fluid is dispensed through the nozzle to a container.

The operator activates the footswitch (included with the system) to run one filling cycle to fill a container. The dispense volume per pump stroke is set via the graduated micrometer and the speed of the dispense cycle is controlled by the speed control knob.

Tabletop filler includes: footswitch, 6-ft cord with UK plug

Pump includes: intake and discharge hose, stainless steel nozzle.

Service kit includes: spare O-rings and pump seals.



76400-00 with 76500-30

to build a complete System...

- 1 Tabletop Filler
- 2 Piston Pump

1 Tabletop Fillers

1 year warranty

| Cat. No. | Description | No. of pumps accepted | Compatible piston pumps | Liquid viscosity* | Fill sizes | Cycle rate* | Shpg wt kg | Price |
|-------------|---|-----------------------|-------------------------|-----------------------------------|-------------|----------------------|------------|----------|
| IB-76400-05 | Single head piston pump tabletop filler | 1 | 76500-00, -10, -20, -30 | Free-flowing † or semi-viscous †† | <1 to 60 mL | 3 to 35 fills/minute | 28 | £2507.00 |
| IB-76400-15 | Dual head piston pump tabletop filler | 1 or 2 | 76500-10, -20, -30 | Free-flowing † or semi-viscous †† | <1 to 60 mL | 6 to 70 fills/minute | 46 | £3930.00 |

* Actual dispense rates/accuracies may vary depending on product, fluid properties, supply pressure and fill volume desired

† Free-flowing = aqueous solutions, water-thin reagents

†† Semi-viscous = thin oils, conditioner, shampoo, thin syrup, saturated solutions, agar, hand/body lotion

2 Piston Pumps

1 year warranty piston pumps only

| Cat. No. | Dispensing volume | Liquid viscosity* | Intake and discharge valve type | Intake hose size | Discharge hose size | Nozzle size | Shpg wt kg | Price |
|-------------|-------------------|-----------------------------------|-----------------------------------|-------------------------------|-------------------------------|-------------|------------|----------|
| IB-76500-00 | 0.1 to 1.0 mL | Free-flowing † | SS ball check, passively actuated | 3/16" ID braid reinforced PVC | 1/8" ID braid reinforced PVC | 1/16" SS | 1 | £694.00 |
| IB-76500-10 | 0.3 to 3.0 mL | Free-flowing † or semi-viscous †† | SS ball check, passively actuated | 3/8" ID braid reinforced PVC | 1/8" ID braid reinforced PVC | 1/8" SS | 1 | £875.00 |
| IB-76500-20 | 1.5 to 15 mL | Free-flowing † or semi-viscous †† | SS ball check, passively actuated | 3/8" ID braid reinforced PVC | 3/16" ID braid reinforced PVC | 3/16" SS | 1 | £913.00 |
| IB-76500-30 | 6.0 to 60 mL | Free-flowing † or semi-viscous †† | SS ball check, passively actuated | 3/4" ID braid reinforced PVC | 3/8" ID braid reinforced PVC | 3/8" SS | 1 | £1082.00 |

* Actual dispense rates/accuracies may vary depending on product, fluid properties, supply pressure and fill volume desired

† Free-flowing = aqueous solutions, water-thin reagents

†† Semi-viscous = thin oils, conditioner, shampoo, thin syrup, saturated solutions, agar, hand/body lotion

Accessories

- IB-76500-01 Service kit for 76500-00£52.00
- IB-76500-11 Service kit for 76500-10£52.00

- IB-76500-21 Service kit for 76500-20£52.00
- IB-76500-31 Service kit for 76500-30£52.00

Chemical Metering Pumps - Manual Control

- ▶ Manual Control
- ▶ Output Ranges from 0.00225 to 76 LPH
- ▶ Maximum Pressure up to 17.3 Bar (depending on model)
- ▶ Choice of PVC, PVDF or Stainless Steel pump heads
- ▶ PVC and PVDF pump heads supplied with:
4-function valve (for priming relief, anti-siphon, back pressure and line depressurization). Injection check valve, Foot valve and 10m polyethylene tubing.

These yellow and black pumps have a rugged, totally enclosed, chemically resistant housing for protection in the harshest environments. Manually adjustable stroke length and stroke frequency are designed for accurate chemical feeds where manual or on/off control is all that is required.

These pumps have run dry capabilities for up to 30 minutes if used with non-crystalline forming liquid.



Front view of
manual
control pump

Ordering Information

| Catalogue No. | Flow Rate | Max Pressure | Port Size | Dimensions LxWxH | Shpg Wt. | Price |
|---|---------------------|--------------|-------------|--------------------|----------|-----------|
| PVC Pump Head - Manual Control Pump | | | | | | |
| IB-065UK-70 | 2.25 mL to 0.79 L/H | 10.3 Bar | 1/4" OD | 218 x 104 x 213 mm | 3.7 Kg | £263.00 |
| IB-065UK-75 | 4.8 mL to 1.6 L/H | 7.6 Bar | 3/8" OD | 218 x 104 x 213 mm | 3.7 Kg | £267.00 |
| IB-065UK-00 | 4.4 mL to 2.2 L/H | 17.3 Bar | 1/4" OD | 218 x 104 x 213 mm | 3.7 Kg | £280.00 |
| IB-065UK-05 | 7.8 mL to 3.8 L/H | 7.6 Bar | 3/8" OD | 218 x 104 x 213 mm | 3.7 Kg | £283.00 |
| IB-065UK-15 | 15.2 mL to 7.6 L/H | 3.5 Bar | 3/8" OD | 218 x 104 x 213 mm | 3.7 Kg | £301.00 |
| IB-065UK-30 | 24 mL to 12 L/H | 1.5 Bar | 3/8" OD | 218 x 104 x 213 mm | 3.7 Kg | £301.00 |
| IB-065UK-35 | 15 mL to 15.2 L/H | 6.9 Bar | 3/8" OD | 305 x 145 x 246 mm | 8.7 Kg | £776.00 |
| IB-065UK-50 | 30.4 mL to 30.4 L/H | 4.2 Bar | 1/2" OD | 305 x 145 x 246 mm | 8.7 K | £812.00 |
| IB-065UK-55 | 76 mL to 76 L/H | 1.75 Bar | 1/2" OD | 305 x 145 x 246 mm | 8.7 K | £1,007.00 |
| PVDF Pump Head - Manual Control Pump | | | | | | |
| IB-063UK-70 | 2.25 mL to 0.79 L/H | 17.3 Bar | 1/4" OD | 218 x 104 x 213 mm | 3.7 Kg | £304.00 |
| IB-063UK-75 | 4.8 mL to 1.6 L/H | 7.6 Bar | 3/8" OD | 218 x 104 x 213 mm | 3.7 Kg | £312.00 |
| IB-063UK-00 | 4.4 mL to 2.2 L/H | 17.3 Bar | 1/4" OD | 218 x 104 x 213 mm | 3.7 Kg | £318.00 |
| IB-063UK-05 | 7.8 mL to 3.8 L/H | 7.6 Bar | 3/8" OD | 218 x 104 x 213 mm | 3.7 Kg | £327.00 |
| IB-063UK-15 | 15.2 mL to 7.6 L/H | 3.5 Bar | 3/8" OD | 218 x 104 x 213 mm | 3.7 Kg | £345.00 |
| IB-063UK-30 | 24 mL to 12 L/H | 1.5 Bar | 3/8" OD | 218 x 104 x 213 mm | 3.7 Kg | £345.00 |
| IB-063UK-35 | 15 mL to 15.2 L/H | 6.9 Bar | 3/8" OD | 305 x 145 x 246 mm | 8.7 Kg | £821.00 |
| IB-063UK-50 | 30.4 mL to 30.4 L/H | 4.2 Bar | 1/2" OD | 305 x 145 x 246 mm | 8.7 K | £861.00 |
| IB-063UK-55 | 76 mL to 76 L/H | 1.75 Bar | 1/2" OD | 305 x 145 x 246 mm | 8.7 K | £1,139.00 |
| 316 SS Pump Head - Manual Control Pump | | | | | | |
| IB-066UK-70 | 2.25 mL to 0.79 L/H | 10.3 Bar | 1/4" NPT(M) | 191 x 104 x 171 mm | 3.7 Kg | £408.00 |
| IB-066UK-75 | 4.8 mL to 1.6 L/H | 7.6 Bar | 1/4" NPT(M) | 191 x 104 x 171 mm | 3.7 Kg | £408.00 |
| IB-066UK-00 | 4.4 mL to 2.2 L/H | 17.3 Bar | 1/4" NPT(M) | 191 x 104 x 171 mm | 3.7 Kg | £422.00 |
| IB-066UK-05 | 7.8 mL to 3.8 L/H | 7.6 Bar | 1/4" NPT(M) | 191 x 104 x 171 mm | 3.7 Kg | £422.00 |
| IB-066UK-15 | 15.2 mL to 7.6 L/H | 3.5 Bar | 1/4" NPT(M) | 191 x 104 x 171 mm | 3.7 Kg | £436.00 |
| IB-066UK-30 | 24 mL to 12 L/H | 1.5 Bar | 1/4" NPT(M) | 191 x 104 x 171 mm | 3.7 Kg | £436.00 |
| IB-066UK-35 | 15 mL to 15.2 L/H | 6.9 Bar | 1/4" NPT(M) | 305 x 145 x 246 mm | 8.7 Kg | £912.00 |
| IB-066UK-50 | 30.4 mL to 30.4 L/H | 4.2 Bar | 1/2" NPT(M) | 305 x 145 x 246 mm | 8.7 Kg | £1,176.00 |
| IB-066UK-55 | 76 mL to 76 L/H | 1.75 Bar | 1/2" NPT(M) | 305 x 145 x 246 mm | 8.7 Kg | £1,301.00 |

Fluorfilm - Reg TM LMI Milton Roy

Specifications

Power: 240VAC 50Hz

Duty Cycle: Continuous

Protection Rating: IP65

Strokes/min: 1 to 100 (adjustable)

Metering Accuracy: ±2%

Suction Lift (Dry): 1.5m

Maximum Temperature: 50°C

Wetted Parts:

065UK- series PVC head and fittings, ceramic balls, PTFE diaphragm, polypropyl seal ring
063UK- series PVDF head and fittings, ceramic balls, PTFE diaphragm, PVDF/PTFE seal ring
066UK- series SS head, balls and fittings, PTFE diaphragm and seal ring

More info

Valves:

Bypass Valve—Internal to many pump heads that allow fluid to be recirculated if a given pressure limit is exceeded.

Check Valve—Allows liquid to flow in one direction only. Generally used in discharge line to prevent reverse flow.

Valve Terminology

Foot Valve—A type of check valve with a built-in strainer. Used at point of liquid intake to retain liquid in system, preventing loss of prime when liquid source is lower than pump.

Relief Valve—Used at the discharge of a positive displacement pump. An adjustable, spring-loaded valve opens when a preset pressure is reached. Used to prevent excessive pressure buildup that could damage the pump or motor.

Chemical Metering Pumps - Remote Control

- ▶ Programmable microprocessor controlled dosing pump
Choice of three remote control modes; pulse multiply, pulse divide or 0(4)-20mA.
- ▶ LCD display and 4-key tactile keypad
The pump has an LCD display to provide the user with easy operational status.
- ▶ Power control
A user can select one of six programmed power control settings via the keypad to help reduce the pumps noise, shock and vibration.
- ▶ Output Ranges from 0.0044 to 76 LPH
- ▶ Maximum Pressure up to 17.3 Bar (depending on model)
- ▶ Choice of PVC, PVDF or Stainless Steel pump heads
- ▶ PVC and PVDF pump heads supplied with:
4-function valve (for priming relief, anti-siphon, back pressure and line depressurization). Injection check valve, Foot valve and 10m polyethylene tubing.

These remotely controlled metering pumps are designed for easy integration into chemical feed systems. The stroke rate may be controlled manually or by an external signal generated by a flowmeter, controller, transmitter, PLC or other device. Divide or multiply a digital (pulse) input or program a response to an analogue 0(4)-20mA input. Remote on/off and low level inputs are standard. The clear liquid crystal display provides the user with operational status. The unique 6-level power control reduces system shock and extends the life of the pump.

These pumps have run dry capabilities for up to 30 minutes if used with non-crystalline forming liquid.

To control the pump with a 0(4)-20mA signal you require the optional input cable 064UK-99.

Accessories

IB-064UK-99 Input cable for 0(4)-20mA signal£21.00

More info

Contact our sales team on 0500 345 300 for service kits and replacement 4 function valves for these pumps.



Ordering Information

| Catalogue No | Flow Rate | Max Pressure | Port Size | Dimensions LxWxH | Shpg Wt. | Price |
|---|---------------------|--------------|-------------|--------------------|----------|-----------|
| PVC Pump Head - Digital Remote Control Pump | | | | | | |
| IB-067UK-00 | 0.08 mL to 1.58 L/H | 9.7 Bar | 1/4" OD | 238 x 105 x 238 mm | 3.7 Kg | £452.00 |
| IB-067UK-05 | 0.07 mL to 2.3 L/H | 17.3 Bar | 1/4" OD | 238 x 105 x 238 mm | 3.7 Kg | £488.00 |
| IB-067UK-15 | 0.13 mL to 3.79 L/H | 7.6 Bar | 3/8" OD | 238 x 105 x 238 mm | 3.7 Kg | £493.00 |
| IB-067UK-30 | 0.25 mL to 7.6 L/H | 3.4 Bar | 3/8" OD | 238 x 105 x 238 mm | 3.7 Kg | £510.00 |
| IB-067UK-35 | 0.25 mL to 15.2 L/H | 6.9 Bar | 3/8" OD | 305 x 145 x 246 mm | 8.7 Kg | £928.00 |
| IB-067UK-50 | 0.57 mL to 30.4 L/H | 4.2 Bar | 1/2" OD | 305 x 145 x 246 mm | 8.7 Kg | £964.00 |
| IB-067UK-55 | 1.27 mL to 76 L/H | 1.75 Bar | 1/2" OD | 305 x 145 x 246 mm | 8.7 Kg | £1,161.00 |
| PVDF Pump Head - Digital Remote Control Pump | | | | | | |
| IB-064UK-75 | 0.08 mL to 1.58 L/H | 9.7 Bar | 1/4" OD | 238 x 105 x 238 mm | 3.7 Kg | £488.00 |
| IB-064UK-00 | 0.07 mL to 2.3 L/H | 17.3 Bar | 1/4" OD | 238 x 105 x 238 mm | 3.7 Kg | £526.00 |
| IB-064UK-05 | 0.13 mL to 3.79 L/H | 7.6 Bar | 3/8" OD | 238 x 105 x 238 mm | 3.7 Kg | £539.00 |
| IB-064UK-15 | 0.25 mL to 7.6 L/H | 3.4 Bar | 3/8" OD | 238 x 105 x 238 mm | 3.7 Kg | £553.00 |
| IB-064UK-30 | 0.25 mL to 15.2 L/H | 6.9 Bar | 3/8" OD | 305 x 145 x 246 mm | 8.7 Kg | £973.00 |
| IB-064UK-45 | 0.57 mL to 30.4 L/H | 4.2 Bar | 1/2" OD | 305 x 145 x 246 mm | 8.7 Kg | £1,015.00 |
| IB-064UK-50 | 1.27 mL to 76 L/H | 1.75 Bar | 1/2" OD | 305 x 145 x 246 mm | 8.7 Kg | £1,292.00 |
| 316 SS Pump Head - Digital Remote Control Pump | | | | | | |
| IB-068UK-00 | 0.08 mL to 1.58 L/H | 9.7 Bar | 1/4" NPT(M) | 211 x 105 x 196 mm | 4.5 Kg | £592.00 |
| IB-068UK-05 | 0.07 mL to 2.3 L/H | 17.3 Bar | 1/4" NPT(M) | 211 x 105 x 196 mm | 4.5 Kg | £630.00 |
| IB-068UK-15 | 0.13 mL to 3.79 L/H | 7.6 Bar | 1/4" NPT(M) | 211 x 105 x 196 mm | 4.5 Kg | £630.00 |
| IB-068UK-30 | 0.25 mL to 7.6 L/H | 3.4 Bar | 1/4" NPT(M) | 211 x 105 x 196 mm | 4.5 Kg | £644.00 |
| IB-068UK-35 | 0.25 mL to 15.2 L/H | 6.9 Bar | 1/4" NPT(M) | 305 x 145 x 246 mm | 8.7 Kg | £1,065.00 |
| IB-068UK-50 | 0.57 mL to 30.4 L/H | 4.2 Bar | 1/2" NPT(M) | 305 x 145 x 246 mm | 8.7 Kg | £1,329.00 |
| IB-068UK-55 | 1.27 mL to 76 L/H | 1.75 Bar | 1/2" NPT(M) | 305 x 145 x 246 mm | 8.7 Kg | £1,454.00 |

Specifications

- Power: 240VAC 50Hz
- Duty Cycle: Continuous
- Protection Rating: IP65
- Strokes/min: 1 to 100 (adjustable)
- Metering Accuracy: ±2%
- Suction Lift (Dry): 1.5m
- Maximum Temperature: 50°C
- Input Signal: Contact closure, transistor, 0(4)-20mA
- Wetted Parts:
 - 067UK- series PVC head and fittings, ceramic balls, PTFE diaphragm, polypropyl seal ring
 - 064UK- series PVDF head and fittings, ceramic balls, PTFE diaphragm, PVDF/PTFE seal ring
 - 068UK- series SS head, balls and fittings, PTFE diaphragm and seal ring

Flurofilm - Reg TM LMI Milton Roy

Ismatec High-Accuracy Low-Flow Pumps

- ▶ Up to 24 high-accuracy channels in one pump
- ▶ Dispense in any of four modes or pump continuously
 - Roller steps: 8 steps/revolution (1 to 9999 steps)
 - By time: 0.1 seconds to 999.9 hours
 - Batches: set delay between dispensed volumes
 - Drip-free: program back steps to prevent drips
- ▶ Analogue input and output controls
- ▶ RS232 interface

These multi channel pumps feature planetary gears that drive eight stainless steel rollers in unison for smooth rotation and accurate liquid flow. The four-digit LED display shows flow rate or rpm. Use the MAX button to instantly increase speed for priming or flushing without disturbing your programmed settings. Combine tubing sizes and formulations to suit your application. Click'n'go cartridges feature automatic occlusion for simplified use and reproducible results. Install cartridges in one direction for low pulsation; in opposite direction for higher counter pressure.

Order two-stop tubing from table at the bottom of the page.



Digital dispensing pump 78001-32

Ordering Information

| Cat. No. | Flow range per channel | Channels | Speed | Tubing | Dimensions (W x H x D mm) | Shpg wt | Price |
|--|------------------------|----------|-------------------|----------|---------------------------|---------|----------|
| Low-speed planetary gear-driven pump | | | | | | | |
| IB-78001-00 | 0.0012 to 8.86 mL/min | 4 | 0.11 to 11.25 rpm | Two-stop | 174 x 130 x 178 | 5.5 kg | £1644.00 |
| IB-78001-10 | 0.0012 to 8.86 mL/min | 8 | 0.11 to 11.25 rpm | Two-stop | 174 x 130 x 222 | 5.9 kg | £1862.00 |
| IB-78001-20 | 0.0012 to 8.86 mL/min | 12 | 0.11 to 11.25 rpm | Two-stop | 174 x 130 x 260 | 6.9 kg | £1987.00 |
| IB-78001-30 | 0.0012 to 8.86 mL/min | 16 | 0.11 to 11.25 rpm | Two-stop | 174 x 130 x 302 | 7.8 kg | £2121.00 |
| IB-78001-40 | 0.0012 to 8.86 mL/min | 24 | 0.11 to 11.25 rpm | Two-stop | 174 x 130 x 380 | 8.7 kg | £2387.00 |
| Standard-speed planetary gear-driven pump | | | | | | | |
| IB-78001-02 | 0.004 to 35.43 mL/min | 4 | 0.4 to 45 rpm | Two-stop | 174 x 130 x 178 | 5.5 kg | £1597.00 |
| IB-78001-12 | 0.004 to 35.43 mL/min | 8 | 0.4 to 45 rpm | Two-stop | 174 x 130 x 222 | 5.9 kg | £1815.00 |
| IB-78001-22 | 0.004 to 35.43 mL/min | 12 | 0.4 to 45 rpm | Two-stop | 174 x 130 x 260 | 6.9 kg | £1944.00 |
| IB-78001-32 | 0.004 to 35.43 mL/min | 16 | 0.4 to 45 rpm | Two-stop | 174 x 130 x 302 | 7.8 kg | £2074.00 |
| IB-78001-42 | 0.004 to 35.43 mL/min | 24 | 0.4 to 45 rpm | Two-stop | 174 x 130 x 380 | 8.7 kg | £2340.00 |

Specification

Accuracy: better than $\pm 1\%$

Number of rollers: eight

Tubing: two-stop

Pressure: up to 1.5 bar

Duty cycle: continuous

Power: 115/230 VAC (switch selectable)

Remote control capabilities: RS-232 to control operating functions (DB9 male); 0 to 5, 0 to 10 VDC, 0 to 20, 4 to 20 mA for speed control start/stop, direction, and autostart via contact closure (DB15 male); footswitch and hand dispenser (three-pin DIN port)

Two-Stop Colour Coded Tubing

| Two-Stop Colour Coded Tubing | | | | Catalogue Number | | | |
|------------------------------|--------------------|------------------------|-----------------------------|---------------------------|--|---------------------------|-----------------------------|
| Tubing ID mm | Colour-coded stops | Low Speed drive mL/min | Standard Speed drive mL/min | Tygon 12 x 16" tubes / pk | Silicone (pt cured) 6 x 16" tubes / pk | Viton 12 x 12" tubes / pk | PharMed 12 x 16" tubes / pk |
| 0.19 | Orange/red | 0.001 to 0.08 | 0.004 to 0.20 | IB-95601-10 | - | - | - |
| 0.25 | Orange/blue | 0.002 to 0.11 | 0.007 to 0.36 | IB-95601-12 | - | - | IB-95701-12 |
| 0.38 | Orange/green | 0.003 to 0.20 | 0.008 to 0.45 | IB-95601-14 | - | - | - |
| 0.44 | Green/yellow | 0.004 to 0.35 | 0.015 to 0.84 | IB-95601-16 | - | - | - |
| 0.51 | Orange/yellow | 0.006 to 0.39 | 0.023 to 1.00 | IB-95601-18 | - | - | IB-95701-18 |
| 0.64 | Orange/white | 0.008 to 0.50 | 0.029 to 1.89 | IB-95601-22 | IB-95602-22 | - | - |
| 0.76 | Black/black | 0.01 to 0.64 | 0.040 to 2.45 | IB-95601-24 | IB-95602-24 | - | - |
| 0.89 | Orange/orange | 0.01 to 0.82 | 0.043 to 2.84 | IB-95601-26 | IB-95602-26 | IB-07606-26 | IB-95701-26 |
| 1.02 | White/white | 0.01 to 1.11 | 0.063 to 3.96 | IB-95601-28 | IB-95602-28 | - | - |
| 1.14 | Red/red | 0.02 to 1.40 | 0.080 to 5.10 | IB-95601-30 | IB-95602-30 | IB-07606-30 | - |
| 1.30 | Gray/gray | 0.03 to 1.67 | 0.10 to 6.50 | IB-95601-32 | IB-95602-32 | - | IB-95701-32 |
| 1.42 | Yellow/yellow | 0.04 to 2.00 | 0.12 to 8.10 | IB-95601-34 | IB-95602-34 | IB-07606-34 | - |
| 1.52 | Yellow/blue | 0.02 to 2.22 | 0.14 to 8.70 | IB-95601-36 | IB-95602-36 | - | IB-95701-36 |
| 1.65 | Blue/blue | 0.03 to 2.68 | 0.15 to 10.0 | IB-95601-38 | IB-95602-38 | IB-07606-38 | - |
| 1.85 | Green/green | 0.04 to 3.11 | 0.21 to 12.9 | IB-95601-40 | IB-95602-40 | - | IB-95701-40 |
| 2.06 | Purple/purple | 0.06 to 4.06 | 0.23 to 14.2 | IB-95601-42 | IB-95602-42 | IB-07606-42 | - |
| 2.29 | Purple/black | 0.07 to 4.85 | 0.28 to 24.3 | IB-95601-44 | IB-95602-44 | - | IB-95701-44 |
| 2.54 | Purple/orange | 0.08 to 5.36 | 0.33 to 29.26 | IB-95601-46 | IB-95602-46 | IB-07606-46 | - |
| 2.79 | Purple/white | 0.11 to 6.42 | 0.35 to 37.15 | IB-95601-48 | IB-95602-48 | IB-07606-48 | IB-95701-48 |
| Price per pack | | | | £30.57 | £38.12 | £54.00 | £42.44 |

Masterflex Peristaltic Pumps

- ▶ Non Contaminating - all media remains in the tubing therefore eliminating contamination between the media and the pump.
- ▶ Simple Operation - simple to operate and can be installed in a matter of minutes.
- ▶ Self Priming - when starting, the pumps generate sufficient suction to draw fluid from the source into the tubing and through the pump.
- ▶ Run Dry - without damaging the pump.

MASTERFLEX tubing pump systems are perfect for use in the laboratory, manufacturing plant or field. The convenient modular design of the system (Tubing + Pumphead + Drive) allows you to use one pump for many applications, making MASTERFLEX extremely versatile and cost effective. The easy-loading pump head design, coupled with wide-ranging tubing formulations makes MASTERFLEX the best choice for all your fluid handling needs.

1 Tubing

- ▶ New Tygon Chemical Resistant (2001) Tubing
Outstanding chemical resistance - withstands acetone, DMSO, MEK, ketones and more. Meets FDA and USP criteria for contact with food, beverages and pharmaceuticals

Select the precision pump tubing for standard applications or high-performance precision pump tubing for applications requiring better pressure generation, suction lift, ability to pump viscous fluids, and longer tubing life. Select the required tubing formulation based upon the media you will be pumping. For further details on tubing formulations, chemical compatibility properties, agency approvals and performance characteristics contact our application specialists on Call Free 0500 345 300.

| Pump Cat. No. | Speed | Flow Rate In mL/min | | | | | | | | | |
|------------------|----------------|-----------------------|------------|------------|------------|------------|------------|--|------------|------------|------------|
| | | Precision pump tubing | | | | | | High-performance precision pump tubing | | | |
| | | L/S 13 | L/S 14 | L/S 16 | L/S 25 | L/S 17 | L/S 18 | L/S 15 | L/S 24 | L/S 35 | L/S 36 |
| 07554-85 | 7 to 200 rpm | 0.42 to 14 | 1.4 to 43 | 5.6 to 160 | 12 to 330 | 20 to 570 | 27 to 770 | 12 to 330 | 20 to 570 | 27 to 770 | 34 to 970 |
| 07554-95 | 20 to 600 rpm | 1.2 to 36 | 4.2 to 130 | 16 to 480 | 34 to 1000 | 56 to 1700 | 76 to 2300 | 34 to 1000 | 56 to 1700 | 76 to 2300 | 96 to 2900 |
| 07523-70 | 1.6 to 100 rpm | 0.1 to 6 | 0.4 to 21 | 1.4 to 80 | 3 to 170 | 5 to 280 | 6 to 380 | 3 to 170 | 5 to 280 | 6 to 380 | 8 to 480 |
| 07523-60 | 10 to 600 rpm | 0.6 to 36 | 2.1 to 130 | 8 to 480 | 17 to 1000 | 28 to 1700 | 38 to 2300 | 17 to 1000 | 28 to 1700 | 38 to 2300 | 48 to 2900 |

| Tubing | Qty / Pack | Precision pump tubing | | | | | | High-performance precision pump tubing | | | |
|------------------------------------|---------------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|--|------------------------|------------------------|------------------------|
| | | L/S 13 | L/S 14 | L/S 16 | L/S 25 | L/S 17 | L/S 18 | L/S 15 | L/S 24 | L/S 35 | L/S 36 |
| Silicone (Platinum Cured) | 7.6m | IB-96410-13 £28.20 | IB-96410-14 £32.00 | IB-96410-16 £37.00 | IB-96410-25 £52.00 | IB-96410-17 £50.00 | IB-96410-18 £53.00 | IB-96410-15 £49.00 | IB-96410-24 £77.00 | IB-96410-35 £83.00 | IB-96410-36 £83.00 |
| Tygon Lab (R-3603) | 15.2m | IB-06409-13 £15.00 | IB-06409-14 £21.00 | IB-06409-16 £27.42 | IB-06409-25 £40.00 | IB-06409-17 £45.00 | IB-06409-18 £62.00 | IB-06409-15 £51.00 | IB-06409-24 £79.00 | IB-06409-35 £90.00 | IB-06409-36 £91.00 |
| Tygon Food (B-44-4X) | 15.2m | IB-06419-13 £15.00 | IB-06419-14 £20.00 | IB-06419-16 £29.00 | IB-06419-25 £44.00 | IB-06419-17 £46.00 | IB-06419-18 £70.00 | IB-06419-15 £54.00 | IB-06419-24 £75.00 | IB-06419-35 £85.00 | IB-06419-36 £90.00 |
| Tygon Chemical Resistant (2001) | 15.2m | IB-06475-13 £34.00 | IB-06475-14 £38.00 | IB-06475-16 £54.00 | IB-06475-25 £68.00 | IB-06475-17 £72.00 | IB-06475-18 £95.00 | IB-06475-15 £99.00 | IB-06475-24 £108.00 | IB-06475-35 £121.00 | IB-06475-36 £157.00 |
| Norprene (A 60 G) | 15.2m | IB-06404-13 £21.25 | IB-06404-14 £22.00 | IB-06404-16 £23.50 | IB-06404-25 £28.00 | IB-06404-17 £30.00 | IB-06404-18 £39.00 | IB-06404-15 £41.00 | IB-06404-24 £47.00 | IB-06404-35 £71.00 | IB-06404-36 £85.00 |
| PharMed (65) | 7.6m | IB-06485-13 £41.00 | IB-06485-14 £50.00 | IB-06485-16 £53.00 | IB-06485-25 £53.00 | IB-06485-17 £63.00 | IB-06485-18 £68.00 | IB-06485-15 £56.00 | IB-06485-24 £75.00 | IB-06485-35 £72.00 | IB-06485-36 £89.00 |
| Viton | 7.6m | IB-06412-13 £65.00 | IB-06412-14 £72.00 | IB-06412-16 £95.00 | IB-06412-25 £129.00 | IB-06412-17 £151.00 | IB-06412-18 £185.00 | IB-06412-15 £201.00 | IB-06412-24 £251.00 | IB-06412-35 £316.00 | IB-06412-36 £348.00 |

2 Pump Head

The automatic tubing retention system eliminates the need for adjustments of the Easy-Load® II pump heads. Simply load the pump tubing and begin pumping. Select the precision pump tubing for standard applications or high-performance precision pump tubing for applications requiring better pressure generation, suction lift, ability to pump viscous fluids, and longer tubing life.

- ▶ PPS housing with SS or CRS rotor available.
Choose economical CRS rotors, or SS rotors for greater durability and chemical resistance
- ▶ Two-, three-, and four-channel mounting hardware available
Order mounting hardware separately from mounting hardware table below.



Ordering Information

Easy-Load® II pump head with CRS rotor

IB-77200-50 Easy-Load® II pump head for precision pump tubing (L/S 13, 14, 16, 25, 17 and 18). Supplied with single mounting hardware£120.00

IB-77200-52 Easy-Load® II pump head for high-performance precision pump tubing (L/S 15, 24, 35 and 36). Supplied with single mounting hardware£120.00

Easy-Load® II pump head with SS rotor

IB-77200-60 Easy-Load® II pump head for precision pump tubing (L/S 13, 14, 16, 25, 17 and 18). Supplied with single mounting hardware£165.00

IB-77200-62 Easy-Load® II pump head for high-performance precision pump tubing (L/S 15, 24, 35 and 36). Supplied with single mounting hardware£165.00

| Total number of heads needed | For Easy-Load® II Pump heads Stainless steel hardware | |
|------------------------------|--|----------|
| | Cat. No. | Price/st |
| One | IB-77200-01 | £10.00 |
| Two | IB-77200-02 | £19.00 |
| Three | IB-77200-03 | £22.00 |
| Four | IB-77200-04 | £24.00 |

3 Drive

Select either economy drive for low cost pumping solutions or the digital dispensing drive if you require accurate dispensing, to dispense by volume or utilize remote control pumping capabilities.

to build a Complete System . . .

- 1 Select tubing based on desired flow rate and chemical compatibility with media.
- 2 Select Number of pumpheads based on application
- 3 Select Drive based on pumping application

07554 Series drive with pump head 77200-60



07523 Series drive with pump head 77200-60

L/S Variable-Speed Economy Drive

- ▶ Flow rate of 0.42 to 2900 mL/min per channel
Flow rate depends on rpm and pump tubing size
- ▶ Separate single-turn speed control and on/off switch
Maintain speed setting while turning on/off
- ▶ Stackable painted steel housing; IP22 rated
Protects drive from falling water
- ▶ Multichannel capability
Up to two channels depending on model

L/S Digital Dispensing Drive

- ▶ Flow rate of 0.1 to 2900 mL/min per channel
Flow rate depends on rpm and pump tubing size
- ▶ Dispense by volume
Set dispense volume in mL
- ▶ Stackable ABS plastic housing; IP23 rated
Splash resistant
- ▶ Multichannel capability
Up to four channels depending on model
- ▶ Remote control capability
Via DB15 female connector on back of the drive
Speed control input: 0 to 20mA, 4 to 20mA or 0 to 10V
Start/stop/purge: requires open collector or contact closure
Pumping direction: requires open collector or contact closure
- ▶ Membrane keypad for easy programming
Select tubing size and enter desired flow rate in mL/min.
Keypad can then be locked to prevent accidents or tampering

| Pump Cat. No. | Speed | Flow Rate In mL/min | | | | | | | | | |
|---------------|----------------|-----------------------|------------|------------|------------|------------|------------|--|------------|------------|------------|
| | | Precision pump tubing | | | | | | High-performance precision pump tubing | | | |
| | | L/S 13 | L/S 14 | L/S 16 | L/S 25 | L/S 17 | L/S 18 | L/S 15 | L/S 24 | L/S 35 | L/S 36 |
| 07554-85 | 7 to 200 rpm | 0.42 to 14 | 1.4 to 43 | 5.6 to 160 | 12 to 330 | 20 to 570 | 27 to 770 | 12 to 330 | 20 to 570 | 27 to 770 | 34 to 970 |
| 07554-95 | 20 to 600 rpm | 1.2 to 36 | 4.2 to 130 | 16 to 480 | 34 to 1000 | 56 to 1700 | 76 to 2300 | 34 to 1000 | 56 to 1700 | 76 to 2300 | 96 to 2900 |
| 07523-70 | 1.6 to 100 rpm | 0.1 to 6 | 0.4 to 21 | 1.4 to 80 | 3 to 170 | 5 to 280 | 6 to 380 | 3 to 170 | 5 to 280 | 6 to 380 | 8 to 480 |
| 07523-60 | 10 to 600 rpm | 0.6 to 36 | 2.1 to 130 | 8 to 480 | 17 to 1000 | 28 to 1700 | 38 to 2300 | 17 to 1000 | 28 to 1700 | 38 to 2300 | 48 to 2900 |

Ordering Information

| Cat. No. | rpm | Speed Control | Pump Heads Accepted | Dimensions L x W x H | Power (50/60Hz) | Shpg wt | Price |
|----------|------------|---------------|---------------------|----------------------|---|---------|-----------|
| 07554-85 | 7 to 200 | ±5% | 2 | 229 x 178 x 152 mm | 190 to 260 VAC | 3.7 Kg | £361.00 |
| 07554-95 | 20 to 600 | ±5% | 1 | 229 x 178 x 152 mm | 190 to 260 VAC | 3.7 Kg | £361.00 |
| 07523-70 | 1.6 to 100 | ±0.25% | 4 | 292 x 178 x 178 mm | Dual Voltage 90 to 130VAC and 190 to 260VAC | 6.7 Kg | £1,015.00 |
| 07523-60 | 10 to 600 | ±0.25% | 2 | 292 x 178 x 178 mm | Dual Voltage 90 to 130VAC and 190 to 260VAC | 6.7 Kg | £1,015.00 |

buy more, save more

TUBING

Save 10% on 4 to 9 packs, 15% on 10 to 19 packs, and 20% on 20 to 99 packs.

Cole-Parmer Gear Pumps

- ▶ Pulseless flow
- ▶ Precision, leak free delivery of fluids

to build a
**complete
System . . .**

- 1 Console Drive or Modular Drive System
- 2 Micropump® A-Mount Pump head

1 Variable Flow Drives

Select either the analogue drive for low cost pumping solution or the digital dispensing drive if you require accurate flow, to dispense by volume or utilize remote control pumping capabilities.



Variable-Speed Analogue Drive

- ▶ Separate single-turn speed control and on/off switch
Maintain speed setting while turning on/off
- ▶ Stackable painted steel housing; IP22 rated
Protects drive from falling water

IB-75211-15 Analogue drive, 230 VAC 50/60Hz, 2.0A£444.00

Specifications for Analogue Drive

Speed: 50 to 5000rpm Duty cycle: continuous
 Temperature: 0 to 40°C Dimensions: 216mm W x 162mm H x 132mm L
 Motor Type: PMDC 0.07-hp Shpg wt: 4.6 kg

2 Micropump A-Mount Suction Shoe Gear Pump Heads

Magnetically driven, precision geared pump head with unique suction shoe design provides smooth, accurate, pulseless fluid delivery. Chemically resistant to a wide range of materials due to wetted parts. Pump heads are compact and easy to service.



Specification & Ordering Information

| Catalogue Number | mL/rev | Flow range for drive ml/min† | | Max diff bar | Wetted parts | | | Internal bypass | Price |
|------------------|--------|------------------------------|--------------|--------------|--------------|----------|-------|-----------------|---------|
| | | 75211-15 | 75211-35 | | Body | Gears | Seals | | |
| IB-07002-27 | 0.084 | 4.2 to 420 | 5.0 to 302 | 2.75 | 316 SS | Graphite | PTFE | No | £406.00 |
| IB-07002-14 | 0.092 | 4.6 to 460 | 5.5 to 331 | 5 | 316 SS | PPS | PTFE | No | £406.00 |
| IB-73004-00 | 0.261 | 13.1 to 1305 | 15.7 to 939 | 8.6 | 316 SS | PEEK | Viton | Yes | £411.00 |
| IB-07003-02 | 0.564 | 28.2 to 2820 | 33.8 to 2030 | 5 | 316 SS | PPS | Viton | Yes | £384.00 |
| IB-07003-04 | 1.090 | 54.5 to 5450 | 65.4 to 3924 | 5 | 316 SS | PPS | Viton | Yes | £470.00 |

† Flow rates based on water at room temperature and no back pressure

Viscosity: 0.2 to 1500 cp for all models except 07002-27 and 07003-04 0.2 to 100 cp
 Port size: 1/8" NPT(F)

Suction lift: 24" H2O (1750 rpm)
 Temperature: -46 to 177°C

Max system pressure: 20 Bar
 Reversible: no

Gear pumps are designed for pulseless fluid transfer at low to moderate flow rates and moderate to high pressures. Modular design offers flexibility - configure to your specific needs.



Digital Dispensing Drive

- ▶ Dispense by volume
Set dispense volume in mL
- ▶ Remote control capability
Via DB15 female connector on back of the drive
Speed control input: 0 to 20mA, 4 to 20mA or 0 to 10V
Start/stop: requires open collector or contact closure
- ▶ Membrane keypad for easy programming
Select pump head size (gear code) and enter desired flow rate in mL/min.
Keypad can then be locked to prevent accidents or tampering
- ▶ Stackable ABS plastic housing; IP23 rated
Splash resistant

IB-75211-35 Digital dispensing drive, 230 VAC 50/60Hz£930.00

IB-07595-42 Foot switch, for remote start/stop control of 75211-35£61.00

Specifications for Digital Dispensing Drive

Speed: 60 to 3600rpm Duty cycle: continuous
 Temperature: 0 to 40°C Dimensions: 197mm W x 185mm H x 290mm L
 Motor Type: PMDC 0.1-hp Shpg wt: 4.6 kg

Automatic-Demand Diaphragm Pumps

New

- ▶ Can run-dry without damage
- ▶ Self-priming up to 2.4m
- ▶ All models feature factory set pressure switches to protect the pump from damage - pumping stops when the switch pressure is reached and restarts when pressure drops below the maximum pressure
- ▶ No metal wetted parts - can be used with corrosive liquids

Pumps are available in either 240VAC models or 12VDC and with a variety of diaphragm material making these pumps ideal for general transfer duties as well as spraying and use in portable water systems. Pumps have a built in pressure/demand switch to stop the pumps when the switch pressure is reached and restart the pump when the pressure drops below the maximum operating pressure. Order in-line filters for these pumps below.



Specifications

Motor: Permanent magnet
Duty Cycle: Intermittent
Max Fluid Temperature: PP Body 54°C, Nylon Body 71°C
Self-priming: Up to 2.4m
Run-dry: Yes
Protection Rating: IP44
Shpg Wt: 3 kg

| Cat. No. | Max Flow | Wetted Materials | | | Pressure | | Price |
|-----------------------------------|----------|------------------|-------|---------------------------|----------|---------|---------|
| | | Port | Body | Diaphragm and Check Valve | Maximum | Switch* | |
| Input Voltage: 240VAC 50Hz | | | | | | | |
| IB-01UK5-00 | 5.6 LPM | 1/4" NPT(F) | PP | Santoprene® | 4.1 Bar | 4.8 Bar | £119.39 |
| IB-01UK5-05 | 7 LPM | 3/8" NPT(F) | PP | Santoprene® | 3.5 Bar | 4.1 Bar | £117.39 |
| IB-01UK5-10 | 7 LPM | 3/8" NPT(F) | PP | Buna | 3.5 Bar | 4.1 Bar | £120.75 |
| IB-01UK5-15 | 7 LPM | 3/8" NPT(F) | PP | Viton® | 3.5 Bar | 4.1 Bar | £137.35 |
| IB-01UK5-20 | 7 LPM | 1/4" NPT(F) | Nylon | EPDM | 5.9 Bar | 6.6 Bar | £149.29 |
| IB-01UK5-25 | 7 LPM | 1/4" NPT(F) | Nylon | Buna | 5.9 Bar | 6.6 Bar | £149.29 |
| IB-01UK5-30 | 13.2 LPM | 1/2" Barb | PP | Santoprene®/EPDM | 1.7 Bar | 2.1 Bar | £150.17 |
| Input Voltage: 12VDC | | | | | | | |
| IB-01UK6-00 | 6.5 LPM | 1/4" NPT(F) | Nylon | EPDM | 5.9 Bar | 6.6 Bar | £126.65 |
| IB-01UK6-05 | 6.5 LPM | 1/4" NPT(F) | Nylon | Buna | 5.9 Bar | 6.6 Bar | £126.65 |
| IB-01UK6-10 | 7.3 LPM | 1/4" NPT(F) | PP | Santoprene® | 4.1 Bar | 4.8 Bar | £100.65 |
| IB-01UK6-15 | 7.6 LPM | 3/8" NPT(F) | PP | Santoprene® | 3.5 Bar | 4.1 Bar | £95.41 |
| IB-01UK6-20 | 7.6 LPM | 3/8" NPT(F) | PP | Buna | 3.5 Bar | 4.1 Bar | £96.48 |
| IB-01UK6-25 | 7.6 LPM | 3/8" NPT(F) | PP | Viton | 3.5 Bar | 4.1 Bar | £112.73 |
| IB-01UK6-30 | 18.9 LPM | 3/4" Barb | PP | Santoprene®/EPDM | 2.8 Bar | 3.1 Bar | £144.17 |
| IB-01UK6-35 | 18.9 LPM | 3/4" Barb | PP | Santoprene®/Viton® | 2.8 Bar | 3.1 Bar | £144.17 |

* Factory Set - Pump will automatically switch off once this pressure is achieved and switch back on once the pressure drops below the maximum setting
 Santoprene® - Monsanto Chemical Co, Viton® - DuPont Dow Elastomers, L.L.C.

In-Line Strainers

- ▶ Maximum pressure of 5 bar
- ▶ Maximum free flow of 26 LPM
- ▶ Stainless steel size 40 mesh

Use these in-line strainers to prevent particulate matter damaging the automatic-demand diaphragm pumps by installing them on the inlet side of the pump.

All strainers have a maximum pressure of 5 bar and have a PP base with a polycarbonate base, EPDM O-rings and stainless steel size 40 mesh (0.425mm openings). Select either inline (straight through) or 90° elbow configuration.

| Cat. No. | Inlet | Outlet | Screen | Configuration | Price |
|-------------|-------------|-----------|---------|---------------|--------|
| IB-01UK7-00 | 3/4" Barb | 3/4" Barb | 40 mesh | Inline | £10.49 |
| IB-01UK7-10 | 1/2" Barb | 1/2" Barb | 40 mesh | Inline | £10.49 |
| IB-01UK7-20 | 3/8" Barb | 3/8" Barb | 40 mesh | Inline | £10.49 |
| IB-01UK7-30 | 3/8" NPT(M) | 3/8" Barb | 40 mesh | 90° | £10.49 |



Specifications

Wetted Parts: Polypropylene (PP), Polycarbonate (PC), EPDM, Stainless steel (SS)
Max Pressure: 5 bar

Air Operated Diaphragm Pumps

- ▶ Flow range of 0.6 to 480 LPM
- ▶ Available in Polypropylene (PP), Aluminum (Al) or 316 Stainless Steel (SS) housing
Use PP with chemically aggressive and neutral liquids together with low flammability liquids
Use Al with neutral and/or flammable liquids
SS options are rated for use in ATEX zone 2 and are suitable for highly flammable liquids as well as neutral and nonflammable liquids
- ▶ Capable of pumping a wide variety of liquids, including shear sensitive or fragile liquids like paint, ink and clay slips
- ▶ Pumps suspended particles up to 6.4 mm in diameter
- ▶ Self-priming - can be mounted above or below the liquid level
- ▶ Runs Dry without damage to the pump or piping making them ideal for transfer applications and tank emptying
- ▶ Oil-less operation - requires no oil to lubricate air valves resulting in reduced maintenance and operating costs

ATEX
Zone 2

These Air Operated Diaphragm (AOD) pumps are suitable for pumping volatile or shear sensitive liquids. Available in a choice of housings these are inherently explosion proof as they have no electrical contacts and contain no heat generating components. The stainless steel models are rated for use in ATEX zone 2. They are all self-priming and can be run dry. It is recommended you install these pumps into your compressed air line via an in-line air filter/regulator (see below).

IB-75300-96 Air Filter/Regulator with 5µ filter, 1/4" NPT(F) ports, 5-125 psi @ 90 cfm£66.00

Flow curves for any of these pumps are available by contacting our sales consultants on call free 0500 345300.



A - Low Flow AOD Pump (max flow 17 LPM)

- ▶ suitable for liquids up to 3,000 cps
- ▶ suitable for dry operation
- ▶ self-priming up to 4 m
- ▶ unbalanced air valve design eliminates stalling
- ▶ maximum size of solids: 0.8 mm



B - Mid Flow AOD Pump (max flow 55 LPM)

- ▶ suitable for liquids up to 30,000 cps
- ▶ suitable for dry operation
- ▶ self-priming up to 4 m
- ▶ unbalanced air valve design eliminates stalling
- ▶ maximum size of solids: 2.4 mm
- ▶ stainless steel models approved for use in ATEX zone 2

New



C - High Flow AOD Pump (max flow 150 LPM)

- ▶ suitable for liquids up to 30,000 cps
- ▶ suitable for dry operation
- ▶ self-priming up to 6.5 m
- ▶ unbalanced air valve design eliminates stalling
- ▶ maximum size of solids: 3.0 mm
- ▶ stainless steel models approved for use in ATEX zone 2



New

D - Very High Flow AOD Pump (max flow 480 LPM)

- ▶ suitable for liquids up to 30,000 cps
- ▶ suitable for dry operation
- ▶ self-priming up to 6.5 m
- ▶ unbalanced air valve design eliminates stalling
- ▶ maximum size of solids: 6.4 mm
- ▶ stainless steel models approved for use in ATEX zone 2

| Key | Cat. No. | Max Flow | Max Pressure | Max Solid Size Dia | Max Temp | Port Size | | Air Inlet Requirements | | Dimensions (H x L x W) mm | Shpg W | Price Each |
|--|-------------|----------|--------------|--------------------|----------|---------------|---------------|------------------------|--------------|---------------------------|--------|------------|
| | | | | | | Inlet | Outlet | Connection | Max Pressure | | | |
| AOD Pump - Wetted Parts: Polypropylene, Santoprene® | | | | | | | | | | | | |
| A | IB-02UK1-00 | 17 LPM | 7 bar | 0.8 mm | 80°C | 3/8" NPT(F) | 1/4" NPT(F) | 1/4" NPT(F) | 7 bar | 143 x 185 x 140 | 2 kg | £275.00 |
| AOD Pump - Wetted Parts: Polypropylene, PTFE | | | | | | | | | | | | |
| A | IB-02UK2-00 | 17 LPM | 7 bar | 0.8 mm | 80°C | 3/8" NPT(F) | 1/4" NPT(F) | 1/4" NPT(F) | 7 bar | 143 x 185 x 140 | 2 kg | £295.00 |
| B | IB-02UK2-10 | 55 LPM | 7 bar | 2.4 mm | 80°C | 1/2" NPT(F) | 1/2" NPT(F) | 1/4" NPT(F) | 7 bar | 288 x 215 x 164 | 4 kg | £486.00 |
| C | IB-02UK2-20 | 150 LPM | 8 bar | 3.0 mm | 80°C | 1" Flange | 1" Flange | 1/4" NPT(F) | 8 bar | 400 x 317 x 203 | 9 kg | £746.00 |
| D | IB-02UK2-30 | 480 LPM | 8 bar | 6.4 mm | 80°C | 1 1/2" Flange | 1 1/2" Flange | 1/2" NPT(F) | 8 bar | 625 x 495 x 292 | 20 kg | £1995.00 |
| AOD Pump - Wetted Parts: Aluminium, PTFE | | | | | | | | | | | | |
| B | IB-02UK3-10 | 55 LPM | 7 bar | 2.4 mm | 100°C | 1/2" NPT(F) | 1/2" NPT(F) | 1/4" NPT(F) | 7 bar | 203 x 191 x 286 | 4 kg | £698.00 |
| C | IB-02UK3-20 | 150 LPM | 8 bar | 3.0 mm | 100°C | 1" Flange | 1" Flange | 1/4" NPT(F) | 8 bar | 203 x 318 x 400 | 9 kg | £795.00 |
| D | IB-02UK3-30 | 480 LPM | 8 bar | 6.4 mm | 100°C | 1 1/2" Flange | 1 1/2" Flange | 1/2" NPT(F) | 8 bar | 495 x 333 x 292 | 20 kg | £1257.00 |
| AOD Pump - Wetted Parts: 316 Stainless Steel, PTFE, (approved for use in ATEX zone 2 areas) | | | | | | | | | | | | |
| B | IB-02UK4-10 | 55 LPM | 7 bar | 2.4 mm | 100°C | 1/2" NPT(F) | 1/2" NPT(F) | 1/4" NPT(F) | 7 bar | 203 x 191 x 286 | 7 kg | £1142.00 |
| C | IB-02UK4-20 | 150 LPM | 8 bar | 3.0 mm | 100°C | 1" Flange | 1" Flange | 1/4" NPT(F) | 8 bar | 203 x 318 x 400 | 16 kg | £1449.00 |
| D | IB-02UK4-30 | 480 LPM | 8 bar | 6.4 mm | 100°C | 1 1/2" Flange | 1 1/2" Flange | 1/2" NPT(F) | 8 bar | 495 x 333 x 292 | 42 kg | £2300.00 |

Santoprene® - Monsanto Chemical Co.

Specifications

Viscosity: key A 3,000 cps, all other keys 30,000 cps

Duty Cycle: Continuous

Self-priming: Key A and B up 4m; Key C and D 6.5m

Run-dry: Yes

Approvals: Stainless steel models 02UK4-XX suitable for use in ATEX zone 2

Submersible Pumps

- ▶ 240 VAC motor with thermal protector
- ▶ Supplied with auto stop/start float switch

A Offering unbeatable value for money this submersible pump is suitable for pumping clean water or seawater. Made from strong corrosion resistant polypropylene.

Specifications

Motor: 240VAC 50Hz
Duty Cycle: Continuous
Max Fluid Temperature: 35°C

Wetted Materials: Polypropylene, Aluminum, Stainless steel, Ceramics

B These durable polypropylene, multi-purpose pump is designed for use with dirty water containing suspended solids with a diameter of up to 25mm.

Specifications

Motor: 240VAC 50Hz
Duty Cycle: Continuous
Max Fluid Temperature: 35°C

Wetted Materials: Polypropylene, Aluminum, Stainless steel, Ceramics

C Heavy duty cast iron pumps designed for use of dirty water containing suspended samples up to a diameter of 16mm. Water must be chemically neutral, without abrasives.

Specifications

Motor: 240VAC 50Hz
Duty Cycle: Continuous
Max Fluid Temperature: 35°C

Wetted Materials: Cast iron, Stainless steel, NBR, Ceramics

New



A



B



C

| Key | Cat. No. | Max Flow | Max Head | Max Particle Size | Max Submersion Depth | Power Cable Length | Discharge Port | Shpg Wt | Price |
|----------|-------------|----------|----------|-------------------|----------------------|--------------------|----------------|---------|---------|
| A | IB-01UK4-00 | 80 LPM | 6 m | - | 10 m | 10 m | 30mm Hose Barb | 2 kg | £52.00 |
| B | IB-01UK4-10 | 130 LPM | 5.1 m | 25 mm dia | 10 m | 10 m | 32mm Hose Barb | 4 kg | £77.00 |
| | IB-01UK4-20 | 210 LPM | 7.1 m | 25 mm dia | 10 m | 10 m | 32mm Hose Barb | 4 kg | £99.00 |
| C | IB-01UK4-30 | 340 LPM | 11.3 m | 16 mm dia | 10 m | 10 m | 40mm Hose Barb | 18 kg | £186.00 |
| | IB-01UK4-40 | 500 LPM | 15.7 m | 16 mm dia | 10 m | 10 m | 40mm Hose Barb | 19 kg | £360.00 |

Hose

| Tubing | ID | Max Pressure @ 20°C | 10 m Pack | | 25 m Pack | | 50 m Pack | |
|------------------|----------------|---------------------|-------------|----------|-------------|----------|-------------|----------|
| | | | Cat. No. | Price/pk | Cat. No. | Price/pk | Cat. No. | Price/pk |
| PVC Layflat Hose | 1" (25 mm) | 5.5 bar | IB-01UK8-00 | £20.00 | IB-01UK8-10 | £51.00 | IB-01UK8-20 | £94.00 |
| PVC Layflat Hose | 1 1/4" (32 mm) | 5.5 bar | IB-01UK8-01 | £25.00 | IB-01UK8-11 | £64.00 | IB-01UK8-21 | £118.00 |
| PVC Layflat Hose | 1 1/2" (38 mm) | 5.5 bar | IB-01UK8-02 | £16.00 | IB-01UK8-12 | £42.00 | IB-01UK8-22 | £77.00 |
| PVC Layflat Hose | 2" (50 mm) | 4.5 bar | IB-01UK8-03 | £20.00 | IB-01UK8-13 | £53.00 | IB-01UK8-23 | £98.00 |
| Kanaflex Hose | 1" (25 mm) | 5.5 bar | IB-01UK9-00 | £30.00 | IB-01UK9-10 | £78.00 | IB-01UK9-20 | £145.00 |
| Kanaflex Hose | 1 1/4" (32 mm) | 4.0 bar | IB-01UK9-01 | £34.00 | IB-01UK9-11 | £88.00 | IB-01UK9-21 | £163.00 |
| Kanaflex Hose | 1 1/2" (38 mm) | 4.0 bar | IB-01UK9-02 | £41.00 | IB-01UK9-12 | £107.00 | IB-01UK9-22 | £199.00 |
| Kanaflex Hose | 2" (50 mm) | 4.0 bar | IB-01UK9-03 | £47.00 | IB-01UK9-13 | £123.00 | IB-01UK9-23 | £229.00 |



New



SS Hose Clamps

SS strap and screw housing with a carbon steel screw. Band-type worm drive. Box of 10.



| Catalogue number | Clamp dia | | Price/ bx of 10 |
|------------------|-----------|---------|-----------------|
| | Min | Max | |
| IB-06403-10 | 7/32" | 5/8" | £7.39 |
| IB-06403-20 | 9/16" | 1 1/16" | £7.51 |
| IB-06403-30 | 1 1/16" | 1 1/4" | £7.73 |
| IB-06403-40 | 1 3/16" | 1 1/2" | £7.51 |
| IB-06403-50 | 1 3/16" | 1 3/4" | £7.73 |
| IB-06403-60 | 1 1/16" | 2" | £7.73 |
| IB-06403-70 | 1 5/16" | 2 1/4" | £7.91 |
| IB-06403-80 | 2" | 2 3/4" | £8.09 |

Centrifugal Water Pump

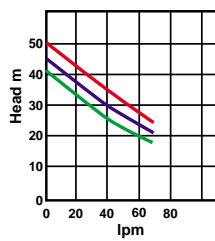
A range of stainless steel closed coupled centrifugal pump for pumping clean water.

- ▶ Rugged stainless steel pump body
- ▶ Self-priming for trouble free use
- ▶ Built in overload motor protector with automatic reset
- ▶ Suitable for continuous duty

Specifications

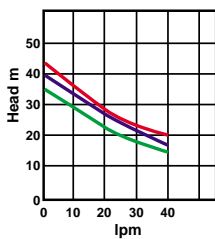
Motor: 230VAC 50Hz Single Phase TEFC
Motor Speed: 2800rpm
Protection Rating: IP54
Duty: Continuous
Max Pressure: 6 Bar
Max Temperature: 45°C
Max Suction: 8m at 20°C
Wetted Parts: 304 SS, Noryl, Carbon, Ceramic, Viton®

Performance at 50 Hz



- 03037-UK
- 03036-UK
- 03035-UK

Performance at 50 Hz



- 03034-UK
- 03033-UK
- 03032-UK



| Cat. No. | Max Flow Rate | Max Head | Suction Port | Discharge Port | Shpg wt | Price Each |
|-------------|---------------|----------|----------------|----------------|---------|------------|
| IB-03032-UK | 45 LPM | 32 m | 1" BSPP(F) | 1" BSPP(F) | 5.1 Kg | £125.00 |
| IB-03033-UK | 45 LPM | 36 m | 1" BSPP(F) | 1" BSPP(F) | 5.5 Kg | £136.00 |
| IB-03034-UK | 45 LPM | 42 m | 1" BSPP(F) | 1" BSPP(F) | 6.1 Kg | £146.00 |
| IB-03035-UK | 70 LPM | 41 m | 1 1/4" BSPP(F) | 1" BSPP(F) | 10.3 Kg | £131.00 |
| IB-03036-UK | 70 LPM | 45 m | 1 1/4" BSPP(F) | 1" BSPP(F) | 10.8 Kg | £157.00 |
| IB-03037-UK | 70 LPM | 50 m | 1 1/4" BSPP(F) | 1" BSPP(F) | 11.5 Kg | £188.00 |

Stainless Steel Centrifugal Liquid Pump

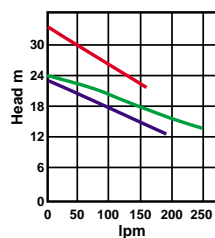
A range of stainless steel closed coupled centrifugal pump for pumping clean water and moderately aggressive liquids

- ▶ Rugged stainless steel construction
- ▶ Durable aluminum motor casing
- ▶ Built in overload motor protector with automatic reset
- ▶ Suitable for continuous duty

Specifications

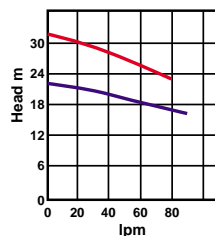
Motor: 220/240VAC 50Hz Single Phase TEFC
Motor Speed: 2900rpm
Protection Rating: IP55
Duty: Continuous
Max Pressure: 8 Bar
Max Temperature: 60°C
Wetted Parts: 304 SS, Carbon, Ceramic, Viton®

Performance at 50 Hz



- 03030-UK
- 03031-UK
- 03029-UK

Performance at 50 Hz



- 03028-UK
- 03027-UK



| Cat. No. | Max Flow Rate | Max Head | Suction Port | Discharge Port | Shpg wt | Price Each |
|-------------|---------------|----------|----------------|----------------|---------|------------|
| IB-03028-UK | 80 LPM | 30 m | 1 1/4" BSPP(F) | 1" BSPP(F) | 10.5 Kg | £203.00 |
| IB-03027-UK | 90 LPM | 22 m | 1 1/4" BSPP(F) | 1" BSPP(F) | 9.5 Kg | £177.00 |
| IB-03030-UK | 160 LPM | 32 m | 1 1/4" BSPP(F) | 1" BSPP(F) | 12 Kg | £257.00 |
| IB-03029-UK | 180 LPM | 22.5 m | 1 1/4" BSPP(F) | 1" BSPP(F) | 10.5 Kg | £219.00 |
| IB-03031-UK | 250 LPM | 23 m | 1 1/2" BSPP(F) | 1" BSPP(F) | 16.5 Kg | £305.00 |

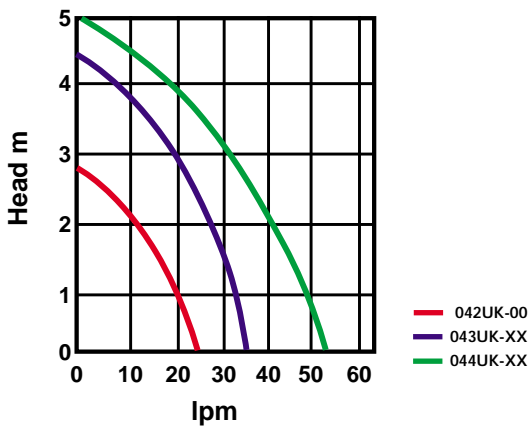
Magnetically Coupled Chemical Pumps

Magnetically coupled leak proof centrifugal pumps offered in a range of configurations making them suitable for most chemical transfer or circulation duties. Select from a range of models to provide a choice of flow rates and pumphead material for compatibility with your media: these pumps should not be run dry.

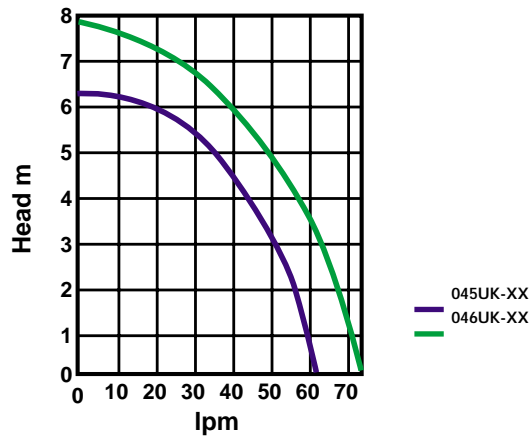
- ▶ Suitable for use with corrosive fluids
- ▶ Options available for flow rates up to 700 LPM
- ▶ Choice of pumphead material offer wide chemical compatibility
- ▶ Leak proof construction
- ▶ Built-in overload protection
- ▶ Suitable for continuous duty



Performance at 50 Hz



Performance at 50 Hz



Low Flow Centrifugal Pumps

| Cat. No. | Max Flow | Max Head | Max Pressure | Head Type | Connection | | Overall Dimensions mmShpg | | | Price wt | Each |
|-------------|----------|----------|--------------|---------------------|--------------|-------------|---------------------------|-----|-----|----------|----------|
| | | | | | Inlet | Outlet | H | L | W | | |
| IB-042UK-00 | 18 LPM | 2.8 m | 0.28 bar | Polypropylene | 3/8" NPT(F) | 1/4" NPT(M) | 136 | 188 | 99 | 2 Kg | £160.00 |
| IB-043UK-00 | 35 LPM | 4.4 m | 0.44 bar | Polypropylene | 1/4" BSPP(F) | 1/2" NPT(M) | 139 | 232 | 105 | 3.5 Kg | £240.00 |
| IB-043UK-20 | | | 0.44 bar | Kynar (PVDF) | | | | | | 3.6 Kg | £325.00 |
| IB-044UK-00 | 50 LPM | 5 m | 0.5 bar | Polypropylene | 1" BSPP(F) | 1/2" NPT(M) | 154 | 252 | 144 | 3.7 Kg | £250.00 |
| IB-044UK-10 | | | 0.5 bar | Ryton | | | | | | 3.8 Kg | £285.00 |
| IB-044UK-20 | | | 0.5 bar | Kynar (PVDF) | | | | | | 3.8 Kg | £375.00 |
| IB-044UK-30 | | | 0.5 bar | 316 Stainless Steel | | | | | | 5.2 Kg | £1600.00 |
| IB-045UK-00 | 65 LPM | 6.25 m | 0.625 bar | Polypropylene | 1" BSPP(F) | 1/2" NPT(M) | 154 | 252 | 144 | 3.7 Kg | £275.00 |
| IB-045UK-10 | | | 0.625 bar | Ryton | | | | | | 3.8 Kg | £295.00 |
| IB-045UK-20 | | | 0.625 bar | Kynar (PVDF) | | | | | | 3.8 Kg | £375.00 |
| IB-045UK-30 | | | 0.625 bar | 316 Stainless Steel | | | | | | 5.3 Kg | £1600.00 |
| IB-046UK-00 | 70 LPM | 7.5 m | 0.75 bar | Polypropylene | 1" BSPP(F) | 1/2" NPT(M) | 154 | 252 | 144 | 4 Kg | £375.00 |
| IB-046UK-20 | | | 0.75 bar | Kynar (PVDF) | | | | | | 4.1 Kg | £480.00 |

Viton—Reg TM DuPont Dow Elastomers L.L.C.

Specifications

Motor: TEFC 240VAC 50Hz Single Phase

Duty: Continuous

Protection Rating: Model 042UK-00 IP44, all others IP55

Wetted Parts:

For Polypropylene Head

Body: PP
Impeller: PP
Magnet: PP
Spindle: Ceramic
O Ring: Viton®

For Ryton Head

Body: Ryton
Impeller: Ryton
Magnet: Ryton
Spindle: Ceramic
O Ring: Viton®

For Kynar (PVDF) Head

Body: Kynar
Impeller: Kynar
Magnet: Kynar
Spindle: Ceramic
O Ring: Viton®

For 316 Stainless Steel Head

Body: 316 SS
Impeller: 316 SS
Magnet: 316 SS
Spindle: Ceramic
O Ring: Viton®

Max Temperature: 88°C

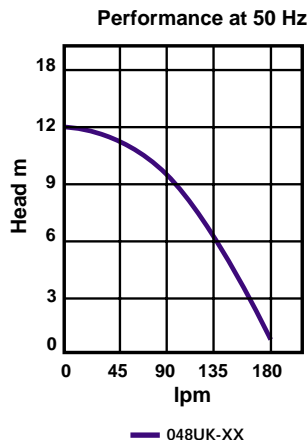
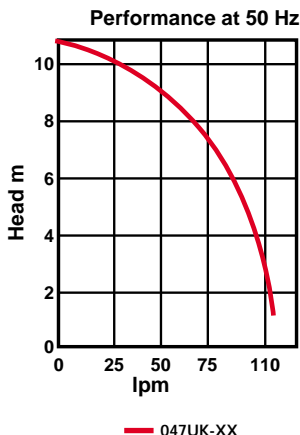
Max Temperature: 93°C

Max Temperature: 93°C

Max Temperature: 121°C



For 3-phase or air motor options contact our Sales Consultants on 0500 345 300



Medium Flow Centrifugal Pumps

| Cat. No. | Max Flow | Max Head | Max Pressure | Head Type | Connection | | Overall Dimensions | | | Shpg Wt | Price Each |
|-------------|----------|----------|--------------|---------------------|---------------|--------------|--------------------|-----|-----|---------|------------|
| | | | | | Inlet | Outlet | H | L | W | | |
| IB-047UK-00 | 110 LPM | 11 m | 1.1 bar | Polypropylene | 1" BSPP(F) | 3/4" BSPP(M) | 161 | 365 | 170 | 9.4 Kg | £500.00 |
| IB-047UK-20 | | | 1.1 bar | Kynar (PVDF) | | | | | | 9.5 Kg | £740.00 |
| IB-048UK-00 | 180 LPM | 12 m | 1.2 bar | Polypropylene | 1 1/2" NPT(F) | 1" NPT(M) | 171 | 407 | 192 | 11.3 Kg | £650.00 |
| IB-048UK-20 | | | 1.2 bar | Kynar (PVDF) | | | | | | 11.4 Kg | £885.00 |
| IB-048UK-30 | | | 1.2 bar | 316 Stainless Steel | | | | | | 13.7 Kg | £2,340.00 |

Specifications

Motor: TEFC 240VAC 50Hz Single Phase

Wetted Parts:

For Polypropylene Head

Body, Impeller, Magnet: PP

Spindle: Ceramic, O Ring: Viton®

Max Temperature: 88°C

Duty: Continuous

For Kynar (PVDF) Head

Body, Impeller, Magnet: Kynar

Spindle: Ceramic, O Ring: Viton®

Max Temperature: 93°C

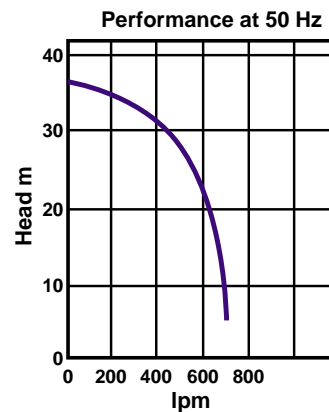
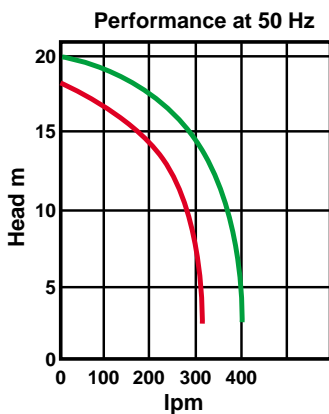
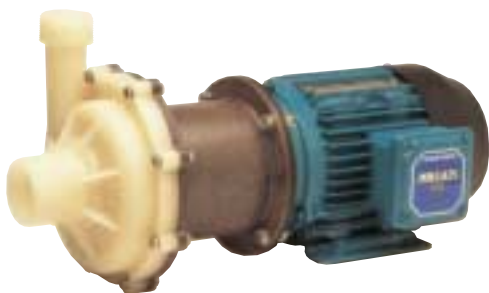
Protection Rating: IP55

For 316 Stainless Steel Head

Body, Impeller, Magnet: 316 SS

Spindle: Ceramic, O Ring: Viton®

Max Temperature: 121°C



High Flow Centrifugal Pumps

| Cat. No. | Max Flow | Max Head | Max Pressure | Head Type | Connection | | Overall Dimensions mm | | | Shpg Wt | Price Each |
|-------------|----------|----------|--------------|---------------------|------------|---------------|-----------------------|-----|-----|---------|------------|
| | | | | | Inlet | Outlet | H | L | W | | |
| IB-049UK-20 | 275 LPM | 18.3 m | 1.8 bar | Kynar (PVDF) | 2" NPT(M) | 1 1/2" NPT(M) | 234 | 488 | 230 | 16.5 Kg | £1480.00 |
| IB-050UK-00 | 400 LPM | 20 m | 2.0 bar | Polypropylene | 2" NPT(M) | 1 1/2" NPT(M) | 223 | 564 | 229 | 30 Kg | £1985.00 |
| IB-050UK-20 | | | 2.0 bar | Kynar (PVDF) | | | | | | 30.2 Kg | £2550.00 |
| IB-051UK-30 | 700 LPM | 36 m | 3.6 bar | 316 Stainless Steel | 3" NPT(M) | 2" NPT(M) | 310 | 691 | 384 | 37 Kg | £4500.00 |
| IB-051UK-20 | | | 3.6 bar | Kynar (PVDF) | | | | | | 68.6 Kg | £3900.00 |

Viton—Reg TM DuPont Dow Elastomers L.L.C.

Specifications

Motor: TEFC 415VAC 50Hz 3-Phase

Wetted Parts:

For Polypropylene Head

Body, Impeller, Magnet: PP

Spindle: Ceramic, O Ring: Viton®

Max Temperature: 88°C

Duty: Continuous

For Kynar (PVDF) Head

Body, Impeller, Magnet: Kynar

Spindle: Ceramic, O Ring: Viton®

Max Temperature: 93°C

Protection Rating: IP55

For 316 Stainless Steel Head

Body, Impeller, Magnet: 316 SS

Spindle: Ceramic, O Ring: Viton®

Max Temperature: 121°C

Complete Drum and Laboratory Pumps

- ▶ Transfer fluid to and from a variety of containers - drums, glass carboys, canisters or narrow-necked bottles
- ▶ Polypropylene or 316 stainless steel construction
- ▶ Splash-proof motor and on-off switch
- ▶ Lightweight and economical

For filling, emptying, transferring or dispensing small amounts of fluid out of carboys, canisters, narrow-necked bottles or drums with water-like viscosities. These pumps are ideal for use in laboratories, chemical store rooms and workshops.

Select either polypropylene or stainless steel tubes and from tube lengths 0.5 to 1m. Pumps come complete with pump tube, a motor with a two speed switch and overload cut-out switch. Order the optional accessory kit which includes wall hanger, nozzle, spout, 1.5m PVC hose, and hose clamps.



| Cat. No. | Max Flow | Max Head | Tube | | | Wetted Parts | Shpg Wt | Price Each | | | |
|-------------|----------|----------|------|--------|--|--------------|--|------------|---------|--------|---------|
| | | | Type | Length | Outlet | | | | | | |
| IB-02UK5-00 | 27 LPM | 5 m | PP | 0.5 m | 1" BSPP(M), also includes 13mm (1/2") and 19mm (3/4") Hose Barb adapters | 25 mm | PP, ETFE, Ceramic Oxide, PTFE, Carbon, Viton®, Hastelloy C | 1.8 kg | £276.00 | | |
| IB-02UK5-02 | | | | 0.7 m | | | | | | 2.0 kg | £296.00 |
| IB-02UK5-04 | | | | 1.0 m | | | | | | | |
| IB-02UK5-10 | 47 LPM | 6.8 m | PP | 0.5 m | 1" BSPP(M), also includes 13mm (1/2") and 19mm (3/4") Hose Barb adapters | 32 mm | PP, ETFE, Ceramic Oxide, PTFE, Carbon, Viton®, Hastelloy C | 1.8 kg | £276.00 | | |
| IB-02UK5-12 | | | | 0.7 m | | | | | | 2.0 kg | £296.00 |
| IB-02UK5-14 | | | | 1.0 m | | | | | | | |
| IB-02UK5-20 | 57 LPM | 8.5 m | SS | 0.5 m | 3/4" BSPP(M) | 28 mm | 316 SS, ETFE, PTFE, Carbon | 2.8 kg | £460.00 | | |
| IB-02UK5-22 | | | | 0.7 m | | | | | | 3.0 kg | £465.00 |
| IB-02UK5-24 | | | | 1.0 m | | | | | | | |

Specifications

Power: 240VAC 50Hz
 Protection Rating: IP24
 Duty Cycle: Continuous

Max Viscosity: 500 cp
 Max Operating Temperature: 45°C
 Viton® - Reg TM DuPont Dow Elastomers L.L.C.

Complete Drum and Container Pumps

- ▶ Pump tube and motor sold together for your convenience
- ▶ Maintenance is reduced with no mechanical seals
- ▶ Electric or air options for use in ATEX Zone 2
- ▶ Pumps can be run dry

Drum and container pumps are engineered to safely transfer a variety of liquids from drums, tanks and small storage vessels. Order a dispensing tap and tubing from the accessories below for added control.

- A** The standard electric motor has a variable speed switch for infinite speed control and a thermal cut-out switch. It is splash proof (IP 24) and is supplied with a 5m power cord.
- B** The ATEX zone 2 electric motor has a variable speed switch and a no-volt release to prevent any unintentional re-starting after a voltage discontinuity. The motor is rated to IP 55 and is supplied with a 5m power cord.
- C** The ATEX zone 2 air motor can provide speed control by adjusting either the air supply pressure or volume. The motor includes an exhaust silencer, order filter-regulator and earthing cable from accessories below.



B
02UK6-52

A
02UK6-02



C
Air motor
02UK6-61



| Key | Motor | Max Flow | Max Head | Max Viscosity | Tube | | | Wetted Parts | Shpg Wt | Cat. No. | Price Each |
|-----|--|----------|----------|---------------|------|--------|----------------------------|-------------------------|---------|-------------|------------|
| | | | | | Type | Length | Outer Dia. Tube/Foot valve | | | | |
| A | Electric 240 VAC 50 Hz | 150 LPM | 7.5 m | 800 cp | PP | 0.7 m | 41/43 mm | PP, ETFE, Hastelloy C | 3.3 kg | IB-02UK6-00 | £548.00 |
| | | | | | | 1.0 m | | | 3.7 kg | IB-02UK6-02 | £558.00 |
| | | | | | | 1.2 m | | | 4 kg | IB-02UK6-04 | £569.00 |
| A | Electric 240 VAC 50 Hz | 150 LPM | 7.5 m | 800 cp | PVDF | 0.7 m | 41/43 mm | PVDF, ETFE, Hastelloy C | 3.5 kg | IB-02UK6-10 | £750.00 |
| | | | | | | 1.0 m | | | 3.8 kg | IB-02UK6-12 | £811.00 |
| | | | | | | 1.2 m | | | 4 kg | IB-02UK6-14 | £863.00 |
| A | Electric 240 VAC 50 Hz | 180 LPM | 7.5 m | 800 cp | SS | 0.7 m | 41/43 mm | 316 SS, ETFE | 4.6 kg | IB-02UK6-20 | £762.00 |
| | | | | | | 1.0 m | | | 5.3 kg | IB-02UK6-22 | £774.00 |
| | | | | | | 1.2 m | | | 5.7 kg | IB-02UK6-24 | £834.00 |
| B | Electric 240 VAC 50 Hz (ATEX Zone 2 - Eex de IIC T6) | 220 LPM | 12 m | 900 cp | SS | 0.7 m | 41/43 mm | 316 SS, ETFE | 7.3 kg | IB-02UK6-50 | £1,082.00 |
| | | | | | | 1.0 m | | | 8 kg | IB-02UK6-52 | £1,094.00 |
| | | | | | | 1.2 m | | | 8.4 kg | IB-02UK6-54 | £1,154.00 |
| C | Air (ATEX Zone 2 - Eex cp IIC T6) | 240 LPM | 13 m | 1,200 cp | SS | 0.7 m | 41/43 mm | 316 SS, ETFE | 3.1 kg | IB-02UK6-60 | £835.00 |
| | | | | | | 1.0 m | | | 3.8 kg | IB-02UK6-62 | £847.00 |
| | | | | | | 1.2 m | | | 4.2 kg | IB-02UK6-64 | £907.00 |

Specifications

Outlet: 1 1/4" BSPP(M)

Duty Cycle: Continuous

Max Temperature: 45°C

Accessories

IB-02UK6-90 Air Filter-Regulator for use with 02UK6-6X includes water separator, pressure gauge and lubricator, ports 1/4" BSPP(F)£136.98

IB-02UK6-91 Earthing Wire for 02UK6-6X, 2m long with crocodile clip£13.55

Choose from these convenient kits to complete your pumping system. All kits include a dispensing tap with all the relevant hose and connectors to fit to the pumps listed above.

IB-02UK6-92 Accessory kit for acid and alkalis, use with pumps 02UK6-00, -02, -04

Suitable for transferring acids and alkalis like chromic acid, fruit acid, hydrochloric acid, hydrofluoric acid, phosphoric acid and sulphuric acid (up to 80%), potassic alkali, soda alkali, liquid fertilizers, etc.

Kit includes 19mm hose connection, 2 m long PVC hose (19mm ID), 2 hose clips, quick action tap PP/FPM (ID 19mm) and PP compression gland.£95.75

IB-02UK6-93 Accessory kit for concentrated acid and alkalis, use with pumps 02UK6-10, -12, -14

Suitable for transferring concentrated acids and alkalis like chloric acid, chromic acid, hydrobromic acid, hydrofluoric acid, nitric acid, sulphuric acid and sodium hypochlorite.

Kit includes 19mm hose connection, 2 m long chemical hose (19mm ID), 2 hose clips, quick action tap PVDF/FPM (ID 19mm) and PP compression gland.£257.00

IB-02UK6-94 Accessory kit for concentrated highly flammable liquids, use with pumps 02UK6-50, -52, -54, -60, -62, -64

Suitable for transferring high flammability liquids like acetone, butyl alcohol, ethyl alcohol, methyl alcohol, petrol, toluene, xylene, etc.

Kit includes Earth ground wire, 2 m long electrically conductive chemical hose (19mm ID) with swaged hose fittings in brass, quick action tap MS/PTFE (brass, nickel-plated) and PP compression gland.£338.00

IB-02UK6-95 Accessory kit for universal applications, use with pumps 02UK6-50, -52, -54, -60, -62, -64

Suitable transferring different liquids in the following industries: food, cosmetics, pharmaceutical, paint and varnishes.

Kit includes Earth ground wire, 2m long electrically conductive chemical hose (19mm ID) complete with swaged hose fittings in stainless steel, quick action tap S/PTFE/FEP (stainless steel) and PP compression gland.....£548.00

Replacement Motors

| Cat. No. | Power | Protection Rating | Approval Rating | Shpg Wt | Price |
|-------------|---------------------------------------|-------------------|------------------------|---------|---------|
| IB-02UK6-01 | Electric 240 VAC 50 Hz | IP 24 | - | 2.4 kg | £295.00 |
| IB-02UK6-51 | Electric 240 VAC 50 Hz | IP 55 | Zone 2 (Eex de IIC T6) | 5.1 kg | £615.00 |
| IB-02UK6-61 | Air (air consumption 840 LPM @ 6 bar) | - | Zone 2 (Eex cp IIC T6) | 0.9 kg | £368.00 |

Replacement Tube Sets

| Cat. No. | Tube Length | Tube Material | Approval Rating | Shpg Wt | Price |
|-------------|-------------|---------------|-----------------|---------|---------|
| IB-02UK6-06 | 0.7 m | PP | - | 0.9 kg | £253.00 |
| IB-02UK6-07 | 1.0 m | PP | - | 1.3 kg | £263.00 |
| IB-02UK6-08 | 1.2 m | PP | - | 1.6 kg | £274.00 |
| IB-02UK6-16 | 0.7 m | PVDF | - | 1.1 kg | £455.00 |
| IB-02UK6-17 | 1.0 m | PVDF | - | 1.4 kg | £516.00 |
| IB-02UK6-18 | 1.2 m | PVDF | - | 1.6 kg | £568.00 |
| IB-02UK6-26 | 0.7 m | 316 SS | Zone 0 T4 | 2.2 kg | £467.00 |
| IB-02UK6-27 | 1.0 m | 316 SS | Zone 0 T4 | 2.9 kg | £479.00 |
| IB-02UK6-28 | 1.2 m | 316 SS | Zone 0 T4 | 3.3 kg | £539.00 |

More info

Dispensing Kits

Choose from these convenient kits to complete your drum pumping system. All kits include a dispensing tap with all the relevant hose and connectors to fit to the pumps listed above.

IB-02UK6-92 Accessory kit for acid and alkalis

IB-02UK6-93 Accessory kit for concentrated acid and alkalis

IB-02UK6-94 Accessory kit for concentrated highly flammable liquids

IB-02UK6-95 Accessory kit for universal applications

New

Air Cadet® Vacuum/Pressure Pumps

- ▶ TCompact size makes pumps ideal for portable applications
- ▶ TUnique cavity configuration minimizes dead space and air entrapment

Single-head pumps are economically priced and can handle many tough vacuum/pressure applications. Choose from two models to accommodate your electrical requirements. Single-head pumps include thread tape made of Teflon® PTFE resin, two polyethylene 3/8" NPT(M) x 3/8" hose barb adapters, and a 6-ft power cord with UK plug. Pump with DC motor includes 12" leads with no ground.

Note: Do not use metal fittings with any air cadet pump.



07530-50

| Cat. No. | Free Air Capacity | Max Vacuum | Max Pressure | Power | Noise Rating | Dimensions (L x W x H) mm | Shpg Wt | Price |
|-------------|-------------------|------------|--------------|----------------------|--------------|---------------------------|---------|---------|
| IB-07530-50 | 14.1 LPM | 336 mbar | 1.24 bar | 230 VAC 50 Hz, 0.8 A | 72 dB(A) | 185 x 101 x 140 | 3.2 kg | £140.00 |
| IB-07530-25 | 22.6 LPM | 403 mbar | 1.03 bar | 12 VDC, 4 A | 72 dB(A) | 185 x 101 x 140 | 2.3 kg | £170.00 |

Specifications

Wetted Parts: Noryl(r) pump head, nitrile diaphragm , PTFE and polyethylene adapters

Port size: 3/8" hose barb

Duty Cycle: 07530-50 max 6 hour cycle 07530-25 Continuous

Max Operating Temperature: 35°C

Accessories

- IB-06413-30 Tygon® Vacuum Tubing, 3/8" ID x 1/8" OD 10' (3 m)£59.00/pk
- IB-07530-06 Replacement Pumphead for 07530-25, -50£21.22

Noryl® - Reg TM General Electric Co. Teflon® - Reg TM E.I. DuPont de Nemours & Co Tygon® - Reg TM Saint-Gobain

Self-Cleaning Dry Vacuum System™

- ▶ Self cleaning purge activates on shut-down - this cleans the pump heads and greatly increases reliability
- ▶ 2 mbar version for DMF and other high boilers
- ▶ Integral vacuum gauge
- ▶ Gas ballast to prevent bumping and foaming
- ▶ System includes an inlet separator to trap liquids and an exhaust separator to collect ejected condensed vapours
- ▶ Ideal for stripping volatile solvents

These two-stage all PTFE vacuum pumps are ideal for continuous duty cycles for use with gel dryers, concentrators or rotary evaporators for stripping solvents including DMF, DMSO, pentane, and alcohol and methylene chloride. The Self-Cleaning feature automatically runs room air through the pump for two minutes at shutdown to rid the pump of residue - ensuring quicker pump-down to ultimate vacuum and longer membrane service life.

The gas pathway is designed to quickly purge out liquids or particulates from entering the pump via a glass inlet separator. The gas ballast (vent switch) can then be opened to leak air in to the second stage of the pump to minimise condensation when heavy vapours are being pumped. The exhaust separator collects any liquid droplets or particulates from the pumps purge cycle.

Chose required model based on required ultimate vacuum required. Both analogue and digital display models allow regulation of the vacuum level, which helps minimise potential foaming or bumping within the evaporator flask.

Specifications

- Power:** 240VAC 50Hz 5A
- Duty Cycle:** Continuous
- Purge Cycle Duration:** 3 min
- Max Operating Temperature:** 40°C
- Noise Level:** 50 dB(A) or less
- Shpg Wt:** 13.6 kg



026UK-00



026UK-01

| Catalogue Number | IB-026UK-00 | IB-026UK-01 |
|----------------------------------|-----------------------------|-------------------|
| Dial Gauge Type | Analogue | Digital |
| Free Air Capacity | 1.7 m³/h (28 LPM) | 1.6 m³/h (27 LPM) |
| Max Vacuum (without gas ballast) | 12 mbar | 2.7 mbar |
| Max Vacuum (with gas ballast) | 14 mbar | 4.7 mbar |
| Ports (Inlet/Outlet) | 7 mm Hose Barb | |
| Dimensions | 422 mmL x 305 mmW x 287 mmH | |
| Wetted Parts | PTFE, glass, Kalrez® | |
| Price | £1,373.63 | £2,136.75 |

Vacuubrand® Diaphragm Vacuum Pumps

- ▶ Continuous oil free pumping
- ▶ Long lifetime, easy to change diaphragms and valves
- ▶ Ideal for use in process plants and laboratories - including vacuum filtration, vacuum degassing, vacuum impregnation distillation and gel dryers
- ▶ Quiet operation - all models are rated at or under 45 dB(A)
- ▶ Optional gas ballast valve for working with condensables
- ▶ Select either the 79103-series pump for general purpose applications
79104-series pump with chemical resistant wetted parts for highly corrosive applications
- ▶ 79103-series is supplied with a silencer on the outlet



General-purpose diaphragm pump 79103-30

Specifications & Ordering Information

Wetted Parts: 79103-series: Viton®, Aluminium, polyamide and PVC; 79104-series: PTFE, Kalrez® and ETFE resins

Port Size: 79103-series: Inlet 10mm Hose Barb Outlet: 1/4" BSPT(F); 79104-series: Inlet/Outlet 10mm Hose Barb

Power: 230VAC 50/60Hz

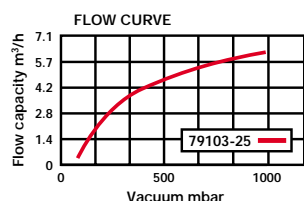
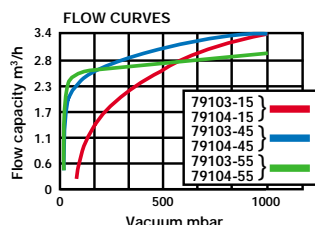
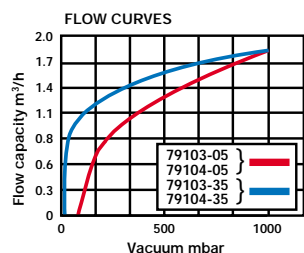
Duty Cycle: Continuous

Noise Level: 45dB(A) or less

Max Temperature: 80°C

| Cat. No. | No. of stages | Gas ballast | Volume Flow rate | Max Vacuum | Motor Power | Dimensions (L x W x H) | Shpg Weight | Price Each |
|---|---------------|-------------|---------------------------|------------|-------------|------------------------|-------------|------------|
| General-Purpose diaphragm pumps | | | | | | | | |
| IB-79103-05 | 1 | No | 1.9 m ³ /h | 80 mbar | 0.12 kW | 275 x 173 x 175mm | 8.2 Kg | £499.00 |
| IB-79103-15 | 1 | No | 3.7 m ³ /h | 80 mbar | 0.18 kW | 266 x 235 x 175mm | 11.8 Kg | £703.00 |
| IB-79103-25 | 1 | No | 6.5 m ³ /h | 80 mbar | 0.20 kW | 315 x 235 x 200mm | 18.2 Kg | £1284.00 |
| IB-79103-35 | 2 | Yes | 1.9 m ³ /h | 9 mbar | 0.18 kW | 266 x 235 x 164mm | 11.8 Kg | £703.00 |
| IB-79103-45 | 2 | Yes | 3.7 m ³ /h | 9 mbar | 0.20 kW | 315 x 235 x 200mm | 18.2 Kg | £1212.00 |
| IB-79103-55 | 3 | Yes | 3.3 m ³ /h | 2 mbar | 0.20 kW | 315 x 235 x 176mm | 16.8 Kg | £1352.00 |
| Chemical-resistant diaphragm pumps | | | | | | | | |
| IB-79104-05 | 1 | No | 1.7 m ³ /h | 80 mbar | 0.12 kW | 258 x 173 x 178mm | 6.6 Kg | £752.00 |
| IB-79104-15 | 1 | No | 3.4 m ³ /h | 80 mbar | 0.18 kW | 266 x 241 x 160mm | 10.5 Kg | £997.00 |
| IB-79104-35 | 2 | Yes | 1.7 m ³ /h | 9 mbar | 0.18 kW | 266 x 241 x 170mm | 10.5 Kg | £997.00 |
| IB-79104-45 | 2 | Yes | 2 x 1.7 m ³ /h | 9 mbar | 0.20 kW | 315 x 241 x 170mm | 16.3 Kg | £1930.00 |
| IB-79104-55 | 3 | Yes | 3.0 m ³ /h | 2 mbar | 0.20 kW | 315 x 241 x 176mm | 16.2 Kg | £2100.00 |

Kalrez, Viton—Reg TM DuPont Dow Elastomers L.L.C.



79104-45

More info

For a range of ATEX approved vacuum pumps please contact our sales consultants on 0500 345 300.

Tubing Selection Guide

| Formulation | Operating temperature | Resin certification(s) | Duro-meter | Chemical resistance summary | | | | | | | Permeability (approx) ¹ | | | | Main page |
|-----------------------------------|-----------------------|------------------------|------------|-----------------------------|---------------|-------------|---------------|-------|----------|---|------------------------------------|----------------|----------------|----|-----------|
| | | | | Acids, weak | Acids, strong | Bases, weak | Bases, strong | Ozone | UV light | Units: $\left\{ \frac{\text{cc-mm}}{\text{sec-cm}^2\text{-cm Hg}} \right\} \times 10^{-10}$ | | | | | |
| | | | | | | | | | | CO ₂ | H ₂ | O ₂ | N ₂ | | |
| C-FLEX [®] | -73 to 135°C | FDA, USP, USDA, GMP | 50 (A) | A | A | A | A | — | B | — | — | 150 | — | 56 | |
| Kynar [®] | -40 to 127°C | FDA, USP, USDA | 80 (D) | A | A | A | A | A | A | — | — | — | — | 58 | |
| Norprene [®] | -60 to 135°C | GMP | 61 (A) | A | B | A | C | A | B | 1200 | — | 80 | 200 | 56 | |
| Nylon | -51 to 93°C | None | — | A | D | A | C | C | D | 20 | 19 | 5.4 | 1.1 | 57 | |
| Polypropylene | 0 to 121°C | FDA, USDA | 75 (D) | A | D | B | B | C | D | 90 | — | 25 | 4 | 58 | |
| PTFE | -240 to 260°C | FDA, USP, GMP | 50 (D) | A | A | A | A | A | A | 6.8 | — | — | 1.0 | 58 | |
| Silicone, peroxide-cured | -51 to 238°C | FDA, USP, GMP | 50 (A) | B | D | A | A | A | — | 20,132 | 6579 | 7961 | 2763 | 57 | |
| Tygon [®] fuel/lubricant | -37 to 74°C | GMP | 57 (A) | B | C | C | D | A | A | 100 | — | 12 | 22 | 56 | |
| Tygon [®] lab; vacuum | -50 to 74°C | FDA, GMP | 55 (A) | A | D | A | D | B | D | 360 | — | 40 | 80 | 57 | |

Chemical Resistance Classifications

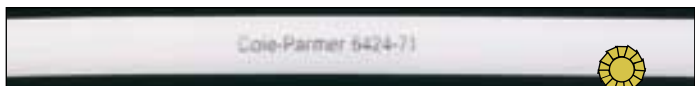
- A**—No damage after 30 days of constant exposure.
- B**—Little or no damage after 30 days of constant exposure.
- C**—Some effect after 7 days of constant exposure. Effects may include: cracking, crazing, loss of strength, discoloration, softening, or swelling. Softening and swelling are reversible in some cases.
- D**—Not recommended for continuous use. Immediate damage may occur.
- Test data unavailable or not applicable.

Selection Guide

Use the "Tubing Selection Guide" above to help you select the appropriate tubing for your application.

Chemical resistance and tubing wear may vary according to use—always test the tubing you select under the actual conditions.

C-FLEX[®] Tubing



Applications: General-purpose lab uses requiring high performance and long life.

Characteristics: Exceptional tensile and tear strength, good biocompatibility, excellent chemical resistance, low gas permeability, and a smooth surface. Opaque white.

Resin certification: Resin is FDA-compliant (21 CFR 177.2600); meets USP 23 Class VI and USDA requirements. Tubing is manufactured according to GMP.

Temperature range: -73 to 135°C

Sterilize: With autoclave, ethylene oxide, or gamma irradiation.

| Catalogue number | Dimensions: in. (mm) | | | Max bar at 21°C | Price/25-ft pk |
|------------------|----------------------|---------------|------------|-----------------|----------------|
| | ID | OD | Wall | | |
| IB-06424-59 | 1/50 (0.5) | 1/2 (2.1) | 1/32 (0.8) | 2.07 | £14.02 |
| IB-06424-60 | 1/32 (0.8) | 3/32 (2.4) | 1/32 (0.8) | 2.14 | £11.51 |
| IB-06424-62 | 1/16 (1.6) | 1/8 (3.2) | 1/32 (0.8) | 1.03 | £13.12 |
| IB-06424-63 | 3/32 (2.4) | 5/32 (4.0) | 1/32 (0.8) | 0.97 | £15.28 |
| IB-06424-64 | 1/8 (3.2) | 3/16 (4.8) | 1/32 (0.8) | 0.69 | £15.64 |
| IB-06424-67 | 1/8 (3.2) | 1/4 (6.4) | 1/16 (1.6) | 1.45 | £17.80 |
| IB-06424-65 | 5/32 (4.0) | 7/32 (5.6) | 1/32 (0.8) | 0.69 | £16.00 |
| IB-06424-66 | 3/16 (4.8) | 1/4 (6.4) | 1/32 (0.8) | 0.62 | £16.36 |
| IB-06424-03 | 3/16 (4.8) | 5/16 (8.0) | 1/16 (1.6) | 0.90 | £22.03 |
| IB-06424-69 | 3/16 (4.8) | 7/16 (11.2) | 1/8 (3.2) | 1.52 | £51.00 |
| IB-06424-71 | 1/4 (6.4) | 3/8 (9.6) | 1/16 (1.6) | 0.83 | £27.33 |
| IB-06424-72 | 1/4 (6.4) | 7/16 (11.2) | 3/32 (2.4) | 1.17 | £35.61 |
| IB-06424-74 | 1/4 (6.4) | 1/2 (12.8) | 1/8 (3.2) | 1.17 | £46.76 |
| IB-06424-75 | 5/16 (8.0) | 7/16 (11.2) | 1/16 (1.6) | 0.69 | £28.77 |
| IB-06424-76 | 5/16 (8.0) | 1/2 (12.8) | 3/32 (2.4) | 1.10 | £39.56 |
| IB-06424-12 | 3/8 (9.6) | 1/2 (12.8) | 1/16 (1.6) | 0.69 | £31.29 |
| IB-06424-79 | 3/8 (9.6) | 5/8 (16.0) | 1/8 (3.2) | 0.97 | £53.00 |
| IB-06424-19 | 1/2 (12.8) | 1 1/16 (17.6) | 3/32 (2.4) | 0.69 | £61.00 |
| IB-06424-81 | 1/2 (12.8) | 3/4 (19.1) | 1/8 (3.2) | 0.69 | £75.00 |

C-Flex - Reg TM Consolidated Polymer Technologies, Inc.

Tygon[®] Fuel and Lubricant Tubing



Formulation: Tygon[®] F-4040-A

Applications: Fuels and industrial lubricants—gasoline, kerosene, heating oils, cutting compounds, and glycol-based coolants. Resists most hydrocarbons.

Characteristics: Resists embrittlement and swelling, ozone- and UV-resistant, with low-extractability. Translucent yellow.

Resin certification: Tubing is manufactured according to GMP.

Temperature range: -37 to 74°C

Sterilization: Not recommended.

| Catalogue number | Dimensions: in. (mm) | | | Max bar at 21°C | Price/50-ft pk |
|------------------|----------------------|-------------|------------|-----------------|----------------|
| | ID | OD | Wall | | |
| IB-95633-00 | 3/32 (2.4) | 3/16 (4.8) | 3/64 (1.2) | 3.59 | £22.66 |
| IB-95633-01 | 1/8 (3.2) | 1/4 (6.4) | 1/16 (1.6) | 3.59 | £28.05 |
| IB-95633-02 | 3/16 (4.8) | 5/16 (8.0) | 1/16 (1.6) | 2.55 | £39.92 |
| IB-95633-03 | 1/4 (6.4) | 3/8 (9.6) | 1/16 (1.6) | 2.07 | £48.20 |
| IB-95633-04 | 5/16 (8.0) | 7/16 (11.2) | 1/16 (1.6) | 1.72 | £58.00 |
| IB-95633-05 | 3/8 (9.6) | 1/2 (12.8) | 1/16 (1.6) | 1.45 | £68.00 |
| IB-95633-06 | 7/16 (11.2) | 7/8 (14.4) | 1/16 (1.6) | 1.31 | £80.00 |
| IB-95633-08 | 1/2 (12.8) | 3/4 (19.2) | 1/8 (3.2) | 2.07 | £153.00 |
| IB-95633-09 | 5/8 (16.0) | 7/8 (22.4) | 1/8 (3.2) | 1.72 | £178.00 |
| IB-95633-10 | 3/4 (19.2) | 1 (25.4) | 1/8 (3.2) | 1.45 | £195.00 |

Tygon - Reg TM Norton Co.

Norprene[®] Tubing



Applications: For applications requiring excellent chemical, heat, ozone, and ultraviolet (UV) light resistance.

Characteristics: Nonconductive, heat-sealable, non-aging, nonoxidizing, with superior acid and alkali resistance. Opaque black.

Resin certification: Tubing is manufactured according to GMP.

Temperature range: -60 to 135°C

Sterilize: With autoclave.

| Catalogue number | Dimensions: in. (mm) | | | Max bar at 21°C | Price/50-ft pk |
|------------------|----------------------|---------------|------------|-----------------|----------------|
| | ID | OD | Wall | | |
| IB-06410-01 | 1/16 (1.6) | 3/16 (4.8) | 1/16 (1.6) | 2.34 | £21.58 |
| IB-06410-02 | 1/8 (3.2) | 1/4 (6.4) | 1/16 (1.6) | 1.31 | £23.02 |
| IB-06410-03 | 1/8 (3.2) | 3/8 (9.6) | 1/8 (3.2) | 2.34 | £41.00 |
| IB-06410-04 | 3/16 (4.8) | 5/16 (8.0) | 1/16 (1.6) | 0.90 | £23.74 |
| IB-06410-05 | 1/4 (6.4) | 3/8 (9.6) | 1/16 (1.6) | 0.69 | £27.33 |
| IB-06410-06 | 1/4 (6.4) | 7/16 (11.2) | 3/32 (2.4) | 1.03 | £43.16 |
| IB-06410-07 | 1/4 (6.4) | 1/2 (12.8) | 1/8 (3.2) | 1.31 | £64.00 |
| IB-06410-08 | 5/16 (8.0) | 7/16 (11.2) | 1/16 (1.6) | 0.55 | £33.81 |
| IB-06410-09 | 5/16 (8.0) | 1/2 (12.8) | 3/32 (2.4) | 0.83 | £52.00 |
| IB-06410-10 | 3/8 (9.6) | 1/2 (12.8) | 1/16 (1.6) | 0.48 | £37.76 |
| IB-06410-11 | 3/8 (9.6) | 7/16 (11.2) | 3/32 (2.4) | 0.69 | £62.00 |
| IB-06410-12 | 3/8 (9.6) | 1/2 (12.8) | 1/8 (3.2) | 0.90 | £85.00 |
| IB-06410-13 | 7/16 (11.2) | 7/16 (11.2) | 1/16 (1.6) | 0.41 | £69.00 |
| IB-06410-14 | 1/2 (12.8) | 5/8 (16.0) | 1/16 (1.6) | 0.41 | £56.00 |
| IB-06410-15 | 1/2 (12.8) | 1 1/16 (17.6) | 3/32 (2.4) | 0.55 | £82.00 |
| IB-06410-16 | 5/8 (16.0) | 1 3/16 (20.8) | 3/32 (2.4) | 0.48 | £110.00 |
| IB-06410-17 | 3/8 (9.6) | 7/8 (22.4) | 1/8 (3.2) | 0.55 | £124.00 |
| IB-06410-18 | 3/4 (19.1) | 1 (25.4) | 1/8 (3.2) | 0.48 | £149.00 |
| IB-06410-19 | 1 (25.4) | 1 1/4 (31.8) | 1/8 (3.2) | 0.41 | £187.00 |

Norprene - Reg TM Norton Co.

Tubing

Tygon® Lab Tubing



Formulation: Tygon® R-3603

Applications: General laboratory use.

Characteristics: Long life, won't age or oxidize, fits tightly to glass and metal, bends to small radius curves, nontoxic, and transparent.

Resin certification: Resin is FDA-compliant (21 CFR 175.300). Tubing is manufactured according to GMP.

Temperature range: -50 to 74°C

Sterilize: With ethylene oxide or autoclave for 30 min at 121°C, 1 bar. After autoclaving, dry at no more than 66°C for 2 to 2 1/2 hour.

| Catalogue number | Dimensions: in. (mm) | | | Max bar at 21°C | Price/50-ft pk |
|------------------|----------------------|---------------|------------|-----------------|----------------|
| | ID | OD | Wall | | |
| IB-06408-62 | 1/16 (1.6) | 1/8 (3.2) | 1/32 (0.8) | 3.38 | £8.09 |
| IB-06408-63 | 3/32 (2.4) | 5/32 (4.0) | 1/32 (0.8) | 2.76 | £10.61 |
| IB-06408-47 | 1/4 (6.4) | 1/4 (6.4) | 1/16 (1.6) | 2.97 | £29.49 |
| IB-06408-71 | 1/8 (3.2) | 3/8 (9.6) | 1/8 (3.2) | 5.66 | £63.00 |
| IB-06408-65 | 5/32 (4.0) | 7/32 (5.6) | 1/32 (0.8) | 1.72 | £14.38 |
| IB-06408-66 | 3/16 (4.8) | 1/4 (6.4) | 1/32 (0.8) | 1.66 | £17.44 |
| IB-06408-03 | 3/16 (4.8) | 5/16 (8.0) | 1/16 (1.6) | 2.21 | £48.00 |
| IB-06408-48 | 3/16 (4.8) | 7/16 (11.2) | 1/8 (3.2) | 4.00 | £90.00 |
| IB-06408-49 | 1/4 (6.4) | 5/16 (8.0) | 1/32 (0.8) | 1.31 | £23.02 |
| IB-06408-50 | 1/4 (6.4) | 3/8 (9.6) | 1/16 (1.6) | 1.72 | £46.76 |
| IB-06408-72 | 1/4 (6.4) | 7/16 (11.2) | 3/32 (2.4) | 2.34 | £77.00 |
| IB-06408-51 | 1/4 (6.4) | 1/2 (12.8) | 1/8 (3.2) | 2.97 | £94.00 |
| IB-06408-52 | 5/16 (8.0) | 7/16 (11.2) | 1/16 (1.6) | 1.45 | £57.00 |
| IB-06408-53 | 5/16 (8.0) | 1/2 (12.8) | 3/32 (2.4) | 2.00 | £83.00 |
| IB-06408-54 | 5/16 (8.0) | 9/16 (14.4) | 1/8 (3.2) | 2.48 | £106.00 |
| IB-06408-12 | 3/8 (9.6) | 1/2 (12.8) | 1/16 (1.6) | 1.24 | £67.00 |
| IB-06408-55 | 3/8 (9.6) | 9/16 (14.4) | 3/32 (2.4) | 1.72 | £85.00 |
| IB-06408-56 | 3/8 (9.6) | 5/8 (16.0) | 1/8 (3.2) | 2.21 | £119.00 |
| IB-06408-15 | 7/16 (11.2) | 9/16 (14.4) | 1/16 (1.6) | 1.10 | £77.00 |
| IB-06408-18 | 1/2 (12.8) | 5/8 (16.0) | 1/16 (1.6) | 0.97 | £80.00 |
| IB-06408-57 | 1/2 (12.8) | 1 1/16 (17.6) | 3/32 (2.4) | 1.38 | £106.00 |
| IB-06408-74 | 1/2 (12.8) | 3/4 (19.2) | 1/8 (3.2) | 1.72 | £144.00 |
| IB-06408-25 | 5/8 (16.0) | 1 3/16 (20.8) | 3/32 (2.4) | 1.17 | £132.00 |
| IB-06408-58 | 5/8 (16.0) | 7/8 (22.4) | 1/8 (3.2) | 1.45 | £170.00 |
| IB-06408-31 | 3/4 (19.2) | 1 (25.4) | 1/8 (3.2) | 1.24 | £187.00 |
| IB-06408-36 | 1 (25.4) | 1 1/4 (31.8) | 1/8 (3.2) | 0.97 | £237.00 |
| IB-06408-59 | 1 (25.4) | 1 3/8 (35.0) | 3/16 (4.8) | 1.31 | £372.00 |
| IB-06408-75 | 1 1/4 (31.7) | 1 1/2 (38.1) | 1/8 (3.1) | 1.17 | £288.00 |
| IB-06408-76 | 1 1/4 (31.7) | 1 3/4 (44.4) | 1/4 (6.3) | 2.07 | £635.00 |
| IB-06408-77 | 1 1/2 (38.1) | 2 (50.8) | 1/8 (3.1) | 1.79 | £749.00 |

Tygon - Reg TM Norton Co.

Tygon® Food and Beverage Tubing



Formulation: Tygon® B-44-3

Applications: Food and beverage processing and dispensing.

Characteristics: Nonwetting, odorless, tasteless, and nontoxic. Transparent.

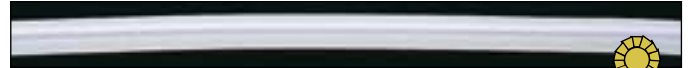
Resin certification: Resin is FDA-compliant (21 CFR 177.1520), NSF-listed (Standard 51), and meets 3A standards for food and beverage handling.

Temperature range: -45 to 74°C

Sterilize: With ethylene oxide or autoclave for 30 min at 121°C, 1 bar.

| Catalogue number | Dimensions: in. (mm) | | | Max bar at 21°C | Price/50-ft pk |
|------------------|----------------------|--------------|------------|-----------------|----------------|
| | ID | OD | Wall | | |
| IB-95631-01 | 1/16 (1.6) | 3/16 (4.8) | 1/16 (1.6) | 7.45 | £18.34 |
| IB-95631-05 | 1/8 (3.2) | 1/4 (6.4) | 1/16 (1.6) | 4.28 | £27.33 |
| IB-95631-09 | 3/16 (4.8) | 5/16 (8.0) | 1/16 (1.6) | 3.10 | £37.76 |
| IB-95631-13 | 1/4 (6.4) | 3/8 (9.6) | 1/16 (1.6) | 2.48 | £44.96 |
| IB-95631-16 | 5/16 (8.0) | 7/16 (11.2) | 1/16 (1.6) | 2.07 | £52.00 |
| IB-95631-19 | 3/8 (9.6) | 1/2 (12.8) | 1/16 (1.6) | 1.79 | £62.00 |
| IB-95631-25 | 1/2 (12.8) | 3/4 (19.2) | 1/8 (3.2) | 2.48 | £136.00 |
| IB-95631-26 | 5/8 (16.0) | 7/8 (22.4) | 1/8 (3.2) | 2.07 | £157.00 |
| IB-95631-28 | 3/4 (19.2) | 1 (25.4) | 1/8 (3.2) | 1.79 | £174.00 |
| IB-95631-30 | 1 (25.4) | 1 1/4 (31.8) | 1/8 (3.2) | 1.38 | £225.00 |

Peroxide-Cured Silicone Tubing



Applications: Pharmaceutical, biotechnology, and aerospace applications.

Characteristics: Excellent heat resistance, low compression set, odorless, nontoxic. Translucent.

Resin certification: Resin is FDA-compliant (21 CFR 177.2600) and meets USP 23 Class VI requirements. Tubing is manufactured according to GMP.

Temperature range: -51 to 238°C

Sterilize: With autoclave or gamma irradiation.

| Catalogue number | Dimensions: in. (mm) | | | Max bar at 21°C | Price/25-ft pk |
|------------------|----------------------|---------------|------------|-----------------|----------------|
| | ID | OD | Wall | | |
| IB-06411-59 | 1/50 (0.5) | 1/12 (2.1) | 1/32 (0.8) | 2.07 | £19.78 |
| IB-06411-60 | 1/32 (0.8) | 3/32 (2.4) | 1/32 (0.8) | 2.14 | £19.78 |
| IB-06411-62 | 1/16 (1.6) | 1/8 (3.2) | 1/32 (0.8) | 1.03 | £14.02 |
| IB-06411-63 | 3/32 (2.4) | 5/32 (4.0) | 1/32 (0.8) | 0.97 | £17.80 |
| IB-06411-64 | 1/8 (3.2) | 3/16 (4.8) | 1/32 (0.8) | 0.69 | £23.02 |
| IB-06411-67 | 1/8 (3.2) | 1/4 (6.4) | 1/16 (1.6) | 1.45 | £32.37 |
| IB-06411-68 | 1/8 (3.2) | 3/8 (9.6) | 1/8 (3.2) | 1.72 | £46.76 |
| IB-06411-65 | 5/32 (4.0) | 7/32 (4.0) | 1/32 (0.8) | 0.69 | £24.82 |
| IB-06411-66 | 3/16 (4.8) | 1/4 (6.4) | 1/32 (0.8) | 0.62 | £24.82 |
| IB-06411-03 | 3/16 (4.8) | 5/16 (8.0) | 1/16 (1.6) | 0.90 | £30.57 |
| IB-06411-69 | 3/16 (4.8) | 7/16 (11.2) | 1/8 (3.2) | 1.52 | £65.00 |
| IB-06411-70 | 1/4 (6.4) | 5/16 (8.0) | 1/32 (0.8) | 0.55 | £31.29 |
| IB-06411-71 | 1/4 (6.4) | 3/8 (9.6) | 1/16 (1.6) | 0.83 | £32.73 |
| IB-06411-72 | 1/4 (6.4) | 7/16 (11.2) | 3/32 (2.4) | 1.17 | £44.96 |
| IB-06411-74 | 1/4 (6.4) | 1/2 (12.8) | 1/8 (3.2) | 1.17 | £64.00 |
| IB-06411-75 | 5/16 (8.0) | 7/16 (11.2) | 1/16 (1.6) | 0.69 | £36.69 |
| IB-06411-76 | 5/16 (8.0) | 1/2 (12.8) | 3/32 (2.4) | 1.10 | £56.00 |
| IB-06411-77 | 5/16 (8.0) | 9/16 (14.4) | 1/8 (3.2) | 1.38 | £77.00 |
| IB-06411-12 | 3/8 (9.6) | 1/2 (12.8) | 1/16 (1.6) | 0.69 | £39.20 |
| IB-06411-78 | 3/8 (9.6) | 9/16 (14.4) | 3/32 (2.4) | 0.83 | £62.00 |
| IB-06411-79 | 3/8 (9.6) | 5/8 (16.0) | 1/8 (3.2) | 0.97 | £79.00 |
| IB-06411-80 | 1/2 (12.8) | 5/8 (16.0) | 1/16 (1.6) | 0.55 | £62.00 |
| IB-06411-19 | 1/2 (12.8) | 1 1/16 (17.6) | 3/32 (2.4) | 0.69 | £70.00 |
| IB-06411-55 | 1/2 (12.8) | 3/4 (19.2) | 1/8 (3.2) | 0.83 | £90.00 |
| IB-06411-82 | 5/8 (16.0) | 1 3/16 (20.8) | 3/32 (2.4) | 0.69 | £96.00 |
| IB-06411-58 | 5/8 (16.0) | 7/8 (22.4) | 1/8 (3.2) | 0.83 | £101.00 |
| IB-06411-83 | 3/4 (19.2) | 1 (25.4) | 1/8 (3.2) | 0.62 | £134.00 |

buy more,
save more

TUBING

4-9 packs **save 10%** 10-19 packs **save 15%** 20-99 packs **save 20%**
Mix and match packs of any items from the "green" tables to save!

Nylon Tubing



Applications: General-purpose lab use.

Characteristics: Abrasion-resistant, heat- and light-stabilized. Resists cracking and kinking. Extremely low-level water absorption. Translucent.

Resin certification: None.

Temperature range: -51 to 93°C

Sterilize: With ethylene oxide or gamma irradiation.

| Catalogue number | Dimensions: in. (mm) | | | Max bar at 21°C | Price/pk |
|------------------|----------------------|------------|-------------|-----------------|----------------|
| | ID | OD | Wall | | |
| IB-06489-04 | 0.080 (2.0) | 1/8 (3.2) | 0.023 (0.6) | 68.97 | £8.99/50-ft |
| IB-06489-06 | 3/16 (4.8) | 1/4 (6.4) | 1/32 (0.8) | 17.24 | £26.25/50-ft |
| IB-06489-10 | 9/32 (7.1) | 3/8 (9.6) | 3/64 (1.2) | 21.38 | £40.28/50-ft |
| IB-06489-12 | 3/8 (9.6) | 1/2 (12.8) | 1/16 (1.6) | 17.24 | £59.00/50-ft |
| IB-06489-18 | 1/2 (12.8) | 5/8 (16.0) | 1/16 (1.6) | 41.38 | £144.00/100-ft |
| IB-06489-20 | 9/16 (14.4) | 3/4 (19.2) | 3/32 (2.4) | 54.38 | £234.00/100-ft |

Tubing

buy more,
save more

TUBING

4-9 packs save 10% 10-19 packs save 15% 20-99 packs save 20%
Mix and match packs of any items from the "green" tables to save!

PTFE Tubing



Applications: Demanding lab, chemical, electrical, mechanical, pharmaceutical, and automotive applications. Good for high-purity work. PTFE tubing withstands extreme temperatures.

Characteristics: Chemically inert, nontoxic, and virtually nonporous. Excellent crack- and stress-resistance. Low coefficient of friction. Translucent.

Resin certification: Resin is FDA-compliant (21 CFR 177.1550); meets USP 23 Class VI requirements. Tubing is manufactured according to GMP.

Temperature range: -240 to 260°C

Sterilize: With autoclave, ethylene oxide, or use dry heat.

| Catalogue number | Dimensions: in. (mm) | | | Max bar at 21°C | Price/pk |
|---------------------------------------|----------------------|--------------|------------|-----------------|---------------|
| | ID | OD | Wall | | |
| Standard (English) PTFE tubing | | | | | |
| IB-06407-41 | 1/32 (0.8) | 1/16 (1.6) | 1/64 (0.4) | 25.52 | £8.99/25-ft |
| IB-06605-00 | 1/32 (0.8) | 1/16 (1.6) | 1/64 (0.4) | 25.86 | £6.00/12-ft |
| IB-06407-42 | 1/16 (1.6) | 1/8 (3.2) | 1/32 (0.8) | 25.52 | £8.09/12-ft |
| IB-06605-11 | 3/32 (2.4) | 5/32 (4.0) | 1/32 (0.8) | 20.28 | £7.58/12-ft |
| IB-06605-02 | 1/8 (3.2) | 3/16 (4.8) | 1/32 (0.8) | 16.55 | £9.19/12-ft |
| IB-06605-13 | 1/8 (3.2) | 1/4 (6.4) | 1/16 (1.6) | 25.86 | £21.29/12-ft |
| IB-06605-11 | 5/32 (4.0) | 1/4 (6.4) | 3/64 (1.2) | 18.90 | £20.32/12-ft |
| IB-06407-44 | 3/16 (4.8) | 1/4 (6.4) | 1/32 (0.8) | 12.07 | £20.00/12-ft |
| IB-06605-14 | 3/16 (4.8) | 5/16 (8.0) | 1/16 (1.6) | 20.28 | £31.29/12-ft |
| IB-06605-03 | 1/4 (6.4) | 5/16 (8.0) | 1/32 (0.8) | 9.45 | £15.16/12-ft |
| IB-06605-15 | 1/4 (6.4) | 3/8 (9.6) | 1/16 (1.6) | 16.55 | £45.48/12-ft |
| IB-06407-46 | 19/64 (7.6) | 3/8 (9.6) | 1/25 (1.0) | 9.86 | £38.48/12-ft |
| IB-06605-04 | 5/16 (8.0) | 3/8 (9.6) | 1/32 (0.8) | 7.79 | £20.97/12-ft |
| IB-06605-16 | 5/16 (8.0) | 7/16 (11.2) | 1/16 (1.6) | 14.00 | £64.00/12-ft |
| IB-06605-05 | 3/8 (9.6) | 7/16 (11.2) | 1/32 (0.8) | 6.62 | £25.48/12-ft |
| IB-06605-17 | 3/8 (9.6) | 1/2 (12.8) | 1/16 (1.6) | 12.07 | £68.00/12-ft |
| IB-06407-48 | 2/5 (10.2) | 1/2 (12.8) | 1/20 (1.4) | 9.45 | £47.48/12-ft |
| IB-06605-06 | 7/16 (11.2) | 1/2 (12.8) | 1/32 (0.8) | 5.72 | £27.74/12-ft |
| IB-06605-19 | 7/16 (11.2) | 9/16 (14.3) | 1/16 (1.6) | 10.62 | £80.00/12-ft |
| IB-06605-07 | 1/2 (12.8) | 9/16 (14.3) | 1/32 (0.8) | 5.03 | £35.16/12-ft |
| IB-06605-20 | 1/2 (12.8) | 5/8 (16.0) | 1/16 (1.6) | 9.45 | £91.00/12-ft |
| IB-06605-08 | 9/16 (14.3) | 5/8 (16.0) | 1/32 (0.8) | 4.55 | £37.42/12-ft |
| IB-06605-21 | 9/16 (14.3) | 11/16 (17.5) | 1/16 (1.6) | 8.55 | £110.00/12-ft |
| IB-06605-09 | 5/8 (16.0) | 11/16 (17.6) | 1/32 (0.8) | 4.07 | £42.90/12-ft |
| IB-06605-22 | 5/8 (16.0) | 3/4 (19.2) | 1/16 (1.6) | 7.79 | £128.00/12-ft |
| IB-06605-10 | 11/16 (17.5) | 3/4 (19.1) | 1/32 (0.8) | 3.72 | £49.68/12-ft |
| IB-06605-23 | 11/16 (17.5) | 13/16 (20.6) | 1/16 (1.6) | 7.10 | £131.00/12-ft |
| IB-06605-25 | 3/4 (19.0) | 7/8 (22.2) | 1/16 (1.6) | 6.62 | £145.00/12-ft |

Metric PTFE tubing

| | | | | | |
|-------------|---------|-------|---------|-------|--------------|
| IB-06407-10 | 1.48 mm | 3 mm | 0.76 mm | 25.52 | £8.09/12-ft |
| IB-06407-15 | 2.48 mm | 4 mm | 0.76 mm | 15.52 | £10.07/12-ft |
| IB-06407-20 | 4.48 mm | 6 mm | 0.76 mm | 12.07 | £16.00/12-ft |
| IB-06363-10 | 6.00 mm | 7 mm | 0.50 mm | 2.07 | £32.01/25-ft |
| IB-06407-22 | 6.22 mm | 8 mm | 0.89 mm | 10.69 | £26.25/12-ft |
| IB-06407-30 | 7.98 mm | 10 mm | 1.01 mm | 9.86 | £40.28/12-ft |
| IB-06363-20 | 8.00 mm | 9 mm | 0.50 mm | 2.07 | £34.89/25-ft |
| IB-06363-40 | 9.46 mm | 12 mm | 1.27 mm | 9.45 | £47.48/12-ft |
| IB-06363-30 | 10.0 mm | 11 mm | 0.50 mm | 2.07 | £44.24/25-ft |

Tubing Accessories

Benchtop Tubing Cutter

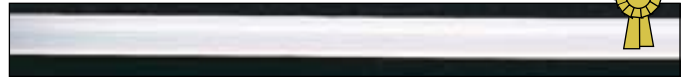
Steel blade makes right-angle cuts in plastic tubing 1/16" to 5/8" OD.



IB-06438-10 Benchtop cutter£7.34

IB-06438-11 Replacement blade£3.59

Polypropylene (PP) Tubing



Applications: General lab and industrial use such as injection molding and hot fill applications. Polypropylene tubing is more rigid than polyethylene tubing.

Characteristics: Good chemical resistance; avoid strong oxidizing agents. Translucent.

Resin certification: Resin is FDA-compliant (21 CFR 177.1520); meets USDA requirements.

Temperature range: 0 to 121°C

Sterilize: With autoclave or ethylene oxide.

| Catalogue number | Dimensions: in. (mm) | | | Max bar at 21°C | Price/100-ft pk |
|------------------|----------------------|-------------|------------|-----------------|-----------------|
| | ID | OD | Wall | | |
| IB-06500-01 | 3/32 (2.4) | 1/8 (3.2) | 1/64 (0.4) | 18.62 | £10.00 |
| IB-06500-02 | 1/8 (3.2) | 1/4 (6.4) | 1/16 (1.6) | 22.41 | £14.35 |
| IB-06500-03 | 9/64 (3.6) | 3/16 (4.8) | 1/40 (0.6) | 20.00 | £14.52 |
| IB-06500-04 | 3/16 (4.8) | 1/4 (6.4) | 1/32 (0.8) | 18.62 | £15.48 |
| IB-06500-05 | 3/16 (4.8) | 5/16 (8.0) | 1/16 (1.6) | 19.31 | £16.77 |
| IB-06500-06 | 1/4 (6.4) | 5/16 (8.0) | 1/32 (0.8) | 15.52 | £19.68 |
| IB-06500-07 | 1/4 (6.4) | 3/8 (9.6) | 1/16 (1.6) | 18.62 | £20.97 |
| IB-06500-08 | 19/64 (7.6) | 3/8 (9.6) | 1/25 (1.0) | 15.52 | £20.65 |
| IB-06500-09 | 5/16 (8.0) | 7/16 (11.2) | 1/16 (1.6) | 15.86 | £27.42 |
| IB-06500-11 | 3/8 (9.6) | 1/2 (12.8) | 1/16 (1.6) | 14.21 | £29.03 |
| IB-06500-12 | 1/2 (12.8) | 5/8 (16.0) | 1/16 (1.6) | 11.38 | £38.39 |

Kynar® Tubing



Applications: High-purity applications and corrosive chemical transfer—an inexpensive alternative to fluoropolymer tubing.

Characteristics: Polyvinylidene fluoride (PVDF) material is kink resistant; has excellent chemical resistance, and is odorless and nontoxic. Translucent.

Resin certification: Resin is FDA-compliant (21 CFR 177.2600); meets USP 23 Class VI and USDA requirements.

Temperature range: -40 to 127°C

Sterilize: With autoclave and gamma irradiation.

| Catalogue number | Dimensions: in. (mm) | | | Max bar at 21°C | Price/25-ft pk |
|------------------|----------------------|--------------|------------|-----------------|----------------|
| | ID | OD | Wall | | |
| IB-95100-00 | 1/8 (3.2) | 1/4 (6.4) | 1/16 (1.6) | 24.14 | £25.48 |
| IB-95100-02 | 11/64 (4.2) | 1/4 (6.4) | 3/64 (1.2) | 12.41 | £20.00 |
| IB-95100-04 | 3/16 (4.8) | 5/16 (8.0) | 1/16 (1.6) | 20.00 | £30.00 |
| IB-95100-06 | 1/4 (6.4) | 3/8 (9.6) | 1/16 (1.6) | 16.55 | £38.06 |
| IB-95100-08 | 5/16 (8.0) | 7/16 (11.2) | 1/16 (1.6) | 13.79 | £44.19 |
| IB-95100-10 | 3/8 (9.6) | 1/2 (12.8) | 1/16 (1.6) | 12.41 | £51.00 |
| IB-95100-12 | 1/2 (12.8) | 5/8 (16.0) | 1/16 (1.6) | 10.00 | £68.00 |
| IB-95100-14 | 5/8 (16.0) | 3/4 (19.2) | 1/16 (1.6) | 8.28 | £84.00 |
| IB-95100-16 | 3/4 (19.2) | 7/8 (22.2) | 1/16 (1.6) | 6.90 | £95.00 |
| IB-95100-18 | 1/2 (22.2) | 1 (25.4) | 1/16 (1.6) | 6.21 | £110.00 |
| IB-95100-20 | 1 (25.4) | 1 1/4 (31.8) | 1/8 (3.2) | 9.66 | £235.00 |

Kynar - Reg TM Elf Atochem North America

Hand-Held Tubing Cutter

Steel blade coated with Teflon® resin produces clean, straight cuts through tubing up to 1 1/4" ID (cuts polyethylene tubing up to 1 1/2" ID). Order carrying pouch and replacement blade separately below.



IB-06438-90 Hand-held tubing cutter£16.45

IB-06438-81 Tubing cutter pouch£6.58

IB-06438-92 Replacement blade for hand-held tubing cutter 06438-90£3.81

Teflon—Reg TM E. I. DuPont de Nemours & Co.

Barbed Fitting Kits

Organize your workstation with these convenient barbed fittings kits. Assorted fittings come in an impact-resistant plastic box with secure snap-shut latches to prevent spillage. Labeled compartments let you easily locate the fittings you want. Choose from four materials: black nylon, natural polypropylene, HDPE, and natural Kynar®. Order storage racks separately below. (Kits only, not assorted packs.)

High-Density Polyethylene (HDPE).
Very good chemical resistance.
Temp range: -53 to 87°C.

Nylon. Good chemical resistance.
Temp range: -40 to 93°C.

Natural Polypropylene (PP).
Very good chemical resistance.
Temp range: -17 to 135°C.

Kynar®. Excellent chemical resistance.
Temp range: -62 to 35°C.



| Fitting sizes | Material | Catalog number | Price |
|--|------------|----------------|--------|
| Barbed connector/reducer kits | | | |
| Straight: 1/16" x 3/32", 1/8", 5/32", 3/16", 1/4". Reducing: 1/16" x (3/32", 1/8"); 1/8" x (1/16", 3/32", 5/32", 3/16", 1/4"); 1/4" x (5/32", 3/16", 5/16") Press in Plugs 1/16", 3/32", 1/8" | HDPE | IB-31514-01 | £25.00 |
| | Nylon | IB-31514-02 | £25.00 |
| | Natural PP | IB-31514-03 | £26.56 |
| | Kynar® | IB-31514-04 | £36.25 |
| Straight: 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 1" Reducing: 1/4" x (5/16", 3/8", 1/2", 5/8"); 3/8" x (5/16", 1/2", 5/8") 1/2" x (3/16", 5/8") 5/16" x 3/8" | HDPE | IB-31514-05 | £20.63 |
| | Nylon | IB-31514-06 | £20.63 |
| | Natural PP | IB-31514-07 | £20.63 |
| | Kynar® | IB-31514-08 | £58.00 |
| Threaded barb adapter kits | | | |
| 10-32 taper x 1/16", 3/32", 1/8", barb; 1/8" NPT (M) x 1/8", 5/32", 1/4", 5/32", 3/8"; 1/4" NPT (M) x 1/8", 5/32", 3/16", 1/4", 5/32", 3/8", 1/2"; 3/8" NPT (M) x 1/4", 5/32", 3/8", 1/2"; 1/2" NPT (M) x 1/4", 3/8", 1/2", 5/8", 3/4" | HDPE | IB-31514-09 | £25.94 |
| | Nylon | IB-31514-10 | £25.94 |
| | Natural PP | IB-31514-11 | £26.56 |
| | Kynar® | IB-31514-12 | £74.00 |
| 1/8" NPT(M) x (1/4", 3/8"); 1/4" NPT(M) x (1/4", 3/8", 1/2"); 3/8" NPT(M) x (1/4", 3/8", 1/2"); 1/2" NPT(M) x (1/4", 3/8", 1/2", 3/4"); 3/4" NPT(M) x (1/4", 3/8", 1/2", 3/4", 1"); 1" NPT(M) x 1" barb. Nipples: 1/8" NPT(M), 1/4" NPT(M), 3/8" NPT(M), 1/2" NPT(M). | HDPE | IB-31514-33 | £28.13 |
| | Nylon | IB-31514-34 | £29.38 |
| | Natural PP | IB-31514-35 | £29.38 |
| | Kynar® | IB-31514-36 | £33.13 |
| Barbed elbow/tee/Y-connector kits | | | |
| Elbows: 1/16", 3/32", 1/8", 5/32", 3/16", 1/4", 5/16" Tees: 1/16", 3/32", 1/8", 5/32", 3/16", 1/4", 5/16" Y-connectors: 1/16", 3/16", 1/4", 3/8" | HDPE | IB-31514-13 | £29.38 |
| | Nylon | IB-31514-14 | £29.38 |
| | Natural PP | IB-31514-15 | £29.38 |
| | Kynar® | IB-31514-16 | £63.00 |
| Elbows: 1/4", 3/8", 1/2", 5/8", 3/4", 1". Tees: 1/4", 3/8", 1/2", 5/8", 3/4". | HDPE | IB-31514-17 | £29.38 |
| | Nylon | IB-31514-18 | £23.75 |
| | Natural PP | IB-31514-19 | £31.88 |
| | Kynar® | IB-31514-20 | £41.88 |
| Threaded elbow/tee/plug/nipple kits | | | |
| Elbows: 10-32 taper x (1/16", 1/8") barbs; 1/8" NPT(M) x (1/8", 5/32", 1/4", 5/16", 3/8") barbs. Tees: 10-32 taper x (1/16", 3/32", 1/8"); 1/8" NPT(M) x (1/8", 5/32", 1/4", 3/8"). Nipples: 1/8" NPT (M) x 1/4", 3/8", 1/2"; Plug: 1/4" NPT (M) | HDPE | IB-31514-21 | £25.00 |
| | Nylon | IB-31514-22 | £20.63 |
| | Natural PP | IB-31514-23 | £26.56 |
| | Kynar® | IB-31514-24 | £52.00 |
| Elbows: 1/8" NPT(M) x (1/4", 3/8"); 1/4" NPT(M) x (1/4", 3/8", 1/2"); 3/8" NPT(M) x (1/4", 3/8", 1/2"); 1/2" NPT(M) x (1/4", 3/8", 1/2", 3/4"); Tees: 1/8" NPT(M) x (1/4", 3/8"); 1/4" NPT(M) x (1/4", 3/8", 1/2"); 1/2" NPT(M) x (1/4", 3/8", 1/2", 3/4"). | HDPE | IB-31514-25 | £29.38 |
| | Nylon | IB-31514-26 | £23.75 |
| | Natural PP | IB-31514-27 | £29.38 |
| | Kynar® | IB-31514-28 | £74.00 |
| BSPT threaded kit | | | |
| Adapters: 1/8" BSPT (M) x (1/8", 1/4", 3/8" Barb); 1/4" BSPT (M) x (1/4", 3/8", 1/2" Barb); 3/8" BSPT (M) x (1/4", 3/8" Barb) Elbows: 1/8" BSPT (M) x (1/8", 1/4", 3/8" Barb); 1/4" BSPT (M) x (1/4", 1/4", 1/2" Barb); 3/8" BSPT (M) x (1/4", 3/8" Barb) Tees: 1/8" BSPT (M) x (1/8", 1/4", 3/8" Barb); 1/4" BSPT (M) x (1/4", 3/8", 1/2" Barb); 3/8" BSPT (M) x (1/4", 3/8" Barb) | HDPE | IB-31514-32 | £28.13 |
| | Nylon | IB-31514-29 | £29.38 |
| | Natural PP | IB-31514-30 | £33.13 |
| | Kynar® | IB-31514-31 | £74.00 |
| Assortment packs | | | |
| Assortment pack includes straight, reducing, elbow, tee, and Y fittings in metric sizes from 4 to 16 mm (146 pieces total) | PP | IB-06286-00 | £82.00 |
| Mini fitting assortment pack. Contains 25 straight fittings, and 3/32" tubing ID sizes (240 pieces total) | PP | IB-06365-90 | £40.63 |
| T connector pack. Contains six each of the 4- to 14-mm sizes (36 pieces total) | PP | IB-06294-82 | £34.89 |
| Y connector pack. Contains six each of the 4- to 14-mm sizes | PP | IB-06295-82 | £34.89 |
| Assorted Luer fittings (320 pieces total) | Nylon | IB-06358-90 | £96.00 |
| | PP | IB-06358-91 | £96.00 |



31514-09

Labeled compartments help you find the fitting you want in a snap!

IB-31513-12 Storage rack holds four small kits.
For kits 31514-01, -02, -03, -04, -17, -18, -19, -20, -25, -26, -27, -28£13.28

IB-31513-32 Storage rack holds four large kits. For all other kits besides those listed above. (Storage racks are not for assortment packs)£19.38

Barbed Fittings

Barbed fittings are designed for quick and easy assembly without tools. Combine these simple, economical fittings with our flexible tubing for use in your low-pressure applications (generally less than 2 bar). Order flexible tubing on pages 53-54.

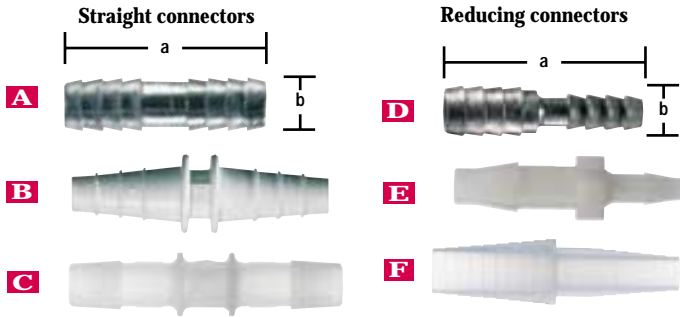
High-Density polyethylene (HDPE). Very good chemical resistance. Temp range: -53 to 87°C. Sterilize by ethylene oxide only.

White polypropylene (PP). Very good chemical resistance. Temp range: -17 to 135°C. Sterilize by autoclave only.

Clear polypropylene (PP). Very good chemical resistance. Temp range: 0 to 135°C. Sterilize by ethylene oxide or autoclave.

Kynar®. Excellent chemical resistance. Temp range: -62 to 135°C. Sterilize by ethylene oxide or autoclave.

Teflon® PFA. Nonporous and chemically inert. Temp range: -17 to 204°C. Sterilize by ethylene oxide or autoclave.

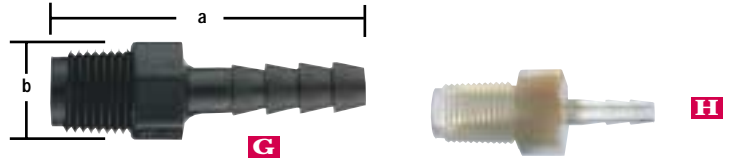


| Key | Tubing ID | Material | Standard packs | | |
|----------------------------|-----------|----------|------------------|---------|-----------|
| | | | Catalogue number | Qty/ pk | Price/ pk |
| Straight connectors | | | | | |
| A | 1/8" | HDPE | IB-06477-60 | 10 | £3.15 |
| | 3/16" | | IB-06456-10 | 10 | £3.15 |
| | 1/4" | | IB-06456-20 | 10 | £3.15 |
| | 5/16" | | IB-06477-62 | 10 | £3.81 |
| A | 3/8" | HDPE | IB-06456-31 | 10 | £3.57 |
| | 1/2" | | IB-06456-40 | 10 | £3.57 |
| | 5/8" | | IB-06477-64 | 10 | £4.41 |
| A | 3/4" | HDPE | IB-06477-66 | 10 | £5.25 |
| | 1" | | IB-06477-68 | 10 | £5.68 |
| B | 4-6 mm | White PP | IB-06288-10 | 10 | £8.09 |
| | 6-8 mm | | IB-06288-20 | 10 | £9.89 |
| | 8-10 mm | | IB-06288-30 | 10 | £10.25 |
| B | 10-12 mm | White PP | IB-06288-40 | 10 | £10.61 |
| | 12-14 mm | | IB-06288-50 | 10 | £11.87 |
| | 14-16 mm | | IB-06288-60 | 10 | £12.76 |
| | | | | | |
| C | 1/16" | Kynar® | IB-30703-00 | 10 | £9.23 |
| | 3/32" | | IB-30703-01 | 10 | £10.61 |
| | 1/8" | | IB-30703-02 | 10 | £10.91 |
| | 5/32" | | IB-30703-03 | 10 | £12.76 |
| C | 3/16" | Kynar® | IB-30703-04 | 10 | £12.80 |
| | 1/4" | | IB-30703-05 | 10 | £14.27 |
| | 5/16" | | IB-30703-06 | 10 | £16.54 |
| | 3/8" | | IB-30703-07 | 10 | £17.00 |

| Key | Tubing ID | Material | Standard packs | | |
|----------|---------------|----------|------------------|---------|-----------|
| | | | Catalogue number | Qty/ pk | Price/ pk |
| D | 1/4" x 1/8" | HDPE | IB-06477-70 | 10 | £3.36 |
| | 1/4" x 3/16" | | IB-06477-71 | 10 | £3.36 |
| | 3/8" x 1/4" | | IB-06477-72 | 10 | £3.36 |
| | 1/2" x 1/4" | | IB-06477-73 | 10 | £3.36 |
| D | 1/2" x 3/8" | HDPE | IB-06477-74 | 10 | £3.36 |
| | 5/8" x 3/8" | | IB-06477-75 | 10 | £3.57 |
| | 3/8" x 1/2" | | IB-06477-76 | 10 | £3.57 |
| E | 3/32" x 1/16" | Nylon | IB-31500-20 | 25 | £7.91 |
| | 1/8" x 1/16" | | IB-31500-21 | 25 | £7.91 |
| | 1/8" x 3/32" | | IB-31500-22 | 25 | £7.91 |
| | 1/4" x 5/32" | | IB-31500-23 | 25 | £8.45 |
| F | 6 mm x 5 mm | Clear PP | IB-06458-10 | 12 | £15.00 |
| | 9 mm x 5 mm | | IB-06458-20 | 12 | £12.03 |
| | 13 mm x 5 mm | | IB-06458-30 | 12 | £12.03 |
| F | 9 mm x 6 mm | Clear PP | IB-06458-40 | 12 | £15.00 |
| | 13 mm x 6 mm | | IB-06458-50 | 12 | £15.00 |
| | 13 mm x 9 mm | | IB-06458-60 | 12 | £12.03 |

Kynar - Reg TM Elf Atochem North America
Teflon - Reg TM E.I. Du Pont de Nemours & Co.

NPT male pipe adapters



| Key | Thread x Tubing ID | Material | Dimensions | | | Standard packs | | |
|---|--------------------|-------------|------------|---------|---------|------------------|---------|-----------|
| | | | a | b | Orifice | Catalogue number | Qty/ pk | Price/ pk |
| NPT male pipe adapters, NPT(M) x tubing ID | | | | | | | | |
| G | 1/8" x 3/16" | HDPE | 1 1/2" | 7/16" | 1/8" | IB-06450-10 | 10 | £2.55 |
| | 1/8" x 1/4" | | 1 1/2" | 7/16" | 1/8" | IB-06450-11 | 10 | £2.55 |
| | 1/8" x 5/16" | | 1 1/2" | 7/16" | 7/32" | IB-06477-00 | 10 | £2.76 |
| | 1/8" x 3/8" | | 1 1/2" | 7/16" | 1/4" | IB-06450-12 | 10 | £2.55 |
| G | 1/4" x 3/16" | HDPE | 1 5/8" | 9/16" | 1/8" | IB-06450-20 | 10 | £2.74 |
| | 1/4" x 1/4" | | 1 5/8" | 9/16" | 5/32" | IB-06450-21 | 10 | £2.74 |
| | 1/4" x 5/16" | | 1 5/8" | 9/16" | 7/32" | IB-06477-01 | 10 | £2.98 |
| | 1/4" x 3/8" | | 1 5/8" | 9/16" | 1/4" | IB-06450-30 | 10 | £2.94 |
| G | 1/4" x 1/2" | HDPE | 1 5/8" | 9/16" | 1 1/32" | IB-06450-31 | 10 | £2.94 |
| | 3/8" x 1/4" | | 1 5/8" | 1 1/16" | 5/32" | IB-06450-32 | 10 | £3.38 |
| | 3/8" x 5/16" | | 1 5/8" | 1 1/16" | 7/32" | IB-31600-13 | 10 | £3.38 |
| | 3/8" x 3/8" | | 1 5/8" | 1 1/16" | 1/4" | IB-06450-40 | 10 | £3.59 |
| G | 3/8" x 1/2" | HDPE | 1 5/8" | 1 1/16" | 3/8" | IB-06450-41 | 10 | £3.59 |
| | 3/8" x 5/8" | | 1 5/8" | 1 1/16" | 15/32" | IB-06477-02 | 10 | £3.59 |
| | 1/2" x 3/16" | | 1 3/4" | 7/8" | 1/8" | IB-31600-14 | 10 | £3.59 |
| | 1/2" x 1/4" | | 1 3/4" | 7/8" | 5/32" | IB-06450-50 | 10 | £3.59 |
| G | 1/2" x 3/8" | HDPE | 1 3/4" | 7/8" | 1/4" | IB-06450-51 | 10 | £3.59 |
| | 1/2" x 1/2" | | 1 3/4" | 7/8" | 3/8" | IB-06450-60 | 10 | £3.36 |
| | 1/2" x 5/8" | | 1 3/4" | 7/8" | 15/32" | IB-06477-03 | 10 | £3.59 |
| | | | | | | | | |
| G | 1/2" x 3/4" | HDPE | 1 3/4" | 7/8" | 5/8" | IB-06477-04 | 10 | £3.59 |
| | 3/4" x 1/4" | | 1 3/4" | 1 1/8" | 5/32" | IB-31600-15 | 10 | £4.02 |
| | 3/4" x 3/8" | | 1 3/4" | 1 1/8" | 1/4" | IB-31600-16 | 10 | £4.02 |
| G | 3/4" x 1/2" | HDPE | 1 3/4" | 1 1/8" | 13/32" | IB-06450-72 | 10 | £4.02 |
| | 3/4" x 5/8" | | 1 3/4" | 1 1/8" | 7/16" | IB-06477-05 | 10 | £4.02 |
| | 3/4" x 3/4" | | 1 3/4" | 1 1/8" | 19/32" | IB-06477-06 | 10 | £3.78 |
| H | 1/8" x 5/32" | Teflon® PFA | 1 7/16" | 1/2" | 1/16" | IB-06373-90 | 1 | £6.36 |
| | 1/8" x 1/4" | | 1 7/16" | 5/8" | 1/8" | IB-06373-91 | 1 | £8.09 |
| | 1/4" x 1/4" | | 1 7/16" | 3/8" | 1/8" | IB-06373-92 | 1 | £8.09 |
| H | 1/4" x 3/8" | Teflon® PFA | 1 7/16" | 5/8" | 1/4" | IB-06373-93 | 1 | £8.99 |
| | 3/8" x 3/8" | | 1 7/16" | 1 1/16" | 1/4" | IB-06373-94 | 1 | £8.99 |



| Key | Thread x Tubing ID | Material | Dimensions | | | Standard packs | | |
|---|--------------------|----------|------------|----------|---------|------------------|---------|-----------|
| | | | a | b | Orifice | Catalogue number | Qty/ pk | Price/ pk |
| NPT male pipe adapters, NPT(M) x tubing ID | | | | | | | | |
| I | 1/16" x 1/16" | Kynar® | 2 3/32" | 3/8" | 1/32" | IB-30704-00 | 10 | £9.35 |
| | 1/16" x 3/32" | | 1 3/16" | 3/8" | 1/16" | IB-30704-01 | 10 | £8.59 |
| | 1/16" x 1/8" | | 2 9/32" | 3/8" | 3/32" | IB-30704-02 | 10 | £10.25 |
| | 1/16" x 5/32" | | 1" | 3/8" | 3/32" | IB-30704-03 | 10 | £9.69 |
| I | 1/16" x 3/16" | Kynar® | 1 3/32" | 3/8" | 1/8" | IB-30704-04 | 10 | £12.41 |
| | 1/8" x 1/16" | | 2 3/32" | 1/2" | 1/32" | IB-30704-05 | 10 | £11.75 |
| | 1/8" x 3/32" | | 1 3/16" | 1/2" | 1/16" | IB-30704-06 | 10 | £13.12 |
| | 1/8" x 1/8" | | 2 9/32" | 1/2" | 3/32" | IB-30704-07 | 10 | £13.43 |
| I | 1/8" x 5/32" | Kynar® | 1" | 1/2" | 3/32" | IB-30704-08 | 10 | £14.92 |
| | 3/8" x 1/4" | | 1 1/2" | 1/2" | 1/8" | IB-30704-09 | 10 | £17.00 |
| | 1/8" x 3/8" | | 1 19/32" | 1/2" | 1/4" | IB-30704-10 | 10 | £16.00 |
| | 1/4" x 1/4" | | 1 11/16" | 2 1/32" | 1/8" | IB-30704-11 | 10 | £17.00 |
| I | 1/4" x 3/8" | Kynar® | 1 25/32" | 2 1/32" | 1/4" | IB-30704-12 | 10 | £19.00 |
| | 1/4" x 1/2" | | 1 7/8" | 2 1/32" | 1 1/32" | IB-30704-13 | 10 | £19.00 |
| | 3/8" x 1/4" | | 1 11/16" | 1 3/16" | 1/8" | IB-30704-14 | 10 | £20.50 |
| | 3/8" x 3/8" | | 1 25/32" | 1 3/16" | 1/4" | IB-30704-15 | 10 | £21.22 |
| I | 3/8" x 1/2" | Kynar® | 1 29/32" | 1 3/16" | 1 1/32" | IB-30704-16 | 10 | £20.50 |
| | 1/2" x 1/4" | | 1 7/8" | 1" | 1/8" | IB-30704-17 | 10 | £23.02 |
| | 1/2" x 3/8" | | 1 31/32" | 1" | 1/4" | IB-30704-18 | 10 | £23.74 |
| | 1/2" x 1/2" | | 2 1/16" | 1" | 1 1/32" | IB-30704-19 | 10 | £24.00 |
| I | 1/2" x 3/4" | Kynar® | 2 1/4" | 1" | 9/16" | IB-30704-20 | 10 | £24.82 |
| | 3/4" x 1/4" | | 1 7/8" | 1 9/16" | 1/8" | IB-30704-21 | 5 | £14.02 |
| | 3/4" x 3/8" | | 1 31/32" | 1 9/16" | 1/4" | IB-30704-22 | 5 | £14.92 |
| | 3/4" x 1/2" | | 2 1/16" | 1 9/16" | 1 1/32" | IB-30704-23 | 5 | £15.64 |
| I | 3/4" x 3/4" | Kynar® | 2 9/32" | 1 9/16" | 9/16" | IB-30704-24 | 5 | £16.00 |
| | 3/4" x 1" | | 2 15/32" | 1 9/16" | 25/32" | IB-30704-25 | 5 | £17.44 |
| | 1" x 1" | | 2 21/32" | 1 19/32" | 2 9/32" | IB-30704-26 | 5 | £17.00 |

Compression Fittings

Compression fittings connect rigid tubing easily and withstand higher pressures than barbed fittings. Installation does not require special tools.



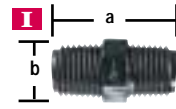
| Key | Tubing ID | Material | Standard packs | | |
|------------------------|--------------|----------|------------------|--------|----------|
| | | | Catalogue number | Qty/pk | Price/pk |
| Straight unions | | | | | |
| A | 1/4" | White PP | IB-06381-10 | 10 | £8.45 |
| | 5/16" | | IB-06381-20 | 10 | £8.81 |
| | 3/8" | | IB-06381-30 | 10 | £11.15 |
| A | 1/2" | White PP | IB-06381-40 | 10 | £14.38 |
| | 5/8" | | IB-06381-50 | 10 | £16.54 |
| | 3/4" | | IB-06381-60 | 10 | £26.25 |
| B | 1/4" | Kynar® | IB-06381-90 | 1 | £3.81 |
| | 5/16" | | IB-06381-91 | 1 | £4.24 |
| | 3/8" | | IB-06381-92 | 1 | £5.50 |
| B | 1/2" | Kynar® | IB-06381-93 | 1 | £6.76 |
| | 5/8" | | IB-06381-94 | 1 | £8.27 |
| | 3/4" | | IB-06381-95 | 1 | £10.61 |
| Reducing unions | | | | | |
| C | 1/4" x 1/8" | White PP | IB-06381-05 | 10 | £6.36 |
| | 5/16" x 1/4" | | IB-06381-70 | 10 | £8.81 |
| | 3/8" x 1/4" | | IB-06381-72 | 10 | £10.25 |
| C | 1/2" x 3/8" | White PP | IB-06381-74 | 10 | £12.76 |
| | 5/8" x 3/8" | | IB-06381-76 | 10 | £14.92 |
| D | 1/4" x 1/8" | Kynar® | IB-06381-80 | 1 | £3.20 |
| | 5/16" x 1/4" | | IB-06381-81 | 1 | £3.59 |
| | 3/8" x 1/4" | | IB-06381-82 | 1 | £4.89 |
| D | 1/2" x 3/8" | Kynar® | IB-06381-83 | 1 | £6.58 |
| | 5/8" x 3/8" | | IB-06381-84 | 1 | £7.55 |

Pipe Fittings

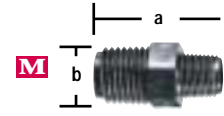
| Key | Pipe Size | Material | Catalogue number | Qty/pk | Price/pk |
|----------------------------------|-------------|------------------|------------------|--------|----------|
| BSP(M) | | | | | |
| E | 1/8" | Nylon food grade | IB-015UK-00 | 10 | £8.90 |
| | 1/4" | | IB-015UK-02 | 10 | £9.60 |
| | 3/8" | | IB-015UK-04 | 10 | £10.60 |
| | 1/2" | | IB-015UK-06 | 10 | £10.90 |
| Reducers, BSP(M) x BSP(F) | | | | | |
| F | 1/4" x 1/8" | Nylon food grade | IB-015UK-20 | 10 | £7.70 |
| | 3/8" x 1/8" | | IB-015UK-22 | 10 | £9.60 |
| | 3/8" x 1/4" | | IB-015UK-24 | 10 | £10.00 |
| | 1/2" x 1/4" | | IB-015UK-26 | 10 | £10.90 |
| | 1/2" x 3/8" | | IB-015UK-28 | 10 | £11.50 |
| Couplings, BSP(F) | | | | | |
| G | 1/8" | Nylon food grade | IB-015UK-40 | 10 | £8.90 |
| | 1/4" | | IB-015UK-42 | 10 | £9.60 |
| | 3/8" | | IB-015UK-44 | 10 | £11.50 |
| | 1/2" | | IB-015UK-46 | 10 | £16.70 |
| Reducers, BSP(F) x BSP(M) | | | | | |
| H | 1/4" x 1/8" | Nylon food grade | IB-015UK-60 | 10 | £9.80 |
| | 3/8" x 1/8" | | IB-015UK-62 | 10 | £10.60 |
| | 3/8" x 1/4" | | IB-015UK-64 | 10 | £10.90 |
| | 1/2" x 1/4" | | IB-015UK-66 | 10 | £16.40 |
| | 1/2" x 3/8" | | IB-015UK-68 | 10 | £16.70 |

Pipe Fittings - NPT

NPT(M) nipples




Male reducers



| Key | Tubing ID | Material | Standard packs | | |
|---------------------------------------|-------------|-------------|------------------|--------|----------|
| | | | Catalogue number | Qty/pk | Price/pk |
| Nipples, NPT(M) | | | | | |
| I | 1/8" | HDPE | IB-31600-50 | 10 | £2.76 |
| | 1/4" | | IB-31600-51 | 10 | £2.98 |
| | 3/8" | | IB-31600-52 | 10 | £3.20 |
| | 1/2" | | IB-31600-53 | 10 | £3.38 |
| J | 1/8" | Natural PP | IB-30610-90 | 10 | £5.28 |
| | 1/4" | | IB-30610-91 | 10 | £5.28 |
| | 3/8" | | IB-30610-92 | 10 | £5.28 |
| J | 1/2" | Natural PP | IB-30610-93 | 10 | £6.76 |
| | 3/4" | | IB-30610-94 | 5 | £4.46 |
| | 1" | | IB-30610-95 | 5 | £6.58 |
| K | 1/8" | Kynar® | IB-30706-00 | 10 | £14.02 |
| | 1/4" | | IB-30706-01 | 10 | £15.28 |
| | 3/8" | | IB-30706-02 | 10 | £17.44 |
| K | 1/2" | Kynar® | IB-30706-03 | 10 | £20.14 |
| | 3/4" | | IB-30706-04 | 5 | £13.12 |
| | 1" | | IB-30706-05 | 5 | £14.92 |
| L | 1/8" | Teflon® PFA | IB-06483-00 | 1 | £6.15 |
| | 1/4" | | IB-06483-04 | 1 | £6.76 |
| | 3/8" | | IB-06483-08 | 1 | £7.73 |
| | 1/2" | | IB-06483-14 | 1 | £9.35 |
| | 3/4" | | IB-06483-18 | 1 | £10.25 |
| Male reducers, NPT(M) x NPT(M) | | | | | |
| M | 1/4" x 1/8" | HDPE | IB-31600-60 | 10 | £2.76 |
| | 3/8" x 1/8" | | IB-31600-61 | 10 | £3.20 |
| | 3/8" x 1/4" | | IB-31600-62 | 10 | £3.20 |
| | 1/2" x 1/8" | | IB-31600-63 | 10 | £3.38 |
| M | 1/2" x 1/4" | HDPE | IB-31600-64 | 10 | £3.38 |
| | 1/2" x 3/8" | | IB-31600-65 | 10 | £3.38 |
| | 3/4" x 3/8" | | IB-31600-66 | 10 | £3.81 |
| | 3/4" x 1/2" | | IB-31600-67 | 10 | £3.81 |
| | 1/4" x 1/8" | | IB-06349-80 | 6 | £5.28 |
| N | 3/8" x 1/8" | Nylon | IB-06349-81 | 6 | £6.36 |
| | 3/8" x 1/4" | | IB-06349-82 | 6 | £7.19 |
| | 1/2" x 1/8" | | IB-06349-83 | 6 | £8.09 |
| | 1/2" x 1/4" | | IB-06349-84 | 6 | £8.09 |
| N | 1/2" x 3/8" | Nylon | IB-06349-85 | 6 | £8.09 |
| | 3/4" x 3/8" | | IB-06349-86 | 6 | £8.99 |
| | 3/4" x 1/2" | | IB-06349-87 | 6 | £8.99 |
| | 1/4" x 1/8" | | IB-06483-02 | 1 | £6.36 |
| O | 3/8" x 1/4" | Teflon® PFA | IB-06483-06 | 1 | £7.55 |
| | 1/2" x 1/4" | | IB-06483-10 | 1 | £9.35 |
| | 1/2" x 3/8" | | IB-06483-12 | 1 | £9.35 |
| | 3/4" x 1/2" | | IB-06483-16 | 1 | £9.89 |

Kynar - Reg TM Elf Atochem North America
Teflon - Reg TM E.I. Du Pont de Nemours & Co.

TopLine 316L and 304 Stainless Steel Quick Couplings

► Meet FDA requirements and 3A Sanitary Standards 

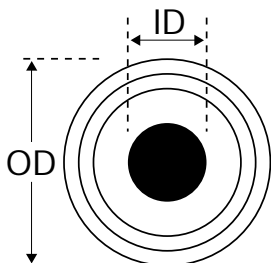
316L Stainless Steel Couplings are ideal for the pharmaceutical industry. Great chemical compatibility for use with corrosive acids and bases.

304 Stainless Steel Couplings are ideal for the food, beverage, and dairy industries. Good chemical compatibility and cost-effective.

All fittings are compatible with Tri-Clamp® fittings; quick-connect clamps ("E") provide fast takedown and reassembly. Gaskets ("L-N") are available in three different materials to suit your application.



Sanitary Tri-Clamp® Fitting Sizing Information



| Tri-Clamp nominal size | Fitting ID | Fitting OD |
|------------------------|------------|------------|
| 1/4" | 4.7 mm | 25.0 mm |
| 3/8" | 5.8 mm | 25.0 mm |
| 1/2" | 9.5 mm | 25.0 mm |
| 3/4" | 15.9 mm | 25.0 mm |
| 1" | 22.1 mm | 50.4 mm |
| 1 1/2" | 34.5 mm | 50.4 mm |
| 2" | 47.5 mm | 63.9 mm |
| 2 1/2" | 60.2 mm | 77.4 mm |
| 3" | 72.9 mm | 90.9 mm |

Ordering Information

| Key | Clamp size | 316L stainless steel | | 304 stainless steel | |
|---|-----------------|----------------------|---------|---------------------|------------|
| | | Cat. no. | Price | Cat. no. | Price Each |
| Concentric reducers | | | | | |
| A | 1" x 3/4" | IB-30509-00 | £100.00 | — | — |
| | 1 1/2" x 1" | IB-30509-01 | £132.00 | IB-30509-21 | £72.00 |
| | 2" x 1" | IB-30509-02 | £162.00 | IB-30509-22 | £105.00 |
| | 2" x 1 1/2" | IB-30509-03 | £115.00 | IB-30509-23 | £65.00 |
| A | 2 1/2" x 1" | IB-30509-04 | £200.00 | IB-30509-24 | £85.00 |
| | 2 1/2" x 1 1/2" | IB-30509-05 | £140.00 | IB-30509-25 | £93.00 |
| | 2 1/2" x 2" | IB-30509-06 | £132.00 | IB-30509-26 | £80.00 |
| | 3" x 1 1/2" | IB-30509-07 | £183.00 | IB-30509-27 | £121.00 |
| A | 3" x 2" | IB-30509-08 | £183.00 | IB-30509-28 | £106.00 |
| | 3" x 2 1/2" | IB-30509-09 | £174.00 | IB-30509-29 | £116.00 |
| | 4" x 2" | IB-30509-10 | £284.00 | IB-30509-30 | £203.00 |
| | 4" x 2 1/2" | IB-30509-11 | £284.00 | IB-30509-31 | £203.00 |
| | 4" x 3" | IB-30509-12 | £284.00 | IB-30509-32 | £177.00 |
| Eccentric reducers | | | | | |
| B | 1" x 3/4" | IB-30510-00 | £122.00 | — | — |
| | 1 1/2" x 1" | IB-30510-01 | £162.00 | IB-30510-22 | £109.00 |
| | 2" x 1" | IB-30510-02 | £203.00 | IB-30510-23 | £135.00 |
| | 2" x 1 1/2" | IB-30510-03 | £140.00 | IB-30510-24 | £93.00 |
| B | 2 1/2" x 1 1/2" | IB-30510-05 | £174.00 | IB-30510-25 | £117.00 |
| | 2 1/2" x 2" | IB-30510-06 | £149.00 | IB-30510-26 | £121.00 |
| | 3" x 1 1/2" | IB-30510-07 | £208.00 | IB-30510-27 | £155.00 |
| | 3" x 2" | IB-30510-08 | £203.00 | IB-30510-28 | £134.00 |
| B | 3" x 2 1/2" | IB-30510-09 | £203.00 | IB-30510-29 | £134.00 |
| | 4" x 2" | IB-30510-10 | £322.00 | IB-30510-30 | £207.00 |
| | 4" x 2 1/2" | IB-30510-11 | £322.00 | IB-30510-31 | £231.00 |
| | 4" x 3" | IB-30510-12 | £322.00 | IB-30510-32 | £239.00 |
| Barbed adapters | | | | | |
| C | 3/4" x 1/8" | IB-30515-00 | £30.12 | — | — |
| | 3/4" x 1/4" | IB-30515-01 | £30.12 | — | — |
| | 3/4" x 3/8" | IB-30515-02 | £30.12 | — | — |
| | 3/4" x 1/2" | IB-30515-03 | £30.12 | — | — |
| C | 3/4" x 3/4" | IB-30515-04 | £30.12 | — | — |
| | 1" x 1" | IB-30515-11 | £33.09 | IB-30515-31 | £36.69 |
| | 1 1/2" x 1 1/2" | IB-30515-12 | £33.09 | IB-30515-32 | £34.17 |
| | 2" x 2" | IB-30515-13 | £46.76 | IB-30515-33 | £44.60 |
| C | 2 1/2" x 2 1/2" | IB-30515-14 | £74.00 | IB-30515-34 | £57.00 |
| | 3" x 3" | IB-30515-15 | £84.00 | IB-30515-35 | £81.00 |
| | 4" x 4" | IB-30515-17 | £200.00 | IB-30515-37 | £144.00 |
| Pipe thread adapters, clamp x NPT(M) | | | | | |
| D | 3/4" x 1/8" | IB-30516-00 | £53.00 | — | — |
| | 3/4" x 1/4" | IB-30516-01 | £53.00 | — | — |
| | 3/4" x 3/8" | IB-30516-02 | £53.00 | — | — |
| | 3/4" x 1/2" | IB-30516-03 | £53.00 | — | — |
| | 3/4" x 3/4" | IB-30516-04 | £53.00 | — | — |
| D | 1" x 3/4" | IB-30516-11 | £115.00 | IB-30516-31 | £88.00 |
| | 1" x 1" | IB-30516-12 | £98.00 | IB-30516-32 | £78.00 |
| | 1" x 1 1/2" | IB-30516-13 | £106.00 | IB-30516-33 | £88.00 |
| | 1" x 2" | IB-30516-14 | £115.00 | IB-30516-34 | £88.00 |
| D | 1 1/2" x 3/4" | IB-30516-15 | £98.00 | IB-30516-35 | £81.00 |
| | 1 1/2" x 1" | IB-30516-16 | £102.00 | IB-30516-36 | £85.00 |
| | 1 1/2" x 1 1/4" | IB-30516-17 | £102.00 | IB-30516-37 | £85.00 |
| | 1 1/2" x 1 1/2" | IB-30516-18 | £111.00 | IB-30516-38 | £78.00 |
| | 1 1/2" x 2" | — | — | IB-30516-39 | £81.00 |
| D | 2" x 1 1/4" | IB-30516-19 | £115.00 | IB-30516-40 | £85.00 |
| | 2" x 1 1/2" | IB-30516-20 | £115.00 | IB-30516-41 | £86.00 |
| | 2" x 2" | IB-30516-21 | £115.00 | IB-30516-42 | £83.00 |
| | 2" x 2 1/2" | IB-30516-22 | £115.00 | IB-30516-43 | £117.00 |
| | 2 1/2" x 1" | — | — | IB-30516-44 | £117.00 |
| D | 2 1/2" x 1 1/2" | IB-30516-23 | £162.00 | IB-30516-45 | £117.00 |
| | 2 1/2" x 2" | IB-30516-24 | £162.00 | IB-30516-46 | £124.00 |
| | 2 1/2" x 2 1/2" | IB-30516-25 | £162.00 | IB-30516-47 | £125.00 |
| D | 3" x 3" | IB-30516-26 | £203.00 | IB-30516-48 | £157.00 |
| | 4" x 4" | IB-30516-27 | £297.00 | IB-30516-49 | £240.00 |
| Clamps | | | | | |
| E | 1/2" to 3/4" | — | — | IB-30519-00 | £11.87 |
| | 1" to 1 1/2" | — | — | IB-30519-01 | £15.28 |
| | 2" | — | — | IB-30519-03 | £16.18 |
| E | 2 1/2" | — | — | IB-30519-04 | £20.14 |
| | 3" | — | — | IB-30519-05 | £23.02 |
| | 4" | — | — | IB-30519-07 | £26.25 |



All couplings on this page except the 30516-series (D).

Teflon—Reg TM E. I. DuPont de Nemours & Co.
Tri-Clamp—Reg TM Tri-Clover, Inc.

| Key | Clamp size | 316L stainless steel | | 304 stainless steel | |
|-------------------|----------------------------|----------------------|---------|---------------------|---------|
| | | Cat. no. | Price | Cat. no. | Price |
| 90° elbows | | | | | |
| F | ¾" | IB-30511-00 | £49.28 | — | — |
| | 1" | IB-30511-01 | £39.56 | IB-30511-21 | £27.69 |
| | 1½" | IB-30511-02 | £39.20 | IB-30511-22 | £23.38 |
| | 2" | IB-30511-03 | £53.00 | IB-30511-23 | £31.65 |
| F | 2½" | IB-30511-04 | £79.00 | IB-30511-24 | £52.00 |
| | 3" | IB-30511-05 | £90.00 | IB-30511-25 | £59.00 |
| | 4" | IB-30511-07 | £187.00 | IB-30511-27 | £116.00 |
| | 45° elbows | | | | |
| G | ¾" | IB-30512-00 | £62.00 | — | — |
| | 1" | IB-30512-01 | £48.20 | IB-30512-21 | £34.53 |
| | 1½" | IB-30512-02 | £48.20 | IB-30512-22 | £29.85 |
| | 2" | IB-30512-03 | £57.00 | IB-30512-23 | £34.17 |
| G | 2½" | IB-30512-04 | £75.00 | IB-30512-24 | £53.00 |
| | 3" | IB-30512-05 | £94.00 | IB-30512-25 | £67.00 |
| | 4" | IB-30512-07 | £200.00 | IB-30512-28 | £148.00 |
| | Tees | | | | |
| H | ¾" | IB-30513-00 | £79.00 | — | — |
| | 1" | IB-30513-01 | £62.00 | IB-30513-21 | £45.32 |
| | 1½" | IB-30513-02 | £62.00 | IB-30513-22 | £39.56 |
| | 2" | IB-30513-03 | £70.00 | IB-30513-23 | £44.96 |
| H | 2½" | IB-30513-04 | £90.00 | IB-30513-24 | £61.00 |
| | 3" | IB-30513-05 | £170.00 | IB-30513-25 | £128.00 |
| | 4" | IB-30513-07 | £288.00 | IB-30513-27 | £246.00 |
| | Crosses | | | | |
| I | 1" | IB-30514-01 | £111.00 | IB-30514-21 | £83.00 |
| | 1½" | IB-30514-02 | £119.00 | IB-30514-22 | £77.00 |
| | 2" | IB-30514-03 | £140.00 | IB-30514-23 | £92.00 |
| I | 2½" | IB-30514-04 | £157.00 | IB-30514-24 | £134.00 |
| | 3" | IB-30514-05 | £259.00 | IB-30514-25 | £168.00 |
| | 4" | IB-30514-07 | £419.00 | IB-30514-26 | £310.00 |
| | Ferrules—short weld | | | | |
| J | ¾" | IB-30517-00 | £7.55 | — | — |
| | 1" | IB-30517-01 | £9.35 | IB-30517-21 | £4.00 |
| | 1½" | IB-30517-02 | £7.19 | IB-30517-22 | £5.00 |
| J | 2" | IB-30517-03 | £4.02 | IB-30517-23 | £5.00 |
| | 2½" | IB-30517-04 | £14.38 | IB-30517-24 | £8.00 |
| | 3" | IB-30517-05 | £21.58 | IB-30517-25 | £12.00 |
| | 4" | IB-30517-07 | £48.20 | IB-30517-27 | £21.00 |
| | Ferrules—butt weld | | | | |
| K | 1" | IB-30518-01 | £13.66 | IB-30518-21 | £6.00 |
| | 1½" | IB-30518-02 | £13.66 | IB-30518-22 | £6.00 |
| | 2" | IB-30518-03 | £15.28 | IB-30518-23 | £7.00 |
| K | 2½" | IB-30518-04 | £20.86 | IB-30518-24 | £10.00 |
| | 3" | IB-30518-05 | £30.57 | IB-30518-25 | £12.00 |
| | 4" | IB-30518-07 | £64.00 | IB-30518-27 | £19.00 |

| Gaskets, Buna N (-40 to 107°C) | | | |
|--------------------------------|-----|-------------|-------|
| L | ¾" | IB-30520-00 | £1.51 |
| | 1" | IB-30520-01 | £1.05 |
| | 1½" | IB-30520-02 | £0.46 |
| L | 2" | IB-30520-03 | £0.46 |
| | 2½" | IB-30520-04 | £0.67 |
| | 3" | IB-30520-05 | £0.80 |
| | 4" | IB-30520-07 | £1.27 |

| Gaskets, silicone (-60 to 230°C) | | | |
|----------------------------------|-----|-------------|-------|
| M | ¾" | IB-30520-10 | £1.27 |
| | 1" | IB-30520-11 | £1.51 |
| | 1½" | IB-30520-12 | £1.51 |
| M | 2" | IB-30520-13 | £1.51 |
| | 2½" | IB-30520-14 | £2.12 |
| | 3" | IB-30520-15 | £2.33 |
| | 4" | IB-30520-17 | £2.55 |

| Gaskets, Teflon® PTFE (-78 to 230°C) | | | |
|--------------------------------------|-----|-------------|-------|
| N | ¾" | IB-30520-20 | £1.51 |
| | 1" | IB-30520-21 | £1.27 |
| | 1½" | IB-30520-22 | £1.27 |
| N | 2" | IB-30520-23 | £1.51 |
| | 2½" | IB-30520-24 | £1.51 |
| | 3" | IB-30520-25 | £1.90 |
| | 4" | IB-30520-27 | £2.33 |



All couplings on this page.



Sanitary Ball Valves

These sanitary valves meet USDA requirements. All valves have wetted parts of 316 stainless steel with a sanitary finish.

Ball Valves Feature a unique design that allows for easy in-line servicing. Valve seats are made of fully encapsulated Teflon® PTFE. Each valve includes a locking handle.



Specifications & Ordering Information

| Clamp size | Dimensions | | | | C _v | Shpg wt kg | Catalogue number | Price |
|--|------------|-----|-----|-----|----------------|------------|------------------|---------|
| | a | b | c | d | | | | |
| Ball valves; 69 bar at 21°C; max temperature is 204°C; meet USDA requirements | | | | | | | | |
| ¾" | 4½" | 4½" | 2¼" | 1" | 40 | 1.0 | IB-30530-00 | £140.00 |
| 1" | 4½" | 5¾" | 2¾" | 2" | 70 | 1.4 | IB-30530-01 | £153.00 |
| 1½" | 4½" | 7½" | 3¼" | 2" | 120 | 2.8 | IB-30530-02 | £234.00 |
| 2" | 5¾" | 7½" | 3½" | 2½" | 340 | 4.6 | IB-30530-03 | £365.00 |
| 2½" | 6½" | 9½" | 5½" | 3½" | 430 | 7.8 | IB-30530-04 | £652.00 |
| 3" | 7½" | 9½" | 5½" | 3½" | 675 | 13.2 | IB-30530-05 | £893.00 |

Direct Acting Brass Solenoid Valves



Two Way Direct Acting Type 21T

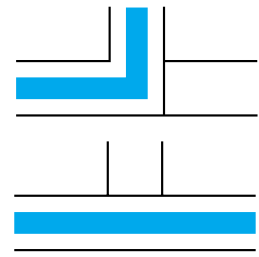


Two Way Direct Acting Type 21A



Three Way Direct Acting Type 31A

Flow pattern for three way direct acting valves



These direct acting valves are for control of non-aggressive fluids and gases such as air, oil or water. Select from a range of flow patterns (normally closed, normally open or three way flow), coil voltages (24VDC, 110VAC or 240VAC) and port sizes (1/8", 1/4" or 1/2" BSPP(F))

- ▶ Durable Brass body
- ▶ Supplied complete with valve, coil and DIN40050 connector for easy installation
- ▶ IP65 rated
- ▶ Choice of Normally closed, Normally open or three way direct acting
- ▶ Available in 1/8", 1/4" or 1/2" BSPP(F) port sizes

Specifications

Materials: Brass body, Viton seals, Stainless Steel tube and tube nut
Fluid Temperature: -10°C to +130°C
Max Fluid Viscosity: Type 21T 35cst, Type 21A and 31A 37cst

Protection Class: IP65 with connector fitted
Duty Cycle: 100% continuous
Voltage Tolerance: ±10% AC, +10% -5% DC
Operating Ambient: -20°C to +55°C

| Port Size BSPP(F) | Valve Type | Orifice (mm) | K _v m ³ /h | Pressure Range - Bar | | 24VDC | | 110VAC | | 230VAC | |
|---|------------|--------------|----------------------------------|----------------------|----------|-------------|------------|-------------|------------|-------------|------------|
| | | | | AC | DC | Cat No | Price Each | Cat No | Price Each | Cat No | Price Each |
| Two way direct acting solenoid valve - Normally Closed | | | | | | | | | | | |
| 1/8" | 21T | 2.2 | 0.11 | 0 to 18 | 0 to 8 | IB-02001-UK | £18.50 | IB-02053-UK | £18.50 | IB-02000-UK | £18.50 |
| 1/8" | 21T | 2.8 | 0.18 | 0 to 17 | 0 to 6 | IB-02004-UK | £18.50 | IB-02003-UK | £18.50 | IB-02002-UK | £18.50 |
| 1/4" | 21A | 2.5 | 0.18 | 0 to 15 | 0 to 10 | IB-02050-UK | £35.00 | IB-02009-UK | £35.00 | IB-02008-UK | £35.00 |
| 1/4" | 21T | 2.8 | 0.18 | 0 to 17 | 0 to 6 | IB-02051-UK | £18.50 | IB-02005-UK | £18.50 | IB-02054-UK | £18.50 |
| 1/2" | 21A | 4.5 | 0.50 | 0 to 4.5 | 0 to 0.9 | IB-02052-UK | £35.00 | IB-02013-UK | £35.00 | IB-02012-UK | £35.00 |
| Two way direct acting solenoid valve - Normally Open | | | | | | | | | | | |
| 1/8" | 21A | 2.5 | 0.18 | 0 to 10 | 0 to 10 | IB-02055-UK | £35.00 | IB-02058-UK | £35.00 | IB-02061-UK | £35.00 |
| 1/4" | 21A | 2.8 | 0.21 | 0 to 17 | 0 to 6 | IB-02056-UK | £35.00 | IB-02059-UK | £35.00 | IB-02062-UK | £35.00 |
| 1/2" | 21A | 4.5 | 0.50 | 0 to 4.5 | 0 to 0.9 | IB-02057-UK | £35.00 | IB-02060-UK | £35.00 | IB-02063-UK | £35.00 |
| Three way direct acting solenoid valve | | | | | | | | | | | |
| 1/8" | 31A | 2 | 0.08 | 0 to 10 | 0 to 10 | IB-02022-UK | £38.00 | IB-02064-UK | £38.00 | IB-02020-UK | £38.00 |
| 1/4" | 31A | 2.5 | 0.13 | 0 to 6 | 0 to 6 | IB-02025-UK | £38.00 | IB-02065-UK | £38.00 | IB-02023-UK | £38.00 |

Viton—Reg TM DuPont Dow Elastomers L.L.C.

Two Way Servo Acting Solenoid Valves

- ▶ Durable brass body
- ▶ Choice of normally closed or normally open
- ▶ Requires a minimum pressure drop of 0.2 bar to ensure satisfactory operation
- ▶ Available in port sizes from 3/8" to 1" BSPP(F) (For larger port sizes contact our sales consultants on 0500 345 300)

Specifications

Materials: Brass body, Viton seals, Stainless Steel tube and tube nut

Fluid Temperature: -20°C to +140°C

Max Fluid Viscosity: 21cst

Protection Class: IP65 with connector fitted

Duty Cycle: 100% continuous

Voltage Tolerance: ±10% AC, +10% -5% DC

Operating Ambient: -20°C to +55°C



| Port Size BSPP(F) | Orifice (mm) | K _v m ³ /h | Pressure Range - Bar | 24VDC | | 110VAC | | 230VAC | |
|--|--------------|----------------------------------|----------------------|-------------|------------|-------------|------------|-------------|------------|
| | | | | Cat. No. | Price Each | Cat. No. | Price Each | Cat. No. | Price Each |
| Two way servo acting solenoid valve - Normally Closed | | | | | | | | | |
| 3/8" | 12 | 3 | 0.2 to 20 | IB-02026-UK | £52.00 | IB-02075-UK | £52.00 | IB-02077-UK | £52.00 |
| 1/2" | 12 | 3 | 0.2 to 20 | IB-02029-UK | £55.00 | IB-02076-UK | £55.00 | IB-02028-UK | £55.00 |
| 3/4" | 19 | 7 | 0.2 to 16 | IB-02030-UK | £73.00 | IB-02031-UK | £73.00 | IB-02078-UK | £73.00 |
| 1" | 25 | 10 | 0.2 to 16 | IB-02033-UK | £86.00 | IB-02034-UK | £86.00 | IB-02032-UK | £86.00 |
| Two way servo acting solenoid valve - Normally Open | | | | | | | | | |
| 3/8" | 12 | 3 | 0.2 to 16 | IB-02079-UK | £52.00 | IB-02083-UK | £52.00 | IB-02087-UK | £52.00 |
| 1/2" | 12 | 3 | 0.2 to 16 | IB-02080-UK | £55.00 | IB-02084-UK | £55.00 | IB-02088-UK | £55.00 |
| 3/4" | 19 | 7 | 0.1 to 16 | IB-02081-UK | £73.00 | IB-02085-UK | £73.00 | IB-02089-UK | £73.00 |
| 1" | 25 | 10 | 0.1 to 16 | IB-02082-UK | £86.00 | IB-02086-UK | £86.00 | IB-02090-UK | £86.00 |

Stainless Steel Direct Acting Solenoid Valves



- ▶ Chemical resistant stainless steel body and PTFE seals for aggressive fluids and gases
- ▶ Normally closed
- ▶ Supplied complete with valve, coil and DIN40050 connector for easy installation
- ▶ IP65 rated
- ▶ Available in 1/8" or 1/4" BSPP(F) port sizes
- ▶ 1/8" port sizes have a screw for flow adjustment (RI control)

Specifications & Ordering information

Materials: 316 SS body, 430F SS Inner Parts, PTFE seals
Fluid Temperature: -10°C to +150°C
Max Fluid Viscosity: 27cst

Protection Class: IP65 with connector fitted
Duty Cycle: 100% continuous
Voltage Tolerance: ±10% AC, +10% -5% DC
Operating Ambient: -20°C to +55°C

| Port Size BSPP(F) | RI control | Orifice (mm) | K _v m ³ /h | Pressure Range - Bar | | 24VDC | | 110VAC | | 230VAC | |
|--|---------------|-----------------|-------------------------------------|----------------------|--------|-------------|------------|-------------|------------|-------------|------------|
| | | | | AC | DC | Cat No | Price Each | Cat No | Price Each | Cat No | Price Each |
| Two way direct acting solenoid valve - Normally Closed | | | | | | | | | | | |
| 1/8" | Yes | 3.0 | 0.21 | 0 to 10 | 0 to 5 | IB-02016-UK | £88.00 | IB-02068-UK | £88.00 | IB-02014-UK | £88.00 |
| 1/8" | Yes | 4.0 | 0.32 | 0 to 6 | 0 to 2 | IB-02066-UK | £88.00 | IB-02069-UK | £88.00 | IB-02073-UK | £88.00 |
| 1/4" | No | 3.0 | 0.21 | 0 to 10 | 0 to 6 | IB-02019-UK | £93.00 | IB-02071-UK | £93.00 | IB-02017-UK | £93.00 |
| 1/4" | No | 5.5 | 0.32 | 0 to 3.5 | 0 to 1 | IB-02067-UK | £93.00 | IB-02072-UK | £93.00 | IB-02074-UK | £93.00 |

Cole-Parmer PTFE Direct Lift Solenoid Valves

- ▶ Ideal for use with high-purity or corrosive liquid and gases
- ▶ All wetted parts are made of PTFE
- ▶ Choice of two-way or three-way models

Two-way and three-way valves feature zero dead volume eliminating problems with trapped liquids. Rated for 26" Hg vacuum. Maximum fluid temperature is 70°C. All valves have 30 cm lead wires. All wetted parts are made of Teflon® PTFE. Valves are compact and light weight.



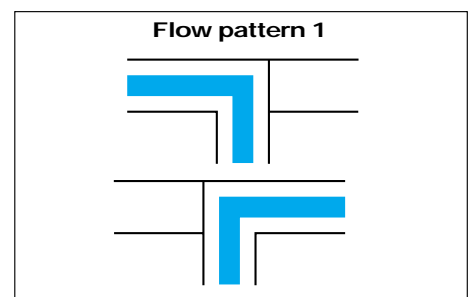
More info

If activating the solenoid valve for periods in excess of 30 seconds it is recommended that the input voltage is dropped to 1/3 of the rated voltage to prevent overheating. For further details on how this can be achieved contact our sales consultants on 0500 345 300



| Connections | Orifice size | Max flow* at max bar | Max pressure | Response time | Power | 12 VDC | | 24 VDC | |
|---------------------------------------|--------------|----------------------|--------------|---------------|-------|-------------|---------|-------------|---------|
| | | | | | | Cat. No. | Price | Cat. No. | Price |
| Two-way normally closed valves | | | | | | | | | |
| 1/4-28 UNF(F) | 1.58 mm | 16 LPM | 2.0 bar | 15 ms | 1.5 W | IB-01367-70 | £62.00 | IB-01367-50 | £64.00 |
| 1/4-28 UNF(F) | 1.58 mm | 45 LPM | 6.8 bar | 20 ms | 6.2 W | IB-98300-60 | £69.00 | IB-98300-70 | £69.00 |
| 1/4-28 UNF(F) | 2.38 mm | 31 LPM | 2.0 bar | 20 ms | 4.2 W | IB-98300-00 | £85.00 | IB-98300-10 | £85.00 |
| 1/8" NPT(F) | 3.96 mm | 62 LPM | 2.0 bar | 30 ms | 7.2 W | IB-98300-30 | £105.00 | IB-98300-40 | £105.00 |
| Two-way normally open valves | | | | | | | | | |
| 1/4-28 UNF(F) | 1.58 mm | 16 LPM | 2.0 bar | 15 ms | 1.5 W | IB-01367-71 | £74.00 | IB-01367-51 | £64.00 |
| 1/4-28 UNF(F) | 1.58 mm | 45 LPM | 6.8 bar | 20 ms | 6.2 W | IB-98300-61 | £69.00 | IB-98300-71 | £69.00 |
| 1/4-28 UNF(F) | 2.38 mm | 31 LPM | 2.0 bar | 20 ms | 4.2 W | IB-98300-01 | £85.00 | IB-98300-11 | £85.00 |
| 1/8" NPT(F) | 3.96 mm | 62 LPM | 2.0 bar | 30 ms | 7.2 W | IB-98300-31 | £105.00 | IB-98300-41 | £105.00 |
| Three-way valves (see flow pattern 1) | | | | | | | | | |
| 1/4-28 UNF(F) | 1.58 mm | 16 LPM | 2.0 bar | 15 ms | 1.5 W | IB-01367-72 | £69.00 | IB-01367-52 | £66.00 |
| 1/4-28 UNF(F) | 1.58 mm | 45 LPM | 6.8 bar | 20 ms | 6.2 W | IB-98300-62 | £71.00 | IB-98300-72 | £71.00 |
| 1/4-28 UNF(F) | 2.38 mm | 31 LPM | 2.0 bar | 20 ms | 4.2 W | IB-98300-02 | £96.00 | IB-98300-12 | £96.00 |
| 1/8" NPT(F) | 3.96 mm | 62 LPM | 2.0 bar | 30 ms | 7.2 W | IB-98300-32 | £121.00 | IB-98300-42 | £121.00 |

* Specified flow rates are for air



Isolation Valves

Plastic Compact Ball Valves

Control flow with the 90° rotating handle. The valve has a one piece PVC body which reduces risk of leakage.

Specification

Material: PVC body, EDPM seals

Maximum Pressure: 10.3 Bar @ 20°C

Temperature: 0-60°C

Ordering Information

| Cat. No. | Connections | Price |
|-------------|----------------|-------|
| IB-01114-UK | 1/2" BSPP(F) | £4.20 |
| IB-01115-UK | 3/4" BSPP(F) | £4.20 |
| IB-01116-UK | 1" BSPP(F) | £5.00 |
| IB-01117-UK | 1 1/4" BSPP(F) | £6.00 |
| IB-01118-UK | 1 1/2" BSPP(F) | £8.00 |
| IB-01119-UK | 2" BSPP(F) | £9.00 |



Plastic Double Union Ball Valves

This CPVC body ball valve:

- Conforms to BS21, DIN 2999, ISO 7 std
- WRc approved for use with potable water
- Quick fit and re-fit

Specification

Material: CPVC body, EDPM seals

Maximum Pressure: 16 Bar @ 20°C

Temperature: 0-60°C

| Cat. No. | Connections | Price |
|-------------|----------------|--------|
| IB-01127-UK | 3/8" BSPP(F) | £11.00 |
| IB-01128-UK | 1/2" BSPP(F) | £11.00 |
| IB-01129-UK | 3/4" BSPP(F) | £12.50 |
| IB-01130-UK | 1" BSPP(F) | £20.00 |
| IB-01131-UK | 1 1/4" BSPP(F) | £24.50 |
| IB-01132-UK | 1 1/2" BSPP(F) | £31.00 |
| IB-01133-UK | 2" BSPP(F) | £45.00 |



Chrome Plated Mini Ball Valve

Low cost chrome plated brass ball valve, suitable for use with water, oils, compressed air and other non-aggressive gases and fluids.

Specification

Material: Chrome plated brass
PTFE seals and O-rings

Maximum Pressure: 15 Bar

Temperature: -30 to 180°C

| Cat. No. | Connections | Price |
|-------------|--------------|-------|
| IB-01032-UK | 1/8" BSPP(F) | £1.88 |
| IB-01033-UK | 1/4" BSPP(F) | £1.88 |
| IB-01034-UK | 3/8" BSPP(F) | £2.00 |
| IB-01035-UK | 1/2" BSPP(F) | £2.21 |
| IB-01036-UK | 3/4" BSPP(F) | £3.23 |



| Cat. No. | Connections | Price |
|-------------|------------------------|-------|
| IB-01037-UK | 1/8"(M) X 1/8"(F) BSPP | £1.88 |
| IB-01038-UK | 1/4"(M) X 1/4"(F) BSPP | £1.88 |
| IB-01039-UK | 3/8"(M) X 3/8"(F) BSPP | £2.00 |
| IB-01040-UK | 1/2"(M) X 1/2"(F) BSPP | £2.21 |
| IB-01041-UK | 3/4"(M) X 3/4"(F) BSPP | £3.23 |

Chrome Plated Ball Valve

Low cost chrome plated brass ball valve, suitable for use with water, oils, compressed air and other non-aggressive gases and fluids:

- DVGW approval rated to PN4

Specification

Material: Chrome plated brass, Viton O-rings

Steel handle

Temperature: -30 to 180°C

| Cat. No. | Connections | Max Pressure | Price |
|-------------|----------------|--------------|--------|
| IB-01016-UK | 1/4" BSPP(F) | 29.6 Bar | £2.93 |
| IB-01017-UK | 3/8" BSPP(F) | 29.6 Bar | £3.25 |
| IB-01018-UK | 1/2" BSPP(F) | 29.6 Bar | £3.75 |
| IB-01019-UK | 3/4" BSPP(F) | 29.6 Bar | £5.00 |
| IB-01020-UK | 1" BSPP(F) | 29.6 Bar | £7.00 |
| IB-01021-UK | 1 1/4" BSPP(F) | 24.8 Bar | £11.50 |
| IB-01022-UK | 1 1/2" BSPP(F) | 24.8 Bar | £16.00 |
| IB-01023-UK | 2" BSPP(F) | 24.8 Bar | £24.00 |



Stainless Steel Ball Valve

This reduced bore stainless steel ball valve has:

- 316 SS one piece body with blowout proof stem
- Lockable handle

Specification

Material: 316SS, PTFE seals, 304SS handle

Maximum Pressure: 69 Bar

Temperature: -30 to 180°C

| Cat. No. | Connections | Price |
|-------------|----------------|--------|
| IB-01106-UK | 1/4" BSPP(F) | £9.50 |
| IB-01107-UK | 3/8" BSPP(F) | £10.32 |
| IB-01108-UK | 1/2" BSPP(F) | £12.71 |
| IB-01109-UK | 3/4" BSPP(F) | £15.44 |
| IB-01110-UK | 1" BSPP(F) | £19.71 |
| IB-01111-UK | 1 1/4" BSPP(F) | £25.54 |
| IB-01112-UK | 1 1/2" BSPP(F) | £26.21 |
| IB-01113-UK | 2" BSPP(F) | £42.32 |



Economical Heavy-Duty Carboys, PP

Heavy-duty graduated polypropylene (PP) carboys feature octagonal shape for increased rigidity when full. Models with the durable, leakproof spigot are supplied with a tube fitting to accept 0.31" (8-mm) ID tubing. The 5-liter carboy measures 7½"L x 7½"W x 10½"H; the 10-liter carboy measures 9¾"L x 9¾"W x 14½"H; the 20-liter carboy measures 11½"L x 11½"W x 16½"H. Carboys include a PP screw closure. Autoclavable.



| Catalogue number | Liters | Cap size | Qty/ pk | Price/ 1 pk | Save 10% 6-29 pks | Save 15% 30-119 pks | Save 20% 120+ pks |
|---|--------|----------|---------|-------------|-------------------|---------------------|-------------------|
| Heavy-duty carboys with shoulder handle, PP | | | | | | | |
| IB-62507-00 | 5 | 45 mm | 1 | £15.00 | £13.50 | £12.75 | £12.00 |
| IB-62507-10 | 10 | 90 mm | | £25.31 | £22.78 | £21.51 | £20.25 |
| IB-62507-20 | 20 | 90 mm | | £31.25 | £28.13 | £26.56 | £25.00 |
| Heavy-duty carboys with shoulder handle and spigot, PP | | | | | | | |
| IB-62507-05 | 5 | 45 mm | 1 | £30.21 | £27.19 | £25.68 | £24.17 |
| IB-62507-15 | 10 | 90 mm | | £38.84 | £34.96 | £33.01 | £31.07 |
| IB-62507-25 | 20 | 90 mm | | £40.31 | £36.28 | £34.26 | £32.25 |

IB-62507-90 Replacement spigot, PP. Pack of one£9.89/pk

NALGENE® Rectangular Carboys with Handles, HDPE

Space-saving leakproof rectangular carboys feature liter/gallon graduations and built-in shoulder loops with steel handles. Carboys with quick-action spigots accept 5/8" ID tubing, come with adapters for ¼" to ½" ID tubing, and feature an integrally molded threaded boss. Aspirator carboys feature integral tubulation for ½" ID tubing. All 9-liter carboys measure 5¾"W x 13½"H x 8½"D; 20-liter carboys measure 8¾"W x 15"H x 12½"D.



| Catalogue number | Liters | Cap size | Qty/ pk | Price/ 1 pk | Save 10% 6-29 pks | Save 15% 30-119 pks | Save 20% 120+ pks |
|--|--------|----------|---------|-------------|-------------------|---------------------|-------------------|
| Rectangular carboys, HDPE | | | | | | | |
| IB-06032-20 | 9 | 100 mm | 1 | £35.09 | £31.58 | £29.83 | £28.07 |
| IB-06032-50 | 20 | | | £52.00 | £46.80 | £44.20 | £41.60 |
| Rectangular carboys with quick-action spigot, HDPE | | | | | | | |
| IB-06066-20 | 9 | 100 mm | 1 | £61.00 | £54.90 | £51.85 | £48.80 |
| IB-06066-50 | 20 | | | £80.00 | £72.00 | £68.00 | £64.00 |
| Rectangular aspirator carboys with tubulation, HDPE | | | | | | | |
| IB-06082-20 | 9 | 100 mm | 1 | £44.24 | £39.82 | £37.60 | £35.39 |
| IB-06082-50 | 20 | | | £60.00 | £54.00 | £51.00 | £48.00 |

IB-06070-22 Replacement quick-action spigot, PP£14.96/ea

IB-63000-16 Replacement cap; PP, 100 mm. Pack of 12£24.10/pk

UN-Approved Five-Gallon Container, HDPE

This sturdy UN- and FDA-approved container is ideal for shipping, liquid storage, and shelf dispensing. It has an 18-mm, molded-in vent cap and a 70-mm linear LDPE screw cap with ¾" NPT(F) thread that accommodates the optional spigot or plastic drum faucet listed below. Also available are double-wall, 350-lb test shipping cartons for containers.



Order optional plastic drum faucet separately at right.

| Catalogue number | Liters | Cap size | Qty/ pk | Price/ 1 pk | Save 10% 6-29 pks | Save 15% 30-119 pks | Save 20% 120+ pks |
|------------------|--------|----------|---------|-------------|-------------------|---------------------|-------------------|
| IB-06060-10 | 20 | 70 mm | 1 | £8.91 | £8.02 | £7.57 | £7.13 |

IB-06060-02 Spigot, vented ¾" NPT(M) LDPE£3.48/ea

IB-06078-00 Plastic drum faucet, ¾" NPT(M) LDPE. Pack of six£14.38/pk

IB-06060-01 Shipping carton for 20 L (5 gal) container. Pack of 12£31.88/pk



06069-10

NALGENE® Jerricans with Handle, HDPE

Rugged jerricans are built wide and low for stability. Integral spout allows accurate pouring. Liter and gallon graduations are molded in. Strap-fastened polypropylene (PP) screw closure.

| Catalogue number | Liters | Cap size | Qty/ pk | Price/ 1 pk | Save 10% 6-29 pks | Save 15% 30-119 pks | Save 20% 120+ pks |
|------------------|--------|----------|---------|-------------|-------------------|---------------------|-------------------|
| IB-06069-10 | 6 | 53B | 1 | £26.97 | £24.27 | £22.92 | £21.58 |
| IB-06069-20 | 10 | | | £30.57 | £27.51 | £25.98 | £24.46 |
| IB-06069-25 | 13 | | | £44.30 | £39.87 | £37.66 | £35.44 |
| IB-06069-30 | 20 | | | £44.24 | £39.82 | £37.60 | £35.39 |

Plastic Trolleys

- ▶ Lightweight and Strong
- ▶ Resistant to Acids and Alkalies
- ▶ Easy to clean
- ▶ Non-marking wheels

The Platforms are made from injection moulded reinforced plastic with handles of chromed steel. All trolleys are supplied flat packed.



40UK1-10



40UK1-00

| Cat. No. | Load Capacity | Overall Dimensions (L x W x H) mm | No Of Shelves | Shelf Clearance | Shpg. Wt. | Price |
|-------------|---------------|-----------------------------------|---------------|-----------------|-----------|---------|
| IB-40UK1-00 | 250 kg | 810 x 500 x 930 | 2 | 493 mm | 20 kg | £140.50 |
| IB-40UK1-10 | 250 kg | 810 x 500 x 930 | 3 | 230 mm | 25 kg | £163.90 |



Multipurpose Trolley

- ▶ Versatile
- ▶ Will not rust, dent or chip
- ▶ Easy to clean
- ▶ Super Strong Polyethylene Moulded Trolleys
- ▶ Free mallet for easy assembly

Multipurpose trolleys constructed from a non-conductive material and unaffected by battery acid, solvents and cleaning solutions. Available in a combination of flat shelves (models 40UK2-00, -10 and -20) and deep storage trays (models 40UK2-30 and -40). Model 40UK2-20 has a top flat shelf and a lower cupboard. All trolleys are supplied flat packed.



40UK2-20



40UK2-40



40UK2-30



| Cat. No. | Description | Load Capacity | Overall Dimensions (L x W x H) mm | No Of Shelves | Shelf Clearance | Shpg. Wt. | Price |
|-------------|--|---------------|-----------------------------------|---------------|-----------------|-----------|---------|
| IB-40UK2-00 | 2 Shelf Trolley | 120 kg | 890 x 610 x 880 | 2 | 635 mm | 16 kg | £140.30 |
| IB-40UK2-10 | 3 Shelf Trolley | 120 kg | 890 x 610 x 865 | 3 | 280 mm | 22 kg | £169.85 |
| IB-40UK2-20 | Top flat shelf, cupboard with flat shelf | 120 kg | 895 x 615 x 1230 | 2 | 495 mm | 39 kg | £351.05 |
| IB-40UK2-30 | 3 Storage Trays | 175 kg | 920 x 640 x 975 | 3 | 280 mm | 24 kg | £233.50 |
| IB-40UK2-40 | 2 Storage Trays | 175 kg | 920 x 640 x 960 | 2 | 635 mm | 20 kg | £172.95 |

Stainless Steel Trolleys

- ▶ Hygienic
- ▶ Reversible Tray / Shelves (medium and heavy duty range only)

Manufactured from 304 stainless steel these trolleys are designed for use where hygiene is important. The medium and heavy duty trolleys are fitted with reversible shelves so that you can select either a flat surface without walls or a tray with side walls. All trolleys are fitted with four swivel, non-marking 100mm dia wheels.



| Cat. No. | Description | Load Capacity | Overall Dimensions (L x W x H) mm | No Of Shelves | Shelf Clearance | Shpg. Wt. | Price |
|-------------|-------------|---------------|-----------------------------------|---------------|-----------------|-----------|---------|
| IB-40UK3-00 | Light Duty | 100 kg | 680 x 450 x 900 | 2 | 582 mm | 7 kg | £185.10 |
| IB-40UK3-05 | Light Duty | 100 kg | 680 x 450 x 900 | 3 | 280 mm | 8.5 kg | £218.90 |
| IB-40UK3-10 | Medium Duty | 120 kg | 650 x 400 x 910 | 2 | 545 mm | 13.5 kg | £208.55 |
| IB-40UK3-15 | Medium Duty | 120 kg | 650 x 400 x 910 | 3 | 255 mm | 14.5 kg | £242.30 |
| IB-40UK3-20 | Medium Duty | 120 kg | 800 x 500 x 910 | 2 | 545 mm | 16 kg | £250.35 |
| IB-40UK3-25 | Medium Duty | 120 kg | 800 x 500 x 910 | 3 | 255 mm | 19.5 kg | £291.35 |
| IB-40UK3-30 | Heavy Duty | 150 kg | 670 x 400 x 910 | 2 | 676 mm | 17 kg | £227.85 |
| IB-40UK3-35 | Heavy Duty | 150 kg | 670 x 400 x 910 | 3 | 316 mm | 20 kg | £277.45 |
| IB-40UK3-40 | Heavy Duty | 150 kg | 820 x 500 x 910 | 2 | 676 mm | 19 kg | £270.05 |
| IB-40UK3-45 | Heavy Duty | 150 kg | 820 x 500 x 910 | 3 | 316 mm | 24 kg | £342.65 |

Heavy Duty Cart

- ▶ Heavy Duty Trolleys - Suitable for regular use.



Carts are made from square tubular steel, with a rounded steel handlebar. Each tray is made of steel and has a 40 mm lip to prevent items sliding off. All carts have two fixed and two swivel castors.



More
info



For a range of Storage Cabinets see page 71

| Cat. No. | Load Capacity | Overall Dimensions (L x W x H) mm | No Of Shelves | Shelf Clearance | Shpg. Wt. | Price |
|-------------|---------------|-----------------------------------|---------------|-----------------|-----------|---------|
| IB-40UK4-10 | 350 kg | 900 x 500 x 850 | 3 | 210 mm | 40 kg | £278.90 |
| IB-40UK4-20 | 350 kg | 900 x 500 x 900 | 3 | 265 mm | 43 kg | £292.05 |
| IB-40UK4-30 | 350 kg | 900 x 500 x 1110 | 3 | 216 mm | 42 kg | £288.20 |
| IB-40UK4-40 | 350 kg | 900 x 500 x 1200 | 3 | 265 mm | 45 kg | £300.95 |

Reinforced Plastic Platform Truck

- ▶ Lightweight and Strong
- ▶ Resistant to Acids and Alkalies
- ▶ Easy to clean
- ▶ Non-marking wheels

The platforms are made from injection moulded reinforced plastic with handles of chromed steel. 125mm rubber castors, two fixed, two swivel.

| Cat. No. | Load Capacity | Overall Dimensions (L x W x H) mm | Shpg. Wt. | Price |
|-------------|---------------|-----------------------------------|-----------|---------|
| IB-40UK5-10 | 250 kg | 810 x 500 x 860 | 14 kg | £94.15 |
| IB-40UK5-20 | 250 kg | 810 x 500 x 860 | 13 kg | £87.50 |
| IB-40UK5-30 | 250 kg | 810 x 500 x 860 | 16 kg | £109.00 |



Steel Platform Truck

- ▶ Chrome handle
- ▶ Galvanised sheet steel platform
- ▶ Handle folds flat for compact storage

Profiled galvanised sheet steel platform, which is corrosion resistant. Finished with all round PVC bumper strips and two swivel, two fixed 100 x 45mm rubber castors

| Cat. No. | Load Capacity | Overall Dimensions (L x W x H) mm | Shpg. Wt. | Price |
|-------------|---------------|-----------------------------------|-----------|--------|
| IB-40UK6-00 | 300 kg | 880 x 590 x 860 | 25 kg | £89.20 |

Heavy Load Capacity Platform Truck

- ▶ Steel frame protects wood edges
- ▶ Manoeuvrable
- ▶ Strong - suitable for loads up to 500kg

Ideal for heavy loads (up to 500kg). Decking is of varnished plywood, supported by steel frame, sides and ends are fixed in position.

Finish: Epoxy powder coated Blue.

| Cat. No. | Load Capacity | Overall Dimensions (L x W x H) mm | Shpg. Wt. | Price |
|-------------|---------------|-----------------------------------|-----------|---------|
| IB-40UK7-10 | 500 kg | 1000 x 700 x 880 | 28 kg | £123.65 |
| IB-40UK7-20 | 500 kg | 850 x 500 x 880 | 25.5 kg | £120.20 |



Storage Cabinets

- ▶ A robustly constructed range of cabinets providing safe storage for flammable liquids
- ▶ Manufactured from 1.2mm zinc coated sheet steel for extra strength and improved protection from fire penetration.
- ▶ Designed to comply with flammable liquid storage regulations (1972) as appropriate and Health and Safety guidance notes HSG51 and CS19.
- ▶ Comply with factory inspectorate certificate of approval No. 1 Parts 3 and 4.
- ▶ All formed welded seams. Doors are fitted with vertical reinforcement panels to prevent distortion
- ▶ Produced with return flange around doors and joints to prevent passage of flame.
- ▶ Fitted with all metal security locks, supplied with two keys.
- ▶ Adjustable shelves to 75mm centres
- ▶ Base of each unit is fitted with large capacity removable sump to contain any spillage.
- ▶ Floor stands are available for the five smallest sizes, raising the units by 450mm.

Highly Flammable Storage Cabinets



- ▶ Finished in stove enamel yellow
- ▶ Supplied with appropriate labels to BS5378 standard.

Acid Storage Cabinets



- ▶ Supplied with the Acid warning label conforming to BS5378 and 92/58
- ▶ Stove enamel carcass with the shelves and sump tray finished in white polyester powder coating which is impervious to most Acids and Alkalis

| Overall Dimensions (D x L x H) mm | No Of Shelves | Doors | Shpg. Wt. | Highly Flammable | | Acid | |
|--------------------------------------|------------------|--------|--------------|------------------|---------|-------------|---------|
| | | | | Cat. No. | Price | Cat. No. | Price |
| 483 x 458 x 765 | 1 | Single | 15 kg | IB-40UK8-00 | £192.90 | IB-40UK9-00 | £222.65 |
| 483 x 458 x 915 | 1 | Single | 25 kg | IB-40UK8-05 | £213.65 | IB-40UK9-05 | £243.40 |
| 306 x 610 x 610 | 1 | Double | 20 kg | IB-40UK8-10 | £209.15 | IB-40UK9-10 | £238.90 |
| 483 x 915 x 710 | 1 | Double | 45 kg | IB-40UK8-15 | £257.00 | IB-40UK9-15 | £286.75 |
| 483 x 915 x 915 | 2 | Double | 55 kg | IB-40UK8-20 | £292.95 | IB-40UK9-20 | £332.60 |
| 483 x 915 x 1220 | 2 | Double | 65 kg | IB-40UK8-25 | £352.35 | IB-40UK9-25 | £392.05 |
| 483 x 915 x 1500 | 3 | Double | 80 kg | IB-40UK8-30 | £438.05 | IB-40UK9-30 | £477.70 |
| 483 x 915 x 1830 | 3 | Double | 100 kg | IB-40UK8-35 | £456.20 | IB-40UK9-35 | £495.90 |

IB-40UK8-40 Floor Stand for 40UK8- 00 to -20.....£109.50
 IB-40UK9-40 Floor Stand for 40UK9- 00 to -20.....£109.50

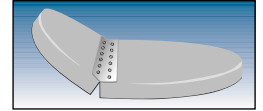
Low-Profile Cylindrical Tanks with Hinged Cover

► Low-profile design allows for convenient mixing and filling

Tanks are available in either polyethylene (PE) or polypropylene (PP). PE tanks have excellent chemical and impact resistance and are translucent. PP tanks have excellent chemical and stress crack resistance. All tanks are self supporting. Resins comply with FDA standard 177.1520 (c) 3.1 and 3.2. Polyethylene covers with a flexible PP hinge and stainless steel (SS) rivets are also available—order below.



06925-60



Cover 06925-80 with PP hinge and SS rivets

| Gallon (liter) | Dimensions (H x OD) | PE tanks | | | PP tanks | | | Covers (PP hinge) | | |
|----------------|---------------------|------------------|-------|--------|------------------|-------------|--------|-------------------|-------------|---------|
| | | Catalogue number | Wall | Price | Catalogue number | Wall | Price | Catalogue number | Price | |
| 5 (19) | 13" x 11" | IB-06925-58 | 3/16" | £19.00 | IB-06925-68 | 3/16" | £32.50 | IB-06925-78 | £33.00 | |
| 12 (45) | 16" x 15" | IB-06925-60 | | — | £58.00 | — | — | IB-06925-80 | £26.00 | |
| 17 (64) | 15" x 18" | IB-06925-61 | | — | £33.13 | IB-06925-71 | 3/16" | £92.00 | IB-06925-81 | £39.00 |
| 28 (106) | 18" x 22" | IB-06925-62 | | — | £99.00 | — | — | IB-06925-82 | £52.00 | |
| 55 (208) | 36" x 22" | IB-06925-51 | | — | £137.00 | IB-06925-52 | 3/16" | £186.00 | IB-06925-53 | £51.00 |
| 73 (276) | 24" x 30" | IB-06925-63 | | — | £320.00 | IB-06925-73 | 3/16" | £430.00 | IB-06925-83 | £78.00 |
| 90 (341) | 30" x 30" | IB-06925-65 | | — | £380.00 | IB-06925-75 | 3/16" | £380.00 | IB-06925-85 | £81.00 |
| 105 (398) | 24" x 36" | IB-06925-66 | | — | £340.00 | IB-06925-76 | 3/16" | £520.00 | IB-06925-86 | £110.00 |
| 125 (473) | 30" x 36" | IB-06925-67 | | — | £510.00 | IB-06925-77 | 3/16" | £590.00 | IB-06925-87 | £110.00 |

06317-50



06317-56

Cylindrical Tanks with Covers

► Seamless tanks are rotation molded

Cylindrical tanks have rounded corners and have an outside rim flange for strength and ease of handling. Tanks with 30-gallon capacity or less have a raised-center bottom for complete drainage. Tanks with 55-gallon capacity or more have a spoked bottom.

High-density polyethylene (HDPE) tanks with needle-type polypropylene spigot have 1 1/8"-12 female screw thread. Spigot is mounted on a welded polyethylene boss and accepts 5/8" ID tubing.

Polypropylene (PP) tanks offer good stress-crack and chemical resistance. Maximum service temperature up to 104°C (220°F).

| Liters | H cm | OD* cm | Cal Liters | HDPE tanks | | | HDPE tanks with spigot | | | Polypropylene tanks | | | PVDF tanks | | |
|--------|------|--------|------------|-------------|--------|-----------|------------------------|--------|---------|---------------------|--------|-----------|-------------|--------|-----------|
| | | | | Cat. no. | Wall | Price | Cat. no. | Wall | Price | Cat. no. | Wall | Price | Cat. no. | Wall | Price |
| 19 | 38 | 28 | 2 | IB-06317-50 | 4.7 mm | £33.44 | IB-06317-51 | 4.7 mm | £52.00 | IB-06317-53 | 4.7 mm | £58.00 | IB-06948-00 | 2.4 mm | £440.00 |
| 57 | 69 | 33 | 4 | IB-06317-65 | 4.7 mm | £82.00 | IB-06317-66 | 4.7 mm | £114.00 | IB-06317-68 | 4.7 mm | £102.00 | IB-06948-06 | 2.4 mm | £821.00 |
| 114 | 76 | 46 | 10 | IB-06317-70 | 4.7 mm | £130.00 | IB-06317-71 | 4.7 mm | £146.00 | IB-06317-73 | 4.7 mm | £164.00 | IB-06948-08 | 2.4 mm | £800.00 |
| 208 | 91 | 56 | 10 | IB-06317-75 | 6.3 mm | £212.00 | IB-06317-76 | 6.3 mm | £227.00 | IB-06317-78 | 6.3 mm | £243.00 | IB-06948-10 | 3.1 mm | £1,400.00 |
| 303 | 122 | 61 | 20 | IB-06317-80 | 6.3 mm | £350.00 | — | — | — | IB-06317-83 | 6.3 mm | £450.00 | — | — | — |
| 379 | 112 | 71 | 20 | IB-06317-10 | 6.3 mm | £420.00 | — | — | — | IB-06317-13 | 6.3 mm | £570.00 | IB-06948-12 | 7.9 mm | £2,320.00 |
| 568 | 124 | 79 | 40 | IB-06317-20 | 6.3 mm | £590.00 | — | — | — | IB-06317-23 | 6.3 mm | £700.00 | IB-06948-14 | 7.9 mm | £3,080.00 |
| 757 | 130 | 91 | 100 | IB-06317-31 | 6.3 mm | £650.00 | — | — | — | IB-06317-34 | 6.3 mm | £770.00 | IB-06948-16 | 7.9 mm | £3,620.00 |
| 1041 | 124 | 107 | 100 | IB-06317-41 | 6.3 mm | £870.00 | — | — | — | IB-06317-44 | 6.3 mm | £1,020.00 | IB-06948-18 | 7.9 mm | £4,500.00 |
| 1363 | 124 | 122 | 100 | IB-06317-85 | 6.3 mm | £1,100.00 | — | — | — | IB-06317-88 | 6.3 mm | £1,290.00 | — | — | — |
| 1893 | 157 | 135 | 100 | IB-06318-86 | 7.9 mm | £1,630.00 | — | — | — | — | — | — | — | — | — |

*Measured at bottom of tank. Add 2" for approximate OD at top of tank.

Cylindrical Closed-Dome Tanks

► FDA Compliant

All tanks have a threaded screw closure with gasket that securely fits the 6 1/4" fill well. Two mounting flats near the bottom, set 180° apart, permit installation of a bulkhead fitting up to 2".

HDPE tanks have a 2" bung with cap on the top that permits access for tubing or piping. All tanks comply with FDA Regulation 177.1520. PP tanks can be repeatedly autoclaved.

The 30- and 55-gallon tanks are graduated at every 2.5 gallons (10 liters); the 100-gallon tanks are graduated at every 10 gallons (50 L). Domed bottom drains fluid into narrow trough around base rim.

| Catalogue number | Gal. (liters) | Dimensions (H x OD) | Wall thickness | Price |
|-------------------------------|---------------|---------------------|----------------|---------|
| HDPE closed-dome tanks | | | | |
| IB-06318-70 | 30 (114) | 36 3/4" x 18" | 0.187" | £160.00 |
| IB-06318-75 | 55 (208) | 39 1/2" x 22" | 0.250" | £237.00 |
| IB-06318-90 | 100 (379) | 51 1/4" x 28 1/2" | 0.250" | £500.00 |
| PP closed-dome tanks | | | | |
| IB-50301-52 | 30 (114) | 36 3/4" x 18" | 0.250" | £371.00 |
| IB-50301-54 | 55 (208) | 39 1/2" x 22" | 0.250" | £457.00 |
| IB-50301-56 | 100 (379) | 51 1/4" x 28 1/2" | 0.312" | £600.00 |



06318-70

Test, Measurement & Control

- ▶ Automatic Keypad calibration
- ▶ Parts counting and percent weighing
- ▶ Full-scale tare, overload protection and battery saving SLEEP mode
- ▶ Stainless steel weigh pan

From bench-test engineering to plant floor process line monitoring, Cole-Parmer is here to ensure you have correct test, measurement and control product for your application. At Cole-Parmer you will find:

- An extensive line of pH, temperature and conductivity measurement and control instrumentation including our renowned Oakton®, Digi-Sense® and Eutech lines.
- New or expanded product lines: Force, Pressure and Dataloggers

| Section | Page |
|--------------|-------|
| Balance | 73-75 |
| Conductivity | 76 |
| Dataloggers | 77-80 |
| Force | 81-82 |
| Humidity | 83 |
| pH | 84-86 |
| Pressure | 87-89 |
| Temperature | 90-97 |

AND Digital Scales

- ▶ Stainless steel weighing pan
- ▶ Keypad calibration
- ▶ Stability indicator
- ▶ Full-scale tare and automatic shutoff

What's included: detachable weighing pan. Balance operates on six D batteries or 240VAC UK adapter - order separately below.

Accessories

IB-11115-55 Adapter; 240 VAC UK£20.00

IB-09376-03 Batteries; 1.5 V, D. Pack of four£6.29/pk

Specifications & Ordering Information

Calibration: internal Automatic shut-off: yes Stability indicator: yes Shipping wt: 3.2 Kg

2 year warranty

| Cat No. | IB-11115-00 | IB-11115-10 | IB-11115-20 | IB-11115-22 | IB-11115-24 | IB-11115-36 |
|----------------|--|-------------|-------------|-------------|-------------|-------------|
| Capacity | 1000 g | 2000 g | 5000 g | 10 Kg | 20 Kg | 30 Kg |
| Readability | 0.5 g | 1 g | 2 g | 0.005 Kg | 0.01 Kg | 0.02 Kg |
| Accuracy | ±0.5 g | ±1 g | ±2 g | ±0.005 Kg | ±0.01 Kg | ±0.02 Kg |
| Pan Size | 190mm W x 230mm L | | | | | |
| Weighing Units | K(g) | | | | | |
| Power | Six D batteries (not included) or 240VAC UK adapter (not included) | | | | | |
| Price | £117.00 | £117.00 | £117.00 | £117.00 | £117.00 | £143.00 |



Denver Instruments Portable Balances

- ▶ Automatic Keypad calibration
- ▶ Parts counting and percent weighing
- ▶ Full-scale tare, overload protection and battery saving SLEEP mode
- ▶ Stainless steel weigh pan

What's included: one 9V lead acid rechargeable battery and a 240VAC UK adapter.

Specifications & Ordering Information

Calibration: external, with calibration mass Shipping wt: 2.5 Kg

Automatic shut-off: yes

2 year warranty

| Cat No. | IB-11417-31 | IB-11417-41 | IB-11417-51 | IB-11417-61 |
|-------------------|--|-------------|-------------|-------------|
| Capacity | 300 g | 600 g | 1500 g | 3000 g |
| Readability | 0.01 g | 0.02 g | 0.05 g | 0.1 g |
| Accuracy | ±0.01 g | ±0.02 g | ±0.05 g | ±0.1 g |
| Pan Size | 127mm W x 178mm L | | | |
| Weighing Units | g, ct, lb, oz, dram, gn, oz t, dwt, momme, tjl, tlt, tlh, tael | | | |
| Calibration Mass* | 200 g | 500 g | 1000 g | 2000 g |
| Power | One 9V rechargeable battery (included) or 240VAC UK adapter (included) | | | |
| Price | £310.00 | £310.00 | £310.00 | £310.00 |

*Recommended calibration mass is not included

New



Denver Instruments APEX Toploading Balances

- ▶ Easy operation
- ▶ Incorporates latest single-block weighing technology
- ▶ RS232 bi-directional interface lets you connect the balance to a computer or printer
- ▶ Parts counting and percent weighing



Accessories

- IB-114UK-06 RS-232 cable, 9-pin to 25-pin£68.00
 IB-114UK-07 RS-232 cable, 9-pin to 9-pin£68.00

Specifications & Ordering Information

Calibration: external, with calibration mass
Output: built-in, bi-directional RS-232

Weighing units: g, oz, lb, oz t, ct, dwt, gn, tael, pcs
Stability filters: three user-selectable filter settings, filter out drafts and vibrations

Power: 240 VAC UK adapter (included)
Shipping wt: 2 Kg

2 year warranty

| Cat No. | Price | Capacity | Readability | Repeatability | Linearity | Pan Size | Calibration* |
|-------------|---------|----------|-------------|---------------|-----------|-------------------|--------------|
| IB-11419-01 | £695.00 | 150 g | 0.001 g | ±0.001 g | ±0.002 g | 114mm dia | 100 g |
| IB-11419-03 | £755.00 | 200 g | | | | | 200 g |
| IB-11419-05 | £520.00 | 400 g | | | | | 200 g |
| IB-11419-07 | £600.00 | 600 g | 0.01 g | ±0.01 g | ±0.02 g | | 500 g |
| IB-11419-09 | £695.00 | 1500 g | | | | | 1000 g |
| IB-11419-11 | £470.00 | 2000 g | | | | | 2000 g |
| IB-11419-13 | £570.00 | 4000 g | 0.1 g | ±0.1 g | ±0.2 g | 127mm W x 178mm L | 2000 g |
| IB-11419-15 | £625.00 | 6000 g | | | | | 5000 g |

*Recommended calibration mass is not included

AD Autocalibrating Analytical Balances

- ▶ Parts counting, percent weighing, below-balance weighing, and 13 multiple weighing units
- ▶ Automatic self calibration
The balance automatically self-calibrates when ambient temperature exceeds a preset range
- ▶ One-touch calibration allows quick calibration with one press of the CAL key
- ▶ Data memory function
The balance stores up to 200 sets of weighing data. This data can be output by numerical codes
- ▶ GLP/GMP compliant
Allows GLP/GMP management by outputting the balance ID number and weight used to calibrate the balance
- ▶ Splash proof keyboard and display

EC Trade Approved options available

For details contact our sales consultants on 0500 345 300



Easily open and close either right or left side door using the convenient control lever—doors slide into the housing and out of the way.

Specifications & Ordering Information

2 year warranty

Calibration: Internal Calibration
Weighing units: g, mg, oz, oz t, ct, dwt, gn, tael, tola, momme

Output: Built-in bidirectional RS232 interface

Power: 240VAC UK Adapter (included)
Shipping wt: 7 Kg

| Cat. No. | IB-11100-60 | IB-11100-70 | IB-11100-90 | IB-11100-80 |
|---------------|-------------|-------------|-------------|--------------|
| Capacity | 120 g | 210 g | 300 g | 42 g/210 g |
| Readability | | 0.1 mg | | 0.01/0.1 mg |
| Repeatability | | ±0.1 mg | | ±0.02/0.1 mg |
| Linearity | | ±0.2 mg | | ±0.03/0.2 mg |
| Pan size | 85mm dia | | | |
| Price | £1,495.00 | £1,595.00 | £2,295.00 | £2,295.00 |



- ▶ Stability indicator and auto-off timer
- ▶ Mount the indicator stand to the scale base, above the scale platform, or on the wall.

What's included: scale base, indicator, 240VAC UK power adapter, mounting bracket, and screws.

Specifications & Ordering Information

Calibration: external **Overload capacity:** 150%
Output: none **Power:** 240VAC UK Power Adapter (included) or six AA batteries (not included)
Weighing units: kg, lb, oz (models 01006-67); kg, lb, oz, lb oz (all other models) **Shipping wt:** 18 Kg

2 year warranty



| Cat No. | IB-01006-07 | IB-01006-17 | IB-01006-27 | IB-01006-37 | IB-01006-47 | IB-01006-57 |
|----------------|---------------------------------------|-------------|-------------|-------------------|-------------|-------------|
| Capacity | 6 Kg | 30 Kg | 50 Kg | 50 Kg | 100 Kg | 200 Kg |
| Readability | 2 g | 10 g | 20 g | 20 g | 50 g | 100 g |
| Linearity | ±2 g | ±10 g | ±20 g | ±20 g | ±50 g | ±100 g |
| Pan Size | 270mm W x 310mm L | | | 400mm W x 520mm L | | |
| Frame Material | Stainless Steel Platform - IP65 rated | | | | | |
| Price | £199.00 | £199.00 | £199.00 | £299.00 | £299.00 | £379.00 |

Low Cost Calibration Masses

- ▶ Cast iron masses have recessed grip handle for easy lifting

| Mass | tolerance | Cat. no. | Price |
|-------|-----------|-------------|--------|
| 25 lb | 0.9 g | IB-01025-68 | £50.00 |
| 30 lb | 1.4 g | IB-01025-64 | £90.00 |
| 50 lb | 2.3 g | IB-01025-66 | £72.00 |
| 10 kg | 1.0 g | IB-01025-72 | £56.00 |
| 20 kg | 2.0 g | IB-01025-74 | £72.00 |
| 25 kg | 2.5 g | IB-01025-76 | £85.00 |



AND Titan Waterproof Scales

- ▶ Platform and display rated IP65 for use in wet and dusty environments
- ▶ Adjustable stainless steel vacuum fluorescent display (VFD)
- ▶ Free WinCT software allows generation of GLP compliant reports via the built-in RS-232 port
- ▶ Comparator, parts counting and percent weighing functions

What's included: scale base, indicator, 240VAC UK power adapter and mounting column.

Accessories

IB-11091-80 RS-232 cable, 9-pin to 25-pin£45.00
 IB-11008-83 RS-232 cable, 9-pin to 9-pin£45.00

Specifications & Ordering Information

Calibration: external **Weighing units:** Kg **Power:** 240VAC UK 50Hz
Output: built-in bi-directional RS-232 interface **Stability filters:** digital filter **Shipping wt:** 19 Kg

2 year warranty

| Cat No. | IB-11750-UK | IB-11756-UK | IB-11752-UK | IB-11758-UK | IB-11754-UK | IB-11760-UK | IB-11762-UK |
|----------------|---|-------------|-------------|-------------------|---------------|-------------------|-------------|
| Capacity | 3/6/15 Kg | 10 Kg | 15/30/60 Kg | 60 Kg | 60/150/220 Kg | 100 Kg | 220 Kg |
| Readability | 1/2/5 g | 1 g | 5/10/20 g | 5 g | 20/50/100 g | 10 g | 20 g |
| Linearity | ± 1/2/5 g | ±2 g | ±5/10/20 g | ±10 g | ±20/50/100 g | ±20 g | ±40 g |
| Pan Size | 250mm W x 250mm L | | | 330mm W x 424mm L | | 390mm W x 530mm L | |
| Frame Material | Stainless Steel Platform - IP65 rated (including display) | | | | | | |
| Price | £695.00 | £695.00 | £795.00 | £795.00 | £895.00 | £895.00 | £895.00 |



Waterproof Microprocessor TDSTests and ECTests

- ▶ Push-button calibration
- ▶ ±1% full scale accuracy
- ▶ Certifiable to IP67—waterproof and dustproof housing that floats
- ▶ Replaceable sensor lets you reuse same meter body, saving you money
- ▶ Hold function, Auto-Off
- ▶ Automatic Temperature Compensation



1 year warranty
excludes sensor

Valox® housing and stainless steel electrodes offer good chemical compatibility. Replaceable sensors let you reuse meter body without losing waterproof protection.

Dimensions: 15 x 4 x 2.5 cm.
Shpg wt.: 0.1 kg each.

Specifications

| | microprocessor TDSTestr low | microprocessor ECTestr low | microprocessor TDSTestr high | microprocessor ECTestr high |
|--------------|--|----------------------------|---|-----------------------------|
| Range | 0 to 1990 ppm | 0 to 1990 µS | 0 to 10.00 ppt | 0 to 19.90 mS |
| Resolution | 10 ppm | 10 µS | 0.10 ppt | 0.10 mS |
| Applications | natural water, tap water, reverse osmosis systems, nutrient solutions in hydroponics | | salt water, waste water, cooling towers, boiler condensate, nutrient solution in hydroponics, salinity in ponds, pools and spas | |
| Accuracy | ±1% full scale | | | |
| Calibration | 1 point push-button | | | |

Microprocessor TDSTests

- IB-35661-11 TDSTestr low£51.00
- IB-35661-21 TDSTestr high£51.00
- IB-35661-31 ECTestr low£51.00
- IB-35661-41 ECTestr high£51.00

Patent Des. # 371,517. Valox—Reg TM General Electric Co.

Replacement sensor

IB-35661-17 Replacement sensor use with any TDSTestr or ECTestr listed at left£31.29



Calibration Pouches

- ▶ Individually sealed standard solution pouches
- ▶ NIST traceable materials for high accuracy
- ▶ ±1% accuracy at 25°C



Single use pouches are sealed to ensure freshness – take these convenient buffer solutions anywhere!

Pouches are labeled with equivalent values for ppm in KCl, NaCl and 442 and Conductivity values at 25°C and CAS numbers for “Right-to-Know” requirements.

Specifications

20 ml of solution per pouch; 20 pouches/box.
Dimensions: 11.4 x 12.7 x 11.4 cm (box).
Shpg wt: 0.5 kg per box.

| Cat. No. | Solution type | Conductivity-to-TDS calibration values | | | Price/box of 20 |
|-------------|---------------|--|----------|---------|-----------------|
| | | ppm KCl | ppm NaCl | ppm 442 | |
| IB-35653-10 | 447 µS | 225.6 | 215.5 | 300.0 | £16.18 |
| IB-35653-11 | 1413 µS | 744.7 | 702.1 | 1000 | £16.18 |
| IB-35653-12 | 2764 µS | 1382 | 1414.8 | 2062.7 | £16.18 |
| IB-35653-13 | 15,000 µS | 8759 | 8532 | 13,455 | £16.18 |

Conductivity/TDS Solution Bottles

- ▶ NIST traceable materials
- ▶ ±1% accuracy at 25°C



OAKTON Conductivity/TDS calibration solutions are cross checked using different test methods, premixed, and ready to use.

Each bottle is labeled with the name and CAS number for all ingredients to conform with “Right-to-Know” requirements, and includes an MSDS.

Solutions come in 500ml bottles.
Dimensions: 19.7 x 5.7 cm dia.
Shpg wt: 0.6 kg.

Specifications

| Cat. No. | Solution type | Conductivity-to-TDS calibration values | | | Price/500ml |
|-------------|---------------|--|----------|---------|-------------|
| | | ppm KCl | ppm NaCl | ppm 442 | |
| IB-00653-23 | 23 µS | 11.6 | 10.7 | 14.74 | £6.36 |
| IB-00653-16 | 84 µS | 40.38 | 38.04 | 50.50 | £6.36 |
| IB-00653-47 | 447 µS | 225.6 | 215.5 | 300.0 | £6.36 |
| IB-00653-18 | 1413 µS | 744.7 | 702.1 | 1000 | £6.36 |
| IB-00653-15 | 1500 µS | 757.1 | 737.1 | 1050 | £6.36 |
| IB-00653-27 | 2070 µS | 1045 | 1041 | 1500 | £6.36 |
| IB-00653-20 | 2764 µS | 1382 | 1414.8 | 2062.7 | £6.36 |
| IB-00653-89 | 8974 µS | 5101 | 4487 | 7608 | £6.36 |
| IB-00606-10 | 12,880 µS | 7447 | 7230 | 11,367 | £7.73 |
| IB-00653-50 | 15,000 µS | 8759 | 8532 | 13,455 | £7.55 |
| IB-00653-32 | 80 mS | 52,168 | 48,384 | 79,688 | £7.73 |

Dataloggers

- ▶ Select datalogger to measure one or more of the following parameters
 - Temperature
 - Humidity
 - Dew Point
 - Current (0-20 mA or 4-20 mA)
 - Voltage (0 to 1V or 0 to 10V)
 - Event logging (open/close relay contact)
- ▶ Choice of models with or without display
- ▶ One, two, three or four channel options
- ▶ Standard models store up to 16,000 readings
Professional models store up to 48,000
- ▶ Non-volatile memory for secure data
- ▶ Professional models sampling can be set between 2 seconds and 24 hours (Standard model 10 seconds and 24 hours)
- ▶ All units supplied with wall holder and calibration protocol
- ▶ Download results to PC via cable supplied with the basic software or for on-site convenience use the data collector to store up to 500,000 values or print results directly to the fast printer

The standard series are compact dataloggers, small in size, which measure temperature, humidity, voltage and current. The professional series of instruments are suitable for a wide range of applications, ideal for long-term applications. All the loggers which have a display can immediately provide a quick overview of the current reading, the last value saved, maximum and minimum value and the number of times the limit has been exceeded.

Standard Series Dataloggers

- ▶ Choice of models with one or two channels
- ▶ Store up to 16,000 readings
- ▶ Measuring rate between 10 seconds and 24 hours
- ▶ Order accessories on page 74 and 75

Results are stored on non-volatile memory to provide you with security in the knowledge that vital data will not be lost if the battery is spent or changed. As the battery can be changed by the user it is possible to have uninterrupted data logging and documentation over a period of several years by calculating the battery life of the logger using the software (order separately).

All of the dataloggers have a real-time clock (RTC) with an accuracy of ± 2 min per month. The robust ABS casing with non-skid/non-rigid surface guarantees protection from humidity and mechanical strain. Some of the loggers have a protection class of IP 68. The loggers are also tamperproof with options for a padlock.

Program the datalogger with Windows(r) compatible software (sold separately). The user friendly basic software is supplied with an interface cable to download data and has all the functions needed to monitor, analyze, save and print data.

The Professional software has all the functions of the basic software plus bar graphics, X-Y plot, data analysis, thermal trend profiling and additional mathematical functions.

The logger can be programmed to start via key, according to date and time or via PC. The logger can be stopped once a certain number of measurements have been reached, according to date or time or simply when the memory is full, manually via PC or via the optional printer or optional data collector. The wraparound memory program enables "continuous measurements" i.e. the oldest value is written over.

The optional data collector, suitable for all the dataloggers, and the flexible fast printer opens up a whole new range of possibilities for dealing with measurement data.



92UK0-50



92UK0-00



92UK0-20



| Cat. No. | Parameters | No. Of Channels | Range | Resolution | Accuracy | Memory | Display | Price |
|-------------|-------------------------|--|---|------------|---|-----------------|-----------------|---------|
| IB-92UK0-00 | Temperature | One Internal | -35 to 70°C | 0.1 | $\pm 0.5^\circ\text{C}$ | 7,800 readings | One 3-digit LCD | £75.60 |
| IB-92UK0-10 | Temperature | One Internal One External (NTC type)† | -35 to 70°C -40 to 120°C | 0.1 | $\pm 0.5^\circ\text{C}$ | 16,000 readings | One 3-digit LCD | £92.40 |
| IB-92UK0-20 | Temperature | Two External (K or T type)† | -50 to 1,000°C* | 0.1 | $\pm 0.5^\circ\text{C}$ or $\pm 0.7\%$ of reading | 16,000 readings | One 3-digit LCD | £126.00 |
| IB-92UK0-30 | Voltage/Current | One External | 0 to 1V or 0 to 10V 0 to 20mA or 4 to 20mA | 0.1 | $\pm 2\text{mV}$ or $\pm 20\text{mV}$ $\pm 0.05\text{ mA}$ | 16,000 readings | None | £126.00 |
| IB-92UK0-40 | Voltage/Current | One External | 0 to 1V or 0 to 10V 0 to 20mA or 4 to 20mA | 0.1 | $\pm 2\text{mV}$ or $\pm 20\text{mV}$ $\pm 0.05\text{ mA}$ | 16,000 readings | One 3-digit LCD | £193.00 |
| IB-92UK0-50 | Humidity Temperature | One Internal One Internal | 0 to 100% RH -10 to 50°C | 0.1 | $\pm 0.5^\circ\text{C}$ $\pm 3\% \text{ RH}$ | 3,700 readings | None | £142.00 |
| IB-92UK0-60 | Humidity Temperature | One Internal One Internal | 0 to 100% RH -10 to 50°C | 0.1 | $\pm 0.5^\circ\text{C}$ $\pm 3\% \text{ RH}$ | 16,000 readings | One 3-digit LCD | £185.00 |

* K type thermocouple -50 to 1000°C, T type -50 to 400°C † Order separately from page 75

Specifications

Sampling Frequency: 10 seconds to 24 hours

Storage Temperature:

92UK0-00, -10 and -60 -40 to 85°C

92UK0-20, -30, -40 and -50 -40 to 70°C

Dimensions: 82 mmL x 52 mm H x 30 mmD

Includes: Wall holder and calibration protocol

Battery type:

92UK0-00, -10 Lithium 1AA

92UK0-20, -30, -40, -50, -60 Lithium 1/2AA

Shpg. Wt.: 0.5 kg

IB-92600-48 Software, basic version includes interface cable for connection to PC and datalogger.....£55.65

Professional Series Dataloggers

- ▶ Choice of models with one, two, three or four channels
- ▶ Store 48,000 readings
- ▶ Measuring rate between 2 seconds and 24 hours
- ▶ Order external temperature sensors on page 75



Application shot 92600-33 with 2 x 92UK1-12

Application shot 92600-31



New

| Cat. No. | Parameters | No. Of Channels | Range | Resolution | Accuracy | Display | Protection | Price |
|-------------|-------------|-------------------------------|------------------|------------|----------------------------|-----------------|------------|---------|
| IB-92600-30 | Temperature | One Internal | -40 to 70°C | - | ±0.8°C | None | IP68 | £126.00 |
| IB-92600-31 | Temperature | One Internal | -40 to 70°C | 0.1 | ±0.8°C | One 3-digit LCD | IP68 | £186.00 |
| IB-92600-32 | Temperature | One Internal | -40 to 70°C | 0.1 | ±0.8°C | Two 4-digit LCD | IP67 | £211.00 |
| | Temperature | Two External (NTC type)† | -40 to 120°C | | | | | |
| IB-92600-33 | Event | Open/Close contact | Open/Closed | - | - | Two 4-digit LCD | IP43 | £251.00 |
| | Temperature | Four External (K or T type) † | -200 to 1,000°C* | 0.1 | ±0.3°C or ±0.5% of reading | | | |
| IB-92600-34 | Temperature | One Internal | -40 to 70°C | 0.1 | ±0.5°C | Two 4-digit LCD | IP54 | £326.50 |
| | Temperature | One External (NTC type) † | -40 to 120°C | | | | | |
| | Dew Point | One Internal | -40 to 70°C | | | | | |
| | Humidity | One Internal | 0 to 100% RH | | | | | |

* K type thermocouple -195 to 1000°C, T type -200 to 400°C † Order separately from page 79

Specifications

Memory: 48,000 readings
Sampling Frequency: 2 seconds to 24 hours
Storage Temperature: -40 to 85°C
Battery type: Lithium 1AA

Includes: Wall holder and calibration protocol
Dimensions: 103 mmL x 64 mm H x 33 mmD (casing with out probe)
Shpg. Wt.: 0.5 kg

Accessories

IB-92600-48 Software, basic version includes interface cable for connection to PC and datalogger£55.65

The basic version includes all functions needed to setup the datalogger, monitor, analyse, save and print data. The dataloggers are programmed and data transferred via the instrument driver. The limit values to be monitored can be defined as required. Short titles, text fields and channel names ensure clear allocation if several dataloggers are in use. Once values are downloaded to the software they can be shown in table or graph form and then analysed.

IB-92600-49 Software, advanced version (requires separate interface cable 92600-47)£187.00

The professional version has all the functions of the basic version but with additional functionality including digit field, bar display, x-y plots, data analysis, trend plotting and mathematical functions.











IB-92600-47 Interface Cable to link datalogger to the PC£49.20

IB-92600-40 Printer, infrared thermal line printer with graph function, includes 1 roll of paper and batteries.....£251.00

IB-92600-41 Data Collector, including readout holders for standard and professional dataloggers.....£147.00











IB-92UK1-30 Lock for wall holder for standard and professional dataloggers£6.30

For use with datalogger 92UK0-10, 92600-34, -36

| Cat. No. | Description | Illustration | Measuring Range | Accuracy | Time Constant | Connection Cable Length | Price |
|-------------|---|---|-----------------|----------------------------|---------------|-------------------------|---------|
| IB-92UK1-00 | Stub probe, IP 54 |  | -20 to 70°C | ±0.2°C | 15 s | - | £28.35 |
| IB-92UK1-01 | Mounting probe with aluminium sleeve, IP 65 |  | -30 to 90°C | ±0.5°C | 60 s | 2.4 m | £30.50 |
| IB-92UK1-02 | Accurate imm./pen. probe, 6m cable, IP 67 |  | -35 to 80°C | ±0.4°C | 5 s | 6 m | £84.00 |
| IB-92UK1-03 | Screw-in probes for measurements at hard-to-access points, M6 thread, IP 54 |  | -50 to 80°C | ±0.5% of reading | 80 s | 2 m | £53.55 |
| IB-92UK1-04 | Wall surface temperature probe, e.g. to prove damage in building material |  | -50 to 80°C | ±0.2°C | 20 s | 3 m | £52.50 |
| IB-92UK1-05 | Pipe probe with Velcro, for pipe diameter of max. 75 mm |  | -50 to 70°C | ±0.4°C | 90 s | 1.5 m | £54.60 |
| IB-92UK1-06 | Food probe (IP65) stainless steel, PUR cable can be used at up to +80°C, IP54 plug-in connection |  | -50 to 150°C | ±0.4°C or ±0.5% of reading | 8 s | 1.5 m | £67.70 |
| IB-92UK1-07 | Robust food penetration probe with special handle, IP 65, reinforced cable (PUR) and reinforced protection against buckling |  | -50 to 140°C | ±0.4°C or ±0.5% of reading | 7 s | 1.4 m | £61.95 |
| IB-92UK1-08 | Frozen food probe, corkscrew design |  | -50 to 150°C | ±0.4°C or ±0.5% of reading | 20 s | 1.5 m | £107.00 |
| IB-92UK1-09 | Robust, affordable air probe to check storage temperatures |  | -35 to 120°C | ±0.4°C or ±0.5% of reading | 60 s | 1.2 m | £52.50 |



For use with datalogger 92UK0-20, 92600-33

| Cat. No. | Description | Illustration | Measuring Range | Accuracy | Time Constant | Connection Cable Length | Price |
|-------------|--|---|-----------------|--------------------------|---------------|-------------------------|---------|
| IB-92UK1-10 | Industrial probe with stainless steel sleeve |  | -50 to 205°C | ±1.5°C | 20 s | 1.9 m | £35.70 |
| IB-92UK1-11 | Pipe wrap probe with Velcro strip, for temperature measurement on pipes with diameter up to max. 120 mm, Tmax +120°C |  | 0 to 120°C | ±2°C or ±0.8% of reading | 90 s | 1.5 m | £30.45 |
| IB-92UK1-12 | Pipe wrap probe for pipe diameter 5 to 65 mm, with exchangeable measuring head. Measuring range short-term to +280°C |  | -60 to 130°C | ±3°C or ±2% of reading | 5 s | 1.2 m | £88.20 |
| IB-92UK1-13 | Thermocouple, flexible, 1500mm long, fibre glass |  | -50 to 400°C | ±3°C or ±2% of reading | 5 s | - | £21.85 |
| IB-92UK1-14 | Thermocouple, flexible, 1500mm long, Teflon |  | -50 to 250°C | ±3°C or ±2% of reading | 5 s | - | £21.85 |
| IB-92UK1-15 | Immersion tip, flexible |  | -200 to 1000°C | ±2°C or ±0.8% of reading | 5 s | - | £22.95 |
| IB-92UK1-16 | Magnetic probe, adhesive force approx. 10 N, with magnets, for higher temp., for measurements on metal surfaces |  | -50 to 400°C | ±3°C or ±2% of reading | - | 1.6 m | £152.00 |
| IB-92UK1-17 | Waterproof immersion/penetration probe |  | -60 to 400°C | ±3°C or ±2% of reading | 7 s | 1.2 m | £29.40 |
| IB-92UK1-18 | Accurate and quick-action immersion probe, waterproof |  | -60 to 1000°C | ±2°C or ±0.8% of reading | 2 s | 1.2 m | £55.65 |
| IB-92UK1-19 | Robust, affordable air probe |  | -60 to 400°C | ±3°C or ±2% of reading | 25 s | 1.2 m | £33.80 |

DICKSON 8" Universal Input Recorder

Accepts 0 to 20 mA, 4 to 20 mA, 0 to 5 V, and 1 to 5 V inputs—ideal for monitoring remote transmitter signals

Microprocessor-based chart recorder accepts either current or voltage inputs. Ideal for logging remote transmitter signals. Simply connect your two-wire system to rear mounted terminal strip. Four-digit display has ±1 digit accuracy. Choose from 20 display output ranges (including 0 to 14—ideal for pH) to match your application. Recorder accuracy is ±0.3% full-scale, ±1 digit. Use front keypad to adjust chart rotation speed to one rotation per 24 hours, 7 days, or 31 days. Chart paper for 31 days is available—call our Application Specialists for more information.

Recorder features audio and visual alarms with user-adjustable high and low set points. Use four D batteries (not included) for short-term back-up during power failure. Lock keypad via internal DIP switches. Use door lock and key to protect your settings and data. Wall mount the recorder using keyhole slots in rear panel.

What's included: red pen, box of 60 of 7-day charts (0 to 100), and 240 VAC UK adapter.



Specifications & Ordering Information

Input ranges: 0 to 20 mA, 4 to 20 mA, 0 to 5 VDC, and 1 to 5 VDC (user selectable)
Operating ambient: 0 to 50°C, 0 to 90% RH (noncondensing)
Chart size: 8"
Power: 240 VAC UK adapter, 4 D batteries used for back-up power (not included)
Dimensions: 10½"W x 13½"H x 2½"D

| Catalogue number | Description | Price |
|------------------|-----------------------|---------|
| IB-80004-40 | 8" universal recorder | £549.00 |

Accessories

IB-09376-03 Batteries, size D. Pack of four£6.46/pk
 IB-08372-55 Replacement pen, red.....£8.45

Replacement Chart Paper (8" Circular)

| 24-hour | | 7-day | | Range (arbitrary units) | Price/pk 100 sheets |
|------------------|------------------|------------------|------------------|-------------------------|---------------------|
| Catalogue number | Catalogue number | Catalogue number | Catalogue number | | |
| IB-80006-02 | IB-80006-18 | IB-80006-18 | IB-80006-18 | -50 to 50 | £21.94 |
| IB-08372-18 | IB-08372-16 | IB-08372-16 | IB-08372-16 | -20 to 50 | £23.02 |
| IB-08372-67 | IB-08372-47 | IB-08372-47 | IB-08372-47 | -20 to 120 | £23.02 |
| IB-80006-44 | IB-80006-56 | IB-80006-56 | IB-80006-56 | -10 to 10 | £21.94 |
| IB-80006-34 | IB-80006-46 | IB-80006-46 | IB-80006-46 | 0 to 10 | £21.94 |
| IB-80006-36 | IB-80006-48 | IB-80006-48 | IB-80006-48 | 0 to 14 | £21.94 |
| IB-80006-40 | IB-80006-52 | IB-80006-52 | IB-80006-52 | 0 to 30 | £21.94 |
| IB-08372-35 | IB-08372-37 | IB-08372-37 | IB-08372-37 | 0 to 100 | £22.66 |
| IB-80006-38 | IB-80006-50 | IB-80006-50 | IB-80006-50 | 0 to 200 | £21.94 |
| IB-80006-42 | IB-80006-54 | IB-80006-54 | IB-80006-54 | 0 to 300 | £21.94 |

DICKSON 8" Temperature/Humidity Recorder

Simultaneously view temperature and humidity or dew point

This portable recorder uses microprocessor-based electronic sensors to record temperature and humidity measurements. Sensor probe is mounted on a 7" cable (included), or order a 3m cable separately below. Select your own temperature range and scale; humidity or dew point scale; and 24-hour, 7-day, or 31-day rotation period (Note: operating specifications are different when utilizing battery power). Prevent setting changes with lock-out dip switch. Use the door lock feature to ensure security. Rear panel features keyhole slots for wall mounting.

What's included: a 240 VAC UK adapter, probe with 7" cable. Battery backup requires four D batteries; order below.



80000-00

Specifications & Ordering Information

Response time: 2.5 minutes to move 63% of full scale
Display: 3.5-digit LCD
Operating ambient: 0 to 50°C, 0 to 95% RH (noncondensing)
Probe only: -29 to 50°C, 0 to 95% RH (non-condensing)
Chart size: 8"
Power: 240 VAC UK, 4 D batteries for back-up power (not included)
Dimensions: 13½"W x 10½"H x 2½"D

| Catalogue number | Description | Price |
|------------------|----------------------------------|---------|
| IB-80000-00 | 8" temperature/humidity recorder | £549.00 |

Accessories

IB-80000-50 Calibration kit for humidity calibrations£169.00
 IB-80000-60 Probe cable, 10-ft.....£39.56
 IB-09376-03 Batteries, D. Pack of four.....£6.46/pk

Replacement Chart Paper (8" Circular)

| hour | 7-day | 31-day | Range | Price/pk of 100 sheets |
|-------------|-------------|-------------|-------------|------------------------|
| Cat. no. | Cat. no. | Cat. no. | | |
| IB-08372-18 | IB-08372-16 | IB-08372-56 | -20 to 50°C | £23.02 |
| IB-08372-19 | IB-08372-07 | IB-08372-76 | 5 to 40°C | £23.74 |

IB-08372-55 Replacement pen; temperature, red.....£8.45
 IB-08372-64 Replacement pen; humidity, blue.....£8.45

Low-Cost Compact Digital Force Gauge

- ▶ Low Cost
- ▶ Peak hold
- ▶ Data Sampling rate 10 Hz
- ▶ Accuracy $\pm 0.5\%$ of full scale

Housed in a plastic case and powered by disposable AA batteries, these compact force gauges are available in either 50N or 200N capacity. Measurements can be made in N, lbf, ozf, kgf and gf with a resolution of 1:2000. The gauge has an accuracy of $\pm 0.5\%$ of full scale with peak data being captured at 10 Hz in both tension and compression.

The gauges include a threaded compression plate that screws on to the meter for compression measurements; a threaded hook for tension measurements used in spring and elasticity applications. Gauge features a peak hold or normal display



| Cat. No. | Capacity | Resolution | Accessories Included | Price |
|-------------|----------|------------|--|---------|
| IB-92UK6-00 | 50 N | 0.04 N | 3.2 mm hook, 12 mm dia compression plate | £250.00 |
| IB-59890-00 | 200 N | 0.1 N | 6 mm hook, 19 mm dia compression plate | £250.00 |
| IB-92UK6-01 | 500 N | 0.2 N | 6 mm hook, 19 mm dia compression plate | £250.00 |

Specifications

Accuracy: $\pm 0.5\%$ full scale

Sampling rate: 10 Hz

Display: LCD

Power: four AA batteries (included)

Battery life: 50 hours continuous use

Dimensions: 76 mmW x 133 mmH x 32 mmD

Basic Digital Force Gauge

- ▶ Tension and compression measuring
- ▶ Accuracy $\pm 0.25\%$ of full scale
- ▶ Peak data capture rate 1000 Hz
- ▶ Data output RS232, Mitutoyo, analogue
- ▶ Diagnostic check of loadcell
- ▶ Mains powered or by rechargeable AAA batteries
- ▶ Wide range of gripping fixtures and accessories
- ▶ Ergonomic design for handheld use
- ▶ Ability to invert force gauge display
- ▶ newton, lbf, kgf units of force measurement, with full conversion between units



The BFG (Basic Force Gauge) series of force gauges is designed for easy operation and provides outstanding force measurement performance and reliability at an affordable price. Available in 6 capacities from 10 N to 2,500 N, the BFG feature superb accuracy of $\pm 0.25\%$ of full scale and a peak-reading capture of 1,000 times per second, making it ideally suited to a wide variety of tension/compression applications.

Constructed in an aluminium housing it can be used as a hand held instrument, or alternatively it can be mounted to a manual or motorized test stands to allow testing under more controlled conditions.

Using the data-output connector and interface cable, results can be transmitted either continuously or by individual transmit requests to peripheral devices in RS232, Mitutoyo digimatic and analogue output formats.

| Cat. No. | Capacity | Resolution | Accessories Included | Price |
|-------------|----------|------------|--|---------|
| IB-92UK6-20 | 10 N | 0.002N | 3.2 mm hook, 12 mm dia compression plate | £545.00 |
| IB-92UK6-21 | 50 N | 0.01 N | 3.2 mm hook, 12 mm dia compression plate | £545.00 |
| IB-92UK6-22 | 200 N | 0.05 N | 6 mm hook, 19 mm dia compression plate | £545.00 |
| IB-92UK6-23 | 500 N | 0.1 N | 6 mm hook, 19 mm dia compression plate | £545.00 |
| IB-92UK6-24 | 1,000 N | 0.2 N | 6 mm hook, 19 mm dia compression plate | £654.00 |
| IB-92UK6-25 | 2,500 N | 0.5 N | 6 mm hook, 19 mm dia compression plate | £764.00 |

Specifications

Accuracy: $\pm 0.25\%$ full scale

Sampling rate: 1,000 Hz

Display: 5-digit LCD

Overload: 150% of capacity

Power: rechargeable NiMH batteries and 240 VAC UK battery recharger

Battery life: 20 hours continuous use

Output: RS-232 and analogue 1 VDC to 4 VDC

Dimensions: 77 mmW x 202 mmH x 31 mmD

Accessories

IB-92UK6-41 Cable BFG to RS232 PC COM Port (9-way).....£45.00

IB-92UK6-42 Cable BFG to Analogue Output£35.00

IB-92UK6-40 Cable BFG to Printer/DigiCon-X Interface£45.00

Closure Torque Testers

- ▶ Ideal for determining critical torques which characterize the screw closures fitted to bottles and jars
- ▶ Low Cost yet accurate to $\pm 0.5\%$ of full scale
- ▶ Splash proof with top plate drip tray
- ▶ Peak hold facility
- ▶ Fit any shaped device between 10 and 160 mm diameter
- ▶ RS232, Mitutoyo and analogue outputs
- ▶ Supplied with traceable certificate



As a low cost digital torque tester, the Orbis covers the testing range from 0 to ± 6 Nm. This digital instrument offers an affordable solution for determining critical torques which characterize the screw closures fitted to bottles and jars. It has been designed for ease of use with a splash proof, wipe-clean housing and fitted with a universal clamping accessory to suit containers ranging from 10 to 160 mm diameter. The universal clamp can be easily removed to allow the fitting of a dedicated sample holder.

The tester registers torque applied in either a clockwise or anti-clockwise directions, allowing testing of both tightening and loosening of the cap or closure. The value calculated will remain in memory until the reset button is pushed or data can be outputted to your PC via the RS232 interface. Order the Dataplot software separately below for increased options including autoranging, trace comparisons, rescaling and tabular printouts.

Testers are supplied with rechargeable batteries, a 240 VAC UK battery recharger and a traceable certificate.

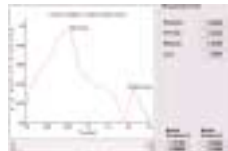
IB-92UK6-60 Orbis Closure Torque Tester, 0 to 6 Nm, 240 VAC mains or battery powered£999.00

Specifications

| | | |
|---|--|--|
| Accuracy: $\pm 0.5\%$ full scale | Units of measure: Nm, mNm, Ncm, lbfft, lbfin, ozfin, gfc, gfc | Power: rechargeable NiMH batteries and 240 VAC UK battery recharger |
| Sampling rate: 1,000 Hz | Container dia: 10 to 160 mm | Battery life: 20 hours continuous use |
| Measurement Range: 0 to 6 Nm | Display: 5-digit LCD | Output: RS-232 and analogue 1 VDC to 4 VDC |
| Display Resolution: 0.002 Nm | Overload: 150% of capacity | Shpg. Wt.: 2.5 kg |

Tamper Evident Torque Testers

- ▶ Excellent portability including moulded carry handle, light weight design and mains or battery powered
- ▶ RS232, Mitutoyo and analogue outputs
- ▶ Supplied with traceable certificate



The tamper evident torque tester has been specifically designed to measure the torque performance of tamper evident closures and seals. The tester captures in a single digital display the key values of the peak torque required to overcome the resistance of the closure when it starts to turn and the second peak to break the 'bridges' between the closure and the tamper-evident band.

The peak results can be transmitted together to a PC or printer by the simple press of a button for easy recording and reporting generation, thereby allowing you to monitor the production process and identify potential problems at an early stage. In addition the 'running mode' allows you to track the applied and release torque without holding the peak values.

Testers are supplied with rechargeable batteries, a 240 VAC UK battery recharger and a traceable certificate.

IB-92UK6-65 Tamper Evident Torque Tester, 0 to 6 Nm, 240 VAC mains or battery powered£1,095.00

Specifications

| | | |
|---|--|--|
| Accuracy: $\pm 0.5\%$ full scale | Units of measure: Nm, mNm, Ncm, lbfft, lbfin, ozfin, kgfcm, gfc | Power: rechargeable NiMH batteries and 240 VAC UK battery recharger |
| Sampling rate: 1,000 Hz | Container dia: 10 to 160 mm | Battery life: 20 hours continuous use |
| Measurement Range: 0 to 6 Nm | Display: 5-digit LCD | Output: RS-232 and analogue 1 VDC to 4 VDC |
| Display Resolution: 0.002 Nm | Overload: 150% of capacity | Shpg. Wt.: 2.5 kg |

Accessories

- IB-92UK6-41 Cable BFG to RS232 PC COM Port (9-way)£45.00**
- IB-92UK6-42 Cable BFG to Analogue Output£35.00**
- IB-59882-00 Dataplot Software holds up to 2,500 force/torque data points£495.00**

Software features autoranging, zooming/rescaling, trace comparison, tabular printouts, user-selectable preferences, start/stop triggers, and more! Holds up to 2500 force/torque data points. Requires IBM®-compatible computer running DOS 6.2 or later and WINDOWS 3.1 or later; 300 to 19,200 baud. Shpg wt 0.5 kg

Vaisala Relative Humidity/Temperature and Universal "Smart" Transmitters

▶ IP65 housing protects unit from dust, sprays, and electromagnetic interference

When humidity measurement is vital!

Select from three styles of smart transmitters for your demanding applications. All transmitters are powered by 24 VDC/VAC, have dual analog 4 to 20 mA outputs, and RS-232 interface. The Humicap® humidity sensor is highly accurate, reliable, and offers excellent long-term stability and great chemical resistance. All models include an NIST-traceable calibration certificate with test data at 11% and 75% RH.

Models are programmed using a computer or the membrane keypad. RH/temperature transmitters monitor RH and temperature. Universal transmitters monitor dew point, RH, temperature, absolute humidity, wet bulb temperature, mixing ratio, and enthalpy.

Transmitters with Integral Probe are ideal for critical applications where readings fluctuate. The Humicap humidity sensor features a stainless steel (SS) filter. Probe measures 2.75"L x 0.50" dia and is attached directly to the housing, protecting it from electromagnetic interference.

Transmitters with High-Temperature Probe include a sensor with a 3.00" dia flange for mounting in ducts, kilns, and dryers. The SS sensor head has a SS sintered filter that can withstand temperatures up to 392°F (200°C). Sensor measures 8.66"L x 0.50" dia and includes two meters of cable.

Transmitters with Tight Space Probe fit in small spaces including chambers, incubators, and low-temperature ducts. Probes measure 6.70"L x 0.50" dia with two meters of cable and have a PPS grid with SS netting. Units include a duct mounting kit to install the transmitters in ducts, channels, and through walls; kits include aluminum flange, lead-through piece, and steel support bar.



37510-02



High-temperature probe



Tight space probe

Specifications



RH
Accuracy: ±1% from 0 to 90%,
±2% from 90 to 100%
Output: 4 to 20 mA, RS-232

Temperature
Accuracy: ±0.2°F (±0.1°C)
Output: 4 to 20 mA, RS-232

Response time: 15 seconds (90% response)

Display: (display models only)
2 x 16 character alphanumeric LCD, 0.15" H

Power: 24 VDC/VAC

Housing dimensions: 5¾"L x 4¾"W x 2½"H

Dew Point Specifications for Universal Transmitters

Accuracy: ±0.92°C at 20°C and 40% RH

Output: 4 to 20 mA, RS-232

Ordering Information

| Probe Type | Temperature Range | RH range | Dew Point Range | Output Relays | Cat. No. | Price |
|---------------------------------------|-------------------|------------|-----------------|---------------|-------------|-----------|
| RH/temperature transmitters | | | | | | |
| Integral | -20°C to + 60°C | 0 to 100 % | - | 0 | IB-37510-02 | £655.00 |
| Tight space duct mounting kit | -20°C to + 80°C | 0 to 100 % | - | 0 | IB-37512-03 | £815.00 |
| | | | | 2 | IB-375UK-01 | £910.00 |
| High temperature with mounting flange | -20°C to + 180°C | 0 to 100 % | - | 0 | IB-37511-03 | £1,050.00 |
| | | | | 2 | IB-375UK-02 | £1,150.00 |
| Universal transmitters | | | | | | |
| Integral | -20°C to + 60°C | 0 to 100 % | - | 0 | IB-37510-06 | £1,150.00 |
| Tight space duct mounting kit | -20°C to + 80°C | 0 to 100 % | - | 0 | IB-37512-07 | £1,300.00 |
| | | | | 2 | IB-375UK-04 | £1,400.00 |
| High temperature with mounting flange | -20°C to + 180°C | 0 to 100 % | - | 0 | IB-37511-07 | £1,350.00 |
| | | | | 2 | IB-375UK-05 | £1,450.00 |



OAKION® Waterproof pHTestrs® 10, 20, and 30

New

- ▶ Large, easy-to-read display
- ▶ A complete meter with key features at an economical price
- ▶ Replaceable, double-junction electrode sensors save time and money
- ▶ IP67-rated housing sits flat on the table and floats in water

Waterproof pHTestrs work for outdoor applications such as taking pH measurements in lakes and streams. Tester design floats in water, and you can even attach a line to the housing for easy retrieval. Valox® sensor housing resists most chemicals.

All waterproof pHTestrs have replaceable sensors for easy maintenance. Double-junction electrode sensors handle wastewater and solutions containing sulfides, heavy metals, and TRIS. Electrode sensors offer a clog-resistant Kynar® junction and a recessed, glass pH bulb to protect against breakage.

The keypad clicks to confirm operation, and allows access to a variety of functions. Calibrate up to three pH points with the auto-buffer recognition at both USA and NIST standard buffers. Additional features include a hold function, auto-off function, self-diagnostic error messages, and a three-segment battery-life indicator.

pHTestr 10 offers the most economical option with automatic temperature compensation and all the benefits listed above.

pHTestr 20 features ±0.01 pH accuracy—suitable for most ASTM and EPA test procedures.

pHTestr 30 includes all of the features of the pHTestr 20 along with dual pH and 0.1 temperature display. Choose temperature display units in °C or °F.



35634-30
pHTestr 30 offers dual display



Specifications & Ordering Information

Ambient operating conditions: 0 to 50°C

Low battery warning: three-segment indicator

| Catalogue number | IB-35634-10 | IB-35634-20 | IB-35634-30 |
|------------------------------------|---|--|---|
| Description | pHTestr 10 | pHTestr 20 | pHTestr 30 with temperature readout |
| Range | -1.0 to 15.0 pH | -1.00 to 15.00 pH | |
| Resolution | 0.1 pH | 0.01 pH | |
| Accuracy | ±0.1 pH | ±0.01 pH | |
| Automatic temperature compensation | 0 to 50°C | | |
| Calibration | Up to three pH points | | |
| Buffer recognition | 4.0, 7.0, 10.0 USA 4.0, 6.9, 9.2 NIST | 4.01, 7.00, 10.01 USA 4.01, 6.86, 9.18 NIST | |
| Display | Four-digit LCD | Four-digit LCD | Primary: 4-digit LCD; Secondary: 4-digit LCD |
| Power | Four 1.5 V button cell batteries (included) | | |
| Battery life | More than 500 hours | | |
| Dimensions | 165mmL x 38mm dia | | |
| Price | £69.00 | £77.00 | £84.00 |

Accessories

IB-35624-38 Replacement pH sensor.....£44.60

IB-35624-45 Waterproof Testr soft carrying case, built-in belt loop for easy transport. Accommodates Testr and buffer pouches£15.82

IB-09377-16 Replacement batteries, 1.5 V. Pack of six.....£10.61/pk

OAKION® Waterproof ORPTestr® 10

New

- ▶ Large, horizontal readout
- ▶ IP67-rated housing floats in water and sits flat on a hard surface

Replaceable, double-junction electrode is ideal for dirty water, heavy metals, sulfides, and organics

Use this versatile instrument for applications ranging from swimming pool testing to pulp bleaching. ORPTestr 10 features ±2 mV accuracy and a ±150 mV offset. Housing allows you to attach a Lanyard for easy retrieval. Platinum band electrode is ideal for checking chromate reduction, cyanide oxidation, and other ORP readings.

Valox® electrode body resists most chemicals. Additional features include a hold function, auto-off function, self-diagnostic error messages, and a three-segment battery-life indicator.



35650-10



Specifications & Ordering Information

Range: -999mV to +1000 mV

Resolution: 1 mV

Accuracy: ±2 mV

Temperature compensation: no

Calibration: ±150 mV

Low battery warning: three-segment indicator

Ambient operating conditions: 0 to 50°C

Display: four-digit LCD

Power: four 1.5 V button cell batteries (included)

Battery life: more than 500 hours

Dimensions: 165mmL x 38mm dia

| Catalogue number | Description | Price |
|------------------|-------------|---------|
| IB-35650-10 | ORPTestr 10 | £128.00 |

Accessories

IB-35650-09 Replacement sensor£59.00

IB-05478-60 Zobell solution for calibration, 1.25g bottle£19.78

IB-09377-16 Replacement batteries, 1.5 V. Pack of six£10.61/pk

OAKION® Waterproof pHTestr™ Calibration Kits

New

Store and organize all the components you need for fast, reliable calibration and measurement. The hard carrying case contains all the materials you need to calibrate in the field including premixed, premeasured buffer.

What's included: tester (except model 35624-70); two single-use pouches of pH 4.01, pH 7.00, pH 10.00 each, and rinse solution; one sample jar; instructional manual; and sturdy carrying case.



35634-90

| Catalogue number | Meter included | Price |
|------------------|-----------------------|--------|
| IB-35624-70 | None | £20.63 |
| IB-35634-70 | Waterproof pHTestr 10 | £74.00 |
| IB-35634-80 | Waterproof pHTestr 20 | £86.00 |
| IB-35634-90 | Waterproof pHTestr 30 | £94.00 |

OAKION® pHTestr® BNC 10

New

- ▶ Versatility of a handheld meter at a pocket price
- ▶ IP67-rated protects meter from water, dust, and shock while offering chemical resistance
- ▶ Meter floats—accidental drops into water will not result in lost or damaged meters



35634-14

Customizable to your application—use with any pH electrode with a BNC connector

Simply choose the electrode best suited for your application, connect the pHTestr BNC 10, calibrate, and measure. Change electrodes to suit your application without having to purchase another meter.

Large display and tactile keypad allow for easy calibration along with USA and NIST auto-buffer recognition. Hold function freezes reading on the display for easy recording. Additional features include Valox® sensor housing, self-diagnostic error messages, a battery-life indicator, and an auto-off function to maximize battery life.

Accessories

- IB-35624-45 Soft carrying case£15.82
- IB-35624-70 Calibration kit. Includes two pouches each of pH buffer 4.01, 7.00, 10.01, and rinse water; sample jar; instructions; and carrying case£20.63
- IB-09377-16 Replacement batteries, 1.5 V. Pack of six£10.61/pk

Specifications & Ordering Info

- Range:** -1.00 to 15.00 pH
- Resolution:** 0.01 pH
- Accuracy:** ±0.01 pH
- Temperature compensation:** fixed at 25°C
- Calibration:** Up to three pH points
- Buffer recognition:** USA: 4.01, 7.00, 10.01; NIST: 4.01, 6.86, 9.18
- Low battery warning:** three-segment indicator
- Ambient operating conditions:** 0 to 50°C
- Display:** four-digit LCD
- Power:** four 1.5 V button cell batteries (included)
- Battery life:** more than 500 hours
- Dimensions:** 165mmL x 38mm dia



| Catalogue number | Description | Price |
|------------------|----------------|--------|
| IB-35634-14 | pHTestr BNC 10 | £77.00 |

Electrodes are ideal for use with the waterproof pHTestr BNC.

| Catalogue number | Body type | Range | Connection type | Price |
|--|--|------------|-----------------|---------|
| Single junction electrodes for general use | | | | |
| IB-35804-00 | Epoxy, sealed | 0 to 12 pH | Direct connect | £36.33 |
| IB-35801-00 | Epoxy, sealed | 0 to 12 pH | 3-ft cable | £28.05 |
| IB-35804-01 | Epoxy, sealed, 9-mm dia | 0 to 12 pH | Direct connect | £33.45 |
| IB-35804-06 | Glass, refillable; spear tip | 0 to 12 pH | Direct connect | £74.00 |
| Double junction electrodes for organics, sulfides, and heavy metals | | | | |
| IB-35804-08 | Epoxy, sealed | 0 to 14 pH | Direct connect | £47.84 |
| IB-35805-04 | Glass, refillable | 0 to 12 pH | 3-ft cable | £91.00 |
| IB-35805-09 | Epoxy, refillable flushable Teflon® junction | 0 to 12 pH | 3-ft cable | £143.00 |

OAKION® Acorn™ pH 5 and pH 6 Meters

- ▶ Convenient, compact design
- ▶ Up to three-point push-button calibration with auto-buffer recognition
- ▶ Displays pH and temperature with a button press



Includes integral stand for benchtop use 35613-00

High ±0.01 pH accuracy at economical prices!

These meters are perfect for fast, accurate results. Automatic temperature compensation (ATC) ensures accuracy from 0 to 100°C. The pH 6 also reads mV. Meters include a protective rubber boot that also acts as a meter stand.

Meter includes: four AAA batteries, protective rubber boot and instructions.

Meter kits include: meter, pH electrode, ATC probe, pH buffer solutions, rinse bottle, protective rubber boot, batteries, instructions and hard carrying case.

Accessories

- IB-59001-65 Replacement pH electrode; single-junction, gel-filled. Epoxy body, BNC connector£42.44
- IB-09376-00 Replacement batteries; 1.5 V, AAA. Pack of 12£11.51/pk

Specifications

3 year warranty

- Display:** 3½-digit LCD
- Temperature compensation:** automatic with ATC probe, 0 to 100°C
- Power:** four AAA batteries (included)
- Battery life:** 200 hours continuous
- Dimensions:** 146mmW x 70mmH x 35mmD

| Mode | pH | mV (for Acorn pH 6 only) | Temperature |
|-------------|--|-----------------------------|-------------------------|
| Range | 0.00 to 14.00 pH | -1000 to +1000 mV or rel mV | 0 to 100.0°C |
| Resolution | 0.01 pH | 1 mV | 0.1°C |
| Accuracy | ±0.01 pH | ±2 mV | ±0.5°C |
| Calibration | Up to three points: pH 4.01, 7.00, 10.00 (USA); pH 4.01, 6.86, 9.18 (NIST) | ±20 mV | Offset 0.1°C increments |

Ordering Information

| Cat. no. | Model | Description | Mode | Price |
|-------------|-------|---------------------------------------|------------|---------|
| IB-35613-01 | pH 5 | Meter with ATC probe | pH/temp | £134.00 |
| IB-35613-11 | pH 6 | | pH/mV/temp | £153.00 |
| IB-35613-00 | pH 5 | Meter with pH electrode and ATC probe | pH/temp | £167.00 |
| IB-35613-10 | pH 6 | | pH/mV/temp | £184.00 |
| IB-35613-70 | pH 5 | Meter kit | pH/temp | £212.00 |
| IB-35613-72 | pH 6 | | pH/mV/temp | £229.00 |

- IB-05992-14 "All-in-one" combination pH probe with built-in ATC, three-foot coiled cable, semi-domed tip, epoxy body, sealed£113.00
- IB-35613-05 Replacement ATC probe, stainless steel£26.25

Proportional On/Off pH/ORP Controller

- ▶ pH1000 is selectable for pH or ORP control
- ▶ Three control modes: on/off, proportional pulse length or proportional pulse frequency
- ▶ Two set point, two SPDT relay operation—choose from low/low, low/high, high/low or high/high control
- ▶ Separate alarm relay alerts you to set points exceeded for a specific length of time or a failed temperature sensor
- ▶ Separately adjustable high and low set point hysteresis bands prevent rapid contact switching near set points
- ▶ 0-20/4-20 mA transmitter/recorder output for hard copy recording
- ▶ Push button two-point calibration and on-line electrode offset adjustment
- ▶ Large dual LCD shows pH (or mV) and temperature simultaneously

Specifications

| | pH | mV | Temperature °C |
|-------------|--|--|-------------------|
| Range | 0.00 to 14.00 pH | ±1000 mV | -9.9 to 125.0°C |
| Resolution | 0.01 pH | 1 mV | 0.1°C |
| Accuracy | ±0.01 pH | ±1 mV | ±0.1°C |
| Calibration | one or two points, select from 1.00; 4.00; 7.00; 9.00; 10.00 | offset for ORP mV or calibrate at 2 points (20% and 80%) for ORP % | offset up to ±5°C |

IB-56710-05 pH 1000 pH/ORP controller, proportional/on/off. 220 VAC, 48-62 Hz.£444.00



Output: Control: 2 SPDT relays: 6A at 110 VAC; 250 VAC max.
Alarm: 1 SPDT relay: 6A at 110 VAC; 250 VAC max.
Pulse: pulse length (0.5 to 20 sec) or pulse frequency (60 to 120 Hz)
Current: isolated 0-20/4-20 mA, 600 Ω max load, programmable boundaries

Input: BNC for electrode (pH or ORP), screw terminal for temperature sensor, power supply, relays and hold functions

Number of set points: two (high and low)

Hysteresis: (dead band): 0.1 to 1.0 pH, 10 to 100 mV, or 1 to 10%

Electrode use: selectable glass or antimony (use antimony electrodes for systems with hydrofluoric acid content).

Temperature Compensation: Automatic/manual from -9.9 to 125°C

Dimensions: 9.7 x 9.7 x 17.6 cm (1/4 DIN).

Shpg wt: 1.1 kg

Ion and Chlorine Concentration Controllers

Chlorine concentration controller is ideal for in-line monitoring and control of drinking water and swimming pool water

Controllers display ion concentration (ppm) with relay status. Relay delay (0.0 to 99.9 seconds) minimizes false alarms. Connect alarm relay to an alarm or use in normal operation. Calibrate controllers from two to five points. Manually activate relays to test pumps, valves, alarms, or other process equipment. Security code prevents accidental changes to setup parameters.

Ion Concentration Controller measures all parameters except chlorine. Ion selective electrodes are sold separately at right.

Chlorine Specific Controller measures free chlorine concentration. Chlorine electrode (56106-60) and flow cell sold separately at right.

Specifications & Ordering Information

| Catalogue number | IB-56105-00 | IB-56106-00 |
|----------------------|------------------------------|--|
| Description | Ion concentration controller | Chlorine specific controller |
| Range | 0.01 to 1000 ppm | 0 to 20 ppm |
| Resolution | 0.01/0.1/1 ppm | 0.001/0.01 ppm |
| Number of set points | Three | Two |
| Accuracy | ±10% of reading | |
| Control type | On/off | |
| Number of inputs | One | |
| Operating ambient | 0 to 50°C | |
| Display | One line x 16 character LCD | |
| Output | Relay | Two SPDT, 110/220 VAC, 10/5 A resistive |
| | Alarm | One SPDT, 110/220 VAC, 10/5 A resistive |
| | Current | Isolated 0 to 20 or 4 to 20 mA, programmable |
| Dimensions | 96mmW x 96mmH x 155mmD | |
| Price | £806.00 | £1015.00 |

Accessories

IB-56106-50 Flow cell, adjustable liquid flow.....£234.00

IB-56105-60 Adapter, female BNC to stripped-wire ends.....£8.45

Chlorine specific controller 56106-00



Flow cell 56106-50, chlorine electrode 56106-60, and pH electrode 05994-20

Ion-Selective and pH Electrodes

Double-junction electrodes easily connect to controller with stripped wire ends. Measure 12 mm dia x 80 mm L with 10-ft cable.

| Catalogue number | Ion/type of electrode | Temperature range | Pressure range | Price |
|------------------|-----------------------|-------------------|----------------|---------|
| IB-27077-00 | Ammonia | 0 to 50°C | 0 to 10 psi | £221.00 |
| IB-27077-01 | Ammonium | 0 to 40°C | 0 to 30 psi | £217.00 |
| IB-27077-02 | Calcium | 0 to 40°C | 0 to 30 psi | £217.00 |
| IB-27077-04 | Chloride | 0 to 80°C | 0 to 70 psi | £221.00 |
| IB-56106-60 | Chlorine | 0 to 80°C | 0 to 70 psi | £125.00 |
| IB-27077-06 | Fluoride | 0 to 80°C | 0 to 70 psi | £198.00 |
| IB-27077-08 | Lead | 0 to 80°C | 0 to 70 psi | £170.00 |
| IB-27077-10 | Nitrate | 0 to 40°C | 0 to 30 psi | £217.00 |
| IB-05994-20 | pH/single junction | -5 to 100°C | 0 to 25 psi | £67.00 |
| IB-05994-22 | pH/double junction | 0 to 110°C | 0 to 75 psi | £84.00 |
| IB-27077-12 | Potassium | 0 to 40°C | 0 to 30 psi | £217.00 |
| IB-27077-14 | Silver sulfide | 0 to 80°C | 0 to 70 psi | £187.00 |
| IB-27077-16 | Sodium | 0 to 80°C | 0 to 70 psi | £147.00 |
| IB-27077-18 | Water hardness | 0 to 40°C | 0 to 30 psi | £227.00 |

Electronic Manometers

- ▶ Choice of three models
- ▶ 5 switchable units of measure - mbar, mmH₂O, mmHg, "H₂O, psi
- ▶ Magnetic holder and suspension eye on rear
- ▶ Soft rubber housing protection

| Cat. No. | Range | Resolution | Price |
|-------------|---------------|--|---------|
| IB-92UK2-10 | 0 to 5 mbar | ±0.025 mbar | £157.50 |
| IB-92UK2-00 | 0 to 10 mbar | ±0.03 mbar | £88.20 |
| IB-92UK2-20 | 0 to 200 mbar | 0-10 mbar ±0.03 mbar or ±1.5% reading 10-200 mbar ±1% reading | £96.60 |

Specifications

Application Temperature: 0 to 40°C

Storage Temperature: -20 to 70°C

Battery type: 2 x CR2032

Units of measure: mbar, mmH₂O, mmHg, "H₂O, psi

Dimensions: 86 mmL x 48 mmH x 24 mmD

Shpg. Wt.: 0.2 kg



Hand Held Differential Pressure Meter

- ▶ Suitable for non-corrosive gases
- ▶ 5 switchable units of measure - mbar, mmH₂O, mmHg, "H₂O, psi
- ▶ TopSafe (order separately below) protects meter from dust, dirt and water
- ▶ Hose connection for 4 mm or 6mm ID

| Cat. No. | Range | Resolution | Price |
|-------------|----------------|--|---------|
| IB-92UK3-00 | 0 to 200 mbar | 0 to 10 mbar ±0.03 mbar or ±1.5% reading 10 to 200 mbar ±1% reading | £113.50 |
| IB-92UK3-10 | 0 to 1000 mbar | ±0.5% reading | £157.50 |
| IB-92UK3-20 | 0 to 1100 mbar | ±4 mbar | £118.00 |

Specifications

Application Temperature: 0 to 40°C

Storage Temperature: -20 to 70°C

Battery type: 9V block

Units of measure: mbar, mmH₂O, mmHg, "H₂O, psi

Dimensions: 190 mmL x 57 mmH x 42 mmD

Shpg. Wt.: 0.3 kg



- IB-92UK3-70 TopSafe (indestructible protection case) with bench stand. Protects instrument from impact and dirt£21.32
- IB-92UK3-72 Multi-function clip (for instrument with TopSafe) consisting of multi-function clip and magnetic holder£16.40
- IB-92UK3-71 Recharger for 9V rechargeable battery£20.80
- IB-92UK3-73 Connection hose, silicone, 5m long Max. load 700 mbar£28.35
- IB-92UK3-74 Pressure connection hose, single, diameter: 4/6 mm, 50 cm long, without connection adapter£8.40

Fiber Optic Scopes

- ▶ Flexible waterproof shaft can fit into the tightest of spaces

Inspect dark, hard-to-reach areas without disassembly!

One-handed operation with integrated focus ring allows for continuous operation while focusing. Powerful halogen lamp illuminates dark areas.

| Cat. No. | Shaft length | Shaft diameter | Price |
|-------------|--------------|----------------|---------|
| IB-86407-00 | 457 mm (18") | 10 mm | £273.00 |
| IB-86407-01 | 914 mm (36") | 10 mm | £365.50 |

Specifications and Ordering Information

Bend radius: 8" (203 mm)

Field of view: 40°

Power: two AA batteries (included)



Ideal for inspection of heating and cooling systems



Low Cost Pressure Gauges

These low cost pressure gauges have a dual scale reading in Bar and PSI. They feature a black ABS case with an acrylic window, brass connection and copper alloy Bourdon tube.

- ▶ 63mm Diameter Bourdon tube
- ▶ Choice of bottom or back entry connection
- ▶ Bar and PSI dual scale
- ▶ Ideal to measure water, hydraulic oil or gas pressure
- ▶ Use with any medium not corrosive to brass or copper alloy
- ▶ Accuracy of $\pm 1.6\%$ Full Scale

| Dual Scale Range | | Connection | Cat. No. | Price Each |
|---|-------------|--------------|-------------|------------|
| Bar | psi | | | |
| Low Cost Bottom Entry Pressure Gauges | | | | |
| 0 - 1 Bar | 0 - 15 psi | 1/4" BSPP(M) | IB-680UK-00 | £6.50 |
| 0 - 2 Bar | 0 - 30 psi | | IB-680UK-05 | £6.50 |
| 0 - 4 Bar | 0 - 60 psi | | IB-680UK-10 | £6.50 |
| 0 - 7 Bar | 0 - 100 psi | | IB-680UK-15 | £6.50 |
| 0 - 11 Bar | 0 - 160 psi | | IB-680UK-20 | £6.50 |
| 0 - 14 Bar | 0 - 200 psi | | IB-680UK-25 | £6.50 |
| 0 - 21 Bar | 0 - 300 psi | | IB-680UK-30 | £6.50 |
| Low Cost Center Back Entry Pressure Gauges | | | | |
| 0 - 1 Bar | 0 - 15 psi | 1/4" BSPT(M) | IB-682UK-00 | £6.50 |
| 0 - 2 Bar | 0 - 30 psi | | IB-682UK-05 | £6.50 |
| 0 - 4 Bar | 0 - 60 psi | | IB-682UK-10 | £6.50 |
| 0 - 7 Bar | 0 - 100 psi | | IB-682UK-15 | £6.50 |
| 0 - 11 Bar | 0 - 160 psi | | IB-682UK-20 | £6.50 |
| 0 - 14 Bar | 0 - 200 psi | | IB-682UK-25 | £6.50 |
| 0 - 21 Bar | 0 - 300 psi | | IB-682UK-30 | £6.50 |



680UK-10

682UK-10

Quantity Discounts

Save 10% on 5-19
25% on 20-99
and 30% on 100+

Specifications

Gauge Size: 63mm Diameter

Accuracy: $\pm 1.6\%$ Full Scale

Construction: ABS case with acrylic window, Brass connector, copper alloy tube

Glycerin Filled Pressure Gauges

These low cost pressure gauges have a dual scale reading in Bar and PSI. They feature a 304 Stainless Steel case with rolled rime and an acrylic window, brass connection and copper alloy Bourdon tube.

- ▶ 63mm Diameter Bourdon tube
- ▶ Glycerin filled for improved readability when vibrations are present
- ▶ 304 Stainless Steel case
- ▶ Choice of bottom or back entry connection
- ▶ Bar and PSI dual scale
- ▶ Ideal to measure water or hydraulic oil
- ▶ Use with any medium not corrosive to brass or copper alloy
- ▶ Accuracy of $\pm 1.6\%$ Full Scale

| Dual Scale Range | | Connection | Bottom Entry | | Back Entry | |
|------------------|---------------|--------------|--------------|------------|-------------|------------|
| Bar | psi | | Cat. No. | Price Each | Cat. No. | Price Each |
| 0 - 1 Bar | 0 - 15 psi | 1/4" BSPP(M) | IB-684UK-00 | £10.50 | IB-686UK-00 | £10.50 |
| 0 - 2 Bar | 0 - 30 psi | | IB-684UK-05 | £10.50 | IB-686UK-05 | £10.50 |
| 0 - 4 Bar | 0 - 60 psi | | IB-684UK-10 | £10.50 | IB-686UK-10 | £10.50 |
| 0 - 7 Bar | 0 - 100 psi | | IB-684UK-15 | £10.50 | IB-686UK-15 | £10.50 |
| 0 - 11 Bar | 0 - 160 psi | | IB-684UK-20 | £10.50 | IB-686UK-20 | £10.50 |
| 0 - 14 Bar | 0 - 200 psi | | IB-684UK-25 | £10.50 | IB-686UK-25 | £10.50 |
| 0 - 21 Bar | 0 - 300 psi | | IB-684UK-30 | £10.50 | IB-686UK-30 | £10.50 |
| 0 - 28 Bar | 0 - 400 psi | | IB-684UK-35 | £10.50 | IB-686UK-35 | £10.50 |
| 0 - 40 Bar | 0 - 600 psi | | IB-684UK-40 | £10.50 | IB-686UK-40 | £10.50 |
| 0 - 70 Bar | 0 - 1000 psi | | IB-684UK-45 | £10.50 | IB-686UK-45 | £10.50 |
| 0 - 100 Bar | 0 - 1500 psi | | IB-684UK-50 | £10.50 | IB-686UK-50 | £10.50 |
| 0 - 140 Bar | 0 - 2000 psi | | IB-684UK-55 | £10.50 | IB-686UK-55 | £10.50 |
| 0 - 200 Bar | 0 - 3000 psi | | IB-684UK-60 | £10.50 | IB-686UK-60 | £10.50 |
| 0 - 280 Bar | 0 - 4000 psi | | IB-684UK-65 | £10.50 | IB-686UK-65 | £10.50 |
| 0 - 400 Bar | 0 - 6000 psi | | IB-684UK-70 | £10.50 | IB-686UK-70 | £10.50 |
| 0 - 700 Bar | 0 - 10000 psi | | IB-684UK-75 | £10.50 | IB-686UK-75 | £10.50 |
| 0 - 1000 Bar | 0 - 15000 psi | | IB-684UK-80 | £10.50 | IB-686UK-80 | £10.50 |



684UK-20

686UK-20

Quantity Discounts

Save 10% on 5-19
25% on 20-99
and 30% on 100+

Specifications

Gauge Size: 63mm Diameter

Accuracy: $\pm 1.6\%$ Full Scale

Construction: 304 SS case with acrylic window, Brass connector, copper alloy tube
(Do not use for measuring gas or steam above 25 bar pressure)

Two-Stage Gas Regulators

- ▶ Comply with British BS5741, BS7650 and International ISO2503 standards
- ▶ Regulators and bonnet are made from solid brass stampings
- ▶ Regulators fitted with two gauges (cylinder contents and outlet pressure)



Designed to withstand the rigors of hard daily use, these two-stage regulators are manufactured using all brass stampings, the regulators incorporate many features which improve reliability and extend service life. Along with many inbuilt safety devices, these features afford maximum protection in the event of individual or operational abuse.

Select either a standard 2 gauge regulator or the Laboratory 2 gauge regulator specifically designed for laboratory applications. All two-stage regulators comply with British standards BS 5741 and BS 7650 and International ISO 2503 standards. For different gases, stainless steel or single stage regulators please contact our sales consultants on 0500 345300.



Specifications and Ordering Information

Accuracy: ±0.5% full scale

Outlet: 3/8" BSP(M)

Gauge Size: 53mm

Inlet: 5/8" UNF Bull Nose

Maximum Inlet Pressure: 300 bar (gas dependent)

Shpg Wt: 2.4 kg

| Cat. No. | Gas | Type | Max. Outlet Pressure | | Max. Flow | | Price |
|-------------|-----------|--------------------|----------------------|----------|-----------------------|-------------------------|---------|
| IB-92UK7-00 | Oxygen | Laboratory 2 gauge | - | 10 psi | 18 m ³ /h | 635 ft ³ /h | £180.75 |
| IB-92UK7-01 | Oxygen | 2 gauge | 2 bar | 30 psi | 36 m ³ /h | 1270 ft ³ /h | £155.75 |
| IB-92UK7-02 | Oxygen | 2 gauge | 3.5 bar | 50 psi | 60 m ³ /h | 2118 ft ³ /h | £155.75 |
| IB-92UK7-03 | Oxygen | 2 gauge | 10 bar | 145 psi | 66 m ³ /h | 2329 ft ³ /h | £155.75 |
| IB-92UK7-04 | Acetylene | 2 gauge | 0.625 bar | 9 psi | 12 m ³ /h | 430 ft ³ /h | £155.75 |
| IB-92UK7-05 | Acetylene | 2 gauge | 1.5 bar | 22.5 psi | 17 m ³ /h | 620 ft ³ /h | £155.75 |
| IB-92UK7-06 | Air | Laboratory 2 gauge | - | 10 psi | 18 m ³ /h | 635 ft ³ /h | £180.75 |
| IB-92UK7-07 | Air | 2 gauge | 2 bar | 30 psi | 36 m ³ /h | 1270 ft ³ /h | £155.75 |
| IB-92UK7-08 | Air | 2 gauge | 3.5 bar | 50 psi | 60 m ³ /h | 2118 ft ³ /h | £155.75 |
| IB-92UK7-09 | Air | 2 gauge | 10 bar | 145 psi | 66 m ³ /h | 2329 ft ³ /h | £155.75 |
| IB-92UK7-10 | Argon | Laboratory 2 gauge | - | 10 psi | 15 m ³ /h | 540 ft ³ /h | £180.75 |
| IB-92UK7-11 | Argon | 2 gauge | 2 bar | 30 psi | 0.8 m ³ /h | 30 ft ³ /h | £155.75 |
| IB-92UK7-12 | Argon | 2 gauge | 3.5 bar | 50 psi | 1.4 m ³ /h | 50 ft ³ /h | £155.75 |
| IB-92UK7-13 | Argon | 2 gauge | 10 bar | 145 psi | 56 m ³ /h | 1969 ft ³ /h | £155.75 |
| IB-92UK7-14 | CO2 | Laboratory 2 gauge | - | 10 psi | 14 m ³ /h | 529 ft ³ /h | £180.75 |
| IB-92UK7-15 | CO2 | 2 gauge | 2 bar | 30 psi | 0.8 m ³ /h | 30 ft ³ /h | £155.75 |
| IB-92UK7-16 | CO2 | 2 gauge | 3.5 bar | 50 psi | 1.4 m ³ /h | 50 ft ³ /h | £155.75 |
| IB-92UK7-17 | CO2 | 2 gauge | 10 bar | 145 psi | 53 m ³ /h | 1885 ft ³ /h | £155.75 |
| IB-92UK7-18 | Nitrogen | Laboratory 2 gauge | - | 10 psi | 19 m ³ /h | 659 ft ³ /h | £180.75 |
| IB-92UK7-19 | Nitrogen | 2 gauge | 2 bar | 30 psi | 37 m ³ /h | 1296 ft ³ /h | £155.75 |
| IB-92UK7-20 | Nitrogen | 2 gauge | 3.5 bar | 50 psi | 61 m ³ /h | 2160 ft ³ /h | £155.75 |
| IB-92UK7-21 | Nitrogen | 2 gauge | 10 bar | 145 psi | 67 m ³ /h | 2372 ft ³ /h | £155.75 |
| IB-92UK7-22 | Helium | Laboratory 2 gauge | - | 10 psi | 48 m ³ /h | 1709 ft ³ /h | £180.75 |
| IB-92UK7-23 | Helium | 2 gauge | 2 bar | 30 psi | 97 m ³ /h | 3418 ft ³ /h | £155.75 |
| IB-92UK7-24 | Helium | 2 gauge | 3.5 bar | 50 psi | 161 m ³ /h | 5697 ft ³ /h | £155.75 |
| IB-92UK7-25 | Helium | 2 gauge | 10 bar | 145 psi | 177 m ³ /h | 6267 ft ³ /h | £155.75 |
| IB-92UK7-26 | Hydrogen | Laboratory 2 gauge | - | 10 psi | 68 m ³ /h | 2408 ft ³ /h | £180.75 |
| IB-92UK7-27 | Hydrogen | 2 gauge | 2 bar | 30 psi | 136 m ³ /h | 4816 ft ³ /h | £155.75 |
| IB-92UK7-28 | Hydrogen | 2 gauge | 3.5 bar | 50 psi | 227 m ³ /h | 8027 ft ³ /h | £155.75 |
| IB-92UK7-29 | Hydrogen | 2 gauge | 10 bar | 145 psi | 254 m ³ /h | 9000 ft ³ /h | £155.75 |

Datalogging/Printing Infrared Thermometer

- ▶ Record up to 400 readings
- ▶ Built-in printer allows for on-site paper documentation

Scan multiple temperature points quickly and easily with this IR non-contact thermometer. The built-in thermal printer provides a hard copy of the data with a date and time stamp. The RS-232 interface allows downloading data to a PC (software and cable included). Features laser-targeting adjustable emissivity, backlit digital display, audible and visual high/low alarms and auto power off.

What's included: software, cable for RS232 interface, four AA batteries and one paper roll.

New



95001-10

Specifications & Ordering Information

| | |
|-------------------------------|--|
| Catalogue number | IB-95001-10 |
| Range | -40 to 500°C |
| Resolution | 0.1° < 100; 1° otherwise |
| Accuracy | ±2% of reading or ±2°C, whichever is greater |
| Emissivity | 0.3 to 1.0, adjustable |
| Distance-to-target-size ratio | 8:1 |
| Power | Four AA batteries (included) |
| Dimensions | 200mmL x 76mmW x 51mmH |
| Price | £220.00 |

IB-91400-70 Replacement thermal printer paper, Pack of 2 rolls£6.76/pk

Digi-Sense® Type J, K, or T Thermocouple Thermometers

- ▶ Easy to use automatic field calibration ensures accurate readings
- ▶ Intrinsically safe UL listed—certified for Class I; Groups A, B, C, and D; Division 1
- ▶ J, K, or T models are available to fit your temperature measurement needs

Select a Digi-Sense® type J, type K, or type T thermocouple thermometer for your basic temperature measurement applications. All models feature an ergonomic design; sealed silicone rubber keypad; IP54 splash- and dust-resistant case; ABS/polycarbonate plastic case; and a built-in tilt stand. They accept a wide variety of thermocouple probes with miniconnectors. Digi-Sense® thermometers feature automatic field calibration—simply place the probe in a container packed with ice, fill with water, then press the "CAL" button. Meter automatically recognizes the freezing point.

Temperatures are displayed in °C or °F on the large 3¾-digit LCD. HOLD feature lets you freeze the display for later reading. Resolution is autoranging. Above 299.9° and below -99.9°, the thermometer automatically switches from the standard 0.1° resolution to 1° resolution.



Specifications

Power: two AA batteries (included)
 Battery life: approximately 750 hours
 Dimensions: 84 mm W x 158 mm H x 30 mm D
 Shpg wt: 0.45 kg

Probes sold separately opposite

B 91100-10



A 91100-00

C 91100-20

| Key | Catalogue number | Type | Range | Accuracy | Resolution | Buttons | Price Each |
|----------|------------------|------|------------------------------------|---|---|---|------------|
| A | IB-91100-00 | J | -200 to 1000°C (-328 to 1832°F) | Below -99.9°C/°F ±0.25% of reading plus 1°C (2°F) Above -99.9°C/°F ±0.2% of reading plus 0.5°C (0.9°F) | 0.1° between -99.9° and 299.9°; 1° below -99.9° and above 299.9° | On/off, hold, calibration, and °C/°F | £111.00 |
| B | IB-91100-10 | K | -250 to 1372°C (-418 to 2501°F) | | | | £111.00 |
| C | IB-91100-20 | T | -250 to 400°C (-418 to 752°F) | | | | £111.00 |

Digi-Sense® DuaLogR® Thermocouple Thermometer

- ▶ Log up to 1000 sets of readings in real time
- ▶ Transfer data to a printer or computer via the optional infrared RS-232 adapter

Our DuaLogR® thermometer features real time datalogging and infrared data output capabilities. Ideal for laboratory, industrial, and field use. Meter accepts dual inputs from type J, K, T, E, R, S, N, or B thermocouples. Display temperatures in °F, °C, °R, or K. Resolution and input filtering are selectable to improve readability during rapidly changing temperatures.

Thermometer measures minimum, maximum, and differential readings using one or two probes. Manually store or automatically log up to 1000 sets of readings in real time. Log interval is selectable from 1 second to 60 minutes. Order the optional infrared printer (below) or the RS-232 interface adapter to upload readings to your computer.

Certificate is included stating conformance to NIST monograph 175 revised to ITS-90. Thermometer is factory calibrated using NIST-traceable calibrators. Thermocouple linearization has ±0.04°F conformance to NIST thermocouple tables. Improve your system accuracy by calibrating each probe for zero and slope. Calibration values can be manually entered and stored for each thermocouple type at any temperature.

Thermometer features an ergonomic design and large multi-data LCD. A fold-out stand allows easy benchtop use. ABS/polycarbonate plastic case with sealed silicone rubber keypad is IP54 rated for splash- and dust-resistance. UL approved for intrinsic safety for use in Class I; Groups A, B, C, and D; Division 1 hazardous locations.

Includes two AA batteries. Order an AC adapter to conserve battery life during extended logging and printing operations.

- IB-91100-50 DuaLogR® thermocouple thermometer.....£172.00
- IB-91100-55 Adapter, UK 230 VAC.....£36.69
- IB-09376-01 Replacement batteries, 1.5 V AA. Pack of four£5.07/pk



Order probes from table below

Specifications

Range

- Type J: -200 to 1000°C
- Type K: -250 to 1372°C
- Type T: -250 to 400°C
- Type E: -250 to 1000°C
- Type R: 0 to 1768°C
- Type S: 0 to 1768°C
- Type N: -250 to 1300°C
- Type B: 200 to 1800°C

Resolution

- Below -150°C: 1°
- Between -150°C and 999.9°: 0.1°
- Above 999.9°: 1°

Accuracy

- Type J, K, T, E, and N: below -150°C (-238°F) is ±0.25% of reading plus 1°C (2°F); above -150°C (-238°F) is ±0.1% of reading plus 0.4°C (0.7°F)
- Type R, S, and B: ±0.1% of reading plus 1°C (2°F)

Display: three 4-digit displays; 0.4"H and 0.2"H

Power: two AA batteries (included)

Battery life: approximately 650 hours

Dimensions: 84 mm W x 158 mm H x 30 mm D

Shpg wt: 0.5 kg

Accessories

Infrared Printer is ideal for on-site documentation. Transfer data by infrared light without the use of cables—just position printer within 18" (45 cm) of the top of the thermometer. Prints one set of readings from once every three seconds to once every 60 minutes. To print in intervals longer than 10 minutes the printer must be powered by an AC adapter.

IB-10374-50 Infrared printer includes one roll of paper and four AA batteries.....£220.00

IB-10374-52 Replacement printer paper, 2.25"W x 80 ft L. Pack of six rolls£21.56/pk

RS-232 Interface connects to your computer 9-pin serial port to easily upload data. Use with most popular RS-232 programs including Windows® Terminal, Windows® 95 Hyperterminal®, or Windows® 98.

IB-91100-85 RS-232 interface.....£81.00

Windows—Reg TM Microsoft Corporation Hyperterminal—Reg TM Hilgraeve, Inc.



10374-50

91100-80

Some of Our Most Popular Thermocouple Probes

All probes include an integral handle and a 5-ft coiled cable with a miniconnector.

General-purpose probe

Penetration probe

Air/gas probe

Surface probe

| Probe Type | General-purpose probes (5"L) | | | Penetration probes (4"L) | | | Air/gas probes (8.5"L) | | | Surface probes (9.9"L) | | |
|------------|------------------------------|-------------|--------|--------------------------|-------------|--------|------------------------|-------------|--------|------------------------|-------------|--------|
| | Max temp | Cat. no. | Price* | Max temp | Cat. no. | Price* | Max temp | Cat. no. | Price* | Max temp | Cat. no. | Price* |
| J | 760°C | IB-08517-55 | £31.29 | 760°C | IB-08517-65 | £33.09 | 300°C | IB-08517-75 | £40.64 | 649°C | IB-08517-60 | £47.48 |
| K | 900°C | IB-08516-55 | £31.29 | 900°C | IB-08516-65 | £33.09 | 300°C | IB-08516-75 | £40.64 | 649°C | IB-08516-60 | £47.48 |
| T | 400°C | IB-08500-55 | £34.89 | 400°C | IB-08500-65 | £33.09 | 300°C | IB-08500-75 | £40.64 | 343°C | IB-08500-60 | £47.48 |
| E | 871°C | IB-08512-55 | £35.61 | 871°C | IB-08512-65 | £37.41 | 300°C | IB-08512-75 | £50.00 | 649°C | IB-08512-60 | £58.00 |

*Discounts: 6-10 probes, assorted: 10% off list price, 11-24 probes, assorted: 15% off list price, 25-50 probes, assorted: 20% off list price

Hotplates and Magnetic Stirrers



Hotplate Models:

- ▶ Easy to read digital display indicates temperature settings
- ▶ Hot surface alert protects from accidental burns - bright red warning lights signal when the heating surface is above 50°C. Unit flashes "HOT" - "OFF" when heating is turned off, until heating surface drops below 50°C.

Magnetic Stirrer Models:

- ▶ Adjustable speed range from 50 to 1,200 rpm
- ▶ New microprocessor speed feedback control provide constant speed regardless of changes in viscosity and prevents runaway and magnetic decoupling
- ▶ include PTFE coated stirbar (04660-45, -75 supplied with 1" L x 3/8" dia all other models supplied with 2" L x 3/8" dia)

Select from hotplate only, magnetic stirrer only or hotplate and magnetic stirrer. Each option comes in three top plate sizes and are all made from a rugged aluminium body.



| Cat. No. | Top Plate Dimensions | Temperature Range | Speed Range | Overall Dimensions (W x D x H) mm | Shpg Wt | Price |
|---------------------------------------|----------------------|-------------------|----------------|-----------------------------------|---------|---------|
| Hot Plate Only | | | | | | |
| IB-04660-15 | 108 mm x 108 mm | 5 -540°C | - | 127 x 254 x 97 | 2.4 kg | £200.00 |
| IB-04660-25 | 184 mm x 184 mm | 5 -540°C | - | 208 x 330 x 97 | 4.2 kg | £209.00 |
| IB-04660-35 | 260 mm x 260 mm | 5 -400°C | - | 287 x 411 x 101 | 6.9 kg | £245.00 |
| Magnetic Stirrer Only | | | | | | |
| IB-04660-45 | 108 mm x 108 mm | - | 50 - 1,200 rpm | 127 x 254 x 97 | 2.2 kg | £223.00 |
| IB-04660-55 | 184 mm x 184 mm | - | 50 - 1,200 rpm | 208 x 330 x 97 | 3.7 kg | £241.00 |
| IB-04660-65 | 260 mm x 260 mm | - | 50 - 1,200 rpm | 287 x 411 x 101 | 6.0 kg | £293.00 |
| Hot Plate and Magnetic Stirrer | | | | | | |
| IB-04660-75 | 108 mm x 108 mm | 5 -540°C | 50 - 1,200 rpm | 127 x 254 x 97 | 2.4 kg | £272.00 |
| IB-04660-85 | 184 mm x 184 mm | 5 -540°C | 50 - 1,200 rpm | 208 x 330 x 97 | 4.2 kg | £312.00 |
| IB-04660-95 | 260 mm x 260 mm | 5 -400°C | 50 - 1,200 rpm | 287 x 411 x 101 | 6.9 kg | £408.00 |

Specifications

Power: 240VAC 50 Hz

Top plate material: solid ceramic

Temperature stability: ±5°C

Number of stirring positions: one (04660-45, -55, -65, -75, -85, -95)

Max stirring capacity:

108 x 108 mm top plate: 4.5 kg

184 x 184 mm top plate: 11.3 kg

260 x 260 mm top plate: 11.4 kg



Stirrers/Mixers

For a range of Stirrers/Mixers see pages:

5 - 8 Laboratory Small Scale Mixers

9 - 11 Pilot/Medium Scale Mixers

12 - 13 Large Scale Mixers

14 Static Inline Mixers



Heated Circulating Baths

- ▶ Choice of baths sizes from 8 to 48L
- ▶ Baths have stainless steel inners and stoved enamel steel outer cases with carrying handles for added safety
- ▶ Choice of immersion circulators to suit your application

Select the immersion circulator type below from a full range of options including temperature range, external control, analogue or digital display and RS232 output. All baths come complete with immersion circulator, stainless steel tank and bridge plate.

A Analogue circulator

Temperature range of -20°C to + 95°C, covering most routine laboratory applications. A circulating pump with external circulation connections is standard, as is adjustable over-temperature cut-out.

B Basic digital circulator

Has a temperature range of between -40°C to +120°C. There is a digital temperature selector, circulating pump with external circulation connections, adjustable over-temperature cut-out and low liquid level cut-out.

C Standard digital circulator

A wide temperature range of -40°C to +200°C can be digitally selected with this model. It incorporates the additional feature of RS232 connection

D Deluxe digital circulator

This top of the range circulator has additional features fitted as standard including: an audible alarm, high capacity dual suction/pressure pump, cooling coil and features RS232 connection. The temperature range is -40°C to +250°C.



| Model | A Analogue Circulator | B Basic Digital Circulator | C Standard Digital Circulator | D Deluxe Digital Circulator |
|------------------------------|------------------------------------|-------------------------------------|--------------------------------------|-------------------------------------|
| Standard | 5°C above ambient to 95°C | 5°C above ambient to 120°C | 5°C above ambient to 200°C | 5°C above ambient to 250°C |
| With cooling coil | 10°C above coil fluid temp to 95°C | 10°C above coil fluid temp to 120°C | 10°C above coil fluid temp to 200°C | 10°C above coil fluid temp to 250°C |
| With optional chiller | -20°C to + 95°C | -40°C to + 120°C | -40°C to + 200°C | -40°C to + 250°C |
| Temperature selection | analogue | digital | digital | digital |
| Stability ±0.01°C | ± 0.01°C | ± 0.005°C | ± 0.005°C | |
| Max flow at 0 head | 10 LPM | 10 LPM | 10 LPM | 20/15* LPM |
| Max pressure at 0 flow | 145 mbar | 145 mbar | 145 mbar | 450 mbar |
| Method of control | Proportional | PID | PID | PID |
| Temperature sensor | Thermistor | PRT | PRT | PRT |
| Adjustable over-temp cut-out | Yes | Yes | Yes | Yes with audible alarm |
| Low liquid level cut-out | No | Yes | Yes | Yes |
| PC interface | No | No | Yes RS232 | Yes RS232 |
| Cooling coil | Optional Accessory | Optional Accessory | Optional Accessory | Included |
| Overall size (H x D x W) mm | 237 x 124 x 260 | 237 x 124 x 260 | 237 x 124 x 260 | 237 x 124 x 260 |

* 20 LPM via pressure pump, 15 LPM via suction pump

| Bath Capacity | 8 Litre | 12 Litre | 18 Litre | 26 Litre | 48 Litre |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| A Bath with Analogue Circulator | IB-03UK0-00 £607.00 | IB-03UK0-02 £623.00 | IB-03UK0-04 £655.00 | IB-03UK0-06 £692.00 | IB-03UK0-08 £866.00 |
| B Bath with Basic Digital Circulator | IB-03UK0-10 £811.00 | IB-03UK0-12 £827.00 | IB-03UK0-14 £859.00 | IB-03UK0-16 £896.00 | IB-03UK0-18 £1,070.00 |
| C Bath with Standard Digital Circulator | IB-03UK0-20 £1,095.00 | IB-03UK0-22 £1,111.00 | IB-03UK0-24 £1,143.00 | IB-03UK0-26 £1,180.00 | IB-03UK0-28 £1,354.00 |
| D Bath with Deluxe Digital Circulator | IB-03UK0-30 £1,601.00 | IB-03UK0-32 £1,617.00 | IB-03UK0-34 £1,649.00 | IB-03UK0-36 £1,686.00 | IB-03UK0-38 £1,860.00 |

Specifications

Wetted Parts: 316 Stainless steel and Polyphenylene sulphide (PPS) **Power:** 240 VAC 50/60 Hz 4.5A

Top of bath to liquid level max depth: 65 mm

| Bath Capacity | 8 Litre | 12 Litre | 18 Litre | 26 Litre | 48 Litre |
|--------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Overall size (L x H x W) | 265 x 325 x 172 mm | 354 x 325 x 172 mm | 530 x 325 x 172 mm | 530 x 325 x 222 mm | 594 x 365 x 298 mm |
| Internal tank dimensions (L x H x W) | 240 x 300 x 150 mm | 329 x 300 x 150 mm | 505 x 300 x 100 mm | 505 x 300 x 200 mm | 559 x 330 x 274 mm |
| Working depth max/min | 130/100 mm | 130/100 mm | 130/100 mm | 180/150 mm | 255/224 mm |
| Working capacity max/min | 8.0/6.0 L | 11.6/8.4 L | 18.0/13.2 L | 26.0/20.5 L | 48.5/42.5 L |
| Shpg Wt. including circulator | 10 kg | 10 kg | 11.5 kg | 13.5 kg | 19 kg |

Sanitary and Standard Heat Exchangers

► Compact design allows maximum thermal efficiency

Use to easily heat or cool virtually any liquid

These heat exchangers are a fast, economical alternative for heating or cooling liquids without the use of a storage tank. The compact geometric design of the tubes and baffles produces high heat transfer in a small package.

Standard Heat Exchangers are designed to ensure efficient thermal control for process requirements. These units are ideal for laboratory and pilot plant installations in the petrochemical, pharmaceutical, food, and other process industries.

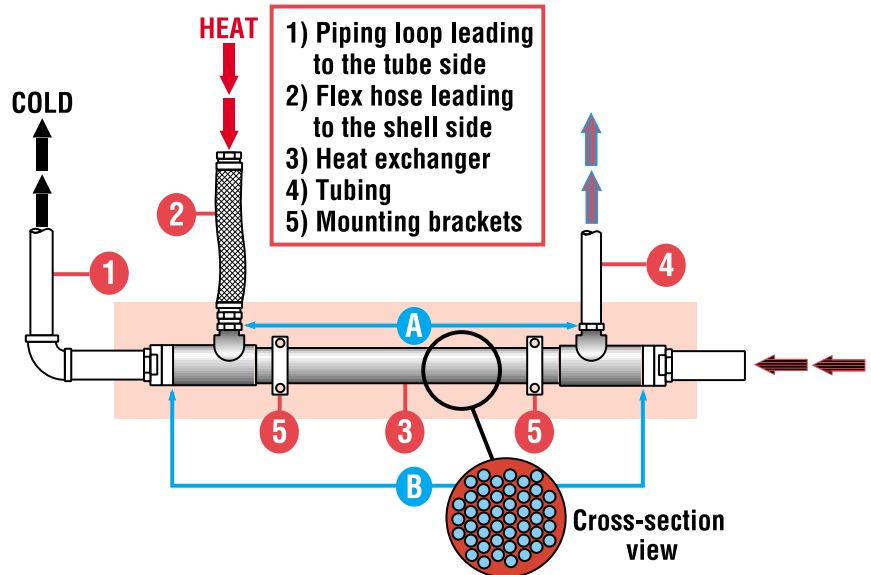
Sanitary Heat Exchangers are all cGMP and ANSI compliant. These sanitary shell and tube heat exchangers are constructed of 316L stainless steel with nickel-chromium vacuum-brazed joints to meet your most stringent requirements. Sanitary grade flange fittings are included; electropolished tube-side surfaces are available.



36125-00

Technical info

Typical setup: Install heat exchanger in a water pipe system. To cool a hot fluid, pump it through the shell side of the exchanger while pumping the cold water through the tube side. Continue until the hot fluid reaches the desired temperature.



Specifications & Ordering Information

| Catalogue number | Transfer area m ² | Shell volume cm ³ | Tube volume cm ³ | Shell fitting | Tube fitting | "A" in. (mm) | "B" in. (mm) | Price |
|---|------------------------------|------------------------------|-----------------------------|---------------|---------------|--------------|--------------|----------|
| Standard heat exchangers | | | | | | | | |
| IB-36125-00 | 0.054 | 50 | 26 | 1/4" NPT(F) | 3/8" NPT(F) | 6.81 (175) | 9.75 (248) | £744.00 |
| IB-36125-05 | 0.082 | 75 | 36 | 1/4" NPT(F) | 3/8" NPT(F) | 10.81 (276) | 13.75 (349) | £825.00 |
| IB-36125-10 | 0.111 | 100 | 47 | 1/4" NPT(F) | 3/8" NPT(F) | 14.81 (378) | 17.75 (451) | £894.00 |
| IB-36125-15 | 0.133 | 131 | 88 | 1/2" NPT(F) | 3/4" NPT(F) | 8.13 (207) | 12.25 (312) | £1100.00 |
| IB-36125-20 | 0.203 | 197 | 124 | 1/2" NPT(F) | 3/4" NPT(F) | 13.13 (334) | 17.25 (439) | £1232.00 |
| IB-36125-25 | 0.272 | 262 | 159 | 1/2" NPT(F) | 3/4" NPT(F) | 18.13 (461) | 22.25 (566) | £1363.00 |
| Sanitary heat exchangers; includes sanitary flange fitting | | | | | | | | |
| IB-36125-60 | 0.13 | 131 | 71 | 1/2" NPT(F) | 1 1/2" flange | 7.74 (197) | 10.04 (255) | £1325.00 |
| IB-36125-65* | 0.13 | 131 | 71 | 1/2" NPT(F) | 1 1/2" flange | 7.74 (197) | 10.04 (255) | £1688.00 |
| IB-36125-70 | 0.13 | 131 | 71 | 3/4" flange | 1 1/2" flange | 7.74 (197) | 10.04 (255) | £1838.00 |
| IB-36125-75* | 0.27 | 262 | 142 | 1/2" NPT(F) | 1 1/2" flange | 17.74 (451) | 20.04 (509) | £2319.00 |
| IB-36125-80 | 0.39 | 395 | 210 | 1" NPT(F) | 2 1/2" flange | 7.12 (181) | 10.04 (255) | £2750.00 |
| IB-36125-85* | 0.60 | 592 | 315 | 1" NPT(F) | 2 1/2" flange | 12.12 (308) | 15.04 (382) | £5138.00 |
| IB-36125-90 | 0.80 | 788 | 420 | 1" NPT(F) | 2 1/2" flange | 17.12 (435) | 20.04 (510) | £3294.00 |

*Electropolished tube configuration

Accessories

IB-36125-50 Mounting kit for models 36125-00, -05, and -10.....£92.00

IB-36125-51 Mounting kit for models 36125-15, -20, and -25.....£133.00

Wetted parts

Standard: 316 SS with Viton® seals
Sanitary: 316L SS

Temperature range (standard models)

Shell side: -60 to 232°C
Tube side: -25 to 205°C

Maximum operating temperature (sanitary models): 425°C

Maximum temperature difference

Standard: 65°C from shell to tube
Sanitary: 52°C

Maximum steam pressure: 8.6 bar (125 psi)

Required System Components

- Positive displacement pumps.....41-47
- Tubing56-58

Programmable Process Meters

► **Universal Input**

Any one of over 20 different input types can be directly connected - Thermocouple, RTD, 20mA, mV and 10V signals are accepted as standard

► **Analogue Output Input**

Optional analogue output can be user configured as 0-10V, 0-20mA or 4-20mA allowing connection to another device such as a chart recorder or data logger

► **Alarms**

Meters have four software alarms. These can be configured by the user for alarm type, setpoint, on/off delay and on/off hysteresis value. Optional relay outputs can be triggered by any of the four software alarms.

► **Displays**

Choice of four or five digit displays. Front panels are IP65 (NEMA 4) rated.

► **Simple Configuration**

Full setup is available using the front panel buttons to step through a simple password protected menu

► **Communication**

Includes an RS422/485 communication port for connection to a PLC or computer



Specifications

Physical / Mechanical

1/8 DIN Panel meters

Front Panel: Protection to IP65 (NEMA 4)

Dimensions: 48mm H x 96mm W x 173mm D

Panel Cutout: 44mm H x 92mm W

Operating Temperature: 10 to 50°C

Relays: SPDT (1A @ 250VAC; 5A @ 30VDC)

Isolated Transmitter / Transducer Supplies:

1 x 24VDC two wire transmitter supply

1 x 10VDC regulated supply (models 220UK-00, -05, -10, -15 only)

1 x 0-12VDC programmable regulated supply (models 220UK-20, -25, -30, -35 only)

Analogue Output (models 220UK-20, -25, -30 and -35 only)

Ranges: User selectable 0-10VDC, 0-20mA or 4-20mA

Accuracy: 0.2% of span

Resolution: 0.05% of span

Serial Communication

Type: isolated RS422/485 multidrop

Speed: 1200, 2400, 4800 or 9600 baud

Parity: Odd, even or none

Stop Bits: 1 or 2

Protocol: MODBUS™ (RTU or ASCII) and DTP1

| Process Inputs | | |
|--------------------------------|----------------|----------|
| Type | Range | Accuracy |
| Thermocouples | | |
| Type J | -210 TO 1200°C | ± 0.5°C |
| Type K | -270 TO 1372°C | ± 0.5°C |
| Type T | -270 TO 400°C | ± 0.5°C |
| Type B | 0 TO 1820°C | ± 1.5°C |
| Type E | -270 TO 1000°C | ± 0.5°C |
| Type N | -200 TO 1300°C | ± 0.5°C |
| Type R | -50 TO 1767°C | ± 1.0°C |
| Type S | -50 TO 1767°C | ± 1.0°C |
| Type U | -200 TO 400°C | ± 0.7°C |
| Type L | -200 TO 900°C | ± 0.7°C |
| Type G | 0 TO 2320°C | ± 1.0°C |
| Type D | 0 TO 2320°C | ± 1.0°C |
| Type C | 0 TO 2320°C | ± 1.0°C |
| Ni/Ni | 0 TO 1370°C | ± 1.0°C |
| Plantiel II | 0 TO 1370°C | ± 1.0°C |
| Palaplat | 0 TO 240°C | ± 1.0°C |
| Resistance Thermometers | | |
| Pt100 (alpha=385) | -200 TO 850°C | ± 0.5°C |
| Pt100 (alpha=392) | -100 TO 457°C | ± 0.5°C |
| Pt130 | -200 TO 500°C | ± 0.5°C |
| Ni100 | -60 TO 250°C | ± 0.5°C |
| DC Inputs | | |
| (0)4 - 20mA | User scalable | ± 0.05% |
| ± 100mVDC | User scalable | ± 0.05% |
| ± 10VDC | User scalable | ± 0.05% |

| 90 - 265VAC 50/60Hz | | 10 - 32VAC or DC | | No of digits on display | Process Inputs | Digital Inputs | Software Alarms | Relay Outputs | Analogue Output |
|---------------------|------------|------------------|------------|-------------------------|---------------------------|----------------|-----------------|---------------|-----------------|
| Cat No | Price Each | Cat No | Price Each | | | | | | |
| IB-220UK-00 | £140.00 | IB-220UK-05 | £155.00 | 4 | Universal see above table | 0 | 4 | 0 | No |
| IB-220UK-10 | £175.00 | IB-220UK-15 | £190.00 | 4 | Universal see above table | 0 | 4 | 2 | No |
| IB-220UK-20 | £205.00 | IB-220UK-25 | £220.00 | 5 | Universal see above table | 2 | 4 | 0 | Yes |
| IB-220UK-30 | £240.00 | IB-220UK-35 | £255.00 | 5 | Universal see above table | 2 | 4 | 2 | Yes |

Flexible Heating Cords

- ▶ Temperature ranges
Standard heating cord to 450°C
High temperature heating cord to 800°C
- ▶ Suitable for close coiling or open spiraling around tubing

Rugged small-diameter cords heat small vessels or tubes where space is too limited for heating tapes. Heat glass, ceramic or metal. Cords are suitable for laboratory, production or maintenance applications.

Standard glass fiber heating cords are suitable for applications up to 450°C and have ties (61 cm long) at either end of the heating section for securing the cord to the vessel. High temperature quartz fiber heating cords are suitable for applications up to 800°C and have ties (121 cm long) at either end of the heating section for securing the cord to the vessel.

Regulate these heating cords with either the power controller or temperature controller shown on page 61.



| Heating Cord - heat to 450°C | | | | |
|------------------------------|-------------|----------------------|---------|---------|
| Cat. no. | Total watts | Dimensions (L x dia) | Shpg wt | Price |
| IB-033UK-60 | 60 | 0.305m x 5mm | 0.4 kg | £45.00 |
| IB-033UK-62 | 120 | 0.61m x 5mm | 0.4 kg | £50.00 |
| IB-033UK-64 | 240 | 1.22m x 5mm | 0.4 kg | £55.00 |
| IB-033UK-66 | 480 | 1.83m x 5mm | 0.6 kg | £80.00 |
| IB-033UK-68 | 960 | 2.44m x 5mm | 0.7 kg | £120.00 |
| IB-033UK-70 | 1960 | 4.88m x 5mm | 0.8 kg | £175.00 |

| High Temperature Heating Cord - heat to 800°C | | | | |
|---|-------------|----------------------|---------|---------|
| Cat. no. | Total watts | Dimensions (L x dia) | Shpg wt | Price |
| IB-033UK-50 | 100 | 0.3m x 5mm | 0.4 kg | £75.00 |
| IB-033UK-52 | 200 | 0.61m x 5mm | 0.4 kg | £85.00 |
| IB-033UK-54 | 400 | 1.22m x 5mm | 0.5 kg | £115.00 |
| IB-033UK-56 | 800 | 2.44m x 5mm | 0.6 kg | £185.00 |
| IB-033UK-58 | 1600 | 4.88m x 5mm | 0.8 kg | £275.00 |

Flexible Heating Tapes

- ▶ Temperature ranges
Standard heating tape to 450°C
High temperature heating tape to 800°C
- ▶ Select grounded heating tape to prevent shock hazards - ideal for use with metals

Standard glass fiber heating tapes are suitable for applications up to 450°C and have ties at either end of the heating section for securing the tape to the vessel. Standard models are available with or without grounding. High temperature quartz fiber heating tapes are suitable for applications up to 800°C and have ties at either end of the heating section for securing the tape to the vessel.

Regulate these heating tapes with either the power controller or temperature controller shown on page 61.



More info

Tape Length
Calculate the required heat-tape length to heat a pipe or cylinder with the formula:

$$\text{Length} = \frac{C}{W} \times \sqrt{W^2 + [3.14 \times (D + T)]^2}$$

Where:
C = cylinder length
D = cylinder diameter
W = tape width plus space between coils
T = tape thickness*

* The nominal tape thickness is 3mm

| High Temperature Heating Tape - heat to 800°C | | | | |
|---|-------------|----------------------|---------|---------|
| Cat. no. | Total watts | Dimensions (L x dia) | Shpg wt | Price |
| IB-033UK-30 | 200 | 0.61m x 25mm | 0.6 kg | £100.00 |
| IB-033UK-32 | 400 | 1.22m x 25mm | 0.8 kg | £135.00 |
| IB-033UK-34 | 600 | 1.83m x 25mm | 0.9 kg | £180.00 |
| IB-033UK-36 | 800 | 2.44m x 25mm | 1.1 kg | £240.00 |
| IB-033UK-38 | 1600 | 4.88m x 25mm | 1.7 kg | £430.00 |

| Grounded Heating Tape - heat to 450°C | | | | |
|---------------------------------------|-------------|----------------------|---------|---------|
| Cat. no. | Total watts | Dimensions (L x dia) | Shpg wt | Price |
| IB-03121-12 | 100 | 0.61m x 25mm | 0.6 kg | £60.00 |
| IB-03121-22 | 150 | 0.91m x 25mm | 0.7 kg | £73.00 |
| IB-03121-32 | 200 | 1.22m x 25mm | 0.8 kg | £84.00 |
| IB-03121-42 | 300 | 1.83m x 25mm | 0.9 kg | £90.00 |
| IB-03121-52 | 400 | 2.44m x 25mm | 1.1 kg | £98.00 |
| IB-03121-62 | 600 | 3.66m x 25mm | 1.3 kg | £142.00 |
| IB-03121-72 | 800 | 4.88m x 25mm | 1.7 kg | £174.00 |
| IB-03121-82 | 1200 | 7.32m x 25mm | 1.9 kg | £230.00 |
| IB-03121-92 | 1600 | 9.76m x 25mm | 2.8 kg | £290.00 |

| Heating Tape - heat to 450°C | | | | |
|------------------------------|-------------|----------------------|---------|---------|
| Cat. no. | Total watts | Dimensions (L x dia) | Shpg wt | Price |
| IB-033UK-02 | 100 | 0.61m x 25mm | 0.6 kg | £32.00 |
| IB-033UK-04 | 150 | 0.91m x 25mm | 0.7 kg | £40.00 |
| IB-033UK-06 | 200 | 1.22m x 25mm | 0.8 kg | £50.00 |
| IB-033UK-08 | 300 | 1.83m x 25mm | 0.9 kg | £70.00 |
| IB-033UK-10 | 400 | 2.44m x 25mm | 1.1 kg | £73.00 |
| IB-033UK-12 | 600 | 3.66m x 25mm | 1.3 kg | £86.00 |
| IB-033UK-14 | 800 | 4.88m x 25mm | 1.7 kg | £110.00 |
| IB-033UK-16 | 1200 | 7.32m x 25mm | 1.9 kg | £160.00 |
| IB-033UK-18 | 1600 | 9.76m x 25mm | 2.8 kg | £250.00 |

Silicone-Rubber Heaters

- ▶ Temperature range to 232°C
- ▶ Resists moisture, sunlight, ozone, radioactivity and most solvents
- ▶ Available with or without pressure sensitive adhesive

Resistance wires are encapsulated in a silicone-rubber to provide a heater which is flexible and resistant to moisture, sunlight, ozone and radioactivity. They are available with or without pressure sensitive adhesive and are ideal for warming of tanks and vessels.

Regulate these heaters with either the power controller or temperature controller shown below.



Silicone rubber heater around pyrex beaker (beaker not included)

| Silicone-Rubber Laminated Heater - without adhesive | | | | |
|---|-------------|----------------------|---------|---------|
| Cat. no. | Total watts | Dimensions (L x dia) | Shpg wt | Price |
| IB-36000-05 | 180 | 305mm x 152mm | 0.5 kg | £108.00 |
| IB-36000-15 | 360 | 610mm x 152mm | 0.5 kg | £166.00 |
| IB-36000-25 | 360 | 305mm x 305mm | 0.5 kg | £166.00 |
| IB-36000-35 | 720 | 610mm x 305mm | 0.9 kg | £283.00 |
| IB-36000-45 | 1440 | 610mm x 610mm | 1.1 kg | £531.00 |

| Silicone-Rubber Laminated Heater - with adhesive | | | | |
|--|-------------|----------------------|---------|---------|
| Cat. no. | Total watts | Dimensions (L x dia) | Shpg wt | Price |
| IB-36001-05 | 180 | 305mm x 152mm | 0.5 kg | £114.00 |
| IB-36001-15 | 360 | 610mm x 152mm | 0.5 kg | £175.00 |
| IB-36001-25 | 360 | 305mm x 305mm | 0.5 kg | £175.00 |
| IB-36001-35 | 720 | 610mm x 305mm | 0.9 kg | £308.00 |
| IB-36001-45 | 1440 | 610mm x 610mm | 1.1 kg | £585.00 |

Power Controller For Heating Tape

- ▶ Low cost power controller
- ▶ 0-95% control of input voltage
- ▶ Suitable for heating cords and mats up to 2300W

Regulate the input power delivered to your heating cords/mats with this power controller. The controller features an independent power level dial and on/off switch so you won't disturb your setting each time you turn the controller on and off, making it ideal for fixed start-up conditions.

IB-033UK-85 Power controller 240VA 50Hz, dial percentage control.....£82.00



Specifications

Max current: 10 A continuous

Max Power (resistive only): 2300 W

Shpg wt: 1.5 kg

Output control method:

Continuously variable on/off ratio

Power connections:

Input: 2m cable, Output: 1m cable

Dimensions:

125 mm W x 75 mm H x 90 mm D

PID Temperature Controller

- ▶ PID or Hysteresis on/off control
- ▶ Temperature range -10°C to 800°C
- ▶ Three digit LED display enables 1°C resolution

The controller has a zinc die cast outer case which can be either used on a bench top or mounted on a 1/2" (12.7 mm) support rod. The unit is programmed using the up/down controls. In addition to the temperature setpoint a hysteresis range can be set to govern the range of temperature variation in the medium being controlled.

The controller is supplied with a PTFE coated PT100 probe for use up to 270°C. For higher temperature probes order from the accessories section.

IB-033UK-90 Temperature controller 240VA 50Hz, PID control.....£330.00



Specifications

Control type: PID or hysteresis on/off

Resolution: 1°C (-10°C to 800°C)

Output: SPDT Relay (6.5A @ 230VAC)

Input Power: 230VAC 50Hz

Shpg wt: 1.5 kg

Dimensions: 125 mm W x 75 mm H x 90 mm

Accessories

- IB-033UK-94 PT100 temperature probe, SS 400°C£75.00
- IB-033UK-95 PT100 temperature probe, PTFE coated 400°C£85.00
- IB-033UK-96 PT100 temperature probe, SS 800°C£135.00

Technical Data

Length

| Multiply to get | → | to get |
|-----------------|------------------|--------|
| to get | ← | Divide |
| inch | 2.54 | cm |
| ft | 12 | inch |
| ft | 0.305 | meter |
| yard | 1.094 | meter |
| Angstrom | 10 ¹⁰ | meter |

Volume

| Multiply to get | → | to get |
|-----------------------------|--------|----------------|
| to get | ← | Divide |
| cubic cm (cc) | 1 | mL |
| oz (fluid) | 29.57 | mL |
| cubic ft (ft ³) | 7.48 | gal |
| cubic ft (ft ³) | 0.0283 | m ³ |
| gal | 128 | oz (fluid) |
| gal | 3.785 | liters |
| gal | 0.8333 | imp gal |
| cubic meters | 1000 | liters |

Pressure/Vacuum

| Multiply to get | → | to get |
|---------------------|--------|----------------------|
| to get | ← | Divide |
| atm | 33.9 | ft H ₂ O |
| atm | 760 | mm Hg |
| atm | 1033.2 | g/cm ² |
| atm | 14.70 | psi |
| atm | 1.013 | bar |
| atm | 101.3 | kPa |
| bar | 14.5 | psi |
| bar | 0.9869 | atm |
| bar | 100 | kPa |
| ft H ₂ O | 0.4335 | psi |
| kPa | 0.01 | dyne/cm ² |
| kPa | 0.1450 | psi |
| kPa | 7.5 | mm Hg |
| psi | 0.0703 | kg/cm ² |

Flowrate

| Multiply to get | to get | |
|----------------------------|--------|--------------------|
| to get | Divide | |
| cc/min | 1 | mL/min |
| cfm (ft ³ /min) | 28.31 | L/min |
| cfm (ft ³ /min) | 1.699 | m ³ /hr |
| cfh (ft ³ /hr) | 472 | mL/min |
| cfh (ft ³ /hr) | 0.125 | GPM |
| GPH | 63.1 | mL/min |
| GPH | 0.134 | cfh |
| GPM | 0.227 | m ³ /hr |
| GPM | 3.785 | L/min |
| oz/min | 29.57 | mL/min |

► Flow for Liquids

C_v factor Q = flow rate (GPM)

$$Q = \frac{C_v}{(G/\Delta P)^{1/2}}$$
 C_v = flow coefficient
 G = specific gravity
 ΔP = pressure drop (psi)

K_v factor Q = flow rate (m³/h)

$$Q = \frac{K_v}{(G/\Delta P)^{1/2}}$$
 K_v = flow coefficient
 G = specific gravity
 ΔP = pressure drop (bar)

► Temperature

°F = (1.8 × °C) + 32

°C = (°F - 32) × 0.555

°Kelvin = °C + 273.2

| | | | |
|--------------------------------|------------|-------------------------------------|-----------|
| | Page | | |
| Balances | 73-75 | Electrode | 85, 86 |
| Baths, Heating | 93 | Ion | 86 |
| Cabinets, Safety | 71 | Meter | 85 |
| Conductivity | 76 | Tester | 84-85 |
| Calibration Solution | 76 | Plasticware | |
| Tester | 76 | Containers | 67 |
| Contents | 2 | Tanks | 13, 72 |
| Controllers | | Power Controller | 97 |
| Flow | 17, 22, 23 | Pressure | 87-89 |
| Humidity | 83 | Differential Meters | 87 |
| Ion | 86 | Digital Gauges | 88 |
| pH | 86 | Gas Regulators | 89 |
| Power | 97 | Pumps | 34-55 |
| Temperature | 95, 97 | Air Operated Diaphragm (AOD) | 46-47 |
| Dataloggers | | Centrifugal | 49-51 |
| Humidity | 77-78 | Diaphragm | 39-40 |
| Temperature | 77-79, 90 | Double Diaphragm | 45-47 |
| Universal | 77 | Drum | 52-53 |
| Filling System | 38 | Filling System | 38 |
| Fittings | 59-63 | Gear | 44 |
| Barbed | 59-60 | Masterflex | 42-43 |
| Compression | 61 | Metering | 35-43 |
| Pipe Fittings - BSPP | 61 | Peristaltic | 41-43 |
| Pipe Fittings - BSPT | 61 | Piston | 36-38 |
| Pipe Fittings - NPT | 61 | Selection Guide | 34 |
| Sanitary - Tri-clamp | 62-63 | Submersible | 48 |
| Flowmeters | 15-33 | Syringe | 35 |
| Doppler | 32 | Vacuum | 54-55 |
| Flow controllers | 17, 22, 23 | Stirrers - See Mixing | |
| Gear | 31-32 | Tanks | 13, 72 |
| Magnetic | 33 | Temperature | 90-97 |
| Mass | 16-17 | Controller | 95, 97 |
| Selection Guide | 15 | Datalogger | 77-79, 90 |
| Turbine | 25-29 | Infrared | 90 |
| Ultrasonic | 30 | Meter, Handheld | 90-91 |
| Variable Area | 18-24 | Thermocouple Thermometer | 90-91 |
| Vortex | 30 | Terms & Conditions | 2 |
| Force | 81-82 | Test & Measurement | 73-75 |
| Meters | 81 | Balances | 73-75 |
| Torque, Meters | 82 | Conductivity | 76 |
| Gas Regulator | 89 | Controllers, Universal | 95 |
| Heating | 92-97 | Dataloggers | 77-79, 90 |
| Baths | 93 | Heating | 92-97 |
| Controllers | 95, 97 | Humidity | 83 |
| Cord | 96 | pH | 84-86 |
| Exchangers | 94 | Pressure | 87-89 |
| Hotplate | 92 | Recorder | 80 |
| Mats, Silicone | 97 | Temperature | 90-97 |
| Tape | 96 | Trolleys | 68-69 |
| Hotplates | 92 | Tubing | 56-58 |
| Humidity | 62 | Accessories | 58 |
| Controller | 83 | C-Flex | 56 |
| Dataloggers | 77-78 | Clamps, hose | 58 |
| Recorder | 80 | Cutter | 58 |
| Material Handling | 67-72 | Flexible Tubing | 56-57 |
| Containers | 67 | Kynar | 58 |
| Platform Trucks | 70 | Masterflex | 42 |
| Safety Cabinets | 71 | Norprene | 56 |
| Tanks | 72 | Nylon | 57 |
| Trolleys | 68-69 | Polypropylene (PP) | 58 |
| Mixers | 4-14 | PTFE | 58 |
| Accessories | 8, 13 | Rigid Tubing | 57-58 |
| Air-driven | 11 | Silicone (Peroxide Cured) | 57 |
| Constant Torque | 6 | Two-Stop | 41 |
| Industrial | 9-12 | Tygon Food and Beverage | 57 |
| Laboratory | 5-8 | Tygon Fuel and Lubricant | 56 |
| Magnetic Stirrer | 92 | Tygon Lab | 57 |
| Selection Guide | 4 | Vacuum Pumps | 54-55 |
| Static, In-line | 14 | Valves | 63-66 |
| pH | 84-86 | Ball Valves | 63, 66 |
| Buffers | 70 | Solenoid Valves | 64-65 |
| Controller | 86 | What's New | 3 |

Chemical metering pumps



Available in a choice of PVC, PVDF or Stainless Steel pump heads

See pages 39-40

Solvent pumping



Use Masterflex pumps with new tygon chemical resistant (2001) tubing to pump most solvents – including acetone, DMSO, MEK and ketones

See pages 42-43

Tabletop filling systems

Tabletop batch filling systems can be set up in a manufacturing or laboratory facility

Ideal for pharmaceutical solutions, cosmetic products and food additives



See page 38

Variable area flowmeters

These versatile flowmeters are available in a wide range of direct reading scales

Optional accessories include 4-20mA transmitter output, hi/lo alarm

UKAS or traceable certificates are available for the complete range

See pages 20-21



Humidity control



For a range of temperature and humidity controllers

See page 83

Pressure gauges



Glycerin filled pressure gauges with dual scale in bar and psi

See pages 88



Free Catalogues

Please tick the boxes of the catalogues you require and fax back the sheet to us on 020 8574 7543



Cole-Parmer
2005-06 General
Catalogue

Over 2,200 pages of innovative products for applications in fluid handling, industrial technology, research, biotechnology, chemical processing, pharmaceuticals and more.



Lab Essentials

64 pages of Laboratory equipment including microscopes, shakers, UV and vacuum pumps



Encyclopedia Masterflex

182 pages of Masterflex products for efficient, accurate tubing pump systems



Big Balance Guide

Cole-Parmer's Big Balance Guide provides 40 pages of useful and cost effective solutions to your weighing needs

To receive future Cole-Parmer publications, please complete this form and fax it to:

Cole-Parmer Instrument Co. Ltd.

Fax: 020 8574 7543

When Faxing, please make sure your name and address at the top of this sheet are visible.

Please tick **one** update box only IB/04

Update box

I have an immediate inquiry, please contact me to discuss
(indicate contact name and telephone number in the boxes below)

Send me future Cole-Parmer publications
(indicate changes or corrections to your details as imprinted at the top of the sheet in boxes below)

Add additional contact and send both of us future Cole-Parmer publications
(add contact details in boxes below)

Remove me from mailing list

Name

Job Title

Company

Street Address

Town/County

Post Code

Main Telephone Number Main Fax Number

Web: www.ColeParmer.co.uk

email: sales@coleparmer.co.uk

Tel: 0500 345 300

Or mail to:

Cole-Parmer Instrument Company Ltd.
Unit 3 River Brent Business Park
Trumpers Way Hanwell
London W7 2QA