

**production
techniques**



INTRODUCTION



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C O N T E N T S

Since 1966 Production Techniques Limited have specialised in the design and manufacture of PTFE pipe fittings and components for flow systems involving the transfer of highly reactive or high-purity fluids. For the ultimate in chemical resistance, all wetted surfaces are PTFE unless otherwise stated.

Our product lines include a comprehensive selection of items in a wide range of sizes, but if you require an item not in this catalogue, please ask, we will manufacture to customer specification. We can also offer components in alternative materials: CTFE, PFA, PVDF, TFM, 316 ST/ST, etc.

HOW TO ORDER

Each item in the catalogue has an individual code number which should be quoted when ordering. The method by which code numbers are built up should be self evident and examples are given where necessary. Please also refer to page iii for an explanation of our three types of connection: Chemcon Standard, Industrial and Glassware. In case of difficulty please contact our Sales Department.



Telephone

Tel: (01252) 616575
Int: +44 1252 616575
Hours of business:
9.00am to 5.00pm
Monday to Thursday,
9.00am to 4.30pm Friday



Fax

Fax: (01252) 615818
Int: +44 1252 615818
Fax your orders and
enquiries for our
prompt attention.



Post

Send to:
Production Techniques Ltd
13 Kings Road
Fleet
Hampshire GU13 9AU
England

DELIVERY

We are usually able to give a very prompt delivery of goods from stock and under most circumstances they can be despatched the same day. It would be appreciated if a realistic delivery period is requested to avoid disappointment and unnecessary pressure on our Despatch Department.

PAYMENT

Frequent customers may open a credit account with us, otherwise we require cheque with order please.

CUSTOMER SERVICE

Our aim is to offer the highest quality service and support. If there are any queries on the use or selection of equipment and fittings these can be answered promptly by a call to our engineers.

DESIGN INFORMATION

Chemcon couplings are suitable for use with glass, quartz, metal and PTFE tubes.

The original range of Chemcon Standard connections (see page iii, item 1 for more details) has been used by many industries for a wide range of applications, but under certain fluctuating temperature and pressure conditions there are possible limitations in the strength of joints, and for this reason, use is normally limited to indoor processes operating at pressures below 100psig (7barg).

Extension of operation within wider temperature and pressure fluctuations has been achieved by the use of a Chemcon Industrial fitting consisting of a half-threaded ferrule or olive (Patent no. 1365815). (See page iii, item 2 for more details). Chemcon Industrial fittings can be used in both indoor and outdoor process plants.

Chemcon PTFE components are manufactured in a high grade, dense material, reducing still further any inherent permeability. However, there are certain critical applications, eg the measurement of very low levels of oxygen, where permeability through the walls of tubes and components may lead to inaccurate results. An alternative design layout can often reduce the level of inaccuracy and if undue difficulty is being experienced the design staff of Production Techniques will be pleased to advise.

For dimensional information on the Chemcon range of components please request data sheets on the items required.

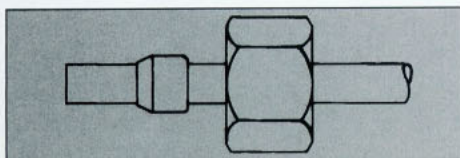
All the products of Production Techniques Ltd are made and tested to standards more than adequate to ensure their complete reliability over a long working life. However, it should be noted that, as Production Techniques Ltd do not have any control over the assembly of fittings, conditions of temperature and pressure and the fluids involved, they do not accept responsibility for any joint failures or resulting injuries or losses.

Due to our policy of constant improvements to our products, information in this catalogue is subject to change without prior notice.

CHOOSING THE STYLE OF TUBE CONNECTION STANDARD (STD), INDUSTRIAL (IND) AND GLASSWARE (SIL)

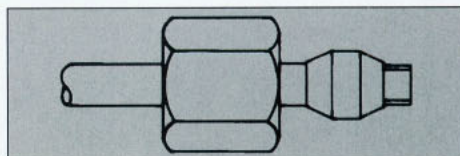
1. Chemcon Standard (STD)

A standard compression ferrule relying on its deformation by longitudinal compression to give a satisfactory seal against the outer surface of the tube. Limited to a pressure of up to 100psig (7barg)* in conditions of moderate temperature variations. The use of a separate ferrule permits the re-use of components.



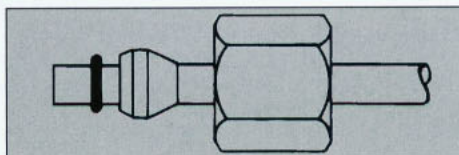
2. Chemcon Industrial (IND)

A stronger mechanical joint, achieved by cutting a left-hand thread on the tube with a hand jig, then attaching a ferrule which is threaded for half its internal length. Thus the strength of the joint is assured by the thread and a reliable seal is made by the compression of the ferrule against the smooth tube surface. Suitable for pressures up to 400psig (27.5barg)* in environments of fluctuating temperature and pressure. Note that the ferrule is screwed onto the pipe with the threaded portion towards the pipe termination (Patent no.1365815). For this style of connection you will require our Industrial cutting jig (see page A.14 for details).



3. Chemcon Glassware (SIL)

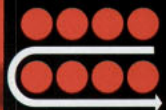
Since the standard Chemcon fitting cannot provide a satisfactory seal on an excessively out-of-round drawn glass tube, a Chemcon ferrule assembly incorporating a Viton 'O' ring, is available. This, however, is not necessary for accurately drawn or ground glass tube. An extension of the use of this range of fittings has been found in conditions where high levels of gas tightness are essential, including high vacuum applications and use in MCVD optical fibre systems. Suitable for pressures up to 200psig (13barg)*.



* The pressures indicated are applicable when ambient or low temperatures are apparent and please note that an increase in temperature will cause a decrease in the pressure stated.

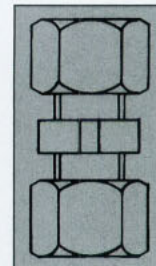
P I P E F I T T I N G S S E C T I O N A





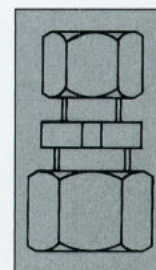
STRAIGHT COUPLING

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/2-E		SIL/2-E	1/8"
STD/3-E		SIL/3-E	3/16"
STD/4-E	IND/4-E	SIL/4-E	1/4"
STD/5-E	IND/5-E	SIL/5-E	5/16"
STD/6-E	IND/6-E	SIL/6-E	3/8"
STD/8-E	IND/8-E	SIL/8-E	1/2"
STD/X3-E		SIL/X3-E	3mm
STD/X5-E		SIL/X5-E	5mm
STD/X6-E	IND/X6-E	SIL/X6-E	6mm
STD/X8-E	IND/X8-E	SIL/X8-E	8mm
STD/X10-E	IND/X10-E	SIL/X10-E	10mm
STD/X12-E	IND/X12-E	SIL/X12-E	12mm



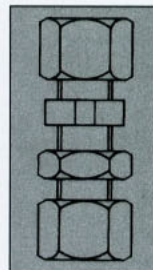
REDUCTION STRAIGHT COUPLING

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/2-U-3		SIL/2-U-3	1/8"-3/16"
STD/2-U-4		SIL/2-U-4	1/8"-1/4"
STD/3-U-4		SIL/3-U-4	3/16"-1/4"
STD/4-U-5	IND/4-U-5	SIL/4-U-5	1/4"-5/16"
STD/4-U-6	IND/4-U-6	SIL/4-U-6	1/4"-3/8"
STD/4-U-8	IND/4-U-8	SIL/4-U-8	1/4"-1/2"
STD/5-U-6	IND/5-U-6	SIL/5-U-6	5/16"-3/8"
STD/5-U-8	IND/5-U-8	SIL/5-U-8	5/16"-1/2"
STD/6-U-8	IND/6-U-8	SIL/6-U-8	3/8"-1/2"
STD/X3-U-X5		SIL/X3-U-X5	3mm-5mm
STD/X3-U-X6		SIL/X3-U-X6	3mm-6mm
STD/X5-U-X6		SIL/X5-U-X6	5mm-6mm
STD/X6-U-X8	IND/X6-U-X8	SIL/X6-U-X8	6mm-8mm
STD/X6-U-X10	IND/X6-U-X10	SIL/X6-U-X10	6mm-10mm
STD/X6-U-X12	IND/X6-U-X12	SIL/X6-U-X12	6mm-12mm
STD/X8-U-X10	IND/X8-U-X10	SIL/X8-U-X10	8mm-10mm
STD/X8-U-X12	IND/X8-U-X12	SIL/X8-U-X12	8mm-12mm
STD/X10-U-X12	IND/X10-U-X12	SIL/X10-U-X12	10mm-12mm



BULKHEAD COUPLING

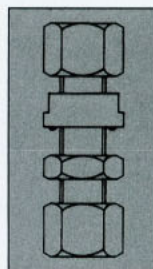
COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/2-E-B		SIL/2-E-B	1/8"
STD/3-E-B		SIL/3-E-B	3/16"
STD/4-E-B	IND/4-E-B	SIL/4-E-B	1/4"
STD/5-E-B	IND/5-E-B	SIL/5-E-B	5/16"
STD/6-E-B	IND/6-E-B	SIL/6-E-B	3/8"
STD/8-E-B	IND/8-E-B	SIL/8-E-B	1/2"
STD/X3-E-B		SIL/X3-E-B	3mm
STD/X5-E-B		SIL/X5-E-B	5mm
STD/X6-E-B	IND/X6-E-B	SIL/X6-E-B	6mm
STD/X8-E-B	IND/X8-E-B	SIL/X8-E-B	8mm
STD/X10-E-B	IND/X10-E-B	SIL/X10-E-B	10mm
STD/X12-E-B	IND/X12-E-B	SIL/X12-E-B	12mm



SEALED BULKHEAD COUPLING

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/2-E-SB		SIL/2-E-SB	1/8"
STD/3-E-SB		SIL/3-E-SB	3/16"
STD/4-E-SB	IND/4-E-SB	SIL/4-E-SB	1/4"
STD/5-E-SB	IND/5-E-SB	SIL/5-E-SB	5/16"
STD/6-E-SB	IND/6-E-SB	SIL/6-E-SB	3/8"
STD/8-E-SB	IND/8-E-SB	SIL/8-E-SB	1/2"
STD/X3-E-SB		SIL/X3-E-SB	3mm
STD/X5-E-SB		SIL/X5-E-SB	5mm
STD/X6-E-SB	IND/X6-E-SB	SIL/X6-E-SB	6mm
STD/X8-E-SB	IND/X8-E-SB	SIL/X8-E-SB	8mm
STD/X10-E-SB	IND/X10-E-SB	SIL/X10-E-SB	10mm
STD/X12-E-SB	IND/X12-E-SB	SIL/X12-E-SB	12mm

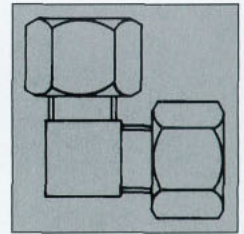
Fitted with 'O' ring on bulkhead flange, Viton as standard or alternative may be supplied on request.



SECTION A

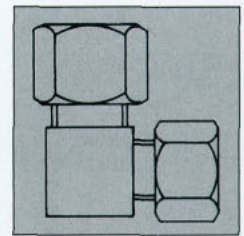
EQUAL ELBOW COUPLING

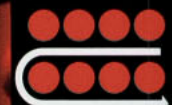
COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/2-L		SIL/2-L	1/8"
STD/3-L		SIL/3-L	3/16"
STD/4-L	IND/4-L	SIL/4-L	1/4"
STD/5-L	IND/5-L	SIL/5-L	5/16"
STD/6-L	IND/6-L	SIL/6-L	3/8"
STD/8-L	IND/8-L	SIL/8-L	1/2"
STD/X3-L		SIL/X3-L	3mm
STD/X5-L		SIL/X5-L	5mm
STD/X6-L	IND/X6-L	SIL/X6-L	6mm
STD/X8-L	IND/X8-L	SIL/X8-L	8mm
STD/X10-L	IND/X10-L	SIL/X10-L	10mm
STD/X12-L	IND/X12-L	SIL/X12-L	12mm



REDUCTION ELBOW COUPLING

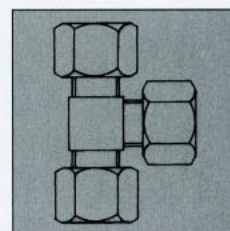
COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/4-UL-5	IND/4-UL-5	SIL/4-UL-5	1/4"-5/16"
STD/4-UL-6	IND/4-UL-6	SIL/4-UL-6	1/4"-3/8"
STD/5-UL-6	IND/5-UL-6	SIL/5-UL-6	5/16"-3/8"
STD/6-UL-8	IND/6-UL-8	SIL/6-UL-8	3/8"-1/2"
STD/X6-UL-X8	IND/X6-UL-X8	SIL/X6-UL-X8	6mm-8mm
STD/X6-UL-X10	IND/X6-UL-X10	SIL/X6-UL-X10	6mm-10mm
STD/X8-UL-X10	IND/X8-UL-X10	SIL/X8-UL-X10	8mm-10mm
STD/X10-UL-X12	IND/X10-UL-X12	SIL/X10-UL-X12	10mm-12mm





EQUAL TEE COUPLING

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/2-T		SIL/2-T	1/8"
STD/3-T		SIL/3-T	3/16"
STD/4-T	IND/4-T	SIL/4-T	1/4"
STD/5-T	IND/5-T	SIL/5-T	5/16"
STD/6-T	IND/6-T	SIL/6-T	3/8"
STD/8-T	IND/8-T	SIL/8-T	1/2"
STD/X3-T		SIL/X3-T	3mm
STD/X5-T		SIL/X5-T	5mm
STD/X6-T	IND/X6-T	SIL/X6-T	6mm
STD/X8-T	IND/X8-T	SIL/X8-T	8mm
STD/X10-T	IND/X10-T	SIL/X10-T	10mm
STD/X12-T	IND/X12-T	SIL/X12-T	12mm

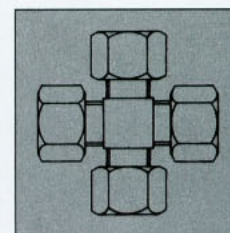


ODD-LEG TEE COUPLING

These couplings can be made to any combination of the above tube sizes.
Ordering details available on request.

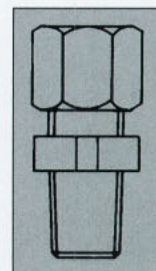
EQUAL CRUCIFORM COUPLING

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/2-C		SIL/2-C	1/8"
STD/3-C		SIL/3-C	3/16"
STD/4-C	IND/4-C	SIL/4-C	1/4"
STD/5-C	IND/5-C	SIL/5-C	5/16"
STD/6-C	IND/6-C	SIL/6-C	3/8"
STD/8-C	IND/8-C	SIL/8-C	1/2"
STD/X3-C		SIL/X3-C	3mm
STD/X5-C		SIL/X5-C	5mm
STD/X6-C	IND/X6-C	SIL/X6-C	6mm
STD/X8-C	IND/X8-C	SIL/X8-C	8mm
STD/X10-C	IND/X10-C	SIL/X10-C	10mm
STD/X12-C	IND/X12-C	SIL/X12-C	12mm



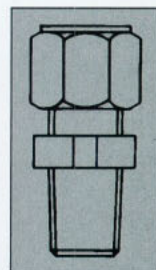
BSPT MALE STUD COUPLING (FRACTIONAL)

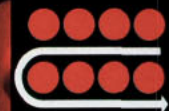
COUPLING TYPE			TUBE SIZE (O/D)	STUD THREAD (BSPT)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)		
STD/2-M-2		SIL/2-M-2	1/8"	1/8"
STD/3-M-2		SIL/3-M-2	3/16"	1/8"
STD/4-M-2	IND/4-M-2	SIL/4-M-2	1/4"	1/8"
STD/4-M-4	IND/4-M-4	SIL/4-M-4	1/4"	1/4"
STD/5-M-4	IND/5-M-4	SIL/5-M-4	5/16"	1/4"
STD/5-M-6	IND/5-M-6	SIL/5-M-6	5/16"	3/8"
STD/6-M-4	IND/6-M-4	SIL/6-M-4	3/8"	1/4"
STD/6-M-6	IND/6-M-6	SIL/6-M-6	3/8"	3/8"
STD/6-M-8	IND/6-M-8	SIL/6-M-8	3/8"	1/2"
STD/8-M-4	IND/8-M-4	SIL/8-M-4	1/2"	1/4"
STD/8-M-6	IND/8-M-6	SIL/8-M-6	1/2"	3/8"
STD/8-M-8	IND/8-M-8	SIL/8-M-8	1/2"	1/2"
STD/8-M-12	IND/8-M-12	SIL/8-M-12	1/2"	3/4"



BSPT MALE STUD COUPLING (METRIC)

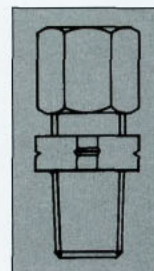
COUPLING TYPE			TUBE SIZE (O/D)	STUD THREAD (BSPT)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)		
STD/X3-M-2		SIL/X3-M-2	3mm	1/8"
STD/X5-M-2		SIL/X5-M-2	5mm	1/8"
STD/X6-M-2	IND/X6-M-2	SIL/X6-M-2	6mm	1/8"
STD/X6-M-4	IND/X6-M-4	SIL/X6-M-4	6mm	1/4"
STD/X8-M-4	IND/X8-M-4	SIL/X8-M-4	8mm	1/4"
STD/X8-M-6	IND/X8-M-6	SIL/X8-M-6	8mm	3/8"
STD/X10-M-4	IND/X10-M-4	SIL/X10-M-4	10mm	1/4"
STD/X10-M-6	IND/X10-M-6	SIL/X10-M-6	10mm	3/8"
STD/X10-M-8	IND/X10-M-8	SIL/X10-M-8	10mm	1/2"
STD/X12-M-4	IND/X12-M-4	SIL/X12-M-4	12mm	1/4"
STD/X12-M-6	IND/X12-M-6	SIL/X12-M-6	12mm	3/8"
STD/X12-M-8	IND/X12-M-8	SIL/X12-M-8	12mm	1/2"
STD/X12-M-12	IND/X12-M-12	SIL/X12-M-12	12mm	3/4"





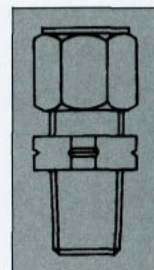
NPT MALE STUD COUPLING (FRACTIONAL)

COUPLING TYPE			TUBE SIZE (O/D)	STUD THREAD (NPT)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)		
STD/2-M-2N		SIL/2-M-2N	1/8"	1/8"
STD/3-M-2N		SIL/3-M-2N	3/16"	1/8"
STD/4-M-2N	IND/4-M-2N	SIL/4-M-2N	1/4"	1/8"
STD/4-M-4N	IND/4-M-4N	SIL/4-M-4N	1/4"	1/4"
STD/5-M-4N	IND/5-M-4N	SIL/5-M-4N	5/16"	1/4"
STD/5-M-6N	IND/5-M-6N	SIL/5-M-6N	5/16"	3/8"
STD/6-M-4N	IND/6-M-4N	SIL/6-M-4N	3/8"	1/4"
STD/6-M-6N	IND/6-M-6N	SIL/6-M-6N	3/8"	3/8"
STD/6-M-8N	IND/6-M-8N	SIL/6-M-8N	3/8"	1/2"
STD/8-M-4N	IND/8-M-4N	SIL/8-M-4N	1/2"	1/4"
STD/8-M-6N	IND/8-M-6N	SIL/8-M-6N	1/2"	3/8"
STD/8-M-8N	IND/8-M-8N	SIL/8-M-8N	1/2"	1/2"
STD/8-M-12N	IND/8-M-12N	SIL/8-M-12N	1/2"	3/4"

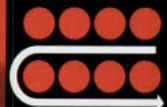


NPT MALE STUD COUPLING (METRIC)

COUPLING TYPE			TUBE SIZE (O/D)	STUD THREAD (NPT)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)		
STD/X3-M-2N		SIL/X3-M-2N	3mm	1/8"
STD/X5-M-2N		SIL/X5-M-2N	5mm	1/8"
STD/X6-M-2N	IND/X6-M-2N	SIL/X6-M-2N	6mm	1/8"
STD/X6-M-4N	IND/X6-M-4N	SIL/X6-M-4N	6mm	1/4"
STD/X8-M-4N	IND/X8-M-4N	SIL/X8-M-4N	8mm	1/4"
STD/X8-M-6N	IND/X8-M-6N	SIL/X8-M-6N	8mm	3/8"
STD/X10-M-4N	IND/X10-M-4N	SIL/X10-M-4N	10mm	1/4"
STD/X10-M-6N	IND/X10-M-6N	SIL/X10-M-6N	10mm	3/8"
STD/X10-M-8N	IND/X10-M-8N	SIL/X10-M-8N	10mm	1/2"
STD/X12-M-4N	IND/X12-M-4N	SIL/X12-M-4N	12mm	1/4"
STD/X12-M-6N	IND/X12-M-6N	SIL/X12-M-6N	12mm	3/8"
STD/X12-M-8N	IND/X12-M-8N	SIL/X12-M-8N	12mm	1/2"
STD/X12-M-12N	IND/X12-M-12N	SIL/X12-M-12N	12mm	3/4"

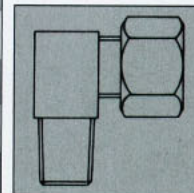


SECTION A



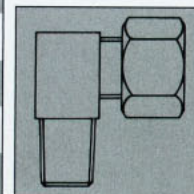
BSPT MALE STUD ELBOW COUPLING

COUPLING TYPE			TUBE SIZE (O/D)	STUD THREAD (BSPT)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)		
STD/4-ML-2	IND/4-ML-2	SIL/4-ML-2	1/4"	1/8"
STD/4-ML-4	IND/4-ML-4	SIL/4-ML-4	1/4"	1/4"
STD/5-ML-4	IND/5-ML-4	SIL/5-ML-4	5/16"	1/4"
STD/6-ML-4	IND/6-ML-4	SIL/6-ML-4	3/8"	1/4"
STD/6-ML-6	IND/6-ML-6	SIL/6-ML-6	3/8"	3/8"
STD/8-ML-6	IND/8-ML-6	SIL/8-ML-6	1/2"	3/8"
STD/8-ML-8	IND/8-ML-8	SIL/8-ML-8	1/2"	1/2"
STD/X6-ML-2	IND/X6-ML-2	SIL/X6-ML-2	6mm	1/8"
STD/X6-ML-4	IND/X6-ML-4	SIL/X6-ML-4	6mm	1/4"
STD/X8-ML-4	IND/X8-ML-4	SIL/X8-ML-4	8mm	1/4"
STD/X10-ML-4	IND/X10-ML-4	SIL/X10-ML-4	10mm	1/4"
STD/X10-ML-6	IND/X10-ML-6	SIL/X10-ML-6	10mm	3/8"
STD/X12-ML-6	IND/X12-ML-6	SIL/X12-ML-6	12mm	3/8"
STD/X12-ML-8	IND/X12-ML-8	SIL/X12-ML-8	12mm	1/2"



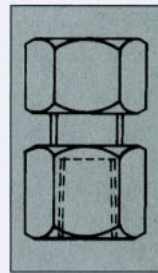
NPT MALE STUD ELBOW COUPLING

COUPLING TYPE			TUBE SIZE (O/D)	STUD THREAD (NPT)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)		
STD/4-ML-2N	IND/4-ML-2N	SIL/4-ML-2N	1/4"	1/8"
STD/4-ML-4N	IND/4-ML-4N	SIL/4-ML-4N	1/4"	1/4"
STD/5-ML-4N	IND/5-ML-4N	SIL/5-ML-4N	5/16"	1/4"
STD/6-ML-4N	IND/6-ML-4N	SIL/6-ML-4N	3/8"	1/4"
STD/6-ML-6N	IND/6-ML-6N	SIL/6-ML-6N	3/8"	3/8"
STD/8-ML-6N	IND/8-ML-6N	SIL/8-ML-6N	1/2"	3/8"
STD/8-ML-8N	IND/8-ML-8N	SIL/8-ML-8N	1/2"	1/2"
STD/X6-ML-2N	IND/X6-ML-2N	SIL/X6-ML-2N	6mm	1/8"
STD/X6-ML-4N	IND/X6-ML-4N	SIL/X6-ML-4N	6mm	1/4"
STD/X8-ML-4N	IND/X8-ML-4N	SIL/X8-ML-4N	8mm	1/4"
STD/X10-ML-4N	IND/X10-ML-4N	SIL/X10-ML-4N	10mm	1/4"
STD/X10-ML-6N	IND/X10-ML-6N	SIL/X10-ML-6N	10mm	3/8"
STD/X12-ML-6N	IND/X12-ML-6N	SIL/X12-ML-6N	12mm	3/8"
STD/X12-ML-8N	IND/X12-ML-8N	SIL/X12-ML-8N	12mm	1/2"



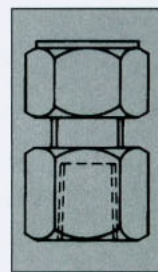
BSPT FEMALE STUD COUPLING (FRACTIONAL)

COUPLING TYPE			TUBE SIZE (O/D)	STUD THREAD (BSPT)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)		
STD/2-F-2		SIL/2-F-2	1/8"	1/8"
STD/3-F-2		SIL/3-F-2	3/16"	1/8"
STD/4-F-2	IND/4-F-2	SIL/4-F-2	1/4"	1/8"
STD/4-F-4	IND/4-F-4	SIL/4-F-4	1/4"	1/4"
STD/5-F-4	IND/5-F-4	SIL/5-F-4	5/16"	1/4"
STD/5-F-6	IND/5-F-6	SIL/5-F-6	5/16"	3/8"
STD/6-F-4	IND/6-F-4	SIL/6-F-4	3/8"	1/4"
STD/6-F-6	IND/6-F-6	SIL/6-F-6	3/8"	3/8"
STD/6-F-8	IND/6-F-8	SIL/6-F-8	3/8"	1/2"
STD/8-F-4	IND/8-F-4	SIL/8-F-4	1/2"	1/4"
STD/8-F-6	IND/8-F-6	SIL/8-F-6	1/2"	3/8"
STD/8-F-8	IND/8-F-8	SIL/8-F-8	1/2"	1/2"
STD/8-F-12	IND/8-F-12	SIL/8-F-12	1/2"	3/4"



BSPT FEMALE STUD COUPLING (METRIC)

COUPLING TYPE			TUBE SIZE (O/D)	STUD THREAD (BSPT)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)		
STD/X3-F-2		SIL/X3-F-2	3mm	1/8"
STD/X5-F-2		SIL/X5-F-2	5mm	1/8"
STD/X6-F-2	IND/X6-F-2	SIL/X6-F-2	6mm	1/8"
STD/X6-F-4	IND/X6-F-4	SIL/X6-F-4	6mm	1/4"
STD/X8-F-4	IND/X8-F-4	SIL/X8-F-4	8mm	1/4"
STD/X8-F-6	IND/X8-F-6	SIL/X8-F-6	8mm	3/8"
STD/X10-F-4	IND/X10-F-4	SIL/X10-F-4	10mm	1/4"
STD/X10-F-6	IND/X10-F-6	SIL/X10-F-6	10mm	3/8"
STD/X10-F-8	IND/X10-F-8	SIL/X10-F-8	10mm	1/2"
STD/X12-F-4	IND/X12-F-4	SIL/X12-F-4	12mm	1/4"
STD/X12-F-6	IND/X12-F-6	SIL/X12-F-6	12mm	3/8"
STD/X12-F-8	IND/X12-F-8	SIL/X12-F-8	12mm	1/2"
STD/X12-F-12	IND/X12-F-12	SIL/X12-F-12	12mm	3/4"

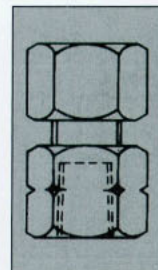


SECTION A

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

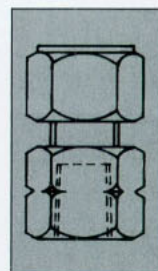
NPT FEMALE STUD COUPLING (FRACTIONAL)

COUPLING TYPE			TUBE SIZE (O/D)	STUD THREAD (NPT)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)		
STD/2-F-2N		SIL/2-F-2N	1/8"	1/8"
STD/3-F-2N		SIL/3-F-2N	3/16"	1/8"
STD/4-F-2N	IND/4-F-2N	SIL/4-F-2N	1/4"	1/8"
STD/4-F-4N	IND/4-F-4N	SIL/4-F-4N	1/4"	1/4"
STD/5-F-4N	IND/5-F-4N	SIL/5-F-4N	5/16"	1/4"
STD/5-F-6N	IND/5-F-6N	SIL/5-F-6N	5/16"	3/8"
STD/6-F-4N	IND/6-F-4N	SIL/6-F-4N	3/8"	1/4"
STD/6-F-6N	IND/6-F-6N	SIL/6-F-6N	3/8"	3/8"
STD/6-F-8N	IND/6-F-8N	SIL/6-F-8N	3/8"	1/2"
STD/8-F-4N	IND/8-F-4N	SIL/8-F-4N	1/2"	1/4"
STD/8-F-6N	IND/8-F-6N	SIL/8-F-6N	1/2"	3/8"
STD/8-F-8N	IND/8-F-8N	SIL/8-F-8N	1/2"	1/2"
STD/8-F-12N	IND/8-F-12N	SIL/8-F-12N	1/2"	3/4"

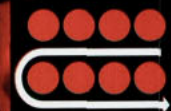


NPT FEMALE STUD COUPLING (METRIC)

COUPLING TYPE			TUBE SIZE (O/D)	STUD THREAD (NPT)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)		
STD/X3-F-2N		SIL/X3-F-2N	3mm	1/8"
STD/X5-F-2N		SIL/X5-F-2N	5mm	1/8"
STD/X6-F-2N	IND/X6-F-2N	SIL/X6-F-2N	6mm	1/8"
STD/X6-F-4N	IND/X6-F-4N	SIL/X6-F-4N	6mm	1/4"
STD/X8-F-4N	IND/X8-F-4N	SIL/X8-F-4N	8mm	1/4"
STD/X8-F-6N	IND/X8-F-6N	SIL/X8-F-6N	8mm	3/8"
STD/X10-F-4N	IND/X10-F-4N	SIL/X10-F-4N	10mm	1/4"
STD/X10-F-6N	IND/X10-F-6N	SIL/X10-F-6N	10mm	3/8"
STD/X10-F-8N	IND/X10-F-8N	SIL/X10-F-8N	10mm	1/2"
STD/X12-F-4N	IND/X12-F-4N	SIL/X12-F-4N	12mm	1/4"
STD/X12-F-6N	IND/X12-F-6N	SIL/X12-F-6N	12mm	3/8"
STD/X12-F-8N	IND/X12-F-8N	SIL/X12-F-8N	12mm	1/2"
STD/X12-F-12N	IND/X12-F-12N	SIL/X12-F-12N	12mm	3/4"

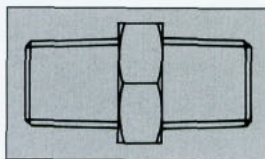


SECTION A



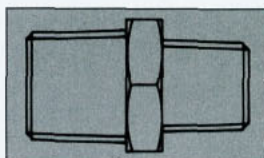
MALE HEXAGON EQUAL NIPPLE

FITTING CODE		THREAD BSPT/NPT
BSPT	NPT	
EN-2	EN-2N	1/8"
EN-4	EN-4N	1/4"
EN-6	EN-6N	3/8"
EN-8	EN-8N	1/2"
EN-12	EN-12N	3/4"



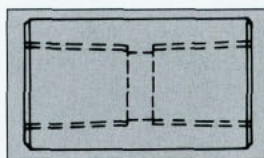
MALE HEXAGON REDUCING NIPPLE

FITTING CODE		THREAD BSPT/NPT
BSPT	NPT	
RN-2-4	RN-2N-4N	1/8"-1/4"
RN-4-6	RN-4N-6N	1/4"-3/8"
RN-4-8	RN-4N-8N	1/4"-1/2"
RN-6-8	RN-6N-8N	3/8"-1/2"
RN-8-12	RN-8N-12N	1/2"-3/4"



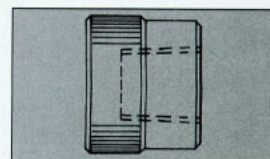
FEMALE SOCKET

FITTING CODE		THREAD BSPT/NPT
BSPT	NPT	
FS-2	FS-2N	1/8"
FS-4	FS-4N	1/4"
FS-6	FS-6N	3/8"
FS-8	FS-8N	1/2"
FS-12	FS-12N	3/4"



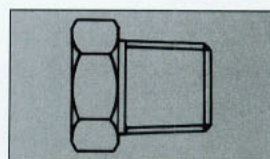
BLANKING CAPS

TYPE NO.	SIZE	TYPE NO.	SIZE
BC-4	1/4" BSPT	BC-4N	1/4" NPT
BC-6	3/8" BSPT	BC-6N	3/8" NPT
BC-8	1/2" BSPT	BC-8N	1/2" NPT
BC-12	3/4" BSPT	BC-12N	3/4" NPT



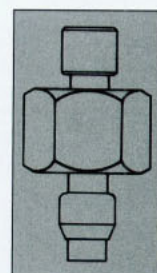
BLANKING PLUGS

TYPE NO.	SIZE	TYPE NO.	SIZE
BP-4	1/4" BSPT	BP-4N	1/4" NPT
BP-6	3/8" BSPT	BP-6N	3/8" NPT
BP-8	1/2" BSPT	BP-8N	1/2" NPT
BP-12	3/4" BSPT	BP-12N	3/4" NPT



CHEMCON BLANK (for terminating open ended couplings)

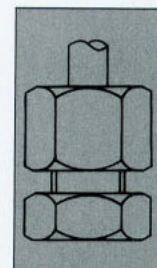
COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/CB-2		SIL/CB-2	1/8"*
STD/CB-4	IND/CB-4	SIL/CB-4	1/4"
STD/CB-5	IND/CB-5	SIL/CB-5	5/16"
STD/CB-6	IND/CB-6	SIL/CB-6	3/8"
STD/CB-8	IND/CB-8	SIL/CB-8	1/2"
STD/CB-X3		SIL/CB-X3	3mm*
STD/CB-X6	IND/CB-X6	SIL/CB-X6	6mm
STD/CB-X8	IND/CB-X8	SIL/CB-X8	8mm
STD/CB-X10	IND/CB-X10	SIL/CB-X10	10mm
STD/CB-X12	IND/CB-X12	SIL/CB-X12	12mm



*NOTE: For 3/16" and 5mm use 1/8" and 3mm respectively.

PIPE BLANK (for terminating open ended pipes)

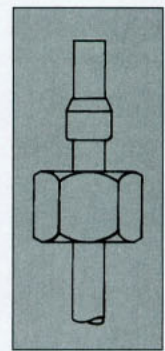
COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/PB-2		SIL/PB-2	1/8"
STD/PB-3		SIL/PB-3	3/16"
STD/PB-4	IND/PB-4	SIL/PB-4	1/4"
STD/PB-5	IND/PB-5	SIL/PB-5	5/16"
STD/PB-6	IND/PB-6	SIL/PB-6	3/8"
STD/PB-8	IND/PB-8	SIL/PB-8	1/2"
STD/PB-X3		SIL/PB-X3	3mm
STD/PB-X5		SIL/PB-X5	5mm
STD/PB-X6	IND/PB-X6	SIL/PB-X6	6mm
STD/PB-X8	IND/PB-X8	SIL/PB-X8	8mm
STD/PB-X10	IND/PB-X10	SIL/PB-X10	10mm
STD/PB-X12	IND/PB-X12	SIL/PB-X12	12mm



ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

REPLACEMENT FERRULES

STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL) (INCLUDING 'O' RING)	TUBE SIZE (O/D)
STD/FE-2		SIL/FE-2	1/8"
STD/FE-3		SIL/FE-3	3/16"
STD/FE-4	IND/FE-4	SIL/FE-4	1/4"
STD/FE-5	IND/FE-5	SIL/FE-5	5/16"
STD/FE-6	IND/FE-6	SIL/FE-6	3/8"
STD/FE-8	IND/FE-8	SIL/FE-8	1/2"
STD/FE-X3		SIL/FE-X3	3mm
STD/FE-X5		SIL/FE-X5	5mm
STD/FE-X6	IND/FE-X6	SIL/FE-X6	6mm
STD/FE-X8	IND/FE-X8	SIL/FE-X8	8mm
STD/FE-X10	IND/FE-X10	SIL/FE-X10	10mm
STD/FE-X12	IND/FE-X12	SIL/FE-X12	12mm

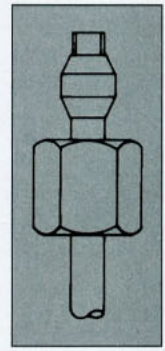


STD

Chemcon Standard Type (STD)
PTFE nut.
Compression type ferrule.

Chemcon Industrial Type (IND)
Glass loaded PTFE nut.
Ferrule half threaded to give stronger mechanical joint.
See page A.14.

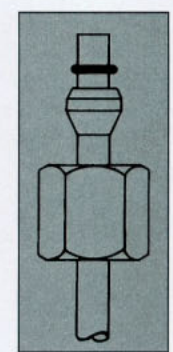
Chemcon Glassware Type (SIL)
Glass loaded PTFE nut.
Special ferrule with Viton 'O' ring. (Alternative 'O' ring materials available).



IND

REPLACEMENT NUTS

STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	TUBE SIZE (O/D)
STD/NU-2		SIL/NU-2	1/8"
STD/NU-3		SIL/NU-3	3/16"
STD/NU-4	IND/NU-4	SIL/NU-4	1/4"
STD/NU-5	IND/NU-5	SIL/NU-5	5/16"
STD/NU-6	IND/NU-6	SIL/NU-6	3/8"
STD/NU-8	IND/NU-8	SIL/NU-8	1/2"
STD/NU-X3		SIL/NU-X3	3mm
STD/NU-X5		SIL/NU-X5	5mm
STD/NU-X6	IND/NU-X6	SIL/NU-X6	6mm
STD/NU-X8	IND/NU-X8	SIL/NU-X8	8mm
STD/NU-X10	IND/NU-X10	SIL/NU-X10	10mm
STD/NU-X12	IND/NU-X12	SIL/NU-X12	12mm



SIL

SECTION A

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.



**production
techniques**

SECTION A

REDUCTION NUTS AND FERRULES

To enable a fitting to be used with a smaller diameter pipe.
The step-down may be achieved by a reduction nut and ferrule.

REDUCTION NUTS

STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	REDUCTION
STD/NU-4/2			1/4"-1/8"
STD/NU-4/3			1/4"-3/16"
STD/NU-5/4	IND/NU-5/4	SIL/NU-5/4	5/16"-1/4"
STD/NU-6/2			3/8"-1/8"
STD/NU-6/3			3/8"-3/16"
STD/NU-6/4	IND/NU-6/4	SIL/NU-6/4	3/8"-1/4"
STD/NU-6/5	IND/NU-6/5	SIL/NU-6/5	3/8"-5/16"
STD/NU-8/4	IND/NU-8/4	SIL/NU-8/4	1/2"-1/4"
STD/NU-8/5	IND/NU-8/5	SIL/NU-8/5	1/2"-5/16"
STD/NU-8/6	IND/NU-8/6	SIL/NU-8/6	1/2"-3/8"
STD/NU-X6/X3			6mm-3mm
STD/NU-X6/X5			6mm-5mm
STD/NU-X8/X6	IND/NU-X8/X6	SIL/NU-X8/X6	8mm-6mm
STD/NU-X10/X3			10mm-3mm
STD/NU-X10/X5			10mm-5mm
STD/NU-X10/X6	IND/NU-X10/X6	SIL/NU-X10/X6	10mm-6mm
STD/NU-X10/X8	IND/NU-X10/X8	SIL/NU-X10/X8	10mm-8mm
STD/NU-X12/X6	IND/NU-X12/X6	SIL/NU-X12/X6	12mm-6mm
STD/NU-X12/X8	IND/NU-X12/X8	SIL/NU-X12/X8	12mm-8mm
STD/NU-X12/X10	IND/NU-X12/X10	SIL/NU-X12/X10	12mm-10mm

REDUCTION FERRULES

STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	REDUCTION
STD/FE-4/2			1/4"-1/8"
STD/FE-4/3			1/4"-3/16"
STD/FE-5/4	IND/FE-5/4	SIL/FE-5/4	5/16"-1/4"
STD/FE-6/2			3/8"-1/8"
STD/FE-6/3			3/8"-3/16"
STD/FE-6/4	IND/FE-6/4	SIL/FE-6/4	3/8"-1/4"
STD/FE-6/5	IND/FE-6/5	SIL/FE-6/5	3/8"-5/16"
STD/FE-8/4	IND/FE-8/4	SIL/FE-8/4	1/2"-1/4"
STD/FE-8/5	IND/FE-8/5	SIL/FE-8/5	1/2"-5/16"
STD/FE-8/6	IND/FE-8/6	SIL/FE-8/6	1/2"-3/8"
STD/FE-X6/X3			6mm-3mm
STD/FE-X6/X5			6mm-5mm
STD/FE-X8/X6	IND/FE-X8/X6	SIL/FE-X8/X6	8mm-6mm
STD/FE-X10/X3			10mm-3mm
STD/FE-X10/X5			10mm-5mm
STD/FE-X10/X6	IND/FE-X10/X6	SIL/FE-X10/X6	10mm-6mm
STD/FE-X10/X8	IND/FE-X10/X8	SIL/FE-X10/X8	10mm-8mm
STD/FE-X12/X6	IND/FE-X12/X6	SIL/FE-X12/X6	12mm-6mm
STD/FE-X12/X8	IND/FE-X12/X8	SIL/FE-X12/X8	12mm-8mm
STD/FE-X12/X10	IND/FE-X12/X10	SIL/FE-X12/X10	12mm-10mm

**ALTERNATIVES CAN BE
SUPPLIED ON REQUEST.**

INDUSTRIAL CUTTING JIG

This jig has been designed for cutting the short length of thread at the end of a PTFE tube, required for fitting the Chemcon Industrial ferrule. A separate jig is needed for each size of tube.

NOTE: As standard only thickwall ($1/16$ " or 1.5mm) tube can be threaded and minimum size is $1/4$ " or 6mm O/D.

IJ4	$1/4$ " jig with die complete
IJ4a	$1/4$ " die only
IJX6	6mm jig with die complete
IJX6a	6mm die only
IJ5	$5/16$ " jig with die complete
IJ5a	$5/16$ " die only
IJX8	8mm jig with die complete
IJX8a	8mm die only
IJ6	$3/8$ " jig with die complete
IJ6a	$3/8$ " die only
IJX10	10mm jig with die complete
IJX10a	10mm die only
IJ8	$1/2$ " jig with die complete
IJ8a	$1/2$ " die only
IJX12	12mm jig with die complete
IJX12a	12mm die only

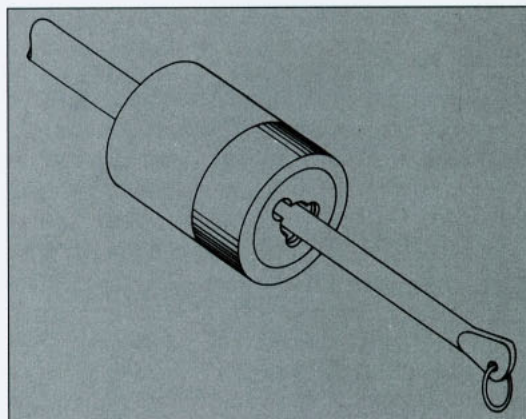
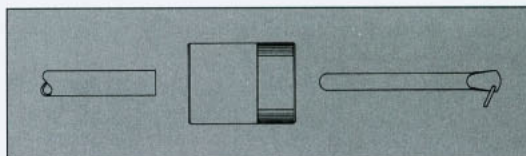
OPERATING INSTRUCTIONS

First, ensure the PTFE tube has tolerances of $+0.002$ " and -0.005 " on its outside diameter, otherwise a satisfactory thread cannot be obtained. Make certain that the tube is cut square before passing it through the jig.

Place the thickwall ($1/16$ " or 1.5mm) PTFE tube into the red plastic guide of the jig. Push home until it reaches the die. Take the tube support rod and enter it through the centre of the die and push into the bore of PTFE tube to prevent it collapsing during cutting. Holding the jig and tube rotate the jig anti-clockwise until a left hand thread is cut on the tube to the depth of the die. This is indicated when the tube appears beyond the face of the die. Reverse the rotation of the die, remove the tube support rod and extract the tube from the jig.

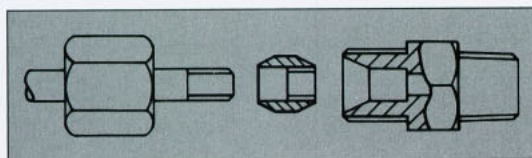
Remove any PTFE swarf by hand to leave a clean thread. If, during the thread-cutting operation, the tube becomes torn, opening up the diameter of the die will usually overcome the problem. This is easily done by adjustment of four socket screws using the Allen key provided.

Variations in the manufacture of tubing can sometimes cause cutting problems. Should these occur, a phone call to our engineers will result in prompt advice.



FITTING OF AN INDUSTRIAL FERRULE

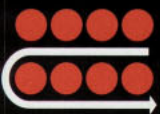
First place the Industrial nut on the tube. Screw the ferrule onto the tube so it first enters the unthreaded length. Screw until the thread lengths are fully engaged. Assemble to coupling.



SECTION A

TUBES AND HOSES SECTION





PTFE TUBING

Production Techniques Limited offer a range of extruded tubing based on the fluorocarbon family of plastics. These materials have high resistance to elevated temperatures and reactive chemicals. They generally have the property of low permeability, zero contamination and a non-stick surface.

The tubing is used in many applications including chemical transport, fluid analysis, medical equipment, heat exchangers, electrical insulation, etc.

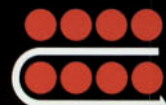
PROPERTIES

The properties of the various fluoroplastics are given below. The type of plastic chosen should be that which best meets the expected operating conditions:

FLUOROPLASTIC	TEMP RANGE °C	TUBING SIZE mm BORE	GENERAL PROPERTIES
PTFE	-200 to +260	0.2 to 30	Non-stick. Low friction. Virtually complete chemical resistance. Excellent electrical resistance.
FEP	-200 to +200	0.5 to 10	Melt processable. Can be welded. Non-stick. Low friction. Good chemical resistance. Excellent electrical resistance.
PFA	-200 to +260	0.5 to 19	Same as FEP. Available in very long lengths.

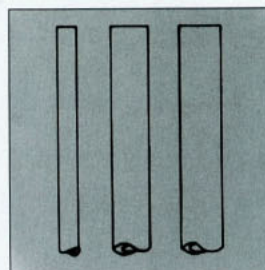
FEP AND PFA RANGE OF TUBING

TUBE SIZE	ORDERING CODE FEP TUBE	ORDERING CODE PFA TUBE
1/8" O/D x .032" wall thickness	TFP-2/1	TPA-2/1
1/4" O/D x .040" wall thickness	TFP-4/3	TPA-4/3
3/8" O/D x .050" wall thickness	TFP-6/4	TPA-6/4
1/2" O/D x .062" wall thickness	TFP-8/6	TPA-8/6
4mm O/D x 0.5mm wall thickness	TFP-X4/X3	TPA-X4/X3
6mm O/D x 1.0mm wall thickness	TFP-X6/X4	TPA-X6/X4
8mm O/D x 1.0mm wall thickness	TFP-X8/X6	TPA-X8/X6
10mm O/D x 1.0mm wall thickness	TFP-X10/X8	TPA-X10/X8
12mm O/D x 1.0mm wall thickness	TFP-X12/X10	TPA-X12/X10



PTFE TUBING - THICK WALL

TUBE SIZE	ORDERING CODE	
1/4" O/D x 1/8" I/D	T-4/2	Suitable for use with Chemcon couplings and components. Capable of being bent through a radius 6 x diameter of tube. The dimensional tolerance of the tube ensures a satisfactory hand cutting of a thread for Industrial fittings. Add IND prefix for use with Industrial fittings. See Tolerances below.
5/16" O/D x 3/16" I/D	T-5/3	
3/8" O/D x 1/4" I/D	T-6/4	
1/2" O/D x 3/8" I/D	T-8/6	
5/8" O/D x 1/2" I/D	T-10/8	
6mm O/D x 3mm I/D	T-X6/X3	
8mm O/D x 5mm I/D	T-X8/X5	
10mm O/D x 7mm I/D	T-X10/X7	
12mm O/D x 9mm I/D	T-X12/X9	
16mm O/D x 13mm I/D	T-X16/X13	



MAXIMUM SINGLE LENGTHS

1/4" and 6mm O/D - 330 feet/100 metres	Large orders supplied in random lengths. Specific lengths supplied as requested.
3/8" and 10mm O/D - 100 feet/30 metres	
1/2" and 12mm O/D - 50 feet/15 metres	

TOLERANCES

Due to the manufacturing process employed in the extrusion of PTFE tube, it is difficult to obtain regular tolerances better than +.005" -.010" on both inner and outer diameters. When using tube for Chemcon Industrial assemblies however, closer tolerances +.002"-.005" are necessary to ensure that a thread has the necessary degree of reliability. Material is therefore pre-selected when intended for use with Industrial fittings and this should be specified at the time of purchase. During an extrusion run, tolerances can vary throughout the length of tube, and if difficulty is experienced, the material will be changed.

PTFE TUBING - THIN WALL

TUBE SIZE	ORDERING CODE	
1/4" O/D x 3/16" I/D	T-4/3	Not suitable for use with Chemcon couplings and components.
5/16" O/D x 1/4" I/D	T-5/4	
3/8" O/D x 5/16" I/D	T-6/5	
6mm O/D x 4mm I/D	T-X6/X4	
8mm O/D x 6mm I/D	T-X8/X6	
10mm O/D x 8mm I/D	T-X10/X8	

PTFE TUBING - SMALL BORE

PTFE small bore tube for chromatography, electrical insulation, fluid transfer, etc.

TUBE SIZE	ORDERING CODE	
1/16" O/D x 1/32" I/D	T-1/0	In natural PTFE or pigmented in a wide range of colours.
1/8" O/D x 1/32" I/D	T-2/0	
1/8" O/D x 1/16" I/D	T-2/1	Intermediate sizes available to order.
3/16" O/D x 1/8" I/D	T-3/2	

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

PTFE SLEEVING - STANDARD SIZE RANGES

IMPERIAL SIZE		
ORDERING CODE	BORE DIAMETER (ins)	WALL THICKNESS (ins)
TSW0	0.336 ± 0.011	0.015 ± 0.003
TSW1	0.300 ± 0.011	0.015 ± 0.003
TSW2	0.268 ± 0.010	0.015 ± 0.003
TSW3	0.239 ± 0.010	0.015 ± 0.003
TSW4	0.214 ± 0.010	0.015 ± 0.003
TSW5	0.190 ± 0.008	0.015 ± 0.003
TSW6	0.169 ± 0.007	0.015 ± 0.003
TSW7	0.151 ± 0.007	0.015 ± 0.003
TSW8	0.135 ± 0.006	0.015 ± 0.003
TSW9	0.119 ± 0.005	0.015 ± 0.003
TSW10	0.107 ± 0.005	0.012 ± 0.003
TSW11	0.096 ± 0.005	0.012 ± 0.003
TSW12	0.085 ± 0.004	0.012 ± 0.003
TSW13	0.076 ± 0.004	0.012 ± 0.003
TSW14	0.068 ± 0.004	0.012 ± 0.003
TSW15	0.062 ± 0.004	0.012 ± 0.003
TSW16	0.056 ± 0.004	0.012 ± 0.003
TSW17	0.050 ± 0.004	0.012 ± 0.003
TSW18	0.045 ± 0.004	0.012 ± 0.003
TSW19	0.040 ± 0.004	0.012 ± 0.003
TSW20	0.035 ± 0.004	0.012 ± 0.003
TSW22	0.028 ± 0.004	0.010 ± 0.002
TSW24	0.023 ± 0.004	0.010 ± 0.002
TSW26	0.020 ± 0.004	0.010 ± 0.002
TSW28	0.015 ± 0.004	0.009 ± 0.002
TSW30	0.013 ± 0.003	0.008 ± 0.002

Available in virgin PTFE or pigmented in a wide range of colours. Reels of 100 metres, other lengths can be negotiated.

METRIC SIZES					
ORDERING CODE	SIZE	BORE DIAMETER	WALL THICKNESS (mm)		
			NOMINAL	MINIMUM	MAXIMUM
TSX3	0.75mm	0.75 ± 0.1	0.25	0.20	0.30
TSX4	1.00mm	1.00 ± 0.1	0.30	0.225	0.38
TSX6	1.50mm	1.50 ± 0.15	0.40	0.325	0.48
TSX8	2.00mm	2.00 ± 0.15	0.40	0.325	0.48
TSX10	2.50mm	2.50 ± 0.15	0.40	0.325	0.48
TSX12	3.00mm	3.00 ± 0.15	0.40	0.325	0.48
TSX16	4.00mm	4.00 ± 0.2	0.50	0.40	0.60
TSX20	5.00mm	5.00 ± 0.2	0.50	0.40	0.60
TSX24	6.00mm	6.00 ± 0.3	0.50	0.40	0.60
TSX28	7.00mm	7.00 ± 0.3	0.50	0.40	0.60
TSX32	8.00mm	8.00 ± 0.3	0.50	0.40	0.60
TSX36	9.00mm	9.00 ± 0.3	0.50	0.40	0.60

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

'VISIFLEX' PTFE CONVOLUTED TUBE

DESCRIPTION

Extruded virgin PTFE tube, extra flexible grade. Helically formed into tight, close convolutions for maximum flexibility. No external reinforcement wire or braid.

USES

Special purpose product - for connections and transfer lines in chemical apparatus, where low pressure or light vacuum is applied and where temperatures are within the range -70°C to +180°C. Highly flexible and kink resistant and ideally suitable for flexible chemical transfer systems.

END FITTINGS

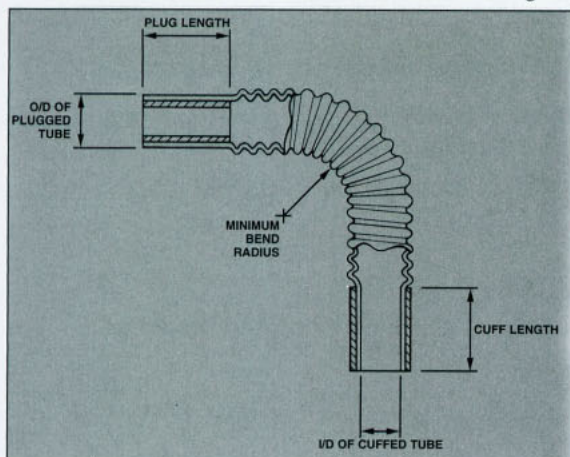
Usually supplied with the ends straightened and 'plugged' for use with Chemcon PTFE components. Standard (STD) and Glassware (SIL) types only.

PLUGGING

A term used when short lengths of PTFE tube are placed inside the straightened ends of flexible tubes to give added strength. This method should be used when connections involve the use of Chemcon couplings. (Not suitable for Industrial couplings).

CUFFING

This is a method of providing outer reinforcement for the ends of tubes using a section of a larger diameter PTFE tube. It should be used where hose is being connected to a spigot or clamped with a jubilee clip.



SPECIFICATIONS*

TUBE NOMINAL BORE	ins	1/8	3/16	1/4	3/8	1/2	5/8	3/4	1	1 1/2	
	mm	3	5	6	10	12	16	19	25	38	
MINIMUM THROUGH BORE	ins	1/16	1/8	3/16	5/16	3/8	1/2	5/8	7/8	1 1/4	
	mm	1.5	3	5	8	10	12	16	22	32	
MAXIMUM O/D OF CONVOLUTIONS	ins	5/32	1/4	11/32	7/16	1/2	21/32	25/32	13/32	19/16	
	mm	4	6	8.5	11	13	16.5	20	28	39	
MINIMUM BEND RADIUS	ins	13/64	13/32	5/16	7/16	5/8	15/16	1 1/16	1 3/8	1 7/8	
	mm	5	10	8	11	16	24	27	35	48	
MAXIMUM WORKING PRESSURE	psig	15	15	15	15	15	15	15	15	15	
	barg	1	1	1	1	1	1	1	1	1	
MAXIMUM CONTINUOUS LENGTH	feet	328	197	98	65	328	114	82	29	29	
	metres	100	60	30	20	100	35	25	9	9	
OUTSIDE DIAMETER OF PLUGGED TUBE or INSIDE DIAMETER OF CUFFED TUBE	ins	MIN	1/8	3/16	1/4	3/8	1/2	5/8	3/4	1	1 1/2
		MAX	3/16	1/4	3/8	1/2	5/8	3/4	7/8	1 1/8	1 5/8
	mm	MIN	3	5	6	10	12	16	19	25	38
		MAX	5	6	10	12	16	19	22	28	41
LENGTH OF PLUG OR CUFF	ins	3/4	3/4	1	1	1 3/8	1 3/8	1 1/2	1 3/4	2	
	mm	19	19	25	25	35	35	38	44	50	

NOTE

*The specified performance values are based on the assumption that the conditions external to the hose are "Normal"-ie ambient temperature and pressure, but no externally applied abrasion or mechanical stress whatsoever.

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

'CORROFLON' PTFE CLASSIC DESIGN FLEXIBLE HOSE WITH STAINLESS STEEL BRAID

DESCRIPTION

Corroflon hose has made many conventional types of hose obsolete by solving some long standing hose application problems. Stainless steel corrugated hoses, for so long subject to flex cracking, pinholing and chloride stress corrosion in steam and other applications, can now be replaced by Corroflon hoses which do not suffer from these problems.

FLEXIBILITY

Extremely flexible, yet fully kink resistant.

CHEMICAL RESISTANCE

The PTFE liner tube material resists all chemicals and solvents except the following: molten alkali metals such as sodium; fluorine gas; chlorine trifluoride; oxygen difluoride; phosgene.

SELF CLEANING

Efficient, clean transfer of the media through the hose without any stoppage, due to the shallow profile, helical track design of the non-stick PTFE tube.

INTEGRAL PTFE LINED END FITTINGS

An integral PTFE lined end fitting design is available (illustrated on page B.9-B.10), which protects the fitting from internal corrosion, and permits an uninterrupted flow of the media through the fitting.

TEMPERATURE RANGE

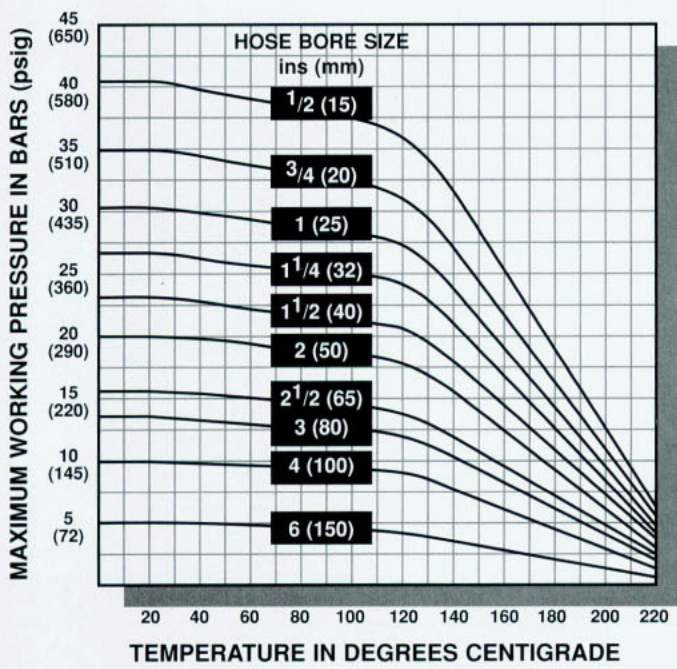
Usable from -70°C to + 230°C, dependent upon the grade and the working pressure.

PRESSURE AND VACUUM

A full vacuum to high pressure capability, without the need for an internal wire reinforcement.

TEMPERATURE Vs PRESSURE

The graph gives the maximum working pressures for each size of hose at operating temperatures up to 230°C. Corroflon hoses can sometimes be used at higher temperatures up to 270°C, but such applications should be individually discussed and approved with the manufacturer before proceeding. At temperatures less than 0°C, the listed maximum working pressures apply down to -70°C.

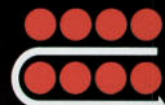


TEMPERATURE Vs VACUUM

All sizes of Corroflon GP, SS hose are usable at full vacuum up to 130°C. Above 130°C, the vacuum resistance should be reduced by 1% for every degree above 130°C. For example, at 155°C, the vacuum resistance is reduced by: 155-130=25% to give a resistance to 75% full vacuum equivalent to 22inHg or 267mbar.

When high vacuum resistance is required, it must always be stated in the enquiry and order.

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.



'CORROFLON' HOSE (continued)

SPECIFICATIONS

NOMINAL HOSE SIZE	ins	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6
	mm	15	20	25	32	40	50	65	80	100	150
THROUGH BORE OF HOSE	ins	3/8	9/16	13/16	1	1 1/4	1 3/4	2	2 1/2	3 1/2	5 1/4
	mm	9.5	14.3	20.6	25.4	31.7	44.4	50.8	63.5	89.0	130.0
PTFE TUBE WALL THICKNESS	ins	0.040	0.050	0.065	0.065	0.065	0.065	0.065	0.065	0.080	0.100
	mm	1.00	1.25	1.65	1.65	1.65	1.65	1.65	1.65	2.00	2.50
O/D OF BRAID	ins	3/4	1	1 1/4	1 1/2	1 7/8	2 3/8	2 7/8	3 1/2	4 1/2	6 3/4
	mm	19	25	32	38	48	60	73	89	114	170
MAXIMUM CONTINUOUS HOSE LENGTH	feet	50	50	50	50	50	50	43	36	23	10
	metres	15	15	15	15	15	15	13	11	7	3
MINIMUM BEND RADIUS TO HOSE CENTRELINE	ins	1 1/2	2	2 3/4	3 1/4	4	5 1/2	7	9	12	24
	mm	38	51	70	82	100	140	178	230	300	600
MAXIMUM WORKING PRESSURE	psig	600	500	450	400	330	300	225	200	150	80
	barg	41	35	31	27	23	20	16	14	10	5
WEIGHT PER UNIT LENGTH	kg/m	0.30	0.45	0.70	0.82	1.50	2.10	2.58	3.29	5.33	10.00

ALTERNATIVE HOSE DESIGN OPTIONS

The above description and specifications refer to Corroflon GP, SS grade hose. Alternative hose design options are available which render the hose design more suitable for specialised applications, these are described on pages B.7 and B.8 including any different specification values which may apply.

HOSE ASSEMBLIES

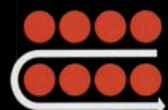
Corroflon hose is always supplied to order in the form of finished hose assemblies, which are made to the required length, with the required end fittings machine-cripped to the hose at each end. Each hose assembly made up with standard end fittings is hydraulically pressure tested to 1 1/2 times maximum working pressure before despatch, and test certificates can be supplied if required.

LENGTH OF HOSE ASSEMBLIES

Corroflon hose assemblies can be supplied in continuous lengths of up to 15 metres, or longer lengths which include PTFE lined joints. The length of the hose assembly is always measured from the front of the sealing face of the end fitting at one end of the hose to the same at the other end. The length tolerance is +10%-0%, unless otherwise agreed.

END FITTINGS

The range of standard end fittings, both integral PTFE lined and unlined, are fully described on the following pages. These fittings can be used with Corroflon GP grade hose, also with any of the alternative grades of Corroflon hose also available. Hose assemblies may have the same end fittings. Non standard fittings can also be supplied by special arrangement.



'CORROFLON' HOSE (continued)

HOSE GRADES

DESCRIPTION

Corroflon GP, SS the general purpose grade of hose, which has been carefully designed to satisfy the widest range of application requirements. Corroflon GP, SS can be used to convey virtually any process fluid, however corrosive, in a way which ensures clean, contamination free transfer through the hose.

CONSTRUCTION

Hose Liner (GP): Permeation resistant grade PTFE extruded tube, helically convoluted and including a heavy gauge stainless steel reinforcing wire, helically wound into the external root of the convolutions, to strengthen the convoluted shape.

Braid (SS): High tensile grade 304 stainless steel wire braid, comprising wire with a high tensile strength, to give maximum protection to the hose.

RS - ANTISTATIC PTFE LINER

PURPOSE

For applications where electrically resistive fluids or gases are being conveyed at high flow rates, to prevent a damaging electrostatic charge build up inside the hose.

DESIGN

A small quantity of a special type of carbon is added to the PTFE to reduce its electrical resistance. This permits dissipation of the static charge, preventing a dangerous charge build up on the hose liner.

SPECIFICATIONS

As for GP. The RS grade meets the antistatic hose requirements of BS2050: 1978. These call for a maximum resistance of 10^7 ohms per metre of hose length, not only on the outside of the hose, but also on the critical inside surface of the PTFE liner tube.

NOTE:

When using an RS hose, the end fittings must always be connected to earth.

SP - SPECIAL PURPOSE LINER

PURPOSE

To give a longer service life to hoses which have to operate at extreme conditions of temperature and pressure, or at full vacuum.

DESIGN

The pitch of the convolutions is reduced to give a closer, more solid construction to the liner tube.

SPECIFICATIONS

As for GP, but the weight per metre is increased by 30%.

TO - TUBE ONLY (NO BRAID)

PURPOSE

TO grade hose is an inexpensive, lightweight hose for applications where working pressures are low and where there is no need for the physical protection afforded by an external braid.

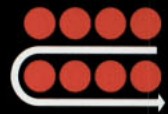
DESIGN

Any type of liner may be specified as above, but when "TO" is added, the hose assembly does not include a braid.

SPECIAL FEATURES

PTFE lined end fittings for TO hose assemblies do not require a ferrule, since there is no braid for the ferrule to secure. This makes it possible to make up very short hose assemblies when required. For sizes up to 2" (50mm) non-RS PTFE liners are made in a semi-transparent grade of PTFE, so fluids passing through are visible.

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.



'CORROFLON' HOSE (continued)

HOSE GRADES (continued)

MB - MONEL WIRE BRAID

PURPOSE

For applications where corrosive external conditions exist which might attack a conventional stainless steel wire braid. Also for applications where either chlorine or bromine is being conveyed under pressure.

DESIGN

The stainless steel wire braid is replaced by a Monel wire braid. Monel is a nickel-copper alloy with better resistance to corrosive chemicals than stainless steel.

SPECIFICATIONS

As for GP.

LIMITATIONS

Not available for 4" bore size hose.

PB - POLYMER BRAID

PURPOSE

Particularly suitable for applications involving frequent handling and movement of the hose, also for applications in general where temperatures are within -30°C to $+80^{\circ}\text{C}$.

DESIGN

The stainless steel wire braid is replaced by a chemically resistant polymer yarn braid. This type of braid reduces the hose weight, and any broken strands of braid would not cut the operator's hands, which could happen with wire braid construction. Polymer braid also has better abrasion resistance than wire braid.

SPECIFICATIONS

As for GP, except that the operating temperature range is reduced to -30°C to $+80^{\circ}\text{C}$, and the weight per metre is reduced by about 30%.

LIMITATIONS

Not normally electrically continuous between end fittings, although this can be achieved if specifically requested in the order.

RC - RUBBER COVERED

PURPOSE

For the most rugged applications, where the hose may be subjected to rough treatment and severe external abrasion. Road tanker unloading hose is a typical application.

DESIGN

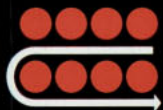
The hose has an external cover of black anti-static EPDM rubber, vulcanised directly to the braid, to give excellent external abrasion and damage resistance.

SPECIFICATIONS

As for GP, except that the operating temperature range is reduced to -10°C to $+120^{\circ}\text{C}$, and the weight per metre is increased by around 20%.

LIMITATIONS

Not applicable to PB grade.



'CORROFLON' HOSE (continued)

STANDARD END FITTINGS - INTEGRAL PTFE LINED TYPES

STANDARD FLANGE FITTING

DESCRIPTION

Swivel flange fitting, integral PTFE lined.

SPECIFICATIONS

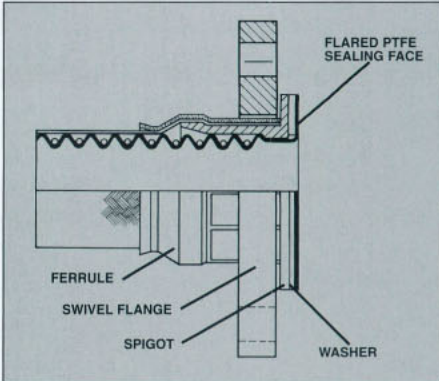
Flanges to ASA 150, DIN PN 16, BS4504 table 16, or BS10 table E. Other flange ratings to these specifications are also available.

MATERIALS

All components are either in zinc plated mild steel, or grade 321 stainless steel.

SIZE RANGE

1/2" (15mm) to 6" (150mm).



STANDARD FLANGE FITTING

STANDARD CAM ACTION FITTING

DESCRIPTION

Cam action type quick release coupler fitting, integral PTFE lined.

SPECIFICATIONS

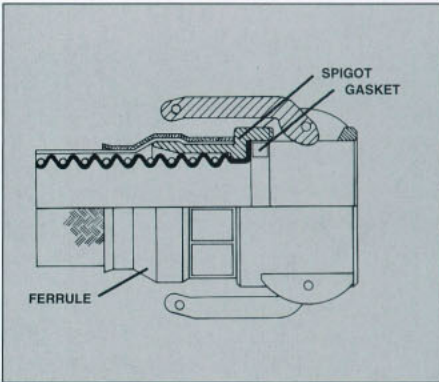
Generally to MIL-C-27487. (Fully interchangeable with other makes of cam action type quick-release fittings to this specification).

MATERIALS

Cam action spigot in grade 316 stainless steel, ferrule in grade 321 stainless steel, gasket in nitrile rubber.

SIZE RANGE

3/4" (20mm) to 4" (100mm).



STANDARD CAM ACTION FITTING

ALTERNATIVES

Can be supplied with Viton filled PTFE envelope gaskets. PTFE lined cam action to flange adaptors are also available.

STANDARD RJT FITTING

DESCRIPTION

RJT female fitting, integral PTFE lined.

SPECIFICATIONS

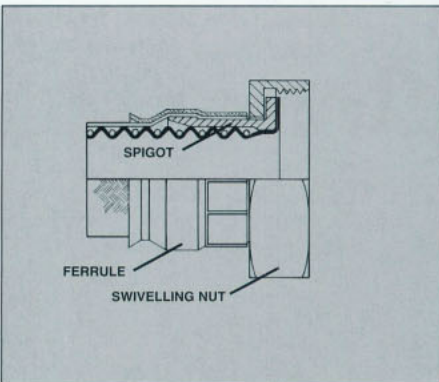
Generally to BS4825.

MATERIALS

All components in stainless steel.

SIZE RANGE

1" (25mm) to 3" (80mm).



STANDARD RJT FITTING

STANDARD DIN 11851 FITTING

DESCRIPTION

DIN 11851 female fitting, integral PTFE lined.

SPECIFICATIONS

Generally to German DIN 11851 specification.

MATERIALS

All components in stainless steel.

SIZE RANGE

3/4" (20mm) to 3" (80mm).



STANDARD DIN 11851 FITTING

PTFE TRICLOVER FITTING

DESCRIPTION

Triclover fitting (also known as "Triclamp" or "Clamp Type" fittings) integral PTFE lined.

SPECIFICATIONS

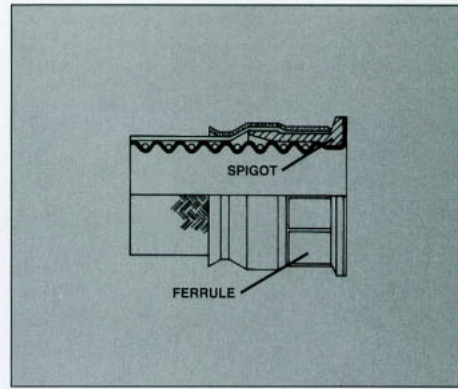
Generally in accordance with BS4825: Pt 3 and ISO 2852.

MATERIALS

All components in stainless steel.

SIZE RANGE

1" (25mm) to 3" (80mm).



PTFE TRICLOVER FITTING

STANDARD CUFFED END

DESCRIPTION

Cuffed end.

SPECIFICATIONS

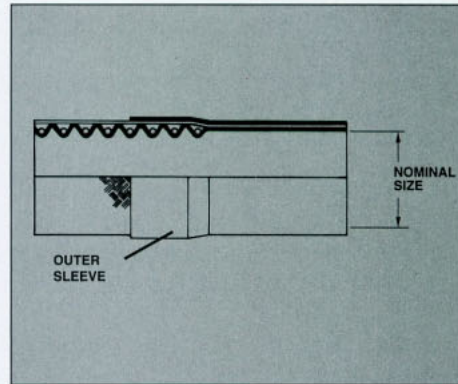
Bore of cuff equals nominal hose bore size.

MATERIALS

Outer sleeve in black PTFE.

SIZE RANGE

1/2" (12.7mm) to 4" (100mm).



STANDARD CUFFED END

LIMITATIONS

Not suitable for pressures above 3barg (45psig) in sizes up to 1 1/2" or 1barg (15psig) in sizes from 2" to 4". Spigots must be shouldered at the end, all edges rounded and 2 clips must be used to make each connection.

STANDARD END FITTINGS - UNLINED TYPES

STANDARD FEMALE UNION FITTING

DESCRIPTION

60° cone seat female union fitting, BSP thread, unlined.

SPECIFICATIONS

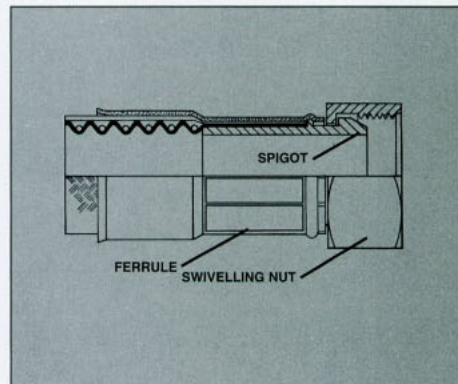
Generally to BS5200 and ISO 1179.

MATERIALS

All components are either in zinc plated mild steel or grade 316 stainless steel.

SIZE RANGE

1/2" (15mm) to 2" (50mm).



STANDARD FEMALE UNION FITTING

ALTERNATIVES

Available with flat seat instead of cone seat if required. Can be supplied with NPSM or metric screwthreads.

STANDARD FIXED MALE FITTING

DESCRIPTION

Fixed male fitting, BSP taper thread, unlined.

SPECIFICATIONS

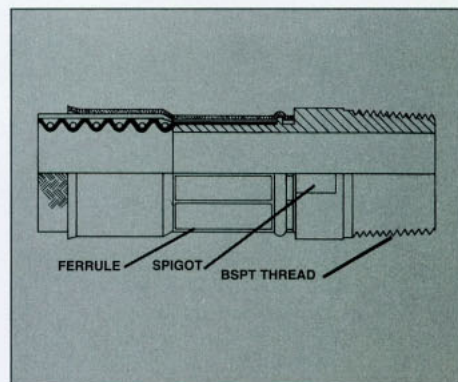
Threads to BS21.

MATERIALS

All components are either in zinc plated mild steel or grade 316 stainless steel, or Polypropylene with stainless steel ferrule.

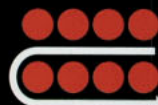
SIZE RANGE

1/2" (15mm) to 4" (100mm).



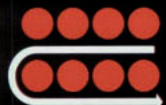
STANDARD FIXED MALE FITTING

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.



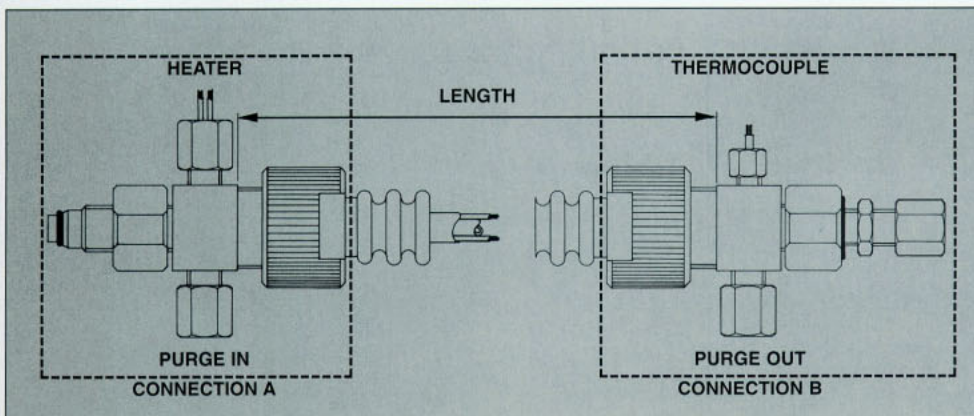
production techniques

SECTION B



production techniques

PTFE COAXIAL HOSES & PTFE HEATED HOSES



Coaxial hoses are used to prevent the permeation of an external atmosphere through the wall of a fluid transfer tube.

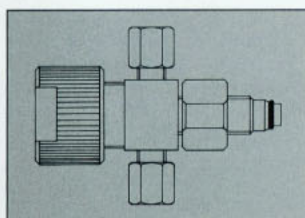
PTFE heated hoses are required where the temperature of transferred vapour phase fluids are to be maintained to prevent them condensing into the liquid phase.

The hoses consist of PTFE thickwall inner tube surrounded by a "Visiflex" PTFE convoluted tube. The hose ends are terminated with the required PTFE connections, options shown below. Heated hoses have two extra connections for the heater cable and thermocouple.

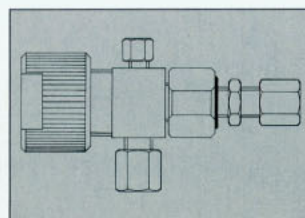
Temperatures can be maintained between 20°C and 100°C using standard 220V a.c. controllers (available on request).

ORDERING DETAILS

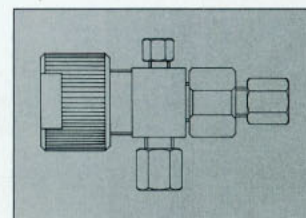
END TERMINATIONS



CRS-ROTARY SEAL



ESB-SEALED BULKHEAD



CSE-STRAIGHT TUBE

CCH - * - * - * - * - * COAXIAL HOSE
CHH - * - * - * - * - * HEATED HOSE

CONNECTION TYPE	
STD	CHEMCON STANDARD
IND	CHEMCON INDUSTRIAL
SIL	CHEMCON GLASSWARE

CONNECTION SIZE	
4	1/4" O/D TUBE
5	5/16" O/D TUBE
6	3/8" O/D TUBE
X6	6mm O/D TUBE
X8	8mm O/D TUBE
X10	10mm O/D TUBE

CONNECTION A	CONNECTION B
CRS	ROTARY SEAL
ESB	SEALED BULKHEAD
CSE	STRAIGHT TUBE

LENGTH IN MILLIMETRES
20m maximum for coaxial hose
6m maximum for heated hose

EXAMPLE

CCH-STD-4-ESB-CSE-15000

Coaxial hose with 1/4" Standard tube connections. Connection A sealed bulkhead. Connection B straight tube. Length 15 metres.

EXAMPLE

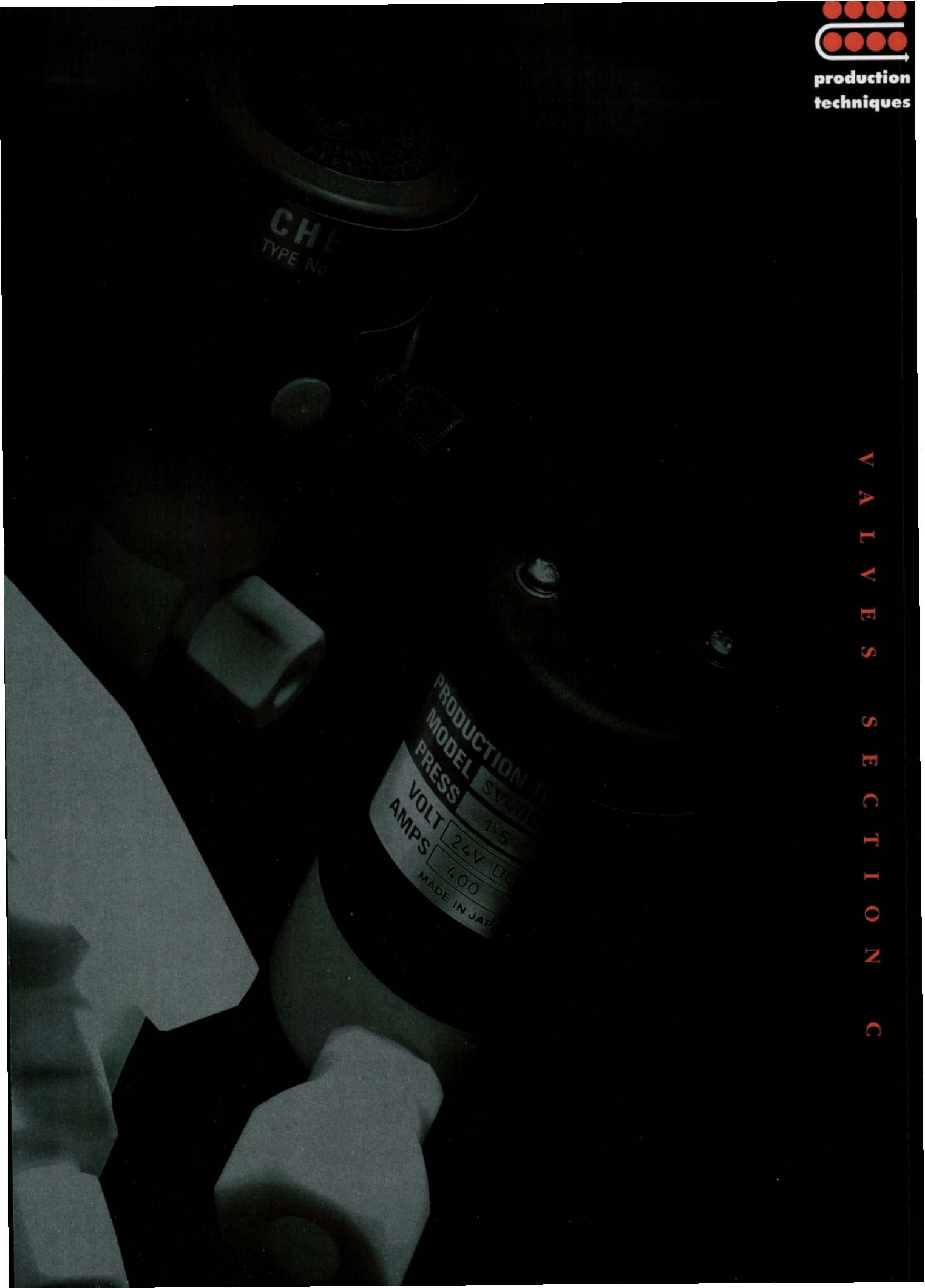
CHH-IND-4-CRS-ESB-5000

Heated hose with 1/4" Industrial tube connections. Connection A rotary seal. Connection B sealed bulkhead. Length 5 metres.

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.



production
techniques



CHE
TYPE NO

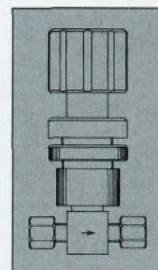
PRODUCTION TECHNIQUES
MODEL SV400
PRESS 1.5
VOLT 24V DC
AMPS 400
MADE IN JAPAN

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MANUAL BELLOWS VALVE (BV)

ORDERING DETAILS

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/BV-10000-4	IND/BV-10000-4	SIL/BV-10000-4	1/4"
STD/BV-10000-5	IND/BV-10000-5	SIL/BV-10000-5	5/16"
STD/BV-10000-6	IND/BV-10000-6	SIL/BV-10000-6	3/8"
STD/BV-10000-8	IND/BV-10000-8	SIL/BV-10000-8	1/2"
STD/BV-10000-X6	IND/BV-10000-X6	SIL/BV-10000-X6	6mm
STD/BV-10000-X8	IND/BV-10000-X8	SIL/BV-10000-X8	8mm
STD/BV-10000-X10	IND/BV-10000-X10	SIL/BV-10000-X10	10mm
STD/BV-10000-X12	IND/BV-10000-X12	SIL/BV-10000-X12	12mm

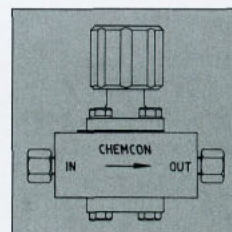


The Chemcon Bellows Valve has less flow restriction than a stopcock type of valve. It is positive and reliable in operation. Advantageous for a system carrying viscous or solid contaminated fluids. All wetted surfaces in pure PTFE and Viton 'O' ring seals as standard.

MANUAL SCREW DIAPHRAGM VALVE (DV)

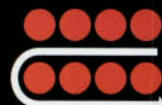
ORDERING DETAILS

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/DV-4	IND/DV-4	SIL/DV-4	1/4"
STD/DV-5	IND/DV-5	SIL/DV-5	5/16"
STD/DV-6	IND/DV-6	SIL/DV-6	3/8"
STD/DV-8	IND/DV-8	SIL/DV-8	1/2"
STD/DV-X6	IND/DV-X6	SIL/DV-X6	6mm
STD/DV-X8	IND/DV-X8	SIL/DV-X8	8mm
STD/DV-X10	IND/DV-X10	SIL/DV-X10	10mm
STD/DV-X12	IND/DV-X12	SIL/DV-X12	12mm



A Manual Screw Diaphragm Valve developed around a Saunders Diaphragm valve head. Positive in action with large through porting.

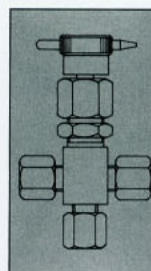
ALTERNATIVES CAN BE SUPPLIED ON REQUEST.



2 AND 3 PORT STOPCOCKS (SC AND 3SC)

ORDERING DETAILS

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/SC-4	IND/SC-4	SIL/SC-4	1/4"
STD/SC-5	IND/SC-5	SIL/SC-5	5/16"
STD/SC-6	IND/SC-6	SIL/SC-6	3/8"
STD/SC-8	IND/SC-8	SIL/SC-8	1/2"
STD/SC-X6	IND/SC-X6	SIL/SC-X6	6mm
STD/SC-X8	IND/SC-X8	SIL/SC-X8	8mm
STD/SC-X10	IND/SC-X10	SIL/SC-X10	10mm
STD/SC-X12	IND/SC-X12	SIL/SC-X12	12mm
STD/3SC-4	IND/3SC-4	SIL/3SC-4	1/4"
STD/3SC-5	IND/3SC-5	SIL/3SC-5	5/16"
STD/3SC-6	IND/3SC-6	SIL/3SC-6	3/8"
STD/3SC-8	IND/3SC-8	SIL/3SC-8	1/2"
STD/3SC-X6	IND/3SC-X6	SIL/3SC-X6	6mm
STD/3SC-X8	IND/3SC-X8	SIL/3SC-X8	8mm
STD/3SC-X10	IND/3SC-X10	SIL/3SC-X10	10mm
STD/3SC-X12	IND/3SC-X12	SIL/3SC-X12	12mm



The Chemcon Stopcock has been developed to satisfy the need for a positive shut-off valve. It incorporates the features of a standard cone seating stopcock where a quarter turn will open the valve from a shut position. The operation is positive and the property of PTFE to creep will tend to improve the seal. The 3 Port Stopcock requires a 1/2 turn to operate.

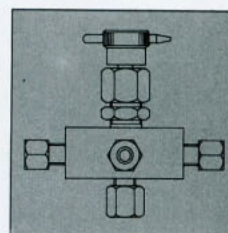
NOTE:

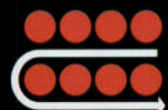
Maximum through bore is 3/16" diameter. The alternative is the CBV-10000 range of valves (see pages C.5 to C.8).

MANUAL 5 PORT STOPCOCK (5SC)

ORDERING DETAILS

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/5SC-4	IND/5SC-4	SIL/5SC-4	1/4"
STD/5SC-5	IND/5SC-5	SIL/5SC-5	5/16"
STD/5SC-6	IND/5SC-6	SIL/5SC-6	3/8"
STD/5SC-8	IND/5SC-8	SIL/5SC-8	1/2"
STD/5SC-X6	IND/5SC-X6	SIL/5SC-X6	6mm
STD/5SC-X8	IND/5SC-X8	SIL/5SC-X8	8mm
STD/5SC-X10	IND/5SC-X10	SIL/5SC-X10	10mm
STD/5SC-X12	IND/5SC-X12	SIL/5SC-X12	12mm





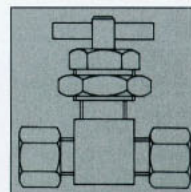
MINIATURE STOPCOCK (MSC)

The Chemcon Miniature PTFE 2 Port ON/OFF Stopcock is a scaled down version of the popular SC type valve, with its proven taper and gland design to give leak free operation. A 90° turn will operate the valve from the open to closed positions.

ORDERING DETAILS

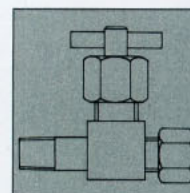
2 PORT MINIATURE STOPCOCK TUBE TO TUBE

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/MSC-2		SIL/MSC-2	1/8"
STD/MSC-3		SIL/MSC-3	3/16"
STD/MSC-4	IND/MSC-4	SIL/MSC-4	1/4"
STD/MSC-X3		SIL/MSC-X3	3mm
STD/MSC-X5		SIL/MSC-X5	5mm
STD/MSC-X6	IND/MSC-X6	SIL/MSC-X6	6mm



2 PORT MINIATURE STOPCOCK TUBE TO MALE STUD

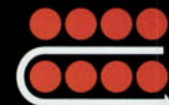
COUPLING TYPE			TUBE SIZE (O/D)	STUD THREAD BSPT/NPT (N)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)		
STD/MSC-2-M-2(N)		SIL/MSC-2-M-2(N)	1/8"	1/8"
STD/MSC-2-M-4(N)		SIL/MSC-2-M-4(N)	1/8"	1/4"
STD/MSC-3-M-2(N)		SIL/MSC-3-M-2(N)	3/16"	1/8"
STD/MSC-3-M-4(N)		SIL/MSC-3-M-4(N)	3/16"	1/4"
STD/MSC-4-M-2(N)	IND/MSC-4-M-2(N)	SIL/MSC-4-M-2(N)	1/4"	1/8"
STD/MSC-4-M-4(N)	IND/MSC-4-M-4(N)	SIL/MSC-4-M-4(N)	1/4"	1/4"
STD/MSC-X3-M-2(N)		SIL/MSC-X3-M-2(N)	3mm	1/8"
STD/MSC-X3-M-4(N)		SIL/MSC-X3-M-4(N)	3mm	1/4"
STD/MSC-X5-M-2(N)		SIL/MSC-X5-M-2(N)	5mm	1/8"
STD/MSC-X5-M-4(N)		SIL/MSC-X5-M-4(N)	5mm	1/4"
STD/MSC-X6-M-2(N)	IND/MSC-X6-M-2(N)	SIL/MSC-X6-M-2(N)	6mm	1/8"
STD/MSC-X6-M-4(N)	IND/MSC-X6-M-4(N)	SIL/MSC-X6-M-4(N)	6mm	1/4"



NOTE:

For BSPT versions do not add (N) suffix, ie STD/MSC-2-M-2 would be 1/8" O/D tube to 1/8" BSPT male stud. For NPT versions add (N) suffix, ie STD/MSC-X3-M-2N would be 3mm O/D tube to 1/8" NPT male stud.

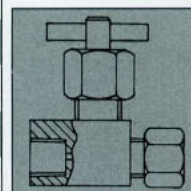
ALTERNATIVES CAN BE SUPPLIED ON REQUEST.



MINIATURE STOPCOCK (MSC) (continued)

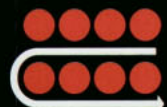
2 PORT MINIATURE STOPCOCK TUBE TO FEMALE STUD

COUPLING TYPE			TUBE SIZE (O/D)	STUD THREAD BSPT/NPT (N)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)		
STD/MSC-2-F-2(N)		SIL/MSC-2-F-2(N)	1/8"	1/8"
STD/MSC-2-F-4(N)		SIL/MSC-2-F-4(N)	1/8"	1/4"
STD/MSC-3-F-2(N)		SIL/MSC-3-F-2(N)	3/16"	1/8"
STD/MSC-3-F-4(N)		SIL/MSC-3-F-4(N)	3/16"	1/4"
STD/MSC-4-F-2(N)	IND/MSC-4-F-2(N)	SIL/MSC-4-F-2(N)	1/4"	1/8"
STD/MSC-4-F-4(N)	IND/MSC-4-F-4(N)	SIL/MSC-4-F-4(N)	1/4"	1/4"
STD/MSC-X3-F-2(N)		SIL/MSC-X3-F-2(N)	3mm	1/8"
STD/MSC-X3-F-4(N)		SIL/MSC-X3-F-4(N)	3mm	1/4"
STD/MSC-X5-F-2(N)		SIL/MSC-X5-F-2(N)	5mm	1/8"
STD/MSC-X5-F-4(N)		SIL/MSC-X5-F-4(N)	5mm	1/4"
STD/MSC-X6-F-2(N)	IND/MSC-X6-F-2(N)	SIL/MSC-X6-F-2(N)	6mm	1/8"
STD/MSC-X6-F-4(N)	IND/MSC-X6-F-4(N)	SIL/MSC-X6-F-4(N)	6mm	1/4"



NOTE:

For BSPT versions do not add (N) suffix, ie STD/MSC-2-F-2 would be 1/8" O/D tube to 1/8" BSPT female stud.
For NPT versions add (N) suffix, ie STD/MSC-X3-F-2N would be 3mm O/D tube to 1/8" NPT female stud.

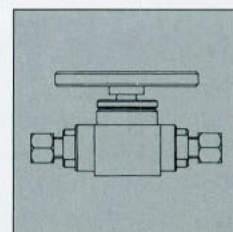


2 PORT BALL VALVES (2CBV-10000 AND 2CBV-15000)

The Chemcon 2 Port Ball Valves are suitable for 1/4" to 3/4" O/D (6mm to 19mm O/D) tube connections. Designed without restriction through the ball. Fabricated in PTFE with a Polypropylene handle and Viton backing seals as standard. Other types of seal available on request. A quarter turn of the handle operates the valve from closed to fully open.

ORDERING DETAILS

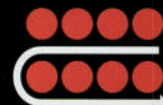
STANDARD TYPE (STD)	COUPLING TYPE		TUBE SIZE (O/D)
	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/2CBV-10000-4	IND/2CBV-10000-4	SIL/2CBV-10000-4	1/4"
STD/2CBV-10000-5	IND/2CBV-10000-5	SIL/2CBV-10000-5	5/16"
STD/2CBV-10000-6	IND/2CBV-10000-6	SIL/2CBV-10000-6	3/8"
STD/2CBV-10000-8	IND/2CBV-10000-8	SIL/2CBV-10000-8	1/2"
STD/2CBV-10000-X6	IND/2CBV-10000-X6	SIL/2CBV-10000-X6	6mm
STD/2CBV-10000-X8	IND/2CBV-10000-X8	SIL/2CBV-10000-X8	8mm
STD/2CBV-10000-X10	IND/2CBV-10000-X10	SIL/2CBV-10000-X10	10mm
STD/2CBV-10000-X12	IND/2CBV-10000-X12	SIL/2CBV-10000-X12	12mm
STD/2CBV-15000-8	IND/2CBV-15000-8	SIL/2CBV-15000-8	1/2"
STD/2CBV-15000-10	IND/2CBV-15000-10	SIL/2CBV-15000-10	5/8"
STD/2CBV-15000-12		SIL/2CBV-15000-12	3/4"
STD/2CBV-15000-X12	IND/2CBV-15000-X12	SIL/2CBV-15000-X12	12mm
STD/2CBV-15000-X16		SIL/2CBV-15000-X16	16mm
STD/2CBV-15000-X19		SIL/2CBV-15000-X19	19mm



Other thread types available on request (male or female BSPT/NPT).

• Maximum line pressure (at 20°C)	CBV-10000 100psig (7barg) CBV-15000 150psig (10barg)
• Ambient temperature range	0°-90°C (32°-194°F)
• Line temperature range	0°-200°C (32°-392°F)

Optional mounting bracket available on request.

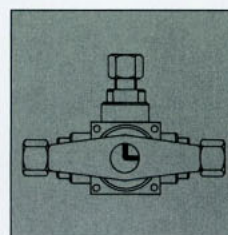


3 PORT BALL VALVES (3CBV-10000 AND 3CBV-15000)

A 3 port version of the valve supplied as shown with an "L" drilling through the ball. Can have portings and drillings to customer specification, ie with "tee" drilling. 4 port versions available on request.

ORDERING DETAILS

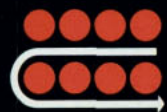
COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/3CBV-10000-4	IND/3CBV-10000-4	SIL/3CBV-10000-4	1/4"
STD/3CBV-10000-5	IND/3CBV-10000-5	SIL/3CBV-10000-5	5/16"
STD/3CBV-10000-6	IND/3CBV-10000-6	SIL/3CBV-10000-6	3/8"
STD/3CBV-10000-8	IND/3CBV-10000-8	SIL/3CBV-10000-8	1/2"
STD/3CBV-10000-X6	IND/3CBV-10000-X6	SIL/3CBV-10000-X6	6mm
STD/3CBV-10000-X8	IND/3CBV-10000-X8	SIL/3CBV-10000-X8	8mm
STD/3CBV-10000-X10	IND/3CBV-10000-X10	SIL/3CBV-10000-X10	10mm
STD/3CBV-10000-X12	IND/3CBV-10000-X12	SIL/3CBV-10000-X12	12mm
STD/3CBV-15000-8	IND/3CBV-15000-8	SIL/3CBV-15000-8	1/2"
STD/3CBV-15000-10	IND/3CBV-15000-10	SIL/3CBV-15000-10	5/8"
STD/3CBV-15000-12		SIL/3CBV-15000-12	3/4"
STD/3CBV-15000-X12	IND/3CBV-15000-X12	SIL/3CBV-15000-X12	12mm
STD/3CBV-15000-X16		SIL/3CBV-15000-X16	16mm
STD/3CBV-15000-X19		SIL/3CBV-15000-X19	19mm



Other thread types available on request (male or female BSPT/NPT).

• Maximum line pressure (at 20°C)	CBV-10000 100psig (7barg) CBV-15000 150psig (10barg)
• Ambient temperature range	0°-90°C (32°-194°F)
• Line temperature range	0°-200°C (32°-392°F)

Optional mounting bracket available on request.

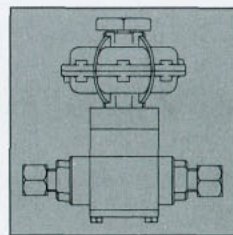


2 PORT PNEUMATICALLY ACTUATED BALL VALVE (2ABV-10000 AND 2ABV-15000)

A range of pneumatically actuated valves based on the proven Chemcon Ball Valve CBV-10000 and CBV-15000. A 90° pneumatic actuator is fitted to the valve to enable automatic control of fluid systems, suitable for 1/4" - 3/4" O/D (6mm-19mm O/D) tube connections.

ORDERING DETAILS

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/2ABV-10000-4	IND/2ABV-10000-4	SIL/2ABV-10000-4	1/4"
STD/2ABV-10000-5	IND/2ABV-10000-5	SIL/2ABV-10000-5	5/16"
STD/2ABV-10000-6	IND/2ABV-10000-6	SIL/2ABV-10000-6	3/8"
STD/2ABV-10000-8	IND/2ABV-10000-8	SIL/2ABV-10000-8	1/2"
STD/2ABV-10000-X6	IND/2ABV-10000-X6	SIL/2ABV-10000-X6	6mm
STD/2ABV-10000-X8	IND/2ABV-10000-X8	SIL/2ABV-10000-X8	8mm
STD/2ABV-10000-X10	IND/2ABV-10000-X10	SIL/2ABV-10000-X10	10mm
STD/2ABV-10000-X12	IND/2ABV-10000-X12	SIL/2ABV-10000-X12	12mm
STD/2ABV-15000-8	IND/2ABV-15000-8	SIL/2ABV-15000-8	1/2"
STD/2ABV-15000-10	IND/2ABV-15000-10	SIL/2ABV-15000-10	5/8"
STD/2ABV-15000-12		SIL/2ABV-15000-12	3/4"
STD/2ABV-15000-X12	IND/2ABV-15000-X12	SIL/2ABV-15000-X12	12mm
STD/2ABV-15000-X16		SIL/2ABV-15000-X16	16mm
STD/2ABV-15000-X19		SIL/2ABV-15000-X19	19mm



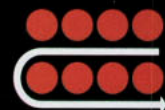
Other thread types available on request (male or female BSPT/NPT).

• Maximum line pressure (at 20°C)	ABV-10000 100psig (7barg) ABV-15000 150psig (10barg)
• Ambient temperature range	0°-70°C (32°-158°F)
• Line temperature range	0°-200°C (32°-392°F)

PNEUMATIC ACTUATOR

- 6mm O/D tube connector
- Operating pressure 45-90psig (3-6barg)
- Fail safe, spring return unit available
- Limit switch unit available

Optional mounting bracket available on request.



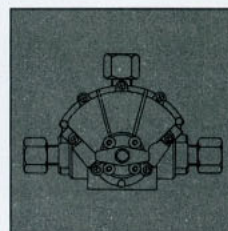
3 PORT PNEUMATICALLY ACTUATED "CHANGE OVER" BALL VALVE

(3ABV-10000 AND 3ABV-15000)

A 3 port version of the valve which can only be used in change over applications (cannot be used as a shut off valve).

ORDERING DETAILS

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/3ABV-10000-4	IND/3ABV-10000-4	SIL/3ABV-10000-4	1/4"
STD/3ABV-10000-5	IND/3ABV-10000-5	SIL/3ABV-10000-5	5/16"
STD/3ABV-10000-6	IND/3ABV-10000-6	SIL/3ABV-10000-6	3/8"
STD/3ABV-10000-8	IND/3ABV-10000-8	SIL/3ABV-10000-8	1/2"
STD/3ABV-10000-X6	IND/3ABV-10000-X6	SIL/3ABV-10000-X6	6mm
STD/3ABV-10000-X8	IND/3ABV-10000-X8	SIL/3ABV-10000-X8	8mm
STD/3ABV-10000-X10	IND/3ABV-10000-X10	SIL/3ABV-10000-X10	10mm
STD/3ABV-10000-X12	IND/3ABV-10000-X12	SIL/3ABV-10000-X12	12mm
STD/3ABV-15000-8	IND/3ABV-15000-8	SIL/3ABV-15000-8	1/2"
STD/3ABV-15000-10	IND/3ABV-15000-10	SIL/3ABV-15000-10	5/8"
STD/3ABV-15000-12		SIL/3ABV-15000-12	3/4"
STD/3ABV-15000-X12	IND/3ABV-15000-X12	SIL/3ABV-15000-X12	12mm
STD/3ABV-15000-X16		SIL/3ABV-15000-X16	16mm
STD/3ABV-15000-X19		SIL/3ABV-15000-X19	19mm



Other thread types available on request (male or female BSPT/NPT).

• Maximum line pressure (at 20°C)	ABV-10000 100psig (7barg) ABV-15000 150psig (10barg)
• Ambient temperature range	0°-70°C (32°-158°F)
• Line temperature range	0°-200°C (32°-392°F)

PNEUMATIC ACTUATOR

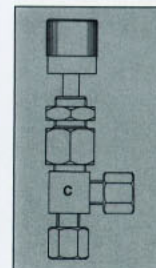
- 6mm O/D tube connector
- Operating pressure 45-90psig (3-6barg)
- Fail safe, spring return unit available
- Limit switch unit available

Optional mounting bracket available on request.

COARSE CONTROL NEEDLE VALVE (VC)

ORDERING DETAILS

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/VC-4	IND/VC-4	SIL/VC-4	1/4"
STD/VC-5	IND/VC-5	SIL/VC-5	5/16"
STD/VC-6	IND/VC-6	SIL/VC-6	3/8"
STD/VC-8	IND/VC-8	SIL/VC-8	1/2"
STD/VC-X6	IND/VC-X6	SIL/VC-X6	6mm
STD/VC-X8	IND/VC-X8	SIL/VC-X8	8mm
STD/VC-X10	IND/VC-X10	SIL/VC-X10	10mm
STD/VC-X12	IND/VC-X12	SIL/VC-X12	12mm



This valve is constructed so that all surfaces in contact with the fluid are of PTFE. The seal on the shaft is based on the proven seal of the Chemcon PTFE couplings and no lubrication is required.

The valve is of a conventional needle and orifice design and although it will shut off it is not recommended if used for flow control, as the needle and seal are deformed which affects the stability of control.

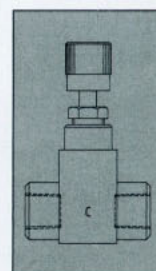
The coarse control valve is recommended for flow rates above 500cc per minute (air equivalent).

The valve is offered in eight sizes 1/4", 5/16", 3/8", 1/2", 6mm, 8mm, 10mm and 12mm O/D tubing. The valve is normally supplied for front panel mounting but can be mounted from the back by reversing the front and rear nuts.

COARSE CONTROL INLINE NEEDLE VALVE (VCI)

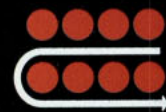
ORDERING DETAILS

ORDER CODE	THREAD SIZE
VCI-F-4	1/4" BSPT
VCI-F-6	3/8" BSPT
VCI-F-8	1/2" BSPT
VCI-F-4N	1/4" NPT
VCI-F-6N	3/8" NPT
VCI-F-8N	1/2" NPT



This valve is an inline female ported version of the standard coarse control needle valve (VC). It can be surface mounted or panel mounted via two bolt holes through the body.

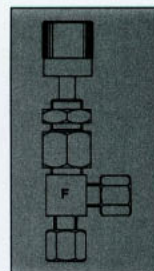
ALTERNATIVES CAN BE SUPPLIED ON REQUEST.



FINE CONTROL NEEDLE VALVE (VF)

ORDERING DETAILS

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/VF-4	IND/VF-4	SIL/VF-4	1/4"
STD/VF-5	IND/VF-5	SIL/VF-5	5/16"
STD/VF-6	IND/VF-6	SIL/VF-6	3/8"
STD/VF-8	IND/VF-8	SIL/VF-8	1/2"
STD/VF-X6	IND/VF-X6	SIL/VF-X6	6mm
STD/VF-X8	IND/VF-X8	SIL/VF-X8	8mm
STD/VF-X10	IND/VF-X10	SIL/VF-X10	10mm
STD/VF-X12	IND/VF-X12	SIL/VF-X12	12mm



This valve is constructed so that all surfaces in contact with the fluid are of PTFE. The seal on the shaft is based on the proven seal of the Chemcon PTFE couplings and no lubrication is required.

The valve does not use the conventional needle and orifice combination owing to possible dimensional relaxation. Control is obtained by varying the length of tapered screwed thread of a needle in a threaded orifice. This makes a useful control valve for small flows and is recommended for flow rates of up to 500cc per minute (air equivalent).

The valve should not be shut off as this will affect the stability of flow control.

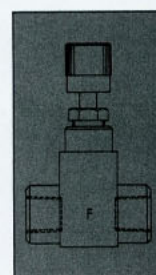
The valve is offered in eight sizes 1/4", 5/16", 3/8", 1/2", 6mm, 8mm, 10mm and 12mm O/D tubing. The valve is normally supplied for front panel mounting but can be mounted from the back by reversing the front and rear nuts.

Patent No. 407572

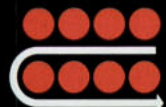
FINE CONTROL INLINE NEEDLE VALVE (VFI)

ORDERING DETAILS

ORDER CODE	THREAD SIZE
VFI-F-4	1/4" BSPT
VFI-F-6	3/8" BSPT
VFI-F-8	1/2" BSPT
VFI-F-4N	1/4" NPT
VFI-F-6N	3/8" NPT
VFI-F-8N	1/2" NPT



This valve is an inline female ported version of the standard fine control needle valve (VF). It can be surface mounted or panel mounted via two bolt holes through the body.



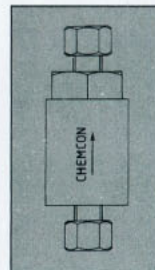
NON-RETURN VALVE (NRV)

The Chemcon Non-Return Valve utilises a magnetic field to bias the poppet valve to close in a static condition. Opening pressure is approximately 1psig.

All wetted surfaces are fabricated from high quality PTFE, the magnets being completely enclosed by the material. With Viton seals as standard.

ORDERING DETAILS

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/NRV-4	IND/NRV-4	SIL/NRV-4	1/4"
STD/NRV-5	IND/NRV-5	SIL/NRV-5	5/16"
STD/NRV-6	IND/NRV-6	SIL/NRV-6	3/8"
STD/NRV-8	IND/NRV-8	SIL/NRV-8	1/2"
STD/NRV-X6	IND/NRV-X6	SIL/NRV-X6	6mm
STD/NRV-X8	IND/NRV-X8	SIL/NRV-X8	8mm
STD/NRV-X10	IND/NRV-X10	SIL/NRV-X10	10mm
STD/NRV-X12	IND/NRV-X12	SIL/NRV-X12	12mm



Recommended installation vertically upwards or in a horizontal position

ADJUSTABLE NON-RETURN VALVE (ARV)

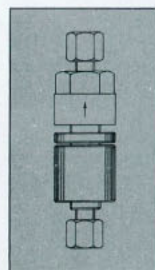
The Chemcon Adjustable Non-Return Valve is a magnetically biased unit which can be set manually to open at pressures between 1 and 10psig.

Opening pressure adjustment is achieved by the external screw collar and lock nut.

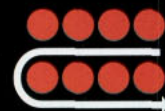
All wetted surfaces are fabricated from high quality PTFE, the magnets being completely enclosed by the material. With Viton seals as standard.

ORDERING DETAILS

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/ARV-4	IND/ARV-4	SIL/ARV-4	1/4"
STD/ARV-5	IND/ARV-5	SIL/ARV-5	5/16"
STD/ARV-6	IND/ARV-6	SIL/ARV-6	3/8"
STD/ARV-X6	IND/ARV-X6	SIL/ARV-X6	6mm
STD/ARV-X8	IND/ARV-X8	SIL/ARV-X8	8mm
STD/ARV-X10	IND/ARV-X10	SIL/ARV-X10	10mm



Recommended installation vertically upwards or in a horizontal position

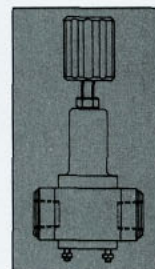


PRESSURE RELIEF VALVES (CRV)

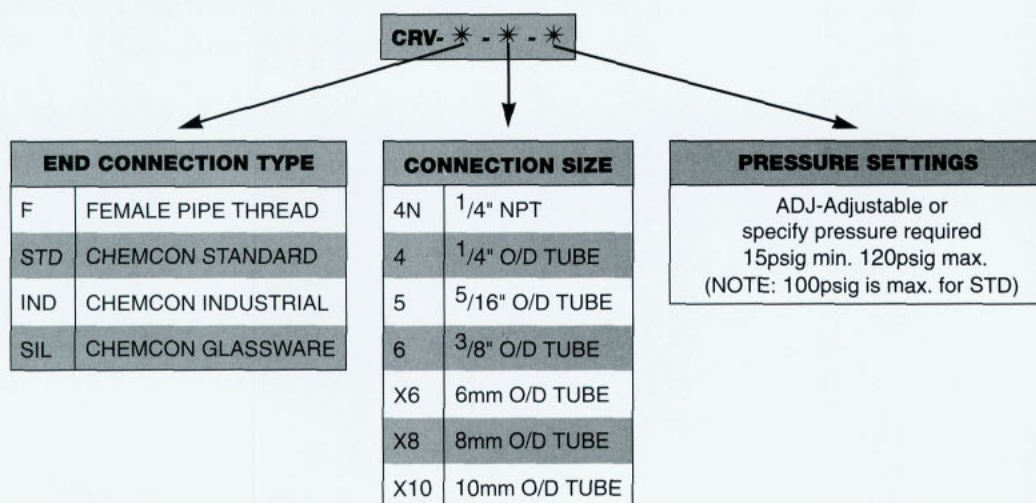
The Chemcon Pressure Relief Valves are designed to open at a set pressure and then reset at approximately 75% of the original setting. They utilise a one-piece machined diaphragm to isolate the media from the operating mechanism.

The valves are available with pre-set or fully adjustable pressure settings, with orifice size 1/4". End connections available are 1/4" NPT female pipe thread, or Chemcon connections in Standard, Industrial and Glassware.

• Design features	All wetted parts of virgin PTFE High Cv High temperature fluid handling Positive reset All external metal parts of anodised Aluminium Other materials available
• Operating pressure	15 to 120psig
• Ambient temperature range	-60° to +250°F -51° to +121°C
• Line temperature range	-60° to +400°F -51° to +204°C
• Reset pressure	25% less than set pressure



ORDERING DETAILS



EXAMPLE

CRV-F-4N-ADJ

Chemcon Relief Valve with 1/4" NPT female ports, adjustable setting.

EXAMPLE

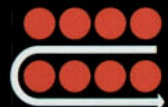
CRV-STD-6-100psig

Chemcon Relief Valve with 3/8" Standard tube connections set at 100psig.

NOTE:

Where tube connections are specified, Chemcon stud couplings will be fitted to a 1/4" NPT female body.

SECTION C

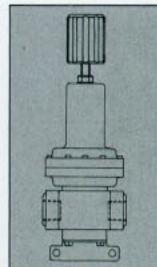


PRESSURE REGULATORS (PR)

The Pressure Regulators are designed for use with liquids or gases. When ordered with an auxiliary gauge port and combined with a Gauge Protector, a completely inert regulating system is achieved. They are available in the pressure range 0-120psig. A bracket for mounting the regulators is also supplied.

Other special end connections are available on request.

<ul style="list-style-type: none"> • Design features 	All wetted parts of virgin PTFE High flow rate High temperature fluid handling Available with gauge port Bracket mounting
<ul style="list-style-type: none"> • Specifications • Secondary pressure range • Ambient temperature range • Line temperature range 	All external metal parts of 316 ST/ST Maximum primary pressure 120psig (Non Relieving) 0-120psig -60° to +250°F -51° to +121°C -60° to +400°F -51° to +204°C



ORDERING DETAILS

2PR - * - * REGULATOR-NO GAUGE PORT
3PR - * - * REGULATOR-WITH GAUGE PORT

END CONNECTION TYPE		CONNECTION SIZE	
F	FEMALE PIPE THREAD	4N	1/4" NPT
STD	CHEMCON STANDARD	4	1/4" O/D TUBE
IND	CHEMCON INDUSTRIAL	5	5/16" O/D TUBE
SIL	CHEMCON GLASSWARE	6	3/8" O/D TUBE
		X6	6mm O/D TUBE
		X8	8mm O/D TUBE
		X10	10mm O/D TUBE

EXAMPLE

2PR-F-4N

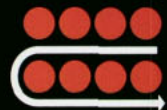
Pressure Regulator with 1/4" NPT female ports, no gauge port.

EXAMPLE

3PR-IND-4

Pressure Regulator with 1/4" Industrial tube connections, with gauge port.

NOTE: Where tube connections are specified, Chemcon stud couplings will be fitted to a 1/4" NPT female body.



GAUGE PROTECTOR (GP)

The Chemcon Gauge Protector has been developed to allow standard brass and steel pressure gauges or sensitive transducers to be used on reactive fluid systems. Basically the unit comprises of a Chemcon Filter Housing with the element and support replaced with a thin FEP membrane. The gauge side of the protector is filled with a fluorosilicone oil and is evacuated during fitting to remove all air bubbles. The Chemcon Gauge Protector is fitted with a stainless steel safety pattern gauge as standard. Inlet connections will be provided to suit the size of pipe to be connected to the unit. Thin FEP film has been used in this item to reduce the hysteresis.

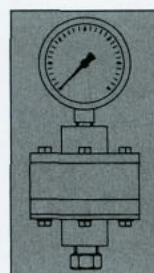
We offer to fit customers' own gauges, however such gauges must have a male BSPT or NPT thread from 1/4" up to 1/2" max.

PRESSURE RANGES:

- 0-15psig (0-1barg)
- 0-30psig (0-2.5barg)
- 0-60psig (0-4barg)
- 0-100psig (0-6barg)
- 0-160psig (0-10barg)

ORDERING DETAILS

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD/GP47-4/*	IND/GP47-4/*	SIL/GP47-4/*	1/4"
STD/GP47-5/*	IND/GP47-5/*	SIL/GP47-5/*	5/16"
STD/GP47-6/*	IND/GP47-6/*	SIL/GP47-6/*	3/8"
STD/GP47-8/*	IND/GP47-8/*	SIL/GP47-8/*	1/2"
STD/GP47-X6/*	IND/GP47-X6/*	SIL/GP47-X6/*	6mm
STD/GP47-X8/*	IND/GP47-X8/*	SIL/GP47-X8/*	8mm
STD/GP47-X10/*	IND/GP47-X10/*	SIL/GP47-X10/*	10mm
STD/GP47-X12/*	IND/GP47-X12/*	SIL/GP47-X12/*	12mm



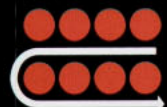
*When ordering please add pressure range required to end of code:

EXAMPLE

STD/GP47-4/0-30psig

Chemcon Gauge Protector with 1/4" Standard tube connection fitted with 0-30psig gauge.

S E C T I O N C



PNEUMATIC BELLOWS VALVES (PBV)

A range of pneumatically operated Bellows Valves, with all wetted parts in PTFE and Viton 'O' ring seals as standard, has been developed for optical fibre preform manufacture and other applications with stringent specifications. The valves are internally and externally constructed to withstand adverse environments. The flexible design provides for various modes of operation including a simple change from Normally Closed (N.C.) to Normally Open (N.O.).

SPECIFICATION:

1. All valve models readily adaptable from N.C. to N.O.
2. Air pressure required to operate valve 30-45psig (2-3barg).
3. Fluid pressures of up to 100psig (7barg), can be controlled as forward or back pressures.
4. Temperature range: ambient 0° to 60°C, media -20° to +120°C.
5. Whole valve assembly constructed of chemical resistant materials.
6. Vent port facilitates removal of hazardous fluid in the event of a bellows rupture.

ADVANTAGES:

1. High operating force ensures reliable shut-off.
2. Pilot solenoid can be remotely positioned avoiding possible explosion hazard.
3. Valve does not heat up avoiding heat transfer to controlled fluid.
4. PTFE bellows offer less permeability of fluid than diaphragms of similar flexibility.
5. PTFE valve head and bellows suitable for etching prior to reassembly and operation.
6. Capable of being bulkhead mounted.

PBV 50000 This valve incorporates a machined PTFE bellows actuated by a piston and an air pressure of up to 45psig (3barg). The bellows providing the sealing action eliminate the need for sliding seals. The ports in the actuator valve head provide facilities for N.O. and N.C. operation and the ducting of leaking fluid in the event of a possible bellows rupture.

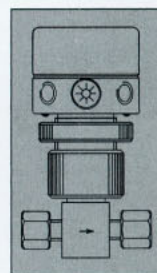
PBV 51000 is similar to the PBV 50000 but incorporates a microswitch to provide an electrical feedback signal to a micro-processor or safety interlock. The microswitch position is adjustable and is initiated by a direct linkage from the bellows piston. It is supplied with one metre of 3-core flying lead.

PBV 52000 is similar to the PBV 51000 but has a coil which provides inductive feedback as an inherently safe alternative feedback.

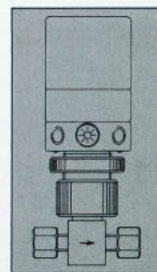
PBV 55000 is similar to the PBV 50000 but has the valve body made from Xylan coated aluminium. This uprates the ambient temperature range to -20° to +120°C.

PBV 56000 is similar to the PBV 51000 but has the valve body made from Xylan coated aluminium. This uprates the ambient temperature range to -20° to +60°C (can be rated up to +120°C if suitable cable is fitted).

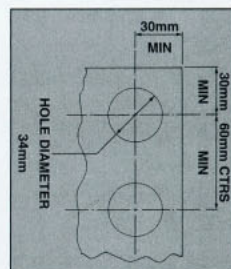
The **PBV 50000** to the **PBV 56000** series valves are capable of being mounted on a sealed bulkhead fixing allowing the valve body to be located within a chemical ambit and the pneumatic valve head within a control ambit. The valve body and bellows may be removed for etch cleaning prior to reassembly and operation without removing the valve head with its connections from its mounting.



Type PBV 50000 and PBV 55000

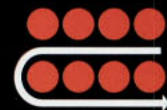


Type PBV 51000, PBV 52000 and PBV 56000



Panel mounting hole dimension

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.



PNEUMATIC BELLOWS VALVES (PBV) (continued)

PBV 70000 A valve head version of the Pneumatic Bellows Valve developed to fit into custom made PTFE manifold assemblies. Manifolds may be offered with any configuration of portings, designed to reduce restrictions and vulnerable compression joints and pipe fittings. The valve heads are readily demountable for servicing and cleaning.

PBV 71000 This valve incorporates a microswitch to provide an electrical feedback signal to a micro-processor or safety interlock. It is a combination of valve types PBV 70000 and PBV 51000.

PBV 72000 is similar to the PBV 71000 but is fitted with an inductive coil to provide a feedback signal to a micro-processor controller. It provides an inherently safe electrical feedback facility.

PBV 75000 is similar to the PBV 70000 but has the valve body made from Xylan coated aluminium. This uprates the ambient temperature range to -20° to +120°C.

PBV 76000 is similar to the PBV 71000 but has the valve body made from Xylan coated aluminium. This uprates the ambient temperature range to -20° to +60°C (can be uprated to +120°C if suitable cable is fitted).

ORDERING DETAILS

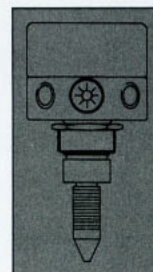
PBV 50000-PBV 56000 SERIES			
COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
PBV-5*000-STD-4	PBV-5*000-IND-4	PBV-5*000-SIL-4	1/4"
PBV-5*000-STD-5	PBV-5*000-IND-5	PBV-5*000-SIL-5	5/16"
PBV-5*000-STD-6	PBV-5*000-IND-6	PBV-5*000-SIL-6	3/8"
PBV-5*000-STD-8	PBV-5*000-IND-8	PBV-5*000-SIL-8	1/2"
PBV-5*000-STD-X6	PBV-5*000-IND-X6	PBV-5*000-SIL-X6	6mm
PBV-5*000-STD-X8	PBV-5*000-IND-X8	PBV-5*000-SIL-X8	8mm
PBV-5*000-STD-X10	PBV-5*000-IND-X10	PBV-5*000-SIL-X10	10mm
PBV-5*000-STD-X12	PBV-5*000-IND-X12	PBV-5*000-SIL-X12	12mm

*0, 1, 2, 5 or 6 for 50000, 51000, 52000, 55000 or 56000 valve heads.
State whether valve should be supplied Normally Open (N.O.) or Normally Closed (N.C.)

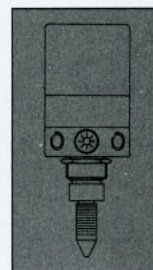
For PBV 70000 - PBV 76000 series: state valve type and required operation Normally Open (N.O.) or Normally Closed (N.C.) only.

NOTE:

If valve operation is not stated a Normally Closed (N.C.) valve will be supplied.

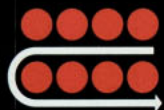


PBV 70000 and PBV 75000



PBV 71000, PBV 72000 and PBV 76000

S E C T I O N C



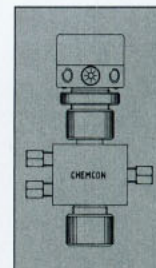
3 PORT PNEUMATIC BELLOWS VALVES (PBV3)

PBV3 valves are 3 port design to give an inlet port and 2 outlet ports which are alternatively open or closed depending on the position of the actuator. The PBV3 valves may be supplied with type 50000, 51000, 52000, 55000 or 56000 actuators.

ORDERING DETAILS

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
PBV3-5*000-STD-4	PBV3-5*000-IND-4	PBV3-5*000-SIL-4	1/4"
PBV3-5*000-STD-5	PBV3-5*000-IND-5	PBV3-5*000-SIL-5	5/16"
PBV3-5*000-STD-6	PBV3-5*000-IND-6	PBV3-5*000-SIL-6	3/8"
PBV3-5*000-STD-X6	PBV3-5*000-IND-X6	PBV3-5*000-SIL-X6	6mm
PBV3-5*000-STD-X8	PBV3-5*000-IND-X8	PBV3-5*000-SIL-X8	8mm
PBV3-5*000-STD-X10	PBV3-5*000-IND-X10	PBV3-5*000-SIL-X10	10mm

*0, 1, 2, 5 or 6 for 50000, 51000, 52000, 55000 or 56000 valve heads



TYPE PBV3

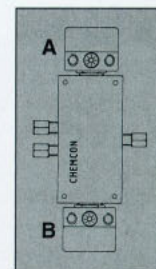
TWO WAY MANIFOLD (PBVM)

There are a number of models established as standard items. The two way manifold shown can either act as a changeover or mixer valve. Manifolds can be manufactured to customer specification.

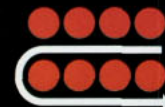
ORDERING DETAILS

COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
PBVM-7*000-STD-4	PBVM-7*000-IND-4	PBVM-7*000-SIL-4	1/4"
PBVM-7*000-STD-5	PBVM-7*000-IND-5	PBVM-7*000-SIL-5	5/16"
PBVM-7*000-STD-6	PBVM-7*000-IND-6	PBVM-7*000-SIL-6	3/8"
PBVM-7*000-STD-8	PBVM-7*000-IND-8	PBVM-7*000-SIL-8	1/2"
PBVM-7*000-STD-X6	PBVM-7*000-IND-X6	PBVM-7*000-SIL-X6	6mm
PBVM-7*000-STD-X8	PBVM-7*000-IND-X8	PBVM-7*000-SIL-X8	8mm
PBVM-7*000-STD-X10	PBVM-7*000-IND-X10	PBVM-7*000-SIL-X10	10mm
PBVM-7*000-STD-X12	PBVM-7*000-IND-X12	PBVM-7*000-SIL-X12	12mm

*0, 1, 2, 5 or 6 for 70000, 71000, 72000, 75000 or 76000 valve heads.
State whether valve A and valve B should be Normally Open (N.O.) or Normally Closed (N.C.)



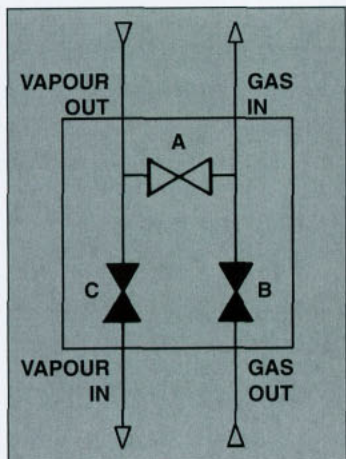
2 Way Manifold with
PBV 70000 Valves



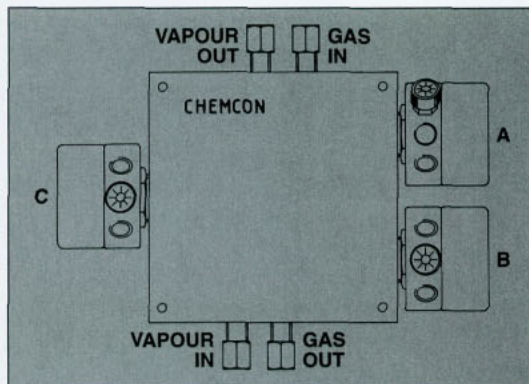
BUBBLER MANIFOLD

In the preparation of fibre preforms a particular valve arrangement is necessary to make connection to the bubbler. In a single assembly the Chemcon unit provides the necessary features and eliminates many of the connections normally necessary.

Alternative manifold configurations available for automatic bubbler refill and other applications.



**STANDARD BUBBLER
MANIFOLD UNIT**



BUBBLER MANIFOLD WITH PBV 70000 VALVES

ORDERING DETAILS

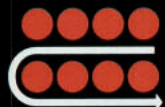
COUPLING TYPE			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
PBVM-7*100-STD-4	PBVM-7*100-IND-4	PBVM-7*100-SIL-4	1/4"
PBVM-7*100-STD-5	PBVM-7*100-IND-5	PBVM-7*100-SIL-5	5/16"
PBVM-7*100-STD-6	PBVM-7*100-IND-6	PBVM-7*100-SIL-6	3/8"
PBVM-7*100-STD-8	PBVM-7*100-IND-8	PBVM-7*100-SIL-8	1/2"
PBVM-7*100-STD-X6	PBVM-7*100-IND-X6	PBVM-7*100-SIL-X6	6mm
PBVM-7*100-STD-X8	PBVM-7*100-IND-X8	PBVM-7*100-SIL-X8	8mm
PBVM-7*100-STD-X10	PBVM-7*100-IND-X10	PBVM-7*100-SIL-X10	10mm
PBVM-7*100-STD-X12	PBVM-7*100-IND-X12	PBVM-7*100-SIL-X12	12mm

*0, 1, 2, 5 or 6 for 70000, 71000, 72000, 75000 or 76000 valve heads.
The valve arrangement on a standard Bubbler Manifold is:

Valve	Operation
A	Normally Open
B	Normally Closed
C	Normally Closed

State arrangement required if not standard Bubbler Manifold.

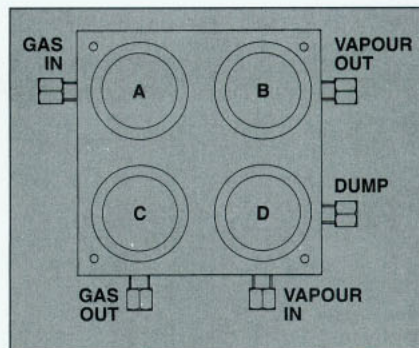
SECTION C



BUBBLER MANIFOLD (continued)

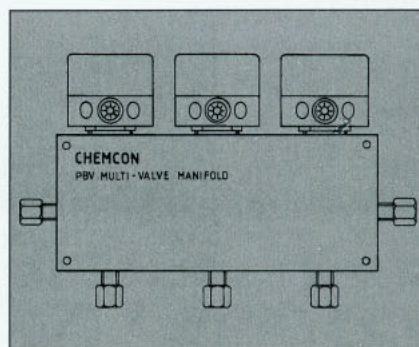
BUBBLER MANIFOLD WITH DUMP VALVE

These manifolds have an internal configuration so that vapours can be purged from the system via an extra dump valve. Various configurations are available. Port sizes from $\frac{1}{4}$ " (6mm) to $\frac{1}{2}$ " (12mm). Contact our engineers with your application for more details.



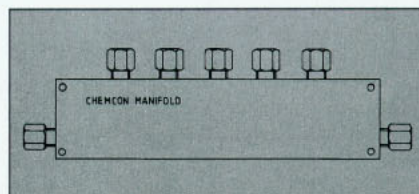
PBV MULTI-VALVE HEAD MANIFOLD

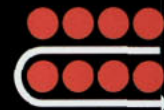
Designed for distribution of a single gas to multiple outlets or for multiple gases to a single outlet. The manifold can have up to eight valves in any configuration of Normally Closed or Normally Open. Port sizes from $\frac{1}{4}$ " (6mm) to $\frac{1}{2}$ " (12mm).



MULTI-PORT DISTRIBUTION MANIFOLD

To reduce the number of connections in a system a multi-port manifold can be used. These are made to customer order with any combination of connections from $\frac{1}{8}$ " (3mm) to $\frac{1}{2}$ " (12mm) tube or female BSPT or NPT thread.





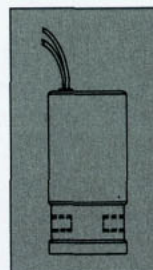
SOLENOID VALVES FOR REACTIVE FLUIDS

MEV SUB-MINIATURE VALVE

A valve introduced to fulfil the requirements for a smaller and more compact unit. Where space and weight are limited, the need for a reliable valve is essential. Ideally suitable for analysers and fluid sampling systems including chromatographs. All wetted surfaces in PTFE. All valves are Normally Closed (N.C.).

ORDERING DETAILS

CODE	TYPE	VOLTAGE	PORT SIZE
MEV 201-NC-24-FT1/4-28	2-PORT VALVE	24V d.c.	1/4"-28

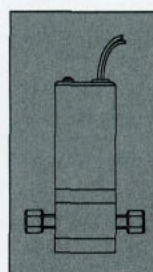


MINIATURE PTFE SOLENOID VALVE

Chemcon Solenoid Valves, manufactured by a major Japanese company for Production Techniques Limited, have an international reputation for quality and reliability. The solenoid, generously rated, runs cool under continuous operation, thus preventing distortion of the PTFE parts. The miniature range includes connection sizes for 1/16" to 1/8" tube and operates on a voltage of 24V d.c.. 2 port and 3 port versions are available.

ORDERING DETAILS

CODE	OPERATING VOLTAGE	CURRENT RATING	PORTING	PORT SIZE (FEMALE)
SV1CD-11T-1/4-28	24V d.c.	150mA	2 PORT	1/4"-28
SV1CD-11T-FT1/8T	24V d.c.	150mA	2 PORT	1/8" NPT
SV1D-3-11T-1/4-28	24V d.c.	150mA	3 PORT	1/4"-28
SV1D-3-11T-FT1/8T	24V d.c.	150mA	3 PORT	1/8" NPT



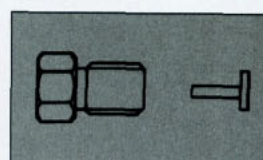
MINIATURE SOLENOID VALVE FITTINGS

ORDERING DETAILS

NUT PART NO.	SEALING BUSH PART NO.	TUBE SIZE O/D-I/D ins	TUBE SIZE O/D-I/D mm
N-1608	SB-1608	1/16"- 1/32"	1.6 - 0.8
N-3020	SB-3020		3.0 - 2.0
N-3216	SB-3216	1/8"- 1/16"	3.2 - 1.6
N-3224	SB-3224	1/8"- 3/32"	3.2 - 2.4

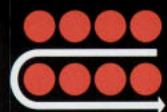
Nut: PTFE; Sealing Bush: Kel 'F' (CTFE).

Note: Use NPT Stud Coupling for FT 1/8 T valve (see page A.6).



Gas Chromatography Type Fittings

S E C T I O N C

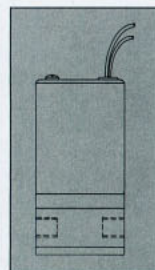


PTFE SOLENOID VALVES 2-PORT NORMALLY CLOSED AND NORMALLY OPEN

A range of Chemcon Solenoid Valves manufactured by a major Japanese company for Production Techniques Limited. Suitable for low pressure operation. Positive and reliable in operation even under the most arduous conditions. The solenoid is generously rated for continuous operation without overheating and causing distortion to the PTFE or heating the fluid in transfer. The range of sizes caters for various flow rates minimising the effects of restriction through the valve block. The features of a solenoid are such, however, that the larger the valve porting the lower the satisfactory operating pressure. NPT female ports offered from stock, other connections available to order.

All wetted parts are of PTFE or CTFE. Various operating voltages of the valves are available depending on the type. Models operating on 24V d.c. are more reliable than those operating on an a.c. supply. With a.c. an audible buzzing can occur and slight bouncing of the diaphragm can cause unreliability of its sealing.

SPECIFICATIONS		MEV 201 2 WAY SUB MINIATURE	SV1 2 WAY-3 WAY MINIATURE	SV2 2 WAY	SV3 2 WAY	SV4 2 WAY
VOLTAGE RATING ± 10%		24V d.c.	24V d.c.	100V a.c. 24V d.c.	100V a.c. 220V a.c. 24V d.c.	100V a.c. 220V a.c. 24V d.c.
CURRENT RATING AT 20°C	100V a.c. 220V a.c. 24V d.c.	120mA	150mA	100mA 250mA	100mA 70mA 400mA	100mA 70mA 400mA
IN RUSH		SAME AS CURRENT RATING				
MAXIMUM SOLENOID TEMPERATURE AT 20°C		25°C	40°C	a.c.-35°C d.c.-40°C		
TEMPERATURE	LINE MEDIA	0°-100°C		0°-120°C		
	AMBIENT	0°-80°C		0°-60°C		
LEAD LENGTH		300mm		500mm		
WEIGHT		90g	120g	300g	550g	650g



ORDERING DETAILS

MODEL NUMBER NORMALLY CLOSED	MODEL NUMBER NORMALLY OPEN	ORIFICE SIZE	MAX PRESSURE	MAX BACK PRESSURE	PORT CONNECTIONS	VOLTAGE
SV2CA-53T-FT 1/4T SV2CD-53T-FT 1/4T	SV20A-53T-FT 1/4T SV20D-53T-FT 1/4T	5mm	1.5kg/cm ²	0.5kg/cm ²	1/4"NPT	100V a.c. 24V d.c.
SV3CA-53T-FT 1/4T SV3CB-53T-FT 1/4T SV3CD-53T-FT 1/4T	SV30A-53T-FT 1/4T SV30B-53T-FT 1/4T SV30D-53T-FT 1/4T	5mm	2.5kg/cm ²	1.5kg/cm ²	1/4"NPT	100V a.c. 220V a.c. 24V d.c.
SV4CA-101T-FT 3/8T SV4CB-101T-FT 3/8T SV4CD-101T-FT 3/8T	SV40A-101T-FT 3/8T SV40B-101T-FT 3/8T SV40D-101T-FT 3/8T	10mm	1.5kg/cm ²	1.0kg/cm ²	3/8"NPT	100V a.c. 220V a.c. 24V d.c.

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

F I L T E R S S E C T I O N D





LINE FILTER UNIT 25mm, 47mm and 90mm

Three catalogued sizes of PTFE Line Filter Units have been developed to accommodate a wide variety of standard grades of filter elements and membranes. The design, as in all the Chemcon range of components, allows the fluid to come in contact only with high purity PTFE and Viton 'O' ring seal. Sintered PTFE filter elements are supplied as 10 micron grade as standard. Other grades may be available on request.

A membrane when required is supported by a 10 micron grade element. The filters are normally supplied with standard Chemcon male nuts and ferrules for connection to $\frac{1}{4}$ ", $\frac{5}{16}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", 6mm, 8mm, 10mm and 12mm outside diameter tube sizes. The male nuts and ferrules may be replaced with stud couplings if required. Female BSPT or NPT connections may be offered as an alternative.

A filter unit assembly is supplied complete with a PTFE filter element, packing ring and a Viton 'O' ring. A spares kit which consists of one FEP coated 'O' ring, PTFE filter element, packing ring and Viton 'O' ring is available.

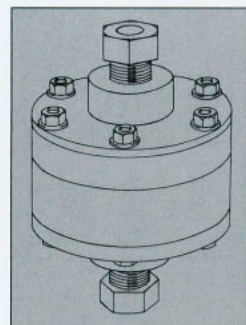
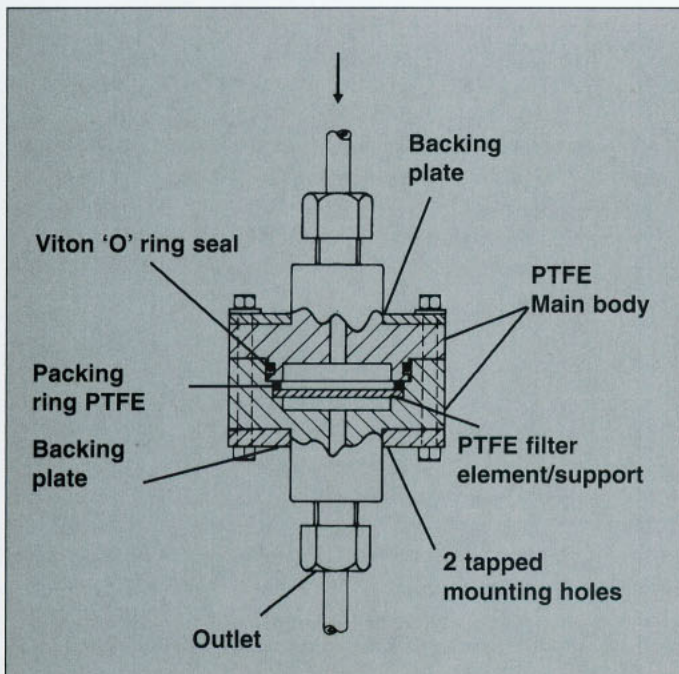
Filter elements and membranes can be arranged in a variety of configurations to provide alternative forms and levels of filtration. These are detailed in the line diagram on page D.2.

90mm filter units may be supplied with a tripod stand for free bench mounting. Quick release nuts which are tightened by hand can be supplied for the filter body.

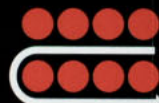
CONSTRUCTION

The backing plates can be supplied in aluminium or stainless steel. Standard construction is:

FILTER SIZE	MATERIAL
25mm, 47mm	Stainless steel
90mm	Aluminium

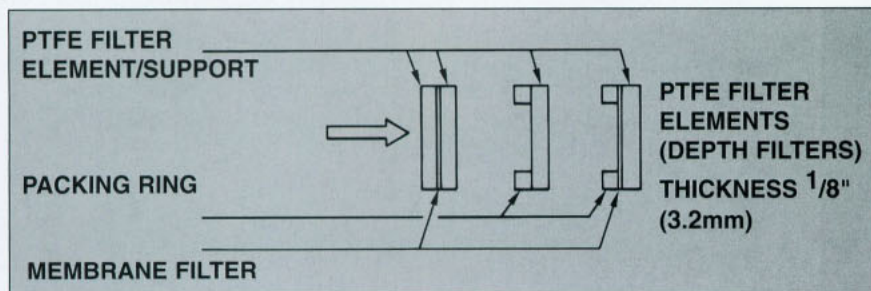


ALTERNATIVES CAN BE SUPPLIED ON REQUEST.



ALTERNATIVE FILTER ARRANGEMENTS

Filter elements and membranes can be arranged in a variety of configurations to provide alternative forms and levels of filtration. Available for all sizes.



Membranes available in the sizes of 0.2, 0.5, 1 and 5 micron. See page D.3.

ORDERING DETAILS

FILTER UNIT SIZE		
25mm FIL25	47mm FIL47	90mm FIL90

TUBE CONNECTIONS*			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
STD-4	IND-4	SIL-4	1/4"
STD-5	IND-5	SIL-5	5/16"
STD-6	IND-6	SIL-6	3/8"
STD-8	IND-8	SIL-8	1/2"
STD-X6	IND-X6	SIL-X6	6mm
STD-X8	IND-X8	SIL-X8	8mm
STD-X10	IND-X10	SIL-X10	10mm
STD-X12	IND-X12	SIL-X12	12mm

1/2" & 12mm connections not available on 25mm filters.

* Other threads can be supplied to special order.

EXAMPLE:

FIL25-IND-4

25mm Filter Unit with 1/4" Chemcon Industrial connections.

SPARE PARTS

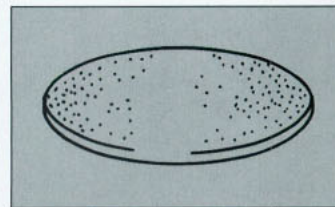
A spares kit is available for all filters comprising :

- 1 off Packing Ring
- 1 off Sintered PTFE Element
- 1 off Viton 'O' Ring
- 1 off FEP coated Viton 'O' Ring.

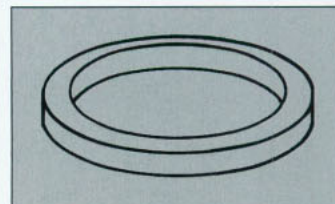
The filters are built initially with Viton 'O' rings but an FEP coated 'O' ring can be supplied if the filter is to be used with fluids reactive with Viton.

FILTER SPARES

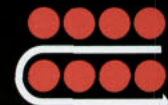
SINTERED PTFE FILTER ELEMENT		
ORDERING CODE	FILTER ELEMENT	ELEMENT POROSITY
FE-10/25	25mm	10 micron
FE-10/47	47mm	10 micron
FE-10/90	90mm	10 micron



PTFE PACKING RING	
ORDERING CODE	FILTER DIAMETER
PR25	25mm
PR47	47mm
PR90	90mm



PTFE FILTER MEMBRANES			
ORDERING CODE	FILTER DIAMETER	MEMBRANE POROSITY	
FM200/25	25mm	0.2 micron	Sold in packs of 100
FM500/25	25mm	0.5 micron	
FM1000/25	25mm	1.0 micron	
FM5000/25	25mm	5.0 micron	
FM200/47	47mm	0.2 micron	Sold in packs of 100
FM500/47	47mm	0.5 micron	
FM1000/47	47mm	1.0 micron	
FM5000/47	47mm	5.0 micron	
FM200/90	90mm	0.2 micron	Sold in packs of 25 or 100
FM500/90	90mm	0.5 micron	
FM1000/90	90mm	1.0 micron	
FM5000/90	90mm	5.0 micron	



CFU 12300 FILTER HOUSING

Fabricated PTFE Filter Housing with Viton 'O' rings as standard, suitable for Millipore 10" Code O style cartridge utilising the adaptors provided.

ORDERING DETAILS

STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	TUBE SIZE (O/D)
STD-8	IND-8	SIL-8	1/2"
STD-10	IND-10	SIL-10	5/8"
STD-12		SIL-12	3/4"
STD-X12	IND-X12	SIL-X12	12mm
STD-X16		SIL-X16	16mm
STD-X19		SIL-X19	19mm

Normally supplied with Chemcon 1/2" O/D tube connections as standard.

EXAMPLE:

CFU 12300 SIL-8

Filter housing to take Millipore 10" Code O style cartridge with 1/2" Glassware connections.

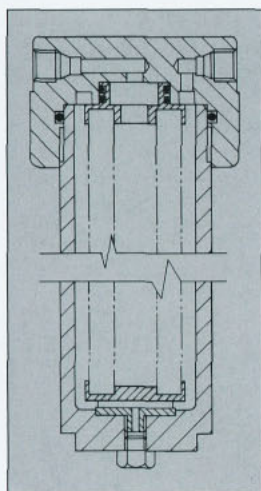
Alternative connections available are:

FILTER CONNECTION	ORDERING CODE
1/2" BSPT Female	F-8
3/4" BSPT Female	F-12
1/2" NPT Female	F-8N
3/4" NPT Female	F-12N

EXAMPLE:

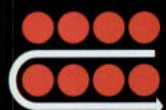
CFU 12300 F-8N

Filter housing to take Millipore 10" Code O style cartridge with 1/2" NPT female stud.



Millipore 10" Code O Style Cartridge
Chemcon Housing CFU 12300

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.



CFU 12400 FILTER HOUSING

Fabricated PTFE Filter Housing with Viton 'O' rings as standard, suitable for 10" Gelman cartridge utilising the adaptors provided.

ORDERING DETAILS

STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	TUBE SIZE (O/D)
STD-8	IND-8	SIL-8	1/2"
STD-10	IND-10	SIL-10	5/8"
STD-12		SIL-12	3/4"
STD-X12	IND-X12	SIL-X12	12mm
STD-X16		SIL-X16	16mm
STD-X19		SIL-X19	19mm

Normally supplied with Chemcon 1/2" O/D tube connections as standard.

EXAMPLE:

CFU 12400 SIL-8

Filter housing to take 10" Gelman cartridge with 1/2" Glassware connections.

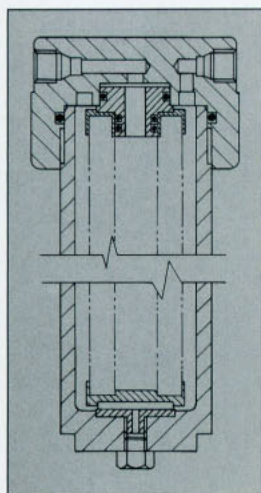
Alternative connections available are:

FILTER CONNECTION	ORDERING CODE
1/2" BSPT Female	F-8
3/4" BSPT Female	F-12
1/2" NPT Female	F-8N
3/4" NPT Female	F-12N

EXAMPLE:

CFU 12400 F-8N

Filter housing to take 10" Gelman cartridge with 1/2" NPT female stud.



Gelman 10" Cartridge
Chemcon Housing CFU 12400

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

CFU 12600 FILTER HOUSING

Fabricated PTFE Filter Housing with Viton 'O' rings as standard, suitable for 10" Pall MCY style cartridge utilising the adaptors provided.

ORDERING DETAILS

STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	TUBE SIZE (O/D)
STD-8	IND-8	SIL-8	1/2"
STD-10	IND-10	SIL-10	5/8"
STD-12		SIL-12	3/4"
STD-X12	IND-X12	SIL-X12	12mm
STD-X16		SIL-X16	16mm
STD-X19		SIL-X19	19mm

Normally supplied with Chemcon 1/2" O/D tube connections as standard.

EXAMPLE:

CFU 12600 SIL-8

Filter housing to take 10" Pall MCY style cartridge with 1/2" Glassware connections.

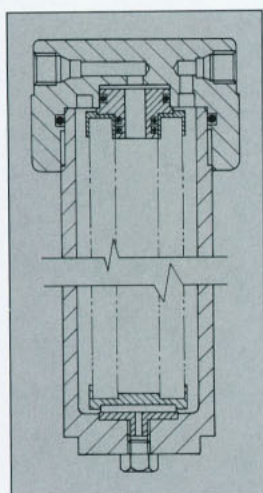
Alternative connections available are:

FILTER CONNECTION	ORDERING CODE
1/2" BSPT Female	F-8
3/4" BSPT Female	F-12
1/2" NPT Female	F-8N
3/4" NPT Female	F-12N

EXAMPLE:

CFU 12600 F-8N

Filter housing to take 10" Pall MCY style cartridge with 1/2" NPT female stud.



Pall 10" MCY Style Cartridge
Chemcon Housing CFU 12600

SECTION D

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

CFU 12800 FILTER HOUSING

Fabricated PTFE Filter Housing with Viton 'O' rings as standard, suitable for Pall Code 3 style cartridge.

ORDERING DETAILS

STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	TUBE SIZE (O/D)
STD-8	IND-8	SIL-8	1/2"
STD-10	IND-10	SIL-10	5/8"
STD-12		SIL-12	3/4"
STD-X12	IND-X12	SIL-X12	12mm
STD-X16		SIL-X16	16mm
STD-X19		SIL-X19	19mm

Normally supplied with Chemcon 1/2" O/D tube connections as standard.

**EXAMPLE:
CFU 12800 SIL-8**

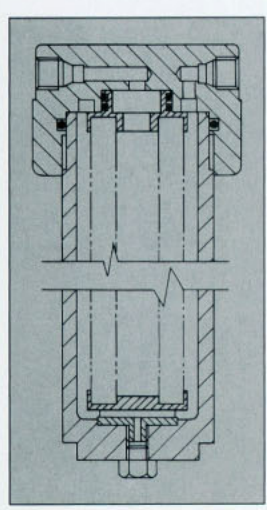
Filter housing to take Pall Code 3 style cartridge with 1/2" Glassware connections.

Alternative connections available are:

FILTER CONNECTION	ORDERING CODE
1/2" BSPT Female	F-8
3/4" BSPT Female	F-12
1/2" NPT Female	F-8N
3/4" NPT Female	F-12N

**EXAMPLE:
CFU 12800 F-8N**

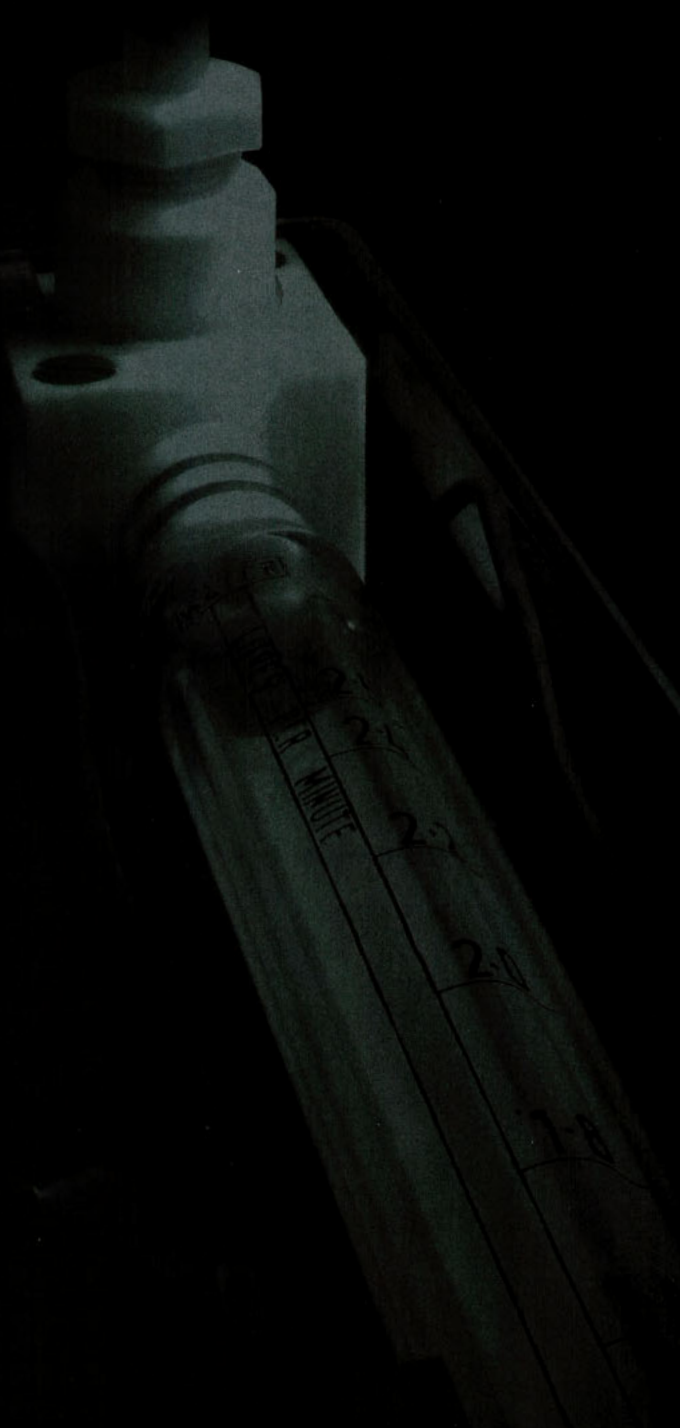
Filter housing to take Pall Code 3 style cartridge with 1/2" NPT female stud.

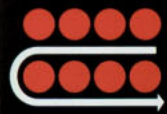


Pall Code 3 Style Cartridge
Chemcon Housing CFU 12800

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

F L O W M E T E R S S E C T I O N E





production techniques

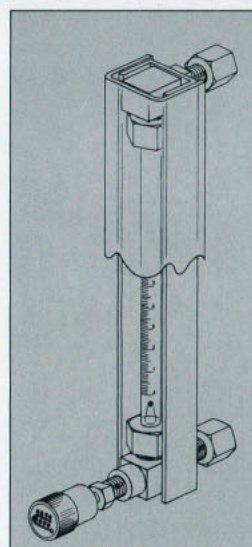
FLOWMETER ASSEMBLY

Chemcon flowmeters are an assembly of Chemcon couplings and a control valve incorporating a suitable glass flowtube mounted on a support base. The float should be chosen according to the properties of the gas to be controlled. The control valve is a Chemcon type VC (coarse control) or VF (fine control) according to the range of flow.

The flowtubes are specially constructed to allow a Chemcon compression seal to clamp on the outside diameter of the tube. Flowtubes may be supplied with either a calibration chart or alternatively with a direct reading calibrated scale. State gas flow range, type of gas and inlet/outlet connections. Note that connections are usually at the back of the unit and are suitable for panel mounting.

There is a choice of float materials, Glass, Synthetic (Ruby) or Tungsten Carbide (Hi-Den); care should be taken to ensure the float material is compatible with the gas measured.

Special high volume flowmeters quoted to specification.



METERATE FLOW TUBES WITH RIB GUIDED FLOATS 'RS' SERIES

GAS FLOW CC/MINUTE MINIMUM TO MAXIMUM				
GASES	RS1/G Glass ball float	RS1/R Ruby ball float	RS1/C 'Hi-Den' float	RS2/R Ruby ball float
Air	1 to 50	2 to 79	10 to 265	50 to 1550
Nat gas	2.5 to 81	4 to 125	30 to 400	50 to 2125
Argon	1 to 40	2 to 65	5 to 220	10 to 1300
Propane	4 to 100	6 to 140	36 to 350	60 to 1475
Forming gas	—	—	—	10 to 1660
Carbon dioxide	2.5 to 62	3 to 95	1 to 275	10 to 1330
Nitrogen	1 to 53	2 to 81	8 to 275	30 to 1600
Hydrogen	2.5 to 110	5 to 170	20 to 610	20 to 5000
Acetylene	—	—	—	20 to 1820
Oxygen	1 to 46	2 to 72	10 to 250	50 to 1430
Nitrous oxide	2 to 58	4 to 95	6 to 280	55 to 1365
Helium	1 to 48	2 to 77	6 to 285	20 to 2800
Ethane	2 to 94	5 to 140	30 to 375	100 to 1750
Methane	2.5 to 85	5 to 125	15 to 410	50 to 2270

GAS FLOW CC/MINUTE MINIMUM TO MAXIMUM				
GASES	RS2/C 'Hi-Den' float	RS3/R Ruby ball float	RS3/C 'Hi-Den' float	RS4/R Ruby ball float
Air	100 to 3440	250 to 6750	800 to 14000	1000 to 26000
Nat gas	180 to 4620	300 to 9000	1250 to 19100	1500 to 32000
Argon	100 to 3000	250 to 5780	500 to 13000	250 to 23300
Propane	220 to 3160	300 to 6000	1100 to 12400	1500 to 25000
Forming gas	125 to 3625	100 to 7150	750 to 15000	1500 to 29200
Carbon dioxide	170 to 3000	300 to 6000	850 to 11750	800 to 21500
Nitrogen	125 to 3530	175 to 7000	750 to 14500	1200 to 27750
Hydrogen	275 to 11600	700 to 23500	1800 to 51000	4000 to 98400
Acetylene	200 to 3850	375 to 7500	1100 to 15500	1500 to 26750
Oxygen	100 to 3260	200 to 6300	660 to 13100	1100 to 25500
Nitrous oxide	130 to 3000	250 to 6000	850 to 12000	1430 to 23300
Helium	100 to 7500	200 to 14000	1200 to 30000	3500 to 58000
Ethane	200 to 3800	700 to 7500	2000 to 15500	3000 to 28000
Methane	200 to 5000	500 to 9500	2000 to 20000	3500 to 36000

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

SECTION E

FLOWMETER ASSEMBLY (continued)

METERATE CHARTS

All tubes are sent complete with a float and include the required calibration chart. Please state gas required when ordering as otherwise a chart for AIR will be supplied. Order chart with tube and state gas required e.g. ARGON chart for RS4/R, etc.

ORDERING DETAILS

TUBE CONNECTIONS			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
FM/STD-4	FM/IND-4	FM/SIL-4	1/4"
FM/STD-5	FM/IND-5	FM/SIL-5	5/16"
FM/STD-6	FM/IND-6	FM/SIL-6	3/8"
FM/STD-8	FM/IND-8	FM/SIL-8	1/2"
FM/STD-X6	FM/IND-X6	FM/SIL-X6	6mm
FM/STD-X8	FM/IND-X8	FM/SIL-X8	8mm
FM/STD-X10	FM/IND-X10	FM/SIL-X10	10mm
FM/STD-X12	FM/IND-X12	FM/SIL-X12	12mm

ORDERING DETAILS

FEMALE STUD CONNECTIONS		
FEMALE STUD TYPE (F)	STUD THREAD SIZE	STUD THREAD TYPE (BSPT OR NPT)
FM/F-4	1/4"	BSPT
FM/F-6	3/8"	BSPT
FM/F-4N	1/4"	NPT
FM/F-6N	3/8"	NPT

ORDERING EXAMPLE:

FM/STD-4 + RS1/R Air

Flowmeter fitted with Meterate flowtube and Synthetic Ruby float, 1/4" Chemcon Standard connections, for use with Air, flowrate 2 to 79cc/min. A separate calibration chart provided.

FM/F-4 + RS2/C Nitrogen

Flowmeter fitted with Meterate flowtube and 'Hi-Den' float, 1/4" BSPT Female Stud connections, for use with Nitrogen, flowrate 125 to 3530cc/min. A separate calibration chart provided.

NOTE:

Maximum safe working pressure 200psig must not be exceeded if using Industrial connections. All flow rates shown are at STP.

SECTION E

FLOWMETER ASSEMBLY (continued)

PLAIN TAPERED BORE LINEAR SCALE FLOWMETERS 'L' SERIES

The Meterate range of tubes giving flow metering of:

- AIR - 12.00cc/min to 2.10cu ft/min
 - WATER - 0.25cc/min to 1425cc/min
- Calibration chart supplied with each tube.

DIRECT READING TUBES 'D' SERIES

These tubes are for those who require on-the-spot, immediate flow rate checks at a glance. There is a range of tubes, each of these tubes is available with a glass or alternative float. Each tube is clearly and indelibly marked with capacity divisions for both air and water and is also opal backed for easy reading. The range of capacities is so planned that each flow rate starts between the minimum and maximum flow of the previous listed tube ensuring available flow metering of:

- AIR - 12.00cc/min to 2.10cu ft/min
- WATER - 0.25cc/min to 1425cc/min

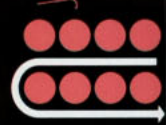
TUBE FOR AIR FLOW METERING				
FLOAT	CC/MIN MINIMUM	TO CC/MIN MAXIMUM	LINEAR SCALE CAT. NO.	DIRECT READING CAT. NO.
Glass	12	640	L1X	D1X
S. Steel	50	1340	L2X	D2X
Glass	100	1700	L3X	D3X
S. Steel	250	3400	L4X	D4X
Glass	200	3700	L5X	D5X
S. Steel	300	6600	L6X	D6X
Glass	500	7600	L7X	D7X
S. Steel	1250	14000	L8X	D8X
Glass	1000	23500	L9X	—
S. Steel	2500	48000	L10X	—
Hi-Den	0.16†	2.10†	L11X	—
Glass	0.05†	0.83†	—	D9X
S. Steel	0.10†	1.70†	—	D10X

Air flow rates are all in cc/min. except † = cu ft/min

TUBE FOR WATER FLOW METERING				
FLOAT	CC/MIN MINIMUM	TO CC/MIN MAXIMUM	LINEAR SCALE CAT. NO.	DIRECT READING CAT. NO.
Glass	0.25	10	L12X	D12X
S. Steel	1	36	L13X	D13X
Glass	1.20	33	L14X	D14X
S. Steel	1	100	L15X	D15X
Glass	2.50	72	L16X	D16X
S. Steel	8	200	L17X	D17X
Glass	12.5	150	L18X	D18X
S. Steel	20	430	L19X	D19X
Glass	10	590	L20X	D20X
S. Steel	100	1425	L21X	D21X

If the flow rate required is not shown, alternatives can be offered. There is a choice of float material, Glass or 316 Stainless Steel; care should be taken to ensure the float material is compatible with the fluid measured.

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.



FLOWMETER ASSEMBLY (continued)

ORDERING DETAILS

TUBE CONNECTIONS			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
FM/STD-4	FM/IND-4	FM/SIL-4	1/4"
FM/STD-5	FM/IND-5	FM/SIL-5	5/16"
FM/STD-6	FM/IND-6	FM/SIL-6	3/8"
FM/STD-8	FM/IND-8	FM/SIL-8	1/2"
FM/STD-X6	FM/IND-X6	FM/SIL-X6	6mm
FM/STD-X8	FM/IND-X8	FM/SIL-X8	8mm
FM/STD-X10	FM/IND-X10	FM/SIL-X10	10mm
FM/STD-X12	FM/IND-X12	FM/SIL-X12	12mm

ORDERING DETAILS

FEMALE STUD CONNECTIONS		
FEMALE STUD TYPE (F)	STUD THREAD SIZE	STUD THREAD TYPE (BSPT OR NPT)
FM/F-4	1/4"	BSPT
FM/F-6	3/8"	BSPT
FM/F-4N	1/4"	NPT
FM/F-6N	3/8"	NPT

ORDERING EXAMPLE:

FM/STD-4 L7X

Flowmeter assembly fitted with Linear Scale 'L' series 7X size tube and Glass float with 1/4" Chemcon Standard connections, for use with Air, flowrate 500 to 7600cc/min. A separate calibration chart provided.

FM/IND-6 D12X

Flowmeter assembly fitted with Direct Reading 'D' series 12X size tube and Glass float with 3/8" Chemcon Industrial connections, for use with Water, flowrate 0.25 to 10cc/min.

S E C T I O N E



FLOWMETER ALARM

DESCRIPTION

The position of the float in the flowtube is sensed by the breaking of a modulated infra-red beam. Both emitter and detector are tiny potted elements fitted into an adjustable head, while the control unit provides the modulating, amplifying and relay switching circuitry.

FEATURES

- Modulated infra-red light totally eliminates ambient light and dust interference.
- Solid state emitter and detector ensure long term reliability.
- Fully adjustable over the whole range of the flowmeter.
- "Cycling" of relay avoided by integral hysteresis.
- Adjustable sensitivity copes with a wide range of process fluids.
- Very low power consumption.
- Neat compact control unit.

SPECIFICATIONS

• Optics	Spectrally matched infra-red diode emitter and photo transistor in clear epoxy.
• Control unit	Transformer, amplifying and modulating circuits with enclosed relay.
• Voltage input	110/240V a.c. or 15/30V d.c.
• Output relay	Double pole changeover 8A at 240V a.c. (resistive loads).
• Relay operate/release	Better than 20ms.
• Status lamps	Green - "Power on" Amber - "Alarm condition".
• Sensitivity adjustment	Internal screw head multi-turn trimmer.
• Dimensions	170 x 80 x 55mm with four corner mounting holes at 108 x 50mm centres.
• Cable entry	Via 6mm cable gland.

VERSIONS

• Single beam	Measures high or low by setting the adjustable sensor bracket to the required flow rates. Float stops may be required to prevent the float from passing the beam.
• Dual beam	Measure high and low flow by setting two adjustable sensor brackets to the required flow rates. Float stops may be required.
• Logic latching	Measures flow by means of a double beam sensor bracket. This senses the direction of movement of the float with latching in one direction and de-latching in reverse. The mode can be reversed by a switch on the circuit board.

ORDERING DETAILS

TUBE CONNECTIONS			TUBE SIZE (O/D)
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	
*/STD-4	*/IND-4	*/SIL-4	1/4"
*/STD-5	*/IND-5	*/SIL-5	5/16"
*/STD-6	*/IND-6	*/SIL-6	3/8"
*/STD-8	*/IND-8	*/SIL-8	1/2"
*/STD-X6	*/IND-X6	*/SIL-X6	6mm
*/STD-X8	*/IND-X8	*/SIL-X8	8mm
*/STD-X10	*/IND-X10	*/SIL-X10	10mm
*/STD-X12	*/IND-X12	*/SIL-X12	12mm

ORDERING DETAILS

FEMALE STUD CONNECTIONS		
FEMALE STUD TYPE (F)	STUD THREAD SIZE	STUD THREAD TYPE (BSPT OR NPT)
*/F-4	1/4"	BSPT
*/F-6	3/8"	BSPT
*/F-4N	1/4"	NPT
*/F-6N	3/8"	NPT

*INSERT ALARM CODE FROM LIST BELOW

ALARM CODES

DESCRIPTION	15-30V d.c.	110-240V a.c.
Single beam controller	FMA	FMAM
Dual beam controller	FMD	FMDM
Logic latching controller	FML	FMLM

ORDERING EXAMPLE:

FMA /STD-4 L7X

Flowmeter assembly fitted with flow alarm, single beam controller 15-30V d.c., with Linear Scale 'L' series 7X size tube and Glass float with 1/4" Chemcon Standard connections, for use with Air, flowrate 500 to 7600cc/min. A separate calibration chart provided.

FMDM/F-4 + RS2/C Nitrogen

Flowmeter assembly fitted with flow alarms, dual beam controller 110-240V a.c., RS2 flowtube and 'Hi-Den' float, 1/4" BSPT Female Stud connections, for use with Nitrogen, flowrate 125 to 3530cc/min. A separate calibration chart provided.

NOTE:

Maximum safe working pressure 200psig must not be exceeded if using Industrial connections. 'Hi-Den' float material is Tungsten Carbide. All flow rates shown are at STP.

ORDERING CODES (SPARES)

DESCRIPTION	15-30V d.c.	110-240V a.c.	SENSOR BRACKET
Single beam controller	CFA-3-*	CFA-3M-*	CSB-3S
Dual beam controller	CFA-3D-*	CFA-3MD-*	CSB-3D
Logic latching controller	CFA-3L-*	CFA-3ML-*	CSB-3L

*To order controller and sensor bracket add suffix SB to the required controller code e.g. single beam controller, 110-240V a.c. with sensor bracket; code: CFA-3M-SB

PLEASE NOTE:

The flow alarm must be ordered at the time of ordering the flowmeter as the unit is factory fitted and cannot be retro-fitted to existing standard flowmeter assemblies.

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

SECTION E

HF FLOWMETER ASSEMBLY

The Chemcon HF flowmeter is an assembly of Chemcon couplings and coarse control valve incorporating a CTFE (Kel 'F') flowtube.

FEATURES

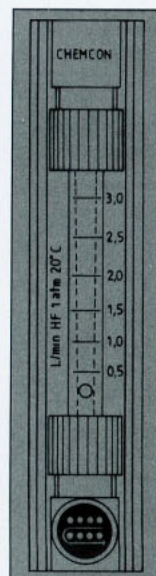
- All wetted parts of virgin PTFE and CTFE
- Flow range 0.5 to 3.0 litres/min HF gas
- Direct reading tube
- Panel mounting
- 100psig (7barg) maximum working pressure

ORDERING DETAILS

TUBE CONNECTIONS			
STANDARD TYPE (STD)	INDUSTRIAL TYPE (IND)	GLASSWARE TYPE (SIL)	TUBE SIZE (O/D)
FMHF/STD-4	FMHF/IND-4	FMHF/SIL-4	1/4"
FMHF/STD-5	FMHF/IND-5	FMHF/SIL-5	5/16"
FMHF/STD-6	FMHF/IND-6	FMHF/SIL-6	3/8"
FMHF/STD-8	FMHF/IND-8	FMHF/SIL-8	1/2"
FMHF/STD-X6	FMHF/IND-X6	FMHF/SIL-X6	6mm
FMHF/STD-X8	FMHF/IND-X8	FMHF/SIL-X8	8mm
FMHF/STD-X10	FMHF/IND-X10	FMHF/SIL-X10	10mm
FMHF/STD-X12	FMHF/IND-X12	FMHF/SIL-X12	12mm

ORDERING DETAILS

FEMALE STUD CONNECTIONS		
FEMALE STUD TYPE (F)	STUD THREAD SIZE	STUD THREAD TYPE (BSPT OR NPT)
FMHF/F-4	1/4"	BSPT
FMHF/F-6	3/8"	BSPT
FMHF/F-4N	1/4"	NPT
FMHF/F-6N	3/8"	NPT



ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

PFA FLOWTUBE ASSEMBLY

MATERIALS OF CONSTRUCTION

WETTED PARTS

- Sight tube - PFA
- Housing - PTFE
- Valve - PTFE
- Float - PTFE
- Guide rod - CTFE

NON-WETTED PARTS

- Valve knob - PTFE
- Panel mount nuts - Natural Polyethylene

DESIGN

- Modular construction
- U.S. Patent #5,078,004
- Maximum temperature 120°C (248°F)
- Maximum pressure 100psig (7barg)

FLOW RANGES

- 24 standard flow ranges from 5-75cc/min through 2800-6000cc/min
- Flow to 10000cc/min with stainless steel float and guide rod for solvent applications
- Air and custom flow ranges available

CONFIGURATION

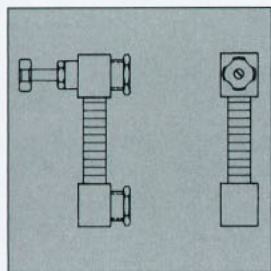
- Panel Mount, Inline and Inline/Panel Mount
- Available with or without metering valve

STANDARD PORT CONNECTIONS

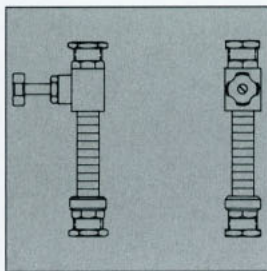
- 1/4" and 3/8" FNPT

QUALITY

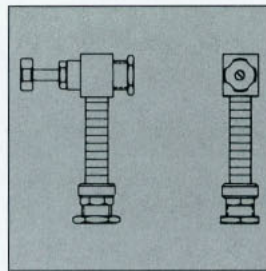
- Accuracy $\pm 5\%$ full scale
- One year warranty
- 100% functionally tested
- Leak tested minimum one hour @ + 100psig air immersed in water with no bubbles permitted



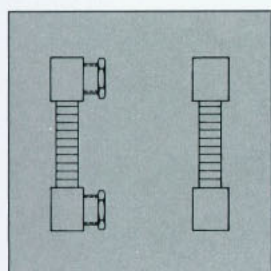
Panel Mount
(FPV)



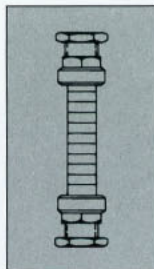
Inline
(FIV)



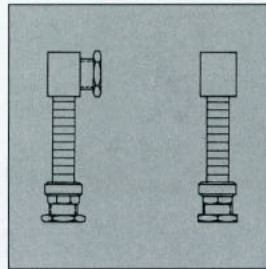
Inline/Panel Mount
(FLV)



Panel Mount
(FPM)



Inline
(FIM)



Inline/Panel Mount
(FLM)

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

PFA FLOWTUBE ASSEMBLY (continued)

FLOWMETER TYPE	
FPV	PANEL MOUNT WITH VALVE
FPM	PANEL MOUNT NO VALVE
FIV	INLINE WITH VALVE
FIM	INLINE NO VALVE
FLV	INLINE TO PANEL MOUNT WITH VALVE
FLM	INLINE TO PANEL MOUNT NO VALVE

CONNECTION TYPE	
F-4N	1/4" Female NPT
F-6N	3/8" Female NPT

FLOW RANGE	
00075	5-75cc/min
00125	5-125cc/min
00250	5-250cc/min
004	35-400cc/min
0045	65-450cc/min
005	90-500cc/min
006	160-600cc/min
008	330-800cc/min
010	90-1000cc/min
012	220-1200cc/min
015	350-1500cc/min
018	135-1800cc/min
019	275-1900cc/min
020	350-2000cc/min
022	500-2200cc/min
025	700-2800cc/min
030	200-3000cc/min
035	600-3500cc/min
040	1000-4000cc/min
045	1300-4500cc/min
046	1400-4600cc/min
050	1750-5000cc/min
055	2450-5500cc/min
060	2800-6000cc/min
072*	2600-7200cc/min
075*	1900-7500cc/min
100*	4000-10000cc/min

* Stainless Steel float and guide rod

EXAMPLE:

FPV-F-6N-022 Panel Mount flowmeter with valve, 3/8" NPT female connections, flow rate 500-2200cc/min water.

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

P U M P S S E C T I O N F



LIQUID ACTUATED ASPIRATOR

The Chemcon Liquid Actuated PTFE Aspirator is suitable for the syphoning of reactive liquids from tanks and vessels. A liquid pressure of 10-50psig is required and is capable of pumping 2-10 litres per minute depending upon the liquid being aspirated. Mains water pressure will readily allow the aspiration of viscous acids. As in all Chemcon products all wetted surfaces are of PTFE.

Each aspirator is supplied with three pipe connections of the customer's choice or without fittings if preferred. A protection handle in Polypropylene and 10 feet of tube are supplied separately.

ORDERING DETAILS

REFERENCE CODE	INPUT PORT 'A'	SYPHON PORT 'B'	OUTPUT PORT 'C'
LAA-6-6-8	3/8"	3/8"	1/2"
LAA-6-8-8	3/8"	1/2"	1/2"
LAA-X10-X10-X12	10mm	10mm	12mm
LAA-X10-X12-X12	10mm	12mm	12mm

ADD PREFIX FOR TYPE OF FITTINGS:

STD for Chemcon Standard nuts and ferrules
 IND for Chemcon Industrial nuts and ferrules
 SIL for Chemcon Glassware nuts and ferrules

EXAMPLE:

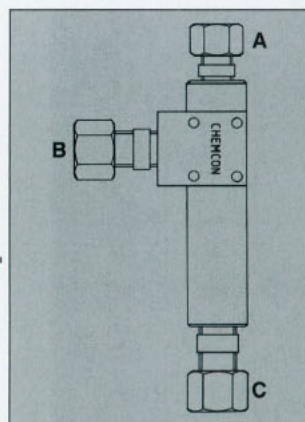
IND/LAA-6-6-8

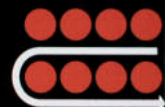
Liquid Actuated Aspirator fitted with Industrial type connections 3/8"-3/8"-1/2"

ORDER SEPARATELY:

- 3/8" O/D tube (10ft) and handle LAA-T/H-6
- 1/2" O/D tube (10ft) and handle LAA-T/H-8
- 10mm O/D tube (10ft) and handle LAA-T/H-X10
- 12mm O/D tube (10ft) and handle LAA-T/H-X12

Chemcon Non-Return Valves available to prevent back syphoning (see page C.11).





AIR ACTUATED ASPIRATOR

For the recirculation of fluids, the Chemcon Air Actuated PTFE Aspirator allows for the syphoning of reactive liquids without diluting it with water as in the Liquid Aspirator. The aspirator is economic on air or similar gas and the liquid being syphoned, as it is not contaminated, can be recirculated and re-used. An operating air pressure of 30-35psig is required to give a pumping rate of 2-5 litres per minute depending upon the liquid.

An air supply initiates the operation which is continued by a syphoning action. Each aspirator is supplied with three pipe connections of the customer's choice or without fittings if preferred. A protection handle in Polypropylene and 10 feet of tube are supplied separately.

ORDERING DETAILS

REFERENCE CODE	INPUT PORT 'A'	SYPHON PORT 'B'	OUTPUT PORT 'C'
AAA-6-6-8	3/8"	3/8"	1/2"
AAA-6-8-8	3/8"	1/2"	1/2"
AAA-X10-X10-X12	10mm	10mm	12mm
AAA-X10-X12-X12	10mm	12mm	12mm

ADD PREFIX FOR TYPE OF FITTINGS:

STD for Chemcon Standard nuts and ferrules
IND for Chemcon Industrial nuts and ferrules
SIL for Chemcon Glassware nuts and ferrules

EXAMPLE:

IND/AAA-6-6-8

Air Actuated Aspirator fitted with Industrial type connections 3/8"-3/8"-1/2"

ORDER SEPARATELY:

3/8" O/D tube (10ft) and handle AAA-T/H-6

1/2" O/D tube (10ft) and handle AAA-T/H-8

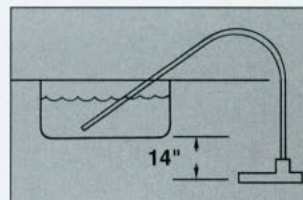
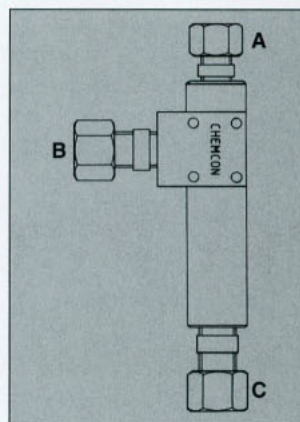
10mm O/D tube (10ft) and handle AAA-T/H-X10

12mm O/D tube (10ft) and handle AAA-T/H-X12

Chemcon Non-Return Valves available to prevent back syphoning (see page C.11).

INSTALLATION DIAGRAM FOR AIR ACTUATED ASPIRATOR

If mounting in a hood, it is recommended that the Air Aspirator be mounted approx. 14" below the point of suction. This does not apply to Liquid Aspirators.

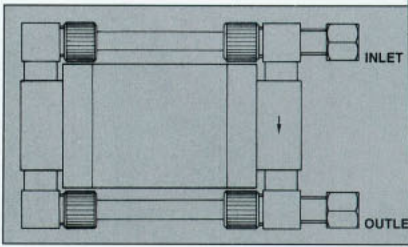


CHEMCON BELLOWS PUMP (CBP 500)

The pump has been designed for continuous operation over long periods. Its simplicity of construction and operation make it suitable both for plant and laboratory work.

The unit can be bench top mounted or may be supplied in a wall mounted cabinet if required.

There are no rotating shafts or glands to cause leakage and dismantling and cleaning can be easily carried out.



PRINCIPLE OF OPERATION

The pump consists of two convoluted PTFE bellows mounted either end of a reciprocating rod. The main pump housing is manufactured in Polypropylene. At each end the bellows housings are terminated using end blocks incorporating magnetic flow check valves directing the liquid in a single direction from inlet to outlet.

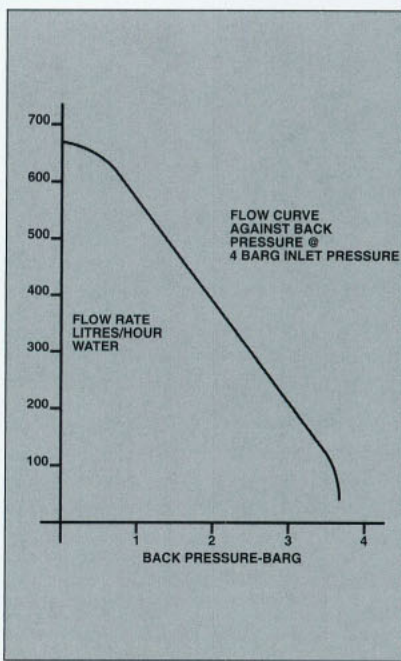
PNEUMATIC CONTROL OF CBP 500

The CBP 500 is controlled by means of an external valve system which is incorporated into a control box. This control box also has an on/off "panic button", pump speed regulating valve and a pressure gauge. The control box is easily connected/disconnected via three quick release couplings.

This system allows for quick and easy valve removal and maintenance, or even total replacement with spare units which can be kept in stock to reduce any maintenance "down" time or production loss.

DESIGN SPECIFICATIONS

• Overall physical size	12 ³ / ₈ " X 6 ³ / ₄ " X 6 ¹ / ₄ " high (315mm x 172mm x 158mm)
• Pump construction	Reciprocating double PTFE bellows
• Pumping rate	60-660 litres/hour 13-145 Imp GPH (Water)
• Max. Air consumption	2000 litres/hour (70 CFH) Clean dry air or nitrogen @ 60psig (4barg)
• Feed supply inlet	6mm O/D tube
• Max. supply pressure	4barg
• Check valves	Moulded PTFE shuttles with magnetic biasing
• Materials (wetted)	PTFE
• 'O' rings (wetted)	Viton as standard, other types on request
• Liquid inlet/outlet connections	1/2"-5/8" O/D tube (12mm-16mm) compression type
• Base mounting hole dimensions	4 holes Ø 5.2mm at 100mm x 91mm centres



ORDERING DETAILS

STANDARD CONNECTION	INDUSTRIAL CONNECTION	GLASSWARE CONNECTION	TUBE SIZE
CBP 500/STD-8	CBP 500/IND-8	CBP 500/SIL-8	1/2"
CBP 500/STD-10	CBP 500/IND-10	CBP 500/SIL-10	5/8"
CBP 500/STD-X12	CBP 500/IND-X12	CBP 500/SIL-X12	12mm
CBP 500/STD-X16		CBP 500/SIL-X16	16mm

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

CHEMCON PUMP AND FILTER UNIT (PFU 30000)

The Pump and Filter Unit is of modular construction and is designed to operate submersed in an etch bath to maintain the cleanliness of the etchant.

The unit may also be supplied in a wall mounted cabinet ADU 30000 for use as a chemical dispense and recirculation unit.

Most 10" proprietary cartridge filters can be used, with filtration down to 0.1 microns.

The modular construction enables service and maintenance work to be carried out simply.

The Chemcon PFU 30000 may be completely immersed if PTFE air inlet and exhaust lines are fitted.

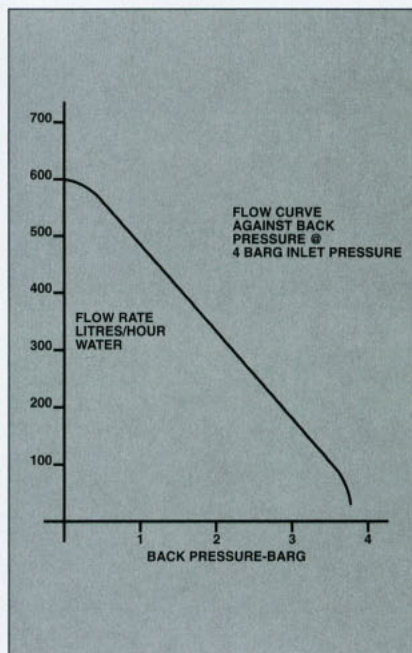
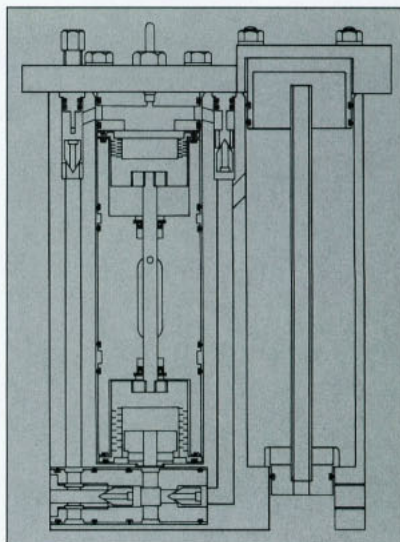
PNEUMATIC CONTROL OF PFU 30000

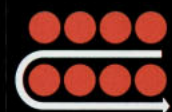
The PFU 30000 is controlled by means of an external valve system which is incorporated into a control box. This control box also has an on/off "panic button" pump speed regulating valve and a pressure gauge. The control box is easily connected/disconnected via three quick release couplings.

This system allows for quick and easy valve removal and maintenance, or even total replacement with spare units which can be kept in stock to reduce any maintenance "down" time or production loss.

DESIGN SPECIFICATIONS

• Overall physical size	8 ¹ / ₂ " X 3 ¹ / ₂ " X 12 ³ / ₄ " high (216mm x 98mm x 324mm)
• Pump construction	Reciprocating double PTFE bellows
• Pumping rate	60-600 litres/hour 13-132 Imp GPH (Water)
• Pump feed supply	2000 litres/hour (70 CFH) at 60psig (4barg) Clean dry air or nitrogen
• Feed supply inlet 1	6mm O/D Chemcon pipe connection
• Feed supply inlet 2	6mm O/D Chemcon pipe connection
• Check valves	All PTFE shuttles with magnetic biasing
• Filter	10" proprietary cartridge filter to 0.1 micron (NOT SUPPLIED)
• Materials (wetted)	PTFE and PVDF (whole unit may be completely submersed)
• 'O' Rings (wetted)	Viton as standard, other types on request
• Inlet/Outlet connections	Various adaptors according to application Retro -fit adaptors to fit most existing makes of process baths.





CHEMCON PUMP AND FILTER UNIT (PFU 30000) (continued)

ORDERING DETAILS

ORDER CODE	DESCRIPTION	FILTER CARTRIDGE ADAPTORS
PFU 31000	Etch bath type	Pall GR1/Gelman G12767
PFU 32000*	Banjo connectors	Pall GR1/Gelman G12767
PFU 33000	Etch bath type	Pall code 3
PFU 34000*	Banjo connectors	Pall code 3
PFU 35000	Etch bath type	Millipore code 0
PFU 36000*	Banjo connectors	Millipore code 0

*Add connection size and type from chart below.

CONNECTIONS

STANDARD	INDUSTRIAL	GLASSWARE	TUBE SIZE
-STD-8	-IND-8	-SIL-8	1/2"
-STD-10	-IND-10	-SIL-10	5/8"
-STD-X12	-IND-X12	-SIL-X12	12mm
-STD-X16		-SIL-X16	16mm

**EXAMPLE:
PFU 34000-IND-8**

Chemcon Pump and Filter Unit with adaptors for Pall code 3 filter cartridge and 1/2" Industrial banjo connectors.

BELLOWS PUMP (PFD)

FEATURES

- All wetted surfaces in PTFE and PFA
- Suitable for pumping corrosive liquids
- Pneumatically operated
- Suitable for use in flammable atmospheres
- Self-priming and easily adjusted

The PFD range of pumps is designed for circulating reactive or flammable liquids at controlled flow rates. Four sizes are now available, the model PFD1 pump has a flow rate between 0-600 litres/hour, model PFD 2 pump has a flow rate between 0-1200 litres/hour, model PFD 3 pump has a flow rate between 0-3000 litres/hour and model PFD 4 pump has a flow rate between 0-6000 litres/hour.

The pump has been designed for operation from a compressed air line but when required a suitable compressor can be supplied. Provided a constant pressure is maintained, the flow rate is controlled to within approximately 0.5%.

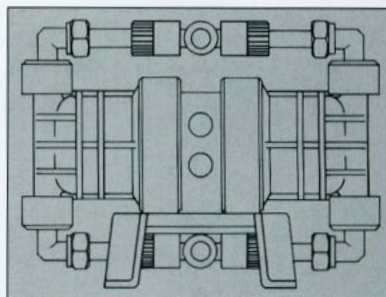
The pump has been designed for continuous operation over long periods. Its simplicity of construction and operation make it suitable both for plant and laboratory work.

ADVANTAGES

Pumps can be supplied with all wetted parts in PTFE and hence suitable for use with practically all reactive fluids. No rotating shaft or glands to cause leakage. Rate of flow constant to within 0.5%. Dismantling and cleaning can be easily carried out. Particularly suitable for operating in flammable atmospheres.

PRINCIPLE OF OPERATION

The pump consists of two convoluted PTFE bellows mounted either end of a reciprocating rod. The cylinder housings enclosing the bellows are PFA and are mounted either side of a pneumatic control housing. At each end of the bellows housings are flow check valves directing the liquid in a single direction from inlet to outlet.



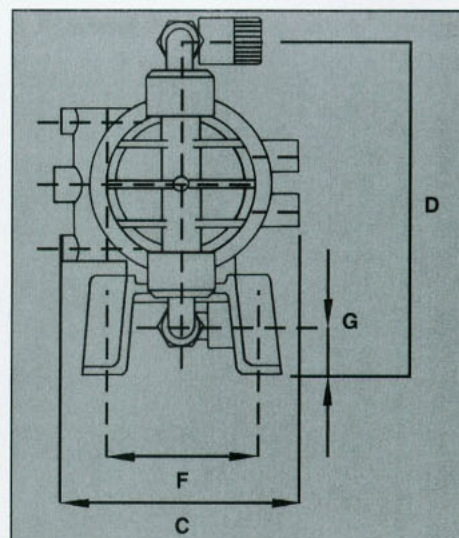
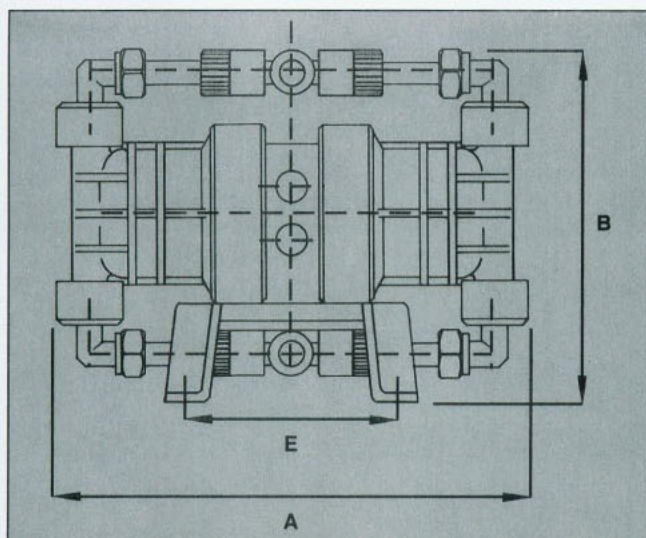
Arrangement of type PFD Pump

PUMP	FLOW RATE	MAX. AIR PRESSURE	MAX. BACK PRESSURE	MAX. AIR CONSUMPTION	AIR CONNECTIONS	WEIGHT
PFD 1	0-600l/h 0-2.5GPM	7barg 100psig	5barg 70psig	3m ³ /h 1.7SCFM	1/4" FNPT	3kg 6.5lbs
PFD 2	0-1200l/h 0-5GPM	7barg 100psig	5barg 70psig	3m ³ /h 1.7SCFM	1/4" FNPT	5kg 11lbs
PFD 3	0-3000l/h 0-12.5GPM	7barg 100psig	5barg 70psig	15m ³ /h 8SCFM	1/2" FNPT	12kg 26lbs
PFD 4	0-6000l/h 0-25GPM	7barg 100psig	5barg 70psig	30m ³ /h 17SCFM	1/2" FNPT	16kg 35lbs

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

BELLOWS PUMP (PFD) (continued)

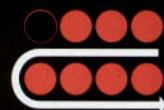
DIMENSIONS



REF	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)
PFD 1	263	197	135	184	120	90	34
PFD 2	270	270	154	250	150	88	33
PFD 3	276	362	180	347	210	154	58
PFD 4	360	450	230	435	200	170	75

ORDERING DETAILS

PUMP TYPE	TUBE SIZE	STANDARD CONNECTION	INDUSTRIAL CONNECTION	GLASSWARE CONNECTION
PFD 1	3/8"	PFD 1-STD-6	PFD 1-IND-6	PFD 1-SIL-6
	1/2"	PFD 1-STD-8	PFD 1-IND-8	PFD 1-SIL-8
	10mm	PFD 1-STD-X10	PFD 1-IND-X10	PFD 1-SIL-X10
	12mm	PFD 1-STD-X12	PFD 1-IND-X12	PFD 1-SIL-X12
	1/2" NPT MALE	PFD 1-M-8N		
PFD 2	3/8"	PFD 2-STD-6	PFD 2-IND-6	PFD 2-SIL-6
	1/2"	PFD 2-STD-8	PFD 2-IND-8	PFD 2-SIL-8
	10mm	PFD 2-STD-X10	PFD 2-IND-X10	PFD 2-SIL-X10
	12mm	PFD 2-STD-X12	PFD 2-IND-X12	PFD 2-SIL-X12
	1" NPT MALE	PFD 2-M-16N		
PFD 3	PN 10 DN 20 Flange Connection	PFD 3-PDX20		
PFD 4	PN 10 DN 25 Flange Connection	PFD 4-PDX25		



DISPENSING PUMP (PPS)

FEATURES

- All wetted surfaces in PTFE
- Suitable for pumping corrosive liquids
- Pneumatically operated
- Suitable for use in flammable atmospheres
- Self-priming and easily adjusted

These pneumatic pumps are constructed with all liquid handling parts manufactured in PTFE and glass (a model constructed uniquely in PTFE is also available). These pumps are particularly suitable for dispensing corrosive or flammable liquids. They are self-priming and easily adjusted and cleaned. The pumps currently available cover the dosing ranges from 2 to 500ml with a reproducibility of 0.5% when pumping water and with the pump connected to a suitable outlet.

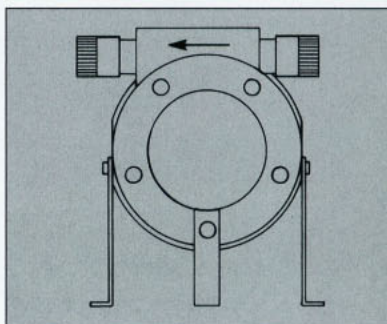
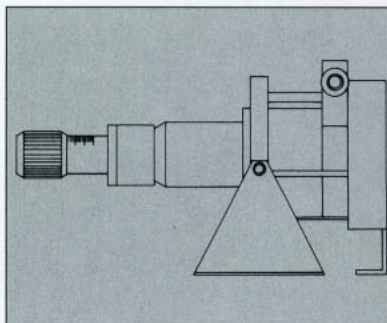
The construction of the pumps makes them suitable for operation both in laboratories and in industrial plants, even in highly corrosive atmospheres.

GENERAL DESCRIPTION

The liquid in the pump is dispensed by pneumatically operated bellows constructed in PTFE. The control box switches alternately compressed air and vacuum on to the internal surface of the bellows, thus producing a backward and forward motion to suck liquid and eject it through the outlet tube. Only the external surface of the bellows is in contact with the liquid being dispensed. The body of the pump is constructed from PTFE with either a glass or stainless steel re-inforced PTFE cylinder.

The pump head contains PTFE encapsulated magnetic valves. The control unit is connected to a compressed air supply which should have a pressure gauge which can be set between 2 and 5 barg.

The control unit has an on/off switch for continuous operation or alternatively an individual shot-by-shot push button. It can also be fitted with a timer which will deliver liquid at pre-set intervals. PPS pumps must be used with a separate control box. See page F.10 for details.



DISPENSING PUMP (PPS) (continued)

SPECIFICATION

PUMP TYPE	VOLUME RANGE	MAX. RATE OF DELIVERY	MAX. AIR CONSUMPTION
PPS 0	2 to 20ml	120l/h	1.5m ³ /h
PPS 1	6 to 60ml	200l/h	2.0m ³ /h
PPS 2	15 to 150ml	400l/h	2.5m ³ /h
PPS 3	80 to 500ml	900l/h	4.0m ³ /h

The above flow rates apply to water at normal temperature. The actual rate of delivery however, depends on the size of outlet and viscosity of the liquid being dispensed.

PUMP TYPE	OVERALL LENGTH MAX (mm)	OVERALL HEIGHT (mm)	OVERALL WIDTH (mm)
PPS 0	405	160	170
PPS 1	405	160	170
PPS 2	415	180	220
PPS 3	490	275	245

ORDERING DETAILS

PUMP TYPE	TUBE SIZE	STANDARD CONNECTION	INDUSTRIAL CONNECTION	GLASSWARE CONNECTION
PPS 0	3/8"	PPS 0/*-STD-6	PPS 0/*-IND-6	PPS 0/*-SIL-6
	1/2"	PPS 0/*-STD-8	PPS 0/*-IND-8	PPS 0/*-SIL-8
	10mm	PPS 0/*-STD-X10	PPS 0/*-IND-X10	PPS 0/*-SIL-X10
	12mm	PPS 0/*-STD-X12	PPS 0/*-IND-X12	PPS 0/*-SIL-X12
Flare connection Ø8 x 6 PPS 0/*				
PPS 1	3/8"	PPS 1/*-STD-6	PPS 1/*-IND-6	PPS 1/*-SIL-6
	1/2"	PPS 1/*-STD-8	PPS 1/*-IND-8	PPS 1/*-SIL-8
	10mm	PPS 1/*-STD-X10	PPS 1/*-IND-X10	PPS 1/*-SIL-X10
	12mm	PPS 1/*-STD-X12	PPS 1/*-IND-X12	PPS 1/*-SIL-X12
Flare connection Ø8 x 6 PPS 1/*				
PPS 2	3/8"	PPS 2/*-STD-6	PPS 2/*-IND-6	PPS 2/*-SIL-6
	1/2"	PPS 2/*-STD-8	PPS 2/*-IND-8	PPS 2/*-SIL-8
	10mm	PPS 2/*-STD-X10	PPS 2/*-IND-X10	PPS 2/*-SIL-X10
	12mm	PPS 2/*-STD-X12	PPS 2/*-IND-X12	PPS 2/*-SIL-X12
Flare connection Ø13 x 10 PPS 2/*				
PPS 3	3/8"	PPS 3/*-STD-6	PPS 3/*-IND-6	PPS 3/*-SIL-6
	1/2"	PPS 3/*-STD-8	PPS 3/*-IND-8	PPS 3/*-SIL-8
	10mm	PPS 3/*-STD-X10	PPS 3/*-IND-X10	PPS 3/*-SIL-X10
	12mm	PPS 3/*-STD-X12	PPS 3/*-IND-X12	PPS 3/*-SIL-X12
Flare connection Ø19 x 16 PPS 3/*				

*F: PTFE cylinder

G: Glass cylinder

EXAMPLE:

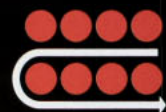
PPS 1 / F-IND-6

Model PPS 1 Dispensing Pump with 3/8" Industrial Chemcon connections and PTFE cylinder.

NOTE:

Order control box separately see page F.10 for details.

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.



DISPENSING PUMP (PPS) (continued)

CONTROL BOXES

Each control box includes:

- Emergency stop button
- Remote start facility
- Inlet pressure regulator
- Outlet pressure regulator
- Mode selector (manual or automatic)

OPERATION

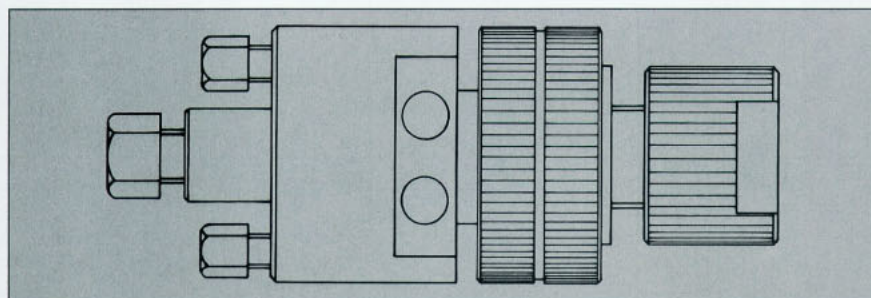
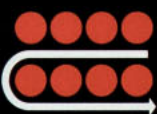
All control boxes when on manual provide a single shot when the start button is pressed.

• Control box type 1	Continuous dosing at pre-set volume (e.g. 10ml of liquid)
• Control box type 2	Continuous dosing at pre-set intervals by timer delay (adjustable between 2 and 30 seconds)
• Control box type 3	Delivering a specified volume of liquid using a pneumatic counter (e.g. filling 2 litre bottles with 20 strokes of 100ml)
• Control box type 4	Delivering a specified volume of liquid at preset intervals (combines pneumatic counter and timer delay)

ORDERING DETAILS

Add control box type to pump size required eg PPS 1 type 2.

A D D I T I O N A L P R O D U C T S S E C T I O N G



**SPECIALIST COMPONENTS FOR MCVD SYSTEMS
PRODUCING FIBRE OPTIC PREFORMS**

ROTARY SEAL (CRS)

When preparing glass fibre preforms by the vapour phase technique, there is a need to pass reactive gases through a glass working lathe head into rotating glassware. The essentials are:

- a. The seal should be capable of withstanding reactive fluids without degrading or affecting the gases.
- b. The complete exclusion of moisture from the gas line.
- c. The removal of pipeline particles before the gas enters the glass tube where the preform is generated.
- d. The facility to connect various sizes of quartz tube to the seal.
- e. Ease of dismantling the whole assembly for servicing.

The Chemcon Rotary Seal unit fulfils all these requirements. It is available with a floating support mechanism for attachment to Heathway, Litton and Herbert Arnold Lathe models. Attachment for other lathes available to order. All wetted parts are constructed of PTFE and PVDF. The combination of these materials makes for an acceptable bearing assembly. All 'O' ring seals are Viton as standard. Alternative 'O' ring materials are available on request.

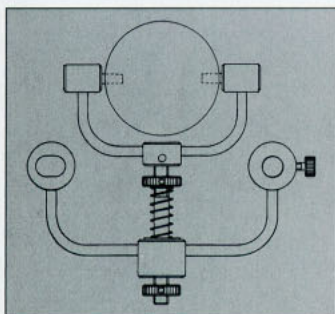
Inlet and outlet purge connections are provided so that the Rotary Seal can be purged, during operation, with inert gas. The main outlet end incorporates a filter unit of similar construction to the standard in-line filter and accepts 47mm membranes down to 0.2 micron size. Adaptor outlets are available to accommodate any size of outlet tube.

The filter housing can be supplied with 10 micron porosity elements.

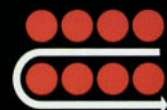
For information on PBV Pneumatic Bellows Valves for controlling vapours, see pages C.15-C.18.

THE ROTARY SEAL SUPPORT (CRB)

The Rotary Seal is designed to fit the Chemcon floating support. The support allows the take-up of misalignment of the glass tube passing through the lathe head without imposing strain. Models of supports are available for Heathway, Litton and Herbert Arnold Lathes and adaptations may be provided for other makes. All makes are manufactured in 316 stainless steel.



ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

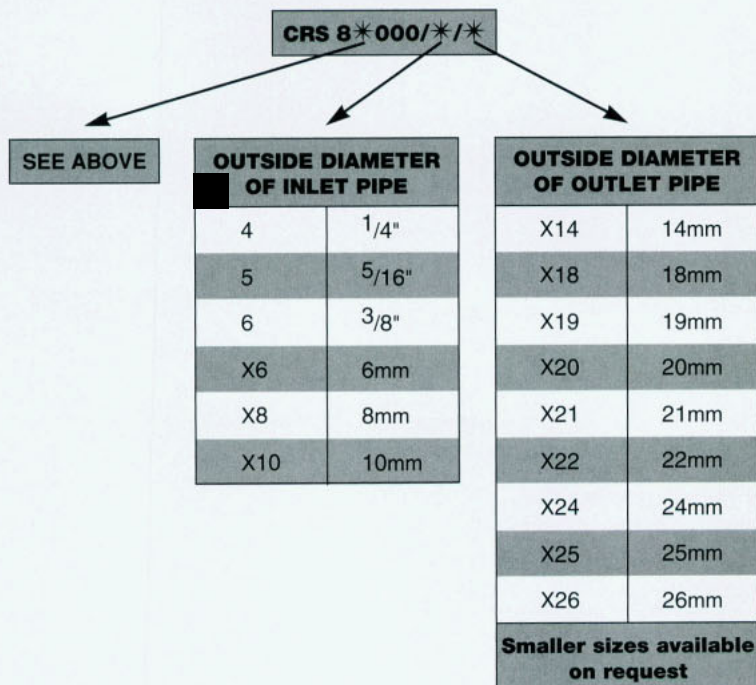


ROTARY SEAL (continued)

ORDERING DETAILS

• Rotary seal without filter	CRS 80000
• Rotary seal with filter	CRS 81000
• Rotary seal support for Heathway Lathe	CRB 82000
• Rotary seal support for Litton Lathe	CRB 83000
• Rotary seal support for Arnold Lathe	CRB 85000

Add following suffixes for connection sizes:



Gas purge connections (outside diameter of tube) 1/4" or 6mm as standard.

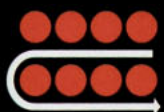
EXAMPLE:

CRS 81000/4/X18

Chemcon Rotary Seal with filter unit, O/D of inlet pipe 1/4", O/D of outlet pipe 18mm.

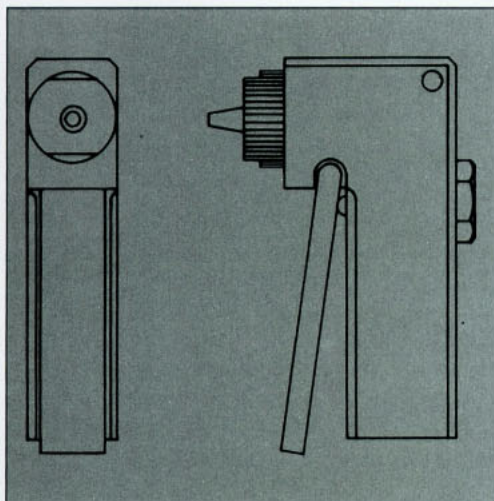
NOTE:

The inlet and purge connections are of the Chemcon Glassware type.

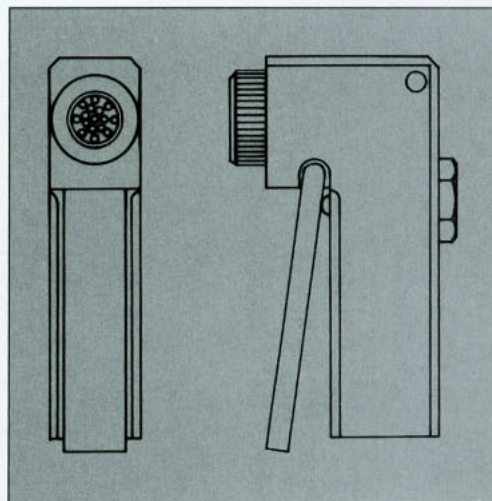


SPRAY GUNS (CSG)

The Chemcon Spray Gun is suitable for DI water or nitrogen. Designed for ease of use with positive sealing, it can be used with Pall mini gaskleen or Gelman acro disc filters. Maximum inlet pressure is 75psig (5barg) and inlet connection is $\frac{3}{8}$ " BSPT female, for tube connections see page A.5. All wetted parts in PTFE with Viton 'O' ring seals as standard.



SINGLE SPRAY NOZZLE



MULTI SPRAY NOZZLE

ORDERING DETAILS

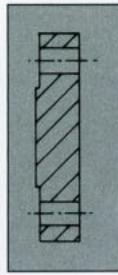
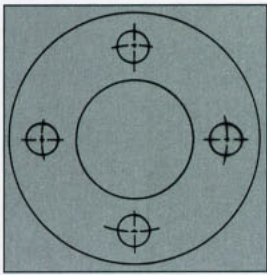
SPRAY GUN TYPE	ORDERING CODE
Single spray nozzle for Pall mini gaskleen filter	CSG 22000 P
Single spray nozzle for Gelman acro disc filter	CSG 22000 G
Multi spray nozzle for DI water	CSG 22000 M

NOTE:

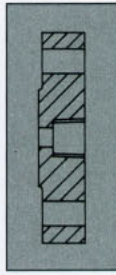
Filters are not supplied.

PTFE FLANGES

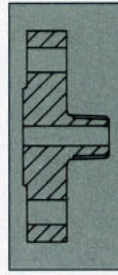
Flanges made in PTFE to replace existing steel flanges and gaskets. Available in American National Standard Class 150 and British Standard 10 table D and E. Size range from 1/2" to 2" in four forms: blank, female threaded, male threaded and Chemcon tube connection.



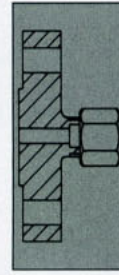
BLANK



FEMALE
THREADED



MALE
THREADED



CHEMCON
TUBE

ORDERING DETAILS

CF* - * - * - *

FLANGE FORM	FLANGE TYPE	FLANGE SIZE		CONNECTION TYPE			
				STANDARD CONNECTION	INDUSTRIAL CONNECTION	GLASSWARE CONNECTION	TUBE SIZE
BLANK	ANSI 150 American National Standard Class 150	8	1/2"	STD-4	IND-4	SIL-4	1/4"
FEMALE THREAD		16	1"	STD-5	IND-5	SIL-5	5/16"
MALE THREAD	BS 10 D- BS 10 E- British Standard 10: 1962	20	1 1/4"	STD-6	IND-6	SIL-6	3/8"
CHEMCON TUBE		24	1 1/2"	STD-8	IND-8	SIL-8	1/2"
		32	2"	STD-X6	IND-X6	SIL-X6	6mm
				STD-X8	IND-X8	SIL-X8	8mm
				STD-X10	IND-X10	SIL-X10	10mm
				STD-X12	IND-X12	SIL-X12	12mm
				THREAD CONNECTION	THREAD SIZE	THREAD CONNECTION	THREAD SIZE
				4	1/4" BSPT	4N	1/4" NPT
				6	3/8" BSPT	6N	3/8" NPT
				8	1/2" BSPT	8N	1/2" NPT
				12	3/4" BSPT	12N	3/4" NPT
				16	1" BSPT	16N	1" NPT

EXAMPLE

CFT-ANSI 150-16-IND-8

1" American National Standard Class 150 flange. 1/2" Chemcon Industrial tube connection.

EXAMPLE

CFF-BS 10 D-8-6

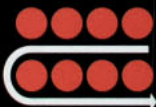
1/2" British Standard BS10 table D flange. 3/8" BSPT female connection.

EXAMPLE

CFM-ANSI 150-20-16N

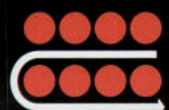
1 1/4" American National Standard Class 150 flange. 1" NPT male connection.

ALTERNATIVES CAN BE SUPPLIED ON REQUEST.



production
techniques

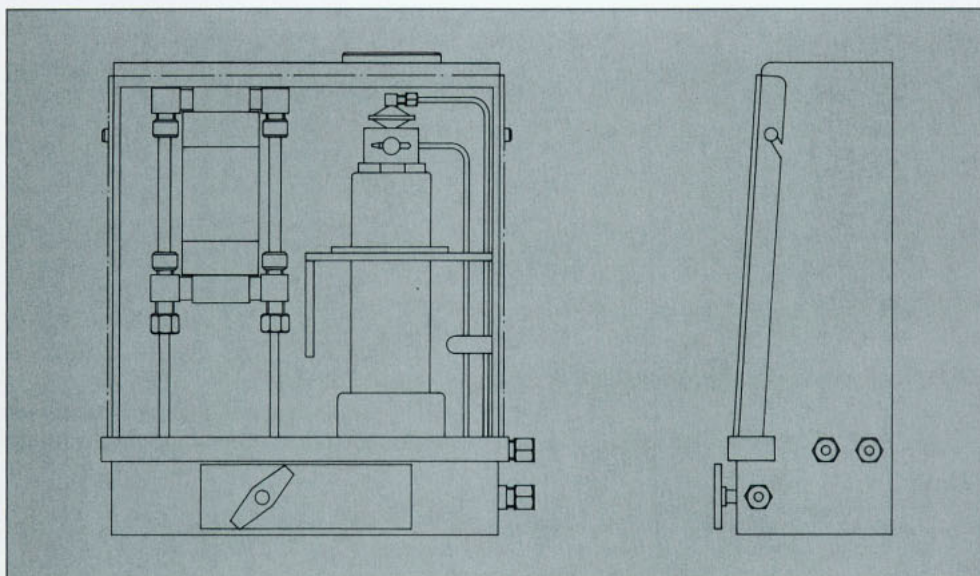
SECTION G



ACID DISPENSE AND RECIRCULATION SYSTEMS (ADU)

A range of acid dispense and recirculation units, incorporating the following features in a Polypropylene cabinet:

- PTFE pneumatic bellows pump.
- Chemcon 10" cartridge filter housing, suits most proprietary filters. (Filter not supplied).
- Chemcon three port ball valve (recirculation valve).
- Chemcon three port stopcock (filter vent).
- Pneumatic door safety interlock.
- Control box.



ADU 10000

ORDERING DETAILS

CODE	PUMP TYPE	FLOWRATE	RECIRCULATION VALVE
ADU 10000*	CBP 500	1-11 l/min	YES
ADU 12000*	PFD 2	1-20 l/min	YES
ADU 14000*	CBP 500	1-11 l/min	NO
ADU 16000*	PFD 2	1-20 l/min	NO

*Add connection type and size to system code.

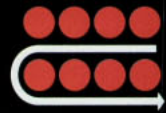
CONNECTION TYPE	
STD	CHEMCON STANDARD
IND	CHEMCON INDUSTRIAL
SIL	CHEMCON GLASSWARE

CONNECTION SIZE	
8	1/2" O/D TUBE
10	5/8" O/D TUBE
X12	12mm O/D TUBE
X16	16mm O/D TUBE†

†Industrial connection not available for 16mm size.

EXAMPLE
ADU 10000-IND-8
Acid Dispense and Recirculation Unit with CBP 500 pump, flowrate 1-11 l/min. 1/2" Industrial tube connection.

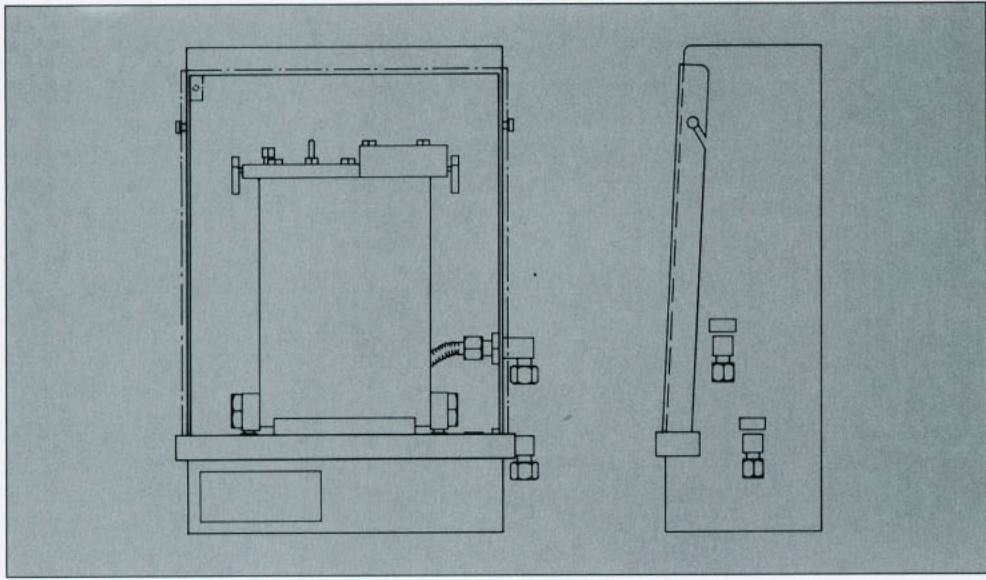
ALTERNATIVES CAN BE SUPPLIED ON REQUEST.



COMPACT ACID DISPENSE AND RECIRCULATION SYSTEMS (ADU)

These systems utilise the Chemcon PFU 30000 combined pump and filter unit to reduce the space required for an acid dispense unit. Incorporating the following features in a Polypropylene cabinet.

- Chemcon PFU 30000 combined pump and filter unit (see page F.4).
- Chemcon three port ball valve (recirculation valve).
- Pneumatic door safety interlock.
- Control box.



ADU 30000

ORDERING DETAILS

CODE	PUMP TYPE	FLOWRATE	RECIRCULATION VALVE
ADU 30000*	PFU 30000	1-10 l/min	NO
ADU 31000*	PFU 30000	1-10 l/min	YES

*Add connection type and size to required system.

CONNECTION TYPE	
STD	CHEMCON STANDARD
IND	CHEMCON INDUSTRIAL
SIL	CHEMCON GLASSWARE

CONNECTION SIZE	
8	1/2" O/D TUBE
10	5/8" O/D TUBE
X12	12mm O/D TUBE
X16	16mm O/D TUBE†

†Industrial connection not available for 16mm size.

EXAMPLE
<p>ADU 30000-IND-8</p> <p>Acid Dispense Unit with PFU 30000 Combined Pump and Filter Unit, flowrate 1-10 l/min. 1/2" Industrial tube connection.</p>

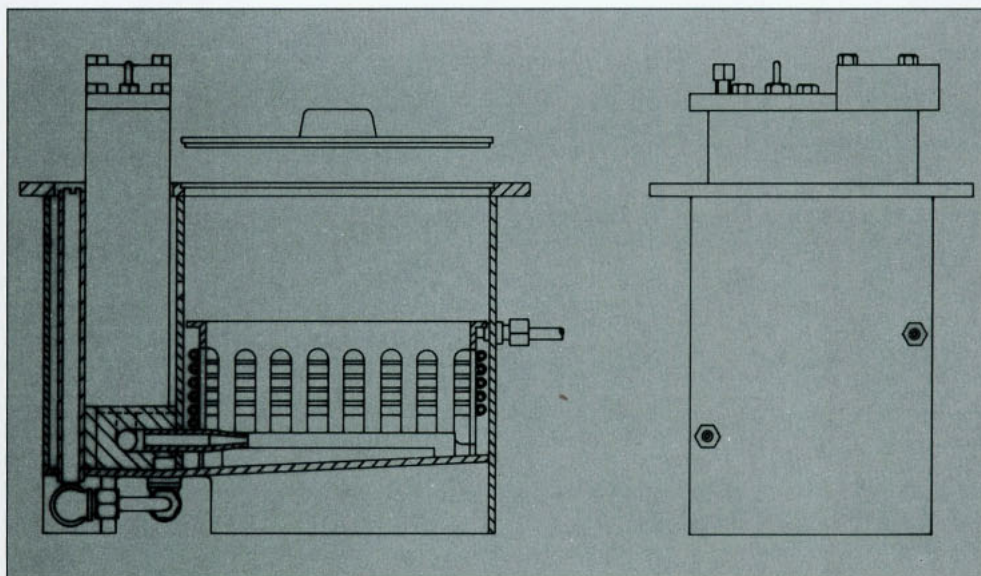
ALTERNATIVES CAN BE SUPPLIED ON REQUEST.

S E C T I O N G

RECIRCULATING ETCH BATHS (CEB)

Polypropylene recirculating etch baths incorporating the following features:

- Chemcon PFU 30000 combined pump and filter unit (see page F.4).
- Integral weir.
- Integral PTFE heat exchanger coil.
- Drain valve.
- Control box.
- Suitable for two wafer carriers.



CEB 20000

ORDERING DETAILS

CODE	CARRIER SIZE	WEIR NO. OF SIDES	DRAIN VALVE	HEAT EXCHANGER COIL
CEB 20000	4" (100mm)	ONE	YES	YES
CEB 21000	5" (125mm)	ONE	YES	YES
CEB 22000	6" (150mm)	ONE	YES	YES
CEB 23000	4" (100mm)	ONE	YES	NO
CEB 24000	5" (125mm)	ONE	YES	NO
CEB 25000	6" (150mm)	ONE	YES	NO
CEB 32000	4" (100mm)	FOUR	YES	YES
CEB 33000	5" (125mm)	FOUR	YES	YES
CEB 34000	6" (150mm)	FOUR	YES	YES



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