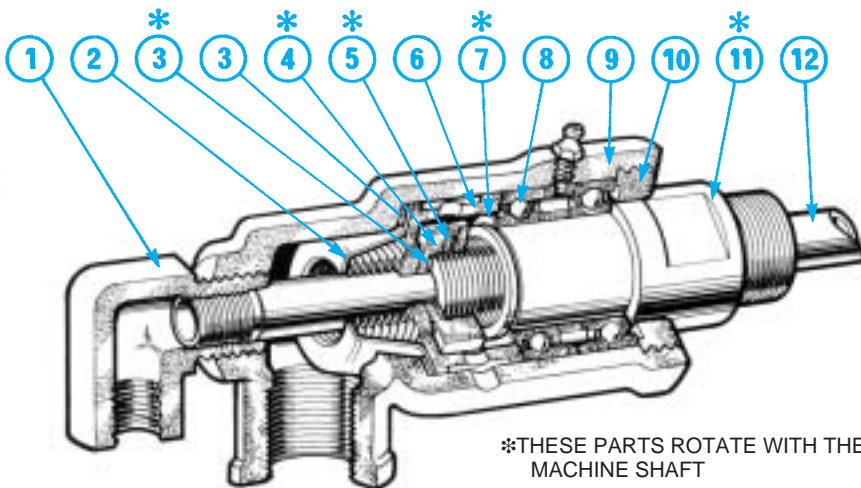


Rotary (P.B.) Union type S.T. (fitted with a bellow seal)



1. Elbow, brass.
2. Bellows sub-assembly, brazed stainless steel.
3. Gaskets.
4. Seal ring sub-assembly, steel/carbon.
5. Locking screw, h.t. steel.
6. Spacer.
7. Circlip.
8. Ball bearings.
9. Body, dZR brass.
10. Locking ring.
11. Rotary spindle, steel
12. Centre tube, if ordered, to customers specification.

Mechanical Seals are also available.
(add MS to the Part No)

The Rotary (P.B.) Union has been developed from the Rotary (R.E.) Union and utilises the same well-proven and highly successful bellows seal and bearing system. The body is manufactured from de-zincification resistant brass which has advantages over conventional brass and the cast iron adaptor of the Rotary (R.E.) Union on many water cooling applications. There are three types available which are shown in the diagrams on page 7 and described below (add MS to the Part No.).

TYPE P.B./B.E.

This Rotary (P.B.) Union is a single flow unit and is suitable for transferring fluids into or out of rotating machine shafts. The body is fitted with a plug at the outboard end which allows this type to be converted to P.B./S.T. or P.B./R.S. by using the appropriate elbow. A typical application is shown on page 3.

TYPE P.B./S.T.

This Rotary (P.B.) Union is fitted with an elbow suitable for double flow with a stationary centre tube. This gives flow areas through the centre tube and annulus. Centre tubes are only provided if ordered. The centre tube is fixed to the Rotary (P.B.) Union end by means of a screw thread shown as dimension 'O'. Flow can pass in through the centre tube and return through the annulus or be reversed.

For steam applications, a typical example of which is shown on page 3, the centre tube is curved to reach the condensate in the bottom of the cylinder. At times the roll neck diameter to length ratio prevents a curved tube being used, in such cases we can provide a Syphon Elbow details of which are on page 20.

TYPE P.B./R.S.

The elbow fitted to this Rotary (P.B.) Union is suitable for a rotating centre tube, which must be located and driven by the machine. Centre tubes are only provided if ordered. The centre tube rotates in a labyrinth bush. The centre tube "sealing" system allows a slight internal leakage between the supply and return lines. If these fluids must not mix then an alternative design can be provided, please ask our Technical Department. Flow can pass-in through the centre tube with the return through the annulus or be reversed. A typical application is shown on page 3.

Operational Guidelines (For other conditions contact Filton Limited)

FLUIDS

Water, mineral oils and compressed air (lubricated). All fluids should be clean and free from abrasive particles.

PRESSURE

17 bar maximum

VACUUM

740 mm Hg. maximum (specify vacuum and we will test for this).

TEMPERATURE

-20° to 160°C

SPEED

1000 r.p.m. maximum with the bellows seal, 1500 r.p.m. maximum with the mechanical seal.

FLOW CAPACITY

Nominal Size	Type	Water*		Air*
		m ³ /h	l/min	
15 (1/2")	B.E.	1.7	28.3	58
	S.T. & R.S.	0.3	5	10
20 (3/4")	B.E.	2.7	45	96
	S.T. & R.S.	0.6	10	22
25 (1")	B.E.	4.1	68.3	144
	S.T. & R.S.	1.8	30	44

* Flow in cubic metres/hour at a velocity of 3 metres/second.
Applies also to other liquids.

* Flow in cubic metres/hour free air at a velocity of 15 metres/second and a pressure of 6 bar.

IT IS NOT ADVISABLE TO COMBINE MAXIMUMS

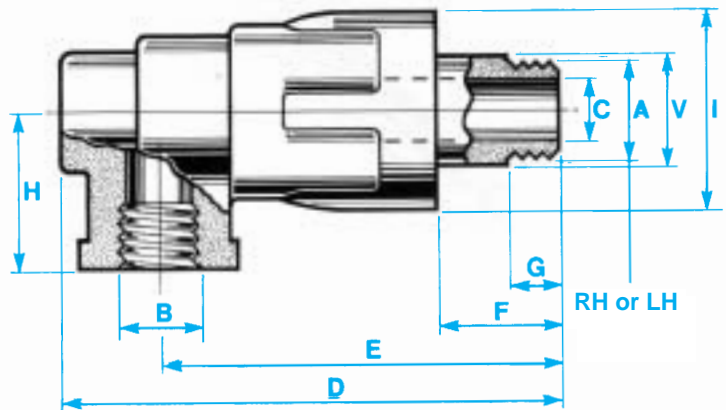
ROTARY (P.B.) UNIONS



The part numbers shown are for units fitted with the bellows seal. Add suffix MS if a mechanical seal is required.

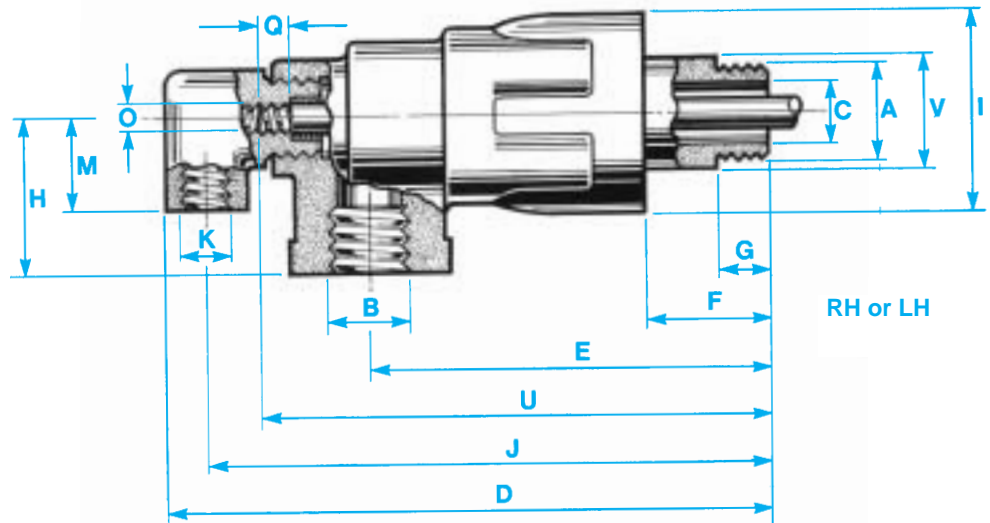
For single flow type P.B./B.E.

Nom size	A	Part No	
15 (1/2")	G1/2"	18466	R or L
	3/4" - 16 UNF	18466U	R or L
	M22 x 1.5	18466MB	R or L
20 (3/4")	G3/4"	18469	R or L
	1" - 14 UNS	18469U	R or L
	M30 x 1.5	18469MB	R or L
25 (1")	G1"	18472	R or L
	1 1/2" - 12 UNF	18472U	R or L
	M35 x 1.5	18472MB	R or L



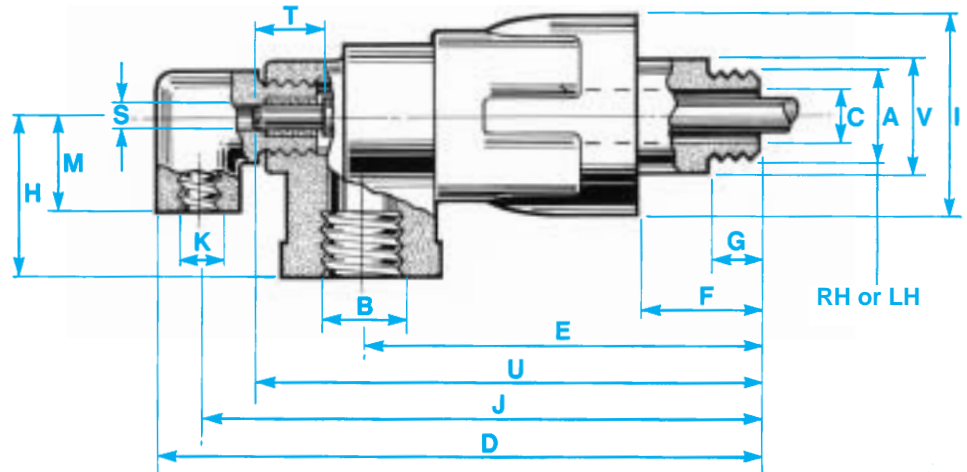
For double flow (stationary centre tube) type P.B./S.T.

Nom size	A	Part No	
15 (1/2")	G1/2"	18467	R or L
	3/4" - 16 UNF	18467U	R or L
	M22 x 1.5	18467MB	R or L
20 (3/4")	G3/4"	18470	R or L
	1" - 14 UNS	18470U	R or L
	M30 x 1.5	18470MB	R or L
25 (1")	G1"	18473	R or L
	1 1/2" - 12 UNF	18473U	R or L
	M35 x 1.5	18473MB	R or L



For double flow (rotary centre tube) type P.B./R.S.

Nom size	A	Part No	
15 (1/2")	G1/2"	18468	R or L
	3/4" - 16 UNF	18468U	R or L
	M22 x 1.5	18468MB	R or L
20 (3/4")	G3/4"	18471	R or L
	1"-14 UNS	18471U	R or L
	M30 x 1.5	18471MB	R or L
25 (1")	G1"	18474	R or L
	1 1/2" - 12 UNF	18474U	R or L
	M35 x 1.5	18474MB	R or L



Dimensions in millimetres

Nominal size	B	C	D B.E.	D S.T. & R.S.	E	F	G	H	I	J	K	M	O	Q	S	T	U S.T.	U R.S.	V
15 (1/2")	G1/2"	13	159	193	130	29	16	44	68	181	G1/4"	30	G1/8"	12	9.52/9.50	20	173	166	38
20 (3/4")	G3/4"	18	162	196	133	32	19	44	68	184	G1/4"	30	G1/4"	12	12.70/12.67	20	176	169	38
25 (1")	G1"	22	180	210	148	43	22	52	88	197	G3/8"	25	G3/8"	9.5	15.87/15.85	25	185	185	42

For dimension 'A' see the part No tables above

'G' is the designation for parallel pipe threads to BS.2779 and ISO.228/1

SEE PAGE 28 FOR INSTALLATION INSTRUCTIONS