

**Rotary (I.N.T.)
Union type B.E.**

1. Body, plated steel.
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, spring steel.
8. Ball bearings.
9. 'O' Ring seal, nitrile rubber.
10. Spindle, steel.
11. Locking ring, steel.

*THESE COMPONENTS ROTATE WITH THE SHAFT

The Rotary (I.N.T.) Union is for use where there is a space limitation between the roll end and the machine frame. The end of the roll is bored out to accept this self-contained unit.

The Rotary Seal fitted is a FILTON BELLOWS SEAL which is identical to the seals fitted in the Rotary (R.E.) Union, an alternative FILTON MECHANICAL SEAL is available for higher pressures and speeds.

The rotary parts of the Rotary (I.N.T.) Union are held in position by a clamping ring which is part of the roll end design. The services must be connected with flexible hose.

There are two variations of the stationary spindle end, diagrams on page 19 and described below:-

TYPE I.N.T./B.E.

This Rotary (I.N.T.) Union is a single flow unit and is suitable for transferring fluid into or out of rotating machines.

TYPE I.N.T./S.T.

This Rotary (I.N.T.) Union is fitted with a spindle 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 (I.N.T.) Union by means of a screw thread shown as dimension 'O' flow can pass through the centre tube and return through the annulus or be reversed.

Operational Guidelines (For other conditions contact Filton Limited)

FLUIDS

Using a FILTON BELLOWS SEAL, water and steam.
Using a FILTON MECHANICAL SEAL, compressed air (lubricated) and oil.

All fluids should be clean and free from abrasive particles.

PRESSURE

For the FILTON BELLOWS SEAL, 17 bar maximum.
For the FILTON MECHANICAL SEAL, 34 bar maximum.

TEMPERATURE

-20° to 140°C.

SPEED

For FILTON BELLOWS SEAL 1000 r.p.m.
For FILTON MECHANICAL SEAL 1500 r.p.m.

FLOW CAPACITY

Nominal Size	Type	Water*		Steam†	Air★
		m ³ /h	l/min		
8 (1/4")	B.E.	0.3	5	11	11
	S.T.	0.05	0.8	3.4	2
10 (3/8")	B.E.	0.8	13.3	31	29
	S.T.	0.1	1.7	16	4
15 (1/2")	B.E.	1.7	28.3	61	58
	S.T.	0.3	5	27	10
20 (3/4")	B.E.	2.7	45	101	96
	S.T.	0.6	10	41	22
25 (1")	B.E.	4.1	68.3	151	144
	S.T.	1.8	30	56	44

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

† Flow in kilograms/hour at a velocity of 30 metres/second and a pressure of 6 bar.

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

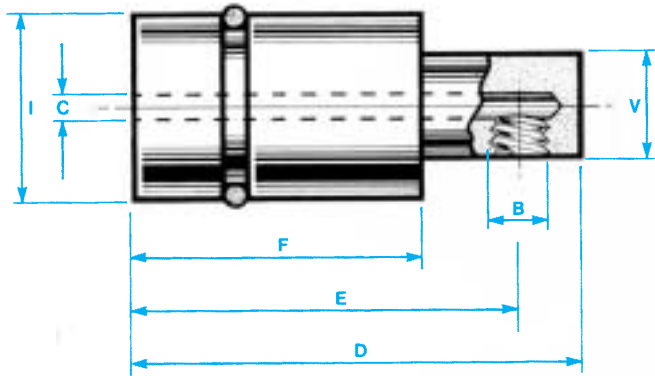
IT IS NOT ADVISABLE TO COMBINE MAXIMUMS

ROTARY (I.N.T.) UNIONS

FILTON

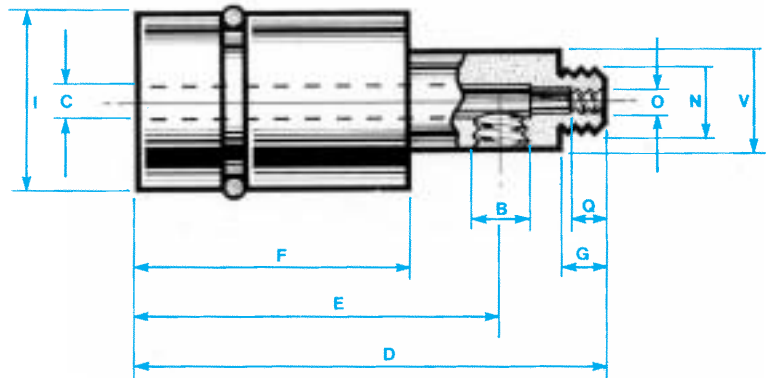
For single flow type I.N.T./B.E.

Nominal Size	Part No.
8 (1/4")	17128
10 (3/8")	17129
15 (1/2")	17130
20 (3/4")	17131
25 (1")	17132



For double flow (stationary centre tube) type I.N.T./S.T.

Nominal Size	Part No.
8 (1/4")	17133
10 (3/8")	17134
15 (1/2")	17135
20 (3/4")	17136
25 (1")	17137



If Filton Mechanical Seal is required add suffix 'MS' to the Part Number

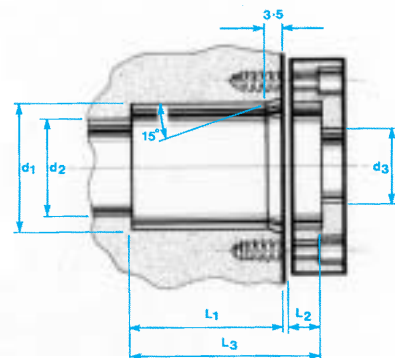
Dimensions in millimetres

Nominal Size	B	F	E	D B.E.	D S.T.	C	V	O	N	Q	G	I nominal
8 (1/4")	R.1/4"	66	90	104	115	6	28	M5 x 0.8	R.1/4"	10	11	44
10 (3/8")	R.3/8"	66	96	110	123	10	32	M6 x 1.0	R.3/8"	10	13	44
15 (1/2")	R.1/2"	90	115	134	150	14	40	G 1/8"	R.1/2"	13	16	73
20 (3/4")	R.3/4"	90	120	142	161	18	48	G 1/4"	R.3/4"	16	19	73
25 (1")	R.1"	96	140	170	192	22	58	G 3/8"	R.1"	19	22	83

'R' is the designation for tapered pipe threads to BS21 and ISO 7/1
'G' is the designation for parallel pipe threads to BS2779 and ISO 228/1

Roll end details

Nominal Size	d ₁	d ₂	d ₃	L ₁	L ₂	L ₃
8 (1/4")	43.94/43.81	35	30	53	12	66
10 (3/8")	43.94/43.81	35	34	53	12	66
15 (1/2")	73.15/73.10	60	42	70	19	90
20 (3/4")	73.15/73.10	60	50	70	19	90
25 (1")	82.55/82.47	70	60	70	25	96



SEE PAGE 28 FOR INSTALLATION INSTRUCTIONS