

---

## Hydraulic Installation Guidelines

### Appendix H

#### Rotary Union / Rotary Inlet Recommendations

The Series 0123, 0023, 0224, and 0225 clutch/brakes, clutches, and brakes normally receive the actuating fluid, and in the case of inner cooling the cooling fluid, through the shaft they are mounted on. To get the fluid to the rotating shaft a rotary union (also called a rotary inlet) is used. These are available from Orttech or other sources in a range of configurations. Where multiple passage rotary unions/rotary inlets are required the *Ortlinghaus* multiple passage rotary inlets are recommended. Single passage rotary unions/rotary inlets are generally used on installations where splash cooling is used, as only the actuating fluid must be conducted to the shaft. The rotors (the part that attaches to the shaft) on these are usually threaded to fit a matching threaded hole in the end of the shaft. Flange rotor designs are also available.

If an application uses inner cooling, a dual passage rotary union/rotary inlet is used to conduct both the actuating and cooling fluids to the shaft. These have flange design rotors that bolt to the end of the shaft. It is possible to feed the actuating fluid from one end of the shaft and the cooling fluid from the other end using two single passage rotary unions/rotary inlets if both ends of the shaft are accessible. In some instances other fluid streams (such as bearing lube oil) may need to be fed to the shaft in addition to the actuating and cooling fluids, and for these instances there are multiple passage (three channel, four channel, etc.) rotary unions/rotary inlets available. Suitability of a particular rotary union/rotary inlet is a function of the fluid(s) passing through it, fluid pressures and temperatures, and the rate of rotation. Also, the rotary union/rotary inlet must be sized to transmit the required flow(s) without excessive restriction or pressure drop. Where a multiple passage rotary union/rotary inlet is required an *Ortlinghaus* multiple passage rotary inlets are recommended as they are designed for service with the *Ortlinghaus* clutch/brakes, clutches, or brakes.

The following tables list relevant data on the holes required in the shaft and suggested rotary union/rotary inlet part numbers for those available from Orttech. Please contact Orttech if you have any questions on this subject.

For more information on the holes required in the shaft for the actuating and cooling fluid ports please refer to the Installation Guidelines for *Ortlinghaus* Hydraulic Clutch/Brakes, Table 2 and Figure 2.

**Table H1a**

**Shaft Hole Sizes and Threads for Use With Single Passage Rotary Unions / Rotary Inlets With Threaded Rotors**

Size	Shaft Center Hole Required		Recommended Thread	
	mm	inches	inch	BSPP
63	10	0.39	1 - 14 UNS	G 1/2
75	12	0.47	1 - 14 UNS	G 1/2
80	15	0.59	1 - 14 UNS	G 3/4
86	17	0.67	1 - 14 UNS	G 3/4
90	20	0.79	1-1/2 - 12 UNF	G 1
94	24	0.94	1-1/2 - 12 UNF	G 1
96	30	1.18	---	---
98	34	1.34	---	---

**Table H1b**

**Suggested Single Passage Rotary Union / Rotary Inlet Part Numbers**

Size	Orttech Part No. (Inch Thread)	Ortlinghaus Part No. (BSPP Thread)
63	51A002	0086-010-02-160000
75	51A002	0086-010-02-160000
80	51A002	0086-010-03-160000
86	51A002	0086-010-03-160000
90	51A003	0086-010-04-160000
94	51A003	0086-010-04-160000
96	---	---
98	---	---

These rotary unions / rotary inlets have threaded rotors. Alternates with flanged rotors may also be used.

Please contact Orttech if you need information on any of these rotary unions / rotary inlets.

**Table H2a**  
**Shaft Hole Sizes for Use With Dual Passage Rotary Unions / Rotary Inlets**  
**With Flange Rotors**

Size	Actuating Fluid Shaft Hole Dia Req'd.		Cooling Fluid Shaft Hole (2) Dia Req'd.	
	mm	inches	mm	inches
63	10	0.39	8	0.32
75	12	0.47	9	0.35
80	15	0.59	10	0.39
86	17	0.67	12	0.47
90	20	0.79	15	0.59
94	24	0.94	12	0.47
96	30	1.18	14	0.55
98	34	1.34	16	0.63

**Table H2b**  
**Suggested Dual Passage Rotary Union / Rotary Inlet Part Numbers**

Size	Part No.	Unit Notes	Application Notes
63	51A015	Gasket Seal Flange	Rotary union adaptor may be req'd.
	0088-226-22-010040	O-Ring Seal Flange	
75	51A015	Gasket Seal Flange	Rotary union adaptor may be req'd.
	0088-226-22-010040	O-Ring Seal Flange	
80	0088-226-22-010040	O-Ring Seal Flange	
86	0088-226-27-010040	O-Ring Seal Flange	
90	0088-226-27-010040	O-Ring Seal Flange	
94	0088-226-35-010040	O-Ring Seal Flange	
96	0088-226-35-010040	O-Ring Seal Flange	
98	0088-226-35-010040	O-Ring Seal Flange	

These rotary unions/rotary inlets have flange rotors. Two different types of flange are available, one that uses a gasket to seal to the end of the shaft and one that uses O-rings to seal to the end of the shaft.

In some installations it may be necessary to provide an adaptor between the shaft end and the rotary union/rotary inlet to allow different cooling fluid hole locations in the shaft and rotary union/rotary inlet flange to be matched up.

Please contact Orttech if you need information on any of these rotary unions/rotary inlets.