

# DEUBLIN

*HOERBIGER Rotary Solutions*



**MULTI-PASSAGE SOFT-SEAL  
ROTATING UNIONS**

[www.deublin.com](http://www.deublin.com)

# Deublin Multi-Passage Soft-Seal Rotating Unions

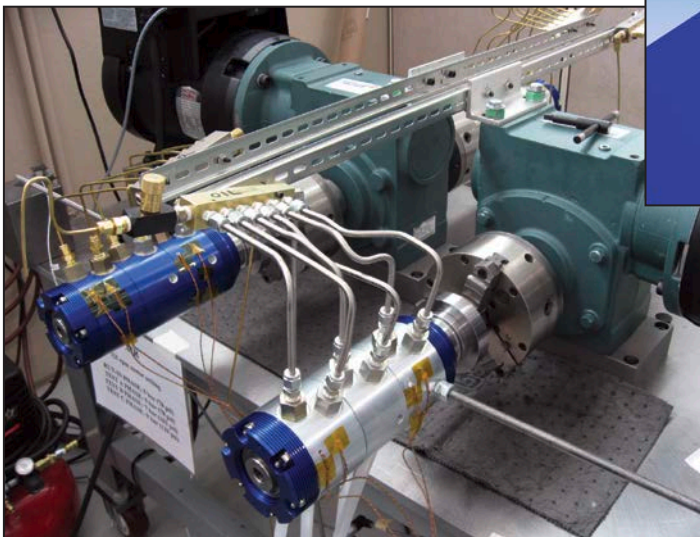
A rotating union connects a stationary pressurized supply line to a rotating machine part such as a cylinder, roll, spindle, clutch, etc. It can be used to convey virtually any liquid or gas: steam for heating, water or water/glycol solutions for cooling, hydraulic fluids, cutting fluids, air, inert gas, or even vacuum. The task becomes more complicated when more than one media must be conveyed simultaneously. This is the role of a multi-passage union – to provide multiple, independent passages for the same or several different media to different rotating feed points within the same axis.

Typically, each passage is isolated from all other passages and different media are not allowed to mix. The key to reliable function of a multi-passage union thus lies in the sealing technology. Different seal types are dictated by the operating conditions – temperature, pressure, rotation speed, torque, medium chemistry and passage size.

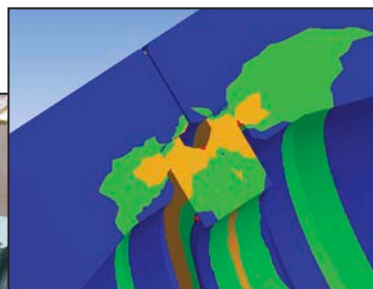
Because each application is unique in terms of passage diameter, number of passages, flange configuration and operating conditions, Deublin brings to bear unparalleled engineering expertise and experience to match your operational needs. Whether a standard model can be applied or a custom solution is required, you can rely on Deublin for the optimal solution with long-term performance and reliability.

## TYPICAL APPLICATIONS FOR MULTI-PASSAGE UNIONS

- Steel industry: ladle turrets for continuous casting operations
- Plastics & rubber industries: injection and rotary molding operations
- Machining operations: workholding and clamping functions
- Aerospace manufacturing and flight simulators
- Industrial cranes
- Rail transportation
- De-scaling operations
- ..and many more



Deublin Multi-Passage unions testing fixture



*Designed and engineered  
with Finite Element Analysis  
(FEA), and validated by  
extensive testing*

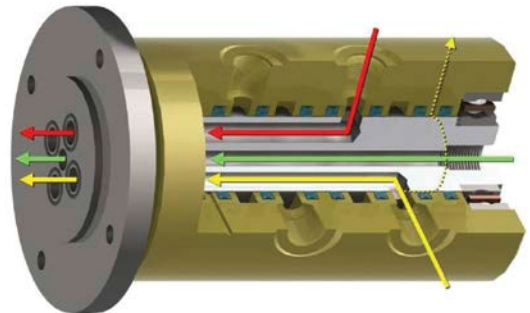


# Deublin Multi-Passage Sealing Solutions

Deublin Multi-Passage Soft-Seal unions are optimized for the operating parameters of the application such as speed, torque, media pressure, operating temperature, physical size and other factors. Hardened chrome sealing surfaces are standard to ensure minimal wear and long service life.

- Plastomeric Seals – a combination of plastic and elastomer – offer superior resistance to high temperatures and pressures compared to traditional elastomers. Seal geometry and treatment of the rotor mating surface are carefully matched to the media, rotational speed, and pressure of the specific application.
- Deublin's proprietary seal chemistry and geometry maximize performance including reduced friction and torque, and extended service life. This performance advantage allows Deublin multi-passage soft-seal unions to be used for a wide variety of applications.

ROTATING UNION WITH PLASTOMERIC SEALS



## Typical commercial seal design:

Inner pad may have different cross-sectional geometry depending on media and operating conditions.



## Deublin proprietary seal design:

Use a variety of materials and geometries depending on media and operating conditions.

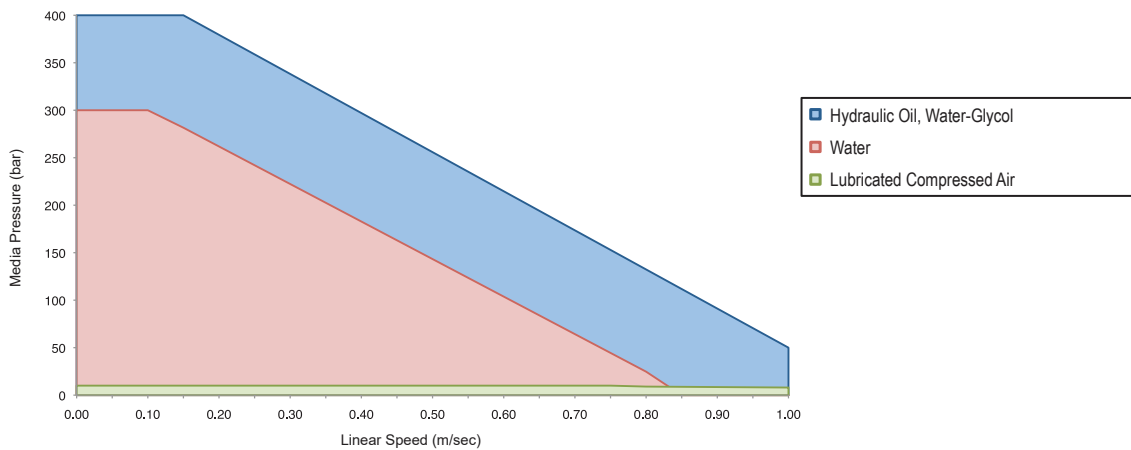
# Deublin Product Definition

Deublin Multi-Passage Soft-Seal rotating unions can be used in the widest variety of applications and media. Typical media includes the following:

- Hydraulic Oil
- Water
- Water-Glycol
- Air (dry/lubricated)
- Nitrogen
- Argon
- Grease
- Coolant
- Cutting Oil
- Vacuum

For media not listed above, please contact Deublin.

## PERFORMANCE GRAPH BY MEDIA



## TYPICAL MEDIA & OPERATING CONDITIONS

Media	Pressure		Temperature		Speed
	bar	psi	°C	°F	Maximum rotational speed is a function of media, pressure and rotor diameter (see above chart).  Note: Typical speeds ≤ 50 RPM
Hydraulic Oil	≤ 400	≤ 5,800	≤ 80	≤ 175	
Water-Glycol	≤ 400	≤ 5,800			
Water	≤ 300	≤ 4,350			
Air (dry/lubricated)	≤ 12	≤ 175			
Nitrogen	≤ 12	≤ 175			
Argon	≤ 12	≤ 175			
Coolant	≤ 120	≤ 1,740			
For operating conditions exceeding above parameters, please contact Deublin.					

## WARNING

Deublin unions should not be used to convey flammable media (flash point ≤ 140 °F or 60 °C) as leakage may result in explosions or fires. Deublin unions should be used in accordance with standard safety guidelines for the media, and in a well-ventilated area. The use of our product on hazardous or corrosive media is strictly forbidden.

# Deublin Product Definition

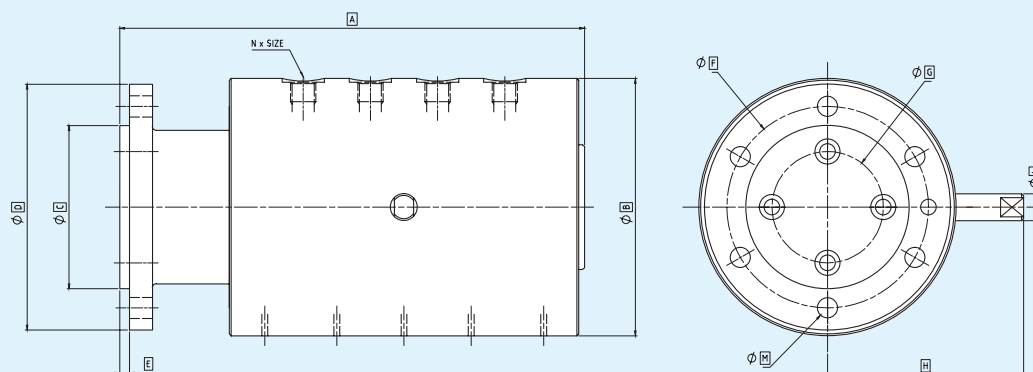
Deublin offers Multi-Passage Soft-Seal rotating unions that are standard, semi-custom and custom. When possible, Deublin recommends standard models, but will recommend semi-custom or custom models depending on the unique requirements of each application.

Semi-Custom unions can have different port sizes on the same union, SAE port connections and/or larger center bore (up to 50 mm).

Custom unions have no limitation on dimensions, port sizes, port connection specifications and center bore dimensions.

## STANDARD FEATURES

- Ports/Passages: 2 to 8
- Sizes: 1/8" to 1/2", NPT or BSP
- Materials of Construction:
  - Flanged rotor: AISI 420 with aluminum housing
  - Bearings: dual, widely-spaced ball bearings ensure smooth running and minimize impact of potential side-loading
- Optional center bore up to 25 mm (1") for electrical slip ring wires



Port Size 1/8" – 1/4"					Port Size 3/8" – 1/2"				
	2	4	6	8		2	4	6	8
A	160	245	315	385	A	165	270	356	440
B	110	135	155	155	B	120	135	155	155
C	73	85	105	105	C	73	85	105	105
D	110	128	152	152	D	110	128	152	152
E	5	5	7	7	E	5	5	7	7
F	93	105	128	128	F	93	105	128	128
G	44	58	78	78	G	38	53	73	73
H	90	115	130	130	H	95	115	130	130
L	12	14	16	16	L	12	14	16	16
M	8.5	10.5	12.5	12.5	M	8.5	10.5	12.5	12.5
Unions Also Available With Central Bore					Unions Also Available With Central Bore				
Max Ø	25	40	50	50	Max Ø	12	25	45	45

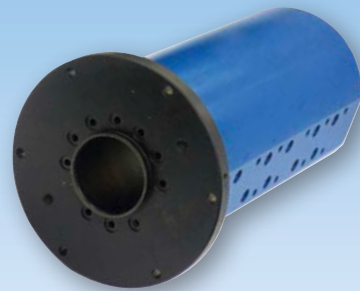
Note: all dimensions, except port sizes, in mm

# Examples of Applications

Deublin designs and manufactures a complete range of rotating unions from simple, single channel models used to prevent flex-hoses from twisting, to 12-port unions used on machine tool index tables, to massive, multi-channel unions used for ladle turrets in continuous casting machines. Deublin Multi-Passage Soft-Seal unions are used in applications that may require air, water, oil, grease, argon and other media.



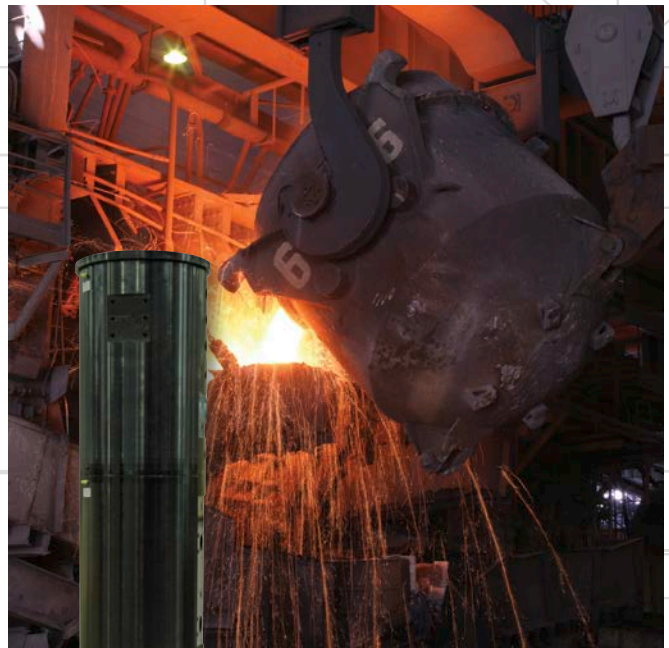
**Application:** Machine Tool  
**Passages:** 12



**Application:** Machine Tool index table  
**Passages:** 8 with large center bore



**Application:** General Mechanical  
**Passages:** 4 + 1 drain

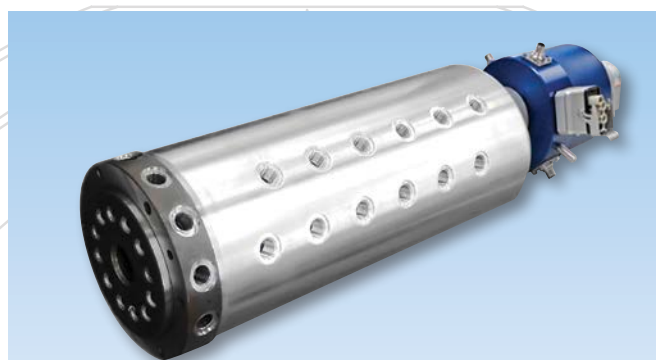


**Application:** Ladle Turret  
**Passages:** 22

# Examples of Applications



**Application:** Index Table  
**Passages:** 16



Multi-Passage Soft-Seal unions can be combined with  
Electrical Slip Rings



**Application:** Steel Plant  
**Passages:** 5 with large center bore



**Application:** Coil Winding  
**Passages:** 6



Since its founding in 1945 as a small, family-owned business, Deublin consistently has adhered to a policy of designing and building the best products of their kind in the world. The result of this policy has been constant growth through the years, and for this we are grateful to our many loyal customers.

Today, Deublin is the world's largest manufacturer of rotating unions, with state-of-the-art factories, technical sales and service, and local stocking in 14 countries on four continents, as well as a worldwide distribution network operating from more than 60 countries. Our global organization and extensive catalog of field-tested products ensure a precise match between each customer's requirements and an engineered solution. Deublin has been part of the HOERBIGER Group since 2019 and forms the core of the Rotary Solutions division.

We cordially invite you to visit our modern manufacturing facilities in Waukegan, Illinois, USA; Mainz, Germany; Monteveglio, Italy; Dalian, China; and Sao Paulo, Brazil.



Global Headquarters in Waukegan, Illinois, U.S.A.



Mainz, Germany



Monteveglio, Italy



Dalian, China



**Deublin products & services are available throughout the world.**

**[www.deublin.com](http://www.deublin.com)**

**Deublin-杜博林签约中国经销商: 信德迈科技(北京)有限公司**

地址: 北京朝阳区望京 SOHO-T1-C 座 2115 室 邮编: 100102

手机: 139 1096 2635 电子邮件: [sales@cnmec.biz](mailto:sales@cnmec.biz)