

# ROTARY UNIONS

water | steam | air | hydraulic | hot oil | vacuum

General Industry



# OPERATING PRINCIPLES OF ROTARY UNIONS

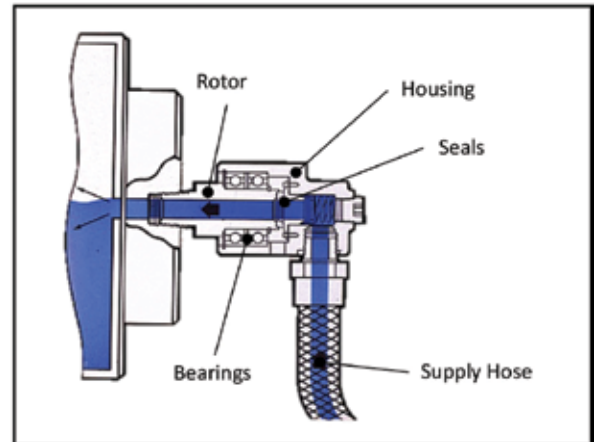
## How Rotary Unions Work

A Rotary Union is a precision mechanical device used to transfer fluid or media from a stationary source into rotating machinery. The fluid or media is used for heating, cooling or power (pneumatic or hydraulic), depending on the application. Typical media for General Industry applications are water, hot oil, steam, air, hydraulic oil and vacuum.

A typical Rotary Union consists of a rotor that spins with the machine, a housing that connects the supply hose to the non-rotating element, seals that contain the fluid and bearings to connect the rotor to the housing.

Depending on the application, the design of the Rotary Union may vary (size, material, etc.) for optimal performance.

## Parts of a Rotary Union



## Sealing Technology

**Balanced Mechanical Seal:** Mechanical seals are comprised of two precision lapped seals with contacting seal faces to contain the media. One seal is rotating while the other is stationary. Deublin Rotary Unions are designed with balanced mechanical seals to reduce the load on the seals, regardless of media pressure, resulting in longer service life.

**Soft Seal:** Soft seal Rotary Unions are dynamic seal designs where elastomeric seals are placed between the outer diameter of the rotor and inner diameter of the housing. Due to the material properties, Rotary Unions designed with soft seals will be rated for very low speeds.

**Pressure Type Seal:** This type of seal technology utilizes a Spherical Carbon Graphite seal under compression from the pressure of the media. Rotary Unions designed with pressure type seals and bushing bearings can be used for applications above 320 F where a ball bearing design is not applicable.

**Hydrostatic Seal:** Rotary Unions designed with hydrostatic seals contain a small gap between the rotor and a static bushing. Fluid fills the gap acting as lubrication between the two surfaces. Because the fluid is passing through this gap, a drain line is required to collect the fluid and return the fluid to the reservoir.

## A Rotary Union for Every Application



## SELECTING THE RIGHT UNION FOR YOUR APPLICATION

### Water, Hot Oil & Intermittent Steam



Features	57 Series *	755 Series	857 Series	6000 Series *	54 Series
Description	General Purpose	General Purpose	Water Service	Water Service	General Purpose - Stainless Steel
Media	Water, Hot Oil, Intermittent Steam	Water, Hot Oil, Intermittent Steam	Water, Intermittent Steam	Water	Water
Size Range	3/8" thru 2"	2 1/2"	3"	2" thru 4"	3/8" thru 1 1/2"
Max Pressure	750 psi	200 psi	150 psi	150 psi	150 psi
Max Speed	3,500 rpm	750 rpm	500 rpm	750 rpm	1,500 rpm
Max Temp	250 F	250 F	250 F	250 F	160 F
Duoflow Options	Yes (Monoflow with Elbow)	Yes	Yes	Yes	Yes (Monoflow with Elbow)

Operating parameters will vary by media, union size, thread type, and passage. \*Models available up to 320 F

### Air & Hydraulic



Features	1005 thru 452 Series	1500 Series	1579 and 1590 Series	17, 21, 2117 Series	1690, 1790, 1890 Series
Description	Air or Hydraulic Oil Service	DEU-PLEX Air Service	DEU-PLEX Air and Hydraulic Oil Service	Air or Hydraulic Oil Service	DEU-PLEX Air and Hydraulic Oil Service
Media	Air, Hydraulic Oil, Vacuum	Air, Vacuum	Air, Hydraulic Oil, Vacuum	Air, Hydraulic Oil, Vacuum	Air or Hydraulic Oil
Size Range	1/8" thru 1 1/2"	3/8"	1/2"	1/4" thru 1/2"	1/4" thru 3/4"
Max Pressure	150 psi Air 1,000 psi Hydraulic Oil	150 psi	150 psi Air 1,020 psi Hydraulic Oil	150 psi Air 3,000 psi Hydraulic Oil	150 psi Air 3,050 psi Hydraulic Oil
Max Speed	3,500 rpm	1,500 rpm	1,500 rpm	250 rpm	250 rpm
Max Temp	250 F	250 F	250 F	250 F	240 F

Operating parameters will vary by media, union size, thread type, and passage.

### High Temperature



Features	BC-54000 Series	BC-54100 Series	BC-54205 Series
Description	Duoflow, Fixed Siphon	Monoflow	Duoflow, Rotating Siphon
Media	Water, Steam, Hot Oil	Water, Steam, Hot Oil	Water, Steam, Hot Oil
Size Range	1/2" thru 3"	1/2" thru 3"	1/2" thru 3"
Max Pressure	250 psi Water and Steam 100 psi Hot Oil	250 psi Water and Steam 100 psi Hot Oil	250 psi Water and Steam 100 psi Hot Oil
Max Speed	400 rpm	400 rpm	400 rpm
Max Temp	550 F	550 F	550 F

Operating parameters will vary by media, union size, thread type, and passage.



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 continuous growth through the years, and for this we are grateful to our many loyal customers.

Today, Deublin is the world's largest manufacturer of Rotary Unions, with state-of-the-art factories, technical sales and services, and local stocking in 13 countries on four continents, as well as a worldwide distribution network operating in 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 Solution division.

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



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



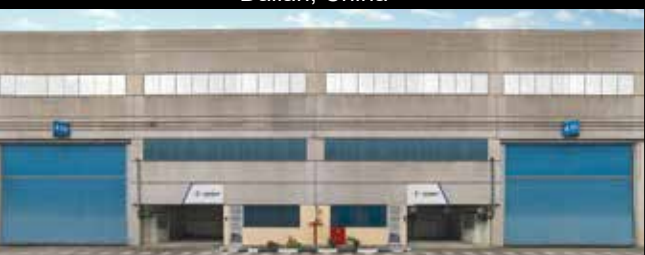
Mainz, Germany



Bologna, Italy



Dalian, China



Diadema, Brazil

## AMERICA

### DEUBLIN USA

2050 Norman Drive  
Waukegan, IL 60085-6747 U.S.A.  
Phone: +1 847 689 8600  
Fax: +1 847 689 8690  
E-mail: Info-US@deublin.com

### DEUBLIN Brazil

Juntas Rotativas de Precisão Ltda.  
Av. Fagundes de Oliveira, 538 - A11 - Piraporinha  
CEP: 09950-300 - Diadema - SP - Brasil  
Tel: +55 11-2455 3245  
Fax: +55 11-2455 2358  
E-mail: info-BR@deublin.com

## ASIA

### DEUBLIN China

No. 2, 6th DD Street,  
DD Port, Dalian, 116620, China  
Phone: +86 411-8754 9678  
Fax: +86 411-8754 9679  
E-mail: Info-CN@deublin.com

Room 15A07, Wangjiao Plaza  
No. 175 East Yan'an Road, Huangpu District  
Shanghai 200002  
Phone: +86 21-5298 0791  
Fax: +86 21-5298 0790  
E-Mail: Info-CN@deublin.com

### DEUBLIN Asia Pacific

7 Temasek Boulevard #21-05,  
Suntec Tower One, Singapore 038987  
Phone: +65 6259-9225  
Fax: +65 6259-9723  
E-mail: deublin@singnet.com.sg

### DEUBLIN Japan

2-13-1, Minamihanayashiki, Kawanishi City  
Hyogo 666-0026, Japan  
Phone: +81 72-757 0099  
Fax: +81 72-757 0120  
E-mail: Info-JP@deublin.com

2-4-10-3F, Ryogoku, Sumida-ku,  
Tokyo 130-0026, Japan  
Phone: +81 35-625 0777  
Fax: +81 35-625 0888  
E-mail: Info-JP@deublin.com

4-1-13-201 Sakae,  
Ichinomiya, Aichi 491-0858, Japan  
Phone: +81 586-73 0222  
Fax: +81 586-73 0223  
E-mail: Info-JP@deublin.com

### DEUBLIN Korea

Star Tower #1003, Sangdaewon-dong 223-25,  
Jungwon-gu, Seongnam-si, Gyeonggi-do,  
South Korea  
Phone: +82-31-8018 5777  
Fax: +82-31-8018 5780  
e-mail: Info-KR@deublin.com

## EUROPE

### DEUBLIN Germany

Florenz - Allee 1  
55129 Mainz, Germany  
Phone: +49 6131-49980  
E-mail: Info-DE@deublin.com

### DEUBLIN Italy

Via Guido Rossa, 9 - Loc. Monteveglio 40053  
Comune di Valsamoggia (BO), Italy  
Phone: +39 051-835611  
Fax: +39 051-832091  
E-mail: Info-IT@deublin.com

### DEUBLIN Austria

Lainzer Straße 35  
1130 Wien, Austria  
Phone: +43 1-8768450  
Fax: +43 1-876845030  
E-mail: Info-AT@deublin.com

### DEUBLIN France

61 Bis, Avenue de l'Europe  
Z.A.C de la Malnoue  
77184 Emerainville, France  
Phone: +33 1-64616161  
Fax: +33 1-64616364  
E-mail: Info-FR@deublin.com

### DEUBLIN Poland

ul. Bierutowska 57-59  
51-317 Wrocław, Poland  
Phone: +48 71-3528152  
Fax: +48 71-3207306  
E-mail: Info-PL@deublin.com

### DEUBLIN Spain

CLola Anglada, 20  
08228 Les Fonts (Terrassa), Spain  
Phone: +34 93-221 1223  
E-mail: Info-ES@deublin.com

### DEUBLIN United Kingdom

6 Sopwith Park, Royce Close, West Portway  
Andover SP10 3TS, UK  
Phone: +44 1264-33 3355  
Fax: +44 1264-33 3304  
E-mail: Info-UK@deublin.com

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



**SERVICE AND STOCK ARE AVAILABLE  
THROUGHOUT THE WORLD**