ENGINEERING CATALOG

2600

DEUBLIN®

Engineered for Performance

ROTATING UNIONS

water steam air hydraulic hot oil vacuum coolant custom applications

www.deublin.com

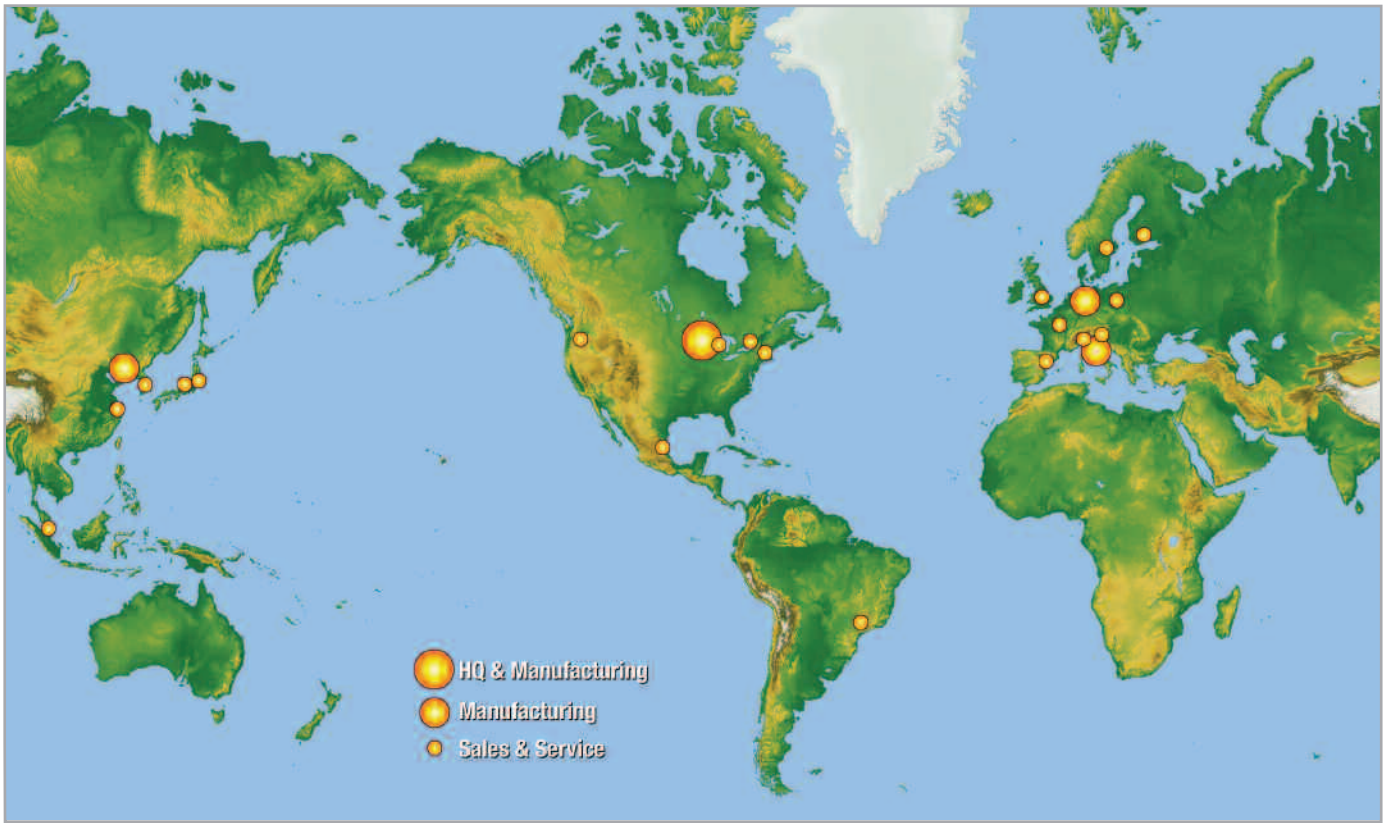
Selection Chart for *DEUBLIN* Rotating Unions

Size	Series	Max. Operating Data PSI	Temp. °F	Speed RPM	Description	Passages	Pages
Water & Hot Oil up to 250°F *							**6-21**
3/8" - 2"	55	750	250	3,500	General Purpose	1 or 2	6 - 10
3/8" - 2"	57	150	200	3,500	Water Service	1 or 2	7 - 10
2 1/2"	755	200	250	750	General Purpose	1 or 2	11
3"	857	150	250	500	Water Service	1 or 2	12 - 13
3/8" - 1"	54	1,800	200	3,500	316 Stainless Steel	1	14
3/8"	927	4,000	200	2,000	Water Service High Pressure	1	15
1/2" - 3/4"	22	1,500	250	250	Water Service Car Wash	1	15
2" - 4"	6000	150	250	750	Water Service Cartridge Seal	1 or 2	16 - 19
5"	F127	150	250	750	Water Service	1 or 2	20
3/4" - 1 1/2"	2400	150	250	100	Water Service Continuous Casters	1 or 2	21
Steam & Hot Oil up to 450°F *							**22-30**
3/8" - 1/2"	N Steam	250	400	750	Single Bearing Spherical Seal	1 or 2	22
3/8" - 1/2"	N Hot Oil	100	450	750	Single Bearing Spherical Seal	1 or 2	22
3/4" - 2"	9000 Steam	150	365	400	Single Bearing Spherical Seal	1 or 2	23 - 25
3/4" - 2"	9000 Hot Oil	100	450	400	Single Bearing Spherical Seal	1 or 2	23 - 25
1 1/2"	HPS Steam	250	400	400	Dual Bearing Spherical Seal	2	26
3/4" - 2"	H Steam	150	365	400	Dual Bearing Spherical Seal	1 or 2	27 - 30
2 1/2" - 5"	H Steam	150	365	180	Dual Bearing Spherical Seal	1 or 2	27 - 30
3/4" - 2"	H Hot Oil	100	450	400	Dual Bearing Spherical Seal	1 or 2	27 - 30
2 1/2" - 5"	H Hot Oil	100	450	350	Dual Bearing Spherical Seal	1 or 2	27 - 30
Air & Hydraulic							**31-45**
1/8" - 3/8"	1005, 1102, 1115	1,000	250	3,500	Standard Applications	1	31 - 32
1/2"	1205, 2200	1,000	250	3,500	Standard Applications	1	31 - 32
3/4" - 1 1/2"	250, 355, 452	1,000	250	3,500	Standard Applications	1	33
1/8" - 3/8"	1005, 1102, 1115	1,000	250	3,500	In-the-shaft Mounted	1	34
1/4" - 1/2"	AP	5,700	200	1,500	High Pressure High Speed	1	35
1/4" - 1 1/2"	D	6,400	120	250	High Pressure Low Speed or Swivel	1	36
3/8" X 2	1500	150	250	1,500	DEU-PLEX Air	2	37
1/2" X 2	1590	150	250	1,500	DEU-PLEX Air	2	38
1/2" X 2	1579	1,000	250	1,500	DEU-PLEX Hyd Oil	2	39
1/4" X 2	2520	750	250	5,000	DEU-PLEX Air & Hyd Oil	2	40
3/8" - 1/2" X 4	1379, 1479	3,600	175	250	Multi Media 4 Pass	4	41
1/4" - 1/2"	17,21	3,000	250	250	Low Speed Air & Hyd Oil	1	42
1/4" X 1/2"	2117	3,000	250	250	Low Speed Tandem Air & Hyd Oil	2	43
1/4"-1/2"-3/4" X 2	1690, 1790, 1890	3,000	250	20	DEU-PLEX Low Speed	2	44 - 45
1/4" X 3/4" X 3	1890	3,000	250	250	Triple Passage	3	45
Coolant (Wider range of products featured in Coolant Union Catalog)							**46-51**
3/8"	1117	2,000	160	20,000	Bearingless	1	46
3/8"	1129	2,000	160	20,000	Bearingless ("Pop-Off") High Speed	1	47
3/16"	1101	1,500	160	15,000	Standard Applications High Speed	1	48
3/8"	1116	1,000	160	10,000	Standard Applications	1	49
1/4" - 3/8"	1109	1,500	160	20,000	Dry-run ("Pop-Off") High Speed	1	50
3/8"	902	1,000	160	10,000	Dry-run ("Pop-Off")	1	51
Unions for Special Applications *							**52-53**
1/8" - 1"	1005, 468, 981	750	250	3,500	Water, Oil Rig, Clutch & Brake	1 to 3	52
1/4" - 3/8"	1102, 1115, 882	150	250	3,500	Central Tire Inflation	1 or 2	52
Custom	7000 / 7100	3,000	250	5,000	Around The Shaft		53

*** Attention!** For applications exceeding indicated limits, contact DEUBLIN. Indicate media, size, speed (RPM), pressure, temperature and connection specifications.

- Subject to technical and dimensional changes without notice.

DEUBLIN KEEPS THE WORLD ROTATING



Since 1945, Deublin has grown from a small garage shop to the world's largest manufacturer of rotating unions. Today, Deublin's international headquarters is located in Waukegan, Illinois, with manufacturing facilities, sales offices and warehouses located in 17 countries on four continents.

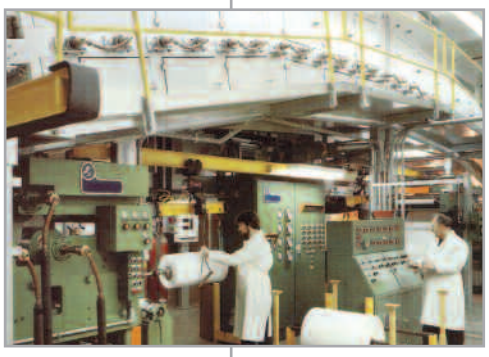
Our worldwide distribution network allows end users all over the world to specify Deublin unions when purchasing equipment made in another country. We're manufacturers ourselves, so we understand the importance of fast response time to keep your manufacturing process rolling. Wherever you're located, Deublin has a stocking distributor nearby to meet your requirements—quickly.

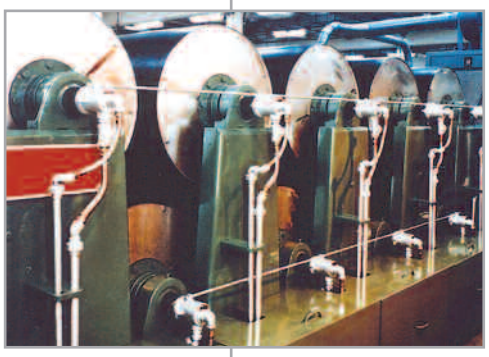
UNIQUE REQUIREMENTS DEMAND CUSTOM UNIONS

Rotating unions must accommodate a broad range of materials, viscosities, temperatures, pressures and speeds. That's why the Deublin product line offers over 500 standard unions, over 3,000 separate models.

Even this extensive line cannot meet all the specialized needs required by our customers. That's why we manufacture an ever-growing line of custom unions to meet individual manufacturers' particular requirements. In many instances, we can adapt or convert an existing union and offer a cost-effective solution to meet your exact specifications.

A ROTATING UNION FOR EVERY APPLICATION





Rotating unions are used in many manufacturing processes to cool, heat or transfer fluid (pneumatic or hydraulic) power. Typical rotating unions feature deep groove ball bearings to support the rotating component against the stationary component, and balanced, precision-engineered mechanical seals to seal the media flow. Deublin rotating unions vary for each application, depending on design, bearing type, construction and material required.

In 1989, the Deublin product line was expanded to include steam joints and siphon systems for paper machine dryer cans.

Here are just some of the industries that rely on Deublin for their unique rotating union needs:

- ALUMINUM
- AUTOMOTIVE
- CAN MAKING
- CAR WASH EQUIPMENT
- CHEMICAL/PETROCHEMICAL/REFINERY
- CONSTRUCTION EQUIPMENT
- DISTILLERIES/BREWERIES
- FARM EQUIPMENT
- FLOOR & WALL COVERINGS
- FOOD PROCESSING MACHINERY
- GLASS MANUFACTURING
- INSULATION
- LAUNDRY EQUIPMENT
- LUMBER & WOODWORKING
- MACHINE TOOL
- MARINE
- MINING
- PAPER
  - CONVERTING PLANTS
  - CORRUGATING
  - PULP & PAPERBOARD
  - ROOFING
- PETROLEUM
- PLASTICS
- PRINTING
  - BUSINESS FORMS
  - FLEXOGRAPHIC
  - WEB OFFSET
- RUBBER
- STEEL
- TEXTILE
- TIRES
- TRUCKING

DEUBLIN'S state-of-the-art manufacturing facilities are strategically located worldwide, and feature the latest CNC technologies including multi-axis/multi-function, robotic interfaces, single point threading and cylindrical grinding.

These advanced machining techniques and proprietary processes allow Deublin to achieve the most precise tolerances in the industry, and ensure superior union performance and service life.

WE TREAT PRECISION AS AN EXACT SCIENCE

PRECISION

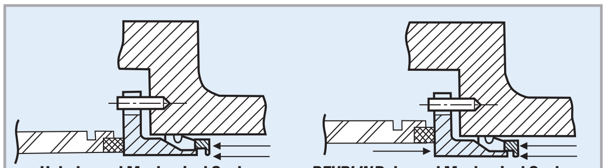
A rotating union must be capable of containing high pressures while rotating at very high speeds. Smooth, easy rotation can only be achieved by exactly mating the seal faces to minimize friction.

Precision and tight tolerances are critical in the micro lapping of seal faces. All Deublin seals are micro lapped to an optical flatness within 2 light bands or 0.000023” utilizing proprietary lapping machinery and compounds. This level of precision is essential for dependable leak-proof operation.

Housings are machined on multi-axis twin-spindle lathes to obtain the necessary part-to-part precision. Rotors and other parts are turned on automatic bar machines to ensure true-running rotating unions without any wobble. This assures extended service life.

BALANCED MECHANICAL SEAL

The greater the pressure on a rotating seal face, the greater the friction, torque and wear on the union. That’s why Deublin rotating unions feature "balanced mechanical seals". With this technology, the thrust load or seal face contact pressure is kept to a minimum regardless of media pressure. This reduces wear, resulting in longer seal life. The spring-loaded seal is keyed so that it cannot rotate or creep, which can cause premature failure in secondary seals, resulting in a leaking union.



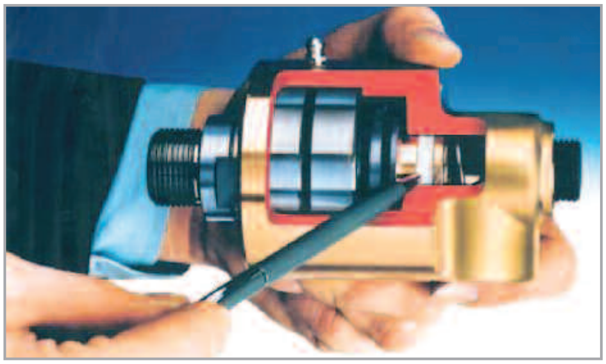
Unbalanced Mechanical Seal
Entire line pressure is applied to seal face.

***DEUBLIN* Balanced Mechanical Seal**
Partial line pressure is applied to seal face.

EXTENDED LIFE SEALING

Responding to ever-increasing speeds and pressures, Deublin pioneered Extended Life Sealing (E.L.S.). E.L.S. rotating unions offer outstanding performance under the toughest conditions, and can extend service life two to four times, depending on the severity of the application. E.L.S. unions use advanced materials such as tungsten carbide and silicon carbide to provide the best possible seal solution for the application.

Where reliability is of prime importance, E.L.S. should be specified to protect against contaminants and resist wear caused by rust, scale, chips and other harmful abrasives.



PROFESSIONAL SERVICE AROUND THE WORLD

At Deublin, our service is as reliable as our products. Given the importance of rotating unions to your equipment’s performance, our products have to be reliable. To provide you local and emergency service, we have a worldwide service network consisting of wholly-owned subsidiaries and authorized distribution network.

Whether you need a spare part, a new product, technical advice, or help with an ongoing design project, our experienced customer service representatives and engineers are always available to provide immediate assistance.

For all your rotating union requirements—no matter how unique or complex—you can rely on Deublin.

NUMBER SYSTEM

DEUBLIN ordering numbers for standard rotating unions consist of 2, 3 or 4 number groups. Each group describes a particular characteristic feature such as application, seal combination or rotor connection (refer to ordering example).

Rebuilding and repair kit numbers differ from their respective rotating union numbers by the insertion of a letter (B or C). The letter B stands for a rebuilding kit, and the letter C for a repair kit (refer to ordering example).

ORDERING EXAMPLE:

255-000-284681
- 255 — model / series / size
- 000 — seal combination
- 284 — rotor
- 681 — elbow for duoflow design

255-000B284 — rebuilding kit

257-000C — repair kit

DEUBLIN

General Purpose 55 Series Unions

- monoflow and duoflow design
- self-supported rotating union
- radial housing connection
- balanced mechanical seal
- 3 vent holes
- forged brass housing
- stainless steel rotor (⅜" - 1")
- special options:
  threaded vent holes,
  low torque design
- Lubrication Guide page 55

Operating Data

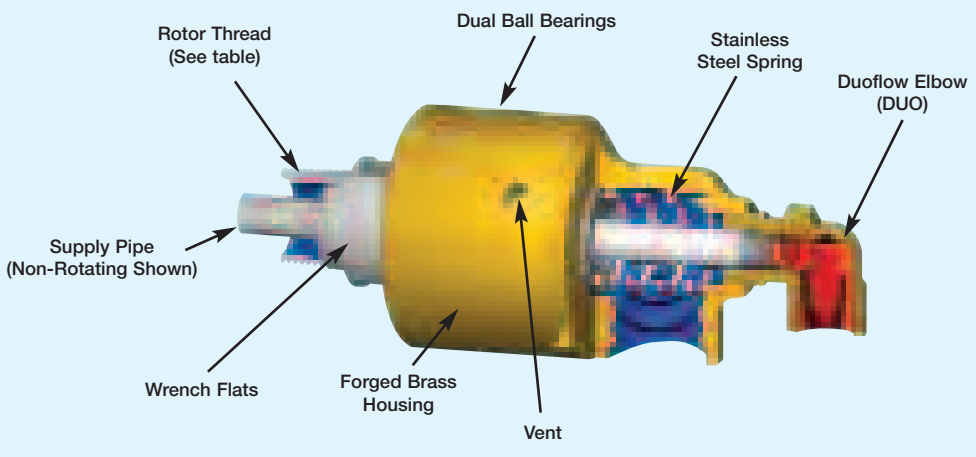
Maximum Water Pressure	Model	55-555	750 PSI	50 bar
Maximum Water Pressure	Model	655	600 PSI	41 bar
Maximum Saturated Steam Pressure (Intermittent)			15 PSI	1 bar
Maximum Hot Oil Pressure			100 PSI	6.6 bar
Maximum Speed NPT Threads	Model	55-555	1,500 RPM	1,500/min
	Model	655	750 RPM	750/min
Maximum Speed Straight Threads				
	Model	55-255	3,500 RPM	3,500/min
	Model	355	3,000 RPM	3,000/min
	Model	525-555	2,500 RPM	2,500/min
	Model	655	750 RPM	750/min
Maximum Temperature			250°F	>250°F consult ***DEUBLIN***

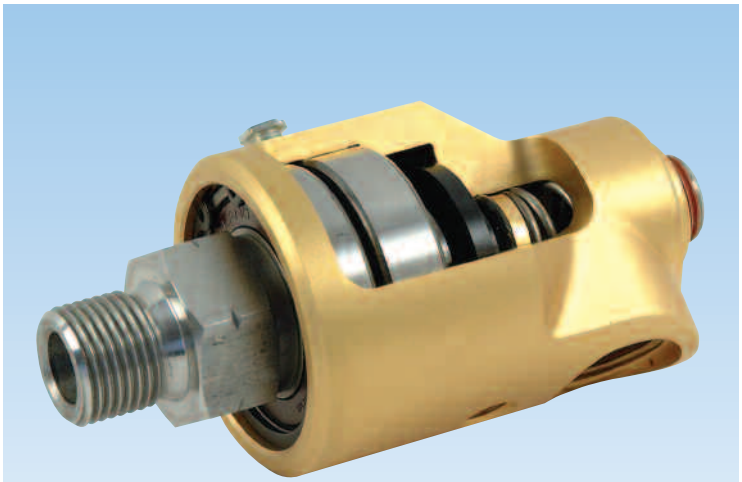
Seal Combinations
- Carbon Graphite/Bronze for water - Standard
- Carbon Graphite/Ceramic for hot oil, hot water and saturated steam - Optional
- multi-purpose applications

Seal Combination - E.L.S.
- Tungsten Carbide/Ceramic for severe conditions (poor water quality), max. temperature 200°F

Torque Ratings 55 Series		
Size	ft.lbs	Nm
55	¼	0.34
155	⅓	0.50
255	½	0.68
355	1⅓	1.80
525	1⅓	1.80
555	2½	3.40
655	3	4.07

Illustration shows duoflow with fixed supply pipe. Monoflow units have pipe plugs instead of an elbow.





DEUBLIN

57 Series with Silicon Carbide Seals, for Water Service

- monoflow and duoflow design
- self-supported rotating union
- radial housing connection
- balanced mechanical seal
- keyed rotor seal
- easy and quick replacement of sealing components (rotor seal, floating seal)
- ball bearings lubricated for life
- for poor water quality (E.L.S.)
- 3 vent holes
- forged brass housing
- stainless steel rotor (⅜" - 1")
- special options:
  threaded vent holes

Operating Data

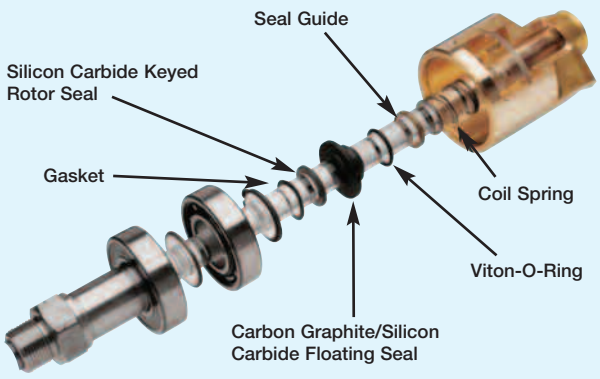
Maximum Water Pressure		150 PSI	10 bar
Maximum Speed NPT Threads	Model 57-557	1,500 RPM	1,500/min
	Model 657	750 RPM	750/min
Maximum Speed Straight Threads			
	Model 57-257	3,500 RPM	3,500/min
	Model 357	3,000 RPM	3,000/min
	Model 527-557	2,500 RPM	2,500/min
	Model 657	750 RPM	750/min

Maximum Water Temperature	200°F	>200°F consult ***DEUBLIN***

Seal Combination - Standard
- Carbon Graphite/Silicon Carbide

Seal Combination - E.L.S.
- Silicon Carbide/Silicon Carbide for severe conditions (poor water quality)

Torque Ratings 57 Series		
Size	ft.lbs	Nm
57	¼	0.25
157	⅓	0.50
257	¾	1.00
357	1½	2.00
527	1½	2.20
557	2¼	2.90
657	3½	4.50



Union Repair

The 57 Series is designed for quick, easy replacement of both Floating Seal and the Rotor Seal.

The "57's" seal is seated in a keyed counter bore at the rotor's end. The worn seal simply lifts out and the new one drops right in. Since the entire rotor does not need to be replaced or relapped, the repair is fast, easy and on the spot. As you only replace the seals, the repair cost is very economical.

For Ordering Number of Repair Kit see page 5.

55 & 57 Series Monoflow Union Specifications

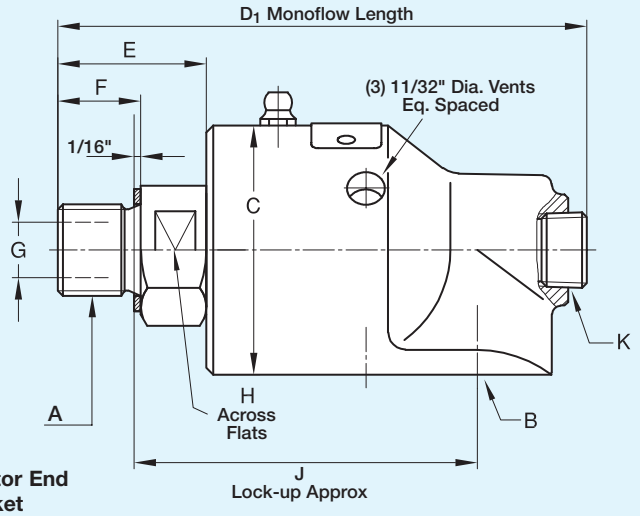


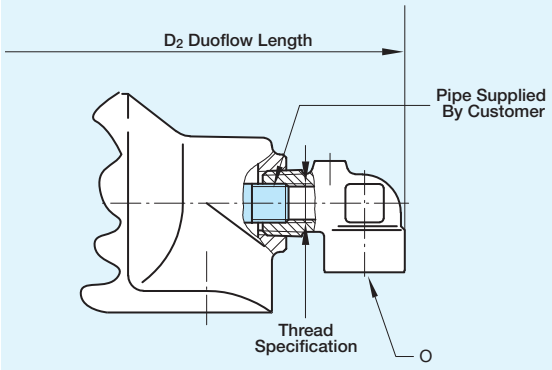
Chart Instructions
Select Union Size and Rotor Thread. Follow this line to opposite page to find Duoflow Elbow Specifications. Add Duoflow Elbow Suffix to the end of the Ordering Number.

† Recessed O-Ring in Rotor End in Place of Copper Gasket

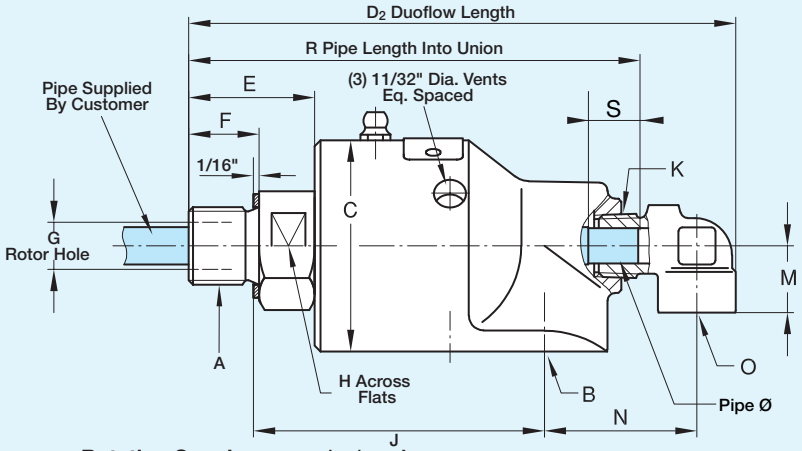
B Port NPT	Ordering Number				A① Rotor Thread	C	D_1	D_2	E	F	G	H	J
	55 Series All Purpose	55 Series E.L.S.	57 Series Water Service	57 Series E.L.S.									
⅜"	55-000-001	55-147-151	57-000-001	57-050-001	⅜" NPT RH	1¾"	3 15/16"	4 13/16"	1"	⅝"	⅜"	⅞"	2 11/16"
	55-000-002	55-147-152	57-000-002	57-050-002	⅜" NPT LH								
	55-000-003	55-147-149	57-000-003	57-050-003	⅝"-18 UNF RH	1¾"	3 15/16"	4 13/16"	1"	⅝"	⅜"	⅞"	2½"
	55-000-004	55-147-150	57-000-004	57-050-004	⅝"-18 UNF LH								
	55-000-094	55-147-192	57-000-094	57-050-094	G⅜" (BSP) RH	44.5	102	123	26	16	9.5	22.2	63
	55-000-095	55-147-193	57-000-095	57-050-095	G⅜" (BSP) LH								
½"	155-000-001	155-208-113	157-000-001	157-050-001	½" NPT RH	2¼"	4 13/16"	5⅞"	1 7/16"	⅞"	½"	1⅛"	3½"
	155-000-002	155-208-114	157-000-002	157-050-002	½" NPT LH								
	155-000-021	155-208-185	157-000-021	157-050-021	¾"-16 UNF RH	2¼"	4 11/16"	5¾"	1 5/16"	¾"	½"	1⅛"	3 1/16"
	155-000-022	155-208-229	157-000-022	157-050-022	¾"-16 UNF LH								
	155-000-151	155-208-252	157-000-151	157-050-151	G½" (BSP) RH	57.2	120	148	34	19	12.7	28.6	78
	155-000-152	155-208-253	157-000-152	157-050-152	G½" (BSP) LH								
¾"	255-000-020	255-052-255	257-000-020	257-050-020	¾" NPT RH	2⅞"	5 9/16"	6¾"	1 7/16"	⅞"	11/16"	1¼"	4 1/16"
	255-000-021	255-052-256	257-000-021	257-050-021	¾" NPT LH								
	255-000-003	255-052-258	257-000-135†	257-050-135†	1"-14 UNS RH	2⅞"	5 7/16"	6⅝"	1 5/16"	¾"	21/32"	1¼"	3 11/16"
	255-000-027	255-052-257	257-000-136†	257-050-136†	1"-14 UNS LH								
	255-000-284	255-052-445	257-000-284	257-050-284	G¾" (BSP) RH	73	138	168	34	19	17.5	32	94
	255-000-285	255-052-446	257-000-285	257-050-285	G¾" (BSP) LH								
1"	355-000-002	355-064-186	357-000-002	357-050-002	1" NPT RH	3¼"	6 13/16"	8 5/16"	1 15/16"	1⅛"	1"	1½"	4 11/16"
	355-000-003	355-064-187	357-000-003	357-050-003	1" NPT LH								
	355-000-019	355-064-328	357-000-019	357-050-019	1½"-12 UNF RH	3¼"	6 13/16"	8 5/16"	1 15/16"	1⅛"	1"	1½"	4¼"
	355-000-074	355-064-329	357-000-074	357-050-074	1½"-12 UNF LH								
	355-000-222	355-064-378	357-000-222	357-050-222	G1" (BSP) RH	75.4	166	204	42	21.5	22.2	38.1	108
	355-000-223	355-064-379	357-000-223	357-050-223	G1" (BSP) LH								
1¼"	525-000-001	525-097-043	527-000-001	527-050-001	1¼" NPT RH	3 9/16"	7 9/16"	9⅜"	2 3/16"	1⅛"	1¼"	1¾"	5¼"
	525-000-002	525-097-044	527-000-002	527-050-002	1¼" NPT LH								
	525-000-026	525-097-095	527-000-026	527-050-026	1¾"-12 UN RH	3 9/16"	7 9/16"	9⅜"	2 3/16"	1 3/16"	1¼"	1¾"	4 11/16"
	525-000-027	525-097-096	527-000-027	527-050-027	1¾"-12 UN LH								
	525-000-054	525-097-122	527-000-054	527-050-054	G1¼" (BSP) RH	90.5	191	234	54	27	30.2	44.5	119
	525-000-055	525-097-123	527-000-055	527-050-055	G1¼" (BSP) LH								
1½"	555-000-001	555-033-154	557-000-001	557-050-001	1½" NPT RH	4¼"	8½"	10 5/16"	2 7/16"	1 3/16"	1½"	2⅛"	6"
	555-000-002	555-033-160	557-000-002	557-050-002	1½" NPT LH								
	555-000-395	555-033-399	557-000-395	557-050-395	2"-12 UN RH	4¼"	8⅞"	10 11/16"	2 13/16"	1⅛"	1½"	2⅛"	5 13/16"
	555-000-396	555-033-382	557-000-396	557-050-396	2"-12 UN LH								
	555-000-198	555-033-288	557-000-198	557-050-198	G1½" (BSP) RH	108	225	268	71	29	35	54	147
	555-000-199	555-033-289	557-000-199	557-050-199	G1½" (BSP) LH								
2"	655-500-116	655-502-116	657-000-116	657-050-116	2" NPT RH	4⅝"	10 1/16"	11¾" / 12 7/16"	3"	1½"	1⅞"	2¼"	7"
	655-500-117	655-502-117	657-000-117	657-050-117	2" NPT LH								
	655-500-124	655-502-124	657-000-124	657-050-124	G2" (BSP) RH	117	246	289	65	28.6	47	55	164
	655-500-125	655-502-125	657-000-125	657-050-125	G2" (BSP) LH								

① Metric threads and other thread sizes are available. Contact factory for further information. For 2", 2½", 3", 4" and 5" capacity unions refer to pages 11-13 and 16-20.

55 & 57 Series Duoflow Union Specifications



Fixed Supply Pipe Detail



Rotating Supply Pipe Detail

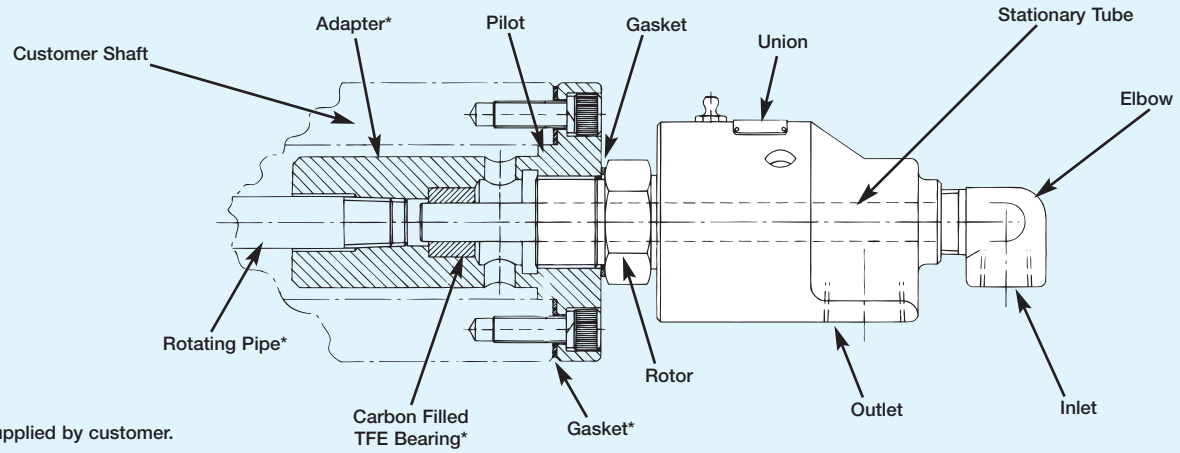
For Description See Page 10

Fixed Supply Pipe			Fixed Supply Tube			Rotating Supply Pipe									
Elbow Suffix	Thread	R	Elbow Suffix	Tube OD	R	Elbow Suffix	Pipe Size	Pipe Dia.	S	R	K NPT	M	N	O NPT	Shpg. Wt.
—	—	—	-030	.250"	4 3/16"	—	—	—	—	—	1/4"	11/16"	1 3/8"	1/4"	2#
—	—	—	-030	.250"	4 3/16"	—	—	—	—	—	1/4"	11/16"	1 3/8"	1/4"	2#
-120	M6X1	98.5	—	—	—	—	—	—	—	—	1/4"	18	35	1/4"	0.9 Kg
-012	1/8" NPT	4 3/4"	-061	.375"	5 7/16"	—	—	—	—	—	3/8"	11/16"	1 1/2"	3/8"	3#
-012	1/8" NPT	4 3/4"	-061	.375"	5 5/16"	-061	1/8"	.371" .370"	1 3/16"	5"	3/8"	11/16"	1 1/2"	3/8"	3#
-199	G1/8" (BSP)	117	—	—	—	-471	—	9.93 9.90	30	127	3/8"	18	38	3/8"	1.4 Kg
-043	1/4" NPT	5 1/4"	-075	.500"	5 13/16"	—	—	—	—	—	1/2"	1"	1 3/4"	1/2"	5#
-044	1/8" NPT	5 1/8"	-026	.437"											
-043	1/4" NPT	5 1/8"	-075	.500"	5 13/16"	-075	1/4"	.496" .495"	1 1/4"	5 11/16"	1/2"	1"	1 3/4"	1/2"	5#
-044	1/8" NPT	5"	-026	.437"											
-368	G1/4" (BSP)	136.5	—	—	—	-681	—	12.95 12.90	31	146.5	1/2"	26	45	1/2"	2.3 Kg
-367	G1/8" (BSP)	132.5													
-083	3/8" NPT	7 1/16"	-163	.625"	7 1/8"	—	—	—	—	—	3/4"	1 1/16"	2 5/16"	1/2"	8#
-084	1/4" NPT	7"													
-083	3/8" NPT	7 1/16"	-163	.625"	7 1/8"	-163	3/8"	.621" .619"	1 1/4"	7"	3/4"	1 1/16"	2 5/16"	1/2"	8#
-084	1/4" NPT	7"													
-255	G3/8" (BSP)	162	—	—	—	-347	—	15.95 15.90	31	175	3/4"	27	59	1/2"	3.6 Kg
-007	1/2" NPT	8 1/8"	-104	.750"	8 1/4"	—	—	—	—	—	1"	1 3/8"	2 13/16"	3/4"	10#
-007	1/2" NPT	8 1/8"	-104	.750"	8 1/4"	-104	1/2"	.745" .743"	1 1/2"	8 3/16"	1"	1 3/8"	2 13/16"	3/4"	10#
-079	G1/2" (BSP)	185.5	—	—	—	-237	—	21.94 21.89	38	201.5	1"	35	72	3/4"	4.5 Kg
-013	3/4" NPT	8 13/16"	-263	1.000"	9 1/8"	—	—	—	—	—	1 1/4"	1 1/2"	3 1/16"	3/4"	16#
-036	1/2" NPT	8 3/4"													
-013	3/4" NPT	9 3/16"	-263	1.000"	9 1/2"	-144	3/4"	1.000" .998"	1 3/4"	9 5/16"	1 1/4"	1 1/2"	3 1/16"	3/4"	16#
-036	1/2" NPT	9 1/8"													
-221	G3/4" (BSP)	222	—	—	—	-468	—	25.91 25.81	44	244	1 1/4"	38	78	3/4"	7.2 Kg
-013	3/4" NPT	10 1/4"	-263	1.000"	10 5/8"	—	—	—	—	—	1 1/4"	1 1/2"	3 1/16"	3/4"	17#
-183	1" NPT	10 3/8"										1 3/4"	3 1/2"	1"	
-221	G3/4" (BSP)	243	—	—	—	-468	—	25.91 25.81	44	250	1 1/4"	38	78	3/4"	7.7 Kg

Duoflow Supply Pipe Installations

Deublin water service unions can be adapted for Duoflow applications where a single media is circulated through and around the supply pipe. Duoflow elbows are available in 3 styles to accept a variety of different supply systems. The guidelines shown below should be carefully considered. A poorly designed supply system can contribute to premature union failure.

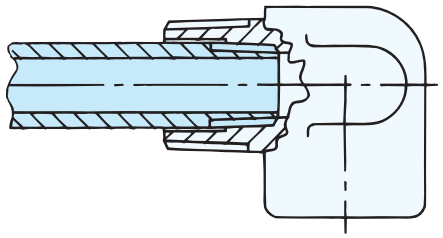
Where long pipes or high speeds are required, an adapter should be used to avoid transmitting stresses from heavy pipes, cascading water or vibrations to the union. A typical adapter is illustrated.



*Supplied by customer.

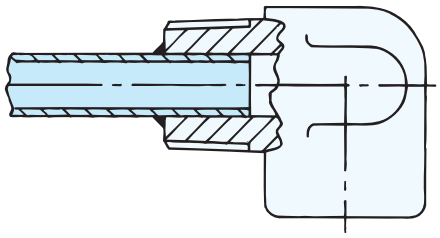
Threaded Pipe

The largest threaded supply pipe achieves the maximum flow rates available for a particular size union. Stresses at the pipe thread can cause breakage allowing the pipe to fall into the roll. For this reason pipe lengths longer than 4 union lengths (4 x D1) and rotational speeds above 1000 RPM should be avoided.



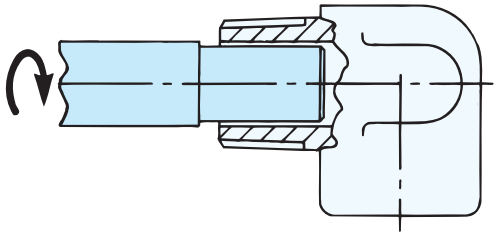
Fixed Tube

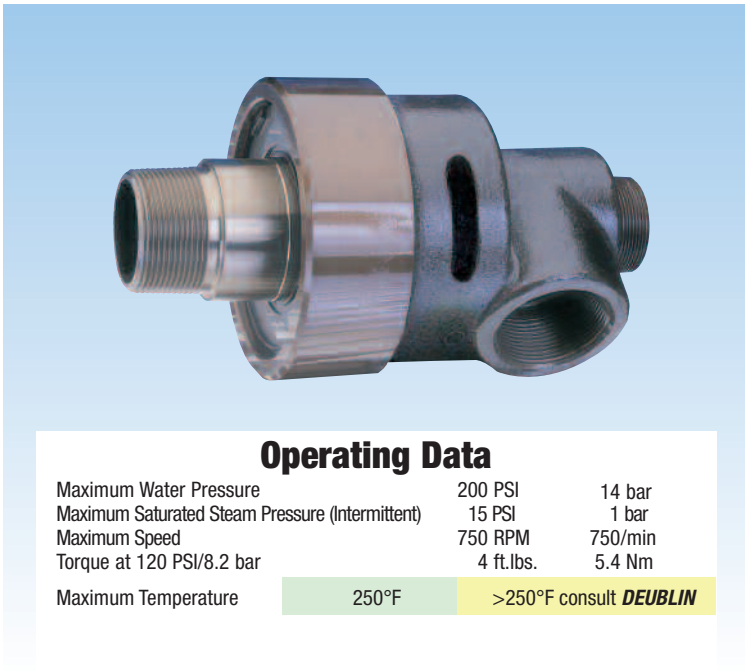
Thin wall stainless steel tube silver soldered into the Duoflow elbow produces the strongest, lightest weight assembly. The thinner wall sections allow greater flow rates than the threaded pipe. Maximum flow rates are obtained with the largest tube available for a given size union. Tube length is usually limited to 6 union lengths (6 x D1). Speeds to 3500 RPM are possible.



Rotating Pipe

Rotating pipes are fastened internally to rotate with the roll. The Duoflow elbow helps to support the pipe and restrict crosstalk between passages. The pipe must be straight and concentric to the center line to avoid excessive loading of the union. The union must also have a rotor with a straight thread (Example 1"-14 UNS) rather than a tapered pipe thread to assure concentricity. Rotational speeds above 1000 RPM should be avoided.





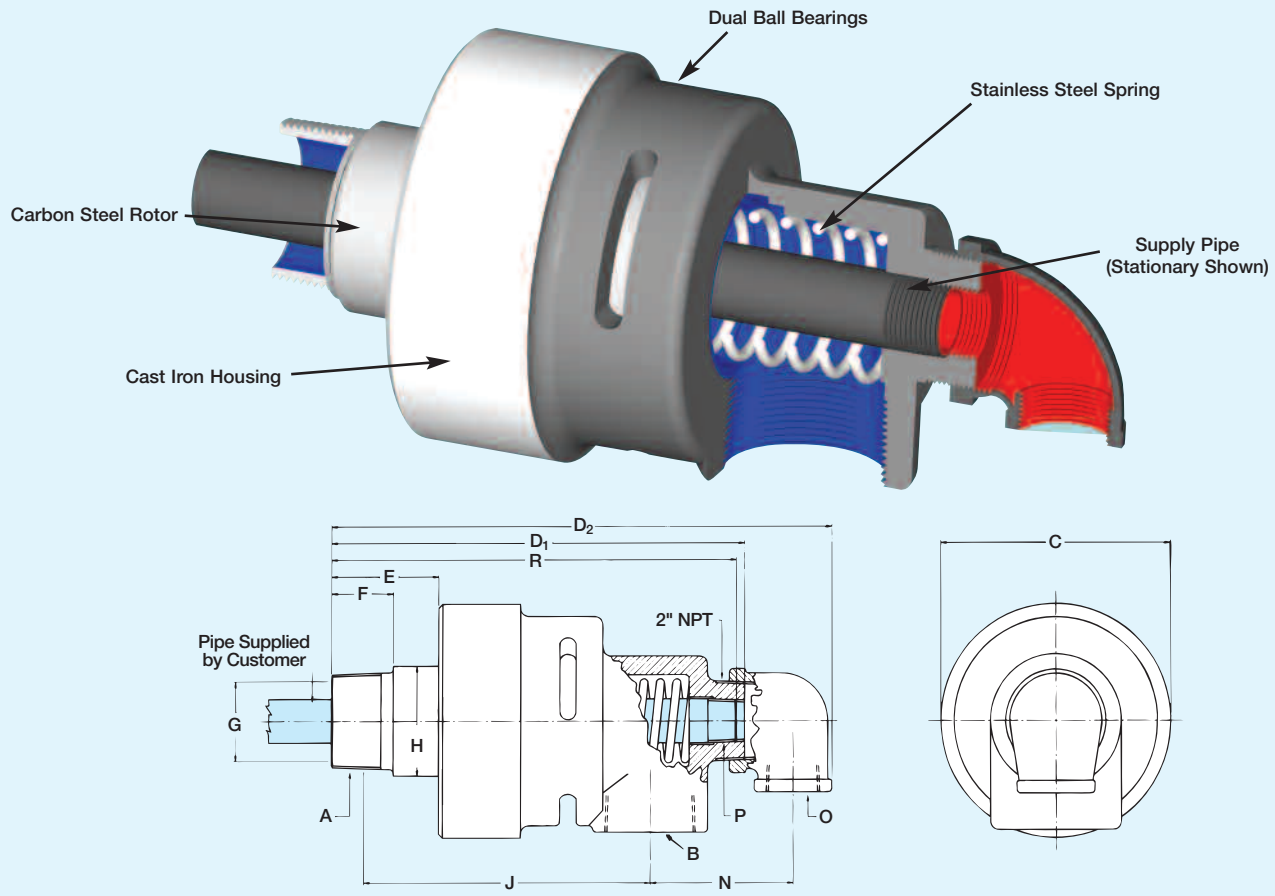
Operating Data

Maximum Water Pressure	200 PSI	14 bar
Maximum Saturated Steam Pressure (Intermittent)	15 PSI	1 bar
Maximum Speed	750 RPM	750/min
Torque at 120 PSI/8.2 bar	4 ft.lbs.	5.4 Nm
Maximum Temperature	250°F	>250°F consult ***DEUBLIN***

DEUBLIN

2½" Field Repairable All Purpose Unions

- monoflow and duoflow design
- self-supported rotating union
- radial housing connection
- balanced mechanical seal
- seal combinations:
  Carbon Graphite/Ceramic - standard
  Tungsten Carbide/Ceramic - E.L.S.
- 3 vent slots
- cast iron housing
- steel rotor
- Lubrication Guide page 55



B Port NPT	Ordering Number① All Purpose	Ordering Number① E.L.S.	A Rotor Thread	C Dia.	D1	D2	E	F	G Rotor Hole	H Dia.	J Lock-up	N	O NPT	P NPT	R	Shpg. Wt.
2½"	755-700-413-117	755-701-413-117	2½" NPT RH	7"	13½"	15"	3¼"	1⅞"	2⅜"	3⁹⁄₃₂"	8⅝"	4¼"	1¼"	1"	12⅛"	44#
	755-700-415-117	755-701-415-117	2½" NPT LH													
2½"	755-700-330-117	755-701-330-117	G2½" (BSP) RH	178	343	381	82.5	38.1	60.3	83.3	207	108	1¼"	1"	308	20 Kg
	755-700-411-117	755-701-411-117	G2½" (BSP) LH													
2½"	755-702-413-139	755-703-413-139	2½" NPT RH	7"	13½"	15¼"	3¼"	1⅞"	2⅜"	3⁹⁄₃₂"	8⅝"	4⅜"	1½"	‡ 1½"	12⅛"	44#
	755-702-415-139	755-703-415-139	2½" NPT LH													

① Monoflow unions can be specified by omitting the -117 or -139 suffix. Flange rotor available upon request. Duoflow rotating pipe models available upon request. For recirculating water service (equal in and out flow) use 1½" supply pipe.

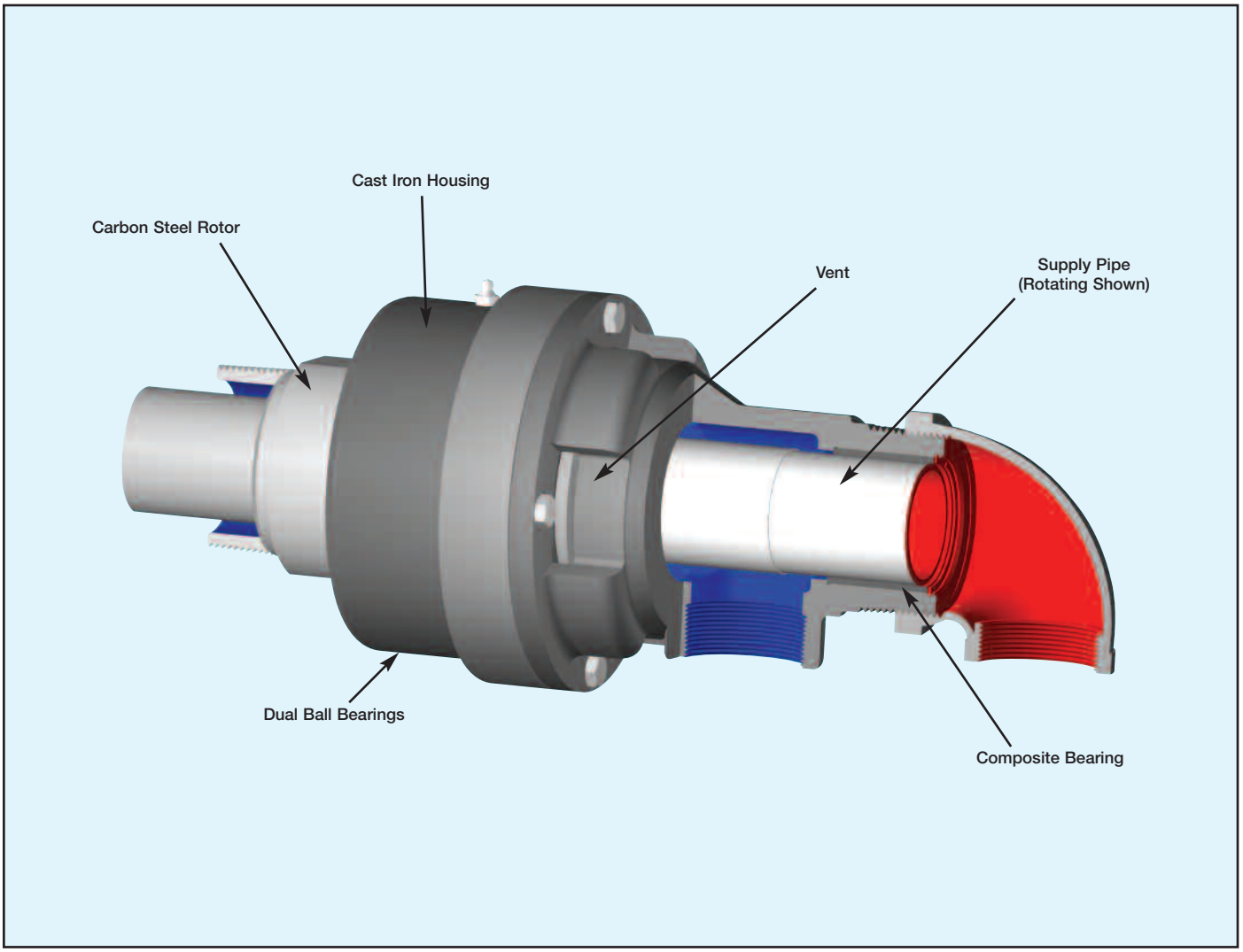
DEUBLIN

3" Union for Rubber and Plastic Application

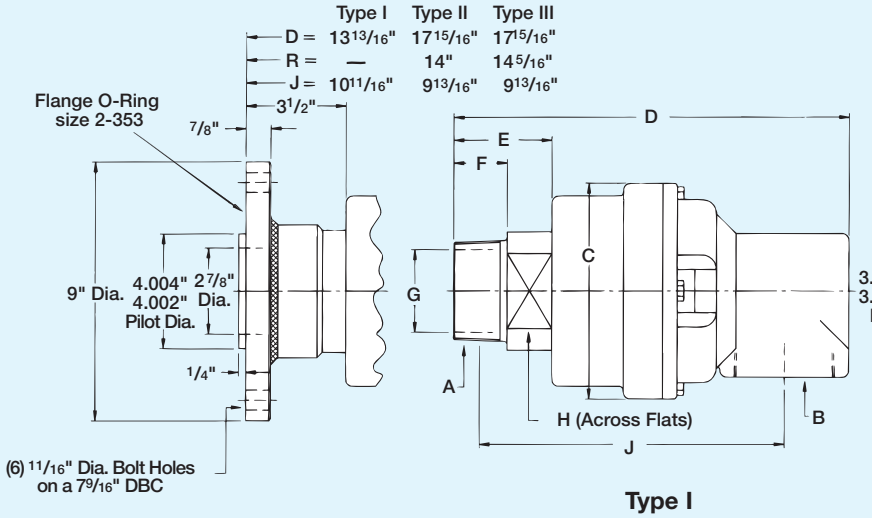
- monoflow and duoflow design
- self-supported rotating union
- radial housing connection
- balanced mechanical seal
- seal combination:
  Carbon Graphite/Tungsten Carbide
- full-media flow
- easy and quick replacement of sealing components
  (rotor seal, floating seal)
- vented housing
- cast iron housing
- steel rotor
- Lubrication Guide page 55

Operating Data

Maximum Water Pressure		150 PSI	10 bar
Maximum Saturated Steam Pressure (Intermittent)		15 PSI	1 bar
Maximum Speed		500 RPM	500/min
Torque @ 150 PSI/10bar		6 ft.lbs	8.2 Nm
Maximum Water Temperature	250°F	>250°F consult ***DEUBLIN***	



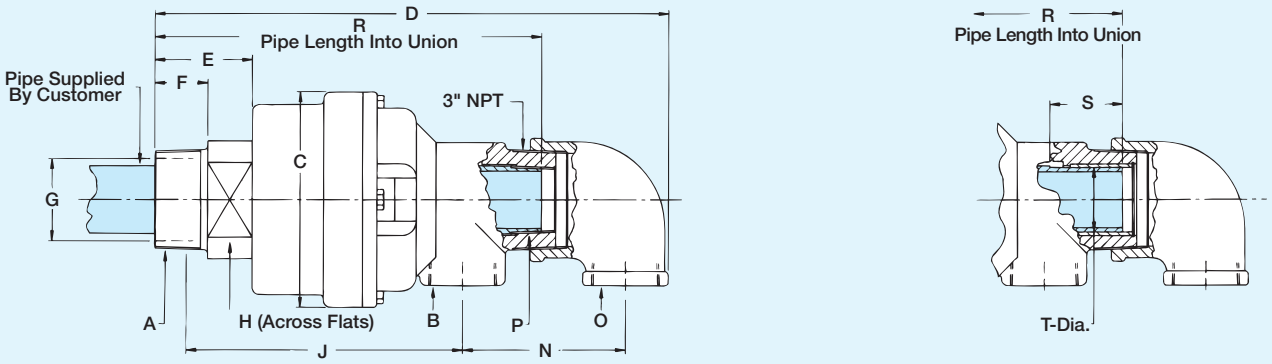
857 Series Specifications



857-132 Flanged Rotor Detail

Type I
Monoflow

857-128 Quick Connect
Rotor Detail



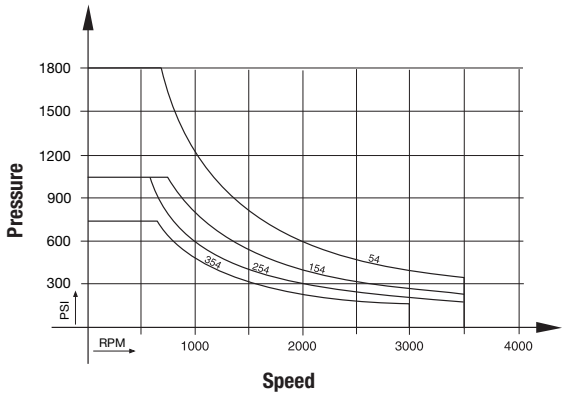
Type II
Duoflow Fixed Pipe

Type III
Duoflow Rotating Pipe

B Port NPT		Ordering Number	A Rotor Thread	C Dia.	D	E	F	G	H	J	N	O NPT	P NPT	R	S	T	Shpg. Wt.
Type I	3"	857-000-101	3" NPT RH	7½"	13¾"	3 7/16"	1⅞"	2⅞"	4"	10 9/16"	-	-	-	-	-	-	50#
		857-000-102	3" NPT LH														
		857-000-118	G3" (BSP) RH	190	344	83	44	73	102	244	-	-	-	-	-	-	23 Kg
		857-000-119	G3" (BSP) LH														
Type II	2"	857-001-101	3" NPT RH	7½"	17⅞"	3 7/16"	1⅞"	2⅞"	4"	9¾"	5 11/16"	2"	2"	13 15/16"	-	-	55#
		857-001-102	3" NPT LH														
		857-001-118	G3" (BSP) RH	190	451	83	44	73	102	228	144	2"	2"	351	-	-	25 Kg
		857-001-119	G3" (BSP) LH														
Type III	2"	857-002-101	3" NPT RH	7½"	17⅞"	3 7/16"	1⅞"	2⅞"	4"	9¾"	5 11/16"	2"	-	14¼"	2¾"	2.308" 2.302"	55#
		857-002-102	3" NPT LH														
		857-002-118	G3" (BSP) RH	190	451	83	44	73	102	228	144	2"	-	355	70	58.62 58.47	25 Kg
		857-002-119	G3" (BSP) LH														

DEUBLIN
Stainless Steel Unions

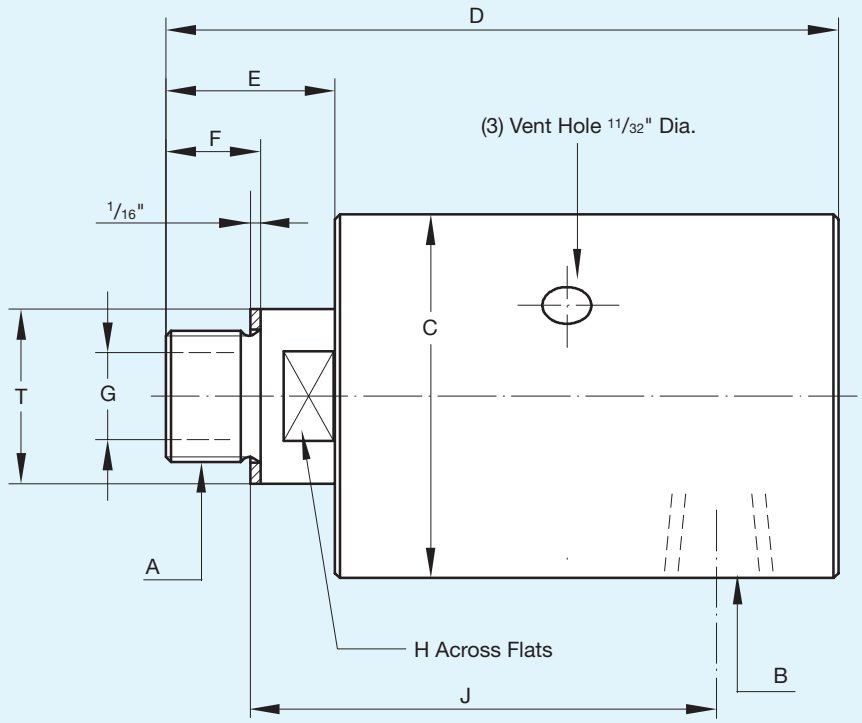
- monoflow and duoflow (available) design
- self-supported rotating union
- radial or axial (available) housing connection
- seal combinations:
  Carbon Graphite/Ceramic - standard
  Tungsten Carbide/Ceramic - E.L.S.
- wetted parts made of 316 stainless steel
- suitable for the food, chemical & pharmaceutical industries
- full-media flow



Operating Data

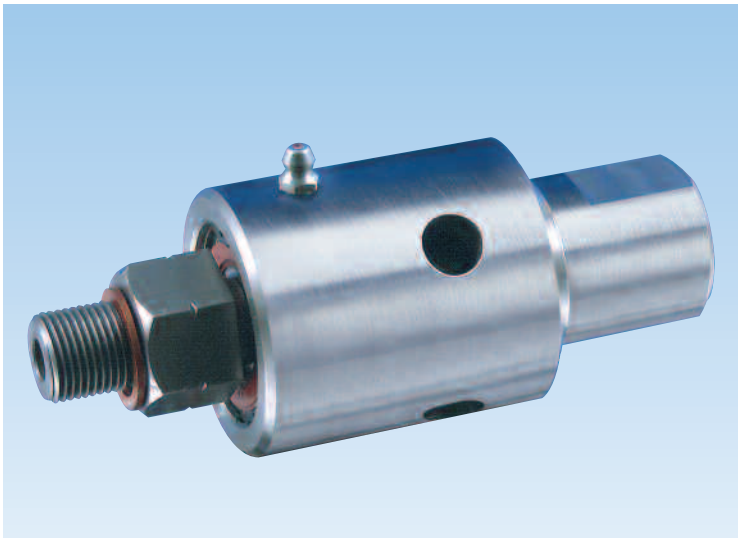
Maximum Pressure and Maximum Speed	See Diagram	
Maximum Speed NPT	1,500 RPM	1,500/min
Maximum Temperature	200°F	>200°F consult ***DEUBLIN***

(Temperatures above 160°F pressure should not exceed 150 PSI (10 bar) and media must be in liquid form.)



B Port NPT	Ordering Number		A Rotor Thread	C Dia.	D	E	F	G	H	J	T	Shpg. Wt.
	Standard Model	E.L.S. Model										
3/8"	54-050-117	54-051-112	3/8" NPT RH	1 15/16"	4"	1 1/16"	5/8"	3/8"	3/4"	3"	7/8"	1½#
	54-050-178	54-051-110	G3/8" (BSP) RH	49	101	26	16	9.5	19	71.5	22	1.1 Kg
½"	154-050-117	154-051-112	½" NPT RH	2½"	4 15/16"	1 7/16"	7/8"	½"	15/16"	3¾"	1 3/16"	2#
	154-050-178	154-051-110	G½" (BSP) RH	64	123	34	19	12.7	24	89	30	1.8 Kg
¾"	254-050-117	254-051-112	¾" NPT RH	2 7/8"	5 7/16"	1 15/32"	7/8"	1 1/16"	1 3/16"	4 1/16"	1 3/8"	5¾#
	254-050-178	254-051-110	G¾" (BSP) RH	73	135	34	19	17.5	30	98	35	2.6 Kg
1"	354-050-117	354-051-112	1" NPT RH	3 11/16"	6 9/16"	1 15/16"	1 1/8"	7/8"	1 7/16"	4 7/8"	1 25/32"	11¼#
	354-050-178	354-051-110	G1" (BSP) RH	94	161	43	22	22.2	36	117	45	5.1 Kg

Note: 1¼" & 1½" available



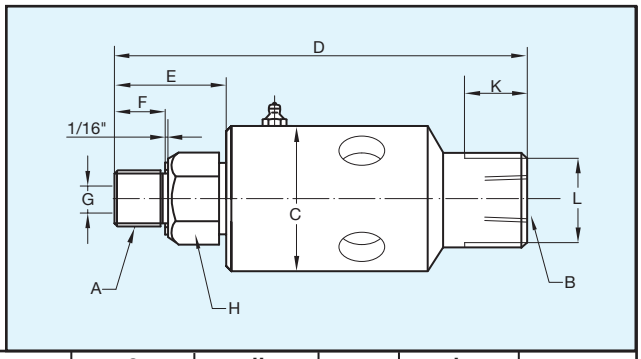
DEUBLIN

Model 927 High Pressure / Low Torque Water Union

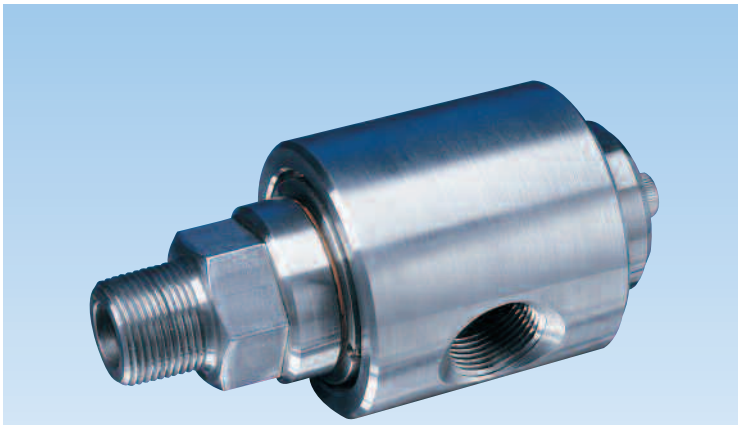
- monoflow design
- self-supported rotating union
- axial housing connection
- balanced mechanical seal
- seal combination:
  Tungsten Carbide/Tungsten Carbide
- slinger and vents protect bearings
- low torque design
- stainless steel housing and rotor

Operating Data

Maximum Water Pressure	4,000 PSI	276 bar
Maximum Speed	2,000 RPM	2,000/min
Maximum Flow	4 GPM	15 L/min
Maximum Temperature	200°F	90°C



B Port NPT	Ordering Number	A Rotor Thread	C	D	E	F	G Rotor Hole	H Across Flats	K	L Across Flats	Shpg. Wt.
3/8"	927-150-151	¾"-16 UNF RH	2¼"	5⅝"	1 9/16"	¾"	3/16"	1⅛"	1"	1¼"	3#
3/8"	927-150-152	¾"-16 UNF LH									



DEUBLIN

Model 22 Car Wash Union

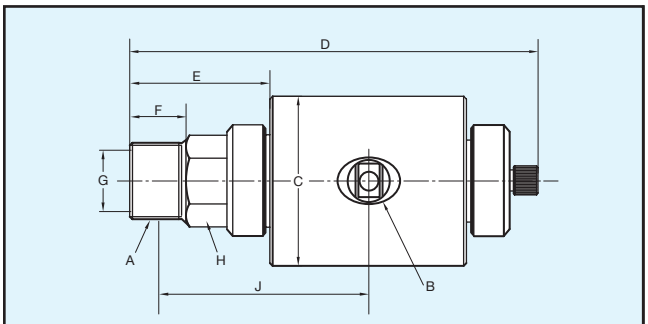
- monoflow design
- self-supported rotating union
- radial housing connection
- seal combination:
  Silicon Carbide/Silicon Carbide
- stainless steel housing and rotor

Operating Data

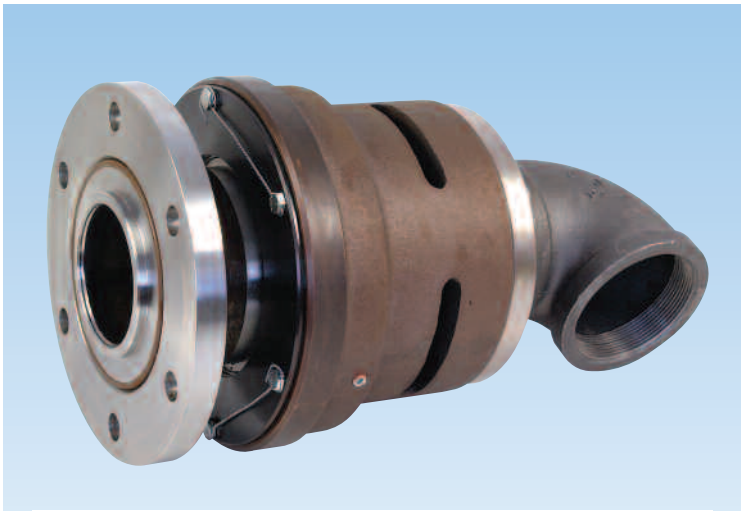
Maximum Water Pressure ①	1,500 PSI	105 bar
Maximum Speed ①	250 RPM	250/min
Maximum Temperature	250°F	121°C

① Union is designed for continuous operation at either maximum speed or maximum pressure. If operating conditions are close to maximum pressure and speed simultaneously, consult ***DEUBLIN***.

(Not suitable for overhead boom.)



B Port NPT	Ordering Number	A Rotor Thread	C	D	E	F	G Rotor Hole	H Across Flats	J Approx. Lock-up	Shpg. Wt.
¾"	22-001-101	½" NPT RH	2¾"	5 9/16"	1⅞"	11/16"	½"	1⅛"	2 11/16"	4¾#
¾"	22-001-102	½" NPT LH								
¾"	22-001-103	¾" NPT RH	2¾"	5¾"	2 1/16"	⅞"	½"	1⅛"	2⅞"	4¾#
¾"	22-001-104	¾" NPT LH								



DEUBLIN

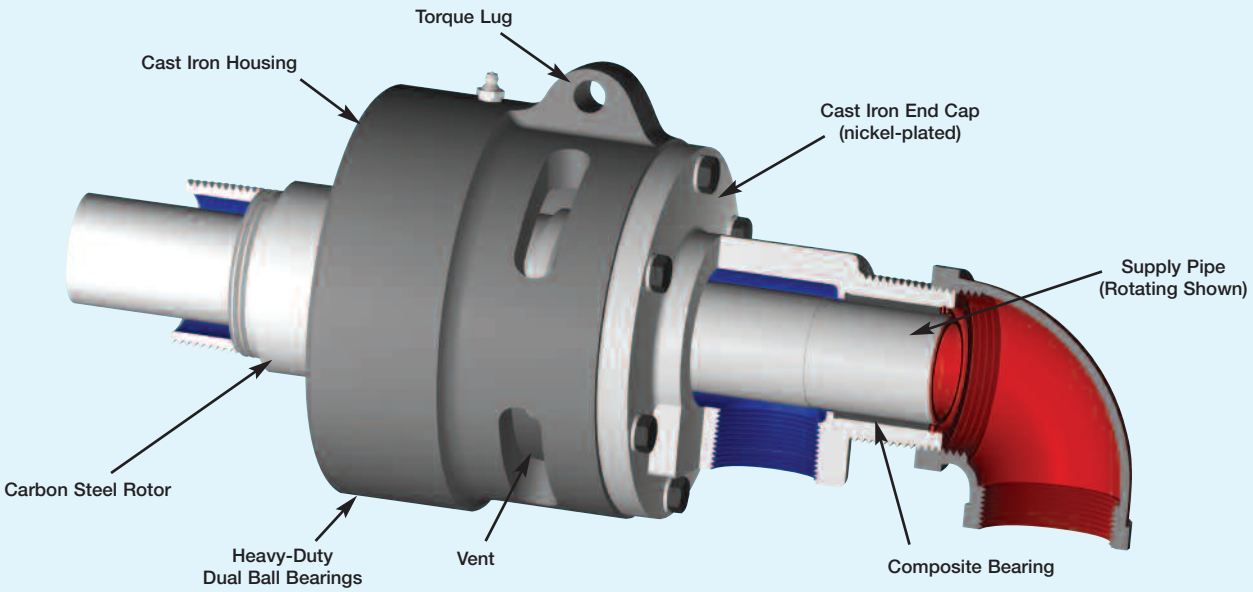
2", 2½", 3" & 4" Cartridge Water Unions

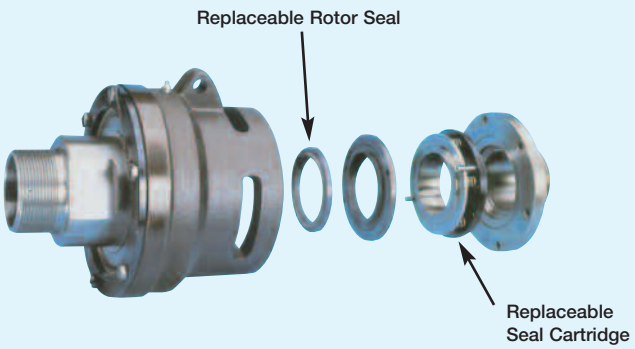
- monoflow and duoflow design
- self-supported rotating union
- radial housing connection
- balanced mechanical seal
- seal combinations:
  Carbon Graphite/Tungsten Carbide - standard
  Silicon Carbide/Tungsten Carbide - E.L.S.
- steel banded floating seal
- easy and quick replacement of sealing components
- full-media flow
- vent slots
- cast iron housing
- steel rotor flanged/threaded
- Lubrication Guide page 55

Operating Data

Maximum Water Pressure		150 PSI	10 bar
Maximum Speed		750 RPM	750/min
Torque for	Model 6200	4 ft.lbs	5.4 Nm
	Model 6250	7 ft.lbs	9.5 Nm
	Model 6300	8 ft.lbs	10.9 Nm
	Model 6400	10 ft.lbs	13.6 Nm

Maximum Temperature	250°F	>250°F consult ***DEUBLIN***



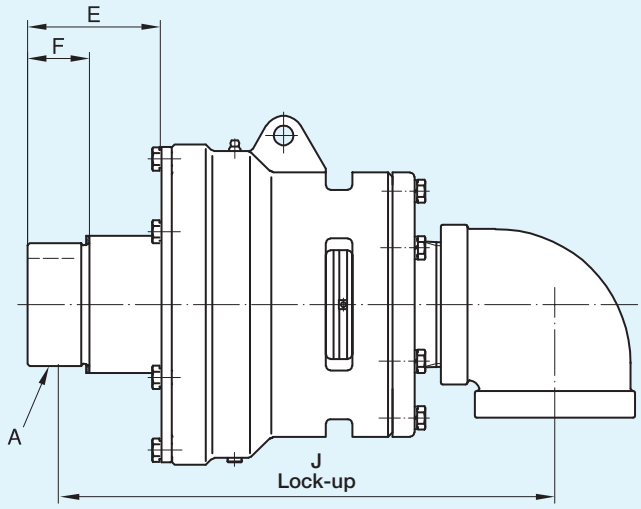


DEUBLIN Exclusive On-The-Machine Repair Cartridge

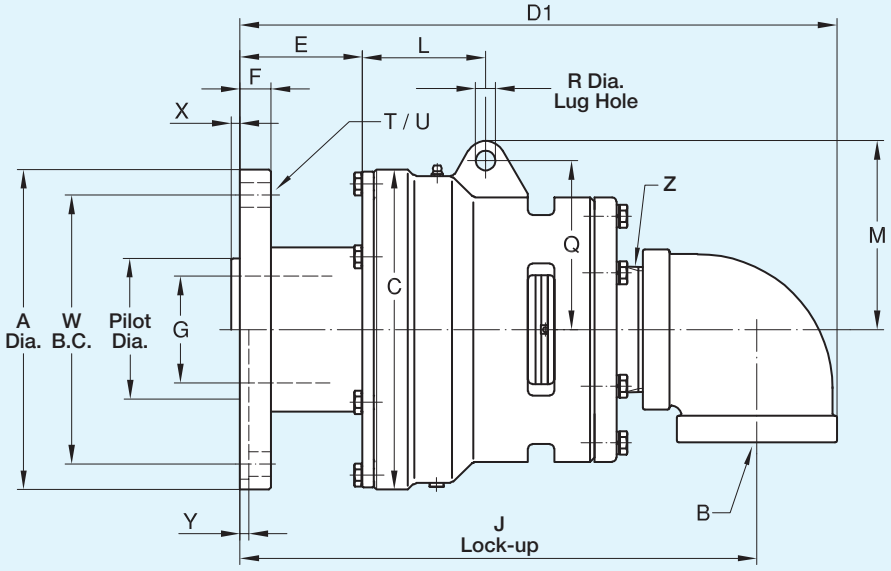
Seals are replaced quickly and easily. There's no need to remove hose connections or use special tools. Make sure the system is cold and pressureless! Simply remove 6 hex bolts and end cap, then remove floating seal cartridge and rotor seal face and replace with new seals. Rotor seal is keyed and sealed to the rotor with a built-in O-Ring. Replace end cap, hex bolts and safety wire. Detailed instructions available from ***DEUBLIN***.

Monoflow Rotating Union

Threaded Rotor



Flanged Rotor



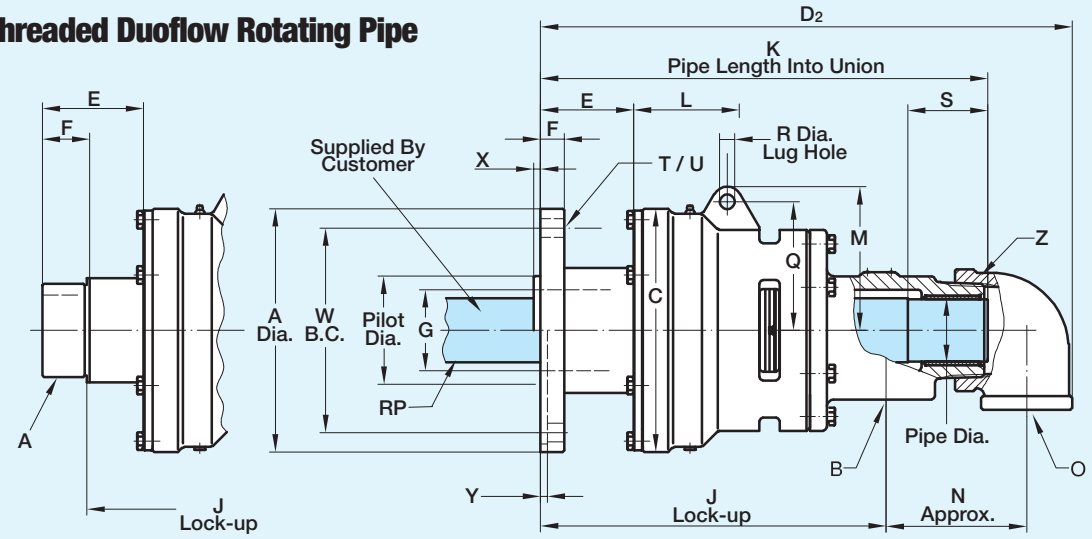
Flanged O-Ring
(supplied by *DEUBLIN*) for:

Model	O-Ring Size
6200	2-343 Viton
6250	2-343 Viton
6300	2-353 Viton
6400	2-361 Viton

B Port NPT	Ordering Number		A Rotor Thread	C	D_1	E	F	G	J	L	M	Q	R	T	U	W	Pilot Dia.	X	Y	Z NPT	Shpg. Wt.
	Standard	E.L.S.																			
2"	6200-001-123	6200-016-123	2" NPT RH	5¼"	12"	2 15/16"	1½"	1⅞"	9⅝"	2⅞"	3 9/16"	3 1/16"	½"	–	–	–	–	–	–	2"	21#
	6200-001-135	6200-016-135	2" NPT LH																		
	6200-001-137	6200-016-137	G2"(BSP) RH	133	295	63.5	28.6	47	228	73	90	78	12.7	–	–	–	–	–	–	2"	9.5 Kg
	6200-001-139	6200-016-139	G2"(BSP) LH																		
	6200-001-115	6200-016-115	9" O.D. FLANGE	5¼"	12"	3¼"	1"	1⅞"	10¼"	2⅞"	3 9/16"	3 1/16"	½"	4	1 1/16"	6⅜"	8.317" 8.315"	–	¼"	2"	32#
2½"	6250-001-115	6250-018-115	2½"NPT RH	7"	14⅝"	3¼"	1⅞"	2⅜"	12"	3¾"	4 7/16"	3⅞"	9/16"	–	–	–	–	–	–	2½"	44½#
	6250-001-119	6250-018-119	2½"NPT LH																		
	6250-001-121	6250-018-121	G2½"(BSP)RH	178	371	82.5	38.1	60	290	95	113	98	14.3	–	–	–	–	–	–	2½"	20.2 Kg
	6250-001-123	6250-018-123	G2½"(BSP)LH																		
	6250-001-300	6250-018-300	9" O.D. FLANGE	7"	15"	3⅜"	1"	2⅜"	12 15/16"	3¾"	4 7/16"	3⅞"	9/16"	4	1 1/16"	6⅜"	8.317" 8.315"	–	¼"	2½"	59#
3"	6300-001-157	6300-015-157	3" NPT RH	9"	17 3/16"	3⅞"	1⅞"	2⅞"	14"	3 7/16"	5 5/16"	4¾"	9/16"	–	–	–	–	–	–	3"	98#
	6300-001-158	6300-015-158	3" NPT LH																		
	6300-001-161	6300-015-161	G3"(BSP) RH	229	433	95	44.4	73	335	87	135	121	14.3	–	–	–	–	–	–	3"	45.5 Kg
	6300-001-162	6300-015-162	G3"(BSP) LH																		
	6300-001-103	6300-015-103	9" O.D. FLANGE	9"	16¾"	3 7/16"	⅞"	3"	14½"	3 7/16"	5 5/16"	4¾"	9/16"	6	1 1/16"	7 9/16"	4.004" 4.002"	¼"	–	3"	113#
4"	6400-030-330	6400-042-330	10⅞" O.D. FLANGE	11"	19"	3"	⅞"	4"	16⅜"	3¾"	6⅛"	5¼"	⅝"	6	13/16"	9"	4.749" 4.746"	.300	–	4"	156#

Note: Threaded Rotors Not For Calender Service.

Flanged/Threaded Duoflow Rotating Pipe



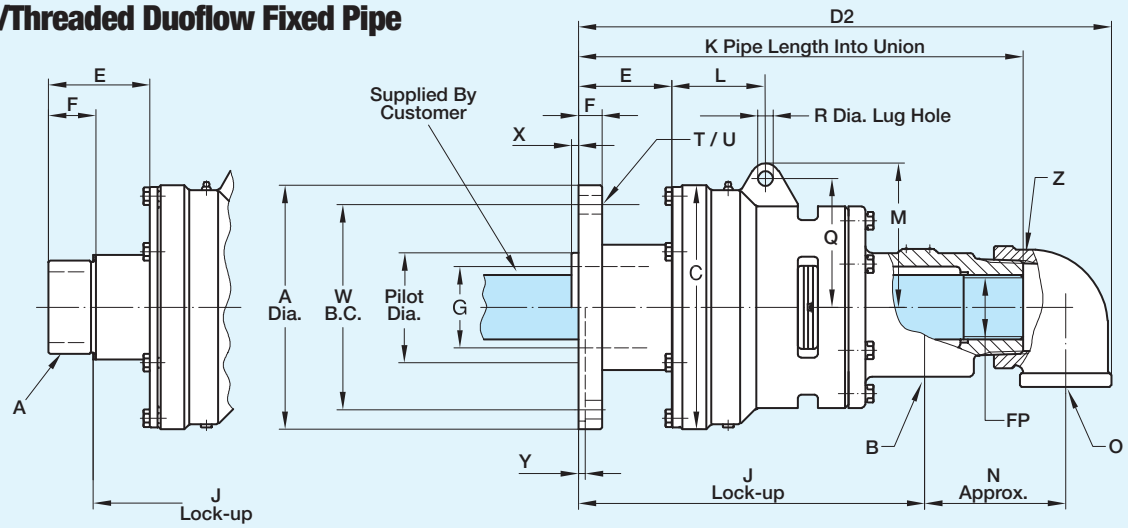
Duoflow Rotating Pipe Models

B & O Port NPT	Standard	E.L.S.	A	C	D_2	E	F	G	J	K	L
(2) x 1"	6200-002-123	6200-030-123	2" NPT RH	5¼"	12⅞"	2 15/16"	1½"	1⅞"	8"	10⅝"	2⅞"
	6200-002-135	6200-030-135	2" NPT LH								
	6200-002-137	6200-030-137	G2" (BSP) RH	133	314	63.5	28.6	47	189	260	73
	6200-002-139	6200-030-139	G2" (BSP) LH								
	6200-002-115	6200-030-115	9" O.D. FLANGE	5¼"	13 3/16"	3¼"	1"	1⅞"	8⅝"	10 15/16"	2⅞"
(2) x 1½"	6250-002-115	6250-030-115	2½" NPT RH	7"	15⅞"	3¼"	1⅞"	2⅜"	9¾"	12 13/16"	3¾"
	6250-002-119	6250-030-119	2½" NPT LH								
	6250-002-121	6250-030-121	G2½" (BSP) RH	178	403	82.5	38.1	60	228.6	325	95
	6250-002-123	6250-030-123	G2½" (BSP) LH								
	6250-002-300	6250-030-300	9" O.D. FLANGE	7"	16¼"	3⅝"	1"	2⅜"	10 9/16"	13½"	3¾"
(2) x 2"	6300-002-157	6300-030-157	3" NPT RH	9"	20"	3⅞"	1⅞"	2⅞"	12¼"	16⅜"	3 7/16"
	6300-002-158	6300-030-158	3" NPT LH								
	6300-002-161	6300-030-161	G3" (BSP) RH	229	505	95	44.4	73	288.9	412	87
	6300-002-162	6300-030-162	G3" (BSP) LH								
	6300-002-103	6300-030-103	9" O.D. FLANGE	9"	19 9/16"	3 7/16"	⅞"	3"	12¾"	16"	3 7/16"
(2) x 2½"	6400-031-330	6400-051-330	10⅞" O.D. FLANGE	11"	21⅜"	3"	⅞"	4"	13¾"	17½"	3¾"

Duoflow Fixed Pipe Models

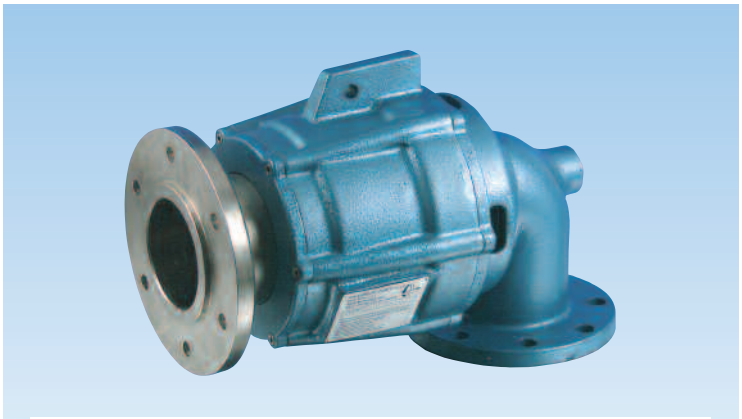
B & O Port NPT	Standard	E.L.S.	A	C	D_2	E	F	G	J	K	L
(2) x 1"	6200-011-123	6200-040-123	2" NPT RH	5¼"	12⅞"	2 15/16"	1½"	1⅞"	8"	10⅛"	2⅞"
	6200-011-135	6200-040-135	2" NPT LH								
	6200-013-137	6200-020-137	G2" (BSP) RH	133	314	63.5	28.6	47	189	246	73
	6200-013-139	6200-020-139	G2" (BSP) LH								
	6200-011-115	6200-040-115	9" O.D. FLANGE	5¼"	13 3/16"	3¼"	1"	1⅞"	8⅝"	10 1/16"	2⅞"
(2) x 1½"	6250-006-115	6250-040-115	2½" NPT RH	7"	15⅞"	3¼"	1⅞"	2⅜"	9¾"	13"	3¾"
	6250-006-119	6250-040-119	2½" NPT LH								
	6250-025-121	6250-035-121	G2½" (BSP) RH	178	403	82.5	38.1	60	228.6	330	95
	6250-025-123	6250-035-123	G2½" (BSP) LH								
	6250-006-300	6250-040-300	9" O.D. FLANGE	7"	16¼"	3⅝"	1"	2⅜"	10 9/16"	13⅜"	3¾"
(2) x 2"	6300-006-157	6300-040-157	3" NPT RH	9"	20"	3⅞"	1⅞"	2⅞"	12¼"	16 1/16"	3 7/16"
	6300-006-158	6300-040-158	3" NPT LH								
	6300-025-161	6300-035-161	G3" (BSP) RH	229	505	95	44.4	73	288.9	404	87
	6300-025-162	6300-035-162	G3" (BSP) LH								
	6300-006-103	6300-040-103	9" O.D. FLANGE	9"	19 9/16"	3 7/16"	⅞"	3"	12¾"	16	3 7/16"
(2) x 2½"	6400-024-330	6400-054-330	10⅞" O.D. FLANGE	11"	21⅜"	3"	⅞"	4"	13¾"	17"	3¾"

Flanged/Threaded Duoflow Fixed Pipe



M	N	O NPT	Pipe Dia.	RP	Q	R	S	T	U	W	Pilot Dia.	X	Y	Z NPT	Shpg. Wt.
3 9/16"	3 3/8"	1"	1.245" 1.240"	1"	3 1/16"	1/2"	1 1/2"	–	–	–	–	–	–	2"	29#
90	86	1"	31.62 31.49	1"	78	12.7	38	–	–	–	–	–	–	2"	13.2 Kg
3 9/16"	3 3/8"	1"	1.245" 1.240"	1"	3 1/16"	1/2"	1 1/2"	4	11/16"	6 3/8"	8.317" 8.315"	–	1/4"	2"	40#
4 7/16"	4 1/16"	1 1/2"	1.867" 1.865"	1 1/2"	3 7/8"	9/16"	1 5/8"	–	–	–	–	–	–	2 1/2"	55 1/2#
113	103	1 1/2"	47.42 47.37	1 1/2"	98	14.3	41	–	–	–	–	–	–	2 1/2"	25.2 Kg
4 7/16"	4 1/16"	1 1/2"	1.867" 1.865"	1 1/2"	3 7/8"	9/16"	1 5/8"	4	11/16"	6 3/8"	8.317" 8.315"	–	1/4"	2 1/2"	70#
5 5/16"	5 3/16"	2"	2.308" 2.302"	2"	4 3/4"	9/16"	2 3/4"	–	–	–	–	–	–	3"	105#
135	132	2"	58.62 58.47	2"	121	14.3	70	–	–	–	–	–	–	3"	47.7 Kg
5 5/16"	5 3/16"	2"	2.308" 2.302"	2"	4 3/4"	9/16"	2 3/4"	6	11/16"	7 9/16"	4.004" 4.002"	1/4"	–	3"	120#
6 1/8"	5 3/4"	2 1/2"	2.745" 2.742"	2 1/2"	5 1/4"	5/8"	2 1/2"	6	13/16"	9"	4.749" 4.746"	.300"	–	4"	168#

M	N	O NPT	FP	Q	R	T	U	W	Pilot Dia.	X	Y	Z NPT	Shpg. Wt.
3 9/16"	3 3/8"	1"	1" NPT	3 1/16"	1/2"	–	–	–	-	–	–	2"	29#
90	86	1"	G1" (BSP)	78	12.7	–	–	–	–	–	–	2"	13.2 Kg
3 9/16"	3 3/8"	1"	1" NPT	3 1/16"	1/2"	4	11/16"	6 3/8"	8.317" 8.315"	–	1/4"	2"	40#
4 7/16"	4 1/16"	1 1/2"	1 1/2" NPT	3 7/8"	9/16"	–	–	–	–	–	–	2 1/2"	55 1/2#
113	103	1 1/2"	G1 1/2" (BSP)	98	14.3	–	–	–	–	–	–	2 1/2"	25.2 Kg
4 7/16"	4 1/16"	1 1/2"	1 1/2" NPT	3 7/8"	9/16"	4	11/16"	6 3/8"	8.317" 8.315"	–	1/4"	2 1/2"	70#
5 5/16"	5 3/16"	2"	2" NPT	4 3/4"	9/16"	–	–	–	–	–	–	3"	105#
135	132	2"	G2" (BSP)	121	14.3	–	–	–	–	–	–	3"	47.7 Kg
5 5/16"	5 3/16"	2"	2" NPT	4 3/4"	9/16"	6	11/16"	7 9/16"	4.004" 4.002"	1/4"	–	3"	120#
6 1/8"	5 3/4"	2 1/2"	2 1/2" NPT	5 1/4"	5/8"	6	13/16"	9"	4.749" 4.746"	.300"	–	4"	168#



DEUBLIN

F Series 5" Water Union

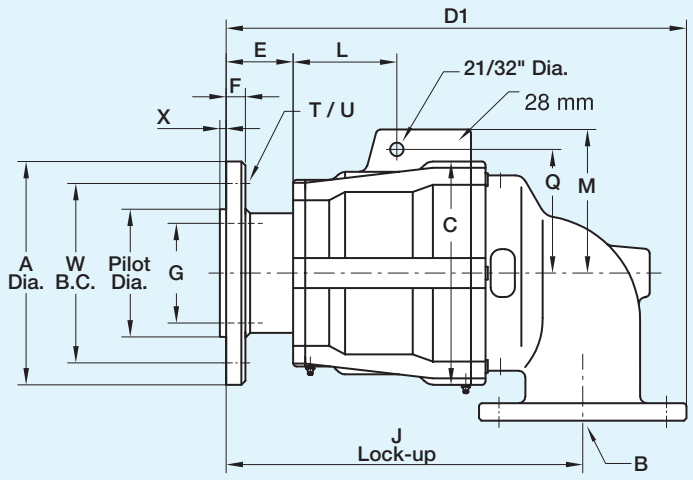
- monoflow and duoflow design
- self-supported rotating union
- balanced mechanical seal
- seal combination:
  Carbon Graphite/Tungsten Carbide
- two widely-spaced ball bearings
- labyrinth seal protects bearings
- nickel-plated cast iron housing
- high corrosion resistant
- steel flanged rotor
- on-the-machine seal replacement capability
- inlet/outlet flange:
  standard ANSI
  optional DIN, JIS
- special designs up to 12" available upon request

Operating Data

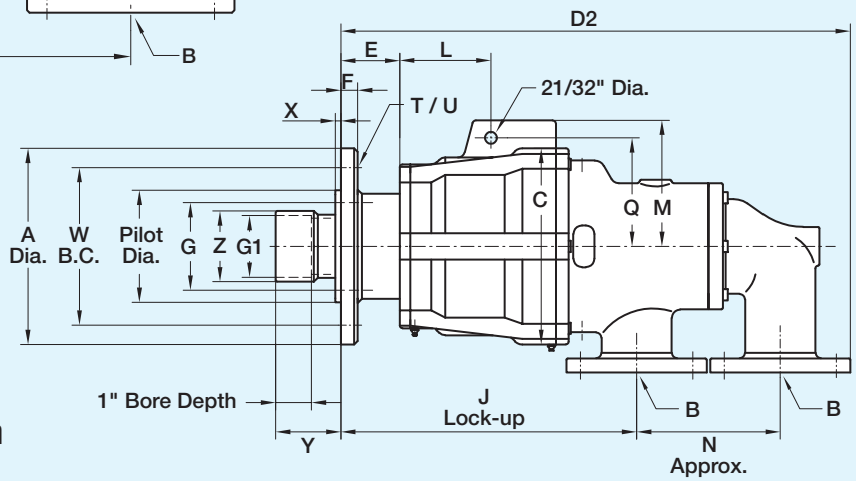
Maximum Water Pressure①	230 PSI	16 bar
Maximum Speed①	1,000 RPM	1,000/min
Maximum Temperature	250°F	>250°F consult ***DEUBLIN***

① Union is designed for continuous operation at either maximum speed or maximum pressure. If operating conditions are close to maximum pressure and speed simultaneously, consult ***DEUBLIN***.

Monoflow Rotating Union



Duoflow Rotating Union

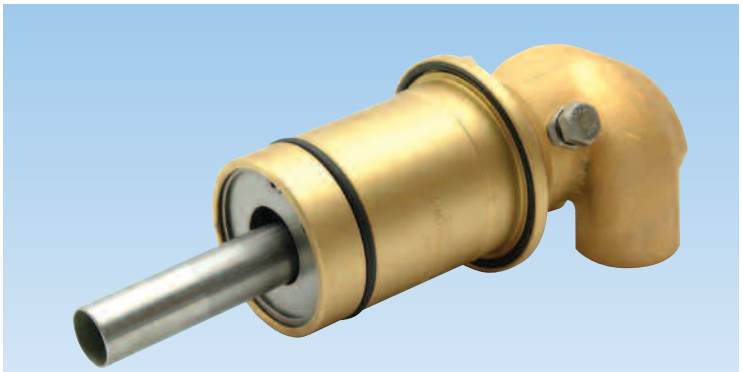


Monoflow Union

B Port	Ordering No.	A	C	D1	E	F	G	J	L	M	Q	T	U	W	X	Pilot Dia.	Shpg. Wt.
5" ANSI	F127-004-200	11"	11"	23"	3 11/32"	1"	4 29/32"	17 29/32"	5 1/8"	7 3/32"	6 1/32"	6	23/32"	8 27/32"	5/16"	6.295" 6.291"	220#

Duoflow Union

B Port	Ordering No.	A	C	D2	E	F	G1	J	L	M	N	Q	T	U	W	X	Y	Z	Pilot Dia.	Shpg. Wt.
(2) 3" ANSI	F127-005-204-701	11"	11"	28 1/2"	3 11/32"	1"	3.480" 3.476"	16 21/32"	5 1/8"	7 3/32"	8"	6 1/32"	6	23/32"	8 27/32"	5/16"	3 21/32"	3 31/32"	6.295" 6.291"	264#



DEUBLIN

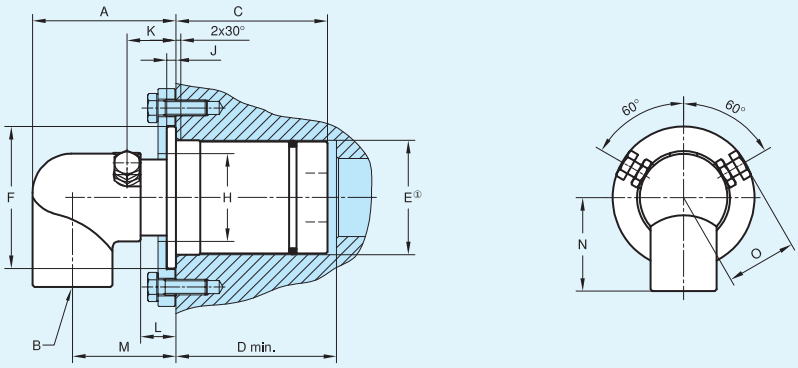
2400 Series Rotating Union for Water Service at Continuous Casting Steel Plants

- monoflow and duoflow design
- in-the-shaft mounted rotating union
- flanged housing or mounted with retaining plate
- balanced mechanical seal
- seal combination:
  Silicon Carbide/Silicon Carbide
- brass housing and elbow
- stainless steel rotor and supply pipe
- long composite bearing
- full-media flow
- easily field repairable

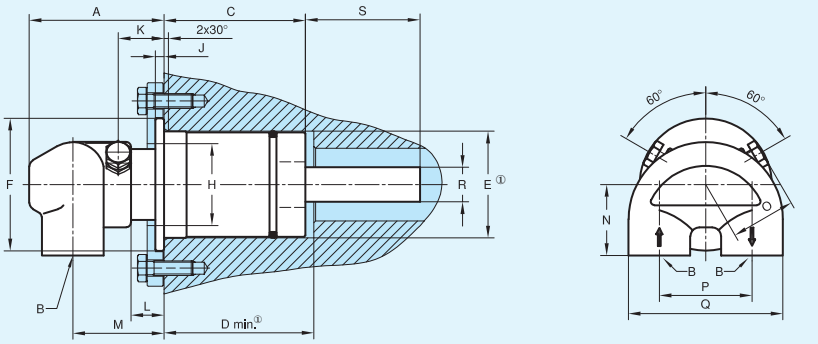
Operating Data

Maximum Water Pressure	150 PSI	10 bar
Maximum Speed	100 RPM	100/min
Maximum Temperature	250°F	>250°F consult ***DEUBLIN***

Monoflow Rotating Union

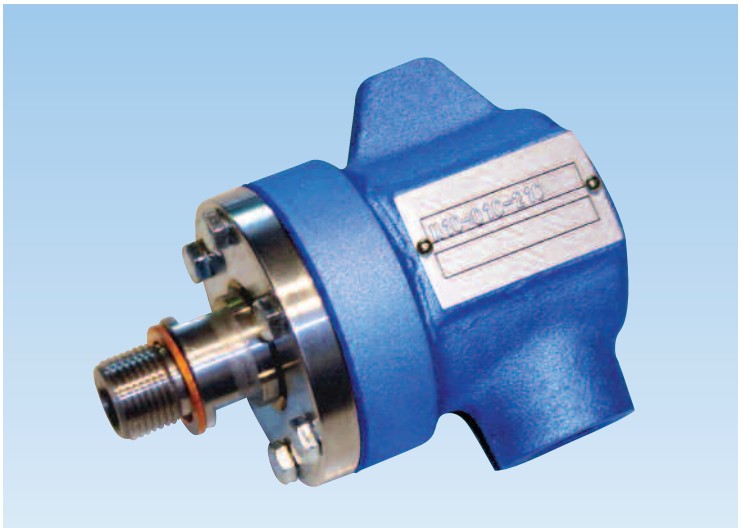


Duoflow Rotating Union



	B Port	Ordering Number	A	C	D ①	E Ø ①	F Ø	H Ø	J	K	L	M	N	O	P	Q	R Ø	S	Shpg. Wt.
Monoflow	3/4" NPT	2420-001-130	2 15/16"	2 3/8"	2 7/16"	1.820 1.815	2 5/16"	1 5/32"	3/16"	1 1/32"	3/4"	2 1/8"	1 13/16"	1 7/16"	–	–	–	–	1½#
	G3/4" (BSP)	2420-001-139	75	60	62	46.22 46.10	59	25	5	26	19	54	46	36	–	–	–	–	.7 Kg
	1" NPT	2425-001-281	2 15/16"	3 1/16"	3 1/4"	2.317 2.312	2 7/8"	1 17/32"	3/16"	1 1/32"	3/4"	2 1/8"	1 13/16"	1 9/16"	–	–	–	–	3½#
	G1" (BSP)	2425-001-172	75	78	83	58.85 58.73	73	35	5	26	19	54	46	39	–	–	–	–	1.6 Kg
Duoflow	3/4" NPT	2420-001-135-180	2 15/16"	2 3/8"	2 7/16"	1.820 1.815	2 5/16"	1 5/32"	3/16"	1 1/32"	3/4"	2"	1 17/32"	1 7/16"	2"	3 11/32"	.511 .510	1 15/16"	2#
	G3/4" (BSP)	2420-001-141-180	75	60	62	46.22 46.10	59	25	5	26	19	51	39	36	51	85	13.00 12.95	49	.9 Kg
	3/4" NPT	2425-001-283-180	2 15/16"	3 1/16"	3 1/4"	2.317 2.312	2 7/8"	1 17/32"	3/16"	1 1/32"	3/4"	2"	1 17/32"	1 9/16"	2"	3 11/32"	.748 .746	2½"	4#
	G3/4" (BSP)	2425-001-177-180	75	78	83	58.85 58.73	73	35	5	26	19	51	39	39	51	85	19.00 18.94	63.5	1.8 Kg
	1" NPT	2440-001-301-254	3 7/8"	3 7/16"	3 11/16"	2.800 2.795	3 3/8"	1 5/32"	3/16"	1 1/32"	3/4"	2 11/16"	1 11/16"	1 13/16"	2 1/2"	4 1/8"	1.130 1.125	1 7/8"	9#
	G1" (BSP)	2440-001-306-254	98	87	94	71.12 70.99	86	50	5	26	19	68	43	46	64	105	28.70 28.58	48	4 Kg

① Denotes Shaft Dimension



DEUBLIN

N Series Steam and Hot Oil Unions

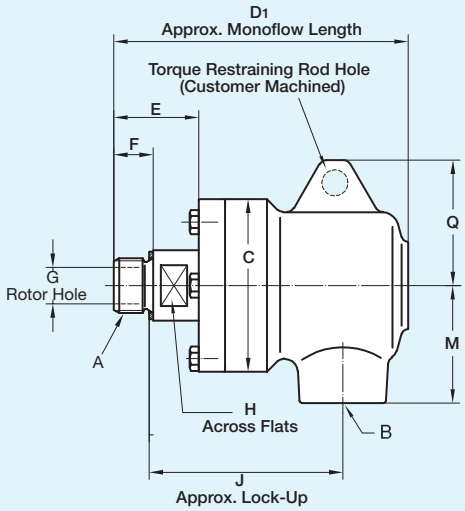
- monoflow design: N10
- monoflow and duoflow design: N12
- self-supported rotating union
- large carbon graphite bearing
- pressurized spherical carbon graphite seal
- cast iron housing
- stainless steel rotor

Operating Data

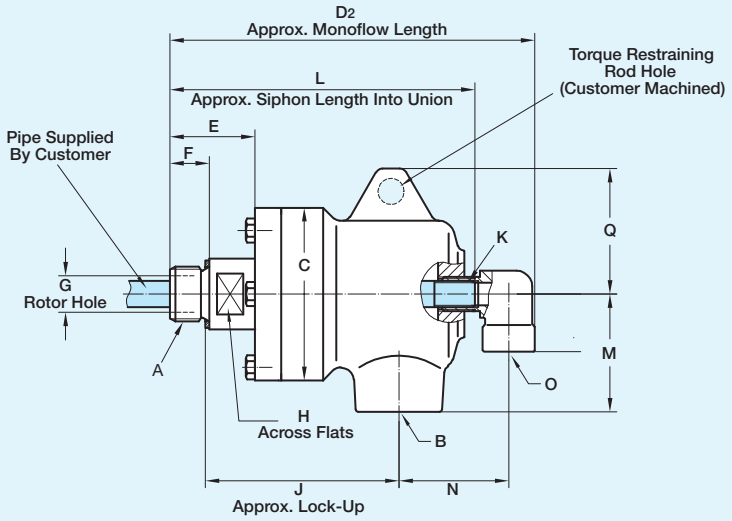
Maximum Steam Pressure①	250 PSI	17 bar
Maximum Steam Temperature	400°F	200°C
Maximum Hot Oil Pressure①	100 PSI	7 bar
Maximum Speed①	750 RPM	750/min
Maximum Hot Oil Temperature	450°F	>450°F consult ***DEUBLIN***

① Union is designed for continuous operation at either maximum speed or maximum pressure. If operating conditions are close to maximum pressure and speed simultaneously, consult ***DEUBLIN***.

Monoflow Union

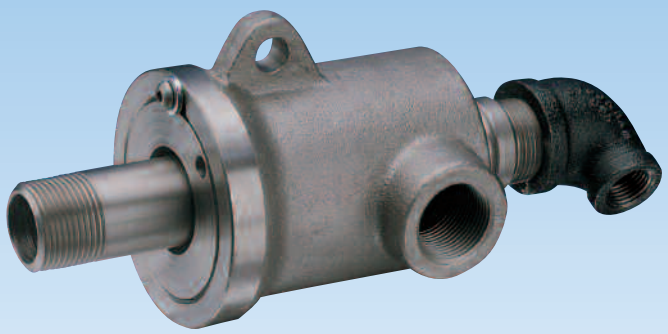


Duoflow Union



	B Port NPT	Ordering Number: Steam Service	Ordering Number: Hot Oil 450°F Max.	A Rotor Thread	C Dia.	D_1	D_2	E	F	G Rotor Hole	H	J①	K	L①	M	N	O	Q	Shpg. Wt.
Monoflow	⅜"	N10-020-214	N10-021-214	⅜" NPT RH	2⅜"	4⅛"	–	1⅞₂"	19⁄₃₂"	13⁄₃₂"	21⁄₃₂"	3"	–	–	1⁹⁄₁₆"	–	–	1²¹⁄₃₂"	2.4#
		N10-020-215	N10-021-215	⅜" NPT LH															
		N10-020-210	N10-021-210	G⅜"(BSP)RH	60	105	–	31	15	10	17	68.5	–	–	40	–	–	42	1.1 Kg
		N10-020-211	N10-021-211	G⅜"(BSP)LH															
	½"	N12-020-214	N12-021-214	½" NPT RH	2¹⁹⁄₃₂"	4⁷⁄₁₆"	–	1⁹⁄₃₂"	19⁄₃₂"	⁹⁄₁₆"	⅞"	3⅛"	–	–	1²⁵⁄₃₂"	–	–	1²⁹⁄₃₂"	3.1#
		N12-020-215	N12-021-215	½" NPT LH															
		N12-020-210	N12-021-210	G½"(BSP)RH	66	112.5	–	32.5	15	14	22	74	–	–	45	–	–	48	1.4 Kg
		N12-020-211	N12-021-211	G½"(BSP)LH															
Duoflow	½"	N12-022-214-701	N12-023-214-701	½" NPT RH	2¹⁹⁄₃₂"	–	5½"	1⁹⁄₃₂"	19⁄₃₂"	⁹⁄₁₆"	⅞"	3⅛"	⅛"NPT	4¹⁹⁄₃₂"	1²⁵⁄₃₂"	1²¹⁄₃₂"	¼"NPT	1²⁹⁄₃₂"	3.1#
		N12-022-215-701	N12-023-215-701	½" NPT LH															
		N12-022-210-701	N12-023-210-701	G½"(BSP)RH	66	–	139.5	32.5	15	14	22	74	⅛"NPT	116.5	45	42	¼"NPT	48	1.4 Kg
		N12-022-211-701	N12-023-211-701	G½"(BSP)LH															

① Dimensions for NPT Rotor Threads are from Wrench Tight Engagement.



DEUBLIN

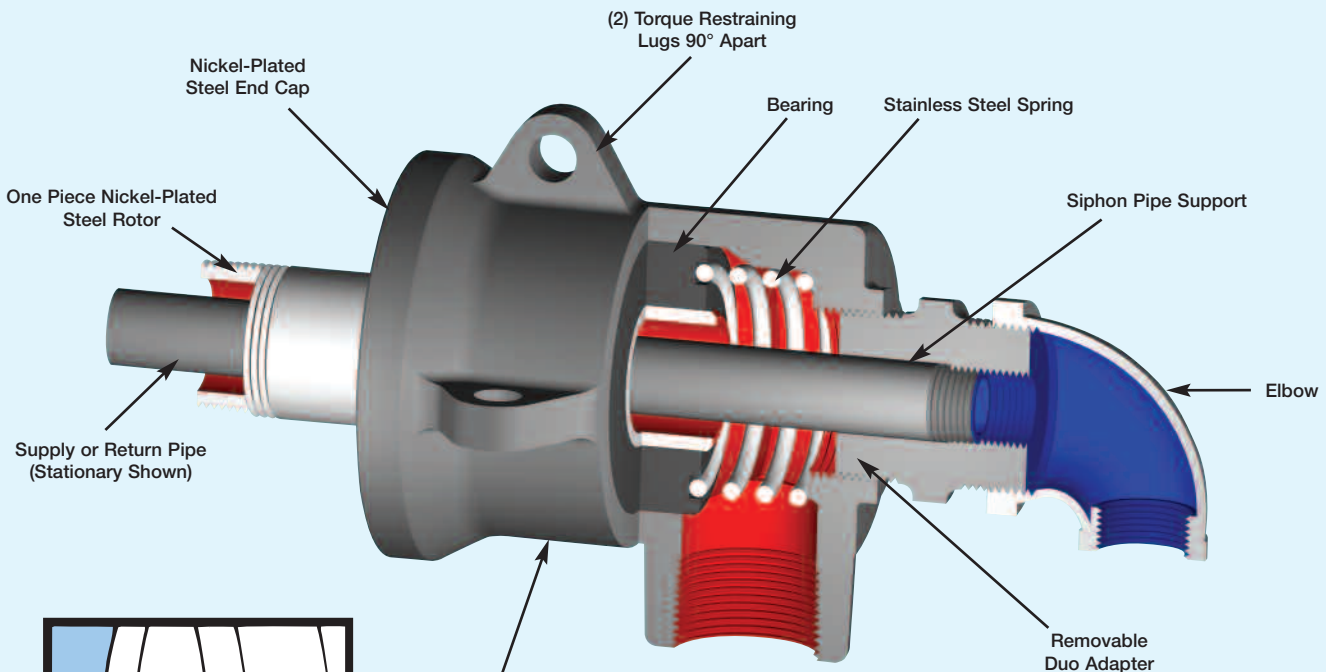
9000 Series Steam and Hot Oil Unions

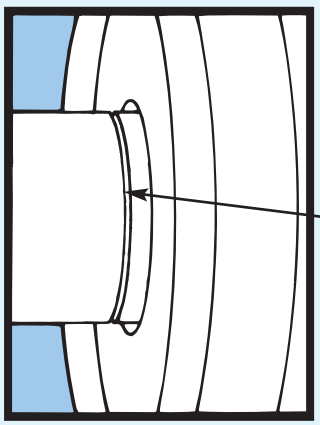
- monoflow and duoflow design
- self-supported rotating union
- spherical Carbon Graphite seal
- seal wear indicator allows preventive maintenance
- 2 torque lugs on the housing
- nickel-plated cast iron housing
- steel rotor, nickel-plated for steam service

Operating Data

Maximum Saturated Steam Pressure①	150 PSI	10 bar
Maximum Saturated Steam Temperature	365°F	185°C
Maximum Hot Oil Pressure①	100 PSI	7 bar
Maximum Speed①	400 RPM	400/min
Maximum Hot Oil Temperature	450°F	>450°F consult ***DEUBLIN***

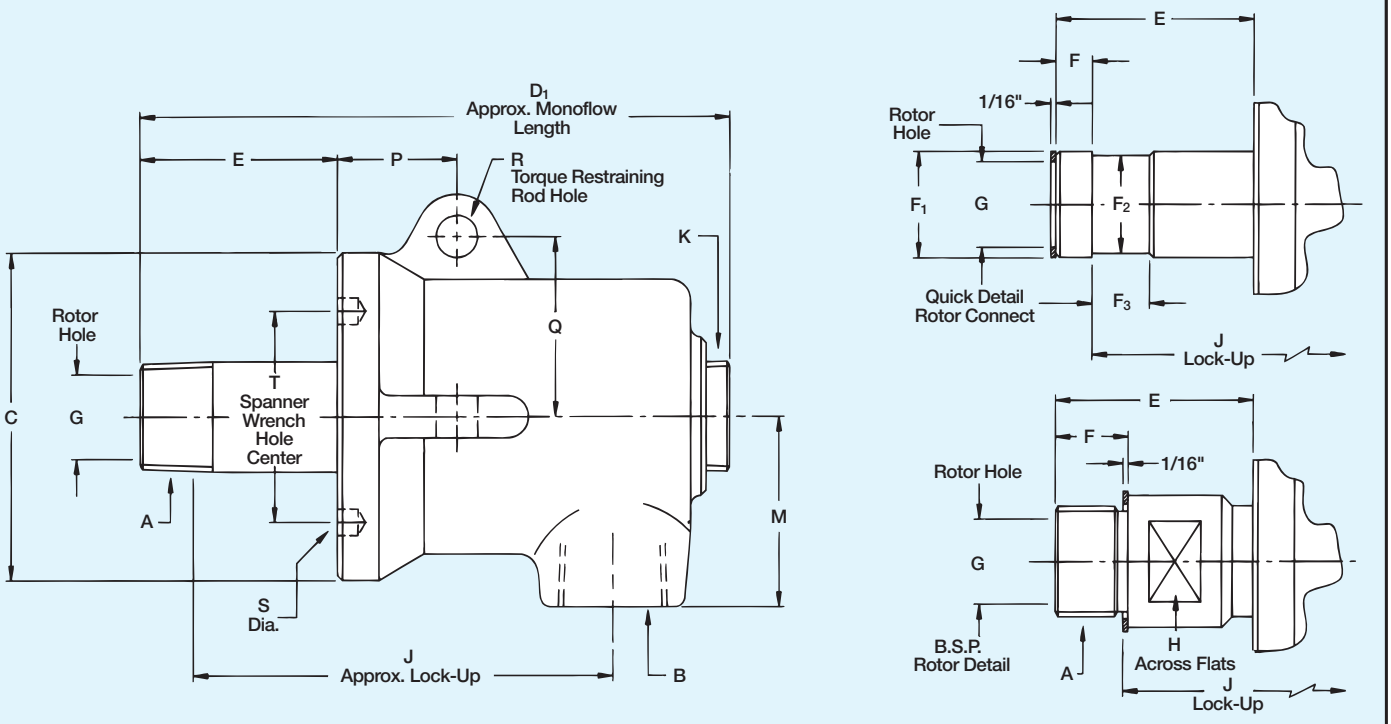
① Union is designed for continuous operation at either maximum speed or maximum pressure. If operating conditions are close to maximum pressure and speed simultaneously, consult ***DEUBLIN***.





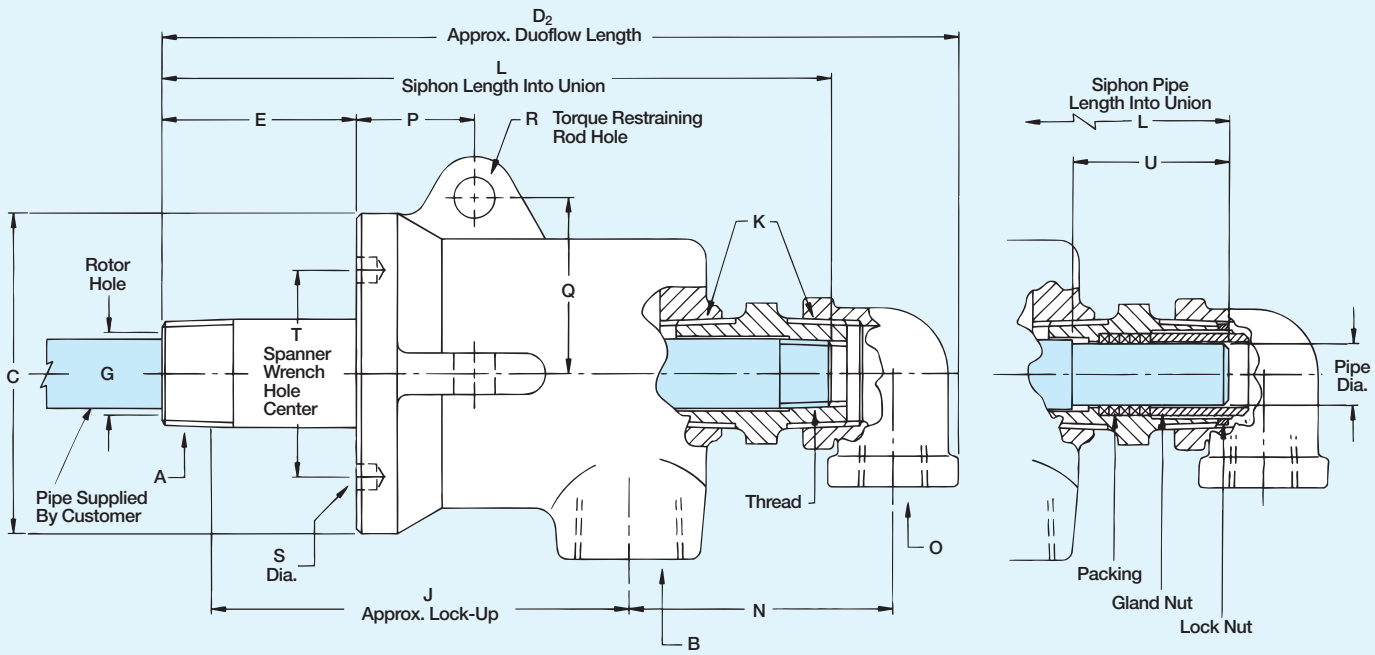
Wear Indicator Groove Appears When Seal is Worn and Replacement Should be Scheduled.

9000 Series Monoflow Union Specifications



B Port	Ordering Number Steam Service	Ordering Number Hot Oil Service	A Rotor Thread	C	D_1	D_2	E	F	F_1	F_2	F_3	G	H	J	K NPT
¾" NPT	9075-001-106	9075-020-124	¾" NPT RH	3 7/16"	6"	8 5/8"	1 7/8"	–	–	–	–	21/32"	–	4 9/16"	1"
	9075-001-107	9075-020-125	¾" NPT LH												
	9075-001-117	9075-020-128	QUICK CONNECT	3 7/16"	6"	8 5/8"	1 7/8"	7/16"	1.025 1.020	.955 .950	11/16"	21/32"	–	4½"	1"
G¾" (BSP)	9075-029-110	9075-030-126	G¾" (BSP) RH	87	153	219	48	19	–	–	–	16.6	25	108	1"
	9075-029-111	9075-030-127	G¾" (BSP) LH												
1" NPT	9100-001-103	9100-020-220	1" NPT RH	3 13/16"	7¼"	9 7/8"	2 3/8"	–	–	–	–	1"	–	5 3/8"	1"
	9100-001-109	9100-020-221	1" NPT LH												
	9100-001-121	9100-020-213	QUICK CONNECT	3 13/16"	7¼"	9 7/8"	2 3/8"	7/16"	1.274 1.269	1.216 1.211	11/16"	1"	–	5 7/16"	1"
G1" (BSP)	9100-027-113	9100-045-211	G1" (BSP) RH	97	184	251	60	22	–	–	–	25	32	128	1"
	9100-027-112	9100-045-212	G1" (BSP) LH												
1¼" NPT	9125-001-109	9125-020-139	1¼" NPT RH	4 7/16"	8⅛"	11⅛"	2½"	–	–	–	–	1¼"	–	5 7/8"	1½"
	9125-001-110	9125-020-140	1¼" NPT LH												
	9125-001-126	9125-020-141	QUICK CONNECT	4 7/16"	7 7/8"	10 7/8"	2¼"	½"	1.615 1.610	1.562 1.557	¾"	1¼"	–	5 7/8"	1½"
G1¼" (BSP)	9125-015-118	9125-030-137	G1¼" (BSP) RH	112	206	282	64	25	–	–	–	32	38	138	1½"
	9125-015-119	9125-030-138	G1¼" (BSP) LH												
1½" NPT	9150-001-103	9150-020-195	1½" NPT RH	5¼"	9"	12 5/8"	2½"	–	–	–	–	1½"	–	6 5/8"	1½"
	9150-001-104	9150-020-196	1½" NPT LH												
	9150-001-117	9150-020-199	QUICK CONNECT	5¼"	9"	12 5/8"	2½"	½"	1.865 1.860	1.775 1.770	⅞"	1½"	–	6 5/8"	1½"
G1½" (BSP)	9150-018-113	9150-031-197	G1½" (BSP) RH	133	229	320	64	28	–	–	–	38	46	154	1½"
	9150-018-114	9150-031-198	G1½" (BSP) LH												
2" NPT	9200-001-102	9200-020-112	2" NPT RH	6 3/32"	10 1/16"	13 7/16"	2 5/8"	–	–	–	–	1 15/16"	–	7 5/32"	1½"
	9200-001-111	9200-020-113	2" NPT LH												
	9200-001-121	9200-020-122	QUICK CONNECT	6 3/32"	10 7/16"	13 3/16"	3"	5/8"	2.320 2.315	2.230 2.225	⅞"	1 15/16"	–	7 7/16"	1½"
G2" (BSP)	9200-029-117	9200-030-119	G2" (BSP) RH	154	255	341	67	30	–	–	–	49	60	166	1½"
	9200-029-118	9200-030-120	G2" (BSP) LH												

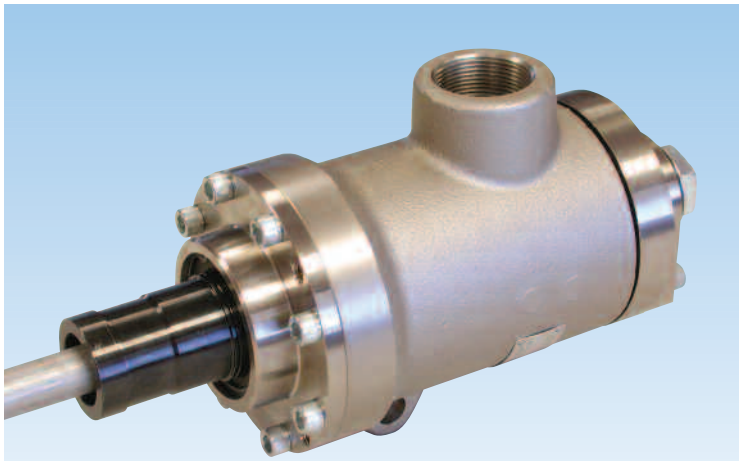
9000 Series Duoflow Union Specifications



Fixed Siphon Detail

Rotating Siphon Detail

P	Q	R	S	T	Fixed Siphon			Rotating Siphon					M	N	O	Shpg. Wt.
					Elbow Suffix	Thread	L	Elbow Suffix	Pipe Size	Pipe Dia.	U	L				
1½"	1 15/16"	15/32"	17/64"	2¼"	-400	¼" NPT	7¼"	-402	¼"	.500" .495"	2"	7¼"	2"	2⅜"	½" NPT	8#
1½"	1 15/16"	15/32"	17/64"	2¼"	-400	¼" NPT	7¼"	-402	¼"	.500" .495"	2"	7¼"	2"	2⅜"	½" NPT	8#
38	49	12	7	57	-409	G¼" (BSP)	184	-417	¼"	12.70 12.57	51	184	51	60	G½" (BSP)	3.6 Kg
1½"	2⅛"	17/32"	5/16"	2½"	-400	¼" NPT	8"	-403	⅜"	.663" .657"	2"	8⅜"	2¼"	3 5/16"	½" NPT	10#
					-401	⅜" NPT										
1½"	2⅛"	17/32"	5/16"	2½"	-400	¼" NPT	8"	-403	⅜"	.663" .657"	2"	8⅜"	2¼"	3 5/16"	½" NPT	10#
					-401	⅜" NPT										
38	54	13.5	8	63	-409	G¼" (BSP)	203	-418	⅜"	16.84 16.68	51	213	57	84	G½" (BSP)	4.5 Kg
					-408	G⅜" (BSP)										
1⅝"	2⅜"	17/32"	11/32"	3"	-400	½" NPT	8¾"	-402	½"	.809" .803"	2⅜"	9¾"	3"	3⅞"	¾" NPT	15#
1⅝"	2⅜"	17/32"	11/32"	3"	-400	½" NPT	8½"	-402	½"	.809" .803"	2⅜"	9½"	3"	3⅞"	¾" NPT	15#
42	60	13.5	8.7	76	-406	G½" (BSP)	222	-439	½"	20.54 20.39	60	247	76	98	G¾" (BSP)	6.8 Kg
2 3/16"	2⅞"	21/32"	11/32"	3½"	-400	½" NPT	10½"	-403	¾"	.997" .991"	2½"	11 9/16"	3½"	4⅝"	¾" NPT	25#
					-401	¾" NPT										
2 3/16"	2⅞"	21/32"	11/32"	3½"	-400	½" NPT	10½"	-403	¾"	.997" .991"	2½"	11 9/16"	3½"	4⅝"	¾" NPT	25#
					-401	¾" NPT										
55	73	16.7	8.7	89	-406	G½" (BSP)	266	-438	¾"	25.32 25.17	63	294	89	117	G¾" (BSP)	11.5 Kg
					-433	G¾" (BSP)										
2 7/16"	3 7/16"	5/8"	–	–	-400	½" NPT	10⅞"	-403	¾"	.997" .991"	2½"	12⅝"	3 7/16"	5"	¾" NPT	31#
					-401	¾" NPT										
2 7/16"	3 7/16"	5/8"	–	–	-400	½" NPT	11¼"	-403	¾"	.997" .991"	2½"	13"	3 7/16"	5"	¾" NPT	31#
					-401	¾" NPT										
62	87	16	–	–	-406	G½" (BSP)	276	-438	¾"	25.32 25.17	63	320	87	127	G¾" (BSP)	14 Kg
					-433	G¾" (BSP)										



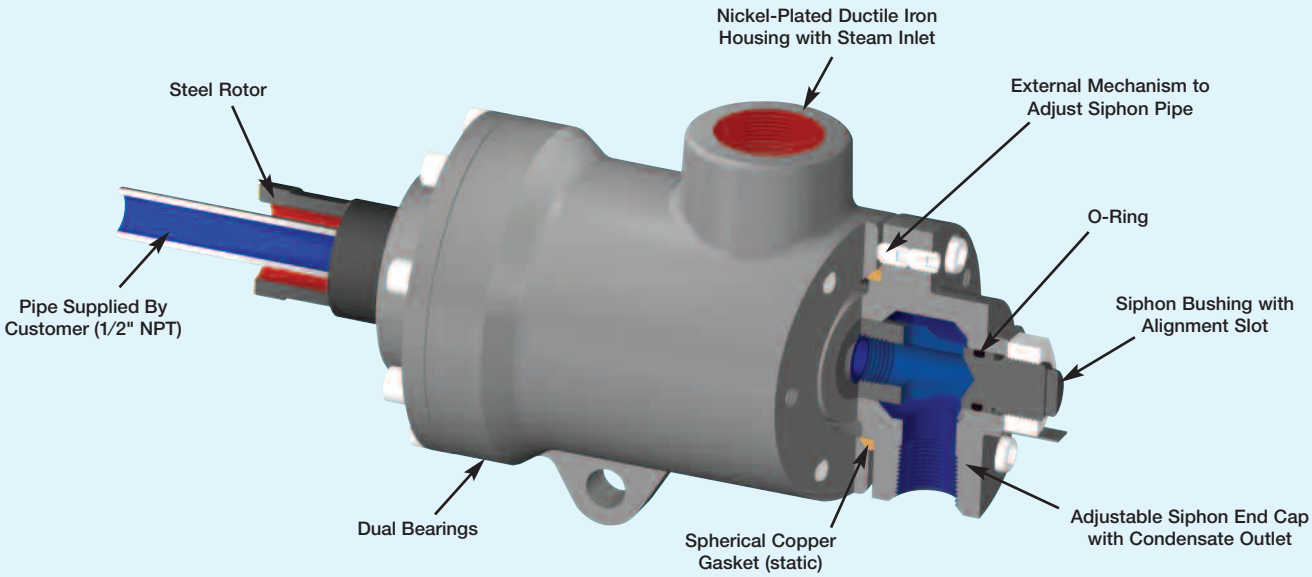
DEUBLIN

HPS Series for High Pressure Steam Service in Corrugators

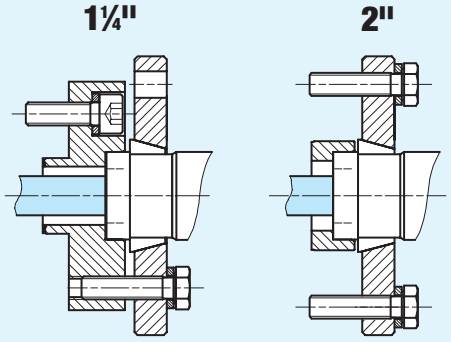
- monoflow and duoflow design
- self-supported rotating union
- seals and bearings made of special Carbon Graphite
- convex seal ring better suited to handle mechanical and thermal shock
- external mechanism to adjust siphon pipe through end cap
- nickel-plated front and rear end cap
- nickel-plated ductile iron housing
- stainless steel spring
- heavy duty steel rotor design
- dual bearings for extended service life

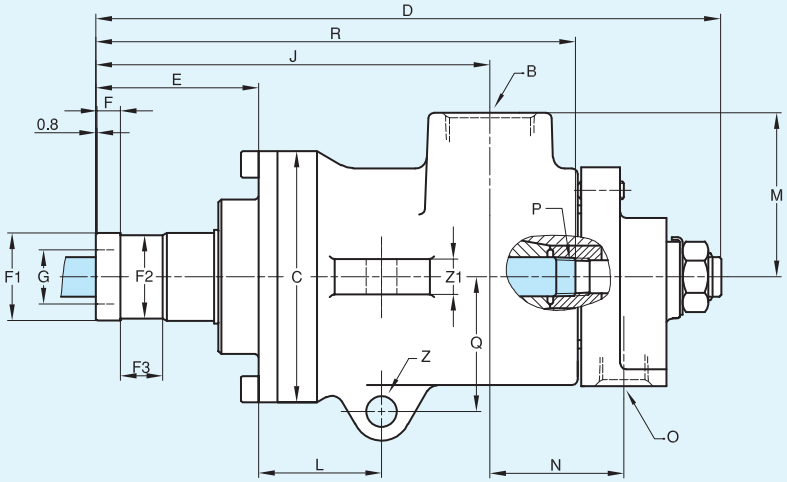
Operating Data

Maximum Saturated Steam Pressure	250 PSI	17 bar
Maximum Speed	400 RPM	400/min
Maximum Temperature	400°F	200°C

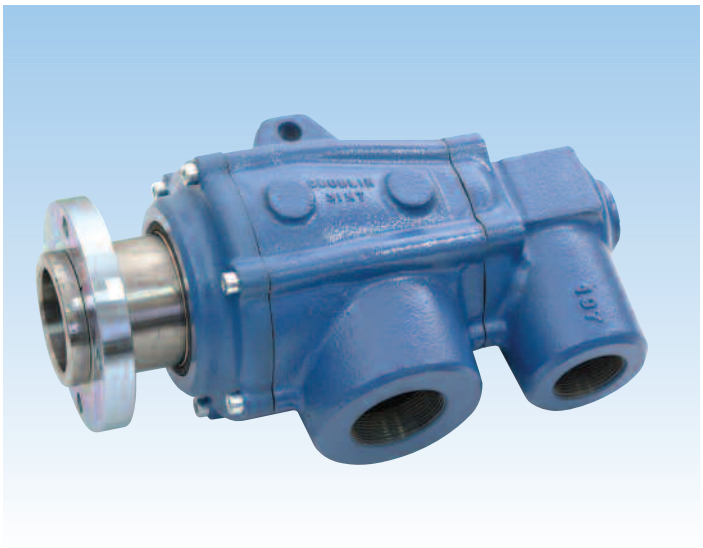


Flange Adapter





B Port NPT	O Port NPT	Ordering No.	C Ø	D	E	F	F1 Ø	F2	F3	G Ø	J	L	M	N	P	Q	R	Z Ø	Z 1	Shpg. Wt.
1½"	¾"	C15D-004-02-3A	5⅜"	13⅜"	3 15⁄32"	½"	1.870" 1.868"	1.779" 1.775"	29⁄32"	1 5⁄16"	8 13⁄32"	2⅝"	3½"	2⅞"	½"NPT	2⅞"	10¼"	2 1⁄32"	13⁄16"	37#



DEUBLIN

H Series Steam and Hot Oil Unions

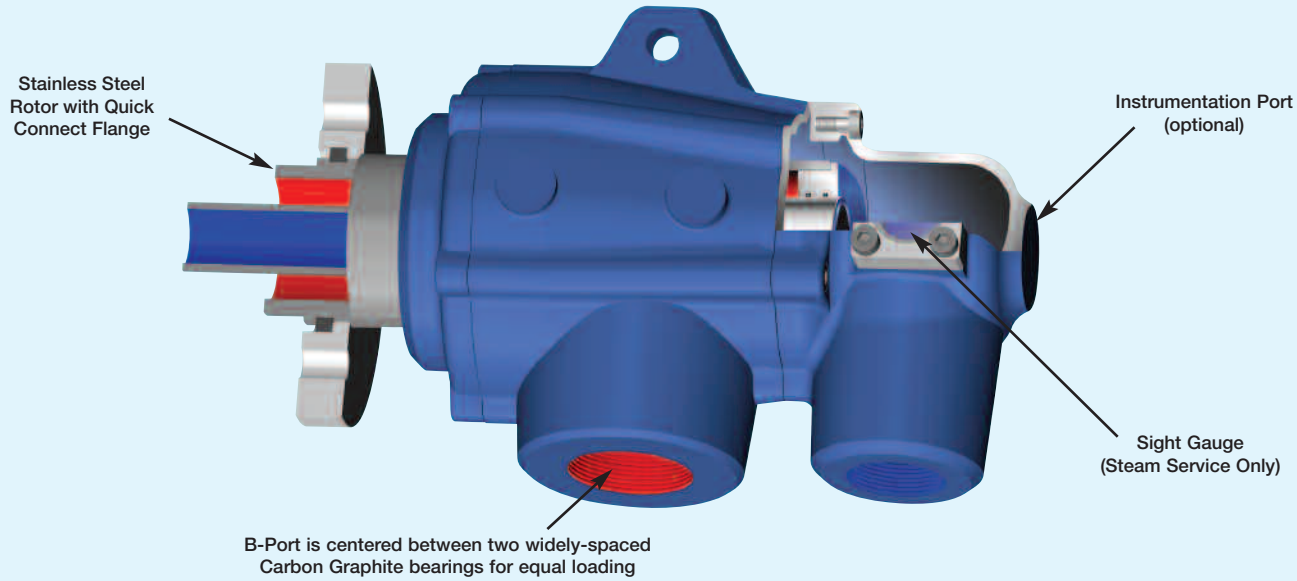
- monoflow and duoflow design
- self-supported rotating union
- convex seal ring better suited to handle mechanical and thermal shock
- two widely-spaced graphite bearings
- H57 - H127 optional with sight glasses in the end cap for visual inspection of condensate romoval
- seal wear indicator allows preventive maintenance
- flanged or threaded rotor available
- cast iron housing
- stainless steel rotor
- for steam and hot oil applications in paper, plastic and textile industries and open gear paper machines

Operating Data 3/4" – 2"

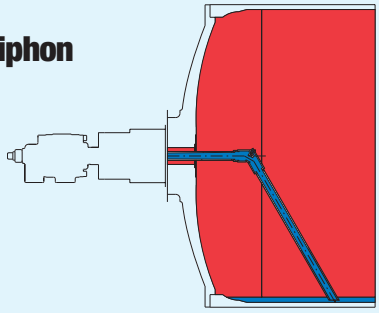
Maximum Saturated Steam Pressure	150 PSI	10 bar
Maximum Speed Saturated Steam Service	400 RPM	400/min
Maximum Saturated Steam Temperature	365°F	185°C
Maximum Hot Oil Pressure	100 PSI	7 bar
Maximum Speed Hot Oil Service	400 RPM	400/min
Maximum Hot Oil Temperature	450°F	>450°F consult ***DEUBLIN***

Operating Data 2 1/2" – 5"

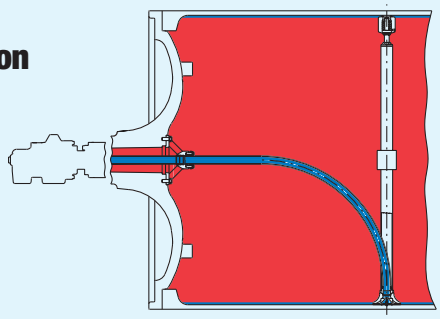
Maximum Saturated Steam Pressure	150 PSI	10 bar
Maximum Speed Saturated Steam Service	180 RPM	180/min
Maximum Saturated Steam Temperature	365°F	185°C
Maximum Hot Oil Pressure	100 PSI	7 bar
Maximum Speed Hot Oil Service	350 RPM	350/min
Maximum Hot Oil Temperature	450°F	>450°F consult ***DEUBLIN***



Example for Stationary Siphon System

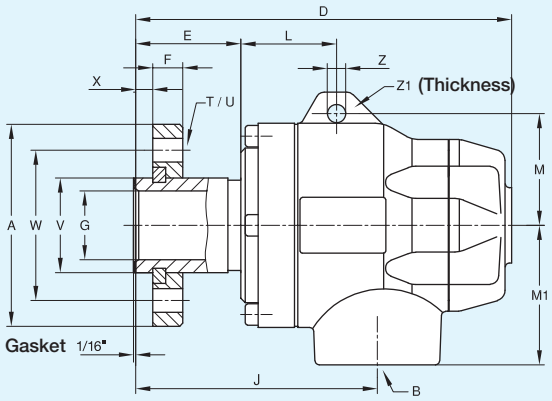


Example for Rotating Siphon System

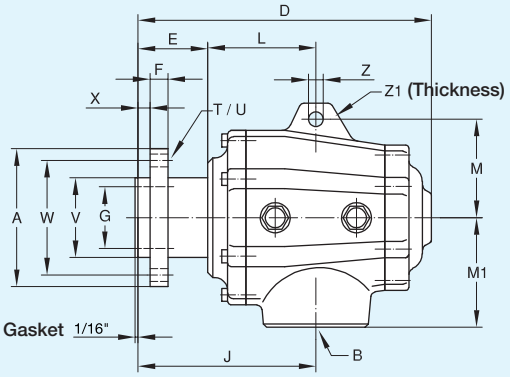


Monoflow Rotating Union

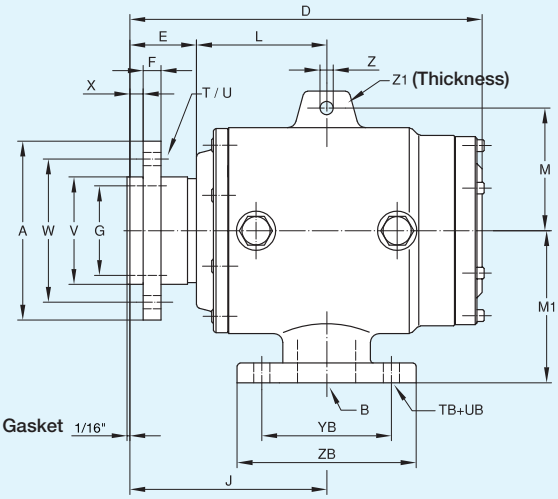
Models Size H20 – H40



Models Size H57 – H87



Models Size H107 and H127



Monoflow Rotating Unions

Size	B Port	Monoflow	A	D	E	F	G	J	L	M	M_1
¾"	¾" NPT	H20	2 23/32"	5 1/2"	1 9/16"	15/32"	23/32"	3 3/4"	2 5/16"	1 25/32"	1 31/32"
1"	1" NPT	H25	3 1/16"	6 1/2"	1 27/32"	15/32"	31/32"	3 31/32"	1 23/32"	1 31/32"	2 3/8"
1¼"	1¼" NPT	H32	3 11/16"	6 7/8"	1 15/16"	9/16"	1 1/4"	4 7/16"	1 3/4"	2 1/16"	2 9/16"
1½"	1½" NPT	H40	3 29/32"	8 1/32"	2 13/32"	9/16"	1 1/2"	5 3/8"	2"	2 3/4"	2 15/16"
2"	2" NPT	H57	4 3/16"	10 5/32"	2 13/32"	9/16"	1 27/32"	5 15/16"	3 17/32"	3 9/32"	3 3/4"
2½"	2½" NPT	H67	5 7/16"	11 13/16"	2 3/4"	23/32"	2 7/16"	7 1/32"	4 9/32"	3 29/32"	4 11/32"
3"	3" NPT	H87	5 29/32"	12 27/32"	2 21/32"	23/32"	3"	7 13/32"	4 23/32"	4 17/32"	4 23/32"
4"	4" ANSI	H107	7 7/8"	15 1/2"	3"	25/32"	3 15/16"	8 21/32"	5 21/32"	5 13/32"	6 11/16"
5"	5" ANSI	H127	11 1/32"	18 5/16"	3 11/32"	15/16"	4 15/16"	10 13/16"	7 15/32"	6 7/32"	8 21/32"

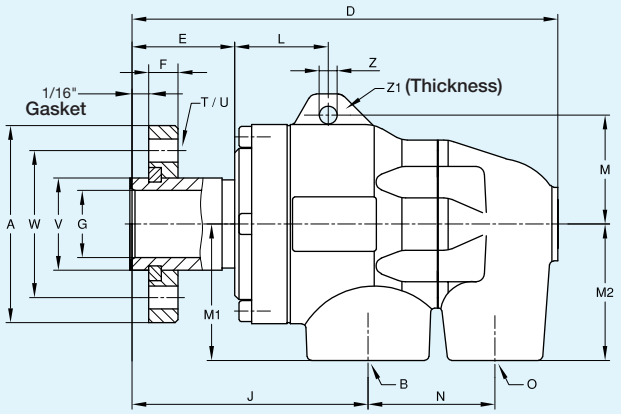
Duoflow Rotating Unions

Size	B Port	O Port	Duoflow E-R-S	A	D	E	F	G	J	L	M	M_1	M_2	N
¾"	¾" NPT	½" NPT	H20	2 23/32"	7 11/16"	1 9/16"	15/32"	23/32"	3 3/4"	2 5/16"	1 25/32"	1 31/32"	1 3/16"	3 3/8"
1"	1" NPT	½" NPT	H25	3 1/16"	8 21/32"	1 27/32"	15/32"	31/32"	3 31/32"	1 23/32"	1 31/32"	2 3/8"	1 3/16"	4 3/32"
1¼"	1" NPT	¾" NPT	H32	3 11/16"	8"	1 15/16"	9/16"	1 1/4"	4 7/16"	1 3/4"	2 1/16"	2 9/16"	2 9/16"	2 3/8"
1½"	1¼" NPT	1" NPT	H40	3 29/32"	9 21/32"	2 13/32"	9/16"	1 1/2"	5 3/8"	2"	2 3/4"	2 15/16"	2 15/16"	2 13/16"
2"	1½" NPT	1¼" NPT	H57	4 3/16"	11 15/16"	2 13/32"	9/16"	1 27/32"	5 15/16"	3 17/32"	3 9/32"	3 3/4"	3 3/4"	3 13/16"
2½"	2" NPT	1½" NPT	H67	5 7/16"	14 1/8"	2 3/4"	23/32"	2 7/16"	7 1/32"	4 9/32"	3 29/32"	4 11/32"	4 11/32"	4 29/32"
3"	2½" NPT	2" NPT	H87	5 29/32"	15 19/32"	2 21/32"	23/32"	3"	7 13/32"	4 23/32"	4 17/32"	4 23/32"	4 23/32"	5 3/4"
4"	3" ANSI	2½"ANSI	H107	7 7/8"	22 5/32"	3"	25/32"	3 15/16"	8 21/32"	5 21/32"	5 13/32"	6 11/16"	6 11/16"	9 7/8"
	2½"ANSI	2½"ANSI	H107①	7 7/8"	22 5/32"	3"	25/32"	3 15/16"	8 21/32"	5 21/32"	5 13/32"	6 11/16"	6 11/16"	9 7/8"
5"	4" ANSI	2½"ANSI	H127	11 1/32"	24 5/16"	3 11/32"	15/16"	4 15/16"	10 13/16"	7 15/32"	6 7/32"	8 21/32"	8 21/32"	9 27/32"
	3" ANSI	3" ANSI	H127①	11 1/32"	24 19/32"	3 11/32"	15/16"	4 15/16"	10 13/16"	7 15/32"	6 7/32"	8 21/32"	8 21/32"	9 27/32"

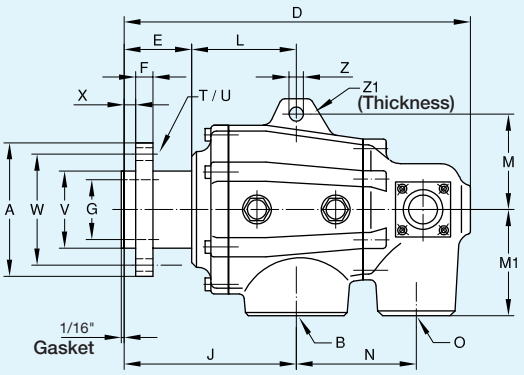
① Hot Oil Design

Duoflow Rotating Union

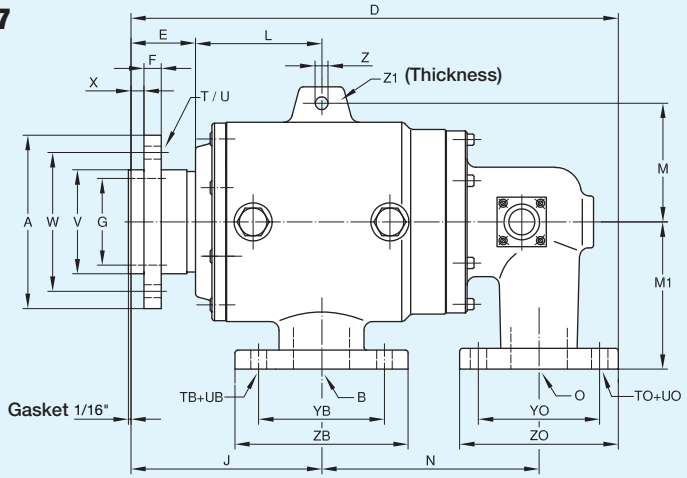
Models Size H20 – H40



Models Size H57 – H87



Models Size H107 and H127



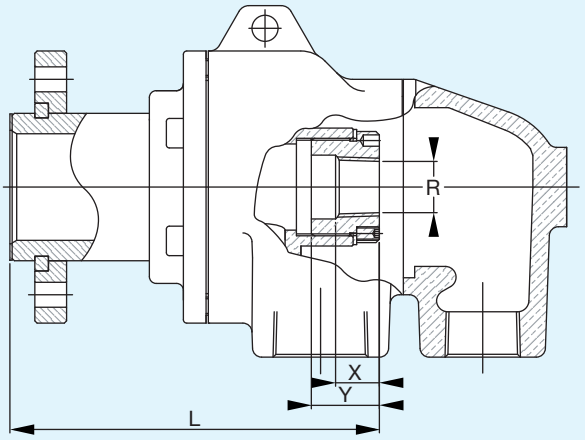
T	U	TB	UB	V②	W	X	YB	ZB	Z	Z1	Size
4 x 90°	3/8"	–	–	1.181	1 31/32"	1/4"	–	–	9/32"	5/16"	3/4"
4 x 90°	3/8"	–	–	1.417	2 3/8"	9/32"	–	–	9/32"	7/16"	1"
4 x 90°	7/16"	–	–	1.732	2 3/4"	5/16"	–	–	11/32"	5/16"	1 1/4"
4 x 90°	7/16"	–	–	2.047	3 1/16"	13/32"	–	–	7/16"	13/32"	1 1/2"
4 x 90°	7/16"	–	–	2.559	3 3/4"	13/32"	–	–	1/2"	19/32"	2"
4 x 90°	1/2"	–	–	3.149	4 17/32"	15/32"	–	–	19/32"	25/32"	2 1/2"
4 x 90°	1/2"	–	–	3.740	4 15/16"	15/32"	–	–	19/32"	1"	3"
6 x 60°	19/32"	8 x 45°	3/4"	4.724	6 5/16"	19/32"	7 1/2"	8 21/32"	19/32"	1"	4"
6 x 60°	23/32"	8 x 45°	7/8"	6.299	8 27/32"	19/32"	8 1/2"	9 27/32"	19/32"	1"	5"

T	U	TB	UB	TO	UO	V②	W	X	YB	ZB	YO	ZO	Z	Z1	Size
4 x 90°	3/8"	–	–	–	–	1.181	1 31/32"	1/4"	–	–	–	–	9/32"	5/16"	3/4"
4 x 90°	3/8"	–	–	–	–	1.417	2 3/8"	9/32"	–	–	–	–	9/32"	7/16"	1"
4 x 90°	7/16"	–	–	–	–	1.732	2 3/4"	5/16"	–	–	–	–	11/32"	5/16"	1 1/4"
4 x 90°	7/16"	–	–	–	–	2.047	3 1/16"	13/32"	–	–	–	–	7/16"	13/32"	1 1/2"
4 x 90°	7/16"	–	–	–	–	2.559	3 3/4"	13/32"	–	–	–	–	1/2"	19/32"	2"
4 x 90°	1/2"	–	–	–	–	3.149	4 17/32"	15/32"	–	–	–	–	19/32"	25/32"	2 1/2"
4 x 90°	1/2"	–	–	–	–	3.740	4 15/16"	15/32"	–	–	–	–	19/32"	1"	3"
6 x 60°	19/32"	4 x 90°	3/4"	4 x 90°	3/4"	4.724	6 5/16"	19/32"	6"	7 7/8"	5 1/2"	7 29/32"	19/32"	1"	4"
6 x 60°	19/32"	4 x 90°	3/4"	4 x 90°	3/4"	4.724	6 5/16"	19/32"	5 1/2"	7 29/32"	5 1/2"	7 29/32"	19/32"	1"	
6 x 60°	23/32"	8 x 45°	3/4"	4 x 90°	3/4"	6.299	8 27/32"	19/32"	7 1/2"	8 21/32"	5 1/2"	7 29/32"	19/32"	1"	5"
6 x 60°	23/32"	4 x 90°	3/4"	4 x 90°	3/4"	6.299	8 27/32"	19/32"	6"	7 7/8"	6"	7 7/8"	19/32"	1"	

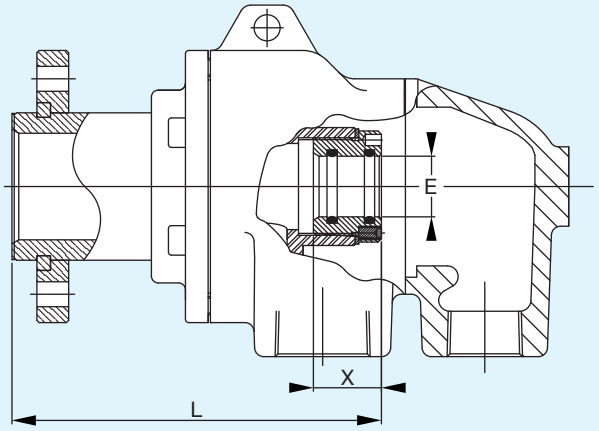
② Tolerance +.000 to -.003 depending on size.

Duoflow Central Pipe Specifications

Rotating Central Pipe
R For rotating siphon (steam inlet pipe); the inner pipe is connected by means of a threaded bushing that screws into the rotor.



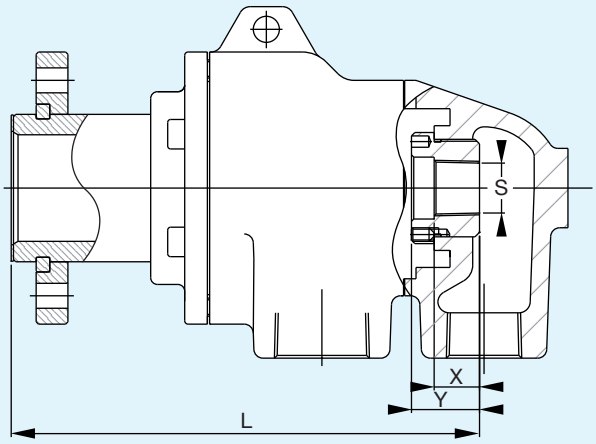
Rotating Central Pipe Axial Movement
E For a rotating siphon capable of axial movement; a sliding connection is made between the bushing and the central pipe to allow for the thermal expansion of the central pipe.



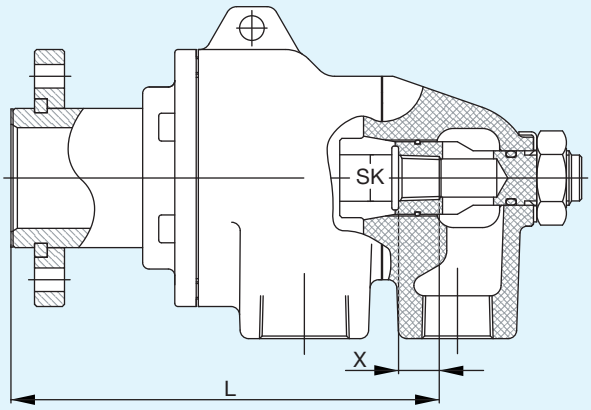
Model	L	X	Y	Optional Pipe Sizes "R"
H20	4 19/32"	19/32"	25/32"	1/8" - 1/4" NPT
H25	5 1/4"	19/32"	25/32"	1/4" - 3/8" NPT
H32	5 25/32"	25/32"	1"	3/8" - 1/2" NPT
H40	6 7/8"	1"	1 3/16"	1/2" - 1" NPT
H57	9 3/16"	1"	1 3/8"	1/2" - 1 1/4" NPT
H67	10 3/4"	1"	1 3/8"	1/2" - 1 1/2" NPT
H87	11 13/16"	1"	1 9/16"	1" - 2" NPT
H107	14 3/4"	1 25/32"	2 3/8"	1" - 3" NPT
H127	18 1/8"	1 25/32"	2 3/8"	1 1/4" - 4" NPT

Model	L	X	Optional Pipe Sizes "E"
H20	4 19/32"	25/32"	1/8" - 1/4"
H25	5 1/4"	25/32"	1/4" - 3/8"
H32	5 25/32"	1"	3/8" - 1/2"
H40	6 7/8"	1 3/16"	1/2" - 1"
H57	9 3/16"	1 3/8"	1/2" - 1 1/4"
H67	10 3/4"	1 3/8"	1/2" - 1 1/2"
H87	11 13/16"	1 9/16"	1" - 2"
H107	14 3/4"	2 3/8"	1" - 3"
H127	18 1/8"	2 3/8"	1 1/4" - 4"

Stationary Central Pipe
S For fixed siphons; the pipe is connected by means of a threaded bushing that screws into the end cap.



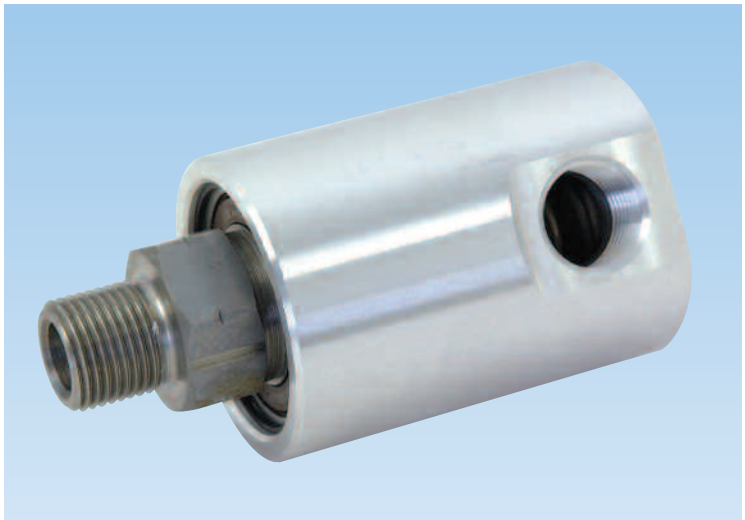
Stationary Central Pipe
SK For stationary fixed siphons; the central pipe is supported in the end cap and connected by means of an external bolt to the end cap.



Model	L	X	Y	Optional Pipe Sizes "S"
H20	5 13/32"	7/16"	5/8"	1/8" - 1/4" NPT
H25	6 5/16"	7/16"	25/32"	1/4" - 3/8" NPT
H32	6 25/32"	19/32"	1"	3/8" - 1/2" NPT
H40	8 1/8"	25/32"	1 5/16"	1/2" - 1" NPT
H57	9 7/8"	1"	1 9/16"	1/2" - 1 1/4" NPT
H67	11 15/16"	1 3/16"	1 9/16"	1/2" - 1 1/2" NPT
H87	13"	1 3/8"	1 31/32"	1" - 2" NPT
H107	–	–	–	–
H127	–	–	–	–

Model	L	X	Optional Pipe Sizes "SK"
H57	8 31/32"	1 3/16"	1/2" - 3/4"
H67	10 7/8"	1 3/16"	3/4" - 1"
H87	11 19/32"	1 3/16"	1 - 1 1/4"
H107	14 3/4"	2 3/8"	1" - 1 1/4"
H127	18 1/8"	2 3/8"	1 1/4" - 1 1/2"

Adjustable Siphons Available
Consult *DEUBLIN*



DEUBLIN

⅛" to ½" Air-Hydraulic Unions

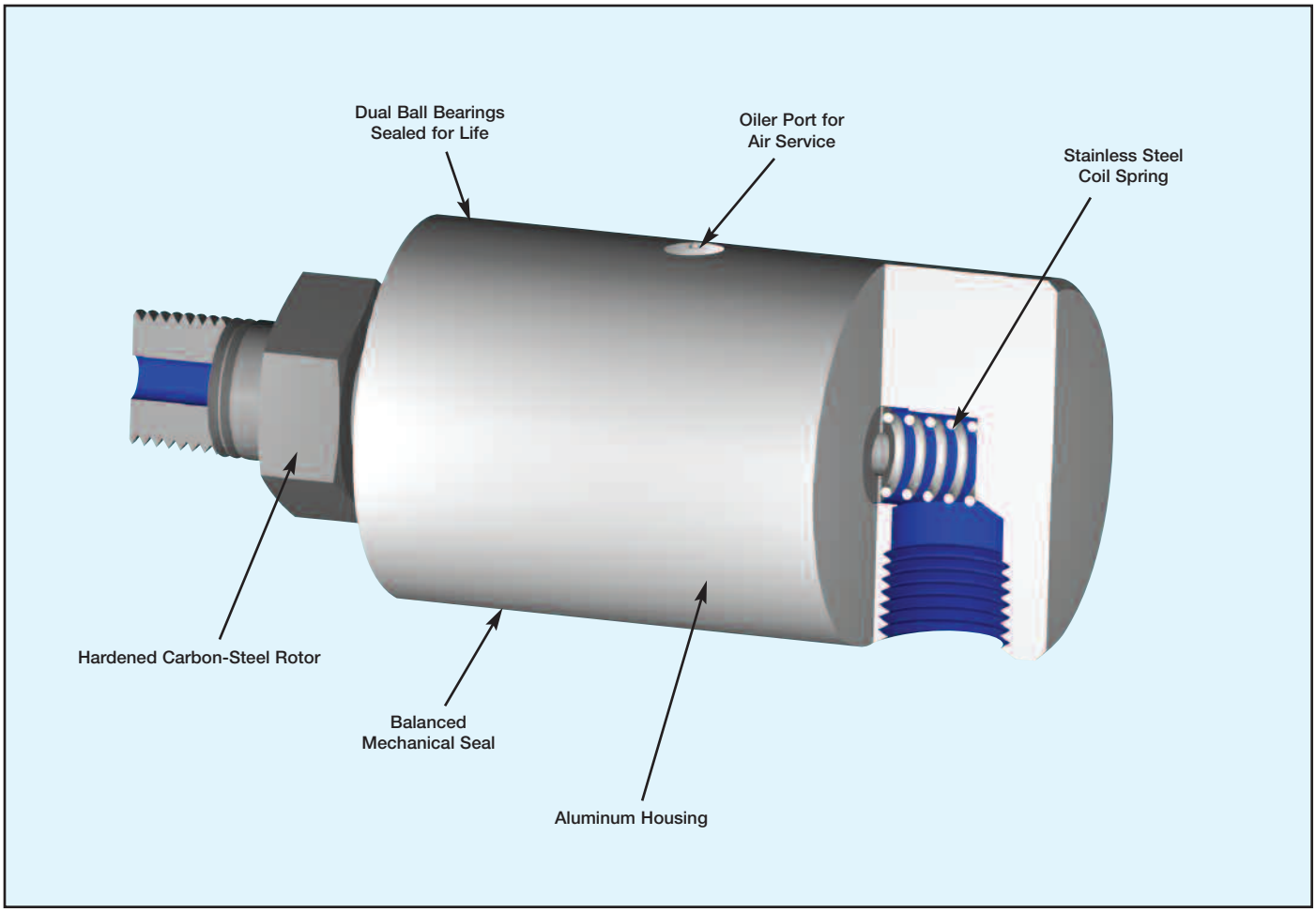
- monoflow design
- self-supported rotating union
- radial housing connection
- balanced mechanical seal
- seal combinations:
  Carbon Graphite/Hardened Tool Steel or
  Carbon Graphite/Silicon Carbide
- felt oiler in seal cavity for air service
- oiler for relubrication (3 - 5 drops/month)
- low torque
- weight-optimized design
- aluminum housing
- bearings lubricated for life

Operating Data

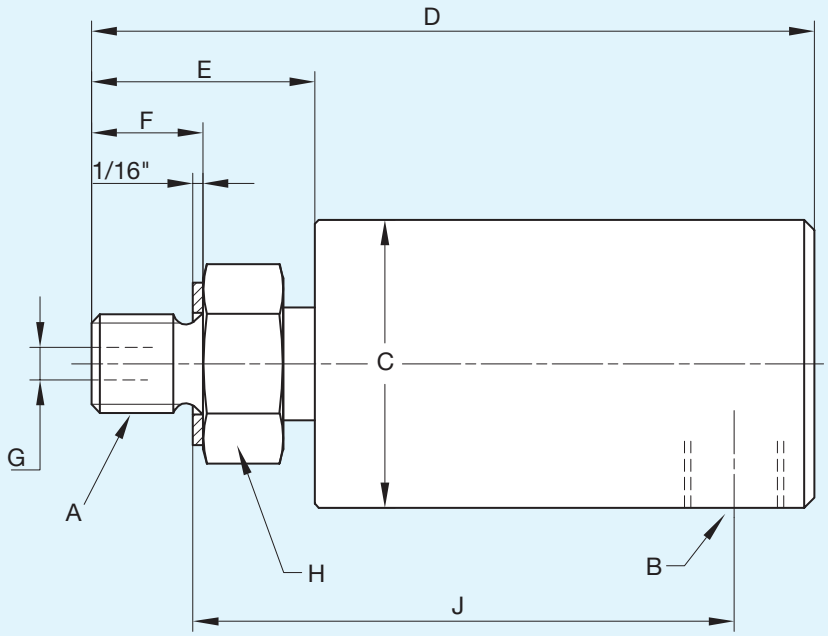
Maximum Air Pressure	150 PSI	10 bar
Maximum Vacuum	28" Hg	6.7 kPa
Maximum Hydraulic Pressure		
Model 1005	1,000 PSI	70 bar
Model 1102	1,000 PSI	70 bar
Model 1115	500 PSI	34 bar
Model 1205	750 PSI	50 bar
Model 2200 ①	1,000 PSI	70 bar
Maximum Speed NPT Threads	1,500 RPM	1,500/min
Maximum Speed Straight Threads	3,500 RPM	3,500/min
Maximum Temperature	250°F	120°C

① Union is designed for continuous operation at either maximum speed or maximum pressure. If operating conditions are close to maximum pressure and speed simultaneously, consult ***DEUBLIN***.

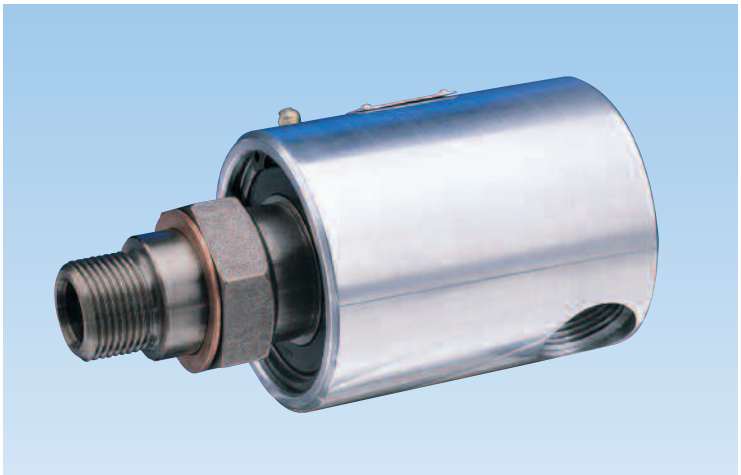
See next page for dimensional data.



Monoflow Rotating Union



B Port NPT	Ordering No. Model	A Rotor Thread	C Dia.	D	E	F	G Rotor Hole	H Across Flats	J Lock-up	Shpg. Wt.
1/8"	1005-020-019	3/8"-24 UNF RH	1 1/8"	2 13/16"	7/8"	1/2"	1/8"	5/8"	2 1/16"	1/2#
	1005-020-039	3/8"-24 UNF LH								
	1005-020-038	1/8" NPT RH								
	1005-020-037	M10x1 RH	28.5	71	22	11	3.2	16	54	.2 Kg
	1005-020-049	G1/4" (BSP) RH	28.5	71	22	13	3.2	16	52	.2 Kg
1/4"	1102-070-029	5/8"-18 UNF RH	1 5/8"	3 3/16"	1 1/8"	5/8"	1/4"	7/8"	2 1/4"	1#
	1102-070-079	5/8"-18 UNF LH								
	1102-070-081	1/4" NPT RH	1 5/8"	3 3/16"	1 1/8"	5/8"	1/4"	7/8"	2 15/32"	1#
	1102-070-082	1/4" NPT LH								
	1102-070-103	G1/4" (BSP) RH	41.2	81	29	13	6.4	22.2	60	.4 Kg
	1102-070-104	G1/4" (BSP) LH								
3/8"	1115-000-001	5/8"-18 UNF RH	1 23/32"	3 15/16"	1 1/16"	5/8"	3/8"	15/16"	2 27/32"	1 1/2#
	1115-000-017	5/8"-18 UNF LH								
	1115-000-002	3/8" NPT RH	1 23/32"	3 15/16"	1 1/16"	5/8"	3/8"	15/16"	3 1/8"	1 1/2#
	1115-000-018	1/4" NPT RH								
	1115-000-205	G3/8" (BSP) RH	43.6	100	27	16.6	8.7	24	71.4	.7 Kg
	1115-000-200	M16x2 RH	43.6	100	27	16	8.7	24	72.2	.7 Kg
1/2"	1205-000-003	1/2" NPT RH	2 1/4"	4 9/16"	1 7/16"	7/8"	1/2"	1 1/8"	3 1/2"	1 1/2#
	1205-000-004	1/2" NPT LH								
	1205-000-019	3/4" NPT RH	2 1/4"	4 9/16"	1 7/16"	7/8"	5/8"	1 1/8"	3 15/32"	1 1/2#
	1205-000-020	3/4" NPT LH								
	1205-000-039	3/4"-16 UNF RH	2 1/4"	4 7/16"	1 5/16"	3/4"	1/2"	1 1/8"	3 1/16"	1 1/2#
	1205-000-025	3/4"-16 UNF LH								
	1205-000-001	1"-14 UNS RH	2 1/4"	4 13/32"	1 9/32"	3/4"	5/8"	1 3/8"	3 1/32"	1 1/2#
	1205-000-002	1"-14 UNS LH								
	1205-000-012	G1/2" (BSP) RH	57.1	113	33.3	19	12.7	28.5	77.7	.7 Kg
	1205-000-013	G1/2" (BSP) LH								
	1205-000-021	G3/4" (BSP) RH	57.1	112	32.5	19	15.8	35	77	.7 Kg
	1205-000-022	G3/4" (BSP) LH								
1/2"	2200-000-096	1/2" NPT RH	2 7/8"	4 15/16"	1 7/16"	7/8"	1/2"	1 1/4"	3 3/4"	3#
	2200-000-097	1/2" NPT LH								
	2200-000-098	3/4" NPT RH	2 7/8"	4 15/16"	1 7/16"	7/8"	11/16"	1 1/4"	3 3/4"	3#
	2200-000-099	3/4" NPT LH								
	2200-000-003	1"-14 UNS RH	2 7/8"	4 13/16"	1 5/16"	3/4"	21/32"	1 1/4"	3 7/16"	3#
	2200-000-027	1"-14 UNS LH								
	2200-000-102	G3/4" (BSP) RH	73	121	34	19	17.5	32	88	1.4 Kg
	2200-000-103	G3/4" (BSP) LH								



DEUBLIN

¾" to 1½" Air-Hydraulic Unions

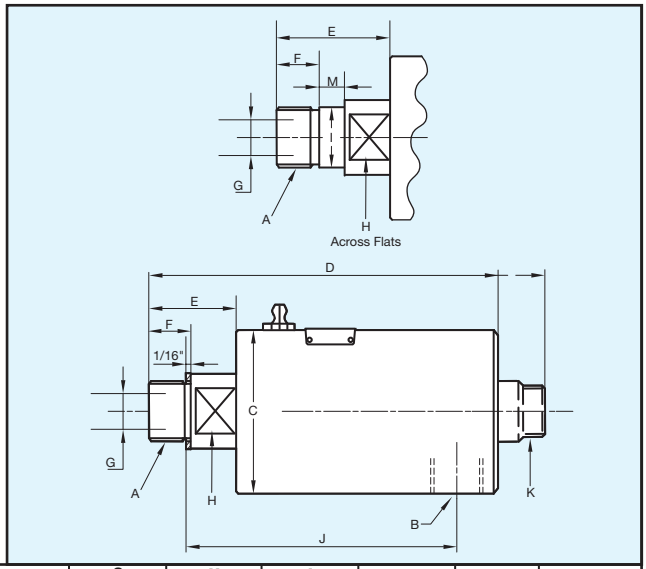
- monoflow design
- self-supported rotating union
- radial housing connection
- balanced mechanical seal
- seal combinations:
  Carbon Graphite/Hardened Tool Steel or
  Carbon Graphite/Ceramic
- felt oiler in seal cavity for air service
- oiler for relubrication (3 - 5 drops/month)
- low torque
- aluminum housing
- stainless steel or steel rotor (respective of model)
- Lubrication Guide page 55

Operating Data

Maximum Air Pressure	150 PSI	10 bar
Maximum Vacuum	28" Hg	6.7 kPa
Maximum Hydraulic Pressure		
Model 250-094	1,000 PSI	70 bar
Model 355-021	1,000 PSI	70 bar
Model 452-000	750 PSI	50 bar
Maximum Speed NPT Threads	1,500 RPM	1,500/min
Maximum Speed Straight Threads		
Model 250-094	3,500 RPM	3,500/min
Model 355-021	3,000 RPM	3,000/min
Model 452-000	2,500 RPM	2,500/min
Maximum Temperature	250°F	120°C

Union is designed for continuous operation at either maximum speed or maximum pressure. If operating conditions are close to maximum pressure and speed simultaneously, consult ***DEUBLIN***.

* To indicate union with additional "K" port with
½" NPT: Order Number 250-979-RTR
¾" NPT: Order Number 355-305-RTR
1¼" NPT: Order Number 452-001-RTR



B Port NPT	Ordering No. Model	A Rotor Thread	C	D	E	F	G Rotor Hole	H Across Flats	I Pilot Dia.	J Lock-up	M	Shpg. Wt.
¾"	250-094-020	¾" NPT RH	2⅞"	5⅛"	1⁷⁄₁₆"	⅞"	¹¹⁄₁₆"	1¼"	–	4¹⁄₁₆"	–	3½#
	250-094-021	¾" NPT LH										
	250-094-002	1"-14 UNS RH	2⅞"	5"	1⁵⁄₁₆"	¾"	²¹⁄₃₂"	1¼"	–	3¹¹⁄₁₆"	–	3½#
	250-094-027	1"-14 UNS LH										
	250-094-016	1"-14 UNS (PLT) RH	2⅞"	5¹³⁄₁₆"	2⅛"	¾"	⅝"	1⅝"	1.2480" 1.2478"	4"	½"	3½#
	250-094-017	1"-14 UNS (PLT) LH										
	250-094-284	G¾" (BSP) RH	73	128	34	19	17.5	32	–	94	–	1.6 Kg
	250-094-285	G¾" (BSP) LH										
	250-094-012	M22x1.5 (PLT) RH	73	122	28	14	14.3	32	26.992 26.979	87.5	3	1.6 Kg
	250-094-013	M22x1.5 (PLT) LH										
1"	355-021-002	1" NPT RH	3¼"	6¾₁₆"	1¹⁵⁄₁₆"	1⅛"	1"	1½"	–	4¹³⁄₁₆"	–	4½#
	355-021-003	1" NPT LH										
	355-021-019	1½"-12 UNF RH	3¼"	6¾₁₆"	1¹⁵⁄₁₆"	1⅛"	1"	1½"	–	4¼"	–	4½#
	355-021-074	1½"-12 UNF LH										
	355-021-016	1½"-12 UNF (PLT) RH	3¼"	6⁹⁄₁₆"	2⁵⁄₁₆"	1"	1"	1½"	1.5610" 1.5605"	4³⁄₁₆"	½"	4½#
	355-021-017	1½"-12 UNF (PLT) LH										
	355-021-222	G1" (BSP) RH	82.6	150	42	21	22.2	38	–	108	–	2.1 Kg
	355-021-223	G1" (BSP) LH										
1½"	452-000-001	1½" NPT RH	4¼"	7¹¹⁄₁₆"	2⁷⁄₁₆"	1³⁄₁₆"	1½"	2⅛"	–	5¹³⁄₁₆"	–	9.5#
	452-000-002	1½" NPT LH										
	452-000-395	2"-12 UN RH	4¼"	8¹⁄₁₆"	2¹³⁄₁₆"	1⅛"	1½"	2⅛"	–	5⅝"	–	9.5#
	452-000-396	2"-12 UN LH										
	452-000-029	1¾"-12 UN RH	4¼"	8⁷⁄₁₆"	3³⁄₁₆"	⅞"	1¼"	2⅛"	–	6¼"	–	9.5#
	452-000-109	1¾"-12 UN LH										
	452-000-198	G1½" (BSP) RH	108	205	72	29	35	54	–	143	–	4.5 Kg
	452-000-199	G1½" (BSP) LH										

Deublin In-The-Shaft Mounted Unions

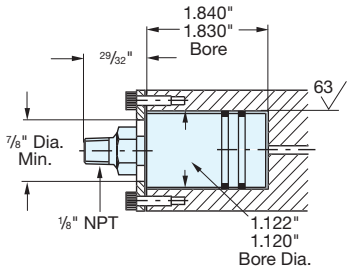
To meet the specifications of engineering designs requiring minimum overhang. Deublin can provide unions which can be mounted within the shaft. With these models, the only extensions beyond the end of the shaft are the supply line connections.

Model 1005-000-038 ⅛" Capacity

Available with 1005 rotors shown on page 32. **for Air or Hyd. Oil**

Operating Data

Maximum Air Pressure	150 PSI	10 bar
Maximum Hydraulic Pressure①	1,000 PSI	70 bar
Maximum Speed①	3,500 RPM	3,500/min
Maximum Temperature	250°F	120°C



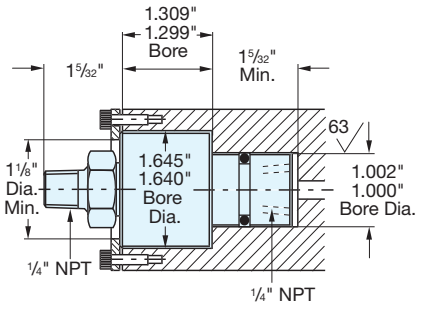
Model 1102-025-081 ¼" Capacity

Available with 1102 rotors shown on page 32.
Also available with hub mount for CTIS.
See page 52.

for Air or Hyd. Oil

Operating Data

Maximum Air Pressure	150 PSI	10 bar
Maximum Hydraulic Pressure①	1,000 PSI	70 bar
Maximum Speed①	3,500 RPM	3,500/min
Maximum Temperature	250°F	120°C



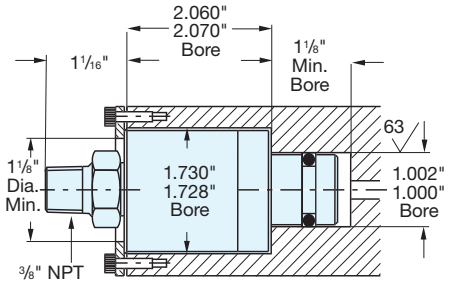
① Union is designed for continuous operation at either maximum speed or maximum pressure. If operating conditions are close to maximum pressure and speed simultaneously, consult ***DEUBLIN***.

Model 1115-130-002 ⅜" Capacity—for Air

Available with 1115 rotors shown on page 32.

Operating Data

Maximum Air Pressure	150 PSI	10 bar
Maximum Speed	3,500 RPM	3,500/min
Maximum Temperature	250°F	120°C

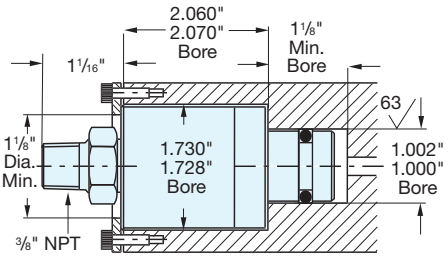


Model 1116-319-248 ⅜" Capacity—for Hydraulic Oil

This model contains E.L.S. seals of silicon carbide to silicon carbide for long life on abrasive applications. Do not run dry.

Operating Data

Maximum Hydraulic Pressure①	500 PSI	34 bar
Maximum Speed①	3,500 RPM	3,500/min
Maximum Temperature	250°F	120°C



① Union is designed for continuous operation at either maximum speed or maximum pressure. If operating conditions are close to maximum pressure and speed simultaneously, consult ***DEUBLIN***.

DEUBLIN

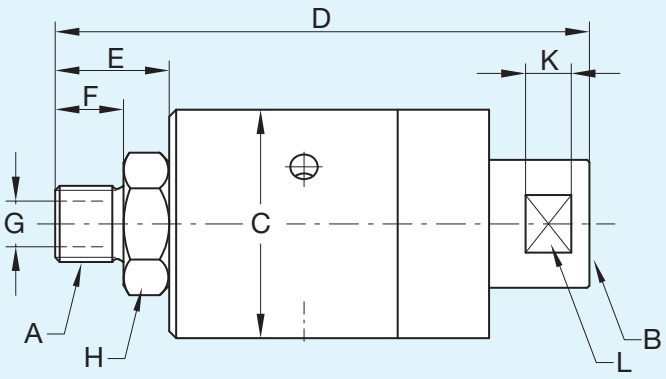
AP Series High Pressure High Speed Unions

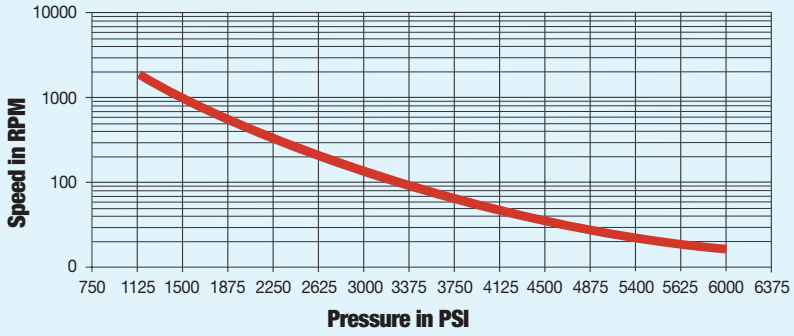
- monoflow design
- self-supported rotating union
- seal combination: Tungsten Carbide/Tungsten Carbide
- double row ball bearing; lubricated for life
- vent holes
- steel housing nickel-plated
- stainless steel end cap and rotor
- all parts in media contact are stainless steel and corrosion resistant
- designed for high pressure and high speed

Operating Data

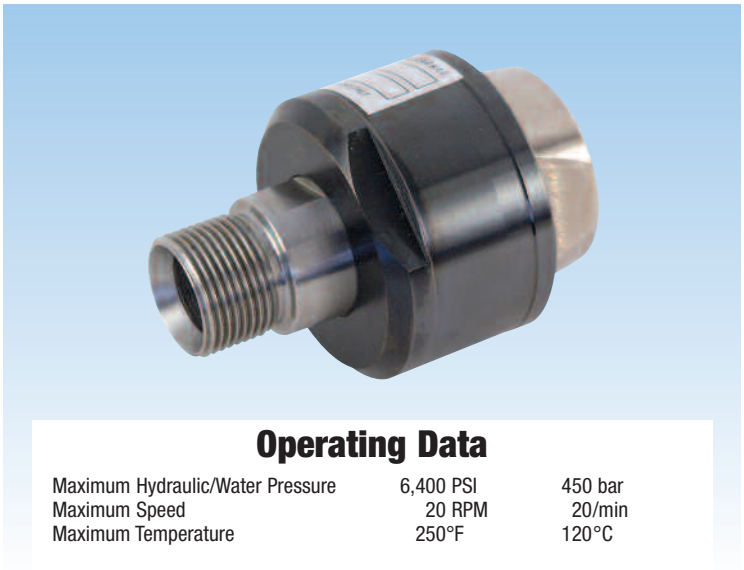
Maximum Hydraulic/Water Pressure①	5,700 PSI	400 bar
Maximum Speed①	1,500 RPM	1,500/min
Maximum Temperature	200°F	90°C

① Operation at maximum pressure combined with maximum speed should be avoided. For optional performance, refer to graph. If operating conditions are marginal, consult ***DEUBLIN***.





B Inlet Port	Ordering Number	A Rotor Thread		C	D	E	F	G Rotor Hole	H Across Flats	K	L Across Flats	Shpg. Wt.
1/4" NPT	AP8-011-214	1/4" NPT	RH	1 31/32"	4 19/32"	1"	19/32"	9/32"	1 1/16"	13/32"	1"	1.5#
	AP8-011-215	1/4" NPT	LH									
G1/4" (BSP)	AP8-010-210	G1/4" (BSP)	RH	50	117	25	15	7	27	10	25	.7 Kg
	AP8-010-211	G1/4" (BSP)	LH									
3/8" NPT	AP10-011-214	3/8" NPT	RH	1 31/32"	4 19/32"	1"	19/32"	13/32"	1 1/16"	13/32"	1"	1.5#
	AP10-011-215	3/8" NPT	LH									
G3/8" (BSP)	AP10-010-210	G3/8" (BSP)	RH	50	117	25	15	10	27	10	25	.7 Kg
	AP10-010-211	G3/8" (BSP)	LH									
1/2" NPT	AP12-011-214	1/2" NPT	RH	1 31/32"	4 13/16"	1 3/16"	25/32"	15/32"	1 1/16"	13/32"	1"	2#
	AP12-011-215	1/2" NPT	LH									
G1/2" (BSP)	AP12-010-210	G1/2" (BSP)	RH	50	122	30	20	12	27	10	25	1 Kg
	AP12-010-211	G1/2" (BSP)	LH									



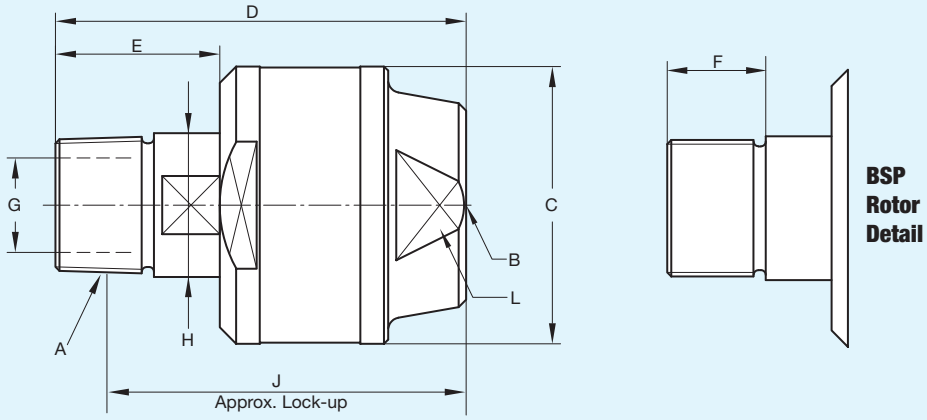
DEUBLIN

D Series High Pressure Swivel Low Speed Rotating Unions

- monoflow design
- for hydraulic oil and water
- for swivel applications and high pressure media
- steel housing and end cap
- stainless steel rotor
- self-supported rotating union
- can be adapted for other media

Operating Data

Maximum Hydraulic/Water Pressure	6,400 PSI	450 bar
Maximum Speed	20 RPM	20/min
Maximum Temperature	250°F	120°C



B Inlet Port	Ordering Number	A Rotor Connections		C	D	E	F	G Rotor Hole	H Across Flats	J Lock-up	L Across Flats	Shpg. Wt.
1/4" NPT	D8-004-214	1/4" NPT	RH	1 9/16"	2 11/16"	1"	19/32"	9/32"	15/32"	2 5/16"	15/16"	3/4#
	D8-004-215	1/4" NPT	LH									
G1/4" (BSP)	D8-003-210	G1/4" (BSP)	RH	40	68	25	15	7	12	53	24	.3 Kg
	D8-003-211	G1/4" (BSP)	LH									
3/8" NPT	D10-004-214	3/8" NPT	RH	1 3/4"	2 3/4"	1"	25/32"	13/32"	9/16"	2 3/8"	1 3/32"	7/8#
	D10-004-215	3/8" NPT	LH									
G3/8" (BSP)	D10-003-210	G3/8" (BSP)	RH	44	70	25	15	10	14	55	28	.4 Kg
	D10-003-211	G3/8" (BSP)	LH									
1/2" NPT	D12-004-214	1/2" NPT	RH	2 7/32"	3 7/32"	1 1/4"	25/32"	15/32"	7/8"	2 23/32"	1 1/2"	1 3/4#
	D12-004-215	1/2" NPT	LH									
G1/2" (BSP)	D12-003-210	G1/2" (BSP)	RH	56	82	32	20	12	22	62	38	.8 Kg
	D12-003-211	G1/2" (BSP)	LH									
3/4" NPT	D20-004-214	3/4" NPT	RH	2 7/16"	3 17/32"	1 11/32"	25/32"	23/32"	1 1/16"	3"	1 21/32"	2 1/4#
	D20-004-215	3/4" NPT	LH									
G3/4" (BSP)	D20-003-210	G3/4" (BSP)	RH	62	90	34	20	18	27	70	42	1.0 Kg
	D20-003-211	G3/4" (BSP)	LH									
1" NPT	D25-004-214	1" NPT	RH	2 11/16"	3 15/16"	1 19/32"	15/16"	29/32"	1 1/4"	3 1/4"	1 7/8"	2 3/4#
	D25-004-215	1" NPT	LH									
G1" (BSP)	D25-003-210	G1" (BSP)	RH	68	100	40	24	23	32	76	48	1.3 Kg
	D25-003-211	G1" (BSP)	LH									
1 1/4" NPT	D32-004-214	1 1/4" NPT	RH	3 5/32"	4 1/4"	1 11/16"	1"	1 3/16"	1 21/32"	3 9/16"	2 9/32"	4 1/4#
	D32-004-215	1 1/4" NPT	LH									
G1 1/4" (BSP)	D32-003-210	G1 1/4" (BSP)	RH	80	108	43	25	30	42	83	58	1.9 Kg
	D32-003-211	G1 1/4" (BSP)	LH									
1 1/2" NPT	D40-004-214	1 1/2" NPT	RH	3 15/32"	4 15/32"	1 23/32"	1 1/32"	1 1/2"	1 13/16"	3 13/16"	2 7/16"	6 1/2#
	D40-004-215	1 1/2" NPT	LH									
G1 1/2" (BSP)	D40-003-210	G1 1/2" (BSP)	RH	88	114	44	26	38	46	88	62	3.0 Kg
	D40-003-211	G1 1/2" (BSP)	LH									

DEUBLIN

Deu-Plex Air Unions

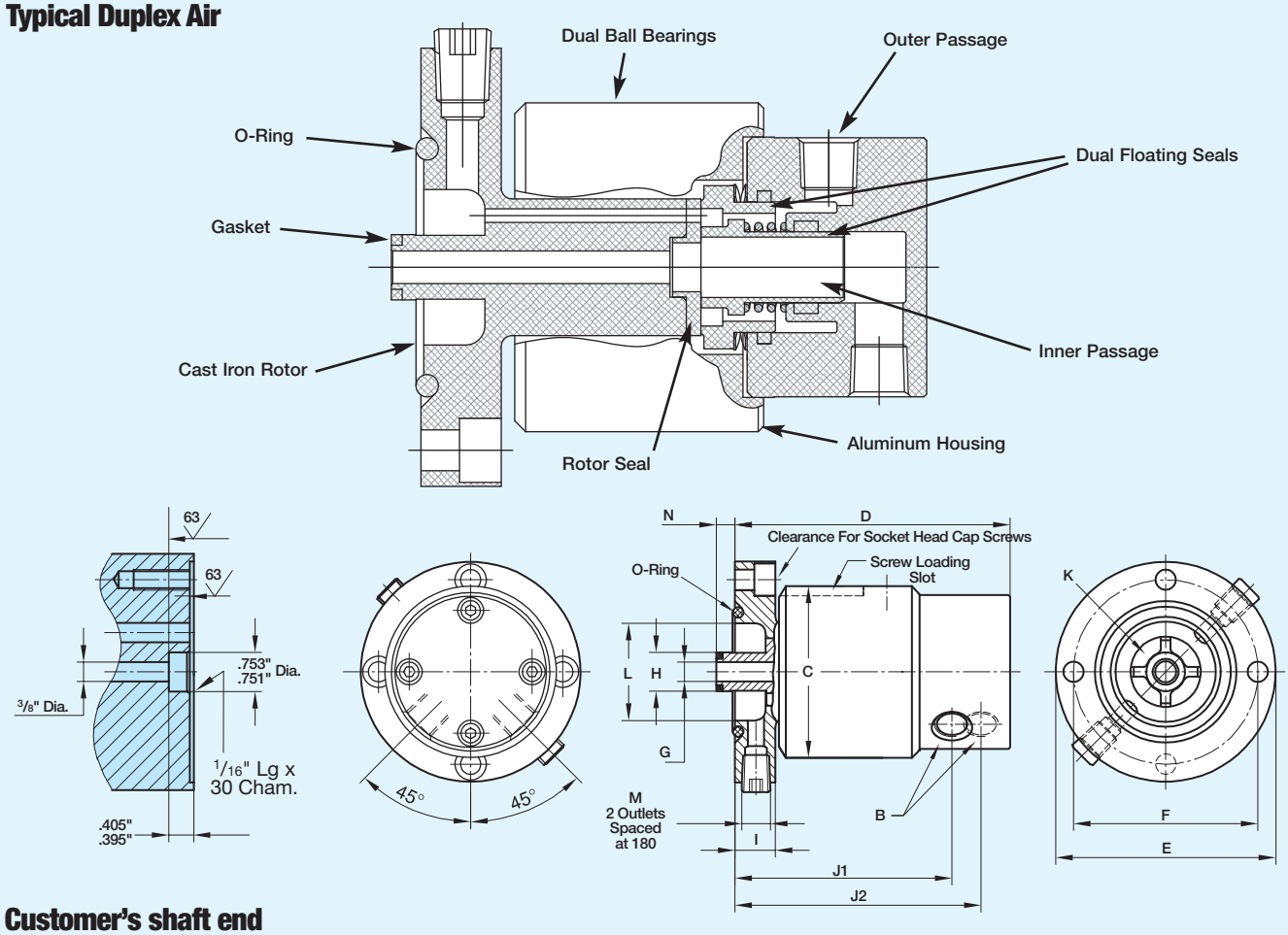
- duoflow design
- self-supported rotating union
- flanged rotor
- radial housing connections
- low torque
- balanced mechanical seals
- seal combination:
  Carbon Graphite/Cast Iron
- full-media flow
- aluminum housing
- cast iron rotor
- oil cup (3-5 drops/month)

Operating Data

Maximum Air Pressure	150 PSI	10 bar
Maximum Vacuum	28" Hg	6.7 kPa
Maximum Speed	1,500 RPM	1,500/min
Maximum Temperature	250°F	120°C

Only one passage should be pressurized at a time.

Typical Duplex Air



Customer's shaft end

B Port NPT	Ordering No. / Model	C	D	E Pilot	F Bolt Circle	G Area	H	I	J1	J2	K Area	L	M Tap	N	Screw	Shpg. Wt.
(2) x 3/8"	1500-000	3 5/16"	5 1/4"	4.250" 4.249"	3 9/16"	.1105in²	.750" .748"	3/4"	4 1/8"	4 11/16"	.2304in²	1 7/8"	1/4" NPT	7/16"	3/8"-16	7#
	1500-250	84	133	107.95 107.92	90.5	71mm²	19.05 19.00	19	105	119	150mm²	48	1/4" NPT	11.1	M10	3.2 Kg

DEUBLIN

Deu-Plex Air Unions

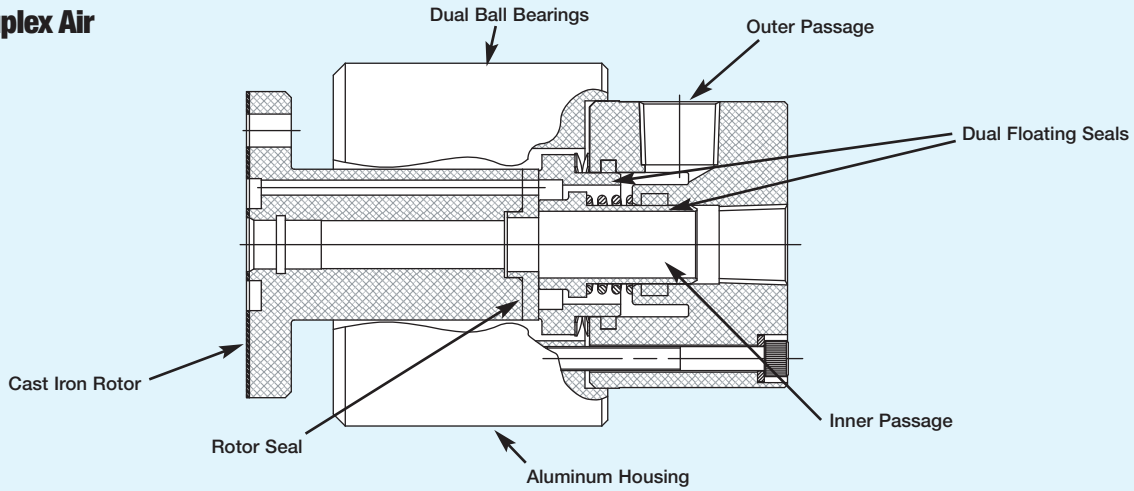
- duoflow design
- self-supported rotating union
- flanged rotor
- balanced mechanical seals
- seal combination:
  Carbon Graphite/Ceramic
- full-media flow
- aluminum housing
- cast iron rotor
- oil cup (3-5 drops/month)

Operating Data

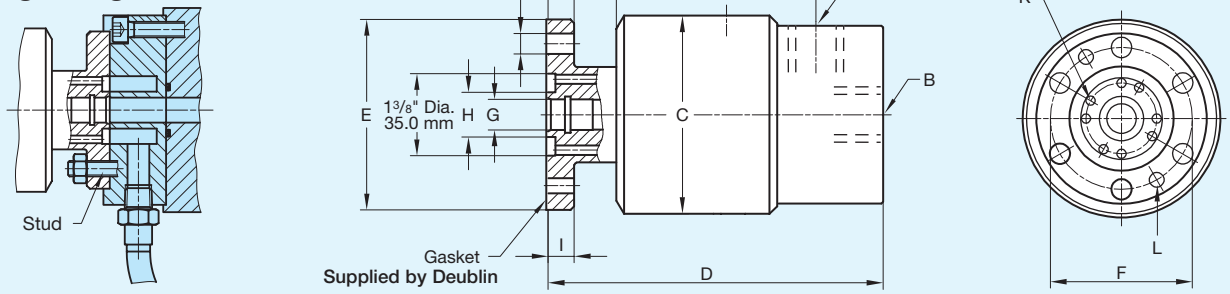
Maximum Air Pressure	150 PSI	10 bar
Maximum Vacuum	28" Hg	6.7 kPa
Maximum Speed	1,500 RPM	1,500/min
Maximum Temperature	250°F	120°C

Only one passage should be pressurized at a time.

Typical Duplex Air



Typical Adapter Mounting Arrangement



B Port NPT	Ordering No. / Model	C	D	E Pilot	F Bolt Circle	G Area	H	I	J	K Area	L Dowel	N	Stud	Shpg. Wt.
(2) x ½"	1590-000	3 5/16"	5 19/32"	3.189" 3.187"	2 3/8"	.1964in²	3/4"	7/16"	4 7/16"	.1536in²	1/4"	5/8"	5/16"	7#
	1590-000	84	142	81.00 80.95	60.3	126mm²	19	11	113	100mm²	6.3	15.8	M8	3.2 Kg

DEUBLIN

Deu-Plex Hydraulic Unions

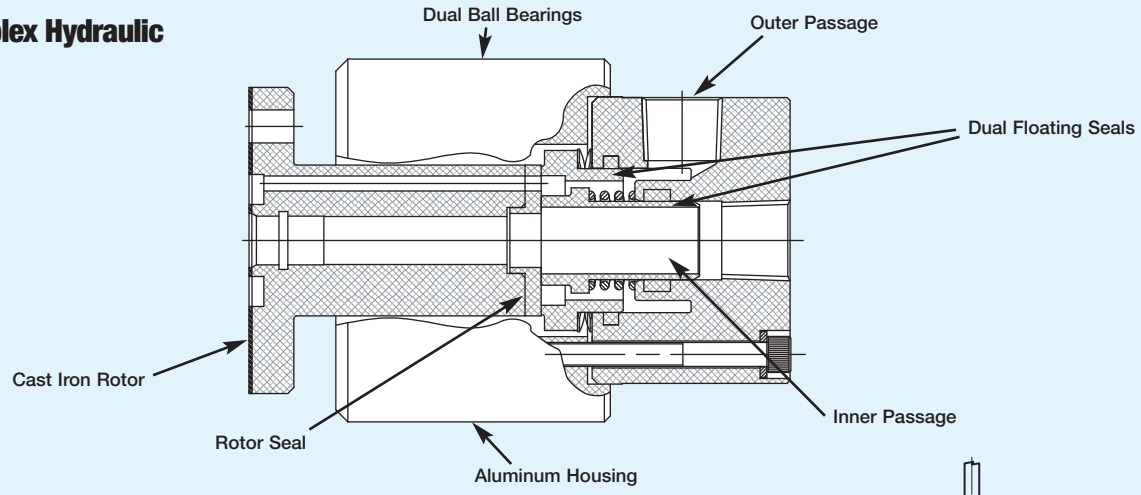
- duoflow design
- self-supported rotating union
- flanged rotor
- balanced mechanical seals
- seal combinations:
  Carbon Graphite/Ceramic - standard
  Tungsten Carbide/Ceramic - E.L.S.
- full-media flow
- aluminum housing
- cast iron rotor

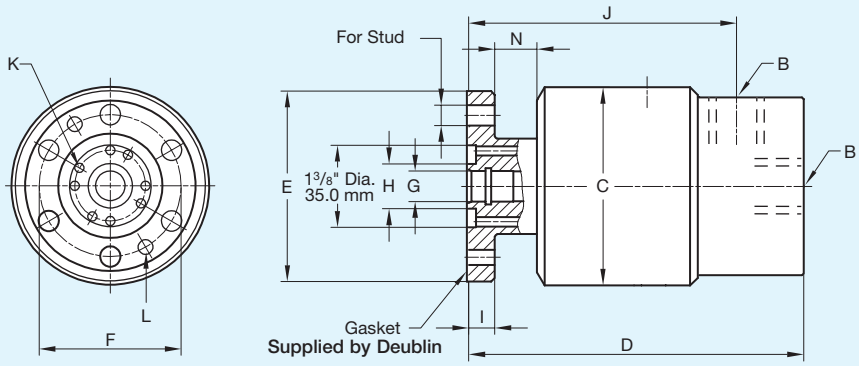
Operating Data

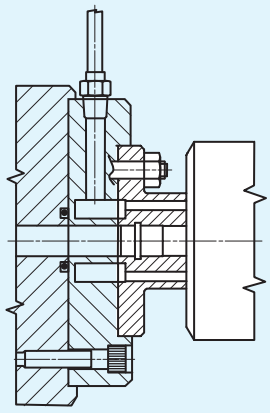
Maximum Hydraulic Pressure①	1,000 PSI	70 bar
Maximum Speed①	1,500 RPM	1,500/min
Maximum Temperature	250°F	120°C

① Operation at maximum pressure combined with maximum speed should be avoided. Pressure rating is for inner passage only. Contact ***DEUBLIN*** if outer passage or both passages are pressurized.

Typical Duplex Hydraulic

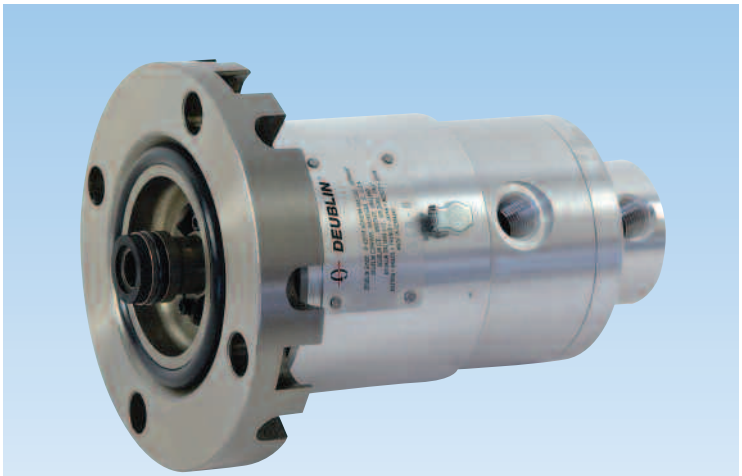






Typical Adapter Mounting Arrangement

B Port NPT	Ordering No. Standard	Ordering No. E.L.S.	C	D	E Pilot	F Bolt Circle	G Area	H	I	J	K Area	L Dowel	N	Stud	Shpg. Wt.
(2) x ½"	1579-000	1579-041	3 5/16"	5 19/32"	3.189" 3.187"	2 3/8"	.1964in²	3/4"	7/16"	4 7/16"	.1536in²	1/4"	5/8"	5/16"	7#
	1579-000	1579-041	84	142	81.00 80.95	60.3	126mm²	19	11	113	100mm²	6.3	15.8	M8	3.2 Kg



DEUBLIN

Deu-Plex Air-Hydraulic Hi-Speed Unions

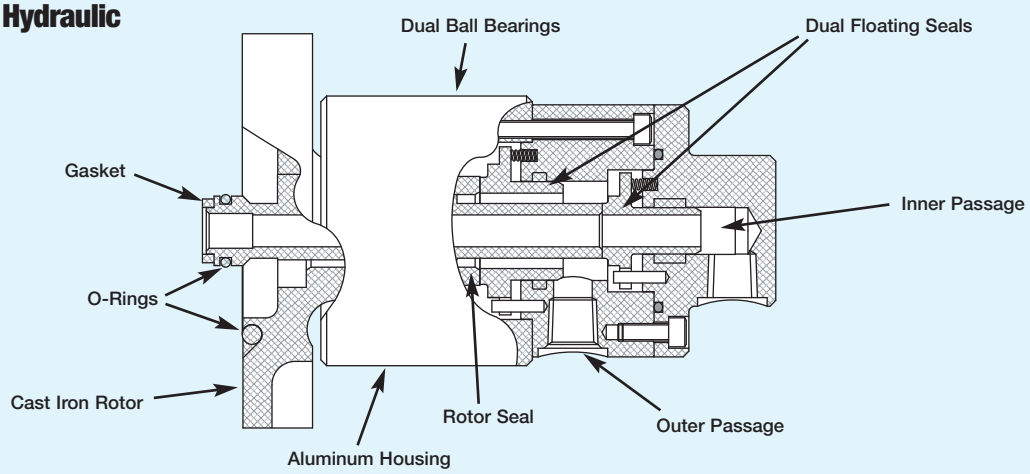
- duoflow design
- self-supported rotating union
- flanged rotor
- radial housing connections
- balanced mechanical seals
- seal combinations:
  Carbon Graphite/Hardened Tool Steel - Air
  Carbon Graphite/Ceramic - Hydraulic
- full-media flow
- aluminum housing
- cast iron rotor
- oil cup for air service (3-5 drops/month)
- passages should carry same media; inter-passage leakage may occur as seals wear.

Operating Data

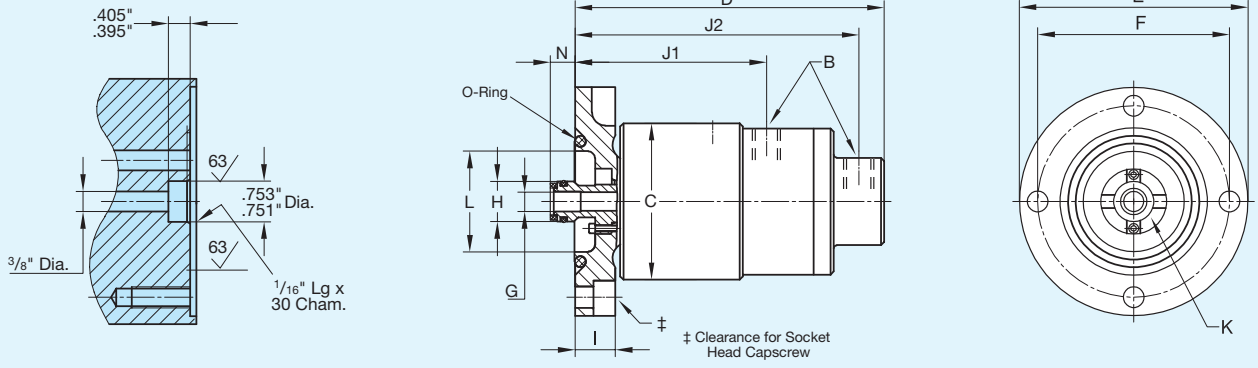
Maximum Air Pressure	150 PSI	10 bar
Maximum Vacuum	28" Hg	6.7 kPa
Maximum Hydraulic Pressure①	750 PSI	51 bar
Maximum Speed①	5,000 RPM	5,000/min
Maximum Temperature	250°F	120°C

① Operation at maximum pressure combined with maximum speed should be avoided. Pressure rating is for inner passage only. Contact ***DEUBLIN*** if outer passage or both passages are pressurized.

Typical Duplex Hydraulic



Customer's Shaft End



B Port NPT	Ordering No. Air Service	Ordering No. Hydraulic Service	C	D	E Pilot	F Bolt Circle	G Area	H	I	J1	J2	K Area	L	N	Screw	Shpg. Wt.
(2) x ¼"	2520-000	2520-400	2 29/32"	5 3/4"	4.250" 4.249"	3 9/16"	.093in²	.750" .748"	¾"	3 3/16"	5 9/32"	.121in²	1 7/8"	7/16"	⅜-16	6#
	2520-033	2520-401	74	146	107.95 107.92	90.5	60mm²	19.05 19.00	19	91	134	78mm²	48	11.1	M10	2.7 Kg

DEUBLIN

4 Passage Multi-Purpose, Multi-Media Unions

- 4-passage design
- self-supported rotating union
- flanged rotor
- drain passage prevents interpassage leakage
- special seals
- hardened sealing surface
- brass housing
- stainless steel rotor
- widely spaced ball bearings to withstand side load
- 5-passage available

A drain port is provided to collect leakage under normal operation. A vent is provided between ports 2 and 3 to allow use with two medias eliminating cross contamination.

Example: Air in 1 & 2 and hydraulic oil in 3 & 4.

Operating Data

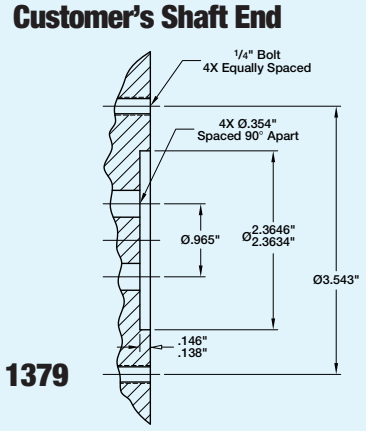
Maximum Air Pressure①	150 PSI	10 bar
Maximum Hydraulic Pressure①	850 PSI	60 bar
Maximum Speed	250 RPM	250/min
Maximum Temperature	175°F	>175°F consult ***DEUBLIN***

Slow speed or turnable applications not exceeding 10 RPM

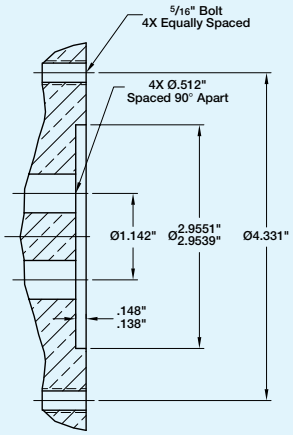
Maximum Hydraulic Pressure	3,600 PSI	250 bar

① Operating conditions vary depending on the application and must be adjusted so as not to exceed the maximum union housing temperature rating of 195°F.

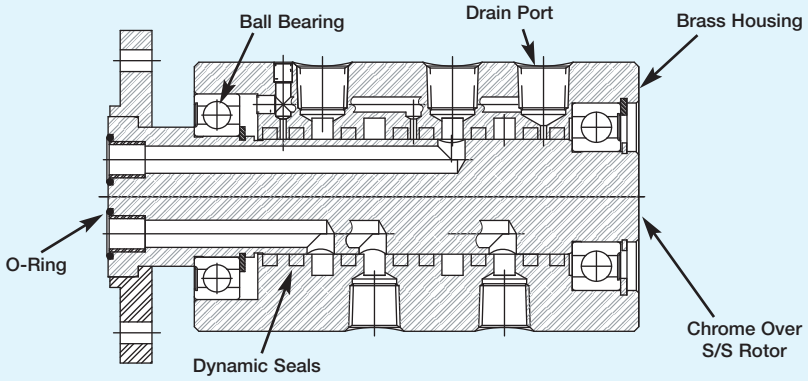
Customer's Shaft End

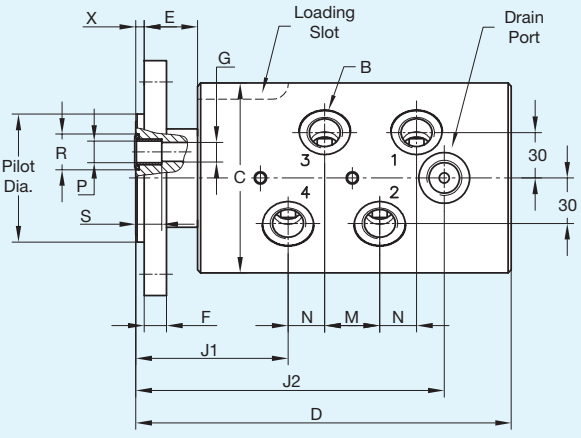


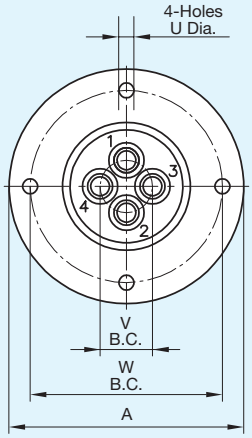
1379



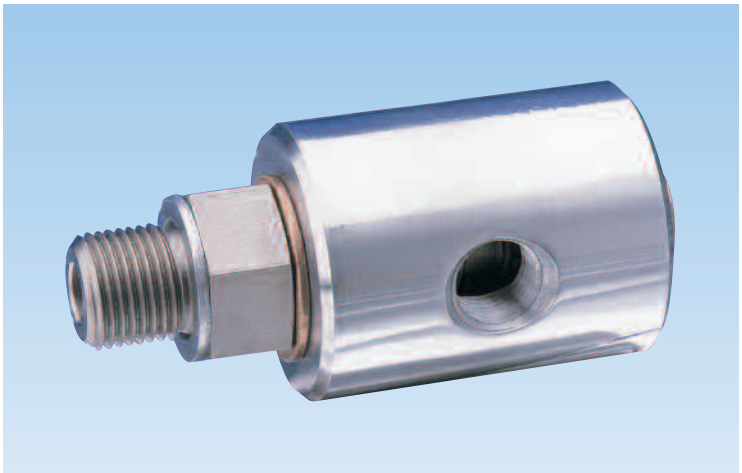
1479







B Port	Order No. Model	A Dia.	C Dia.	D	E	F	G Dia.	J1 Lock-up	J2	M	N	P Dia.	R Dia.	S	U Dia.	V B.C. Dia.	W B.C. Dia.	Pilot Dia.	X	Shpg. Wt.
(4) x 3/8" NPT	1379-460	4 21/64"	3 1/2"	6 15/16"	1"	13/32"	23/64"	2 27/32"	5 19/32"	1 1/32"	23/32"	.4744" .4724"	.660" .655"	1/2"	9/32"	31/32"	3.543	2.3622" 2.3614"	5/32"	16.7#
(4) x G3/8" (BSP)	1379-160	110	89	176	25	10.5	9	72	142	26	18	12.05 12.00	16.75 16.65	12	7.2	24.5	90	60.000 59.981	4	7.6 Kg
(4) x 1/2" NPT	1479-400	5 1/8"	4 1/4"	7 31/32"	1"	17/32"	1/2"	3 3/16"	6 21/32"	1 7/32"	29/32"	.5910" .5905"	.778" .773"	19/32"	11/32"	1 9/64"	4.331	2.953" 2.952"	5/32"	28#
(4) x G1/2" (BSP)	1479-100	130	108	202	25	13.5	13	81	169	32	23	15.05 15.00	19.75 19.65	15	9	29	110	75.000 74.981	4	12.7 Kg



DEUBLIN

Low Speed Air, Hydraulic, Brake Fluid Unions

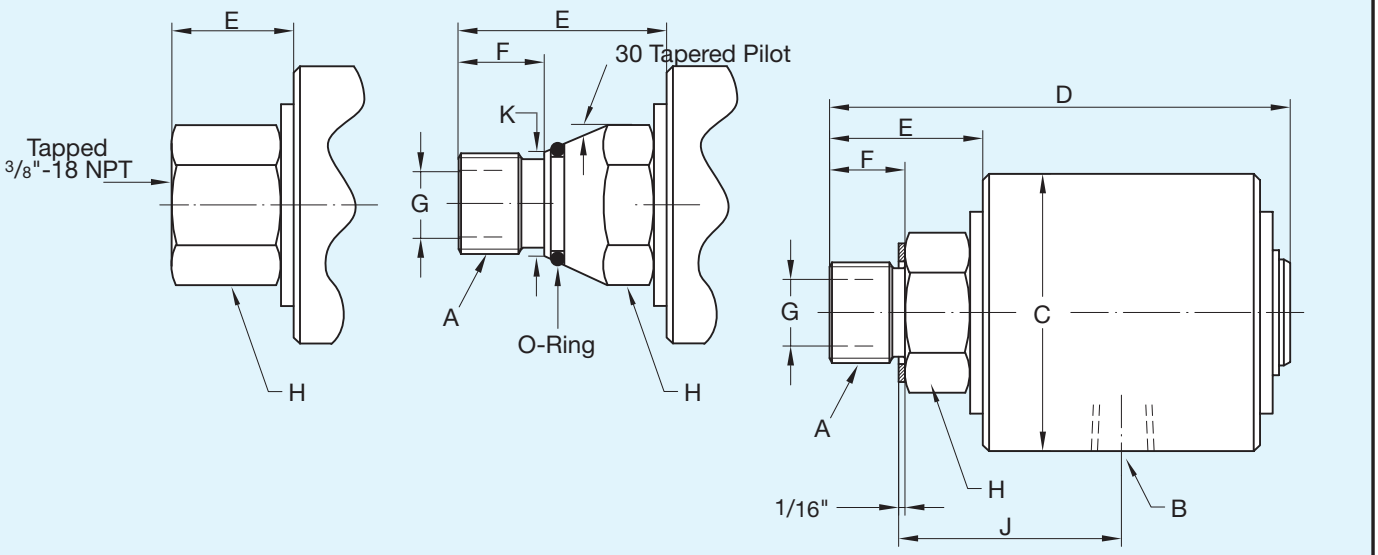
- monoflow design
- self-supported rotating union
- steel rotor nickel-plated
- special bearing
- aluminum housing

Operating Data

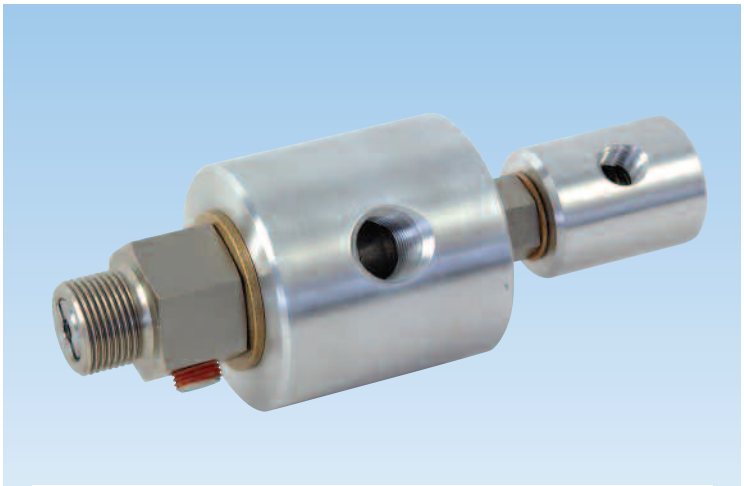
Maximum Air Pressure	150 PSI	10 bar
Maximum Vacuum	28" Hg	6.7 kPa
Maximum Hydraulic Pressure①	3,000 PSI	204 bar
Maximum Speed①	250 RPM	250/min
Maximum Temperature	250°F	120°C

① Union is designed for continuous operation at either maximum speed or maximum pressure. If operating conditions are close to maximum pressure and speed simultaneously, consult ***DEUBLIN***.

-045 Rotor **-023 & -048 Rotors**



B Port NPT	Ordering Number: Air-Hydraulic	Vacuum	Brake Fluid	A Rotor Thread	C	D	E	F	G Rotor Hole	H Across Flats	J Lock-up	K	Shpg. Wt.
¼"	17-025-012	17-051-012	17-086-012	5/8"-18 UNF RH	1½"	3¼"	1⅛"	⅝"	5/16"	⅞"	1 17/32"	-	½#
	17-025-041	17-051-041	17-086-041	⅜" NPT RH	1½"	3¼"	1⅛"	⅝"	5/16"	⅞"	1 25/32"	-	½#
	17-025-045	17-051-045	17-086-045	⅜" NPT (FEM) RH	1½"	2 15/16"	13/16"	-	5/16"	⅞"	1 13/32"	-	½#
	17-025-023	17-051-023	17-086-023	5/8"-18 UNF T.PLT. RH	1½"	3 15/32"	1 11/32"	⅝"	5/16"	⅞"	-	⅝"	½#
	17-025-039	17-051-039	17-086-039	G⅜" (BSP) RH	38	83.3	28.5	16.6	8	22.2	39	-	.3 Kg
	17-025-046	17-051-046	17-086-046	M16 x 2 RH	38	83.3	28.5	15.8	8	22.2	39	-	.3 Kg
	17-025-048	17-051-048	17-086-048	M16x2 T.PLT. RH	38	89	35	15.8	8	22.2	-	15.8	.3 Kg
½"	21-001-109	21-083-109	21-063-109	1"-14 UNS RH	2¾"	4 9/16"	1½"	¾"	⅝"	1⅜"	2¼"	-	2½#
	21-001-101	21-083-101	21-063-101	¾" NPT RH	2¾"	4 11/16"	1⅝"	⅞"	⅝"	1⅜"	2 19/32"	-	2½#
	21-001-122	21-083-122	21-063-122	G¾" (BSP) RH	70	116	38	19	15.8	35	57	-	1.2 Kg
	21-001-121	21-083-121	21-063-121	M22 x 1.5 RH	70	111	33	14.2	12.7	35	57	-	1.2 Kg



DEUBLIN

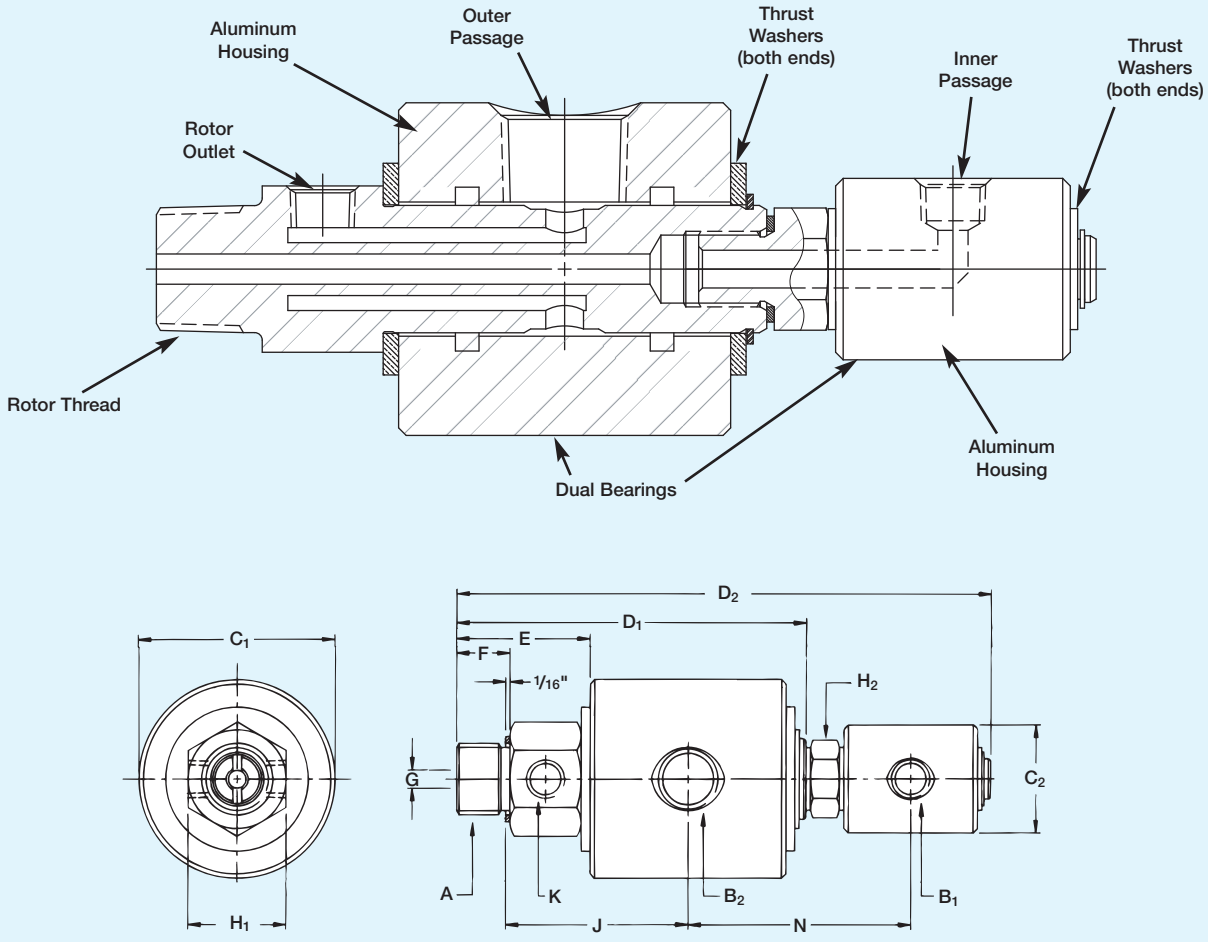
Tandem Air, Hydraulic, Brake Fluid Dual Passage Unions

- duoflow (Tandem) design
- self-supported rotating union
- no interpassage leakage on the duoflow design
- steel rotor nickel-plated
- special bearing
- aluminum housing

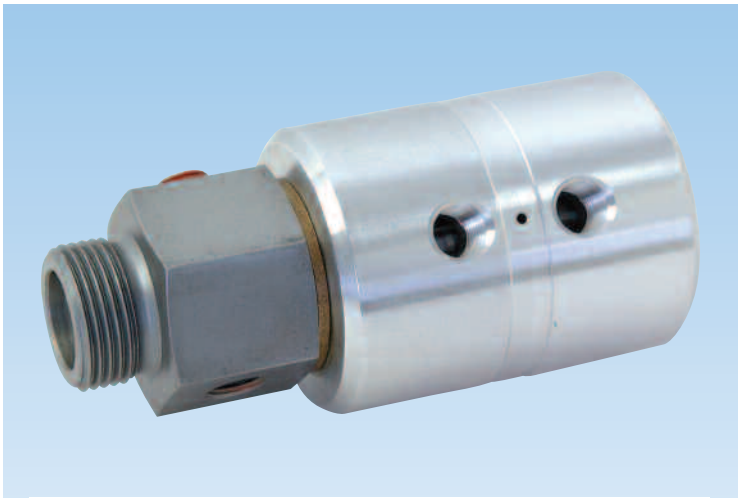
Operating Data

Maximum Air Pressure	150 PSI	10 bar
Maximum Vacuum	28" Hg	6.7 kPa
Maximum Hydraulic Pressure①	3,000 PSI	204 bar
Maximum Speed①	250 RPM	250/min
Maximum Temperature	250°F	120°C

① Union is designed for continuous operation at either maximum speed or maximum pressure. If operating conditions are close to maximum pressure and speed simultaneously, consult ***DEUBLIN***.



Inlet Ports NPT	Ordering Number			A Rotor Thread	C1	C2	D1	D2	E	F	G	H1 Across Flats	H2 Across Flats	J Lock-Up	K Tap NPT	N Lock-up	Shpg. Wt.
	Air-Hydraulic	Vacuum	Brake Fluid														
B1 B2 ¼" ½"	2117-001-109	2117-017-109	2117-018-136	¾" NPT RH	2¾"	1½"	4 63/64"	7 11/16"	1 15/16"	⅞"	¼"	1⅜"	⅞"	2⅞"	¼"	3 3/16"	3#
	2117-001-103	2117-017-103	2117-018-113	1"-14 UNS RH	2¾"	1½"	4 59/64"	7 11/16"	1⅞"	11/16"	¼"	1⅜"	⅞"	2 9/16"	¼"	3 3/16"	3#
	2117-001-105	2117-017-105	2117-018-137	G¾" (BSP) RH	70	38	124	195	47	17	6	35	22	65	¼"	81	1.4 Kg



DEUBLIN

Deu-Plex Low Speed Air-Hydraulic Unions

- duoflow design
- self-supported rotating union
- composite bearing
- vent holes between passages
- special seals
- hardened sealing surface
- aluminum housing
- steel rotor

Optional:
- tandem model as triple-passage design

Operating Data

Maximum Air Pressure		150 PSI	10 bar
Maximum Vacuum Pressure		28" Hg	6.7 kPa
Maximum Hydraulic Pressure①		3,000 PSI	204 bar
Maximum Speed①		250 RPM	250/min
Torque for	Model 1690	7 ft.lbs	9.5 Nm
	Model 1790	18 ft.lbs	24 Nm
	Model 1890	22 ft.lbs	29.8 Nm
Maximum Temperature		250°F	120°C

① Union is designed for continuous operation at either maximum speed or maximum pressure. If operating conditions are close to maximum pressure and speed simultaneously, consult ***DEUBLIN***.

Models without inner rotors can be used for coaxial feed applications as shown below.

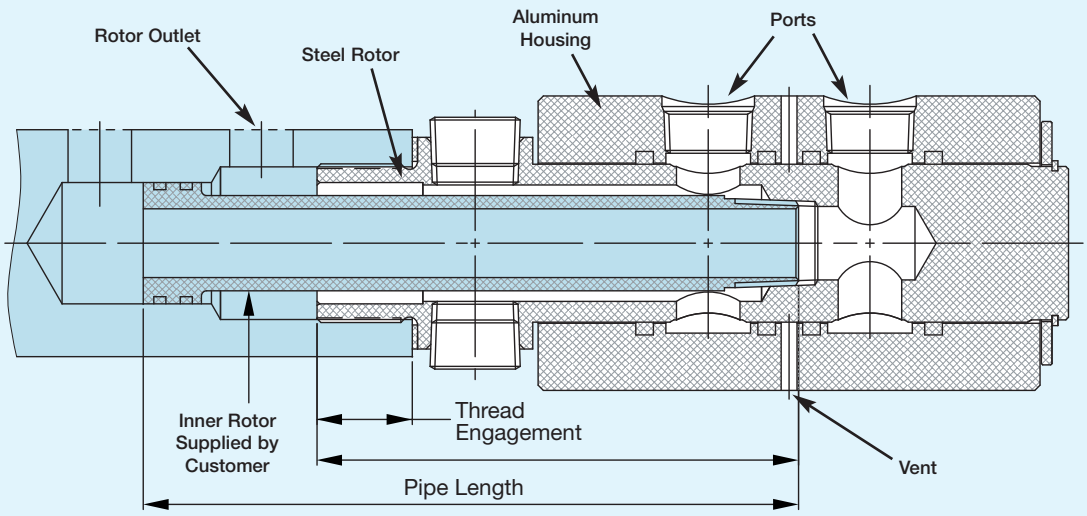
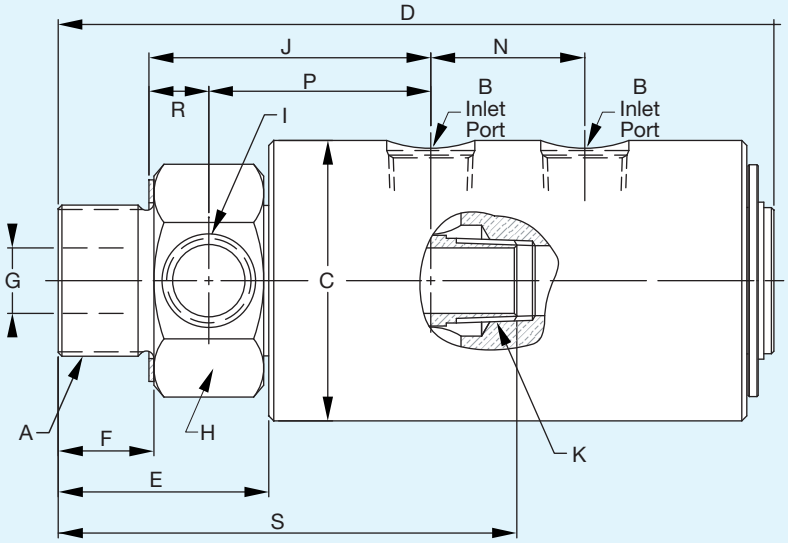


Illustration of mounting arrangement

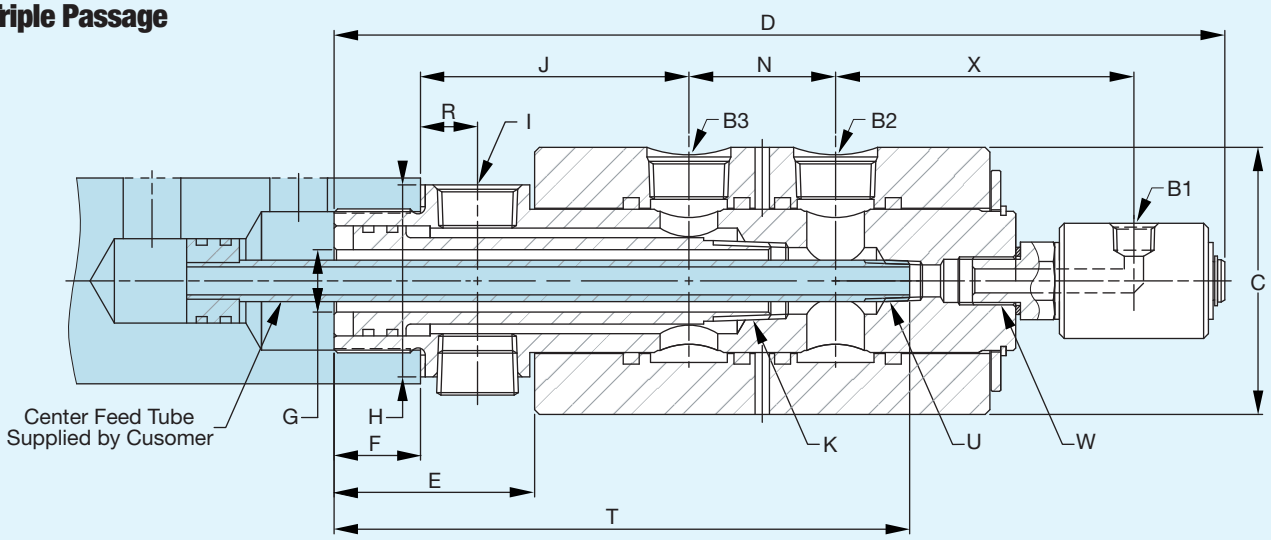
Double Passage Models



① These models are supplied without inner rotors.

B Port NPT	Ordering No. Model	A Rotor Thread	C Dia.	D	E	F	G Rotor ID	H Across Flats	I Tap NPT	J Lock-up	K Tap NPT	N	P	R	S	Shpg Wt.
(2) x ¼"	1690-000-115	1" NPT RH	2⅝"	5⅞"	2³⁄₁₆"	1⅛"	⅝"	1¾"	¼"	2⅝"	¼"	1⁵⁄₃₂"	1¹¹⁄₁₆"	½"	–	3½#
	1690-000-102①	1" NPT RH	2⅝"	5⅞"	2³⁄₁₆"	1⅛"	¹¹⁄₁₆"	1¾"	¼"	2⅝"	¼"	1⁵⁄₃₂"	1¹¹⁄₁₆"	½"	3²⁵⁄₃₂"	3½#
	1690-000-168	G1" (BSP) RH	66.6	150	55.5	18	7.9	44.4	¼"	67.8	¼"	29.4	42.9	17	–	1.6 Kg
	1690-000-105①	G1" (BSP) RH	66.6	150	55.5	18	17.4	44.4	¼"	67.8	¼"	29.4	42.9	17	96	1.6 Kg
(2) x ½"	1790-001-113	1¼" NPT RH	3"	8³⁄₁₆"	2¹⁵⁄₃₂"	1⅛"	⅝"	2"	½"	3¾"	½"	1²¹⁄₃₂"	2⅝"	⅝"	–	6½#
	1790-001-101①	1¼" NPT RH	3"	8³⁄₁₆"	2¹⁵⁄₃₂"	1⅛"	1¹⁄₁₆"	2"	½"	3¾"	½"	1²¹⁄₃₂"	2⅝"	⅝"	5¹⁄₁₆"	6½#
	1790-001-114	G1¼" (BSP) RH	76	208	63	28	16	55	½"	84.2	½"	42	67	15.5	–	3 Kg
	1790-001-112①	G1¼" (BSP) RH	76	208	63	28	27	55	½"	84.2	½"	42	67	15.5	129	3 Kg
(2) x ¾"	1890-100	1½" NPT RH	3½"	8⅞"	2⅝"	1³⁄₁₆"	¹³⁄₁₆"	2½"	¾"	4³⁄₃₂"	¾"	1²⁹⁄₃₂"	2¾"	1¹⁄₁₆"	–	9¾#
	1890-110①	1½" NPT RH	3½"	8⅞"	2⅝"	1³⁄₁₆"	1⅜"	2½"	¾"	4³⁄₃₂"	¾"	1²⁹⁄₃₂"	2¾"	1¹⁄₁₆"	5¹³⁄₁₆"	9¾#
	1890-060	G1½" (BSP) RH	88.9	225.4	66.6	30.2	20.6	63.5	¾"	91.3	¾"	48.4	69.8	17.5	–	4.4 Kg
	1890-063①	G1½" (BSP) RH	88.9	225.4	66.6	30.2	34.9	63.5	¾"	91.3	¾"	48.4	69.8	17.5	147.6	4.2 Kg

Triple Passage



Inlet Ports NPT	Ordering No. Model	A Rotor Thread	C	D	E	F	G Rotor Hole	H Across Flats	I Tap NPT	J Lock-up	K Tap NPT	N	P	R	T	U Tap NPT	W Tap	X	Shpg. Wt.
B_1 B_2 B_3 ¼" ¾" ¾"	1890-116	1½" NPT RH	3½"	11¹⁷⁄₃₂"	2⅝"	1³⁄₁₆"	¹³⁄₁₆"	2½"	¾"	4³⁄₃₂"	¾"	1²⁹⁄₃₂"	2¹³⁄₁₆"	1¹⁄₁₆"	7½"	¼"	⅝"-18 UNF,RH	3⅞"	10¾#
	1890-064	G1½" (BSP) RH	88.9	293	66.6	30.2	20.6	63.5	¾"	89	¾"	48.4	69.8	17.5	190	¼"	⅝"-18 UNF,RH	97.6	4.9 Kg

DEUBLIN

1117 Bearingless Coolant Unions

- monoflow design
- compact size
- axial housing connection
- balanced mechanical seal
- seal combination:
  Silicon Carbide/Silicon Carbide
- vent holes
- full media flow
- anodized aluminum housing
- steel rotor

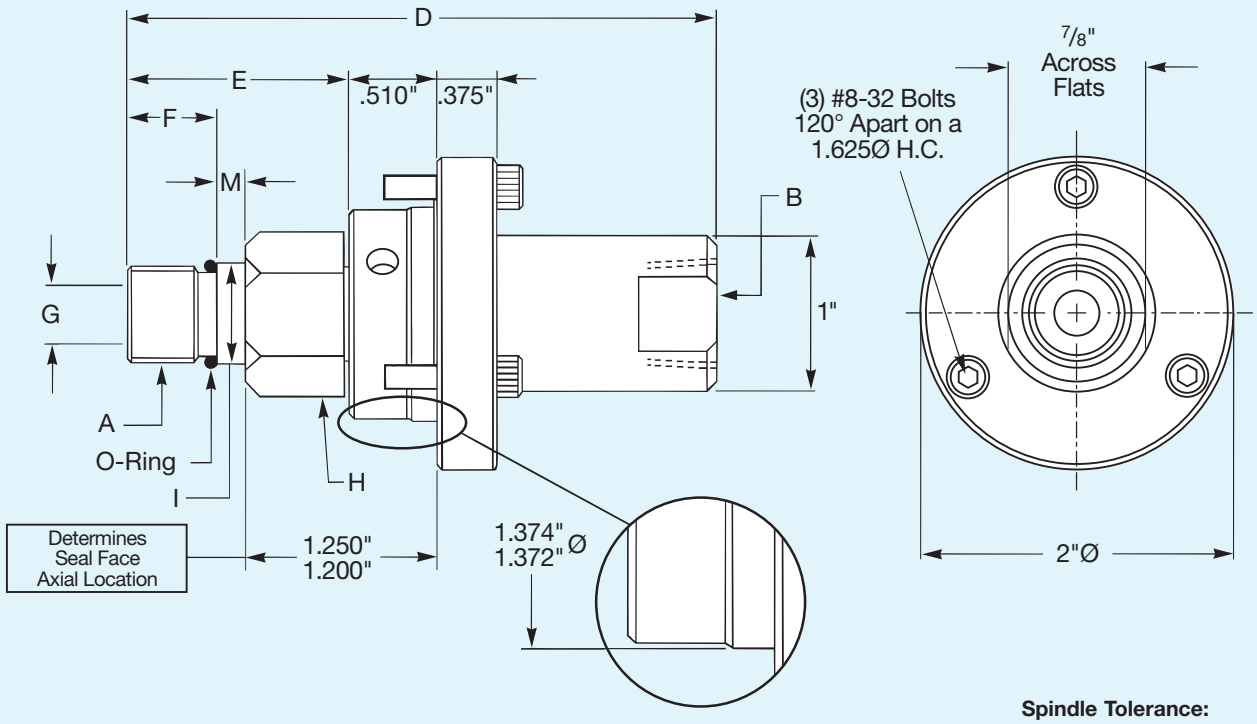
Operating Data

Maximum Coolant Pressure ①	2,000 PSI	140 bar
Maximum Speed ①	20,000 RPM	20,000/min
Maximum Flow Rate	13 GPM	50L/min
Maximum Temperature	160°F	70°C

① Operation at maximum pressure combined with maximum speed is possible.

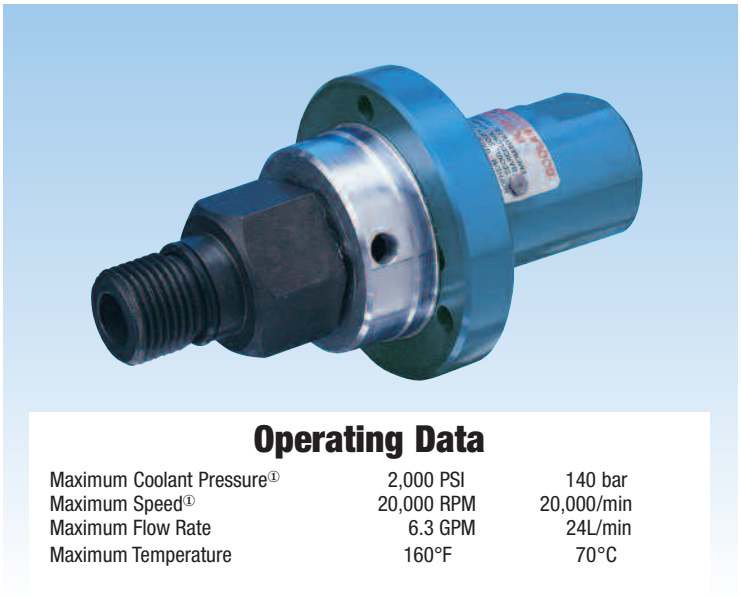
Note:

- For every 100 PSI coolant pressure, 20 pounds force is exerted on the "union side" of the spindle. The spindle bearings must be able to withstand the additional thrust load.
- Housing requires external mounting bracket.



Spindle Tolerance:
See page 51

B PORT	Ordering Number	A Rotor Thread	D	E	F	G Rotor Hole	H Across Flats	I Pilot Dia.	M	Shpg. Wt.
3/8" NPT	1117-002-110	5/8"-18 UNF RH	3¾"	1 13/32"	9/16"	11/32"	15/16"	.655" .654"	3/16"	¾#
3/8" NPT	1117-002-111	5/8"-18 UNF LH	3¾"	1 13/32"	9/16"	11/32"	15/16"	.655" .654"	3/16"	¾#
G3/8" (BSP)	1117-058-115	M16 x 1.5 RH	92	34	11	9	23.8	17.993 17.968	4.7	.3 Kg
G3/8" (BSP)	1117-058-116	M16 x 1.5 LH	92	34	11	9	23.8	17.993 17.968	4.7	.3 Kg



DEUBLIN

1129 Bearingless "Pop-Off" Union

- monoflow design
- compact size
- radial or axial connection
- balanced mechanical seal
- seal combination:
  Silicon Carbide/Silicon Carbide
- vent holes
- full media flow
- anodized aluminum housing
- steel rotor

Operating Data

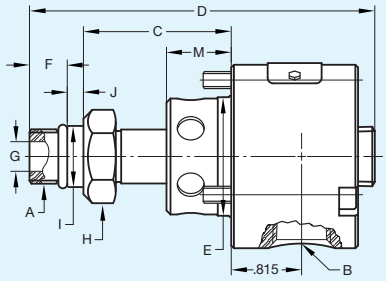
Maximum Coolant Pressure①	2,000 PSI	140 bar
Maximum Speed①	20,000 RPM	20,000/min
Maximum Flow Rate	6.3 GPM	24L/min
Maximum Temperature	160°F	70°C

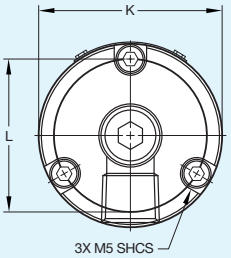
① Operation at maximum pressure combined with maximum speed is possible.

Note:

- For every 100 PSI coolant pressure, up to 20 pounds force is exerted on the "union side" of the spindle. For specific axial thrust load, consult ***DEUBLIN***. The spindle bearings must be able to withstand the additional thrust load.
- Housing requires external mounting bracket.

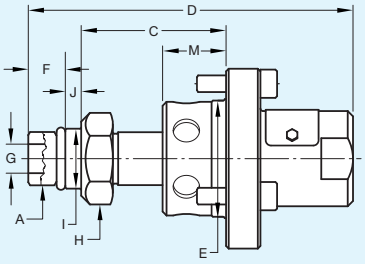
Type 1

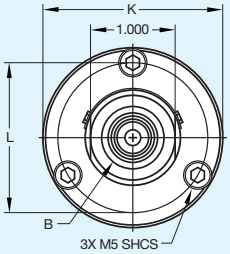




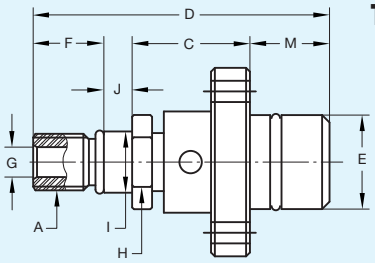
Spindle Tolerance:
- **18mm pilot – See page 51**
- **14mm pilot – consult *DEUBLIN***

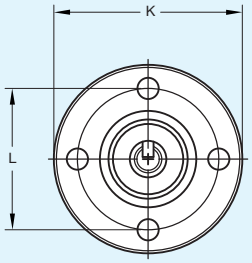
Type 2





Type 3





Note A **This model offers 12 GPM (45L/min)**
Other high-flow models available
Consult *DEUBLIN*

Note B **These models operate at 24,000 RPM/2,000 PSI and 42,000 RPM/1,000 PSI**
Other high-speed models available
Consult *DEUBLIN*

	TYPE	B Port	Ordering Number	A Rotor Thread	C	D	E	F	G Rotor Hole	H Across Flats	I Pilot Dia.	J	K	L	M
	1	PT⅜"(BSPT)	1129-033-301	M16 X 1.5 LH	44/43	101.600	34.900/34.849	11.1	8.7	23.8	17.993/17.968	5	54	45	19.05
A	1	PF⅜"(BSP)	1129-050-301	M16 X 1.5 LH	44/43	100.660	34.900/34.849	11.1	8.7	23.8	17.993/17.968	5	54	45	19.05
	1	PT⅜"(BSPT)	1129-033-327	M12 X 1.25 LH	39.6/38.6	94.160	34.900/34.849	12.1	6	18	14.000/13.992	5	54	45	19.05
	2	PT⅜"(BSPT)	1129-036-301	M16 X 1.5 LH	44/43	97.460	34.900/34.849	11.1	8.7	23.8	17.993/17.968	5	54	45	19.05
	2	PT⅜"(BSPT)	1129-036-327	M12 X 1.25 LH	39.6/38.6	94.160	34.900/34.849	12.1	6	18	14.000/13.992	5	54	45	19.05
B	2	PT⅜"(BSPT)	1129-036-345	M16 X 1.5 LH	44/43	97.460	34.900/34.849	11.1	8.7	21	17.993/17.968	5	54	45	19.05
B	2	PT⅜"(BSPT)	1129-041-435	M12 X 1.25 LH	39.6/38.6	105.130	34.900/34.849	12.1	4.8	18	14.000/13.992	5	54	45	16.48
	3	N/A	1129-018-137	M12 X 1.25 LH	25	62.890	19.960/19.940	15	6.4	17	13.000/12.974	6	40	30	16.89
	Cutting Oil Applications														
	2	PT⅜"(BSPT)	1129-038-140	M12 X 1.25 LH	39.6/38.6	105.130	34.900/34.849	12.1	4.8	18	14.000/13.992	5	54	45	16.48
	Air Applications														
	3	N/A	1129-490-489	M12 X 1 RH	40.50	83.500	29.975/29.950	12	6	19	13.000/12.992	15	48	40	16.00

DEUBLIN

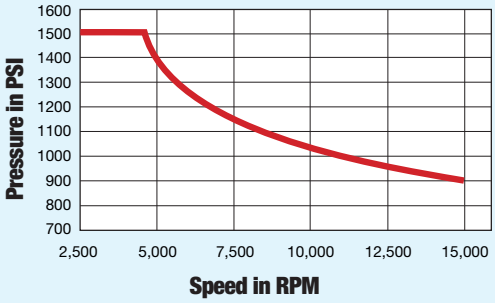
1101 Coolant Unions

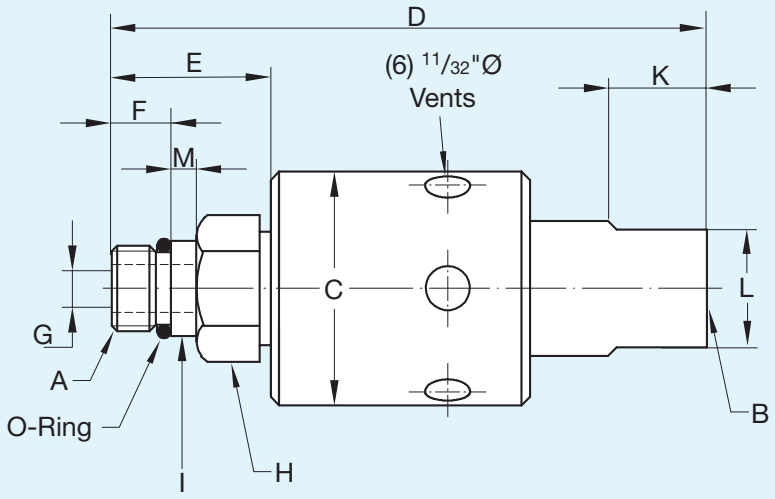
- monoflow design
- self-supported rotating union
- axial housing connection
- balanced mechanical seal
- seal combination:
  Silicon Carbide/Silicon Carbide
- slinger and vents protect bearings
- full-media flow
- anodized aluminum housing
- steel rotor

Operating Data

Maximum Coolant Pressure①	1500 PSI	105 bar
Maximum Speed①	15,000 RPM	15,000/min
Maximum Flow Rate	4 GPM	15L/min
Maximum Temperature	160°F	70°C

① Refer to graph for maximum pressure and speed combinations. If operating conditions are marginal, consult ***DEUBLIN***.





Refer to Page 51 for Spindle Tolerance Requirements

B Port NPT	Ordering No. Model	A Rotor Thread	C	D	E	F	G Rotor Hole	H Across Flats	I Pilot Dia.	K	L Across Flats	M	Shpg. Wt.
3/8"	1101-235-238	5/8"-18 UNF LH	1 11/16"	3 15/16"	1 5/16"	9/16"	3/16"	15/16"	.6555" .6550"	1/2"	7/8"	3/16"	1#
	1101-235-239	5/8"-18 UNF RH											
	1101-235-343	M16 x 1.5 LH	43	97	30	11	4.8	24	17.994 17.976	13	22.2	5	.4 Kg

DEUBLIN

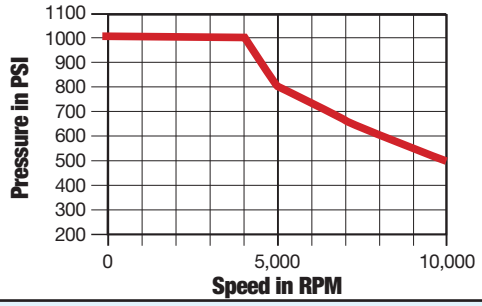
1116 Bearing Supported Coolant Unions

- monoflow design
- self-supported rotating union
- radial or axial housing connection
- balanced mechanical seal
- seal combination: Silicon Carbide/Silicon Carbide
- slinger and vents protect bearings
- full-media flow
- anodized aluminum housing
- steel rotor

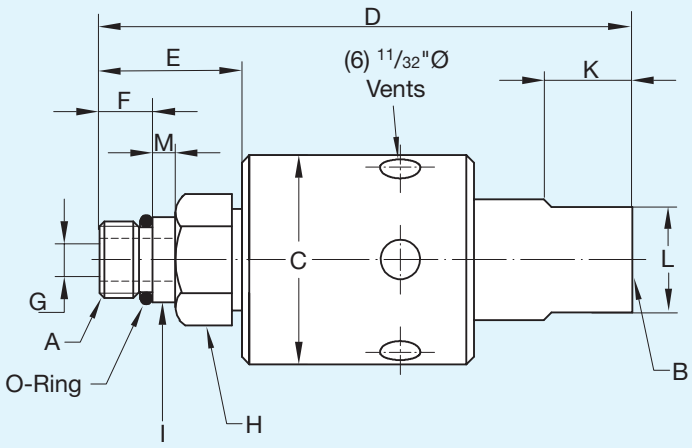
Operating Data

Maximum Coolant Pressure①	1000 PSI	70 bar
Maximum Speed①	10,000 RPM	10,000/min
Maximum Flow Rate	13 GPM	50L/min
Maximum Temperature	160°F	70°C

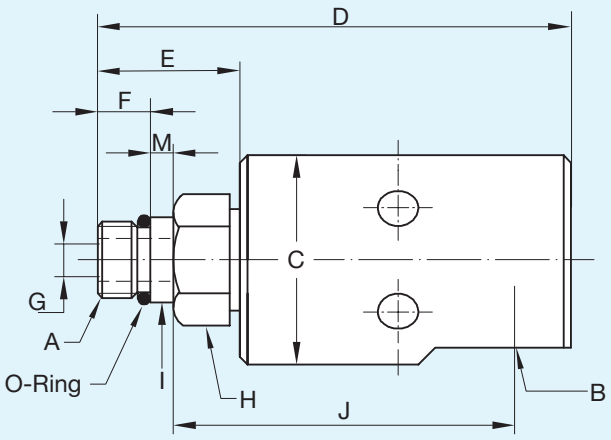
① Refer to graph for maximum pressure and speed combinations. If operating conditions are marginal, consult ***DEUBLIN***.



1116-048 & -600 Straight Through Union



1116-090 90° Union



Refer to Page 51 for Spindle Tolerance Requirements

B Port	Ordering Number	A Rotor Thread	C	D	E	F	G Rotor Hole	H Across Flats	I Pilot Dia.	K	L Across Flats	M	Shpg. Wt.
1/4" NPT	1116-048-059	5/8"-18 UNF LH	1 23/32"	4 17/32"	1 5/16"	9/16"	11/32"	15/16"	.6555"	11/16"	7/8"	3/16"	1#
	1116-048-064	5/8"-18 UNF RH							.6550"				
G1/4" (BSP)	1116-485-463	M16 x 1.5 LH	44	112	30	11	9	24	17.993 17.975	17	22.2	5	.4 Kg
3/8" NPT	1116-600-059	5/8"-18 UNF LH	1 23/32"	4 17/32"	1 5/16"	9/16"	11/32"	15/16"	.6555"	11/16"	7/8"	3/16"	1#
	1116-600-064	5/8"-18 UNF RH							.6550"				
G3/8" (BSP)	1116-610-463	M16 x 1.5 LH	44	112	30	11	9	24	17.993 17.975	17	22.2	5	.4 Kg

B Port	Ordering Number	A Rotor Thread	C	D	E	F	G Rotor Hole	H Across Flats	I Pilot Dia.	J Lock-up	M	Shpg. Wt.
3/8" NPT	1116-090-059	5/8"-18 UNF LH	1 23/32"	4 5/32"	1 5/16"	9/16"	11/32"	15/16"	.6555"	2 13/16"	3/16"	1#
	1116-090-064	5/8"-18 UNF RH							.6550"			
G3/8" (BSP)	1116-555-463	M16 x 1.5 LH	44	102	30	11	9	24	17.993 17.975	71	5	.4 Kg

DEUBLIN

"Pop-Off" Coolant Unions

- monoflow design
- radial or axial connection
- self-supported rotating union
- balanced mechanical seal
- seal combination:
  Silicon Carbide/Silicon Carbide
- 1109 with precision angular contact ball bearings
- 902 with deep-groove radial ball bearings
- labyrinth system and large vents protect bearings
- full-media flow
- anodized aluminum end cap
- steel rotor

WARNING - Do not run dry with pressure.

Many applications require air pressure to keep the "taper" clean during tool change. With a dead-ended tool, air pressure may be entrapped between the tool and the check valve in the air line keeping the seal faces in contact. Subsequent spindle rotation will cause dry run of seal. To avoid this, the entrapped air must be vented to allow seals to "pop-off".

PATENTED

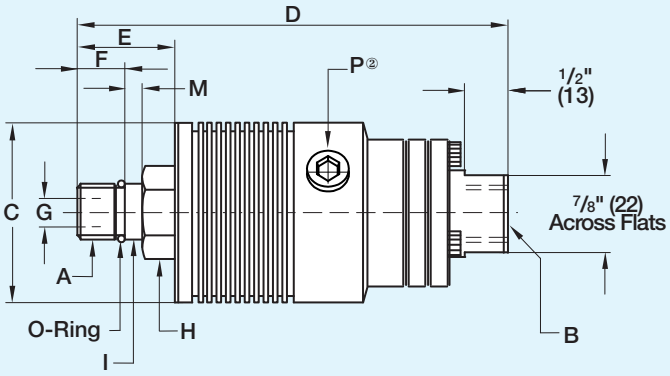
Operating Data

Model 1109 ¼" Port		
Maximum Coolant Pressure①	1,500 PSI	105 bar
Maximum Speed	20,000 RPM	20,000/min
Maximum Flow Rate	4 GPM	15L/min
Model 1109 ⅜" Port		
Maximum Coolant Pressure①	1,000 PSI	70 bar
Maximum Speed①	15,000 RPM	15,000/min
Maximum Flow Rate	13 GPM	50L/min
Model 902 ⅜" Port		
Maximum Coolant Pressure①	1,000 PSI	70 bar
Maximum Speed	10,000 RPM	10,000/min
Maximum Flow Rate	13 GPM	50L/min
Maximum Temperature All Models	160°F	70°C

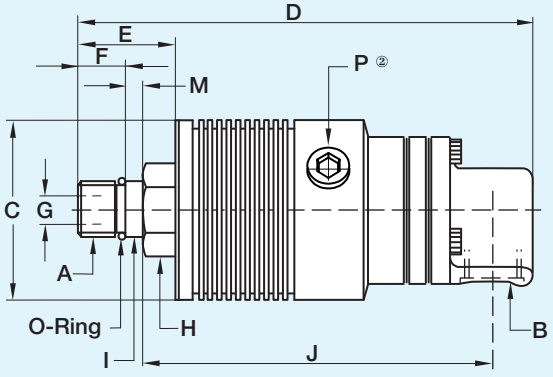
① Refer to Graph for maximum pressure and speed combination. If operating conditions are marginal, consult ***DEUBLIN***.

② Two of the three tapped holes are to be plugged. The third tapped hole is to be used as drain at 6 o'clock position.

1109 Straight Through Union

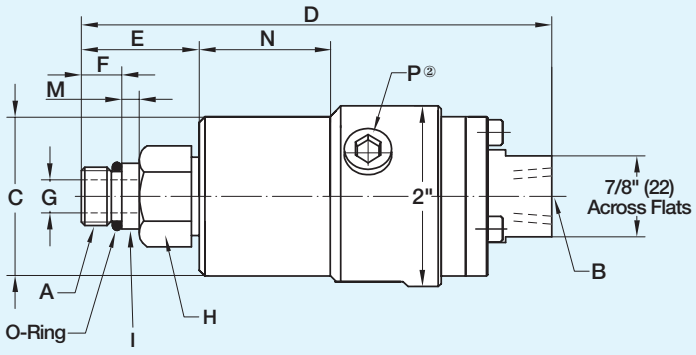


1109 90° Union

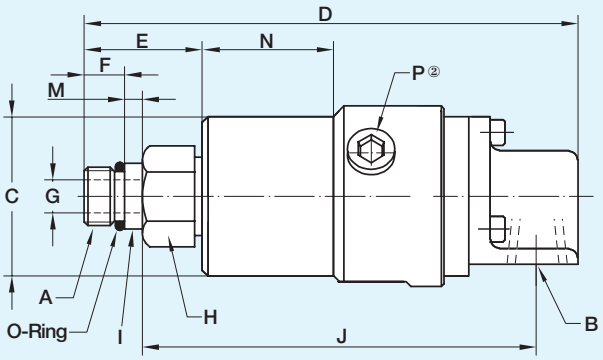


	B Port	Ordering Number	A Rotor Thread	C Dia.	D	E	F	G Rotor Hole	H Across Flats	I Pilot Dia.	J	M	P 3 x 120°	Shpg. Wt.
STRAIGHT THRU	¼" NPT	1109-014-196	5/8"-18 UNF LH	2 3/32"	5 7/32"	1 11/32"	9/16"	3/16"	15/16"	.6555" .6553"	–	3/16"	¼" NPT	1½#
	G¼" (BSP)	1109-024-212	M16 x 1.5 LH	53	129	31	11	5	24	17.993 17.988	–	5	G¼" (BSP)	.7 Kg
	⅜" NPT	1109-011-165	5/8"-18 UNF LH	2 3/32"	5 7/32"	1 11/32"	9/16"	11/32"	15/16"	.6555" .6553"	–	3/16"	¼" NPT	1½#
	G⅜" (BSP)	1109-021-188	M16 x 1.5 LH	53	129	31	11	9	24	17.993 17.988	–	5	G¼" (BSP)	.7 Kg
90° UNION	¼" NPT	1109-013-196	5/8"-18 UNF LH	2 3/32"	5 15/32"	1 11/32"	9/16"	3/16"	15/16"	.6555" .6553"	4 1/8"	3/16"	¼" NPT	1½#
	G¼" (BSP)	1109-023-212	M16 x 1.5 LH	53	135	31	11	5	24	17.993 17.988	105	5	G¼" (BSP)	.7 Kg
	⅜" NPT	1109-010-165	5/8"-18 UNF LH	2 3/32"	5 15/32"	1 11/32"	9/16"	11/32"	15/16"	.6555" .6553"	4 1/8"	3/16"	¼" NPT	1½#
	G⅜" (BSP)	1109-020-188	M16 x 1.5 LH	53	135	31	11	9	24	17.993 17.988	105	5	G¼" (BSP)	.7 Kg

902 Straight Through Union

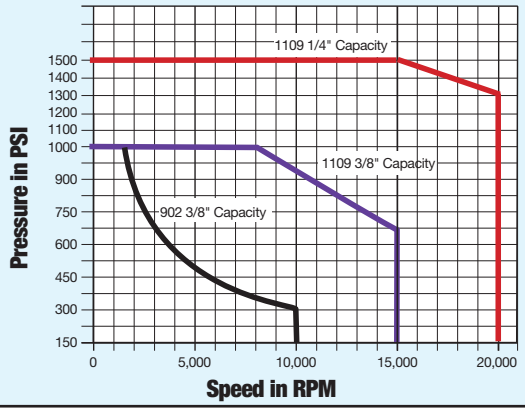


902 90° Union

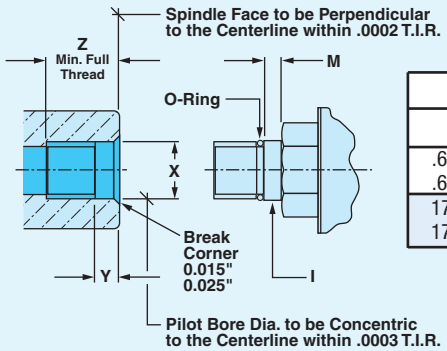


B Port		Ordering Number	A Rotor Thread	C Dia.	D	E	F	G Rotor Hole	H Across Flats	I Pilot Dia.	J	M	N	P 3 x 120°	Shpg. Wt.
STR	3/8" NPT	902-111-165	5/8"-18 UNF LH	1.723" 1.722"	5 7/32"	1 13/32"	9/16"	11/32"	15/16"	.6555" .6553"	–	3/16"	1½"	¼" NPT	1½#
	G3/8" (BSP)	902-121-188	M16 x 1.5 LH	43.760 43.735	129	32	11	9	24	17.993 17.988	–	5	38	G¼" (BSP)	.6 Kg
90°	3/8" NPT	902-110-165	5/8"-18 UNF LH	1.723" 1.722"	5 15/32"	1 13/32"	9/16"	11/32"	15/16"	.6555" .6553"	4 1/8"	3/16"	1½"	¼" NPT	1½#
	G3/8" (BSP)	902-120-188	M16 x 1.5 LH	43.760 43.735	135	32	11	9	24	17.993 17.988	105	5	38	G¼" (BSP)	.6 Kg

Operating Data



Deublin Coolant Unions Installation



Rotor Pilot		Spindle End		
I	M	X	Y	Z
.6555" .6553"	3/16"	.6560" .6556"	9/32"	13/16"
17.993 17.988	5	18.000 17.995	7	17

Installation Instructions:

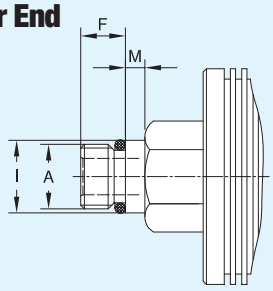
DEUBLIN Coolant Unions are manufactured to precise tolerances for smooth running without vibration or wobble. A critical factor is the accuracy of the spindle end to which the rotor connects. The interface must adhere to the DEUBLIN specifications.

Attention!

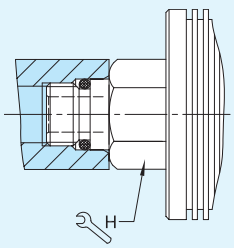
To prevent flooding of bearings, ensure that the drain is continuously sloping downward.

Please refer to “Instructions of Hose Installation” on page 54.

Rotor End



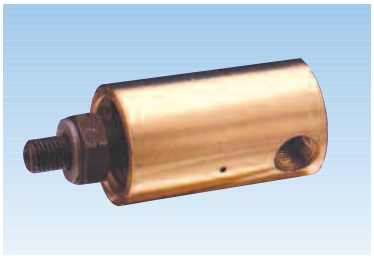
Installed Rotor



Unions for Special Applications

Model 1005-113-063 1/8" NPT, R.H. Rotor Threads
Model 1005-113-110 5/16"-24 UNF, R.H. Rotor Threads

⅛" Capacity



for water service

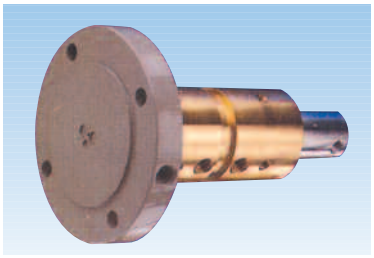
Operating Data

Max. Water Pressure	750 PSI	52 bar
Max. Speed NPT	1,500 RPM	1,500/min
Max. Speed Straight Thread	3,500 RPM	3,500/min
Maximum Temp.	250°F	120°C

This is a small union designed for minimum water flow where space is a problem. The seals are Carbon Graphite-to-Stainless Steel. It has the same dimensions as Model 1005-020-038 on page 32.

Model 468-250 Flanged Rotor

¼" x ⅜" x ⅜" Capacity



for clutch and brake service

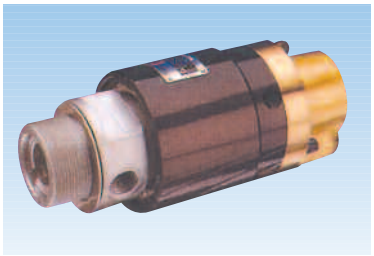
Operating Data

Max. Water Pressure	150 PSI	10 bar
Max. Air Pressure	150 PSI	10 bar
Max. Speed	1,500 RPM	1,500/min
Maximum Temp.	250°F	120°C

This 3-passage union was designed to cool and activate clutches and brakes. The (2) 3/8" water passages supply and return water for cooling. The 1/4" capacity air union is tandem mounted to prevent interpassage leakage between the air and water passages. Contact Deublin Engineering Department for complete specifications.

Model 981-300 2"-12 UN R.H. Rotor Threads

½" x 1" Capacity



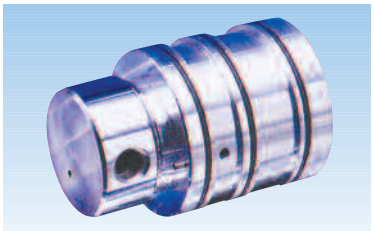
for oil rig service

Operating Data

Max. Water Pressure	150 PSI	10 bar
Max. Air Pressure	150 PSI	10 bar
Max. Hyd. Pressure	500 PSI	33.3 bar
Max. Speed	350 RPM	350/min
Maximum Temp.	250°F	120°C

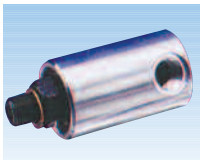
This 2-passage union was designed to cool and actuate Drum Brakes on Oil Rigs. It has a 1" water and 1/2" air passage. The water passage has a cartridge seal that can be repaired on the machine. The 981-300 union can also be used on many other Air/Hydraulic applications. Contact Deublin Engineering Department for complete specifications.

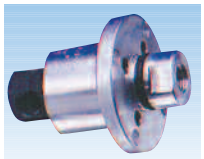
For Central Tire Inflation Systems (CTIS)



Model 882, 2-passage union. 1/8" pilot capacity and 5/16's supply air capacity. Operating data: Maximum air pressure 150 psi, max temperature 250°F., max speed 450 RPM. This 2-passage model was designed to be used where a wheel valve is required. The O-Ringed union body can be installed in the solid axle and air lines connected to the rotor head.

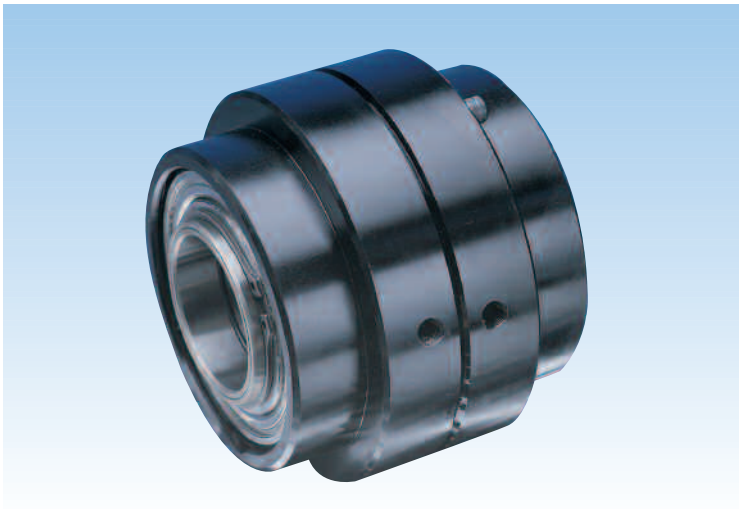
Deublin has developed a number of hub-mounted unions specifically designed to accommodate the passage of air between a vehicle's stationary axles and its wheels. This allows tire pressure to be varied from inside the vehicle's cab, and is already very popular in the logging industry and on military vehicles. The ability to vary the air pressure allows the driver to adjust pressure for the surface being traveled. Lower pressure with a broader footprint is suitable for soft terrain. Higher pressures and a smaller footprint is suitable for higher speed highway travel.





Model 1115-000-001. 11/32" capacity, maximum pressure150 psi. max temperature 250°F., maximum speed 3,500 RPM. This model union is most commonly used when converting a vehicle to the CTIS system. The male thread can be attached to the solid axle and the supply air from the body to the tire. Shaft mounted conversions of this design are available, and illustrated on Page 34.

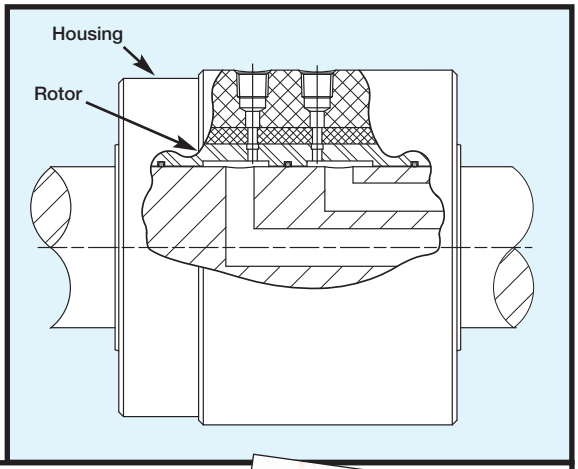
Model 1102-025-001-004. 1/4" capacity. Operating data 150 psi, max temperature 250°F., maximum speed 3,500 RPM. The 1102 can be partially mounted within the shaft by using the four holes in the flange, which reduces the overhanging length. The 1102 is not shown, however an in-shaft version is illustrated on Page 34.



DEUBLIN

Around-The-Shaft Unions for Air or Hydraulic Service

- single or multi-passage
- "controlled leakage" can be vented or channeled to reservoir
- available for shafts up to 8"
- capable of handling high speed and pressure
- custom designed for specific application



Deublin Rotating Unions for Continuous Casting Machines in the Steel Industry

Deublin has been a major supplier to the steel industry for over 45 years and has worked closely with the people who design, manufacture and operate Continuous Casting Equipment worldwide. We have a separate catalog which features the 2400 Series. With its dependable, long-wearing mechanical seals, the 2400 Series can change the way you think about rotating union maintenance.
Request CCM Union Catalog

Deublin-Sint Steam Joints and Siphon Systems for the Paper Making Industry

Deublin has a complete line of steam inducing and condensate removal products designed specifically for the papermaking industry. These products are contained in a dedicated catalog. This line features the revolutionary FS Series Steam Joint with the Deltasint Stationary Siphon System designed and proven for today's high-speed paper machine's dryer sections.
Request Catalog 2000

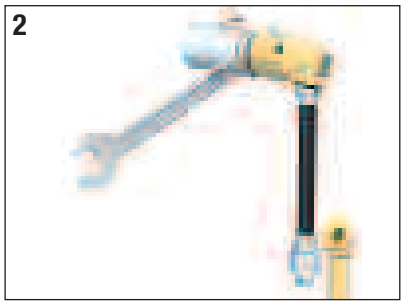
Deublin Rotating Unions for Coolant Applications

Whether CNC machining centers or automotive transfer lines, Deublin offers the broadest range of rotating union solutions for continuous through-the-spindle coolant applications. State-of-the-art features include silicon carbide seals, and dry running capability with or without pressure. **Request Catalog 9800A**

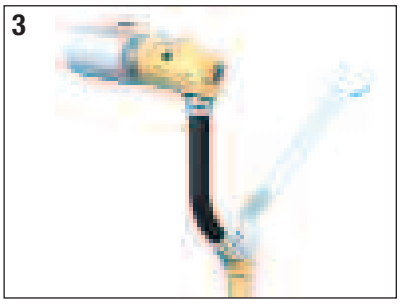
Deublin Products Designed for Special Industries

Flexible Hose Installation Instructions for DEUBLIN Rotating Unions

1 Mount housing in a bench vise and install hose.

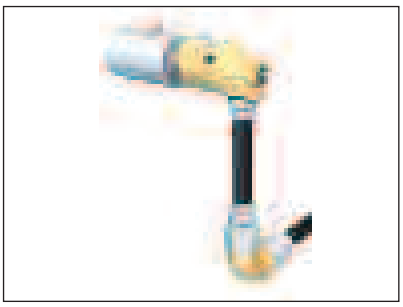


2 Install rotating union into machine.



3 Connect flexible hose to supply line.

Examples of Flexible Hose Installation



Important

The DEUBLIN ROTATING UNION is a precision-made piece of equipment and should be handled accordingly. It is a rotating sealing device – not just a plumbing union. Improper use could result in premature leakage or failure. While Deublin Unions are of the highest quality and precision, they are "wear and tear" items. It is important that they are periodically inspected and, as seals wear out, the rotating union must be replaced or repaired to avoid the consequence of leakage.

Deublin Unions should never be used for applications other than specified in the catalog. **Deublin unions should not be used to seal hydrocarbons or other flammable media as leakage may result in explosions or fires. The use of our product on hazardous or corrosive media is strictly forbidden.** For applications other than stated in the catalog, Deublin Engineering Department should be contacted for recommendations.

These instructions are provided by Deublin as general guidelines. They do not contain exhaustive information about the installation, use or maintenance of unions. Purchasers and users of Deublin Unions should be certain that they have reviewed Deublin's catalog and have sufficient experience and training in the use of unions before attempting installation or use of Deublin's products. The principal responsibility for the safe and effective use of Deublin Unions rests with the user and its employees. Deublin will provide, upon request, whatever assistance it can to advise users about the use of its products and about any difficulties or problems which are brought to its attention.

Factory Testing

All DEUBLIN ROTATING UNIONS are factory tested under pressure before shipment. This thorough check assures that each Deublin Union is completely leakproof.

Deublin Rotating Unions can be installed with fullest confidence that it will operate to your complete satisfaction.

Warranty

For a period of one year from the date of shipment, Deublin warrants that the products sold by it are free from defects in material and workmanship. The liability of Deublin is expressly limited to the replacement or rebuilding of any article, or part thereof, proven defective, when returned to the Deublin Company, transportation prepaid within a reasonable time after the termination of the 365-day warranty period.

This warranty is void if the product is dismantled, modified, altered, or damaged from improper maintenance, side-loading, excessive temperature, abrasive or chemical action, or other abuse.

No representative, agent or employee of Deublin has any authority to modify the terms of this warranty. Deublin will not be responsible for any consequential or resulting damage which may be claimed to have occurred through the sale or use of such products or parts, thereof, which might be defective.

There are no warranties which extend beyond the description contained under this heading, express or implied, including warranties of fitness for a particular purpose.

Repair Service

All Deublin rotating unions can be returned to the factory for professional rebuilding. Unions are refurbished to an "as new" condition and carry a New Union Warranty to ensure optimum performance. Contact Deublin Customer Service to arrange repair service.

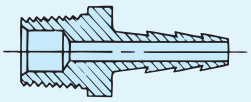
Unions can be field serviced with rebuilding kits, which are available for most Deublin rotating unions. These kits include seals, rotors and ball bearings. Where field service is essential, Deublin Cartridge Water Unions or 57 Series should be specified.

Installation

No exterior bracing should be used to prevent the housing of a ball bearing type union from rotating. To compensate for any eccentricities occurring from installation, it is imperative that a flexible connection be used. DO NOT PIPE SOLID. Use a 45-degree elbow and pipe union on the riser, making certain there is a slight curve in the hose. Do not install hose taut.

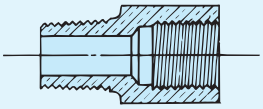
To facilitate adapting the housing inlet (Port "B") to your equipment we suggest the following:

Barbed Hose Fitting



NPT

NPT to (BSP) Adapters



NPT (BSP)

Relubrication

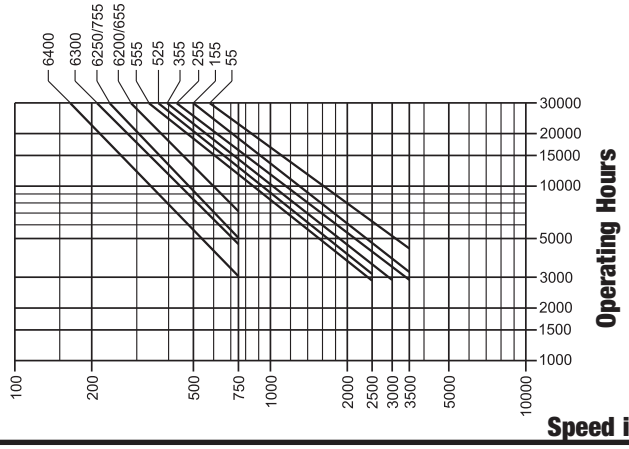
Model	Amount of Grease (oz.)
55	.12
155	.20
255	.35
355	.35
525	.42
555	.64
655	.64
755	1.50
6200	.64
6250	1.50
6300	2.40
6400	3.20

For catalog models with grease fittings, use Kluber Petamo GHY 133N.

Relubrication Interval

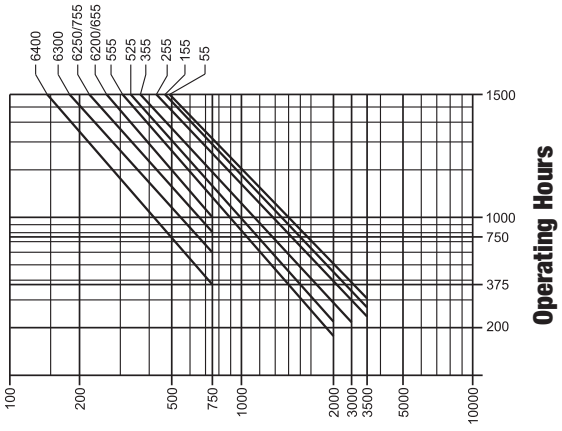
Light Service

Temperatures up to 165°F
little, if any, vibration or moisture (humidity)



Moderate Service

Temperatures 165°F – 250°F
some vibration and moisture present



Since its establishment in 1945, the DEUBLIN COMPANY has consistently adhered to a policy of producing the best product of its kind in the market. The result of this policy has been constant growth through the years. For this progress we are grateful to our many loyal customers. We cordially invite you to visit our modern manufacturing facilities in Waukegan, Illinois; Hofheim-Wallau, Germany; Monteveglio, Italy and Dalian, China.

Sincerely,

Donald L. Deubler,
Chairman of the Board

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


Hofheim-Wallau, Germany

Monteveglio, Italy

Dalian, China

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