

DEUBLIN[®]
Engineered for Performance



ROTATING UNIONS

For Continuous Casting Machines

www.deublin.com

ROTATING UNIONS FOR CONTINUOUS CASTING MACHINES

DEUBLIN has been the world's largest manufacturer of rotating unions for the general industry for over 60 years and specialty unions for the continuous casting industry for over 40 years. *DEUBLIN* has worked closely with designers and users of continuous casting equipment and as a result, has developed a number of solutions to the unique requirements of continuous casting applications.

Rotating unions are used to transmit cooling water in and out of the rolls of caster segments and, therefore, are critical components of every continuous casting machine (CCM). Rotating union performance can often make the difference between a productive operation or a casting operation with frequent downtime, maintenance, and repair.

A rotating union is composed of 3 parts — a housing that turns with the caster roll, a stationary hollow sleeve that connects the water supply and return and a balanced mechanical seal that acts as a leak-proof rotating connection. The critical component is the mechanical seal.

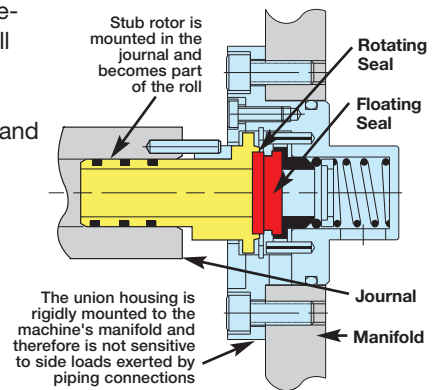
DEUBLIN unions have **balanced mechanical seals** with seal faces that are micro lapped to an optical flatness of better than 2 light bands. The seal faces are made of silicon carbide to provide the ultimate wear resistance in harsh and abrasive environments. While *DEUBLIN*'s standard unions have a

one-year warranty — the 2400 Series, due to its robust design and advanced technology, is offered with a **two-year warranty**.

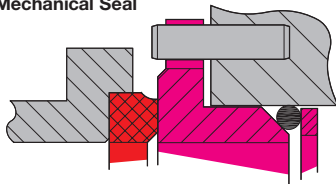
In today's very competitive environment, *DEUBLIN* unions can help you reduce maintenance costs and enjoy the profitability of longer, high tonnage campaigns. *DEUBLIN* also offers **rebuilding and exchange programs** that can be designed to complement your section-rebuilding schedule. This assures you of always having a dependable quality union at a fraction of the cost of a new union. *DEUBLIN* 55 and 57 Series unions for Tunnel Furnace applications are featured in our Standard Union Catalog.

DEUBLIN Bearingless Technology

Conventional unions are dependent on bearings for support and smooth low torque rotation. However, bearings inherently have limitations, one of which is premature failure as a result of side loading from piping connections. *DEUBLIN* has adapted this bearingless technology to CCM applications with proven in-the-field success. Call our Engineering Department for complete details and specifications.

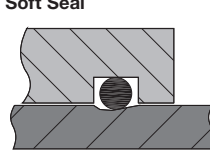


Mechanical Seal



Wear only occurs on the replaceable seals

Soft Seal

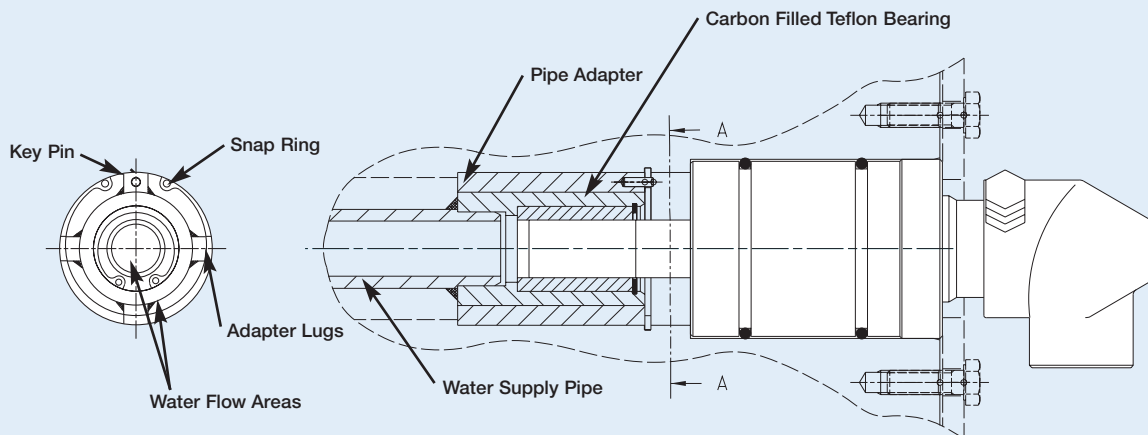


Wear occurs on the O-Ring and the rotating metal surfaces

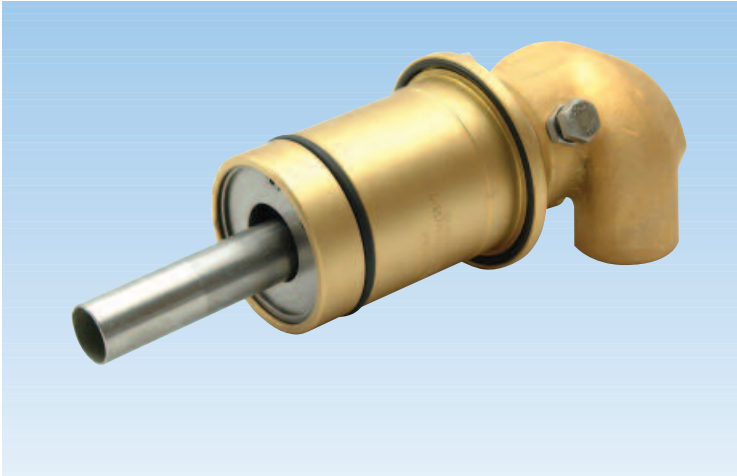
PROPER MOUNTING ENSURES LONGER UNION LIFE.

Flexible hoses must be used to connect the rotating union to its supply and return lines. Flexible hose ensures less side load and wear on the union's bearing surfaces. Rigid piping should not be used. The hose should connect directly to the union, if possible, by way of a live swivel that will eliminate any torsional stress from the pressurized hose. The table shows recommended lengths for the different hose diameters.

HOSE DIAMETER	HOSE LENGTH	
	INCHES	mm
1/2"	12	305
3/4"	14	355
1"	16	405
1 1/4"	18	460
1 1/2"	20	510



Adapter for "In-The-Shaft" Mounted Unions



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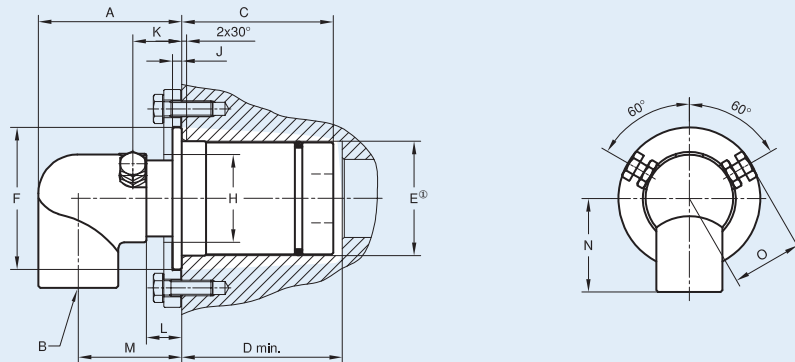
2400 Series Rotating Union

- monoflow and duoflow design
- in-the-shaft mounted
- self-supported 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
- engineered sleeve bearing
- full-media flow
- easily field repairable

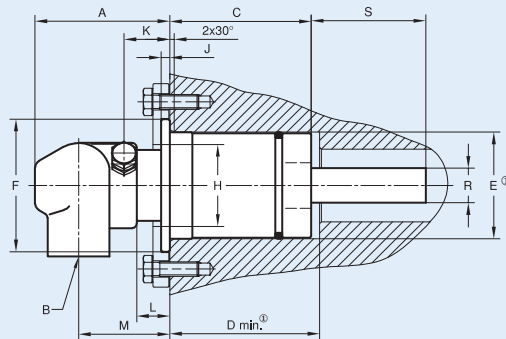
Operating Data

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 ①	F ①	H ①	J	K	L	M	N	O	P	Q	R ①	S	Shpg. Wt.
Monoflow	3/4" NPT	2420-001-125	2 ²¹ / ₆₄ "	2 ³ / ₈ "	2 ¹ / ₁₆ "	1.820 1.815	2 ⁵ / ₁₆ "	1 ⁵ / ₃₂ "	3 ¹ / ₁₆ "	1 ¹ / ₃₂ "	3 ¹ / ₄ "	1 ²¹ / ₃₂ "	1 ¹³ / ₁₆ "	1 ⁷ / ₁₆ "	-	-	-	-	1 ¹ / ₂ #
	G 3/4" (BSP)	2420-001-139	59	60	62	46.22 46.10	59	25	5	26	19	42	46	36	-	-	-	-	.7 Kg
	1" NPT	2425-001-281	2 ¹⁵ / ₁₆ "	3 ¹ / ₁₆ "	3 ³ / ₄ "	2.317 2.312	2 ⁷ / ₈ "	1 ¹⁷ / ₃₂ "	3 ¹ / ₁₆ "	1 ¹ / ₃₂ "	3 ¹ / ₄ "	2 ¹ / ₈ "	1 ¹³ / ₁₆ "	1 ⁹ / ₁₆ "	-	-	-	-	3 ¹ / ₂ #
	G 1" (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 ¹ / ₁₆ "	1.820 1.815	2 ⁵ / ₁₆ "	1 ⁵ / ₃₂ "	3 ¹ / ₁₆ "	1 ¹ / ₃₂ "	3 ¹ / ₄ "	2"	1 ¹⁷ / ₃₂ "	1 ⁷ / ₁₆ "	2"	3 ¹¹ / ₃₂ "	.511 510	1 ¹⁵ / ₁₆ "	2#
	G 3/4" (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 ³ / ₄ "	2.317 2.312	2 ⁷ / ₈ "	1 ¹⁷ / ₃₂ "	3 ¹ / ₁₆ "	1 ¹ / ₃₂ "	3 ¹ / ₄ "	2"	1 ¹⁷ / ₃₂ "	1 ⁹ / ₁₆ "	2"	3 ¹¹ / ₃₂ "	.748 746	2 ¹ / ₂ "	4#
	G 3/4" (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 ¹ / ₁₆ "	3 ¹¹ / ₁₆ "	2.800 2.795	3 ³ / ₈ "	1 ⁵ / ₃₂ "	3 ¹ / ₁₆ "	1 ¹ / ₃₂ "	3 ¹ / ₄ "	2 ¹ / ₁₆ "	1 ¹ / ₁₆ "	1 ¹³ / ₁₆ "	2 ¹ / ₂ "	4 ⁷ / ₈ "	1.130 1.125	1 ⁷ / ₈ "	9#
	G 1" (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

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5000 Series Rotating Union

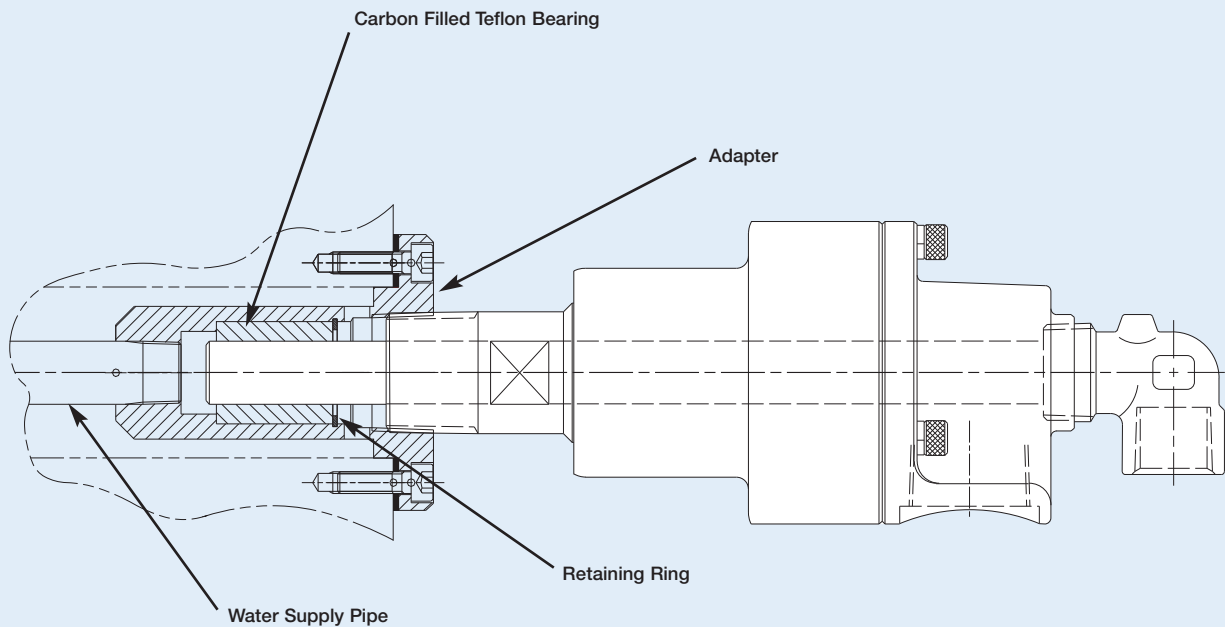


- monoflow and duoflow design
- externally mounted
- self-supported rotating union
- radial housing connection
- balanced mechanical seal
- seal combination - standard:
Carbon Graphite/Silicon Carbide
- keyed rotor seal
- cast iron body/brass end-cap
- stainless steel rotor ($\frac{3}{4}$ " - $1\frac{1}{2}$ "
- engineered sleeve bearing
- easily field repairable
- special options:
threaded vent holes

Operating Data

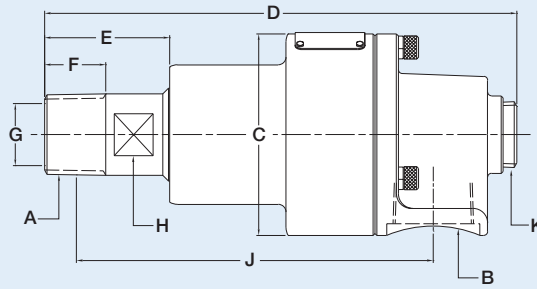
Maximum Water Pressure	150 PSI	10.5 bar
Maximum Speed	100 RPM	100/min
Maximum Temperature	250°F	>250°F consult DEUBLIN

Duoflow Rotating Union



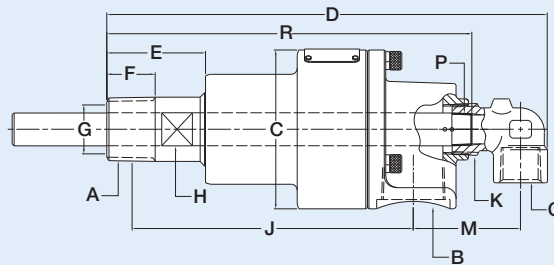
Adapter for Outboard Mounted Unions

5000 Series Monoflow and Duoflow Unions Specifications



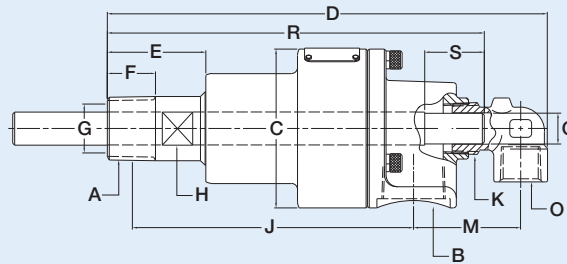
Monoflow

B Port	Ordering Number	A Rotor Thread	CØ	D	E	F	G Rotor Hole	H	J	K N.P.T.	M	O N.P.T.	P	Q Turn Ø	R	S	Shpg. Wt.	
3/4"	5075-001-101	3/4" N.P.T. RH	67	150	38	19	17	32	105	-	-	-	-	-	-	-	-	3 1/2#
	5075-001-102	3/4" N.P.T. LH																1,6Kg
	5075-001-117	G3/4" (BSP) RH																6#
	5075-001-118	G3/4" (BSP) LH																2,8Kg
1"	5100-060-160	1" N.P.T. RH	82	187	44	21,5	25,4	28	128	3/4"	-	-	-	-	-	-	-	6#
	5100-060-161	1" N.P.T. LH																2,8Kg
	5100-060-171	G1" (BSP) RH																12#
	5100-060-172	G1" (BSP) LH																5,6Kg
1 1/2"	5150-001-117	1 1/2" N.P.T. RH	108	238	62	29	38	44	174	1 1/4"	-	-	-	-	-	-	-	12#
	5150-001-118	1 1/2" N.P.T. LH																5,6Kg
	5150-001-156	G1 1/2" (BSP) RH																
	5150-001-157	G1 1/2" (BSP) LH																



Duoflow-Fixed Supply Pipe

B Port	Ordering Number	A Rotor Thread	CØ	D	E	F	G Rotor Hole	H	J	K N.P.T.	M	O N.P.T.	P	Q Turn Ø	R	S	Shpg. Wt.	
1"	5100-060-160-083	1" N.P.T. RH	82	225	44	21,5	25,4	28	128	3/4"	55	1/2"	3/8" N.P.T.	-	7 5/8"	-	-	6#
	5100-060-161-083	1" N.P.T. LH																2,8Kg
	5100-060-171-255	G1" (BSP) RH																12#
	5100-060-172-255	G1" (BSP) LH																5,6Kg
1 1/2"	5150-001-117-013	1 1/2" N.P.T. RH	108	287	62	29	38	44	174	1 1/4"	75	3/4"	3/4" N.P.T.	-	9 3/16"	-	-	12#
	5150-001-118-013	1 1/2" N.P.T. LH																5,6Kg
	5150-001-156-221	G1 1/2" (BSP) RH																
	5150-001-157-221	G1 1/2" (BSP) LH																



Duoflow-Rotating Supply Pipe

B Port	Ordering Number	A Rotor Thread	CØ	D	E	F	G Rotor Hole	H	J	K N.P.T.	M	O N.P.T.	P	Q Turn Ø	R	S	Shpg. Wt.	
1"	5100-060-160-163	1" N.P.T. RH	82	225	44	21,5	25,4	28	128	3/4"	55	1/2"	-	.621" .619"	7 7/16"	1 1/4"	-	6#
	5100-060-161-163	1" N.P.T. LH																2,8Kg
	5100-060-171-347	G1" (BSP) RH																12#
	5100-060-172-347	G1" (BSP) LH																5,6Kg
1 1/2"	5150-001-117-144	1 1/2" N.P.T. RH	108	287	62	29	38	44	174	1 1/4"	75	3/4"	-	1.000" .998"	9 15/16"	1 3/4"	-	12#
	5150-001-118-144	1 1/2" N.P.T. LH																5,6Kg
	5150-001-156-468	G1 1/2" (BSP) RH																
	5150-001-157-468	G1 1/2" (BSP) LH																



Since its establishment in 1945, **DEUBLIN** 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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