

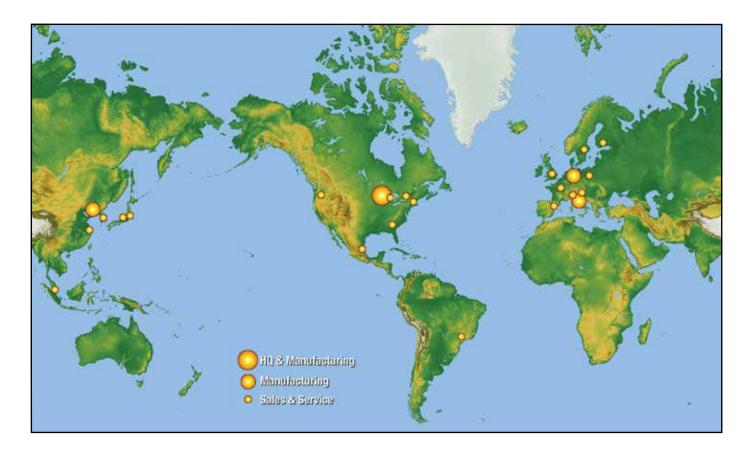


# Rotating Unions STEEL INDUSTRY

www.deublin.com

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### **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 evergrowing 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.



### **ROTATING UNIONS FOR STEEL INDUSTRY**

Deublin has been the world's largest manufacturer of rotating unions for the general industry for over 65 years and specialty unions for the continuous casting industry for over 45 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.

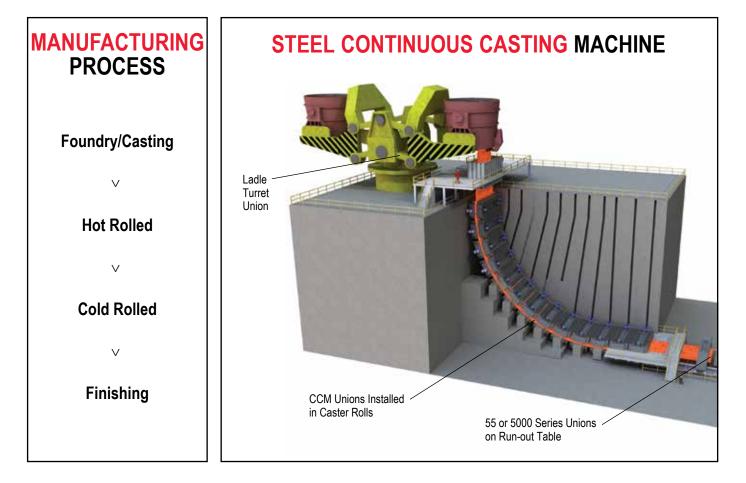
In today's very competitive environment, Deublin unions can help you reduce maintenance costs and enjoy the profitability of longer, high tonnage campaigns.

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 Series unions for Tunnel Furnace applications are featured in our Standard Union Catalog.

#### **Quality Credentials**

Deublin pursues its design and manufacturing missions with a passionate belief in the premise that quality is designed-in, not inspected in – a philosophy that is at the heart of its independently registered ISO 9001 compliant Quality Management System. This recognition offers assurance that our customers' end-use environment, performance requirements and reliability expectations are always captured and expressed in our product designs, as well as at every stage of development and manufacture. It means that "lessons learned" in hundreds of product applications are projected forward into continual improvement of both our product and processes. Our ISO 9001 recognition is therefore simply more evidence of Deublin's unmatched reputation for customer satisfaction and product quality.

In addition, Deublin is certified as an Authorized Economic Operator (AEO), which provides assurance that Deublin's supply chain is approved as both secure and customs-reliable. This recognition fast-tracks the flow of goods and materials worldwide – a customer service advantage for all of our supply chain partners.



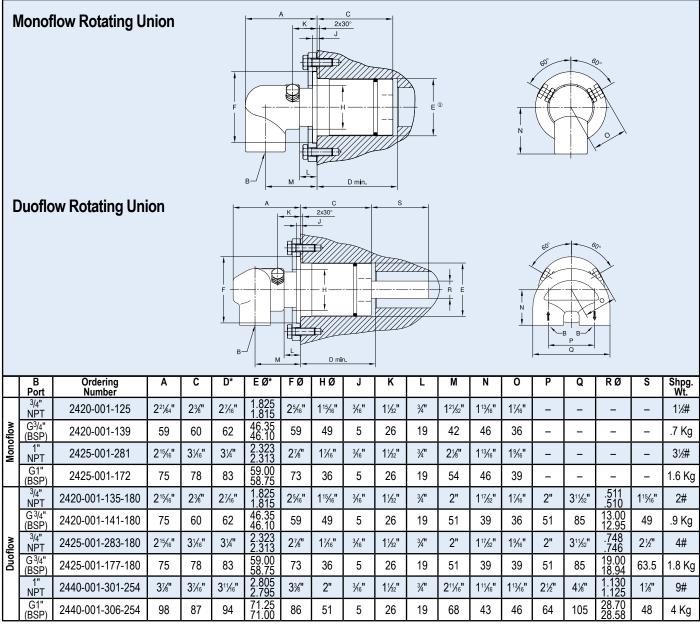
### **ROTATING UNIONS FOR CONTINUOUS CASTING**



<b>OPERATING DATA</b>	2400 SERIES				
Max. Pressure	150 PSI	10 bar			
Max. Speed	100 RPM	100/min			
Max. Temperature	250°F	120°C			

#### **DEUBLIN** 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 sealseal combination:
- Silicon Carbide/Silicon Carbide
- brass housing and elbow
- stainless steel rotor and supply pipe
- engineered sleeve bearing
- full-media flow
- · easily field repairable



\*Denotes Shaft Dimension

### **BEARINGLESS UNIONS FOR CONTINUOUS CASTING**

#### **Deublin Bearingless Technology**

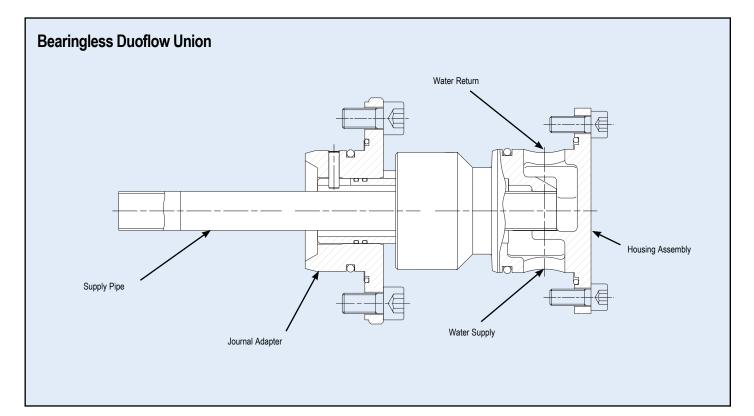
Conventional unions are dependent on bearings for support and smooth low torque rotation. However, bearings inherently have limitations, one of which is premature failure as a result of side loading from piping connections. Deublin has adapted this bearingless technology to CCM applications with proven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



#### **DEUBLIN** Bearingless CCM Union

- · monoflow and duoflow design
- in-the-shaft mounted
- 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
- full-media flow
- · easily field repairable
- no internal bearing

<b>OPERATING DATA</b>	BEARINGLESS CCM UNION					
Max. Pressure	150 PSI	10 bar				
Max. Speed	100 RPM	100/min				
Max. Temperature	250°F	120°C				



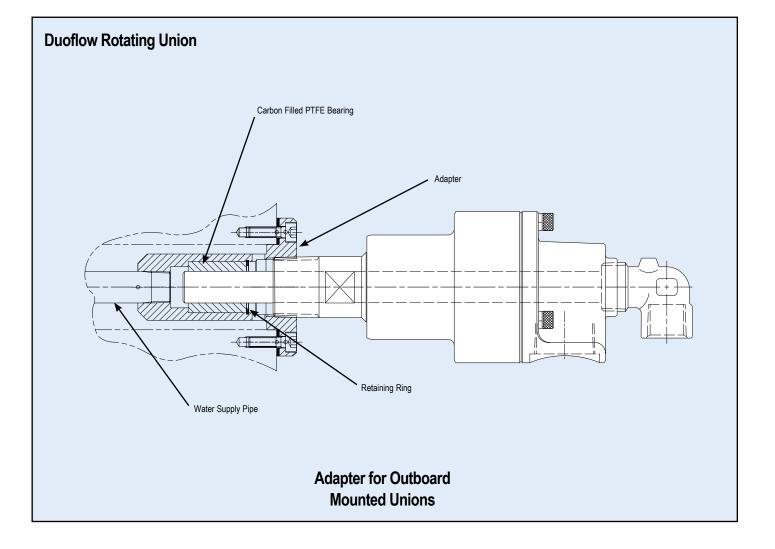
### **ROTATING UNIONS FOR CONTINUOUS CASTING**



<b>OPERATING DATA</b>	5000 SERIES				
Max. Pressure	150 PSI	10 bar			
Max. Speed	100 RPM	100/min			
Max. Temperature	250°F	120°C			

### **DEUBLIN** 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 (<sup>3</sup>/<sub>4</sub>"-1<sup>1</sup>/<sub>2</sub>")
- engineered sleeve bearing
- · easily field repairable
- special options:
- threaded vent holes



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	B Port	Ordering Number	A Rotor Thread*	CØ	D	E	F	G Rotor Hol	e H		, I	K NPT	M	0 NPT	Р	Q Turn Ø	R	S	Shpg. Wt.
	27.11	5075-001-101 5075-001-102	3/4" (NPT) RH 3/4" (NPT) LH	2%"	5%"	1½"	7%"	<sup>1</sup> 1⁄16"	1½	4	6"	-	-	-	-	-	_	_	3½#
	<sup>3/4</sup> " NPT	5075-001-102	G¾" (BSP) RH	07	450		10	47			<u>_</u>								4.0.1/-
		5075-001-118	G¾" (BSP) LH	67	150	38	19	17	32	2 10	)5	-	-	-	-	-	-	-	1,6 Kg
lo v	1"	5100-060-160 5100-060-161	1" (NPT) RH 1" (NPT) LH	3¼"	7%"	1¾"	3⁄4"	1"	1½	ś" 5	6"	3⁄4"	-	-	-	-	-	-	6#
Monoflow	NPT	5100-060-171	G1" (BSP) RH	82	187	44	21,5	25,4	28	2 1'	28	3⁄4"	_	_	_	_	_	_	2,8 Kg
		5100-060-172	G1" (BSP) LH	02	107	44	21,5	20,4	20	, ,	20	74	_	-	-	_	-	_	2,0 KY
	1 <sup>1</sup> /2"	5150-001-117 5150-001-118	1½" (NPT) RH 1½" (NPT) LH	4¼"	9%"	21/16"	′ <b>1</b> ¾6″	1½"	1¾	(" 7)	46 <b>"</b>	1¼"	-	-	-	-	-	-	12#
	NPT	5150-001-156	G1½" (BSP) RH	108	238	62	29	38	44	1 1	74 .	11⁄4"	_	_	_	_	_	_	5,6 Kg
		5150-001-157	G1½" (BSP) LH	100	200	02	20		<u> </u>	<u> </u>	·	1/4							0,0 1.9
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	Supply	y Pipe						_J			-м		-						
			A Rotor Thread*	CØ	D	E	FR	G otor Hole	н	_		N	O NPT	F	)	Q Turn Ø	R	S	Shpg. Wt.
5	B Port	y Pipe Ordering Number 5100-060-160-083	Rotor Thread* 1" (NPT) RH	<b>CØ</b> 3¼"	D 8%"	E 1¾"		otor Hole	н 1%"	J 5½"	B		0	F %" N		Q Turn Ø –	<b>R</b> 7%"	S _	Shpg. Wt. 6#
5	Bupply B	y Pipe Ordering Number 5100-060-160-083 5100-060-161-083	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH	3¼"	8%"	1¾"	R ∛″	otor Hole 1"	1%"	5½"	B NPT 34"	M 2¾16"	0 NPT ½"	%" N.	.P.T.	Q Turn Ø –	7%"	-	Wt. 6#
Supply Pipe	B Port	y Pipe Ordering Number 5100-060-160-083 5100-060-161-083 5100-060-171-255 5100-060-172-255	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           G1" (BSP)         LH			1¾"	R	otor Hole			B K NPT	 	0 NPT		.P.T.	Q Turn Ø –			Wt.
ed Supply Pipe	B Port 1" NPT	<b>Pipe</b> Ordering Number 5100-060-160-083 5100-060-161-083 5100-060-171-255 5100-060-172-255 5150-001-117-013	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           G1" (BSP)         LH           1½" (NPT)         RH	3¼"	8%"	1¾"	R ∛″	otor Hole 1" 25,4	1%"	5½"	B NPT 34"	M 2¾16"	0 NPT ½"	%" N.	.P.T. BSP)	-	7%"	-	Wt. 6#
ed Supply Pipe	B Port	Ordering Number           5100-060-160-083           5100-060-161-083           5100-060-171-255           5100-060-172-255           5150-001-117-013           5150-001-118-013	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           G1" (NPT)         RH           1½" (NPT)         RH           1½" (NPT)         LH	3¼" 82 4¼"	8%" 225 115%"	1¾" 44 2¼6"	R           ¾"           21,5           1¾6"	otor Hole 1" 25,4 1½"	11/8" 28 13/4"	5½" 128 7½6"	•B <b>K</b> <b>NPT</b> 3⁄4" 3⁄4" 11⁄4"	M 2¾" 55 2 <sup>15</sup> ‰"	0 NPT ½" ½"	∛" N G∛" ( ¾" N	.P.T. BSP) .P.T.	-	7%" 183 9 <sup>1</sup> %"	-	Wt. 6# 2,8 Kg 12#
Supply Pipe	B Port 1" NPT 1 <sup>1</sup> /2"	Ordering Number           5100-060-160-083           5100-060-161-083           5100-060-171-255           5100-060-172-255           5100-060-172-255           5150-001-117-013	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           G1" (BSP)         LH           1½" (NPT)         RH	3¼" 82	8%" 225	1¾" 44	21,5 R	otor Hole 1" 25,4	1½" 28	5½" 128	•B <u>K</u> <u>NPT</u> 3⁄4" 3⁄4"	М 2¾"" 55	0 NPT ½" ½"	%" N G%" (	.P.T. BSP) .P.T.	-	7%" 183	-	<b>Wt.</b> 6# 2,8 Kg
Duoflow-Fixed Supply Pipe	B Port 1" NPT 1 <sup>1</sup> /2" NPT	y Pipe Ordering Number 5100-060-160-083 5100-060-161-083 5100-060-171-255 5100-060-172-255 5150-001-117-013 5150-001-118-013 5150-001-156-221	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           G1" (NPT)         RH           1½" (NPT)         LH           G1½" (BSP)         RH           G1½" (BSP)         LH	3¼" 82 4¼"	8%" 225 115%"	1¾" 44 2¼6"	R           ¾"           21,5           1¾6"	otor Hole 1" 25,4 1½"	11/8" 28 13/4"	5½" 128 7½6"	•B <b>K</b> <b>NPT</b> 3⁄4" 3⁄4" 11⁄4"	M 2¾" 55 2 <sup>15</sup> ‰"	0 NPT ½" ½"	∛" N G∛" ( ¾" N	.P.T. BSP) .P.T.	-	7%" 183 9 <sup>1</sup> %"	-	Wt. 6# 2,8 Kg 12#
Duoflow-Fixed Supply Pipe	B Port 1" NPT 1 <sup>1</sup> /2" NPT	y Pipe Ordering Number 5100-060-160-083 5100-060-161-083 5100-060-171-255 5100-060-172-255 5150-001-117-013 5150-001-118-013 5150-001-156-221 5150-001-157-221	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           G1" (NPT)         RH           1½" (NPT)         LH           G1½" (BSP)         RH           G1½" (BSP)         LH	3¼" 82 4¼"	8%" 225 115%"	1¾" 44 2¼6" 62	R           ¾"           21,5           1¾6"	otor Hole 1" 25,4 1½"	11/8" 28 13/4"	5½" 128 7½6"	В <u>К</u> <u>NPT</u> 3/4" 3/4" 11/4" 11/4"	M 2¾" 55 2 <sup>15</sup> ‰"	0 NPT ½" ½"	∛" N G∛" ( ¾" N	.P.T. BSP) .P.T.	-	7%" 183 9 <sup>1</sup> %"	-	Wt. 6# 2,8 Kg 12#
Duoflow-Fixed Supply Pipe	B Port 1" NPT 1 <sup>1</sup> /2" NPT	y Pipe Ordering Number 5100-060-160-083 5100-060-161-083 5100-060-171-255 5100-060-172-255 5150-001-117-013 5150-001-118-013 5150-001-156-221 5150-001-157-221	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           G1" (NPT)         RH           1½" (NPT)         LH           G1½" (BSP)         RH           G1½" (BSP)         LH	3¼" 82 4¼"	8%" 225 115%"	1¾" 44 2¼6"	R           ¾"           21,5           1¾6"	otor Hole           1"           25,4           1½"           38	11/8" 28 13/4"	5½" 128 7½6"	•B <b>K</b> <b>NPT</b> 3⁄4" 3⁄4" 11⁄4"	M 2¾" 55 2 <sup>15</sup> ‰"	0 NPT ½" ½"	∛" N G∛" ( ¾" N	.P.T. BSP) .P.T.	-	7%" 183 9 <sup>1</sup> %"	-	Wt. 6# 2,8 Kg 12#
Duoflow-Fixed Supply Pipe	B Port 1" NPT 1 <sup>1</sup> /2" NPT	y Pipe Ordering Number 5100-060-160-083 5100-060-161-083 5100-060-171-255 5100-060-172-255 5150-001-117-013 5150-001-118-013 5150-001-156-221 5150-001-157-221	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           G1" (NPT)         RH           1½" (NPT)         LH           G1½" (BSP)         RH           G1½" (BSP)         LH	3¼" 82 4¼"	8%" 225 115%"	1¾" 44 2¼6" 62 E	R           ¾"           21,5           1¾6"	otor Hole           1"           25,4           1½"           38	11/8" 28 13/4"	5½" 128 7½6"	В <u>К</u> <u>NPT</u> 3/4" 3/4" 11/4" 11/4"	M 2¾6" 55 2 <sup>15</sup> ‰" 75	0 NPT ½" ½"	∛" N G∛" ( ¾" N	.P.T. BSP) .P.T.	-	7%" 183 9 <sup>1</sup> %"	-	Wt. 6# 2,8 Kg 12#
Duoflow-Fixed Supply Pipe	B Port 1" NPT 1 <sup>1</sup> /2" NPT	y Pipe Ordering Number 5100-060-160-083 5100-060-161-083 5100-060-171-255 5100-060-172-255 5150-001-117-013 5150-001-118-013 5150-001-156-221 5150-001-157-221	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           G1" (NPT)         RH           1½" (NPT)         LH           G1½" (BSP)         RH           G1½" (BSP)         LH	3¼" 82 4¼"	8%" 225 111%" 287	1¾" 44 2¼6" 62 E	R           ¾"           21,5           1¾6"	otor Hole           1"           25,4           1½"           38	1½" 28 1¾" 44	5½" 128 7½6"	В <u>К</u> <u>NPT</u> 3/4" 3/4" 11/4" 11/4"	M 2¾6" 55 2 <sup>15</sup> ‰" 75	0 NPT ½" ½" ⅔⁄" ⅔⁄"	∛" N G∛" ( ¾" N	.P.T. BSP) .P.T.	-	7%" 183 9 <sup>1</sup> %"	-	Wt. 6# 2,8 Kg 12#
Duoflow-Fixed Supply Pipe	Port 1" NPT 1 <sup>1</sup> /2" NPT	y Pipe Ordering Number 5100-060-160-083 5100-060-161-083 5100-060-171-255 5100-060-172-255 5150-001-117-013 5150-001-118-013 5150-001-156-221 5150-001-157-221 Thread also avails	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           G1" (NPT)         RH           1½" (NPT)         LH           G1½" (BSP)         RH           G1½" (BSP)         LH	3¼" 82 4¼"	8%" 225 111%" 287	1¾" 44 2¼6" 62 E	R           ¾"           21,5           1¾6"	otor Hole           1"           25,4           1½"           38	1½" 28 1¾" 44	5½" 128 7¼6" 174	B K NPT 3/4" 3/4" 11/4" S S C C C C C C C C C C C C C	M 2¾" 55 2½%" 75	О NPT ½" ½" ¾" ¾"	∛" N G∛" ( ¾" N	.P.T. BSP) .P.T.	-	7%" 183 9 <sup>1</sup> %"	-	Wt. 6# 2,8 Kg 12#
Duoflow-Fixed Supply Pipe	Port 1" NPT 1 <sup>1</sup> /2" NPT Female	y Pipe Ordering Number 5100-060-160-083 5100-060-161-083 5100-060-171-255 5100-060-172-255 5150-001-117-013 5150-001-118-013 5150-001-156-221 5150-001-157-221 Thread also available w-Rotating	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           G1" (NPT)         RH           1½" (NPT)         LH           G1½" (BSP)         RH           G1½" (BSP)         LH	3¼" 82 4¼"	8½" 225 111%" 287 G-	1¾" 44 2¼6" 62 E	R       ¾"       21,5       1%"       29	otor Hole           1"           25,4           1½"           38	1½" 28 1¾" 44	5½" 128 7½6" 174	B K NPT 3/4" 3/4" 11/4" S S S S S S S S S S S S S	M 2½/6" 555 2 <sup>15</sup> /6" 75	О NPT ½" ½" ¾" ¾"	∛" N G∛" ( ¾" N	.P.T. BSP) .P.T.	-	7%" 183 9 <sup>1</sup> %"	-	Wt. 6# 2,8 Kg 12#
Duoflow-Fixed Supply Pipe	B Port 1" NPT 11/2" NPT - emale	y Pipe Ordering Number 5100-060-160-083 5100-060-161-083 5100-060-171-255 5100-060-172-255 5150-001-117-013 5150-001-118-013 5150-001-156-221 5150-001-157-221 Thread also avails ow-Rotating y Pipe Ordering	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           G1" (BSP)         LH           1½" (NPT)         RH           1½" (NPT)         RH           G1½" (BSP)         LH	3¼" 82 4¼"	8½" 225 111%" 287 G-	1¾" 44 2¼6" 62 E	R ¾" 21,5 1¾6" 29 − − − − −	otor Hole 1" 25,4 1½" 38 	1½" 28 1¾" 44	5½" 128 7½6" 174	В К NPT 3/4" 3/4" 11/4" 11/4" S К К	M 2½/6" 555 2 <sup>15</sup> /6" 75	О NPT ½" ½" ¾" ¾" ¾"	3⁄4" N. G¾" ( 3⁄4" N. G¾" (	.P.T. BSP) .P.T. BSP)	-	7%" 183 9 <sup>1</sup> %"	-	Wt. 6# 2,8 Kg 12# 5,6 Kg
Duoflow-Fixed Supply Pipe	Port 1" NPT 1 <sup>1</sup> /2" NPT <sup>11</sup> /2" NPT <sup>2</sup> emale	y Pipe Ordering Number 5100-060-160-083 5100-060-161-083 5100-060-171-255 5100-060-172-255 5150-001-117-013 5150-001-118-013 5150-001-156-221 5150-001-157-221 Thread also avails w-Rotating y Pipe Ordering Number	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           1½" (NPT)         LH           G1½" (BSP)         RH           G1½" (BSP)         LH           able         A	3¼" 82 4¼" 108	8%" 225 115%" 287  A D	1¾" 44 2%6" 62 ––––––––––––––––––––––––––––––––––	R ¾" 21,5 1¾6" 29 − − − − − − − − − − − − −	otor Hole           1"           25,4           1½"           38	11//" 28 13//" 44 	5½" 128 7½" 174	В К NPT 3/1" 3/1" 1/4" 1/4" S Б М В К М М	M 2½%6" 555 2 <sup>15</sup> %6" 755	О NPT ½" ½" ¾" ¾" ¾"	3⁄4" N. G¾" ( 3⁄4" N. G¾" (	.P.T. BSP) .P.T. BSP)		7%" 183 9 <sup>1</sup> %" 241	- - - -	Wt.           6#           2,8 Kg           12#           5,6 Kg           Shpg.
Duoflow-Fixed Supply Pipe	B Port 1" NPT 11/2" NPT - emale Duoffc Supply B Port 1"	y Pipe Ordering Number 5100-060-160-083 5100-060-161-083 5100-060-171-255 5100-060-172-255 5150-001-117-013 5150-001-118-013 5150-001-156-221 5150-001-157-221 Thread also avails ow-Rotating y Pipe Ordering Number 5100-060-160-163 5100-060-161-163	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           1½" (NPT)         RH           1½" (NPT)         RH           1½" (NPT)         LH           G1½" (BSP)         RH           G1½" (BSP)         RH           G1½" (BSP)         RH           G1½" (BSP)         LH           able         A           A         Rotor Thread*           1" (NPT)         RH           1" (NPT)         RH           1" (NPT)         RH	3¼" 82 4¼" 108	8½" 225 111%" 287 G- G-	1¾" 44 2%6" 62	R ¾" 21,5 1¾6" 29 − − − − −	otor Hole 1" 25,4 1½" 38 	1½" 28 1½" 44	5½" 128 7½" 174	В К NPT 3/4" 3/4" 11/4" 11/4" S К К	M 2½/6" 555 2 <sup>15</sup> /6" 75	О NPT ½" ½" ¾" ¾" ¾"	3⁄4" N. G¾" ( 3⁄4" N. G¾" (	.P.T. BSP) .P.T. BSP)	-	7%" 183 9 <sup>1</sup> %" 241	-	Wt. 6# 2,8 Kg 12# 5,6 Kg
Duoflow-Fixed Supply Pipe	Port 1" NPT 11/2" NPT 11/2" NPT 11/2" NPT 5 emale 0uoflo 5 upply B Port	y Pipe Ordering Number 5100-060-160-083 5100-060-161-083 5100-060-171-255 5100-060-172-255 5150-001-117-013 5150-001-118-013 5150-001-156-221 5150-001-157-221 Thread also avails w-Rotating y Pipe Ordering Number 5100-060-160-163 5100-060-161-163 5100-060-171-347	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           1½" (NPT)         RH           1½" (NPT)         RH           1½" (NPT)         HH           G1½" (BSP)         RH           G1½" (BSP)         RH           G1½" (BSP)         RH           G1½" (BSP)         LH           able         I" (NPT)           1" (NPT)         RH	3¼" 82 4¼" 108	8%" 225 115%" 287  A D	1¾" 44 2%6" 62 ––––––––––––––––––––––––––––––––––	R ¾" 21,5 1¾6" 29 − − − − − − − − − − − − −	otor Hole           1"           25,4           1½"           38	11//" 28 13//" 44 	5½" 128 7½" 174	В К NPT 3/1" 3/1" 1/4" 1/4" S Б М В К М М	M 2½%6" 555 2 <sup>15</sup> %6" 755	О NPT ½" ½" ¾" ¾" ¾"	3⁄4" N. G¾" ( 3⁄4" N. G¾" (	.P.T. BSP) BSP)	   621" 619"	7%" 183 9 <sup>1</sup> %" 241	- - - - 11/4"	Wt.           6#           2,8 Kg           12#           5,6 Kg           Shpg.
Duoflow-Fixed Supply Pipe	B Port 1" NPT 11/2" NPT - emale Duoffc Supply B Port 1"	y Pipe Ordering Number 5100-060-160-083 5100-060-161-083 5100-060-171-255 5100-060-172-255 5150-001-117-013 5150-001-118-013 5150-001-156-221 5150-001-157-221 Thread also avails w-Rotating y Pipe Ordering Number 5100-060-160-163 5100-060-161-163 5100-060-171-347 5100-060-172-347	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           1½" (NPT)         RH           1½" (NPT)         RH           1½" (NPT)         RH           1½" (NPT)         LH           G1½" (BSP)         RH           G1½" (BSP)         HH           G1½" (BSP)         LH           able         I" (NPT)           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           G1" (BSP)         RH	3¼" 82 4¼" 108 <b>CØ</b> 3¼" 82	8½" 225 111%" 287 287 A G G G C A 8½" 225	1¾" 44 2½6" 62 <b>E</b> 1¾" 44	R       ¾"       21,5       1¾"       29       H       F       ¾"       21,5	otor Hole 1" 25,4 1½" 38 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	11//" 28 13//" 44 44 H 11//" 28	5½" 128 7½6" 174	В К NPT 3/4" 3/4" 11/4" 11/4" S К NPT 3/4" В К NPT 3/4"	M 2½%" 555 2 <sup>1</sup> %%" 75	O NPT ½" ½" ¾" ¾"	3⁄6" N. G¾" ( 3⁄4" N. G¾" ( G¾" ( P 	.P.T. BSP) BSP) T 1 1	<b>Q</b> <b>um Ø</b> 621" 5,95 5,90	7%" 183 9 <sup>1</sup> %6" 241 <b>R</b> 7%6" 196	- - - - 11/4" 31	Wt.           6#           2,8 Kg           12#           5,6 Kg           Shpg.           6#           2,8 Kg
Duoflow-Fixed Supply Pipe	Port 1" NPT 11/2" NPT 11/2" Female Duoflo Supply B Port 1" NPT 11/2" NPT 11/2"	y Pipe Ordering Number 5100-060-160-083 5100-060-161-083 5100-060-171-255 5100-060-172-255 5150-001-117-013 5150-001-156-221 5150-001-156-221 5150-001-156-221 5150-001-157-221 Thread also avails ww-Rotating y Pipe Ordering Number 5100-060-160-163 5100-060-161-163 5100-060-171-347 5100-060-172-347 5150-001-117-144 5150-001-118-144	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           1½" (NPT)         RH           1½" (NPT)         RH           1½" (NPT)         RH           1½" (NPT)         LH           G1½" (BSP)         RH           G1½" (BSP)         RH           G1½" (BSP)         RH           G1½" (NPT)         RH           able         I" (NPT)           RH         " (NPT)           G1" (BSP)         RH           G1" (BSP)         RH           1" (NPT)         LH           G1" (BSP)         RH           G1" (BSP)         RH           11" (NPT)         LH           11" (NPT)         RH           11½" (NPT)         RH           1½" (NPT)         RH	3¼" 82 4¼" 108 <b>CØ</b> 3¼"	8½" 225 111%" 287 287 A A B 8½"	1¾" 44 2¼6" 62 <b>E</b> 1¾"	R ¾" 21,5 1¾6" 29 H F F 3⁄4"	otor Hole 1" 25,4 1½" 38 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	11//" 28 13//" 44 44 H 11//"	5½" 128 7½6" 174	В <b>К</b> <b>У</b> <b>У</b> <b>У</b> <b>У</b> <b>У</b> <b>У</b> <b>У</b> <b>У</b>	M 2¾6" 555 2 <sup>1</sup> ‰6" 75	O NPT ½" ½" ¾" ¾"	%" N. G%" ( 3⁄4" N. G'⁄4" ( P 	.P.T. BSP) BSP) T 1 1	   621" 619"	7%" 183 9 <sup>1</sup> %6" 241 <b>R</b> 7%6"	- - - - 11/4"	Wt.           6#           2,8 Kg           12#           5,6 Kg           Shpg.           6#
Duoflow-Fixed Supply Pipe	Port 1" NPT 11/2" NPT 11/2" NPT Female Duoflc Supply B Port 1" NPT	y Pipe Ordering Number 5100-060-160-083 5100-060-161-083 5100-060-171-255 5100-060-172-255 5150-001-117-013 5150-001-156-221 5150-001-156-221 5150-001-157-221 Thread also avails ow-Rotating y Pipe Ordering Number 5100-060-160-163 5100-060-161-163 5100-060-171-347 5100-060-172-347 5150-001-117-144	Rotor Thread*           1" (NPT)         RH           1" (NPT)         LH           G1" (BSP)         RH           11" (NPT)         LH           G11/2" (BSP)         RH           G11/2" (BSP)         LH           able         Interval           1" (NPT)         RH           1" (NPT)         RH           G1" (BSP)         RH	3¼" 82 4¼" 108 <b>CØ</b> 3¼" 82	8½" 225 111%" 287 287 A G G G C A 8½" 225	1¾" 44 2½6" 62 <b>E</b> 1¾" 44	R       ¾"       21,5       1¾"       29       H       F       ¾"       21,5	otor Hole 1" 25,4 1½" 38 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	11//" 28 13//" 44 44 H 11//" 28	5½" 128 7½6" 174	В К NPT 3/4" 3/4" 11/4" 11/4" S К NPT 3/4" В К NPT 3/4"	M 2½%" 555 2 <sup>1</sup> %%" 75	O NPT ½" ½" ¾" ¾"	3⁄6" N. G¾" ( 3⁄4" N. G¾" ( G¾" ( P 	.P.T. BSP) BSP) BSP) I I I I I I I I	<b>Q</b> <b>um Ø</b> 621" 5,95 5,90	7%" 183 9 <sup>1</sup> %6" 241 <b>R</b> 7%6" 196	- - - - 11/4" 311 13/4"	Wt.           6#           2,8 Kg           12#           5,6 Kg           Shpg.           6#           2,8 Kg

<sup>\*</sup>Female Thread also available

DEUBLIN

### **ROTATING UNIONS FOR STEEL COIL WINDING**

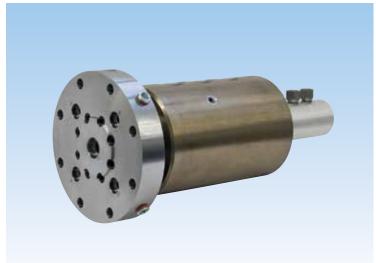
### **Typical Examples**



### 2-Passage Rotating Union with Hydrostatic Seal

for clamping-unclamping applications at steel-strip winders

<b>OPERATING DATA</b>	7100-535				
Max. Pressure	5,075 PSI	350 bar			
Max. Speed	100 RPM	100/min			
Max. Temperature	205°F	95°C			



### 3-Passage Rotating Union with Hydrostatic Seal

 for spraying-clamping-unclamping applications at steel-strip winders

In combination with SP0077 (2-Passage)

• grease is supplied to the winding mandrel to lubricate the moving elements of the winder

<b>OPERATING DATA</b>	7100	-1010	SPO	077
Media	Hydr	aulic	Gre	ase
Max. Pressure	1,450 PSI	100 bar	5,800 PSI	400 bar
Max. Speed	450 RPM	450/min	600 RPM	600/min
Max. Temperature	160 °F	70 °C	160 °F	70 °C



for clamping-unclamping applications at steel-strip winders

In combination with SP0077 (2-Passage)

• grease is supplied to the winding mandrel to lubricate the moving elements of the winder

<b>OPERATING DATA</b>	SPO	283	SPO	1077
Media	Hydr	aulic	Gre	ase
Max. Pressure	2,610 PSI	180 bar	5,800 PSI	400 bar
Max. Speed	800 RPM	800/min	600 RPM	600/min
Max. Temperature	160 °F	70 °C	160 °F	70 °C



Other Models Available

### **UNIONS FOR LADLE TURRETS**



### Ladle Turret Union

- Ladle turrets require complex, heavy-duty multi-passage unions that support the hydraulic lifting of the ladle for each pour of molten metal. Deublin Ladle Turret Unions accommodate multiple media including hydraulic oil, argon, air and water.
- Typical number of ports: up to 26.

OPERATING DATA	LADLE TURRET									
Media	Hydra	ulic Oil	Arę	gon	A	ir	Water			
Max. Pressure	3,625 PSI	250 bar	150 PSI	10 bar	150 PSI	10 bar	300 PSI	20 bar		
Max. Speed	20 RPM	20/min	20 RPM	20/min	20 RPM	20/min	20 RPM	20/min		
Max. Temperature	250°F	120°C	250°F	120°C	250°F	120°C	250°F	120ºC		

### PLANE & SELF-ALIGNING SWIVEL JOINTS



#### **Plane Swivel Joints**

- Handles 360° single & multi-plane swivel movement with positive sealing
- Available in 1" through 6" sizes in threaded, welded or flanged styles
- Available in three seal materials that are compatible with many gasses, fluid & chemicals
- Spring energized seals offer leak-tight sealing at all pressures, including vacuum
- · Seal can be replaced without removing bearings



### **Self-Aligning Swivel Joints**

- Handles 360° rotary and 10° angular alignment motion with positive sealing
- Conveys hot and cold water, alternating steam and water and heat transfer fluids
- Eliminate the hazards of leaking pipe connections or catastrophic hose failures
- Outperforms and outlasts flexible hose with lower pressure drops

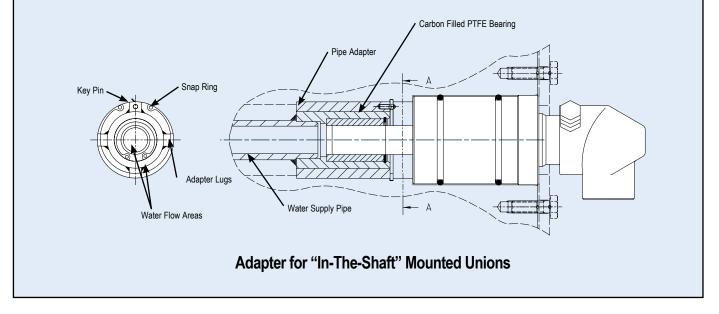
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### **INSTALLATION INSTRUCTIONS**

#### PROPER MOUNTING ENSURES LONGER UNION LIFE

Flexible hose must be used to connect the rotating union to its supply and return lines. Flexible hose ensures less side load and wear on the bearing surfaces of the union. 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 minimum recommended lengths for the different hose diameters to provide flexible installation.

	HOSE LENGTH				
HOSE DIAMETER	INCHES	mm			
1/2″	12	305			
3/4″	14	355			
1″	16	405			
1 <sup>1</sup> /4″	18	460			
1 <sup>1</sup> /2‴	20	510			

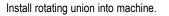


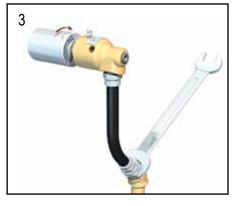
### Flexible Hose Installation Instructions for Deublin Rotating Unions\*



Mount housing in a bench vise and install hose.







Connect flexible hose to supply line.

\*Consult Deublin website for installation instructions for Bearingless 2400 Unions.

WARNING

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

### ADDITIONAL LITERATURE

### **Deublin Rotating Unions General Catalog**

From the world leader in rotating unions, the Deublin general engineering catalog provides application information and specifications for over 500 standard unions and 3000 models used with a broad range of materials, viscosities, temperatures, pressures and speeds. Deublin unions accommodate water, steam, hot oil, coolant and air for thousands of manufacturing, equipment and process applications. Custom unions are also available to address specific requirements.

### **Deublin Rotating Unions for Machine Tool**

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.

## Deublin Steam Joints and Siphon Systems for the Paper Industry

Deublin has a complete line of steam inducing and condensate removal products designed specifically for the paper 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.

### **Deublin Wind Energy Brochure**

Deublin manufactures a complete line of high pressure hydraulic unions for wind energy applications. Available in configurations ranging from monoflow to four passage designs, with central passages for cable connection to electrical slip rings. Durability features such as water resistant construction and hardened stainless steel rotors provide unparalleled lifecycle reliability over millions of cycles.

### **Deublin Slip Ring Brochure**

Deublin is a leader in the manufacturing of electrical slip rings, and complete slip ring/rotary union combinations for use in a variety of applications including wind turbines, robotics, centrifuges, milling, plastic molding, semiconductor and more. Custom slip rings can be designed to address such challenges as RF shielding, mixed signal handling, high frequency impedance matching, reduced temperature generation, and miniaturization.





DEUBLIN







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

Today, Deublin is the world's largest manufacturer of rotating unions, with state-of-the-art factories, technical sales and service, and local stocking in 15 countries on four continents, as well as a worldwide distribution network operating from more than 60 countries. Our global organization and extensive catalog of field-tested products ensure a precise match between each customer's requirements and an engineered solution.

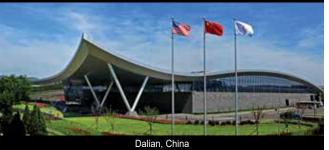
We cordially invite you to visit our modern manufacturing facilities in Waukegan, Illinois, USA; Mainz, Germany; Monteveglio, Italy; Dalian, China; and Sao Paulo, Brazil.



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



Monteveglio, Italy



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Deublin products & services are available throughout the world.

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