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

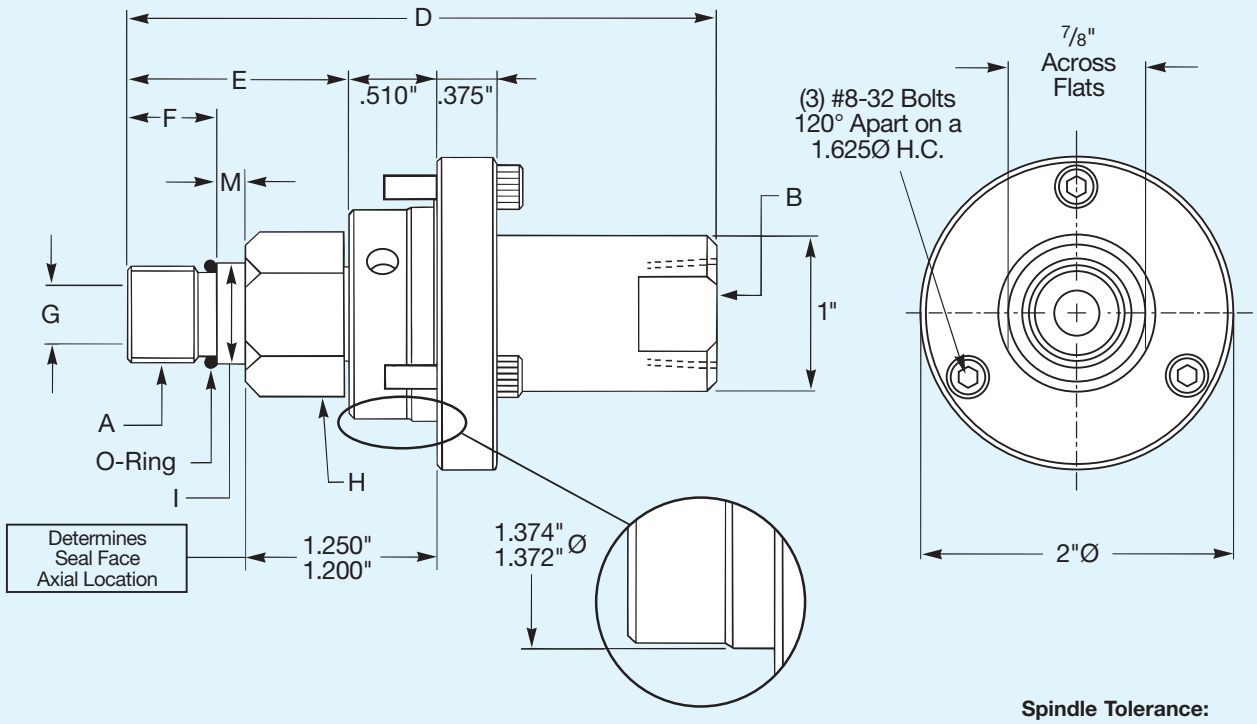
Operating Data

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.

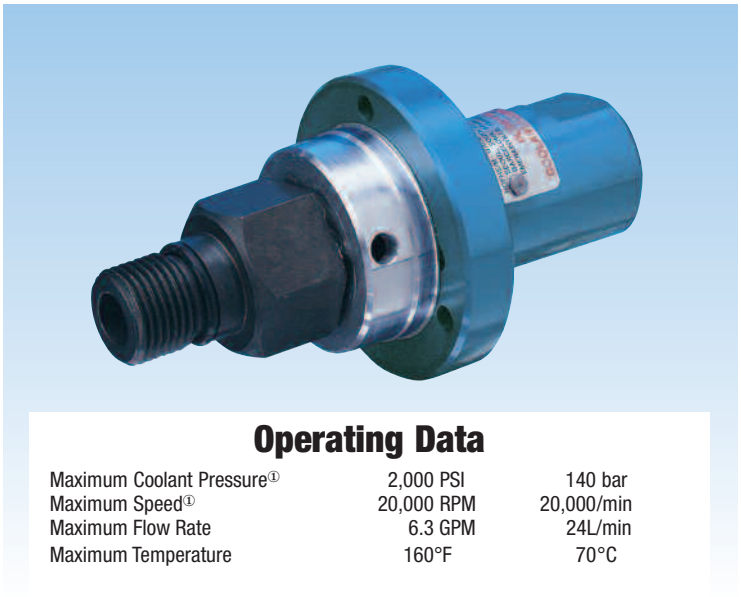
Note:

- 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

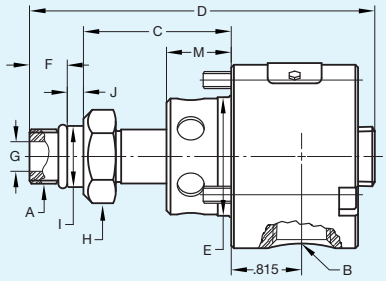
Maximum Coolant Pressure①	2,000 PSI	140 bar
Maximum Speed①	20,000 RPM	20,000/min
Maximum Flow Rate	6.3 GPM	24L/min
Maximum Temperature	160°F	70°C

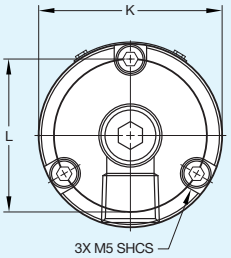
① Operation at maximum pressure combined with maximum speed is possible.

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.

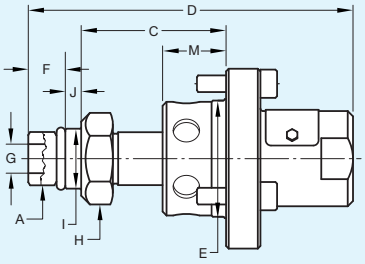
Type 1

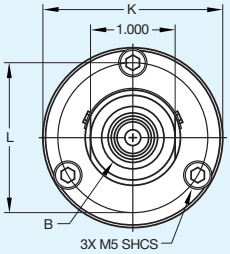




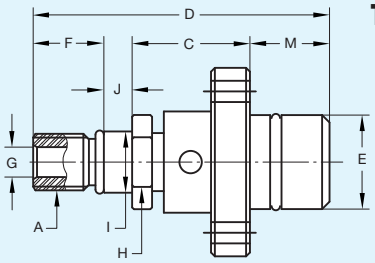
Spindle Tolerance:
- **18mm pilot – See page 51**
- **14mm pilot – consult *DEUBLIN***

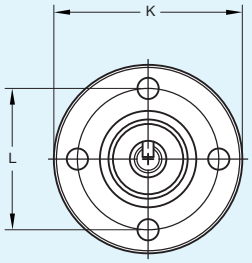
Type 2





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

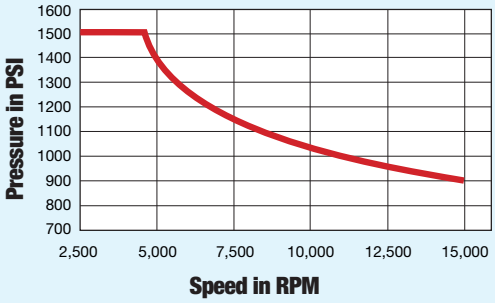
1101 Coolant Unions

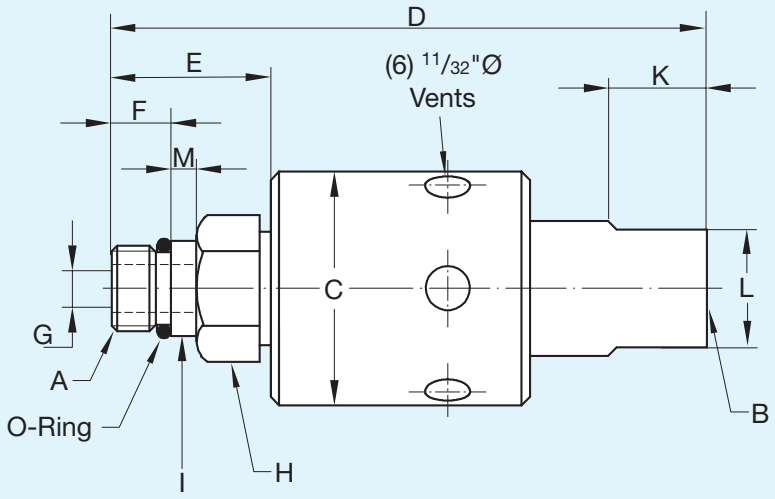
- monoflow design
- self-supported rotating union
- axial housing connection
- balanced mechanical seal
- seal combination:
  Silicon Carbide/Silicon Carbide
- slinger and vents protect bearings
- full-media flow
- anodized aluminum housing
- steel rotor

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

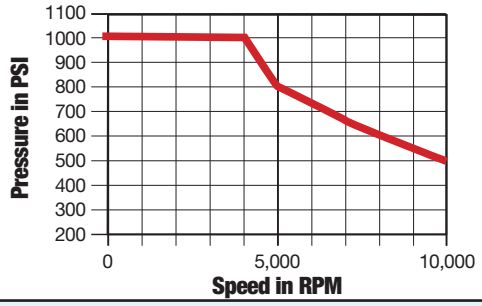
1116 Bearing Supported Coolant Unions

- 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

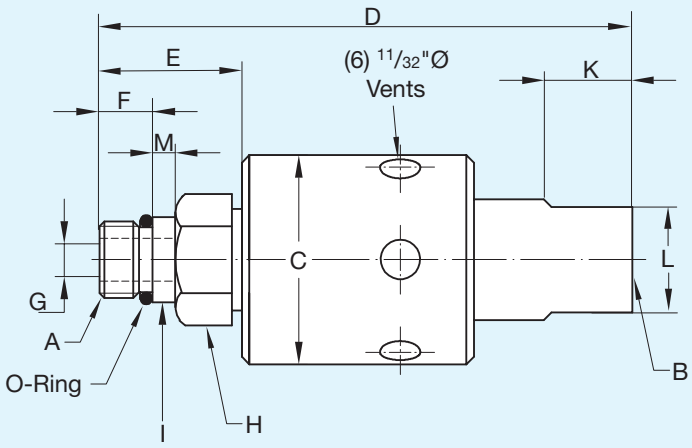
Operating Data

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

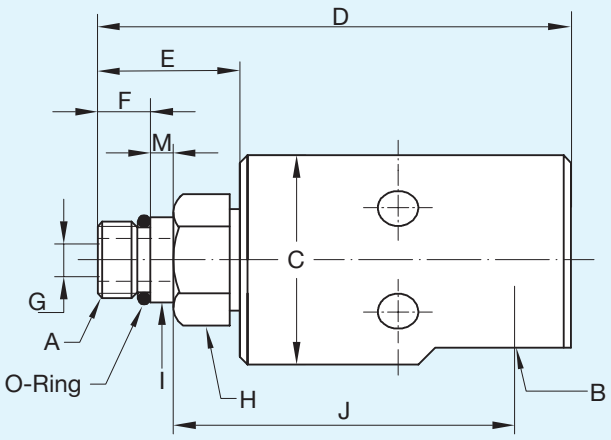
① Refer to graph for maximum pressure and speed combinations. If operating conditions are marginal, consult ***DEUBLIN***.



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

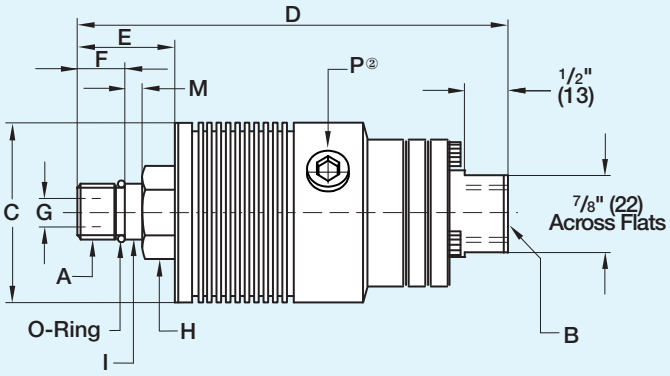
Operating Data

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

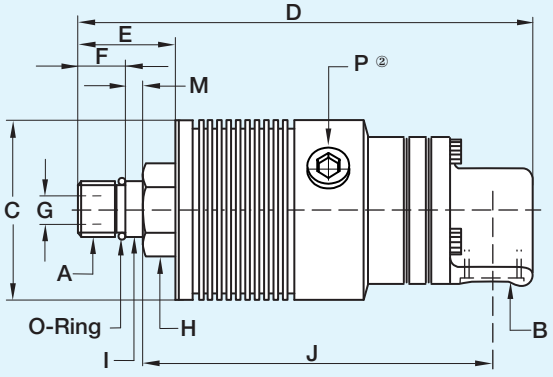
① Refer to Graph for maximum pressure and speed combination. If operating conditions are marginal, consult ***DEUBLIN***.

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

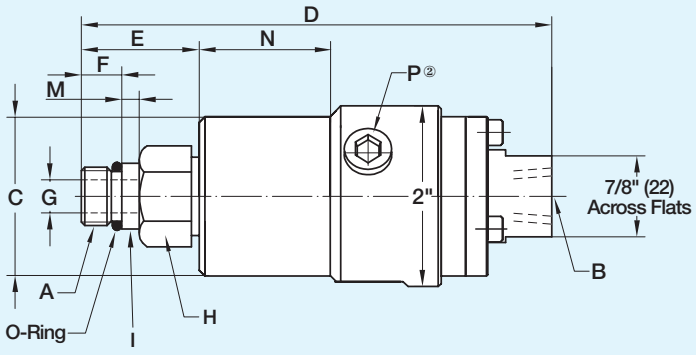


1109 90° Union

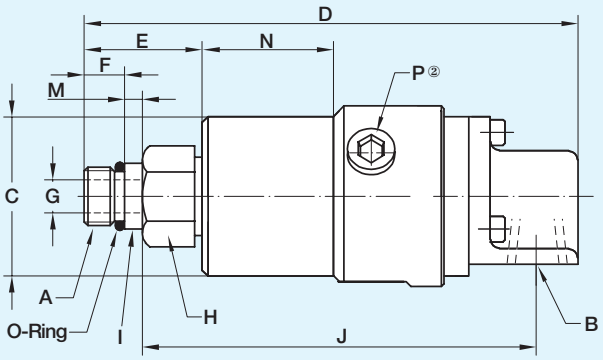


	B Port	Ordering Number	A Rotor Thread	C Dia.	D	E	F	G Rotor Hole	H Across Flats	I Pilot Dia.	J	M	P 3 x 120°	Shpg. Wt.
STRAIGHT THRU	¼" NPT	1109-014-196	5/8"-18 UNF LH	2 3/32"	5 7/32"	1 11/32"	9/16"	3/16"	15/16"	.6555" .6553"	–	3/16"	¼" NPT	1½#
	G¼" (BSP)	1109-024-212	M16 x 1.5 LH	53	129	31	11	5	24	17.993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

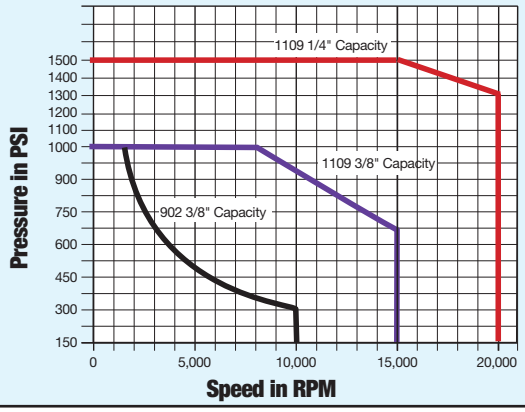


902 90° Union

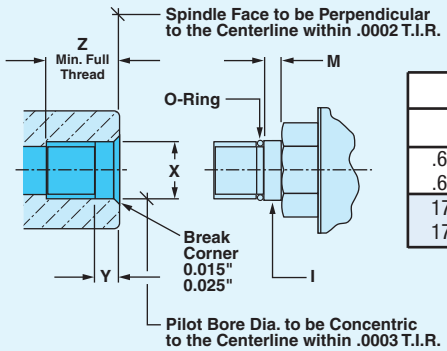


B Port		Ordering Number	A Rotor Thread	C Dia.	D	E	F	G Rotor Hole	H Across Flats	I Pilot Dia.	J	M	N	P 3 x 120°	Shpg. Wt.
STR	3/8" NPT	902-111-165	5/8"-18 UNF LH	1.723" 1.722"	5 7/32"	1 13/32"	9/16"	11/32"	15/16"	.6555" .6553"	–	3/16"	1½"	¼" NPT	1½#
	G3/8" (BSP)	902-121-188	M16 x 1.5 LH	43.760 43.735	129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

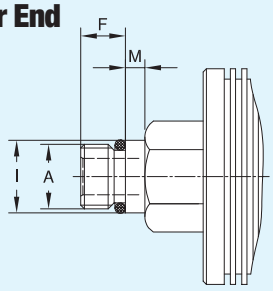
DEUBLIN Coolant Unions are manufactured to precise tolerances for smooth running without vibration or wobble. A critical factor is the accuracy of the spindle end to which the rotor connects. The interface must adhere to the DEUBLIN specifications.

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