DEUBLIN

Rotary Unions 57 Series
General Purpose, DN 10 – 50

- Monoflow and duoflow design
- Self-supported Rotary Union
- Radial housing connection
- Balanced mechanical seal
- Keyed rotor seal
- Easy and quick replacement of sealing components (rotor seal, floating seal)
- 3 vent holes
- Forged brass housing
- Stainless steel rotor
- Seal combination – standard: Carbon Graphite/Silicon Carbide
- Lubrication guide page 43

For further information please contact Deublin or your local representative.

Operating Data

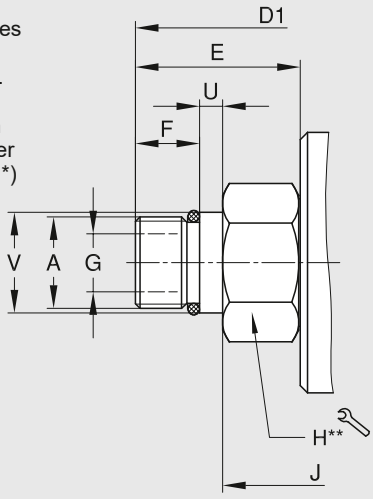
Max. Water Pressure	Model	57-357	750 PSI	50 bar
		527-657	300 PSI	20 bar
Max. Sat. Steam Pressure (interm.)		57-657	15 PSI	1 bar
Max. Hot Oil Pressure		57-657	100 PSI	6,6 bar
Max. Speed, Rotor with Straight Threads:	Model	57-257	3,500 rpm	3.500 min^{-1}
		357	3,000 rpm	3.000 min^{-1}
		527-557	2,500 rpm	2.500 min^{-1}
		657	750 rpm	750 min^{-1}
NPT Threads:	Model	57-557	1,500 rpm	1.500 min^{-1}
		657	750 rpm	750 min^{-1}
Max. Temperature	Model	57-657	250 °F	121 °C

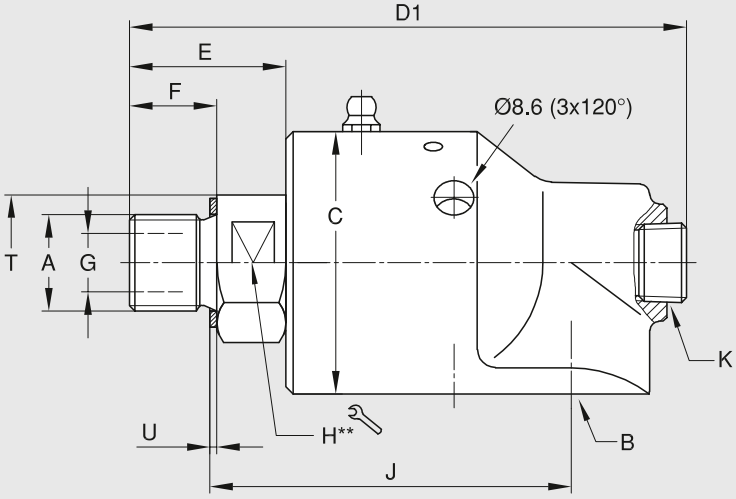
For higher temperature please consult Deublin.

Torque Ratings 57 Series		
DN	**ft.lbs**	**Nm**
10	0.18	0.25
15	0.37	0.50
20	0.74	1.00
25	1.48	2.00
32	1.62	2.20
40	2.14	2.90
50	3.32	4.50

Monoflow unions are used when supply and return lines are connected to opposite sides of the cylinder or roll.

Note: Recessed O-Ring in rotor end in place of Copper gasket (see table on pg. 6 *)

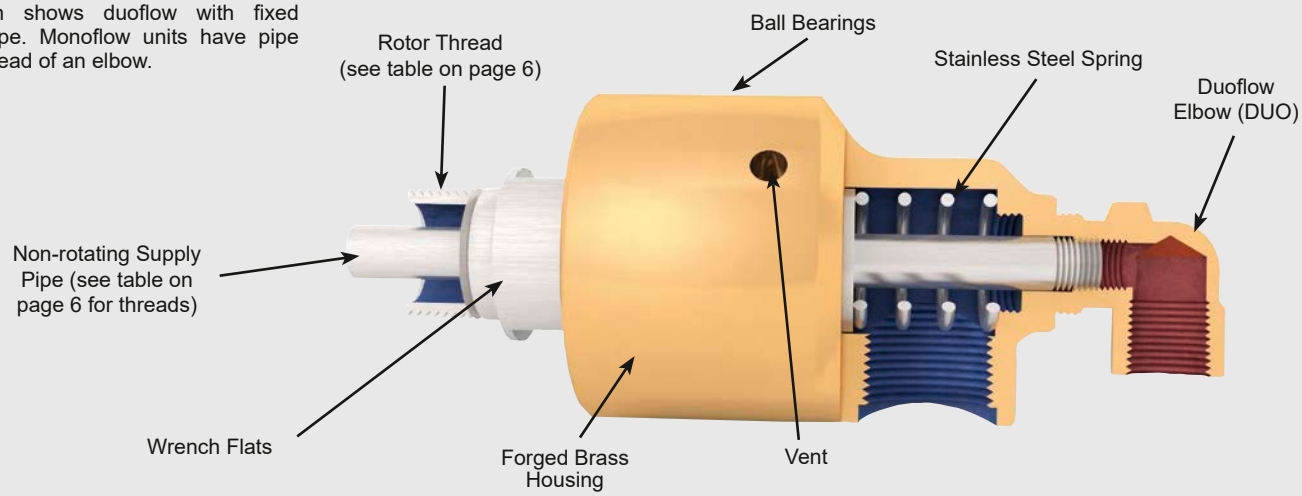




Pilot Type Rotor

** **DN 10 – 20 = hexagon**
DN 25 – 50 = two wrench flats

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

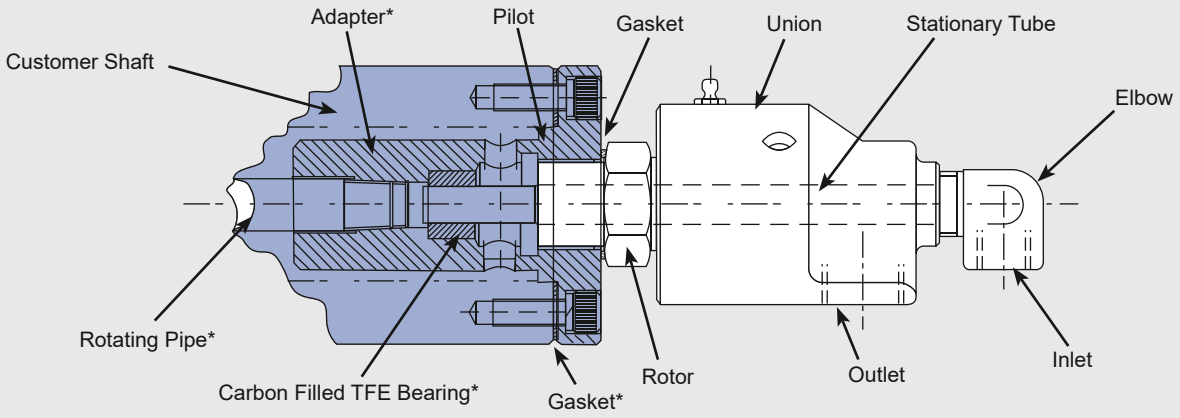


DN	B	Ordering-No STD	A Rotor-Connections		C Ø	D1	E	F	G Ø	H	J	K NPT	T	U	V Ø	kg
10	3/8 NPT	57-000-001	3/8 NPT	RH	45	100	26	16	9.5	22	71	1/4	–	–	–	0.6
	3/8 NPT	57-000-002	3/8 NPT	LH	45	100	26	16	9.5	22	71	1/4	–	–	–	0.6
	3/8 NPT	57-000-003	5/8-18 UNF	RH	45	100	26	16	9.5	22	67	1/4	–	1.6	–	0.6
	3/8 NPT	57-000-004	5/8-18 UNF	LH	45	100	26	16	9.5	22	67	1/4	–	1.6	–	0.6
	3/8 NPT	57-000-094	G 3/8	RH	45	100	26	16	9.5	22	67	1/4	–	1.6	–	0.6
	3/8 NPT	57-000-095	G 3/8	LH	45	100	26	16	9.5	22	67	1/4	–	1.6	–	0.6
	G 3/8	57-130-094	G 3/8	RH	45	100	26	16	9.5	22	67	1/4	–	1.6	–	0.6
	G 3/8	57-130-095	G 3/8	LH	45	100	26	16	9.5	22	67	1/4	–	1.6	–	0.6
15	1/2 NPT	157-000-001	1/2 NPT	RH	57	122	38	22	12.7	30	89.5	3/8	–	–	–	1.2
	1/2 NPT	157-000-002	1/2 NPT	LH	57	122	38	22	12.7	30	89.5	3/8	–	–	–	1.2
	1/2 NPT	157-000-021	3/4-16 UNF	RH	57	119	34	19	12.7	30	79	3/8	–	1.6	–	1.2
	1/2 NPT	157-000-022	3/4-16 UNF	LH	57	119	34	19	12.7	30	79	3/8	–	1.6	–	1.2
	1/2 NPT	157-000-151	G 1/2	RH	57	119	35	19	12.7	30	79	3/8	–	1.6	–	1.2
	1/2 NPT	157-000-152	G 1/2	LH	57	119	35	19	12.7	30	79	3/8	–	1.6	–	1.2
	G 1/2	157-130-151	G 1/2	RH	57	119	35	19	12.7	30	79	3/8	–	1.6	–	1.2
	G 1/2	157-130-152	G 1/2	LH	57	119	35	19	12.7	30	79	3/8	–	1.6	–	1.2
	G 1/2	157-130-738	M 20 x 1.5	RH	57	121	37	14	12.7	30	79	3/8	–	5	22g6	1.2
20	3/4 NPT	257-000-020	3/4 NPT	RH	73	139	37	22	17.5	32	103	1/2	35	–	–	2.1
	3/4 NPT	257-000-021	3/4 NPT	LH	73	139	37	22	17.5	32	103	1/2	35	–	–	2.1
	3/4 NPT	257-000-135*	1-14 UNS	RH	73	139	36	19	17.5	32	94	1/2	35	–	–	2.1
	3/4 NPT	257-000-284	G 3/4	RH	73	136	34	19	17.5	36	95	1/2	–	1.6	–	2.1
	3/4 NPT	257-000-285	G 3/4	LH	73	136	34	19	17.5	36	95	1/2	–	1.6	–	2.1
	G 3/4	257-130-014	M 35 x 1.5	RH	73	140	38	15	17.5	41	102	1/2	–	1.6	–	2.2
	G 3/4	257-130-048	M 27 x 1.5	RH	73	137	35	15	17.5	36	92	1/2	–	6	28g6	2.1
	G 3/4	257-130-284	G 3/4	RH	73	136	34	19	17.5	36	95	1/2	–	1.6	–	2.1
	G 3/4	257-130-285	G 3/4	LH	73	136	34	19	17.5	36	95	1/2	–	1.6	–	2.1
25	1 NPT	357-000-002	1 NPT	RH	83	173	49	29	25	36	117	3/4	45	–	–	3.1
	1 NPT	357-000-003	1 NPT	LH	83	173	49	29	25	36	117	3/4	45	–	–	3.1
	1 NPT	357-000-019	1 1/2-12 UNF	RH	83	173	49	29	25	36	108	3/4	45	1.6	–	3.1
	1 NPT	357-000-074	1 1/2-12 UNF	LH	83	173	46	29	25	36	108	3/4	45	1.6	–	3.1
	1 NPT	357-000-222	G 1	RH	83	163	42	22	25	36	108	3/4	45	1.6	–	3.1
	1 NPT	357-000-223	G 1	LH	83	163	42	22	25	36	108	3/4	45	1.6	–	3.1
	1 NPT	357-000-235	M 35 x 1.5	RH	83	157	36	15	25	36	108	3/4	45	1.6	–	3.1
	G 1	357-130-222	G 1	RH	83	163	42	22	25	36	108	3/4	45	1.6	–	3.1
	G 1	357-130-223	G 1	LH	83	163	42	22	25	36	108	3/4	45	1.6	–	3.1
	G1	357-130-235	M 35 x 1.5	RH	83	157	36	15	25	36	108	3/4	45	1.6	–	3.1
32	1 1/4 NPT	527-000-001	1 1/4 NPT	RH	91	191	57	29	31.8	46	134	1	57	–	–	4.1
	1 1/4 NPT	527-000-002	1 1/4 NPT	LH	91	191	57	29	31.8	46	134	1	57	–	–	4.1
	1 1/4 NPT	527-000-026	1 3/4-12 UN	RH	91	191	57	29	31.8	46	119	1	58	1.6	–	4.1
	1 1/4 NPT	527-000-027	1 3/4-12 UN	LH	91	191	57	29	31.8	46	119	1	58	1.6	–	4.1
	1 1/4 NPT	527-000-054	G 1 1/4	RH	91	189	54	28	31.8	46	119	1	58	1.6	–	4.1
	1 1/4 NPT	527-000-055	G 1 1/4	LH	91	189	54	28	31.8	46	119	1	58	1.6	–	4.1
	G 1 1/4	527-130-054	G 1 1/4	RH	91	189	54	28	31.8	46	119	1	58	1.6	–	4.1
	G 1 1/4	527-130-055	G 1 1/4	LH	91	189	54	28	31.8	46	119	1	58	1.6	–	4.1
	G 1 1/4	527-145-054	G 1 1/4	RH	91	189	54	28	31.8	46	119	1	58	1.6	–	4.1
40	1 1/2 NPT	557-000-001	1 1/2 NPT	RH	108	218	62	30	38	54	152	1 1/4	63.5	–	–	6.7
	1 1/2 NPT	557-000-002	1 1/2 NPT	LH	108	218	62	30	38	54	152	1 1/4	63.5	–	–	6.7
	1 1/2 NPT	557-000-395	2-12 UN	RH	108	228	72	29	38	54	149	1 1/4	65	1.6	–	6.7
	1 1/2 NPT	557-000-396	2-12 UN	LH	108	228	72	29	38	54	149	1 1/4	65	1.6	–	6.7
	1 1/2 NPT	557-000-198	G 1 1/2	RH	108	228	72	29	38	55	149	1 1/4	65	1.6	–	6.7
	1 1/2 NPT	557-000-199	G 1 1/2	LH	108	228	72	29	38	55	149	1 1/4	65	1.6	–	6.7
	G 1 1/2	557-130-198	G 1 1/2	RH	108	228	72	29	38	55	149	1 1/4	65	1.6	–	6.7
	G 1 1/2	557-130-199	G 1 1/2	LH	108	228	72	29	38	55	149	1 1/4	65	1.6	–	6.7
50	2 NPT	657-000-116	2 NPT	RH	118	257	74	38	47.6	60	185	1 1/4	70	–	–	7.6
	2 NPT	657-000-117	2 NPT	LH	118	257	74	38	47.6	60	185	1 1/4	70	–	–	7.6
	2 NPT	657-000-124	G 2	RH	118	248	65	29	47.6	60	165	1 1/4	70	1.6	–	7.6
	2 NPT	657-000-125	G 2	LH	118	248	65	29	47.6	60	165	1 1/4	70	1.6	–	7.6
	G 2	657-130-124	G 2	RH	118	248	65	29	47.6	60	165	1 1/4	70	1.6	–	7.6
	G 2	657-130-125	G 2	LH	118	248	65	29	47.6	60	165	1 1/4	70	1.6	–	7.6

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.

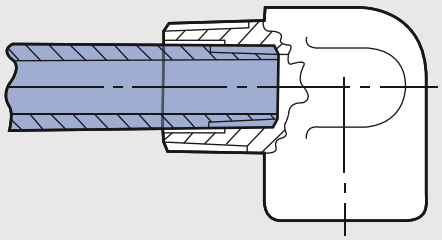
Where long pipes or high speeds are required, an adapter should be used to avoid transmitting stresses from heavy pipes, cascading water or vibrations to the union. A typical adapter is illustrated.



* Supplied by customer.

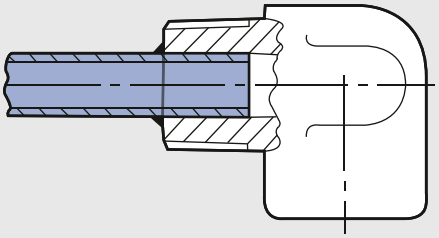
Threaded Pipe

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 1,000 RPM should be avoided.



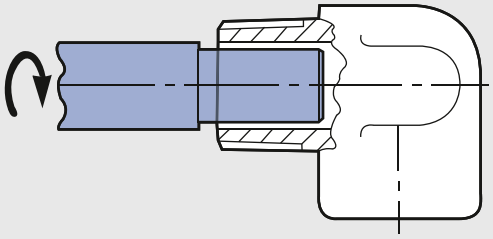
Fixed Tube

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 lengths is usually limited to 6 union lengths (6 x D1). Speeds to 3,500 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 1,000 RPM should be avoided.

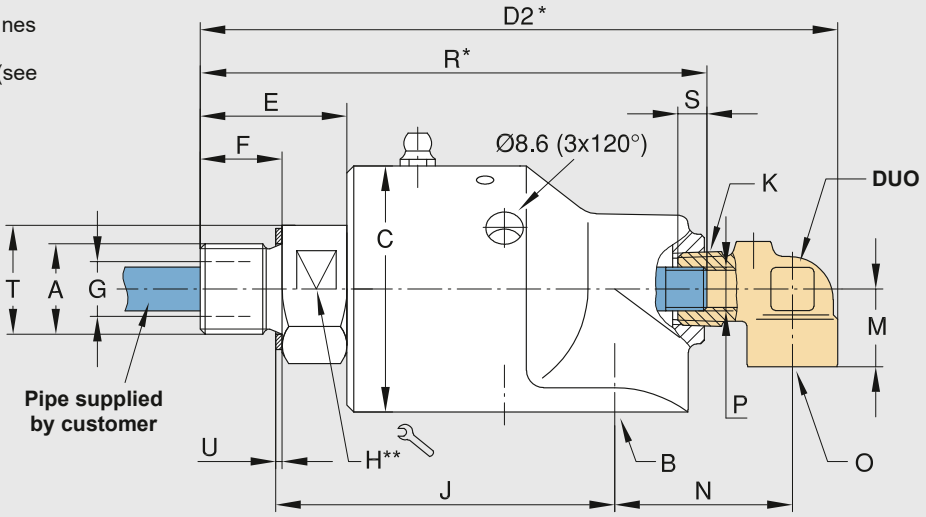


57 Series – Elbows DN 10 – 50 for Fixed, Threaded Supply Pipe

Duoflow unions are used when supply and return lines are connected to one side of the cylinder or roll;
non-supported pipe lengths no longer than 4 x D1 (see page 5 and 6);
max. speed 1,000 RPM; for higher speeds divided supply pipes must be used.

For Rotary Unions with pilot rotor, additional basic models and weight refer to page 6.

* Values are based on the NPT RH models. Refer to difference in E values on page 6 for length on other models or IC drawings on Deublin's website.



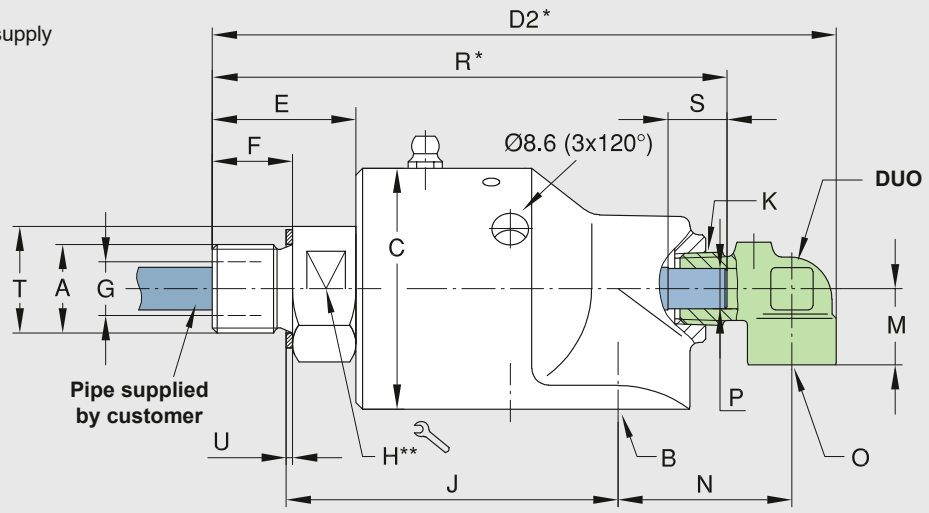
**** DN 10 – 20 = hexagon**
DN 25 – 50 = two wrench flats

57 Series – Elbows DN 10 – 50 for Rotating Supply Pipe

Duoflow unions are used when supply and return lines are connected to one side of the cylinder or roll;
max. speed 1,000 RPM; for higher speeds divided supply pipes must be used.

For Rotary Unions with pilot rotor, additional basic models and weight refer to page 6.

* Values are based on the NPT RH models. Refer to difference in E values on page 6 for length on other models or IC drawings on Deublin's website.

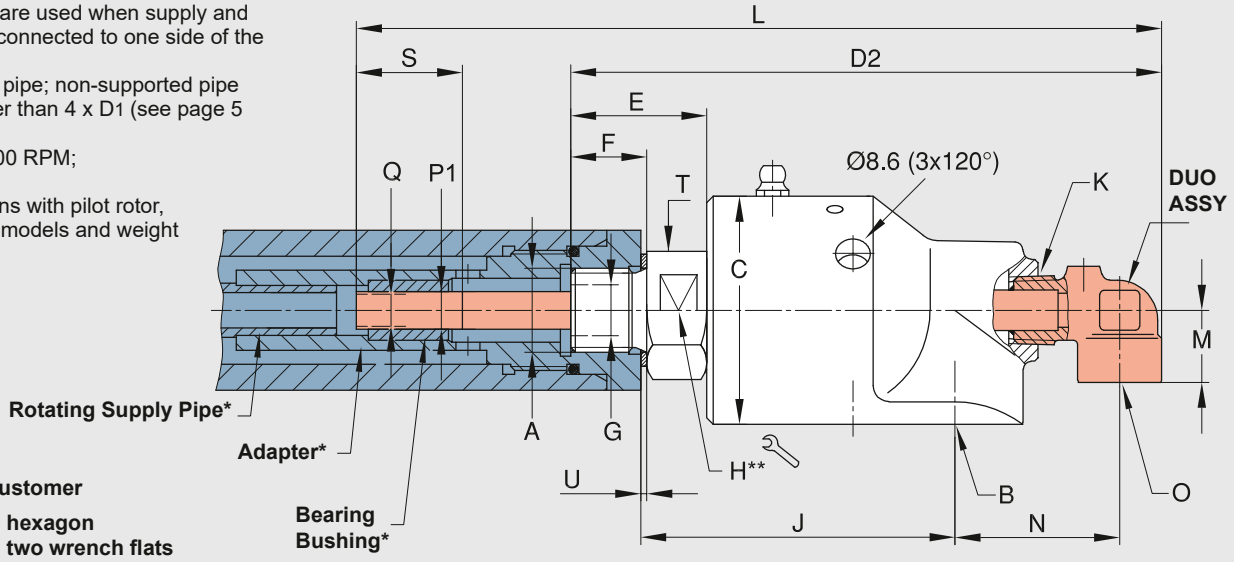


**** DN 10 – 20 = hexagon**
DN 25 – 50 = two wrench flats

57 Series – Elbows DN 10 – 50 with Divided Siphon Pipe (soldered)

Duoflow unions are used when supply and return lines are connected to one side of the cylinder or roll;
soldered supply pipe; non-supported pipe lengths no longer than 4 x D1 (see page 5 and 6);
max. speed 3,500 RPM;

For Rotary Unions with pilot rotor, additional basic models and weight refer to page 6.



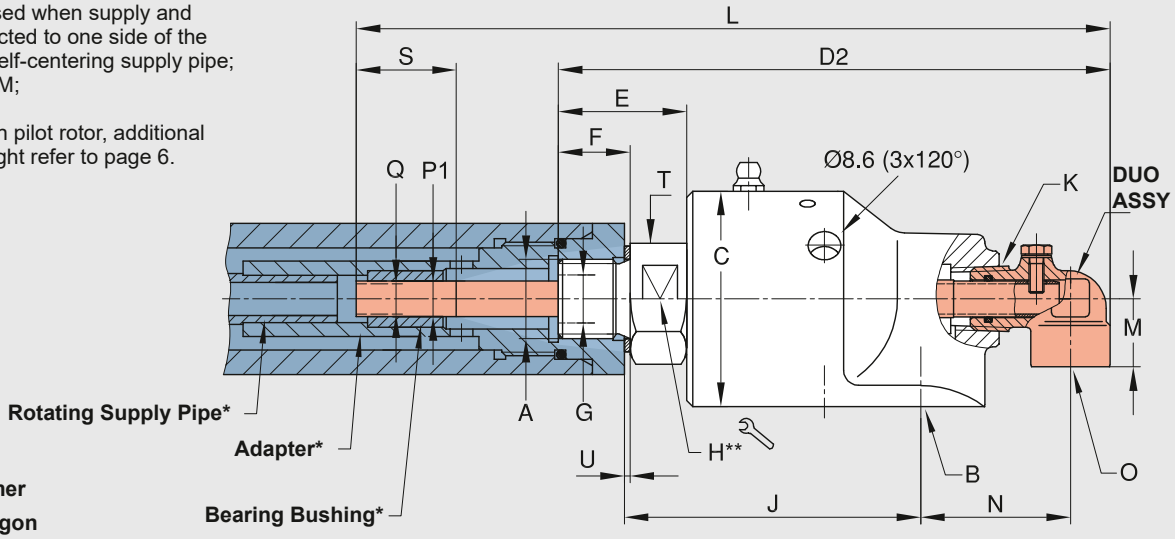
*** supplied by customer**

**** DN 10 – 20 = hexagon**
DN 25 – 50 = two wrench flats

57 Series – Elbows DN 10 – 50 with Flexible, Self-Centering Supply Pipe

Duoflow unions are used when supply and return lines are connected to one side of the cylinder or roll; fixed self-centering supply pipe; max. speed 3,500 RPM;

For Rotary Unions with pilot rotor, additional basic models and weight refer to page 6.



*** supplied by customer**

**** DN 10 – 20 = hexagon**
DN 25 – 50 = two wrench flats

Elbows 57 Series

DN	O	fixed, threaded				rotating				divided	+ self-centering							
		Ordering No. DUO	P Pipe	R	S	Ordering No. DUO	P Ød11	R	S	Ordering No. DUO	Ordering No. DUO	L	P1 Ø H9	Q	S	D_2	M	N
10	G ¼	55-121	M 6	98	8	55-807	5.8	98	20	55-843	–	171	6	5	60	124	18	33
	¼ NPT	55-120	M 6	98	8	55-446	5.8	98	20	55-030	–	171	6	5	55	124	18	33
	¼ NPT	–	–	–	–	–	–	–	–	55-445	–	171	6	5	60	124	18	33
15	G ⅜	155-581	G ⅛	118	8	155-709	9.8	116	30	150-232	155-981	201	10	8	60	147	18	40
	⅜ NPT	155-012	⅛ NPT	120	5.5	155-061	9.8	120	30	–	–	–	–	–	–	147	18	40
	⅜ NPT	155-199	G ⅛	117	8	155-471	9.8	117	30	155-470	155-797	201	10	8	60	147	18	40
20	G ½	251-351	G ¼	134	12	251-352	12.8	112	32	251-551	251-371	208	13	11	60	170	26	46
	½ NPT	250-043	¼ NPT	134	7.9	250-075	12.8	138	32	–	–	–	–	–	–	170	26	46
	½ NPT	250-044	⅛ NPT	134	5.5	250-681	12.8	135	32	250-026	–	208	12.5	11	60	170	26	46
	½ NPT	250-367	G ⅛	134	5.5	–	–	–	–	250-680	250-994	208	13	11	60	170	26	46
	½ NPT	250-368	G ¼	135	12	–	–	–	–	–	–	–	–	–	–	170	26	46
25	G ½	350-912	G ⅜	160	12	350-772	15.8	153	35	350-990	351-173	272	16	14	60	204	28	59
	½ NPT	350-083	⅜ NPT	166	20.9	350-163	15.8	166	32	350-366	350-974	272	16	14	60	204	28	59
	½ NPT	350-084	¼ NPT	169	20.6	350-347	15.8	160	35	–	–	–	–	–	–	204	28	59
	½ NPT	350-255	G ⅜	160	12	–	–	–	–	–	–	–	–	–	–	204	28	59
32	G ¾	525-594	G ½	189	14	525-480	21.8	185	40	525-931	525-926	285	22	20	60	237	35	72
	¾ NPT	525-007	½ NPT	189	10.8	525-104	19.02	187	38	525-236	525-592	285	22	20	60	237	35	72
	¾ NPT	525-079	G ½	185	14	525-237	21.8	185	40	–	–	–	–	–	–	237	35	72
40	G ¾	451-171	G ¾	220	16	451-173	25.8	213	44	451-274	451-175	319	26	24	60	262	38	76
	¾ NPT	450-013	¾ NPT	220	11.3	450-144	25.8	220	44	450-263	–	319	26	24	60	262	38	76
	¾ NPT	450-036	½ NPT	230	10.8	450-468	25.8	220	44	450-467	451-162	319	26	24	60	262	38	76
	¾ NPT	450-221	G ¾	220	16	–	–	–	–	–	–	–	–	–	–	262	38	76
50	¾ NPT	450-013	¾ NPT	260	11.3	–	–	–	–	–	–	–	–	–	–	298	38	78
	G 1 ¼	450-534	G 1	261	26	450-612	32.1	240	52	655-174	655-707	382	34	31	60	316	45	96
	1 NPT	450-183	1 NPT	265	34.2	–	–	–	–	–	–	–	–	–	–	316	45	96
	1 ¼ NPT	451-242	G 1	255	19.5	450-625	31.8	240	52	655-966	655-968	382	34	31	60	316	45	96