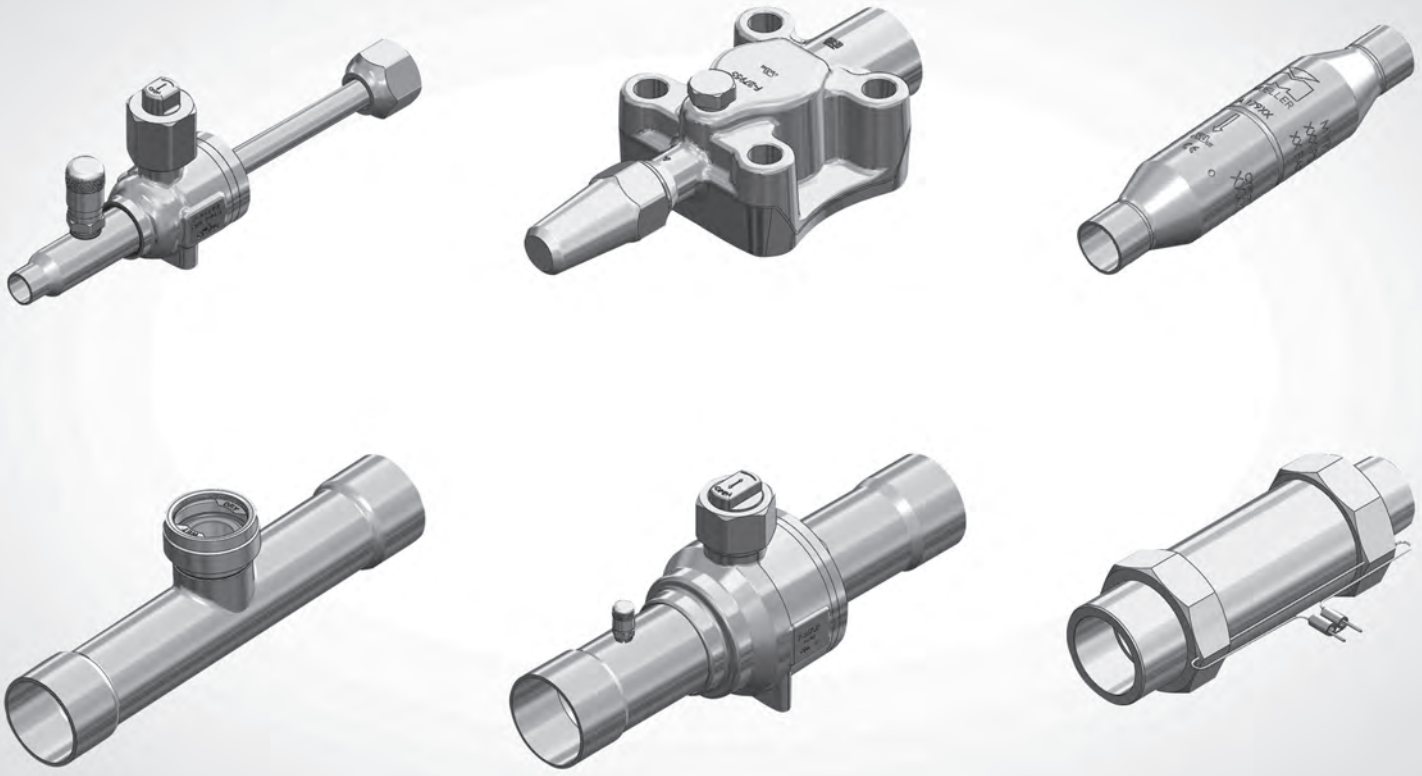
Streamline®

Tube • Fittings • Valves



REFRIGERATION PRODUCTS
TECHNICAL CATALOG

A BRAND OF MUELLER INDUSTRIES

Mission

We are a quality manufacturer and supplier of refrigerant valves, components, and value-added assemblies to the HVAC and refrigeration market.

We will be a global supplier of diversified valves, components, and value-added assemblies achieving growth and top performance through:
Excellent customer service.
Creative and innovative advancements, and
Maximizing our core manufacturing capabilities.

"RELENTLESS PURSUIT OF EXCELLENCE"

Sales/Customer Service

Mueller Streamline Co.
8285 Tournament Drive, Suite 150
Memphis, TN 38125
Phone: 800-846-9750
www.muellerindustries.com

Table of Contents

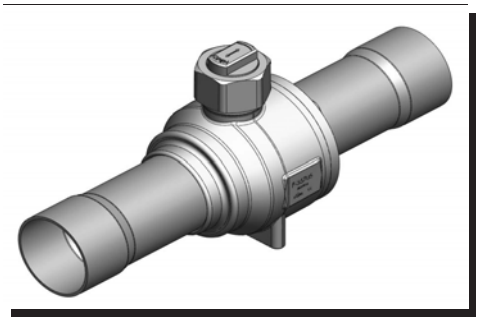
Table of Contents

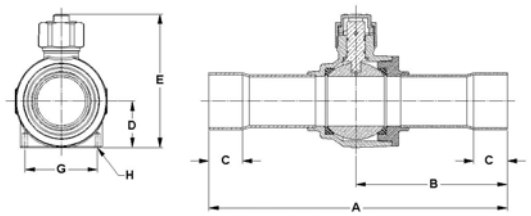
CYCLEMASTER® Ball Valves

Standard

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Full port construction to match line size ID
- Internally equalized ball design
- Rupture-proof encapsulated stem
- MCM™ Seal Technology
- UL/cUL Listed, CE Certified





References

*	Reduced Port
**	Where Applicable
***	Consult Factory
‡	Standard product offering includes drilled/ tapped feature
Prefix AP	Drilled/ tapped

Dimensions

Part Number		Size	Cv	A (in)	B (in)	C (in) Min	D (in)	E (in)	G (in) **	H **	Port (in)	Wt(lb)	Seal Cap Kit
AP17859	‡	1/4	1.0	5.47	2.97	0.31	0.65	2.53	0.87	M4 X 0.7	0.50	0.67	A 17842
AP17860C	‡	3/8	4.3	5.50	3.00	0.31	0.65	2.53	0.87	M4 X 0.7	0.50	0.66	A 17842
AP17861C	‡	1/2	6.2	6.35	3.41	0.38	0.65	2.53	0.87	M4 X 0.7	0.50	0.68	A 17842
AP17862C	‡	5/8	12.1	6.35	3.41	0.5	0.65	2.53	0.87	M4 X 0.7	0.50	0.68	A 17842
AP17863	‡	3/4	19.0	7.45	3.89	0.62	0.88	3.08	1.18	M4 X 0.7	0.75	1.42	A 17843
AP17864C	‡	7/8	27.5	7.45	3.89	0.75	0.88	3.08	1.18	M4 X 0.7	0.75	1.43	A 17843
AP17865A	‡	1 1/8	54.0	8.42	4.21	0.91	1.00	3.28	1.50	M4 X 0.7	1.00	1.58	A 17843
A 17866		1 3/8	89.1	10.00	5.00	0.97	1.28	3.94	1.89	M6 X 1.0	1.25	3.26	A 17844
A 17867		1 5/8	114.0	11.00	5.50	1.09	1.42	4.58	2.17	M6 X 1.0	1.50	4.70	A 17845
A 17868		2 1/8	244.0	12.00	6.08	1.34	1.86	5.34	2.91	M6 X 1.0	2.00	8.02	A 17845
A 17869		2 5/8	401.0	13.50	6.80	1.47	2.22	6.25			2.45	13.40	A 17846
A 17870		3 1/8	553.0	16.00	8.00	1.66	2.69	7.07			3.00	21.31	A 17846
A 17871	*	2 5/8	230.0	12.00	6.08	1.47	1.86	5.34	2.91	M6 X 1.0	2.00	8.46	A 17845
A 17872	*	3 1/8	143.0	12.00	6.08	1.66	1.86	5.34	2.91	M6 X 1.0	2.00	9.12	A 17845
B 34909	***	3 5/8		13.10	6.50	1.91	2.69	7.07			3.00	22.80	A 17846
B 34910	***	4 1/8		14.50	7.20	2.16	2.69	7.07			3.00	21.00	A 17846

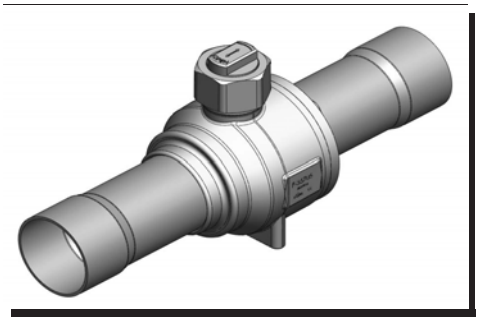
RoHS Compliant. Comply with ISO 9001 Standards.

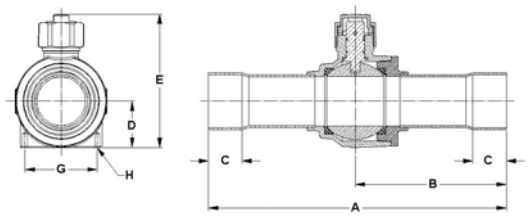
CYCLEMASTER® Ball Valves

Standard

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Full port construction to match line size ID
- Internally equalized ball design
- Rupture-proof encapsulated stem
- MCM™ Seal Technology
- UL/cUL Listed, CE Certified





References	
*	Reduced Port
**	Where Applicable
***	Consult Factory
‡	Standard product offering includes drilled/ tapped feature
Prefix AP	Drilled/ tapped

Metric Dimensions

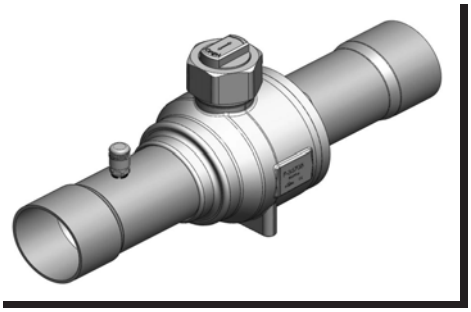
Part Number		Size	Kv	A (mm)	B (mm)	C (mm) Min	D (mm)	E (mm)	G (mm) **	H **	Port (mm)	Wt(kg)	Seal Cap Kit
AP17859	‡	6	0.9	139	75	8	17	64	22	M4 X 0.7	13	0.30	A 17842
AP17860C	‡	10	3.7	140	76	8	17	64	22	M4 X 0.7	13	0.30	A 17842
AP17861C	‡	13	5.4	161	87	10	17	64	22	M4 X 0.7	13	0.31	A 17842
AP17862C	‡	16	10.5	161	87	13	17	64	22	M4 X 0.7	13	0.31	A 17842
AP17863	‡	19	16.4	189	99	16	22	78	30	M4 X 0.7	19	0.64	A 17843
AP17864C	‡	22	23.8	189	99	19	22	78	30	M4 X 0.7	19	0.65	A 17843
AP17865A	‡	29	46.7	214	107	23	25	83	38	M4 X 0.7	25	0.72	A 17843
A 17866		35	77.1	254	127	25	33	100	48	M6 X 1.0	32	1.48	A 17844
A 17867		41	98.6	279	140	28	36	116	55	M6 X 1.0	38	2.13	A 17845
A 17868		54	211.0	305	154	34	47	136	74	M6 X 1.0	51	3.64	A 17845
A 17869		67	346.8	343	173	37	56	159			62	6.08	A 17846
A 17870		79	478.3	406	203	42	68	180			76	9.67	A 17846
A 17871	*	67	198.9	305	154	37	47	136	74	M6 X 1.0	51	3.84	A 17845
A 17872	*	79	123.7	305	154	42	47	136	74	M6 X 1.0	51	4.13	A 17845
B 34909	***	92		333	165	49	68	180			76	10.34	A 17846
B 34910	***	105		368	183	55	68	180			76	9.53	A 17846

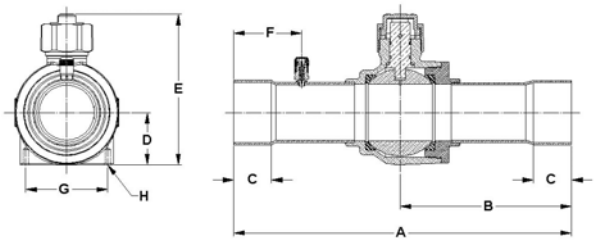
CYCLEMASTER® Ball Valves

Standard With Access Port

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Full port construction to match line size ID
- Internally equalized ball design
- Rupture-proof encapsulated stem
- MCM™ Seal Technology
- UL/cUL Listed, CE Certified





References

*	Reduced Port
**	Where Applicable
***	Consult Factory
‡	Standard product offering includes drilled/ tapped feature
Prefix AQ	Drilled/ tapped

Dimensions

Part Number		Size	Cv	A (in)	B (in)	C (in) Min	D (in)	E (in)	F (in)	G (in)**	H **	Port (in)	Wt(lb)	Seal Cap Kit
AQ17859	‡	1/4	1.00	5.47	2.97	0.31	0.65	2.53	1.16	0.87	M4 X 0.7	0.50	0.72	A 17842
AQ17860C	‡	3/8	4.30	5.50	3.00	0.31	0.65	2.53	1.16	0.87	M4 X 0.7	0.50	0.69	A 17842
AQ17861C	‡	1/2	6.20	6.35	3.41	0.38	0.65	2.53	1.21	0.87	M4 X 0.7	0.50	0.71	A 17842
AQ17862C	‡	5/8	12.10	6.35	3.41	0.50	0.65	2.53	1.35	0.87	M4 X 0.7	0.50	0.72	A 17842
AQ17863	‡	3/4	19.00	7.45	3.89	0.62	0.88	3.08	1.47	1.18	M4 X 0.7	0.75	1.43	A 17843
AQ17864C	‡	7/8	27.50	7.45	3.89	0.75	0.88	3.08	1.60	1.18	M4 X 0.7	0.75	1.46	A 17843
AQ17865A	‡	1 1/8	54.00	8.42	4.21	0.91	1.00	3.28	1.74	1.50	M4 X 0.7	1.00	1.56	A 17843
AC17866		1 3/8	89.10	10.00	5.00	0.97	1.28	3.94	2.04	1.89	M6 X 1.0	1.25	3.27	A 17844
AC17867		1 5/8	114.00	11.00	5.50	1.09	1.42	4.58	2.25	2.17	M6 X 1.0	1.50	4.78	A 17845
AC17868		2 1/8	244.00	12.00	6.08	1.34	1.86	5.34	2.41	2.91	M6 X 1.0	2.00	8.09	A 17845
AC17869		2 5/8	401.00	13.50	6.80	1.47	2.22	6.25	2.85			2.45	13.81	A 17846
AC17870		3 1/8	553.00	16.00	8.00	1.66	2.69	7.07	3.41			3.00	21.42	A 17846
AC17871	*	2 5/8	230.00	12.00	6.08	1.47	1.86	5.34	2.48	2.91	M6 X 1.0	2.00	8.71	A 17845
AC17872	*	3 1/8	143.00	12.00	6.08	1.66	1.86	5.34	2.66	2.91	M6 X 1.0	2.00	9.23	A 17845

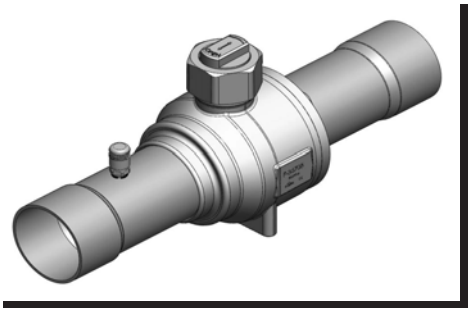
RoHS Compliant. Comply with ISO 9001 Standards.

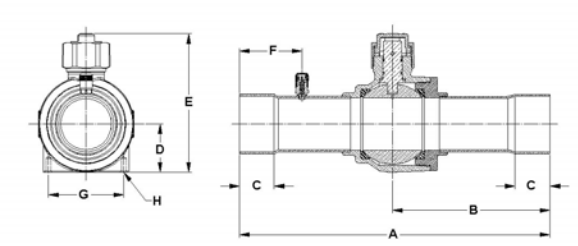
CYCLEMASTER® Ball Valves

Standard With Access Port

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Full port construction to match line size ID
- Internally equalized ball design
- Rupture-proof encapsulated stem
- MCM™ Seal Technology
- UL/cUL Listed, CE Certified





References	
*	Reduced Port
**	Where Applicable
***	Consult Factory
‡	Standard product offering includes drilled/ tapped feature
Prefix AQ	Drilled/ tapped

Metric Dimensions

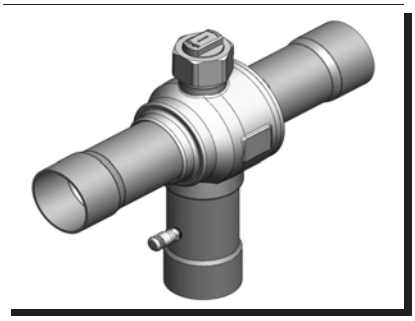
Part Number		Size	Kv	A (mm)	B (mm)	C (mm) Min	D (mm)	E (mm)	F (mm)	G (mm)**	H **	Port (mm)	Wt(kg)	Seal Cap Kit
AQ17859	‡	6	0.9	139	75	8	17	64	29	22	M4 X 0.7	13	0.33	A 17842
AQ17860C	‡	10	3.7	140	76	8	17	64	29	22	M4 X 0.7	13	0.31	A 17842
AQ17861C	‡	13	5.4	161	87	10	17	64	31	22	M4 X 0.7	13	0.32	A 17842
AQ17862C	‡	16	10.5	161	87	13	17	64	34	22	M4 X 0.7	13	0.33	A 17842
AQ17863	‡	19	16.4	189	99	16	22	78	37	30	M4 X 0.7	19	0.65	A 17843
AQ17864C	‡	22	23.8	189	99	19	22	78	41	30	M4 X 0.7	19	0.66	A 17843
AQ17865A	‡	29	46.7	214	107	23	25	83	44	38	M4 X 0.7	25	0.71	A 17843
AC17866		35	77.1	254	127	25	33	100	52	48	M6 X 1.0	32	1.48	A 17844
AC17867		41	98.6	279	140	28	36	116	57	55	M6 X 1.0	38	2.17	A 17845
AC17868		54	211.0	305	154	34	47	136	61	74	M6 X 1.0	51	3.67	A 17845
AC17869		67	346.8	343	173	37	56	159	72			62	6.26	A 17846
AC17870		79	478.3	406	203	42	68	180	87			76	9.72	A 17846
AC17871	*	67	198.9	305	154	37	47	136	63	74	M6 X 1.0	51	3.95	A 17845
AC17872	*	79	123.7	305	154	42	47	136	68	74	M6 X 1.0	51	4.18	A 17845

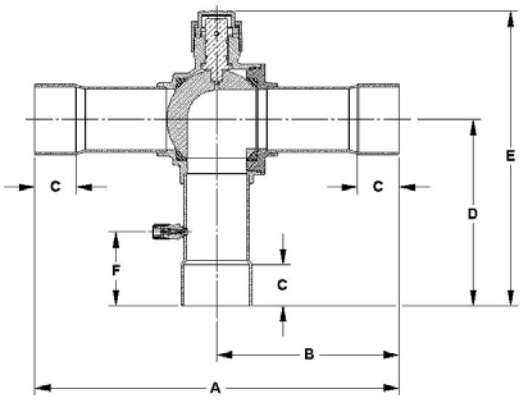
CYCLEMASTER® Ball Valves

3-Way

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Full port construction to match line size ID
- Internally equalized ball design
- Rupture-proof encapsulated stem
- MCM™ Seal Technology
- UL/cUL Listed, CE Certified





References

* Reduced Port

Dimensions

Part Number	Size	Cv	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Port (in)	Wt(lb)	Seal Cap Kit
AU17860	3/8	2.2	5.50	2.97	0.31	2.61	4.16	1.16	0.50	0.73	A 17842
AU17861	1/2	3.9	6.38	3.42	0.38	3.05	4.60	1.21	0.50	0.74	A 17842
AU17862	5/8	4.6	6.38	3.42	0.50	3.05	4.60	1.35	0.50	0.74	A 17842
AU17863	3/4	11.9	7.47	3.91	0.62	3.65	5.86	1.47	0.75	1.40	A 17843
AU17864	7/8	10.9	7.47	3.91	0.75	3.65	5.86	1.60	0.75	1.52	A 17843
AU17865	1 1/8	19.3	8.41	4.33	0.91	4.01	6.39	1.74	1.00	2.82	A 17844
A 17545	1 3/8	31.1	10.00	5.07	0.97	4.92	7.89	2.04	1.25	4.97	A 17845
A 17546	1 5/8	44.7	11.00	5.53	1.09	5.46	8.61	2.25	1.50	7.17	A 17845
AU17868	2 1/8	76.3	11.86	5.95	1.34	6.06	9.58	2.41	1.93	8.27	A 17845
AU17871 *	2 5/8	69.9	11.90	5.97	1.47	6.08	9.60	2.48	1.93	8.80	A 17845
AU17872 *	3 1/8	58.2	11.86	5.95	1.66	6.06	9.58	2.66	1.93	11.10	A 17845

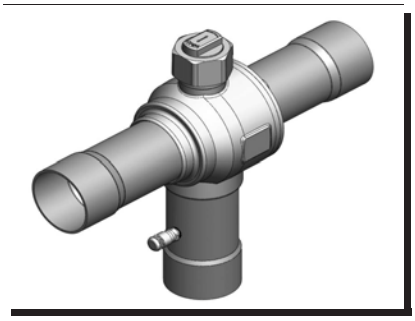
RoHS Compliant. Comply with ISO 9001 Standards.

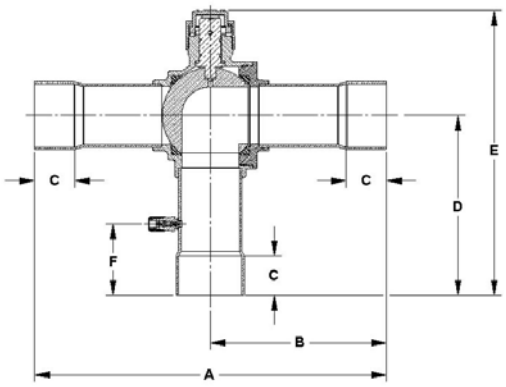
CYCLEMASTER® Ball Valves

3-Way

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Full port construction to match line size ID
- Internally equalized ball design
- Rupture-proof encapsulated stem
- MCM™ Seal Technology
- UL/cUL Listed, CE Certified





References

* Reduced Port

Metric Dimensions

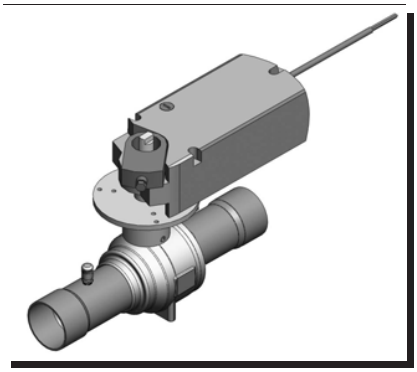
Part Number	Size	Kv	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Port (mm)	Wt(kg)	Seal Cap Kit
AU17860	10	1.9	140	75	8	66	106	29	13	0.33	A 17842
AU17861	13	3.4	162	87	10	77	117	31	13	0.33	A 17842
AU17862	16	4.0	162	87	13	77	117	34	13	0.34	A 17842
AU17863	19	10.3	190	99	16	93	149	37	19	0.64	A 17843
AU17864	22	9.4	190	99	19	93	149	41	19	0.69	A 17843
AU17865	29	16.7	214	110	23	102	162	44	25	1.28	A 17844
A 17545	35	26.9	254	129	25	125	200	52	32	2.25	A 17845
A 17546	41	38.7	279	140	28	139	219	57	38	3.25	A 17845
AU17868	54	66.0	301	151	34	154	243	61	49	3.75	A 17845
AU17871 *	67	60.4	302	152	37	154	244	63	49	3.99	A 17845
AU17872 *	79	50.3	301	151	42	154	243	68	49	5.03	A 17845

CYCLEMASTER® Ball Valves

Actuated Standard

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Power Supply: 24 VAC
- Ambient Temperature: -22°F to 130°F, -30°C to 54°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Full shutoff capability
- Gradual open/close stops line hammer
- Remote operating capability
- Removable actuator for quick change replacement
- Manual override and valve positioning
- Electronic overload protection
- UL/cUL Listed, CE Certified

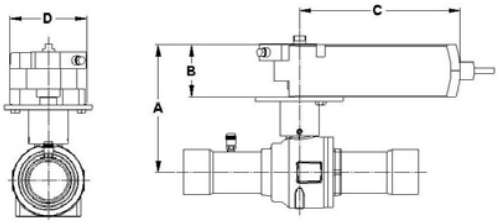


Motor Specifications

Motor Series	Torque (in-lb)	Power Consumption	Running Time (seconds)
1	44	2.5	90
2	132	3.0	125
3	310	7	125
4 **	620	16	125

References

*	Reduced Port
**	Consists of two stacked motors operating in tandem
Prefix AWS	Actuator includes auxillary switch
Warning	Heater assembly required for low temperature applications
Warning	Motors not for use in wet or applications where moisture will condense on motor



Dimensions

Part Number		Size (in)	Size (mm)	Cv	Kv	A (in)	A (mm)	B (in)	B (mm)	C (in)	C (mm)	D (in)	D (mm)	Wt (lb)	Wt (kg)	Motor	Hub	Act. Kit	Heater
AW17861		1/2	13	6.2	5.4	4.18	106	2.36	60	3.70	94	2.76	70	2.21	1.00	1	A 18389	A 18390	
AW17862		5/8	16	12.1	10.5	4.18	106	2.36	60	3.70	94	2.76	70	2.38	1.08	1	A 18389	A 18390	
AW17863		3/4	19	19.0	16.4	4.50	114	2.36	60	3.70	94	2.76	70	2.84	1.29	1	A 18391	A 18392	
AW17864		7/8	22	27.5	23.8	4.50	114	2.36	60	3.70	94	2.76	70	2.97	1.34	1	A 18391	A 18392	
AW17865A		1 1/8	29	54.0	46.7	4.58	116	2.36	60	3.70	94	2.76	70	3.07	1.39	1	A 18391	A 18392	
AW17866		1 3/8	35	89.1	77.1	5.19	132	2.36	60	5.91	150	3.19	81	6.14	2.79	2	A 18393	A 18394	A 18366
AW17867		1 5/8	41	114.0	98.6	5.92	150	2.36	60	5.91	150	3.19	81	7.74	3.51	2	A 18368	A 18396	A 18366
AW17868		2 1/8	54	244.0	211.0	6.54	166	2.66	68	8.94	227	3.94	100	13.14	5.96	3	A 18368	A 18395	A 18367
AW17869	**	2 5/8	67	401.0	346.8	9.64	245	5.32	135	8.94	227	3.94	100	23.40	10.61	4	A 18400	A 18401	A 18367 (2)
AW17870	**	3 1/8	79	553.0	478.3	9.99	254	5.32	135	8.94	227	3.94	100	31.40	14.24	4	A 18400	A 18401	A 18367 (2)
AW17871	*	2 5/8	67	230.0	198.9	6.54	166	2.66	68	8.94	227	3.94	100	13.56	6.15	3	A 18368	A 18395	A 18367
AW17872	*	3 1/8	79	143.0	123.7	6.54	166	2.66	68	8.94	227	3.94	100	14.24	6.46	3	A 18368	A 18395	A 18367

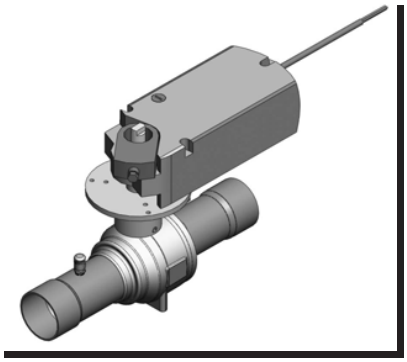
RoHS Compliant. Comply with ISO 9001 Standards.

CYCLEMASTER® Ball Valves

Actuated Standard

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Power Supply: 24 VAC
- Ambient Temperature: -22°F to 130°F, -30°C to 54°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Full shutoff capability
- Gradual open/close stops line hammer
- Remote operating capability
- Removable actuator for quick change replacement
- Manual override and valve positioning
- Electronic overload protection
- UL/cUL Listed, CE Certified



Tonnage calculations are based on the following conditions:

- Evaporator temperature: 10°F
- Vapor temperature exiting evaporator: 10°F superheated
- Liquid temperature entering evaporator: 100°F
- Hot gas temperature: 140°F
- Pressure drop across valve: 1 psig

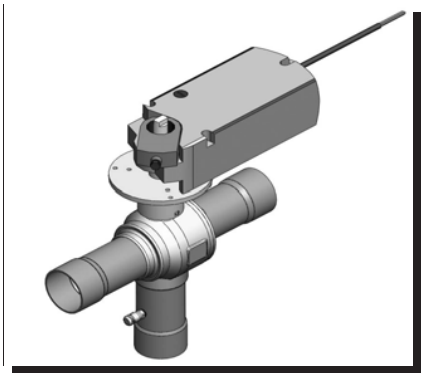
Part Number	Cv	Liquid Capacity (tons)					Suction Capacity (tons)					Hot Gas Capacity (tons)				
		R22	R134a	R404A/ R507	R407C	R410A	R22	R134a	R404A/ R507	R407C	R410A	R22	R134a	R404A/ R507	R407C	R410A
AW17861	6.2	19.0	17.7	12.2	18.13	17.8	2.7	2.1	2.2	2.52	3.1	3.9	3.2	3.2	4.05	4.5
AW17862	12.1	36.9	34.5	23.8	35.27	34.6	5.2	4.1	4.3	4.90	6.0	7.5	6.2	6.2	7.87	8.7
AW17863	19	58.0	54.1	37.4	55.40	54.4	8.1	6.4	6.8	7.69	9.5	11.8	9.7	9.7	12.37	13.7
AW17864	27.5	84.1	78.4	54.2	80.27	78.8	11.8	9.2	9.8	11.15	13.7	17.1	14.1	14.0	17.92	19.8
AW17865A	54	165.3	154.3	106.5	157.86	154.9	23.2	18.1	19.4	21.92	27.0	33.7	27.7	27.6	35.24	38.9
AW17866	89.1	272.9	254.7	175.8	260.62	255.8	38.3	29.9	32.0	36.19	44.6	55.6	45.7	45.6	58.18	64.2
AW17867	114	348.7	325.3	224.6	332.95	326.8	49.0	38.2	40.8	46.23	57.0	71.1	58.4	58.3	74.33	82.1
AW17868	244	746.8	696.9	481.2	713.19	699.9	104.9	81.9	87.5	99.03	122.2	152.3	125.0	124.8	159.21	175.8
AW17869	401	1227.6	1145.5	791.0	1172.30	1150.5	172.4	134.6	143.8	162.78	200.8	250.3	205.5	205.2	261.71	289.0
AW17870	553	1693.7	1580.4	1091.3	1617.41	1587.4	237.9	185.8	198.4	224.58	277.0	345.3	283.5	283.1	361.08	398.7
AW17871	230	705.3	658.2	454.5	673.57	661.1	99.1	77.4	82.6	93.53	115.4	143.8	118.1	117.9	150.37	166.0
AW17872	143	439.3	409.9	283.0	419.50	411.7	61.7	48.2	51.5	58.25	71.9	89.6	73.5	73.4	93.65	103.4

CYCLEMASTER® Ball Valves

Actuated 3-Way

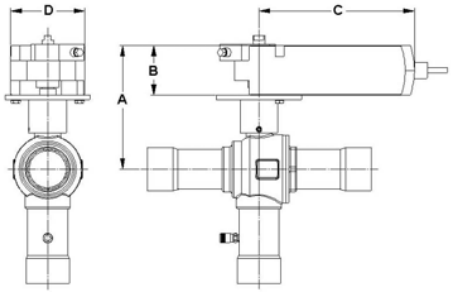
Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Power Supply: 24 VAC
- Ambient Temperature: -22°F to 130°F, -30°C to 54°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Full shutoff capability
- Gradual open/close stops line hammer
- Remote operating capability
- Removable actuator for quick change replacement
- Manual override and valve positioning
- Electronic overload protection
- UL/cUL Listed, CE Certified



Motor Specifications

Motor Series	Torque (in-lb)	Power Consumption	Running Time (seconds)
1	44	2.5	90
2	132	3.0	125
3	310	7	125
4 **	620	16	125



References

*	Reduced Port
**	Consists of two stacked motors operating in tandem
Prefix AYS	Actuator includes auxillary switch
Warning	Heater assembly required for low temperature applications
Warning	Motors not for use in wet or applications where moisture will condense on motor

Dimensions

Part Number	Size (in)	Size (mm)	Cv	Kv	A (in)	A (mm)	B (in)	B (mm)	C (in)	C (mm)	D (in)	D (mm)	Wt (lb)	Wt (kg)	Motor	Hub	Act. Kit	Heater
AY17861	1/2	13	3.9	3.4	4.18	106	2.36	60	3.70	94	2.76	70	0.00	0.00	1	A 18389	A 18390	
AY17862	5/8	16	4.6	4.0	4.18	106	2.36	60	3.70	94	2.76	70	2.39	1.08	1	A 18389	A 18390	
AY17863	3/4	19	11.9	10.3	4.50	114	2.36	60	3.70	94	2.76	70	3.50	1.59	1	A 18391	A 18392	
AY17864	7/8	22	10.9	9.4	4.50	114	2.36	60	3.70	94	2.76	70	3.25	1.47	1	A 18391	A 18392	
AY17865	1 1/8	29	19.3	16.7	5.02	128	2.36	60	5.91	150	3.19	81	5.73	2.60	2	A 18393	A 18394	A 18366
A 17810	1 3/8	35	31.1	26.9	5.44	138	2.36	60	5.91	150	3.19	81	8.13	3.69	2	A 18368	A 18396	A 18366
A 17811	1 5/8	41	44.7	38.7	6.22	158	2.66	68	8.94	227	3.94	100	12.00	5.44	3	A 18368	A 18395	A 18367
AY17868	2 1/8	54	76.3	66.0	6.54	166	2.66	68	8.94	227	3.94	100	13.23	6.00	3	A 18368	A 18395	A 18367
AY17871 *	2 5/8	67	69.9	60.5	6.54	166	2.66	68	8.94	227	3.94	100	14.09	6.39	3	A 18368	A 18395	A 18367
AY17872 *	3 1/8	79	58.2	50.3	6.54	166	2.66	68	8.94	227	3.94	100	14.64	6.64	3	A 18368	A 18395	A 18367

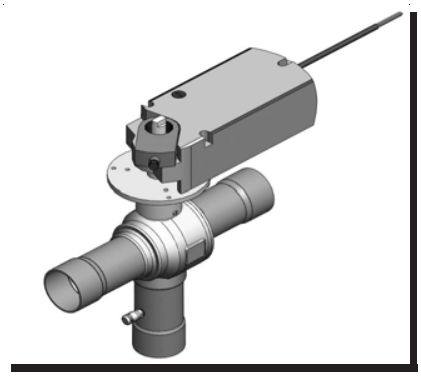
RoHS Compliant. Comply with ISO 9001 Standards.

CYCLEMASTER® Ball Valves

Actuated 3-Way

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Power Supply: 24 VAC
- Ambient Temperature: -22°F to 130°F, -30°C to 54°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Full shutoff capability
- Gradual open/close stops line hammer
- Remote operating capability
- Removable actuator for quick change replacement
- Manual override and valve positioning
- Electronic overload protection
- UL/cUL Listed, CE Certified

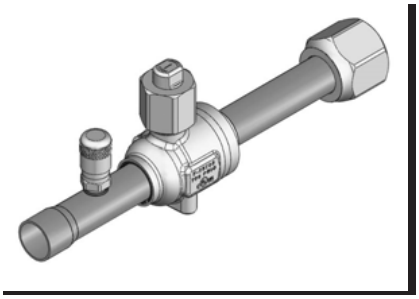


Tonnage calculations are based on the following conditions:

- Evaporator temperature: 10°F
- Vapor temperature exiting evaporator: 10°F superheated
- Liquid temperature entering evaporator: 100°F
- Hot gas temperature: 140°F
- Pressure drop across valve: 1 psig

Part Number	Cv	*Liquid Capacity (tons)*					*Suction Capacity (tons)*					*Hot Gas Capacity (tons)*				
		R22	*R134a*	*R404A/ R507*	*R407C*	*R410A*	*R22*	*R134a*	*R404A/ R507*	*R407C*	*R410A*	*R22*	*R134a*	*R404A/ R507*	*R407C*	*R410A*
AY17861	3.9	12.1	11.3	7.8	11.52	11.3	1.7	1.3	1.4	1.60	2.0	2.5	2.0	2.0	2.57	2.8
AY17862	4.6	14.2	13.2	9.1	13.54	13.3	2.0	1.6	1.7	1.88	2.3	2.9	2.4	2.4	3.02	3.3
AY17863	11.9	36.4	34.0	23.5	34.79	34.1	5.1	4.0	4.3	4.83	6.0	7.4	6.1	6.1	7.77	8.6
AY17864	10.9	33.3	31.1	21.5	31.84	31.2	4.7	3.7	3.9	4.42	5.5	6.8	5.6	5.6	7.11	7.8
AY17865	19.3	59.2	55.2	38.1	56.52	55.5	8.3	6.5	6.9	7.85	9.7	12.1	9.9	9.9	12.62	13.9
A 17810	31.1	95.1	88.7	61.3	90.81	89.1	13.4	10.4	11.1	12.61	15.6	19.4	15.9	15.9	20.27	22.4
A 17811	44.7	136.8	127.7	88.2	130.66	128.2	19.2	15.0	16.0	18.14	22.4	27.9	22.9	22.9	29.17	32.2
AY17868	76.3	233.7	218.0	150.6	223.14	219.0	32.8	25.6	27.4	30.98	38.2	47.6	39.1	39.1	49.81	55.0
AY17871	69.9	213.9	199.6	137.8	204.22	200.4	30.0	23.5	25.1	28.36	35.0	43.6	35.8	35.7	45.59	50.3
AY17872	58.2	178.2	166.2	114.8	170.13	167.0	25.0	19.5	20.9	23.62	29.1	36.3	29.8	29.8	37.98	41.9

Multi Split Ball Valves



The Multi Split ball valve series provide a variety of configurations to allow total flexibility for Variable Refrigerant Zoning Systems. Sizes ranging from ¼" through 5/8" connections in both flare and solder configurations are fully ported to ensure no pressure drop during system operation, while providing complete isolation of individual branches and circuits when closed.

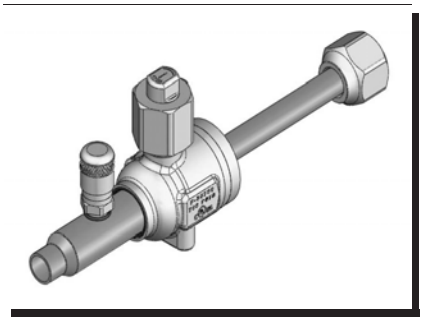
All models have been designed to minimize space constraints, and include a standard Schrader valve while incorporating standard safety and convenience features such as rupture proof stems and a quick turn cap. Optional insulation kits custom made for each individual body style are also available.

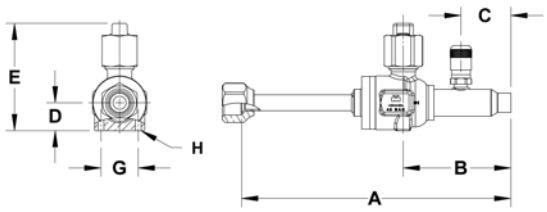
Multi Split Ball Valves

Flare x ODS

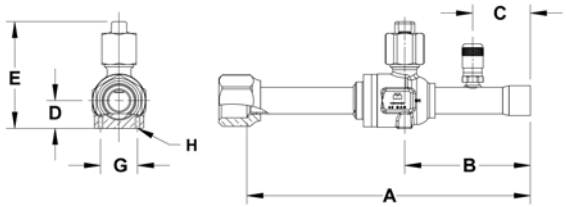
Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils, including R410a
- Full port construction to match line size ID
- Internally equalized ball design
- Rupture-proof encapsulated stem
- MCM™ Seal Technology
- UL/cUL Listed, CE Certified





Drawing A



Drawing B

Dimensions

Part Number	Size	A (in)	B (in)	C (in)	D (in)	E (in)	G (in)	H	Wt(lb)	Drawing
A 18448	1/4	6.38	2.50	1.16	0.65	2.53	0.87	M4 X 0.7	0.74	A
A 18405	3/8	6.26	2.50	1.16	0.65	2.53	0.87	M4 X 0.7	0.67	A
A 18449	1/2	6.71	2.94	1.21	0.65	2.53	0.87	M4 X 0.7	0.78	A
A 18406	5/8	6.64	2.94	1.35	0.65	2.53	0.87	M4 X 0.7	0.73	B

Metric Dimensions

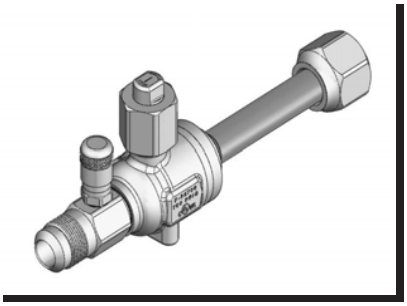
Part Number	Size	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	G (mm)	H	Wt(kg)	Drawing
A 18448	6	162	64	29	17	64	22	M4 X 0.7	0.34	A
A 18405	10	159	64	29	17	64	22	M4 X 0.7	0.30	A
A 18449	13	170	75	31	17	64	22	M4 X 0.7	0.35	A
A 18406	16	169	75	34	17	64	22	M4 X 0.7	0.33	B

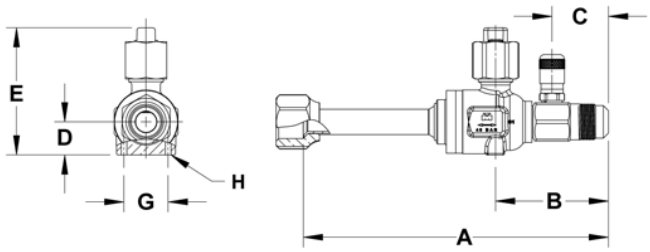
Multi Split Ball Valves

Male x Female Flare

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils, including R410a
- Full port construction to match line size ID
- Internally equalized ball design
- Rupture-proof encapsulated stem
- MCM™ Seal Technology
- UL/cUL Listed, CE Certified





Dimensions

Part Number	Size	A (in)	B (in)	C (in)	D (in)	E (in)	G (in)	H	Wt(lb)
A 18450	1/4	5.86	1.98	0.88	0.65	2.53	0.87	M4 X 0.7	0.75
A 18429	3/8	5.86	2.10	1.00	0.65	2.53	0.87	M4 X 0.7	0.82
A 18451	1/2	5.98	2.21	1.11	0.65	2.53	0.87	M4 X 0.7	0.78
A 18430	5/8	5.98	2.28	1.15	0.65	2.53	0.87	M4 X 0.7	0.86
A 18452	3/8 X 1/4	5.74	1.98	0.88	0.65	2.53	0.87	M4 X 0.7	0.79
A 18453	5/8 X 1/2	5.91	2.21	1.11	0.65	2.53	0.87	M4 X 0.7	0.81

Metric Dimensions

Part Number	Size	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	G (mm)	H	Wt(kg)
A 18450	1/4	149	50	22	17	64	22	M4 X 0.7	0.34
A 18429	3/8	149	53	25	17	64	22	M4 X 0.7	0.37
A 18451	1/2	152	56	28	17	64	22	M4 X 0.7	0.36
A 18430	5/8	152	58	29	17	64	22	M4 X 0.7	0.39
A 18452	3/8 X 1/4	146	50	22	17	64	22	M4 X 0.7	0.36
A 18453	5/8 X 1/2	150	56	28	17	64	22	M4 X 0.7	0.37

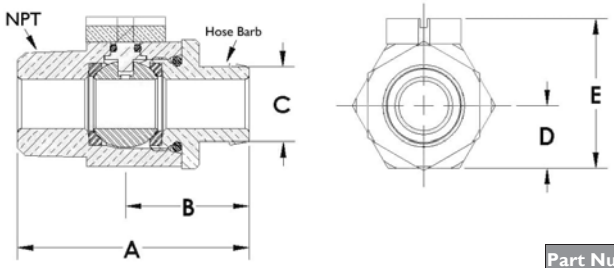
RoHS Compliant. Comply with ISO 9001 Standards.

Specialty WOG Ball Valves

Oil Drain

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Brass and stainless steel construction
- Compatible with most fluids
- Quarter turn operation for positive shutoff
- Designed for maximum flow and minimum pressure drop



Dimensions

Part Number	Size NPT	A (in)	B (in)	C (in) Min	D (in)	E (in)	Wt(lb)
AA18060C	3/4	2.34	1.25	0.75	0.63	1.50	0.54

Metric Dimensions

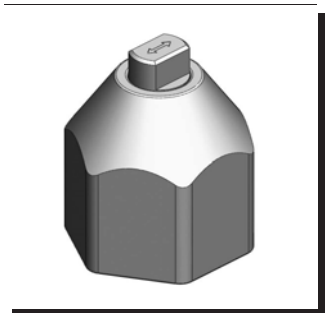
Part Number	Size NPT	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Wt(kg)
AA18060C	19	59	32	19	16	38	0.24

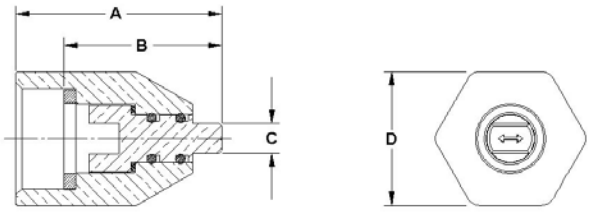
Component Parts

Retrofit Cap

Features:

- Designed to replace existing caps on installed valves for the full range of CYCLEMASTER® Ball Valve sizes 1/4" to 3 1/8"
- Large nut secures cap assembly to valve neck allowing center post to easily turn for on/off operation and clear visual identification
- Uses dual o-ring stem seals and base seal to assure positive isolation





References

* For use with 3-Way Ball Valve manufactured prior to Nov. 2006

** For use with 1 1/8 Straight valves manufactured after Jun 2010

Dimensions

Part Number		Straight Ball Valve Sizes (in)	3-Way Ball Valve Sizes (in)	A (in)	B (in)	C (in)	D (in)	Sealing Torque (ft-lb)	Thread Size	Wt(lb)
A 18351		1/4 - 5/8	1/4 - 5/8	1.31	1.02	0.16	0.88	5 - 6	11/16" - 16UN	0.14
A 18352	**	3/4 - 1 1/8	3/4 - 7/8	1.54	1.12	0.22	1.00	5 - 6	13/16" - 16UN	0.22
A 18353		1 1/8 - 1 3/8	1 1/8	1.95	1.59	0.31	1.13	13 - 15	1" - 16UN	0.35
A 18354		1 5/8 - 2 1/8, 2 5/8 & 3 1/8" Red Port	1 3/8 - 2 1/8, 2 5/8 & 3 1/8" Red Port	2.57	1.97	0.38	1.63	16 - 18	1 1/2" - 16 UN	0.92
A 18355	*	2 5/8 & 3 1/8 Full Port	2 1/8 - 3 1/8	2.66	2.10	0.38	1.88	30 - 35	1 3/4" - 16 UN	1.35

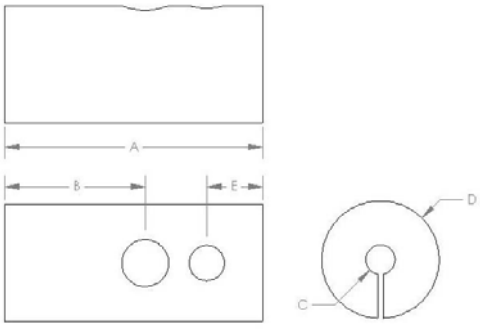
Metric Dimensions

Part Number		Straight Ball Valve Sizes (mm)	3-Way Ball Valve Sizes (mm)	A (mm)	B (mm)	C (mm)	D (mm)	Sealing Torque (N-m)	Thread Size	Wt(kg)
A 18351		6 - 16	6 - 16	33	26	4	22	7 - 8	11/16" - 16UN	0.06
A 18352	**	19 - 29	19 - 22	39	28	6	25	7 - 8	13/16" - 16UN	0.10
A 18353		29 - 35	29	50	40	8	29	18 - 20	1" - 16UN	0.16
A 18354		41 - 54, 67 & 79 Red Port	32 - 54, 67 & 79 Red Port	65	50	10	41	22 - 24	1 1/2" - 16 UN	0.42
A 18355	*	67 & 79 Full Port	54 - 79	68	53	10	48	41 - 48	1 3/4" - 16 UN	0.61

Caps and Actuator Components

Stem Neck Thread Size	Connection Size	Straight Through Valve Body Numbers	3 Way Valve Body Numbers	Motor Series	ABV Hub Kit	ABV Hub Motor Kit	Heater	One Piece Plastic Cap	One Piece Brass Cap	Two Piece Brass Cap	Retrofit Brass Cap
11/16"-16 UN	1/4"	N 2351		1	A 18389	A 18390		P 36723	A 17965	A 17842	A 18351
	3/8"	F 35222	F 35222								
	1/2"	F 36700									
	5/8"	F 36700A									
13/16"-16 UN	3/4"	N 2352	F 35223	1	A 18391	A 18392		P 36762	A 17966	A 17843	A 18352
	7/8"	F 35223									
	1-1/8"	F 36702A									
1"-16 UN	1-1/8"	N 2353 F 35224 F 36702	F 35224	2	A 18393	A 18394	A 18366	P 36763	A 17967	A 17844	A 18353
	1-3/8"	F 35949 F 36703 F 36703A									
	1-5/8"	F 36704A									
1-1/2"-16 UN	1-3/8"	N 2354	F 35162	2	A 18368	A 18396	A 18366	P 36764	A 17968	A 17845	A 18354
	1-5/8"	N 2355 F 35950 F 36704									
	2-1/8" 2-5/8" & 3-1/8" Reduced Port	F 35951 F 36705 F 36705A	F 35160 F 36595	3	A 18368	A 18395	A 18367				
	2-5/8" Full Port	F 36706A		4			(2) A 18367				
	3-1/8" Full Port 3-5/8" & 4-1/8" Reduced Port	F 36707A									
1-3/4"-16 UN	2-1/8" 2-5/8" & 3-1/8" Reduced Port	N 2356	F 35161	3	A 18402		A 18367	P 36765	A 18399	A 17846	A 18355
	2-5/8" Full Port	F 35755 F 36706		4	A 18400	A 18401	(2) A 18367				
	3-1/8" Full Port 3-5/8" & 4-1/8" Reduced Port	F 35952 F 36707									

Insulation Cover



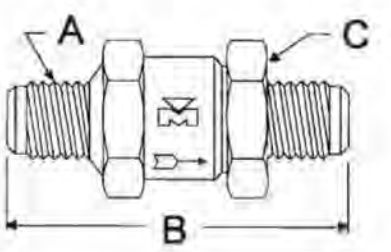
Part Number	Valve Size	A (in)	B (in)	C (in)	D (in)	E (in)	Wt(lb)
38RBVINS	3/8	5.50	3.00	0.63	2.50	1.19	0.10
12RBVINS	1/2	6.38	3.44	0.63	2.50	1.19	0.10
58RBVINS	5/8	6.38	3.44	0.63	2.50	1.38	0.10
34RBVINS	3/4	7.44	3.88	0.88	3.06	1.63	0.10
78RBVINS	7/8	7.44	3.88	0.88	3.06	1.63	0.10
118RBVINS	1 1/8	8.44	4.31	1.13	3.63	1.75	0.10
138RBVINS	1 3/8	10.00	5.00	1.25	3.94	2.06	0.10
158RBVINS	1 5/8	11.00	5.50	1.44	4.56	2.25	0.10
218RBVINS	2 1/8	12.00	6.06	1.88	5.38	2.44	0.10
258RBVINS	2 5/8	13.50	6.81	2.25	6.25	2.88	0.10
MSBVINS	Multi Split Valves	8.56	6.00	1.13	2.63	1.47	0.10

Check Valves

Flare to Flare

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Pressure to open: < 1 psi
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Neoprene seat for positive isolation and pulsation dampening
- Enhanced internal design for maximum flow and minimum pressure drop



Dimensions

Part Number	Size A (in)	B (in)	C (in)	Wt(lb)
A 15620	1/4	2.25	13/16 Hex	0.15
A 15621	3/8	2.4	13/16 Hex	0.18
A 15622	1/2	3	1 1/4 Oct	0.43
A 15623	5/8	3.2	1 1/4 Oct	0.51

Metric Dimensions

Part Number	Size A (in)	B (mm)	C (mm)	Wt(kg)
A 15620	1/4	57	21 Hex	0.07
A 15621	3/8	61	21 Hex	0.08
A 15622	1/2	76	32 Oct	0.19
A 15623	5/8	81	32 Oct	0.23

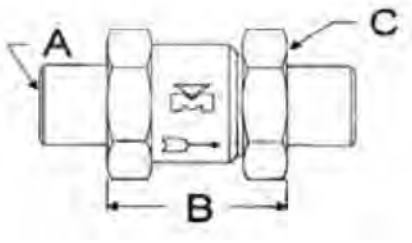
RoHS Compliant. Comply with ISO 9001 Standards.

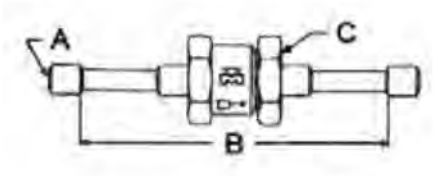
Check Valves

Solder to Solder

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Pressure to open: < 1 psi
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Neoprene seat for positive isolation and pulsation dampening
- Enhanced internal design for maximum flow and minimum pressure drop





References

* Shipped loosely assembled

** Extended Ends

Dimensions

Part Number		Size A (in)	B (in)	C (in)	Wt(lb)
A 15628	*	1/4	1.14	13/16 Hex	0.13
A 15629	*	3/8	1.14	13/16 Hex	0.13
A 15630	*	1/2	1.44	1 1/4 Oct	0.37
A 15631	*	5/8	1.44	1 1/4 Oct	0.36
A 15632	**	1/4	4.4	13/16 Hex	0.16
A 15633	**	3/8	4.7	13/16 Hex	0.18
A 15634	**	1/2	4.9	1 1/4 Oct	0.43
A 15635	**	5/8	5.2	1 1/4 Oct	0.48

Metric Dimensions

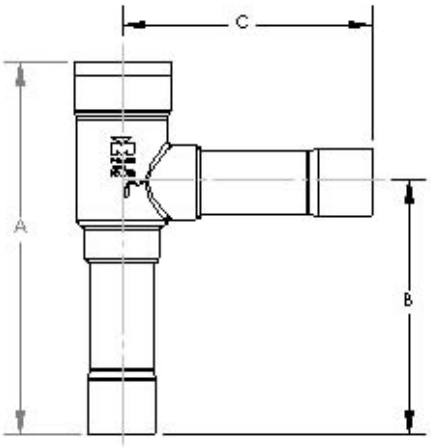
Part Number		Size A (mm)	B (mm)	C (mm)	Wt(kg)
A 15628	*	6	29	21 Hex	0.06
A 15629	*	10	29	21 Hex	0.06
A 15630	*	13	37	32 Oct	0.17
A 15631	*	16	37	32 Oct	0.16
A 15632	**	6	112	21 Hex	0.07
A 15633	**	10	119	21 Hex	0.08
A 15634	**	13	124	32 Oct	0.20
A 15635	**	16	132	32 Oct	0.22

Check Valves

90° Angle

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- 100% tested
- Forged brass body exceeds the most stringent quality standards in the industry
- Neoprene gasket



Dimensions

Part Number	Size (in)		A in	B in	C in	Wt lb
A 18383C	7/8	Male Inlet x Female Outlet	5.38	3.70	3.47	0.81
A 18565C	7/8	Male Inlet x Male Outlet	5.38	3.70	3.67	0.80
A 18566C	7/8	Female Inlet x Female Outlet	5.18	3.50	3.47	0.88
A 18659C	1 1/8	Female Inlet x Female Outlet	8.02	5.55	4.84	1.87
A 18660C	1 3/8	Female Inlet x Female Outlet	8.02	5.55	4.84	1.87

Metric Dimensions

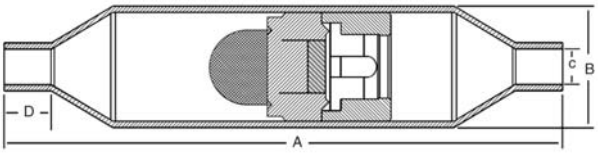
Part Number	Size (in)		A mm	B mm	C mm	Wt kg
A 18383C	7/8	Male Inlet x Female Outlet	136.65	93.98	88.14	0.37
A 18565C	7/8	Male Inlet x Male Outlet	136.65	93.98	93.22	0.36
A 18566C	7/8	Female Inlet x Female Outlet	131.57	88.90	88.14	0.40
A 18659C	1 1/8	Female Inlet x Female Outlet	203.71	141.02	123.01	0.85
A 18660C	1 3/8	Female Inlet x Female Outlet	203.71	141.02	123.01	0.85

Check Valves

Magnetic

Features:

- Maximum working pressure (PS): Charted below
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Built-in 30 mesh stainless steel screen
- Internal components installed with DuraForm Technology
- Mechanically formed solder cup stops for easy installation
- Flexible for installation in vertical or horizontal position
- Hermetically formed solid copper body assures zero leak potential



Dimensions

Part Number	Model	Size C (in)	A (in)	B (in)	D (in)	Wt (lb)	MWP (psi)
A 17934	CMV-4S	1/4	4.02	0.88	0.34	0.20	800
A 17935	CMV-6S	3/8	4.02	0.88	0.34	0.20	800
A 17936	CMV-8S	1/2	5.18	1.13	0.41	0.35	700
A 17937	CMV-10S	5/8	5.18	1.13	0.53	0.34	700
A 17938	CMV-12S	3/4	7.04	1.63	0.65	0.87	700
A 17939	CMV-14S	7/8	7.04	1.63	0.78	0.59	700
A 17940	CMV-18S	1 1/8	8.43	2.13	0.94	1.61	700
A 17941	CMV-22S	1 3/8	9.41	2.63	1.00	2.74	700
A 17942	CMV-26S	1 5/8	10.55	3.13	1.12	3.91	700
A 17943	CMV-34S	2 1/8	12.06	3.63	1.37	6.00	700
A 17944	CMV-42S	2 5/8	13.05	4.13	1.50	7.00	700
A 17981	CMV-50S	3 1/8	13.05	4.13	1.69	7.43	650

Metric Dimensions

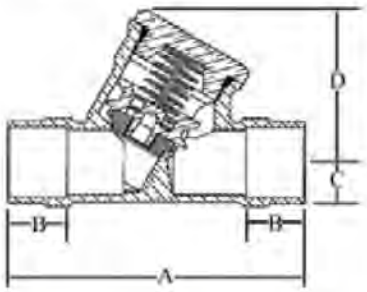
Part Number	Model	Size C (mm)	A (mm)	B (mm)	D (mm)	Wt (kg)	MWP (bar)
A 17934	CMV-4S	6	102	22	9	0.09	55
A 17935	CMV-6S	10	102	22	9	0.09	55
A 17936	CMV-8S	13	131	29	10	0.16	48
A 17937	CMV-10S	16	131	29	13	0.16	48
A 17938	CMV-12S	19	179	41	17	0.40	48
A 17939	CMV-14S	22	179	41	20	0.27	48
A 17940	CMV-18S	29	214	54	24	0.73	48
A 17941	CMV-22S	35	239	67	25	1.24	48
A 17942	CMV-26S	41	268	79	28	1.77	48
A 17943	CMV-34S	54	306	92	35	2.72	48
A 17944	CMV-42S	67	331	105	38	3.18	48
A 17981	CMV-50S	79	331	105	43	3.37	45

Check Valves

Screw Bonnet

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- 100% tested
- Design features easy removal and reassembly of internal components
- Forged brass body exceeds the most stringent quality standards in the industry
- Designed to provide minimal pressure drop and increased flow capacity
- PTFE gasket



References

*	Extended End
Prefix AG	Includes 5 lb spring
Prefix AH	Includes 10 lb spring

Dimensions

Part Number	Size	Cv	A	B	C	D	Pressure to Open	Rec Bolt Torques	Replacement Components		Wt
	in		in	in	in	in	psi	ft-lb	5 lb Spring	10 lb Spring	lb
A 17953	1/4	0.50	3.00	0.31	0.19	1.57	<1	14 - 16	P 36542	P 36543	0.58
A 17954	3/8	1.42	3.00	0.44	0.25	1.57	<1	14 - 16	P 36542	P 36543	0.57
A 17955	1/2	2.03	3.00	0.56	0.32	1.57	<1	14 - 16	P 36542	P 36543	0.53
A 17956	5/8	8.10	3.31	0.66	0.38	1.57	<1	14 - 16	P 36542	P 36543	0.53
A 17958	7/8	2.50	3.75	0.75	0.52	1.92	<1	14 - 16			0.87
AT17953 *	1/4		6.26	0.31	0.19	1.57	<1	14 - 16	P 36542	P 36543	0.61
AT17954 *	3/8		6.30	0.31	0.21	1.57	<1	14 - 16	P 36542	P 36543	0.62
AT17955 *	1/2		6.06	0.38	0.28	1.57	<1	14 - 16	P 36542	P 36543	0.59
AT17956 *	5/8		6.81	0.50	0.34	1.57	<1	14 - 16	P 36542	P 36543	0.66
AT17958 *	7/8		7.75	0.75	0.47	1.92	<1	14 - 16			1.09

Metric Dimensions

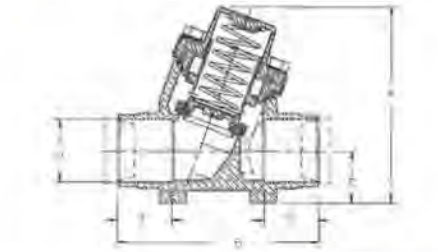
Part Number	Size	Kv	A	B	C	D	Pressure to Open	Rec Bolt Torques	Replacement Components		Wt
	mm		mm	mm	mm	mm	bar	N-m	5 lb Spring	10 lb Spring	kg
A 17953	6	0.43	76.20	7.87	4.83	39.88	<.07	19 - 22	P 36542	P 36543	0.26
A 17954	10	1.23	76.20	11.18	6.35	39.88	<.07	19 - 22	P 36542	P 36543	0.26
A 17955	13	1.76	76.20	14.22	8.13	39.88	<.07	19 - 22	P 36542	P 36543	0.24
A 17956	16	7.01	84.07	16.76	9.65	39.88	<.07	19 - 22	P 36542	P 36543	0.24
A 17958	22	2.16	95.25	19.05	13.21	48.77	<.07	19 - 22			0.39
AT17953 *	6		159.00	7.87	4.83	39.88	<.07	19 - 22	P 36542	P 36543	0.28
AT17954 *	10		160.02	7.87	5.33	39.88	<.07	19 - 22	P 36542	P 36543	0.28
AT17955 *	13		153.92	9.65	7.11	39.88	<.07	19 - 22	P 36542	P 36543	0.27
AT17956 *	16		172.97	12.70	8.64	39.88	<.07	19 - 22	P 36542	P 36543	0.30
AT17958 *	22		196.85	19.05	11.94	48.77	<.07	19 - 22			0.49

Check Valves

Four-Bolt

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- 100% tested
- Design features easy removal and reassembly of internal components
- Forged brass body exceeds the most stringent quality standards in the industry
- Horizontal or vertical installation (not to be installed with bonnet facing down)
- "Y" type design provides minimal pressure drop and increased flow capacity
- Non-asbestos gasket material ensures seal integrity, while a heat-stabalized PTFE seat provides seal across wide temperature ranges



References

* Includes standard 2 lb spring

** Replacement kit includes seat holder subassembly, cover gasket and 2 lb spring

Dimensions

Part Number	Size D (in)	Cv	A (in)	B (in)	C (in)	E (in)	Wt (lb)	Pressure to Open (psi)	Rec. Bolt Torques (ft-lb)	Replacement Components			
										Kit **	Spring 10lb	Spring 20lb	Gasket
B 34235 *	7/8	9.2	4	4	1	1	2.44	<1	8 - 15	A 17986	P 35656	P 35859	P 35708
B 34236 *	1 1/8	11.0	4	4	1	1	2.27	<1	8 - 15	A 17986	P 35656	P 35859	P 35708
B 34237 *	1 3/8	18.5	5	5	1	1	5.23	2	10 - 20	A 17987	P 35657	P 36305	P 35691
B 34238 *	1 5/8	20.4	5	5	1	1	4.65	2	10 - 20	A 17987	P 35657	P 36305	P 35691
B 34239 *	2 1/8	36.0	6	6	2	2	12.31	2	10 - 20	A 17988	P 36544		P 35721
B 34240 *	2 5/8	86.1	8	9	2	2	28.04	2	15 - 25	A 18050			P 36041
B 34241 *	3 1/8		8	9	2	2	27.23	2	15 - 25	A 18050			P 36041

Metric Dimensions

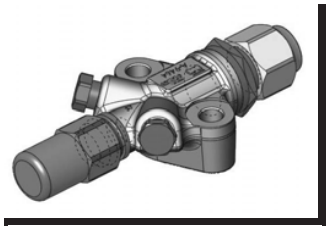
Part Number	Size D (mm)	Kv	A (mm)	B (mm)	C (mm)	E (mm)	Wt (kg)	Pressure to Open (bar)	Rec. Bolt Torques (N-m)	Replacement Components			
										Kit **	Spring 10lb	Spring 20lb	Gasket
B 34235 *	22	8.0	90	93	24	24	1.11	<.07	11 - 20	A 17986	P 35656	P 35859	P 35708
B 34236 *	29	9.5	90	93	24	25	1.03	<.07	11 - 20	A 17986	P 35656	P 35859	P 35708
B 34237 *	35	16.0	115	121	32	27	2.37	.14	14 - 27	A 17987	P 35657	P 36305	P 35691
B 34238 *	41	17.6	115	121	32	27	2.11	.14	14 - 27	A 17987	P 35657	P 36305	P 35691
B 34239 *	54	31.1	148	162	43	38	5.58	.14	14 - 27	A 17988	P 36544		P 35721
B 34240 *	67	74.5	203	226	51	48	12.72	.14	20 - 34	A 18050			P 36041
B 34241 *	79		203	226	51	48	12.35	.14	20 - 34	A 18050			P 36041

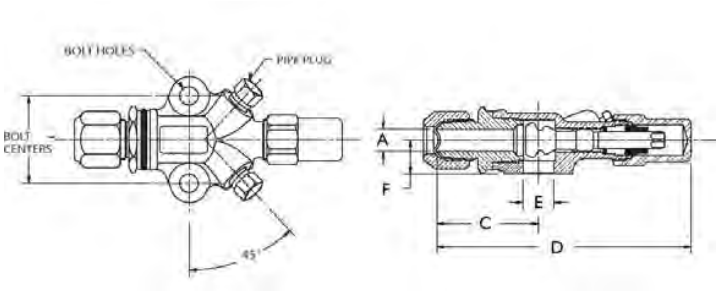
Brass Compressor Valves

Double Port, 45° Flare

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop





References

*	Valve kit includes valve, gasket and bolts
**	Replacement kit contains components to pack stem (pack gland, packing and pack washer)
***	Cap and cap gasket kit
****	Seal cap and o-ring kit
*****	O-ring included

Dimensions

Valve Part Number	Kit Part Number *	A in	C in	D in	E in	F in	Bolt Centers in	Bolt Hole Diameter in	Pipe Plug Size in	Flange Thickness in	Seat Position	Valve Wt lb	Kit Wt lb
A 16302	A 17518	3/8	1.73	4.45	0.56	0.62	1 5/8	.34	1/8	7/8	Mid	1.20	1.24
A 16303	A 17519	1/2	1.86	4.67	0.56	0.62	1 5/8	.34	1/8	7/8	Mid	1.17	1.17
A 16304	A 17520	5/8	1.99	4.80	0.56	0.62	1 5/8	.34	1/8	7/8	Mid	1.23	1.27

Metric Dimensions

Valve Part Number	Kit Part Number *	A mm	C mm	D mm	E mm	F mm	Bolt Centers mm	Bolt Hole Diameter mm	Pipe Plug Size in	Flange Thickness mm	Seat Position	Valve Wt kg	Kit Wt kg
A 16302	A 17518	10	44	113	14	16	41	9	1/8	22	Mid	0.54	0.56
A 16303	A 17519	13	47	119	14	16	41	9	1/8	22	Mid	0.53	0.53
A 16304	A 17520	16	51	122	14	16	41	9	1/8	22	Mid	0.56	0.58

Torque To Seal

Front Seat		Back Seat		Pack Gland		Pipe Plug	Plastic Cap		Brass Cap		Steel Cap	
(ft-lb)	(N-m):	(ft-lb)	(N-m):	(ft-lb)	(N-m):		(ft-lb)	(N-m)	(ft-lb)	(N-m)	(ft-lb)	(N-m)
14 - 18	19 - 24	14 - 18	19 - 24	8 - 12	11 - 16	2 - 3 Threads Exposed	NA	NA	20 - 30	27 - 41	3 - 5	4 - 7

References

Valve Part Number	Body Number	Standard Seal Cap			Replacement Seal Cap			Replacement Kit**	Valve Kit *	Manufacturer Reference	
		Material	Seal Cap	Gasket	Plastic	Brass***	Steel			Carrier	Copeland
A 16302	A 09464	Steel	A 04566		P 34627	A 04597	A 04566	A 17420	A 17518		998-0510-15
A 16303	A 09464	Steel	A 04566		P 34627	A 04597	A 04566	A 17420	A 17519		998-0510-16
A 16304	A 09464	Steel	A 04566		P 34627	A 04597	A 04566	A 17420	A 17520		998-0510-17

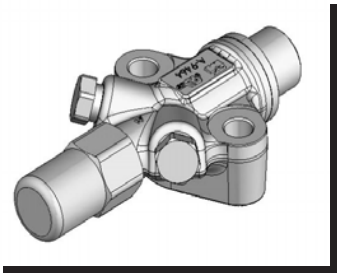
RoHS Compliant. Comply with ISO 9001 Standards.

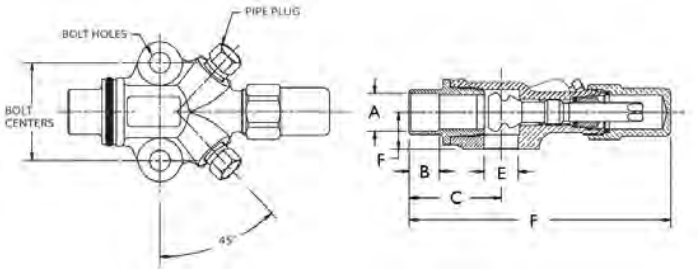
Brass Compressor Valves

Double Port, Solder

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop





References

*	Valve kit includes valve, gasket and bolts
**	Replacement kit contains components to pack stem (pack gland, packing and pack washer)
***	Cap and cap gasket kit
****	Seal cap and o-ring kit
*****	O-ring included

Dimensions

Valve Part Number	Kit Part Number *	A	B	C	D	E	F	Bolt Centers	Bolt Hole Diameter	Pipe Plug Size in	Flange Thickness	Seat Position	Valve Wt	Kit Wt
		in	in	in	in	in	in	in	in		in		lb	lb
A 16307	A 17510	3/8	0.31	1.27	4.07	0.56	0.62	1 5/8	.34	1/8	7/8	Front	0.69	0.73
A 16308	A 17511	1/2	0.38	1.40	4.20	0.56	0.62	1 5/8	.34	1/8	7/8	Front	0.86	0.90
A 16309	A 17512	5/8	0.50	1.52	4.32	0.56	0.62	1 5/8	.34	1/8	7/8	Front	0.88	0.92
A 16309	A 17531	5/8	0.50	1.52	4.32	0.56	0.62	1 5/8	.34	1/8	7/8	1 Turn off Back	0.88	0.93

Metric Dimensions

Valve Part Number	Kit Part Number *	A	B	C	D	E	F	Bolt Centers	Bolt Hole Diameter	Pipe Plug Size in	Flange Thickness	Seat Position	Valve Wt	Kit Wt
		mm	mm	mm	mm	mm	mm	mm	mm		mm		kg	kg
A 16307	A 17510	10	8	32	103	14	16	41	9	1/8	22	Front	0.31	0.33
A 16308	A 17511	13	10	36	107	14	16	41	9	1/8	22	Front	0.39	0.41
A 16309	A 17512	16	13	39	110	14	16	41	9	1/8	22	Front	0.40	0.42
A 16309	A 17531	16	13	39	110	14	16	41	9	1/8	22	1 Turn off Back	0.40	0.42

Torque To Seal

Front Seat		Back Seat		Pack Gland		Pipe Plug	Plastic Cap		Brass Cap		Steel Cap	
(ft-lb)	(N-m):	(ft-lb)	(N-m):	(ft-lb)	(N-m):		(ft-lb)	(N-m)	(ft-lb)	(N-m)	(ft-lb)	(N-m)
14 - 18	19 - 24	14 - 18	19 - 24	8 - 12	11 - 16	2 - 3 Threads Exposed	NA	NA	20 - 30	27 - 41	3 - 5	4 - 7

References

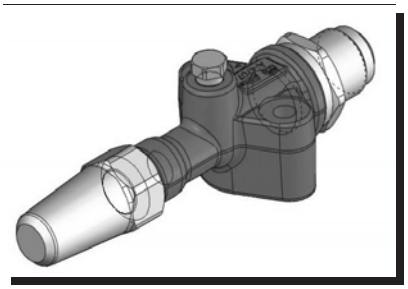
Valve Part Number	Body Number	Standard Seal Cap		Replacement Seal Cap				Replacement Kit**	Valve Kit *	Manufacturer Reference	
		Material	Seal Cap	Plastic	Brass***	Steel	Cast Iron			Carrier	Copeland
A 16307	A 09464	Steel	A 04566	P 34627	A 04597	A 04566		A 17420	A 17510		998-0510-04
A 16308	A 09464	Steel	A 04566	P 34627	A 04597	A 04566		A 17420	A 17511		998-0510-05
A 16309	A 09464	Steel	A 04566	P 34627	A 04597	A 04566		A 17420	A 17512		998-0510-06
A 16309	A 09464	Steel	A 04566	P 34627	A 04597	A 04566		A 17420	A 17531	06DA660-060	

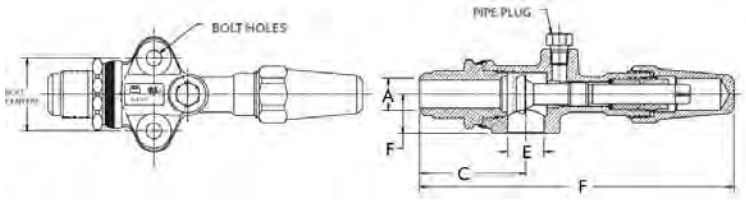
Brass Compressor Valves

Straight Port, 45° Flare

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop





References

*	Valve kit includes valve, gasket and bolts
**	Replacement kit contains components to pack stem (pack gland, packing and pack washer)
***	Cap and cap gasket kit
****	Seal cap and o-ring kit
*****	O-ring included

Dimensions

Valve Part Number	Valve Kit *	A (in)	C (in)	D (in)	E (in)	F (in)	Bolt Centers (in)	Bolt Hole Diameter (in)	Pipe Plug Size (in)	Flange Thickness (in)	Seat Position	Valve Wt (lb)	Kit Wt (lb)
A 13166		3/4	2.37	7.05	0.81	0.85	1 5/8	.34	1/8	1 1/4	Mid	1.78	

Metric Dimensions

Valve Part Number	Valve Kit *	A (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Bolt Centers (mm)	Bolt Hole Diameter (mm)	Pipe Plug Size (in)	Flange Thickness (mm)	Seat Position	Valve Wt (kg)	Kit Wt (kg)
A 13166		19	60	179	21	19	41	9	1/8	32	Mid	0.81	

Torque To Seal

Front Seat		Back Seat		Pack Gland		Pipe Plug	Plastic Cap	Brass Cap		Steel Cap		Cast Iron Cap
ft-lb	N-m	ft-lb	N-m	ft-lb	N-m			ft-lb	N-m	ft-lb	N-m	
22 - 40	30 - 54	25 - 45	34 - 61	15 - 25	20 - 34	2 - 3 Threads Exposed	Hand Tight	40 - 50	54 - 68	NA	NA	NA

References

Valve Part Number	Body	Standard Seal Cap			Replacement Seal Cap					Replacement Kit**	Valve Kit*	Manufacturer Reference	
		Material	Seal Cap	Gasket	Kit****	Plastic	Brass****	Steel	Cast Iron			Carrier	Copeland
A 13166	A 04707	Brass	A 04775	A 04710	A 15099		A 15099			A 17419			

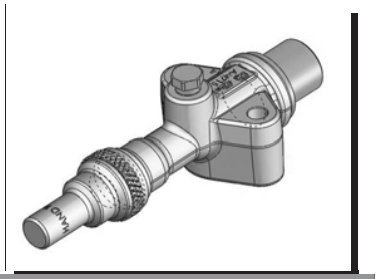
RoHS Compliant. Comply with ISO 9001 Standards.

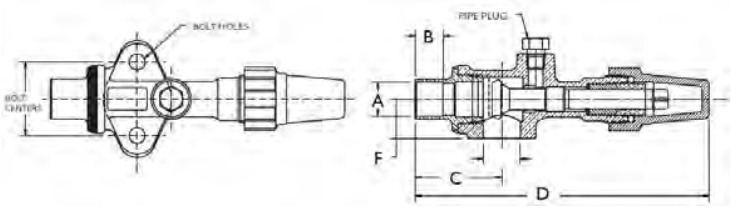
Brass Compressor Valves

Straight Port, Solder

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop





References

*	Valve kit includes valve, gasket and bolts
**	Replacement kit contains components to pack stem (pack gland, packing and pack washer)
***	Cap and cap gasket kit
****	Seal cap and o-ring kit
*****	O-ring included

Dimensions

Valve Part Number	Valve Kit *	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Bolt Centers (in)	Bolt Hole Diameter (in)	Pipe Plug Size (in)	Flange Thickness (in)	Seat Position	Valve Wt (lb)	Kit Wt (lb)
A 16310		3/4	0.62	1.91	6.49	0.81	0.88	1 5/8	.34	1/8	1 21/64	Front	1.64	
A 16311	A 17515	7/8	0.76	1.97	6.55	0.81	0.88	1 5/8	.34	1/8	1 21/64	Front	1.63	1.55
B 32197	A 17529	7/8	0.76	1.97	6.47	0.81	0.88	1 3/4	.34	1/8	1 21/64	Mid	1.42	1.69
A 15500		1 1/8	0.9	2.06	6.64	0.81	0.88	1 5/8	.34	1/8	1 21/64	Back	1.43	
A 16312	A 17516	1 1/8	0.9	2.06	6.64	0.81	0.88	1 5/8	.34	1/8	1 21/64	Front	1.66	1.55

Metric Dimensions

Valve Part Number	Valve Kit *	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Bolt Centers (mm)	Bolt Hole Diameter (mm)	Pipe Plug Size (in)	Flange Thickness (mm)	Seat Position	Valve Wt (kg)	Kit Wt (kg)
A 16310		19	16	49	165	21	22	41	9	1/8	34	Front	0.74	
A 16311	A 17515	22	19	50	166	21	22	41	9	1/8	34	Front	0.74	0.70
B 32197	A 17529	22	19	50	164	21	22	44	9	1/8	34	Mid	0.64	0.77
A 15500		29	23	52	169	21	22	41	9	1/8	34	Back	0.65	
A 16312	A 17516	29	23	52	169	21	22	41	9	1/8	34	Front	0.75	0.70

Torque To Seal

Front Seat		Back Seat		Pack Gland		Pipe Plug	Plastic Cap	Brass Cap		Steel Cap		Cast Iron Cap
ft-lb	N-m	ft-lb	N-m	ft-lb	N-m			ft-lb	N-m	ft-lb	N-m	
22 - 40	30 - 54	25 - 45	34 - 61	15 - 25	20 - 34	2 - 3 Threads Exposed	Hand Tight	40 - 50	54 - 68	NA	NA	NA

References

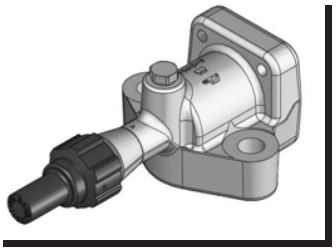
Valve Part Number	Body	Standard Seal Cap		Replacement Seal Cap					Replacement Kit**	Valve Kit *	Manufacturer Reference	
		Material	Seal Cap*****	Kit	Plastic*****	Brass****	Steel	Cast Iron			Carrier	Copeland
A 16310	A 04707	Plastic	P 34632	P 35915	P 34632	A 15099			A 17419			
A 16311	A 04707	Plastic	P 34632	P 35915	P 34632	A 15099			A 17419	A 17515		998-0510-12
B 32197	A 04715	Plastic	P 34632	P 35915	P 34632	A 15099			A 17419	A 17529	06DA660-062	
A 15500	A 04707	Plastic	P 34632	P 35915	P 34632	A 15099			A 17419			
A 16312	A 04707	Plastic	P 34632	P 35915	P 34632	A 15099			A 17419	A 17516		998-0510-13

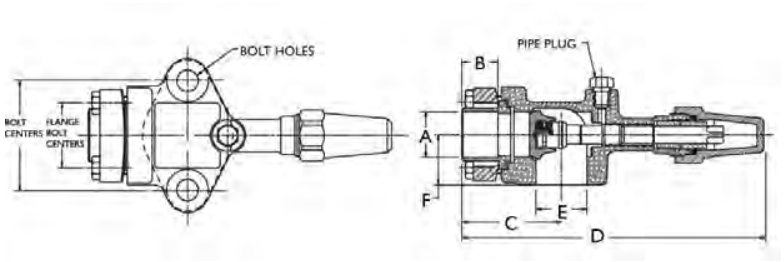
Brass Compressor Valves

Flange Union, Solder

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop





References

*	Valve kit includes valve, gasket and bolts
**	Replacement kit contains components to pack stem (pack gland, packing and pack washer)
***	Cap and cap gasket kit
****	Seal cap and o-ring kit
*****	O-ring included

Dimensions

Valve Part Number	Valve Kit *	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Bolt Centers (in)	Bolt Hole Diameter (in)	Pipe Plug Size (in)	Flange Bolt Centers	Flange Thickness (in)	Seat Position	Valve Wt (lb)	Kit Wt (lb)
A 16313		3/4	0.62	2.31	7.33	1.25	1.25	2 3/4	.531	1/8	1.62	1	Front	3.93	
A 16314	A 17527	7/8	0.75	2.31	7.33	1.25	1.25	2 3/4	.531	1/8	1.62	1	Front	3.90	4.05
A 16315	A 17525	1 1/8	0.91	2.47	7.49	1.25	1.25	2 3/4	.531	1/8	1.62	1	Front	3.88	4.03
A 16316	A 17526	1 3/8	0.97	2.47	7.49	1.25	1.25	2 3/4	.531	1/8	1.62	1	Front	3.65	3.80

Metric Dimensions

Valve Part Number	Valve Kit *	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Bolt Centers (mm)	Bolt Hole Diameter (mm)	Pipe Plug Size (in)	Flange Bolt Centers	Flange Thickness (mm)	Seat Position	Valve Wt (kg)	Kit Wt (kg)
A 16313		19	16	59	186	32	32	70	13	1/8	41	25	Front	1.78	
A 16314	A 17527	22	19	59	186	32	32	70	13	1/8	41	25	Front	1.77	1.84
A 16315	A 17525	29	23	63	190	32	32	70	13	1/8	41	25	Front	1.76	1.83
A 16316	A 17526	35	25	63	190	32	32	70	13	1/8	41	25	Front	1.66	1.72

Torque To Seal

Front Seat		Back Seat		Pack Gland		Pipe Plug	Plastic Cap	Brass Cap		Steel Cap		Cast Iron Cap
ft-lb	N-m	ft-lb	N-m	ft-lb	N-m			ft-lb	N-m	ft-lb	N-m	
30 - 40	41 - 54	22 - 45	30 - 61	15 - 25	20 - 34	2 - 3 Threads Exposed	Hand Tight	40 - 50	54 - 68	NA	NA	NA

References

Valve Part Number	Body	Standard Seal Cap		Replacement Seal Cap					Replacement Kit**	Valve Kit *	Manufacturer Reference	
		Material	Seal Cap*****	Kit	Plastic*****	Brass****	Steel	Cast Iron			Carrier	Copeland
A 16313	A 03416	Plastic	P 34632	P 35915	P 34632	A 15099			A 17419			
A 16314	A 03416	Plastic	P 34632	P 35915	P 34632	A 15099			A 17419	A 17527		998-0510-10
A 16315	A 03416	Plastic	P 34632	P 35915	P 34632	A 15099			A 17419	A 17525		998-0510-09
A 16316	A 03416	Plastic	P 34632	P 35915	P 34632	A 15099			A 17419	A 17526		998-0510-11

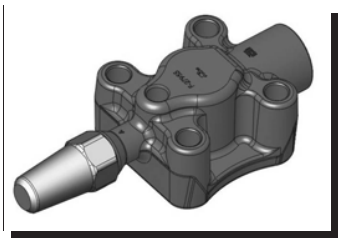
RoHS Compliant. Comply with ISO 9001 Standards.

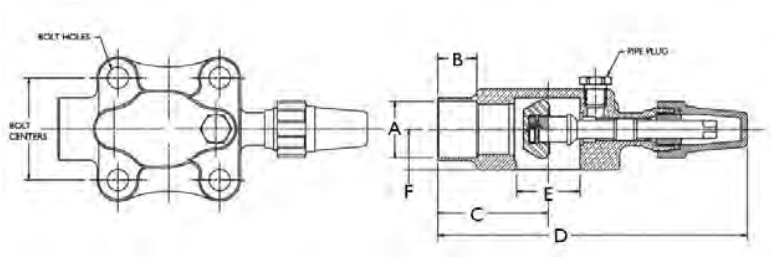
Brass Compressor Valves

Four-Bolt Mounting, Solder

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop
- Flat Gasket Surface





References

*	Valve kit includes valve, gasket and bolts
**	Replacement kit contains components to pack stem (pack gland, packing and pack washer)
***	Cap and cap gasket kit
****	Seal cap and o-ring kit
*****	O-ring included

Dimensions

Valve Part Number *	Kit Part Number	A	B	C	D	E	F	Bolt Centers	Bolt Hole Diameter	Pipe Plug	Seat Position	Valve Wt	Kit Wt
		in	in	in	in	in	in	in	in	Size in		lb	lb
B 32807	A 17532	1 1/8	0.90	2.72	7.61	1.56	1.00	2.5	.53	1/4	Mid	4.00	4.47
B 32808	A 17533	1 3/8	0.96	2.72	7.61	1.56	1.00	2.5	.53	1/4	Mid	3.98	4.67
B 32930	A 17534	1 5/8	1.10	2.88	7.89	1.81	1.03	2.5	.53	1/4	Mid	4.13	4.67

Metric Dimensions

Valve Part Number *	Kit Part Number	A	B	C	D	E	F	Bolt Centers	Bolt Hole Diameter	Pipe Plug	Seat Position	Valve Wt	Kit Wt
		mm	mm	mm	mm	mm	mm	mm	mm	Size in		kg	kg
B 32807	A 17532	29	23	69	193	40	25	64	13	1/4	Mid	1.81	2.03
B 32808	A 17533	35	24	69	193	40	25	64	13	1/4	Mid	1.80	2.12
B 32930	A 17534	41	28	73	200	46	26	64	13	1/4	Mid	1.87	2.12

Torque To Seal

Front Seat		Back Seat		Pack Gland		Pipe Plug	Plastic Cap	Brass Cap		Steel Cap	
(ft-lb)	(N-m):	(ft-lb)	(N-m):	(ft-lb)	(N-m):			(ft-lb)	(N-m)	(ft-lb)	(N-m)
22 - 40	30 - 54	25 - 45	34 - 61	10 - 15	14 - 20	2 - 3 Threads Exposed	Hand Tight	40 - 50	54 - 68	NA	NA

References

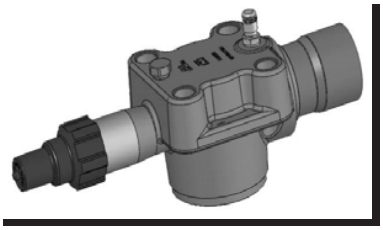
Valve Part Number	Body Number	Standard Seal Cap			Replacement Seal Cap		Replacement Kit**	Valve Kit *	Manufacturer Reference	
		Material	Seal Cap *****	Kit	Plastic*****	Brass****			Carrier	Copeland
B 32807	F 27950	Plastic	P 34632	P 35915	P 34632	A 15099	A 17418	A 17532	06DA660-063	
B 32808	F 27955	Plastic	P 34632	P 35915	P 34632	A 15099	A 17418	A 17533	06DA660-065	
B 32930	F 29201	Plastic	P 34632	P 35915	P 34632	A 15099	A 17418	A 17534	06DA660-090	

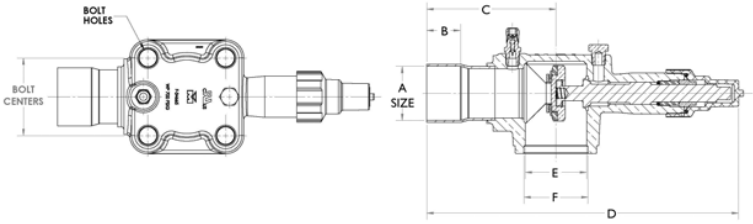
Brass Compressor Valves

Four-Bolt Mounting, Access Port

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop





References

****	Seal cap and o-ring kit
*****	O-ring included

Dimensions

Valve Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Access Port (in)	Bolt Centers (in)	Bolt Hole Diameter (in)	Pipe Plug Size (in)	Seat Position	Valve Wt (lb)
A 17495	2 1/8	1.34	5.09	12.31	2.42	2.53	0.25	3.06	.69	1/4	Mid	11.84

Metric Dimensions

Valve Part Number	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Access Port (in)	Bolt Centers (mm)	Bolt Hole Diameter (in)	Pipe Plug Size (in)	Seat Position	Valve Wt (kg)
A 17495	54	34.036	129.286	312.674	61.468	54	0.25	78	17	1/4	Mid	5.37

Torque To Seal

Front Seat		Back Seat		Pack Gland		Pipe Plug	Plastic Cap
ft-lb	N-m	ft-lb	N-m	ft-lb	N-m		
45 - 65	61 - 88	45 - 65	61 - 88	35 - 45		240 - 300	Hand Tight

References

Valve Part Number	Body	Standard Seal Cap			Replacement Seal Cap		
		Material	Seal Cap*****	Kit****	Plastic*****	Brass*****	Cast Iron
A 17495	F 34665	Plastic	N 02849	A 17668	A 17668	A 15099	B 33816

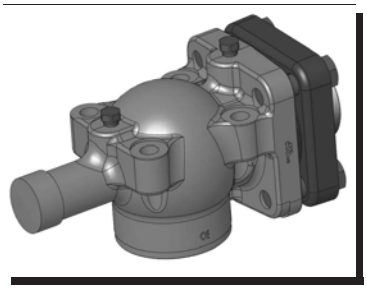
RoHS Compliant. Comply with ISO 9001 Standards.

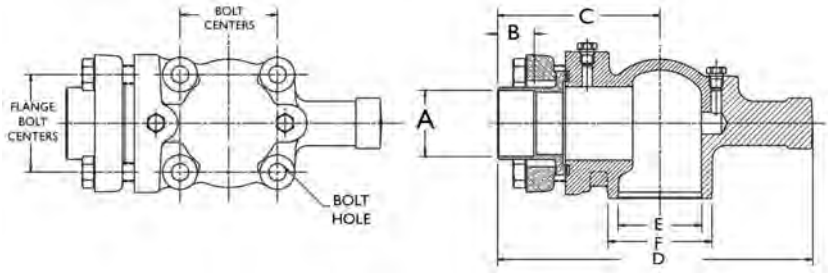
Cast Iron Flanges

Four-Bolt

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop





References

* Does not include seat and stem

Dimensions

Part Number		A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Bolt Centers (in)	Bolt Hole Diameter (in)	Pipe Plug Size (in)	Flange Bolt Centers (in)	Valve Wt (lb)
B 34987	*	2 5/8	1.47	6.49	12.55	3.35	4.16	3 7/8	.69	1/4	3.88	28.21
B 34988	*	3 5/8	2.06	7	13.60	3.89	4.55	4 1/4	.69	1/4	4.25	33.93

Metric Dimensions

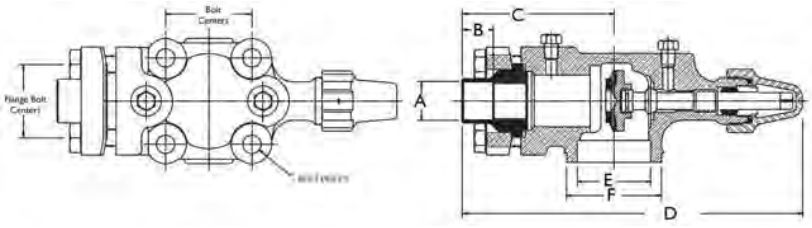
Part Number		A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Bolt Centers (mm)	Bolt Hole Diameter (mm)	Pipe Plug Size (in)	Flange Bolt Centers (mm)	Valve Wt (kg)
B 34987	*	67	37	165	319	85	106	98	17	1/4	98	12.80
B 34988	*	92	52	178	345	99	115	108	17	1/4	108	15.39

Cast Iron Compressor Valves

Four-Bolt Flange Union, Solder

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop



References

*	Valve kit includes valve, gasket and bolts
**	Replacement kit contains components to pack stem (pack gland, packing and pack washer)
***	Seal cap and o-ring kit

Dimensions

Valve Part Number	Valve Kit *	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Bolt Centers (in)	Bolt Hole Dia(in)	Pipe Plug Size (in)	Flange Bolt Centers (in)	Seat Position	Valve Wt (lb)
A 15246		1 5/8	1.09	3.95	9.47	2.12	2.75	2.5	.53	1/4	2.12	Mid	9.37
A 16321	A 17513	1 5/8	1.09	4.59	10.04	2.12	2.75	2.5	.53	1/4	2.12	Front	8.71
B 32337		1 5/8	1.09	3.95	9.47	2.12	2.75	2.5	.53	1/4	2.12	Front	9.07
A 15586	A 17535	2 1/8	1.31	5.06	11.95	2.53	3.22	3.06	.69	1/4	3.06	Mid	18.28
A 16324	A 17523	2 1/8	1.31	5.06	11.95	2.53	3.22	3.06	.69	1/4	3.06	Front	18.28
B 33572		2 1/8	1.31	5.06	11.95	2.53	3.22	3.06	.69	1/4	3.06	Front	17.49
B 34671		2 1/8	1.31	5.10	11.99	2.53	3.22	3.06	.69	1/4	3.06	Front	17.28
A 15587		2 5/8	1.27	5.02	12.07	2.53	3.22	3.06	.69	1/4	3.06	Mid	20.30
A 16366	A 17522	2 5/8	1.47	6.49	15.12	3.35	4.16	3.88	.69	1/4	3.88	Front	33.18
B 33568		2 5/8	1.27	5.02	11.90	2.53	3.22	3.06	.69	1/4	3.06	Front	20.23
B 34661		2 5/8	1.47	6.49	15.12	3.35	4.16	3.88	.69	1/4	3.88	Front	30.80
A 15588		3 1/8	1.22	5.94	14.60	3.35	4.16	3.88	.69	1/4	3.88	Mid	33.22
A 16365	A 17521	3 1/8	1.22	5.94	14.60	3.35	4.16	3.88	.69	1/4	3.88	Front	33.22
B 33569		3 1/8	1.22	5.94	14.60	3.35	4.16	3.88	.69	1/4	3.88	Front	32.38
A 17496		3 5/8	2.06	7.00	16.30	3.88	4.55	4.25	.69	1/4	4.25	Mid	34.01
B 33788		3 5/8	2.06	7.00	16.30	3.88	4.55	4.25	.69	1/4	4.25	Front	34.01
B 34670		3 5/8	2.06	7.00	16.30	3.89	4.55	4.25	.69	1/4	4.25	Front	40.51
A 15589		4 1/8	1.97	7.22	17.50	4.38	5.13	4.81	.8125	1/4	4.81	Mid	49.80

Torque To Seal

Front Seat		Back Seat		Pack Gland		Pipe Plug in-lbs	Plastic Cap	Steel Cap	Cast Iron Cap
ft-lb	N-m	ft-lb	N-m	ft-lb	N-m				
45 - 65	61 - 88	45 - 65	61 - 88			240 - 300	Hand Tight	Hand Tight	Hand Tight

Cast Iron Compressor Valves

Four-Bolt Flange Union, Solder

Metric Dimensions

Valve Part Number	Valve Kit *	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Bolt Centers (mm)	Bolt Hole Dia (mm)	Pipe Plug Size (in)	Flange Bolt Centers	Seat Position	Valve Wt (kg)
A 15246	A 15246	41	28	100	241	54	70	64	13	1/4	64	Mid	4.25
A 16321	A 16321	41	28	117	255	54	70	64	13	1/4	64	Front	3.95
B 32337	B 32337	41	28	100	241	54	70	64	13	1/4	64	Front	4.11
A 15586	A 15586	54	33	129	304	64	82	78	17	1/4	78	Mid	8.29
A 16324	A 16324	54	33	129	304	64	82	78	17	1/4	78	Front	8.29
B 33572	B 33572	54	33	129	304	64	82	78	17	1/4	78	Front	7.93
A 15587	A 15587	67	32	128	307	64	82	78	17	1/4	78	Mid	9.21
A 16366	A 16366	67	37	165	384	85	106	98	17	1/4	98	Front	15.05
B 33568	B 33568	67	32	128	302	64	82	78	17	1/4	78	Front	9.18
A 15588	A 15588	79	31	151	371	85	106	98	17	1/4	98	Mid	15.07
A 16365	A 16365	79	31	151	371	85	106	98	17	1/4	98	Front	15.07
A 17496	A 17496	92	52	178	414	99	116	108	17	1/4	108	Mid	15.43
B 33788	B 33788	92	52	178	414	99	116	108	17	1/4	108	Front	15.43
B 33569	B 33569	79	31	151	371	85	106	98	17	1/4	98	Front	14.69
B 34670	B 34670	92	52	178	414	99	115	108	17	1/4	108	Front	18.38
A 15589	A 15589	105	50	183	445	111	130	122	21	1/4	122	Mid	22.59
B 34661	B 34661	67	37	165	384	85	106	98	17	1/4	98	Front	13.97
B 34671	B 34671	54	33	130	305	64	82	78	17	1/4	78	Front	7.84

References

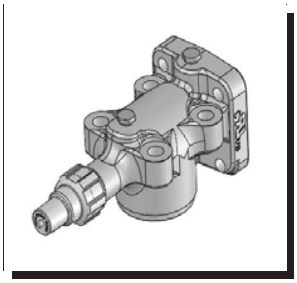
Valve Part Number	Body	Standard Seal Cap			Replacement Seal Cap		Replace-ment Kit**	Valve Kit *	Manufacturer Reference	
		Material	Seal Cap	Kit***	Steel	Cast Iron			Carrier	Copeland
A 15246	A 09621	Plastic	N 02848	A 17667		A 06252 & P 34711	A 17421			
A 16321	A 06201	Plastic	N 02848	A 17667		A 06252 & P 34711	A 17421	A 17513		998-0510-07
B 32337	A 09621	Plastic	N 02848	A 17667		A 06252 & P 34711	A 17421			
A 15586	A 06201	Plastic	N 02848	A 17668		B 33816	A 17422	A 17535	06DA660-091	
A 16324	A 09621	Plastic	N 02849	A 17668		B 33816	A 17422	A 17523		998-0510-20
B 33572	A 06201	Plastic	N 02849	A 17668		B 33816	A 17422			
A 15587	A 06201	Plastic	N 02849	A 17668		B 33816	A 17422			
A 16366	A 06203	Cast Iron	A 06251	A 17907	P 36128 & P 35589	A 17907	A 17423	A 17522		998-0510-19
B 33568	A 06201	Plastic	N 02849	A 17668		B 33816	A 17422			
A 15588	A 06203	Cast Iron	A 06251	A 17907	P 36128 & P 35589	A 17907	A 17423			
A 16365	A 06203	Cast Iron	A 06251	A 17907	P 36128 & P 35589	A 17907	A 17423	A 17521		998-0510-18
A 17496	A 06204	Cast Iron	A 06251	A 17907	P 36128 & P 35589	A 17907	A 17423			
B 33788	A 06204	Cast Iron	A 06251	A 17907	P 36128 & P 35589	A 17907	A 17423			
B 33569	A 06203	Cast Iron	A 06251	A 17907	P 36128 & P 35589	A 17907	A 17423			
B 34670	C 35801	Cast Iron	C 35804		P 36128 & P 35589	C 35804 & P 34712				
A 15589	A 06205	Steel	A 06252		A 06252	A 06252 & P 32709	A 17424			
B 34661	C 35800	Cast Iron	C 35804		P 36128 & P 35589	C 35804 & P 34712				
B 34671	C 35815	Plastic	N 02849	A 17668		B 33816				

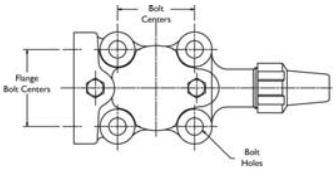
Cast Iron Compressor Valves

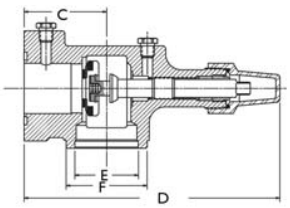
Four-Bolt Without Flange, Solder

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop







References

* Replacement kit contains components to pack stem (pack gland, packing and pack washer)

** Seal cap and o-ring kit

Dimensions

Part Number	C (in)	D (in)	E (in)	F (in)	Bolt Centers (in)	Bolt Hole Diameter (in)	Pipe Plug Size (in)	Flange Bolt Centers (in)	Seat Position	Wt (lb)
B 33793	3.28	10.17	2.53	3.22	3.06	.69	1/4	3.06	2-3 Turns off Front	12.78
B 33794	3.78	12.44	3.35	4.16	3.88	.69	1/4	3.88	2-3 Turns off Front	22.20
B 34183	2.69	8.22	2.12	2.75	2.5	.53	1/4	2.12		6.91
B 34715	3.78	13.00	3.35	4.16	3.88	.69	1/4	3.88	2-3 Turns off Front	22.80
B 34761	3.28	10.17	2.53	3.22	3.06	.69	1/4	3.06	Front	13.00
B 35049	3.28	10.12	2.53	3.22	3.06	.69	1/4	3.06	Front	12.97

Metric Dimensions

Part Number	C (mm)	D (mm)	E (mm)	F (mm)	Bolt Centers (mm)	Bolt Hole Diameter (mm)	Pipe Plug Size (in)	Flange Bolt Centers (mm)	Seat Position	Wt (kg)
B 33793	83	258	64	82	78	17	1/4	78	2-3 Turns off Front	5.80
B 33794	96	316	85	106	98	17	1/4	98	2-3 Turns off Front	10.07
B 34183	68	209	54	70	64	13	1/4	64		3.13
B 34715	96	330	85	106	98	17	1/4	98	2-3 Turns off Front	10.34
B 34761	83	258	64	82	78	17	1/4	78	Front	5.90
B 35049	83	257	64	82	78	17	1/4	78	Front	5.88

Torque To Seal

Front Seat		Back Seat		Pack Gland		Pipe Plug in-lbs	Plastic Cap	Steel Cap	Cast Iron Cap
ft-lb	N-m	ft-lb	N-m	ft-lb	N-m				
45 - 65	61 - 88	45 - 65	61 - 88			240 - 300	Hand Tight	Hand Tight	Hand Tight

References

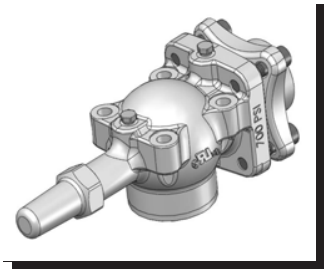
Part Number	Body		Standard Seal Cap				Replacement Seal Cap			Replacement Kit *
		Material	Seal Cap	Gasket	O-Ring	Kit **	Plastic **	Steel	Cast Iron **	
B 33793	A 06201	Plastic	N 02849		P 34712	A 17668	A 17668		B 33816	A 17422
B 33794	A 06203	Cast Iron	A 06251		P 35589	A 17907		P 36128 & P 35589	A 17907	A 17422
B 34183	C 35634	Plastic	N 02848		P 34711	A 17667	A 17667		A 06252 & P 34711	
B 34715	C 36126	Steel	P 36128		P 35589			P 36128 & P 35589	A 17907	
B 34761	A 06201	Plastic	N 02849		P 34712	A 17668	A 17668		B 33816	
B 35049	C 35815	Plastic	N 02849		P 34712	A 17668	A 17668			

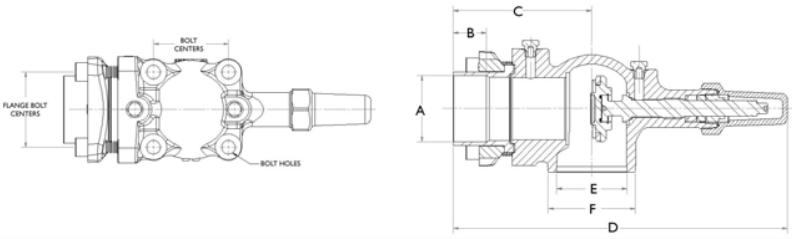
Cast Iron Compressor Valves

Screw Compressor

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop
- Manufactured with high strength components ideal for screw compressors





Dimensions

Valve Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Bolt Centers (in)	Bolt Hole Dia(in)	Pipe Plug Size (in)	Flange Bolt Centers (in)	Seat Position	Valve Wt (lb)
B 35457C	1 5/8	0.96	4.35	9.89	2.12	2.75	2.50	.55	1/4	2.12	Front	
B 35458C	2 1/8	1.31	5.13	12.18	3.06	3.23	3.06	.71	1/4	3.06	Front	
B 35459C	2 5/8	1.27	5.22	12.27	3.06	3.23	3.06	.71	1/4	3.06	Front	
B 35460C	3 1/8	1.58	6.65	16.03	3.35	4.16	3.88	.71	1/4	3.88	Front	
B 35502C	2 5/8	1.45	6.55	15.93	3.35	4.16	3.88	.71	1/4	3.88	Front	8.87
B 35507C	3 5/8	2.06	7.00	16.69	3.89	4.55	4.25	.69	1/4	4.25	Front	15.36

Metric Dimensions

Valve Part Number	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Bolt Centers (mm)	Bolt Hole Dia (mm)	Pipe Plug Size (in)	Flange Bolt Centers	Seat Position	Valve Wt (kg)
B 35457C	41	24	110	251	54	70		14	1/4		Front	
B 35458C	54	33	130	309	78	82	78	18	1/4	78	Front	
B 35459C	67	32	133	312	78	82	78	18	1/4	78	Front	
B 35502C	67	37	166	405	85	106	98	18	1/4	98	Front	4.02
B 35460C	79	40	169	407	85	106	98	18	1/4	98	Front	
B 35507C	92	52	178	424	99	116	108	17	1/4	108	Front	6.97

Torque To Seal

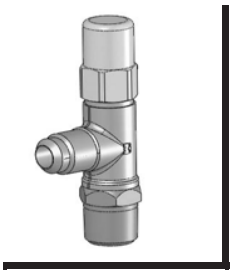
Part Number	Front Seat		Back Seat		Pack Gland		Pipe Plug in-lbs	Cast Iron Cap
	ft-lb	N-m	ft-lb	N-m	ft-lb	N-m		
B 35457C	30 - 50	41 - 68	50 - 70	41 -	20 - 25	27 - 34	20 - 25	Hand Tight
B 35458C	40 - 60		60 - 100		20 - 25	27 - 34	20 - 25	Hand Tight
B 35459C	40 - 60		60 - 100		20 - 25	27 - 34	20 - 25	Hand Tight
B 35460C	60 - 80	81 - 109	80 - 110		20 - 25	27 - 34	20 - 25	Hand Tight
B 35502C	45 - 65	61 - 88	45 - 65	61 - 88			20 - 25	Hand Tight
B 35507C	60 - 80	81 - 109	80 - 110		20 - 25	27 - 34	240 - 300	Hand Tight

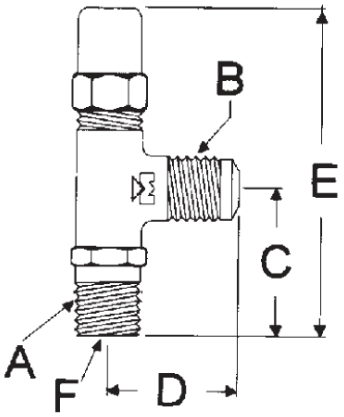
Packed Line Valves, Angle

Backseating NPTFE Inlet to Flare

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Forged brass body
- Plated steel stem suitable for refrigerants and other industrial fluids non-corrosive to brass and steel
- Asbestos-free stem packing material





Dimensions

Part Number	NPTFE A (in)	Flare B (in)	C (in)	D (in)	E (in)	Counterbore Dim F		Wt (lb)
						Dia (in)	Depth (in)	
A 13220	1/2	1/2	1.81	1.31	4.11	.504	.375	0.69
A 13183	1/2	5/8	1.81	1.50	4.64	.504	.375	0.58

Metric Dimensions

Part Number	NPTFE A (in)	Flare B (in)	C (mm)	D (mm)	E (mm)	Counterbore Dim F		Wt (kg)
						Dia mm	Depth mm	
A 13220	1/2	1/2	46	33	104	12.80	9.53	0.31
A 13183	1/2	5/8	46	38	118	12.80	9.53	0.26

Replacement References

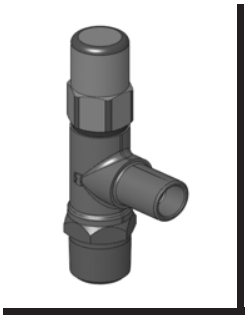
Part Number	Standard Seal Cap		Replacement Seal Cap		
	Material	Seal Cap	Brass	Plastic	Steel
A 13220	Steel	A 04566	A 04597	P 34627	A 04566
A 13183	Steel	A 04566	A 04597	P 34627	A 04566

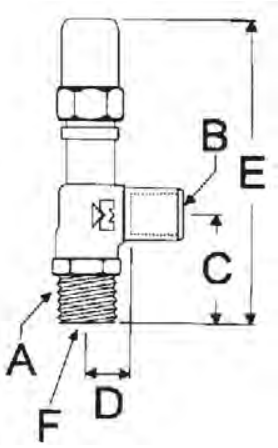
Packed Line Valves, Angle

Backseating NPTFE Inlet to Solder

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Forged brass body
- Plated steel stem suitable for refrigerants and other industrial fluids non-corrosive to brass and steel





Dimensions

Part Number	NPTFE A (in)	Solder B (in)	C (in)	D (in)	E (in)	Counterbore Dim F		Wt (lb)
						Dia (in)	Depth (in)	
A 13977	1/2	1/2	1.81	1	4.11	.504	.375	0.45
A 13978	1/2	5/8	1.80	1	4.70	.504	.375	0.55
A 13979	3/4	7/8	2.10	1	6.02	.754	.625	1.24

Metric Dimensions

Part Number	NPTFE A (in)	Solder B (mm)	C (mm)	D (mm)	E (mm)	Counterbore Dim F		Wt (kg)
						Dia mm	Depth mm	
A 13977	1/2	13	46	25	104	12.80	9.53	0.20
A 13978	1/2	16	46	25	119	12.80	9.53	0.25
A 13979	3/4	22	53	25	153	19.15	15.88	0.56

Replacement References

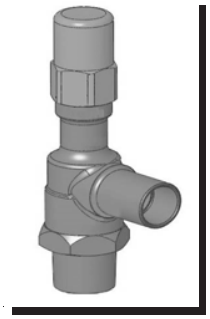
Part Number	Standard Seal Cap		Replacement Seal Cap		
	Material	Seal Cap	Brass	Plastic	Steel
A 13977	Steel	A 04566	A 04597	P 34627	A 04566
A 13978	Steel	A 04566	A 04597	P 34627	A 04566
A 13979	Plastic	P 34632	A 04597	P 34627	A 04566

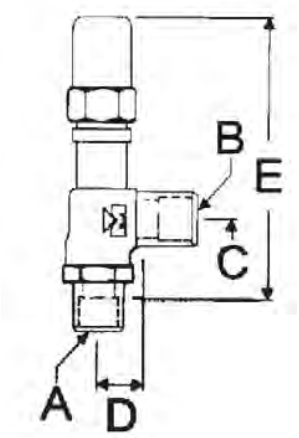
Packed Line Valves, Angle

Backseating Solder to Solder

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Forged brass body
- Plated steel stem suitable for refrigerants and other industrial fluids non-corrosive to brass and steel
- Asbestos-free stem packing material





Dimensions

Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	Wt (lb)
A 17506	5/8	5/8	0.91	1	4.20	0.66
B 32080	7/8	7/8	2.28	1.75	6.20	0.99

Metric Dimensions

Part Number	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Wt (kg)
A 17506	16	16	23	25	107	0.30
B 32080	22	22	58	44	157	0.45

Replacement References

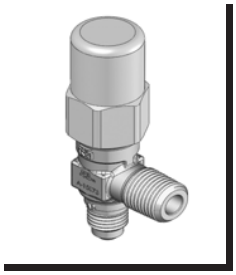
Part Number	Standard Seal Cap		Replacement Seal Cap			Packing Kit
	Material	Seal Cap	Brass	Plastic	Steel	
A 17506	Steel	A 04566	A 04597	P 34627	A 04566	A 17420
B 32080	Plastic	P 34632	A 04597	P 34632	A 04566	A 17420

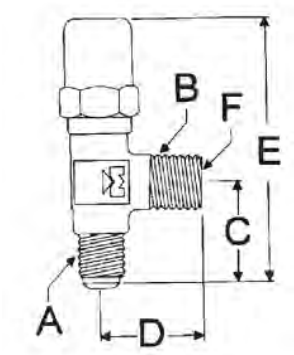
Packed Line Valves, Angle

Non-Backseating Flare to NPTFE

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Forged brass body
- Plated steel stem suitable for refrigerants and other industrial fluids non-corrosive to brass and steel
- Asbestos-free stem packing material





References

Machined to accept OD size tube as indicated.

Dimensions

Part Number	Flare A (in)	NPTFE B (in)	C (in)	D (in)	E (in)	Counterbore Dim F		Torque Pack Gland (ft-lb)	Torque Seal Cap(ft-lb)	Wt (lb)
						Dia (in)	Depth (in)			
A 15073	1/4	1/4	0.94	1.00	2.96	.254	.31	8 - 12	20 - 30	0.43

Metric Dimensions

Part Number	Flare A (in)	NPTFE B (in)	C (mm)	D (mm)	E (mm)	Counterbore Dim F		Torque Pack Gland (N-m)	Torque Seal Cap (N-m)	Wt (kg)
						Dia mm	Depth mm			
A 15073	1/4	1/4	24	25	75	6.45	7.87	11 - 16	27 - 41	0.19

Replacement References

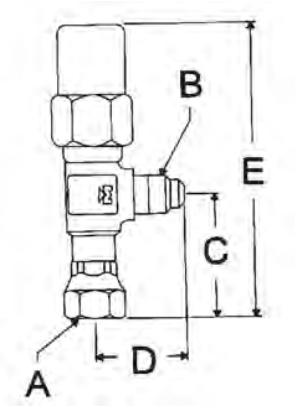
Part Number	Standard Seal Cap		Replacement Seal Cap		
	Material	Seal Cap	Brass	Plastic	Steel
A 15073	Steel	A 04566	A 04597	P 34627	A 04566

Packed Line Valves, Angle

Non-Backseating Internal Swivel Flare to Flare

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Forged brass body
- Plated steel stem suitable for refrigerants and other industrial fluids non-corrosive to brass and steel
- Asbestos-free stem packing material



References	
*	Steel Seal Cap
**	Plastic Seal Cap
***	Brass Seal Cap, includes copper gasket

Dimensions

Part Number		Int Fl A (in)	Flare B (in)	C (in)	D (in)	E (in)	Torque Pack Gland (ft-lb)	Torque Seal Cap(ft-lb)	Wt (lb)
B 33803	*	1/4	1/4	1.47	1.06	3.90	8 - 12	6 - 10	0.34
A 17429	**	1/4	1/4	1.47	1.06	3.49	8 - 12	Finger Tight	0.33
B 34247	***	1/4	1/4	1.47	1.06	3.90	8 - 12	20 - 30	0.34
A 17474	*	3/8	3/8	1.52	1.12	3.55	8 - 12	6 - 10	0.27
B 34261	***	3/8	3/8	1.52	1.12	3.55	8 - 12	20 - 30	0.42

Metric Dimensions

Part Number		Int Fl A (in)	Flare B (in)	C (mm)	D (mm)	E (mm)	Torque Pack Gland (N-m)	Torque Seal Cap (N-m)	Wt (kg)
B 33803	*	1/4	1/4	37	27	99	11 - 16	11 - 16	0.16
A 17429	**	1/4	1/4	37	27	89	11 - 16	11 - 16	0.15
B 34247	***	1/4	1/4	37	27	99	11 - 16	11 - 16	0.16
A 17474	*	3/8	3/8	39	28	90	11 - 16	11 - 16	0.12
B 34261	***	3/8	3/8	39	28	90	11 - 16	11 - 16	0.19

Replacement References

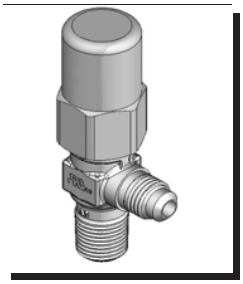
Part Number	Standard Seal Cap		Replacement Seal Cap		
	Material	Seal Cap	Brass	Plastic	Steel
B 33803	Steel	A 04566	A 04597	P 34627	A 04566
A 17429	Plastic	P 34627	A 04597	P 34627	A 04566
B 34247	Brass	A 16474	A 04597	P 34627	A 04566
A 17474	Steel	A 04566	A 04597	P 34627	A 04566
B 34261	Brass	A 16474	A 04597	P 34627	A 04566

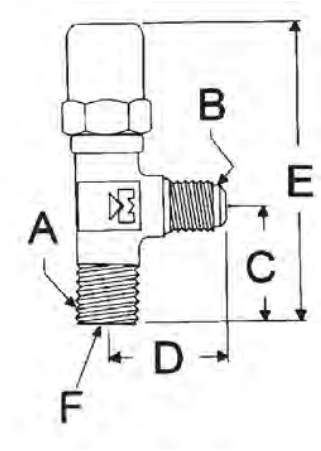
Packed Line Valves, Angle

Non-Backseating NPTFE Inlet to Flare

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Forged brass body
- Plated steel stem suitable for refrigerants and other industrial fluids non-corrosive to brass and steel
- Asbestos-free stem packing material





References

*	Brass Seal Cap
**	Cap finger tight for shipping

Dimensions

Part Number	NPTFE A (in)	Flare B (in)	C (in)	D (in)	E (in)	Counterbore Dim F		Torque Pack Gland (ft-lb)	Wt (lb)
						Dia (in)	Depth (in)		
A 11031	1/4	1/4	1.00	0.94	3.02	.254	.31		0.28
A 16472 *	1/4	1/4	1.00	0.94	3.02	.254	.31		0.29
A 11030	1/4	3/8	1.06	1.12	3.10	.317	.31		0.25
B 33964 **	1/4	1/4	1.00	0.94	3.02	.254	.31		0.31
A 13613	3/8	1/4	1.12	1.06	3.14	.379	.31		0.48
A 13503	3/8	3/8	1.12	1.12	3.15	.379	.5		0.49
A 11042	3/8	1/2	1.38	1.38	3.77	.379	.31		0.51

Metric Dimensions

Part Number	NPTFE A (in)	Flare B (in)	C (mm)	D (mm)	E (mm)	Counterbore Dim F		Torque Pack Gland (N-m)	Wt (kg)
						Dia mm	Depth mm		
A 11031	1/4	1/4	25	24	77	6.45	7.87		0.13
A 16472 *	1/4	1/4	25	24	77	6.45	7.87		0.13
A 11030	1/4	3/8	27	28	79	8.05	7.87		0.11
B 33964 **	1/4	1/4	25	24	77	6.45	7.87		0.14
A 13613	3/8	1/4	28	27	80	9.63	7.87		0.22
A 13503	3/8	3/8	28	28	80	9.63	12.70		0.22
A 11042	3/8	1/2	35	35	96	9.63	7.87		0.23

Replacement References

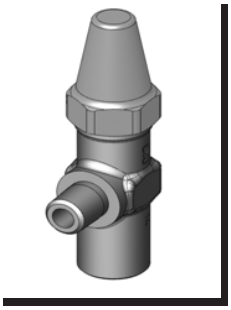
Part Number	Standard Seal Cap		Replacement Seal Cap		
	Material	Seal Cap	Brass	Plastic	Steel
A 11031	Steel	A 04566	A 04597	P 34627	A 04566
A 16472	Brass	A 16474	A 04597	P 34627	A 04566
A 11030	Steel	A 04566	A 04597	P 34627	A 04566
B 33964	Steel	A 04566	A 04597	P 34627	A 04566
A 13613	Steel	A 04566	A 04597	P 34627	A 04566
A 13503	Steel	A 04566	A 04597	P 34627	A 04566
A 11042	Steel	A 00409			

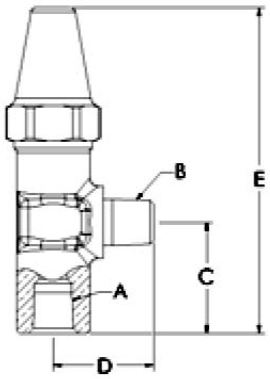
Packed Line Valves, Angle

Non-Backseating, NPTFE x NPTFI, NPTFI x NPTFE

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Forged brass body
- Plated steel stem suitable for refrigerants and other industrial fluids non-corrosive to brass and steel
- Asbestos-free stem packing material





Dimensions

Part Number		A (in)	B (in)	C (in)	D (in)	E (in)	Torque Pack Gland (ft-lb)	Torque Seal Cap (ft-lb)	Wt (lb)
A 13502	NPTFE X NPTFI	1/4	1/4	1.38	1.06	3.78	8 - 12		0.49
B 32222	NPTFI X NPTFE	1/4	1/4	1.25	1.12	3.64	8 - 12		0.51

Metric Dimensions

Part Number		A (in)	B (in)	C (mm)	D (mm)	E (mm)	Torque Pack Gland (N-m)	Torque Seal Cap (N-m)	Wt (kg)
A 13502	NPTFE X NPTFI	1/4	1/4	35	27	96	11 - 16		0.22
B 32222	NPTFI X NPTFE	1/4	1/4	32	28	92	11 - 16		0.23

Replacement References

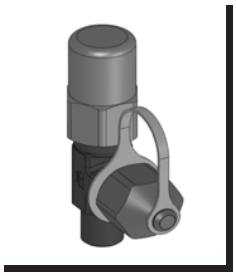
Part Number	Standard Seal Cap	
	Material	Seal Cap
A 13502	Steel	A 00409
B 32222	Steel	A 00409

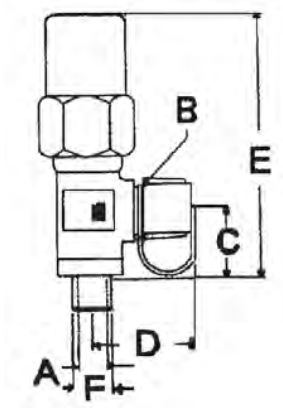
Packed Line Valves, Angle

Non-Backseating Solder to Flare

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Forged brass body
- Plated steel stem suitable for refrigerants and other industrial fluids non-corrosive to brass and steel





References

	3/8 Solder also 1/2 FTG
	1/4 Solder also 3/8 FTG
*	Steel Seal Cap
**	Brass Seal Cap, includes copper gasket
***	Steel Seal Cap, Loosely Assembled
****	Plastic Seal Cap

Dimensions

Part Number		Solder A (in)	Flare B (in)	C (in)	D (in)	E (in)	F ODE (in)	Torque Pack Gland (ft-lb)	Torque Seal Cap (ft-lb)	Wt (lb)
A 17502	*	1/4	1/4	0.71	1.03	2.75	3/8	8 - 12	6 - 10	0.30
B 34252	**	1/4	1/4	0.71	1.03	2.75	3/8	8 - 12	20 - 30	0.31
B 35161	***	1/4	1/4	0.71	1.03	2.75	3/8	8 - 12	6 - 10	0.31
A 17503	*	3/8	3/8	0.69	1.50	2.72	1/2	8 - 12	6 - 10	0.49
B 34255	**	3/8	3/8	0.69	1.27	2.72	1/2	8 - 12	20 - 30	0.49
B 35160	***	3/8	3/8	0.69	1.50	2.72	1/2	8 - 12	6 - 10	0.38
B 34288	****	3/8	3/8	0.69	1.50	2.72	1/2		Finger Tight	0.31

Metric Dimensions

Part Number		Solder A (in)	Flare B (in)	C (mm)	D (mm)	E (mm)	F ODE (mm)	Torque Pack Gland (N-m)	Torque Seal Cap (N-m)	Wt (kg)
A 17502	*	1/4	1/4	18	26	70	10	11 - 16	8 - 14	0.14
B 34252	**	1/4	1/4	18	26	70	10	11 - 16	27 - 41	0.14
B 35161	***	1/4	1/4	18	26	70	10	11 - 16	8 - 14	0.14
A 17503	*	3/8	3/8	18	38	69	13	11 - 16	8 - 14	0.22
B 34255	**	3/8	3/8	18	32	69	13	11 - 16	27 - 41	0.22
B 35160	***	3/8	3/8	18	38	69	13	11 - 16	8 - 14	0.17
B 34288	****	3/8	3/8	18	38	69	13		Finger Tight	0.14

Replacement References

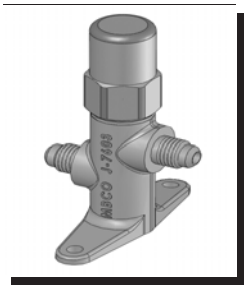
Standard Seal Cap		Replacement Seal Cap		
Material	Seal Cap	Brass	Plastic	Steel
Brass	A 16474	A 04597	P 34627	A 04566
Plastic	P 34627	A 04597	P 34627	A 04566
Steel	A 04566	A 04597	P 34627	A 04566

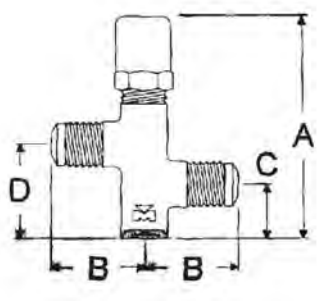
Packed Line Valves, Two-Way

Flare to Flare

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Forged brass body
- Plated steel stem suitable for refrigerants and other industrial fluids non-corrosive to brass and steel
- Asbestos-free stem packing material





References

* Includes steel cap and copper gasket

** Includes brass cap and copper gasket

Dimensions

Part Number		Size (in)	A (in)	B (in)	C (in)	D (in)	Wt (lb)
A 13591	*	1/4	3.48	1.00	0.94	1.44	0.43
B 33482	**	1/4	3.4	1.00	0.90	1.40	0.51
A 13595	*	3/8	3.4	1.12	0.90	1.40	0.48
A 13592	*	1/2	3.4	1.25	0.94	1.44	0.50

Metric Dimensions

Part Number		Size (in)	A (mm)	B (mm)	C (mm)	D (mm)	Wt (kg)
A 13591	*	1/4	88	25	24	37	0.20
B 33482	**	1/4	86	25	23	36	0.23
A 13595	*	3/8	86	28	23	36	0.22
A 13592	*	1/2	86	32	24	37	0.22

References

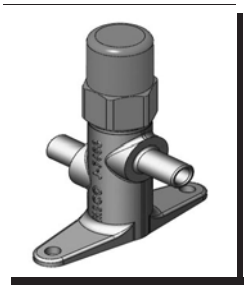
Part Number	Standard Seal Cap		Replacement Seal Cap		
	Material	Seal Cap	Brass	Plastic	Steel
A 13591	Steel	A 04566	A 04597	P 34627	A 04566
B 33482	Brass	A 16474	A 04597	P 34627	A 04566
A 13595	Steel	A 04566	A 04597	P 34627	A 04566
A 13592	Steel	A 04566	A 04597	P 34627	A 04566

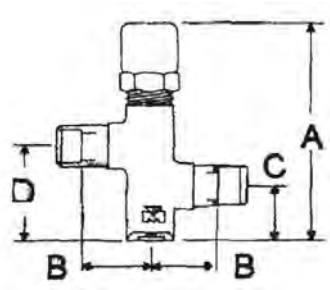
Packed Line Valves, Two-Way

Solder to Solder

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Forged brass body
- Plated steel stem suitable for refrigerants and other industrial fluids non-corrosive to brass and steel
- Asbestos-free stem packing material





References

*	Includes steel cap and copper gasket
**	Includes brass cap and copper gasket

Dimensions

Part Number		Size (in)	A (in)	B (in)	C (in)	D (in)	Wt (lb)
A 15580	*	1/4	3.4	0.75	0.94	1.44	0.42
A 15581	*	3/8	3.4	0.93	0.90	1.40	0.45
A 15582	*	1/2	3.4	0.87	0.90	1.40	0.54

Metric Dimensions

Part Number		Size (in)	A (mm)	B (mm)	C (mm)	D (mm)	Wt (kg)
A 15580	*	1/4	86	19	24	37	0.19
A 15581	*	3/8	86	24	23	36	0.20
A 15582	*	1/2	86	22	23	36	0.25

References

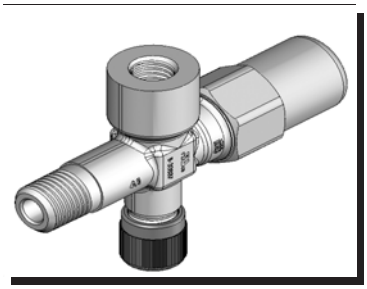
Part Number	Standard Seal Cap		Replacement Seal Cap		
	Material	Seal Cap	Brass	Plastic	Steel
A 15580	Steel	A 04566	A 04597	P 34627	A 04566
A 15581	Steel	A 04566	A 04597	P 34627	A 04566
A 15582	Steel	A 04566	A 04597	P 34627	A 04566

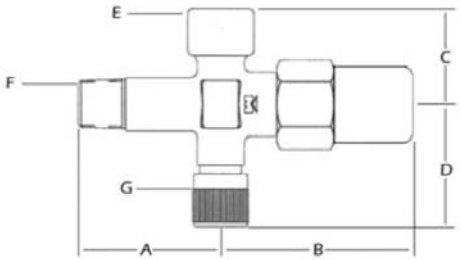
Transducer Valves

NPTFI X NPTFE

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Forged brass body
- Plated steel stem suitable for refrigerants and other industrial fluids non-corrosive to brass and steel
- Asbestos-free stem packing material





References

*	Valve core not installed
**	Valve core shipped loosely assembled

Dimensions

Part Number		A (in)	B (in)	C (in)	D (in)	E (in) NPTFI	F (in) NPTFE
B 33837		1.5	2.00	1.00	1.25	1/8	1/4
B 34254		1.5	2.00	1.00	1.25	1/8	1/4
B 34287	*	1.5	2.00	1.00	1.25	1/4	1/4
B 35334	**	1.5	2.00	1.00	1.25	1/4	1/4

Metric Dimensions

Part Number		A (mm)	B (mm)	C (mm)	D (mm)	E (in) NPTFI	F (in) NPTFE
B 34254		38	51	25	25	1/8	1/4
B 33837		38	51	25	25	1/8	1/4
B 34287	*	38	51	25	25	1/4	1/4
B 35334	**	38	51	25	25	1/4	1/4

References

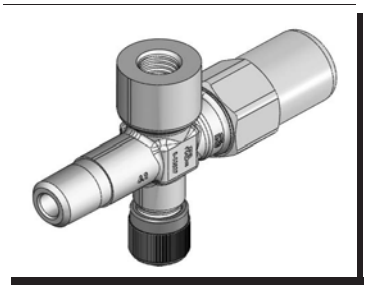
Part Number	Standard Seal Cap		Replacement Seal Cap		
	Material	Seal Cap	Brass	Plastic	Steel
B 33837	Steel	A 04566	A 04597	P 34627	A 04566
B 34254	Brass	A 16474	A 04597	P 34627	A 04566
B 34287	Plastic	P 34627	A 04597	P 34627	A 04566
B 35334	Plastic	P 34627	A 04597	P 34627	A 04566

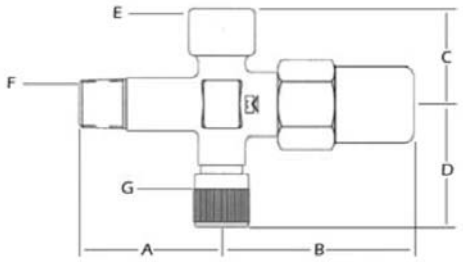
Transducer Valves

NPTFI X ODS

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Forged brass body
- Plated steel stem suitable for refrigerants and other industrial fluids non-corrosive to brass and steel
- Asbestos-free stem packing material





Dimensions

Part Number	A (in)	B (in)	C (in)	D (in)	E (in) NPTFI	F (in) ODS
B 35162	1.5	2.00	1.00	1.25	1/8	3/8

Metric Dimensions

Part Number	A (mm)	B (mm)	C (mm)	D (mm)	E (in) NPTFI	F (in) ODS
B 35162	38	51	25	25	1/8	3/8

References

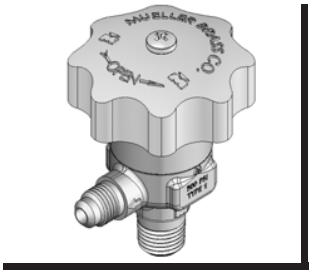
Part Number	Standard Seal Cap		Replacement Seal Cap		
	Material	Seal Cap	Brass	Plastic	Steel
B 35162	Steel	A 04566	A 04597	P 34627	A 04566

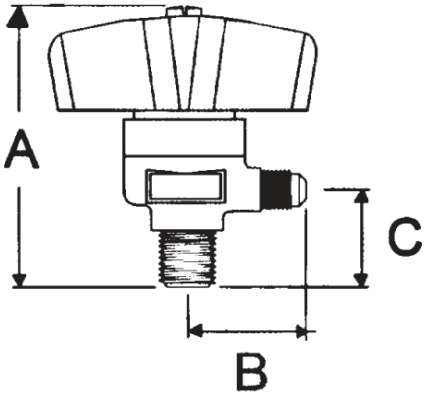
Packless Diaphragm Valves

Angle, NPTFE to Flare

Features:

- Maximum working pressure (PS) with the flow in the direction of the arrow on the body: 700 psig, 48 bar
- Maximum working pressure (PS) with the flow against the direction of the arrow on the body: 300 psig, 24 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Listed, CE Certified
- Forged brass body with full size openings for maximum flow and minimum pressure drop
- Fitted with two stainless steel diaphragms and one phosphor bronze diaphragm for positive isolation
- Thermally stable hand wheel for operation in wide temperature ranges
- Counter seat design assures no moisture intrusion





Dimensions

Part Number	NPTFE (in)	Flare (in)	A Open (in)	B (in)	C (in)	Wt (lb)
A 15525	1/4	1/4	2.82	1.30	1.04	0.71
A 15526	1/4	3/8	2.82	1.42	1.04	0.71
A 15530	1/2	1/2	3.7	1.86	1.44	1.17
A 15531	1/2	5/8	3.7	1.94	1.44	1.18

Metric Dimensions

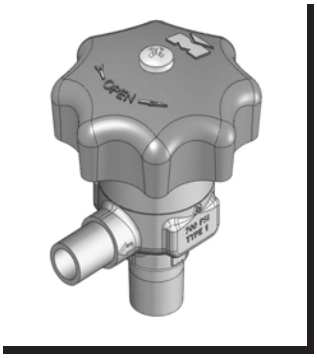
Part Number	NPTFE (in)	Flare (in)	A Open (mm)	B (mm)	C (mm)	Wt (kg)
A 15525	1/4	1/4	72	33	26	0.32
A 15526	1/4	3/8	72	36	26	0.32
A 15530	1/2	1/2	94	47	37	0.53
A 15531	1/2	5/8	94	49	37	0.54

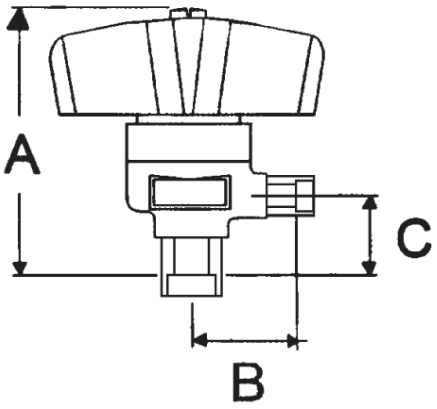
Packless Diaphragm Valves

Angle, Solder to Solder

Features:

- Maximum working pressure (PS) with the flow in the direction of the arrow on the body: 700 psig, 48 bar
- Maximum working pressure (PS) with the flow against the direction of the arrow on the body: 300 psig, 24 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Listed, CE Certified
- Forged brass body with full size openings for maximum flow and minimum pressure drop
- Fitted with two stainless steel diaphragms and one phosphor bronze diaphragm for positive isolation
- Thermally stable hand wheel for operation in wide temperature ranges
- Counter seat design assures no moisture intrusion





Dimensions

Part Number	OD (in)	A Open (in)	B (in)	C (in)	Wt (lb)
A 15539	1/4	2.85	1.11	0.76	0.69
A 15541	1/2	3.7	1.56	1.06	1.14
A 15542	5/8	3.7	1.44	0.94	1.14

Metric Dimensions

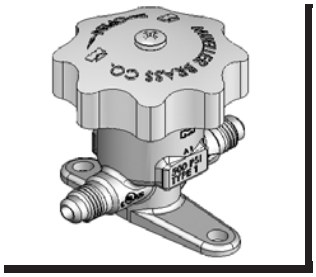
Part Number	OD (mm)	A Open (mm)	B (mm)	C (mm)	Wt (kg)
A 15539	6	72	28	19	0.31
A 15541	13	94	40	27	0.52
A 15542	16	94	37	24	0.52

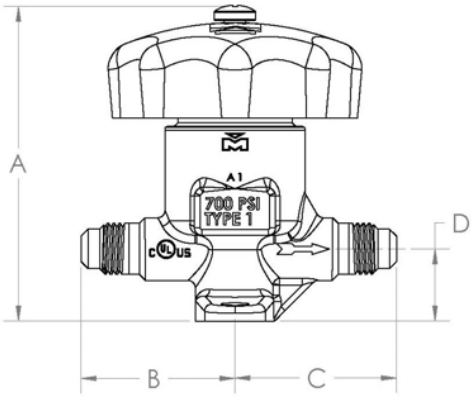
Packless Diaphragm Valves

Straight, Flare to Flare

Features:

- Maximum working pressure (PS) with the flow in the direction of the arrow on the body: 700 psig, 48 bar
- Maximum working pressure (PS) with the flow against the direction of the arrow on the body: 300 psig, 24 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Listed, CE Certified
- Forged brass body with full size openings for maximum flow and minimum pressure drop
- Fitted with two stainless steel diaphragms and one phosphor bronze diaphragm for positive isolation
- Thermally stable hand wheel for operation in wide temperature ranges
- Counter seat design assures no moisture intrusion





Dimensions

Part Number	Size (in)	A Open (in)	B (in)	C (in)	D (in)	Wt (lb)
A 14833	1/4	2.7	1.32	1.38	0.62	0.59
A 14835	3/8	2.7	1.36	1.42	0.62	0.60
A 14836	1/2	3.46	1.62	1.86	0.84	1.03
A 14837	5/8	3.46	1.70	1.93	0.84	1.05

Metric Dimensions

Part Number	Size (in)	A Open (mm)	B (mm)	C (mm)	D (mm)	Wt (kg)
A 14833	1/4	69	34	35	16	0.27
A 14835	3/8	69	35	36	16	0.27
A 14836	1/2	88	41	47	21	0.47
A 14837	5/8	88	43	49	21	0.48

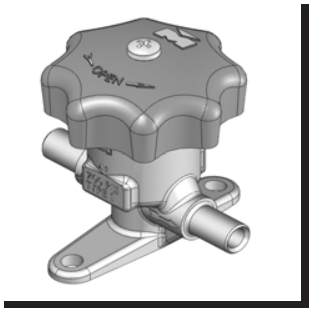
RoHS Compliant. Comply with ISO 9001 Standards.

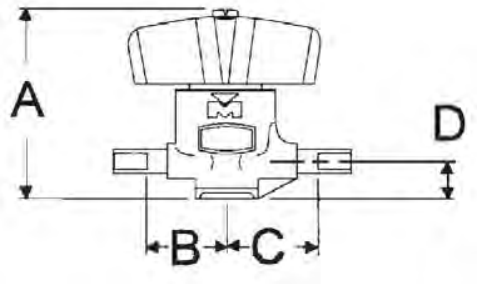
Packless Diaphragm Valves

Straight, Solder to Solder

Features:

- Maximum working pressure (PS) with the flow in the direction of the arrow on the body: 700 psig, 48 bar
- Maximum working pressure (PS) with the flow against the direction of the arrow on the body: 300 psig, 24 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Listed, CE Certified
- Forged brass body with full size openings for maximum flow and minimum pressure drop
- Fitted with two stainless steel diaphragms and one phosphor bronze diaphragm for positive isolation
- Thermally stable hand wheel for operation in wide temperature ranges
- Counter seat design assures no moisture intrusion





Dimensions

Part Number	Size (in)	A Open (in)	B (in)	C (in)	D (in)	Wt (lb)
A 14838	1/4	2.70	1.04	1.10	0.62	0.85
A 14840	3/8	2.70	1.04	1.10	0.62	0.57
A 14841	1/2	3.49	1.32	1.56	0.84	0.97
A 14842	5/8	3.49	1.20	1.44	0.84	1.00

Metric Dimensions

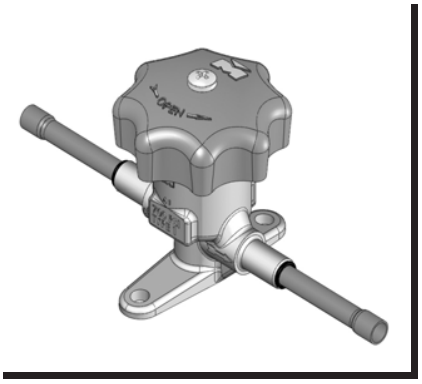
Part Number	Size (mm)	A Open (mm)	B (mm)	C (mm)	D (mm)	Wt (kg)
A 14838	6	69	26	28	16	0.38
A 14840	10	69	26	28	16	0.26
A 14841	13	89	34	40	21	0.44
A 14842	16	89	30	37	21	0.45

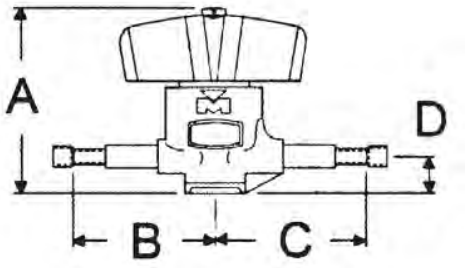
Packless Diaphragm Valves

Straight, Solder to Solder Extended Ends

Features:

- Maximum working pressure (PS) with the flow in the direction of the arrow on the body: 700 psig, 48 bar
- Maximum working pressure (PS) with the flow against the direction of the arrow on the body: 300 psig, 24 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Listed, CE Certified
- Forged brass body with full size openings for maximum flow and minimum pressure drop
- Fitted with two stainless steel diaphragms and one phosphor bronze diaphragm for positive isolation
- Thermally stable hand wheel for operation in wide temperature ranges
- Counter seat design assures no moisture intrusion





Dimensions

Part Number	Size (in)	A Open (in)	B (in)	C (in)	D (in)	Wt (lb)
A 14848	1/4	2.70	2.66	2.72	0.62	0.86
A 14850C	3/8	2.70	2.82	2.88	0.62	0.62
A 14851	1/2	3.49	3.04	3.28	0.84	1.06
A 14852	5/8	3.49	3.11	3.35	0.84	1.17

Metric Dimensions

Part Number	Size (mm)	A Open (mm)	B (mm)	C (mm)	D (mm)	Wt (kg)
A 14848	6	69	68	69	16	0.39
A 14850C	10	69	72	73	16	0.28
A 14851	13	89	77	83	21	0.48
A 14852	16	89	79	85	21	0.53

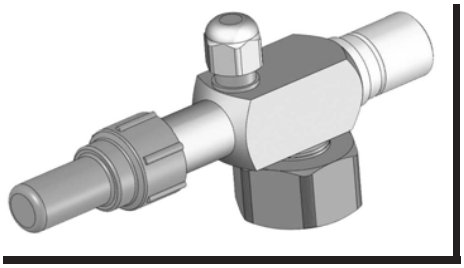
RoHS Compliant. Comply with ISO 9001 Standards.

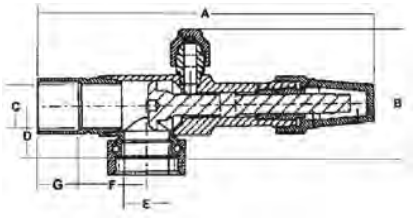
Brass Angle Isolation Valves

Solder to Rotolock

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- 100% tested
- Asbestos-free packing material
- Quick-change packing gland allows easy replacement without refrigerant loss
- Solid brass construction for maximum protection in all environmental conditions
- Backseating design





References

*	Plastic Cap
**	Brass Cap
***	Flare Seal Cap and Plastic Seal Cap should be finger tight
****	Includes Rotolock, Spud and Gasket
*****	Consult factory

Dimensions

Part Number		Size	Cv	A	B	C	D	E	F	Flare Size	Wt	Torque to Seal (ft-lb) ***				Packing Kit
				in	in	in	in	in	in	in	lb	Front Seat	Back Seat	Pack Gland	Rotolock Nut	
B 34418	*	5/8 X 1 THD	6.00	5.35	2.25	0.55	0.93	0.55	0.17	1/4	0.68	16 - 18	16 - 18	8 - 12	40 - 50	A 17420
B 34417	*	7/8 X 1 1/4 THD	15.00	6.56	2.40	0.75	1.07	0.75	1.27	1/4	1.33	22 - 40	25 - 45	15 - 20	60 - 80	A 17419
B 34416	*	1 1/8 X 1 1/2 THD	25.00	7.61	2.85	1.00	1.27	1.00	1.55	3/8	2.03	22 - 40	25 - 45	15 - 20	60 - 80	A 17419
B 34415	**	1 3/8 X 1 3/4 THD	38.00	9.52	3.22	1.25	1.41	1.25	1.91	3/8	3.26	22 - 40	25 - 45	15 - 20	60 - 80	A 17419
B 34414	**	1 5/8 X 2 1/4 THD	53.00	10.04	3.35	1.50	1.58	1.50	2.19	3/8	4.26	22 - 40	25 - 45	15 - 20	80 - 100	A 17419

Metric Dimensions

Part Number		Size	Kv	A	B	C	D	E	F	Flare Size	Wt	Torque to Seal (N-m) ***				Packing Kit
				mm	mm	mm	mm	mm	mm	in	lb	Front Seat	Back Seat	Pack Gland	Rotolock Nut	
B 34418	*	5/8 X 1 THD	5.19	135.89	57.15	13.97	23.62	13.97	4.32	1/4	0.31	22 - 24	22 - 24	11 - 16	54 - 68	A 17420
B 34417	*	7/8 X 1 1/4 THD	12.97	166.62	60.96	19.05	27.18	19.05	32.26	1/4	0.61	30 - 54	34 - 61	20 - 27	81 - 109	A 17419
B 34416	*	1 1/8 X 1 1/2 THD	21.62	193.29	72.39	25.40	32.26	25.40	39.37	3/8	0.92	30 - 54	34 - 61	20 - 27	81 - 109	A 17419
B 34415	**	1 3/8 X 1 3/4 THD	32.87	241.81	81.79	31.75	35.81	31.75	48.51	3/8	1.48	30 - 54	34 - 61	20 - 27	81 - 109	A 17419
B 34414	**	1 5/8 X 2 1/4 THD	45.84	255.02	85.09	38.10	40.13	38.10	55.63	3/8	1.93	30 - 54	34 - 61	20 - 27	109 - 136	A 17419

Rotolock Couplings and Line Break Kits

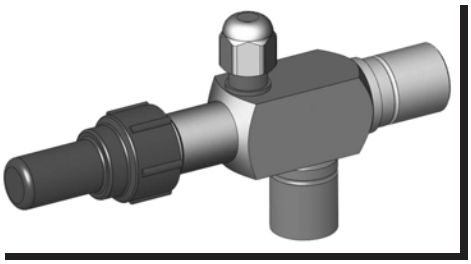
Thread	Male Spud	Gasket	Line Break Kit ****
1	*****	*****	*****
1 1/4	*****	*****	*****
1 1/2	S 36173	P 36168	A 17910
1 3/4	S 36171	P 36169	A 17912
2 1/4	S 36164	P 36167	A 17908

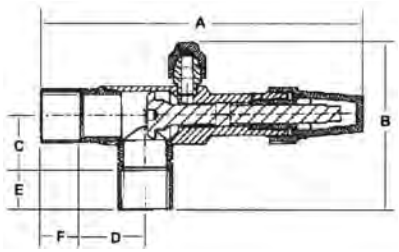
Brass Angle Isolation Valves

Solder to Solder

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- 100% tested
- Asbestos-free packing material
- Quick-change packing gland allows easy replacement without refrigerant loss
- Solid brass construction for maximum protection in all environmental conditions
- Backseating design





References

*	Plastic Cap
**	Brass Cap
***	Flare Seal Cap and Plastic Seal Cap should be finger tight

Dimensions

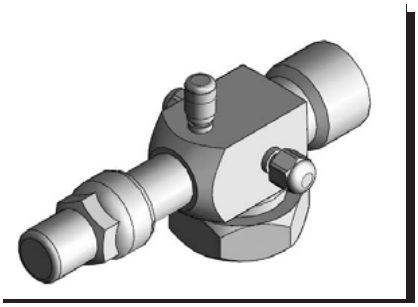
Part Number		Size	Cv	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Flare Size (in)	Wt (lb)	Torque to Seal (ft-lb) ***				Packing Kit
												Front Seat	Back Seat	Pack Gland	Brass Cap	
B 34413	*	5/8 X 5/8	6	5.38	2.58	0.84	1.17	0.50	0.50	1/4	0.56	16 - 18	16 - 18	8 - 12		A 17420
B 34412	*	7/8 X 7/8	15	6.52	3.09	0.91	1.27	0.75	0.75	1/4	1.17	22 - 40	25 - 45	15 - 20		A 17419
B 35224	*	1 1/8 X 1 1/8	25	7.58	3.77	1.31	1.50	0.94	0.94	3/8	1.85	22 - 40	25 - 45	15 - 20		A 17419
B 34778	**	1 1/8 X 1 1/8		7.58	3.77	1.31	1.50	1.00	0.94	3/8	2.06	22 - 40	25 - 45	15 - 20	40 - 50	A 17419
B 34479	*	1 1/8 X 1 3/8		7.58	3.75	1.25	1.50	1.00	0.94	1/4	1.95	22 - 40	25 - 45	15 - 20		A 17419
B 34594	**	1 3/8 X 1 3/8	38	9.52	4.14	1.50	1.91	1.00	1.00	3/8	2.87	22 - 40	25 - 45	15 - 20	40 - 50	A 17419
B 35291	**	1 3/8 X 1 3/8	38	9.52	4.14	1.50	1.91	1.00	1.00	1/4	2.99	22 - 40	25 - 45	15 - 20	40 - 50	A 17419
B 34595	**	1 5/8 X 1 5/8	53	9.98	4.62	1.75	2.19	1.09	1.09	3/8	3.89	22 - 40	25 - 45	15 - 20	40 - 50	A 17419
B 35292	**	1 5/8 X 1 5/8	53	9.98	4.62	1.75	2.19	1.09	1.09	1/4	3.82	22 - 40	25 - 45	15 - 20	40 - 50	A 17419

Metric Dimensions

Part Number		Size	Kv	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Flare Size (in)	Wt (kg)	Torque to Seal (N-m) ***				Packing Kit
												Front Seat	Back Seat	Pack Gland	Brass Cap	
B 34413	*	5/8 X 5/8	5	137	66	21	30	13	13	1/4	0.25	22 - 24	22 - 24	11 - 16		A 17420
B 34412	*	7/8 X 7/8	13	166	78	23	32	19	19	1/4	0.53	30 - 54	34 - 61	20 - 27		A 17419
B 35224	*	1 1/8 X 1 1/8	22	193	96	33	38	24	24	3/8	0.84	30 - 54	34 - 61	20 - 27		A 17419
B 34778	**	1 1/8 X 1 1/8		193	96	33	38	25	24	3/8	0.93	30 - 54	34 - 61	20 - 27	54 - 68	A 17419
B 34479	*	1 1/8 X 1 3/8		193	95	32	38	25	24	1/4	0.88	30 - 54	34 - 61	20 - 27		A 17419
B 34594	**	1 3/8 X 1 3/8	33	242	105	38	49	25	25	3/8	1.30	30 - 54	34 - 61	20 - 27	54 - 68	A 17419
B 35291	**	1 3/8 X 1 3/8	33	242	105	38	49	25	25	1/4	1.36	30 - 54	34 - 61	20 - 27	54 - 68	A 17419
B 34595	**	1 5/8 X 1 5/8	46	253	117	44	56	28	28	3/8	1.76	30 - 54	34 - 61	20 - 27	54 - 68	A 17419
B 35292	**	1 5/8 X 1 5/8	46	253	117	44	56	28	28	1/4	1.73	30 - 54	34 - 61	20 - 27	54 - 68	A 17419

RoHS Compliant. Comply with ISO 9001 Standards.

Steel Angle Isolation Valves



Manual stem service valves are typically installed in systems to isolate circuits or critical system components, thereby allowing access to the refrigeration system for repair purposes while safely assuring no loss of refrigerant. Valves in this product category can have many different body styles including forged brass and cast iron versions that mount directly on compressors, as well as angle style in solder and rotalock configurations that can mount in circuits, lines, or on adapter fittings.

The Steel Isolation Valve series (SIV) have been designed for ultimate flexibility and performance in any system. The unique design starts with a flexible 3-guage port configuration allowing easy access to any service port no matter where the valve is mounted in the system. Each valve has dual ports on either side of the valve which remain open during normal operation and can be used with pressure switches or gauges as required for system operation or service purposes. The top service port is the furthest back of all ports, and is completely isolated when the stem is fully back-seated. This port can be used for pressure readings or charging/evacuation when slightly cracked from the back-seat.

Valves may be further customized to any design requirement by identifying individual ports that should be permanently sealed using the special locked brass seal cap option that protects ports from unwanted tampering and potential leaks.

All valve bodies are specially plated to maximize protection against rust while also offering unique solid copper connections that allow for easy and quick installation.

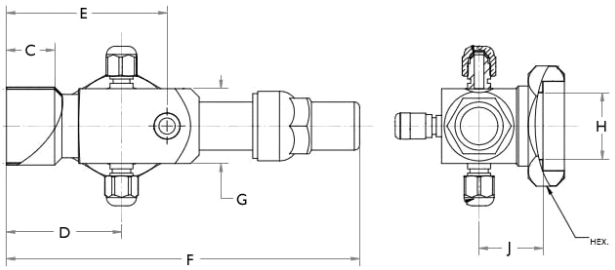
Steel Angle Isolation Valves

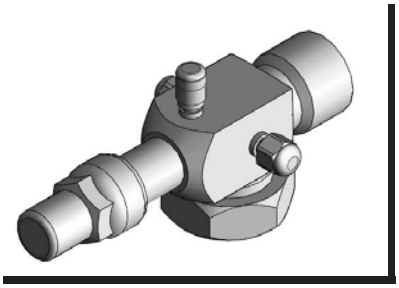
Solder, Rotolock

Upcoming Release. Contact Factory for Details.

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- 100% tested





* Part Number requires a 5 character prefix

Example: IBXPP10012 = 5/8 x 1-14UNS-2B, Top port not required (plugged), Left and Right ports required

Dimensions

Part Number *	Size	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	HEX (in)	J (in)	Wt (lb)
I10010	3/8	0.32	1.46	1.97	4.39	0.79	.47	1.18	0.75	0.55
I10011	1/2	0.41	1.53	2.04	4.40	0.79	.47	1.18	0.75	0.54
I10012	5/8	0.63	1.58	2.09	4.65	0.87	.51	1.18	0.79	0.61
I10014	7/8	0.79	2.11	2.77	5.75	1.18	.75	1.42	1.05	1.07
I10015	1 1/8	0.95	2.85	3.76	7.62	1.42	.75	1.42	1.17	1.77
I10016	1 3/8	0.98	3.11	4.01	7.90	1.42	.75	1.42	1.17	1.76
I10017	1 5/8	1.10	3.36	4.27	8.15	1.42	1.06	1.97	1.22	1.98

Metric Dimensions

Part Number *	Size	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	HEX (in)	J (mm)	Wt (kg)
I10010	3/8	8	37	50	112	20	12	1.18	19	0.25
I10011	1/2	10	39	52	112	20	12	1.18	19	0.24
I10012	5/8	16	40	53	118	22	13	1.18	20	0.28
I10014	7/8	20	54	70	146	30	19	1.42	27	0.49
I10015	1 1/8	24	72	96	194	36	19	1.42	30	0.80
I10016	1 3/8	25	79	102	201	36	19	1.42	30	0.80
I10017	1 5/8	28	85	108	207	36	27	1.97	31	0.90

Character 1 (Valve Type)

I	Isolation

Character 2 (size)

A	3/4" - 16 UNF
B	1" - 14 UNS
C	1 1/4" - 12 UNF
D	1 1/2" - 12 UNF
E	1 3/4" - 12 UNF
F	2 1/4" - 12 UNF
G	3/8" ODS
H	1/2" ODS
J	5/8" ODS
K	3/4" ODS
L	7/8" ODS
M	1 1/8" ODS
N	1 3/8" ODS
O	1 5/8" ODS

Character 3 (Top Port)

P	Access Port Required
X	Access Port Not Required

Character 4 (Left Port)

P	Access Port Required
X	Access Port Not Required

Character 5 (Right Port)

P	Access Port Required
X	Access Port Not Required

Pressure Relief Valves

Selection Process

A Pressure Relief Valve (PRV) is a system safety device that has been designed to function in accordance with specific country codes to prevent and protect the operation of systems and vessels above allowable safe levels.

Relief valves conform to the American Standard Safety Code for Mechanical Refrigeration (ANSI/ASHRAE 15), and are designed and manufactured in accordance with ASME Section VIII Division 1, certifying specific capacities and identified by the ASME and National Board NB stamps on each valve. These valves are also compliant with European Union Pressure Equipment Directive (PED 97/23/EC), and exhibit the appropriate EC marking and identification number.

Relief valves operate automatically when the system pressure exceeds the valve set pressure and exerts a force on the valve disc that overcomes the opposing internal spring force. By code, valves may open with allowable tolerances within a +/- 3% range of stamped set pressure, with full discharge capacity realized at 10% above the actual opening pressure.

Selection of a relief valve should be based on the discharge capacity required for the system or vessel, based on the size of the equipment and the refrigerant being used. Minimum settings for valves should be at least 25% above the designed Maximum Operating Pressure, while additional consideration must be given if the valve location may experience high ambient temperatures such as an equipment room or rooftop. Sizing valves to the maximum allowable setting will minimize the possibility of seepage or early discharge.

While valves are designed to reseat after discharge, it is advisable that they are replaced, since system impurities such as piping debris, solder, and metal shavings can accumulate under the valve disc and inhibit the proper resealing of the valve.

Selection of a relief valve:

Determine the discharge capacity based on system design.

Determine the pressure setting required, ensuring the valve is at least 25% higher than maximum system operating pressure.

Verify system operating temperatures and expected ambient conditions for valve setpoint consideration.

Determine the connection size required.

Discharge Capacity

The minimum required discharge capacity of the pressure relief device or fusible plug for each pressure vessel is determined by the following formula, specified by the aSHRAE Standard 15, Safety Code for Mechanical Refrigeration:

C = kfDL where:

C = minimum required discharge capacity of the relief device, lb. air/min (kg air/min)

D = outside diameter of vessel, ft (m)

L = length of the vessel, ft (m)

k = factor dependent on units used (K = 1 for 1-P units, K = 4.88 for S1 units)

f = factor dependent on the kind of refrigerant from Discharge Capacity Chart

Application	Value of F	Metric Valve of F
When used on the lowside of a limited-charge cascade system		
R-11	1.0	0.082
R-113	1.0	0.082
R-114	1.6	0.131
R-115	2.5	0.203
R-1150	1.0	0.082
R-12	1.6	0.131
R-123	1.0	0.082
R-124	1.6	0.131
R-1270	1.6	0.131
R-13	2.0	0.163
R-134a	1.6	0.131
R-13B1	2.0	0.163
R-14	2.5	0.203
R-142b	1.0	0.082
R-143a	2.0	0.163
R-152a	1.0	0.082
R-170	1.0	0.082
R-22	1.6	0.131
R-23	1.0	0.082
R-290	1.0	0.082
R-32	1.0	0.082
R-401A	1.6	0.131
R-401B	1.6	0.131
R-401C	1.6	0.131
R-402A	2.5	0.203
R-402B	2.0	0.163
R-403A	2.0	0.163
R-403B	2.5	0.203
R-404A	2.5	0.203
R-405A	1.6	0.131
R-406A	1.6	0.131

Application	Value of F	Metric Valve of F
When used on the lowside of a limited-charge cascade system		
R-407A	2.0	0.163
R-407C	1.6	0.131
R-407D	1.6	0.131
R-407E	1.6	0.131
R-408A	2.0	0.163
R-409A	1.6	0.131
R-409B	1.6	0.131
R-407B	2.5	0.203
R-410A	2.5	0.203
R-410B	2.5	0.203
R-411A	1.6	0.131
R-411B	1.6	0.131
R-411C	1.6	0.131
R-412A	1.6	0.131
R-413A	2.0	0.163
R-414A	1.6	0.131
R-414B	1.6	0.131
R-500	1.6	0.131
R-502	2.5	0.203
R-503	2.0	0.163
R-507A	2.5	0.203
R-508A	1.0	0.082
R-508B	1.0	0.082
R-509A	2.5	0.203
R-600	1.0	0.082
R-600a	1.0	0.082
R-717	0.5	0.041
R-718	0.2	0.016
R-744	1.0	0.082
R-764	1.0	0.082
	0.0	0.000

Certifications:

Conforms to ASME Section VIII, Division 1 and The National Board of Boiler & Pressure Vessel Inspectors, Certificate Number 16,564

Conforms to Pressure Equipment Directive 97/23/EC B. CE Certification Number 69517, BSI Product Services Notified Body Number 0086.

Canadian Registration Number 0G0314.9C

Certification Documentation Levels:

Level 1 Certificate: A Certificate of Conformance can be provided based on customer request at the time of order placement, or after customer receipt of product. Information necessary to provide a Certificate of Conformance includes: customer name, purchase order number, manufacturing part number, quantity shipped and date of shipment.

Level 2 Certificate: A Certificate of Conformance and a UV-1 Form can be provided based on customer request at the time of order placement, or after customer receipt of product. Information necessary to provide a Certificate of Conformance includes: customer name, purchase order number, manufacturing part number, quantity shipped and date of shipment.

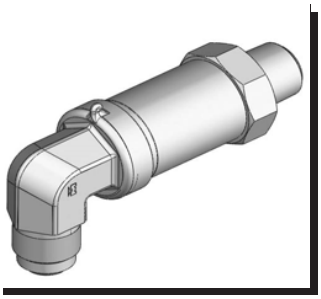
Level 3 Certificate: A Certificate of Conformance can be provided based on customer request at the time of order placement. A serialized certificate can be provided to document the pressure setting of each valve at the point of production.

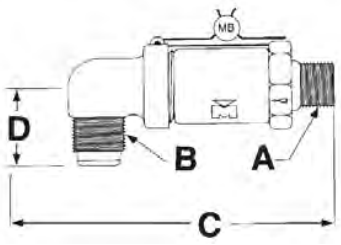
Pressure Relief Valves

Angle NPTFE to Flare

Features:

- Working temperature range (TS): -40°F/300°F, -40°/149°C
- Designed primarily for use on liquid receiver applications above the liquid refrigerant level (it is recommended that the factory be consulted before the valves are used on ther applications)
- Satisfy ASHRAE Standard 15 code requirements for a refrigerant vessel safety device (Application information can also be found in ASHRAE Guide and Data Book)
- Comply with ASME code for unfired pressure vessels
- Discharge rates are certified by National Board of Boiler & Pressure Vessel Inspectors
- Designed for maximum discharge capacities





References

* CE Certified, CRN, Compatible with all CFC, HCFC and HFC refrigerants and oils

*** Prefixed for standard pressure settings

** CE Certified, CRN, Compatible with all CFC, HCFC and HFC refrigerants and oils, Compatible with R410A

Dimensions

Part Number ***		A NPTFE Inlet (in)	B Flare Outlet(in)	C (in)	C (mm)	D (in)	D (mm)	Wt (lb)	Wt (kg)	Discharge Table
A 15512	**	3/8	3/8	2.43	62	1.21	31	0.37	0.17	B
A 15513	**	3/8	1/2	2.43	62	1.34	34	0.37	0.17	B
B 33746	**	1/4	3/8	2.43	62	1.21	31	0.41	0.19	B
B 33754	**	1/4	1/2	2.43	62	1.34	34	0.43	0.19	B
A 15514	*	1/2	5/8	4.10	104	1.56	40	1.02	0.46	C

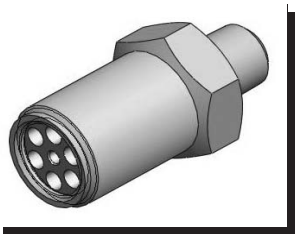
Prefix	PSIG	Discharge Capacity (lb air/min)											BAR	Discharge Capacity (kg air/min)										
		A	B	C	D	E	F	G	H	I	J	K		A	B	C	D	E	F	G	H	I	J	K
AD/BD	235	4.3	9.1	20.1	33.7	55.9	91.8	39.0		29.0	60.6	90.3	16	2.0	4.1	9.1	15.3	25.4	41.6	17.7		13.2	27.5	41.0
AE/BE	300	5.4	11.5	25.4	42.5	70.5	115.8	49.2		36.6	76.5	113.9	21	2.4	5.2	11.5	19.3	32.0	52.5	22.3		16.6	34.7	51.7
AG/BG	350	6.3	13.3	29.5	49.3	81.8	134.3	57.1		42.4	88.7	132.1	24	2.9	6.0	13.4	22.4	37.1	60.9	25.9		19.2	40.2	59.9
AH/BH	400	7.1	15.2	33.5	56.1	93.0	152.7	64.9		48.2		150.3	28	3.2	6.9	15.2	25.4	42.2	69.3	29.4		21.9		68.2
AI/BI	425	7.6	16.1	35.6	59.5	98.6	162.0	68.8		51.2		159.4	29	3.4	7.3	16.1	27.0	44.7	73.5	31.2		23.2		72.3
AI/BI	450	8.0	17.0	37.6	62.9	104.3	171.2	72.8		54.1		168.5	31	3.6	7.7	17.1	28.5	47.3	77.7	33.0		24.5		76.4
AW/BX	451 - 550		20.7												9.4									
AW/BW	551 - 575		21.6												9.8									
AW/BW	576 - 600		22.5						88.9						10.2						40.3			
AW/BW	601 - 625		23.4						92.6						10.6						42.0			
AW/BW	626 - 650		24.3						96.2						11.0						43.6			
AW/BW	651 - 675		25.3						99.8						11.5						45.3			
AW/BW	676 - 680		25.4						100.5						11.5						45.6			
AW/BW	681 - 700		26.2						103.4						11.9						46.9			

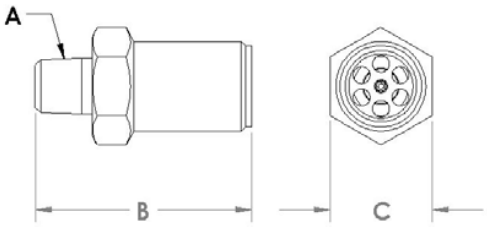
Pressure Relief Valves

Atmospheric - NPTFE Inlet

Features:

- Working temperature range (TS): -40°F/300°F, -40°/149°C
- Designed primarily for use on liquid receiver applications above the liquid refrigerant level (it is recommended that the factory be consulted before the valves are used on ther applications)
- Satisfy ASHRAE Standard 15 code requirements for a refrigerant vessel safety device (Application information can also be found in ASHRAE Guide and Data Book)
- Comply with ASME code for unfired pressure vessels
- Discharge rates are certified by National Board of Boiler & Pressure Vessel Inspectors
- Designed for maximum discharge capacities





References

*	CE Certified, CRN, Compatible with all CFC, HCFC and HFC refrigerants and oils
**	CE Certified, CRN, Compatible with all CFC, HCFC and HFC refrigerants and oils, Compatible with R410A
***	Prefixed for standard pressure settings

Dimensions

Part Number ***		A NPTFE Inlet (in)	B (in)	B (mm)	C (in)	C (mm)	Wt (lb)	Wt (kg)	Discharge Table
A 15508	*	1/8	1.88	48	0.75	19	0.12	0.05	A
A 15509	*	1/4	2.00	51	0.75	19	0.14	0.06	A
A 17430	*	3/8	2.12	54	1.00	25	0.25	0.11	B
B 33755	**	1/4	2.12	54	1.00	25	0.30	0.14	B

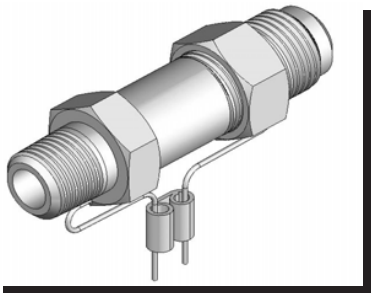
Prefix	PSIG	Discharge Capacity (lb air/min)											BAR	Discharge Capacity (kg air/min)										
		A	B	C	D	E	F	G	H	I	J	K		A	B	C	D	E	F	G	H	I	J	K
AD/BD	235	4.3	9.1	20.1	33.7	55.9	91.8	39.0		29.0	60.6	90.3	16	2.0	4.1	9.1	15.3	25.4	41.6	17.7		13.2	27.5	41.0
AE/BE	300	5.4	11.5	25.4	42.5	70.5	115.8	49.2		36.6	76.5	113.9	21	2.4	5.2	11.5	19.3	32.0	52.5	22.3		16.6	34.7	51.7
AG/BG	350	6.3	13.3	29.5	49.3	81.8	134.3	57.1		42.4	88.7	132.1	24	2.9	6.0	13.4	22.4	37.1	60.9	25.9		19.2	40.2	59.9
AH/BH	400	7.1	15.2	33.5	56.1	93.0	152.7	64.9		48.2		150.3	28	3.2	6.9	15.2	25.4	42.2	69.3	29.4		21.9		68.2
AI/BI	425	7.6	16.1	35.6	59.5	98.6	162.0	68.8		51.2		159.4	29	3.4	7.3	16.1	27.0	44.7	73.5	31.2		23.2		72.3
AJ/BJ	450	8.0	17.0	37.6	62.9	104.3	171.2	72.8		54.1		168.5	31	3.6	7.7	17.1	28.5	47.3	77.7	33.0		24.5		76.4
AW/BX	451 - 550		20.7												9.4									
AW/BW	551 - 575		21.6												9.8									
AW/BW	576 - 600		22.5						88.9						10.2						40.3			
AW/BW	601 - 625		23.4						92.6						10.6						42.0			
AW/BW	626 - 650		24.3						96.2						11.0						43.6			
AW/BW	651 - 675		25.3						99.8						11.5						45.3			
AW/BW	676 - 680		25.4						100.5						11.5						45.6			
AW/BW	681 - 700		26.2						103.4						11.9						46.9			

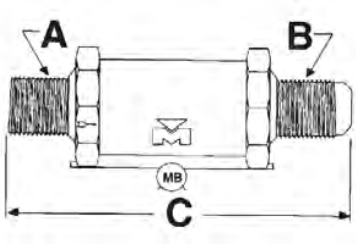
Pressure Relief Valves

Straight Thru - NPTFE Inlet to Flare Outlet

Features:

- Working temperature range (TS): -40°F/300°F, -40°/149°C
- Designed primarily for use on liquid receiver applications above the liquid refrigerant level (it is recommended that the factory be consulted before the valves are used on ther applications)
- Satisfy ASHRAE Standard 15 code requirements for a refrigerant vessel safety device (Application information can also be found in ASHRAE Guide and Data Book)
- Comply with ASME code for unfired pressure vessels
- Discharge rates are certified by National Board of Boiler & Pressure Vessel Inspectors
- Designed for maximum discharge capacities





References

* CE Certified, CRN, Compatible with all CFC, HCFC and HFC refrigerants and oils

** CE Certified, CRN, Compatible with all CFC, HCFC and HFC refrigerants and oils, Compatible with R410A

*** Prefixed for standard pressure settings

Dimensions

Part Number **		A NPTFE Inlet (in)	B Flare Outlet(in)	C (in)	C (mm)	Wt (lb)	Wt (kg)	Discharge Table
A 15501	*	1/4	3/8	2.65	67	0.20	0.09	A
A 15502	**	3/8	3/8	2.81	71	0.34	0.15	B
A 15503	**	3/8	1/2	3.00	76	0.35	0.16	B
B 33752	**	1/4	3/8	2.81	71	0.00	0.00	B
B 33753	**	1/4	1/2	3.00	76	0.41	0.18	B
A 15504	*	1/2	5/8	4.20	107	0.84	0.38	C

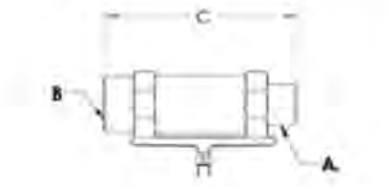
Prefix	PSIG	Discharge Capacity (lb air/min)											BAR	Discharge Capacity (kg air/min)										
		A	B	C	D	E	F	G	H	I	J	K		A	B	C	D	E	F	G	H	I	J	K
AD/BD	235	4.3	9.1	20.1	33.7	55.9	91.8	39.0		29.0	60.6	90.3	16	2.0	4.1	9.1	15.3	25.4	41.6	17.7		13.2	27.5	41.0
AE/BE	300	5.4	11.5	25.4	42.5	70.5	115.8	49.2		36.6	76.5	113.9	21	2.4	5.2	11.5	19.3	32.0	52.5	22.3		16.6	34.7	51.7
AG/BG	350	6.3	13.3	29.5	49.3	81.8	134.3	57.1		42.4	88.7	132.1	24	2.9	6.0	13.4	22.4	37.1	60.9	25.9		19.2	40.2	59.9
AH/BH	400	7.1	15.2	33.5	56.1	93.0	152.7	64.9		48.2		150.3	28	3.2	6.9	15.2	25.4	42.2	69.3	29.4		21.9		68.2
AI/BI	425	7.6	16.1	35.6	59.5	98.6	162.0	68.8		51.2		159.4	29	3.4	7.3	16.1	27.0	44.7	73.5	31.2		23.2		72.3
AI/BI	450	8.0	17.0	37.6	62.9	104.3	171.2	72.8		54.1		168.5	31	3.6	7.7	17.1	28.5	47.3	77.7	33.0		24.5		76.4
AW/BX	451 - 550		20.7												9.4									
AW/BW	551 - 575		21.6												9.8									
AW/BW	576 - 600		22.5						88.9						10.2						40.3			
AW/BW	601 - 625		23.4						92.6						10.6						42.0			
AW/BW	626 - 650		24.3						96.2						11.0						43.6			
AW/BW	651 - 675		25.3						99.8						11.5						45.3			
AW/BW	676 - 680		25.4						100.5						11.5						45.6			
AW/BW	681 - 700		26.2						103.4						11.9						46.9			

Pressure Relief Valves

Straight Thru - NPTFE Inlet to NPTFI Outlet

Features:

- Working temperature range (TS): -40°F/300°F, -40°/149°C
- Designed primarily for use on liquid receiver applications above the liquid refrigerant level (it is recommended that the factory be consulted before the valves are used on ther applications)
- Satisfy ASHRAE Standard 15 code requirements for a refrigerant vessel safety device (Application information can also be found in ASHRAE Guide and Data Book)



References

* CE Certified, CRN, Compatible with all CFC, HCFC and HFC refrigerants and oils

** CE Certified, CRN, Compatible with all CFC, HCFC and HFC refrigerants and oils, Compatible with R410A, Teflon Seat, Certified 600-700 psi

*** PTFE Seat

**** Prefixed for standard pressure settings

Dimensions

Part Number ****		A NPTFE Inlet (in)	B NPTFI Outlet (in)	C (in)	C (mm)	Wt (lb)	Wt (kg)	Working Pressure	Discharge Table
A 15506	*	3/4	3/4	4.95	126	1.53	0.69	150 - 450 psi	D
A 17840	*	1	1	4.60	117			150 - 450 psi	E
A 17834	*	1 1/4	1 1/4	4.94	125	2.00	0.91	150 - 450 psi	F
A 18387	*	1	1	4.94	125	1.81	0.82	150 - 450 psi	F
A 18356	*	1/2	1/2	3.99	101	0.96	0.43	150 - 450 psi	G
A 18357	*	1/2	3/4	3.99	101	0.89	0.40	150 - 450 psi	G
A 18358	*	3/4	3/4	3.99	101	0.93	0.42	150 - 450 psi	G
AW18422	**	3/4	3/4	4.95	126	1.60	0.73	600 - 700 psi	H
A 18424	***	1	1	4.77	121	1.58	0.72	150 - 350 psi	J
A 18425	***	1 1/4	1 1/4	5.24	133	2.17	0.99	150 - 450 psi	K
A 18444	***	1	1 1/4	5.24	133			150 - 450 psi	K

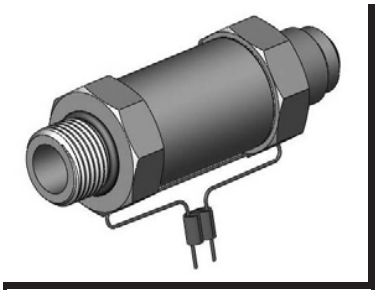
Prefix	PSIG	Discharge Capacity (lb air/min)										BAR	Discharge Capacity (kg air/min)									
		A	B	C	D	E	F	G	H**	I	J	K		A	B	C	D	E	F	G	H**	I	J	K
AD/BD	235	4.3	9.1	20.1	33.7	55.9	91.8	39.0		29.0	60.6	90.3	16	2.0	4.1	9.1	15.3	25.4	41.6	17.7		13.2	27.5	41.0
AE/BE	300	5.4	11.5	25.4	42.5	70.5	115.8	49.2		36.6	76.5	113.9	21	2.4	5.2	11.5	19.3	32.0	52.5	22.3		16.6	34.7	51.7
AG/BG	350	6.3	13.3	29.5	49.3	81.8	134.3	57.1		42.4	88.7	132.1	24	2.9	6.0	13.4	22.4	37.1	60.9	25.9		19.2	40.2	59.9
AH/BH	400	7.1	15.2	33.5	56.1	93.0	152.7	64.9		48.2		150.3	28	3.2	6.9	15.2	25.4	42.2	69.3	29.4		21.9		68.2
AI/BI	425	7.6	16.1	35.6	59.5	98.6	162.0	68.8		51.2		159.4	29	3.4	7.3	16.1	27.0	44.7	73.5	31.2		23.2		72.3
AJ/BJ	450	8.0	17.0	37.6	62.9	104.3	171.2	72.8		54.1		168.5	31	3.6	7.7	17.1	28.5	47.3	77.7	33.0		24.5		76.4
AW/BX	451 - 550		20.7												9.4									
AW/BW	551 - 575		21.6												9.8									
AW/BW	576 - 600		22.5						88.9						10.2						40.3			
AW/BW	601 - 625		23.4						92.6						10.6						42.0			
AW/BW	626 - 650		24.3						96.2						11.0						43.6			
AW/BW	651 - 675		25.3						99.8						11.5						45.3			
AW/BW	676 - 680		25.4						100.5						11.5						45.6			
AW/BW	681 - 700		26.2						103.4						11.9						46.9			

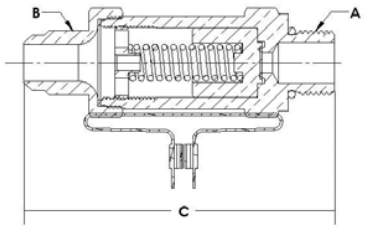
Pressure Relief Valves

Straight Thru - Straight Thread Inlet to Flare Outlet

Features:

- Working temperature range (TS): -40°F/300°F, -40°/149°C
- Designed primarily for use on liquid receiver applications above the liquid refrigerant level (it is recommended that the factory be consulted before the valves are used on ther applications)
- Satisfy ASHRAE Standard 15 code requirements for a refrigerant vessel safety device (Application information can also be found in ASHRAE Guide and Data Book)
- Comply with ASME code for unfired pressure vessels
- Discharge rates are certified by National Board of Boiler & Pressure Vessel Inspectors
- Designed for maximum discharge capacities





References

* CE Certified, CRN, Compatible with all CFC, HCFC and HFC refrigerants and oils

** Prefixed for standard pressure settings

Dimensions

Part Number **		A Inlet (in)	B Outlet(in)	C (in)	C (mm)	Wt (lb)	Wt (kg)	Discharge Table
B 35413	*	7/8 - 14UNF - 2A	5/8	4.19	106	0.92	0.42	C

Settings and Discharge Capacity

Prefix	PSIG	Discharge Capacity (lb air/min)									
		A	B	C	D	E	F	G	H	J	K
AD/BD	235	4.3	9.1	20.1	33.7	55.9	91.8	39.0		60.6	90.3
AE/BE	300	5.4	11.5	25.4	42.5	70.5	115.8	49.2		76.5	113.9
AG/BG	350	6.3	13.3	29.5	49.3	81.8	134.3	57.1		88.7	132.1
AH/BH	400	7.1	15.2	33.5	56.1	93.0	152.7	64.9			150.3
AI/BI	425	7.6	16.1	35.6	59.5	98.6	162.0	68.8			159.4
AI/BI	450	8.0	17.0	37.6	62.9	104.3	171.2	72.8			168.5

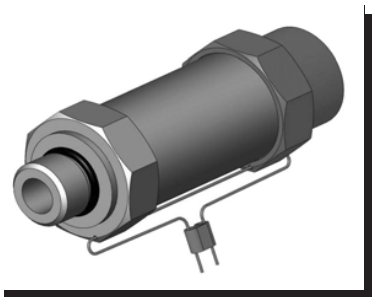
BAR	Discharge Capacity (kg air/min)									
	A	B	C	D	E	F	G	H	J	K
16	2.0	4.1	9.1	15.3	25.4	41.6	17.7		27.5	41.0
21	2.4	5.2	11.5	19.3	32.0	52.5	22.3		34.7	51.7
24	2.9	6.0	13.4	22.4	37.1	60.9	25.9		40.2	59.9
28	3.2	6.9	15.2	25.4	42.2	69.3	29.4			68.2
29	3.4	7.3	16.1	27.0	44.7	73.5	31.2			72.3
31	3.6	7.7	17.1	28.5	47.3	77.7	33.0			76.4

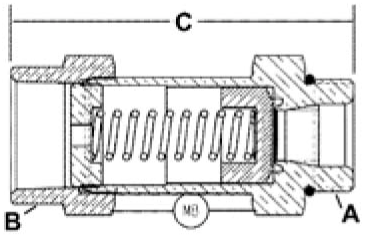
Pressure Relief Valves

Straight Thru - Straight Thread Inlet to NPTFI Outlet

Features:

- Working temperature range (TS): -40°F/300°F, -40°/149°C
- Designed primarily for use on liquid receiver applications above the liquid refrigerant level (it is recommended that the factory be consulted before the valves are used on ther applications)
- Satisfy ASHRAE Standard 15 code requirements for a refrigerant vessel safety device (Application information can also be found in ASHRAE Guide and Data Book)
- Comply with ASME code for unfired pressure vessels
- Discharge rates are certified by National Board of Boiler & Pressure Vessel Inspectors
- Designed for maximum discharge capacities





References

* CE Certified, CRN, Compatible with all CFC, HCFC and HFC refrigerants and oils

** Prefixed for standard pressure settings

Dimensions

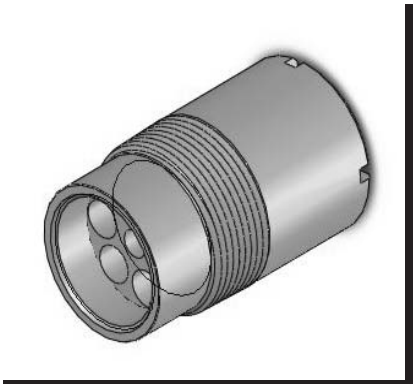
Part Number **		A Inlet (in)	B Outlet(in)	C (in)	C (mm)	Wt (lb)	Wt (kg)	Discharge Table
B 34444	*	7/8 - 14UNF - 2A	3/4	5.00	127	1.61	0.73	D
B 34519	*	1 5/16 - 12UNF - 2S	1	4.38	111	1.37	0.62	E
B 34580	*	1 5/8 - 12UNF - 2A	1 1/4	5.00	127	2.00	0.91	F

Settings and Discharge Capacity

Prefix	PSIG	Discharge Capacity (lb air/min)									
		A	B	C	D	E	F	G	H	J	K
AD/BD	235	4.3	9.1	20.1	33.7	55.9	91.8	39.0		60.6	90.3
AE/BE	300	5.4	11.5	25.4	42.5	70.5	115.8	49.2		76.5	113.9
AG/BG	350	6.3	13.3	29.5	49.3	81.8	134.3	57.1		88.7	132.1
AH/BH	400	7.1	15.2	33.5	56.1	93.0	152.7	64.9			150.3
AI/BI	425	7.6	16.1	35.6	59.5	98.6	162.0	68.8			159.4
AI/BI	450	8.0	17.0	37.6	62.9	104.3	171.2	72.8			168.5

BAR	Discharge Capacity (kg air/min)									
	A	B	C	D	E	F	G	H	J	K
16	2.0	4.1	9.1	15.3	25.4	41.6	17.7		27.5	41.0
21	2.4	5.2	11.5	19.3	32.0	52.5	22.3		34.7	51.7
24	2.9	6.0	13.4	22.4	37.1	60.9	25.9		40.2	59.9
28	3.2	6.9	15.2	25.4	42.2	69.3	29.4			68.2
29	3.4	7.3	16.1	27.0	44.7	73.5	31.2			72.3
31	3.6	7.7	17.1	28.5	47.3	77.7	33.0			76.4

Internal Pressure Relief Valves



Internal pressure relief valves (IPR) are compressor safety devices that limit the maximum operating pressure of the compressor. Valves are designed in accordance with individual country code requirements, and are set to open at specific settings when the high side to low side differential pressure has been exceeded.

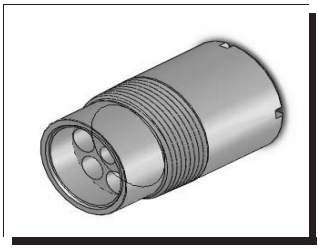
When the valve opens, high side pressure is relieved to the low side and once equalized the IPR valve will reseat. When evaluating compressor problems, it is important to note that small amounts of system contaminants may become trapped in the relief valve seat area, potentially allowing some high to low side leakage within the compressor.

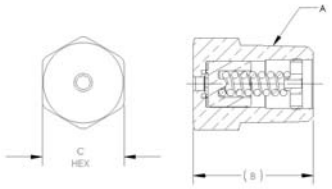
Pressure Relief Valves

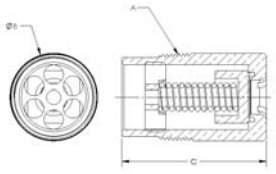
Internal

Features:

- Working temperature range (TS): -40°F/300°F, -40°/149°C
- Designed primarily for use on liquid receiver applications above the liquid refrigerant level (it is recommended that the factory be consulted before the valves are used on ther applications)
- Satisfy ASHRAE Standard 15 code requirements for a refrigerant vessel safety device (Application information can also be found in ASHRAE Guide and Data Book)
- Comply with ASME code for unfired pressure vessels
- Discharge rates are certified by National Board of Boiler & Pressure Vessel Inspectors
- Designed for maximum discharge capacities







References

* Hex, 150-700 psi. CE Certified, CRN, Compatible with all CFC, HCFC and HFC refrigerants and oils, Compatible with R410A

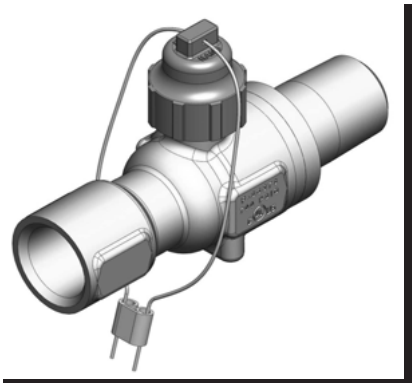
*** Prefixed for standard pressure settings

Dimensions

Part Number ***		NPTFE A (in)	B (in)	B (mm)	C (in)	C (mm)	Wt (lb)	Wt (kg)	Discharge Table
B 34425	*	3/4	1.65	42	1.13	29	0.36	0.16	B
A 17970		1	2.37	60	1.31	33	0.57	0.26	I
A 18473		1 1/2	3.14	80	1.90	48	1.73	0.78	F

Prefix	PSIG	Discharge Capacity (lb air/min)											BAR	Discharge Capacity (kg air/min)										
		A	B	C	D	E	F	G	H	I	J	K		A	B	C	D	E	F	G	H	I	J	K
AD/BD	235	4.3	9.1	20.1	33.7	55.9	91.8	39.0		29.0	60.6	90.3	16	2.0	4.1	9.1	15.3	25.4	41.6	17.7		13.2	27.5	41.(
AE/BE	300	5.4	11.5	25.4	42.5	70.5	115.8	49.2		36.6	76.5	113.9	21	2.4	5.2	11.5	19.3	32.0	52.5	22.3		16.6	34.7	51.7
AG/BG	350	6.3	13.3	29.5	49.3	81.8	134.3	57.1		42.4	88.7	132.1	24	2.9	6.0	13.4	22.4	37.1	60.9	25.9		19.2	40.2	59.9
AH/BH	400	7.1	15.2	33.5	56.1	93.0	152.7	64.9		48.2		150.3	28	3.2	6.9	15.2	25.4	42.2	69.3	29.4		21.9		68.2
AI/BI	425	7.6	16.1	35.6	59.5	98.6	162.0	68.8		51.2		159.4	29	3.4	7.3	16.1	27.0	44.7	73.5	31.2		23.2		72.3
AI/BI	450	8.0	17.0	37.6	62.9	104.3	171.2	72.8		54.1		168.5	31	3.6	7.7	17.1	28.5	47.3	77.7	33.0		24.5		76.4
AW/BX	451 - 550		20.7												9.4									
AW/BW	551 - 575		21.6												9.8									
AW/BW	576 - 600		22.5						88.9						10.2						40.3			
AW/BW	601 - 625		23.4						92.6						10.6						42.0			
AW/BW	626 - 650		24.3						96.2						11.0						43.6			
AW/BW	651 - 675		25.3						99.8						11.5						45.3			
AW/BW	676 - 680		25.4						100.5						11.5						45.6			
AW/BW	681 - 700		26.2						103.4						11.9						46.9			

Ball Isolation Valves for Relief Valves



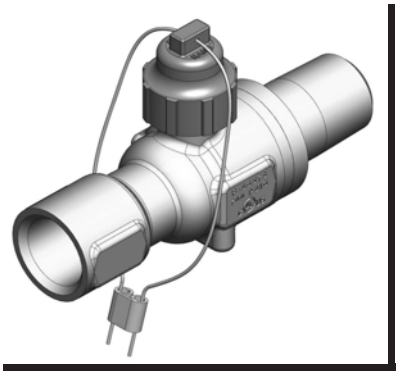
Ball isolation valves for relief valves (BIR) are designed to ensure that there is no flow restriction created during normal operation with the attached relief valve or rupture disc assembly, while providing complete isolation of the circuit when necessary for routine maintenance or replacement.

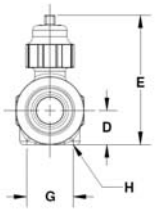
Depending on specific local or country codes, BIR valves can be used for relief valve isolation as long as they are supplied in an open position as certified by the manufacturer. In accordance with this requirement, valves are only provided in the open position with a sealed safety wire around the cap assembly. Valves can only be shut off by removing the sealed safety wire and cap assembly, which should only be performed by authorized service personnel who must then replace the sealed safety wire assembly with their own identifiable method.

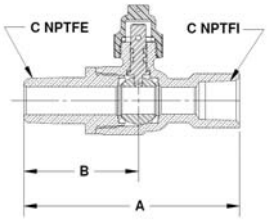
Ball Isolation Valves for Relief Valves

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- No flow restrictions to the attached relief valve circuit
- Full isolation of relief valve circuit for maintenance or replacement
- Various connections available
- Multiple cap options
- Tamper-proof wire lock







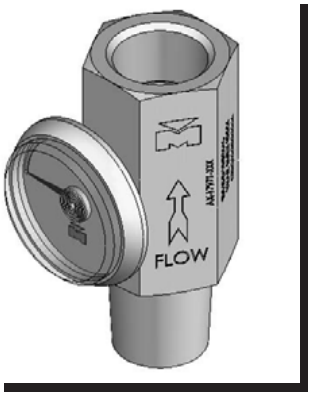
Dimensions

Part Number	Size	Cv	A (in)	B (in)	D (in)	E (in)	G (in)**	H **	Port (in)	Wt(lb)
B 35171C	1/2 NPTFE X 1/2 NPTFI	4.6	3.94	2.08	0.65	2.39	0.87	M4 X 0.7	1	0.70
B 35172	1 NPTFE X 1 NPTFI	10.9	5.24	2.80	0.88	3.05	1.18	M4 X 0.7	1	1.87

Metric Dimensions

Part Number	Size	Kv	A (mm)	B (mm)	D (mm)	E (mm)	G (mm)**	H **	Port (mm)	Wt(kg)
B 35171C	1/2 NPTFE X 1/2 NPTFI	4.0	100	53	17	61	22	M4 X 0.7	13	0.32
B 35172	1 NPTFE X 1 NPTFI	9.4	133	71	22	77	30	M4 X 0.7	19	0.85

Rupture Discs



Rupture discs are non-resealing system safety devices that are typically used in conjunction with pressure relief valves, and are designed to function in accordance with specific country codes to prevent and protect the operation of systems and vessels above allowable safe levels.

The domed style non-fragmenting disc is housed inside a single piece brass body, that has two threaded access ports for gauge and transducer installation, which provide a visual and electronic signal for opening indication. Rupture discs have been designed to be used with relief valves to prevent any leakage through the PRV, and a total loss of refrigerant after the disc bursts.

Rupture Disc and Pressure Gauge

NPTFE X NPTFI

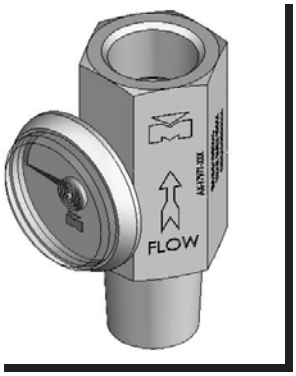
ASME Code

Guidelines for the application of Rupture Disc Devices in combination with pressure relief valves is provided by ASME Code. The following is an excerpt from the ASME Code, Section VIII, Division I, UG-127.

A rupture disc device may be installed between a pressure relief valve and the vessel provided:

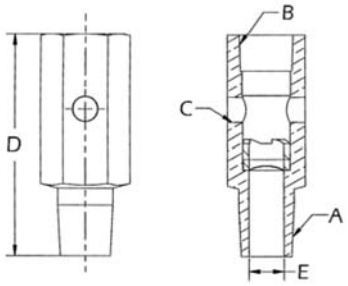
The marked capacity of a pressure relief valve, when installed with a rupture disc device between the inlet of the valve and the vessel, shall be multiplied by a factor of 0.90 of the rated relieving capacity of the valve alone.

The space between a rupture disc device and a pressure relief valve shall be provided with a pressure gage, or suitable telltale indicator. This arrangement permits detection of disc rupture or leakage.



Features:

- Working temperature range (TS): -40°F/300°F, -40°/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- CE Certified Category 4 Product, Certified to meet ASME Code
- Wide range of pressure settings available
- One-piece brass design assures setting accuracy
- Non-fragmenting disc



Pressure Gauge
P 36214

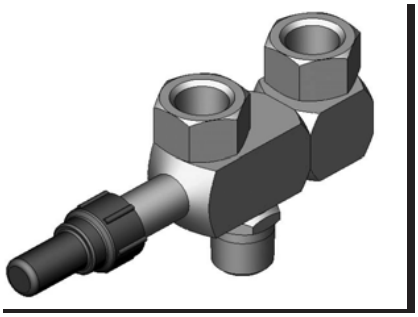
Dimensions

Part Number *	A NPTFE (in)	B NPTFI (in)	C NPT (in)	D (in)	D (mm)	E (in)	E (mm)	Wt (lb)	Wt (kg)
A 17971	1/2	1/2	1/8	3	71	1	13	0.51	0.23

*** Prefixed for Standard Pressure Settings.**
Contact factory for non-standard requirements.

Prefix	PSIG	Bar
AD	235	16
AE	300	21
AG	350	24
AH	400	28
AI	425	29
AJ	450	31

RELIEFMASTER® Change-Over Manifold



Changeover manifolds are service valves that have been designed to be used with pressure relief valves and rupture discs, providing the ability to isolate one valve circuit from the other, so that routine maintenance or replacement can be easily made while the system is operative.

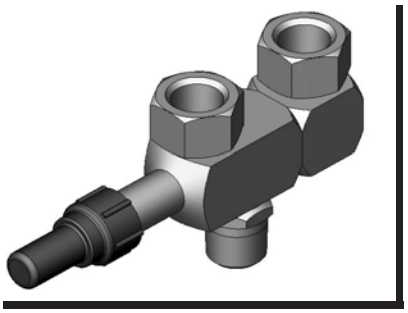
Manifold valves have two internal seats that provide complete isolation of either individual relief valve circuit, while ensuring a pressure drop that is compatible with the relief valve and rupture disc. Relief valves and rupture discs should be sized individually so that either circuit has sufficient capacity for the system or vessel protection, and the changeover manifold must correspond by being set in either the forward or back seat position, and not an intermediate position.

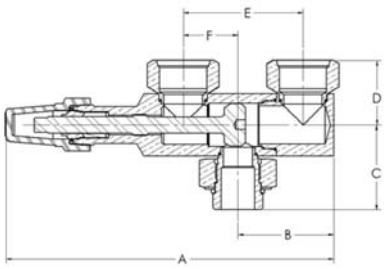
RELIEFMASTER® Change-Over Manifold

NPTFE x NPTFI

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Allows easy replacement of attached relief valves and rupture discs while the system is operative.
- Dual internal seats ensure complete isolation of individual circuits.
- Available with various inlet connections.
- Multiple cap options available.





References

* S 36284, Brass seal cap replacement

Dimensions

Part Number		Inlet NPTFE	Outlet NPTFI	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Torques to Seal (ft-lb)			Wt (lb)
										Front Seat	Back Seat	Pack Gland	
A 17921	*	1/2	1/2	5.98	1.75	1.76	1.76	2.04	0.75	16 - 18	16 - 18	8 - 12	1.20
A 17922		3/4	3/4	6.01	1.85	1.84	1.84	2.04	0.75	16 - 18	16 - 18	8 - 12	1.28
A 17923		1	1	8.51	2.44	2.39	2.39	3.13	1.70	22 - 40	22 - 45	15 - 25	4.55
A 17924		1 1/4	1 1/4	8.80	2.44	2.45	2.45	3.13	1.70	22 - 40	22 - 45	15 - 25	5.60

Metric Dimensions

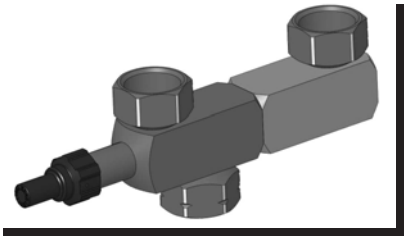
Part Number		Inlet NPTFE	Outlet NPTFI	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Torques to Seal (N-m)			Wt (kg)
										Front Seat	Back Seat	Pack Gland	
A 17921	*	1/2	1/2	152	44	45	35	52	19	22 - 24	22 - 24	11 - 16	0.54
A 17922		3/4	3/4	153	47	47	35	52	19	22 - 24	22 - 24	11 - 16	0.58
A 17923		1	1	216	62	61	49	80	43	30 - 54	30 - 61	20 - 34	2.06
A 17924		1 1/4	1 1/4	224	62	62	54	80	43	30 - 54	30 - 61	20 - 34	2.54

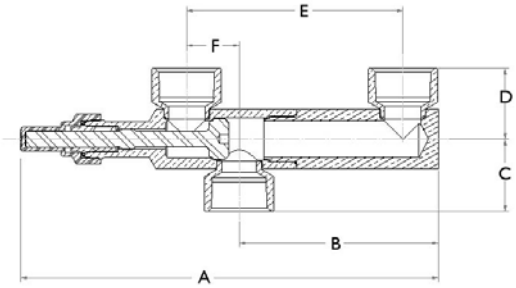
RELIEFMASTER® Change-Over Manifold

NPTFI X NPTFI

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Allows easy replacement of attached relief valves and rupture discs while the system is operative.
- Dual internal seats ensure complete isolation of individual circuits.
- Available with various inlet connections.
- Multiple cap options available.





References

* S 36284, Brass seal cap replacement

Dimensions

Part Number	Inlet NPTFI	Outlet NPTFI	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Torques to Seal (ft-lb)			Wt (lb)
									Front Seat	Back Seat	Pack Gland	
B 35273	1 1/4	1 1/4	11.34	5.41	1.94	1.94	5.88	1.43	22 - 40	22 - 45	15 - 25	6.00

Metric Dimensions

Part Number	Inlet NPTFI	Outlet NPTFI	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Torques to Seal (N-m)			Wt (kg)
									Front Seat	Back Seat	Pack Gland	
B 35273	1 1/4	1 1/4	288	137	49	50	149	36	30 - 54	30 - 61	20 - 34	2.72

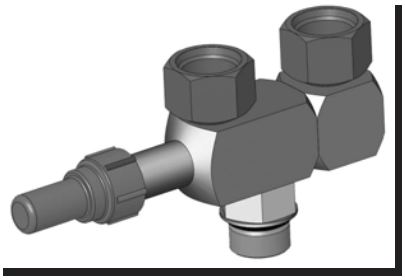
RoHS Compliant. Comply with ISO 9001 Standards.

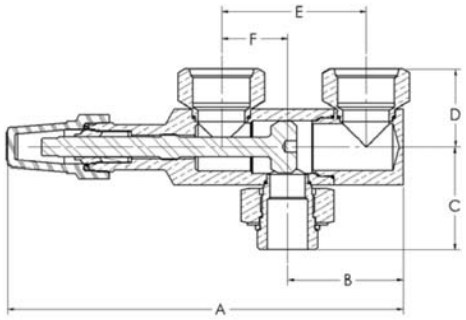
RELIEFMASTER® Change-Over Manifold

Straight Thread

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Allows easy replacement of attached relief valves and rupture discs while the system is operative.
- Dual internal seats ensure complete isolation of individual circuits.
- Available with various inlet connections.
- Multiple cap options available.





References

* S 36284, Brass seal cap replacement

Dimensions

Part Number		Inlet	Outlet	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Torques to Seal (N-m)			Wt (kg)
										Front Seat	Back Seat	Pack Gland	
B 34550	*	7/8-14UNF 2A	7/8-14UNF 2B	5.98	1.85	1.65	1.38	2.04	0.75	16 - 18	16 - 18	8 - 12	1.46
B 34559		1 5/16-12UNF 2A	1 5/16-12UNF 2B	8.53	2.50	2.22	1.69	3.13	1.43	22 - 40	22 - 45	15 - 25	3.14
B 34654		1 5/8-12UNF 2A	1 5/8-12UNF 2B	8.53	2.50	2.19	1.81	3.13	1.43	22 - 40	22 - 45	15 - 25	3.64

Metric Dimensions

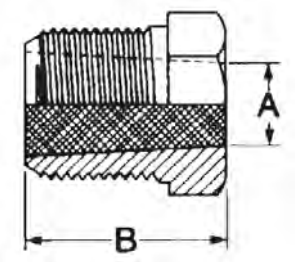
Part Number		Inlet	Outlet	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Torques to Seal (N-m)			Wt (kg)
										Front Seat	Back Seat	Pack Gland	
B 34550	*	7/8-14UNF 2A	7/8-14UNF 2B	152	47	42	35	52	19	22 - 24	22 - 24	11 - 16	0.66
B 34559		1 5/16-12UNF 2A	1 5/16-12UNF 2B	217	64	56	43	80	36	30 - 54	30 - 61	20 - 34	1.42
B 34654		1 5/8-12UNF 2A	1 5/8-12UNF 2B	217	64	56	46	80	36	30 - 54	30 - 61	20 - 34	1.65

Fusible Pipe Plugs & Connectors

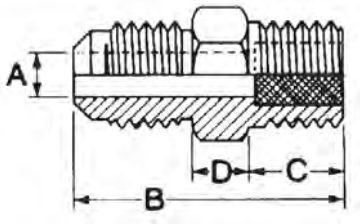
Features:

- Listed by Underwriters Laboratories, Inc., for use in the USA and Canada
- CE Compliant for European market

Fusible Pipe Plug - NPTFE



Fusible Connector, Half Union - Flare to NPTFE



Fusible Pipe Plugs - NPTFE

Cat Number	Part Number UL	Part Number CE	Size NPTFE	Hex	Flare	A (in)	B (in)	C (in)	D (in)	Melting Temp °F	Box Qty	Wt(lb)
FP-A	A 14058	B 35133	1/8	7/16		0.22	0.59			283	10	0.022
FP-B	A 14059	B 35134	1/4	9/16		0.25	0.78			283	15	0.035
FP-C	A 14060	B 35135	3/8	11/16		0.38	0.84			283	15	0.084
FP-A	A 14017	B 35122	1/8	7/16		0.22	0.59			210	10	0.024
FP-B	A 14018	B 35123	1/4	9/16		0.25	0.78			210	15	0.054
FP-C	A 14021	B 35125	3/8	11/16		0.38	0.84			210	15	0.090
FP-A	A 15214		1/8	7/16		0.22	0.59			168	10	0.024
FP-B	A 14019	B 35124	1/4	9/16		0.25	0.78			168	15	0.054
FP-C	A 14022	B 35126	3/8	11/16		0.38	0.84			168	15	0.095

Half Union - Flare to NPTFE

Cat Number	Part Number UL	Part Number CE	Size NPTFE	Hex	Flare	A (in)	B (in)	C (in)	D (in)	Melting Temp °F	Box Qty	Wt(lb)
FU-4B	A 14062	B 35136	1/4	9/16	1/4	0.19	1.25	0.56	0.19	283	10	0.047
FU-6C	A 14064	B 35138	3/8	11/16	3/8	0.28	1.44	0.56	0.25	283	10	0.126
FU-4B	A 14023	B 35127	1/4	9/16	1/4	0.19	1.25	0.56	0.19	210	10	0.057
FU-6C	A 14026	B 35130	3/8	11/16	3/8	0.28	1.44	0.56	0.25	210	10	0.122
FU-4B	A 14024	B 35128	1/4	9/16	1/4	0.19	1.25	0.56	0.19	168	10	0.048
FU-6C	A 14027	B 35131	3/8	11/16	3/8	0.28	1.44	0.56	0.25	168	10	0.098

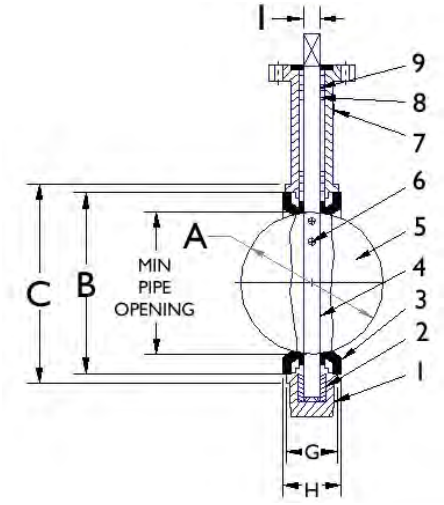
Butterfly Valves, Lug Style

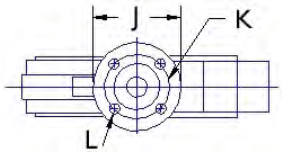
Secondary Coolant

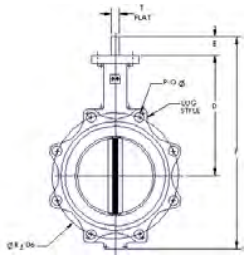
Upcoming Release. Contact Factory for Details.

Features:

1. Body — Cast Iron, Epoxy coated ASTM A126 CL.B
2. Body Bushing — PTFE
3. Liner — EPDM Rubber with Phenolic Backing
4. Stem — Stainless Steel ASTM A582 Type 416
5. Disc — Ductile Iron ASTM A536 Grade 65-45-12 (plated)
6. Taper Pin — Stainless Steel ASTM A582 Type 416
7. Name Plate — Aluminum
8. Shaft Bushing — PTFE
9. Stem Seal — EPDM







Dimensions

Part Number	Size (in)	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)	K (in)	L (in)	R (in)	P (in)	Q	T Flats	Wt (lbs)
A 18624	2 1/2	2.54	3.50	4.13	6.89	1.26	11.65	1.76	1.93	0.50	3.54	2.67	0.41	5.50	4	5/8-11UNC-2B	0.38	0
A 18625	3	3.10	4.09	4.72	7.13	1.26	12.12	1.78	1.93	0.50	3.54	2.67	0.41	6.00	4	5/8-11UNC-2B	0.38	0
A 18626	4	4.09	5.31	6.14	7.87	1.26	13.62	2.05	2.17	0.62	3.54	2.76	0.41	7.50	8	5/8-11UNC-2B	0.44	0
A 18627	6	6.13	7.42	8.23	8.90	1.26	15.63	2.20	2.32	0.74	3.54	2.76	0.41	9.50	8	3/4-10UNC-2B	0.50	0
A 18628	8	7.97	9.37	10.43	10.24	1.77	18.90	2.36	2.52	0.87	5.91	4.92	0.49	11.75	8	3/4-10UNC-2B	0.63	0

Metric Dimensions

Part Number	Size (mm)	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	K mm	L mm	R mm	P mm	Q	T Flats	Wt (kg)
A 18624	65	65	89	105	175	32	296	45	49	13	90	68	10	140	102	5/8-11UNC-2B	9.53	0
A 18625	80	79	104	120	181	32	308	45	49	13	90	68	10	152	102	5/8-11UNC-2B	9.53	0
A 18626	100	104	135	156	200	32	346	52	55	16	90	70	10	191	203	5/8-11UNC-2B	11.13	0
A 18627	150	156	188	209	226	32	397	56	59	19	90	70	10	241	203	3/4-10UNC-2B	12.70	0
A 18628	200	202	238	265	260	45	480	60	64	22	150	125	12	298	203	3/4-10UNC-2B	15.88	0

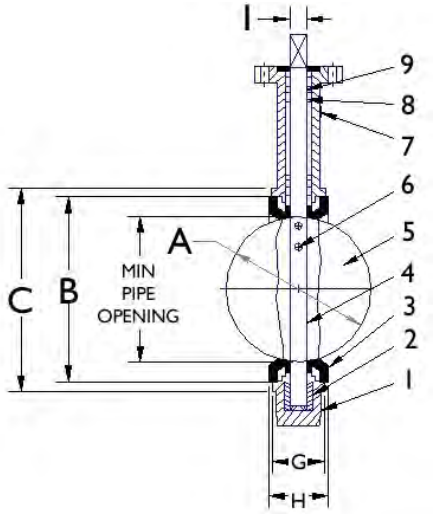
Butterfly Valves, Lug Style

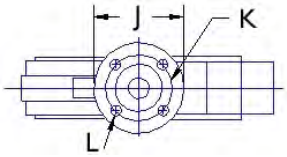
Suction Line Refrigerant

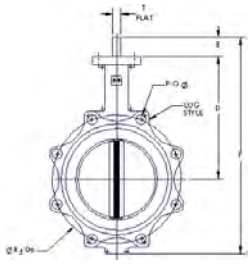
Upcoming Release. Contact Factory for Details.

Features:

1.	Body	Cast Iron, Epoxy coated ASTM A126 CL.B
2.	Body Bushing	PTFE
3.	Liner	Neoprene with Phenolic Backing
4.	Stem	Stainless Steel ASTM A582 Type 416
5.	Disc	Ductile Iron ASTM A536 Grade 65-45-12 (plated)
6.	Taper Pin	Stainless Steel ASTM A582 Type 416
7.	Name Plate	Aluminum
8.	Shaft Bushing	PTFE
9.	Stem Seal	Neoprene







Dimensions

Part Number	Size (in)	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)	K (in)	L (in)	R (in)	P (in)	Q	T Flats	Wt (lbs)
A 18629	2 1/2	2.54	3.50	4.13	6.89	1.26	11.65	1.76	1.93	0.50	3.54	2.76	0.41	5.50	4	5/8-11UNC-2B	0.38	0
A 18630	3	3.10	4.09	4.72	7.13	1.26	12.12	1.78	1.93	0.50	3.54	2.76	0.41	6.00	4	5/8-11UNC-2B	0.38	0
A 18631	4	4.09	5.31	6.14	7.87	1.26	13.62	2.05	2.17	0.62	3.54	2.76	0.41	7.50	8	5/8-11UNC-2B	0.44	0
A 18632	6	6.13	7.42	8.23	8.90	1.26	15.63	2.20	2.32	0.74	3.54	2.76	0.41	9.50	8	3/4-10UNC-2B	0.50	0
A 18633	8	7.97	9.37	10.43	10.24	1.77	18.90	2.36	2.52	0.87	5.91	4.92	0.49	11.75	8	3/4-10UNC-2B	0.63	0

Metric Dimensions

Part Number	Size (mm)	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	K mm	L mm	R mm	P mm	Q	T Flats	Wt (kg)
A 18629	65	65	89	105	175	32	296	45	49	13	90	70	10	140	102	5/8-11UNC-2B	9.53	0
A 18630	80	79	104	120	181	32	308	45	49	13	90	70	10	152	102	5/8-11UNC-2B	9.53	0
A 18631	100	104	135	156	200	32	346	52	55	16	90	70	10	191	203	5/8-11UNC-2B	11.13	0
A 18632	150	156	188	209	226	32	397	56	59	19	90	70	10	241	203	3/4-10UNC-2B	12.70	0
A 18633	200	202	238	265	260	45	480	60	64	22	150	125	12	298	203	3/4-10UNC-2B	15.88	0

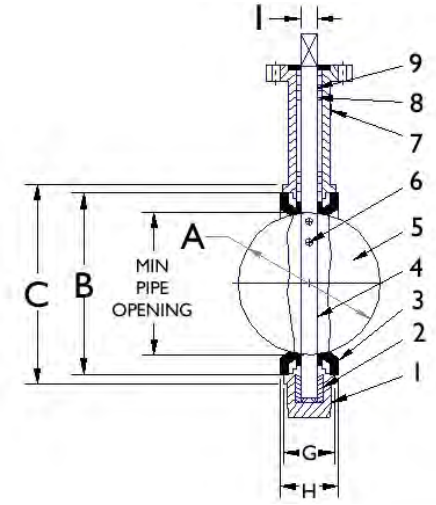
RoHS Compliant. Comply with ISO 9001 Standards.

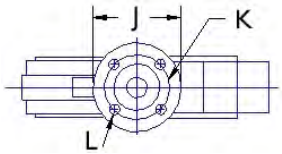
Butterfly Valves, Wafer Style

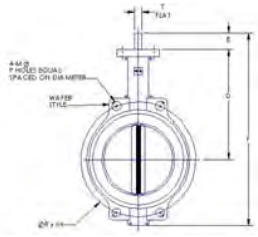
Upcoming Release. Contact Factory for Details.

Features:

1. Body — Cast Iron, Epoxy coated ASTM A126 CL.B
2. Body Bushing — PTFE
3. Liner — EPDM Rubber with Phenolic Backing
4. Stem — Stainless Steel ASTM A582 Type 416
5. Disc — Ductile Iron ASTM A536 Grade 65-45-12 (plated)
6. Taper Pin — Stainless Steel ASTM A582 Type 416
7. Name Plate — Aluminum
8. Shaft Bushing — PTFE
9. Stem Seal — EPDM







Dimensions

Part Number	Size (in)	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)	K (in)	L (in)	M (in)	R (in)	P (in)	T Flats	Wt (lbs)
A 18634	2 1/2	2.54	3.50	4.25	6.89	1.26	11.65	1.76	1.93	0.50	3.54	2.67	0.41	0.75	5.50	4	0.38	0
A 18635	3	3.10	4.09	4.72	7.13	1.26	12.12	1.78	1.93	0.50	3.54	2.67	0.41	0.75	6.00	4	0.38	0
A 18636	4	4.09	5.31	5.91	7.87	1.26	13.62	2.05	2.17	0.62	3.54	2.76	0.41	0.75	7.50	8	0.44	0
A 18637	6	6.13	7.42	8.19	8.90	1.26	15.63	2.20	2.32	0.74	3.54	2.76	0.41	0.88	9.50	8	0.50	0
A 18638	8	7.97	9.37	10.24	10.24	1.77	18.90	2.36	2.52	0.87	5.91	4.92	0.49	0.88	11.75	8	0.63	0

Metric Dimensions

Part Number	Size (mm)	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	K mm	L mm	M mm	R mm	P mm	T Flats	Wt (kg)
A 18634	65	65	89	108	175	32	296	45	49	13	90	68	10	19	140	102	9.53	0
A 18635	80	79	104	120	181	32	308	45	49	13	90	68	10	19	152	102	9.53	0
A 18636	100	104	135	150	200	32	346	52	55	16	90	70	10	19	191	203	11.13	0
A 18637	150	156	188	208	226	32	397	56	59	19	90	70	10	22	241	203	12.70	0
A 18638	200	202	238	260	260	45	480	60	64	22	150	125	12	22	298	203	15.88	0

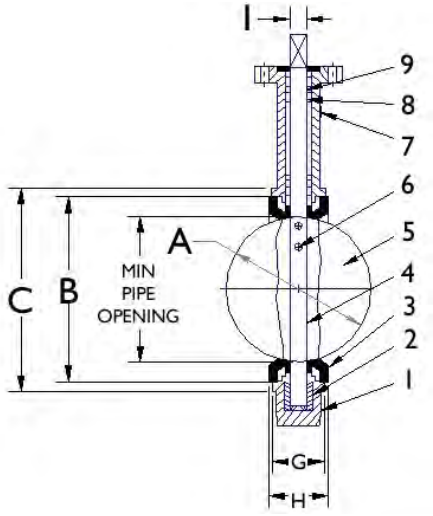
Butterfly Valves, Wafer Style

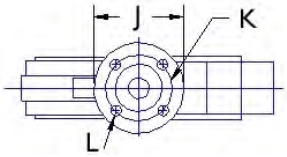
Suction Line Refrigerant

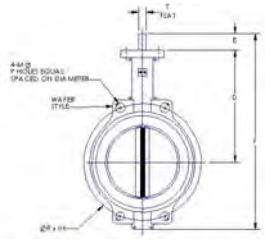
Upcoming Release. Contact Factory for Details.

Features:

1. Body — Cast Iron, Epoxy coated ASTM A126 CL.B
2. Body Bushing — PTFE
3. Liner — Neoprene with Phenolic Backing
4. Stem — Stainless Steel ASTM A582 Type 416
5. Disc — Ductile Iron ASTM A536 Grade 65-45-12 (plated)
6. Taper Pin — Stainless Steel ASTM A582 Type 416
7. Name Plate — Aluminum
8. Shaft Bushing — PTFE
9. Stem Seal — Neoprene







Dimensions

Part Number	Size (in)	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)	K (in)	L (in)	M (in)	R (in)	P (in)	T Flats	Wt (lbs)
A 18639	2 1/2	2.54	3.50	4.25	6.89	1.26	11.65	1.76	1.93	0.50	3.54	2.76	0.41	0.75	5.50	4	0.38	0
A 18640	3	3.10	4.09	4.72	7.13	1.26	12.12	1.78	1.93	0.50	3.54	2.76	0.41	0.75	6.00	4	0.38	0
A 18641	4	4.09	5.31	5.91	7.87	1.26	13.62	2.05	2.17	0.62	3.54	2.76	0.41	0.75	7.50	8	0.44	0
A 18642	6	6.13	7.42	8.19	8.90	1.26	15.63	2.20	2.32	0.74	3.54	2.76	0.41	0.88	9.50	8	0.50	0
A 18643	8	7.97	9.37	10.24	10.24	1.77	18.90	2.36	2.52	0.87	5.91	4.92	0.49	0.88	11.75	8	0.63	0

Metric Dimensions

Part Number	Size (mm)	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	K mm	L mm	M mm	R mm	P mm	T Flats	Wt (kg)
A 18639	65	65	89	108	175	32	296	45	49	13	90	70	10	19	140	102	9.53	0
A 18640	80	79	104	120	181	32	308	45	49	13	90	70	10	19	152	102	9.53	0
A 18641	100	104	135	150	200	32	346	52	55	16	90	70	10	19	191	203	11.13	0
A 18642	150	156	188	208	226	32	397	56	59	19	90	70	10	22	241	203	12.70	0
A 18643	200	202	238	260	260	45	480	60	64	22	150	125	12	22	298	203	15.88	0

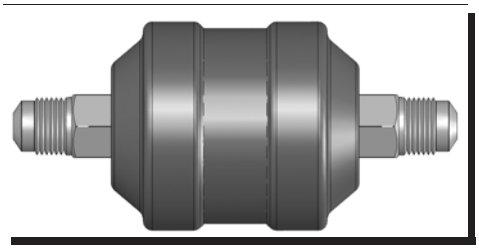
RoHS Compliant. Comply with ISO 9001 Standards.

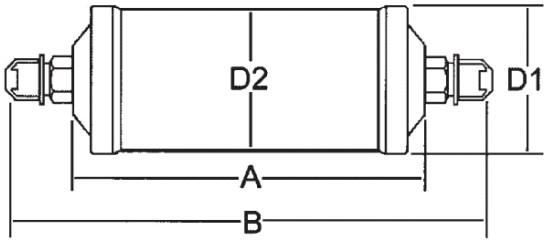
DRYMASTER® Filter Driers

Liquid Line Flare

Features:

- Maximum working pressure (PS): 667 psig
- Maximum working temperature: 160°F/70°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils, and refrigerants requiring XHII desiccant
- UL/cUL Listed, CE Certified
- Solid core design, composed of 80% molecular sieves / 20% activated alumina for exceptional moisture and acid removal
- High retention filter for removal of particulate as small as 25 microns
- High pressure shell and connections
- Powder paint finish approved for marine applications





Dimensions

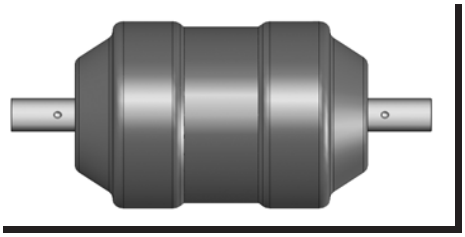
Part Number	Model	Dessicant Cu In	Size (in)	A (in)	B (in)	D1 (in)	D2 (in)	Wt (lb)	Liquid Capacity (tons)			Water Capacity (drops)					
									R134a	R404A, R507	R22, R407C, R410A	R134a, R507		R404A		R22, R407C, R410A	
												75°F	125°	75°F	125°	75°F	125°
A 16600	FL-032	3	1/4	2.60	4.33	1.81	1.69	0.48	2	1	2	106	97	171	90	99	90
A 16601	FL-033	3	3/8	2.60	4.84	1.81	1.69	0.56	5	4	5	106	97	171	90	99	90
A 16606	FL-052	5	1/4	2.95	4.69	2.28	2.13	0.78	2	1	2	128	115	207	108	117	108
A 16607	FL-053	5	3/8	2.95	5.20	2.28	2.13	0.87	5	4	5	128	115	207	108	117	108
A 16608	FL-082	8	1/4	3.98	5.71	2.28	2.13	1.01	2	1	2	195	186	319	166	189	180
A 16609	FL-083	8	3/8	3.98	6.22	2.28	2.13	1.08	5	4	6	195	186	319	166	189	180
A 16610	FL-084	8	1/2	3.98	6.54	2.28	2.13	1.15	7	6	8	195	186	319	166	189	180
A 16612	FL-162	16	1/4	4.33	6.06	3.15	2.99	1.88	2	1	2	460	429	723	395	427	395
A 16613	FL-163	16	3/8	4.33	6.57	3.15	2.99	2.04	6	5	7	460	429	723	395	427	395
A 16614	FL-164	16	1/2	4.33	6.89	3.15	2.99	2.10	9	6	9	460	429	723	395	427	395
A 16615	FL-165	16	5/8	4.33	7.24	3.15	2.99	2.21	12	9	13	460	429	723	395	427	395
A 16618	FL-303	30	3/8	7.32	9.57	3.15	2.99	3.33	6	4	7	920	858	1518	808	871	808
A 16619	FL-304	30	1/2	7.32	9.88	3.15	2.99	3.40	9	6	10	920	858	1518	808	871	808
A 16620	FL-305	30	5/8	7.32	10.24	3.15	2.99	3.50	13	9	14	920	858	1518	808	871	808
A 16623	FL-413	41	3/8	7.36	9.61	3.66	3.50	3.93	7	5	8	1274	1194	2102	1123	1203	1105
A 16624	FL-414	41	1/2	7.36	9.92	3.66	3.50	3.73	9	7	10	1274	1194	2102	1123	1203	1105
A 16625	FL-415	41	5/8	7.36	10.28	3.66	3.50	3.84	15	11	16	1274	1194	2102	1123	1203	1105

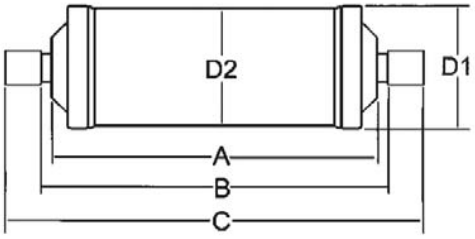
DRYMASTER® Filter Driers

Liquid Line Solder

Features:

- Maximum working pressure (PS): 667 psig
- Maximum working temperature: 160°F/70°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils, and refrigerants requiring XHII desiccant
- UL/cUL Listed, CE Certified
- Solid core design, composed of 80% molecular sieves / 20% activated alumina for exceptional moisture and acid removal
- High retention filter for removal of particulate as small as 25 microns
- High pressure shell and connections
- Powder paint finish approved for marine applications





Dimensions

Part Number	Model	Dessicant Cu In	Size (in)	A (in)	B (in)	C (in)	D1 (in)	D2 (in)	Wt (lb)	Liquid Capacity (tons)			Water Capacity (drops)					
										R134a	R404A, R507	R22, R407C, R410A	R134a, R507		R404A		R22, R407C, R410A	
													75°F	125°	75°F	125°	75°F	125°
A 16640	SD-032	3	1/4	2.60	3.31		1.81	1.69	0.43	2	1	2	106	97	171	90	99	90
A 16641	SD-033	3	3/8	2.60	3.39		1.81	1.69	0.48	5	4	5	106	97	171	90	99	90
A 16646	SD-052	5	1/4	2.95	3.66		2.28	2.13	0.74	2	1	2	128	115	207	108	117	108
A 16647	SD-053	5	3/8	2.95	3.74		2.28	2.13	0.78	5	4	5	128	115	207	108	117	108
A 16648	SD-082	8	1/4	3.98	4.39		2.28	2.13	0.96	2	1	2	195	186	319	166	189	180
A 16649	SD-083	8	3/8	3.98	4.76		2.28	2.13	1.01	5	4	6	195	186	319	166	189	180
A 16650	SD-084	8	1/2	3.98	4.84		2.28	2.13	1.02	7	6	8	195	186	319	166	189	180
A 16653	SD-163	16	3/8	4.33	5.12		3.15	2.99	1.88	6	5	7	460	429	723	395	427	395
A 16654	SD-164	16	1/2	4.33	5.20		3.15	2.99	1.89	9	6	9	460	429	723	395	427	395
A 16655	SD-165	16	5/8	4.33	5.35		3.15	2.99	1.88	12	9	13	460	429	723	395	427	395
A 16657	SD-166	16	3/4	4.33	5.35		3.15	2.99	1.97	13	9	14	460	429	723	395	427	395
A 16656	SD-167	16	7/8	4.33	5.35		3.15	2.99	2.06	13	9	14	460	429	723	395	427	395
A 16658	SD-303	30	3/8	7.32	8.11		3.15	2.99	3.28	6	4	7	920	858	1518	808	871	808
A 16659	SD-304	30	1/2	7.32	8.19		3.15	2.99	3.23	9	6	10	920	858	1518	808	871	808
A 16660	SD-305	30	5/8	7.32	8.35		3.15	2.99	3.27	13	9	14	920	858	1518	808	871	808
A 16662	SD-307	30	7/8	7.32	8.35		3.15	2.99	3.51	18	13	19	920	858	1518	808	871	808
A 16661	SD-309	30	1 1/8	7.32	7.72		3.15	2.99	3.30	18	13	19	920	858	1518	808	871	808
A 16663	SD-413	41	3/8	7.36	8.23		3.66	3.50	3.86	7	5	8	1274	1194	2102	1123	1203	1105
A 16664	SD-414	41	1/2	7.36	8.23		3.66	3.50	3.58	9	7	10	1274	1194	2102	1123	1203	1105
A 16665	SD-415	41	5/8	7.36	8.39		3.66	3.50	3.61	15	11	16	1274	1194	2102	1123	1203	1105
A 16667	SD-417	41	7/8	7.36	8.39		3.66	3.50	3.76	26	18	28	1274	1194	2102	1123	1203	1105

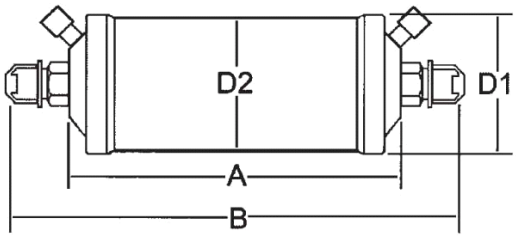
RoHS Compliant. Comply with ISO 9001 Standards.

DRYMASTER® Filter Driers

Suction Line Flare

Features:

- Maximum working pressure (PS): 508
- Maximum working temperature: 160°F/70°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils, and refrigerants requiring XHII desiccant
- UL/cUL Listed, CE Certified
- Solid core design, composed of 70% activated alumina/ 30% molecular sieves for exceptional moisture and acid removal
- High retention filter for removal of particulate as small as 25 microns
- High pressure shell and connections
- Powder paint finish approved for marine applications



Dimensions

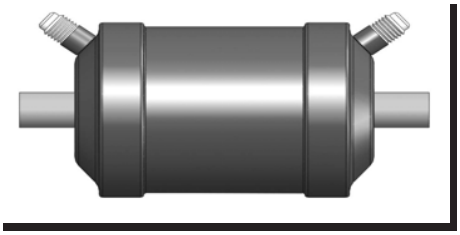
Part Number	Model	Dessicant Cu In	Size (in)	A (in)	B (in)	D1 (in)	D2 (in)	Wt (lb)	Nominal Capacity (tons) Evaporator Temp 40°F		
									R134a	R404A, R507	R22, R407C, R410A
A 17225	FDF-164-TT	16	1/2	4.3	6.9	3.1	3	2.14	1.7	2.4	3.0
A 17226	FDF-165-TT	16	5/8	4.3	7.2	3.1	3	2.24	2.7	3.7	4.3

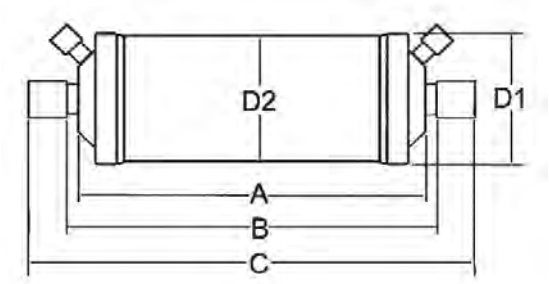
DRYMASTER® Filter Driers

Suction Line Solder

Features:

- Maximum working pressure (PS): 508
- Maximum working temperature: 160°F/70°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils, and refrigerants requiring XHII desiccant
- UL/cUL Listed, CE Certified
- Solid core design, composed of 70% activated alumina/ 30% molecular sieves for exceptional moisture and acid removal
- High retention filter for removal of particulate as small as 25 microns
- High pressure shell and connections
- Powder paint finish approved for marine applications





Dimensions

Part Number	Model	Dessicant Cu In	Size (in)	A (in)	B (in)	C (in)	D1 (in)	D2 (in)	Wt (lb)	Nominal Capacity (tons) Evaporator Temp 40°F		
										R134a	R404A, R507	R22, R407C, R410A
A 17224	FDS-164-TT	16	1/2	4.30	5.20	6.00	3.10	3.00	2.99	1.7	2.4	3.0
A 17227	FDS-165-TT	16	5/8	4.30	5.30	6.20	3.10	3.00	1.95	2.7	3.7	4.3
A 17228	FDS-166-TT	16	3/4	4.30	5.50	6.70	3.10	3.00	2.00	3.4	4.9	5.7
A 17229	FDS-167-TT	16	7/8	4.30	5.40	6.80	3.10	3.00	2.01	3.9	5.4	6.3
A 17230	FDS-169-TT	16	1 1/8	4.30	5.20	6.80	3.10	3.00	2.11			
A 17231	FDS-309-TT	30	1 1/8	7.30	8.10	9.80	3.10	3.00	3.13	5.7	7.7	8.9
A 17300	FDS-305-TT	30	5/8	7.30	8.30	9.20	3.10	3.00	2.99	3.1	4.3	5.1
A 17301	FDS-306-TT	30	3/4	7.30	8.50	9.70	3.10	3.00	3.03	4.0	5.4	6.3
A 17302	FDS-307-TT	30	7/8	7.30	8.30	9.80	3.10	3.00	3.06	4.6	6.3	7.4
A 17233	FDS-3013-TT	30	1 5/8						3.40			

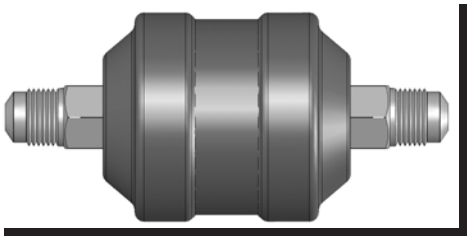
RoHS Compliant. Comply with ISO 9001 Standards.

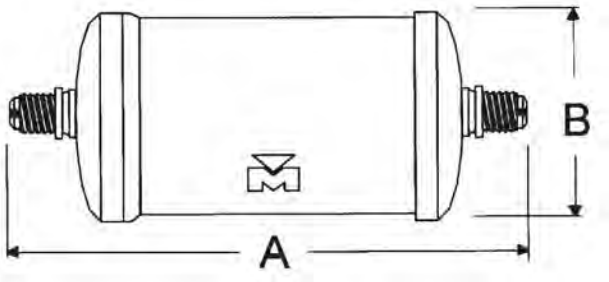
DRYMASTER® Heat Pump Driers

Flare Connection

Features:

- Maximum working pressure (PS):667
- Maximum working temperature: 160°F/70°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils, and refrigerants requiring XHII desiccant
- UL/cUL Listed, CE Certified
- High retention filter for removal of particulate as small as 25 microns
- High pressure shell and connections
- Powder paint finish approved for marine applications





Dimensions

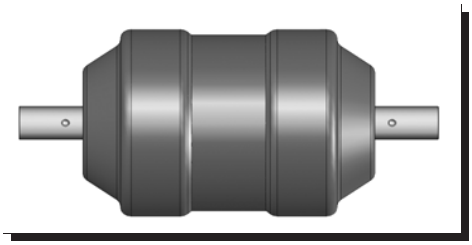
Part Number	Model	Dessicant Cu In	Size (in)	A (in)	B (in)	Wt (lb)	Liquid Capacity (tons)			Water Capacity (drops)					
							R134a	R404A, R507	R22, R407C, R410A	R134a, R507		R404A		R22, R407C, R410A	
										75°F	125°	75°F	125°	75°F	125°
A 17388	HPF-083	8	3/8	6.30	2.30	1.50	2.1	1.5	2.3	18	17	17	16	17	15
A 17390	HPF-163	16	3/8	6.70	3.10	1.75	5.1	3.7	5.7	34	31	32	29	32	29
A 17983	HPF-164	16	1/2	7.00	3.10	2.23	8.0	5.7	9.1	34	31	32	29	32	29
A 17984	HPF-165	16	5/8	7.30	3.10	2.18	10.6	8.3	11.4	34	31	32	29	32	29

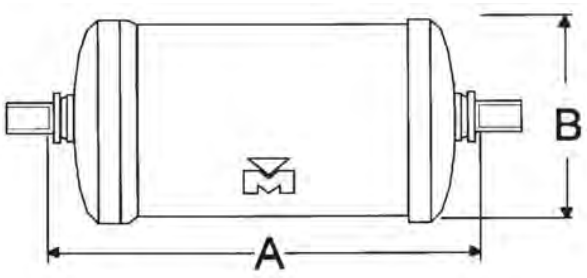
DRYMASTER® Heat Pump Driers

Solder Connection

Features:

- Maximum working pressure (PS):667
- Maximum working temperature: 160°F/70°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils, and refrigerants requiring XHII desiccant
- UL/cUL Listed, CE Certified
- High retention filter for removal of particulate as small as 25 microns
- High pressure shell and connections
- Powder paint finish approved for marine applications





Dimensions

Part Number	Model	Dessicant Cu In	Size (in)	A (in)	B (in)	Wt (lb)	Liquid Capacity (tons)			Water Capacity (drops)					
							R134a	R404A, R507	R22, R407C, R410A	R134a, R507		R404A		R22, R407C, R410A	
										75°F	125°	75°F	125°	75°F	125°
A 17389	HPS-083	8	3/8	4.80	2.30	1.50	2.1	1.5	2.3	18	17	17	16	17	15
A 17391	HPS-163	16	3/8	5.20	3.10	1.75	5.1	3.7	5.7	34	31	32	29	32	29
A 17392	HPS-164	16	1/2	5.20	3.10	1.75	8.0	5.7	9.1	34	31	32	29	32	29
A 17985	HPS-165	16	5/8	5.40	3.10	1.96	10.6	8.3	11.4	34	31	32	29	32	29

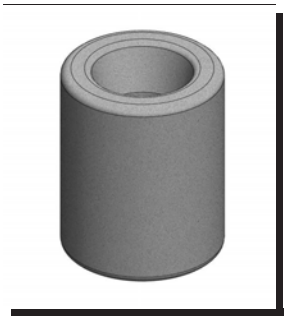
RoHS Compliant. Comply with ISO 9001 Standards.

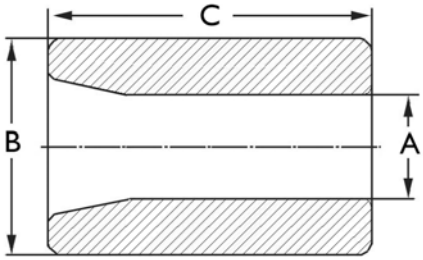
DRYMASTER® Filter Drier Cores

48 Cubic Inch

Features:

- Universal replacement for 48 cubic inch filter drier cores
- 48-CGH High Capacity Core offers 100% molecular sieve composition for high drying capacity
- 48-CGM Molecular Sieve Core offers 80% molecular sieve and 20% activated alumina composition designed for polyester oils
- For use on liquid or suction line of system
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Each core is packaged with filter pads and gasket set





Dimensions

Part Number	Model	Core Composition	Size	A (in)	B (in)	C (in)	Wt(lb)
P 36818	48-CGH	100% Molecular Sieve	48 Cu. In.	1.77	3.7	5.51	1.68
P 36819	48-CGM	80% Molecular Sieve / 20% Activated Alumina	48 Cu. In.	1.77	3.7	5.51	0.00

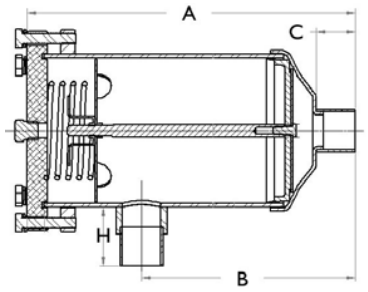
Metric Dimensions

Part Number	Model	Core Composition	Size	A (mm)	B (mm)	C (mm)	Wt(kg)
P 36818	48-CGH	100% Molecular Sieve	48 Cu. In.	45	94	140	0.76
P 36819	48-CGM	80% Molecular Sieve / 20% Activated Alumina	48 Cu. In.	45	94	140	0.00

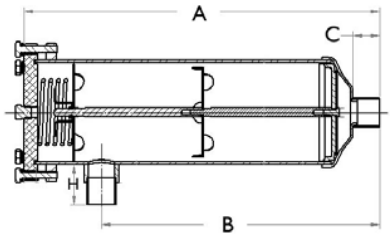
DRYMASTER® Filter Driers

Replaceable Core Shells

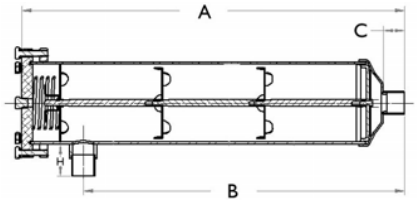
Upcoming Release. Contact Factory for Details.



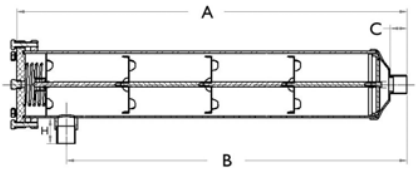
Drawing A



Drawing B



Drawing C



Drawing D

Dimensions

Part Number	Size (in)	Core Size Cu In	A (in)	B (in)	C (in)	H (in)	Wt (lb)	Drawing
A 18583	5/8	48	9.33	5.98	0.87	1.46	0.00	A
A 18584	7/8	48	9.53	6.18	1.06	1.65	0.00	A
A 18585	1 1/8	48	9.61	6.26	1.14	1.73	7.80	A
A 18586	1 3/8	48	9.72	6.38	1.26	1.85	8.10	A
A 18587	1 5/8	48	9.80	6.46	1.34	1.93	8.33	A
A 18588	2 1/8	48	10.08	6.34	1.65	2.24	0.00	A
A 18589	7/8	96	15.24	11.89	1.06	1.65	0.00	B
A 18590	1 1/8	96	15.32	11.97	1.14	1.73	10.69	B
A 18591	1 3/8	96	15.43	12.09	1.26	1.85	10.99	B
A 18592	1 5/8	96	15.51	12.17	1.34	1.93	10.97	B
A 18593	2 1/8	96	15.75	12.05	1.65	2.24	0.00	B
A 18604	1 1/8	144	20.63	17.28	1.14	1.73	0.00	C
A 18605	1 3/8	144	20.75	17.40	1.26	1.85	0.00	C
A 18606	1 5/8	144	20.83	17.48	1.34	1.93	0.00	C
A 18607	2 1/8	144	21.10	17.36	1.65	2.24	0.00	C
A 18608	1 3/8	192	26.69	23.35	1.26	1.85	0.00	D
A 18609	1 5/8	192	26.77	23.43	1.34	1.93	0.00	D
A 18610	2 1/8	192	27.01	23.31	1.65	2.24	0.00	D

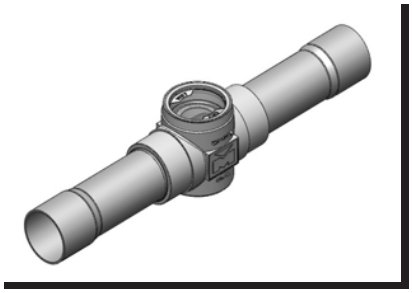
RoHS Compliant. Comply with ISO 9001 Standards.

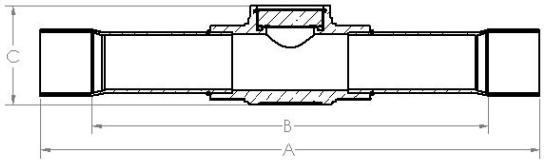
Sight Glass/ Moisture Indicators

Hermetically Sealed, Solder x Solder

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/185°F, -40°C/85°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Solid Brass construction, hermetically sealed
- Designed for maximum flow and minimum pressure drop
- Large viewing window and indicator for better visibility
- Provides accurate identification of system conditions





Moisture Content PPM				
HFC and HCFC Refrigerants	75°F Liquid Refrigerant		100°F Liquid Refrigerant	
	Green/Dry	Yellow/Wet	Green/Dry	Yellow/Wet
R404A	20	75	25	130
R407C	30	145	55	230
R507	15	75	30	140
R12	5	20	10	35
R22	30	125	45	185
R134a	25	110	45	175
R410a	25	165	45	300
R502	10	45	20	65

Dimensions

Part Number	Size	A (in)	B (in)	C (in)	Wt(lb)
A 18114	1/4	4.50	3.87	1.06	0.31
A 18115	3/8	4.50	3.71	1.06	0.38
A 18116	1/2	5.74	4.79	1.06	0.50
A 18117	5/8	5.74	4.56	1.3	0.52
A 18118	3/4	6.80	5.54	1.3	0.56
A 18119	7/8	7.16	5.69	1.42	0.41

Metric Dimensions

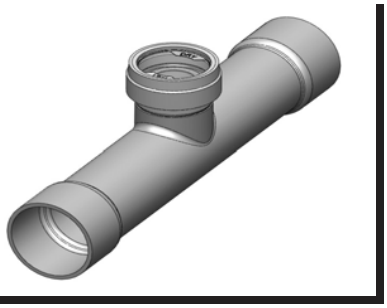
Part Number	Size	A (mm)	B (mm)	C (mm)	Wt(kg)
A 18114	6	114	98	27	0.14
A 18115	10	114	94	27	0.17
A 18116	13	146	122	27	0.22
A 18117	16	146	116	33	0.24
A 18118	19	173	141	33	0.25
A 18119	22	182	145	36	0.19

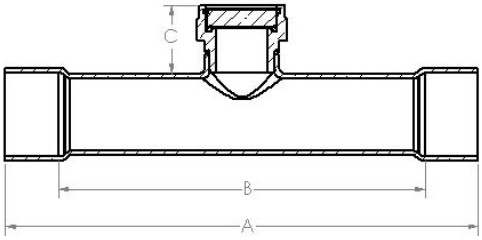
Sight Glass/ Moisture Indicators

Hermetically Sealed, Copper Body, Solder x Solder

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/185°F, -40°C/85°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Designed for maximum flow and minimum pressure drop
- Large viewing window and indicator for better visibility
- Provides accurate identification of system conditions





Moisture Content PPM				
HFC and HCFC Refrigerants	75°F Liquid Refrigerant		100°F Liquid Refrigerant	
	Green/Dry	Yellow/Wet	Green/Dry	Yellow/Wet
R404A	20	75	25	130
R407C	30	145	55	230
R507	15	75	30	140
R12	5	20	10	35
R22	30	125	45	185
R134a	25	110	45	175
R410a	25	165	45	300
R502	10	45	20	65

Dimensions

Part Number	Size	A (in)	B (in)	C (in)	Wt(lb)
A 18120	1 1/8	6.30	4.49	0.98	0.59
A 18121	1 3/8	7.87	5.95	0.98	0.75
A 18122	1 5/8	7.87	5.71	0.98	1.01
A 18123	2 1/8	7.87	5.2	0.98	1.40

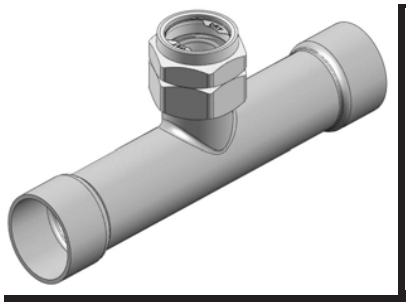
Metric Dimensions

Part Number	Size	A (mm)	B (mm)	C (mm)	Wt(kg)
A 18120	29	160	114	25	0.27
A 18121	35	200	151	25	0.34
A 18122	41	200	145	25	0.46
A 18123	54	200	132	25	0.64

Sight Glass/ Moisture Indicators

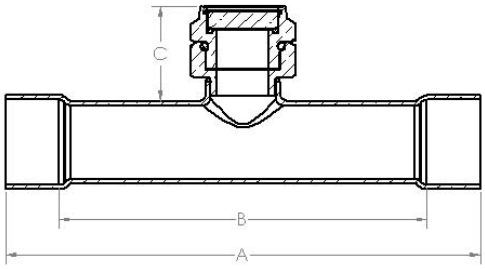
Replaceable Element, Copper Body, Solder x Solder

Upcoming Release. Contact Factory for Details.



Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/185°F, -40°C/85°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Designed for maximum flow and minimum pressure drop
- Large viewing window and indicator for better visibility
- Provides accurate identification of system conditions



Moisture Content PPM				
HFC and HCFC Refrigerants	75°F Liquid Refrigerant		100°F Liquid Refrigerant	
	Green/Dry	Yellow/Wet	Green/Dry	Yellow/Wet
R404A	20	75	25	130
R407C	30	145	55	230
R507	15	75	30	140
R12	5	20	10	35
R22	30	125	45	185
R134a	25	110	45	175
R410a	25	165	45	300
R502	10	45	20	65

Dimensions

Part Number	Size	A (in)	B (in)	C (in)	Wt(lb)
A 18124	1 1/8	6.30	4.49	1.26	0.67
A 18125	1 3/8	7.87	5.95	1.26	0.67
A 18126	1 5/8	7.87	5.71	1.26	0.67
A 18127	2 1/8	7.87	5.2	1.26	0.67

Metric Dimensions

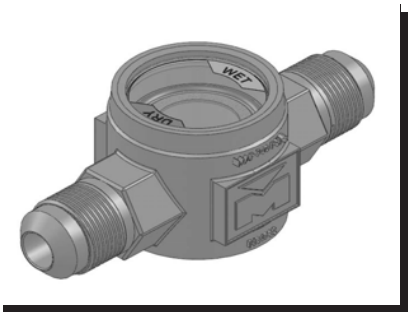
Part Number	Size	A (mm)	B (mm)	C (mm)	Wt(kg)
A 18124	29	160	114	32	0.30
A 18125	35	200	151	32	0.30
A 18126	41	200	145	32	0.30
A 18127	54	200	132	32	0.30

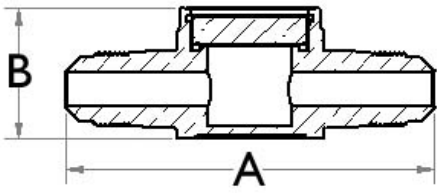
Sight Glass/ Moisture Indicators

Hermetically Sealed, Flare x Flare

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/185°F, -40°C/85°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Solid Brass construction, hermetically sealed
- Designed for maximum flow and minimum pressure drop
- Large viewing window and indicator for better visibility
- Provides accurate identification of system conditions





Moisture Content PPM				
HFC and HCFC Refrigerants	75°F Liquid Refrigerant		100°F Liquid Refrigerant	
	Green/Dry	Yellow/Wet	Green/Dry	Yellow/Wet
R404A	20	75	25	130
R407C	30	145	55	230
R507	15	75	30	140
R12	5	20	10	35
R22	30	125	45	185
R134a	25	110	45	175
R410a	25	165	45	300
R502	10	45	20	65

Dimensions

Part Number	Size	Thread	A (in)	B (in)	Wt(lb)
A 18101	1/4	7/16-20UNF	2.75	1.06	0.33
A 18102	3/8	5/8-18 UNF	3.00	1.06	0.38
A 18103	1/2	3/4-16 UNF	3.25	1.30	0.52
A 18104	5/8	7/8-14 UNF	3.45	1.30	0.54

Metric Dimensions

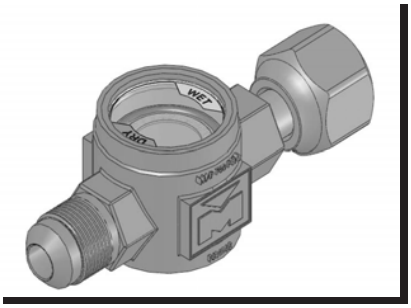
Part Number	Size	Thread	A (mm)	B (mm)	Wt(kg)
A 18101	6	7/16-20UNF	70	27	0.15
A 18102	10	5/8-18 UNF	76	27	0.17
A 18103	13	3/4-16 UNF	83	33	0.24
A 18104	16	7/8-14 UNF	88	33	0.24

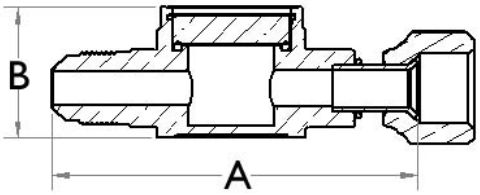
Sight Glass/ Moisture Indicators

Hermetically Sealed, Flare x Swivel

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/185°F, -40°C/85°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Solid Brass construction, hermetically sealed
- Designed for maximum flow and minimum pressure drop
- Large viewing window and indicator for better visibility
- Provides accurate identification of system conditions





Moisture Content PPM				
HFC and HCFC Refrigerants	75°F Liquid Refrigerant		100°F Liquid Refrigerant	
	Green/Dry	Yellow/Wet	Green/Dry	Yellow/Wet
R404A	20	75	25	130
R407C	30	145	55	230
R507	15	75	30	140
R12	5	20	10	35
R22	30	125	45	185
R134a	25	110	45	175
R410a	25	165	45	300
R502	10	45	20	65

Dimensions

Part Number	Size	A (in)	B (in)	Wt(lb)
A 18110	1/4	2.90	1.06	0.35
A 18111	3/8	2.95	1.06	0.38
A 18112	1/2	3.37	1.30	0.56
A 18113	5/8	3.37	1.30	0.63

Metric Dimensions

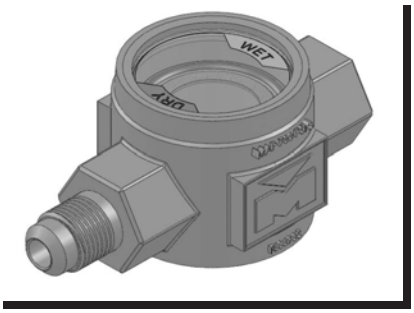
Part Number	Size	A (mm)	B (mm)	Wt(kg)
A 18110	6	74	27	0.16
A 18111	10	75	27	0.17
A 18112	13	86	33	0.25
A 18113	16	86	33	0.29

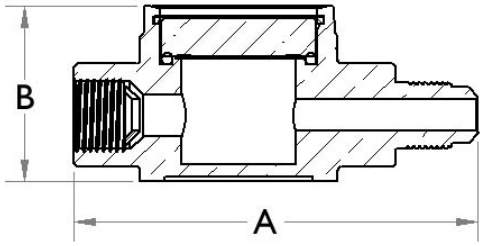
Sight Glass/ Moisture Indicators

Hermetically Sealed, M x F Flare

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/185°F, -40°C/85°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Solid Brass construction, hermetically sealed
- Designed for maximum flow and minimum pressure drop
- Large viewing window and indicator for better visibility
- Provides accurate identification of system conditions





Moisture Content PPM				
HFC and HCFC Refrigerants	75°F Liquid Refrigerant		100°F Liquid Refrigerant	
	Green/Dry	Yellow/Wet	Green/Dry	Yellow/Wet
R404A	20	75	25	130
R407C	30	145	55	230
R507	15	75	30	140
R12	5	20	10	35
R22	30	125	45	185
R134a	25	110	45	175
R410a	25	165	45	300
R502	10	45	20	65

Dimensions

Part Number	Size	Thread	A (in)	B (in)	Wt(lb)
A 18106	1/4	7/16-20 UNF	2.45	1.06	0.32
A 18107	3/8	5/8-18 UNF	3.00	1.30	0.47
A 18108	1/2	3/4-16 UNF	2.85	1.30	0.47

Metric Dimensions

Part Number	Size	Thread	A (mm)	B (mm)	Wt(kg)
A 18106	6	7/16-20 UNF	62	27	0.15
A 18107	10	5/8-18 UNF	76	33	0.21
A 18108	13	3/4-16 UNF	72	33	0.21

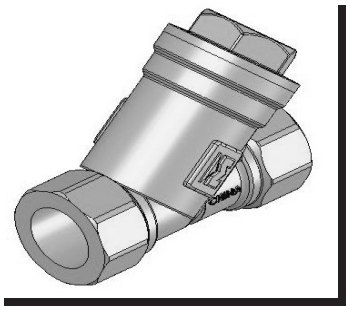
RoHS Compliant. Comply with ISO 9001 Standards.

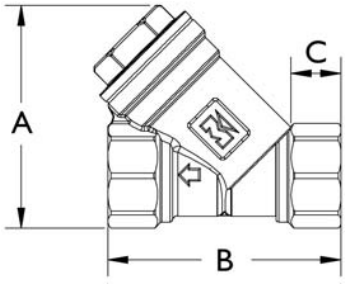
Strainers

Brass Y Type NPT Connection

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Forged brass construction





References

Sub assemblies include a screen, plug and o-ring

Dimensions

Part Number	Size Connection	Screen Mesh	A (in)	B (in)	C (in)	Wt (lb)
ASF18071	3/8	20	2.02	2.52	0.58	0
ASH18071	3/8	50	2.02	2.52	0.58	0
ASK18071	3/8	100	2.02	2.52	0.58	0
ASF18073	1/2	20	2.02	2.52	0.58	0
ASH18073	1/2	50	2.02	2.52	0.58	0
ASK18073	1/2	100	2.02	2.52	0.58	0

Metric Dimensions

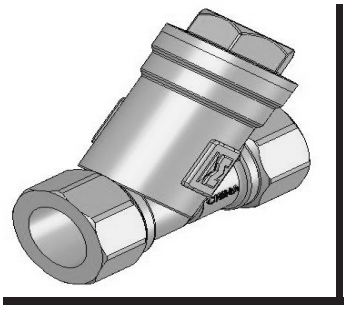
Part Number	Size Connection	Screen Mesh	A (mm)	B (mm)	C (mm)	Wt (kg)
ASF18071	3/8	20	51.308	64.008	14.732	0
ASH18071	3/8	50	51.308	64.008	14.732	0
ASK18071	3/8	100	51.308	64.008	14.732	0
ASF18073	1/2	20	51.308	64.008	14.732	0
ASH18073	1/2	50	51.308	64.008	14.732	0
ASK18073	1/2	100	51.308	64.008	14.732	0

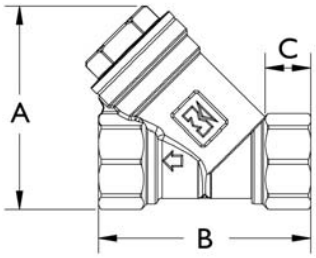
Strainers

Brass Y Type ODS Connection

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, CE Certified
- Forged brass construction





References

Sub assemblies include a screen, plug and o-ring

Dimensions

Part Number	Size Water Connection	Size Refrigeration Connection	Screen Mesh	A (in)	B (in)	C (in)	Wt (lb)
ASFI8070	1/4	3/8	20	2.02	2.52	0.58	0
ASHI8070	1/4	3/8	50	2.02	2.52	0.58	0
ASKI8070	1/4	3/8	100	2.02	2.52	0.58	0
ASFI8072	3/8	1/2	20	2.02	2.52	0.58	0
ASHI8072	3/8	1/2	50	2.02	2.52	0.58	0
ASKI8072	3/8	1/2	100	2.02	2.52	0.58	0
ASFI8074	1/2	5/8	20	2.02	2.52	0.58	0
ASHI8074	1/2	5/8	50	2.02	2.52	0.58	0
ASKI8074	1/2	5/8	100	2.02	2.52	0.58	0

Metric Dimensions

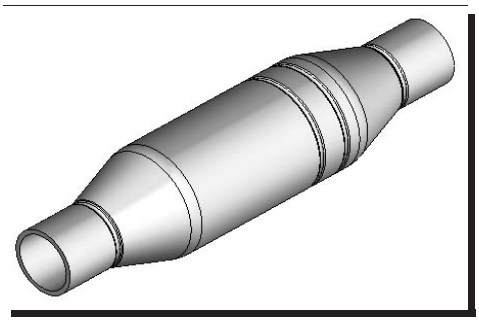
Part Number	Size Water Connection	Size Refrigeration Connection	Screen Mesh	A (mm)	B (mm)	C (mm)	Wt (kg)
ASFI8070	1/4	3/8	20	51.308	64.008	14.732	0
ASHI8070	1/4	3/8	50	51.308	64.008	14.732	0
ASKI8070	1/4	3/8	100	51.308	64.008	14.732	0
ASFI8072	3/8	1/2	20	51.308	64.008	14.732	0
ASHI8072	3/8	1/2	50	51.308	64.008	14.732	0
ASKI8072	3/8	1/2	100	51.308	64.008	14.732	0
ASFI8074	1/2	5/8	20	51.308	64.008	14.732	0
ASHI8074	1/2	5/8	50	51.308	64.008	14.732	0
ASKI8074	1/2	5/8	100	51.308	64.008	14.732	0

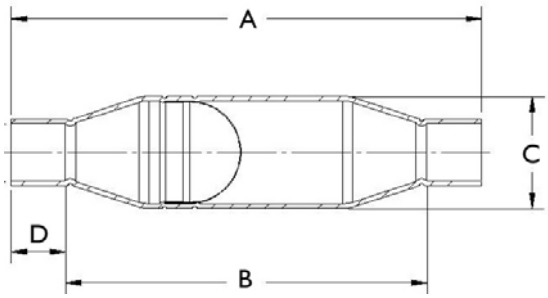
Strainers

Copper Inline

Features:

- Maximum working pressure (PS): 700 psig, 48 bar
- Working temperature range (TS): -40°F/300°F, -40°/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Listed, CE Certified





Dimensions

Part Number	Size in	A in	B in	C in	D in	Internal Assembly Volume	Screen Mesh	Screen Area	Filtration Capacity	Wt lb
A 18025	3/8	3.12	2.50	0.75	0.31	0.79	100	.4	175	0.06

Metric Dimensions

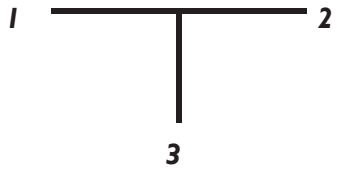
Part Number	Size mm	A mm	B mm	C mm	D mm	Internal Assembly Volume	Screen Mesh	Screen Area	Filtration Capacity	Wt kg
A 18025	10	79	64	19	8	0.79	100	.4	175	0.03

45° Flare Fittings

Features:

- Recommended maximum working pressure (PS): 700 psig, 48 bar
- In conformance with Refrigeration Fitting Standards SAE J513, Military Standards MS-35867 through MS35873 inclusive, MS-35919, MS-24815 and MS-16993
- Fabricated from brass forgings or drawn brass rod eliminating the possibility of seepage by porosity
- Accurately machined and fully protected against damage during shipping, handling and storage to assure tight leak-proof joints
- Smooth interior finish provides unrestricted flow and reduced pressure drop

Tees are described by first sizing the run (1 to 2) and then the branch (3).

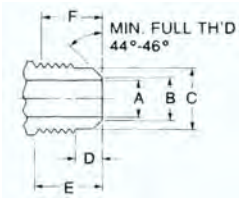


The letter in the first position of the catalog number is derived from the name of the fitting. Examples:
B - Bonnets
E - Elbows
F - Fuse Plugs
N - Nuts
T - Tees
U - Unions

The numeral in the second position of the catalog number designates the combination of threads on the fitting.
1 - External Pipe Thread (U1, E1, T1)
2 - Flare to Flare Fitting (U2, E2, T2)
4 - Forged Nut

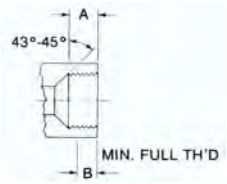
Indicators preceding the numeral in the second position of the catalog number designate the following:
R - Internal pipe to flare fitting (excludes tees)
R - Pipe thread to flare on the run (tees)
R - Reducing flare nut (forged nuts)
S - Short (forged nuts)

The last two characters inthe catalog number desgnate the size. (Flare sizes are designated by numerals and pipe sizes are designated by letters.	
3 - 3/16	A - 1/8
4 - 1/4	B - 1/4
5 - 5/16	C - 3/8
6 - 3/8	D - 1/2
8 - 1/2	E - 3/4
10 - 5/8	F - 1
12 - 3/4	



External Flare:

Size	A (in)	B (in)	C (in)	D (in)	E (in)	Min Rull Thread	Size Thread
3/16	0.13	0.16	0.30	0.13	0.44	0.43	3/8 - 24
1/4	0.19	0.22	0.34	0.16	0.50	0.41	7/16 - 20
5/16	0.22	0.25	0.41	0.19	0.56	0.47	1/2 - 20
3/8	0.28	0.31	0.53	0.22	0.53	0.53	5/8 - 18
1/2	0.41	0.44	0.64	0.25	0.75	0.66	3/4 - 16
5/8	0.50	0.53	0.75	0.28	0.88	0.75	7/8 - 14
3/4	0.63	0.72	0.94	0.28	1.00	0.91	1 1/16 - 14



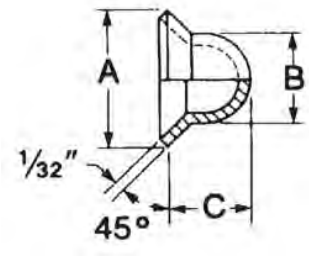
Internal Flare:

Size	A (in)	Min Rull Thread	Size Thread
3/16	0.28	0.22	3/8 - 24
1/4	0.34	0.27	7/16 - 20
5/16	0.38	0.30	1/2 - 20
3/8	0.44	0.34	5/8 - 18
1/2	0.53	0.44	3/4 - 16
5/8	0.66	0.55	7/8 - 14
3/4	0.78	0.67	1 1/16 - 14

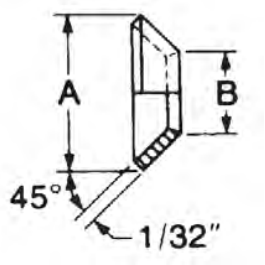
45° Flare Fittings

Copper Flare Bonnets and Gaskets

Copper Flare Seal Bonnet



Copper Flare Gasket



References

* C Dimension: Copper Flare Seal Bonnet +/- 1/64, Copper Flare Gasket +/- 1/32

Copper Flare Seal Bonnets

Cat Number	Part Number	Size Flare	A (in)	B (in) *	C (in)	Box Qty	Wt(lb)
B1-3	A 04737	3/16	0.31	0.16	0.16	25	0.001
B1-4	A 00414	1/4	0.36	0.22	0.22	100	0.001
B1-5	A 04935	5/16	0.42	0.28	0.28	50	0.004
B1-6	A 00415	3/8	0.55	0.36	0.34	100	0.004
B1-8	A 00416	1/2	0.66	0.47	0.41	100	0.007
B1-10	A 00485	5/8	0.77	0.61	0.44	20	0.010
B1-12	A 04738	3/4	0.95	0.72	0.56	25	0.015

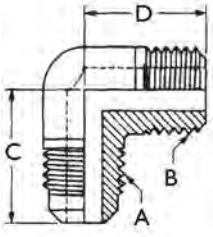
Copper Flare Gaskets

Cat Number	Part Number	Size Flare	A (in)	B (in) *	C (in)	Box Qty	Wt(lb)
B2-4	A 00401	1/4	0.36	0.19		100	0.001
B2-5	A 04811	5/16	0.42	0.22		50	0.001
B2-6	A 00402	3/8	0.55	0.28		100	0.002
B2-8	A 00403	1/2	0.66	0.41		100	0.002
B2-10	A 05186	5/8	0.77	0.50		50	0.003
B2-12	A 04822	3/4	0.95	0.63		25	0.004

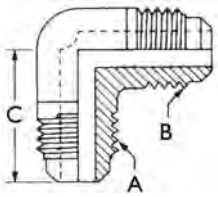
45° Flare Fittings

90° Elbows

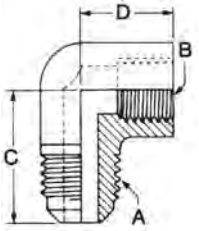
Half Union, Flare to NPTFE



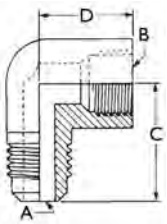
Union, Flare to Flare



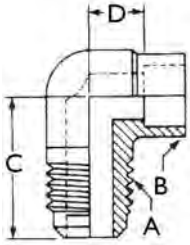
External Flare to NPTFI



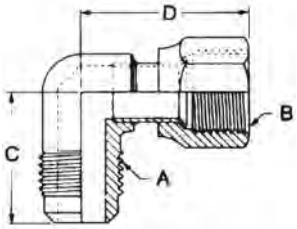
External Flare to Internal Flare



Half Union, Flare to Solder



External Flare to Internal Swivel



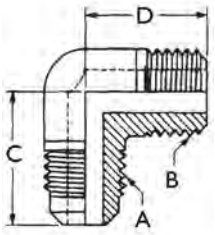
Half Union - Flare to NPTFE							
Cat Number	Part Number	Flare A (in)	B (in)	C (in)	D (in)	Box Qty	Wt(lb)
E1-4A	A 00335	1/4	1/8	0.94	0.78	25	0.046
E1-4B	A 04890	1/4	1/4	0.91	0.94	25	0.055
E1-4C	A 04812	1/4	3/8	0.94	1.03	25	0.082
E1-6A	A 04937	3/8	1/8	1.03	0.91	25	0.080
E1-6B	A 00337	3/8	1/4	1.06	1.06	25	0.077
E1-6C	A 04889	3/8	3/8	1.06	1.09	25	0.108
E1-6D	A 04886	3/8	1/2	1.13	1.34	25	0.160
E1-8B	A 05044	1/2	1/4	1.22	1.19	10	0.135
E1-8C	A 00339	1/2	3/8	1.22	1.13	15	0.140
E1-8D	A 04887	1/2	1/2	1.28	1.38	15	0.180
E1-8E	A 05072	1/2	3/4	1.34	1.38	10	0.231
E1-10C	A 04856	5/8	3/8	1.47	1.25	10	0.225
E1-10D	A 04538	5/8	1/2	1.47	1.44	10	0.240
E1-10E	A 05054	5/8	3/4	1.47	1.50	10	0.255
E1-12E	A 04746	3/4	3/4	1.66	1.63	10	0.336
Union - Flare to Flare							
Cat Number	Part Number	Flare A (in)	B (in)	C (in)	D (in)	Box Qty	Wt(lb)
E2-4	A 00147	1/4	1/4	0.91		25	0.074
E2-6	A 00146	3/8	3/8	1.06		25	0.095
E2-8	A 00145	1/2	1/2	1.22		15	0.150
E2-10	A 04539	5/8	5/8	1.47		10	0.250
E2-12	A 04745	3/4	3/4	1.66		5	0.365

* Gasket furnished

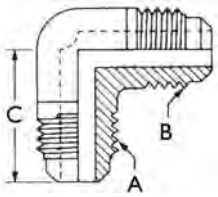
45° Flare Fittings

90° Elbows

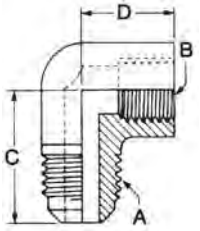
Half Union, Flare to NPTFE



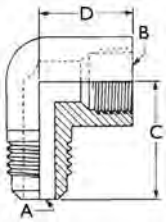
Union, Flare to Flare



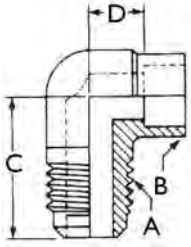
External Flare to NPTFI



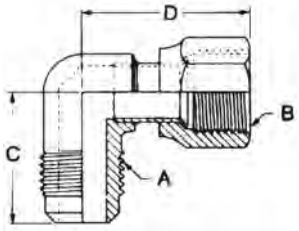
External Flare to Internal Flare



Half Union, Flare to Solder



External Flare to Internal Swivel



External Flare to NPTFI							
Cat Number	Part Number	Flare A (in)	B (in)	C (in)	D (in)	Box Qty	Wt(lb)
E3-4A	A 04630	1/4	1/8	0.91	0.91	25	0.050
E3-4B	A 05007	1/4	1/4	1.06	0.66	25	0.140

External Flare to Internal Flare							
Cat Number	Part Number	Flare A (in)	B (in)	C (in)	D (in)	Box Qty	Wt(lb)
E4-44	A 04898 *	1/4	1/4	0.94	0.88	25	0.065
E4-66	A 08082 *	3/8	3/8	1.22	1.06	25	0.170

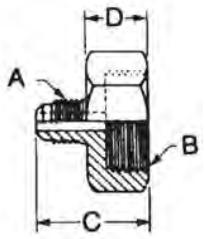
Half Union - Flare to Solder							
Cat Number	Part Number	Flare A (in)	B (in)	C (in)	D (in)	Box Qty	Wt(lb)
ES2-44	A 03449	1/4	1/4	0.84	0.36	25	0.035
ES2-66	A 03511	3/8	3/8	1.08	0.47	20	0.081
ES2-88	A 07851	1/2	1/2	1.22	0.47	10	0.120

External Flare to Internal Flare Swivel							
Cat Number	Part Number	Flare A (in)	B (in)	C (in)	D (in)	Box Qty	Wt(lb)
ES4-44	A 15940	1/4	1/4	0.91	1.25	4	0.103
ES4-66	A 15941	3/8	3/8	1.08	1.42	4	0.133
ES4-88	A 15943	1/2	1/2	1.22	1.53	4	0.202

* Gasket furnished

Refrigerant Drum Adaptor

Flare to Internal Straight Pipe (NPSM) Furnished with Gasket



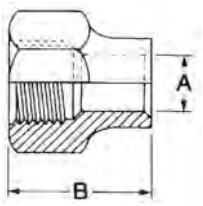
Refrigerant Drum Adapters

Cat Number	Part Number	Flare A (in)	NPSM B (in) *	C (in)	D (in)	Hex	Box Qty	Wt(lb)	Replacement Gasket
K1-1	A 08073	1/4	3/4	1.13	0.44	1 1/4	10	0.159	A 08074
K1-3	A 08274	3/8	3/4	1.25	0.44	1 1/4	10	0.187	A 08074
K1-5	A 08276	1/2	3/4	1.38	0.44	1 1/4	10	0.194	A 08074
K1-8	A 08166	1/4	1/2	1.13	0.44	1 1/8	10	0.148	A 08167

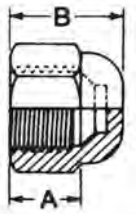
45° Flare Fittings

Nuts

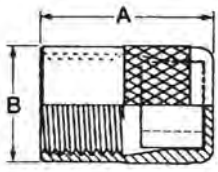
Long Forged Nuts



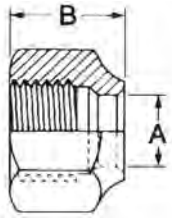
Flare Seal Caps



Flare Seal Cap - Finger Tightening



Short Forged Reducing Nuts
Short Forged Nuts



Long Forged Nuts

Cat Number	Part Number	Flare A (in)	Size Tube	Hex	A (in)	B (in)	Box Qty	Wt(lb)
N4-4	A 00440	1/4	1/4	5/8	0.26	0.94	25	0.048
N4-6	A 00441	3/8	3/8	13/16	0.38	1.06	25	0.075
N4-8	A 00442	1/2	1/2	15/16	0.51	1.19	10	0.108
N4-10	A 01112	5/8	5/8	1 1/16	0.63	1.44	5	0.185
N4-12	A 04731	3/4	3/4	1 5/16	0.76	1.75	5	0.345

Flare Seal Caps

Cat Number	Part Number	Flare A (in)	Size Tube	Hex	A (in)	B (in)	Box Qty	Wt(lb)
N5-4	A 04544	1/4		9/16	0.34	0.56	50	0.030
N5-5	A 04758	5/16		5/8	0.38	0.56	25	0.027
N5-6	A 04545	3/8		3/4	0.44	0.69	25	0.050
N5-8	A 04546	1/2		7/8	0.55	0.81	25	0.069
N5-10	A 04560	5/8		1 1/16	0.63	0.94	10	0.137
N5-12	A 04951	3/4		1 5/16	0.75	1.09	10	0.221

Flare Seal Caps - Finger Tightening

Cat Number	Part Number	Flare A (in)	Size Tube	Hex	A (in)	B (in)	Box Qty	Wt(lb)
NFT5-4	A 16447	1/4			0.56	0.48	N/A	0.015
NFT5-6	A 16448	3/8			0.73	0.67	N/A	0.038

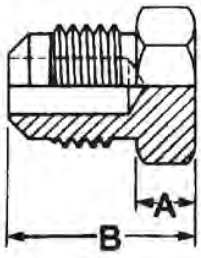
Short Forged Reducing Nuts

Cat Number	Part Number	Flare A (in)	Size Tube	Hex	A (in)	B (in)	Box Qty	Wt(lb)
NRS4-43	A 05132	1/4	3/16	5/8	0.19	0.59	10	0.027
NRS4-54	A 05247	5/16	1/4	11/16	0.26	0.63	10	0.055
NRS4-64	A 05140	3/8	1/4	13/16	0.26	0.69	25	0.060
NRS4-65	A 05282	3/8	5/16	13/16	0.32	0.69	10	0.027
NRS4-86	A 05141	1/2	3/8	15/16	0.38	0.81	15	0.094
NRS4-108	A 05228	5/8	1/2	1 1/16	0.51	0.94	15	0.125

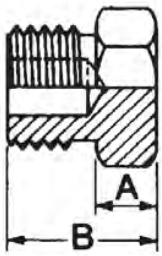
Short Forged Nuts

Cat Number	Part Number	Flare A (in)	Size Tube	Hex	A (in)	B (in)	Box Qty	Wt(lb)
NS4-3	A 05238	3/16	3/16	1/2	0.19	0.53	50	0.024
NS4-4	A 05051	1/4	1/4	5/8	0.26	0.59	50	0.035
NS4-5	A 05239	5/16	5/16	11/16	0.32	0.63	25	0.040
NS4-6	A 05052	3/8	3/8	13/16	0.38	0.69	25	0.052
NS4-8	A 05053	1/2	1/2	15/16	0.51	0.81	15	0.084
NS4-10	A 05157	5/8	5/8	1 1/16	0.63	0.94	10	0.120
NS4-12	A 05222	3/4	3/4	1 5/16	0.76	1.13	10	0.235

Flare Plugs

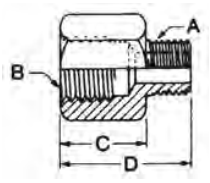


Brass Pipe Plugs



Flare Plugs							
Cat Number	Part Number	Flare A (in)	Hex	A (in)	B (in)	Box Qty	Wt(lb)
P2-3	A 05045	3/16	3/8	0.16	0.59	15	0.016
P2-4	A 00121	1/4	7/16	0.19	0.69	25	0.022
P2-5	A 00124	5/16	1/2	0.22	0.78	15	0.034
P2-6	A 00122	3/8	5/8	0.25	0.88	25	0.070
P2-8	A 00123	1/2	3/4	0.31	1.06	25	0.095
P2-10	A 04536	5/8	7/8	0.31	1.19	15	0.137
P2-12	A 04757	3/4	1 1/16	0.31	1.31	10	0.225
Brass Pipe Plugs							
Cat Number	Part Number	Flare A (in)	Hex	A (in)	B (in)	Box Qty	Wt(lb)
P3-A	A 00250	1/8	1/2	0.19	0.63	50	0.030
P3-B	A 00249	1/4	11/16	0.25	0.81	50	0.056
P3-C	A 00425	3/8	11/16	0.25	0.75	25	0.058
P3-D	A 04759	1/2	7/8	0.31	0.88	25	0.108
P3-E	A 05004	3/4	1 1/8	0.31	1.03	10	0.305

Bushing - External Pipe Thread to Internal Pipe Thread

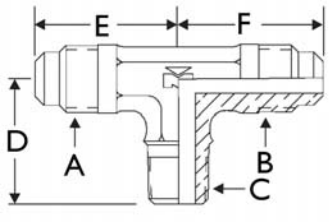


External Pipe Thread to Internal Pipe Thread								
Cat Number	Part Number	NPTE A (in)	NPTI B (in)	C (in)	D (in)	Hex	Box Qty	Wt(lb)
R1-AB	A 08756	1/8	1/4	0.61	0.92	11/16	25	0.054
R1-BA	A 00630	1/4	1/8	0.19	0.69	9/16	25	0.020
R1-CB	A 00631	3/8	1/4	0.25	0.75	11/16	25	0.034
R1-DB	A 00492	1/2	1/4	0.28	0.84	7/8	25	0.080
R1-DC	A 00632	1/2	3/8	0.28	0.84	7/8	25	0.051
R1-EC	A 00493	3/4	3/8	0.31	0.92	1 1/16	10	0.111
R1-ED	A 00633	3/4	1/2	0.31	0.92	1 1/16	10	0.092

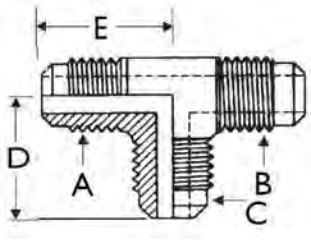
45° Flare Fittings

Tees

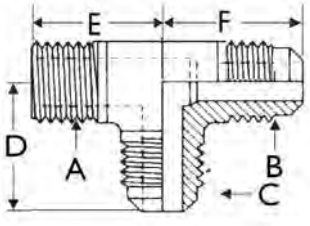
Two Way



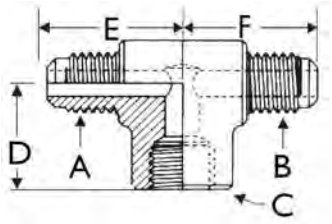
Three Way



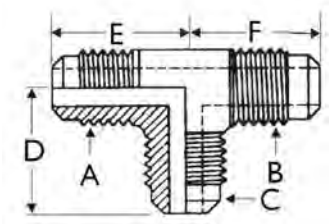
Right Angle Two Way



Three Way, Internal Branch



Three Way Reducing



Two-Way

Cat Number	Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Box Qty	Wt(lb)
		Flare	Flare	NPTFE					
T1-4A	A 00345	1/4	1/4	1/8	0.81	0.94	0.94	25	0.066
T1-4B	A 04859	1/4	1/4	1/4	1.03	0.91	0.91	25	0.103
T1-4C	A 04771	1/4	1/4	3/8	1.03	0.94	0.94	15	0.116
T1-6B	A 00347	3/8	3/8	1/4	1.06	1.06	1.06	25	0.120
T1-8C	A 00349	1/2	1/2	3/8	1.13	1.22	1.22	15	0.191

Three-Way

Cat Number	Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Box Qty	Wt(lb)
		Flare	Flare	Flare					
T2-4	A 00340	1/4	1/4	1/4	0.94	0.94		25	0.065
T2-6	A 00342	3/8	3/8	3/8	1.06	1.06		15	0.143
T2-8	A 00344	1/2	1/2	1/2	1.22	1.22		15	0.196
T2-12	A 04749	3/4	3/4	3/4	1.66	1.66		5	0.502

Right Angle Two-Way

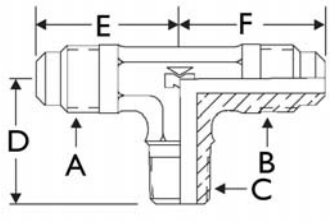
Cat Number	Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Box Qty	Wt(lb)
		NPTFE	Flare	Flare					
T3-4A	A 00127	1/8	1/4	1/4	0.94	0.80	0.94	25	0.070
T3-4B	A 04998	1/4	1/4	1/4	0.94	1.06	0.94	25	0.088
T3-6C	A 04941	3/8	3/8	3/8	1.06	1.09	1.06	25	0.140
T3-8C	A 04778	3/8	1/2	1/2	1.22	1.13	1.22	15	0.182

* Gasket furnished

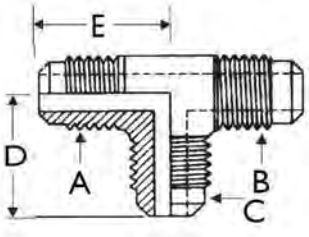
45° Flare Fittings

Tees

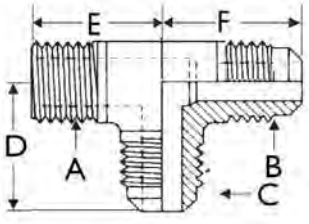
Two Way



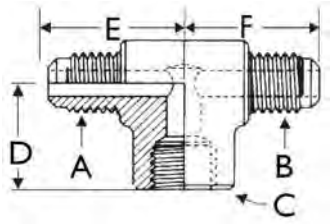
Three Way



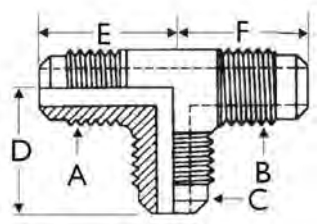
Right Angle Two Way



Three Way, Internal Branch



Three Way Reducing



Three-Way, Internal Branch

Cat Number	Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Box Qty	Wt(lb)
		Flare	Flare	Flare					
T6-4	A 06330 *	1/4	1/4	1/4	0.94	0.91		25	0.085

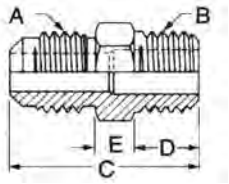
Three-Way Reducing

Cat Number	Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Box Qty	Wt(lb)
		Flare	Flare	NPTFE					
TR2-46	A 04994	1/4	1/4	3/8	1.06	0.91		25	0.114
TR2-64	A 04574	3/8	3/8	1/4	0.91	1.06		25	0.134
TR2-68	A 04547	3/8	3/8	1/2	1.22	1.13		15	0.194
TR2-86	A 04559	1/2	1/2	3/8	1.13	1.22		15	0.191

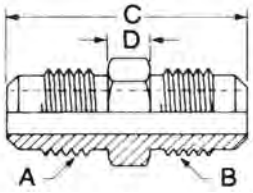
* Gasket furnished

45° Flare Fittings

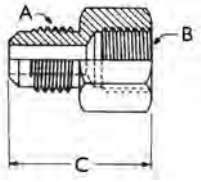
Half Union, Flare to NPTFE



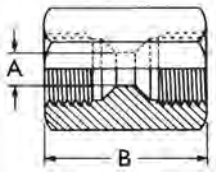
Union, Flare to Flare



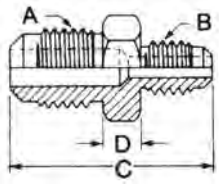
Half Union, Flare to NPTFI



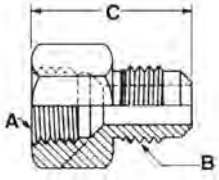
Internal Flare Union



Reducing Union, Flare to Flare



Union, Int to Ext Flare



Half Union - Flare to NPTFE									
Cat Number	Part Number	A (in) Flare	B (in) NPTFE	C (in)	D (in)	E (in)	Hex	Box Qty	Wt(lb)
U1-3A	A 01117	3/16	1/8	1.00	0.38	0.19	7/16	15	0.025
U1-4A	A 00330	1/4	1/8	1.06	0.38	0.19	7/16	25	0.030
U1-4B	A 04585	1/4	1/4	1.25	0.56	0.19	9/16	25	0.047
U1-4C	A 01197	1/4	3/8	1.31	0.56	0.25	11/16	25	0.071
U1-4D	A 04628	1/4	1/2	1.56	0.75	0.31	7/8	25	0.114
U1-5A	A 00331	5/16	1/8	1.16	0.38	0.31	1/2	25	0.040
U1-5B	A 05036	5/16	1/4	1.34	0.56	0.22	9/16	25	0.055
U1-5C	A 01198	5/16	3/8	1.38	0.56	0.25	11/16	25	0.075
U1-6A	A 05003	3/8	1/8	1.25	0.38	0.25	5/8	25	0.065
U1-6B	A 00332	3/8	1/4	1.44	0.56	0.25	5/8	25	0.075
U1-6C	A 01199	3/8	3/8	1.44	0.56	0.25	11/16	25	0.090
U1-6D	A 04993	3/8	1/2	1.69	0.75	0.31	7/8	25	0.135
U1-8A	A 05034	1/2	1/8	1.44	0.38	0.31	3/4	10	0.094
U1-8B	A 04439	1/2	1/4	1.63	0.56	0.31	3/4	10	0.108
U1-8C	A 00334	1/2	3/8	1.63	0.56	0.31	3/4	10	0.119
U1-8D	A 04780	1/2	1/2	1.81	0.75	0.31	7/8	10	0.155
U1-8E	A 05066	1/2	3/4	1.94	0.75	0.44	1 1/16	10	0.228
U1-10B	A 05035	5/8	1/4	1.81	0.56	0.38	7/8	10	0.155
U1-10C	A 01195	5/8	3/8	1.81	0.56	0.38	7/8	10	0.168
U1-10D	A 04540	5/8	1/2	2.00	0.75	0.38	7/8	10	0.189
U1-10E	A 04827	5/8	3/4	2.06	0.75	0.44	1 1/16	5	0.250
U1-12C	A 05005	3/4	3/8	2.00	0.56	0.44	1 1/16	10	0.265
U1-12D	A 04739	3/4	1/2	2.19	0.75	0.44	1 1/16	5	0.286
U1-12E	A 04740	3/4	3/4	2.19	0.75	0.44	1 1/16	5	0.316

Unions - Flare to Flare									
Cat Number	Part Number	A (in) Flare	B (in) Flare	C (in)	D (in)	E (in)	Hex	Box Qty	Wt(lb)
U2-4	A 00325	1/4	1/4	1.19	0.19		7/16	25	0.026
U2-5	A 00326	5/16	5/16	1.34	0.22		1/2	25	0.050
U2-6	A 00327	3/8	3/8	1.50	0.25		5/8	25	0.092
U2-8	A 00329	1/2	1/2	1.81	0.31		3/4	15	0.141
U2-10	A 04845	5/8	5/8	2.13	0.38		7/8	10	0.215
U2-12	A 04733	3/4	3/4	2.44	0.44		1 1/16	10	0.368

* 2 Gaskets furnished

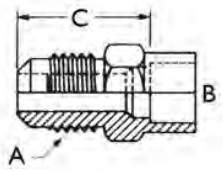
45° Flare Fittings

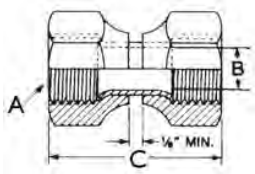
Half Union - Flare to NPTFI									
Cat Number	Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	Hex	Box Qty	Wt(lb)
U3-4A	A 04622	1/4	1/8	1.03			9/16	25	0.042
U3-4B	A 04625	1/4	1/4	1.25			11/16	25	0.065
U3-4C	A 04961	1/4	3/8	1.28			13/16	15	0.081
U3-6A	A 04927	3/8	1/8	1.13			5/8	10	0.103
U3-6B	A 04624	3/8	1/4	1.31			11/16	25	0.083
U3-6C	A 04627	3/8	3/8	1.38			13/16	15	0.100
U3-6D	A 08104	3/8	1/2	1.63			1	15	0.163
U3-8B	A 04928	1/2	1/4	1.41			3/4	15	0.112
U3-8C	A 04727	1/2	3/8	1.50			13/16	15	0.119
U3-8D	A 04728	1/2	1/2	1.75			1	15	0.181
U3-10C	A 04929	5/8	3/8	1.59			7/8	10	0.160
U3-10D	A 04819	5/8	1/2	1.81			1	10	0.195
U3-10E	A 04977	5/8	3/4	1.91			1 1/4	10	0.286
Internal Flare Unions									
Cat Number	Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	Hex	Box Qty	Wt(lb)
U4-4	A 00385 *	1/4		1.00			5/8	10	0.065
U4-6	A 00386 *	3/8		1.25			13/16	10	0.118
U4-8	A 00387 *	1/2		1.44			15/16	10	0.175
Reducing Unions - Flare to Flare									
Cat Number	Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	Hex	Box Qty	Wt(lb)
UR2-43	A 05270	1/4	3/16	1.13	0.19		7/16	15	0.030
UR2-54	A 08730	5/16	1/4	1.28	0.22		1/2	10	0.046
UR2-64	A 01171	3/8	1/4	1.38	0.25		5/8	15	0.072
UR2-65	A 04981	3/8	5/16	1.44	0.25		5/8	10	0.078
UR2-84	A 00356	1/2	1/4	1.56	0.31		3/4	15	0.100
UR2-86	A 00149	1/2	3/8	1.69	0.31		3/4	25	0.127
UR2-106	A 05334	5/8	3/8	1.88	0.38		7/8	10	0.175
UR2-108	A 04846	5/8	1/2	2.00	0.38		7/8	15	0.192
UR2-128	A 04734	3/4	1/2	2.19	0.44		1 1/16	10	0.290
UR2-1210	A 04784	3/4	5/8	2.31	0.44		1 1/16	10	0.332
Internal Flare to External Flare									
Cat Number	Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	Hex	Box Qty	Wt(lb)
UR3-43	A 05147	1/4	3/16	1.03			5/8	10	0.047
UR3-46	A 05041	1/4	3/8	1.13			5/8	15	0.070
UR3-48	A 08127	1/4	1/2	1.25			3/4	10	0.112
UR3-64	A 00479	3/8	1/4	1.22			13/16	15	0.078
UR3-68	A 04888	3/8	1/2	1.41			13/16	15	0.110
UR3-84	A 00480	1/2	1/4	1.38			15/16	15	0.107
UR3-86	A 00481	1/2	3/8	1.44			15/16	15	0.120
UR3-108	A 04770	5/8	1/2	1.69			1 1/16	10	0.180
UR3-810	A 04879	1/2	5/8	1.63			15/16	10	0.169
UR3-1012	A 04878	5/8	3/4	1.91			1 1/16	10	0.265
UR3-1210	A 04826	3/4	5/8	1.97			1 5/16	10	0.241

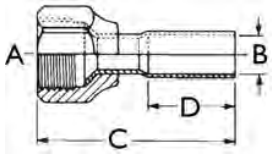
* 2 Gaskets furnished

45° Flare Fittings

Half Union, Ext Flare to Solder Union, Internal Flare Swivel Internal Flare to Ext. Solder







Half Union - External Flare to Solder

Cat Number	Part Number	A (in) Flare	B (in) OD	C (in)	D (in)	E (in)	Hex	Box Qty	Wt(lb)
US3-44	A 03431	1/4	1/4	0.69			7/16	50	0.025
US3-45	A 03466	1/4	5/16	0.69			7/16	25	0.023
US3-46	A 03494	1/4	3/8	0.69			1/2	25	0.029
US3-64	A 03443	3/8	1/4	0.88			5/8	25	0.070
US3-65	A 03464	3/8	5/16	0.88			5/8	25	0.061
US3-66	A 03492	3/8	3/8	0.88			5/8	25	0.063
US3-68	A 03547	3/8	1/2	0.88			5/8	10	0.062
US3-86	A 03504	1/2	3/8	1.06			3/4	25	0.112
US3-88	A 03546	1/2	1/2	1.06			3/4	15	0.096
US3-108	A 03519	5/8	1/2	1.25			7/8	10	0.160
US3-610	A 06601	3/8	5/8	0.88			3/4	10	0.075
US3-810	A 02259	1/2	5/8	1.06			3/4	10	0.100
US3-1010	A 02258	5/8	5/8	1.25			7/8	10	0.155
US3-1012	A 02272	5/8	3/4	1.25			7/8	10	0.150
US3-1014	A 02378	5/8	7/8	1.25			1	10	0.166
US3-1212	A 05307	3/4	3/4	1.44			1 1/16	5	0.246
US3-1214	A 05425	3/4	7/8	1.31			1 1/16	5	0.249

Internal Flare Swivel Unions

Cat Number	Part Number	A (in) Flare	B (in)	C (in)	D (in)	E (in)	Hex	Box Qty	Wt(lb)
US4-4	A 13563	1/4		1.38			5/8	15	0.080
US4-5	A 13564	5/16		1.44			11/16	15	0.085
US4-6	A 13565	3/8		1.56			13/16	15	0.121
US4-8	A 13567	1/2		1.81			15/16	15	0.175
US4-10	A 13568	5/8		2.06			1 1/16	15	0.270

Internal Flare to Extension Solder

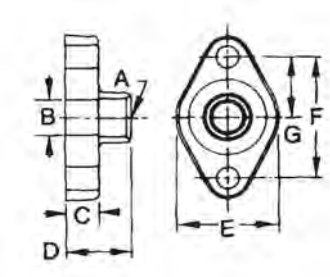
Cat Number	Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	Hex	Box Qty	Wt(lb)
US5-44	A 15725	1/4	1/4	1.63	0.81	0.00		25	0.043
US5-66	A 15726	3/8	3//8	1.69	0.81	0.00		25	0.074
US5-88	A 15727	1/2	1/2	1.94	0.88	0.00		20	0.104
US5-1010	A 15728	5/8	5/8	2.31	1.00			10	0.160
US5-1212	A 15729	3/4	3/4	2.88	1.25	0.00		10	0.318

* 2 Gaskets furnished

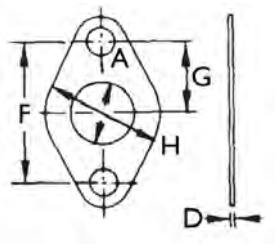
Forged Brass Solder Flanges and Gaskets

2 Bolt-Hole

Flange with Serrated Gasket Surface



Gasket, Asbestos-Free Material



Flange with Serrated Gasket Surface

Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in) Bolt Hole Centers	G (in)	H (In)	Dia Bolt Holes	Box Qty	Wt (lb)
A 08314	5/8	9/16	0.75	1.19	1.50	1 5/8	0.81		11/32	1	0.445
A 05299	3/4	11/16	0.75	1.31	1.50	1 5/8	0.81		3/8	1	0.420
A 09215	7/8	13/16	0.75	1.44	1.50	1 5/8	0.81		11/32	1	0.395
A 08315	7/8	13/16	0.75	1.44	2.25	2 3/4	1.38		17/32	1	1.080
A 05151	1 1/8	1 1/16	0.75	1.56	2.25	2 3/4	1.38		17/32	1	1.109
A 05074	1 3/8	1 19/64	0.75	1.53	2.25	2 3/4	1.38		17/32	1	0.900

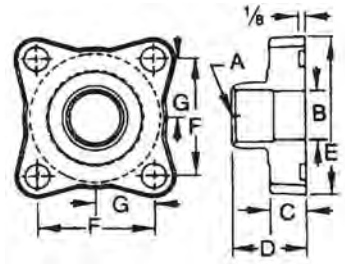
Gasket, Asbestos-Free Material

Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in) Bolt Hole Centers	G (in)	H (In)	Dia Bolt Holes	Box Qty	Wt (lb)
A 04582	9/16	1 1/16		0.03		1 5/8	0.81	1.13	11/32	N/A	0.003
N 02308	13/16	1 19/64		0.03		1 5/8	0.81	1.50	11/32	N/A	0.004
N 02307	13/16	1 17/32		0.03		1 3/4	0.88	1.50	11/32	N/A	0.004
A 05152	1 3/16	1 15/16		1.06		2 3/4	1.38	2.25	17/32	20	0.020

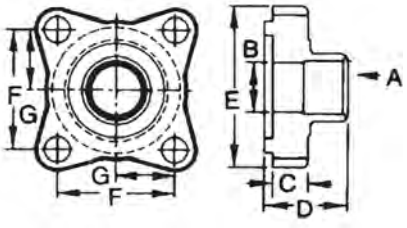
Forged Brass Solder Flanges and Gaskets

4 Bolt-Hole

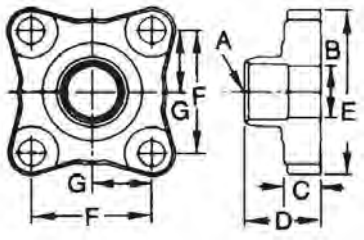
Flange with Groove



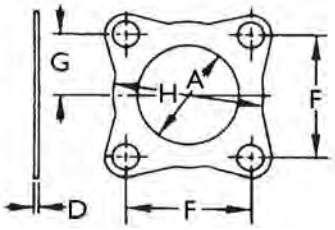
Flange with Tongue



Flange with Groove



Gasket, Asbestos-Free Material



Flange with Flat Gasket Surface

Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in) Bolt Hole Centers	G (in)	H (In)	Dia Bolt	Box Qty	Wt (lb)	Gasket
A 08624	1 1/8	1 1/16	0.75	1.56	3.41	2.50	1.25		17/32	1	1.925	A 08628
A 08625	1 3/8	1 19/64	0.75	1.63	3.41	2.50	1.25		17/32	1	1.875	A 08628
A 08626	1 5/8	1 17/32	0.75	1.81	3.41	2.50	1.25		17/32	1	1.875	A 08628
A 08627	2 1/8	1 1/64	0.75	1.72	3.41	2.50	1.25		17/32	1	1.473	A 08628

Flange with Groove Diameters 2 25/32" x 2 1/16"

Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in) Bolt Hole Centers	G (in)	H (In)	Dia Bolt	Box Qty	Wt (lb)	Gasket
A 08630	1 1/8	1 1/16	0.75	1.56	3.41	2.50	1.25		17/32	1	1.875	A 08634
A 08631	1 3/8	1 19/64	0.75	1.63	3.41	2.50	1.25		17/32	1	1.750	A 08634
A 08261	1 5/8	1 17/32	0.75	1.75	3.41	2.50	1.25		17/32	1	1.640	A 08634
A 08633	2 1/8	1 15/16	0.75	1.72	3.41	2.50	1.25		17/32	1	1.417	A 08634

Flange with Tongue, Groove Diameters 2 3/4" x 2 3/16"

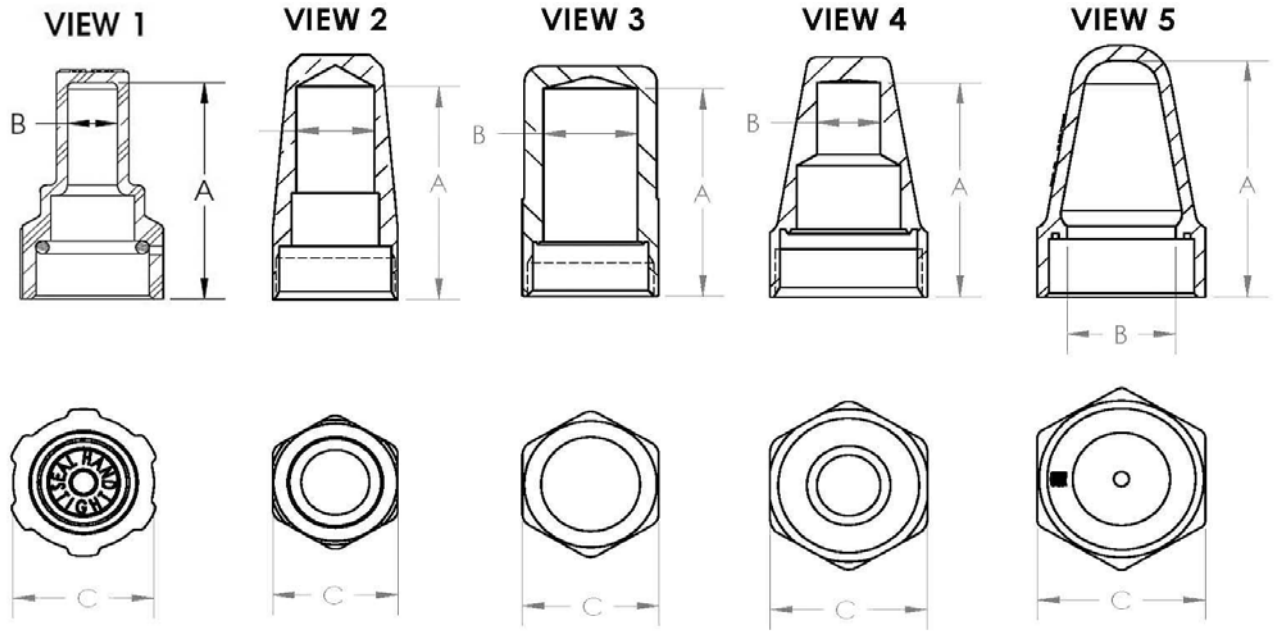
Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in) Bolt Hole Centers	G (in)	H (In)	Dia Bolt	Box Qty	Wt (lb)	Gasket
A 08629	1 1/8	1 1/16	0.75	1.72	3.41	2.50	1.25		17/32	1	2.125	A 08634
A 05150	1 3/8	1 19/64	0.75	1.78	3.41	2.50	1.25		17/32	1	1.977	A 08634
A 05148	1 5/8	1 17/32	0.75	1.91	3.41	2.50	1.25		17/32	1	1.867	A 08634
A 08632	2 1/8	1 15/16	0.75	1.88	3.41	2.50	1.25		17/32	1	1.594	A 08634

Gasket, Asbestos-Free Material

Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in) Bolt Hole Centers	G (in)	H (In)	Dia Bolt	Box Qty	Wt (lb)	Gasket
A 08628	2 1/16			0.03		2.50	1.25	3	9/16	N/A	0.012	A 08628

Component Parts

Seal Caps and Gaskets



Dimensions

Seal Cap		Gasket	Seal Cap Kit	Thread Size	Material	View	A (in)	B (in)	C (in)
P 34627	**	NA	NA	3/4" - 16	Nylon	1	1.73	0.35	0.95
A 04566		NA	NA	3/4" - 16	Steel	3	1.30	0.56	0.81
A 04597		A 03468	A 16474	3/4" - 16	Brass	3	1.24	0.56	0.81
S 36284		A 03468	NA	3/4" - 16	Brass	3	1.71	0.56	0.81
A 00409		NA	NA	7/8" - 18	Steel	4	1.34	0.38	0.93
P 34632	**	NA	NA	1 1/16" - 18	Valox	1	2.05	0.45	1.26
A 04775		A 04710	A 15099	1 1/16" - 18	Brass	2	2.00	0.7	1.13
N 02848	**	P 34711	A 17667	1 3/8" - 12	Valox	1	2.01	0.91	1.6
N 02849	**	P 34712	A 17668	1 5/8" - 12	Valox	1	2.70	0.76	1.82
A 06250		P 34712	B 33816	1 5/8" - 12	Cast Iron	4	2.71	1.06	1.88
S 35923		A 04710	NA	1 1/16" - 18	Brass	2	2.48	0.7	1.13
A 06251P		P 35589	A 17907	1 7/8" - 12	Cast Iron	4	3.76	1.38	2.12
C 35804	*	P 35589	NA	1 7/8" - 12	Cast Iron	4	3.76	1.38	2.12
A 06252		P 32709	NA	2 1/4" - 12	Cast Iron	5	3.70	1.62	2.5
S 36857	**	P 36575	A 15099HT	1 1/16 - 18	Brass		2.09	0.47	1.25

* Powder Coated (500 hr)

** C dimension indicates diameter

Cross Reference

CYCLEMASTER® Ball Valves

Standard

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
1/4			AP17859		009G7520	BVE014		EBV-1020	
3/8			AP17860C		009G7521	BVE038	9002038	EBV-1030	586WA-6ST
1/2			AP17861C		009G7522	BVE012	9002048	EBV-1040	586WA-8ST
5/8			AP17862C		009G7523	BVE058	9002058	EBV-1050	586WA-10ST
3/4			AP17863		009G7524	BVE034		EBV-1060	587WA-12ST
7/8			AP17864C		009G7525	BVE078	9003078	EBV-1070	587WA-14ST
1 1/8			AP17865A		009G7526	BVE118	9004098	EBV-1090	591WA-11ST
1 3/8			A 17866		009G7527	BVE138	9005118	EBV-1110	592WA-13ST
1 5/8			A 17867		009G7528	BVE158	900613	EBV-1130	593WA-15ST
2 1/8			A 17868		009G7529	BVE218	900617	EBV-1170	594WA-21ST
2 5/8			A 17869					EBV-1210	595WA-25ST
3 1/8			A 17870					EBV-1250	596WA-31ST
2 5/8			A 17871		009G7036	BVE258	900821	EBV-2210	594WA-25ST
3 1/8			A 17872		009G7037		900825	EBV-2250	594WA-31ST

CYCLEMASTER® Ball Valves

Standard With Access Port

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
1/4			AQ17859		009G7050	BVS014		EBVT-1020	
3/8			AQ17860C		009G7051	BVS038		EBVT-1030	586WAS-6ST
1/2			AQ17861C		009G7052	BVS012		EBVT-1040	586WAS-8ST
5/8			AQ17862C		009G7053	BVS058		EBVT-1050	586WAS-10ST
7/8			AQ17864C		009G7054	BVS034		EBVT-1060	587WAS-14ST
1 1/8			AQ17865A		009G7055	BVS078		EBVT-1070	591WAS-11ST
1 3/8			AC17866		009G7056	BVS118		EBVT-1090	592WAS-13ST
1 5/8			AC17867		009G7057	BVS138		EBVT-1110	593WAS-15ST
1 5/8			AC17867		009G7058	BVS158		EBVT-1130	593WAS15ST
2 1/8			AC17868		009G7059	BVS218		EBVT-1170	594WAS-21ST
2 5/8			AC17869					EBVT-1210	
3 1/8			AC17870					EBVT-1250	
2 5/8			AC17871		009G7066	BVS258		EBVT-2210	594WAS-25ST
3 1/8			AC17872		009G7067			EBVT-2250	594WAS-31ST

Check Valves

Flare to Flare

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
1/4			A 15620		020-1040		119-1/4		802B-4
3/8			A 15621		020-1041		119-3/8		802B-6
1/2			A 15622		020-1042		119-1/2		802B-8
5/8			A 15623		020-1043		119-5/8		802B-10

Cross Reference

Check Valves

Solder to Solder

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
3/8			A 15629				116003		
1/2			A 15630				116004		
5/8			A 15631				116005		
1/4			A 15632		020-1010		120-1/4		
3/8			A 15633		020-1011		120-3/8		
1/2			A 15634		020-1012		120-1/2		
5/8			A 15635		020-1018		120-5/8		

Check Valves

Magnetic

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
1/4			A 17934						900M-4S
3/8			A 17935						900M-6S
1/2			A 17936						900M-8S
5/8			A 17937						900M-10S
3/4			A 17938						900M-12S
7/8			A 17939						900M-14S
1 1/8			A 17940						
1 3/8			A 17941						
1 5/8			A 17942						
2 1/8			A 17943						
2 5/8			A 17944						
3 1/8			A 17981						

Check Valves

Screw Bonnet

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
1/4			A 17953						802B-4S
3/8			A 17954						802B-6S
1/2			A 17955						802B-8S
5/8			A 17956						803B-10S
3/4			A 17957						804A-12S
7/8			A 17958						804A-14S
5/8			B 34873						804A-10S
1/4			AT17953						802B-4ST
3/8			AT17954						802B-6ST
1/2			AT17955						802B-8ST
5/8			AT17956						803B-10ST
7/8			AT17958						804A-14ST

Cross Reference

Check Valves

Four-Bolt

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
7/8			B 34235						805C-14S
1 1/8			B 34236						806C-11S
1 3/8			B 34237						807C-13S
1 5/8			B 34238						808C-15S
2 1/8			B 34239						809C-21S
2 5/8			B 34240						884C-25S
3 1/8			B 34241						885C-31S

Packed Line Valves, Angle

Backseating NPTFE Inlet to Flare

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
1/2			A 13220						605-8D
1/2			A 13183						606B-10D

Packed Line Valves, Angle

Backseating NPTFE Inlet to Solder

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
3/4			A 13979						607-14S

Packed Line Valves, Angle

Non-Backseating Internal Swivel Flare to Flare

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
1/4			A 17429						600B-4U4
3/8			A 17474						600B-6U6

Packed Line Valves, Angle

Non-Backseating NPTFE Inlet to Flare

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
1/4			A 11031				7761-B		600A-4B
1/4			A 11030				7763-B		600A-6B
3/8			A 13613				7764-B		600A-4C
3/8			A 13503				7766-B		600A-6C
3/8			A 11042				7767-B		605-8C

Packed Line Valves, Angle

Non-Backseating, NPTFE x NPTFI, NPTFI x NPTFE

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
1/4			A 13502				7771-B		600A-B4

Packed Line Valves, Angle

Non-Backseating Solder to Flare

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
1/4			A 17502						617A-4S4
3/8			A 17503						617A-6S6

Cross Reference

Transducer Valves

NPTFI X NPTFE

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
			B 33837						600AX7-JB

Packless Diaphragm Valves

Angle, NPTFE to Flare

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
1/4			A 15525						114-4B
1/4			A 15526						114-4C
3/8			A 15527						114-6B
3/8			A 15528						114-6C
1/2			A 15530						115-8C
1/2			A 15531						116-10D

Packless Diaphragm Valves

Angle, Solder to Solder

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
1/4			A 15539				5461		114-4S
1/2			A 15541				5464		115-8S
5/8			A 15542						116-10S

Packless Diaphragm Valves

Straight, Flare to Flare

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
1/4			A 14833				5151		214-4
3/8			A 14835				5153		214-6
1/2			A 14836				5154		215-8
5/8			A 14837				5155		216-10

Packless Diaphragm Valves

Straight, Solder to Solder

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
1/4			A 14838				5160		214-4S
3/8			A 14840				5163		214-6S
1/2			A 14841				5164		215-8S
5/8			A 14842				5165		216-10S

Packless Diaphragm Valves

Straight, Solder to Solder Extended Ends

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
1/4			A 14848				5171		214-4ST
1/2			A 14851				5174		215-8ST
5/8			A 14852				5175		216-10ST

Cross Reference

Pressure Relief Valves

Angle NPTFE to Flare

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
	1/4	3/8	B 33746				526EA		3212
	3/8	3/8	A 15512				526E		3214
	3/8	1/2	A 15513				526EB		3215
	1/2	5/8	A 15514				527E		3220

Pressure Relief Valves

Atmospheric - NPTFE Inlet

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
	1/8		A 15508				5220		3000
	1/4		A 15509				5221		3001
	3/8		A 17430				5223		3002

Pressure Relief Valves

Straight Thru - NPTFE Inlet to Flare Outlet

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
	1/4	3/8	A 15501				5230		3012
	3/8	3/8	A 15502				5231		3014
	3/8	1/2	A 15503				5231-A		3015
	1/2	5/8	A 15504				5232		3020

Pressure Relief Valves

Straight Thru - NPTFE Inlet to NPTFI Outlet

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
	3/4	3/4	A 15506						3045

Cross Reference

DRYMASTER® Filter Driers

Liquid Line Flare

Size	Dessicant Cu In	Mueller	Universal	Emerson	Henry	Parker
1/4	1/4	A 16600	FL-032	EK-032	H032	C-032
3/8	3/8	A 16601	FL-033	EK-033	H033	C-033
1/4	1/4	A 16606	FL-052	EK-352	H352	C-352
3/8	3/8	A 16607	FL-053	EK-053	H053	C-053
1/4	1/4	A 16608	FL-082	EK-082	H082	C-082
3/8	3/8	A 16609	FL-083	EK-083	H083	C-083
1/2	1/2	A 16610	FL-084	EK-084	H084	C-084
1/4	1/4	A 16612	FL-162	EK-162	H162	C-162
3/8	3/8	A 16613	FL-163	EK-163	H163	C-163
1/2	1/2	A 16614	FL-164	EK-164	H164	C-164
5/8	5/8	A 16615	FL-165	EK-165	H165	C-165
3/8	3/8	A 16618	FL-303	EK-303	H303	C-303
1/2	1/2	A 16619	FL-304	EK-304	H304	C-304
5/8	5/8	A 16620	FL-305	EK-305	H305	C-305
3/8	3/8	A 16623	FL-413	EK-413	H413	C-413
1/2	1/2	A 16624	FL-414	EK-414	H414	C-414
5/8	5/8	A 16625	FL-415	EK-415	H415	C-415

DRYMASTER® Filter Driers

Liquid Line Solder

Size	Dessicant Cu In	Mueller	Universal	Emerson	Henry	Parker
1/4	1/4	A 16640	SD-032	EK-032S	H032-S	C-032-S
3/8	3/8	A 16641	SD-033	EK-033S	H033-S	C-033-S
1/4	1/4	A 16646	SD-052	EK-052S	H052-S	C-052-S
3/8	3/8	A 16647	SD-053	EK-053S	H053-S	C-053-S
1/4	1/4	A 16648	SD-082	EK-082S	H082-S	C-082-S
3/8	3/8	A 16649	SD-083	EK-083S	H083-S	C-083-S
1/2	1/2	A 16650	SD-084	EK-084S	H084-S	C-084-S
3/8	3/8	A 16653	SD-163	EK-163S	H163-S	C-163-S
1/2	1/2	A 16654	SD-164	EK-164S	H164-S	C-164-S
5/8	5/8	A 16655	SD-165	EK-165S	H165-S	C-165-S
3/4	3/4	A 16657	SD-166	EK-166S		
7/8	7/8	A 16656	SD-167	EK-167S	H167-S	C-167-S
3/8	3/8	A 16658	SD-303	EK-303S		C-303-S
1/2	1/2	A 16659	SD-304	EK-304S	H304-S	C-304-S
5/8	5/8	A 16660	SD-305	EK-305S	H305-S	C-305-S
7/8	7/8	A 16662	SD-307	EK-307S	H307-S	C-307-S
1 1/8	1 1/8	A 16661	SD-309	EK-309S	H309-S	
3/8	3/8	A 16663	SD-413			
1/2	1/2	A 16664	SD-414	EK-414S		C-414-S
5/8	5/8	A 16665	SD-415	EK-415S	H415-S	C-415-S
7/8	7/8	A 16667	SD-417	EK-417S	H417-S	C-417-S
1 1/8	1 1/8	A 16668	SD-419	EK-419S	H419-S	C-419-S

Cross Reference

DRYMASTER® Filter Driers

Suction Line Flare

Size	Dessicant Cu In	Mueller	Universal	Emerson	Henry	Parker
1/2	1/2	A 17225	FDF-164-TT			
5/8	5/8	A 17226	FDF-165-TT			

DRYMASTER® Filter Driers

Suction Line Solder

Size	Dessicant Cu In	Mueller	Universal	Emerson	Henry	Parker
1/2	1/2	A 17224	FDS-164-TT			
5/8	5/8	A 17227	FDS-165-TT			
3/4	3/4	A 17228	FDS-166-TT			
7/8	7/8	A 17229	FDS-167-TT			
1 1/8	1 1/8	A 17230	FDS-169-TT			
1 1/8	1 1/8	A 17231	FDS-309-TT			
5/8	5/8	A 17300	FDS-305-TT			
3/4	3/4	A 17301	FDS-306-TT			
7/8	7/8	A 17302	FDS-307-TT			

DRYMASTER® Heat Pump Driers

Flare Connection

Size	Dessicant Cu In	Mueller	Universal	Emerson	Henry	Parker
3/8	3/8	A 17388	HPF-083			
3/8	3/8	A 17390	HPF-163			
1/2	1/2	A 17983	HPF-164			
5/8	5/8	A 17984	HPF-165			

DRYMASTER® Heat Pump Driers

Solder Connection

Size	Dessicant Cu In	Mueller	Universal	Emerson	Henry	Parker
3/8	3/8	A 17389	HPS-083			
3/8	3/8	A 17391	HPS-163			
1/2	1/2	A 17392	HPS-164			
5/8	5/8	A 17985	HPS-165			

Cross Reference

45° Flare Fittings

Universal	Mueller
B1-3	A 04737
B1-4	A 00414
B1-5	A 04935
B1-6	A 00415
B1-8	A 00416
B1-10	A 00485
B1-12	A 04738
B2-3	A 05156
B2-4	A 00401
B2-5	A 04811
B2-6	A 00402
B2-8	A 00403
B2-10	A 05186
B2-12	A 04822
E1-4A	A 00335
E1-4B	A 04890
E1-4C	A 04812
E1-6A	A 04937
E1-6B	A 00337
E1-6C	A 04889
E1-6D	A 04886
E1-8B	A 05044
E1-8C	A 00339
E1-8D	A 04887
E1-8E	A 05072
E1-10C	A 04856
E1-10D	A 04538
E1-10E	A 05054
E1-12D	A 04776
E1-12E	A 04746
E2-4	A 00147
E2-6	A 00146
E2-8	A 00145
E2-10	A 04539
E2-12	A 04745
E3-4A	A 04630
E3-4B	A 05007
E3-6B	A 04632
E4-44	A 04898
E4-66	A 08082
E4-88	A 04897
ES2-44	A 03449
ES2-66	A 03511
ES2-68	A 07852
ES2-88	A 07851
ES2-1010	A 06611
ES4-44	A 15940
ES4-66	A 15941
ES4-88	A 15943
ES4-1010	A 15944

Universal	Mueller
K1-1	A 08073
K1-3	A 08274
K1-5	A 08276
K1-8	A 08166
N4-4	A 00440
N4-5	A 01110
N4-6	A 00441
N4-8	A 00442
N4-10	A 01112
N4-12	A 04731
N5-4	A 04544
N5-5	A 04758
N5-6	A 04545
N5-8	A 04546
N5-10	A 04560
N5-12	A 04951
NFT5-4	A 16447
NFT5-6	A 16448
NRS4-43	A 05132
NRS4-54	A 05247
NRS4-64	A 05140
NRS4-65	A 05282
NRS4-86	A 05141
NRS4-108	A 05228
NS4-3	A 05238
NS4-4	A 05051
NS4-5	A 05239
NS4-6	A 05052
NS4-8	A 05053
NS4-10	A 05157
NS4-12	A 05222
P2-3	A 05045
P2-4	A 00121
P2-5	A 00124
P2-6	A 00122
P2-8	A 00123
P2-10	A 04536
P2-12	A 04757

Universal	Mueller
P3-A	A 00250
P3-B	A 00249
P3-C	A 00425
P3-D	A 04759
P3-E	A 05004
P3-F	A 04850
R1-AB	A 08756
R1-BA	A 00630
R1-CB	A 00631
R1-DB	A 00492
R1-DC	A 00632
R1-EC	A 00493
R1-ED	A 00633
T1-4A	A 00345
T1-4B	A 04859
T1-4C	A 04771
T1-6B	A 00347
T1-6C	A 04922
T1-8B	A 05246
T1-8C	A 00349
T1-8D	A 04924
T1-10D	A 04754
T2-4	A 00340
T2-6	A 00342
T2-8	A 00344
T2-10	A 04541
T2-12	A 04749
T3-4A	A 00127
T3-4B	A 04998
T3-6B	A 00133
T3-6C	A 04941
T3-8C	A 04778
T3-8D	A 04944
T3-10D	A 04779
T6-4	A 06330
TR2-46	A 04994
TR2-64	A 04574
TR2-68	A 04547
TR2-84	A 04558
TR2-86	A 04559
TR2-810	A 04991
U1-3A	A 01117
U1-4A	A 00330
U1-4B	A 04585
U1-4C	A 01197
U1-4D	A 04628
U1-5A	A 00331
U1-5B	A 05036
U1-5C	A 01198
U1-6A	A 05003
U1-6B	A 00332
U1-6C	A 01199
U1-6D	A 04993

Universal	Mueller
U1-8A	A 05034
U1-8B	A 04439
U1-8C	A 00334
U1-8D	A 04780
U1-8E	A 05066
U1-10B	A 05035
U1-10C	A 01195
U1-10D	A 04540
U1-10E	A 04827
U1-12C	A 05005
U1-12D	A 04739
U1-12E	A 04740
U2-3	A 04621
U2-4	A 00325
U2-5	A 00326
U2-6	A 00327
U2-8	A 00329
U2-10	A 04845
U2-12	A 04733
U3-4A	A 04622
U3-4B	A 04625
U3-4C	A 04961
U3-6A	A 04927
U3-6B	A 04624
U3-6C	A 04627
U3-6D	A 08104
U3-8B	A 04928
U3-8C	A 04727
U3-8D	A 04728
U3-10C	A 04929
U3-10D	A 04819
U3-10E	A 04977
U4-4	A 00385
U4-6	A 00386
U4-8	A 00387
UR2-43	A 05270
UR2-54	A 08730
UR2-64	A 01171
UR2-65	A 04981
UR2-84	A 00356
UR2-86	A 00149
UR2-106	A 05334
UR2-108	A 04846
UR2-128	A 04734
UR2-1210	A 04784
UR3-43	A 05147
UR3-46	A 05041
UR3-48	A 08127
UR3-64	A 00479
UR3-68	A 04888
UR3-108	A 04770
UR3-1012	A 04878
UR3-1210	A 04826

Universal	Mueller
UR3-84	A 00480
UR3-86	A 00481
UR3-810	A 04879
US3-44	A 03431
US3-45	A 03466
US3-46	A 03494
US3-64	A 03443
US3-65	A 03464
US3-66	A 03492
US3-68	A 03547
US3-86	A 03504
US3-88	A 03546
US3-108	A 03519
US3-610	A 06601
US3-810	A 02259
US3-1010	A 02258
US3-1012	A 02272
US3-1014	A 02378
US3-1212	A 05307
US3-1214	A 05425
US4-4	A 13563
US4-5	A 13564
US4-6	A 13565
US4-8	A 13567
US4-10	A 13568
US5-44	A 15725
US5-66	A 15726
US5-88	A 15727
US5-1010	A 15728
US5-1212	A 15729

Cross Reference

Inactive Part Number Replacement

INACTIVE	ACTIVE	DESCRIPTION
A 04597	A 16474	Seal Cap & Gasket
A 15599	A 17958	7/8 Screw Bonnet Check Vlv
A 16317	B 34552	7/8 Brass Compressor Valve
A 16493	A 15586	2 1/8 Comp. Valve, Flanged Union, Cast Iron
A 16496	B 32337	1 5/8 CI Comp Valve
A 17260	AP17860C	3/8 Ball Valve Drilled & Tapped
A 17261	AP17861C	1/2 Ball Valve Drilled & Tapped
A 17262	AP17862C	5/8 Ball Valve Drilled & Tapped
A 17263	AP17863	3/4 Ball Valve Drilled & Tapped
A 17264	AP17864C	7/8 Ball Valve Drilled & Tapped
A 17265	AP17865A	1 1/8 Ball Valve Drilled & Tapped
A 17266	A 17866	1 3/8 Ball Valve Standard
A 17267	A 17867	1 5/8 Ball Valve Standard
A 17268	A 17868	2 1/8 Ball Valve Standard
A 17269	A 17871	2 5/8 Ball Valve Standard (Reduced Port)
A 17270	A 17872	3 1/8 Ball Valve Standard (Reduced Port)
A 17460	AQ17860C	3/8 Ball Valve Drilled & Tapped, Access Port
A 17461	AQ17861C	1/2 Ball Valve Drilled & Tapped, Access Port
A 17462	AQ17862C	5/8 Ball Valve Drilled & Tapped, Access Port
A 17463	AQ17863	3/4 Ball Valve, Drilled & Tapped,Access Port
A 17464	AQ17864C	7/8 Ball Valve Drilled & Tapped, Access Port
A 17465	AQ17865A	1 1/8 Ball Valve Drilled & Tapped, Access Port
A 17466	AC17866	1 3/8 Ball Valve, Standard with Access Port
A 17467	AC17867	1 5/8 Ball Valve, Standard with Access Port
A 17468	AC17868	2 1/8 Ball Valve, Standard with Access Port
A 17469	AC17871	2 5/8 Ball Valve, Standard with Access Port
A 17470	AC17872	3 1/8 Ball Valve, Standard with Access Port
A 17501	AP17859	1/4 Ball Valve Drilled & Tapped
A 17539	AU17860	3/8 3-Way Ball Valve w/ Access
A 17540	AU17861	1/2 3-Way Ball Valve w/ Access
A 17541	AU17862	5/8 3-Way Ball Valve w/ Access
A 17543	AU17864	7/8 3-Way Ball Valve w/ Access
A 17544	AU17865	1 1/8 3-Way Ball Valve w/ Access
A 17547	AU17868	2 1/8 3-Way Ball Valve w/ Access
A 17548	AU17871	2 5/8 3-Way Ball Valve w/ Access
A 17549	AU17872	3 1/8 3-Way Ball Valve w/ Access
A 17563	AQ17860C	3/8 Ball Valve Drilled & Tapped, Access Port
A 17564	AQ17861C	1/2 Ball Valve Drilled & Tapped, Access Port
A 17565	AQ17862C	5/8 Ball Valve Drilled & Tapped, Access Port
A 17567	AQ17864C	7/8 Ball Valve Drilled & Tapped, Access Port
A 17568	AQ17865A	1 1/8 Ball Valve Drilled & Tapped, Access Port
A 17569	AC17866	1 3/8 Ball Valve, Standard with Access Port
A 17570	AC17867	1 5/8 Ball Valve, Standard with Access Port
A 17571	AC17868	2 1/8 Ball Valve, Standard with Access Port

INACTIVE	ACTIVE	DESCRIPTION
A 17572	AC17871	2 5/8 Ball Valve, Standard with Access Port
A 17573	AC17872	3 1/8 Ball Valve, Standard with Access Port
A 17681	B 32337	1 5/8 CI Comp Valve
A 17699	AQ17860C	3/8 Ball Valve Drilled & Tapped, Access Port
A 17700	AQ17861C	1/2 Ball Valve Drilled & Tapped, Access Port
A 17701	AQ17862C	5/8 Ball Valve Drilled & Tapped, Access Port
A 17702	AQ17863	3/4 Ball Valve, Drilled & Tapped,Access Port
A 17703	AQ17864C	7/8 Ball Valve Drilled & Tapped, Access Port
A 17704	AQ17865A	1 1/8 Ball Valve Drilled & Tapped, Access Port
A 17705	AC17866	1 3/8 Ball Valve, Standard with Access Port
A 17706	AC17867	1 5/8 Ball Valve, Standard with Access Port
A 17707	AC17868	2 1/8 Ball Valve, Standard with Access Port
A 17708	AC17871	2 5/8 Ball Valve, Standard with Access Port
A 17709	AC17872	3 1/8 Ball Valve, Standard with Access Port
A 17711	AU17860	3/8 3-Way Ball Valve w/ Access
A 17712	AU17861	1/2 3-Way Ball Valve w/ Access
A 17713	AU17862	5/8 3-Way Ball Valve w/ Access
A 17714	AU17863	3/4 3-Way Ball Valve w/ access
A 17715	AU17864	7/8 3-Way Ball Valve w/ Access
A 17716	AU17865	1 1/8 3-Way Ball Valve w/ Access
A 17759	AP17859	1/4 Ball Valve Drilled & Tapped
A 17760	AP17860C	3/8 Ball Valve Drilled & Tapped
A 17761	AP17861C	1/2 Ball Valve Drilled & Tapped
A 17762	AP17862C	5/8 Ball Valve Drilled & Tapped
A 17763	AP17863	3/4 Ball Valve Drilled & Tapped
A 17764	AP17864C	7/8 Ball Valve Drilled & Tapped
A 17765	AP17865A	1 1/8 Ball Valve Drilled & Tapped
A 17766	AP17866	1 3/8 Ball Valve Drilled & Tapped
A 17767	AP17867	1 5/8 Ball Valve Drilled & Tapped
A 17768	AP17868	2 1/8 Ball Valve Drilled & Tapped
A 17769	AP17871	2 5/8 Ball Valve Drilled & Tapped
A 17786	A 17869	2 5/8 Ball Valve Standard (Full Flow)
A 17787	AC17869	2 5/8 Ball Valve, Standard with Access Port (Full
A 17793	AW17861	1/2 Actuated Ball Valve, Standard
A 17794	AW17862	5/8 Actuated Ball Valve, Standard
A 17795	AW17863	3/4 Actuated Ball Valve, Standard
A 17796	AW17864	7/8 Actuated Ball Valve, Standard
A 17797	AW17865A	1 1/8 Actuated Ball Valve, Standard
A 17798	AW17866	1 3/8 Actuated Ball Valve, Standard
A 17799	AW17867	1 5/8 Actuated Ball Valve, Standard
A 17800	AW17868	2 1/8 Actuated Ball Valve, Standard
A 17801	AW17871	2 5/8 Actuated Ball Valve, Standard
A 17802	AW17872	3 1/8 Actuated Ball Valve, Standard
A 17805	AY17861	1/2 3-way Actuated Ball Valve

Cross Reference

Inactive Part Number Replacement

INACTIVE	ACTIVE	DESCRIPTION
A 17806	AY17862	5/8 3-way Actuated Ball Valve
A 17807	AY17863	3/4 3-way Actuated Ball Valve
A 17808	AY17864	7/8 3-way Actuated Ball Valve
A 17809	AY17865	1 1/8 3-way Actuated Ball Valve
A 17812	AY17868	2 1/8 3-way Actuated Ball Valve
A 17813	AY17871	2 5/8 3-way Actuated Ball Valve
A 17814	AY17872	3 1/8 3-way Actuated Ball Valve
A 17859	AP17859	1/4 Ball Valve Drilled & Tapped
A 17860	AP17860C	3/8 Ball Valve Drilled & Tapped
A 17861	AP17861C	1/2 Ball Valve Drilled & Tapped
A 17862	AP17862C	5/8 Ball Valve Drilled & Tapped
A 17863	AP17863	3/4 Ball Valve Drilled & Tapped
A 18454	A 15099	Seal Cap & Gasket
AC17860	AQ17860C	3/8 Ball Valve Drilled & Tapped, Access Port
AC17861	AQ17861C	1/2 Ball Valve Drilled & Tapped, Access Port
AC17862	AQ17862C	5/8 Ball Valve Drilled & Tapped, Access Port
AC17864	AQ17864C	7/8 Ball Valve Drilled & Tapped, Access Port
AC17865	AQ17865A	1 1/8 Ball Valve Drilled & Tapped, Access Port
AP17860	AP17860C	3/8 Ball Valve Drilled & Tapped
AP17861	AP17861C	1/2 Ball Valve Drilled & Tapped
AP17862	AP17862C	5/8 Ball Valve Drilled & Tapped
AQ17860	AQ17860C	3/8 Ball Valve Drilled & Tapped, Access Port
AQ17861	AQ17861C	1/2 Ball Valve Drilled & Tapped, Access Port
AQ17862	AQ17862C	5/8 Ball Valve Drilled & Tapped, Access Port
B 33367	B 34556	1 1/8 Brass Compressor Valve
B 33529	B 34841A	1 1/8 X 1 5/8 Ball Valve
B 33530	B 34842	1 3/8 X 1 5/8 Ball Valve
B 33531	B 34843	1 5/8 X 1 5/8 Ball Valve
B 33613	B 34557	7/8 Brass Compressor Valve
B 33784	A 15587	2 5/8 Comp. Valve, Flanged Union, Cast Iron
B 33926	B 35164	3/4OD 1 5/8 BC Comp. Valve, Straight Port, cap
B 34124	AP17861C	1/2 Ball Valve Drilled & Tapped
B 34125	AP17862C	5/8 Ball Valve Drilled & Tapped
B 34126	AP17863	3/4 Ball Valve Drilled & Tapped
B 34127	AP17864C	7/8 Ball Valve Drilled & Tapped
B 34128	AP17865A	1 1/8 Ball Valve Drilled & Tapped
B 34129	A 17866	1 3/8 Ball Valve Standard
B 34130	A 17867	1 5/8 Ball Valve Standard
B 34131	A 17868	2 1/8 Ball Valve Standard
B 34132	A 17871	2 5/8 Ball Valve Standard (Reduced Port)
B 34133	A 17872	3 1/8 Ball Valve Standard (Reduced Port)
B 34168	B 33794	3 1/8 CI Comp Valve
B 34253	B 35498	3/8 ODI X 1/2 ODE Receiver Valve

INACTIVE	ACTIVE	DESCRIPTION
B 34312	B 35225	1 3/8 Shutoff Valve (Cap w/ Vent Hole)
B 34313	B 35226	1 5/8 Shutoff Valve (Cap w/ Vent Hole)
B 34314	B 34661	2 5/8 ODI CI Comp Valve
B 34315	B 34670	3 5/8 CI Valve 500 HR Salt Spray
B 34411	B 35224	1 1/8 Solder x Solder Angle Isolation Valve (Cap
B 34429	B 34671	2 1/8 CI Valve 500 HR Salt Spray
B 34437	A 18390	ABV Hub Kit Series 1A
B 34438	A 18392	ABV Hub Kit Series 1B
B 34439	A 18394	ABV Hub Kit Series 2C
B 34440	A 18396	ABV Hub Kit Series 2D
B 34441	A 18395	ABV Hub Kit Series 3D
B 34442	A 18395	ABV Hub Kit Series 3D
B 34498	A 15587	2 5/8 Comp. Valve, Flanged Union, Cast Iron
B 34839	B 32197	7/8 OD Compressor Valve, Straight Port
B 34929	B 33795	4 1/8 CI Comp Valve
B 35471	AJ17954	5/8 SBC CHECK VLV 50#
N 02843	P 34711	1 5/8 CI COMP. VLV. SEAL CAP O
AW18423	BW33755	1/4 NPTF Pressure Relief Valve (551-700)
AQ17865	AQ17865A	1 1/8 Ball Valve Drilled & Tapped, Access Port
B 35320	B 35320A	1 1/8 Bent Tube Ball Valve Assembly
AW17865	AW17865A	1 1/8 Actuated Ball Valve, Standard
A 17864	AP17864C	7/8 Ball Valve Drilled & Tapped
AP17864	AP17864C	7/8 Ball Valve Drilled & Tapped
AP17865	AP17865A	1 1/8 Ball Valve Drilled & Tapped
AG17865	AG17865A	1 1/8 Ball Valve Standard with fitting end/access
B 34770	B 34770A	1 1/8 Ball Valve Standard Straight Tube
A 17865	AP17865A	1 1/8 Ball Valve Drilled & Tapped

Order and Schedule Policy

Scope

The Terms and Conditions and Order Policy ("Terms") contained herein shall apply to all quotations and offers made by and purchase orders accepted by Mueller Streamline Co. These terms apply to all sales made by Mueller Streamline Co except the extent the Terms conflict with an agreement signed by Mueller and Buyer. These Terms apply in lieu of any course of dealing between the parties or usage of trade in the industry. These Terms may in some instances conflict with some of the terms and conditions affixed to the purchase order of other procurement document issued by the Buyer. In such case, the Terms contained herein shall govern, and acceptance of Buyer's order is conditioned upon Buyer's acceptance of the terms and conditions herein, irrespective of whether the Buyer accepts these conditions by a written acknowledgement, by implication, or acceptance and/or payment of products ordered hereunder. Mueller Streamline Co's failure to object to provisions contained in any communication from Buyer shall not be deemed a waiver of the provisions herein. Any changes in the Terms contained herein must specifically be agreed to in writing signed by a representative of Mueller Streamline Co. before becoming binding on either party.

Scheduling and Cancellation

Standard Product: Product is considered standard product if it is listed in the Mueller Streamline Co., general product catalog, or in published product literature sheets.
Scheduling Standard Product Orders: Manufacturer will build product according to the customers' written scheduled releases or forecasts for each order. Products scheduled to ship within a thirty-day (30) window from original ship date on P.O> are non-cancelable and may only be rescheduled one time. Products scheduled to ship within a 31-60 day window may be rescheduled, but the product must be taken within three months of the original scheduled date and may only be rescheduled one time.
Cancellation of Standard Product: If Seller determines the Product being cancelled to be Standard Product, the amount of the cancellation charge will vary according to the (a) quantity being cancelled, (b) time frame between Buyer's request to Seller to cancel and the scheduled ship date for the order, and (c) dollar amount of order being cancelled. The calculation of the exact cancellation charge will be governed by Sellers published policies as amended from time to time at Seller's discretion. In no case will the cancellation charge by less than twenty percent (20%) of the original agreed upon purchase price.

Custom Product: Product is considered custom if it is not listed in the Mueller Streamline Co.'s general product catalog or in other published product literature.
Scheduling Custom Product Orders: Manufacturer will build product according to the customers' written scheduled releases or forecasts for each order. Products scheduled to ship within a ninety (90) day window from date of request are non-cancelable. Products scheduled to ship within a 60-90 day window from date of request may be rescheduled. The product must be taken within three (3) months of the rescheduled date and may only be rescheduled one time. In the event Mueller has established a stocking program in an effort to support customer production schedules, any uniquely purchased materials, finished goods inventory, or work in process required to build modified or custom product is the responsibility of, and must be paid for by the customer in the event of a cancellation or product modification that may result in obsolete inventory.

Cancellation of Custom Products: If the Product cancelled is Custom Product, Buyer agrees to pay Seller for all of Seller out of pocket costs associated with the cancellation or modification to parts or orders including, but not limited to: (i) raw materials, (ii) work in process, (iii) finished goods inventory, (iv) inventory carrying costs, (v) scrapping and disposal fees, (vi) administrative fees, (vii)reasonable and equitable profit for Seller (collectively, "Cancellation Expenses"). In no case will the cancellation charge be less than the Seller's actual costs (including overhead and other indirect costs). The amount of cancellation charge to be paid by Buyer shall be determined at the sole discretion of Seller and may equal 100% of the amount of the order cancelled or modified. Buyer shall be entitled to receive all raw materials and work in process, and Seller agrees to ship such goods to Buyer at Buyer's expense upon receipt of payment in full or Cancellation Expenses incurred by Seller.

Expedited Order Fees: If an order is received, or quantities are increased, for a non-stocked part, without proper lead time, Buyer's expense will include applicable surcharges for inefficiencies and costs created in production and scheduling if Seller can meet requested receipt dates. Expenses shall be determined at the sole discretion of the Seller and will minimally be the greater value of $150 or 10% of the order total.

Order and Return Policy

Standard Order Information

Minimum Order Requirements: A minimum charge of $50 net applies to all orders from Mueller Streamline Co. Orders less than this amount may be subject to special charges or requirements.

Package Requirements: Standard cataloged parts must be ordered in packaged quantities. If the order does not comply, Mueller Streamline Co. reserves the right to increase or decrease to the nearest standard package quantity.

Order Visibility: The customer recognizes that Mueller Streamline Co. requires visibility to complete an order in an accurate and timely manner. Depending on the part ordered, quantity required and stock on hand, the customer will be provided with lead-time information at the time of order.

Emergency Orders: Mueller Streamline Co. reserves the right to charge a special service fee for orders that are placed with short lead-time or considered emergency requirements. The charge may include a standard order fee for the entire order, a per piece fee for each part ordered, or fees to cover extraordinary costs including overtime or scheduling charges.

Special Order Information

Minimum Order Requirements: A minimum charge of $100 net and 25 pieces minimum applies to all orders. Orders less than this amount may be subject to special charges or requirements.
Package Requirements: Depending on the part, specialized packaging may require adjustments to the order quantities to meet appropriate packaged quantities. This is subject to inquiry at the time of the order.

Order Visibility: Due to the nature of special orders, the customer recognizes Mueller Streamline Co. may not have stock available at the time of order. Due to this, Mueller Streamline Co. will require a minimum of 2 weeks to process any new part orders. Depending on the part ordered, quantity required and stock on hand, the customer may be provided with better lead-time information at the time of order.

Emergency Orders: Mueller Streamline Co. reserves the right to charge a special service fee for orders that are placed with short lead-time or considered emergency requirements. The charge may include a standard order fee for the entire order, a per piece fee for each part ordered, or fees to cover extraordinary costs including overtime or scheduling charges.

Return Policy

Return Requests: All returns to Mueller Streamline Co. must be issued a Return Material Authorization (RMA) number prior to the return of the product. The number will be provided by a Customer Service Representative. Mueller Streamline Co. reserves the right to refuse any product that has not been accompanied by an RMA number. All buyer/credit requests are to be made within 12 months of the Buyer's receipt of goods. Buyer shall provide specific original purchase information or documentation for all RMA/Credit requests. If no such information can be provided, Seller reserves the right to establish all RMA/Credit pricing.

Stocking Fees: Buyer shall assume a minimum 20% restock fee for all returns of current product where no fault was attributable to the Seller. Product must be returned in original packaging, unused, and be packaged to eliminate any possibility of damage in shipment. Mueller Streamline Co. may opt to charge a higher fee, depending on the part being returned, the quantity, or the age of the product. At any time, Mueller may decide that it will not allow the return of product based on its discretion.

Package and Shipping Requirements: The seller reserves the right to refuse returned product that upon inspection by the Seller is determined to be in "non-sellable" condition. Unless authorized by the Seller on a Mueller Streamline Co. RMA, the Buyer shall assume all return freight charges. In Seller authorized exceptions, only Mueller Streamline Co. approved carrier may be used. Any freight damaged or shipment shortage issues must be presented to the freight carrier or Seller within 15 days of the Buyer's receipt of goods.

Terms and Conditions of Sale

THE FOLLOWING CONSTITUTE THE TERMS AND CONDITIONS OF SALE FOR ALL PRODUCTS MANUFACTURED, DISTRIBUTED AND/OR SOLD BY MUELLER STREAMLINE CO. (SELLER).

ACCEPTANCE OF SELLER'S OFFER TO SELL OR BUYER'S ORDER IS EXPRESSLY MADE CONDITIONAL ON BUYER'S ACCEPTANCE OF THE PROVISIONS STATED HEREIN. BUYER'S ACCEPTANCE OF EACH SHIPMENT OF GOODS SHALL BE DEEMED TO BE AN ACCEPTANCE OF THE PROVISIONS HEREOF NOTWITHSTANDING ANY ACT OF SELLER, INCLUDING SHIPMENT, ACCEPTANCE OF PAYMENTS, AND NOTWITHSTANDING ANY TERM OR CONDITION CONTAINED IN ANY FORM OF BUYER, AND ANY PROPOSAL FOR ADDITIONAL OR DIFFERENT TERMS OR ANY ATTEMPT BY BUYER TO VARY ANY OF THE PROVISIONS HEREIN IS HEREBY DEEMED A MATERIAL ALTERATION AND REJECTED. THE PROVISIONS HEREIN MAY NOT BE ADDED TO, MODIFIED, SUPERSEDED, OR ALTERED EXCEPT BY WRITTEN AGREEMENT OR MODIFICATION SIGNED BY AN OFFICER OF SELLER, NOTWITHSTANDING ANY TERMS WHICH MAY NOW OR IN THE FUTURE APPEAR ON BUYER'S FORMS OR COMMUNICATIONS, ALL OF WHICH ARE REJECTED WITHOUT FURTHER ACTION OF SELLER.

NO PERSON (EXCEPT AN OFFICER OF SELLER) IS AUTHORIZED TO BIND SELLER TO ANY ORDER FOR ANY GOODS EXCEPT ACCORDING TO THE PROVISIONS HEREIN.

1. PRICES. All prices for SELLER's products are subject to change or withdrawal without notice. Unless otherwise stated by SELLER, prices, terms of payment and pricing policies will be those of the SELLER in effect at the time of shipment. SELLER reserves the right to make price changes within the periods of contracts, including installment contracts or blanket orders. The cost of packing and crating other than in accordance with the standards of SELLER may constitute an additional charge and may at SELLER's discretion be added to the sales price(s). SELLER also reserves the right to divide Buyer's order into separate shipments and to invoice and otherwise treat each shipment as a separate contract subject to these Terms and Conditions. All sales and shipments are subject at all times to credit approval by SELLER.

2. TRANSPORTATION AND RISK OF LOSS. Unless otherwise agreed in advance in writing by SELLER, delivery of products hereunder shall be F.O.B. shipping point, with transportation expenses paid by Buyer unless standard SELLER freight prepayment qualifications are met and the risk of loss or damage to products in transit shall fall upon Buyer (whose responsibility it shall be to file claims with carrier at delivery to Buyer at Buyer's premises) upon delivery (a) to Buyer's designated representative, or (b) to a common carrier or other designated shipper (not including SELLER), whichever of the foregoing occurs earlier. SELLER in its discretion shall select the appropriate transportation method and routing. All orders, unless otherwise agreed in writing, are for shipment at SELLER's earliest convenience. Stated delivery dates are approximate and will be calculated from the date that SELLER has received all information necessary to permit SELLER to proceed with work immediately and without interruption. If any or all products are not delivered when ready due to the request of Buyer, SELLER reserves the right to invoice Buyer at any time thereafter and to place such products in storage with all risk of loss or damage borne by Buyer and with all expenses and costs attributable thereto for the account of Buyer, which shall be payable by Buyer upon submission of SELLER's invoices to Buyer.

3. DELAYS. SELLER shall not be liable for any delays in delivery due or resulting in whole or in part from or made impossible or impractical by any cause beyond the control of SELLER including but not limited to fire, explosion, epidemics, accident, material and significant breakdown, strike or labor disputes, adverse weather conditions, loss or damage in shipment, shortage or lack of materials, fuel or power, sale or transfer of manufacturing facilities, embargo, acts of God, acts (including delay or failure to act) of any governmental authority (de jure or de facto) or any other contingency or delay or failure or cause beyond SELLER's control. If, due to any such occurrence, SELLER is unable to supply total demands for any goods specified, SELLER may, but shall not be obligated to, allocate production, inventory and deliveries (in any manner fair and reasonable to the extent that goods are not special or unique) and will notify Buyer reasonably that there will be delay or non-delivery.

4. TAXES. All prices are exclusive of any applicable foreign or U.S.A. federal, state or local sales, use, excise or other taxes, which SELLER may be required to pay or collect, under any existing or future law, upon or with respect to the sale, delivery, storage, processing, use or consumption of any of the products covered hereby, which shall be for the account of Buyer, who shall promptly pay the amount thereof to SELLER upon demand.

5. PAYMENT TERMS AND SECURITY INTEREST. Payment terms are set forth in SELLER's quotation to BUYER. All payments not made within such time may be subject to a carrying charge of one percent per month on the unpaid balance or the highest rate permitted by applicable law, whichever is less. Until the entire amount due hereunder is paid, SELLER reserves a security interest in all products sold, with all rights, privileges and remedies of a selling secured party in the jurisdiction to which the goods may be shipped or within which they may be kept at any time. In pursuance thereof, Buyer agrees to timely execute any documents that SELLER may request from time to time in order to give notice of, perfect or otherwise give effect to the existence of said security interest.

6. TERMINATION. Any cancellations, changes, or terminations by Buyer received after order placement will be subject to Seller's approval and payment by Buyer of all actual expenses incurred or for which Seller has become obligated related to the affected goods. Seller may terminate any order or any part thereof upon written notice to Buyer. Buyer waives all claims to damages upon such termination, including, without limitation, any cost of cover to obtain substitute goods.

7. PERMISSIBLE VARIATIONS. Seller reserves the right to ship and Buyer agrees to accept, overages or shortages of up to 10% of the quantity ordered by Buyer and any such overage or shortage will be charged or credited to Buyer.

8. FINANCIAL RESPONSIBILITY. If Seller has any reasonable doubt at any time as to Buyer's financial condition and ability to perform, Seller, at its option, may (a) decline to make further shipments other than on a cash in advance basis or upon Buyer providing other security satisfactory to Seller, or (b) terminate this agreement.

9. RECEIVING AND INSPECTION. Any claim by Buyer based upon or relating to any claimed defect in the products ascertainable upon visual inspection thereof, including without limitation any claim relating to size, type, quantity or shipping damage and the like, must be presented to SELLER or its representative within fifteen (15) days following the date of receipt of the product by Buyer. Buyer's receipt of any product delivered hereunder shall be an unqualified acceptance, and a waiver by Buyer of any and all such claims with respect to such product unless Buyer gives SELLER notice of claim within fifteen (15) days after such receipt. Unless otherwise agreed in advance in writing by SELLER, variations in the products as to composition, dimensions, quantity and the like shall be permissible and not cause for Buyer's rejection or revocation if within prevailing industry (United States of America) standards. Buyer assumes all risk and liability for results.

Terms and Conditions of Sale

10. TOOLING. Buyer will indemnify, defend and hold SELLER harmless from and against any liability, damage, loss or expense arising from the use or handling of any tooling supplied or designed by
Buyer from which products are to be cast or manufactured by SELLER.

11. PATENT INDEMNITY. SELLER agrees to protect, indemnify and hold harmless the Buyer, its successors, assigns, customers and users of its products against any liability, loss, damage or expense whatsoever resulting from any infringement of any United States Letters Patent by any thing, number, material, design, composition, or processing of SELLER's origin or practice supplied by SELLER. With respect to any thing, number, material or design, composition, or processing, specified by Buyer and not of SELLER's origin or practice, BUYER agrees to save SELLER harmless from any liability, loss damage or expense whatsoever resulting from any infringement of any United States Letters Patent arising out of SELLER's making, using or selling the same for or to BUYER in fulfillment of its orders or contracts. SELLER and BUYER severally agree to notify the other in writing promptly of any charge of infringement made and of any suit brought in respect to such device or composition and to assume or tender to the other the full control of the defense or settlement of such suit in accordance herewith.

12. WARRANTY. Seller warrants only to Buyer that products furnished of Seller's own manufacture will conform to prevailing (United State of America) industry standards as to quality, inspections, composition, quantity and type, and will be free from defects in workmanship and materials under normal conditions of use and service for a period of one year from the date of receipt by Buyer, or 18 months from the date of manufacture of the products. This warranty will not apply to damage resulting from normal wear, improper installation, misuse or neglect. Seller does not warrant any aspect of product representation, installation, modifications or manufacturing carried out by parties other than Seller nor does Seller's warranty extend to any products used in combination with Seller's goods, and Buyer indemnify, defend and hold harmless Seller for any loss, cost or expense to which Seller may be exposed as a result of any such activities by Buyer, Buyer's customers or other suppliers. Weight figures shown in Seller's catalogue and price sheets, and documents of sale are approximate only. Product is sold on a per unit basis not on a weight basis. Seller's sole obligation for failure to comply with this warranty will be, at its election, to repair or replace the defective product where Buyer notifies Seller and such product is made available to Seller for inspection F.O.B. Seller's facility or point of manufacture [within the year warranty period. Except to the extent that (1) descriptions of size, quality and type, which may appear on Seller invoices and other documents, and (2) statements of conformity of products with specification of certain industry, government, or professional organizations standards, which may appear as product information disclosures in Seller's literature and documents, may from time to time be construed to be express warranties,. THIS WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

13. LIMITATION OF LIABILITY. Under no circumstances will Seller's liability in the aggregate to Buyer under any legal theory, including without limitation, breach of contract or warranty, or commission of any tort, including negligence and strict liability, or claims for indemnification, exceed the invoice price for the affected product. Buyer must commence any action at law or in equity against Seller within one year after the product is delivered to Buyer. Buyer will not have any recourse against Seller for any loss, which reasonably could be prevented by cover or otherwise. Exceptions to Seller's warranty and limitation of liability provisions or waivers of the same granted by Seller will not constitute a precedent, default or waiver of Seller's rights to enforce such provisions in whole or in part in the future. SELLER WILL NOT BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES OF ANY KIND WHATSOEVER, WHETHER ANY CLAIM OR POTENTIAL CLAIM IS BASED UPON THEORIES OF CONTRACT, NEGLIGENCE, OR TORT AND INCLUDING WITHOUT LIMITATION, SELLER WILL HAVE NO LIABILITY FOR SHIPPING CHARGES, LABOR, INSTALLATION, COSTS OR ANY OTHER LOSSES OR EXPENSES RELATED TO OR ASSOCIATED WITH THE INSPECTION, REPAIR OR REPLACEMENT OF THE WARRANTED PRODUCTS.

14. DEFAULT. Buyer will be in default if (a) Buyer fails to pay Seller any amount when due under this agreement, (b) Buyer otherwise fails for a period of five days after receiving written notice from Seller to fulfill or perform any provisions of this agreement, (c) Buyer becomes insolvent or bankrupt, or a petition is filed voluntarily or involuntarily and not dismissed within 30 days of filing, or (d) Buyer makes a general assignment for the benefit of its creditors, or a receiver is appointed, or a substantial part of Buyer's assets are attached or seized under legal process and not released within 30 days thereafter.

Upon buyer's default, Seller may, at its option, without prejudice to any of its other rights and remedies, and without demand for payments past due, (a) make shipments subject to receipt of cash in advance, (b) terminate this agreement and declare immediately due and payable the obligations of Buyer for goods previously shipped, notwithstanding any other provision in these terms and conditions, (c) demand reclamation, or (d) suspend any further deliveries until the default is corrected, without releasing Buyer from its obligations under this agreement. In any event, Buyer will remain liable for all loss and damage sustained by Seller because of Buyer's default.

15. OTHER. (a) SELLER accepts no responsibility to BUYER or to any person claiming by or through BUYER, for compliance with any statute, governmental rule or regulation made applicable to this contract by reason of BUYER's intended use of the products unless SELLER has received from BUYER prior timely written notification of such statute, rule or regulation and has accepted the same by a separate writing signed by an officer of SELLER.
(b) SELLER's forbearance or failure to enforce any of these conditions as set forth herein or to exercise any right accruing from any default of BUYER shall not affect, impair or waive SELLER's right if such default continues or if any subsequent default of BUYER occurs.
(c) The provisions herein constitute the entire agreement between BUYER and SELLER and no terms or conditions other than those stated herein and no agreement or understanding oral or written in any way purporting to modify these conditions shall be binding on SELLER unless hereafter made in writing and signed by SELLER's authorized representative. All orders are subject to acceptance at SELLER's offices and BUYER and SELLER's contract shall be construed in accordance with the laws of Tennessee. . Any disputes arising under these terms and conditions, and the orders to which they pertain, shall be brought exclusively in Shelby County, Tennessee.
(d) The provisions of this agreement shall be considered severable. In the event that any of the provisions, or portions or applications thereof, of this agreement are held to be unenforceable or invalid by any court of competent jurisdiction, all remaining portions shall remain in full force and effect in accordance with the spirit of this agreement.
(e) The rights and obligations of BUYER and SELLER hereunder shall not be assigned to any third party without the prior written consent of the other party.
(f) ACCEPTANCE OF THE PRODUCTS SOLD HEREUNDER SHALL CONSTITUTE ASSENT TO THESE CONDITIONS AND SELLER HEREBY OBJECTS TO AND REJECTS ANY AND ALL ADDITIONAL OR DIFFERENT TERMS PROPOSED BY BUYER, WHETHER CONTAINED IN BUYER'S PURCHASING OR SHIPPING RELEASE FORMS OR ELSEWHERE. ALL PROPOSALS, NEGOTIATIONS, AND REPRESENTATIONS, IF ANY, MADE PRIOR AND WITH REFERENCE HERETO ARE MERGED HEREIN, AND ANY PROPOSED ADDITIONS, MODIFICATIONS, DELETIONS OR CHANGES NOT IN SEPARATE WRITINGS SIGNED BY AN OFFICER OF SELLER ARE REJECTED WITHOUT FURTHER ACTION BY SELLER.

Index

Index

Notes

Notes

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