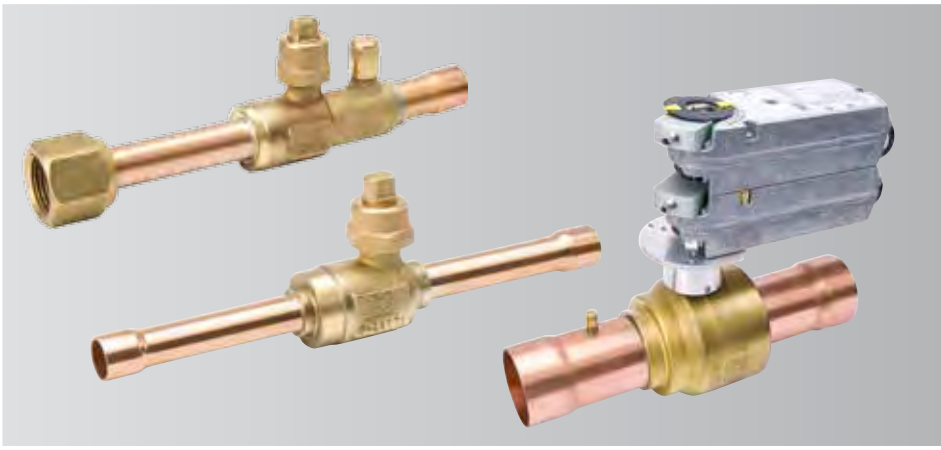
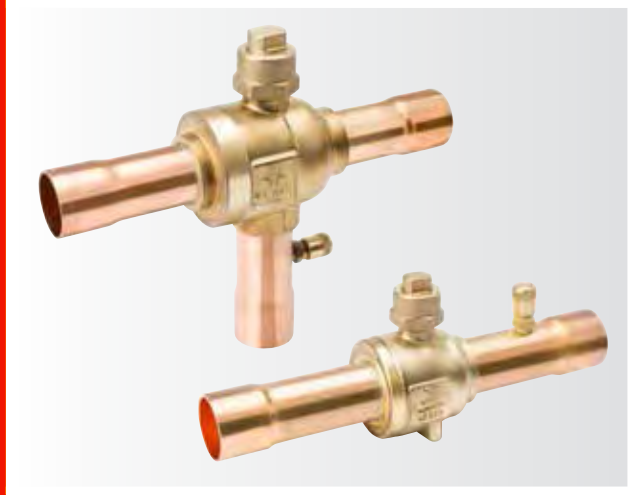
MUELLER REFRIGERATION®





TECHNICAL CATALOG

A COMPANY OF MUELLER INDUSTRIES

Mueller Refrigeration is a global leader in the design and manufacturing of premium-performance valves, protection devices, and brass fittings for various OEM customers in the commercial HVAC/R industry. While maintaining industry certifications, such as UL/cUL and CE, we also offer RoHS compliance for an extensive line of products. As a matter of company policy, all of our products are built to exceed current industry standards to guarantee reliable performance when using new-era refrigerants that operate at higher temperatures and pressures than many industry standards require. Our sophisticated in-house engineering and lab resource capabilities allow us to provide continuous improvement of existing products while addressing new product development and innovation. We specialize in finding solutions to our customer's most complex HVAC/R problems and applications, and we welcome new engineering and manufacturing challenges.

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 Refrigeration, LLC
121 Rogers Street
Hartsville, TN 37074
Phone: 615-374-2124
Phone: 800-251-8983
Fax: 615-375-0932
www.muellerrefrigeration.com

Changzhou Mueller Refrigeration
12B GDH Changzhou Riverside Industrial Park
NO16 Chuangy Rd
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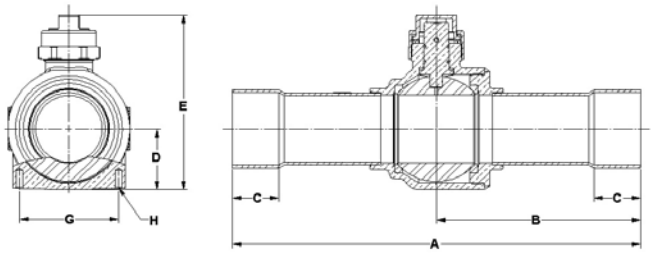
CYCLEMASTER® Ball Valves

Standard

Features:

- Maximum abnormal pressure (MAP): Up to 775 psig, 53 bar
- Continuous operating temperature (COT): -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, Conforms to Pressure Equipment Directive 97/23/EC



Part Number		Size		Cv	Kv	A		B		C Min		D		E		G **		H **	Port (in)	MWP		Wt		Seal Cap Kit
		in	mm			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm			psi	bar	lb	kg	
AP17859	‡	1/4	6	1.0	1	5.50	140	2.98	76	0.31	8	0.54	14	2.23	57	0.87	22	M4 X 0.7	0.50	775	53	0.67	0.30	A 17842
AP17860C	‡	3/8	10	4.3	4	5.50	140	2.98	76	0.31	8	0.54	14	2.23	57	0.87	22	M4 X 0.7	0.50	775	53	0.48	0.22	A 17842
AP17861C	‡	1/2	13	6.2	5	6.35	161	3.41	87	0.38	10	0.54	14	2.23	57	0.87	22	M4 X 0.7	0.50	775	53	0.53	0.24	A 17842
AP17862C	‡	5/8	17	12.1	10	6.35	161	3.41	87	0.50	13	0.54	14	2.23	57	0.87	22	M4 X 0.7	0.50	775	53	0.50	0.23	A 17842
AP17863	‡	3/4	19	19.0	16	7.45	189	3.89	99	0.62	16	0.72	18	2.66	68	1.18	30	M4 X 0.7	0.75	775	53	1.40	0.63	A 17843
AP17864C	‡	7/8	22	27.5	24	7.45	189	3.89	99	0.75	19	0.72	18	2.66	68	1.18	30	M4 X 0.7	0.75	775	53	0.93	0.42	A 17843
AP17865	‡	1 1/8	29	54.0	47	8.42	214	4.21	107	0.91	23	1.00	25	3.15	80	1.50	38	M4 X 0.7	1.00	775	53	1.61	0.73	A 17843
A 17866		1 3/8	35	89.1	77	10.00	254	5.00	127	0.97	25	1.17	30	3.72	94	1.89	48	M6 X 1.0	1.25	775	53	2.59	1.17	A 17844
A 17867		1 5/8	41	114.0	99	11.00	279	5.50	140	1.09	28	1.38	35	4.12	105	2.17	55	M6 X 1.0	1.50	775	53	3.64	1.65	A 17844
A 17868		2 1/8	54	244.0	211	12.00	305	6.00	152	1.34	34	1.79	45	5.14	131	2.91	74	M6 X 1.0	2.00	700	48	8.02	3.64	A 17845
A 17869		2 5/8	67	401.0	347	13.50	343	6.75	171	1.47	37	2.19	56	5.92	150				2.44	700	48	13.40	6.08	A 17845
A 17870		3 1/8	79	553.0	478	16.00	406	8.00	203	1.66	42	2.69	68	7.03	179				3.00	700	48	21.31	9.67	A 17846
A 17871	*	2 5/8	67	230.0	199	12.00	305	6.00	152	1.47	37	1.79	45	5.14	131	2.91	74	M6 X 1.0	2.00	700	48	8.46	3.84	A 17845
A 17872	*	3 1/8	79	143.0	124	12.00	305	6.00	152	1.66	42	1.79	45	5.14	131	2.91	74	M6 X 1.0	2.00	700	48	9.12	4.13	A 17845
B 34909	***	3 5/8	92			13.10	333	6.50	165	1.91	49	2.69	68	7.03	179				3.00	700	48	22.80	10.34	A 17846
B 34910	***	4 1/8	105			14.50	368	7.20	183	2.16	55	2.69	68	7.03	179				3.00	700	48	21.00	9.53	A 17846

* Reduced Port

** Where Applicable

*** Consult Factory

‡ Standard product offering includes drilled/ tapped feature

Prefix AP Drilled/ tapped

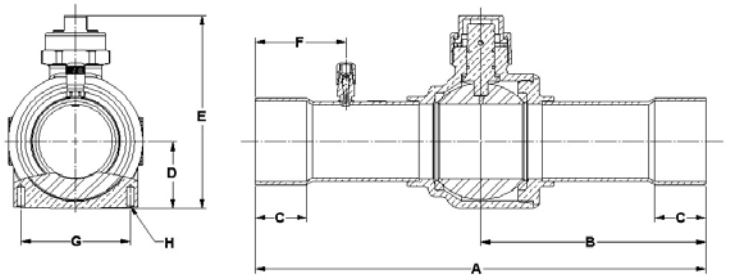
RoHS Compliant. Comply with ISO 9001 Standards.

CYCLEMASTER® Ball Valves

Standard With Access Port

Features:

- Maximum abnormal pressure (MAP): Up to 775 psig, 53 bar
- Continuous operating temperature (COT): -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, Conforms to Pressure Equipment Directive 97/23/EC



Part Number	Size		Cv	Kv	A		B		C Min		D		E		F		G **		H **	Port (in)	MWP		Wt		Seal Cap Kit
	in	mm			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm			psig	bar	lb	kg	
AQ17859 ‡	1/4	6	1.0	1	5.50	140	2.98	76	0.31	8	0.54	14	2.23	57	1.16	29	0.87	22	M4 X 0.7	0.50	775	53	0.72	0.33	A 17842
AQ17860C ‡	3/8	10	4.3	4	5.50	140	2.98	76	0.31	8	0.54	14	2.23	57	1.16	29	0.87	22	M4 X 0.7	0.50	775	53	0.52	0.24	A 17842
AQ17861C ‡	1/2	13	6.2	5	6.35	161	3.41	87	0.38	10	0.54	14	2.23	57	1.21	31	0.87	22	M4 X 0.7	0.50	775	53	0.53	0.24	A 17842
AQ17862C ‡	5/8	17	12.1	10	6.35	161	3.41	87	0.50	13	0.54	14	2.23	57	1.35	34	0.87	22	M4 X 0.7	0.50	775	53	0.54	0.24	A 17842
AQ17863 ‡	3/4	19	19.0	16	7.45	189	3.89	99	0.62	16	0.72	18	2.66	68	1.47	37	1.18	30	M4 X 0.7	0.75	775	53	0.96	0.43	A 17843
AQ17864C ‡	7/8	22	27.5	24	7.45	189	3.89	99	0.75	19	0.72	18	2.66	68	1.60	41	1.18	30	M4 X 0.7	0.75	775	53	0.96	0.43	A 17843
AQ17865 ‡	1 1/8	29	54.0	47	8.42	214	4.21	107	0.91	23	1.00	25	3.15	80	1.74	44	1.50	38	M4 X 0.7	1.00	775	53	1.66	0.75	A 17843
AC17866	1 3/8	35	89.1	77	10.00	254	5.00	127	0.97	25	1.17	30	3.72	94	2.04	52	1.89	48	M6 X 1.0	1.25	775	53	2.62	1.19	A 17844
AC17867	1 5/8	41	114.0	99	11.00	279	5.50	140	1.09	28	1.38	35	4.12	105	2.25	57	2.17	55	M6 X 1.0	1.50	775	53	4.78	2.17	A 17844
AC17868	2 1/8	54	244.0	211	12.00	305	6.00	152	1.34	34	1.79	45	5.14	131	2.41	61	2.91	74	M6 X 1.0	2.00	700	48	8.09	3.67	A 17845
AC17869	2 5/8	67	401.0	347	13.50	343	6.75	171	1.47	37	2.19	56	5.92	150	2.85	72				2.44	700	48	13.81	6.26	A 17845
AC17870	3 1/8	79	553.0	478	16.00	406	8.00	203	1.66	42	2.69	68	7.03	179	3.41	87				3.00	700	48	21.42	9.72	A 17846
AC17871 *	2 5/8	67	230.0	199	12.00	305	6.00	152	1.47	37	1.79	45	5.14	131	2.48	63	2.91	74	M6 X 1.0	2.00	700	48	8.71	3.95	A 17845
AC17872 *	3 1/8	79	143.0	124	12.00	305	6.00	152	1.66	42	1.79	45	5.14	131	2.66	68	2.91	74	M6 X 1.0	2.00	700	48	9.23	4.18	A 17845

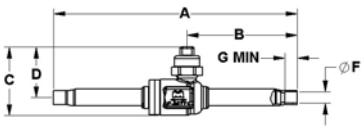
*	Reduced Port
**	Where Applicable
***	Consult Factory
‡	Standard product offering includes drilled/ tapped feature
Prefix AQ	Drilled/ tapped

CYCLEMASTER® Ball Valves

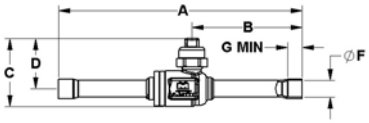
IBV Series

Features:

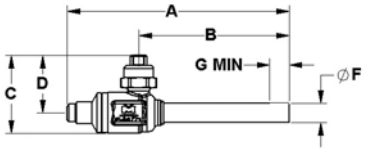
- Maximum abnormal pressure (MAP): 775 psig, 53 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Full port construction to match line size ID
- Internally equalized ball design
- Rupture-proof encapsulated stem
- MCM Seal Technology



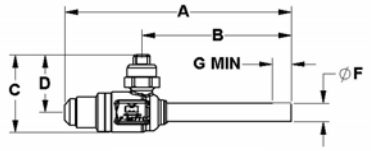
Drawing A



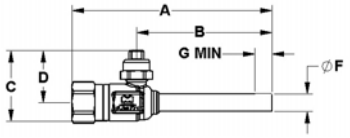
Drawing B



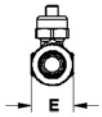
Drawing C



Drawing D



Drawing E



Solder

Part Number	Size	A		B		C		D		E		F		G Min		Wt		Drawing	2 Piece Seal Cap Assembly
	in	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg		
A 17855	1/4 ODS	5.50	140	2.50	64	1.54	39	1.14	29	0.81	21	0.250	6	0.25	6	0.25	0.12	A	A 17841
A 17856	3/8 ODS	5.50	140	2.50	64	1.54	39	1.14	29	0.81	21	0.375	10	0.31	8	0.26	0.12	B	A 17841

FL x ODE

Part Number	Size	A		B		C		D		E		F		G Min		Wt		Drawing	Flare Fitting Seal Cap	Valve Core **	Flare Fitting Seal Cap Kit ***	2 Piece Seal Cap Assembly
	in	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg					
A 18673	1/4 FL X 3/8 ODE	4.38	111	2.97	75	1.54	39	1.14	29	0.81	21	0.375	10	0.38	10	0.26	0.12	C	A 16447	P 25998	A 18726	A 17841
A 18674	3/8 FL X 3/8 ODE	4.50	114	2.97	75	1.54	39	1.14	29	0.81	21	0.375	10	0.38	10	0.28	0.13	D	A 16448			A 17841

NPTFI X ODE

Part Number	Size	A		B		C		D		E		F		G Min		Wt		Drawing	Plug for 1/4 NPTF	2 Piece Seal Cap Assembly
	in	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg			
A 18675	1/4 NPTFI X 3/8 ODE	4.38	111	2.97	75	1.54	39	1.14	29	0.81	21	0.375	10	0.38	10	0.28	0.13	E	P 34707	A 17841

* Assembled finger tight

** Installation torque 1-3 in/lbs

*** Includes seal cap and valve core

1) Stem torque to rotate ball: 15 in-lbs maximum

2) Torque for installing ball valves with ¼" flare connection: 8 – 10 ft-lbs

3) Torque for installing ball valves with 3/8" flare connection: 15 - 25 ft-lbs

RoHS Compliant. Comply with ISO 9001 Standards.

CYCLEMASTER® Ball Valves

CO2 High Pressure

Features:

- Maximum abnormal pressure (MAP): Contact Factory
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Designed for transcritical CO2 systems
- Full port construction to match line size ID
- Internally equalized ball design
- Rupture-proof encapsulated stem
- MCM Seal Technology

Increased interest in the use of carbon dioxide as a refrigerant in recent years has raised questions regarding the application of various valves and components in refrigeration systems. Systems can be designed in many different configurations including direct expansion, secondary fluids, circulation with pumps or any combination of these, and operation may include pressures and temperatures above the critical point for CO2, known as transcritical applications.

Mueller is pleased to announce the upcoming release of a new ball valve series designed to address market requirements for transcritical applications. Mueller valves feature a unique stem design installed inside the valve body during the manufacturing process, assuring the stem will not dislodge from the valve in the event of high pressures.

Internally, each valve has two distinct seal sets that assure proper operation: stem seals and ball seals. Dual stem seals are in the neck of the valve, and have been designed to work with all system lubricants to assure a tight fit between surfaces, eliminating the potential for any media to escape to the atmosphere.

Specially designed ball seals are located on either side of the ball, and are designed to assure positive circuit isolation when the valve is closed, while minimizing valve operational torques. The unique nature of the CYCLEMASTER ball valve seal material and physical design characteristics assure proper operation in CO2 applications.

Using the new Mueller Industries' Streamline XHP copper tube for system connections, Mueller ball valves assure compliance with the higher pressures of CO2 without the need for stainless or steel tubing.

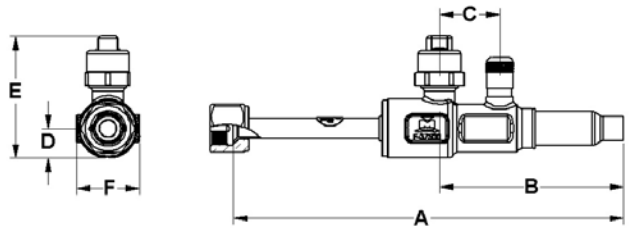
For specific application questions or assistance with product selection, please contact factory for details at (615)374-2124.

Multi Split Ball Valves

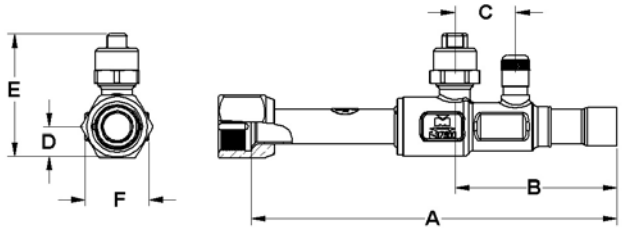
Unibody Flare x ODS

Features:

- Maximum abnormal pressure (MAP): 775 psig, 53 bar
- Continuous operating temperature (COT): -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, Conforms to Pressure Equipment Directive 97/23/EC

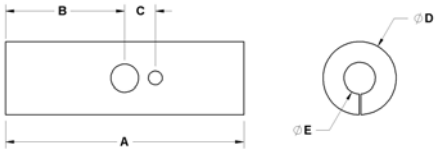


Drawing A



Drawing B

Valve Part Number	Valve Insulation Kit Part Number	Size		A		B		C		D		E		F		Wt		Drawing
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg	
A 18941	A 18611U	1/4	6	7.17	182	3.36	85	1.34	34	0.54	14	2.23	57	1.16	29			A
A 18942	A 18612U	3/8	10	7.12	181	3.36	85	1.34	34	0.54	14	2.23	57	1.16	29			A
A 18943	A 18613U	1/2	13	6.71	170	2.94	75	1.73	44	0.54	14	2.23	57	1.16	29			A
A 18944	A 18614U	5/8	17	6.64	169	2.94	75	1.59	40	0.54	14	2.23	57	1.16	29			B



Insulation Part No.	Valve Size	A (in)	B (in)	C (in)	D (in)	E (in)	Wt(lb)
MSBVINS	Multi Split Valves	8.56	4.28	1.10	2.63	1.13	0.10

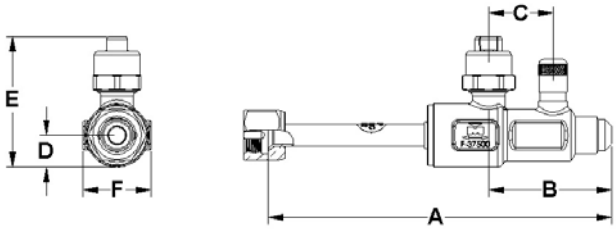
RoHS Compliant. Comply with ISO 9001 Standards.

Multi Split Ball Valves

Unibody Female x Male Flare

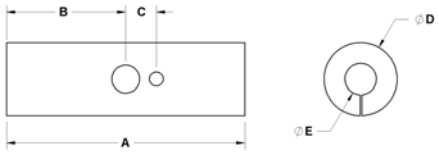
Features:

- Maximum abnormal pressure (MAP): 775 psig, 53 bar
- Continuous operating temperature (COT): -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, Conforms to Pressure Equipment Directive 97/23/EC



Valve Part Number	Valve Insulation Kit Part Number	Size		A		B		C		D		E		F		Wt	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
A 18945	A 18567U	1/4	6	5.86	149	2.05	52	1.10	28	0.54	14	2.23	57	1.16	29		
A 18946	A 18568U	3/8	10	5.86	149	2.10	53	1.10	28	0.54	14	2.23	57	1.16	29		
A 18947	A 18569U	1/2	13	5.98	152	2.21	56	1.10	28	0.54	14	2.23	57	1.16	29		
A 18948	A 18570U	5/8	17	5.98	152	2.28	58	1.10	28	0.54	14	2.23	57	1.16	29		
A 18949	A 18652U	3/8 F X 1/4 M		5.81	148	2.05	52	1.10	28	0.54	14	2.23	57	1.16	29		
A 18950	A 18653U	5/8 F X 1/2 M		5.91	150	2.21	56	1.10	28	0.54	14	2.23	57	1.16	29		

Insulation Part No.	Valve Size	A (in)	B (in)	C (in)	D (in)	E (in)	Wt(lb)
MSBVINS	Multi Split Valves	8.56	4.28	1.10	2.63	1.13	0.10

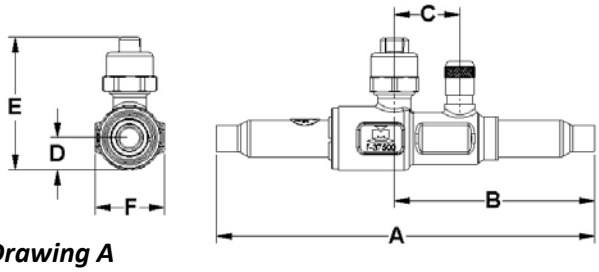


Multi Split Ball Valves

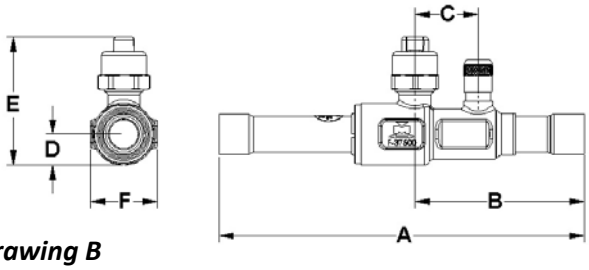
Unibody ODS x ODS

Features:

- Maximum abnormal pressure (MAP): 775 psig, 53 bar
- Continuous operating temperature (COT): -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, Conforms to Pressure Equipment Directive 97/23/EC



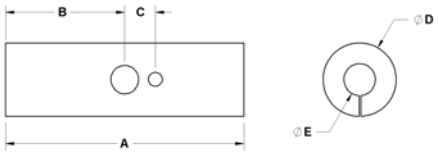
Drawing A



Drawing B

Valve Part Number	Valve Insulation Kit Part Number	Size		A		B		C		D		E		F		Wt		Drawing
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg	
A 18937	A 18571U	1/4	6	6.35	161	3.36	85	1.10	28	0.54	14	2.23	57	1.16	29			A
A 18938	A 18572U	3/8	10	6.35	161	3.36	85	1.10	28	0.54	14	2.23	57	1.16	29			A
A 18939	A 18573U	1/2	13	6.35	161	2.94	75	1.10	28	0.54	14	2.23	57	1.16	29			A
A 18940	A 18574U	5/8	17	6.35	161	2.94	75	1.10	28	0.54	14	2.23	57	1.16	29			B

Insulation Part No.	Valve Size	A (in)	B (in)	C (in)	D (in)	E (in)	Wt(lb)
MSBVINS	Multi Split Valves	8.56	4.28	1.10	2.63	1.13	0.10



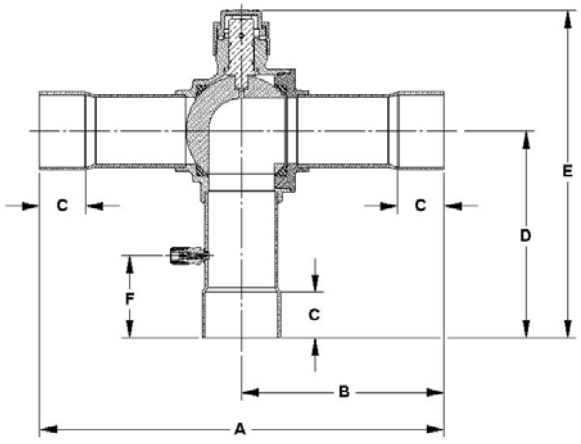
RoHS Compliant. Comply with ISO 9001 Standards.

CYCLEMASTER® Ball Valves

3-Way

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -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, Conforms to Pressure Equipment Directive 97/23/EC

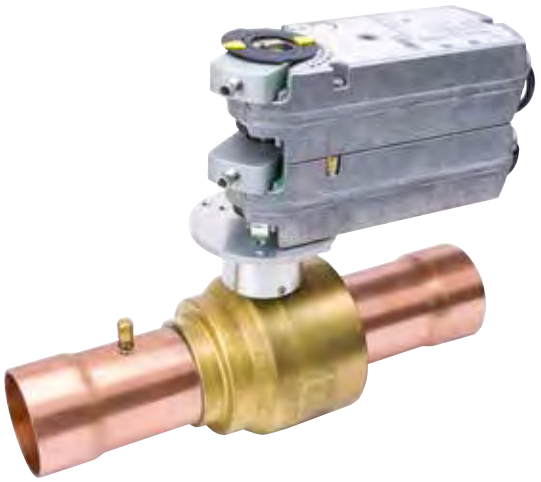


Part Number	Size		Cv	Kv	A		B		C		D		E		F		Port (in)	Wt		Seal Cap Kit
	in	mm			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		lb	kg	
AU17860	3/8	10	2.23	2	5.50	140	2.97	75	0.31	8	2.61	66	4.16	106	1.16	29	0.50	0.73	0.33	A 17842
AU17861	1/2	13	3.94	3	6.38	162	3.42	87	0.38	10	3.05	77	4.60	117	1.21	31	0.50	0.74	0.33	A 17842
AU17862	5/8	17	4.63	4	6.38	162	3.42	87	0.50	13	3.05	77	4.60	117	1.35	34	0.50	0.74	0.34	A 17842
AU17863	3/4	19	11.90	10	7.47	190	3.91	99	0.62	16	3.65	93	5.86	149	1.47	37	0.75	1.40	0.64	A 17843
AU17864	7/8	22	10.89	9	7.47	190	3.91	99	0.75	19	3.65	93	5.86	149	1.60	41	0.75	1.52	0.69	A 17843
AU17865	1 1/8	29	19.33	17	8.41	214	4.33	110	0.91	23	4.01	102	6.39	162	1.74	44	1.00	2.82	1.28	A 17844
A 17545	1 3/8	35	31.06	27	10.00	254	5.07	129	0.97	25	4.92	125	7.89	200	2.04	52	1.25	4.97	2.25	A 17845
A 17546	1 5/8	41	44.69	39	11.00	279	5.53	140	1.09	28	5.46	139	8.61	219	2.25	57	1.50	7.17	3.25	A 17845
AU17868	2 1/8	54	76.32	66	11.86	301	5.95	151	1.34	34	6.06	154	9.58	243	2.41	61	1.93	8.27	3.75	A 17845
AU17871 *	2 5/8	67	69.85	60	11.90	302	5.97	152	1.47	37	6.08	154	9.60	244	2.48	63	1.93	8.80	3.99	A 17845
AU17872 *	3 1/8	79	58.19	50	11.86	301	5.95	151	1.66	42	6.06	154	9.58	243	2.66	68	1.93	11.10	5.03	A 17845

* Reduced Port

CYCLEMASTER® Ball Valves

Actuated



Features:

- Maximum abnormal pressure (MAP): Up to 775 psig, 53 bar
- Power Supply: 24 VAC
- Actuator Ambient Temperature: -22°F to 130°F, -30°C to 54°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Valve Refrigerant Temperature: -40°F to 300°F, -40°C to 149°C
- 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, Conforms to Pressure Equipment Directive 97/23/EC

Actuated Standard

Part Number		Size		Cv	Kv	A		B		C Min		D		MWP		Wt		Motor	Hub Kit	Actuator Kit***	Heater
		in	mm			in	mm	in	mm	in	mm	in	mm	psig	bar	lb	kg				
AW17861		1/2	13	6.20	5	4.00	102	2.36	60	3.70	94	2.76	70	775	53	2.21	1.00	1	A 18389	A 18390	
AW17862		5/8	17	12.10	10	4.00	102	2.36	60	3.70	94	2.76	70	775	53	2.38	1.08	1	A 18389	A 18390	
AW17863		3/4	19	19.00	16	4.21	107	2.36	60	3.70	94	2.76	70	775	53	2.40	1.09	1	A 18391	A 18392	
AW17864		7/8	22	27.50	24	4.21	107	2.36	60	3.70	94	2.76	70	775	53	2.42	1.10	1	A 18391	A 18392	
AW17865		1 1/8	29	54.00	47	4.58	116	2.36	60	3.70	94	2.76	70	775	53	3.10	1.41	1	A 18391	A 18392	
AW17866		1 3/8	35	89.10	77	5.05	128	2.36	60	5.91	150	3.19	81	775	53	5.53	2.51	2	A 18393	A 18394	A 18366
AW17867		1 5/8	41	114.00	99	5.34	136	2.36	60	5.91	150	3.19	81	775	53	6.94	3.15	2	A 18393	A 18394	A 18366
AW17868		2 1/8	54	244.00	211	6.42	163	2.66	68	8.94	227	3.94	100	700	48	13.14	5.96	3	A 18368	A 18395	A 18367
AW17869	**	2 5/8	67	401.00	347	9.45	240	5.30	135	8.94	227	3.94	100	700	48	23.40	10.61	4	A 18764	A 18765	A 18367 (2)
AW17870	**	3 1/8	79	553.00	478	9.99	254	5.30	135	8.94	227	3.94	100	700	48	31.40	14.24	4	A 18400	A 18401	A 18367 (2)
AW17871	*	2 5/8	67	230.00	199	6.42	163	2.66	68	8.94	227	3.94	100	700	48	13.56	6.15	3	A 18368	A 18395	A 18367
AW17872	*	3 1/8	79	143.00	124	6.42	163	2.66	68	8.94	227	3.94	100	700	48	14.24	6.46	3	A 18368	A 18395	A 18367

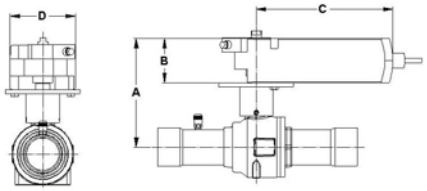
Actuated 3-Way

Part Number		Size		Cv	Kv	A		B		C Min		D		MWP		Wt		Motor	Hub Kit	Actuator Kit***	Heater
		in	mm			in	mm	in	mm	in	mm	in	mm	psig	bar	lb	kg				
AY17861		1/2	13	3.90	3	4.18	106	2.36	60	3.70	94	2.76	70	700	48	2.28	1.03	1	A 18389	A 18390	
AY17862		5/8	17	4.60	4	4.18	106	2.36	60	3.70	94	2.76	70	700	48	2.39	1.08	1	A 18389	A 18390	
AY17863		3/4	19	11.90	10	4.50	114	2.36	60	3.70	94	2.76	70	700	48	3.50	1.59	1	A 18391	A 18392	
AY17864		7/8	22	10.90	9	4.50	114	2.36	60	3.70	94	2.76	70	700	48	3.25	1.47	1	A 18391	A 18392	
AY17865		1 1/8	29	19.30	17	5.02	128	2.36	60	5.91	150	3.19	81	700	48	5.73	2.60	2	A 18393	A 18394	A 18366
A 17810		1 3/8	35	31.10	27	5.44	138	2.36	60	5.91	150	3.19	81	700	48	8.13	3.69	2	A 18368	A 18396	A 18366
A 17811		1 5/8	41	44.70	39	6.22	158	2.66	68	8.94	227	3.94	100	700	48	12.00	5.44	3	A 18368	A 18395	A 18367
AY17868		2 1/8	54	76.30	66	6.54	166	2.66	68	8.94	227	3.94	100	700	48	13.23	6.00	3	A 18368	A 18395	A 18367
AY17871	*	2 5/8	67	69.90	60	6.54	166	2.66	68	8.94	227	3.94	100	700	48	14.09	6.39	3	A 18368	A 18395	A 18367
AY17872	*	3 1/8	79	58.20	50	6.54	166	2.66	68	8.94	227	3.94	100	700	48	14.64	6.64	3	A 18368	A 18395	A 18367

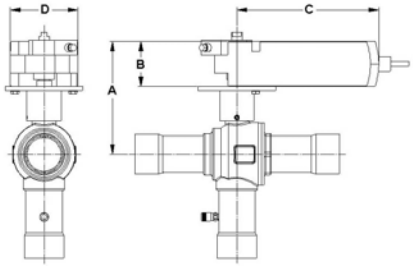
*	Reduced Port
**	Consists of two stacked motors operating in tandem
***	Actuator Kit includes Motor and Hub
Prefix AWS	Actuator includes auxillary switch
Prefix AYS	Actuator includes auxillary switch
Warning	Heater assembly required for low temperature applications
Warning	Motors not for use in wet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

CYCLEMASTER® Ball Valves
Actuated

Actuated Standard



Actuated 3-Way



Tonnage calculations are based on the following conditions:
Evaporator temperature: 40°
Vapor temperature exiting evaporator: 10°F superheated
Liquid temperature entering evaporator: 100°F
Hot gas temperature: 140°F
Pressure drop across valve: 1 psig

Motor Specifications

Motor Series	Torque (in-lb)	Power Consumption (VA)	Running Time (seconds)
1	44	2.5	90
2	132	3.0	125
3	310	7	125
4 **	620	12	125

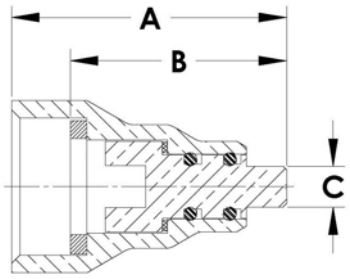
Part Number	*Liquid Capacity (tons)*					*Suction Capacity (tons)*					*Hot Gas Capacity (tons)*				
	R22	*R134a*	*R404A/ R507*	*R407C*	*R410A*	*R22*	*R134a*	*R404A/ R507*	*R407C*	*R410A*	*R22*	*R134a*	*R404A/ R507*	*R407C*	*R410A*
AW17861	19.0	17.7	12.2	18.13	17.8	2.7	2.1	2.2	2.52	3.1	3.9	3.2	3.2	4.05	4.5
AW17862	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	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	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
AW17865	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	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	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	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	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	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	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	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
AY17861	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	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	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	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	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	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	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	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
AY17869															
AY17870															
AY17871	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	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

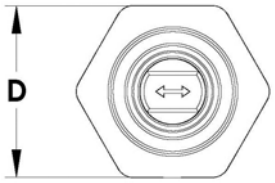
Component Parts

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





Part Number		Valve Configuration	Valve Size in	A		B		C		D		Recommended Sealing Torque		Wt	
				in	mm	in	mm	in	mm	in	mm	ft-lb	N-m	lb	kg
A 18351		Straight	1/4 - 5/8	1.33	34	1.04	26	0.16	4	0.81	21	5 - 6	7 - 8	0.08	0.04
		3-Way	1/4 - 5/8												
A 18352	**	Straight	3/4 - 1 1/8	1.50	38	1.18	30	0.22	6	0.94	24	5 - 6	7 - 8	0.12	0.05
		3-Way	3/4 - 7/8												
A 18353	***	Straight	1 3/8 - 1 5/8	1.92	49	1.59	40	0.31	8	1.13	29	13 - 15	18 - 20	0.22	0.10
		3-Way	1 1/8												
A 18354		Straight	2 1/8, 2 5/8 & 3 1/8" Red Port	2.57	65	1.97	50	0.38	10	1.63	41	40 - 45	54 - 61	0.57	0.26
		3-Way	1 3/8 - 2 1/8, 2 5/8 & 3 1/8" Red Port												
A 18355	*	Straight	2 5/8 & 3 1/8 Full Port	2.66	68	2.10	53	0.38	10	1.88	48	45 - 50	61 - 68	0.84	0.38
		3-Way													

Valve sizes listed are based on current standard product offering. Confirm part number requirement based on thread size.

* For use with 2 1/8" and larger 3-Way Ball Valves manufactured prior to Nov. 2006

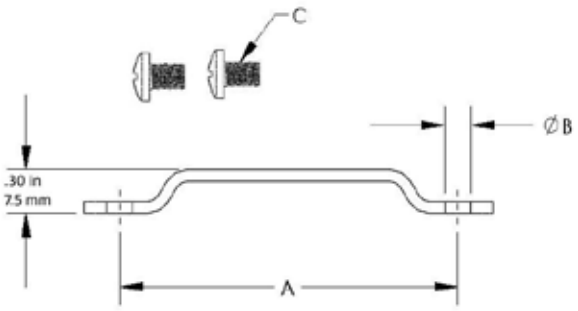
** For use with 1 1/8 Straight valves manufactured after Jun 2010

*** For use with 1 5/8 straight valves manufactured after Jan 2014

CYCLEMASTER® Ball Valves
Bracket Kits

Features:

- Kits include bracket and two screws
- Specifically designed to fit Mueller CYCLEMASTER® ball valve sizes
- Plated steel to provide corrosion resistance

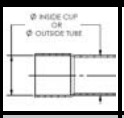


Part Number	Valve Size	A		B		Screw Thread Size (C)	Wt	
		(in)	(mm)	(in)	(mm)		(lb)	(kg)
B 35531	1/4 - 5/8	2.28	58	0.17	4.4	M4 X .07	0.03	0.01
B 35532	3/4 - 7/8	2.84	72	0.17	4.4	M4 X .07	0.04	0.02
B 35533	1 1/8	3.07	78	0.17	4.4	M4 X .07	0.04	0.02
B 35534	1 3/8	3.62	92	0.25	6.4	M6 X 1.0	0.05	0.02
B 35535	1 5/8	3.94	100	0.25	6.4	M6 X 1.0	0.05	0.02
B 35536	2 1/8	4.80	122	0.25	6.4	M6 X 1.0	0.06	0.03

CYCLEMASTER® Ball Valves

Accessories

Ball Valve Cross-Reference - Caps, Hubs, Motor Accessories

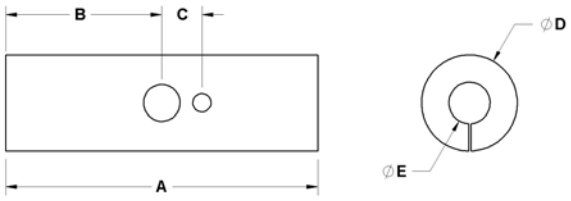
											
Stem Neck Thread Size	**Connection Size**	**Straight-Through Valve Body Numbers**	**3-Way Valve Body Numbers**	**Motor Series**	**ABV Hub Kit**	**ABV Hub-Motor Kit**	**Heater**	**One-Piece Plastic Cap**	**One-Piece Brass Cap**	**Two-Piece Brass Cap**	**Retrofit Brass Cap**
11/16"-16 UN	1/4"	**N-2351** **F-35222** F-36573 **F-36700** **F-36700A**	---	I	A 18389	A 18390		P 36723	A 17965	A 17842	A 18351
	3/8"		**F-35222**								
	1/2"										
	5/8"										
13/16"-16 UN	3/4"	**N-2352** F-33957 **F-35223** F-35427 F-35639 **F-36701** **F-36701A**	**F-35223**	I	A 18391	A 18392		P 36762	A 17966	A 17843	A 18352
	7/8"										
	1-1/8"	**F-36702A**	---								
1"-16 UN	1-1/8"	**N-2353** F-33958 **F-35224** F-35428 F-35640 **F-36702**	**F-35224**	II	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-35429 F-35641	**F-35162**	II	A 18368	A 18396	A 18366	P 36764	A 17968	A 17845	A 18354
	1-5/8"	**N-2355** F-35430 F-35642 **F-35950** **F-36704**	---								
		---	**F-35160**	III	A 18368	A 18395	A 18367				
	2-1/8" 2-5/8" & 3-1/8" Reduced Port	**F-35951** F-36451 **F-36705** **F-36705A**	**F-36595**								
	2-5/8" Full Port	**F-36706A**	---	IV	A 18764	A 18765	(2) A 18367				
	3-1/8" Full Port 3-5/8" & 4-1/8" Reduced Port	F-36322A **F-36707A**	---								

CYCLEMASTER Ball Valves
Accessories

O Ring Kit for Actuator Hub Service

O-Ring Kits	Valve Size
A 18403	1/2 - 1 1/8
A 18404	1 3/8 - 3 1/8

Insulation Cover

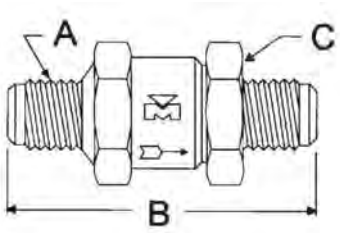


Insulation	Valve Size	A (in)	B (in)	C (in)	D (in)	E (in)	Wt(lb)
38RBVINS	3/8	5.50	3.00	0.63	2.50	1.19	0.10
12RBVINS	1/2	6.38	3.44	0.63	2.50	1.19	0.10
58RBVINS	5/8	6.38	3.44	0.63	2.50	1.38	0.10
34RBVINS	3/4	7.44	3.88	0.88	3.06	1.63	0.10
78RBVINS	7/8	7.44	3.88	0.88	3.06	1.63	0.10
118RBVINS	1 1/8	8.44	4.31	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	0.32
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	4.28	1.10	2.63	1.13	0.10

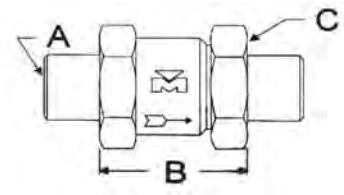
Check Valves
Inline

Features:

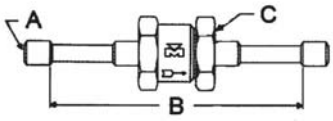
- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Pressure to open: < 1 psi
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- Neoprene seat for positive isolation and pulsation dampening
- Enhanced internal design for maximum flow and minimum pressure drop



Flare to Flare



Solder to Solder



Solder to Solder, Extended Ends

Flare to Flare

Part Number	Size A		B		C		Wt	
	in	mm	in	mm	in	mm	lb	kg
A 15620	1/4	6	2.25	57	13/16 Hex	21 Hex	0.15	0.07
A 15621	3/8	10	2.40	61	13/16 Hex	21 Hex	0.20	0.09
A 15622	1/2	13	3.00	76	1 1/4 Oct	32 Oct	0.43	0.19
A 15623	5/8	17	3.20	81	1 1/4 Oct	32 Oct	0.51	0.23

Solder to Solder

Part Number		Size A		B		C		Wt	
		in	mm	in	mm	in	mm	lb	kg
A 15628	*	1/4	6	1.14	29	13/16 Hex	21 Hex	0.13	0.06
A 15629	*	3/8	10	1.14	29	13/16 Hex	21 Hex	0.13	0.06
A 15630	*	1/2	13	1.44	37	1 1/4 Oct	32 Oct	0.37	0.17
A 15631	*	5/8	17	1.44	37	1 1/4 Oct	32 Oct	0.36	0.16
A 15632	**	1/4	6	4.40	112	13/16 Hex	21 Hex	0.16	0.07
A 15633	**	3/8	10	4.70	119	13/16 Hex	21 Hex	0.18	0.08
A 15634	**	1/2	13	4.90	124	1 1/4 Oct	32 Oct	0.43	0.20
A 15635	**	5/8	17	5.20	132	1 1/4 Oct	32 Oct	0.48	0.22

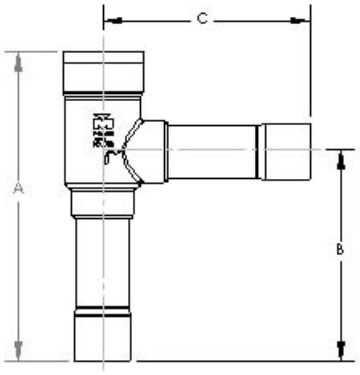
* Shipped loosely assembled

** Extended Ends

Check Valves
90° Angle

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 100% tested
- Forged brass body exceeds the most stringent quality standards in the industry
- Neoprene gasket



Part Number		Size (in)		Cv	Kv	A		B		C		Wt	
						in	mm	in	mm	in	mm	lb	kg
A 18383C		7/8	Male Inlet x Female Outlet	13.4	11.6	5.38	137	3.70	94	3.47	88	0.81	0.37
A 18565C		7/8	Male Inlet x Male Outlet	13.4	11.6	5.38	137	3.70	94	3.67	93	0.80	0.36
A 18566C	*	7/8	Female Inlet x Female Outlet	13.4	11.6	5.18	132	3.50	89	3.47	88	0.81	0.37
A 18659C	*	1 1/8	Female Inlet x Female Outlet	30.2	26.1	8.02	204	5.55	141	4.84	123	1.93	0.88
A 18660C	*	1 3/8	Female Inlet x Female Outlet	37.0	32.0	8.02	204	5.55	141	4.84	123	1.98	0.90

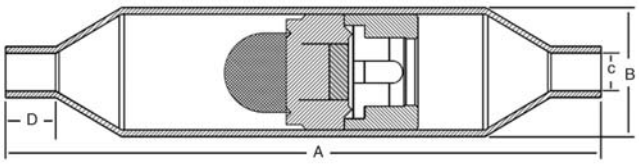
Standard valve includes 2 lb spring

* Prefixed AH for valve with 4.3 lb spring

Check Valves
Magnetic

Features:

- Maximum abnormal pressure (MAP): Charted below
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 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

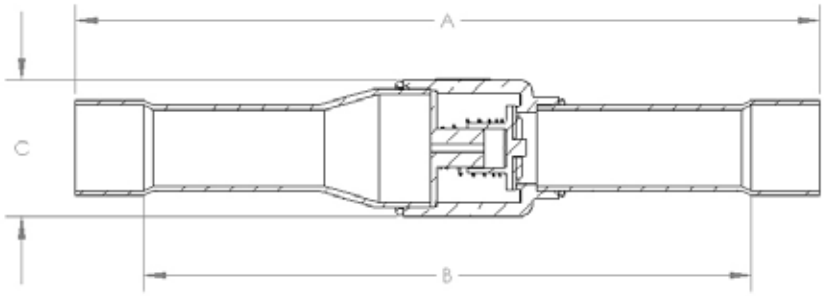


Part Number	Model	Size C (in)		A		B		D		MAP		Wt	
				in	mm	in	mm	in	mm	psig	bar	lb	kg
A 17934	CMV-4S	1/4	6	4.02	102	0.88	22	0.34	9	800	55	0.20	0.09
A 17935	CMV-6S	3/8	10	4.02	102	0.88	22	0.34	9	800	55	0.20	0.09
A 17936	CMV-8S	1/2	13	5.18	131	1.13	29	0.41	10	800	55	0.38	0.17
A 17937	CMV-10S	5/8	17	5.18	131	1.13	29	0.53	13	800	55	0.34	0.16
A 17938	CMV-12S	3/4	19	7.04	179	1.63	41	0.65	17	800	55	0.87	0.40
A 17939	CMV-14S	7/8	22	7.04	179	1.63	41	0.78	20	800	55	0.90	0.41
A 17940	CMV-18S	1 1/8	29	8.43	214	2.13	54	0.94	24	800	55	1.61	0.73
A 17941	CMV-22S	1 3/8	35	9.41	239	2.63	67	1.00	25	800	55	2.74	1.24
A 17942	CMV-26S	1 5/8	41	10.55	268	3.13	79	1.12	28	800	55	3.91	1.77
A 17943	CMV-34S	2 1/8	54	12.06	306	3.63	92	1.37	35	775	53	6.00	2.72
A 17944	CMV-42S	2 5/8	67	13.05	331	4.13	105	1.50	38	775	53	7.00	3.18
A 17981	CMV-50S	3 1/8	79	13.05	331	4.13	105	1.69	43	700	68	7.43	3.37

Check Valves
Piston

Features:

- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- Enhanced internal design for maximum flow and minimum pressure drop
- Maximum abnormal pressure (MAP): Charted below
- 1/4" - 1/2" sized valves are designed for use with R744 (CO2)
- 5/8" - 7/8" sized valves are designed for use with R744 in cascading systems or secondary loops where design pressures are below the R744 critical pressure of 1058 psi



Part Number		Size ODS		Cv	Kv	ΔP	A		B		C		Wt		MAP
		in	mm			psi	in	mm	in	mm	in	mm	lb	kg	
A 18720		1/4	6	0.70	0.61	1	3.62	92	3.00	76	0.71	18	0.11	0.05	1305
A 18721		3/8	10	1.40	1.21	1	4.29	109	3.60	91	0.71	18	0.12	0.05	1305
A 18722		1/2	13	2.71	2.34	.75	5.15	131	4.28	109	0.85	22	0.16	0.07	1305
A 18723		5/8	17	4.10	3.55	.75	5.43	138	4.43	113	1.00	25	0.22	0.10	1000
A 18724		7/8	22	9.19	7.95	.75	6.50	165	5.25	133	1.34	34	0.42	0.19	1000
A 18838		3/4	19	8.76	7.58	.75	7.01	178	5.86	149	1.34	34	0.43	0.19	1000
AH18720	*	1/4	6	0.70	0.61	4.4	3.62	92	3.00	76	0.71	18	0.11	0.05	1305
AH18721	*	3/8	10	1.40	1.21	4.4	4.29	109	3.60	91	0.71	18	0.12	0.05	1305
AH18722	*	1/2	13	2.71	2.34	4.4	5.15	131	4.28	109	0.85	22	0.16	0.07	1305
AH18723	*	5/8	17	4.10	3.55	4.4	5.43	138	4.43	113	1.00	25	0.22	0.10	1000
AH18724	*	7/8	22	9.19	7.95	4.4	6.50	165	5.25	133	1.34	34	0.42	0.19	1000
AH18838	*	3/4	19	8.76	7.58	4.4	7.01	178	5.86	149	1.34	34	0.44	0.20	1000

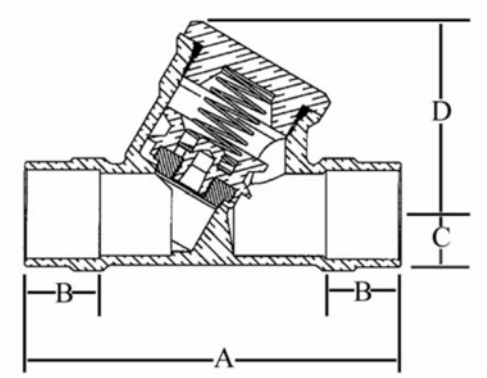
	Prefixed AH for valve with 4.4 lb spring
	Standard valve includes 1 lb spring
*	Prefixed AH for valves with higher ΔP
ΔP	Minimum pressure at which valve fully opens.

Check Valves

Screw Bonnet

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 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



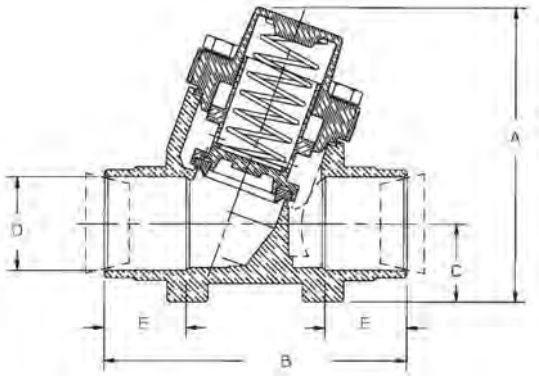
Part Number		Size		Cv	Kv	A		B		C		D		Pressure to Open		Rec Bolt Torques		Replacement Components		Wt	
		in	mm			in	mm	in	mm	in	mm	in	mm	psi	bar	ft-lb	N-m	5 lb Spring	10 lb Spring	lb	kg
A 17953		1/4	6	0.50	0	3.00	76	0.31	8	0.19	5	1.57	40	<1	<.07	14 - 16	19 - 22	P 36542	P 36543	0.58	0.26
A 17954		3/8	10	1.42	1	3.00	76	0.44	11	0.25	6	1.57	40	<1	<.07	14 - 16	19 - 22	P 36542	P 36543	0.57	0.26
A 17955		1/2	13	2.03	2	3.00	76	0.56	14	0.32	8	1.57	40	<1	<.07	14 - 16	19 - 22	P 36542	P 36543	0.53	0.24
A 17956		5/8	17	8.10	7	3.31	84	0.66	17	0.38	10	1.57	40	<1	<.07	14 - 16	19 - 22	P 36542	P 36543	0.53	0.24
A 17958		7/8	22	2.50	2	3.75	95	0.75	19	0.52	13	1.92	49	<1	<.07	14 - 16	19 - 22	P 37516	P 37517	0.87	0.39
AT17954	*	3/8	10			6.30	160	0.31	8	0.21	5	1.57	40	<1	<.07	14 - 16	19 - 22	P 36542	P 36543	0.62	0.28
AT17955	*	1/2	13			6.06	154	0.38	10	0.28	7	1.57	40	<1	<.07	14 - 16	19 - 22	P 36542	P 36543	0.59	0.27
AT17956	*	5/8	17			6.81	173	0.50	13	0.34	9	1.57	40	<1	<.07	14 - 16	19 - 22	P 36542	P 36543	0.66	0.30
AT17958	*	7/8	22			7.75	197	0.75	19	0.47	12	1.92	49	<1	<.07	14 - 16	19 - 22	P 37516	P 37517	1.09	0.49

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

Check Valves
Four-Bolt

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 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



Part Number		Size D		Cv	Kv	A		B		C		E		Pressure to Open		Rec Bolt Torques		Replacement Components				Wt	
		in	mm			in	mm	in	mm	in	mm	in	mm	psi	bar	ft-lb	N-m	Kit **	10 lb Spring	20 lb Spring	Gasket	lb	kg
B 34235	*	7/8	22	9.20	8	3.55	90	3.68	93	0.94	24	0.94	24	<1	<.07	8 - 15	11 - 20	A 17986	P 35656	P 35859	P 35708	2.44	1.11
B 34236	*	1 1/8	29	11.00	10	3.55	90	3.68	93	0.94	24	1.00	25	<1	<.07	8 - 15	11 - 20	A 17986	P 35656	P 35859	P 35708	2.27	1.03
B 34237	*	1 3/8	35	18.50	16	4.53	115	4.75	121	1.25	32	1.06	27	2	.14	10 - 20	14 - 27	A 17987	P 35657	P 36305	P 35691	5.45	2.47
B 34238	*	1 5/8	41	20.40	18	4.53	115	4.75	121	1.25	32	1.06	27	2	.14	10 - 20	14 - 27	A 17987	P 35657	P 36305	P 35691	4.65	2.11
B 34239	*	2 1/8	54	36.00	31	5.84	148	6.37	162	1.70	43	1.50	38	2	.14	10 - 20	14 - 27	A 17988	P 36544		P 35721	12.31	5.58
B 34240	*	2 5/8	67	86.10	74	8.00	203	8.88	226	2.00	51	1.90	48	2	.14	15 - 25	20 - 34	A 18050			P 36041	27.67	12.55
B 34241	*	3 1/8	79			8.00	203	8.88	226	2.00	51	1.90	48	2	.14	15 - 25	20 - 34	A 18050			P 36041	26.52	12.03

* Includes standard 2 lb spring

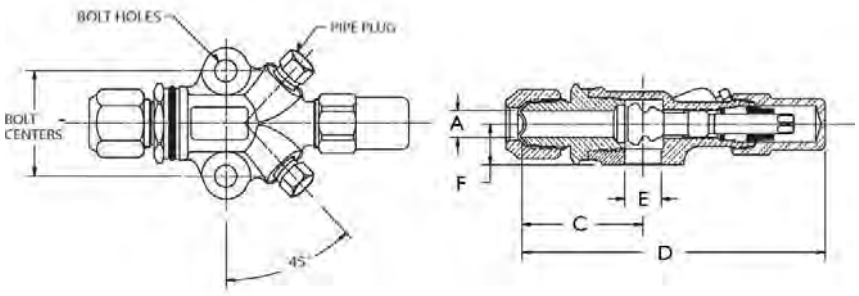
** Replacement kit includes seat holder subassembly, cover gasket and 2 lb spring

Brass Compressor Valves

Double Port, 45° Flare

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop



Valve Part Number	Kit Part Number *	A		C		D		E		F		Bolt Hole		Bolt Hole Diameter		Pipe Plug	Flange Thickness		Seat Position	Valve Wt		Kit Wt	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Size in	in	mm		lb	kg	lb	kg
A 16302	A 17518	3/8	10	1.73	44	4.45	113	0.56	14	0.62	16	1 5/8	41	.34	9	1/8	7/8	22	Mid	1.20	0.54	1.24	0.56
A 16303	A 17519	1/2	13	1.86	47	4.67	119	0.56	14	0.62	16	1 5/8	41	.34	9	1/8	7/8	22	Mid	1.17	0.53	1.17	0.53
A 16304	A 17520	5/8	17	1.99	51	4.80	122	0.56	14	0.62	16	1 5/8	41	.34	9	1/8	7/8	22	Mid	1.23	0.56	1.27	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				Replace-ment Kit**	Valve Kit *	Manufacturer Reference	
		Material	Seal Cap	Gasket	O-ring	Kit	Plastic	Brass***	Steel	Cast Iron			Carrier	Copeland
A 16302	A 09464	Steel	A 04566				P 34627	A 16474	A 04566		A 17420	A 17518		998-0510-15
A 16303	A 09464	Steel	A 04566				P 34627	A 16474	A 04566		A 17420	A 17519		998-0510-16
A 16304	A 09464	Steel	A 04566				P 34627	A 16474	A 04566		A 17420	A 17520		998-0510-17

* 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

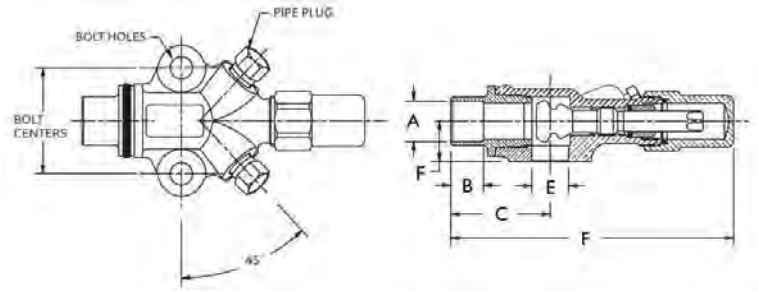
***** O-ring included

Brass Compressor Valves

Double Port, Solder

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop



Valve Part	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	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		in	mm		lb	kg	lb	kg
A 16307	A 17510	3/8	10	0.31	8	1.27	32	4.07	103	0.56	14	0.62	16	1 5/8	41	.34	9	1/8	7/8	22	Front	0.69	0.31	0.73	0.33
A 16308	A 17511	1/2	13	0.38	10	1.40	36	4.20	107	0.56	14	0.62	16	1 5/8	41	.34	9	1/8	7/8	22	Front	0.86	0.39	0.90	0.41
A 16309	A 17512	5/8	17	0.50	13	1.52	39	4.32	110	0.56	14	0.62	16	1 5/8	41	.34	9	1/8	7/8	22	Front	0.88	0.40	0.92	0.42
A 16309	A 17531	5/8	17	0.50	13	1.52	39	4.32	110	0.56	14	0.62	16	1 5/8	41	.34	9	1/8	7/8	22	1 Turn off Back	0.88	0.40	0.93	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				Replace-ment Kit**	Valve Kit *	Manufacturer Reference	
		Material	Seal Cap	Gasket	O-ring	Kit	Plastic	Brass***	Steel	Cast Iron			Carrier	Copeland
A 16307	A 09464	Steel	A 04566				P 34627	A 16474	A 04566		A 17420	A 17510		998-0510-04
A 16308	A 09464	Steel	A 04566				P 34627	A 16474	A 04566		A 17420	A 17511		998-0510-05
A 16309	A 09464	Steel	A 04566				P 34627	A 16474	A 04566		A 17420	A 17512		998-0510-06
A 16309	A 09464	Steel	A 04566				P 34627	A 16474	A 04566		A 17420	A 17531	06DA660-060	

* 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

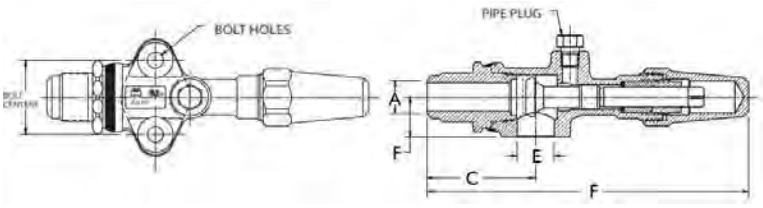
***** O-ring included

Brass Compressor Valves

Straight Port, 45° Flare

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop



Valve Part Number	A		B		C		D		E		F		Bolt Centers		Bolt Hole Diameter		Pipe Plug	Flange Thickness		Seat Position	Valve Wt	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Size in	in	mm		lb	kg
A 13166	3/4	19			2.37	60	7.05	179	0.81	21	0.85	22	1 5/8	41	.34	9	1/8	1 1/4	32	Mid	1.78	0.81

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)
22 - 40	30 - 54	25 - 45	34 - 61	15 - 25	20 - 34	2 - 3 Threads Exposed	Hand Tight	Hand Tight	40 - 50	54 - 68	NA	NA

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

* 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

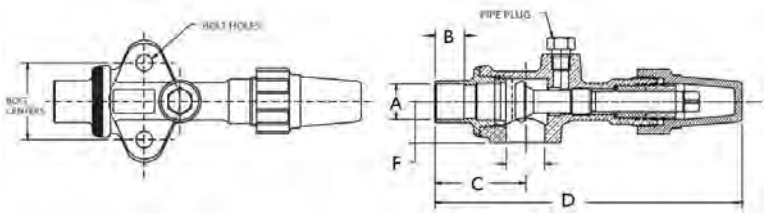
RoHS Compliant. Comply with ISO 9001 Standards.

Brass Compressor Valves

Straight Port, Solder

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop



Valve Part Number	Kit Part Number	A		B		C		D		E		F		Bolt Centers		Bolt Hole Diameter		Pipe Plug	Flange Thickness		Seat Position	Valve Wt		Kit Wt	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Size in	in	mm		lb	kg	lb	kg
A 16310		3/4	19	0.62	16	1.91	49	6.49	165	0.81	21	0.88	22	1 5/8	41	.34	9	1/8	1 21/64	34	Front	1.64	0.74		
A 16311	A 17515	7/8	22	0.76	19	1.97	50	6.55	166	0.81	21	0.88	22	1 5/8	41	.34	9	1/8	1 21/64	34	Front	1.63	0.74	1.55	0.70
B 32197	A 17529	7/8	22	0.76	19	1.97	50	6.47	164	0.81	21	0.88	22	1 3/4	44	.34	9	1/8	1 21/64	34	Mid	1.42	0.64	1.69	0.77
A 15500		1 1/8	29	0.90	23	2.06	52	6.64	169	0.81	21	0.88	22	1 5/8	41	.34	9	1/8	1 21/64	34	Back	1.43	0.65		
A 16312	A 17516	1 1/8	29	0.90	23	2.06	52	6.64	169	0.81	21	0.88	22	1 5/8	41	.34	9	1/8	1 21/64	34	Front	1.66	0.75	1.55	0.70

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)
22 - 40	30 - 54	25 - 45	34 - 61	15 - 25	20 - 34	2 - 3 Threads Exposed	Hand Tight	Hand Tight	40 - 50	54 - 68	NA	NA

References

Valve Part Number	Body Number	Standard Seal Cap			Replacement Seal Cap				Replace-ment 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

* Valve kit includes valve, gasket and bolts

** Replacement kit contains components to pack s

*** Cap and cap gasket kit

**** Seal cap and o-ring kit

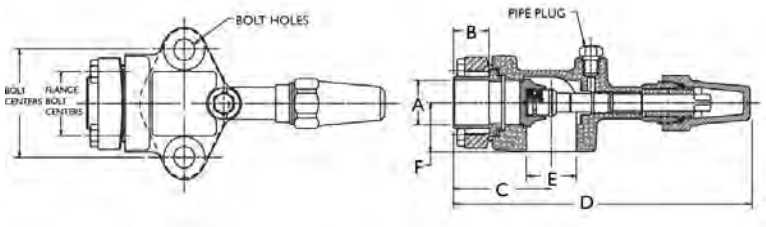
***** O-ring included

Brass Compressor Valves

Flange Union, Solder

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop



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	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		in	mm		lb	kg	lb	kg
A 16313		3/4	19	0.62	16	2.31	59	7.33	186	1.25	32	1.25	32	2 3/4	70	.531	13	1/8	1	25	Front	3.93	1.78		
A 16314	A 17527	7/8	22	0.75	19	2.31	59	7.33	186	1.25	32	1.25	32	2 3/4	70	.531	13	1/8	1	25	Front	3.90	1.77	4.05	1.84
A 16315	A 17525	1 1/8	29	0.91	23	2.47	63	7.49	190	1.25	32	1.25	32	2 3/4	70	.531	13	1/8	1	25	Front	3.66	1.66	4.03	1.83
A 16316	A 17526	1 3/8	35	0.97	25	2.47	63	7.49	190	1.25	32	1.25	32	2 3/4	70	.531	13	1/8	1	25	Front	3.65	1.66	3.80	1.72

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)
30 - 40	41 - 54	22 - 45	30 - 61	15 - 25	20 - 34	2 - 3 Threads Exposed	Hand Tight	Hand Tight	40 - 50	54 - 68	NA	NA

References													
Valve Part Number	Body Number	Standard Seal Cap				Replacement Seal Cap					Replace-ment Kit**	Valve Kit *	Manufacturer Reference	
		Material	Seal Cap ****	Gasket	O-ring	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

*	Valve kit includes valve, gasket and bolts
**	Replacement kit contains components to pack s
***	Cap and cap gasket kit
****	Seal cap and o-ring kit
*****	O-ring included

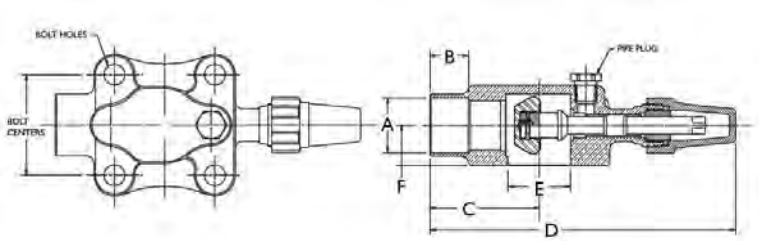
RoHS Compliant. Comply with ISO 9001 Standards.

Brass Compressor Valves

Four-Bolt Mounting, Solder

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop
- Flat Gasket Surface



Valve Part Number *	Kit Part Number	A in	A mm	B in	B mm	C in	C mm	D in	D mm	E in	E mm	F in	F mm	Bolt Centers in	Bolt Centers mm	Bolt Hole Diameter in	Bolt Hole Diameter mm	Pipe Plug Size in	Flange Thickness in	Flange Thickness mm	Seat Position	Valve Wt lb	Valve Wt kg	Kit Wt lb	Kit Wt kg
B 32807	A 17532	1 1/8	29	0.90	23	2.72	69	7.61	193	1.56	40	1.00	25	2.5	64	.53	13	1/4			Mid	4.00	1.81	4.47	2.03
B 32808	A 17533	1 3/8	35	0.96	24	2.72	69	7.61	193	1.56	40	1.00	25	2.5	64	.53	13	1/4			Mid	3.98	1.80	4.67	2.12
B 32930	A 17534	1 5/8	41	1.10	28	2.88	73	7.89	200	1.81	46	1.03	26	2.5	64	.53	13	1/4			Mid	4.13	1.87	4.67	2.12

Torque To Seal

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

References

Valve Part Number	Body Number	Standard Seal Cap Material	Standard Seal Cap Seal Cap *****	Kit	Replacement Seal Cap Plastic*****	Replacement Seal Cap Brass****	Replacement Seal Cap Steel	Cast Iron	Replace-ment Kit**	Valve Kit *	Manufacturer Reference Carrier	Manufacturer Reference 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	

* Valve kit includes valve, gasket and bolts

** Replacement kit contains components to pack s

*** Cap and cap gasket kit

**** Seal cap and o-ring kit

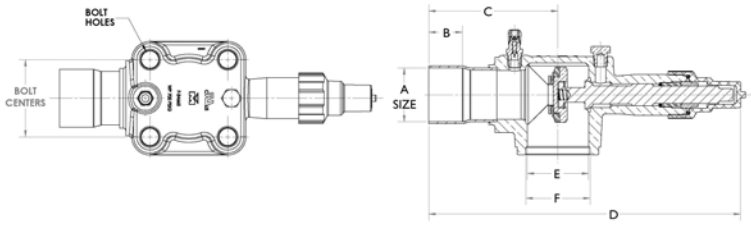
***** O-ring included

Brass Compressor Valves

Four-Bolt Mounting, Access Port

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop



Valve Part Number	Kit Part Number *	A		B		C		D		E		F		Bolt Centers		Bolt Hole Diameter		Pipe Plug Size in	Access Port in	Seat Position	Valve Wt		Kit Wt	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm				lb	kg	lb	kg
A 17495		2 1/8	54	1.34	34	5.09	129	12.31	313	2.42	61	2.53	64	3.06	78	.69	17	1/4	0.25	Mid	11.84	####		

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)
45 - 65	61 - 88	45 - 65	61 - 88	35 - 45		240 - 300	Hand Tight	Hand Tight				

References											
Valve Part Number	Body Number	Standard Seal Cap			Replacement Seal Cap				Replace-ment Kit**	Valve Kit *	Manufacturer Reference	
		Material	Seal Cap *****	Kit	Plastic*****	Brass****	Steel	Cast Iron			Carrier	Copeland
A 17495	F 34665	Plastic	N 02849	A 17668	A 17668	A 15099		B 33816	A 17422			

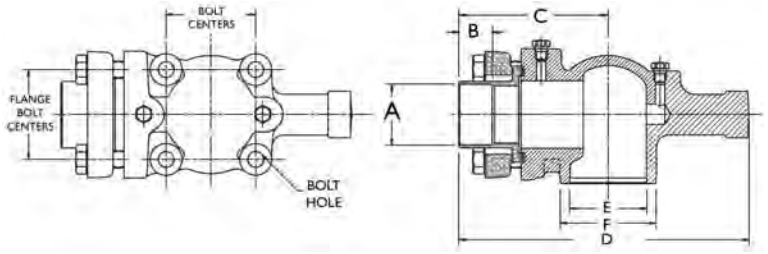
**** Seal cap and o-ring kit

***** O-ring included

Cast Iron Flanges
Four-Bolt

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop



Valve Part Number	A		B		C		D		E		F		Bolt Centers		Bolt Hole Diameter		Pipe Plug	Flange Bolt Centers		Valve Wt	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Size in	in	mm	lb	kg
B 34987	2 5/8	67	1.47	37	6.49	165	12.55	319	3.35	85	4.16	106	3 7/8	98	.69	17	1/4	3.88	98	28.21	12.80

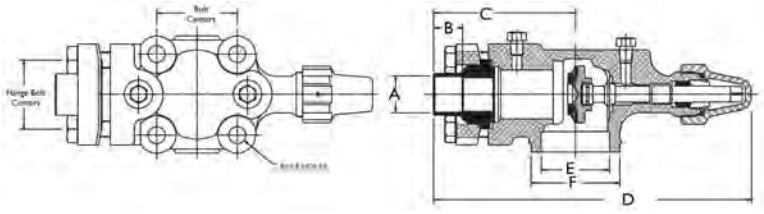
* Does not include seat and stem

Cast Iron Compressor Valves

Four-Bolt Flange Union, Solder

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop



Valve Part Number	Kit Part Number *	A		B		C		D		E		F		Bolt Centers		Bolt Hole Diameter		Pipe Plug Size in	Flange Bolt Centers		Seat Position	Valve Wt		Kit Wt	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		in	mm		lb	kg	lb	kg
A 15246		1 5/8	41	1.09	28	3.95	100	9.47	241	2.12	54	2.75	70	2.5	64	.53	13	1/4	2.12	64	Mid	9.37	4.25		
A 16321	A 17513	1 5/8	41	1.09	28	4.59	117	10.04	255	2.12	54	2.75	70	2.5	64	.53	13	1/4	2.12	64	Front	8.71	3.95	8.92	4.05
B 32337		1 5/8	41	1.09	28	3.95	100	9.47	241	2.12	54	2.75	70	2.5	64	.53	13	1/4	2.12	64	Front	9.07	4.11		
A 15586	A 17535	2 1/8	54	1.31	33	5.06	129	11.95	304	2.53	64	3.22	82	3.06	78	.69	17	1/4	3.06	78	Mid	17.43	7.91	17.64	8.00
A 16324	A 17523	2 1/8	54	1.31	33	5.06	129	11.95	304	2.53	64	3.22	82	3.06	78	.69	17	1/4	3.06	78	Front	17.47	7.92	18.69	8.48
B 33572		2 1/8	54	1.31	33	5.06	129	11.95	304	2.53	64	3.22	82	3.06	78	.69	17	1/4	3.06	78	Front	17.49	7.93		
B 34671		2 1/8	54	1.31	33	5.10	130	11.99	305	2.53	64	3.22	82	3.06	78	.69	17	1/4	3.06	78	Front	17.28	7.84		
A 15587		2 5/8	67	1.27	32	5.02	128	12.07	307	2.53	64	3.22	82	3.06	78	.69	17	1/4	3.06	78	Mid	20.30	9.21		
A 16366	A 17522	2 5/8	67	1.47	37	6.49	165	15.12	384	3.35	85	4.16	106	3.88	98	.69	17	1/4	3.88	98	Front	33.18	15.05	33.72	15.30
B 33568		2 5/8	67	1.27	32	5.02	128	11.90	302	2.53	64	3.22	82	3.06	78	.69	17	1/4	3.06	78	Front	20.23	9.18		
B 34661		2 5/8	67	1.47	37	6.49	165	15.12	384	3.35	85	4.16	106	3.88	98	.69	17	1/4	3.88	98	Front	30.80	13.97		
A 15588		3 1/8	79	1.22	31	5.94	151	14.60	371	3.35	85	4.16	106	3.88	98	.69	17	1/4	3.88	98	Mid	30.42	13.80		
A 16365	A 17521	3 1/8	79	1.22	31	5.94	151	14.60	371	3.35	85	4.16	106	3.88	98	.69	17	1/4	3.88	98	Front	30.59	13.88	33.77	15.32
B 33569		3 1/8	79	1.22	31	5.94	151	14.60	371	3.35	85	4.16	106	3.88	98	.69	17	1/4	3.88	98	Front	32.38	14.69		
A 17496		3 5/8	92	2.06	52	7.00	178	16.30	414	3.88	99	4.55	116	4.25	108	.69	17	1/4	4.25	108	Mid	34.01	15.43		
B 33788		3 5/8	92	2.06	52	7.00	178	16.30	414	3.88	99	4.55	116	4.25	108	.69	17	1/4	4.25	108	Front	34.01	15.43		
B 34670		3 5/8	92	2.06	52	7.00	178	16.30	414	3.89	99	4.55	115	4.25	108	.69	17	1/4	4.25	108	Front	36.43	16.52		
A 15589		4 1/8	105	1.97	50	7.22	183	17.50	445	4.38	111	5.13	130	4.81	122	.8125	21	1/4	4.81	122	Mid	49.80	22.59		

* Valve kit includes valve, gasket and bolts

** Replacement kit contains components to pack s

*** Seal cap and o-ring kit

Cast Iron Compressor Valves

Four-Bolt Flange Union, Solder

Torque To Seal													
Front Seat		Back Seat		Pack Gland		Pipe Plug	Plastic 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)	(ft-lb)	(N-m)
45 - 65	61 - 88	45 - 65	61 - 88			2 - 3 Threads Exposed	Hand Tight	Hand Tight	NA	NA	Hand Tight	Hand Tight

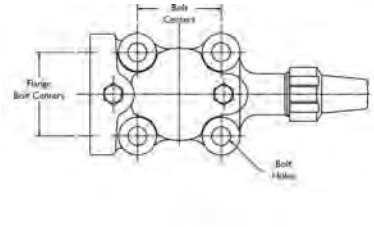
References										
Valve Part Number	Body Number	Standard Seal Cap			Replacement Seal Cap		Replace-ment Kit**	Valve Kit *	Manufacturer Reference	
		Material	Seal Cap	Kit***	Steel	Cast Iron			Carrier	Copeland
A 15246	A 09621	Plastic	N 02848	A 17667			A 17421			
A 16321	A 09621	Plastic	N 02848	A 17667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

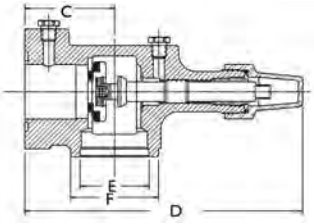
Cast Iron Compressor Valves

Four-Bolt Without Flange, Solder

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 100% tested
- Asbestos-free valve packing
- Valve openings designed for maximum flow and minimum pressure drop





Valve Part Number	C		D		E		F		Bolt Centers		Bolt Hole Diameter		Pipe Plug	Flange Bolt Centers		Seat Position	Valve Wt	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Size in	in	mm		lb	kg
B 33793	3.28	83	10.17	258	2.53	64	3.22	82	3.06	78	.69	17	1/4	3.06	78	2-3 Turns off Front	12.78	5.80
B 33794	3.78	96	12.44	316	3.35	85	4.16	106	3.88	98	.69	17	1/4	3.88	98	2-3 Turns off Front	22.20	10.07
B 34183	2.69	68	8.22	209	2.12	54	2.75	70	2.5	64	.53	13	1/4	2.12	64		6.91	3.13
B 34715	3.78	96	13.00	330	3.35	85	4.16	106	3.88	98	.69	17	1/4	3.88	98	2-3 Turns off Front	22.80	10.34
B 34761	3.28	83	10.17	258	2.53	64	3.22	82	3.06	78	.69	17	1/4	3.06	78	Front	13.00	5.90
B 35049	3.28	83	10.12	257	2.53	64	3.22	82	3.06	78	.69	17	1/4	3.06	78	Front	12.97	5.88

Torque To Seal

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

References

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

* Replacement kit contains components to pack s

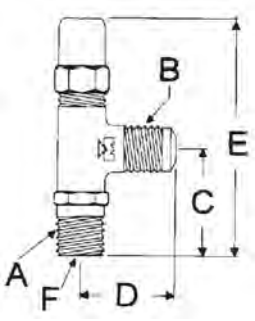
** Seal cap and o-ring kit

RoHS Compliant. Comply with ISO 9001 Standards.

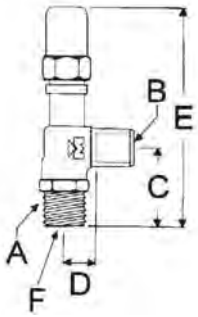
Packed Line Valves, Angle
Backseating

Features:

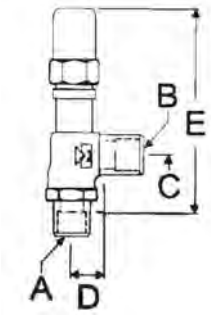
- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- Forged brass body
- Corrosion resistant stem suitable for refrigerants and other industrial fluids



NPTFE Inlet to Flare



NPTFE Inlet to Solder



Solder to Solder

NPTFE Inlet to Flare

Part Number	NPTFE A		Flare B		C		D		E		Counterbore Dim F				Standard Cap		Replacement Seal Cap			Wt	
											Diameter		Depth								
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Material	Seal Cap	Brass	Plastic	Steel	lb	kg
A 13183	1/2		5/8		1.81	46	1.50	38	4.64	118	.504	12.80	.375	9.53	Steel	A 04566	A 16474	P 34627	A 04566	0.58	0.26
A 13220	1/2		1/2		1.81	46	1.31	33	4.11	104	.504	12.80	.375	9.53	Steel	A 04566	A 16474	P 34627	A 04566	0.69	0.31

NPTFE Inlet to Solder

Part Number	NPTFE A		Solder B		C		D		E		Counterbore Dim F				Standard Cap		Replacement Seal Cap			Wt	
											Diameter		Depth								
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Material	Seal Cap	Brass	Plastic	Steel	lb	kg
A 13977	1/2	13	1/2	13	1.81	46	1.00	25	4.11	104	.504	12.80	.375	9.53	Steel	A 04566	A 16474	P 34627	A 04566	0.45	0.20
A 13978	1/2	13	5/8	17	1.80	46	1.00	25	4.70	119	.504	12.80	.375	9.53	Steel	A 04566	A 16474	P 34627	A 04566	0.55	0.25
A 13979	3/4	19	7/8	22	2.10	53	1.00	25	6.02	153	.754	19.15	.625	15.88	Plastic	P 34632	A 16474	P 34627	A 04566	1.24	0.56

Solder to Solder

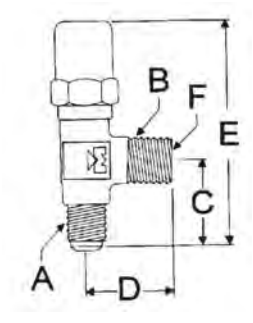
Part Number	A		B		C		D		E		Standard Cap		Replacement Seal Cap			Packing Kit	Wt	
											Material	Seal Cap	Brass	Plastic	Steel		lb	kg
	in	mm	in	mm	in	mm	in	mm	in	mm								
A 17506	5/8	17	5/8	17	0.91	23	1.00	25	4.20	107	Steel	A 04566	A 16474	P 34627	A 04566	A 17420	0.66	0.30
B 32080	7/8	22	7/8	22	2.28	58	1.75	44	6.20	157	Plastic	P 34632	A 16474	P 34632	A 04566	A 17420	0.99	0.45

Packed Line Valves, Angle

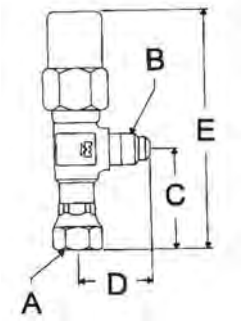
Non-Backseating

Features:

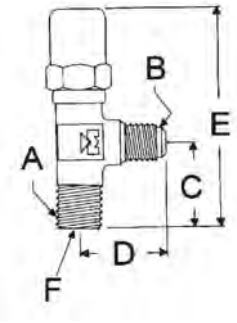
- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- Forged brass body
- Corrosion resistant stem suitable for refrigerants and other industrial fluids



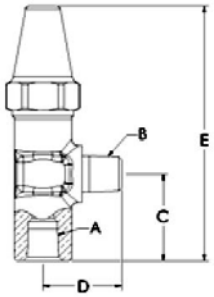
Flare to NPTFE



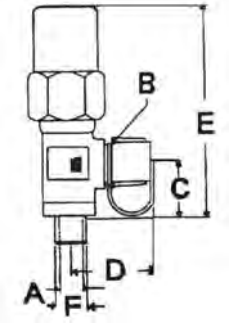
Internal Swivel Fl x Fl



NPTFE Inlet to Flare



NPTFE x NPTFI



Solder to Flare

Flare to NPTFE

Part Number		Flare A	NPTFE B		C		D		E		Counterbore Dim F				Standard Cap		Replacement Seal Cap			Wt	
											Diameter		Depth		Material	Seal Cap	Brass	Plastic	Steel		
		in	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm						lb	kg
A 15073	#	1/4	1/4		0.94	24	1.00	25	2.96	75	.254	6.45	.31	7.87	Steel	A 04566	A 16474	P 34627	A 04566	0.43	0.19

Torque			
Pack Gland		Seal Cap	
ft-lb	N-m	ft-lb	N-m
8 - 12	11 - 16	20 - 30	27 - 41

Internal Swivel Flare to Flare

Part Number		Flare A	Flare B	C		D		E		Torque				Standard Cap		Replacement Seal Cap			Wt	
										Pack Gland		Seal Cap		Material	Seal Cap	Brass	Plastic	Steel		
		in	in	in	mm	in	mm	in	mm	ft-lb	N-m	ft-lb	N-m						lb	kg
B 33803	**	1/4	1/4	1.47	37	1.06	27	3.90	99	8 - 12	11 - 16	6 - 10	8 - 14	Steel	A 04566	A 16474	P 34627	A 04566	0.34	0.16
A 17429	***	1/4	1/4	1.47	37	1.06	27	3.49	89	8 - 12	11 - 16	inger Tigh	inger Tigh	Plastic	P 34627	A 16474	P 34627	A 04566	0.23	0.10
B 34247	****	1/4	1/4	1.47	37	1.06	27	3.90	99	8 - 12	11 - 16	20 - 30	27 - 41	Brass	A 16474	A 16474	P 34627	A 04566	0.34	0.16
A 17474	**	3/8	3/8	1.52	39	1.12	28	3.55	90	8 - 12	11 - 16	6 - 10	8 - 14	Steel	A 04566	A 16474	P 34627	A 04566	0.27	0.12
B 34261	****	3/8	3/8	1.52	39	1.12	28	3.55	90	8 - 12	11 - 16	20 - 30	27 - 41	Brass	A 16474	A 16474	P 34627	A 04566	0.42	0.19

RoHS Compliant. Comply with ISO 9001 Standards.

Packed Line Valves, Angle
Non-Backseating

NPTFE Inlet to Flare

Part Number		NPTFE A	Flare B		C		D		E		Counterbore Dim F Diameter		Counterbore Dim F Depth		Standard Cap Material	Standard Cap Seal Cap	Replacement Seal Cap Brass	Replacement Seal Cap Plastic	Replacement Seal Cap Steel	Wt lb	Wt kg
		in	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm							
A 11031		1/4	1/4		1.00	25	0.94	24	3.02	77	.254	6.45	.31	7.87	Steel	A 04566	A 16474	P 34627	A 04566	0.28	0.13
A 16472	*	1/4	1/4		1.00	25	0.94	24	3.02	77	.254	6.45	.31	7.87	Brass	A 16474	A 16474	P 34627	A 04566	0.29	0.13
A 11030		1/4	3/8		1.06	27	1.12	28	3.10	79	.317	8.05	.31	7.87	Steel	A 04566	A 16474	P 34627	A 04566	0.25	0.11
B 33964	###	1/4	1/4		1.00	25	0.94	24	3.02	77	.254	6.45	.31	7.87	Steel	A 04566	A 16474	P 34627	A 04566	0.31	0.14
A 13613		3/8	1/4		1.12	28	1.06	27	3.14	80	.379	9.63	.31	7.87	Steel	A 04566	A 16474	P 34627	A 04566	0.48	0.22
A 13503		3/8	3/8		1.12	28	1.12	28	3.15	80	.379	9.63	.5	12.70	Steel	A 04566	A 16474	P 34627	A 04566	0.34	0.15
A 11042		3/8	1/2		1.38	35	1.38	35	3.77	96	.379	9.63	.31	7.87	Steel	A 00409				0.51	0.23

NPTFE x NPTFI, NPTFI x NPTFE

Part Number		A	B	C		D		E		Torque Pack Gland		Standard Cap Material	Standard Cap Seal Cap	Replacement Seal Cap Brass	Replacement Seal Cap Plastic	Replacement Seal Cap Steel	Wt lb	Wt kg
		in	in	in	mm	in	mm	in	mm	ft-lb	N-m							
A 13502	NPTFE X NPTFI	1/4	1/4	1.38	35	1.06	27	3.78	96	8 - 12	11 - 16	Steel	A 00409				0.49	0.22
B 32222	NPTFI X NPTFE	1/4	1/4	1.25	32	1.12	28	3.64	92	8 - 12	11 - 16	Steel	A 00409				0.51	0.23

Solder to Flare

Part Number ^		Solder	Flare B	C		D		E		F ODE		Torque Pack Gland		Torque Seal Cap		Standard Cap Material	Standard Cap Seal Cap	Replacement Seal Cap Brass	Replacement Seal Cap Plastic	Replacement Seal Cap Steel	Wt lb	Wt kg
		in	in	in	mm	in	mm	in	mm	in	mm	ft-lb	N-m	ft-lb	N-m							
A 17502	**	1/4	1/4	0.71	18	1.03	26	2.75	70	3/8	10	8 - 12	11 - 16	6 - 10	8 - 14	Steel	A 04566	A 16474	P 34627	A 04566	0.30	0.14
B 34252	***	1/4	1/4	0.71	18	1.03	26	2.75	70	3/8	10	8 - 12	11 - 16	20 - 30	27 - 41	Brass	A 16474	A 16474	P 34627	A 04566	0.31	0.14
B 35161	##	1/4	1/4	0.71	18	1.03	26	2.75	70	3/8	10	8 - 12	11 - 16	6 - 10	8 - 14	Steel	A 04566	A 16474	P 34627	A 04566	0.31	0.14
A 17503	**	3/8	3/8	0.69	18	1.50	38	2.72	69	1/2	13	8 - 12	11 - 16	6 - 10	8 - 14	Steel	A 04566	A 16474	P 34627	A 04566	0.49	0.22
B 34255	***	3/8	3/8	0.69	18	1.27	32	2.72	69	1/2	13	8 - 12	11 - 16	20 - 30	27 - 41	Brass	A 16474	A 16474	P 34627	A 04566	0.37	0.17
B 35160	##	3/8	3/8	0.69	18	1.50	38	2.72	69	1/2	13	8 - 12	11 - 16	6 - 10	8 - 14	Steel	A 04566	A 16474	P 34627	A 04566	0.38	0.17
B 34288	***	3/8	3/8	0.69	18	1.50	38	2.72	69	1/2	13			FT	FT	Plastic	P 34627	A 16474	P 34627	A 04566	0.31	0.14

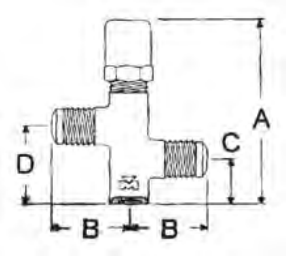
#	Machined to accept OD size tube as indicated.
##	Steel Seal Cap, Loosely Assembled
###	Cap finger tight for shipping
*	Brass Seal Cap
**	Steel Seal Cap
***	Plastic Seal Cap
****	Brass Seal Cap, includes copper gasket
^	3/8 Solder also 1/2 FTG
^	1/4 Solder also 3/8 FTG

Packed Line Valves

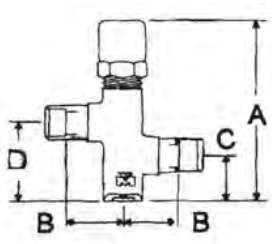
Two-Way

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- Forged brass body
- Corrosion resistant stem suitable for refrigerants and other industrial fluids
- Asbestos-free stem packing material



Flare to Flare



Solder to Solder

Flare to Flare

Part Number	Size	A		B		C		D		Standard Cap	Replacement Seal Cap				Wt	
										Material	Seal Cap	Brass	Plastic	Steel		
	in	in	mm	in	mm	in	mm	in	mm						lb	kg
A 13591	1/4	3.48	88	1.00	25	0.94	24	1.44	37	Steel	A 04566	A 16474	P 34627	A 04566	0.43	0.20
B 33482	1/4	3.40	86	1.00	25	0.90	23	1.40	36	Brass	A 16474	A 16474	P 34627	A 04566	0.51	0.23
A 13595	3/8	3.40	86	1.12	28	0.90	23	1.40	36	Steel	A 04566	A 16474	P 34627	A 04566	0.48	0.22
A 13592	1/2	3.40	86	1.25	32	0.94	24	1.44	37	Steel	A 04566	A 16474	P 34627	A 04566	0.50	0.22

Solder to Solder

Part Number	Size	A		B		C		D		Standard Cap	Replacement Seal Cap				Wt	
										Material	Seal Cap	Brass	Plastic	Steel		
	in	in	mm	in	mm	in	mm	in	mm						lb	kg
A 15580	1/4	3.40	86	0.75	19	0.94	24	1.44	37	Steel	A 04566	A 16474	P 34627	A 04566	0.42	0.19
A 15581	3/8	3.40	86	0.93	24	0.90	23	1.40	36	Steel	A 04566	A 16474	P 34627	A 04566	0.45	0.20
A 15582	1/2	3.40	86	0.87	22	0.90	23	1.40	36	Steel	A 04566	A 16474	P 34627	A 04566	0.54	0.25

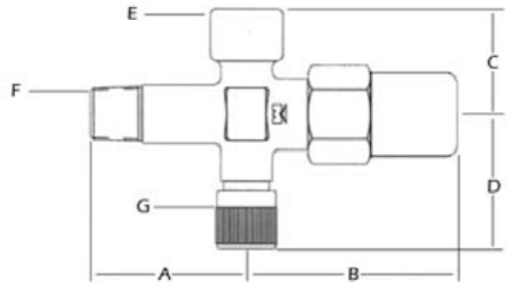
* Includes steel cap and copper gasket

** Includes brass cap and copper gasket

Transducer Valves

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- Forged brass body
- Plated steel stem suitable for refrigerants and other industrial fluids non-corrosive to brass and steel
- Asbestos-free stem packing material



NPTFI x NPTFE

Part Number		A		B		D		E NPTFI	F NPTFE	Standard Cap		Replacement Seal Cap			Wt	
		in	mm	in	mm	in	mm	in	in	Material	Seal Cap	Brass	Plastic	Steel	lb	kg
B 33837		1.50	38	2.00	51	1.25	32	1/8	1/4	Steel	A 04566	A 16474	P 34627	A 04566	0.42	0.19
B 34254		1.50	38	2.00	51	1.25	32	1/8	1/4	Brass	A 16474	A 16474	P 34627	A 04566	0.41	0.18
B 34287	*	1.50	38	2.00	51	1.25	32	1/4	1/4	Plastic	P 34627	A 16474	P 34627	A 04566	0.35	0.16
B 35334	**	1.50	38	2.00	51	1.25	32	1/4	1/4	Plastic	P 34627	A 16474	P 34627	A 04566	0.34	0.16

NPTFI x ODS

Part Number	A		B		D		E NPTFI	F NPTFE	Standard Cap		Replacement Seal Cap			Wt	
	in	mm	in	mm	in	mm	in	in	Material	Seal Cap	Brass	Plastic	Steel	lb	kg
B 35162	1.50	38	2.00	51	1.25	32	1/8	3/8	Steel	A 04566	A 16474	P 34627	A 04566	0.43	0.20

* Valve core not installed

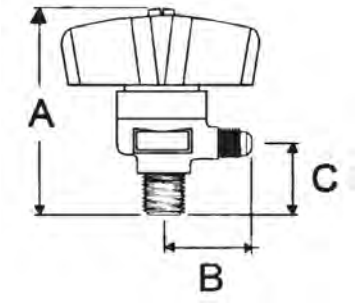
** Valve core shipped loosely assembled

Packless Diaphragm Valves

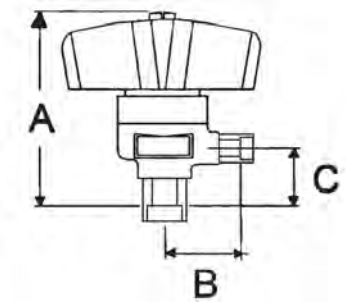
Angle

Features:

- Maximum abnormal pressure (MAP) with the flow in the direction of the arrow on the body: 700 psig, 48 bar
- Maximum abnormal pressure (MAP) with the flow against the direction of the arrow on the body: 300 psig, 24 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Listed, Conforms to Pressure Equipment Directive 97/23/EC
- Forged brass body with full size openings for maximum flow and minimum pressure drop
- Diaphragms for positive isolation
- Thermally stable hand wheel for operation in wide temperature ranges



NPTFE to Flare



Solder to Solder

NPTFE to Flare

Part Number	NPTFE	Flare	A Open		B		C Min		Wt	
	in	in	in	mm	in	mm	in	mm	lb	kg
A 15525	1/4	1/4	2.82	72	1.30	33	1.04	26	0.71	0.32
A 15526	1/4	3/8	2.82	72	1.42	36	1.04	26	0.45	0.20
A 15530	1/2	1/2	3.70	94	1.86	47	1.44	37	1.17	0.53
A 15531	1/2	5/8	3.70	94	1.94	49	1.44	37	1.18	0.54

Solder to Solder

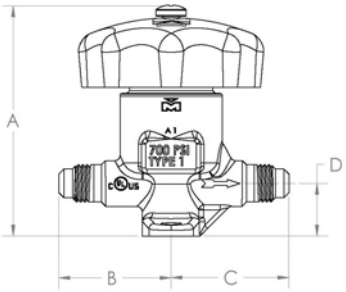
Part Number	OD		A Open		B		C		Wt	
	in	mm	in	mm	in	mm	in	mm	lb	kg
A 15539	1/4	6	2.85	72	1.11	28	0.76	19	0.69	0.31
A 15541	1/2	13	3.70	94	1.56	40	1.06	27	1.14	0.52
A 15542	5/8	17	3.70	94	1.44	37	0.94	24	1.14	0.52

RoHS Compliant. Comply with ISO 9001 Standards.

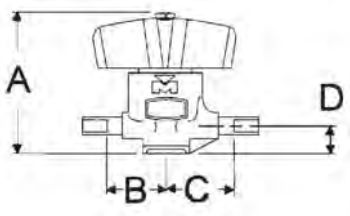
Packless Diaphragm Valves
Straight

Features:

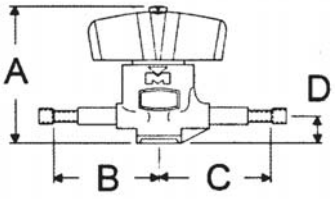
- Maximum abnormal pressure (MAP) with the flow in the direction of the arrow on the body: 700 psig, 48 bar
- Maximum abnormal pressure (MAP) with the flow against the direction of the arrow on the body: 300 psig, 24 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Listed, Conforms to Pressure Equipment Directive 97/23/EC
- Forged brass body with full size openings for maximum flow and minimum pressure drop
- Diaphragms for positive isolation
- Thermally stable hand wheel for operation in wide temperature ranges



Flare to Flare



Solder to Solder



Solder to Solder Ext Ends

Flare to Flare

Part Number	Size	A Open		B		C		D		Wt	
	in	in	mm	in	mm	in	mm	in	mm	lb	kg
A 14833	1/4	2.70	69	1.32	34	1.38	35	0.62	16	0.59	0.27
A 14835	3/8	2.70	69	1.36	35	1.42	36	0.62	16	0.60	0.27
A 14836	1/2	3.46	88	1.62	41	1.86	47	0.84	21	1.03	0.47
A 14837	5/8	3.46	88	1.70	43	1.93	49	0.84	21	1.05	0.48

Solder to Solder

Part Number	Size		A Open		B		C		D		Wt	
	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
A 14838	1/4	6	2.70	69	1.04	26	1.10	28	0.62	16	0.57	0.26
A 14840	3/8	10	2.70	69	1.04	26	1.10	28	0.62	16	0.57	0.26
A 14841	1/2	13	3.49	89	1.32	34	1.56	40	0.84	21	0.97	0.44
A 14842	5/8	17	3.49	89	1.20	30	1.44	37	0.84	21	1.00	0.45

Solder to Solder Ext Ends

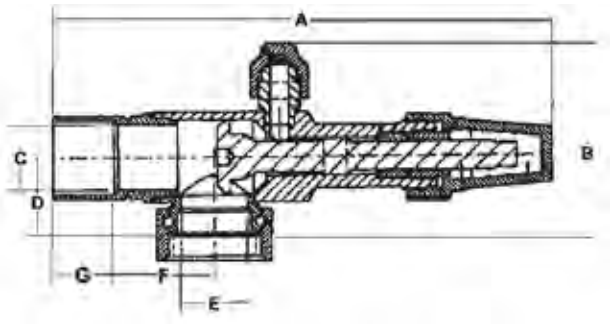
Part Number	Size		A Open		B		C		D		Wt	
	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
A 14848	1/4	6	2.70	69	2.66	68	2.72	69	0.62	16	0.86	0.39
A 14850C	3/8	10	2.70	69	2.82	72	2.88	73	0.62	16	0.62	0.28
A 14851	1/2	13	3.49	89	3.04	77	3.28	83	0.84	21	1.06	0.48
A 14852	5/8	17	3.49	89	3.11	79	3.35	85	0.84	21	1.17	0.53

Brass Angle Isolation Valves

Solder to Rotolock

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 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



Part Number		Size	Cv	Kv	A		B		C		D		E		F		Flare Size	Wt		Packing Kit
					in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	lb	kg	
B 34418	*	5/8 X 1 THD	6.00	5.19	5.35	136	2.25	57	0.55	14	0.93	24	0.55	14	0.17	4	1/4	0.68	0.31	A 17420
B 34417	*	7/8 X 1 1/4 THD	15.00	12.97	6.56	167	2.40	61	0.75	19	1.07	27	0.75	19	1.27	32	1/4	1.33	0.61	A 17419
B 34415	**	1 3/8 X 1 3/4 THD	38.00	32.87	9.52	242	3.22	82	1.25	32	1.41	36	1.25	32	1.91	49	3/8	3.26	1.48	A 17419
B 34414	**	1 5/8 X 2 1/4 THD	53.00	45.84	10.04	255	3.35	85	1.50	38	1.58	40	1.50	38	2.19	56	3/8	4.26	1.93	A 17419

Torque To Seal

Part Number	Front Seat		Back Seat		Pack Gland		Rotolock Nut		Plastic Cap	Brass Cap	
	(ft-lb)	(N-m):	(ft-lb)	(N-m):	(ft-lb)	(N-m):	(ft-lb)	(N-m):		(ft-lb)	(N-m)
B 34418	16 - 18	22 - 24	16 - 18	22 - 24	8 - 12	11 - 16	40 - 50	54 - 68	Finger Tight		
B 34417	22 - 40	30 - 54	25 - 45	34 - 61	15 - 20	20 - 27	60 - 80	81 - 109	Finger Tight		
B 34415	22 - 40	30 - 54	25 - 45	34 - 61	15 - 20	20 - 27	60 - 80	81 - 109		40 - 50	54 - 68
B 34414	22 - 40	30 - 54	25 - 45	34 - 61	15 - 20	20 - 27	80 - 100	109 - 136		40 - 50	54 - 68

Rotolock Couplings and Line Break Kits

Union Size	Male Spud	Gasket	Line Break Kit ****
1 1/8	S 36173	P 36168	A 17910
1 3/8	S 36171	P 36169	A 17912
1 5/8	S 36164	P 36167	A 17908

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

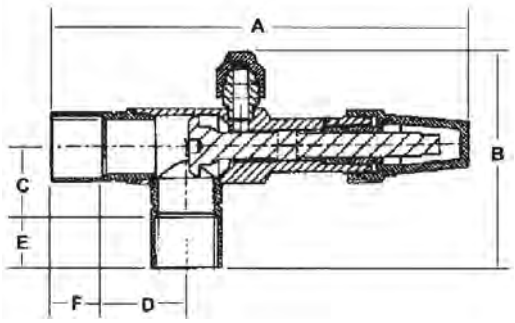
RoHS Compliant. Comply with ISO 9001 Standards.

Brass Angle Isolation Valves

Solder to Solder

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 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



Part Number		Size	Cv	Kv	A		B		C		D		E		F		Flare Size	Wt		Packing Kit
					in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	lb	kg	
B 34413	*	5/8 X 5/8	6.00	5.19	5.38	137	2.58	66	0.84	21	1.17	30	0.50	13	0.50	13	1/4	0.56	0.25	A 17420
B 34412	*	7/8 X 7/8	15.00	12.97	6.52	166	3.09	78	0.91	23	1.27	32	0.75	19	0.75	19	1/4	1.10	0.50	A 17419
B 35224	*	1 1/8 X 1 1/8	25.00	21.62	7.58	193	3.77	96	1.31	33	1.50	38	0.94	24	0.94	24	3/8	1.85	0.84	A 17419
B 34778	**	1 1/8 X 1 1/8			7.58	193	3.77	96	1.31	33	1.50	38	1.00	25	0.94	24	3/8	2.06	0.93	A 17419
B 34594	**	1 3/8 X 1 3/8	38.00	32.87	9.52	242	4.14	105	1.50	38	1.91	49	1.00	25	1.00	25	3/8	2.87	1.30	A 17419
B 35291	**	1 3/8 X 1 3/8	38.00	32.87	9.52	242	4.14	105	1.50	38	1.91	49	1.00	25	1.00	25	1/4	2.99	1.36	A 17419
B 34595	**	1 5/8 X 1 5/8	53.00	45.84	9.98	253	4.62	117	1.75	44	2.19	56	1.09	28	1.09	28	3/8	3.89	1.76	A 17419

Torque To Seal

Part Number	Front Seat		Back Seat		Pack Gland		Plastic Cap	Brass Cap	
	(ft-lb)	(N-m):	(ft-lb)	(N-m):	(ft-lb)	(N-m):		(ft-lb)	(N-m)
B 34413	16 - 18	22 - 24	16 - 18	22 - 24	8 - 12	11 - 16	Finger Tight		
B 34412	22 - 40	30 - 54	25 - 45	34 - 61	15 - 20	20 - 27	Finger Tight		
B 35224	22 - 40	30 - 54	25 - 45	34 - 61	15 - 20	20 - 27	Finger Tight		
B 34778	22 - 40	30 - 54	25 - 45	34 - 61	15 - 20	20 - 27		40 - 50	54 - 68
B 34594	22 - 40	30 - 54	25 - 45	34 - 61	15 - 20	20 - 27		40 - 50	54 - 68
B 35291	22 - 40	30 - 54	25 - 45	34 - 61	15 - 20	20 - 27		40 - 50	54 - 68
B 34595	22 - 40	30 - 54	25 - 45	34 - 61	15 - 20	20 - 27		40 - 50	54 - 68

* Plastic Cap

** Brass Cap

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

Pressure Relief Valves

Selection Process

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 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 inf 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.

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.

Relief valves conform to the American Standard Safety Code for Mechanical Refrigeration (ANSI/SHARAE 15), and are designed and manufactured in accordance with ASME Section VIII Division I., 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.

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 the allowable safe levels.

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 = fDL where:

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

D = outside diameter of vessel, ft (m)

L = length of the vessel, ft (m)

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

Example of relief valve selection:

Information for vessel being protected:

Diameter = 1.33 ft

Length= 3.33 ft

Working Pressure = 350 psi

Information from the table for f values:

Application = R-22

Value of f = 1.6

From the information provided, the required discharge capacity to protect the vessel is determined by solving the minimum disc capacity formula: C=f D L

C= (1.6) (3.33) (1.33)

C = 7.1 lbs of air/min

Using the calculated discharge 7.1 lbs of air/min and the required pressure of 350 psi, we can select from the product offering.

Using the discharge capacity table, select the row for 350 psi. Valves with capacities that meet the minimum discharge requirer 7.1, are viable options. Discharge table values A-K allows for selection of a valve based on the inlet and outlet sizes and configurations.

If the desired valve is to have a 3/8" NPTFE inlet and 3/8" Flare outlet, with the outlet being 90°, valve A 15512 is acceptable sin has a discharge table rating of B.

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

Pressure Relief Valves

Certification and Part Number Explanation

Certifications:

Conforms to ASME Section VIII, Division 1 and The National Board of Boiler and 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 3 Certificate: A Certificate of Conformance can be provided based on customer request at the time of order placement. A serialized certificate can be proviced to document the pressure setting of each valve at the point of production.

Level 2 Certificate: A Certificate of Conformance an 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 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.

Part Number Explanation:

Pressure Relief Valves are prefixed to designate the desired pressure setting.

To determine the applicable prefix, see chart below.

PSIG	Prefix	PSIG	Prefix	PSIG	Prefix	PSIG	Prefix
235	D	400	H	500	L	650	O
300	E	425	I	550	M	700	P
350	G	450	J	600	N		

For valves required at non-standard pressure settings listed above, use the chart below to determine prefix by selecting the range at which your requirement falls into. Follow the part number with the exact pressure setting you require.

PSIG Range	Prefix	PSIG Range	Prefix
70 - 249	Q	451 - 549	X
251 - 349	R	551 - 699	W
351 - 449	S		

Examples of part numbers using prefixes for the A 15502 relief valve:

Part Number	Pressure Setting
AD15502	235 psig
AJ15502	450 psig
AL15502	500 psig
AP15502	700 psig
AQ15502-75	75 psig
AQ15502-240	240 psig
AW15502-560	560 psig
AW15502-625	625 psig

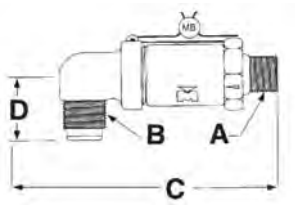
Pressure Relief Valves

Angle NPTFE to Flare

Features:

- Continuous operating temperature (COT): -40°F/300°F, -40°C/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 other 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
- Conforms to Pressure Equipment Directive 97/23/EC, CRN, Compatible with all CFC, HCFC and HFC refrigerants and oils

Part Number ***	NPTFE A (in)	Flare Outlet B	C (in)	C (mm)	D(in)	D (mm)	Wt (lb)	Wt (kg)	Discharge Table	Working Pressure
A 15512	3/8	3/8	2.43	62	1.21	31	0.37	0.17	B	150 - 700 psi
A 15513	3/8	1/2	2.43	62	1.34	34	0.37	0.17	B	150 - 700 psi
B 33746	1/4	3/8	2.43	62	1.21	31	0.34	0.15	B	150 - 700 psi
B 33754	1/4	1/2	2.43	62	1.34	34	0.43	0.19	B	150 - 700 psi
A 15514	1/2	5/8	4.10	104	1.56	40	1.02	0.46	C	150 - 700 psi



Prefix ***	PSIG	Discharge Capacity (lb air/min)										BAR	Discharge Capacity (kg air/min)									
		A	B	C	D	E	F	G	H	J	K		A	B	C	D	E	F	G	H	J	K
D	235	4.3	9.1	20.1	33.7	55.9	91.8	39.0		60.6	90.3	16	2.0	4.1	9.1	15.3	25.4	41.6	17.7		27.5	41.0
E	300	5.4	11.5	25.4	42.5	70.5	115.8	49.2		76.5	113.9	21	2.4	5.2	11.5	19.3	32.0	52.5	22.3		34.7	51.7
G	350	6.3	13.3	29.5	49.3	81.8	134.3	57.1		88.7	132.1	24	2.9	6.0	13.4	22.4	37.1	60.9	25.9		40.2	59.9
H	400	7.1	15.2	33.5	56.1	93.0	152.7	64.9			150.3	28	3.2	6.9	15.2	25.4	42.2	69.3	29.4			68.2
I	425	7.6	16.1	35.6	59.5	98.6	162.0	68.8			159.4	29	3.4	7.3	16.1	27.0	44.7	73.5	31.2			72.3
J	450	8.0	17.0	37.6	62.9	104.3	171.2	72.8			168.5	31	3.6	7.7	17.1	28.5	47.3	77.7	33.0			76.4
L	500		18.8									34		8.5								
M	550		20.7	45.6								38		9.4	20.7							
N	600		22.5	49.7					88.9			41		10.2	22.5					40.3		
O	650		24.3	53.7					96.2			45		11.0	24.4					43.6		
P	700		26.2	57.8					103.4			48		11.9	26.2					46.9		

*****Standard Pressure Setting Part Number Prefixes:**

PSIG	Prefix	PSIG	Prefix	PSIG	Prefix	PSIG	Prefix
235	D	400	H	500	L	650	O
300	E	425	I	550	M	700	P
350	G	450	J	600	N		

*****Non-Standard Pressure Setting Part Number Prefixes:**

PSIG Range	Prefix	PSIG Range	Prefix	
70 - 249	Q	451 - 549	X	Follow the part number with the pressure setting required.
251 - 349	R	551 - 699	W	
351 - 449	S			

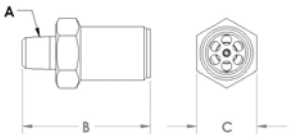
Examples of part numbers are listed on page 48

Pressure Relief Valves

Atmospheric - NPTFE Inlet

Features:

- Temperature Range: -40°F/300°F, -40°C/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 other 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
- Conforms to Pressure Equipment Directive 97/23/EC, CRN, Compatible with all CFC, HCFC and HFC refrigerants and oils



Part Number ***	NPTFE Inlet A (in)	B (in)	B (mm)	C (in)	C (mm)	Wt (lb)	Wt (kg)	Discharge Table	Working Pressure
A 15508	1/8	1.88	48	0.75	19	0.12	0.05	A	150 - 450 psi
A 15509	1/4	2.00	51	0.75	19	0.14	0.06	A	150 - 450 psi
A 17430	3/8	2.12	54	1.00	25	0.25	0.11	B	150 - 700 psi
B 33755	1/4	2.12	54	1.00	25	0.30	0.14	B	150 - 700 psi

Prefix ***	PSIG	Discharge Capacity (lb air/min)									
		A	B	C	D	E	F	G	H	J	K
D	235	4.3	9.1	20.1	33.7	55.9	91.8	39.0		60.6	90.3
E	300	5.4	11.5	25.4	42.5	70.5	115.8	49.2		76.5	113.9
G	350	6.3	13.3	29.5	49.3	81.8	134.3	57.1		88.7	132.1
H	400	7.1	15.2	33.5	56.1	93.0	152.7	64.9			150.3
I	425	7.6	16.1	35.6	59.5	98.6	162.0	68.8			159.4
J	450	8.0	17.0	37.6	62.9	104.3	171.2	72.8			168.5
L	500		18.8	41.6							
M	550		20.7	45.6							
N	600		22.5	49.7					88.9		
O	650		24.3	53.7					96.2		
P	700		26.2	57.8					103.4		

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
34		8.5	18.9							
38		9.4	20.7							
41		10.2	22.5					40.3		
45		11.0	24.4					43.6		
48		11.9	26.2					46.9		

*****Standard Pressure Setting Part Number Prefixes:**

PSIG	Prefix	PSIG	Prefix	PSIG	Prefix	PSIG	Prefix
235	D	400	H	500	L	650	O
300	E	425	I	550	M	700	P
350	G	450	J	600	N		

*****Non-Standard Pressure Setting Part Number Prefixes:**

PSIG Range	Prefix	PSIG Range	Prefix	
70 - 249	Q	451 - 549	X	Follow the part number with the pressure setting required.
251 - 349	R	551 - 699	W	
351 - 449	S			

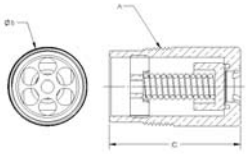
Examples of part numbers are listed on page 48

Pressure Relief Valves
Internal

Features:

- Temperature Range: -40°F/300°F, -40°C/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 other 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
- Conforms to Pressure Equipment Directive 97/23/EC, CRN, Compatible with all CFC, HCFC and HFC refrigerants and oils

Part Number ***	NPTFE A (in)	B (in)	B (mm)	C (in)	C (mm)	Wt (lb)	Wt (kg)	Discharge Table	Working Pressure
B 34425	3/4	1.65	42	1.13	29	0.36	0.16	B	150 - 700 psi
A 17970	1	2.37	60	1.31	33	0.57	0.26	I	150 - 450 psi
A 18473	1 1/2	3.14	80	1.90	48	1.73	0.78	F	150 - 450 psi



Prefix ***	PSIG	Discharge Capacity (lb air/min)									
		A	B	C	D	E	F	G	H	J	K
D	235	4.3	9.1	20.1	33.7	55.9	91.8	39.0		60.6	90.3
E	300	5.4	11.5	25.4	42.5	70.5	115.8	49.2		76.5	113.9
G	350	6.3	13.3	29.5	49.3	81.8	134.3	57.1		88.7	132.1
H	400	7.1	15.2	33.5	56.1	93.0	152.7	64.9			150.3
I	425	7.6	16.1	35.6	59.5	98.6	162.0	68.8			159.4
J	450	8.0	17.0	37.6	62.9	104.3	171.2	72.8			168.5
L	500		18.8	41.6							
M	550		20.7	45.6							
N	600		22.5	49.7					88.9		
O	650		24.3	53.7					96.2		
P	700		26.2	57.8					103.4		

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
34		8.5	18.9							
38		9.4	20.7							
41		10.2	22.5					40.3		
45		11.0	24.4					43.6		
48		11.9	26.2					46.9		

*****Standard Pressure Setting Part Number Prefixes:**

PSIG	Prefix	PSIG	Prefix	PSIG	Prefix	PSIG	Prefix
235	D	400	H	500	L	650	O
300	E	425	I	550	M	700	P
350	G	450	J	600	N		

*****Non-Standard Pressure Setting Part Number Prefixes:**

PSIG Range	Prefix	PSIG Range	Prefix	
70 - 249	Q	451 - 549	X	Follow the part number with the pressure setting required.
251 - 349	R	551 - 699	W	
351 - 449	S			

Examples of part numbers are listed on page 48

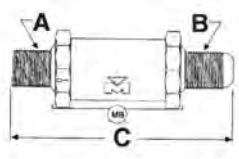
Pressure Relief Valves

Straight Thru

Features:

- Temperature Range: -40°F/300°F, -40°C/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 other 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
- Conforms to Pressure Equipment Directive 97/23/EC, CRN, Compatible with all CFC, HCFC and HFC refrigerants and oils

NPTFE Inlet to Flare Outlet



Part Number ****	NPTFE A (in)	Flare B (in)	C (in)	C (mm)	Wt (lb)	Wt (kg)	Discharge Table	Working Pressure
A 15501	1/4	3/8	2.65	67	0.20	0.09	A	150 - 450 psi
A 15502	3/8	3/8	2.81	71	0.34	0.15	B	150 - 700 psi
A 15503	3/8	1/2	3.00	76	0.35	0.16	B	150 - 700 psi
B 33752	1/4	3/8	2.81	71	0.00	0.00	B	150 - 700 psi
B 33753	1/4	1/2	3.00	76	0.41	0.18	B	150 - 700 psi
A 15504	1/2	5/8	4.20	107	0.84	0.38	C	150 - 700 psi
A 18737	3/8	5/8	4.20	107	0.96	0.44	C	150 - 700 psi
A 18783	3/8	1/2	4.20	107	0.96	0.44	C	150 - 700 psi

Prefix ***	PSIG	Discharge Capacity (lb air/min)									
		A	B	C	D	E	F	G	H	J	K
D	235	4.3	9.1	20.1	33.7	55.9	91.8	39.0		60.6	90.3
E	300	5.4	11.5	25.4	42.5	70.5	115.8	49.2		76.5	113.9
G	350	6.3	13.3	29.5	49.3	81.8	134.3	57.1		88.7	132.1
H	400	7.1	15.2	33.5	56.1	93.0	152.7	64.9			150.3
I	425	7.6	16.1	35.6	59.5	98.6	162.0	68.8			159.4
J	450	8.0	17.0	37.6	62.9	104.3	171.2	72.8			168.5
L	500		18.8	41.6							
M	550		20.7	45.6							
N	600		22.5	49.7					88.9		
O	650		24.3	53.7					96.2		
P	700		26.2	57.8					103.4		

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
34		8.5	18.9							
38		9.4	20.7							
41		10.2	22.5					40.3		
45		11.0	24.4					43.6		
48		11.9	26.2					46.9		

*****Standard Pressure Setting Part Number Prefixes:**

PSIG	Prefix	PSIG	Prefix	PSIG	Prefix	PSIG	Prefix
235	D	400	H	500	L	650	O
300	E	425	I	550	M	700	P
350	G	450	J	600	N		

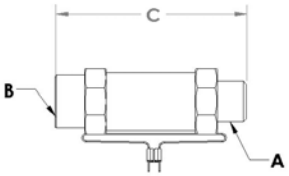
*****Non-Standard Pressure Setting Part Number Prefixes:**

PSIG Range	Prefix	PSIG Range	Prefix	
70 - 249	Q	451 - 549	X	Follow the part number with the pressure setting required.
251 - 349	R	551 - 699	W	
351 - 449	S			

Examples of part numbers are listed on page 41

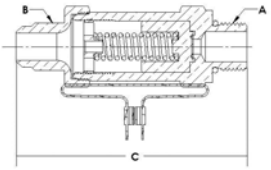
Pressure Relief Valves
Straight Thru

NPTFE Inlet to NPTFI Outlet



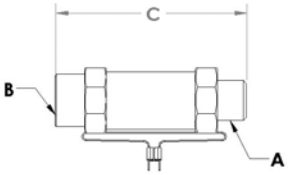
Part Number ****		NPTFE A (in)	NPTFI B (in)	C (in)	C (mm)	Wt (lb)	Wt (kg)	Discharge Table	Working Pressure
A 18736		3/8	3/4	4.00	102	0.97	0.44	C	150 - 700 psi
A 18762	PTFE Seat	1/2	3/4	4.00	102	0.97	0.44	C	150 - 700 psi
A 15506		3/4	3/4	4.95	126	1.53	0.69	D	150 - 450 psi
A 17840		1	1	4.60	117	1.45	0.66	E	150 - 450 psi
A 18735		3/4	1	4.60	117	1.49	0.68	E	150 - 450 psi
A 17834		1 1/4	1 1/4	4.94	125	2.00	0.91	F	150 - 450 psi
A 18387		1	1	4.94	125	1.81	0.82	F	150 - 450 psi
A 18356		1/2	1/2	3.99	101	0.96	0.43	G	150 - 450 psi
A 18357		1/2	3/4	3.99	101	0.89	0.40	G	150 - 450 psi
A 18358		3/4	3/4	3.99	101	0.93	0.42	G	150 - 450 psi
AW18422	*	3/4	3/4	4.95	126	1.60	0.73	H	600 - 700 psi
A 18424	*	1	1	4.77	121	1.58	0.72	J	150 - 350 psi
A 18425	*	1 1/4	1 1/4	5.24	133	2.17	0.99	K	150 - 450 psi
A 18444	*	1	1 1/4	5.24	133	1.98	0.90	K	150 - 450 psi

Straight Thread Inlet to Flare Outlet



Part Number ****	Inlet A (in)	Outlet B (in)	C (in)	C (mm)	Wt (lb)	Wt (kg)	Discharge Table	Working Pressure
B 35413	7/8 – 14 UNF – 2A	5/8	4.19	106	0.92	0.42	C	150 - 700 psi

Straight Thread Inlet to NPTFI Outlet



Part Number ****	Inlet A (in)	Outlet B (in)	C (in)	C (mm)	Wt (lb)	Wt (kg)	Discharge Table	Working Pressure
B 34444	7/8 - 14UNF - 2A	3/4	5.00	127	1.52	0.69	D	150 - 450 psi
B 34519	1 5/16 - 12UNF - 2S	1	4.38	111	1.37	0.62	E	150 - 450 psi
B 34580	1 5/8 - 12UNF - 2A	1 1/4	5.00	127	2.00	0.91	F	150 - 450 psi
A 18540	7/8 - 14UNF - 2A	3/4	3.99	101	0.96	0.44	G	150 - 450 psi

*****Standard Pressure Setting Part Number Prefixes:**

PSIG	Prefix	PSIG	Prefix	PSIG	Prefix	PSIG	Prefix
235	D	400	H	500	L	650	O
300	E	425	I	550	M	700	P
350	G	450	J	600	N		

*****Non-Standard Pressure Setting Part Number Prefixes:**

PSIG Range	Prefix	PSIG Range	Prefix	
70 - 249	Q	451 - 549	X	Follow the part number with the pressure setting required.
251 - 349	R	551 - 699	W	
351 - 449	S			

Examples of part numbers are listed on page 48

Rupture Disc and Pressure Gauge

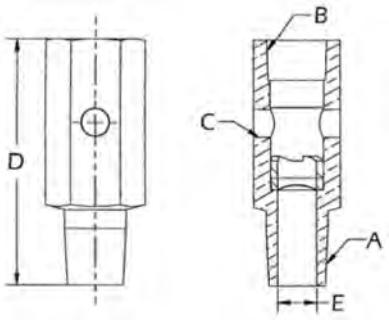
NPTFE X NPTFI

Features:

- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Conforms to Pressure Equipment Directive 97/23/EC Category 4 Product, Certified to meet ASME Code
- Wide range of pressure settings available
- One-piece brass design assures setting accuracy
- Non-fragmenting disc

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

Prefix	PSIG	Bar
D	235	16
E	300	21
G	350	24
H	400	28
I	425	29
J	450	31
L	500	34
M	550	38
N	600	41
O	650	45
P	700	48



Pressure Gauge
P 36214

Rupture Disc and Pressure Gauge

NPTFE X NPTFI

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.

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.

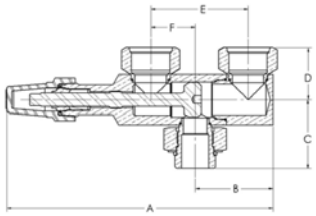
Users are warned that a rupture disc will not burst at its design pressure if back pressure build up in the space between the disc and the pressure relief valve which will occur should leakage develop in the rupture disc due to corrosion or other cause.

RELIEFMASTER®

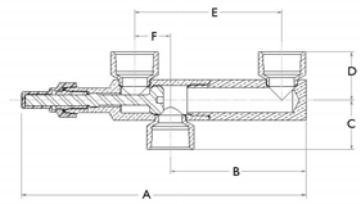
Change-Over Manifold

Features:

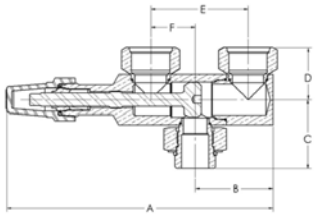
- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- Allows easy replacement of attached relief valves and rupture discs while the system is operative.
- Dual internal seats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



NPTFE X NPTFI



NPTFI X NPTFI



STRAIGHT THREAD

NPTFE X NPTFI

Part Number	Inlet NPTFE	Outlet NPTFI	A		B		C		D		E		F		Torques to Seal						Wt	
															Front Seat		Back Seat		Pack Gland			
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	(ft-lb)	(N-m):	(ft-lb)	(N-m):	(ft-lb)	(N-m):	lb	kg
A 17921	1/2	1/2	5.98	152	1.75	44	1.76	35	1.36	35	2.04	52	0.75	19	16 - 18	22 - 24	16 - 18	22 - 24	8 - 12	11 - 16	1.20	0.54
A 17922	3/4	3/4	6.01	153	1.85	47	1.84	35	1.38	35	2.04	52	0.75	19	16 - 18	22 - 24	16 - 18	22 - 24	8 - 12	11 - 16	1.28	0.58
A 17923	1	1	8.51	216	2.44	62	2.39	49	1.94	49	3.13	80	1.70	43	22 - 40	30 - 54	22 - 45	30 - 61	15 - 25	20 - 34	4.55	2.06
A 17924	1 1/4	1 1/4	8.80	224	2.44	62	2.45	54	2.11	54	3.13	80	1.70	43	22 - 40	30 - 54	22 - 45	30 - 61	15 - 25	20 - 34	5.60	2.54

NPTFI X NPTFI

Part Number	Inlet NPTFE	Outlet NPTFI	A		B		C		D		E		F		Torques to Seal						Wt	
															Front Seat		Back Seat		Pack Gland			
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	(ft-lb)	(N-m):	(ft-lb)	(N-m):	(ft-lb)	(N-m):	lb	kg
B 35273	1 1/4	1 1/4	11.34	288	5.41	137	1.94	50	1.97	50	5.88	149	1.43	36	22 - 40	30 - 54	22 - 45	30 - 61	15 - 25	20 - 34	6.00	2.72

STRAIGHT THREAD

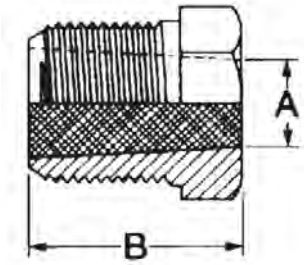
Part Number	Inlet	Outlet	A		B		C		D		E		F		Torques to Seal						Wt	
															Front Seat		Back Seat		Pack Gland			
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	(ft-lb)	(N-m):	(ft-lb)	(N-m):	(ft-lb)	(N-m):	lb	kg
B 34550	7/8-14UNF 2A	7/8-14UNF 2B	5.98	152	1.85	47	1.65	35	1.38	35	2.04	52	0.75	19	16 - 18	22 - 24	16 - 18	22 - 24	8 - 12	11 - 16	1.46	0.66
B 34559	1 5/16-12UNF 2A	1 5/16-12UNF 2B	8.53	217	2.50	64	2.22	43	1.69	43	3.13	80	1.43	36	22 - 40	30 - 54	22 - 45	30 - 61	15 - 25	20 - 34	3.14	1.42
B 34654	1 5/8-12UNF 2A	1 5/8-12UNF 2B	8.53	217	2.50	64	2.19	46	1.81	46	3.13	80	1.43	36	22 - 40	30 - 54	22 - 45	30 - 61	15 - 25	20 - 34	3.64	1.65

RoHS Compliant. Comply with ISO 9001 Standards.

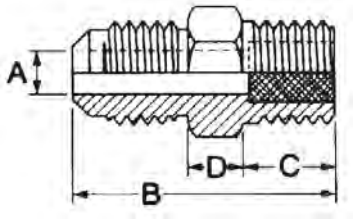
Fusible Pipe Plugs & Connectors

Features:

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



NPTFE



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	0.055
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

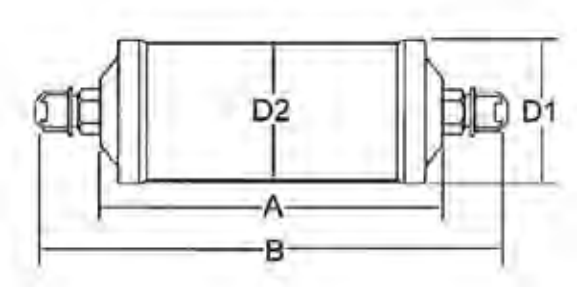
Half Union - Flare to NPTFE												
Cat Number	Part Number UL	Part Number CE	Size NPTFE	Hex	Flare	A (in)	B (in)	C (in)	D (in)	Melting Temp °F	Box Qty	Wt(lb)
FU-4B	A 14062		1/4	9/16	1/4	0.19	1.25	0.56	0.19	283	10	0.065
FU-6C	A 14064		3/8	11/16	3/8	0.28	1.44	0.56	0.25	283	10	0.126
FU-4B	A 14023	B 35127	1/4	9/16	1/4	0.19	1.25	0.56	0.19	210	10	0.057
FU-6C	A 14026		3/8	11/16	3/8	0.28	1.44	0.56	0.25	210	10	0.122
FU-4B	A 14024		1/4	9/16	1/4	0.19	1.25	0.56	0.19	168	10	0.048
FU-6C	A 14027		3/8	11/16	3/8	0.28	1.44	0.56	0.25	168	10	0.098

DRYMASTER® High Capacity Filter Driers

Liquid Line Flare Connection

Features:

- Maximum abnormal pressure (MAP): 700 psig
- Maximum working temperature: 160°F/70°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils, and refrigerants requiring XH-11 desiccant
- UL/cUL Listed, Conforms to Pressure Equipment Directive 97/23/EC
- Solid core design
- High retention filter for removal of particulate as small as 25 microns
- High pressure shell and connections
- Powder paint finish approved for marine applications
- 100% copper connection for solder models



Part Number	Model	Des. 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		R404A		R507		R22		R407C		R410A	
															75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F
A 18184	FL-032	3	1/4	2.57	4.29	1.85	1.69	0.44	2	1	1	2	2	2	82	70	87	78	80	71	80	71	74	52	59	51
A 18185	FL-033	3	3/8	2.57	4.81	1.85	1.69	0.54	3	3	2	4	4	4	82	70	87	78	80	71	80	71	74	52	59	51
A 18186	FL-052	5	1/4	2.94	4.66	2.32	2.10	0.57	2	1	1	2	2	2	157	131	166	146	152	132	152	132	137	90	103	90
A 18187	FL-053	5	3/8	2.94	5.18	2.32	2.10	0.66	4	3	3	4	4	4	157	131	166	146	152	132	152	132	137	90	103	90
A 18188	FL-082	8	1/4	3.98	5.71	2.32	2.10	0.75	2	1	1	2	2	2	255	212	269	237	246	215	246	215	222	145	166	144
A 18189	FL-083	8	3/8	3.98	6.22	2.32	2.10	0.85	4	3	3	4	4	4	255	212	269	237	246	215	246	215	222	145	166	144
A 18190	FL-084	8	1/2	3.98	6.54	2.32	2.10	0.91	8	6	6	8	8	8	255	212	269	237	246	215	246	215	222	145	166	144
A 18191	FL-162	16	1/4	4.33	6.05	3.12	2.92	1.43	2	1	1	2	2	2	473	402	498	444	459	405	459	405	419	296	330	291
A 18192	FL-163	16	3/8	4.33	6.57	3.12	2.92	1.52	4	3	3	5	4	4	473	402	498	444	459	405	459	405	419	296	330	291
A 18193	FL-164	16	1/2	4.33	6.89	3.12	2.92	1.59	9	7	7	10	9	10	473	402	498	444	459	405	459	405	419	296	330	291
A 18194	FL-165	16	5/8	4.33	7.25	3.12	2.92	7.70	12	9	9	13	13	14	473	402	498	444	459	405	459	405	419	296	330	291
A 18195	FL-303	30	3/8	7.33	9.57	3.15	3.00	3.24	4	3	3	5	4	4	949	813	999	893	925	817	925	817	846	607	673	595
A 18196	FL-304	30	1/2	7.33	9.89	3.15	3.00	3.30	9	7	7	10	10	10	949	813	999	893	925	817	925	817	846	607	673	595
A 18197	FL-305	30	5/8	7.33	10.25	3.15	3.00	3.40	13	10	10	15	14	15	949	813	999	893	925	817	925	817	846	607	673	595
A 18801	FL-306	30	3/4	7.33	10.17	3.15	3.00	3.51	12	11	11	15	15	17	949	813	999	893	925	817	925	817	846	607	673	595
A 18198	FL-413	41	3/8	7.35	9.59	3.65	3.50	4.40	5	3	3	5	5	5	1279	1095	1346	1204	1246	1101	1246	1101	1140	819	908	802
A 18199	FL-414	41	1/2	7.35	9.91	3.65	3.50	4.46	10	7	7	11	10	11	1279	1095	1346	1204	1246	1101	1246	1101	1140	819	908	802
A 18200	FL-415	41	5/8	7.35	10.27	3.65	3.50	4.56	15	11	11	17	16	16	1279	1095	1346	1204	1246	1101	1246	1101	1140	819	908	802

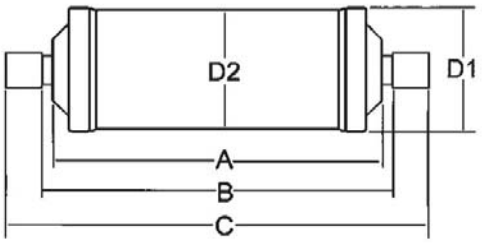
Water capacity data rated according to AHRI 710 standards.

DRYMASTER® High Capacity Filter Driers

Liquid Line Solder Connection

Features:

- Maximum abnormal pressure (MAP): 700 psig
- Maximum working temperature: 160°F/70°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils, and refrigerants requiring XH-11 desiccant
- UL/cUL Listed, Conforms to Pressure Equipment Directive 97/23/EC
- Solid core design
- High retention filter for removal of particulate as small as 25 microns
- High pressure shell and connections
- Powder paint finish approved for marine applications
- 100% copper connection for solder models



Part Number	Model	Des. 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	R404A	R507	R22	R407C	R410A	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F
A 18598	SD-032	3	1/4	2.57	3.30	4.03	1.85	1.69	0.42	2	1	1	2	2	2	82	70	87	78	80	71	80	71	74	52	59	51
A 18599	SD-033	3	3/8	2.57	3.30	4.03	1.85	1.69	0.43	4	3	3	4	4	4	82	70	87	78	80	71	80	71	74	52	59	51
A 18654	SD-052	5	1/4	2.94	3.67	4.40	2.32	2.10	0.54	2	1	1	2	2	2	157	131	166	146	152	132	152	132	137	90	103	90
A 18655	SD-053	5	3/8	2.94	3.67	4.40	2.32	2.10	0.56	4	3	3	4	4	4	157	131	166	146	152	132	152	132	137	90	103	90
A 18656	SD-082	8	1/4	2.94	4.70	5.43	2.32	2.10	0.73	2	1	1	2	2	2	255	212	269	237	246	215	246	215	222	145	166	144
A 18657	SD-083	8	3/8	2.94	4.70	5.43	2.32	2.10	0.74	4	3	3	5	4	4	255	212	269	237	246	215	246	215	222	145	166	144
A 18658	SD-084	8	1/2	2.94	4.84	5.71	2.32	2.10	0.76	8	6	6	9	8	8	255	212	269	237	246	215	246	215	222	145	166	144
A 18699	SD-163	16	3/8	4.33	5.06	5.79	3.12	2.92	1.42	5	3	3	5	5	5	473	402	498	444	459	405	459	405	419	296	330	291
A 18700	SD-164	16	1/2	4.33	5.19	6.06	3.12	2.92	1.46	10	7	7	10	10	10	473	402	498	444	459	405	459	405	419	296	330	291
A 18701	SD-165	16	5/8	4.33	5.28	6.22	3.12	2.92	1.50	12	10	10	14	13	14	473	402	498	444	459	405	459	405	419	296	330	291
A 18702	SD-166	16	3/4	4.33	5.51	6.69	3.12	2.92	1.54	13	11	10	15	14	16	473	402	498	444	459	405	459	405	419	296	330	291
A 18703	SD-167	16	7/8	4.33	5.35	6.77	3.12	2.92	1.58	12	11	11	15	15	17	473	402	498	444	459	405	459	405	419	296	330	291
A 18741	SD-303	30	3/8	7.33	8.06	8.79	3.15	3.00	3.13	5	3	3	5	4	5	949	813	999	893	925	817	925	817	846	607	673	595
A 18742	SD-304	30	1/2	7.33	8.20	9.07	3.15	3.00	3.15	10	7	7	11	10	11	949	813	999	893	925	817	925	817	846	607	673	595
A 18743	SD-305	30	5/8	7.33	8.28	9.22	3.15	3.00	3.18	14	11	11	16	15	16	949	813	999	893	925	817	925	817	846	607	673	595
A 18800	SD-306	30	3/4	7.33	8.52	9.70	3.15	3.00	3.23	13	11	11	15	15	16	949	813	999	893	925	817	925	817	846	607	673	595
A 18744	SD-307	30	7/8	7.33	8.36	9.78	3.15	3.00	3.26	19	15	14	21	20	22	949	813	999	893	925	817	925	817	846	607	673	595
A 18745	SD-309	30	1 1/8	7.33	8.16	9.81	3.15	3.00	3.29	24	20	19	28	27	30	949	813	999	893	925	817	925	817	846	607	673	595
A 18746	SD-413	41	3/8	7.35	8.08	8.81	3.65	3.50	4.29	5	4	3	6	5	5	1279	1095	1346	1204	1246	1101	1246	1101	1140	819	908	802
A 18747	SD-414	41	1/2	7.35	8.22	9.09	3.65	3.50	4.31	10	8	8	11	11	12	1279	1095	1346	1204	1246	1101	1246	1101	1140	819	908	802
A 18748	SD-415	41	5/8	7.35	8.30	9.24	3.65	3.50	4.34	16	12	12	17	16	17	1279	1095	1346	1204	1246	1101	1246	1101	1140	819	908	802
A 18749	SD-417	41	7/8	7.35	8.38	9.80	3.65	3.50	4.42	19	15	15	22	21	23	1279	1095	1346	1204	1246	1101	1246	1101	1140	819	908	802
A 18823	SD-419	41	1 1/8	7.35	8.18	9.83	3.65	3.50	4.45	24	19	18	27	26	28	1279	1095	1346	1204	1246	1101	1246	1101	1140	819	908	802

Water capacity data rated according to AHRI 710 standards.

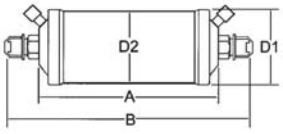
DRYMASTER® Filter Driers

Suction Line

Features:

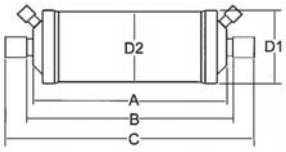
- Maximum abnormal pressure (MAP): 508 psig
- Maximum working temperature: 160°F/70°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils, and refrigerants requiring XH-11 desiccant
- UL/cUL Listed, Conforms to Pressure Equipment Directive 97/23/EC
- Solid core design, composed of 70% activated 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

Flare Connection



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

Solder Connection



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			

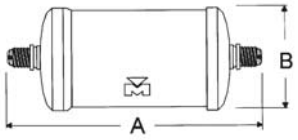
RoHS Compliant. Comply with ISO 9001 Standards.

DRYMASTER®
Heat Pump Driers

Features:

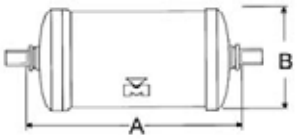
- Maximum abnormal pressure (MAP): 667 psig
- Maximum working temperature: 160°F/70°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils, and refrigerants requiring XH-11 desiccant
- UL/cUL Listed, Conforms to Pressure Equipment Directive 97/23/EC
- High retention filter for removal of particulate as small as 25 microns
- High pressure shell and connections
- Powder paint finish approved for marine applications

Flare Connection



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

Solder Connection



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	1.95	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

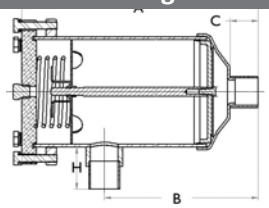
DRYMASTER® Filter Driers

Replaceable Core Shells

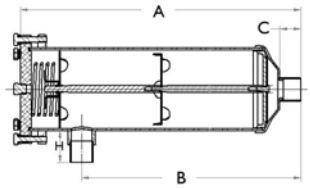
Features:

- For use in liquid and suction lines
- Compatible with all fluorinated refrigerants
- Powder coat withstands 500 hour salt spray per ASTM B 117
- Pressure rating of 775 psi
- UL/cUL Listed and CE certified
- RoHS compliant
- Slotted Aluminum lid for ease of assembly
- Stainless Steel bolts and brass plug
- O-ring seal for ease of assembly and removal
- Replacement o-ring and carriage kits available
- Maximum Working Temperature: 160°F, 70°C

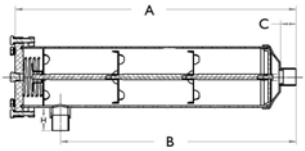
Drawing A



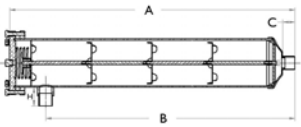
Drawing B



Drawing C



Drawing D



Part Number	Model	Size (in)	Core Size Cu In	A (in)	B (in)	C (in)	H (in)	Wt (lb)	Drawing	Liquid Capacity (tons)					Recommended Spacing for clearance to install components (in)
										R134a	R404A	R507	R22/R407C	R410A	
A 18583		5/8	48	9.33	5.98	0.87	1.46	8.51	A	22.0	16.0	16.0	23.10	23.6	9.0
A 18584		7/8	48	9.53	6.18	1.06	1.65	8.57	A	37.3	26.7	26.0	39.4	40.0	9.0
A 18585		1 1/8	48	9.61	6.26	1.14	1.73	8.64	A	52.8	37.9	37.0	56.20	57.0	9.0
A 18586		1 3/8	48	9.72	6.38	1.26	1.85	8.77	A	73.1	52.3	52.0	77.4	78.6	9.0
A 18587		1 5/8	48	9.80	6.46	1.34	1.93	8.80	A	83.9	60.7	60.0	89.8	91.4	9.0
A 18588		2 1/8	48	10.08	6.34	1.65	2.24	9.14	A	124.1	92.6	90.0	131.3	137.3	9.0
A 18664		2 5/8	48	10.30	6.24	2.17	2.36	11.46	A	91.5	67.0	65.0	95.6	99.1	9.0
A 18589		7/8	96	15.24	11.89	1.06	1.65	17.55	B	38.1	27.2	27.0	40.1	40.6	14.0
A 18590		1 1/8	96	15.32	11.97	1.14	1.73	11.62	B	59.6	43.0	42.0	63.4	64.2	14.0
A 18591		1 3/8	96	15.43	12.09	1.26	1.85	17.55	B	77.1	55.2	54.0	81.9	83.0	14.0
A 18592		1 5/8	96	15.51	12.17	1.34	1.93	17.55	B	93.4	66.9	66.0	99.2	100.9	14.0
A 18593		2 1/8	96	15.75	12.05	1.65	2.24	17.55	B	136.3	99.7	97.0	142.3	147.6	14.0
A 18665		2 5/8	96	16.00	11.95	2.17	2.36	17.55	B						
A 18604		1 1/8	144	20.63	17.28	1.14	1.73	20.08	C	59.3	42.5	42.0	63.2	64.0	19.5
A 18605		1 3/8	144	20.75	17.40	1.26	1.85	14.35	C	84.9	60.6	60.0	90.3	91.6	19.5
A 18606		1 5/8	144	20.83	17.48	1.34	1.93	20.08	C	95.1	68.3	67.0	101	102.6	19.5
A 18607		2 1/8	144	21.10	17.36	1.65	2.24	20.08	C	118.2	85.1	84.0	125.9	128.3	19.5
A 18608		1 3/8	192	26.69	23.35	1.26	1.85	22.60	D	88.4	63.7	63.0	94.2	95.7	25.0
A 18609		1 5/8	192	26.77	23.43	1.34	1.93	22.60	D	102.9	74.4	73.0	110	111.8	25.0
A 18610		2 1/8	192	27.01	23.31	1.65	2.24	17.70	D	128.7	92.3	91.0	136.4	138.8	25.0

RoHS Compliant. Comply with ISO 9001 Standards.

DRYMASTER® Filter Driers

Replaceable Core Shells

Position	Description
1	Pipe Plug (1/4" NPTF)
2	Bolts 8 x 1.25
3	Lock Washer
4	Lid
5	Lid O-Ring
6	Spring
7	Wing Nut
8	Inlet Plate
9	Core / Filter Element
10	Separator Plate
11	Plate Connecting Rod
12	Screen Plate
13	Outlet Plate
14	Outlet Plate Connecting Rod
15	Outlet Bolt
16	Filter Drier Shell
17	Gasket or Felt

Part Number	Replacement Kits	Components
A 18715	Single Core Carriage	6, 7, 8, 10, 11, 12, 13, 15
A 18716	2 Core Carriage	6, 7, 8, 10, 11, 12, 13, 14, 15
A 18717	3 Core Carriage	6, 7, 8, 10, 11, 12, 13, 14, 15
A 18718	4 Core Carriage	6, 7, 8, 10, 11, 12, 13, 14, 15
A 18719	Hardware Kit	1, 2 (8 each), 3 (8 each)
A 18734	Lid O-ring Kit	5 (20 each)

DRYMASTER® Cores and Filters

Charcoal Core

- Wax removal
- Liquid or suction line applications

High Capacity Core

- High drying capacity
- Liquid or suction line applications

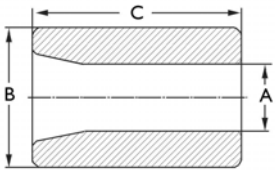
Suction Core

- High acid adsorption
- Liquid or suction line applications

Suction Line Filter

- Filter solid contaminants
- Low pressure drop
- Bi-directional

Charcoal Core



Part Number	Size Cu In	A (in)	B (in)	C (in)	Wt (lb)	Water Capacity (drops)											
						R134a		R404A		R507		R22		R407C		R410A	
						75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F
P 37267	48	1.77	3.70	5.51	1.50	533	414	551	414	497	347	497	347	364	231	339	186

Water capacity data rated according to AHRI 710 standards.

High Capacity Core

Part Number	Size Cu In	A (in)	B (in)	C (in)	Wt (lb)	Water Capacity (drops)											
						R134a		R404A		R507		R22		R407C		R410A	
						75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F
P 36818	48	1.77	3.70	5.51	1.68	1584	1402	1671	1517	1456	1276	1456	1276	1326	1012	1084	889
P 36818 (2)	96	1.77	3.70	5.51		3169	2798	3342	3034	2912	2552	2912	2552	2651	2024	2169	1778
P 36818 (3)	144	1.77	3.70	5.51		4753	4204	5014	4554	4368	3828	4368	3828	3977	3035	3254	2667
P 36818 (4)	192	1.77	3.70	5.51		6337	5606	6685	6068	5824	5104	5824	5104	5303	4047	4338	3553

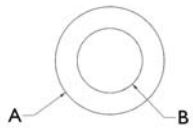
Water capacity data rated according to AHRI 710 standards.

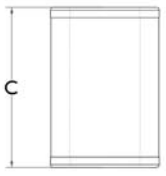
Suction Core

Part Number	Size Cu In	A (in)	B (in)	C (in)	Wt (lb)	Water Capacity (drops)											
						R134a		R404A		R507		R22		R407C		R410A	
						75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F
P 37266	48	1.77	3.70	5.51	1.82	587	466	605	462	534	384	534	384	397	263	358	194

Water capacity data rated according to AHRI 710 standards.

Suction Line Filter





Part Number	Size Cu In	A (in)	B (in)	C (in)	Wt (lb)	Filtration
A 18733C	48	3.75	2.40	5.58	3.08	10 microns

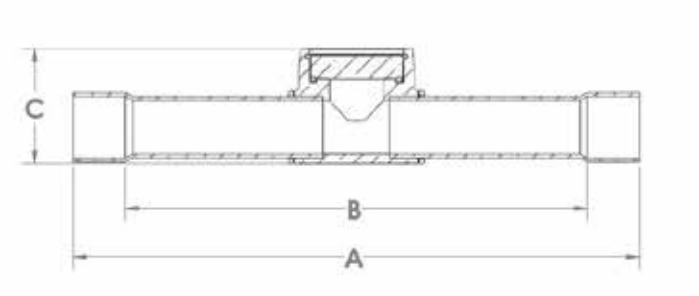
RoHS Compliant. Comply with ISO 9001 Standards.

Sight Glass/ Moisture Indicators

Hermetically Sealed, Solder x Solder Extended Tube

Features:

- Maximum abnormal pressure (MAP): Charted Below
- Continuous operating temperature (COT): -40°F/185°F, -40°C/85°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 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



Part Number	Size		A		B		C		MAP		Wt	
	in	mm	in	mm	in	mm	in	mm	psig	bar	lb	kg
A 18114	1/4	6	4.79	122	4.20	107	0.91	23	1305	90	0.16	0.07
A 18115	3/8	10	4.58	116	3.86	98	0.91	23	1305	90	0.16	0.07
A 18116	1/2	13	5.75	146	2.02	51	1.17	30	775	53	0.27	0.12
A 18117	5/8	17	5.75	146	4.69	119	1.17	30	775	53	0.27	0.12
A 18118	3/4	19	6.44	164	5.14	131	1.49	38	775	53	0.45	0.21
A 18119	7/8	22	6.44	164	4.88	124	1.49	38	775	53	0.47	0.21

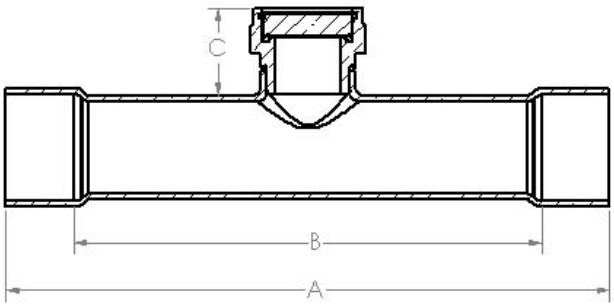
Moisture Content PPM				
HFC and HCFC Refrigerants	75°F Liquid Refrigerant		100°F Liquid Refrigerant	
	Green/Dry	Yellow/Wet	Green/Dry	Yellow/Wet
R12	5	20	10	35
R22	30	125	45	185
R134a	35	110	45	175
R404A	20	75	25	130
R407C	30	145	55	230
R410a	75	165	45	300
R502	10	45	20	65
R507	15	75	30	140

Sight Glass/ Moisture Indicators

Hermetically Sealed, Copper Body, Solder x Solder

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/185°F, -40°C/85°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- Designed for maximum flow and minimum pressure drop
- Large viewing window and indicator for better visibility
- Provides accurate identification of system conditions



Part Number	Size		A		B		C		Wt	
	in	mm	in	mm	in	mm	in	mm	lb	kg
A 18120	1 1/8	29	6.30	160	4.49	114	0.98	25	0.59	0.27
A 18121	1 3/8	35	7.87	200	5.95	151	0.98	25	0.75	0.34
A 18122	1 5/8	41	7.87	200	5.71	145	0.98	25	1.01	0.46
A 18123	2 1/8	54	7.87	200	5.20	132	0.98	25	1.40	0.64

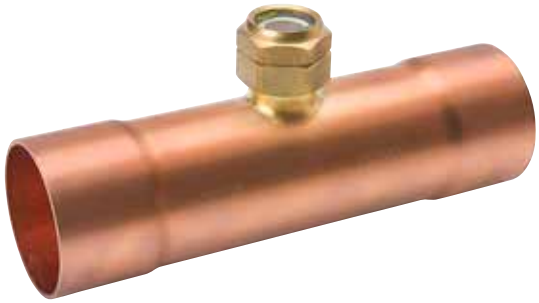
Moisture Content PPM				
HFC and HCFC Refrigerants	75°F Liquid Refrigerant		100°F Liquid Refrigerant	
	Green/Dry	Yellow/Wet	Green/Dry	Yellow/Wet
R12	5	20	10	35
R22	30	125	45	185
R134a	35	110	45	175
R404A	20	75	25	130
R407C	30	145	55	230
R410a	75	165	45	300
R502	10	45	20	65
R507	15	75	30	140

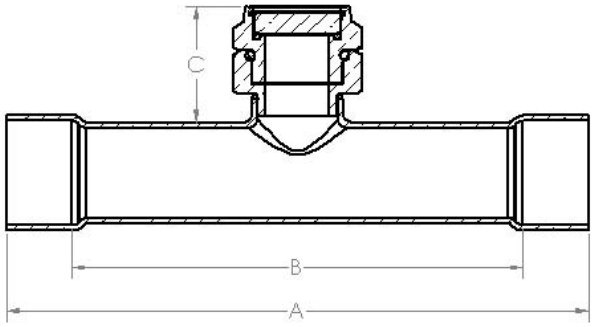
Sight Glass/ Moisture Indicators

Replaceable Element, Copper Body, Solder x Solder

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/185°F, -40°C/85°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- Designed for maximum flow and minimum pressure drop
- Large viewing window and indicator for better visibility
- Provides accurate identification of system conditions





Part Number	Size		A		B		C		Wt	
	in	mm	in	mm	in	mm	in	mm	lb	kg
A 18124	1 1/8	29	6.30	160	4.49	114	1.26	32	0.67	0.30
A 18125	1 3/8	35	7.87	200	5.95	151	1.26	32	0.67	0.30
A 18126	1 5/8	41	7.87	200	5.71	145	1.26	32	0.67	0.30
A 18127	2 1/8	54	7.87	200	5.20	132	1.26	32	0.67	0.30

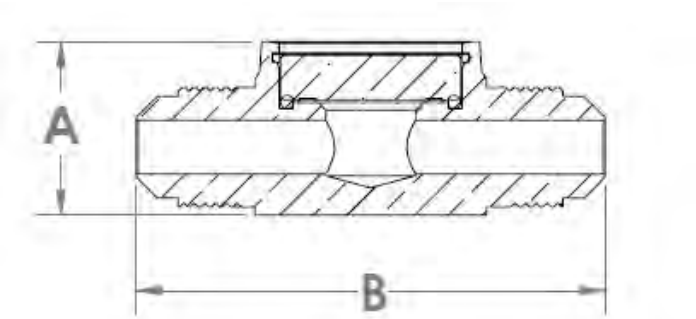
Moisture Content PPM				
HFC and HCFC Refrigerants	75°F Liquid Refrigerant		100°F Liquid Refrigerant	
	Green/Dry	Yellow/Wet	Green/Dry	Yellow/Wet
R12	5	20	10	35
R22	30	125	45	185
R134a	35	110	45	175
R404A	20	75	25	130
R407C	30	145	55	230
R410a	75	165	45	300
R502	10	45	20	65
R507	15	75	30	140

Sight Glass/ Moisture Indicators

Hermetically Sealed, Flare x Flare

Features:

- Maximum abnormal pressure (MAP): 1305 psig, 90 bar
- Continuous operating temperature (COT): -40°F/185°F, -40°C/85°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 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



Part Number	Size		A		Thread	B		Wt	
	in	mm	in	mm		in	mm	lb	kg
A 18101	1/4	6	0.90	23	7/16-20UNF	2.22	56	0.18	0.08
A 18102	3/8	10	0.90	23	5/8-18 UNF	2.45	62	0.21	0.10
A 18103	1/2	13	1.26	32	3/4-16 UNF	2.74	70	0.39	0.18
A 18104	5/8	17	1.26	32	7/8-14 UNF	3.00	76	0.43	0.20

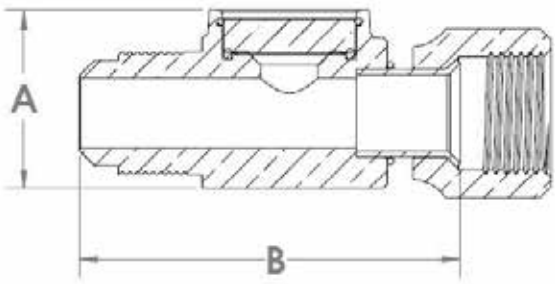
Moisture Content PPM				
HFC and HCFC Refrigerants	75°F Liquid Refrigerant		100°F Liquid Refrigerant	
	Green/Dry	Yellow/Wet	Green/Dry	Yellow/Wet
R12	5	20	10	35
R22	30	125	45	185
R134a	35	110	45	175
R404A	20	75	25	130
R407C	30	145	55	230
R410a	75	165	45	300
R502	10	45	20	65
R507	15	75	30	140

Sight Glass/ Moisture Indicators

Hermetically Sealed, Flare x Swivel

Features:

- Maximum abnormal pressure (MAP): 1305 psig, 90 bar
- Continuous operating temperature (COT): -40°F/185°F, -40°C/85°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 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



Part Number	Size		A		B		Wt	
	in	mm	in	mm	in	mm	lb	kg
A 18110	1/4	6	0.90	23	2.18	55	0.20	0.09
A 18111	3/8	10	0.90	23	2.43	62	0.25	0.11
A 18112	1/2	13	1.26	32	2.52	64	0.43	0.20
A 18113	5/8	17	1.26	32	2.72	69	0.49	0.22

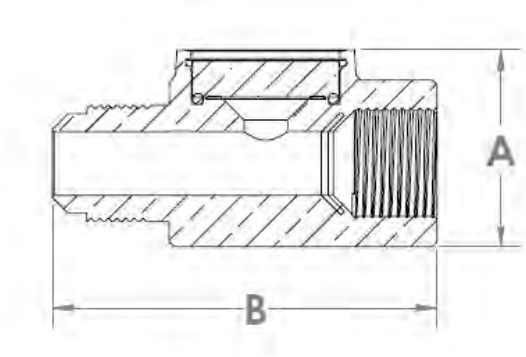
Moisture Content PPM				
HFC and HCFC Refrigerants	75°F Liquid Refrigerant		100°F Liquid Refrigerant	
	Green/Dry	Yellow/Wet	Green/Dry	Yellow/Wet
R12	5	20	10	35
R22	30	125	45	185
R134a	35	110	45	175
R404A	20	75	25	130
R407C	30	145	55	230
R410a	75	165	45	300
R502	10	45	20	65
R507	15	75	30	140

Sight Glass/ Moisture Indicators

Hermetically Sealed, M x F Flare

Features:

- Maximum abnormal pressure (MAP): 1305 psig, 90 bar
- Continuous operating temperature (COT): -40°F/185°F, -40°C/85°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Recognized, Conforms to Pressure Equipment Directive 97/23/EC
- 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



Part Number	Size		A		Thread	B		Wt	
	in	mm	in	mm		in	mm	lb	kg
A 18106	1/4	6	0.90	23	7/16-20 UNF	2.02	51	0.17	0.08
A 18107	3/8	10	1.26	32	5/8-18 UNF	2.25	57	0.40	0.18
A 18108	1/2	13	1.26	32	3/4-16 UNF	2.47	63	0.39	0.18

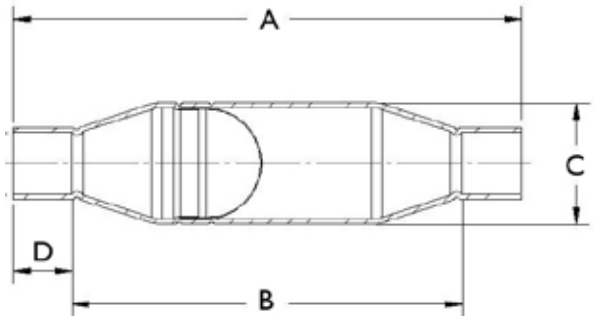
Moisture Content PPM				
HFC and HCFC Refrigerants	75°F Liquid Refrigerant		100°F Liquid Refrigerant	
	Green/Dry	Yellow/Wet	Green/Dry	Yellow/Wet
R12	5	20	10	35
R22	30	125	45	185
R134a	35	110	45	175
R404A	20	75	25	130
R407C	30	145	55	230
R410a	75	165	45	300
R502	10	45	20	65
R507	15	75	30	140

RoHS Compliant. Comply with ISO 9001 Standards.

Strainers
Copper Inline, Solder

Features:

- Maximum abnormal pressure (MAP): 700 psig, 48 bar
- Continuous operating temperature (COT): -40°F/300°F, -40°C/149°C
- Compatible with all CFC, HCFC and HFC refrigerants and oils
- UL/cUL Listed, Conforms to Pressure Equipment Directive 97/23/EC



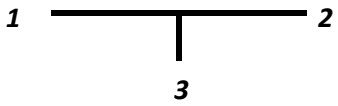
Part Number	Size		A		B		C		D		Internal Assembly Volume	Screen Mesh	Screen Area	Filtration Capacity	Wt	
	in	mm	in	mm	in	mm	in	mm	in	mm					lb	kg
A 18025	3/8	3/8	3.12	79	2.50	64	0.75	19	0.31	8	0.79	100	.4	175	0.06	0.03

45° Flare Fittings

Features:

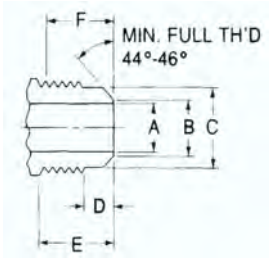
- Recommended Maximum abnormal pressure (MAP): 700 psig, 48 bar
- In conformance with Refrigeration Fitting Standards SAE J513, Military Standards MS-35867 through MS-35873 inclusive, MS-35919, MS-24815 and MS-16993
- Fabricated from brass forgings or drawn brass rod eliminating the possibility of seepage 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).



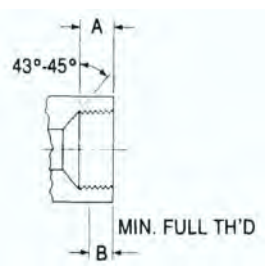
The letter in the first position of the catalog number is derived from the name of the fitting. Examples:	The numeral in the second position of the catalog number designates the combination of threads on the fitting.
B - Bonnets	4 - Forged Nut
U - Unions	1 - External Pipe Thread (U1, E1, T1)
T - Tees	2 - Flare to Flare Fitting (U2, E2, T2)
N - Nuts	
E - Elbows	
F - Fuse Plugs	

Indicators preceding the numeral in the second position of the catalog number designate the following:	The last two characters inthe catalog number desgnate the size. (Flare sizes are designated by numerals , pipe sizes are designated by letters.)	
R - Internal pipe to flare fitting (excludes tees)	3 - 3/16	A - 1/8
S - Short (forged nuts)	4 - 1/4	B - 1/4
R - Reducing flare nut (forged nuts)	5 - 5/16	C - 3/8
R - Pipe thread to flare on the run (tees)	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 F (in	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

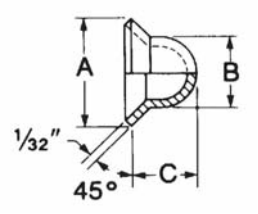


Internal Flare:

Size	A (in)	Min Rull Thread F (in	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

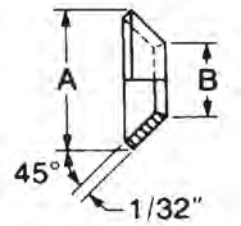
45° Flare Fittings

Copper Flare Bonnets and Gaskets



Copper Flare Seal Bonnets

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	0.005
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

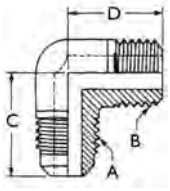
Copper Flare Gaskets							
Cat Number	Part Number	Size Flare	A (in)	B (in) *	C (in)	Box Qty	Wt(lb)
B2-4	A 00401	1/4	0.36	0.19		100	0.001
B2-5	A 04811	5/16	0.42	0.22		50	0.017
B2-6	A 00402	3/8	0.55	0.28		100	0.002
B2-8	A 00403	1/2	0.66	0.41		100	0.002
B2-10	A 05186	5/8	0.77	0.50		50	0.003
B2-12	A 04822	3/4	0.95	0.63		25	0.005

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

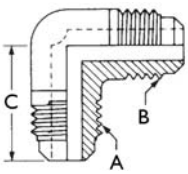
45° Flare Fittings

90° Elbows

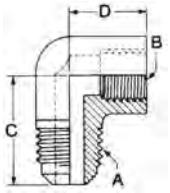
Half Union - Flare to NPTFE



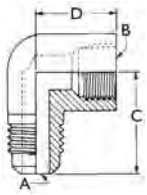
Union - Flare to Flare



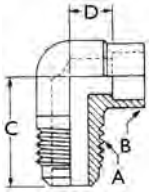
External Flare to NPTFI



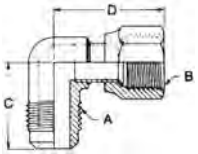
External Fl to Internal Fl



Half Union - Flare to Solder

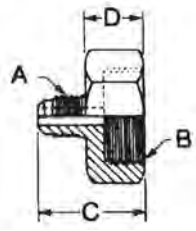


Ext Fl to Int Fl Swivel



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	0.040
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
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
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

45° Flare Fittings
Adaptors

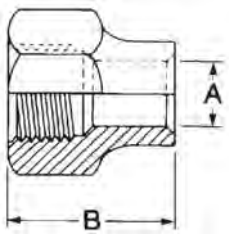


Refrigerant Drum Adapters

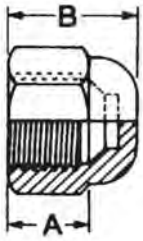
Cat Number	Part Number	Flare A (in)	NPSM B (in) *	C (in)	D (in)	Hex	Box Qty	Wt(lb)	Replacement Gasket
K1-1	A 08073	1/4	3/4	1.13	0.44	1 1/4	10	0.159	A 08074
K1-3	A 08274	3/8	3/4	1.25	0.44	1 1/4	10	0.187	A 08074
K1-5	A 08276	1/2	3/4	1.38	0.44	1 1/4	10	0.194	A 08074
K1-8	A 08166	1/4	1/2	1.13	0.44	1 1/8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

45° Flare Fittings

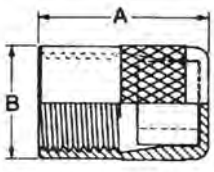
Nuts



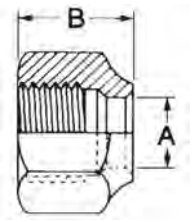
Long Forged Nuts



Flare Seal Cap



Flare Seal Cap
Finger Tightening



Short Forged

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	0.025
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	0.045
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	0.210

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	0.014
NFT5-6	A 16448	3/8			0.73	0.67	N/A	0.038

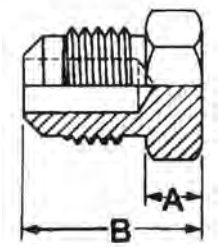
Short Forged Reducing Nuts

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

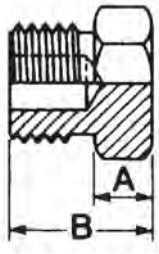
Cat Number	Part Number	Flare A (in)	Size Tube	Hex	A (in)	B (in)	Box Qty	Wt(lb)
NS4-3	A 05238	3/16	3/16	1/2	0.19	0.53	50	0.024
NS4-4	A 05051	1/4	1/4	5/8	0.26	0.59	50	0.035
NS4-5	A 05239	5/16	5/16	11/16	0.32	0.63	25	0.040
NS4-6	A 05052	3/8	3/8	13/16	0.38	0.69	25	0.052
NS4-8	A 05053	1/2	1/2	15/16	0.51	0.81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

45° Flare Fittings
Plugs



Flare Plug

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

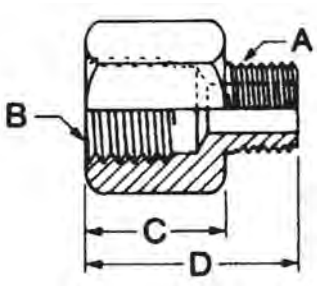


Brass Pipe Plug

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

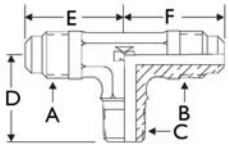
45° Flare Fittings

Bushings

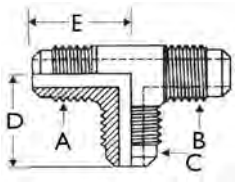


External Pipe Thread to Internal Pipe Thread								
Cat Number	Part Number	NPTE A (in)	NPTI B (in)	C (in)	D (in)	Hex	Box Qty	Wt(lb)
R1-AB	A 08756	1/8	1/4	0.61	0.92	11/16	25	0.054
R1-BA	A 00630	1/4	1/8	0.19	0.69	9/16	25	0.020
R1-CB	A 00631	3/8	1/4	0.25	0.75	11/16	25	0.034
R1-DB	A 00492	1/2	1/4	0.28	0.84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

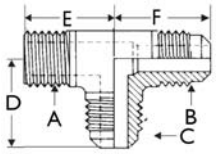
45° Flare Fittings
Tees



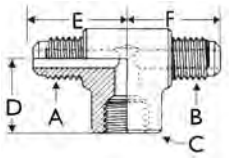
Two-Way



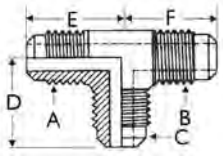
Three-Way



Right Angle Two-Way



Three-Way, Internal Branch



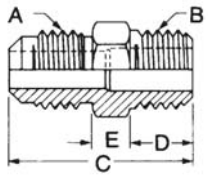
Three-Way Reducing

Two-Way									
Cat Number	Part Number	A (in) Flare	B (in) Flare	C (in) NPTFE	D (in)	E (in)	F (in)	Box Qty	Wt(lb)
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
T1-8C	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) Flare	B (in) Flare	C (in) Flare	D (in)	E (in)	F (in)	Box Qty	Wt(lb)
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) NPTFE	B (in) Flare	C (in) Flare	D (in)	E (in)	F (in)	Box Qty	Wt(lb)
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
Three-Way, Internal Branch									
Cat Number	Part Number	A (in) Flare	B (in) Flare	C (in) Flare	D (in)	E (in)	F (in)	Box Qty	Wt(lb)
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) Flare	B (in) Flare	C (in) NPTFE	D (in)	E (in)	F (in)	Box Qty	Wt(lb)
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

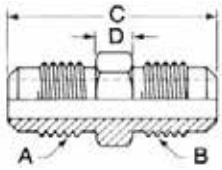
*Gasket Furnished

45° Flare Fittings

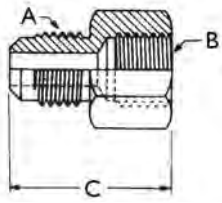
Connectors



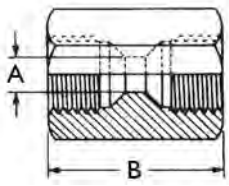
Half Union - Flare to NPTFE



Union- Flare to Flare



Half Union - Flare to NPTFI



Internal Flare Union

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	0.180
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	0.290

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

Half Union - Flare to NPTFI

Cat Number	Part Number	A (in) Flare	B (in) NPTFI	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

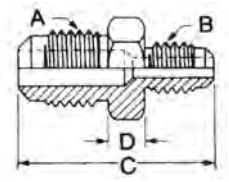
Internal Flare Unions

Cat Number	Part Number		A (in) Flare	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

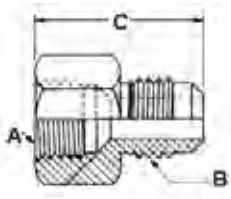
* 2 Gaskets Furnished

RoHS Compliant. Comply with ISO 9001 Standards.

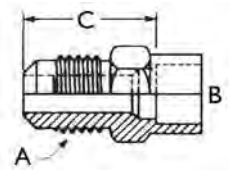
45° Flare Fittings
Connectors



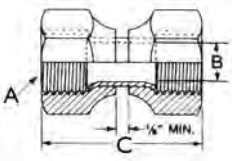
Reducing Unions - Fl to Fl



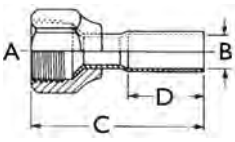
Internal Fl to External Fl



Half Union - Ext Fl to Solder



Internal Fl Swivel Unions



Internal Fl to Extension Solder

Reducing 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)
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) Flare	B (in) Flare	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

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

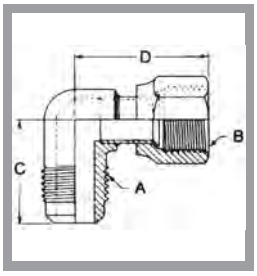
Internal Flare to Extension Solder

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

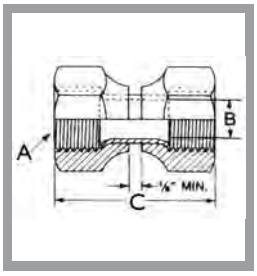
* 2 Gaskets Furnished

45° Flare Fittings

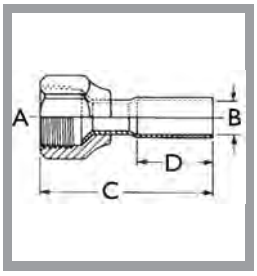
JIS Class II



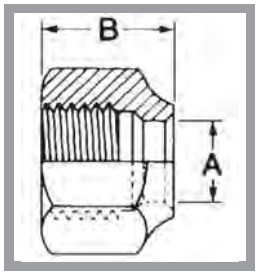
External Flare to Internal Flare Swivel



Internal Flare Swivel Union



Internal Flare to Extension Solder



Short Forged Nuts

90° Elbows

External Flare to Internal Flare Swivel

Part Number	Male Flare A (in)	Female Flare B (in)	C (in)	D (in)	Hex (mm)	Box Qty	Wt(lb)
A 15940H	1/4	1/4	0.91	1.25	17	4	
A 15941H	3/8	3/8	1.08	1.42	22	4	
A 15943H	1/2	1/2	1.25	1.55	26	4	

Connectors

Internal Flare Swivel Unions

Part Number	A (in) Female Flare	B (in) OD	C (in)	D (in)	Hex (mm)	Box Qty	Wt(lb)
A 13563H	1/4	1/4	1.38		17	15	
A 13565H	3/8	3/8	1.56		22	15	
A 13567H	1/2	1/2	1.81		26	15	
A 13568H	5/8	5/8	2.06		29	15	

Internal Flare to Extension Solder

Part Number	A (in) Female Flare	B (in) ODS	C (in)	D (in)	Hex (mm)	Box Qty	Wt(lb)
A 15725H	1/4	1/4	1.60	0.81	17	25	
A 15726H	3/8	3/8	1.71	0.81	22	25	
A 15727H	1/2	1/2	1.89	0.88	26	20	
A 15728H	5/8	5/8	2.29	1.00	29	10	
A 15729H	3/4	3/4	2.85	1.25	36	10	

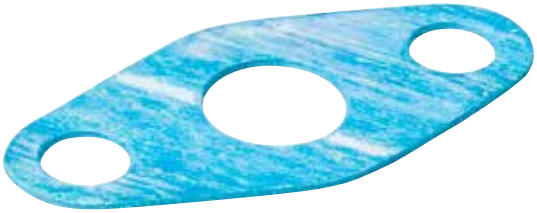
Nuts

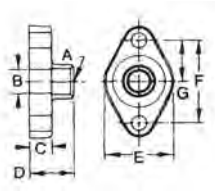
Short Forged Nuts

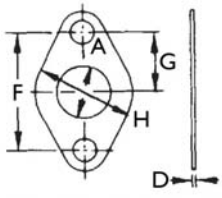
Part Number	Flare A (in)	Size Tube	Hex (mm)	A (in)	B (in)	Box Qty	Wt(lb)
A 05051H	1/4	1/4	17	0.26	0.59	N/A	0.040
A 05052H	3/8	3/8	22	0.38	0.71	N/A	0.080
A 05053H	1/2	1/2	26	0.51	0.86	N/A	0.130
A 05157H	5/8	5/8	29	0.63	1.03	N/A	0.180
A 05222H	3/4	3/4	36	0.76	1.18	N/A	

Forged Brass Solder Flanges

Two Bolt







2 Bolt, Serrated Gasket Surface **2 Bolt Gasket, Asbestos-Free**

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

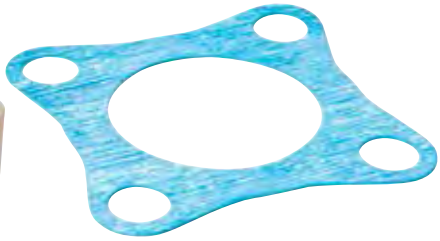
Gasket, Asbestos-Free Material											
Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in) Bolt Hole Centers	G (in)	H (In)	Dia Bolt Holes	Box Qty	Wt (lb)
A 04582	9/16			0.03		1 5/8	0.81	1.13	11/32	N/A	0.003
N 02308	13/16			0.03		1 5/8	0.81	1.50	11/32	N/A	0.004
N 02307	13/16			0.03		1 3/4	0.88	1.50	11/32	N/A	0.004
A 05152	1 3/16			0.06		2 3/4	1.38	2.25	17/32	20	0.020

Forged Brass Solder Flanges

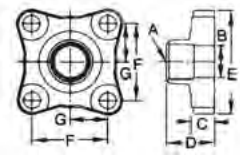
Four Bolt

Flange with Flat Gasket Surface Compatible with Gasket A 08628

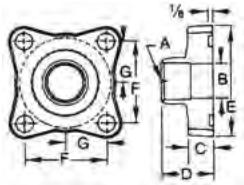
Flange with Groove Compatible with Gasket A 08634



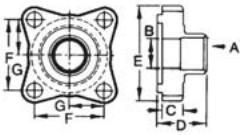
Flat Surface Gasket, A 08628



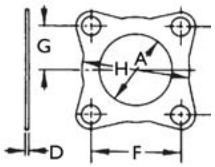
4 Bolt, Flat Gasket Surface



4 Bolt, Groove Diameters 2 25/32" x 2 1/16"



4 Bolt, Flat, Tongue, Groove Diameters 2 3/4" x 2 3/16"



4 Bolt Gasket, Asbestos-Free

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 Holes	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	1.75	3.41	2.50	1.25		17/32	1	1.725	A 08628
A 08627	2 1/8	1 15/16	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 Holes	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	1.805	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"

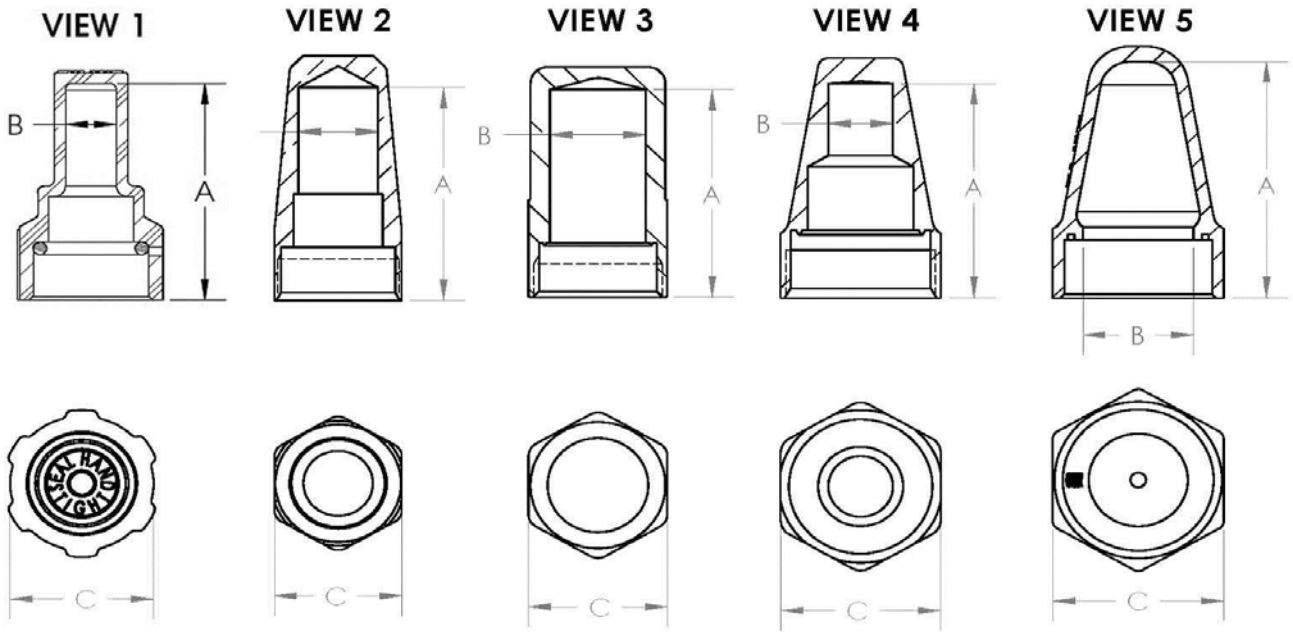
Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in) Bolt Hole Centers	G (in)	H (In)	Dia Bolt Holes	Box Qty	Wt (lb)	Gasket
A 08629	1 1/8	1 1/16	0.75	1.72	3.41	2.50	1.25		17/32	1	2.000	A 08634
A 05150	1 3/8	1 19/64	0.75	1.78	3.41	2.50	1.25		17/32	1	1.977	A 08634
A 05148	1 5/8	1 17/32	0.75	1.91	3.41	2.50	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 Holes	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

RoHS Compliant. Comply with ISO 9001 Standards.

Component Parts
Seal Caps and Gaskets



Seal Cap		Gasket	Seal Cap Ki	Thread Size	Material	View	A	B	C
P 34627	**	NA	NA	3/4" - 16	Nylon	1	1.73	0.35	0.95
A 04566		NA	NA	3/4" - 16	Steel	3	1.3	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	A 18725	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	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	2.7	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	3.7	1.62	2.5

*** Powder Coated (500 hour)**

**** C dimension indicates diamete**

***** Full Flow**

Competitive Cross Reference

Ball Valves

CYCLEMASTER® Ball Valves

Standard

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
1/4			AP17859		009G7020	BVE014		EBV-1020	
3/8			AP17860C		009G7021	BVE038		EBV-1030	586WA-6ST
1/2			AP17861C		009G7022	BVE012		EBV-1040	586WA-8ST
5/8			AP17862C		009G7023	BVE058		EBV-1050	586WA-10ST
3/4			AP17863		009G7024	BVE034		EBV-1060	587WA-12ST
7/8			AP17864C		009G7025	BVE078		EBV-1070	587WA-14ST
1 1/8			AP17865		009G7026	BVE118		EBV-1090	591WA-11ST
1 3/8			A 17866		009G7027	BVE138		EBV-1110	592WA-13ST
1 5/8			A 17867		009G7028	BVE158		EBV-1130	593WA-15ST
2 1/8			A 17868		009G7029	BVE218		EBV-1170	594WA-21ST
2 5/8			A 17869		009G7959			EBV-1210	595WA-25ST
3 1/8			A 17870		009G7980			EBV-1250	596WA-31ST
2 5/8			A 17871		009G7036	BVE258		EBV-2210	594WA-25ST
3 1/8			A 17872		009G7037	BVE318		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	937202	EBVT-1030	586WAS-6ST
1/2			AQ17861C		009G7052	BVS012	937203	EBVT-1040	586WAS-8ST
5/8			AQ17862C		009G7053	BVS058	937204	EBVT-1050	586WAS-10ST
3/4			AQ17863		009G7054	BVS034		EBVT-1060	587WAS-12ST
7/8			AQ17864C		009G7055	BVS078	937205	EBVT-1070	587WAS-14ST
1 1/8			AQ17865		009G7056	BVS118	937307	EBVT-1090	591WAS-11ST
1 3/8			AC17866		009G7057	BVS138	937409	EBVT-1110	592WAS-13ST
1 5/8			AC17867		009G7058	BVS158	937511	EBVT-1130	593WAS-15ST
2 1/8			AC17868		009G7059	BVS218		EBVT-1170	594WAS-21ST
2 5/8			AC17869		009G7960			EBVT-1210	
3 1/8			AC17870		009G7981			EBVT-1250	
2 5/8			AC17871		009G7066	BVS258		EBVT-2210	594WAS-25ST
3 1/8			AC17872		009G7067	BVS318		EBVT-2250	594WAS-31ST

Competitive Cross Reference
Check Valves

Check Valves

90° Angle

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
7/8			A 18383C						
7/8			A 18565C						
7/8			A 18566C		020-1020				
1 1/8			A 18659C		020-1021				
1 3/8			A 18660C		020-1026				
3/4			A 18838						

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

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			ACK-4			900MA-4S
3/8			A 17935			ACK-6			900MA-6S
1/2			A 17936			ACK-8			900MA-8S
5/8			A 17937			ACK-10			900MA-10S
3/4			A 17938			ACK-12			900MA-12S
7/8			A 17939			ACK-14			900MA-14S
1 1/8			A 17940			ACK-18			900MA-11S
1 3/8			A 17941			ACK-22			900MA-13S
1 5/8			A 17942			ACK-26			900MA-15S
2 1/8			A 17943			ACK-34			900MA-21S
2 5/8			A 17944			ACK-42			900MA-25S
3 1/8			A 17981						

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

Competitive Cross Reference

Check Valves

Check Valves

Piston

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood
3/4			A 18838						

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

Competitive Cross Reference
Line Valves

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 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

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

Transducer Valves

NPTFI X NPTFE

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

Competitive Cross Reference

Diaphragm Valves

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
3/8			A 14850C						214-6ST
1/2			A 14851				5174		215-8ST
5/8			A 14852				5175		216-10ST

Competitive Cross Reference

Pressure Relief Valves

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	3212C
	3/8	3/8	A 15512				526E		3214	3214C
	3/8	1/2	A 15513				526EB		3215	3215C
	1/2	5/8	A 15514				527E		3220	3220C
	3/8	1/2	A 18784						3216	3216C

Pressure Relief Valves

Atmospheric - NPTFE Inlet

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood	
	1/8		A 15508				5220		3000	3000C
	1/4		A 15509				5221		3001	3001C
	3/8		A 17430				5223		3002	3002C
	1/4		B 33755						3001	3001C

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	3012C
	3/8	3/8	A 15502				5231		3014	3014C
	3/8	1/2	A 15503				5231-A		3015	3015C
	1/2	5/8	A 15504				5232		3020	3020C
	1/4	3/8	B 33752				5230		3012	3012C
	3/8	5/8	A 18737				5233A			
	3/8	1/2	A 18783						3016	3016C

Pressure Relief Valves

Straight Thru - NPTFE Inlet to NPTFI Outlet

Size	Inlet	Outlet	Mueller	Universal	Danfoss	Emerson	Henry	Parker	Sherwood	
	1/2	1/2	A 18356				5232B		3030	3030C
	1/2	3/4	A 18357				5235A		3031	3031C
	3/4	3/4	A 15506						3045	3045C
	3/4	3/4	A 18358						3045	3045C
	1	1	A 18387						3060	3060C
	1 1/4	1 1/4	A 17834						3075	3075C
	3/8	3/4	A 18736				5234A			
	1/2	3/4	A 18762				5235A			
	3/4	1	A 18735				5244-3/4			

Competitive Cross Reference

Liquid Line Filter Driers

DRYMASTER® Filter Driers

Liquid Line Flare

Size	Dess. Cu In	Mueller	Mueller High Capacity	Universal	Danfoss	Emerson	Henry	Parker
1/4	3	A 16600	A 18184	FL-032		EK-032	H032	C-032
3/8	3	A 16601	A 18185	FL-033		EK-033	H033	C-033
1/4	5	A 16606	A 18186	FL-052		EK-352	H352	C-052
3/8	5	A 16607	A 18187	FL-053		EK-053	H053	C-053
1/4	8	A 16608	A 18188	FL-082		EK-082	H082	C-082
3/8	8	A 16609	A 18189	FL-083		EK-083	H083	C-083
1/2	8	A 16610	A 18190	FL-084		EK-084	H084	C-084
1/4	16	A 16612	A 18191	FL-162		EK-162	H162	C-162
3/8	16	A 16613	A 18192	FL-163		EK-163	H163	C-163
1/2	16	A 16614	A 18193	FL-164		EK-164	H164	C-164
5/8	16	A 16615	A 18194	FL-165		EK-165	H165	C-165
3/8	30	A 16618	A 18195	FL-303		EK-303	H303	C-303
1/2	30	A 16619	A 18196	FL-304		EK-304	H304	C-304
5/8	30	A 16620	A 18197	FL-305		EK-305	H305	C-305
3/8	41	A 16623	A 18198	FL-413		EK-413	H413	C-413
1/2	41	A 16624	A 18199	FL-414		EK-414	H414	C-414
5/8	41	A 16625	A 18200	FL-415		EK-415	H415	C-415

DRYMASTER® Filter Driers

Liquid Line Solder

Size	Dess. Cu In	Mueller	Mueller High Capacity	Universal	Danfoss	Emerson	Henry	Parker
1/4	3	A 16640	A 18598	SD-032		EK-032S	H032-S	C-032-S
3/8	3	A 16641	A 18599	SD-033		EK-033S	H033-S	C-033-S
1/4	5	A 16646	A 18654	SD-052		EK-052S	H052-S	C-052-S
3/8	5	A 16647	A 18655	SD-053		EK-053S	H053-S	C-053-S
1/4	8	A 16648	A 18656	SD-082		EK-082S	H082-S	C-082-S
3/8	8	A 16649	A 18657	SD-083		EK-083S	H083-S	C-083-S
1/2	8	A 16650	A 18658	SD-084		EK-084S	H084-S	C-084-S
3/8	16	A 16653	A 18699	SD-163		EK-163S	H163-S	C-163-S
1/2	16	A 16654	A 18700	SD-164		EK-164S	H164-S	C-164-S
5/8	16	A 16655	A 18701	SD-165		EK-165S	H165-S	C-165-S
3/4	16	A 16657	A 18702	SD-166		EK-166S		
7/8	16	A 16656	A 18703	SD-167		EK-167S	H167-S	C-167-S
3/8	30	A 16658	A 18741	SD-303		EK-303S		C-303-S
1/2	30	A 16659	A 18742	SD-304		EK-304S	H304-S	C-304-S
5/8	30	A 16660	A 18743	SD-305		EK-305S	H305-S	C-305-S
7/8	30	A 16662	A 18744	SD-307		EK-307S	H307-S	C-307-S
1 1/8	30	A 16661	A 18745	SD-309		EK-309S	H309-S	
3/8	41	A 16663	A 18746	SD-413				
1/2	41	A 16664	A 18747	SD-414		EK-414S		C-414-S
5/8	41	A 16665	A 18748	SD-415		EK-415S	H415-S	C-415-S
7/8	41	A 16667	A 18749	SD-417		EK-417S	H417-S	C-417-S
1 1/8	41	A 16668		SD-419		EK-419S	H419-S	C-419-S

Competitive Cross Reference

Suction Line and Heat Pump Driers

DRYMASTER® Filter Driers

Suction Line Flare

Size	Dess. Cu In	Mueller	Mueller High Capacity	Universal	Danfoss	Emerson	Henry	Parker
1/2	16	A 17225		FDF-164-TT				
5/8	16	A 17226		FDF-165-TT				

DRYMASTER® Filter Driers

Suction Line Solder

Size	Dess. Cu In	Mueller	Mueller High Capacity	Universal	Danfoss	Emerson	Henry	Parker
1/2	16	A 17224		FDS-164-TT				
5/8	16	A 17227		FDS-165-TT				
3/4	16	A 17228		FDS-166-TT				
7/8	16	A 17229		FDS-167-TT				
1 1/8	16	A 17230		FDS-169-TT				
1 1/8	30	A 17231		FDS-309-TT				
5/8	30	A 17300		FDS-305-TT				
3/4	30	A 17301		FDS-306-TT				
7/8	30	A 17302		FDS-307-TT				

DRYMASTER® Heat Pump Driers

Flare Connection

Size	Dess. Cu In	Mueller	Mueller High Capacity	Universal	Danfoss	Emerson	Henry	Parker
3/8	8	A 17388		HPF-083				
3/8	16	A 17390		HPF-163				
1/2	16	A 17983		HPF-164				
5/8	16	A 17984		HPF-165				

DRYMASTER® Heat Pump Driers

Solder Connection

Size	Dess. Cu In	Mueller	Mueller High Capacity	Universal	Danfoss	Emerson	Henry	Parker
3/8	8	A 17389		HPS-083				
3/8	16	A 17391		HPS-163				
1/2	16	A 17392		HPS-164				
5/8	16	A 17985		HPS-165				

Competitive Cross Reference

Replaceable Filter Drier Cores and Shells

DRYMASTER® Filter Driers

Replaceable Core Shells

Size	Dess. Cu In	Mueller	Danfoss	Emerson	Henry	Parker	Sporlan
5/8		A 18583	DCR 485	STAS 485T	SRC-485	P 485	C 485 G
7/8		A 18584	DCR 487	STAS 487T	SRC-487	P 487	C 487 G
1 1/8		A 18585	DCR 489	STAS 489T	SRC-489		C 489 G
1 3/8		A 18586	DCR 4811	STAS 4811T, STAS 4811SV	SRC-4811	P 4811	C 4811 G
1 5/8		A 18587	DCR 4813	STAS 4813SV, STAS 4813T	SRC-4813	P 4813	C 4813 G
2 1/8		A 18588	DCR 4817	STAS 4817SV	SRC-4817	P 4817	
2 5/8		A 18664	DCR 4821	STAS 4821SV		P 4821	
7/8		A 18589	DCR 967	STAS 967T	SRC-967	P 967, P 489	C 967 G
1 3/8		A 18608	DCR 19211	STAS 19211T	SRC-19211	P 19211	C 19211 G
1 5/8		A 18609	DCR 19213	STAS 19213T	SRC-19213	P 19213	C 19213 G
2 1/8		A 18610	DCR 19217	STAS 19217T	SRC-19217	P 19217	C 19217 G
2 1/8		A 18593	DCR 9617	STAS 9617T, STAS 9617SV	SRC-9617	P 9617	
1 1/8		A 18590	DCR 969	STAS 969T	SRC-969	P 969	C 969 G
1 3/8		A 18591	DCR 9611	STAS 9611T	SRC-9611	P 9611	C 9611 G
1 5/8		A 18592	DCR 9613	STAS 9613T	SRC-9613	P 9613	C 9613 G
1 1/8		A 18604	DCR 1449	STAS 1449T	SRC-1449	P 1449	C 1449 G
1 3/8		A 18605	DCR 14411	STAS 14411T	SRC-14411	P 14411	C 14411 G
1 5/8		A 18606	DCR 14413	STAS 14413T	SRC-14413	P 14413	C 14413 G
2 1/8		A 18607	DCR 14417	STAS 14417T	SRC-14417	P 14417	
2 5/8		A 18665	DCR 9621	STAS 9621SV		P 9621	

DRYMASTER® Filter Drier Cores

High Capacity Core

Size	Dess. Cu In	Mueller	Danfoss	Emerson	Henry	Parker	Sporlan
48		P 36818	48DC, 48DM	H-48, HX-48, UK-48	S-848-CM	PCK-48, PCX-48, Z-48	RCW-48, RCW-48GL
48		P 37267		W-48-HH	S-848-CC	PCK-48HH	RC-4864-HH
48		P 37266	48-DA	D-48		PCK-48	RC-4864

Competitive Cross Reference

Sight Glass/Moisture Indicators

Sight Glass/ Moisture Indicators						
Hermetically Sealed, Solder x Solder Extended Tube						
Size	Mueller	Universal	Danfoss	Emerson	Henry	Parker
1/4	A 18114			065405		
3/8	A 18115			065406		
1/2	A 18116			065407		
5/8	A 18117			065408		
3/4	A 18118			065409		
7/8	A 18119			065410		
1 1/8	A 18120			065411		
1 3/8	A 18121		020-4000			
1 5/8	A 18122					
2 1/8	A 18123					
1 1/8	A 18124			060853		
1 3/8	A 18125			061030		
1 5/8	A 18126			061031		
2 1/8	A 18127			061032		
3/8	A 18111					
1/2	A 18112					
5/8	A 18113					
1/4	A 18101			065391		
3/8	A 18102			065392		
1/2	A 18103			065393		
5/8	A 18104			065394		
1/4	A 18106			065396		
3/8	A 18107			065397		
1/2	A 18108			065398		

Competitive 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
K1-1	A 08073
K1-3	A 08274
K1-5	A 08276
K1-8	A 08166
N4-4	A 00440
N4-5	A 01110

Universal	Mueller
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
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

Universal	Mueller
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
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

Universal	Mueller
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
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
UR3-84	A 00480
UR3-86	A 00481
UR3-108	A 04770
UR3-810	A 04879
UR3-1012	A 04878
UR3-1210	A 04826

Cross Reference

Inactive Part Number Replacements

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 16600	A 18184	1/4 FL DRYMASTER Plus Drier 3 CU IN
A 16601	A 18185	3/8 FL DRYMASTER Plus Drier 3 CU IN
A 16606	A 18186	1/4 FL DRYMASTER Plus Drier 5 CU IN
A 16607	A 18187	3/8 FL DRYMASTER Plus Drier 5 CU IN
A 16608	A 18188	1/4 FL DRYMASTER Plus Drier 8 CU IN
A 16609	A 18189	3/8 FL DRYMASTER Plus Drier 8 CU IN
A 16610	A 18190	1/2 FL DRYMASTER Plus Drier 8 CU IN
A 16612	A 18191	1/4 FL DRYMASTER Plus Drier 16 CU IN
A 16613	A 18192	3/8 FL DRYMASTER Plus Drier 16 CU IN
A 16614	A 18193	1/2 FL DRYMASTER Plus Drier 16 CU IN
A 16615	A 18194	5/8 FL DRYMASTER Plus Drier 16 CU IN
A 16618	A 18195	3/8 FL DRYMASTER Plus Drier 30 CU IN
A 16619	A 18196	1/2 FL DRYMASTER Plus Drier 30 CU IN
A 16620	A 18197	5/8 FL DRYMASTER Plus Drier 30 CU IN
A 16623	A 18198	3/8 FL DRYMASTER Plus Drier 41 CU IN
A 16624	A 18199	1/2 FL DRYMASTER Plus Drier 41 CU IN
A 16625	A 18200	5/8 FL DRYMASTER Plus Drier 41 CU IN
A 16640	A 18598	1/4 SD DRYMASTER Plus Drier 3 CU IN
A 16641	A 18599	3/8 SD DRYMASTER Plus Drier 3 CU IN
A 16646	A 18654	1/4 SD DRYMASTER Plus Drier 5 CU IN
A 16647	A 18655	3/8 SD DRYMASTER Plus Drier 5 CU IN
A 16648	A 18656	1/4 SD DRYMASTER Plus Drier 8 CU IN
A 16649	A 18657	3/8 SD DRYMASTER Plus Drier 8 CU IN
A 16650	A 18658	1/2 SD DRYMASTER Plus Drier 8 CU IN
A 16653	A 18699	3/8 SD DRYMASTER Plus Drier 16 CU IN
A 16654	A 18700	1/2 SD DRYMASTER Plus Drier 16 CU IN
A 16655	A 18701	5/8 SD DRYMASTER Plus Drier 16 CU IN
A 16656	A 18703	7/8 SD DRYMASTER Plus Drier16 CU IN
A 16657	A 18702	3/4 SD DRYMASTER Plus Drier 16 CU IN
A 16658	A 18741	3/8 SD DRYMASTER Plus Drier 30 CU IN
A 16659	A 18742	1/2 SD DRYMASTER Plus Drier 30 CU IN
A 16660	A 18743	5/8 SD DRYMASTER Plus Drier 30 CU IN
A 16661	A 18745	1 1/8 SD DRYMASTER Plus Drier 30 CU IN
A 16662	A 18744	7/8 SD DRYMASTER Plus Drier 30 CU IN
A 16663	A 18746	3/8 SD DRYMASTER Plus Drier 41 CU IN
A 16664	A 18747	1/2 SD DRYMASTER Plus Drier 41 CU IN
A 16665	A 18748	5/8 SD DRYMASTER Plus Drier 41 CU IN
A 16667	A 18749	7/8 SD DRYMASTER Plus Drier 41 CU IN
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	AP17865	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

INACTIVE	ACTIVE	DESCRIPTION
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	AQ17865	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	AQ17865	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
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	AQ17865	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	AP17865	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

Cross Reference

Inactive Part Number Replacements

INACTIVE	ACTIVE	DESCRIPTION
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 Flow)
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	AW17865	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
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 17864	AP17864C	7/8 Ball Valve Drilled & Tapped
A 17865	AP17865	1 1/8 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	AQ17865	1 1/8 Ball Valve Drilled & Tapped, Access Port
ACX17866	AQM17866	1 3/8 Ball Valve, Standard with Access, 1 pc brass cap
ACX17867	AQM17867	1 5/8 Ball Valve, Standard with Access, 1 pc brass cap
ACX17868	AQM17868	2 1/8 Ball Valve, Standard with Access, 1 pc brass cap
ACX17869	AQM17869	2 5/8 Ball Valve, Standard with Access, 1 pc brass cap (Full Flow)
ACX17870	AQM17870	3 1/8 Ball Valve, Standard with Access, 1 pc brass cap (Full Flow)
ACX17871	AQM17871	2 5/8 Ball Valve, Standard with Access, 1 pc brass cap
ACX17872	AQM17872	3 1/8 Ball Valve, Standard with Access, 1 pc brass cap
AG17865	AG17865	1 1/8 Ball Valve Standard with fitting end/access
AP17860	AP17860C	3/8 Ball Valve Drilled & Tapped
AP17861	AP17861C	1/2 Ball Valve Drilled & Tapped
AP17862	AP17862C	5/8 Ball Valve Drilled & Tapped
AP17864	AP17864C	7/8 Ball Valve Drilled & Tapped
AP17865A	AP17865	1 1/8 Ball Valve Drilled & Tapped
APX17859	APM17859	1/4 Ball Valve Drilled & Tapped, 1 pc brass cap
APX17860C	APM17860	3/8 Ball Valve Drilled & Tapped, 1 pc brass cap
APX17861C	APM17861	1/2 Ball Valve Drilled & Tapped, 1 pc brass cap
APX17862C	APM17862	5/8 Ball Valve Drilled & Tapped, 1 pc brass cap
APX17863	APM17863	3/4 Ball Valve Drilled & Tapped, 1 pc brass cap
APX17864C	APM17864	7/8 Ball Valve Drilled & Tapped, 1 pc brass cap
APX17865A	APM17865	1 1/8 Ball Valve Drilled & Tapped, 1 pc brass cap
APX17866	APM17866	1 3/8 Ball Valve Drilled & Tapped, 1 pc brass cap
APX17867	APM17867	1 5/8 Ball Valve Drilled & Tapped, 1 pc brass cap
APX17868	APM17868	2 1/8 Ball Valve Drilled & Tapped, 1 pc brass cap
APX17871	APM17871	2 5/8 Ball Valve Drilled & Tapped, 1 pc brass cap
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

INACTIVE	ACTIVE	DESCRIPTION
AQ17865A	AQ17865	1 1/8 Ball Valve Drilled & Tapped, Access Port
AQX17859	AQM17859	1/4 Ball Valve Drilled & Tapped with access, 1 pc brass cap
AQX17860C	AQM17860	3/8 Ball Valve Drilled & Tapped, Access Port, 1 pc brass cap
AQX17861C	AQM17861	1/2 Ball Valve Drilled & Tapped, Access Port, 1 pc brass cap
AQX17862C	AQM17862	5/8 Ball Valve Drilled & Tapped, Access Port, 1 pc brass cap
AQX17863	AQM17863	3/4 Ball Valve, Drilled & Tapped with Access Port, 1 pc brass cap
AQX17864C	AQM17864	7/8 Ball Valve Drilled & Tapped, Access Port, 1 pc brass cap
AQX17865A	AQM17865	1 1/8 Ball Valve Drilled & Tapped, Access Port, 1 pc brass cap
AQX17866	AQM17866	1 3/8 Ball Valve Drilled & Tapped, Access Port, 1 pc brass cap
AQX17867	AQM17867	1 5/8 Ball Valve Drilled & Tapped, Access Port, 1 pc brass cap
AQX17868	AQM17868	2 1/8 Ball Valve Drilled & Tapped, Access Port, 1 pc brass cap
AW17865	AW17865	1 1/8 Actuated Ball Valve, Standard
AW18423	BW33755	1/4 NPTF Pressure Relief Valve (551-700)
AX17866	APM17866	1 3/8 Ball Valve Standard, 1 pc brass cap
AX17867	APM17867	1 5/8 Ball Valve Standard, 1 pc brass cap
AX17868	APM17868	2 1/8 Ball Valve Standard, 1 pc brass cap
AX17869	APM17869	2 5/8 Ball Valve Standard (Full Flow), 1 pc brass cap
AX17870	APM17870	3 1/8 Ball Valve Standard (Full Flow), 1 pc brass cap
AX17871	APM17871	2 5/8 Ball Valve Standard (Reduced Port), 1 pc brass cap
AX17872	APM17872	3 1/8 Ball Valve Standard (Reduced Port), 1 pc brass cap
B 33367	B 34556	1 1/8 Brass Compressor Valve
B 33529	B 34841	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 w/ hole
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	AP17865	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
B 34260	A 17870	3 1/8 Ball Valve Standard (Full Flow)
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 w/ Vent Hole)
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

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.

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.

Terms and Conditions of Sale

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, © 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, © 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.
© 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.
€ 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.

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MUELLER REFRIGERATION

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