



# SUPERIOR HVACR PRODUCTS CATALOG





## A History of Quality and Innovation

*For nearly a century, Superior has been the world's leading provider of HVACR valves and accessories.*

Over the last 90 years, we've earned a reputation for products that not only keep pace with customer requirements, but also anticipate their changing needs. Our expert engineering and product development teams continuously work to improve core competencies and create new, innovative products to meet the industry's ever-changing standards and demands.

### **Manufacturing Quality, Safety and Reliability**

Automated manufacturing processes throughout Superior's operations are set up to reduce touch labor, resulting in consistently higher-quality products. We're using the latest technology available to lower costs and increase quality.

All Superior products are designed to meet the highest standards, and only quality materials are used. Careful assembly and detailed inspection of every part ensures top performance and durability. Superior is fully certified to the stringent requirements of ISO 9001, which increase manufacturing efficiency and reliability.

### **Your Valve Partner**

Our engineering team includes experts in product design and development as well as experts in the quality and compliance testing requirements needed to create custom valves to meet your unique applications.

Superior is partnered with a solid network of worldwide industry leaders, distributors, manufacturing representatives and customers supporting continuous improvement. We know valves are a system-critical piece of your business and we're proud to provide you with American-made products and service you can trust. Superior HVACR Products is your partner for the best quality HVACR valves, delivered on time, at the best possible price!



<b>Contents</b>	<b>Page</b>
WA/WAS Series Ball Valves .....	4-5
VRF Series Ball Valves.....	6
H-V Check Valves .....	7-9
In-Line Magnetic Check Valves .....	10
Pressure-Relief Valves .....	11-13
Selection of Relief Valves .....	14-15
CFA Uni-Form® Shells .....	16
Suction Line Filters .....	17-20
Liquid Line Cores .....	21
Spare Parts List .....	22
Codes, Regulations and Specifications .....	23
Cross Reference.....	24

WA/WAS Series Ball Valves

INTEGRA-SEAL®

WA Series — No Access Fitting

WAS Series — Includes Access Fitting

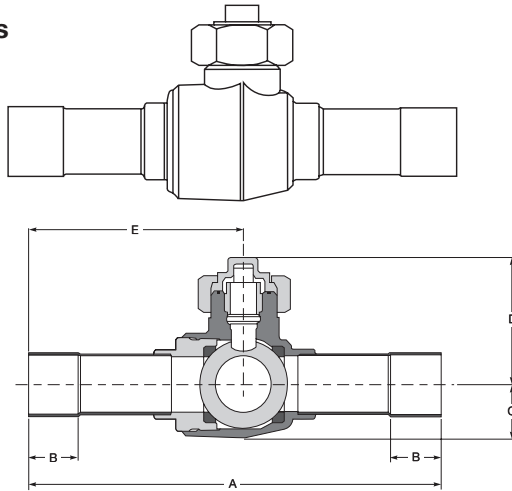
A robotically welded body joint. Full-size ports for unrestricted flow. These ball valves employ the latest robotic welding technology. Every continuous welded body joint is 100% factory tested to ensure positively leak-free performance. Dual PTFE ball seals surround a polished brass or carbon steel ball at each end. A secondary seal becomes effective if foreign material scores the primary seal — even in extremely unfavorable conditions such as compressor burnout — a Superior exclusive!

WA/WAS Series Ball Valves are constructed using a forged brass body with copper tube extensions on all sizes. Mechanical internal forged stops ensure positive open or closed positions — another Superior exclusive. Full open to full close with ¼ turn.

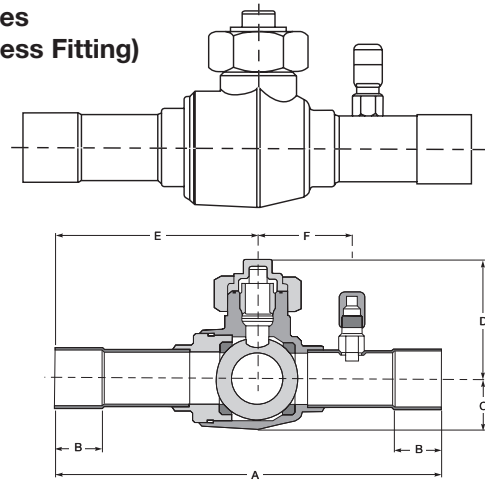
All sizes incorporate a dual stem seal design utilizing PTFE packing compressed by an internal packing nut forming the primary seal. The unique seal cap design permits valve operation without removal of the seal cap and uses

PTFE gaskets to provide a secondary seal — a third Superior exclusive! There are no synthetic O-rings. Ball internal relief port design ensures shut-off in either direction of flow — even during evacuation of the system. Full flow ports in all sizes ⅜" through 3 1/8". These ball valves are non-directional flow valves and may be installed in any position.

WA Series

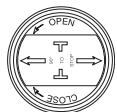


WAS Series (with Access Fitting)



Without Access Fitting	UPC Code	With Access Fitting	UPC Code	Connection (ODS)	Ball Port Diameter	Weight (lbs.) WA	Weight (lbs.) WAS
586WA-4ST	685768412700	—	—	¼	0.50	0.71	N/A
586WA-6ST	685768412717	586WAS-6ST	685768412748	⅜	0.50	0.65	0.75
586WA-8ST	685768412724	586WAS-8ST	685768412755	½	0.50	0.71	0.75
586WA-10ST	685768412694	586WAS-10ST	685768412731	⅝	0.50	0.66	0.75
587WA-12ST	685768412939	—	—	¾	0.75	0.95	N/A
587WA-14ST	685768409977	587WAS-14ST	685768412946	7/8	0.75	1.00	1.04
591WA-11ST	685768412953	591WAS-11ST	685768412960	1 1/8	1.00	2.13	2.18
592WA-13ST	685768412069	592WAS-13ST	685768412977	1 1/4	1.50	3.22	3.37
593WA-15ST	685768412984	593WAS-15ST	685768412991	1 1/2	1.50	3.81	3.85
594WA-21ST	685768413004	594WAS-21ST	685768413035	2 1/8	2.01	7.50	7.55
594WA-25ST**	685768413011	—	—	2 1/2	2.01	9.35	N/A
594WA-31ST**	685768413028	—	—	3 1/8	2.01	10.13	N/A
595WA-25ST	685768413042	595WAS-25ST	685768413059	2 1/2	2.44	14.53	14.58
596WA-31ST	685768413066	596WAS-31ST	685768413097	3 1/8	2.91	24.85	24.90
596WA-35ST**	685768413073	—	—	3 1/2	2.91	27.40	N/A
596WA-41ST**	685768413080	—	—	4 1/8	2.91	27.00	N/A

\*\* Reduced ports.



Seal Cap

Exclusive Seal Cap design permits operation of valve without removal. Markings on cap top designate at-a-glance open or closed ball position.



**WA Series — No Access Fitting**  
**WAS Series — Includes Access Fitting**

- Continuous operating temperature (COT): -40°F to 325°F (-40°C to 163°C)
- Design pressure/Maximum abnormal pressure: Up to 800 PSIG
- UL® and cUL Listed, File No. SA3462, except for metric sizes and oxygen
- WAS Series includes access fitting, strategically located on tube extension
- No synthetic O-ring seals. Double seal protection provides a Superior stem design
- Polished brass or carbon steel ball
- Forged brass body and seal cap
- Seal cap design permits valve operation without removal of seal cap
- Contact factory or visit website for compatibility with CFC, HCFC, HFC and HFO refrigerants and oils
- Spare Parts List on pp. 22

Without Access Fitting	With Access Fitting	Dimensions (Inches)						Maximum Width	C <sub>v</sub>	DP/MAP
		A	B Min	C	D	E	F			
586WA-4ST	—	6.50	0.31	0.58	1.80	3.44	N/A	1.16	N/A	800
586WA-6ST	586WAS-6ST	6.50	0.31	0.58	1.80	3.44	1.75	1.16	3.6	800
586WA-8ST	586WAS-8ST	6.50	0.38	0.58	1.80	3.44	1.75	1.16	7.4	800
586WA-10ST	586WAS-10ST	6.50	0.50	0.58	1.80	3.44	1.75	1.16	14.6	800
587WA-12ST	—	6.56	0.62	0.73	1.96	3.46	N/A	1.45	22.3	800
587WA-14ST	587WAS-14ST	6.56	0.75	0.73	1.96	3.46	1.75	1.45	30	800
591WA-11ST	591WAS-11ST	7.69	0.91	1.03	2.37	4.01	1.89	2.05	62	800
592WA-13ST	592WAS-13ST	8.88	0.97	1.23	2.55	4.55	2.15	2.47	110	800
593WA-15ST	593WAS-15ST	9.13	1.09	1.42	2.73	4.62	2.21	2.83	135	800
594WA-21ST	594WAS-21ST	9.88	1.34	1.85	3.11	5.07	2.57	3.70	270	800
594WA-25ST**	—	12.92	1.47	1.85	3.11	6.57	N/A	3.70	250	800
594WA-31ST**	—	13.82	1.66	1.85	3.11	7.01	N/A	3.70	240	800
595WA-25ST	595WAS-25ST	12.92	1.50	2.30	3.95	6.52	3.35	4.65	340	800
596WA-31ST	596WAS-31ST	16.03	1.69	2.75	4.35	8.32	3.63	5.63	480	700
596WA-35ST**	—	16.03	1.91	2.75	4.35	8.32	N/A	5.63	455	700
596WA-41ST**	—	16.03	2.16	2.75	4.35	8.32	N/A	5.63	430	700

\*\* Reduced ports.



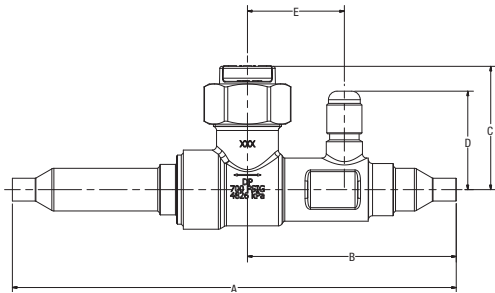
VRF Series Ball Valves

VRF Ball Valve Series — Improved Unibody Design Minimizes Leaks

Flare and ODS Connection Ball Valves for use with VRF Systems

- Offered in both flare connections and ODS copper tube connections
- Superior uni-body design eliminates leak points
- Full port design
- Design pressure/Maximum abnormal pressure (DP/MAP): 800 PSIG
- Offered with optional fully factory assembled insulation wrap
- Each ball valve is factory tested under pressure
- Equipped with access fitting for refrigerant service
- Forged brass body and seal cap
- Uses polytetrafluoroethylene (PTFE) seals and gaskets (no synthetic O-rings)
- Seal cap design permits valve operation without removal of seal cap
- Sizes available: 1/4", 3/8", 1/2", 5/8"
- Continuous operating temperature (COT): -40°F to 325°F (-40°C to 163°C)
- Contact factory or visit website for compatibility with CFC, HCFC, HFC and HFO refrigerants and oils

ODS x ODS Connection Valve



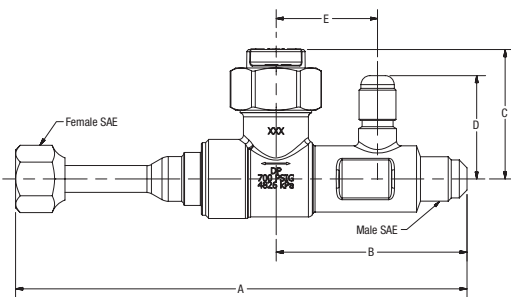
ODS x ODS Ball Valve Factory Wrapped in Foam Insulation

Part Number	UPC Code	Size (Inches)	Weight (lbs.)
<b>Flare x Flare</b>			
586WBS-4SWSP	685768412830	1/4 ODS x 1/4 ODS	0.86
586WBS-6SWSP	685768412885	3/8 ODS x 3/8 ODS	0.88
586WBS-8SWSP	685768412922	1/2 ODS x 1/2 ODS	0.85
586WBS-10SWSP	685768412793	5/8 ODS x 5/8 ODS	1.00

ODS x ODS Ball Valve

Part Number	UPC Code	Size (Inches)	Weight (lbs.)	Dimensions (Inches)				
				A	B	C	D	E
586WBS-4SW	685768412823	1/4 ODS x 1/4 ODS	0.82	6.50	3.06	1.80	1.33	1.42
586WBS-6SW	685768412878	3/8 ODS x 3/8 ODS	0.82	6.50	3.06	1.80	1.33	1.42
586WBS-8SW	685768412915	1/2 ODS x 1/2 ODS	0.88	6.50	3.06	1.80	1.33	1.42
586WBS-10SW	685768412786	5/8 ODS x 5/8 ODS	0.83	6.50	3.06	1.80	1.33	1.42

Flare x Flare Connection Valve



Flare x Flare Ball Valve Factory Wrapped in Foam Insulation

Part Number	UPC Code	Size (Inches)	Weight (lbs.)
586WBS-4FLSP	685768412816	1/4 M SAE x 1/4 F SAE	0.94
586WBS-6FLSP	685768412861	3/8 M SAE x 3/8 F SAE	0.95
586WBS-8FLSP	685768412908	1/2 M SAE x 1/2 F SAE	1.00
586WBS-10FLSP	685768412779	5/8 M SAE x 5/8 F SAE	1.04

Flare x Flare Ball Valve

Part Number	UPC Code	Size (Inches)	Weight (lbs.)	Dimensions (Inches)				
				A	B	C	D	E
586WBS-4FL	685768412809	1/4 M SAE x 1/4 F SAE	0.94	6.26	2.67	1.80	1.33	1.42
586WBS-6FL	685768412854	3/8 M SAE x 3/8 F SAE	0.91	6.38	2.67	1.80	1.33	1.42
586WBS-8FL	685768412892	1/2 M SAE x 1/2 F SAE	0.96	6.56	2.67	1.80	1.33	1.42
586WBS-10FL	685768412762	5/8 M SAE x 5/8 F SAE	1.01	6.72	2.67	1.80	1.33	1.42

Individual Foam Insulation

Part Number	Size (Inches)
P586WBS-FOAMSP	.5 thick x 8.75 L

VRF Flare Ball Valve Kit

Part Number	Description
586WBS-6/10FL	Includes 586WBS-6FL with 3/8" x 1/4" flare adapter and 586WBS-10FL with 5/8" x 1/2" flare adapter



## Horizontal or Vertical Installation Check Valves

### Type 802B Check Valves Series

(Patent 3,438,391)

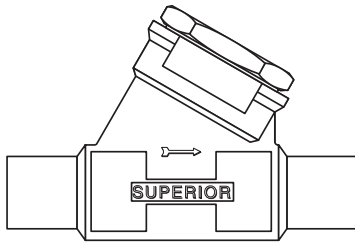
For years, this “Y” type of valve has been the most popular design in the refrigeration industry. The internal parts can easily be removed and reassembled after soldering. This basic “Y” type design reduces pressure drop to a very low level.

The PTFE seat insert rapidly conforms to the cone style of seating surface in the body. This ensures positive shut-off characteristics. This valve minimizes leakage even at the lowest back pressure. A specially designed secondary seat backs up the primary seat. After approximately 10,000 cycles of operation, the secondary seat becomes effective. This is done to ensure even better shut-off characteristics as the valve wears into service.

Upon reassembly of the valve, positive shut-off between the body cap and the body is assured by means of a special gasket seal.

All Superior H-V Check Valves have PTFE seats. These valves may be installed in any position, except upside down.

### Type 802B Check Valve Series



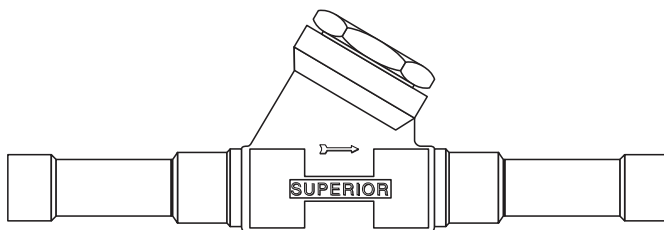
Part Number	UPC Code	Size (Inches)	Weight (lbs.)
<b>Flare x Flare</b>			
802B-4	685768409403	¼	0.54
802B-6	685768409441	⅜	0.55
802B-8	685768409489	½	0.58
<b>ODS x ODS</b>			
802B-4S	685768409410	¼	0.45
802B-6S	685768409458	⅜	0.53
802B-8S	685768409496	½	0.51
803B-10S	685768409632	⅝	0.55
804A-12S	685768409717	¾	0.89
804A-14S	685768409342	⅞	0.89

Select models available with 5lb, 10lb, 50lb, and 140lb springs.

**Part Number Examples:**

802BX5-4S	1/4 ODS x ODS	with 5lb spring
802BX10-4S	1/4 ODS x ODS	with 10lb spring
802BX50-4S	1/4 ODS x ODS	with 50lb spring
802BX140-6S	3/8 ODS x ODS	with 140lb spring

### Type 802B Check Valve Series ODS x ODS Tube Extensions\*



Part Number	UPC Code	Size (Inches)	Weight (lbs.)
802B-4ST	685768409434	¼	0.58
802B-6ST	685768409472	⅜	0.59
802B-8ST	685768409335	½	0.59
803B-10ST	685768409649	⅝	0.66
804A-14ST	685768409755	⅞	1.10

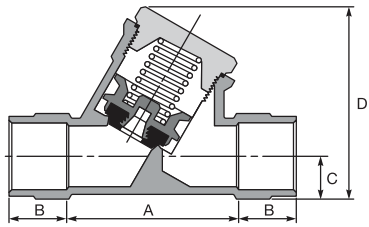
\* Tube extensions permit valve to be silver soldered directly to line without disassembly.

Select models available with 5lb, and 10lb, springs.

### Horizontal or Vertical Installation Check Valves

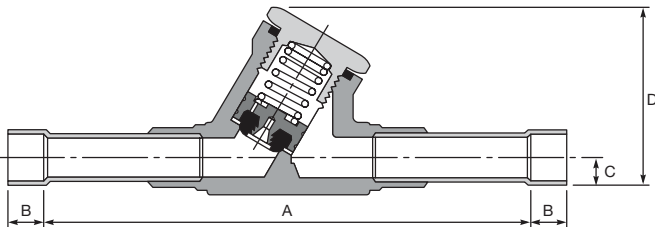
- Design pressure/ Maximum abnormal pressure (DP/MAP) 800 PSIG
- Construction: all-forged brass
- Seat material: PTFE
- Specially designed secondary seat backs up primary seat
- Copper gasket between body cap and body assures positive shut-off
- Continuous operating temperature (COT): -40°F to 400°F (-40°C to 149°C)
- Low pressure drop “Y” design
- Tube extensions permit valve to be soldered without disassembly
- All UL® and cUL Recognized, File No. SA2989
- Patent No. 3,438,391
- Recommended bonnet torque: 802/803 – 45 ft. lbs., 804 – 75 ft. lbs.
- Contact factory or visit website for compatibility with CFC, HCFC, HFC and HFO refrigerants and oils
- Suitable for many applications, such as hot gas defrost
- For gases and liquids not listed, please consult factory.
- Comes with standard 1/2-lb. differential spring
- For special higher differential springs for all check valves, please consult factory
- Spare Parts List on pp. 22

#### Type 802B Check Valve Series



Part Number	Size	Dimensions (Inches)				C <sub>v</sub>
		A	B	C	D	
<b>Flare x Flare</b>						
802B-4	1/4	2	1/2	19/32	2 1/16	N/A
802B-6	3/8	1 1/4	5/8	19/32	2 1/16	1.75
802B-8	1/2	1 1/2	3/4	19/32	2 1/16	3.2
<b>ODS x ODS</b>						
802B-4S	1/4	2 5/8	5/16	19/32	2 1/16	N/A
802B-6S	3/8	2 1/8	7/16	19/32	2 1/16	1.75
802B-8S	1/2	1 7/8	9/16	19/32	2 1/16	3.2
803B-10S	5/8	2	2 1/32	19/32	2 1/16	3.8
804A-12S	3/4	2 1/8	5/8	1/2	2 1/2	N/A
804A-14S	7/8	2 1/4	3/4	19/32	2 9/16	8.5

#### Type 802B Check Valve Series



Part Number	Size	Dimensions (Inches)				C <sub>v</sub>
		A	B	C	D	
802B-4ST	1/4	5 5/8	5/16	19/32	2 1/16	N/A
802B-6ST	3/8	5 5/8	3/8	19/32	2 1/16	1.75
802B-8ST	1/2	5 3/16	3/8	19/32	2 1/16	3.2
803B-10ST	5/8	5 1 3/16	1/2	19/32	2 1/16	3.8
804A-14ST	7/8	6 1/4	3/4	19/32	2 9/16	8.5

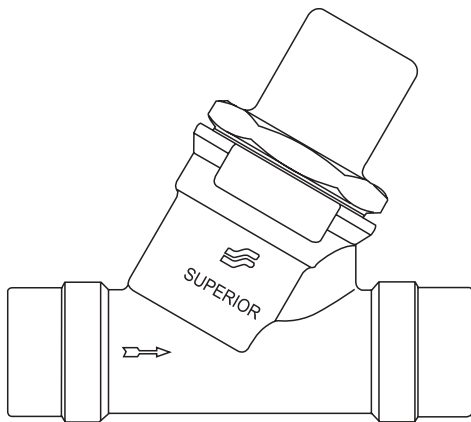


## Horizontal or Vertical Installation Check Valves

### Type 804ADX Check Valves Series

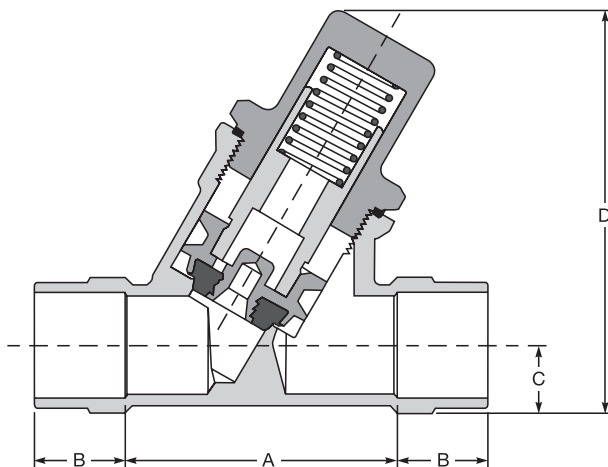
This unique dashpot cylinder design is ideal for compressor discharge applications. The tight tolerance fit between the seat guide and the seal cap bore acts like a shock absorber to dampen the seat from rapid compressor palpitations.

- Design pressure/ Maximum abnormal pressure (DP/MAP) 800 PSIG
- Construction: forged brass
- Seat material: PTFE
- Specifically designed secondary seat backs up primary seat
- Copper gasket between body cap and body assures positive shut-off
- Continuous operating temperature (COT): -40°F to 400°F (-40°C to 149°C)
- Low pressure drop “Y” design
- Stainless steel spring
- UL® and cUL Recognized, File No. SA2989
- Contact factory or visit website for compatibility with CFC, HCFC, HFC and HFO refrigerants and oils
- For gases and liquids not listed, please consult factory



Part Number	UPC Code	Size (Inches)	Weight (lbs.)
804ADX11-14S	685768410676	7/8	1.10
804ADX12-14S*	685768409359	7/8	1.14

\* PTFE disc in bottom of seal cap for additional noise dampening.



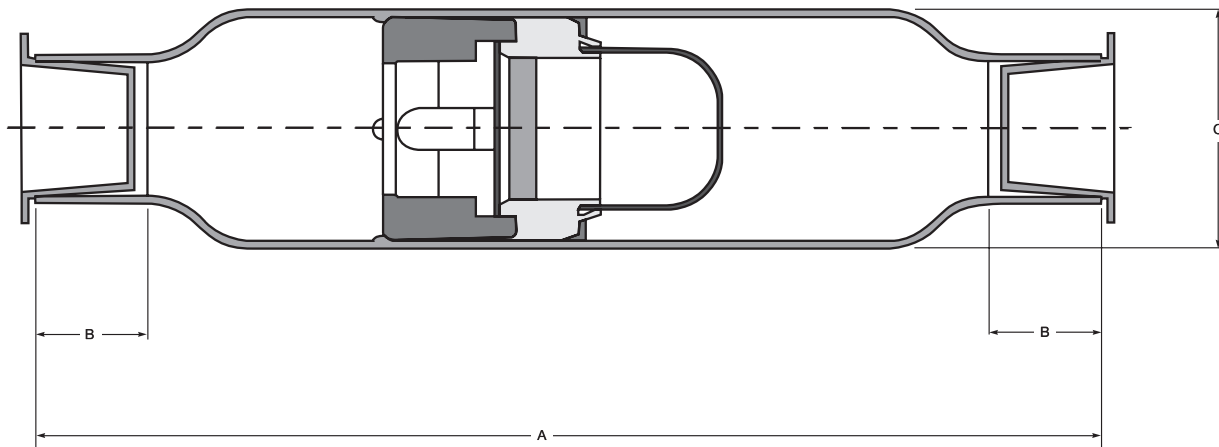
Part Number	Size	Dimensions (Inches)			
		A	B	C	D
804ADX11-14S	7/8	2 1/4	3/4	19/32	3.33
804ADX12-14S*	7/8	2 1/4	3/4	19/32	3.33

\* PTFE disc in bottom of seal cap for additional noise dampening.

# In-Line Magnetic Check Valves

## 900MA Series In-Line Check Valve

- Copper connection sizes 3/8" through 2 1/2"
- Hermetically sealed spun copper body
- Thirty-mesh screen to protect seat surface from debris
- Continuous operating temperature (COT): -40°F to 300°F (-40°C to 149°C)
- Full range of sizes
- Magnetic actuation
- Arrow indicates direction of flow
- Can be installed in any position
- Minimal pressure drop
- UL® and cUL Recognized, File No. SA2989
- Contact factory or visit website for compatibility with CFC, HCFC, HFC and HFO refrigerants and oils
- Proprietary seat design minimizes leaks



Part Number	UPC Code	Connection					Opening Pressure oz./sq. in.	DP/MAP PSIG	Burst Pressure (PSIG)	Leak Rate CIM @ 60 psi	Nominal Tons R22 Suction 40° @ 1 psi	Nominal Tons R22 Liquid 40° @ 1 psi	Weight (lbs.)
		(ODS)	Cup Size	A ± .125	B ± .030	C							
900MA-4S	685768407669	1/4	0.252/0.256	4.00	0.31	0.875	1.2	800	400	<0.015	0.4	2.6	.19
900MA-6S	685768407676	3/8	0.378/0.381	4.00	0.31	0.875	1.3	800	4000	<0.015	0.6	3.1	.19
900MA-8S	685768407683	1/2	0.503/0.506	5.00	0.38	1.125	3.5	800	3800	<0.034	1.2	9.4	.33
900MA-10S	685768407591	5/8	0.628/0.631	5.00	0.50	1.125	3.5	800	3800	<0.034	1.4	13	.34
900MA-14S	685768407621	3/4	0.878/0.881	7.00	0.75	1.625	3.8	800	3000	<0.074	3.7	29	.86
900MA-11S	685768407607	1%	1/128/1.132	8.38	0.94	2.125	6.8	800	3000	<0.122	6.0	51	1.53
900MA-13S	685768407614	1%	1.378/1.382	9.38	1.00	2.625	10.2	800	2900	<0.172	9.5	79	2.48
900MA-15S	685768407638	1%	1.628/1.633	10.50	1.09	3.125	11.4	800	2900	<0.272	17.0	102	3.69
900MA-21S	685768407645	2%	2.128/ 2.133	12.00	1.34	3.625	18.1	800	2500	<0.386	30.0	213	5.6
900MA-25S	685768407652	2%	2.628/2.633	13.00	1.50	4.125	23.0	700	2300	<0.512	50.0	375	7.8

## Pressure-Relief Valves

Superior offers the most complete range of refrigeration relief valves in the industry. All valves have been designed, constructed and rated in accordance with ANSI/ASHRAE 15-1994 Standard Safety Code for Mechanical Refrigeration.

Each valve is stamped U.V./N.B. to indicate National Board certifications as to capacities. Certified National Board ratings are printed on the next page.

These pressure-relief valves are all PTFE seated, permitting their use in applications of either high or low temperatures where the conventional rubber seated valves

- Body construction: brass
- Seat material: 100% PTFE
- Spring material: stainless steel
- Minimum temperature: -40° F
- Maximum temperature: 325° F
- Initial leak: set pressure ±3%
- Full discharge: initial leak +10%
- Reseat: by 80% of set pressure
- ASME Certificate No.: 16-564
- Canadian Registration No.: 0G8195
- RoHS compliant

are often completely unsatisfactory.

Part Numbers indicate style and size of relief valve only — customer must specify pressure setting when ordering. **Standard pressure settings are available from 150-800 psi. Part Numbers for pressure settings 500-800 include a “C” as in “3000C-550”**

*Note: Prior to installation or during pressure vessel testing, Superior pressure-relief valves should not be discharged. Any dirt in the system may embed in the seat and prevent the pressure-relief valve from resealing properly.*

*Important: A pressure-relief valve is installed in a refrigeration system primarily to protect the receiver. Since it is not intended to be an overload or high-pressure cutout, we recommend that the pressure-relief valve be set at the working pressure marked on the receiver, regardless of the type of refrigerant used. The method for determining “set pressure” is outlined in ANSI/ASHRAE 15 Standard Safety Code for Mechanical Refrigeration.*

*Note: Pressure-relief valves cannot be returned to the factory. This policy helps maintain product integrity.*

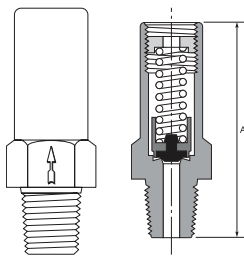
*PTFE is a registered trademark of Dupont.*

- N.B. Certificate Nos.:
  - 3000 Series M41173
  - 3020 Series M41184
  - 3030 Series M41195
  - 3060 Series M41207

*Discharge capacities shown in pounds air per minute.*

*To convert pounds air per minute to standard cubic feet per minute, multiply by 13.1.*

### Atmospheric — Types 3000 & 3000C, 3001 & 3001C, 3002 & 3002C



Part Number	Port Diameter	Size (Inches)		Dimensions		Weight (lbs.)	Discharge Capacity					
		Inlet NPT	Outlet	A (inches)			235 (psig)	300 (psig)	350 (psig)	400 (psig)	425 (psig)	450 (psig)
3000	3/16	1/8	*	2.17	0.19	8.1	10.2	11.8	13.5	X	15.1	X
3001	3/16	1/4	*	2.30	0.19	8.1	10.2	11.8	13.5	14.3	15.1	16.7
3002	3/16	3/8	*	2.30	0.19	8.1	10.2	11.8	13.5	14.3	15.1	16.7

Part Number	Port Diameter	Size (Inches)		Dimensions		Weight (lbs.)	Discharge Capacity				
		Inlet NPT	Outlet	A (inches)			550 (psig)	600 (psig)	650 (psig)	700 (psig)	750 (psig)
3000C	3/16	1/8	*	2.17	0.21	18.3	19.9	X	23.2	X	X
3001C	3/16	1/4	*	2.30	0.21	18.3	19.9	21.6	23.2	24.9	26.5
3002C	3/16	3/8	*	2.30	0.21	18.3	19.9	21.6	23.2	X	X

\* Atmospheric - No external connection.

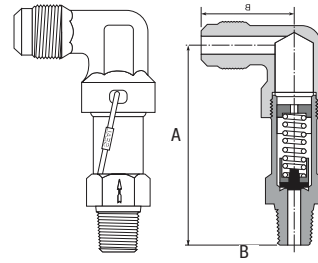
X - Valve unavailable at pressure setting

RoHS Compliant

Pressure-Relief Valves

Angle –

Types 3212 & 3212C, 3214 & 3214C, 3215 & 3215C, 3216 & 3216C, 3220 & 3220C



Part Number	Port Diameter	Size (Inches)		Dimensions		Weight (lbs.)	Discharge Capacity							
		Inlet NPT	Outlet SAE	A (inches)	B (inches)		235 (psig)	300 (psig)	350 (psig)	400 (psig)	425 (psig)	450 (psig)	500 (psig)	
3212	3/16	1/4	3/8	2.92	1.41	0.50	8.1	10.2	11.8	13.5	X	15.1	X	
3214	3/16	3/8	3/8	2.92	1.41	0.50	8.1	10.2	11.8	13.5	X	15.1	X	
3215	3/16	3/8	1/2	2.92	1.41	0.50	X	10.2	11.8	13.5	14.3	15.1	X	
3216	9/32	3/8	1/2	2.66	1.50	0.75	X	X	X	X	28.4	X	X	
3220	9/32	1/2	5/8	2.84	1.62	0.75	16.1	20.3	23.6	26.8	28.4	30.1	33.3	

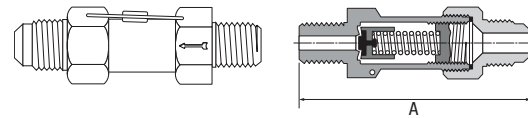
Part Number	Port Diameter	Size (Inches)		Dimensions		Weight (lbs.)	Discharge Capacity					
		Inlet NPT	Outlet SAE	A (inches)	B (inches)		550 (psig)	600 (psig)	650 (psig)	700 (psig)	750 (psig)	800 (psig)
3212C	3/16	1/4	3/8	2.92	1.41	0.52	X	X	21.6	X	X	X
3214C	3/16	3/8	3/8	2.92	1.41	0.52	18.3	19.9	X	X	X	X
3215C	3/16	3/8	1/2	2.92	1.41	0.52	X	X	21.6	X	X	X
3216C	9/32	3/8	1/2	3.60	1.50	0.83	X	X	X	X	X	X
3220C	9/32	1/2	5/8	3.60	1.62	0.83	X	39.9	43.1	46.4	X	X

X - Valve unavailable at pressure setting

RoHS Compliant

Straight-Thru –

Types 3012 & 3012C, 3014 & 3014C, 3015 & 3015C, 3016 & 3016C, 3020 & 3020C



Part Number	Port Diameter	Size (Inches)		Dimensions		Weight (lbs.)	Discharge Capacity							
		Inlet NPT	Outlet SAE	A (inches)	B (inches)		235 (psig)	300 (psig)	350 (psig)	400 (psig)	425 (psig)	450 (psig)	500 (psig)	
3012	3/16	1/4	3/8	2.98	0.25	8.1	10.2	11.8	13.5	14.3	15.1	X		
3014	3/16	3/8	3/8	2.98	0.25	8.1	10.2	11.8	13.5	14.3	15.1	X		
3015	3/16	3/8	1/2	3.11	0.25	X	10.2	11.8	13.5	14.3	15.1	X		
3016	9/32	3/8	1/2	3.28	0.5	16.1	20.3	23.6	26.8	28.4	30.1	X		
3020	9/32	1/2	5/8	3.50	0.5	16.1	20.3	23.6	26.8	28.4	30.1	33.3		

Part Number	Port Diameter	Size (Inches)		Dimensions		Weight (lbs.)	Discharge Capacity					
		Inlet NPT	Outlet SAE	A (inches)	B (inches)		550 (psig)	600 (psig)	650 (psig)	700 (psig)	750 (psig)	800 (psig)
3012C	3/16	1/4	3/8	2.98	0.27	18.3	19.9	21.6	23.2	X	X	
3014C	3/16	3/8	3/8	2.98	0.27	X	19.9	21.6	X	X	X	
3015C	3/16	3/8	1/2	3.11	0.27	18.3	19.9	21.6	23.2	X	X	
3016C	9/32	3/8	1/2	4.13	0.58	X	39.9	43.1	46.4	X	X	
3020C	9/32	1/2	5/8	4.45	0.58	36.6	39.9	43.1	46.4	49.6	52.9	

X - Valve unavailable at pressure setting

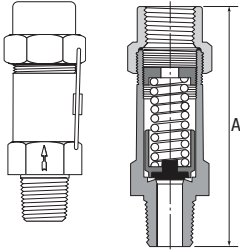
RoHS Compliant





**Female Connection –**

**Types 3030, 3031, 3045, 3060, 3075**



Part Number	Port Diameter	Size (Inches)		Dimensions		Discharge Capacity					
		Inlet NPT	Outlet FPT	A (inches)	Weight (lbs.)	235 (psig)	300 (psig)	350 (psig)	400 (psig)	425 (psig)	450 (psig)
3030	7/16	1/2	1/2	3.69	0.75	36.9	46.6	54	61.4	65.1	68.8
3031	7/16	1/2	3/4	4.00	0.75	36.9	46.6	54	61.4	65.1	68.8
3045	7/16	3/4	3/4	4.00	0.75	36.9	46.6	54	61.4	65.1	68.8
3060	23/32	1	1	4.87	2.5	88	111	X	X	X	X
3075	23/32	1 1/4	1 1/4	5.12	2.75	88	111	X	X	X	X

*X - Valve unavailable at pressure setting*

*RoHS Compliant*

## Selection of Relief Valves for Commercial Refrigeration and Air Conditioning Applications Based on ANSI/ASHRAE Standard 15

To select a pressure-relief valve, it is necessary first to determine the discharge capacity required to protect the refrigerant-containing vessel under consideration. The ANSI/ASHRAE Standard 15 states that the required discharge capacity of a pressure-relief valve used on such a vessel is directly proportional to the size of the vessel. Once the size of the vessel to be protected is known, the required discharge capacity of the pressure-relief valve may then be determined by using the following formula:

$$C = fDL$$

- Where: C = minimum required discharge capacity of the pressure-relief device in pounds of air per minute (kg/sec).  
 f = factor dependent upon type of refrigerant<sup>1</sup>. (See Table 1 below)  
 D = outside diameter of vessel in feet (m).  
 L = length of vessel in ft. (m).

**Table 1**

<b>Refrigerant</b> .....	<b>Value of f</b>
<i>When used on the low side of a limited-charge cascade system (Values in parentheses are metric):</i>	
R-23, R-170, R-744, R-1150, R-508A, R-508B .....	1.0 (0.082)
R-13, R-13B1, R-503 .....	2.0 (0.163)
R-14 .....	2.5 (0.203)
<i>Other applications:</i>	
R-718 .....	0.2 (0.016)
R-717 .....	0.5 (0.041)
R-11, R-32, R-113, R-123, R-142b, R-152a, R-290, R-600, R-600a, R-764 .....	1.0 (0.082)
R-12, R-22, R-114, R-124, R-134a, R-401A, R-401B, R-401C, R-405A, R-406A, R-407C, R-407D, R-407E, R-409A, R-409B, R-411A, R-411B, R-411C, R-412A, R-414A, R-414B, R-500, R-1270 .....	1.6 (0.131)
R-143a, R-402B, R-403A .....	2.0 (0.163)
R-407A, R-408A, R-413A .....	2.0 (0.163)
R-115, R-402A, R-403B, R-404A, R-407B, R-410A, R-410B, R-502, R-507A, R-509A .....	2.5 (0.203)

Example: What is the required discharge capacity of a pressure-relief valve to be used on an R-22 receiver that is 14" in diameter and 42" long having a design working pressure of 320 psi?

Solution: D = 1.167 ft., L = 3.5 ft., and f = 1.6 from Table 1:  
 C = fDL = 1.6 x 1.167 x 3.5  
 C = 6.5 lbs. air/min.

In other words, under the conditions listed above, a receiver of this size requires a pressure-relief valve with a minimum discharge capacity of 6.5 pounds of air per minute at a pressure setting of 320 PSIG.

### Pressure-Relief Valve Settings

All pressure-relief valves are rated according to their discharge capacity either in pounds of air per minute or kg/sec. at a given pressure setting. Under the ANSI/ASHRAE 15 Standard, pressure-relief valves shall start to function at a pressure not to exceed the design pressure of the parts of the system protected.

Generally, a pressure-relief valve may be set so that its initial leak is 100% of the design working pressure of the pressure vessel, regardless of the type of refrigerant used. The method of determining set pressure is outlined in Section 9.2 of the ANSI/ASHRAE Standard 15.

### General Regulations and Recommendations

1. Pressure-relief valves are installed in a refrigeration system primarily to protect the receiver or other pressure vessel in the event of a fire or any other emergency high-pressure conditions. Fuse plugs protect only in the event of fire.
2. All systems must have a pressure-relief valve or a fuse plug installed in order to comply with the ANSI/ASHRAE Standard 15.
3. Pressure vessels with an internal gross volume of 3 ft.<sup>3</sup> (0.085 m<sup>3</sup>) or less shall use one or more pressure-relief devices or a fusible plug.  
*Note: Local codes may require pressure-relief valves on receivers smaller than 3 ft.<sup>3</sup>.*
4. Pressure vessels of more than 3 ft.<sup>3</sup> (0.085 m<sup>3</sup>) but less than 10 ft.<sup>3</sup> (0.285 m<sup>3</sup>) internal gross volume shall use one or more pressure-relief devices. Fusible plugs are not permitted and should not be used.
5. Pressure vessels of 10 ft.<sup>3</sup> (0.285 m<sup>3</sup>) or more internal gross volume use a single rupture member or dual pressure-relief valves when discharging to the atmosphere. Dual pressure-relief valves are installed with a three-way valve to allow testing or repairs (See Superior 3155W Series Valves). A three-way valve used in conjunction with the dual pressure-relief valves is not considered a stop valve.
6. Fuse plugs are temperature responsive relief devices only, and for all practical purposes, can only be considered as protection for the receiver of the system in cases of fire when the fire is in the immediate vicinity of the fuse plug.
7. Superior recommends the use of spring-loaded pressure-relief devices, such as our four series of pressure-relief valves. They are pressure sensitive and add an additional protection against abnormal system pressures.
8. Superior pressure-relief valves are approved and tested as required by Section VIII, Division 1 of the ASME Boiler and Pressure Vessel Code. All valves have pertinent data marked on the side of the valve body as required by the ASME Boiler and Pressure Vessel Code.
9. The pressure-relief valve set pressure cannot be higher than the design working pressure of the pressure vessel it is protecting, but, if conditions permit, the pressure-relief valve set pressure should be at least 25% higher than the maximum normal operating pressure.
10. All pressure-relief valves installed on the high side must be in a vapor space as near to the receiver as practical. Stop valves cannot be placed in the line between the pressure-relief valve and the pressure vessel it is protecting. In general, the pressure-relief valve should be installed directly to the receiver above the liquid level or as near to

the inlet of the receiver as practical. All pipe and fittings between the pressure-relief valve and the parts of the system it protects must have at least the same diameter of the pressure-relief valve inlet diameter.

11. The size of discharge pipe from a pressure-relief valve must not be less than the outlet size of the pressure-relief valve. See ANSI/ASHRAE Standard 15 for requirements and guidelines on discharge piping.
12. Prior to installation or during pressure vessel testing, Superior pressure-relief valves should not be discharged. Any dirt in the system may imbed in the seat and prevent the pressure-relief valve from resealing properly.
13. The statements in this document reflect and are taken directly from ANSI/ASHRAE Standard 15-1994 and ANSI/ASHRAE Addendum 15c-2000. Please consult these standards for any additional information.

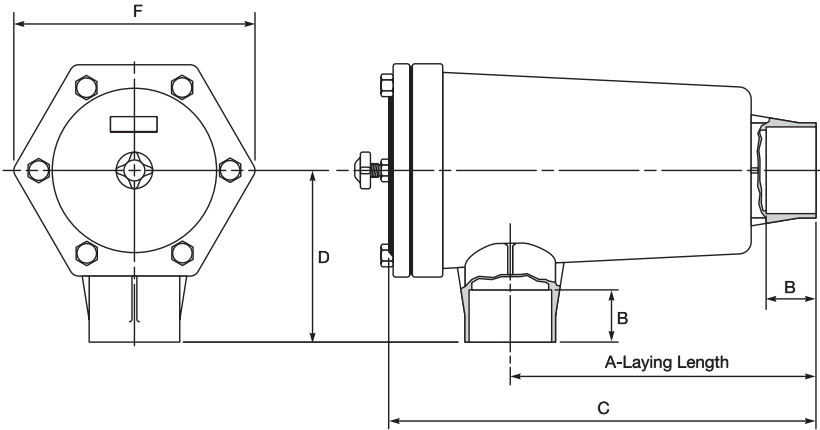
*Note: Relief valves are non-returnable.  
The policy helps maintain product integrity.*



CFA Uni-Form Shells

CFA Uni-Form® Shells

- All-brass one-piece shell, significantly better than steel
- 700 PSIG working pressure
- May be silver brazed for permanent installation and protection of system
- Minimal space required for installation
- No paint to peel
- No rust or corrosion
- Single cartridge design
- Access valve (1/4" SAE) readily permits pressure drop readings
- Corrosion-resistant stainless steel bolts permit easy access for changing of cartridges
- No welds or solder joints, no chance of leaks!
- UL® and cUL Listed, File No. SA 2718 (N)



Shells Only – Cartridges Not Included

Part Number	UPC Code	Conn. ODS	Bolt Torque (ft. lbs.)	Nominal Shell Dia. E (in.)	A (in.)	B (in.)	F (in.)	C (in.)	D (in.)	Weight (lbs.)
3CFA-14S	685768407881	3/8	14	3	6 3/4	3/4	4 5/8	9 1/16	2 15/16	7.83
3CFA-18S	685768408130	1/2	14	3	7 1/16	1	4 5/8	9 5/8	3 1/4	8.20
3CFA-22S	685768408123	1 3/8	14	3	7 7/16	1 1/8	4 5/8	9 3/4	3 3/8	9.10
3CFA-26S	685768407447	1 1/2	14	3	7 3/8	1 3/16	4 5/8	10	3 11/16	8.80
3CFA-34S	685768408048	2 1/8	14	3	7 5/8	1 1/16	4 5/8	10 1/16	3 13/16	9.75
4CFA-18S*	685768407898	1 1/8	20	4	7 3/8	1	5 1/8	10 17/32	3 3/4	14.50
4CFA-22S	685768408260	1 3/8	20	4	7 7/16	1 1/8	5 1/8	10 7/8	3 5/8	12.80
4CFA-26S	685768407935	1 1/2	20	4	7 3/4	1 3/16	5 1/8	11 1/16	4 1/16	13.20
4CFA-34S	685768408253	2 1/8	20	4	8	1 1/16	5 1/8	11 3/8	4 3/16	13.80
4CFA-42S	685768408031	2 3/8	20	4	8 7/32	1 1/16	5 1/8	11 17/32	4 7/16	14.20
5CFA-34S	685768407904	2 1/8	35	5	8 3/4	1 1/16	7 1/4	12 1/2	4 3/4	24.00
5CFA-42S	685768408079	2 3/8	35	5	8 5/8	1 1/16	7 1/4	12 11/16	4 7/8	22.18
5CFA-50S	685768408086	3 1/8	35	5	8 11/16	1 13/16	7 1/4	12 3/8	4 15/16	21.40

\* Liquid line service only.

Replacement Flange Gaskets for CFA Shells

Part Number	For Shell Number
AG3	3CFA
AG4	4CFA
AG5	5CFA



## Suction Line Filters

### CFA Uni-Form® Shell Replaceable Cartridges



Type F Filter Cartridge

#### F Series Replaceable Filter Cartridge

- Super-pleated filter media provides up to twice the filter area of any other pleated or non-pleated filter cartridge today
- Traps solid contaminants down to 10 microns in size
- Integral end rings are permanently bonded to filter media
- Stainless steel helical wire spring within the filter eliminates the possibility of cartridge collapse under normal operation conditions



Type DF Filter-Drier Cartridge

#### DF Series Replaceable Dual-Purpose Filter Plus Drier Cartridge

- Molded solid core of specially blended molecular sieve and activated alumina produces a dual-purpose suction line filter/drier of unusually high efficiency and capacity
- Can be used for system clean-ups or on a permanent use basis
- Solid contaminants never reach the desiccant core
- Moisture and acids are efficiently removed from the refrigerant stream
- All filters or filters plus driers should be changed when pressure drop across cartridge increases significantly
- All filters or filters plus driers are rated in accordance with ARI standard 730
- Always follow compressor manufacturer's recommendations

#### Replaceable Cartridges – Type F Filter

Part Number	UPC Code	For Shell Number	Cartridge OD (in.)	Cartridge Length (in.)	Filter Area (in. <sup>2</sup> )	Standard Package	Weight per Package (lbs.)	Weight (lbs.)
F25A	685768407553	2CFA	1 <sup>23</sup> / <sub>32</sub>	6 <sup>5</sup> / <sub>16</sub>	66	12	4 <sup>1</sup> / <sub>4</sub>	0.17
F35A	685768407560	3CFA	2 <sup>5</sup> / <sub>16</sub>	6 <sup>21</sup> / <sub>32</sub>	115	12	6	0.26
F45A	685768407584	4CFA	3 <sup>17</sup> / <sub>32</sub>	7 <sup>3</sup> / <sub>16</sub>	189	12	9 <sup>3</sup> / <sub>4</sub>	0.68
F55A	685768407577	5CFA	4 <sup>1</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>16</sub>	270	12	11 <sup>3</sup> / <sub>4</sub>	0.67

#### Replaceable Cartridges – Type DF for Clean-up and Permanent Use

Part Number	UPC Code	For Shell Number	Cartridge OD (in.)	Cartridge Length (in.)	Filter Area (in. <sup>2</sup> )	Standard Package	Weight per Package (lbs.)	Weight (lbs.)
DF25A	685768407522	2CFA	1 <sup>23</sup> / <sub>32</sub>	6 <sup>11</sup> / <sub>32</sub>	66	12	5 <sup>3</sup> / <sub>4</sub>	0.26
DF35A	685768407942	3CFA	2 <sup>5</sup> / <sub>16</sub>	6 <sup>21</sup> / <sub>32</sub>	115	12	10 <sup>1</sup> / <sub>2</sub>	0.67
DF45A	685768407539	4CFA	3 <sup>17</sup> / <sub>32</sub>	7 <sup>7</sup> / <sub>32</sub>	189	12	17 <sup>1</sup> / <sub>4</sub>	1.26
DF55A	685768407546	5CFA	4 <sup>1</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>32</sub>	270	12	24 <sup>1</sup> / <sub>2</sub>	1.77

Suction Line Filters

CFA Uni-Form® Shell Replaceable Cartridges

Selection and Ratings of Shells and Cartridges for R12, R22, R502

Part Number	Conn. ODS (Inches)	Permanent Filter Cartridge and Surface Area	Temporary Clean-Up Cartridge and Surface Area	Maximum Tonnage Ratings														
				Evaporation Temperatures														
				-40° F			-20° F			0° F			20° F			40° F		
				Pressure Drop (psi)														
				0.5	0.5	0.5	1.0	1.0	1.0	1.5	1.5	1.5	2.0	2.0	2.0	3.0	3.0	
				Refrigerant Number														
R22	R502	R12	R22	R502	R12	R22	R502	R12	R22	R502	R12	R22	R502					
3CFA-14S	0.875	F35A 115 sq. in.	DF35A 115 sq. in.	1.4	1.1	1.2	2.6	2.1	2.2	4.2	3.3	3.5	6.1	4.9	5.1	9.4	7.7	
3CFA-18S	1.125			2.2	1.7	1.9	4.1	3.2	3.5	6.6	5.2	5.5	9.7	7.8	8.1	15.0	12.0	
3CFA-22S	1.375			3.5	2.7	3.0	6.6	5.2	5.6	10.5	8.3	8.8	15.5	12.4	13.0	24.0	19.3	
3CFA-26S	1.625			4.3	3.3	3.7	8.1	6.3	6.9	12.8	10.2	10.8	19.0	15.2	15.8	29.0	24.0	
3CFA-34S	2.125			5.7	4.4	4.9	10.7	8.4	9.1	17.0	13.5	14.3	25.0	20.0	21.0	38.0	31.0	
4CFA-22S	1.375	F45A 189 sq. in.	DF45A 189 sq. in.	3.7	2.9	3.2	7.0	5.5	5.9	11.0	8.8	9.3	16.3	13.0	13.6	25.0	20.0	
4CFA-26S	1.625			4.6	3.6	4.0	8.7	6.8	7.4	14.0	11.0	11.7	20.0	16.4	17.0	31.0	26.0	
4CFA-34S	2.125			7.8	6.0	6.7	14.6	11.5	12.4	23.0	18.5	19.6	34.0	28.0	29.0	53.0	43.0	
4CFA-42S	2.625			9.5	7.3	8.1	17.8	14.0	15.1	29.0	23.0	24.0	42.0	34.0	35.0	64.0	52.0	
5CFA-34S	2.125	F55A 270 sq. in.	DF55A 270 sq. in.	9.4	7.2	8.1	17.6	13.8	15.0	28.0	22.0	24.0	41.0	33.0	34.0	63.0	52.0	
5CFA-42S	2.625			12.4	9.6	10.7	23.0	18.2	20.0	37.0	29.0	31.0	54.0	44.0	45.0	84.0	68.0	
5CFA-50S	3.125			15.3	11.8	13.2	29.0	23.0	24.0	46.0	36.0	38.0	67.0	54.0	56.0	103.0	84.0	

Part Number	Conn. ODS (Inches)	Permanent Filter Plus Drier Cartridge and Surface Area	Maximum Tonnage Ratings														
			Evaporation Temperatures														
			-40° F			-20° F			0° F			20° F			40° F		
			Pressure Drop (psi)														
			0.5	0.5	0.5	1.0	1.0	1.0	1.5	1.5	1.5	2.0	2.0	2.0	3.0	3.0	
			Refrigerant Number														
R22	R502	R12	R22	R502	R12	R22	R502	R12	R22	R502	R12	R22	R502				
3CFA-14S	0.875	DF35A 115 sq. in.	1.3	1.0	1.1	2.5	1.9	2.1	3.9	3.1	3.3	5.8	4.6	4.8	8.9	7.2	
3CFA-18S	1.125		2.0	1.6	1.7	3.8	3.0	3.2	6.0	4.8	5.1	8.9	7.1	7.4	13.6	11.1	
3CFA-22S	1.375		2.9	2.2	2.5	5.4	4.2	4.6	8.6	6.8	7.3	12.7	10.2	10.6	19.5	15.9	
3CFA-26S	1.625		3.4	2.6	2.9	6.3	5.0	5.4	10.0	8.0	8.4	14.8	12.0	12.3	23.0	18.5	
3CFA-34S	2.125		4.2	3.2	3.6	7.8	6.1	6.7	12.5	9.9	10.5	18.3	14.7	15.3	28.0	23.0	
4CFA-22S	1.375	DF45A 189 sq. in.	3.3	2.5	2.8	6.1	4.8	5.2	9.8	7.8	8.2	14.4	11.5	12.0	22.0	18.0	
4CFA-26S	1.625		4.3	3.3	3.7	8.1	6.3	6.9	12.8	10.2	10.8	19.0	15.2	15.7	29.0	24.0	
4CFA-34S	2.125		6.3	4.9	5.4	11.8	9.3	10.0	18.8	14.9	15.8	28.0	22.0	23.0	43.0	35.0	
4CFA-42S	2.625		6.5	5.0	5.6	12.2	9.5	10.3	19.3	15.4	16.3	29.0	23.0	24.0	44.0	36.0	
5CFA-34S	2.125	DF55A 270 sq. in.	7.5	5.8	6.4	14.0	11.0	12.0	22.0	17.8	18.8	33.0	27.0	28.0	51.0	41.0	
5CFA-42S	2.625		9.0	7.0	7.8	17.0	13.3	14.4	27.0	22.0	23.0	40.0	32.0	33.0	61.0	50.0	
5CFA-50S	3.125		10.7	8.3	9.2	20.0	15.8	17.1	32.0	25.0	27.0	47.0	38.0	39.0	72.0	59.0	



## CFA Uni-Form® Shell Replaceable Cartridges

### Selection and Ratings of Shells and Cartridges for R404A, R134A

Part Number	Conn. ODS (Inches)	Permanent Filter Cartridge and Surface Area	Temporary Clean-Up Cartridge and Surface Area	Maximum Tonnage Ratings								
				Evaporation Temperatures								
				-40° F	-20° F		0° F		20° F		40° F	
				Pressure Drop (psi)								
				0.5	0.5	1.0	1.0	1.5	1.5	2.0	2.0	3.0
				Refrigerant Number								
				R404A	R134A	R404A	R134A	R404A	R134A	R404A		
3CFA-14S	0.875	F35A 115 sq. in.	DF35A 115 sq. in.	1.1	1.3	2.1	2.5	3.4	4.0	5.1	6.0	8.1
3CFA-18S	1.125			1.7	2.0	3.3	3.9	5.4	6.3	8.1	9.4	12.8
3CFA-22S	1.375			2.7	3.2	5.2	6.2	8.7	10.0	12.9	15.1	20.5
3CFA-26S	1.625			3.3	3.9	6.4	7.6	10.6	12.3	15.8	18.4	25.0
3CFA-34S	2.125			4.4	5.2	8.5	10.0	14.0	16.2	20.9	24.4	33.1
4CFA-22S	1.375	F45A 189 sq. in.	DF45A 189 sq. in.	2.8	3.4	5.5	6.5	9.1	10.6	13.6	15.9	21.6
4CFA-26S	1.625			3.6	4.3	6.9	8.2	11.4	13.2	17.1	19.9	27.0
4CFA-34S	2.125			6.0	7.1	11.6	13.7	19.2	22.2	28.6	33.3	45.3
4CFA-42S	2.625			7.3	8.7	14.2	16.7	23.4	27.1	34.9	40.7	55.3
5CFA-34S	2.125	F55A 270 sq. in.	DF55A 270 sq. in.	7.2	8.6	14.0	16.5	23.1	26.7	34.5	40.1	54.6
5CFA-42S	2.625			9.5	11.4	18.5	21.8	30.5	35.3	45.6	53.0	72.1
5CFA-50S	3.125			11.8	14.2	23.0	27.2	38.0	44.0	56.8	66.1	89.9

Part Number	Conn. ODS (Inches)	Permanent Filter Plus Drier Cartridge and Surface Area	Maximum Tonnage Ratings								
			Evaporation Temperatures								
			-40° F	-20° F		0° F		20° F		40° F	
			Pressure Drop (psi)								
			0.5	0.5	1.0	1.0	1.5	1.5	2.0	2.0	3.0
			Refrigerant Number								
				R404A	R134A	R404A	R134A	R404A	R134A	R404A	
3CFA-14S	0.875	DF35A 115 sq. in.	1.0	1.2	2.0	2.3	3.2	3.7	4.8	5.6	7.6
3CFA-18S	1.125		1.5	1.9	3.0	3.6	5.0	5.8	7.4	8.6	11.0
3CFA-22S	1.375		2.2	2.6	4.3	5.1	7.1	8.2	10.6	12.4	16.8
3CFA-26S	1.625		2.6	3.1	5.0	5.9	8.3	9.6	12.4	14.4	19.6
3CFA-34S	2.125		3.2	3.8	6.2	7.3	10.3	11.9	15.3	17.8	24.3
4CFA-22S	1.375	DF45A 189 sq. in.	2.5	3.0	4.9	5.9	8.0	9.3	12.0	14.0	19.0
4CFA-26S	1.625		3.3	3.9	6.4	7.6	10.6	12.2	15.8	18.4	25.0
4CFA-34S	2.125		4.8	5.8	9.4	11.1	15.5	17.9	23.1	26.9	36.6
4CFA-42S	2.625		5.0	5.9	9.6	11.4	15.9	18.4	23.8	27.7	37.7
5CFA-34S	2.125	DF55A 270 sq. in.	5.7	6.9	11.2	13.2	18.4	21.4	27.6	32.1	43.6
5CFA-42S	2.625		6.9	8.3	13.5	15.9	22.3	25.8	33.3	38.7	52.7
5CFA-50S	3.125		8.2	9.8	16.0	18.8	26.4	30.5	39.4	45.9	62.4



Suction Line Filters

CFA Uni-Form® Shell Replaceable Cartridges

Selection and Ratings of Shells and Cartridges for R507

Part Number	Conn. ODS (Inches)	Permanent Filter Cartridge and Surface Area	Temporary Clean-Up Cartridge and Surface Area	Maximum Tonnage Ratings					
				Evaporation Temperatures					
				-40° F	-20° F	0° F	20° F	40° F	
				Pressure Drop (psi)					
				0.5	1.0	1.5	2.0	3.0	
				Refrigerant Number					
					R507	R507	R507	R507	R507
3CFA-14S	0.875	F35A 115 sq. in.	DF35A 115 sq. in.	1.1	2.2	3.5	5.3	8.3	
3CFA-18S	1.125			1.8	3.4	5.6	8.4	13.2	
3CFA-22S	1.375			2.8	5.4	8.9	13.4	21.1	
3CFA-26S	1.625			3.4	6.7	10.9	16.4	25.7	
3CFA-34S	2.125			4.6	8.8	14.4	21.7	34.1	
4CFA-22S	1.375	F45A 189 sq. in.	DF45A 189 sq. in.	3.0	5.7	9.4	14.1	22.2	
4CFA-26S	1.625			3.7	7.2	11.7	17.7	27.8	
4CFA-34S	2.125			6.2	12.0	19.7	29.7	46.6	
4CFA-42S	2.625			7.6	14.7	24.0	36.2	56.9	
5CFA-34S	2.125	F55A 270 sq. in.	DF55A 270 sq. in.	7.5	14.5	23.7	35.8	56.2	
5CFA-42S	2.625			9.9	19.2	31.3	47.2	74.2	
5CFA-50S	3.125			12.4	23.9	39.1	58.9	92.4	

Part Number	Conn. ODS (Inches)	Permanent Filter plus Drier Cartridge and Surface Area	Maximum Tonnage Ratings						
			Evaporation Temperatures						
			-40° F	-20° F	0° F	20° F	40° F		
			Pressure Drop (psi)						
			0.5	1.0	1.5	2.0	3.0		
			Refrigerant Number						
					R507	R507	R507	R507	R507
3CFA-14S	0.875	DF35A 115 sq. in.	1.0	2.0	3.3	5.0	7.8		
3CFA-18S	1.125		1.6	3.1	5.1	7.7	12.1		
3CFA-22S	1.375		2.3	4.5	7.3	11.0	17.3		
3CFA-26S	1.625		2.7	5.2	8.5	12.8	20.1		
3CFA-34S	2.125		3.3	6.5	10.5	15.9	25.0		
4CFA-22S	1.375	DF45A 189 sq. in.	2.6	5.1	8.3	12.5	19.6		
4CFA-26S	1.625		3.4	6.6	10.9	16.4	25.7		
4CFA-34S	2.125		5.0	9.7	15.9	24.0	37.6		
4CFA-42S	2.625		5.2	10.0	16.4	24.7	38.7		
5CFA-34S	2.125	DF55A 270 sq. in.	6.0	11.6	19.0	28.6	44.9		
5CFA-42S	2.625		7.2	14.0	22.9	34.5	54.2		
5CFA-50S	3.125		8.6	16.6	27.1	40.9	64.1		





## CD35, CD45 and CD55 Char-Core® Liquid Line Cores



### Features and Benefits of Char-Core® Liquid Line Cores

- Wax build-up is prevented due to a high percentage of activated charcoal desiccant providing optimum wax adsorption.
- This special formulated blend gives Char-Core® liquid line cores the ability to remove not only wax, but virtually all other contaminants found in air conditioning and refrigeration systems.
- Maximum core permeability due to uniformity of desiccant size and shape.
- System pressure drop is minimized (along with the possibility of flash gas) because of the large, open-mesh, single-core bonded construction and large surface area.
- “Hot packaging” prepares cores for field installation. Each core comes from a vacuum oven and is individually packaged in a special heat-sealed foil bag to maintain total dryness.
- High mechanical crush strength of the new Char-Core® exceeds industry minimum standards and precludes powdering.
- Added compressor protection with a built-in double-mesh stainless screen on the outlet side of the core.
- Integral felt gaskets at each end of the Char-Core® cushion against shock and eliminate the need for extra gaskets in the package.
- High capacity, replaceable for the removal of wax, moisture and acids from refrigeration and air conditioning systems.

### Ratings for CD35 Liquid Line Char-Core® 65 sq. in. Filter Surface / 35 cu. in. Desiccant

Part Number	ODS (Inches)	R12		R22		R502		Tonnage Recommendations								
		Tons Flow 1#ΔP	Water Capacity		Tons Flow 1#ΔP	Water Capacity		Tons Flow 1#ΔP	Water Capacity		Comm. and Low Temperature			Air Conditioning		
			75° F	125° F		75° F	125° F		75° F	125° F	R12	R22	R502	R12	R22	R502
3CFA-14S	3/8	13.0			17.0			11.4			10	12	10	12	15	11
3CFA-18S	1/2	20.4	969	841	26.8	884	862	18.0	841	705	15	18	12	18	20	15
3CFA-22S	1/2	23.9			31.4			21.1			18	20	15	20	25	20

### Ratings for CD45 Liquid Line Char-Core® 93 sq. in. Filter Surface / 63 cu. in. Desiccant

Part Number	ODS (Inches)	R12		R22		R502		Tonnage Recommendations								
		Tons Flow 1#ΔP	Water Capacity		Tons Flow 1#ΔP	Water Capacity		Tons Flow 1#ΔP	Water Capacity		Comm. and Low Temperature			Air Conditioning		
			75° F	125° F		75° F	125° F		75° F	125° F	R12	R22	R502	R12	R22	R502
4CFA-18S	1/2	29.4			38.6			25.9			25	30	20	25	30	25
4CFA-22S	1/2	35.9	1724	1496	47.2	1572	1534	31.7	1496	1255	30	35	25	35	40	30
4CFA-26S	1/2	48.3			63.5			42.6			35	40	30	38	50	35
4CFA-34S	2/3	64.5			84.8			57.0			50	60	45	55	70	50

### Ratings for CD55 Liquid Line Char-Core® 123 sq. in. Filter Surface / 91 cu. in. Desiccant

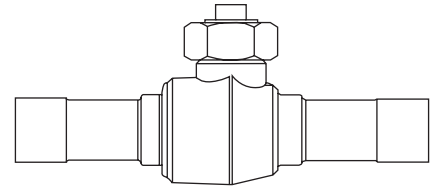
Part Number	ODS (Inches)	R12		R22		R502		Tonnage Recommendations								
		Tons Flow 1#ΔP	Water Capacity		Tons Flow 1#ΔP	Water Capacity		Tons Flow 1#ΔP	Water Capacity		Comm. and Low Temperature			Air Conditioning		
			75° F	125° F		75° F	125° F		75° F	125° F	R12	R22	R502	R12	R22	R502
5CFA-34S	2/3	91.4	2472	2145	120.2	2254	2200	80.7	2145	1800	65	85	55	70	100	60
5CFA-42S	2/3	92.3			120.9			81.3			—	—	—	—	—	—



Spare Parts List

**WA/WAS Series Ball Valves**

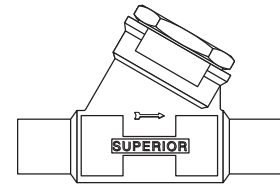
Catalog Series	586WA, 587WA	591WA, 592WA, 593WA, 594WA	595WA, 596WA
Seal Cap Replacement Kit	587CAP-KIT	594CAP-KIT	596CAP-KIT



**H-V Check Valves**

Catalog Series	802, 803	804	804ADX
25 Piece Gasket Kit	802-12-KIT	804A-12-KIT	
Seat Kit	803SEAT-KIT	804SEAT-KIT	P804ADX-11-41

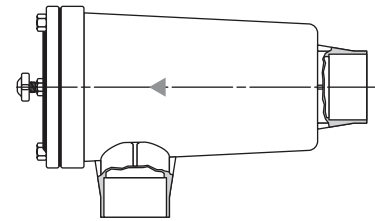
*Includes seat, gasket and spring.*



**CFA Shells**

Catalog Series	2CFA	3CFA	4CFA	5CFA
Shell Replacement Kit	2CFA-KIT	3CFA-KIT	4CFA-KIT	5CFA-KIT

*Includes access fitting with core, gasket, retaining spring, 6 bolts and an outlet cap.*



## Codes, Regulations and Specifications

Superior refrigeration and air conditioning components are made to various regulations and standards that currently exist in our industry. Where codes or specifications exist, Superior assures each product manufactured meets the maximum conditions of such codes. In cases where there are no code requirements, our manufacturing specifications require even tighter controls to ensure the optimum in good engineering practices. Briefly outlined below is a description of the various codes to which our products are manufactured. Detailed information or data is available upon request.

### **Underwriters Laboratories, Inc.**

We have submitted and obtained certified listings on many of our standard products. Many of these items have been approved for working pressures far greater than found in normal refrigeration applications.

The majority of Superior Refrigeration Products are UL® approved up to 800 PSIG maximum working pressure.

### **Local and Municipal Codes**

There are many municipal governing bodies with stringent codes for products used in their locality. Where Superior products are sold and used in these areas, the necessary approvals have been obtained.

### **for Mechanical Refrigeration**

This code outlines specific requirements for the testing of pressure-relief valves.

*Note: The relief valves cataloged on pages 11-13 are the most complete and diversified line of approved relief valves available in the industry. In addition to relief valves, all other items in this catalog which come under the jurisdiction of this safety code are built to comply with its requirements.*

### **ANSI-B70.1 American National Standard for Refrigeration Flare Type Fittings**

This code outlines very accurately all the dimensions required for refrigeration flare-type fittings. Only fittings that comply with this code should be used in refrigeration work to ensure you the best performance.

### **Society of Automotive Engineers**

All requirements previously established by the SAE were incorporated in the ANSI-B70.1.

### **European Directive 2014/68/EU for Pressure Equipment**

All of the relevant products meet the requirements of the European Union's Pressure Equipment Directive. Superior has received CE Certification on Category I and higher. These products are marked accordingly.

### **ANSI-B57.1 Compressed Gas Cylinder Valve Outlet and Inlet Connections**

Superior products comply with the requirements of this standard. Superior staff members sit on various cylinder gas committees charged with modifications and improvements to this code.

### **Air Conditioning and Refrigeration Institute Standards**

These standards are closely adhered to in our manufacturing operation to make certain that all Superior products meet the specifications and ratings outlined in the code.

### **Pamphlet S-1, Compressed Gas Association, Inc., Safety Relief Device Standards**

All Superior safety devices are built in accordance with CGA's recommendations. For a complete cross reference of Superior Part Numbers with CGA safety device numbers, contact our factory.

### **Canadian Registration Numbers CRN# 0C 8195**

All shut-off and check valves.  
Expiry date: May 22, 2022

### **CRN# 0G 8195**

All pressure-relief valves.  
Expiry date: April 19, 2022

### **ANSI/ASHRAE 15 American National Standard**

Product Line	Inlet	Outlet	Outlet	Superior Catalog Number	Streamline® Replacement
<b>Tuffy Straight Thru Valves</b>	1/4 SAE	1/4 SAE		214-4	A 14833
	3/8 SAE	3/8 SAE		214-6	A 14835
	1/2 SAE	1/2 SAE		215-8	A 14836
	5/8 SAE	5/8 SAE		216-10	A 14837
<b>Tuffy Straight Thru Valves</b>	1/4 ODS	1/4 ODS		214-4S	A 14838
	3/8 ODS	3/8 ODS		214-6S	A 14840
	1/2 ODS	1/2 ODS		215-8S	A 14841
	5/8 ODS	5/8 ODS		216-10S	A 14842
<b>Tuffy Straight Thru Valves, Tube Ext.</b>	1/4 SAE	1/4 SAE		214-4ST	A 14848
	3/8 SAE	3/8 SAE		214-6ST	A 14850C
	1/2 SAE	1/2 SAE		215-8ST	A 14851
	5/8 SAE	5/8 SAE		216-10ST	A 14852
<b>Tuffy Angle Valves</b>	1/4 NPT	1/4 SAE		114-4B	A 15525
	1/4 NPT	3/8 SAE		114-6B	A 15526
	3/8 ODS	3/8 ODS		115-8S	A 15541
<b>Tuffy Purge and Drain Valves</b>	1/4 ODS	1/4 SAE		234A-4	A 18998
	3/8 ODS	3/8 SAE		234A-6	A 18997
<b>H/V Line Check Valves</b>	7/8 ODS	7/8 ODS		805C-14S	B 34235
	1 1/8 ODS	1 1/8 ODS		806C-11S	B 34236
	1 3/8 ODS	1 3/8 ODS		807C-13S	B 34237
	1 5/8 ODS	1 5/8 ODS		808C-15S	B 34238
	2 1/8 ODS	2 1/8 ODS		809C-21S	B 34239
	2 5/8 ODS	2 5/8 ODS		884C-25S	B 34240
	3 1/8 ODS	3 1/8 ODS		885C-31S	B 34241
<b>Dual Pressure Relief Valve 3155W Series</b>	1/2 MPT	3/2 FPT		3155W-D	A 19043
	7/8 MPT	1/2 FPT		3155WX1-14S	A 18730
<b>Packed Angle Valves 600A Series</b>	1/4 NPT	1/4 SAE		600A-4B	A 11031
	3/8 NPT	1/4 SAE		600A-4C	A 13613
	1/4 NPT	3/8 SAE		600A-6B	A 11030
	3/8 NPT	3/8 SAE		600A-6C	A 13503
<b>Packed Angle Valves 605 Series</b>	1/4 NPT	3/8 SAE		605-6D	A 19023
	3/8 NPT	1/2 SAE		605-8C	A 11042
	1/2 NPT	1/2 SAE		605-8D	A 13220
	1/2 NPT	5/8 SAE		606B-10D	A 13183
	1/4 NPT	1/4 FPT		605-KB	A 13502
	1/4 NPT	5/8 ODS		605-10S	A 13978
<b>Packed Angle Valves 617A Series</b>	1/4 ODS	1/4 SAE		617A-4S4	A 17502
	3/8 ODS	1/4 SAE		617A-6S4	A 17913
	3/8 ODS	3/8 SAE		617A-6S6	A 17503
	1/2 ODS	1/4 SAE		617A-8S4	A 19022
	1/2 ODS	3/8 SAE		617A-8S6	A 19021
<b>Transducer Valve</b>	1/4 NPT/ODS	1/8 FPT	1/4 SAE	617AX4-4S4	A 17502
<b>Oil Leveler/SORIT or EPR Pilot Isolation Valve</b>	1/4 f/SAE	1/4 mSAE		600B-4U4	A 17429
	3/8 fSAE	3/8 mSAE		600B-6U6	A 17474
<b>MST Series - Male Solder Tube Ball Valves</b>	7/8 ODS	7/8 ODS		587WBS-14MST	B 35397
	1 1/8 ODS	1 1/8 ODS		591WBS-11MST	AG17865
	1 3/8 ODS	1 3/8 ODS		592WBS-13MST	AG17866
	1 5/8 ODS	1 5/8 ODS		593WBS-15MST	AG17867
	2 1/8 ODS	2 1/8 ODS		594WBS-21MST	AG17868





Pressure-Relief Valves UPC Reference

Part Number	UPC Code	Weight (lbs.)	Part Number	UPC Code	Weight (lbs.)	Part Number	UPC Code	Weight (lbs.)	Part Number	UPC Code	Weight (lbs.)
3000-150	685768421542	0.14	3012C-675	685768422181	0.25	3020C-580	685768422785	0.58	3212-280	685768423485	0.36
3000-175	685768421559	0.14	3012C-700	685768422198	0.25	3020C-600	685768422792	0.58	3212-300	685768423492	0.36
3000-235	685768421566	0.14	3014-150	685768422204	0.24	3020C-625	685768422808	0.58	3212-320	685768423508	0.36
3000-250	685768421573	0.14	3014-180	685768422211	0.24	3020C-650	685768422815	0.58	3212-350	685768423515	0.36
3000-300	685768421580	0.14	3014-225	685768422228	0.24	3020C-700	685768422822	0.58	3212-400	685768423522	0.36
3000-350	685768421597	0.14	3014-235	685768422235	0.24	3020C-750	685768422839	0.58	3212-450	685768423546	0.36
3000-400	685768421603	0.14	3014-300	685768422242	0.24	3020C-800	685768422846	0.58	3212C-650	685768423560	-
3000-450	685768421610	0.14	3014-325	685768422259	0.24	3030-150	685768422860	0.70	3214-200	685768423577	0.38
3000C-525	685768421627	0.16	3014-350	685768422266	0.24	3030-200	685768422877	0.70	3214-235	685768423584	0.38
3000C-550	685768421634	0.16	3014-375	685768422273	0.24	3030-225	685768422884	0.70	3214-300	685768423591	0.38
3000C-600	685768421641	0.16	3014-400	685768422280	0.24	3030-235	685768422891	0.70	3214-350	685768423607	0.38
3000C-675	685768421658	0.16	3014-425	685768422297	0.24	3030-240	685768422907	0.70	3214-400	685768423614	0.38
3000C-700	685768421665	0.16	3014-450	685768422303	0.24	3030-250	685768422914	0.70	3214-450	685768423621	0.38
3000C-725	685768421672	0.16	3014C-600	685768422310	0.27	3030-300	685768422921	0.70	3214C-550	685768423638	0.39
3001-150	685768421689	0.17	3014C-650	685768422327	0.27	3030-325	685768422938	0.70	3214C-600	685768423645	0.39
3001-175	685768421696	0.17	3015-290	685768422334	0.26	3030-330	685768422945	0.70	3215-280	685768423652	0.38
3001-195	685768421702	0.17	3015-300	685768422341	0.26	3030-350	685768421498	0.70	3215-300	685768423669	0.38
3001-235	685768421719	0.17	3015-350	685768422358	0.26	3030-375	685768422952	0.70	3215-350	685768423676	0.38
3001-265	685768421726	0.17	3015-375	685768422365	0.26	3030-400	685768422969	0.70	3215-400	685768423683	0.38
3001-300	685768421733	0.17	3015-400	685768422372	0.26	3030-425	685768422976	0.70	3215-425	685768423690	0.38
3001-325	685768421740	0.17	3015-425	685768422389	0.26	3030-450	685768422983	0.70	3215-450	685768423706	0.38
3001-350	685768421757	0.17	3015-450	685768422396	0.26	3030-475	685768422990	0.70	3215-480	685768423713	0.38
3001-400	685768421764	0.17	3015C-550	685768422402	0.27	3031-150	685768423003	0.72	3215C-650	685768423720	-
3001-425	685768421771	0.17	3015C-600	685768422419	0.27	3031-235	685768423010	0.72	3216-425	685768423737	-
3001-450	685768421795	0.17	3015C-625	685768422426	0.27	3031-300	685768423027	0.72	3220-150	685768423744	0.72
3001-475	685768421818	0.17	3015C-650	685768422433	0.27	3031-325	685768423034	0.72	3220-200	685768423751	0.72
3001-500	685768421825	0.17	3015C-700	685768422440	0.27	3031-350	685768423041	0.72	3220-225	685768423768	0.72
3001C-550	685768421832	0.17	3016-225	685768422457	0.41	3031-400	685768423058	0.72	3220-235	685768423775	0.72
3001C-600	685768421849	0.17	3016-235	685768422464	0.41	3031-425	685768423065	0.72	3220-250	685768423782	0.72
3001C-650	685768421856	0.17	3016-300	685768422471	0.41	3031-450	685768423072	0.72	3220-275	685768423799	0.72
3001C-675	685768421863	0.17	3016-330	685768422488	0.41	3045-150	685768423096	0.82	3220-300	685768423805	0.72
3001C-700	685768421870	0.17	3016-350	685768422495	0.41	3045-175	685768423102	0.82	3220-325	685768423812	0.72
3001C-750	685768421887	0.17	3016-400	685768422501	0.41	3045-190	685768423119	0.82	3220-350	685768421535	0.72
3001C-800	685768421894	0.17	3016-425	685768422518	0.41	3045-200	685768423126	0.82	3220-360	685768423843	0.72
3002-150	685768421917	0.19	3016-450	685768422525	0.41	3045-225	685768423133	0.82	3220-400	685768423829	0.72
3002-235	685768421924	0.19	3016C-525	685768422532	0.51	3045-235	685768423140	0.82	3220-425	685768423836	0.72
3002-300	685768421931	0.19	3016C-600	685768422549	0.51	3045-250	685768423157	0.82	3220-450	685768423850	0.72
3002-350	685768421948	0.19	3016C-650	685768422556	0.51	3045-300	685768423164	0.82	3220-500	685768423867	0.72
3002-400	685768421955	0.19	3016C-700	685768421481	0.51	3045-350	685768423171	0.82	3220C-600	685768423874	0.83
3002-425	685768421979	0.19	3020-150	685768422563	0.48	3045-375	685768423188	0.82	3220C-650	685768423881	0.83
3002-450	685768421986	0.19	3020-170	685768422570	0.48	3045-400	685768421504	0.82	3220C-675	685768423898	0.83
3002-475	685768421993	0.19	3020-200	685768422587	0.48	3045-425	685768423195	0.82	3220C-700	685768423904	0.83
3002-500	685768422006	0.19	3020-210	685768422594	0.48	3045-450	685768423201	0.82			
3002C-550	685768422013	0.20	3020-225	685768422600	0.48	3060-150	685768423249	1.98			
3002C-600	685768422020	0.20	3020-235	685768422617	0.48	3060-180	685768423256	1.98			
3002C-625	685768422037	0.20	3020-250	685768422624	0.48	3060-185	685768423263	1.98			
3002C-650	685768422044	0.20	3020-275	685768422631	0.48	3060-190	685768423270	1.98			
3002C-700	685768422051	0.20	3020-285	685768422648	0.48	3060-200	685768421528	1.98			
3002C-725	685768422068	0.20	3020-300	685768422655	0.48	3060-225	685768423287	1.98			
3012-150	685768422075	0.23	3020-325	685768422662	0.48	3060-235	685768423294	1.98			
3012-235	685768422082	0.23	3020-350	685768422679	0.48	3060-250	685768423300	1.98			
3012-250	685768422099	0.23	3020-385	685768422686	0.48	3060-260	685768423317	1.98			
3012-300	685768422105	0.23	3020-400	685768422693	0.48	3060-275	685768423324	1.98			
3012-350	685768421474	0.23	3020-420	685768422709	0.48	3060-300	685768421511	1.98			
3012-400	685768422112	0.23	3020-425	685768422716	0.48	3075-150	685768423409	2.52			
3012-425	685768422129	0.23	3020-430	685768422723	0.48	3075-200	685768423416	2.52			
3012-450	685768422136	0.23	3020-435	685768422730	0.48	3075-235	685768423423	2.52			
3012-480	685768422143	0.23	3020-450	685768422747	0.48	3075-250	685768423430	2.52			
3012C-550	685768422150	0.25	3020-500	685768422754	0.48	3075-300	685768423447	2.52			
3012C-600	685768422167	0.25	3020C-525	685768422761	0.58	3212-225	685768423461	0.36			
3012C-650	685768422174	0.25	3020C-550	685768422778	0.58	3212-235	685768423478	0.36			







