



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!

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WA/WAS Series Ball Valves

INTEGRA-SEAL®

WA Series — No Access Fitting

WAS Series — Includes Access Fitting

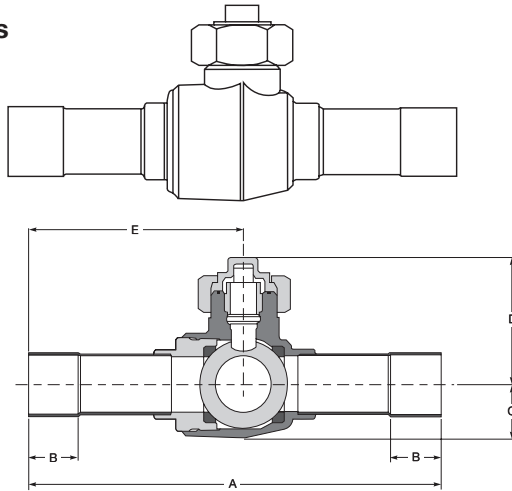
A robotically welded body joint. Full-size ports for unrestricted flow. These ball valves employ the latest robotic welding technology. Every continuous welded body joint is 100% factory tested to ensure positively leak-free performance. Dual PTFE ball seals surround a polished brass or carbon steel 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.

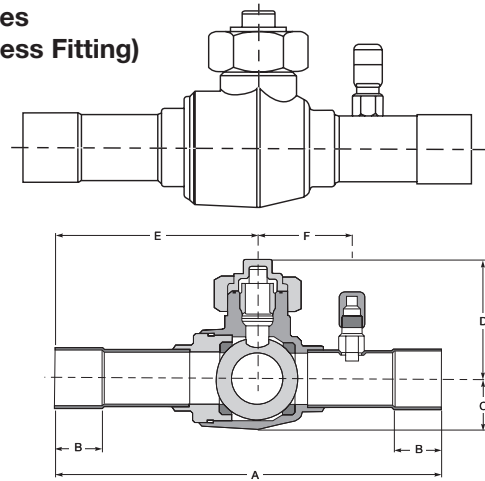
All sizes incorporate a dual stem seal design utilizing PTFE packing compressed by an internal packing nut forming the primary seal. The unique seal cap design permits valve operation without removal of the seal cap and uses

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 3⅛". 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 ¼	1.00	2.13	2.18
592WA-13ST	685768412069	592WAS-13ST	685768412977	1 ½	1.50	3.22	3.37
593WA-15ST	685768412984	593WAS-15ST	685768412991	1 ¾	1.50	3.81	3.85
594WA-21ST	685768413004	594WAS-21ST	685768413035	2 ¼	2.01	7.50	7.55
594WA-25ST**	685768413011	—	—	2 ½	2.01	9.35	N/A
594WA-31ST**	685768413028	—	—	3 ¼	2.01	10.13	N/A
595WA-25ST	685768413042	595WAS-25ST	685768413059	2 ¾	2.44	14.53	14.58
596WA-31ST	685768413066	596WAS-31ST	685768413097	3 ¼	2.91	24.85	24.90
596WA-35ST**	685768413073	—	—	3 ¾	2.91	27.40	N/A
596WA-41ST**	685768413080	—	—	4 ¼	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.



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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 _v	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

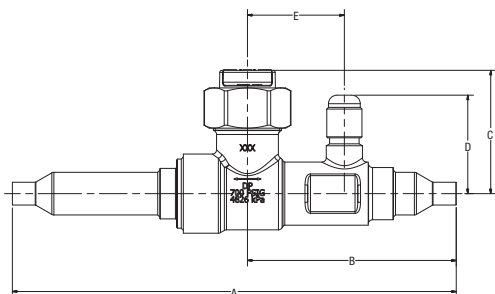
** Reduced ports.

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



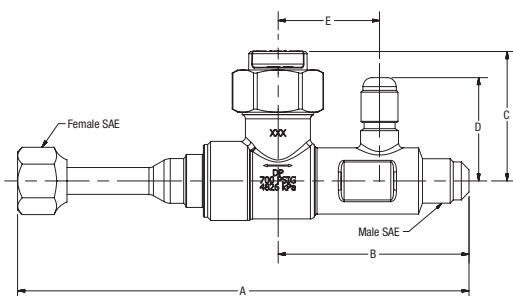
ODS x ODS Ball Valve Factory Wrapped in Foam Insulation

Part Number	UPC Code	Size (Inches)	Weight (lbs.)
Flare x Flare			
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)

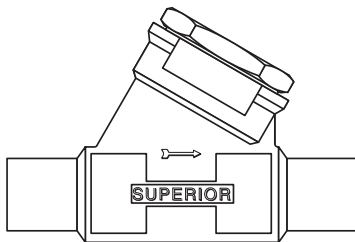
For years, this “Y” type of valve has been the most popular design in the refrigeration industry. The internal parts can easily be removed and reassembled after soldering. This basic “Y” type design reduces pressure drop to a very low level.

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



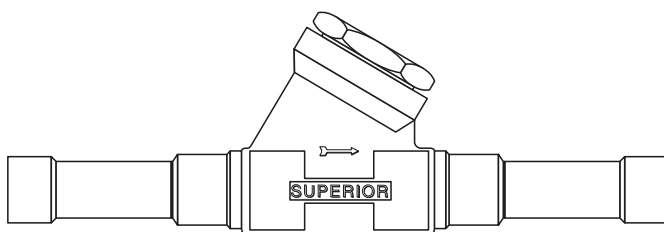
Part Number	UPC Code	Size (Inches)	Weight (lbs.)
Flare x Flare			
802B-4	685768409403	¼	0.54
802B-6	685768409441	⅜	0.55
802B-8	685768409489	½	0.58
ODS x ODS			
802B-4S	685768409410	¼	0.45
802B-6S	685768409458	⅜	0.53
802B-8S	685768409496	½	0.51
803B-10S	685768409632	⅝	0.55
804A-12S	685768409717	¾	0.89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

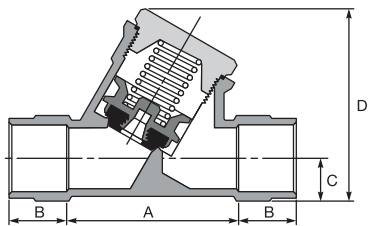
* Tube extensions permit valve to be silver soldered directly to line without disassembly.

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

Horizontal or Vertical Installation Check Valves

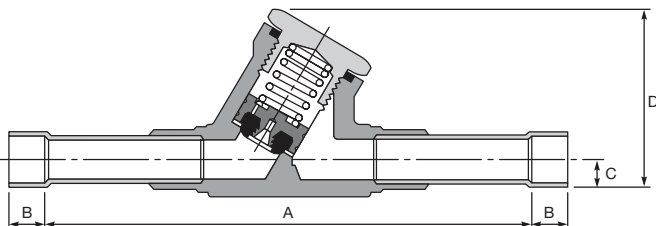
- Design pressure/ Maximum abnormal pressure (DP/MAP) 800 PSIG
- Construction: all-forged brass
- Seat material: PTFE
- Specially designed secondary seat backs up primary seat
- Copper gasket between body cap and body assures positive shut-off
- Continuous operating temperature (COT): -40°F to 400°F (-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 _v
		A	B	C	D	
Flare x Flare						
802B-4	1/4	2	1/2	19/32	2 1/16	N/A
802B-6	3/8	1 3/4	3/8	19/32	2 1/16	1.75
802B-8	1/2	1 1/2	3/4	19/32	2 1/16	3.2
ODS x ODS						
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	3/8	2	2 1/32	19/32	2 1/16	3.8
804A-12S	3/4	2 1/8	1/2	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



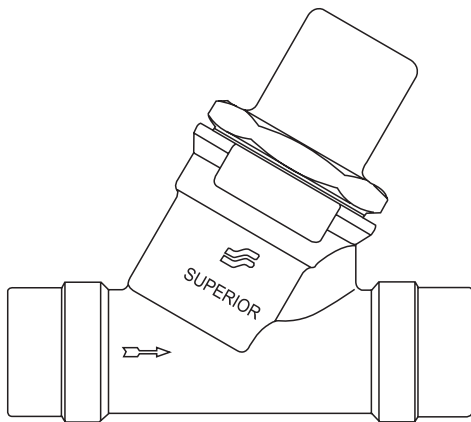
Part Number	Size	Dimensions (Inches)				C _v
		A	B	C	D	
802B-4ST	1/4	5 5/8	5/16	19/32	2 1/16	N/A
802B-6ST	3/8	5 5/8	3/8	19/32	2 1/16	1.75
802B-8ST	1/2	5 3/16	3/8	19/32	2 1/16	3.2
803B-10ST	3/8	5 1 3/16	1/2	19/32	2 1/16	3.8
804A-14ST	7/8	6 1/4	3/4	19/32	2 9/16	8.5

Horizontal or Vertical Installation Check Valves

Type 804ADX Check Valves Series

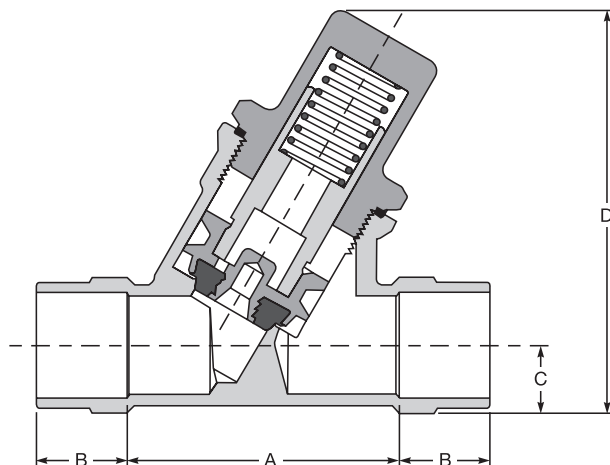
This unique dashpot cylinder design is ideal for compressor discharge applications. The tight tolerance fit between the seat guide and the seal cap bore acts like a shock absorber to dampen the seat from rapid compressor palpitations.

- 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

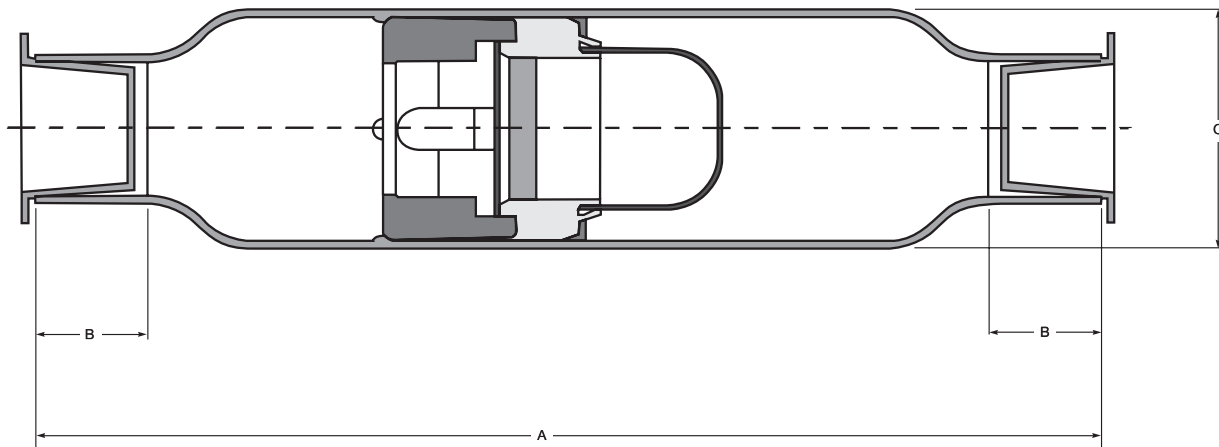
* PTFE disc in bottom of seal cap for additional noise dampening.

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 1/8	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 1/4	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 3/8	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 1/8	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 1/2	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.

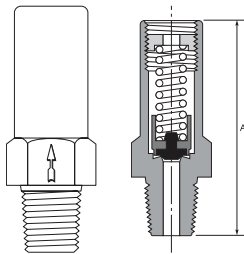
PTFE is a registered trademark of Dupont.

- 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		Discharge Capacity						
		Inlet NPT	Outlet	A (inches)	Weight (lbs.)	235 (psig)	300 (psig)	350 (psig)	400 (psig)	425 (psig)	450 (psig)	500 (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		Discharge Capacity					
		Inlet NPT	Outlet	A (inches)	Weight (lbs.)	550 (psig)	600 (psig)	650 (psig)	700 (psig)	750 (psig)	800 (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.

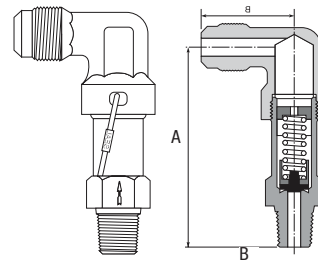
X - Valve unavailable at pressure setting

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	

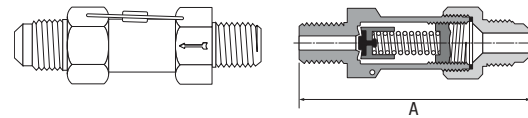
Part Number	Port Diameter	Size (Inches)		Dimensions		Weight (lbs.)	Discharge Capacity					
		Inlet NPT	Outlet SAE	A (inches)	B (inches)		550 (psig)	600 (psig)	650 (psig)	700 (psig)	750 (psig)	800 (psig)
3212C	3/16	1/4	3/8	2.92	1.41	0.52	X	X	21.6	X	X	X
3214C	3/16	3/8	3/8	2.92	1.41	0.52	18.3	19.9	X	X	X	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		

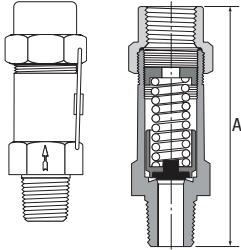
Part Number	Port Diameter	Size (Inches)		Dimensions		Weight (lbs.)	Discharge Capacity					
		Inlet NPT	Outlet SAE	A (inches)	B (inches)		550 (psig)	600 (psig)	650 (psig)	700 (psig)	750 (psig)	800 (psig)
3012C	3/16	1/4	3/8	2.98	0.27	18.3	19.9	21.6	23.2	X	X	
3014C	3/16	3/8	3/8	2.98	0.27	X	19.9	21.6	X	X	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 refrigerant¹. (See Table 1 below)
 D = outside diameter of vessel in feet (m).
 L = length of vessel in ft. (m).

Table 1

Refrigerant	Value of f
<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.³ (0.085 m³) 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.³.
4. Pressure vessels of more than 3 ft.³ (0.085 m³) but less than 10 ft.³ (0.285 m³) 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.³ (0.285 m³) 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.

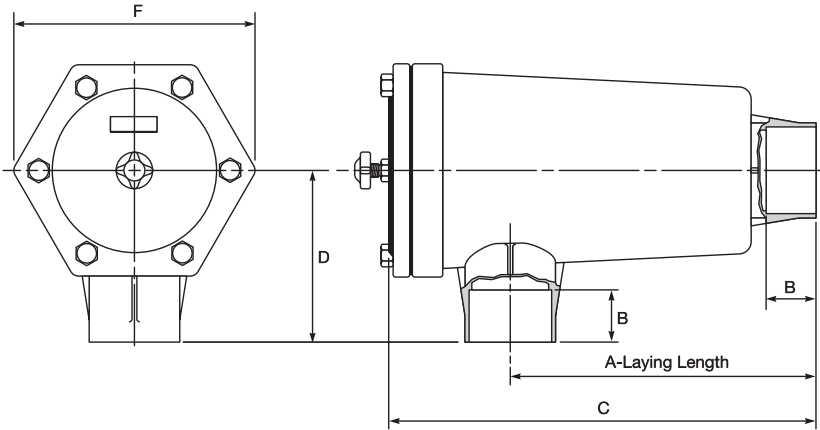
*Note: Relief valves are non-returnable.
The policy helps maintain product integrity.*



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 3/16	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 3/16	5 1/8	11 3/8	4 3/16	13.80
4CFA-42S	685768408031	2 3/8	20	4	8 7/32	1 3/16	5 1/8	11 17/32	4 7/16	14.20
5CFA-34S	685768407904	2 1/8	35	5	8 3/4	1 3/16	7 1/4	12 1/2	4 3/4	24.00
5CFA-42S	685768408079	2 3/8	35	5	8 5/8	1 3/16	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 9/16	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. ²)	Standard Package	Weight per Package (lbs.)	Weight (lbs.)
F25A	685768407553	2CFA	1 ²³ / ₃₂	6 ⁵ / ₁₆	66	12	4 ¹ / ₄	0.17
F35A	685768407560	3CFA	2 ⁵ / ₁₆	6 ²¹ / ₃₂	115	12	6	0.26
F45A	685768407584	4CFA	3 ¹⁷ / ₃₂	7 ³ / ₁₆	189	12	9 ³ / ₄	0.68
F55A	685768407577	5CFA	4 ¹ / ₁₆	8 ³ / ₁₆	270	12	11 ³ / ₄	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. ²)	Standard Package	Weight per Package (lbs.)	Weight (lbs.)
DF25A	685768407522	2CFA	1 ²³ / ₃₂	6 ¹¹ / ₃₂	66	12	5 ³ / ₄	0.26
DF35A	685768407942	3CFA	2 ⁵ / ₁₆	6 ²¹ / ₃₂	115	12	10 ¹ / ₂	0.67
DF45A	685768407539	4CFA	3 ¹⁷ / ₃₂	7 ⁷ / ₃₂	189	12	17 ¹ / ₄	1.26
DF55A	685768407546	5CFA	4 ¹ / ₁₆	8 ³ / ₃₂	270	12	24 ¹ / ₂	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								
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							
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

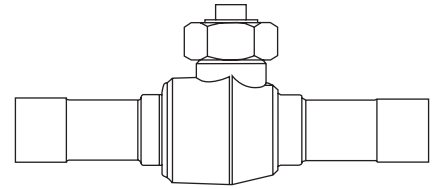
Ratings for CD55 Liquid Line Char-Core® 123 sq. in. Filter Surface / 91 cu. in. Desiccant

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

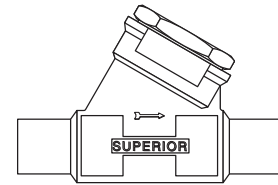
Catalog Series	586WA, 587WA	591WA, 592WA, 593WA, 594WA	595WA, 596WA
Seal Cap Replacement Kit	587CAP-KIT	594CAP-KIT	596CAP-KIT



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

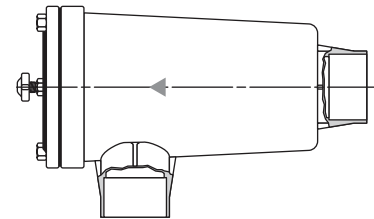
Includes seat, gasket and spring.



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
Tuffy Straight Thru Valves	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
Tuffy Straight Thru Valves	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
Tuffy Straight Thru Valves, Tube Ext.	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
Tuffy Angle Valves	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
Tuffy Purge and Drain Valves	1/4 ODS	1/4 SAE		234A-4	A 18998
	3/8 ODS	3/8 SAE		234A-6	A 18997
H/V Line Check Valves	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
Dual Pressure Relief Valve 3155W Series	1/2 MPT	3/2 FPT		3155W-D	A 19043
	7/8 MPT	1/2 FPT		3155WX1-14S	A 18730
Packed Angle Valves 600A Series	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
Packed Angle Valves 605 Series	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
Packed Angle Valves 617A Series	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
Transducer Valve	1/4 NPT/ODS	1/8 FPT	1/4 SAE	617AX4-4S4	A 17502
Oil Leveler/SORIT or EPR Pilot Isolation Valve	1/4 f/SAE	1/4 mSAE		600B-4U4	A 17429
	3/8 fSAE	3/8 mSAE		600B-6U6	A 17474
MST Series - Male Solder Tube Ball Valves	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





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JULY 2017