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Filter-Driers

Catalog A-1, April 2015

Parker

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Catalog A-1, April 2015 supersedes Catalog A-1, October 2007 and all prior publications.

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Filter-Driers

Introduction to Filter-Driers

The function of a filter-drier in a refrigeration system is to remove contaminants that are harmful. If these contaminants remain at elevated levels, they will jeopardize the longevity of the system. Contaminants that are frequently found include moisture, acid, copper oxides, metal chips, wax-like compounds and others.

Selecting a filter-drier for a particular application requires various technical factors to be considered. These factors include the type of system, connecting line size, water capacity, flow capacity (size of system), filtration capability, acid capacity, material of construction (steel vs. copper), and design pressures. Evaluation of each factor is necessary to ensure proper and economical filter-drier design.

Parker has developed filter-drier recommendations based on current technical data, as well as many years of actual field experience. Products are tested for flow and water capacity using the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) Standard 63.1 and are rated for use based on the Air Conditioning, Heating and Refrigeration Institute's guideline AHRI-710. Data obtained from this testing is shown in the capacities tables for liquid line filter-driers and can be used for comparison purposes. However, other factors must be considered for various types of equipment.

Moisture Removal

The ability to remove moisture from a refrigerant system is a primary function of the filter-drier. Moisture can come from many sources such as trapped air from improper evacuation, system leaks, and motor windings, to name a few. Another source is due to improper handling of polyolester (POE) and polyvinyl ether (PVE) lubricants, which are hygroscopic; that is, they readily absorb moisture. POEs and PVEs can pick up more moisture from their surroundings and hold it much tighter than the mineral oils which have been used for many years. This moisture can cause freeze-ups and corrosion of metallic components. Moisture in the system can hydrolyze the POE lubricant, forming organic acids. These acids, if they exist in significant quantity, will react with materials within the system and can adversely affect component operation. To prevent the formation of these acids, the moisture must be minimized. This is accomplished by the use of a filter-drier that utilizes molecular sieve and activated alumina.

Molecular sieves are crystalline sodium alumino-silicates (synthetic zeolites) having cubic crystals which selectively adsorb molecules based on molecular size and polarity. The crystal structure is honeycombed with regularly spaced cavities or pores. Each of these cavities or pores are uniform in size. This permits molecules, such as water, to be adsorbed, while allowing other larger molecules, such as the refrigerant, lubricant and acids to pass by. The surface of the desiccant is charged positively with cations, which act as a magnet and will therefore adsorb polarized molecules, such as water, and hold them tightly on the structure.

Acid Removal

Refrigerants by themselves are very stable, even when heated to a high temperature. However, certain conditions do occur which can result in the formation of acids. The reaction of refrigerants with water may cause hydrolysis and the formation of hydrochloric and hydrofluoric acids. These acids are usually present as a gas in the system and are highly corrosive. In ordinary usage this reaction is negligible, but in a very wet system operating at abnormally high temperature, some hydrolysis may occur.

Another significant source of acidity in refrigeration systems is organic acid formed from lubricant breakdown. As previously discussed, this can be the by-product of the hydrolyzed lubricant. However, organic acids can result from an oxidation reaction of the lubricant (from air left in the system) or if the thermal stability of the lubricant is exceeded for a period of time from an improper operating system.

Activated alumina is the desiccant of choice if added acid capacity is desired in the filter-drier. Many of the copper spun filter-driers referenced in this catalog are made with a 100% molecular sieve formulation and are not equipped with activated alumina. This is often all that is required for the type of system where they are used, since they minimize the potential of hydrolysis reactions of the lubricant and/or refrigerant. Copper filter-driers are designed with a molecular sieve to achieve the maximum water capacity because they are typically smaller than the steel counterpart and need this capacity. However, copper spun filter-driers are available with molecular sieve/activated alumina formulations if desired.

For steel shell filter-driers, catalog products often utilize a molecular sieve/activated alumina formulation appropriate with current system chemistries. These products come standard with this desiccant blend because these products often find numerous applications in service where the type and amount of contaminants are unknown. For these applications, filter-driers with a blend of molecular sieve and activated alumina is advantageous.

Filtration

Scale, solder particles, metallic fines and all types of foreign substances must be removed to protect the compressor, solenoid valves, expansion valves, capillary tubes and other close tolerance parts of a refrigeration system.

The solution to system filtration is the use of a filter-drier. The filter-drier can be constructed in two different formats to perform this function. The filter-drier can be a spring load desiccant design that utilizes multiple layers of a fibrous media that captures the circulating

Introduction to Filter-Driers

particulate. The alternate design (always used in large systems) is a molded core made with a specific desiccant formulation. The desiccants are sized and bonded in such a way that the useable shape provides the filtration. The large particles are caught on the surface of the core and the smaller solids are captured as the refrigerant channels through the desiccant core.

Steel vs. Copper

The major differences in using steel vs. copper filter-driers are the system sizes and applications. Copper filter-driers are normally used in 5 ton and smaller, less complex applications, including systems with less pressure fluctuations and lower vibration tendencies. Some smaller systems do not require high filtration capabilities; however, some of the smaller systems using the new refrigerants will require better filtration. In order to meet these requirements, a molded core construction and filter-driers with additional fibrous media and screen should be considered. Also, copper is typically the most economical option for smaller systems. Because copper driers are used for smaller applications, the refrigerant charge required will generally be smaller than in the steel filter-drier.

Information regarding operating pressure is required to adequately size the wall thickness of the filter-drier to attain the ultimate burst pressure, for both copper and steel. In accordance with Underwriters Laboratories (UL), the burst pressure is rated as five times the design working pressure of the system, or three times the design working pressure of the system when evaluated using the fatigue stress test outlined in UL 1995. Typically, for copper filter-driers, the design working pressure can be correlated to tube diameter and wall thickness to meet specific UL specifications.

Copper Service Filter-Driers

Parker's copper service filter-driers adsorb moisture and provide filtration to systems in the field. The features of the copper service filter-driers are provided below.

Applications

- Air conditioning, heat pump, and small refrigeration systems

Features and Benefits

- Made in the USA
- Worldwide OEM acceptance and usage
- All copper construction for corrosion resistance and simplified brazing
- 100% molecular sieve
- Compatible with commercially available refrigerants and lubricants
- UL Recognized SMGT2/SMGT8-SA1756

MMS-80
Working psi: 700
MMS-100
Working psi: 500

MMS-200
Working psi: 700

712
Working psi: 500

319F
Working psi: 750

619/620
Working psi: 750

621
Working psi: 750

1638F (Formerly CO73S)
Working psi: 750

Note: For models 319F and 1638F, the "F" represents UL fatigue qualification, not flare fittings.

Copper Service Filter-Driers

Specifications

U.L. Model No.	Part No.	Molecular Sieve (wt.)	Description	MRP		Tube Diameter		Overall Length		Inlet Tube Size (Inches)		Outlet Tube Size (Inches)	
				psi	bar	Inches	mm	Inches	mm	OD	ID	OD	ID
MMS-80	058070-01	10g	3/4" Non-directional (Not for Bi-Flow applications)	700	48.3	0.75	19	7.24	184	1/4	3/16	1/4	3/16
MMS-100	058198-01	10g	3/4" directional	500	34.5	0.75	19	7.24	184	1/4	3/16	1/4	3/16
MMS-200	032134-01	20g	1" directional with 3 step down fitting sizes	700	48.3	1.00	25	10.07	256	1/4	3/16	1/4	3/16
										5/16	1/4	5/16	1/4
										3/8	5/16	3/8	5/16
712	032092-01	10g	3/4" directional	500	34.5	0.75	19	7.31	186	1/4	3/16	—	.089 - .092 cap. tube
319F	032144-01	30g	1-3/16" directional	750	51.7	1.19	30	8.63	219	5/16	1/4	—	.127 - .130 cap. tube
619	032142-01	10g	3/4" w/access valve			0.75	19	7.98	203	1/4	3/16	—	.089 - .092 cap. tube
620	032133-02	20g	1" w/access valve			1.00	25	8.54	217	5/16	1/4	—	.127 - .130 cap. tube
621	032143-01	20g	1" w/double inlet			1.00	25	7.87	200	5/16	1/4	—	.127 - .130 cap. tube
1638F (Formerly CO73S)	032145-00	28g	1-5/8" directional			1.63	41	4.38	111	—	3/8	—	3/8

U.L. Model No.	Part No.	Recommended Tonnages / kW							
		R-134a		R-404A, R-502, R-507		R-22		R-410A	
		Tons	kW	Tons	kW	Tons	kW	Tons	kW
MMS-80	058070-01	1/3	1.17	1/4	0.91	1/2	1.76	1/2	1.80
MMS-100	058198-01	1/3	1.17	1/4	0.91	1/2	1.76	1/2	1.80
MMS-200	032134-01	3/4	2.64	1/2	2.05	1	3.52	1	3.60
712	032092-01	1/3	1.17	1/4	0.91	1/2	1.76	1/2	1.80
319F	032144-01	1	3.52	3/4	2.73	2	7.03	2	7.20
619	032142-01	1/3	1.17	1/4	0.91	1/2	1.76	1/2	1.80
620	032133-02	1	3.52	3/4	2.73	2	7.03	2	7.20
621	032143-01	1	3.52	3/4	2.73	2	7.03	2	7.20
1638F (Formerly CO73S)	032145-00	4	14.1	3	10.94	4	14.1	4	14.41

Water Capacity In Drops (Grams*) at AHRI-710 Conditions

U.L. Model No.	Part No.	Water Capacity in Drops									
		R-12		R-22		R-134a		R-401A, R-401B		R-402A, R-402B	
		75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)
MMS-80	058070-01	33	30	29	27	32	31	32	30	33	30
MMS-100	058198-01	33	30	29	27	32	31	32	30	33	30
MMS-200	032134-01	66	61	59	54	65	62	65	60	66	61
712	032092-01	33	30	29	27	32	31	32	30	33	30
319F	032144-01	99	91	89	82	97	93	97	90	99	91
619	032142-01	33	30	29	27	32	31	32	30	33	30
620	032133-02	66	61	59	54	65	62	65	60	66	61
621	032143-01	66	61	59	54	65	62	65	60	66	61
1638F (Formerly CO73S)	032145-00	92	85	83	76	91	86	91	84	92	85

U.L. Model No.	Part No.	Water Capacity in Drops							
		R-404A, R-507		R-407C		R-410A		R-502	
		75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)
MMS-80	058070-01	32	30	26	23	19	17	30	28
MMS-100	058198-01	32	30	26	23	19	17	30	28
MMS-200	032134-01	65	61	52	47	39	34	60	57
712	032092-01	32	30	26	23	19	17	30	28
319F	032144-01	98	91	78	70	59	52	91	85
619	032142-01	32	30	26	23	19	17	30	28
620	032133-02	65	61	52	47	39	34	60	57
621	032143-01	65	61	52	47	39	34	60	57
1638F (Formerly CO73S)	032145-00	91	85	73	66	55	48	85	80

*** 20 Drops = 1 Gram = 1 cc**

Cu LLD® Series Molded Core Copper Filter-Driers

Parker's solid-core copper filter-driers adsorb system contaminants and provide physical filtration to systems between 1/2 and 5 tons (1.8 to 17.5 kW). Applications include air conditioning, heat pumps, and small refrigeration systems.

Application

- System sizes between 1/2 to 5 tons (1.8 to 17.5 kW)

Base Product Part No.

- Cu LLD

Features and Benefits

- Made in the USA
- One-piece copper shells in 1-3/16" to 2" (30.2 to 50.8 mm) outside diameter, along with spun ODF solder fittings in a variety of sizes, provides easy installation
- 100% molecular sieve molded core for maximum water capacity
- Copper construction offers excellent corrosion resistance in harsh environments
- UL Recognized SMGT2/SMGT8-SA1756

Model No.	Part No.	100% Molecular Sieve Molded Core - Size Class	Description	UL Model	MRP		Tube Diameter		Overall Length		Inlet Tube Size	Outlet Tube Size
					psi	bar	Inches	mm	Inches	mm	ODF - Inches	ODF - Inches
Cu LLD 3-2S	032062-01	3 cu. In.	1-5/8" 3 cu in core 1/4" x 1/4"	1638F	750	51.7	1.63	41	4.00	102	1/4	1/4
Cu LLD 3-3S	032062-00	3 cu. In.	1-5/8" 3 cu in core 3/8" x 3/8"	1638F	750	51.7	1.63	41	4.00	102	3/8	3/8
Cu LLD 5-3S	032056-10	5 cu. In.	1-5/8" 5 cu in core 3/8" x 3/8"	1638F	750	51.7	1.63	41	5.19	132	3/8	3/8
Cu LLD 8-3S	032055-10	8 cu. In.	2"OD 8 cu in core 3/8" x 3/8"	2058F	650	44.8	2.00	51	6.06	154	3/8	3/8
Cu LLD 16-3S	032057-10	16 cu. In.	2"OD 16 cu in core 3/8" x 3/8"	2058F	650	44.8	2.00	51	6.68	170	3/8	3/8

Water Capacity In Drops (Grams*) at AHRI-710 Conditions

Model No.	Fitting Type ODF Solder (Inches)	Overall Length		Tube Diameter		R-22 (60 ppm)		R-134a (50 ppm)		R-404A, R-507 (50 ppm)		R-407C (50 ppm)		R-410A (50 ppm)	
		Inches	mm	Inches	mm	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)
Cu LLD 3-2S	1/4	4.71	120	1.63	41	63	55	69	62	68	61	48	41	37	31
Cu LLD 3-3S	3/8	4.71	120	1.63	41	63	55	69	62	68	61	48	41	37	31
Cu LLD 5-3S	3/8	6.06	154	2.00	51	86	75	94	85	94	83	66	56	51	43
Cu LLD 8-3S	3/8	6.68	170	2.00	51	150	131	165	147	164	145	115	98	89	75
Cu LLD 16-3S	3/8	6.68	170	2.00	51	241	209	263	236	261	223	173	147	142	119

*** 20 Drops = 1 Gram = 1 cc**

Installation Recommendations

Model No.	Nominal Ratings in Tons (kW)											
	Refrigeration Commercial Low Temp. Equipment						Air Conditioning OEM, Self-Contained/Field Replacement					
	R-134a		R-22		R-404A, R-507		R-134a		R-22, R-410A		R-404A, R-407C, R-507A	
	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW
Cu LLD 3-2S	3/4	2.6	3/4	2.6	1/2	1.8	1-1/2	5.3	1-1/2	5.3	1	3.5
Cu LLD 3-3S	1-3/4	6.1	1-1/2	5.3	1-3/4	6.1	3-1/2	12.3	3	10.5	2-1/2	8.8
Cu LLD 5-3S	1-3/4	6.1	1-1/2	5.3	1-3/4	6.1	3-1/2	12.3	3	10.5	2-1/2	8.8
Cu LLD 8-3S	2	7.0	1-1/2	5.3	1-3/4	6.1	3-1/2	12.3	3	10.5	2-1/2	8.8
Cu LLD 16-3S	2	7.0	1-1/2	5.3	1-3/4	6.1	4	14	3-1/2	12.3	2-1/2	8.8

Flow Capacity – Tons (kW) of Refrigeration at 1 psid (.07 Bar)

Model No.	R-22		R-134a		R-404A, R-507		R-407C		R-410A	
	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW
Cu LLD 3-2S	1.9	6.7	1.7	4.9	1.2	4.2	1.8	6.3	1.8	6.3
Cu LLD 3-3S	4.3	15.1	3.9	13.7	2.8	9.8	4.2	14.7	4.2	14.7
Cu LLD 5-3S	4.2	14.7	3.8	13.3	2.7	9.5	4.1	14.4	4.1	14.4
Cu LLD 8-3S	4.6	16.1	4.2	14.7	3.0	10.5	4.5	15.8	4.5	15.8
Cu LLD 16-3S	4.8	16.8	4.4	15.4	3.1	10.9	4.7	16.5	4.6	16.1

Gold Label Series Liquid Line Filter-Driers
LLD Series

Features and Benefits

- Made in the USA
- Unsurpassed moisture and acid capacities – maximum filtration capability for today's systems
- Compatible with all commercially available refrigerants including R-410A
- Compatible with mineral oil, alkybenzene and POE lubricants
- Spring loaded, molecular sieve and activated alumina
- Solid copper ODF solder fittings and nickel plated steel SAE fittings
- Powder paint exterior coating surpasses 500 hour ASTM salt spray test to resist corrosion
- Model Series 030 through 160 and 410 are rated for 650 psig (44.8 bar).
- Model Series 300 and 750 series are rated for 500 psig (34.5 bar).
- UL Listed under SMGT/SMGT7-SA1756

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Water Capacity In Drops (Grams*) at AHRI-710 Conditions

Model Series	R-22 (60 ppm)		R-134a (50 ppm)		R-404A, R-507 (50 ppm)		R-407C (50 ppm)		R-410A (50 ppm)	
	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)
LLD-030	71	66	78	74	78	73	55	49	42	37
LLD-050	177	160	196	185	194	182	127	115	87	78
LLD-080	250	230	277	262	273	257	180	162	124	111
LLD-160	358	325	395	375	389	367	258	232	178	159
LLD-300	755	698	826	786	822	773	579	521	446	397
LLD-410	1053	973	1151	1096	1145	1078	806	726	622	554
LLD-750	1607	1485	1757	1673	1748	1645	1231	1109	949	846

*** 20 Drops = 1 Gram = 1 cc**

Refrigerant Holding Capacity – Ounces (kg) of Refrigerant @ 100°F (38°C)

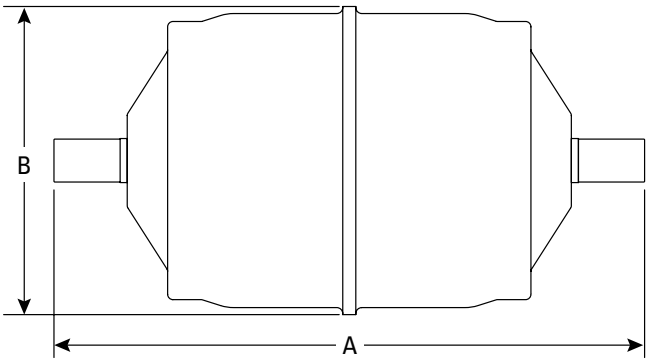
Model Series	R-12		R-22		R-134a		R-404A, R-507		R-407C		R-410A		R-502	
	Ounces	kg	Ounces	kg	Ounces	kg	Ounces	kg	Ounces	kg	Ounces	kg	Ounces	kg
LLD-030	1.9	0.5	1.7	0.5	1.8	0.5	1.5	0.4	1.5	0.4	1.5	0.4	1.8	0.5
LLD-050	3.3	0.9	3.0	0.9	3.0	0.9	2.6	0.7	2.8	0.8	2.6	0.7	2.9	0.8
LLD-080	6.1	1.7	5.5	1.6	5.6	1.6	4.8	1.4	5.3	1.5	4.8	1.4	5.4	1.5
LLD-160	9.1	2.6	8.2	2.3	8.4	2.4	7.1	2.0	7.8	2.2	7.2	2.0	8.0	2.3
LLD-300	26.7	7.3	24.2	6.9	24.5	6.9	20.7	5.9	20.8	5.9	21.1	6.0	24.4	6.9
LLD-410	37.3	10.6	33.8	9.6	34.2	9.7	29.0	8.2	29.0	8.2	29.4	8.3	34.1	9.7
LLD-750	71.3	20.2	64.5	18.3	65.3	18.5	55.3	15.7	56.5	16	56.2	15.9	65.2	18.5

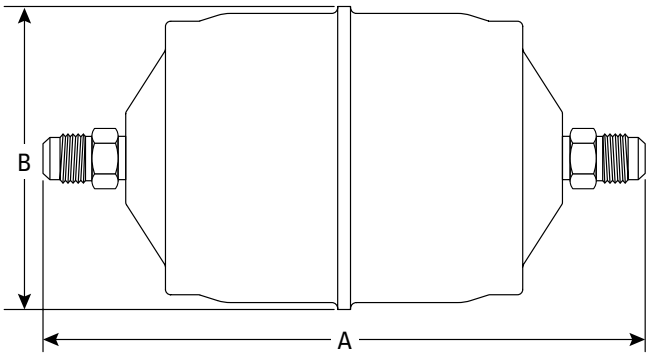
Gold Label Series Liquid Line Filter-Driers
Type LLD

Flow Capacity – Tons of Refrigeration at 1 psid (0.07 bar)

Model No.	Part Number	Fitting Type (Inches)	Overall Length "A"		Shell Diameter "B"		Flow Capacity – Tons (kW) @ 1 psid (0.07 bar)									
							R-22		R-134a		R-404A, R-507		R-407C		R-410A	
			Inches	mm	Inches	mm	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW
032	450003-001	1/4 SAE Flare	4.24	108	1.78	45	1.70	6.0	1.54	5.4	1.10	3.9	1.64	5.7	1.67	5.8
032S	450004-001	1/4 ODF Solder	3.78	96	1.78	45	1.84	6.4	1.72	6.0	1.22	4.3	1.82	6.4	1.86	6.5
032MF	450005-001	1/4 male x female flare	3.93	100	1.78	45	1.70	6.0	1.54	5.4	1.10	3.9	1.64	5.7	1.67	5.8
052	450119-001	1/4 SAE Flare	4.72	120	2.45	62	1.84	6.4	1.72	6.0	1.22	4.3	1.82	6.4	1.86	6.5
052S	450142-001	1/4 ODF Solder	4.26	108	2.45	62	2.05	7.2	1.80	6.3	1.29	4.5	1.91	6.7	1.95	6.8
053	450145-001	3/8 SAE Flare	5.16	131	2.45	62	3.96	13.9	3.60	12.6	2.57	9.0	3.83	13.4	3.90	13.7
053S	450127-001	3/8 ODF Solder	4.40	112	2.45	62	4.74	16.6	4.29	15.0	3.06	10.7	4.56	16.0	4.64	16.2
082	450120-001	1/4 SAE Flare	5.62	143	2.69	68	1.84	6.4	1.72	6.0	1.22	4.3	1.82	6.4	1.86	6.5
082S	450141-001	1/4 ODF Solder	5.16	131	2.69	68	2.12	7.4	1.89	6.6	1.35	4.7	2.01	7.0	2.04	7.1
083	450121-001	3/8 SAE Flare	6.06	154	2.69	68	4.45	15.6	4.03	14.1	2.88	10.1	4.28	15.0	4.36	15.3
083S	450129-001	3/8 ODF Solder	5.30	135	2.69	68	5.02	17.6	4.54	15.9	3.25	11.4	4.83	16.9	4.92	17.2
084	450122-001	1/2 SAE Flare	6.32	161	2.69	68	7.14	25.0	6.43	22.5	4.59	16.1	6.84	23.9	6.96	24.4
084S	450130-001	1/2 ODF Solder	5.42	138	2.69	68	7.21	25.2	6.52	22.8	4.65	16.3	6.93	24.2	7.05	24.7
163	450124-001	3/8 SAE Flare	6.72	171	3.03	77	5.30	18.6	4.80	16.8	3.43	12.0	5.10	17.9	5.20	18.2
163S	450131-001	3/8 ODF Solder	5.96	151	3.03	77	5.94	21.8	5.32	18.6	3.80	13.3	5.65	19.8	5.75	20.1
163S-XF	450144-001	3/8" ODF	5.96	151	3.03	77	5.94	21.8	5.32	18.6	3.80	13.3	5.65	19.8	5.75	20.1
164	450125-001	1/2 SAE Flare	6.98	177	3.03	77	9.05	31.7	8.15	28.5	5.82	20.4	8.66	30.3	8.81	30.8
164S	450132-001	1/2 ODF Solder	6.08	154	3.03	77	9.83	34.4	8.83	30.9	6.31	22.1	9.39	32.8	9.56	33.5
165	450126-001	5/8 SAE Flare	7.28	185	3.03	77	12.58	44.0	11.40	39.9	8.15	28.5	12.12	42.4	12.34	43.2
165S	450133-001	5/8 ODF Solder	6.32	161	3.03	77	13.01	45.5	11.75	41.1	8.39	29.4	12.49	43.7	12.71	44.5
303	450030-001	3/8 SAE Flare	9.69	246	3.00	76	5.44	19.2	4.89	17.1	3.49	12.2	5.19	18.2	5.29	18.5
303S	450031-001	3/8 ODF Solder	8.86	225	3.00	76	6.15	21.5	5.57	19.5	3.98	13.9	5.92	20.7	6.03	21.1
304	450032-001	1/2 SAE Flare	9.94	252	3.00	76	10.75	31.6	9.69	33.9	6.92	24.2	10.30	36.1	10.48	36.7
304S	450046-001	1/2 ODF Solder	9.00	229	3.00	76	12.44	43.5	11.23	39.3	8.02	28.1	11.94	41.8	12.15	42.5
305	450033-002	5/8 SAE Flare	10.19	259	3.00	76	14.71	51.4	13.29	46.5	9.49	33.2	14.13	49.5	14.38	50.3
305S	450043-001	5/8 ODF Solder	9.24	235	3.00	76	16.26	56.9	14.66	51.3	10.47	36.6	15.58	54.5	15.86	55.5
307S	450055-001	7/8 ODF Solder	9.30	236	3.00	76	20.15	70.5	18.18	63.6	12.98	45.4	19.32	67.6	19.67	68.8
415	450057-001	5/8 SAE Flare	10.38	264	3.50	311	14.71	51.4	13.29	46.5	9.49	33.2	14.13	49.5	14.38	50.3
415S	450047-001	5/8 ODF Solder	9.43	240	3.50	311	16.26	56.9	14.66	51.3	10.47	36.6	15.58	54.5	15.86	55.5
417S	450058-001	7/8 ODF Solder	9.49	241	3.50	311	23.12	80.9	20.84	72.9	14.88	52.1	22.15	77.5	22.54	78.9
756S	450035-003	3/4 ODF Solder	15.11	384	3.50	311	19.65	68.8	17.75	62.1	12.68	44.4	18.87	66.0	19.20	67.2
757S	450061-001	7/8 ODF Solder	15.11	384	3.50	311	24.32	85.1	22.04	77.1	15.74	55.1	23.42	82.0	23.84	83.4
759S	450075-001	1-1/8 ODF Solder	15.99	406	3.50	311	26.80	93.8	24.27	84.9	17.33	60.7	25.79	90.3	26.26	91.9

Note: Model 163S-XF is available with modified three angstrom molecular sieve for R-410A.





Gold Label Series Liquid Line Filter-Driers
Type LLD

Installation Recommendations – Tons (kW)

Model No.	Refrigeration Commercial Low Temp. Equipment						Air Conditioning Field Replacement or Field Build-up Equipment			
	R-134a		R-22		R-404A, R-507		R-134a		R-22, R-407C, R-410A	
	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW
032 032S 032MF	1/4	0.9	1/4	0.9	1/4	0.9	1/2	1.8	1/2	1.8
052 052S 053 053S	1/3	1.2	1/3	1.2	1/3	1.2	3/4 thru 1	2.6 thru 3.5	3/4 thru 2	2.6 thru 7
082 082S 083 083S 084 084S	1/2 thru 1-1/2	1.8 thru 5.3	1/2 thru 1-1/2	1.8 thru 5.3	1/2 thru 1	1.8 thru 3.5	3/4 thru 2	2.6 thru 7	1 thru 2	3.5 thru 7
163 163S 164 164S 165 165S	1 thru 2	3.5 thru 7	1-1/2 thru 3	5.3 thru 10.5	3/4 thru 2	2.6 thru 7	1 thru 5	3.5 thru 17.5	1-1/2 thru 5	1.8 thru 17.5
303 303S 304 304S 305 305S 307S	3 thru 5	5.3 thru 17.5	3 thru 5	5.3 thru 17.5	2 thru 5	2.6 thru 17.5	3 thru 7-1/2	5.3 thru 26.3	4 thru 10	14 thru 35
415 415S 417S	5 thru 10	17.5 thru 35	5 thru 12	17.5 thru 42	5 thru 10	17.5 thru 35	5 thru 12	17.5 thru 42	7-1/2 thru 15	26.3 thru 52.5
756S 757S 759S	15	52.5	15	52.5	10	35	15	52.5	20	70

Note: Model 163S-XF is available with modified three angstrom molecular sieve for R-410A.

Sahara Series™ Liquid Line Filter-Driers
Type SS

Available only from your local Parker wholesaler, the Sahara Series is a service replacement filter-drier for air conditioning applications.

Features & Benefits

- Made in the USA
- High moisture and moderate filtration capacity
- Compatible with POEs, alkylbenzenes and mineral oils
- Compatible with R-12, R-22, R-134a, R-407C and R-410A
- Copper ODF solder fittings
- Powder paint exterior coating surpasses 500 hour ASTM salt spray test to resist corrosion
- 650 psig (44.8 bar) MRP
- UL Listed under SMGT/SMGT7-SA1756

Water Capacity In Drops (Grams*) at AHRI-710 Conditions

Model	Part Number	R-22 (60 ppm)		R-134a (50 ppm)		R-407C (50 ppm)		R-410A (50 ppm)	
		75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)
SS-053S	450103-001	82	75	89	85	68	58	46	44
SS-083S	450106-001	106	97	115	110	88	75	60	57
SS-163S	450112-001	188	173	205	195	156	133	105	102

*** 20 Drops = 1 Gram = 1 cc**

Refrigerant Holding Capacity – Ounces (kg) of Refrigerant @ 100°F (38°C)

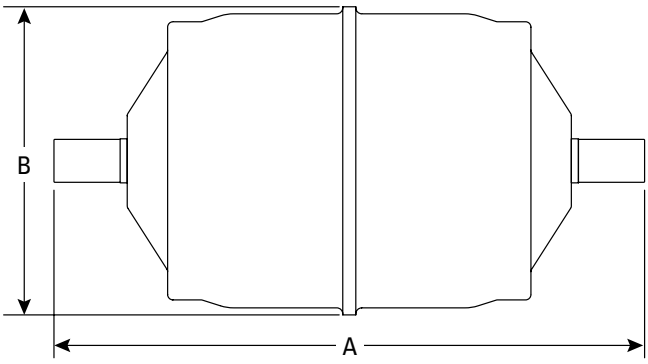
Model	Internal Volume (Cubic Inches)	R-22		R-134a		R-407C		R-410A	
		Ounces	kg	Ounces	kg	Ounces	kg	Ounces	kg
SS-053S	5.6	7.8	2.2	7.9	2.2	7.3	2.1	6.7	1.9
SS-083S	9.4	10.0	2.8	10.1	2.9	9.4	2.7	8.6	2.4
SS-163S	13.1	11.4	3.2	11.6	3.3	10.9	3.1	9.8	2.8

Dimensions

Model No. (ODF Solder)	ODF Solder (Inches)	Cutout Length "A"		Overall Length "B"	
		Inches	mm	Inches	mm
SS-053S	3/8	3.25	83	4.39	112
SS-083S	3/8	4.13	105	5.27	134
SS-163S	3/8	4.75	121	5.92	150

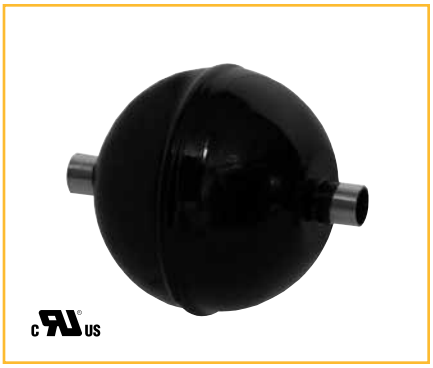
Note: For additional performance capacities, specify the Parker Gold Series Filter-Driers (page 7).

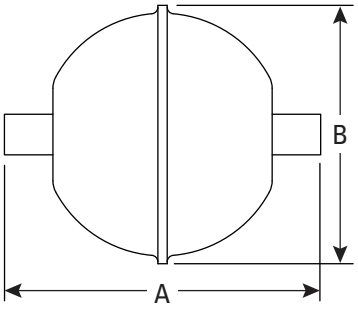
ODF Solder



Sahara Series™ Liquid Line Filter-Driers
Type SS

The new Sahara Series filter-driers are ideal for protecting air-conditioning systems from the harmful effects of moisture, acid, and solid debris. The compact design reduces lay-in requirements. Multiple size products are available to optimize contaminant control. Replaced the existing Sahara Series Liquid Line Filter-Driers in a reduced size.





Features and Benefits

- High capacity solid core design for excellent moisture and acid protection in R-410A AC systems
- High filtration capacity for solid debris protection
- Unique, compact shape minimizes pressure drop and reduces refrigerant requirements
- Solid copper fittings for easy brazing
- High performance epoxy powder paint for excellent corrosion protection
- Minimal free internal volume reduces refrigerant filling needs
- UL Recognized component (File SA1756, cURus)

Specifications

- 650 psi (45 bar) Maximum Rated Pressure
- 100% molecular sieve to maximize water absorption
- 10 micron outlet filter (@ 50% efficiency)
- 500 hour salt spray per ASTM B117
- Patent pending spherical design
- RoHS and REACH Compliant
- No CE marking according to Art. 3.3 PED 97/23 EC.

Dimensions

Model Number	Replaced Model	Part Number	Recommended Tonnage Air-Conditioning	Connection Size (Inches)	Overall Length		Lay-In Length "A"		Body Diameter "B"	
					Inches	mm	Inches	mm	Inches	mm
2SS3S	SS-053S	407400	1/2 – 2	3/8	2.91	74	2.07	53	2.23	57
3SS3S	SS-083S	407401	1 – 3	3/8	3.38	86	2.54	65	2.77	70
5SS3S	SS-163S	407402	2 – 5	3/8	3.97	101	3.13	80	3.46	88

Performance Ratings with R-410A at AHRI Standard Conditions

Model Number	Water Capacity		Flow Capacity		Liquid Refrigerant Holding Capacity	
	Drops @ 125°F	Grams @ 52°C	Tons @ 1 psi ΔP	kW @ 0.07 bar ΔP	Ounces @ 100°F	kg @ 38°C
2SS3S	50	2.5	4.8	16.8	1.1	0.03
3SS3S	100	5	5.2	18.3	2.2	0.06
5SS3S	200	10	5.3	18.6	4.4	0.12

Gold Label Series Bi-Flow Filter-Driers
Type BF

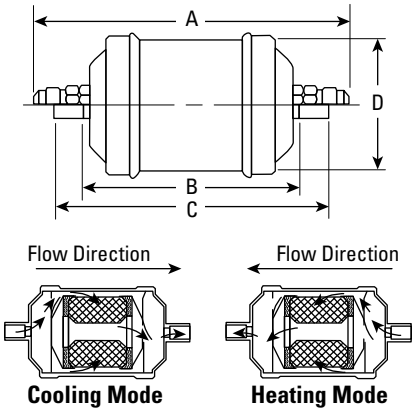
The Gold Label bi-flow filter-drier is designed specifically for heat pump or reverse cycle applications. External check valves are not required since they are incorporated within the filter-drier.

Features and Benefits

- Made in the USA
- 100% copper ODF solder or nickel plated flare fittings
- Desiccant core provides reliable and effective removal of solid contaminants, acid and moisture
- Core is cushioned in fiber gaskets to protect core and to ensure trouble-free performance
- Powder paint exterior coating surpasses 500 hour ASTM salt spray test to resist corrosion
- Model BF-163(S)-XF features R-32 excluding desiccant for R-410A and alternative internal construction for added filtration
- 600 psig (41.4 bar) MRP
- UL Listed under SMGT/SMGT7-SA1756

Dimensions

Model No.		Part Number	Fitting Size (Inches)	System Cutout						Shell Diameter "D"	
				Length "A"		Length "B"		Length "C"			
Flare	ODF Solder			Inches	mm	Inches	mm	Inches	mm	Inches	mm
—	BF082S	450037-002	1/4	—	—	4.10	104	5.27	134	2.50	64
BF083	—	450086-001	3/8	6.09	155	4.10	104	5.27	134	2.50	64
—	BF083S	450024-001	3/8	6.09	155	4.10	104	5.27	134	2.50	64
BF084	—	450087-001	1/2	6.35	161	4.10	104	5.41	137	2.50	64
—	BF084S	450045-001	1/2	6.35	161	4.10	104	5.41	137	2.50	64
BF163	—	450054-001	3/8	6.75	171	4.75	121	5.92	150	2.50	64
—	BF163S	450025-001	3/8	6.75	171	4.75	121	5.92	150	2.50	64
—	BF163S-XF	450021-002	3/8	6.09	155	6.76	172	7.56	192	3.00	76
BF164	—	450088-001	1/2	7.00	178	4.75	121	6.06	154	2.50	64
	BF164S	450028-001	1/2	7.00	178	4.75	121	6.06	154	2.50	64
—	BF165S	450029-001	5/8	—	—	4.75	172	6.30	160	2.50	64



Refrigerant Holding Capacity – Ounces (kg) of Refrigerant @ 100°F (38°C)

Model Series	R-12		R-22		R-134a		R-404A, R-507		R-407C		R-410A		R-502	
	Ounces	kg	Ounces	kg	Ounces	kg	Ounces	kg	Ounces	kg	Ounces	kg	Ounces	kg
BF080	8.2	2.3	7.4	2.1	7.5	2.1	6.3	1.8	7.0	2.0	6.4	1.8	7.5	2.1
BF160	9.5	2.7	8.6	2.4	8.7	2.5	7.4	2.1	8.2	2.3	7.5	2.1	8.7	1.1
BF160-XF	15.5	4.4	14.0	4.0	14.2	3.5	12.0	3.4	13.2	3.7	12.2	3.5	14.2	4.0

Water Capacity In Drops (Grams*) at AHRI-710 Conditions

Model Series	R-22 (60 ppm)		R-134a (50 ppm)		R-404A, R-507 (50 ppm)		R-407C (50 ppm)		R-410A (50 ppm)	
	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)
BF080	95	88	104	99	104	98	73	65	56	50
BF160	134	124	147	140	148	138	103	93	79	71
BF160-XF	168	155	184	175	185	173	197	176	197	176

*** 20 Drops = 1 Gram = 1 cc**

Flow Capacity — Tons (kW) of Refrigeration at 1 psid (0.07 bar)

Model No.	Filter Area (cu inches)	R-22		R-134a		R-404A, R-507		R-407C		R-410A	
		Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW
BF082S	10.4	2.1	7.4	1.9	6.7	1.4	4.9	2.0	7.0	2.1	7.4
BF083S		2.8	8.4	2.6	9.1	1.8	6.3	2.7	9.5	2.8	9.8
BF084S		3.5	12.2	3.2	11.2	2.3	8.1	3.4	11.9	3.5	12.3
BF083		2.8	8.4	2.6	9.1	1.8	6.3	2.7	9.5	2.8	9.8
BF084		3.5	12.2	3.2	11.2	2.3	8.1	3.4	11.9	3.5	12.3
BF162S	14.4	2.1	7.4	1.9	6.7	1.4	4.9	2.0	7.0	2.1	7.4
BF163S		2.9	10.2	2.6	9.1	1.9	6.7	2.8	9.8	2.9	10.2
BF164S		3.5	12.2	3.2	11.2	2.3	8.1	3.4	11.9	3.5	12.3
BF165S		4.9	17.2	4.5	15.8	3.2	11.2	4.8	15.4	4.9	17.2
BF163		2.8	9.8	2.6	9.1	1.8	6.3	2.7	9.5	2.8	9.8
BF164		3.5	12.3	3.2	11.2	2.3	8.1	3.4	11.9	3.5	12.3
BF163S-XF	14.4	3.6	12.6	3.3	11.6	2.3	8.1	3.5	12.3	3.5	12.3
BF163-XF		2.8	9.8	2.6	9.1	1.8	6.3	2.7	9.5	2.8	9.8

Note: Model 163S-XF is available with modified three angstrom molecular sieve for R-410A.

Sahara Series™ Bi-Flow Filter-Driers
Type SSBF

The Sahara Series bi-flow filter-drier is designed specifically for heat pump or reverse cycle applications. External check valves are not required since they are incorporated within the filter-drier.

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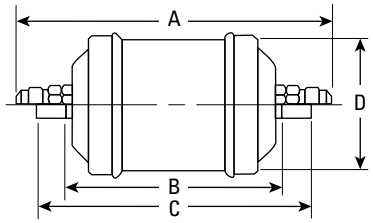
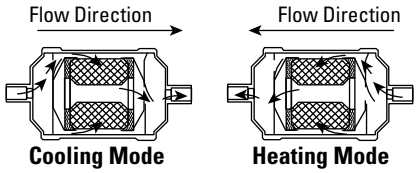
Features and Benefits

- Made in the USA
- 100% copper ODF solder or nickel plated flare fittings
- Desiccant core provides reliable and effective removal of solid contaminants, acid and moisture
- Core is cushioned in fiber gaskets to protect core and to ensure trouble-free performance
- Powder paint exterior coating surpasses 500 hour ASTM salt spray test to resist corrosion
- 600 psig (41.4 bar) MRP
- UL Listed under SMGT/SMGT7-SA1756





Dimensions

U.L. Model Number	Part Number	Fitting Size (Inches)	System Cutout Length "A"		System Cutout Length "B"		System Cutout Length "C"		Shell Diameter "D"	
ODF Solder			Inches	mm	Inches	mm	Inches	mm	Inches	mm
SSBF083S	450224-001	3/8	6.09	155	4.10	104	5.27	134	2.50	64
SSBF163S	450225-001	3/8	6.75	171	4.75	121	5.92	150	2.50	64

Refrigerant Holding Capacity – Ounces (kg) of refrigerant @ 100°F (38°C)

Model Series	R-12		R-22		R-134a		R-404A, R-507		R-407C		R-410A		R-502	
	Ounces	kg	Ounces	kg	Ounces	kg	Ounces	kg	Ounces	kg	Ounces	kg	Ounces	kg
SSBF080S	8.2	2.3	7.4	2.1	7.5	2.1	6.3	1.8	7.0	2.0	6.4	1.8	7.5	2.1
SSBF160S	9.5	2.7	8.6	2.4	8.7	2.5	7.4	2.1	8.2	2.3	7.5	2.1	8.7	1.1

Water Capacity In Drops (Grams*) at AHRI-710 Conditions

Model Series	R-22 (60 ppm)		R-134a (50 ppm)		R-404A, R-507 (50 ppm)		R-407C (50 ppm)		R-410A (50 ppm)	
	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)
SSBF080S	95	88	104	99	104	98	73	65	56	50
SSBF160S	134	124	147	140	148	138	103	93	79	71

*** 20 Drops = 1 Gram = 1 cc**

Flow Capacity — Tons (kW) of Refrigeration at 1 psid (0.07 bar)

Model No.	Filter Area (cu inches)	R-22		R-134a		R-404A, R-507		R-407C		R-410A	
		Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW
SSBF083S	10.4	2.8	8.4	2.6	9.1	1.8	6.3	2.7	9.5	2.8	9.8
SSBF163S	14.4	2.9	10.2	2.6	9.1	1.9	6.7	2.8	9.8	2.9	10.2

Gold Label Premium Suction Line Filter-Driers

SLD Series - For Refrigeration and Air Conditioning

The SLD Series is a solid core clean-up filter-drier for use in the suction line for both refrigeration and air conditioning systems. The compact design incorporates a large outside diameter shell, which results in a shorter lay-in length, and a larger core, which provides a greater filtration area for maximum operating efficiency.

The core material has controlled porosity which effectively removes and holds a maximum amount of contaminants with a minimal pressure drop. In addition, the core material collects and holds acids and other harmful contaminants present after a motor burnout.

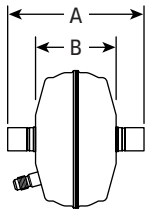
Access valves make it easy to measure pressure accurately. The SLD-8 and SLD-27 each have one access fitting. The SLD-13 and SLD-15 each have two access fittings. Occasionally, enough contaminant matter may collect in the filter core to cause a slight pressure drop.

Features and Benefits

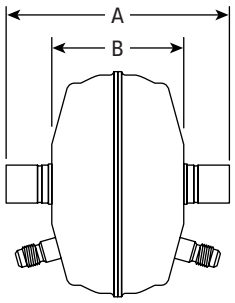
- Made in the USA
- Molded porous core
- High acid capacity
- Low pressure drop — exceptionally high flow rates
- Designed for system clean-up
- 500 hours salt spray protection
- Short system cut-out lengths allow installation in tight areas
- Access valves simplify pressure drop measurement
- ODF Solder fittings
- 355 psig (24.5 bar) MRP
- UL Listed under SMGT/SMGT7-SA1756

Premium Suction Line Filter-Drier Dimensions

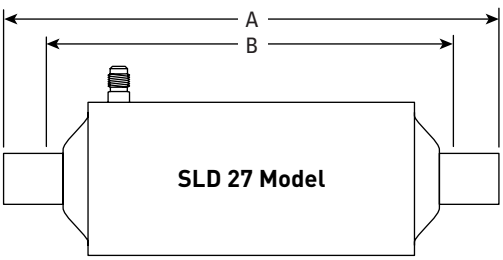
Model No.	Part Number	Overall Length "A"		System Cutout Length "B"		Shell Diameter	
		Inches	mm	Inches	mm	Inches	mm
SLD 8-3SV-HH	450044-001	5.30	135	4.42	112	2.69	68
SLD 8-4SV-HH	450039-001	5.42	138	4.42	112	2.69	68
SLD 8-5SV-HH	450020-001	5.66	144	4.42	112	2.69	68
SLD 8-6SV-HH	450027-001	5.98	152	4.60	117	2.69	68
SLD 13-5SV-HH	450040-001	4.38	111	4.00	102	4.42	112
SLD 13-6SV-HH	450023-001	4.83	123	3.45	88	4.42	112
SLD 13-7SV-HH	450022-001	4.98	126	3.48	88	4.42	112
SLD 13-9SV-HH	450053-001	4.93	125	3.11	79	4.42	112
SLD 27-7SV-HH	450042-001	9.82	249	8.32	211	3.03	77
SLD 27-9SV-HH	450041-001	9.75	248	7.93	201	3.03	77
SLD 54-11SV-HH	450026-001	12.03	306	9.17	233	4.00	102
SLD 54-13SV-HH	450074-001	12.09	307	9.17	233	4.00	102

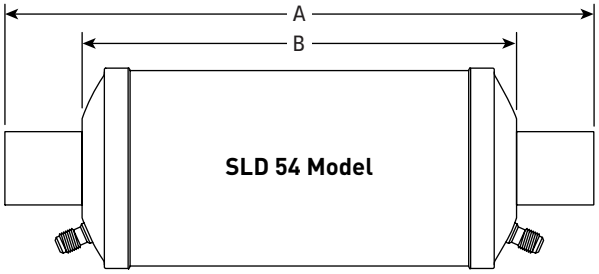


SLD 8 and SLD 27 Models



SLD 13 and SLD 15 Models





Gold Label Premium Suction Line Filter-Driers

SLD Series - For Refrigeration and Air Conditioning

Water Capacity In Drops (Grams*) at 65°F (18°C)

Model No.	Fitting (Inches)	Desiccant (Cu. In.)	Filter Area (Sq. In.)
SLD 8-3SV-HH	3/8 ODF Solder	8	21
SLD 8-4SV-HH	1/2 ODF Solder	8	21
SLD 8-5SV-HH	5/8 ODF Solder	8	21
SLD 8-6SV-HH	3/4 ODF Solder	8	21
SLD 13-5SV-HH	5/8 ODF Solder	14	27
SLD 13-6SV-HH	3/4 ODF Solder	14	27
SLD 13-7SV-HH	7/8 ODF Solder	14	27
SLD 13-9SV-HH	1-1/8 ODF Solder	14	27
SLD 27-7SV-HH	7/8 ODF Solder	27	53
SLD 27-9SV-HH	1-1/8 ODF Solder	27	53
SLD 54-11SV-HH	1-3/8 ODF Solder	54	88
SLD 54-13SV-HH	1-5/8 ODF Solder	54	88

*** 20 Drops = 1 Gram = 1 cc**

Flow Capacity – Tons of Refrigeration

Refrigerant	R-22/407			R-134a		R-404A/507			R-410A		
Evaporator Temp °F	40	0	-20	40	0	20	0	-40	40	0	-20
Pressure Drop PSI	3	1.5	1	2.0	1.0	3	1.5	0.5	3.0	1.5	1.0
SLD 8-3SV-HH	2.1	0.9	0.5	1.3	0.5	1.5	0.6	0.2	2.6	1.1	0.7
SLD 8-4SV-HH	2.1	0.9	0.5	1.3	0.5	1.5	0.6	0.2	2.6	1.1	0.7
SLD 8-5SV-HH	3.0	1.2	0.7	1.8	0.7	2.1	0.8	0.3	3.8	1.6	0.9
SLD 8-6SV-HH	4.0	1.6	1.0	2.4	0.9	2.8	1.1	0.4	5.0	2.1	1.2
SLD 13-5SV-HH	3.6	1.5	0.9	2.2	0.8	2.5	1.0	0.3	4.5	1.9	1.1
SLD 13-6SV-HH	4.9	2.0	1.2	2.9	1.1	3.4	1.4	0.5	6.2	2.5	1.5
SLD 13-7SV-HH	5.4	2.2	1.3	3.2	1.2	3.8	1.5	0.5	6.8	2.8	1.7
SLD 13-9SV-HH	7.1	2.9	1.8	4.3	1.6	5.0	2.0	0.7	8.9	3.7	2.2
SLD 27-7SV-HH	5.3	2.2	1.3	3.2	1.2	3.7	1.5	0.5	6.7	2.7	1.6
SLD 27-9SV-HH	5.9	2.4	1.5	3.5	1.3	4.1	1.6	0.6	7.4	3.1	1.8
SLD 54-11SV-HH	11.1	4.6	2.7	6.7	2.4	7.8	3.1	1.1	14.0	5.7	3.4
SLD 54-13SV-HH	12.2	5.0	3.0	7.3	2.7	8.5	3.4	1.2	15.4	6.3	3.8

Flow Capacity – kW of Refrigeration

Refrigerant	R-22/407			R-134a		R-404A/507			R-410A		
Evaporator Temp °C	4	-18	-29	4	-18	-6	-18	-40	4	-18	-29
Pressure Drop Bar	0.21	0.11	0.07	0.14	0.07	0.21	0.11	0.04	0.21	0.11	0.07
SLD 8-3SV-HH	7.4	3.0	1.8	4.4	1.6	5.1	2.0	0.7	9.3	3.8	2.3
SLD 8-4SV-HH	7.4	3.0	1.8	4.4	1.6	5.1	2.0	0.7	9.3	3.8	2.3
SLD 8-5SV-HH	10.5	4.3	2.6	6.3	2.3	7.4	2.9	1.0	13.2	5.4	3.3
SLD 8-6SV-HH	14.0	5.7	3.5	8.4	3.1	9.8	3.9	1.4	17.6	7.3	4.3
SLD 13-5SV-HH	12.6	5.2	3.1	7.6	2.8	8.8	3.5	1.2	15.9	6.5	3.9
SLD 13-6SV-HH	17.2	7.0	4.2	10.3	3.8	12.0	4.8	1.7	21.6	8.9	5.3
SLD 13-7SV-HH	18.9	7.7	4.7	11.3	4.2	13.2	5.2	1.8	23.8	9.8	5.9
SLD 13-9SV-HH	24.9	10.2	6.1	14.9	5.5	17.4	6.9	2.4	31.3	12.9	7.7
SLD 27-7SV-HH	18.6	7.6	4.6	11.1	4.1	13.0	5.1	1.8	23.4	9.6	5.8
SLD 27-9SV-HH	20.7	8.5	5.1	12.4	4.5	14.5	5.7	2.0	26.0	10.7	6.4
SLD 54-11SV-HH	38.9	15.9	9.6	23.3	8.5	27.2	10.8	3.8	49.0	20.1	12.0
SLD 54-13SV-HH	42.7	17.5	10.5	25.6	9.4	29.9	11.8	4.1	53.8	22.1	13.2

Sahara Series™ Suction Line Filter-Driers

For Air Conditioning Only

The Sahara Series suction line filter-driers complement Parker's SLD Series suction line filter-driers by offering a standard size alternative only for air conditioning applications. The Sahara products provide the required protection as a service filter-drier for handling the contaminant removal requirements associated with these systems. The Sahara Series includes a desiccant blend formulation to handle moisture and acids while the internal assembly provides the filtering to remove harmful particles in circulation.

For other applications or air conditioning systems where uniquely higher capacities are desired, the Parker Gold Label Premium SLD molded core suction line filter-driers are suggested.

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Features and Benefits

- Made in the USA
- Service filter-drier only for air conditioning systems
- Desiccant blend suited for acid and moisture removal
- Copper fittings for easy installation
- Access port for checking system pressure drop
- Corrosion resistant black powder coating surpasses 500-hour ASTM salt spray testing
- Compatible with commercially available refrigerants
- 650 psig (44.8 bar) MRP
- UL Listed under SMGT/SMGT7-SA1756

Sahara Series Suction Line Filter-Drier Dimensions

Model Number	Part Number	Fitting Type (Inches)	Length		Diameter	
			Inches	mm	Inches	mm
SLD165-V	450049-001	5/8 ODF Solder	6.31	160	2.38	60.5
SLD166-V	450036-001	3/4 ODF Solder	6.37	162	2.38	60.5
SLD167-V	450050-001	7/8 ODF Solder	6.37	162	2.38	60.5
SLD305-V	450051-001	5/8 ODF Solder	9.25	235	3.00	76.2
SLD306-V	450059-001	3/4 ODF Solder	9.31	236	3.00	76.2
SLD307-V	450038-001	7/8 ODF Solder	9.31	236	3.00	76.2

Sahara Series Suction Line Filter-Drier Flow Capacity

Tons (kW) of Refrigeration at 40°F (4.4°C) Evaporator Temperature and 3 PSI (.21 bar) Pressure Drop

Model Number	R-22		R-134a		R-407C		R-410A	
	Tons	kW	Tons	kW	Tons	kW	Tons	kW
SLD165-V	2.7	9.5	2.0	7.0	2.6	9.1	3.2	11.3
SLD166-V	3.2	11.3	2.5	8.8	3.1	10.9	3.8	13.4
SLD167-V	3.4	12	2.6	9.1	3.3	11.6	4.1	14.4
SLD305-V	3.4	12	2.2	7.7	3.3	11.6	4.1	14.4
SLD306-V	4.4	15.5	2.8	9.9	4.3	15.1	5.3	18.6
SLD307-V	4.6	16.2	3.0	10.6	4.5	15.8	5.5	19.3

Parker recommends the Gold Label Premium SLD Series for both refrigeration and air conditioning applications when both acid and moisture removal is desired.

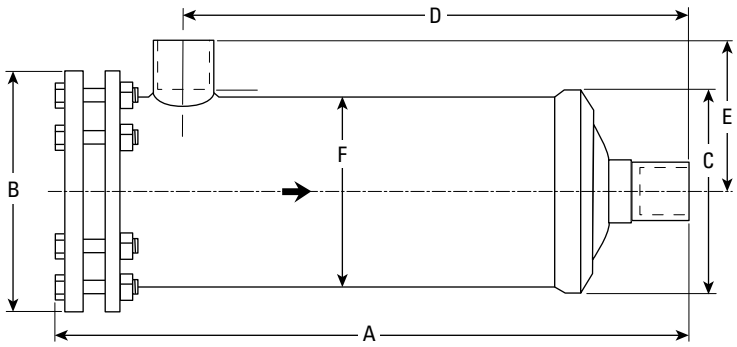
Replaceable Core Filter-Drier Shells

Parker replaceable core filter-drier shells are designed to provide flexibility over a wide range of applications. All models are designed for use in both the liquid and suction line of air conditioning or refrigeration systems. In single or multiple-core applications, cores may be loaded individually for ease of installation in tight spots. A wide range of fittings for suction-line applications and interchangeable lay-in dimensions with other manufactured models increase product versatility.

The internal assembly allows the use of Parker's Z-48, PCX-48, PCK-48 or PCK-48HH molded cores for the removal of moisture, acid, particles, resins and wax. The assembly allows the use of the Parker PFE-48BF filter element which removes solid contaminants such as copper oxides, chips and other metal fines.

Features and Benefits

- Made in the USA
- ODF Solder fittings – 5/8" to 3-1/8"
- Powder paint exterior coating surpasses 500 hour ASTM salt spray test to resist corrosion
- Aluminum end plate with access port
- Rated 650 psig (44.8 bar) for R-410A
- UL Recognized under SMGT/SMGT8-SA1756



Replaceable Core Shell Dimensions

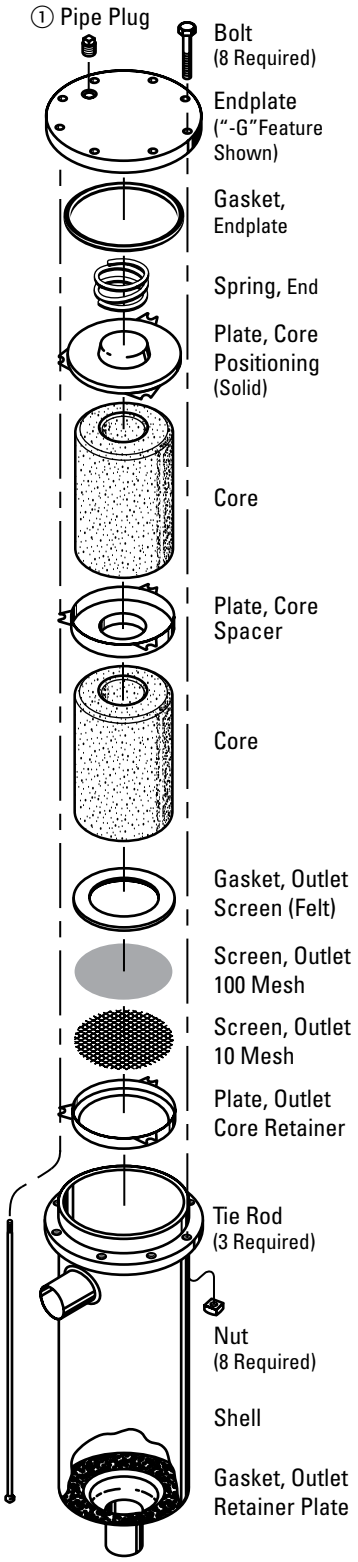
Model Number	Part Number	No. of Cores	Connection Size & Type (Inches)	Dimensions											
				A		B		C		D		E		F	
				Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
P485	400700	1	5/8 ODF	9.15	232	6.00	152	5.00	127	5.92	150	3.50	88	4.75	121
P487	400701	1	7/8 ODF	9.30	236	6.00	152	5.00	127	6.07	154	3.97	101	4.75	121
P489	400708	1	1-1/8 ODF	9.50	241	6.00	152	5.00	127	6.37	162	4.19	106	4.75	121
P4811	400709	1	1-3/8 ODF	9.60	244	6.00	152	5.00	127	6.37	162	4.31	109	4.75	121
P4813	400712	1	1-5/8 ODF	9.60	244	6.00	152	5.00	127	6.37	162	4.32	110	4.75	121
P4817	400714	1	2-1/8 ODF	9.60	244	6.00	152	5.00	127	5.81	148	4.41	112	4.75	121
P4821	400715	1	2-5/8 ODF	9.60	244	6.00	152	5.00	127	5.56	141	5.19	132	4.75	121
P967	400702	2	7/8 ODF	14.84	377	6.00	152	5.00	127	11.61	295	3.97	101	4.75	121
P969	400703	2	1-1/8 ODF	15.04	382	6.00	152	5.00	127	11.81	300	4.19	106	4.75	121
P9611	400710	2	1-3/8 ODF	15.14	385	6.00	152	5.00	127	11.91	303	4.31	109	4.75	121
P9613	400711	2	1-5/8 ODF	15.14	385	6.00	152	5.00	127	11.91	303	4.32	110	4.75	121
P9617	400716	2	2-1/8 ODF	15.14	385	6.00	152	5.00	127	11.35	288	4.41	112	4.75	121
P9621	400717	2	2-5/8 ODF	15.14	385	6.00	152	5.00	127	11.10	282	5.19	132	4.75	121
P9625	400718	2	3-1/8 ODF	15.14	385	6.00	152	5.00	127	10.78	274	4.91	125	4.75	121
P1449	400704	3	1-1/8 ODF	20.58	523	6.00	152	5.00	127	17.35	441	4.19	106	4.75	121
P14411	400705	3	1-3/8 ODF	20.68	525	6.00	152	5.00	127	17.45	443	4.31	109	4.75	121
P14413	400713	3	2-1/8 ODF	20.68	525	6.00	152	5.00	127	17.45	443	4.32	110	4.75	121
P19211	400706	4	1-3/8 ODF	26.22	666	6.00	152	5.00	127	22.99	584	4.31	109	4.75	121
P19213	400707	4	1-5/8 ODF	26.22	666	6.00	152	5.00	127	22.99	584	4.32	110	4.75	121
P19217	400720	4	2-1/8 ODF	26.22	666	6.00	152	5.00	127	22.43	570	4.41	112	4.75	121

Replaceable Core Filter-Drier Shells

Internal Component Kits for Replaceable Core Shells

Model Number	Part Number	Description	Contents
–	481289	Bolts	5/16" x 1-3/4" Semagard coated steel (8 required, sold individually)
–	481287	Nuts	5/16" stainless steel (8 required, sold individually)
K-RC480-C	481349	One Core Shell	(1) Outer retainer plate gasket (1) Core positioning plate (1) Outlet core retainer plate (1) Outlet screen 100 mesh (1) End spring (3) Tie rod
K-RC960-C	481359	Two Core Shell	(1) Outer retainer plate gasket (1) Core positioning plate (1) Core spacer plate (1) Outlet core retainer plate (1) Outlet screen 100 mesh (1) End spring (3) Tie rod
K-RC1440-C	481369	Three Core Shell	(1) Outer retainer plate gasket, (1) Core positioning plate, (2) Core spacer plate, (1) Outlet core retainer plate, (1) Outlet screen 100 mesh, (1) End spring (3) Tie rod
K-RC1920-C	481379	Four Core Shell	(1) Outer retainer plate gasket (1) Core positioning plate (3) Core spacer plate, (1) Outlet core retainer plate, (1) Outlet screen 100 mesh, (1) End spring (3) Tie rod
1288-001	481125	End Plate Gasket	(1) 1/16" thick endplate gasket
–	183174	Access Valve Kit	1/4" SAE X 1/4" NPT, for endplate

① Access valve (P/N: 183174) is available. Valve core (P/N: 480088) can be purchased separately.



Replacement Filter Element and Cores

Z-48 Super High Capacity Core (Part Number 031919-000)

Recommended for use with POE lubricants. The Z-48 has three times the moisture capacity of standard cores to handle the water-absorbing tendencies of POE lubricants. Should be used in applications where there are elevated levels of moisture. For use in the liquid or suction line.

PCX-48 High Capacity Gold Label Core (Part Number 450096)

For use in either liquid or suction line applications, the PCX-48 offers added moisture capacity and good acid capacity when compared to the PCK-48 core.

PCK-48 Clean-up Core (Part Number 450094-001)

For use in either liquid or suction line applications, the PCK-48 is specifically formulated for burnouts where wax is not the issue. It's formulation allows for superior clean-up of acids, varnishes, sludge and moisture.

PCK-48HH Charcoal Burnout Core (Part Number 450095-001)

Formulated with charcoal to remove wax on low temperature systems even before problems occur. The PCK-48HH can be used in either liquid or suction line applications and also removes acids, water, solids and sludge. Recommended for refrigerant reclaim/recovery units.

PFE-48BF Parker Filter Element (Part Number 031858-00)

For use in filtering out solid contaminants. Suitable for bi-directional applications, this filter features low pressure drop and filtration capabilities down to 20 microns. It is also interchangeable with other manufacturers' filters.

Replacement Filter Element and Cores

Water Capacity In Drops (Grams*) at AHRI-710 Conditions

Core Model	R-22 (60 ppm)		R-134a (50 ppm)		R-404A, R-507A (50 ppm)		R-407C (50 ppm)	
	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)
PCX-48	697	524	762	591	766	584	534	392
PCK-48HH	474	322	518	363	521	359	363	241
PCK-48	549	386	600	435	604	430	420	288
Z-48	1659	1433	1814	1614	1823	1596	1270	1070

*** 20 Drops = 1 Gram = 1 cc**

Liquid Line Selection Recommendations – Tons (kW)

Shell	No. of Cores	Connection Size and Type	Refrigeration Low Temp. & Commercial Installations						Air Conditioning											
									Field Replacement & Field Installations						OEM / Self Contained Equipment					
			R-134a		R-22		R-404A, R-507		R-134a		R-22, R-407C R-410A		R-404A, R-507		R-134a		R-22, R-407C R-410A		R-404A R-507	
			Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW
P485	1	5/8 ODF	8	28.1	10	35.2	8	28.1	8	28.1	10	35.2	8	28.1	10	35.2	15	52.8	10	35.2
P487	1	7/8 ODF	12	42.2	15	52.8	10	35.2	11	38.7	14	49.2	10	35.2	13	45.7	20	70.3	13	45.7
P489	1	1-1/8 ODF	12	42.2	15	52.8	10	35.2	13	45.7	17	59.8	10	35.2	15	52.8	25	87.9	15	52.8
P4811	1	1-3/8 ODF	13	45.7	20	70.3	13	45.7	13	45.7	20	70.3	13	45.7	15	52.8	25	87.9	15	52.8
P4813	1	1-5/8 ODF	15	52.8	20	70.3	15	52.8	15	52.8	20	70.3	15	52.8	20	70.3	27	95	20	70.3
P4817	1	2-1/8 ODF	20	70.3	25	87.9	20	70.3	20	70.3	25	87.9	20	70.3	22	77.4	30	106	22	77.4
P4821	1	2-5/8 ODF	20	70.3	25	87.9	20	70.3	20	70.3	25	87.9	20	70.3	22	77.4	30	106	22	77.4
P967	2	7/8 ODF	20	70.3	25	87.9	15	52.8	20	70.3	25	87.9	15	52.8	20	70.3	35	123	20	70.3
P969	2	1-1/8 ODF	25	87.9	35	123	20	70.3	25	87.9	33	116	20	70.3	25	87.9	40	141	25	87.9
P9611	2	1-3/8 ODF	30	106	35	123	25	87.9	30	106	35	123	25	87.9	30	106	45	158	30	106
P9613	2	1-5/8 ODF	35	123	40	141	30	106	35	123	40	141	30	106	35	123	50	176	35	123
P9617	2	2-1/8 ODF	40	141	45	158	35	123	40	141	45	158	35	123	40	141	55	193	40	141
P9621	2	2-5/8 ODF	40	141	45	158	35	123	40	141	45	158	35	123	40	141	55	193	40	141
P9625	2	3-1/8 ODF	45	158	50	176	40	141	45	158	50	176	40	141	45	158	60	211	45	158
P1449	3	1-1/8 ODF	30	106	40	141	30	106	30	106	40	141	30	106	35	123	55	193	35	123
P14411	3	1-3/8 ODF	40	141	50	176	35	123	40	141	50	176	35	123	40	141	65	229	40	141
P14413	3	1-5/8 ODF	50	176	50	176	40	141	45	158	55	193	40	141	45	158	70	246	45	158
P19211	4	1-3/8 ODF	50	176	70	246	45	158	50	176	70	246	45	158	50	176	80	281	50	176
P19213	4	1-5/8 ODF	60	211	80	281	55	193	60	211	80	281	55	193	60	211	100	352	60	211
P19217	4	2-1/8 ODF	65	229	85	299	60	211	65	229	85	299	60	211	65	229	100	352	65	229

Suction Line Selection Recommendations – Horsepower (kW)

Shell	No. of Cores	Connection Size and Type	Core Part Number	Filter Element Part No.	Refrigerant 22 & 407C				Refrigerant 12, 134a, 404A, 502, 507			
					Permanent Installation with Cores		Temporary Installation Cores for cleanup; Filter elements after cleanup		Permanent Installation with Cores		Temporary Installation Cores for cleanup; Filter elements after cleanup	
					HP	kW	HP	kW	HP	kW	HP	kW
P485	1	5/8 ODF	PCK-48HH or PCK-48	PFE-48BF	10	7.5	10	7.5	3	2.2	5	3.7
P487	1	7/8 ODF			10	7.5	10	7.5	3	2.2	5	3.7
P489	1	1-1/8 ODF			10	7.5	20	14.9	5	3.7	10	7.5
P4811	1	1-3/8 ODF			10	7.5	20	14.9	5	3.7	10	7.5
P4813	1	1-5/8 ODF			10	7.5	20	14.9	5	3.7	10	7.5
P967	2	7/8 ODF			10	7.5	10	7.5	5	3.7	5	3.7
P969	2	1-1/8 ODF			15	11.2	20	14.9	8	6.0	10	7.5
P9611	2	1-3/8 ODF			20	14.9	30	22.4	10	7.5	15	11.2
P9613	2	1-5/8 ODF			20	14.9	30	22.4	10	7.5	15	11.2
P1449	3	1-1/8 ODF			15	11.2	20	14.9	7-1/2	5.6	10	7.5
P14411	3	1-3/8 ODF			25	18.6	35	26.1	12	9.0	15	11.2
P14413	3	1-5/8 ODF			25	18.6	35	26.1	12	9.0	15	11.2
P19211	4	1-3/8 ODF			25	18.6	40	29.8	12	9.0	20	14.9
P19213	4	1-5/8 ODF			25	18.6	40	29.8	12	9.0	20	14.9
P19217	4	2-1/8 ODF			25	18.6	40	29.8	12	9.0	20	14.9

Recovery and Reclaim Filters and Pre-Filters

Parker provides a large selection of components for recovery, recycle and reclaim machines, protecting them from the many types of contaminants that are encountered during the servicing of systems.

PF Series

The PF 052 and PF 052MF are designed to provide a filtration level of 15 microns. When installed on the inlet of your machine it can prevent costly damage by filtering solid contaminants out of the refrigerant before it enters your machine. The Parker pre-filter is for temporary use only and should be changed after servicing a maximum of six to eight systems. Change out may be needed sooner depending on actual system conditions. Various fitting combinations are available.

Features and Benefits

- Made in the USA
- Female outlet fitting allows direct mounting to the machine
- Extended female end fitting provides valve handle clearance
- Male-to-male fittings allow connection to, or between, hoses
- Enlarged depth filtering area
- 500 psig (34.5 bar) MRP
- UL Listed under SMGT/SMGT8-SA1756

Dimensions

Model	Part Number	Inlet Fitting (Inches)	Outlet Fitting (Inches)	Overall Length		Shell Diameter	
				Inches	mm	Inches	mm
PF 052	450098-001	1/4 SAE male flare	1/4 SAE male flare	4.38	111	2.38	60.5
PF 052MF	450099-001	1/4 SAE male flare	1/4 SAE female flare	5.02	128	2.38	60.5

SPD Series

The SPD series is an enlarged version of the PF Series with drying capabilities. This Super Pre-Filter-Drier should be installed at the inlet of the machine and used where there are concentrations of contaminants in the refrigerant. Moisture capacity of this unit size exceeds anything else currently available in the market. The Super SPD series is the ideal solution when transferring large amounts of refrigerant for reclaim or recycle.

Features and Benefits

- Made in the USA
- Super high capacity for acid and moisture removal
- Removes 504 (25.2 grams) drops of moisture vs. industry standard of 150 (7.5 grams) drops
- Available with either 1/4" SAE or 3/8" SAE flare connections
- Compatible with all HCFC, CFC and other refrigerants and blends
- 500 psig (34.5 bar) MRP
- UL Listed under SMGT/SMGT8-SA1756

Dimensions

Model	Part Number	Inlet Fitting (Inches)	Outlet Fitting (Inches)	Overall Length		Shell Diameter	
				Inches	mm	Inches	mm
SPD-162	450190	1/4 SAE male flare	1/4 SAE male flare	8.00	203	2.50	63.5
SPD-162MF	450189-001	1/4 SAE male flare	1/4 SAE female flare	8.64	219	2.50	63.5
SPD-163	450195	3/8 SAE male flare	3/8 SAE male flare	8.44	214	2.50	63.5
302V	450202	7/16-20 ACME	7/16-20 ACME	9.28	236	3.00	76.2
304V	450209	7/16-20 ACME	7/16-20 ACME	9.28	236	3.00	76.2

The 302V and 304V are slightly bigger shells when compared to the SPD for additional water capacity.

Steel Muffler

Parker's aftermarket steel muffler (P/N: PM3083-5-4C) is designed to assist with compressor related difficulties, such as noise reduction due to compressor pulsation and/or turbulent gas flow or vibration through the discharge line.

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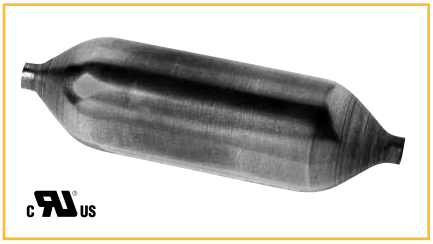
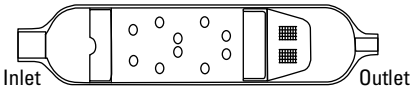
Features

- Made in the USA
- 600 psig (41.4 bar) MRP
- 1/2" ODF Solder
- Fully welded construction
- Bi-directional flow
- Powder coated paint gives maximum corrosion resistance of 500 hour salt spray protection
- Muffler utilizes 3.0 inch (76.2 mm) diameter shell and is 9.13 inches (232 mm) in length
- UL Listed under SOJV/SOJV7-SA5915

Loose-Fill Copper Filter-Driers – OEM

Parker's loose-fill copper filter-driers adsorb moisture and provide physical filtration in systems between 1/4 and 2 tons (.9 to 7.0 kW). Applications include refrigerators, freezers, ice makers, dispensers, water coolers, cryogenics and walk-ins.





Recommended tonnages: 1/4 to 2 tons (.9 to 7.0 kW) depending on application and system. Consult Parker.

Applications

- Refrigeration systems between 1/4 and 2 tons (.9 to 7.0 kW)

Features and Benefits

- Made in the USA
- One-piece copper shells in 3/4" to 1" O.D. (19.1 to 25.4 mm), spun ODF solder connections in a variety of sizes, provide easy installation, simple brazing, and corrosion resistance
- Up to 30 grams of 100% molecular sieve provide maximum water adsorption
- Filter-driers also available with standard charging tubes, SAE flare fittings, stepped-tubes on the inlet/outlet, and coiled capillary or bent tubing to match the unique requirements of a unit
- UL Recognized under SMGT2/SMGT8-SA1756

3/4" O.D. Shell Diameter – Specifications

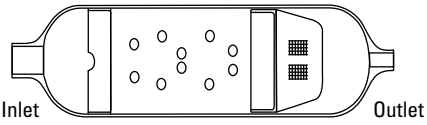
Part No.	Molecular Sieve (wt.)	Description	UL Model	Maximum Rated Pressure		Tube Diameter		Overall Length		Inlet (Inches)	Outlet (Inches)
				PSIG*	bar	Inches	mm	Inches	mm		
032519-00	10 g	3/4" two inlets, one outlet	700	540	37.2	0.75	19	4.80	122	(2) 1/4	1/4
057967-00		3/4" one inlet, two outlets						4.38	111	1/4	(2) 1/4
057980-02		3/4" directional						4.00	102	1/4	.095-.100 cap tube

One and two inlets are available as well as cap tube sizes on outlet from .081 to .125.
* Filter-driers are available with higher working pressures for R-410A.

3/4" O.D. Shell Diameter – Water Capacity In Drops (Grams*) at AHRI-710 Conditions

Part No.	Water Capacity in Drops									
	R-22 (60 ppm)		R-134a (50 ppm)		R-404A, R-507 (50 ppm)		R-407C (50 ppm)		R-410A (50 ppm)	
	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)
032519-00	29.8	27.4	32.6	31.0	32.8	30.6	26.2	23.6	19.8	17.4
057967-00										
057980-02										

*** 20 Drops = 1 Gram = 1 cc**



1" O.D. Shell Diameter Copper Filter-Drier Data

Part No.	Molecular Sieve (wt.)	Description	UL Model	Maximum Rated Pressure		Tube Diameter		Overall Length		Inlet (Inches)	Outlet (Inches)
				PSIG*	bar	Inches	mm	Inches	mm		
032083-00	12 g	1" directional	1025	700	48.3	1.00	2.5	4.00	102	1/4	.093-.098 cap tube
058066-00	15 g	1" two inlets, directional	1035	750	51.7			4.19	106	1/4 3/8	3/16
057404-00	16 g	1" directional	1025	700	48.3			3.81	97	5/16	5/16

Recommended Tonnages (Part Numbers 032083-00 and 058066-00): 1/4 to 1/2 tons (.9 to 1.8 kW) depending on application and system. Consult Parker.
(Part Number 057404-00): R-22 = 2 tons (7.0 kW), R-134a = 2 tons (7.0 kW), R-404A = 1.3 tons (4.6 kW), R-410A = 2 tons (7.0 kW), R-507 = 1.3 tons (4.6 kW)

1" O.D. Shell Diameter – Water Capacity In Drops (Grams*) at AHRI-710 Conditions

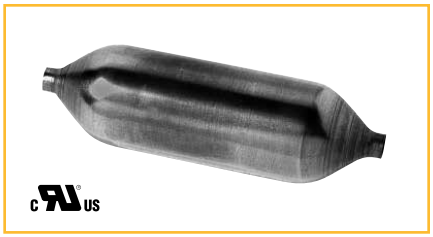
Part No.	Water Capacity in Drops									
	R-22 (60 ppm)		R-134a (50 ppm)		R-404A, R-507 (50 ppm)		R-407C (50 ppm)		R-410A (50 ppm)	
	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)
032083-00	N/R	N/R	40.3	37.7	N/R	N/R	N/R	N/R	N/R	N/R
058066-00	44.7	41.1	48.9	46.5	49.2	45.9	39.3	35.4	29.7	26.1
057404-00	54.7	50.6	59.8	57.0	59.5	56.0	41.9	37.8	32.3	28.8

N/R = not rated. Consult Parker for more information.

*** 20 Drops = 1 Gram = 1 cc**

Loose-Fill Spring-Loaded Copper Filter-Driers – OEM

Parker's loose-fill spring-loaded copper filter-driers adsorb moisture and provide physical filtration to air conditioning and heat-pump systems between 1/4 and 5 tons (.9 and 17.6 kW). Filter-driers utilize spring-loaded desiccant bed to prevent desiccant attrition.

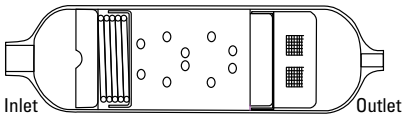


Application

- Air conditioning and heat pump systems between 1/4 and 5 tons (.9 and 17.6 kW)

Features and Benefits

- Made in the USA
- One-piece copper shells in 1" to 1-5/8" O.D. (25.4 to 41.3 mm), along with spun ODF solder fittings in a variety of sizes, provide easy installation, simplified brazing and corrosion resistance
- Up to 90 grams of 100% molecular sieve provide maximum water adsorption
- Filter-driers also available with standard charging tubes, SAE flare fittings, stepped-tubes on the inlet/outlet, and coiled capillary or bent tubing to match the unique requirements of a unit
- Filter-driers are available with a fiberglass pad for improved filtration – removes down to 20 micron sized particles
- UL Recognized under SMGT2/SMGT8-SA1756



1" O.D. Shell Diameter – Specifications

Part No.	Molecular Sieve (wt.)	Description	UL Model	Maximum Rated Pressure		Tube Diameter		Overall Length		Inlet (Inches)	Outlet (Inches)
				PSIG	bar	Inches	mm	Inches	mm		
032231-00	10 g	1" two inlets, directional	1035	750	51.7	1.00	25	4.25	108	3/16 3/8	.125 cap tube
054625-01	13.5 g	1" directional						4.38	111	1/4	1/4
056242-03	13.5 g	1" directional						4.38	111	3/8	3/8
053817-01	25 g	1" directional						5.69	145	3/8	3/8

One and two inlets are available as well as cap tube sizes on outlet from .125 to .50.

Flow Capacity – Tons @ 1psi ΔP (kW @ 0.07 bar ΔP)

Part No.	R-22		R-134a		R-404A		R-407C		R-410A		R-507	
	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW
032231-00	Recommended Tonnages: 1/2 to 1 tons (1.8 to 3.5 kW) depending on application and system. Consult Parker.											
054625-01	1.5	5.3	1.6	5.6	1.2	4.2	1.4	4.9	1.7	6.0	1.2	4.2
056242-03	3.6	12.7	3.3	11.6	2.4	8.4	3.5	12.3	3.5	12.3	2.3	8.1
053817-01	3	10.6	2.7	9.5	2	7.0	2.9	10.2	2.9	10.2	2	7.0

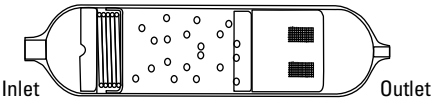
Tonnage (kW) ratings will vary depending on the inlet and outlet requested.

1" O.D. Shell Diameter – Water Capacity In Drops (Grams*) at AHRI-710 Conditions

Part No.	Water Capacity in Drops									
	R-22 (60 ppm)		R-134a (50 ppm)		R-404A, R-507 (50 ppm)		R-407C (50 ppm)		R-410A (50 ppm)	
	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)
032231-00	29.8	27.4	32.6	31.0	32.8	30.6	26.2	23.6	19.8	17.4
054625-01	46.2	42.7	50.5	48.1	50.2	47.3	49.4	44.8	27.3	24.3
056242-03	46.2	42.7	50.5	48.1	50.2	47.3	49.4	44.8	27.3	24.3
053817-01	85.5	79.0	93.5	89.0	93.0	87.5	91.5	83.0	50.5	45.0

*** 20 Drops = 1 Gram = 1 cc**

Loose-Fill Spring-Loaded Copper Filter-Driers – OEM



1-3/16" O.D. Shell Diameter – Specifications

Part No.	Molecular Sieve (wt.)	Description	UL Model	Maximum Rated Pressure		Tube Diameter		Overall Length		Inlet (Inches)	Outlet (Inches)
				PSIG*	bar	Inches	mm	Inches	mm		
056243-03	25 g	1-3/16 OD 3/8" x 3/8"	319F	750	51.7	1.19	30	5.13	130	3/8	3/8
056243-04		1-3/16 OD 1/2" x 1/2"								1/2	1/2

One and two inlets are available as well as cap tube sizes on outlet from .125 to .50.

Flow Capacity – Tons @ 1psi ΔP (kW @ 0.07 bar ΔP)

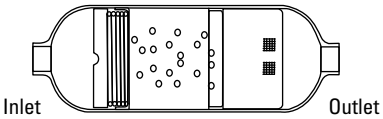
Part No.	R-22		R-134a		R-404A, R-507		R-407C		R-410A		R-507	
	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW
056243-04	4.8	16.9	4.4	15.5	3.1	10.9	4.6	16.2	4.7	16.5	3.1	10.9
056243-03	3.6	12.7	3.3	11.6	2.3	8.1	3.5	12.3	3.5	12.3	2.3	8.1

Tonnage (kW) ratings will vary depending on the inlet and outlet requested.

1-3/16" O.D. Shell Diameter – Water Capacity In Drops (Grams*) at AHRI-710 Conditions

Part No.	Water Capacity in Drops									
	R-22 (60 ppm)		R-134a (50 ppm)		R-404A, R-507 (50 ppm)		R-407C (50 ppm)		R-410A (50 ppm)	
	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)
056243-04	85.5	79.0	93.5	89.0	93.0	87.5	65.5	59.0	50.5	45.0
056243-03	85.5	79.0	93.5	89.0	93.0	87.5	65.5	59.0	50.5	45.0

*** 20 Drops = 1 Gram = 1 cc**



1-5/8" O.D. Shell Diameter – Specifications

Part No.	Molecular Sieve (wt.)	Description	UL Model	Maximum Rated Pressure		Tube Diameter		Overall Length		Inlet (Inches)	Outlet (Inches)
				PSIG*	bar	Inches	mm	Inches	mm		
032040-01	45 g	1-5/8 OD 3/8"x3/8" 45g	1638F	850	58.6	1.63	41	6.00	152	3/8	3/8
032145-00	28 g	1-5/8 OD 3/8"x3/8" 28g						4.38	111	3/8	3/8
031805-03	35 g	1-5/8 OD 3/8"x3/8" 35g						5.50	140	3/8	3/8
056244-01	45 g	1-5/8 OD 3/8"x3/8" 45g (w/ 2x the filter area of 031805-03)						5.38	137	3/8	3/8
056156-01	90 g	1-5/8 OD 3/8"x3/8" 90g (w/ 2x the filter area of 031805-03						7.00	178	1/4	1/4

One and two inlets are available as well as cap tube sizes on outlet from .125 to .50.

Flow Capacity – Tons @ 1psi ΔP (kW @ 0.07 bar ΔP)

Part No.	R-22		R-134a		R-404A, R-507		R-407C		R-410A		R-507	
	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW
032040-00	5.8	20.4	5.3	18.6	3.8	13.4	5.6	19.7	5.7	20	3.8	13.4
032145-00	4.7	16.5	4.3	15.1	3.1	10.9	4.5	15.8	4.6	16.2	3.1	10.9
031805-03	5.1	17.9	4.7	16.5	3.3	11.6	4.9	17.2	5	17.6	3.3	11.6
056244-01	5	17.6	4.5	15.8	3.2	11.3	4.8	16.9	4.8	16.9	3.2	11.3
056156-01	1.8	6.3	1.6	5.6	1.2	4.2	1.7	6.0	1.7	6.0	1.2	4.2

Tonnage (kW) ratings will vary depending on the inlet and outlet requested.

Loose-Fill Spring-Loaded Copper Filter-Driers – OEM

1-5/8" O.D. Shell Diameter – Water Capacity In Drops (Grams*) at AHRI-710 Conditions

Part No.	Water Capacity in Drops									
	R-22 (60 ppm)		R-134a (50 ppm)		R-404A, R-507 (50 ppm)		R-407C (50 ppm)		R-410A (50 ppm)	
	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)
032040-00	153.9	142.2	168.3	160.2	167.4	157.5	117.9	106.2	90.9	81.0
032145-00	83.4	76.7	91.3	86.8	91.8	85.7	73.4	66.1	55.4	48.7
031805-03	119.7	110.6	130.9	124.6	130.2	122.5	91.7	82.6	70.7	63.0
056244-01	153.9	142.2	168.3	160.2	167.4	157.5	117.9	106.2	90.9	81.0
056156-01	307.8	284.4	336.6	320.4	334.8	315.0	235.8	212.4	181.8	162.0

*** 20 Drops = 1 Gram = 1 cc**

CBF Bi-Flow Copper Filter-Driers – OEM

Parker's bi-flow copper filter-driers provide system protection of contaminants for heat-pumps between 1-1/2 and 4-1/2 tons (5.3 and 15.8 kW).

Application

- Heat pump systems between 1-1/2 and 4-1/2 tons (5.3 and 15.8 kW)

Base Product Part Number

- CBF

Features and Benefits

- Made in the USA
- One-piece copper shell with 2" (51mm) O.D., along with spun ODF fittings in a variety of sizes, provides easy installation
- 100% molecular sieve molded core for maximum water capacity
- Copper construction offers excellent corrosion resistance in harsh environments
- UL Recognized under SMGT2/SMGT8-SA1756

Copper Bi-Flow Filter-Drier – Dimensions

Model No.	Part No.	Description	UL Model	Maximum Rated Pressure		Tube Diameter		Overall Length		Inlet (Inches)	Outlet (Inches)
				PSIG*	bar	Inches	mm	Inches	mm		
CBF 5-2S	032284-052	Bi-Flow solid core liquid line filter drier	2058F	650	44.8	2.00	51	6.78	172	1/4	1/4
CBF 5-3S	032284-053									3/8	3/8
CBF 8-3S	032284-083							7.72	196	3/8	3/8
CBF 8-5S	032284-085									5/8	5/8

All of these driers have a .01 - .02 tube stop in the inlet and outlet.

Liquid Capacity in Ounces (Grams) @ 100°F (38°C)

Part No. Series	R-22		R-134a		R-404A, R-507		R-407C		R-410A	
	Ounces	grams	Ounces	grams	Ounces	grams	Ounces	grams	Ounces	grams
032284-050	6.47	183	6.55	186	5.55	157	6.12	173	5.64	160
032284-080	8.18	232	8.28	235	7.02	199	7.73	219	7.13	202

Water Capacity In Drops (Grams*) at AHRI-710 Conditions

Part No. Series	R-22 (60 ppm)		R-134a (50 ppm)		R-404A ,R-507 (50 ppm)		R-407C (50 ppm)		R-410A (50 ppm)	
	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)	75°F (24°C)	125°F (52°C)
032284-050	129	112	141	127	141	124	101	84	81	64
032284-080	207	180	226	202	225	199	161	134	129	102

*** 20 Drops = 1 Gram = 1 cc**

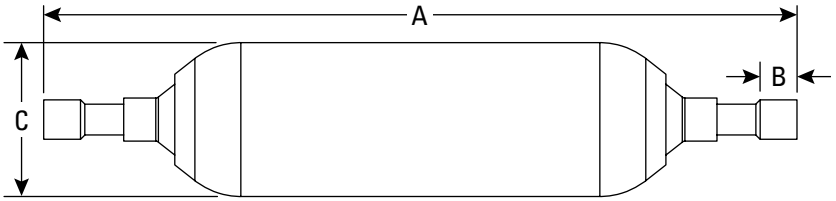
Transcritical Carbon Dioxide Filter-Driers
Type CO

The CO Series product offering has been designed to withstand the extreme pressure of transcritical carbon dioxide (R-744) systems while providing complete system protection in a compact design. A unique combination of moisture, acid, and solid debris removal extends the life, reliability, and capacity of these systems that operate under extreme conditions.

These models are ideal for application in vending machine and beverage dispensing equipment. Combining ideal capability in a compact size, the CO Series enables system optimization while maximizing protection and cost effectiveness

Features and Benefits

- Made in the USA
- 2,250 psi (155 bar) MRP
- 6,750 psi (465 bar) Burst Pressure Rating
- UL Recognized under SMGT2/ SMGT8-SA1756
- Solid copper connections for fast, easy system connection
- Desiccants optimized for use with R-744



CO Series Dimensions and Flow Capacities

Model No.	Connection Size ODF Solder Inches	Overall Length "A"		Socket Depth "B"		Typical Shell Diameter "C"		Drops of R-744 Water Capacity @ 140°F (60°C)	R-744 Flow Capacity	
		Inches	mm	Inches	mm	Inches	mm		Tons	kW
CO-0115-S	3/16	5.72	145	0.20	5.0	0.88	22.4	30	0.7	2.5
CO-012-S	1/4	5.72	145	0.25	6.4	0.88	22.4	30	1.7	6.0
CO-022-S	1/4	6.25	159	0.25	6.4	1.25	31.8	60	2.3	8.0
CO-082-S	1/4	10.94	278	0.25	6.4	2.38	61	200	2.7	8.4
CO-085-S	5/8	10.94	278	0.50	12.7	2.38	61	200	9.8	34

*Flow ratings based on 20°F (-5°C) liquid, -20°F (-29°C) evaporator.

Refrigerant Holding Capacities

Model No.	Internal Volume (Cubic Inches)	Liquid Density lbm/ft^3 @ -20°F	Liquid Weight		Liquid Density lbm/ft^3 @ 20°F	Liquid Weight	
			Ounces	Grams		Ounces	Grams
CO-0115-S	0.81	66.86	0.50	14.22	60.26	0.45	12.81
CO-012-S	0.81		0.50	14.22		0.45	12.81
CO-022-S	2.03		1.26	35.63		1.13	32.11
CO-082-S	6.85		4.24	120.22		3.82	108.36
CO-085-S	8.00		4.95	140.41		4.46	126.55

FOR USE ON REFRIGERATION AND/OR AIR CONDITIONING SYSTEMS ONLY.

Hydrocarbon Optimized Filter-Drier

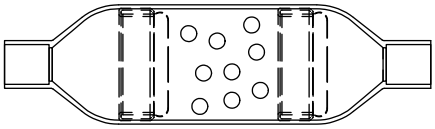
Features and Benefits

Model 058832-00

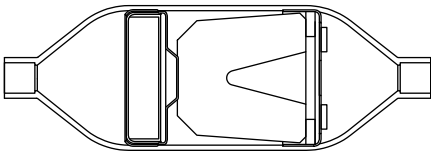
- Made in the USA
- 3/4" shell OD, 1/4" ODF
- Loose fill style, 100% MS
- **Moisture Capacity:** 16 drops of water at 50 ppm, 125 deg. R-290
- **Refrigerant Holding Capacity:** 2.36 g of R-290 at 100°F
- **Contaminant Holding:** 120 mesh brass screen
- UL Recognized under SMGT2/ SMGT8-SA1756

Model 032705-00

- Made in the USA
- 1-3/16" OD, 1/4" ODF
- Core style, blended desiccant.
- **Moisture Capacity:** 30 drops of water at 50 ppm, 125 deg. R-290
- **Refrigerant Holding Capacity:** 7.2 g of R-290 at 100°F
- **Contaminant Holding:** Inlet filter and solid desiccant core for high efficiency, solid contamination removal
- UL Recognized under SMGT2/ SMGT8-SA1756



Model 058832-00



Model 032705-00

Dimensions and Flow Capacities

Part No.	Connection Size ODF Solder Inches	Overall Length		Socket Depth		R-290 Flow Capacity @ 100°F		UL Model	MRP	
		Inches	mm	Inches	mm	Ounces	Grams		psig	bar
058832-00	1/4	2.7	69	0.25	6.4	0.08	2.36	700	540	37.2
032705-22	1/4	3.5	89	0.25	6.4	0.25	7.2	319F	750	51.7

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4. Warranty. Seller warrants that the Products sold hereunder shall be free from defects in material or workmanship for a period of twelve months from the date of delivery to Buyer or 2,000 hours of normal use, whichever occurs first. The prices charged for Seller's products are based upon the exclusive limited warranty stated above, and upon the following disclaimer: **DISCLAIMER OF WARRANTY: THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO PRODUCTS PROVIDED HEREUNDER. SELLER DISCLAIMS ALL OTHER WARRANTIES, EXPRESS AND IMPLIED, INCLUDING DESIGN, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

5. Claims; Commencement of Actions. Buyer shall promptly inspect all Products upon delivery. No claims for shortages will be allowed unless reported to the Seller within 10 days of delivery. No other claims against Seller will be allowed unless asserted in writing within 30 days after delivery. Buyer shall notify Seller of any alleged breach of warranty within 30 days after the date the defect is or should have been discovered by Buyer. Any action based upon breach of this agreement or upon any other claim arising out of this sale (other than an action by Seller for an amount due on any invoice) must be commenced within 12 months from the date of the breach without regard to the date breach is discovered.

6. LIMITATION OF LIABILITY. UPON NOTIFICATION, SELLER WILL, AT ITS OPTION, REPAIR OR REPLACE A DEFECTIVE PRODUCT, OR REFUND THE PURCHASE PRICE. **IN NO EVENT SHALL SELLER BE LIABLE TO BUYER FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR AS THE RESULT OF, THE SALE, DELIVERY, NON-DELIVERY, SERVICING, USE OR LOSS OF USE OF THE PRODUCTS OR ANY PART THEREOF, OR FOR ANY CHARGES OR EXPENSES OF ANY NATURE INCURRED WITHOUT SELLER'S WRITTEN CONSENT, EVEN IF SELLER HAS BEEN NEGLIGENT, WHETHER IN CONTRACT, TORT OR OTHER LEGAL THEORY. IN NO EVENT SHALL SELLER'S LIABILITY UNDER ANY CLAIM MADE BY BUYER EXCEED THE PURCHASE PRICE OF THE PRODUCTS.**

7. User Responsibility. The user, through its own analysis and testing, is solely responsible for making the final selection of the system and Product and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application and follow applicable industry standards and Product information. If Seller provides Product or system options, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the Products or systems.

8. Loss to Buyer's Property. Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer's property, will be considered obsolete and may be destroyed by Seller after two consecutive years have elapsed without Buyer ordering the items manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.

9. Special Tooling. A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture Products. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the Products, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

10. Buyer's Obligation; Rights of Seller. To secure payment of all sums due or otherwise, Seller shall retain a security interest in the goods delivered and this agreement shall be deemed a Security Agreement under the Uniform Commercial Code. Buyer authorizes Seller as its attorney to execute and file on Buyer's behalf all documents Seller deems necessary to perfect its security interest.

11. Improper use and Indemnity. Buyer shall indemnify, defend, and hold Seller harmless from any claim, liability, damages, lawsuits, and costs (including attorney fees), whether for personal injury, property damage, patent, trademark or copyright infringement or any other claim, brought by or incurred by Buyer, Buyer's employees, or any other person, arising out of: (a) improper selection, improper application or other misuse of Products purchased by Buyer from Seller; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller's use of patterns, plans, drawings, or specifications furnished by Buyer to manufacture Product; or (d) Buyer's failure to comply with these terms and conditions. Seller shall not indemnify Buyer under any circumstance except as otherwise provided.

12. Cancellations and Changes. Orders shall not be subject to cancellation or change by Buyer for any reason, except with Seller's written consent and upon terms that will indemnify, defend and hold Seller harmless against all direct, incidental and consequential loss or damage. Seller may change product features, specifications, designs and availability with notice to Buyer.

13. Limitation on Assignment. Buyer may not assign its rights or obligations under this agreement without the prior written consent of Seller.

14. Force Majeure. Seller does not assume the risk and shall not be liable for delay or failure to perform any of Seller's obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter "Events of Force Majeure"). Events of Force Majeure shall include without limitation: accidents, strikes or labor disputes, acts of any government or government agency, acts of nature, delays or failures in delivery from carriers or suppliers, shortages of materials, or any other cause beyond Seller's reasonable control.

15. Waiver and Severability. Failure to enforce any provision of this agreement will not waive that provision nor will any such failure prejudice Seller's right to enforce that provision in the future. Invalidation of any provision of this agreement by legislation or other rule of law shall not invalidate any other provision herein. The remaining provisions of this agreement will remain in full force and effect.

16. Termination. Seller may terminate this agreement for any reason and at any time by giving Buyer thirty (30) days written notice of termination. Seller may immediately terminate this agreement, in writing, if Buyer: (a) commits a breach of any provision of this agreement (b) appointments a trustee, receiver or custodian for all or any part of Buyer's property (c) files a petition for relief in bankruptcy on its own behalf, or by a third party (d) makes an assignment for the benefit of creditors, or (e) dissolves or liquidates all or a majority of its assets.

17. Governing Law. This agreement and the sale and delivery of all Products hereunder shall be deemed to have taken place in and shall be governed and construed in accordance with the laws of the State of Ohio, as applicable to contracts executed and wholly performed therein and without regard to conflicts of laws principles. Buyer irrevocably agrees and consents to the exclusive jurisdiction and venue of the courts of Cuyahoga County, Ohio with respect to any dispute, controversy or claim arising out of or relating to this agreement.

18. Indemnity for Infringement of Intellectual Property Rights. Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Section. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets ("Intellectual Property Rights"). Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that a Product sold pursuant to this Agreement infringes the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If a Product is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using the Product, replace or modify the Product so as to make it noninfringing, or offer to accept return of the Product and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to Products delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any Product sold hereunder. The foregoing provisions of this Section shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

19. Entire Agreement. This agreement contains the entire agreement between the Buyer and Seller and constitutes the final, complete and exclusive expression of the terms of sale. All prior or contemporaneous written or oral agreements or negotiations with respect to the subject matter are herein merged.

20. Compliance with Law, U. K. Bribery Act and U.S. Foreign Corrupt Practices Act. Buyer agrees to comply with all applicable laws and regulations, including both those of the United Kingdom and the United States of America, and of the country or countries of the Territory in which Buyer may operate, including without limitation the U. K. Bribery Act, the U.S. Foreign Corrupt Practices Act ("FCPA") and the U.S. Anti-Kickback Act (the "Anti-Kickback Act"), and agrees to indemnify and hold harmless Seller from the consequences of any violation of such provisions by Buyer, its employees or agents. Buyer acknowledges that they are familiar with the provisions of the U. K. Bribery Act, the FCPA and the Anti-Kickback Act, and certifies that Buyer will adhere to the requirements thereof. In particular, Buyer represents and agrees that Buyer shall not make any payment or give anything of value, directly or indirectly to any governmental official, any foreign political party or official thereof, any candidate for foreign political office, or any commercial entity or person, for the purpose of influencing such person to purchase products or otherwise benefit the business of Seller.

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