

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

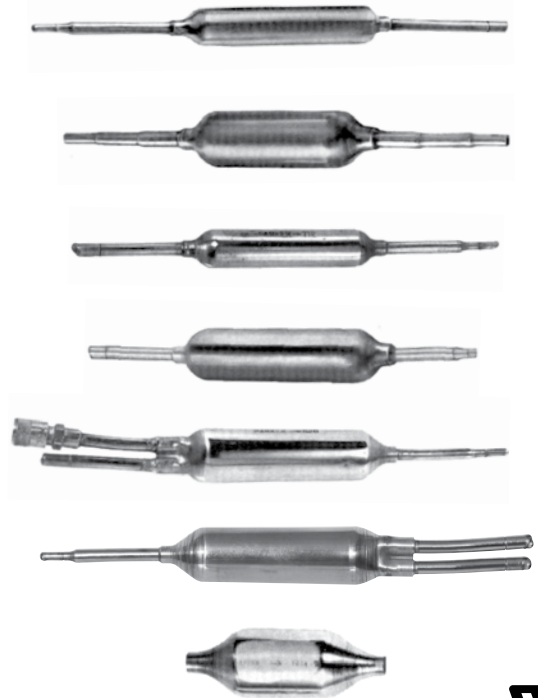
712
Working psi: 500

319F
Working psi: 750

619/620
Working psi: 750

621
Working psi: 750

1638F (Formerly C073S)
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
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
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 C073S)	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 C073S)	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 C073S)	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 C073S)	032145-00	91	85	73	66	55	48	85	80

* 20 Drops = 1 Gram = 1 cc

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



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)									
			Inches	mm	Inches	mm	R-22		R-134a		R-404A, R-507		R-407C		R-410A	
							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.

