

# INSTALLATION INSTRUCTIONS FOR LLD TYPE LIQUID LINE FILTER-DRIERS

1. The system must be pumped down and lines de-pressurized before attempting to install. Failure to do so could result in bodily injury.
2. Do not remove seal caps until ready for installation. Install immediately to minimize contamination.
3. This filter-drier may be installed in any position. For best results locate as close as possible to the inlet of the expansion device. If using a liquid line solenoid or moisture-liquid indicator, locating the filter-drier upstream will provide protection for the solenoid and the liquid -moisture indicator will measure the effectiveness of the drier. Refer to Table for rough in dimensions.
4. **Warning:** The arrow on the label must point in the direction of refrigerant flow. Reverse flow reduces the filtering ability.
5. When soldering divert flame away from filter-drier to avoid possible internal damage. Use chill blocks, wet rags or other suitable heat protection for the filter-drier.
6. To prevent twisting the refrigerant line, use a back-up wrench on the flats supplied on each SAE connection.
7. **Warning:** Thoroughly leak-test system after installation. Failure to do so could result in loss of refrigerant.

## SERVICE HINTS

1. On new installations, the use of liquid line filter-drier with a suction line filter is recommended. This will provide the complete system with overall protection from chips, scale dirt, etc.
2. For clean-up of any system after a burnout, or when unsure of system cleanliness use an oversized filter-drier in the liquid line and a suction line filter-drier in the suction line.

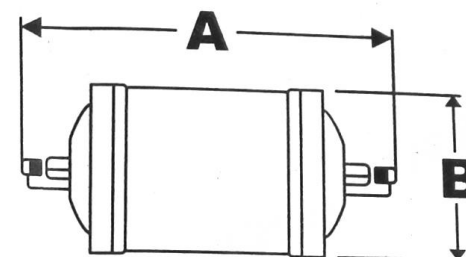
## SELECTION

1. Given the proper liquid line size and style connection, select from the Capacity Table a the filter-drier unit size having sufficient water capacity to reduce the moisture content of the system to a safe level. Considerations should be given to the factors of freeze up, corrosion and protection of the harmful acids and contaminants.
  2. The filter-drier should also have sufficient flow capacity for the required flow rate at a minimum pressure drop.
  3. OEM applications usually permit the selection of smaller models within the flow capacity limits based on known conditions. Field installed systems with unknown moisture quantities generally require larger models.
  4. This filter-drier is intended for use on all CFC, HCFC and HFC refrigerants. **CAUTION:** Do not use on unlisted gases or fluid media without prior approval. Use on unlisted gases of fluids could result in product deterioration or personal injury.
  5. Be sure filter-drier is not required to operate at conditions exceeding the maximum working pressure.
- NOTE: Products, specifications and data in this literature are subject to change without notice.

### Nomenclature

Example: LLD083S

LLD	08	3	S
Series	Unit Size Cubic Inches	Connection Size (in 1/8)	S=ODF Connection (Omit for SAE)



See dimension table on reverse side.



**Sealed Unit Parts Co., Inc.**  
 PO Box 21, 2230 Landmark Place • Allenwood, NJ 08720 USA  
 Phone (732)223-6644 • Fax (732)223-1617 • [www.supco.com](http://www.supco.com) • [info@supco.com](mailto:info@supco.com)



# LLD CAPACITY TABLES

FLOW CAPACITY TONS @ 1 PSI Δ P (1)(4) (FOR KW, MULTIPLY TONS BY 3.5)											DROPS OF WATER													
PART NO.	Connection SIZE & TYPE	Dimensions in Inches		R-12	R-134a	R-22	R-410A	R-407C	R-404A /507	R-502	R-12		R-134a		R-22		R-407C		R-410A		R-404/507		R-502	
		A	B								75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F
LLD032	1/4 SAE	4 5/16	1 5/8	1.6	1.9	2.1	2.1	2	1.4	1.3	130	81	68	50	58	38	47	26	44	23	73	48	73	49
LLD032S	1/4 ODF	3 3/4	1 5/8	1.9	2.3	2.5	2.5	2.4	1.7	1.6														
LLD052	1/4 SAE	4 7/8	2 1/2	1.6	2	2.2	2.2	2.1	1.4	1.4														
LLD052S	1/4 ODF	4 11/32	2 1/2	2.4	2.9	3.1	3.1	3.1	2.1	2														
LLD053	3/8 SAE	5 3/16	2 1/2	3	3.7	4	4	3.9	2.7	2.6	188	117	101	76	87	57	68	39	63	34	109	73	105	71
LLD053S	3/8 ODF	4 17/32	2 1/2	3.7	4.5	4.9	4.9	4.8	3.3	3.2														
LLD082	1/4 SAE	5 13/16	2 1/2	1.6	2	2.2	2.2	2.1	1.4	1.4														
LLD082S	1/4 ODF	5 1/4	2 1/2	2.5	3.1	3.4	3.4	3.3	2.2	2.2														
LLD083	3/8 SAE	6 3/32	2 1/2	3.5	4.3	4.7	4.7	4.6	3.1	3	295	204	169	140	151	117	134	86	115	67	180	143	193	145
LLD083S	3/8 ODF	5 7/16	2 1/2	3.4	4.2	4.6	4.6	4.5	3	3														
LLD084	1/2 SAE	6 11/32	2 1/2	5.5	6.7	7.3	7.3	7.1	4.9	4.7														
LLD084S	1/2 ODF	5 1/2	2 1/2	5.7	7	7.6	7.6	7.4	5.1	4.9														
LLD162	1/4 SAE	6 19/32	2 1/2	1.6	2	2.2	2.2	2.1	1.4	1.4	615	444	359	278	314	218	309	212	515	355	385	272	427	335
LLD163	3/8 SAE	6 7/8	2 1/2	3.6	4.4	4.8	4.8	4.7	3.2	3.1														
LLD163S	3/8 ODF	6 7/32	2 1/2	4	4.9	5.3	5.3	5.2	3.6	3.5														
LLD164	1/2 SAE	7 1/8	2 1/2	6.8	8.3	9	9	8.8	6	5.8														
LLD164S	1/2 ODF	6 9/32	2 1/2	7.1	8.6	9.3	9.3	9.1	6.2	6.1														
LLD165	5/8 SAE	7 1/2	2 1/2	9.7	11.8	12.8	12.8	12.5	8.6	8.3														
LLD165S	5/8 ODF	6 17/32	2 1/2	10.7	13.1	14.2	14.2	13.9	9.5	9.2														
LLD303	3/8 SAE	9 9/16	3	3.9	4.7	5.1	5.1	5	3.4	3.3														
LLD303S	3/8 ODF	8 29/32	3			6.8	6.8																	
LLD304	1/2 SAE	9 13/16	3	7.1	8.6	9.3	9.3	9.1	6.2	6.1														
LLD304S	1/2 ODF	8 15/16	3	7.2	8.8	9.5	9.5	9.4	6.4	6.2														
LLD305	5/8 SAE	10 3/16	3	11.3	13.8	15	15	14.7	10	9.7														
LLD306S	3/4 ODF	9 5/8	3	13	15.8	17.1	17.1	16.8	11.5	11.1														
LLD307S	7/8 ODF	9 13/16	3	14.3	17.4	18.9	18.9	18.5	12.6	12.3														
LLD309S	1 1/8 ODF	9 13/16	3	20.4	24.9	27	27	26.5	18	17.5														

(1) All ratings in accordance with ARI Standard 710-86.

86° F liquid refrigerant temperature

5°F saturated vapor temperature

3.1 lbs./min./ton for R-134a

2.9 lbs./min./ton for R-22 and R-407C

4.0 lbs./min./ton for R-404A/507 and R-12

4.4 lbs./min./ton for R-502

2.7 lbs./min./ton for R-410A

(2) Water Capacities are based on:

Equilibrium Point Dryness (EPD) of:

50 parts per million for R-134a, R404-A/507, R-410A and R-407C

60 parts per million for R-22

30 parts per million for R-502

15 parts per million for R-12

(3) 20 drops of water = 1 gram = 1 cc

(4) For 2 PSI Δ P, Multiply values by 1.4

680 psig max. working pressure and 3000 psig burst pressure.

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