

# REPLACEABLE CORE FILTER DRIERS

The function of a filter drier is to remove system contaminants, acid and moisture.

## Applications

The Henry Technologies range of replaceable core filter driers are designed to be used in both the liquid and suction lines of refrigeration and air-conditioning systems. The product range is suitable for use with HCFC, HFC and CO<sub>2</sub> refrigerants (see core data).

## Main features

- Proven system protector
- High filtering capability
- High moisture absorption and acid removal
- Stainless steel mesh screen
- Solid copper full flow connections
- Interchangeable cores
- Corrosion-resistant, powder coated shells
- 1/4 NPT Pressure Tapping
- Nickel Plated Steel Cover Plate

## Cores

### S-848-CM

- 100% molecular sieve
- High drying capacity
- Suitable for HCFC, HFC and CO<sub>2</sub> refrigerants

### S-848-C

- 80% molecular sieve and 20% activated alumina
- Absorbs moisture and acid in the system
- Suitable for HCFC, HFC and CO<sub>2</sub> refrigerants
- Not suitable for oils containing additives

### S-848-CC

- 47/48/5% molecular sieve/activated alumina/activated carbon
- High acid absorption
- Suitable for use after compressor burnout
- Suitable for HCFC, HFC and CO<sub>2</sub> refrigerants
- Not suitable for oils containing additives

### S-848-SC

- 100% molecular sieve
- Low pressure drop
- Suitable for HCFC, HFC and CO<sub>2</sub> refrigerants

### S-848-F

- Filter element
- Low pressure drop
- Use when moisture removal is not required

**Note:** Cores not included with drier shells - to be ordered separately



## Materials of Construction

### Drier Shells

The main shell and fixed end cap are constructed from carbon steel and are powder coated for corrosion resistance. The cover plate is constructed from nickel plated steel. The ODS connections are copper.

### Cores

Each core is constructed from a moulded composite of desiccant material(s) bonded to provide very high mechanical strength, micron filtration, high moisture absorption and acid removal where applicable. Each core is fully activated and placed in a hermetically sealed container.

## Technical Specification

Allowable operating temperature = -40°C to +70°C

Allowable operating pressure = 0 to 42 barg

## Selection Guidelines

The user should select a model based on refrigerant type, refrigeration capacity and the preferred degree of moisture/acid removal required. The preferred connection size can then be matched to the system requirements to establish which model is best. Alternatively, the user may select a connection size first and then check that the application is within the refrigeration capacity limits of the selected model.

**Note:** The user may decide to oversize the filter drier based on experience or if the system contamination level is likely to be higher than normal.

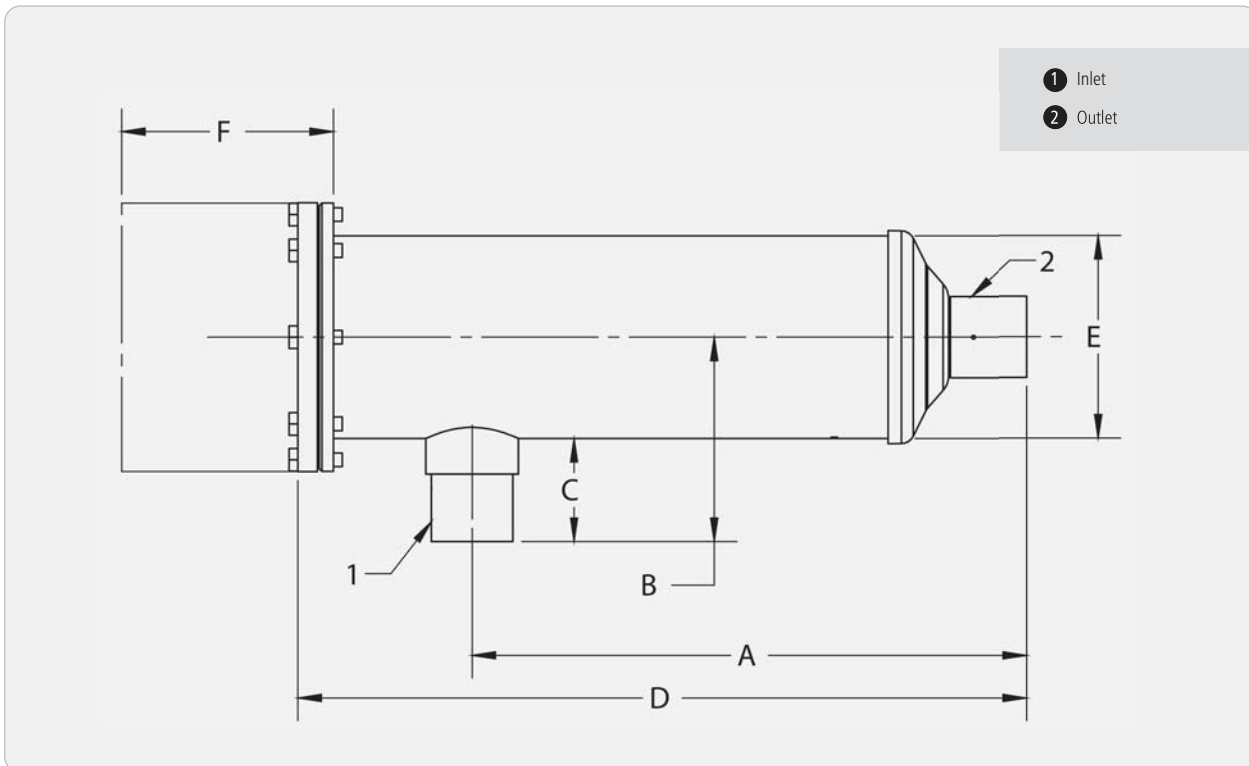
## Installation – Main Issues

1. Install the filter drier upstream of the liquid line controls to give maximum protection. Locate upstream of moisture indicator so that drying effectiveness can be measured.
2. Ensure dimension 'F' is complied with in order to remove cores.
3. It is recommended to install the unit horizontally for easier core replacement.

Replaceable Core Filter Drier Shells

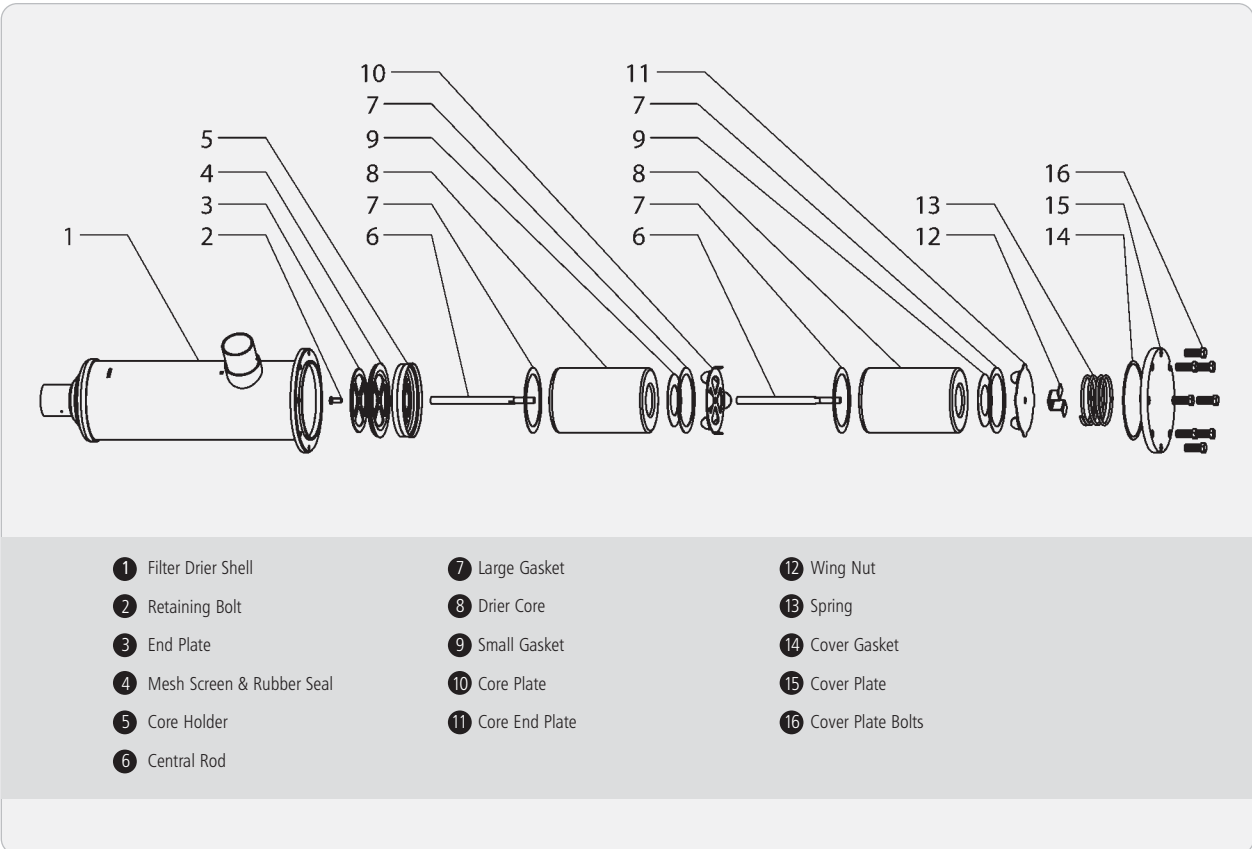
Model Details			Core Data		Dimensions (mm)						Weight (kg)	CE Cat
Part No	Conn. Size (inch)	Cores	Surface Area (cm <sup>2</sup> )	Volume (cm <sup>3</sup> )	A	B	C	D	E	F*		
SRC-485	5/8	1	683	716	172	115	58	274	114	172	4.78	Cat I
SRC-965	5/8	2	1366	1432	312	115	58	414	114	312	6.12	Cat I
SRC-1445	5/8	3	2049	2148	456	115	58	558	114	456	7.49	Cat II
SRC-1925	5/8	4	2732	2864	599	115	58	701	114	599	9.00	Cat II
SRC-487	7/8	1	683	716	172	115	58	274	114	172	4.81	Cat I
SRC-967	7/8	2	1366	1432	312	115	58	414	114	312	6.15	Cat I
SRC-1447	7/8	3	2049	2148	456	115	58	558	114	456	7.52	Cat II
SRC-1927	7/8	4	2732	2864	599	115	58	701	114	599	9.02	Cat II
SRC-489	1 1/8	1	683	716	172	115	58	274	114	172	4.83	Cat I
SRC-969	1 1/8	2	1366	1432	312	115	58	414	114	312	6.23	Cat I
SRC-1449	1 1/8	3	2049	2148	456	115	58	558	114	456	7.64	Cat II
SRC-1929	1 1/8	4	2732	2864	599	115	58	701	114	599	9.10	Cat II
SRC-4811	1 3/8	1	683	716	172	115	58	274	114	172	4.93	Cat I
SRC-9611	1 3/8	2	1366	1432	312	115	58	414	114	312	6.30	Cat I
SRC-14411	1 3/8	3	2049	2148	456	115	58	558	114	456	7.68	Cat II
SRC-19211	1 3/8	4	2732	2864	599	115	58	701	114	599	9.12	Cat II
SRC-4813	1 5/8	1	683	716	172	115	58	274	114	172	4.99	Cat I
SRC-9613	1 5/8	2	1366	1432	312	115	58	414	114	312	6.32	Cat I
SRC-14413	1 5/8	3	2049	2148	456	115	58	558	114	456	8.01	Cat II
SRC-19213	1 5/8	4	2732	2864	599	115	58	701	114	599	9.16	Cat II
SRC-4817	2 1/8	1	683	716	172	115	58	274	114	172	5.03	Cat I
SRC-9617	2 1/8	2	1366	1432	312	115	58	414	114	312	6.47	Cat I
SRC-14417	2 1/8	3	2049	2148	456	115	58	558	114	456	7.83	Cat II
SRC-19217	2 1/8	4	2732	2864	599	115	58	701	114	599	9.26	Cat II
SRC-4821	2 5/8	1	683	716	172	115	58	274	114	172	5.34	Cat I
SRC-9621	2 5/8	2	1366	1432	312	115	58	414	114	312	6.71	Cat I
SRC-14421	2 5/8	3	2049	2148	456	115	58	558	114	456	8.02	Cat II
SRC-19221	2 5/8	4	2732	2864	599	115	58	701	114	599	9.58	Cat II

\*'F' is the minimum space required to remove the filter drier cores from the shell.



S-848-CM Core

Model Details			Drying Capacity (kg of refrigerant)						Liquid Capacity (kW)					
Part No	Conn. Size (inch)	Cores	R134a		R404A/R507		R407C/R410A		R134a	R404A	R507	R407C	R410A	CO <sub>2</sub>
			24 °C	52 °C	24 °C	52 °C	24 °C	52 °C						
SRC-485	5/8	1	83.5	79.5	123	76	84	72	78.2	57.6	55.8	81.9	85.3	125.9
SRC-965	5/8	2	167	159	246	152	168	144	73.1	53.4	51.7	76.1	79.0	117.6
SRC-1445	5/8	3	250.5	238.5	369	228	252	216	73.1	53.4	51.7	76.1	79.0	117.6
SRC-1925	5/8	4	334	318	492	304	336	288	73.1	53.4	51.7	76.1	79.0	117.6
SRC-487	7/8	1	83.5	79.5	123	76	84	72	124.2	89.7	86.9	128.6	132.7	197.0
SRC-967	7/8	2	167	159	246	152	168	144	116.0	83.1	80.5	119.5	122.8	184.1
SRC-1447	7/8	3	250.5	238.5	369	228	252	216	116.0	83.1	80.5	119.5	122.8	184.1
SRC-1927	7/8	4	334	318	492	304	336	288	116.0	83.1	80.5	119.5	122.8	184.1
SRC-489	1 1/8	1	83.5	79.5	123	76	84	72	178.8	128.6	124.5	184.7	190.0	283.7
SRC-969	1 1/8	2	167	159	246	152	168	144	178.1	128.2	124.0	183.9	189.1	282.7
SRC-1449	1 1/8	3	250.5	238.5	369	228	252	216	173.3	124.7	120.8	179.1	184.2	275.1
SRC-1929	1 1/8	4	334	318	492	304	336	288	173.3	124.7	120.8	179.1	184.2	275.1
SRC-4811	1 3/8	1	83.5	79.5	123	76	84	72	236.8	171.5	166.1	245.6	253.5	375.9
SRC-9611	1 3/8	2	167	159	246	152	168	144	241.5	174.1	168.7	249.8	257.3	383.3
SRC-14411	1 3/8	3	250.5	238.5	369	228	252	216	253.4	183.1	177.4	262.4	270.5	402.2
SRC-19211	1 3/8	4	334	318	492	304	336	288	263.9	192.6	186.6	275.1	284.9	418.8
SRC-4813	1 5/8	1	83.5	79.5	123	76	84	72	273.7	199.8	193.6	285.4	295.7	434.3
SRC-9613	1 5/8	2	167	159	246	152	168	144	298.7	216.7	210.0	310.2	320.5	474.1
SRC-14413	1 5/8	3	250.5	238.5	369	228	252	216	299.3	217.2	210.4	310.8	321.1	475.0
SRC-19213	1 5/8	4	334	318	492	304	336	288	309.4	225.1	218.1	321.8	332.8	491.1
SRC-4817	2 1/8	1	83.5	79.5	123	76	84	72	399.6	298.2	289.2	422.6	442.2	634.1
SRC-9617	2 1/8	2	167	159	246	152	168	144	419.9	307.2	297.7	438.4	454.6	666.4
SRC-14417	2 1/8	3	250.5	238.5	369	228	252	216	367.1	268.1	259.8	382.9	396.7	582.6
SRC-19217	2 1/8	4	334	318	492	304	336	288	429.8	311.1	301.4	445.7	459.9	682.0
SRC-4821	2 5/8	1	83.5	79.5	123	76	84	72	294.9	215.6	209.1	307.7	318.9	460.4
SRC-9621	2 5/8	2	167	159	246	152	168	144	316.5	238.1	230.7	341.1	351.7	517.6
SRC-14421	2 5/8	3	250.5	238.5	369	228	252	216	282.4	221.7	214.8	317.0	327.8	482.0
SRC-19221	2 5/8	4	334	318	492	304	336	288	337.4	273.5	264.9	391.3	404.2	598.8



S-848-C Core

Model Details			Drying Capacity (kg of refrigerant)								Liquid Capacity (kW)					
Part No	Conn. Size (inch)	Cores	R22		R134a		R404A/R507		R407C/R410A		R134a	R404A	R507	R22 /R407C	R410A	CO <sub>2</sub>
			24 °C	52 °C	24 °C	52 °C	24 °C	52 °C	24 °C	52 °C						
SRC-485	5/8	1	68	63	73	69.5	117	63	71.5	61	83.7	57.6	55.8	81.9	85.3	127.6
SRC-965	5/8	2	136	126	146	139	234	126	143	122	78.2	53.4	51.7	76.1	79.0	119.2
SRC-1445	5/8	3	204	189	219	208.5	351	189	214.5	183	78.2	53.4	51.7	76.1	79.0	119.2
SRC-1925	5/8	4	272	252	292	278	468	252	286	244	78.2	53.4	51.7	76.1	79.0	119.2
SRC-487	7/8	1	68	63	73	69.5	117	63	71.5	61	124.2	89.7	86.9	128.6	132.7	197.0
SRC-967	7/8	2	136	126	146	139	234	126	143	122	116.0	83.1	80.5	119.5	122.8	184.1
SRC-1447	7/8	3	204	189	219	208.5	351	189	214.5	183	116.0	83.1	80.5	119.5	122.8	184.1
SRC-1927	7/8	4	272	252	292	278	468	252	286	244	116.0	83.1	80.5	119.5	122.8	184.1
SRC-489	1 1/8	1	68	63	73	69.5	117	63	71.5	61	178.8	128.6	124.5	184.7	190.0	283.7
SRC-969	1 1/8	2	136	126	146	139	234	126	143	122	178.1	128.2	124.0	183.9	189.1	282.7
SRC-1449	1 1/8	3	204	189	219	208.5	351	189	214.5	183	173.3	124.7	120.8	179.1	184.2	275.1
SRC-1929	1 1/8	4	272	252	292	278	468	252	286	244	173.3	124.7	120.8	179.1	184.2	275.1
SRC-4811	1 3/8	1	68	63	73	69.5	117	63	71.5	61	236.8	171.5	166.1	245.6	253.5	375.9
SRC-9611	1 3/8	2	136	126	146	139	234	126	143	122	241.5	174.1	168.7	249.8	257.3	383.3
SRC-14411	1 3/8	3	204	189	219	208.5	351	189	214.5	183	253.4	183.1	177.4	262.4	270.5	402.2
SRC-19211	1 3/8	4	272	252	292	278	468	252	286	244	263.9	192.6	186.6	275.1	284.9	418.8
SRC-4813	1 5/8	1	68	63	73	69.5	117	63	71.5	61	273.7	199.8	193.6	285.4	295.7	434.3
SRC-9613	1 5/8	2	136	126	146	139	234	126	143	122	298.7	216.7	210.0	310.2	320.5	474.1
SRC-14413	1 5/8	3	204	189	219	208.5	351	189	214.5	183	299.3	217.2	210.4	310.8	321.1	475.0
SRC-19213	1 5/8	4	272	252	292	278	468	252	286	244	309.4	225.1	218.1	321.8	332.8	491.1
SRC-4817	2 1/8	1	68	63	73	69.5	117	63	71.5	61	399.6	298.2	289.2	422.6	442.2	634.1
SRC-9617	2 1/8	2	136	126	146	139	234	126	143	122	419.9	307.2	297.7	438.4	454.6	666.4
SRC-14417	2 1/8	3	204	189	219	208.5	351	189	214.5	183	367.1	268.1	259.8	382.9	396.7	582.6
SRC-19217	2 1/8	4	272	252	292	278	468	252	286	244	429.8	311.1	301.4	445.7	459.9	682.0
SRC-4821	2 5/8	1	68	63	73	69.5	117	63	71.5	61	294.9	215.6	209.1	307.7	318.9	460.4
SRC-9621	2 5/8	2	136	126	146	139	234	126	143	122	316.5	238.1	230.7	341.1	351.7	517.6
SRC-14421	2 5/8	3	204	189	219	208.5	351	189	214.5	183	282.4	221.7	214.8	317.0	327.8	482.0
SRC-19221	2 5/8	4	272	252	292	278	468	252	286	244	337.4	273.5	264.9	391.3	404.2	598.8

Drying Capacity is based on the following moisture contents before and after drying:

- R22:** From 1050 ppm W to 60 ppw W according to ARI 710-86
- R134a:** From 1050 ppm W to 75 ppm W.
- R404A, R407C, R507:** From 1020 ppm W to 30 ppm W
- R410A:** From 1050 ppm W to 60 ppm W

Liquid Capacity is based on:

- Evaporating temperature of  $t_e = -15^\circ\text{C}$  ( $-30^\circ\text{C}$  for  $\text{CO}_2$ )
- Condensing temperature of  $t_c = +30^\circ\text{C}$  ( $-5^\circ\text{C}$  for  $\text{CO}_2$ )
- Pressure drop across filter drier of  $\Delta p = 0.07$  bar

S-848-CC

Cores	Drying Capacity (kg of refrigerant)											
	Evaporating Temperature $t_e$ (°C)											
	-40	-20	4.4	-30	-20	4.4	-40	-20	4.4	-40	-20	4.4
	R22			R134a			R404A/R507			R407C/R410A		
1	29	20	13	46	39	27	47	31	19	43	35	25
2	58	40	26	92	78	54	94	62	38	86	70	50
3	87	60	39	138	117	81	141	93	57	129	105	75
4	116	80	52	184	156	108	188	124	76	172	140	100

Drying Capacity is expressed during drying in:

- R22:** EDP = 10 ppm W, corresponding to a dew point temperature of  $-50^\circ\text{C}$
- R134a:** EDP = 50 ppm W, corresponding to a dew point temperature of  $-37^\circ\text{C}$
- R404A:** EDP = 10 ppm W, corresponding to a dew point temperature of  $-40^\circ\text{C}$
- R407C:** EDP = 10 ppm W, corresponding to a dew point temperature of  $-40^\circ\text{C}$

Model	Refrigerant	Acid adsorb capacity (drops)	Acid capacity (grams)
S-848-C (80%/20% MS/AA)	R134a	196	10.24
	R410A	232	12.12
S-848-CC (47%/48%/5% MS/AA/C)	R134a	465	24.30
	R410A	523	27.33

Test Condition: T = 25°C, TAN = 0.3mgKOH/g of oil, Humidity = 2%

Recommended Plant Capacity in suction line (kW) S-848-CC (Burn Out)

Model Details			Evaporating Temperature $t_e$ °C											
Part No	Conn. Size (inch)	Cores	-40	-20	4.4	-30	-20	4.4	-40	-20	4.4	-40	-20	4.4
			R22			R134a			R404A/R507			R407C/R410A		
SRC-485	5/8	1	3.0	8.6	20.4	2.9	5.2	12.6	2.3	6.9	17.0	3.0	8.6	20.4
SRC-965	5/8	2	3.2	8.8	20.8	3.1	5.5	13.0	2.4	7.2	17.5	3.2	8.9	21.0
SRC-1445	5/8	3	3.4	9.7	22.1	3.3	5.8	13.6	2.6	7.5	18.3	3.4	9.7	22.1
SRC-1925	5/8	4	4.1	11.2	266.9	3.9	6.9	16.3	3.1	8.9	22.0	4.1	11.2	26.5
SRC-487	7/8	1	5.6	15.6	36.7	5.4	9.6	22.7	4.4	12.5	30.3	5.6	15.6	36.7
SRC-967	7/8	2	5.6	15.7	37.0	5.4	9.6	22.9	4.4	12.5	30.5	5.6	15.7	37.0
SRC-1447	7/8	3	6.4	18.3	41.6	6.1	10.9	25.6	4.9	14.1	34.5	6.4	18.3	41.6
SRC-1927	7/8	4	7.7	21.0	49.9	7.4	13.0	30.7	5.9	16.9	41.4	7.7	21.0	49.9
SRC-489	1 1/8	1	7.6	21.0	49.2	7.3	12.9	30.6	5.8	16.7	40.5	7.6	21.0	49.2
SRC-969	1 1/8	2	8.2	23.1	54.8	7.9	14.1	33.7	6.4	18.5	45.2	8.2	23.1	54.8
SRC-1449	1 1/8	3	8.3	23.6	53.8	7.9	14.1	33.1	6.4	18.2	44.7	8.3	23.6	53.8
SRC-1929	1 1/8	4	10.0	27.2	64.8	9.6	16.9	39.6	7.7	21.9	53.8	10.0	27.2	64.8
SRC-4811	1 3/8	1	9.5	25.9	60.1	9.1	16.0	37.5	7.3	20.7	49.3	9.5	25.9	60.1
SRC-9611	1 3/8	2	11.1	31.1	73.7	10.6	19.0	45.5	8.6	24.9	60.8	11.1	31.1	73.7
SRC-14411	1 3/8	3	12.3	35.4	85.7	11.8	21.4	52.3	9.6	28.6	71.2	12.3	35.4	85.7
SRC-19211	1 3/8	4	13.5	38.0	90.5	13.0	23.2	55.7	10.6	30.6	74.8	13.5	38.0	90.5
SRC-4813	1 5/8	1	9.0	24.6	57.0	8.6	15.1	35.6	6.9	19.6	46.7	9.0	24.6	57.0
SRC-9613	1 5/8	2	12.7	35.9	85.7	12.2	21.9	52.7	9.9	28.8	70.8	12.7	35.9	85.7
SRC-14413	1 5/8	3	11.6	33.5	81.1	11.2	20.2	49.5	9.1	27.0	67.4	11.6	33.5	81.1
SRC-19213	1 5/8	4	15.5	43.9	105.0	15.0	26.7	64.5	12.1	35.3	86.9	15.5	43.9	105.0
SRC-4817	2 1/8	1	9.2	25.1	58.2	8.8	15.5	36.3	7.1	20.1	47.7	9.2	25.1	58.2
SRC-9617	2 1/8	2	12.4	35.1	83.8	12.0	21.4	51.5	9.7	28.2	69.3	12.4	35.1	83.8
SRC-14417	2 1/8	3	11.0	31.6	76.5	10.5	19.1	46.6	8.5	25.5	63.6	11.0	31.6	76.5
SRC-19217	2 1/8	4	15.3	43.4	103.8	14.8	26.4	63.8	12.0	34.9	85.9	15.3	43.4	103.8
SRC-4821	2 5/8	1	9.2	25.2	58.4	8.9	15.5	36.5	7.1	20.1	47.9	9.2	25.2	58.4
SRC-9621	2 5/8	2	12.1	34.0	81.1	11.6	20.7	49.9	9.4	27.3	67.0	12.1	34.0	81.1
SRC-14421	2 5/8	3	11.6	33.5	81.1	11.2	20.2	49.5	9.1	27.0	67.4	11.6	33.5	81.1
SRC-19221	2 5/8	4	14.7	41.8	99.7	14.3	25.5	61.3	11.6	33.6	82.5	14.7	41.8	99.7

Recommended plant capacity is based on:  
 Evaporating temperature of  $t_e = +4.4^\circ\text{C}$   
 Condensing temperature of  $t_c = +32.2^\circ\text{C}$

Drier Cores

Part No.	Material	Description	Suitability
S-848-CM	100% MS	High Drying capacity	HCFC, HFC & CO <sub>2</sub> Refrigerants
S-848-C	80%/20% MS/AA	Moisture & Acid Absorption	Not suitable for oils containing additives
S-848-CC	47%/48%/5% MS/AA/C	Burn-Out Core	Not suitable for oils containing additives
S-848-SC	100% MS	Low Pressure Drop	HCFC, HFC & CO <sub>2</sub> Refrigerants
S-848-F	Filter Element	Low Pressure Drop	All applications