



# HENRY GROUP

®



## REPLACEABLE CORE FILTER DRIERS

High pressure & Transcritical  
CO<sub>2</sub> models

# SRCH & SRCT MODELS

The function of a filter drier is to remove system contaminants, acid and moisture. Henry SRCH and SRCT models are designed specifically for the demands for high pressure refrigerant systems and transcritical CO<sub>2</sub> installations respectively.

## 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

- Elevated operating pressure range
- 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
- 1000 hour salt spray tested to ASTM B117

## 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. Cover plate is constructed from nickel plated steel (SRCH) or powder-coated carbon steel (SRCT).

### Cores

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

## Technical Specification

### SRCH:

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

Allowable operating pressure = 0 to 80 barg

### SRCT:

Allowable operating temperature = -10 °C to +70 °C

Allowable operating pressure = 0 to 130 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.

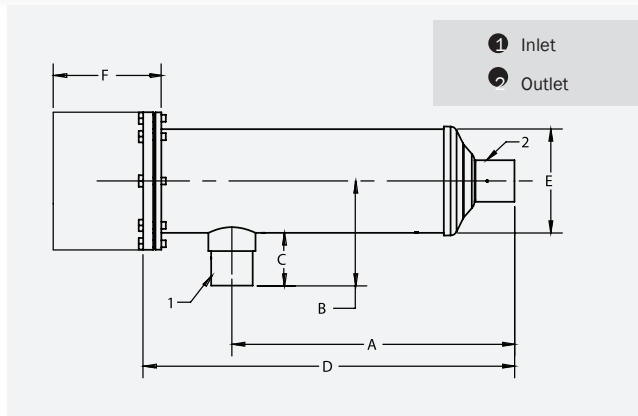
## Installation – Main issues

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) |     |    |     |     |     | MWP (barg) | Weight (kg) | CE/UKCA Cat |
|---------------|-------------------|-------|---------------------------------|---------------------------|-----------------|-----|----|-----|-----|-----|------------|-------------|-------------|
| Part No       | Conn. Size (inch) | Cores | Surface Area (cm <sup>2</sup> ) | Volume (cm <sup>3</sup> ) | A               | B   | C  | D   | ØE  | F*  |            |             |             |
| SRCT-485      | 5/8               | 1     | 683                             | 716                       | 158             | 100 | 29 | 276 | 141 | 172 | 130        | 17.9        | Cat II      |
| SRCT-965      | 5/8               | 2     | 1366                            | 1432                      | 304             | 100 | 29 | 419 | 141 | 313 | 130        | 18.6        | Cat II      |
| SRCT-487      | 7/8               | 1     | 683                             | 716                       | 163             | 105 | 34 | 281 | 141 | 172 | 130        | 17.9        | Cat II      |
| SRCT-967      | 7/8               | 2     | 1366                            | 1432                      | 306             | 105 | 34 | 424 | 141 | 313 | 130        | 18.6        | Cat II      |
| SRCT-489      | 1 1/8             | 1     | 683                             | 716                       | 164             | 105 | 35 | 281 | 141 | 172 | 130        | 17.9        | Cat II      |
| SRCT-969      | 1 1/1             | 2     | 1366                            | 1432                      | 307             | 105 | 35 | 424 | 141 | 313 | 130        | 18.6        | Cat II      |
| SRCH-4813     | 1 5/8             | 1     | 683                             | 716                       | 159             | 98  | 41 | 263 | 114 | 172 | 80         | 8.1         | Cat I       |
| SRCH-9613     | 1 5/8             | 2     | 1366                            | 1432                      | 299             | 98  | 41 | 403 | 114 | 312 | 80         | 10.0        | Cat II      |
| SRCH-4817     | 2 1/8             | 1     | 683                             | 716                       | 160             | 98  | 41 | 264 | 114 | 172 | 80         | 8.2         | Cat I       |
| SRCH-9617     | 2 1/8             | 2     | 1366                            | 1432                      | 298             | 98  | 41 | 403 | 114 | 312 | 80         | 10.1        | Cat II      |

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



**S-848-CM**

| 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 |                      |       |       |       |       |                 |
| SRCT-485      | 5/8               | 1     | 83.5                                | 79.5  | 123        | 76    | 84          | 72    | 78.2                 | 57.6  | 55.8  | 81.9  | 85.3  | 125.9           |
| SRCT-965      | 5/8               | 2     | 167                                 | 159   | 246        | 152   | 168         | 144   | 78.2                 | 57.6  | 55.8  | 81.9  | 85.3  | 125.9           |
| SRCT-487      | 7/8               | 1     | 83.5                                | 79.5  | 123        | 76    | 84          | 72    | 124.2                | 89.7  | 86.9  | 128.6 | 132.7 | 197.0           |
| SRCT-967      | 7/8               | 2     | 167                                 | 159   | 246        | 152   | 168         | 144   | 116.0                | 83.1  | 80.5  | 119.5 | 122.8 | 184.1           |
| SRCT-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           |
| SRCT-969      | 1 1/8             | 2     | 167                                 | 159   | 246        | 152   | 168         | 144   | 178.1                | 128.2 | 124.0 | 183.9 | 189.1 | 282.7           |
| SRCH-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           |
| SRCH-9613     | 1 5/8             | 2     | 167                                 | 159   | 246        | 152   | 168         | 144   | 298.7                | 216.7 | 210.0 | 310.2 | 320.5 | 474.1           |
| SRCH-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           |
| SRCH-9617     | 2 1/8             | 2     | 167                                 | 159   | 246        | 152   | 168         | 144   | 419.9                | 307.2 | 297.7 | 438.4 | 454.6 | 666.4           |

**S-848-C**

| 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 |                      |       |       |             |       |                 |
| SRCT-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           |
| SRCT-965      | 5/8               | 2     | 136                                 | 126   | 146   | 139   | 234        | 126   | 143         | 122   | 83.7                 | 57.6  | 55.8  | 81.9        | 85.3  | 127.6           |
| SRCT-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           |
| SRCT-967      | 7/8               | 2     | 136                                 | 126   | 146   | 139   | 234        | 126   | 143         | 122   | 116.0                | 83.1  | 80.5  | 119.5       | 122.8 | 184.1           |
| SRCT-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           |
| SRCT-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           |
| SRCH-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           |
| SRCH-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           |
| SRCH-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           |
| SRCH-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           |

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

R22: From 1050 ppm W to 60 ppm 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<sub>e</sub> = -15 °C (-30 °C for CO<sub>2</sub>)

Condensing temperature of t<sub>c</sub> = +30 °C (-5 °C for CO<sub>2</sub>)

Pressure drop across filter drier of Δp = 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 °C
- R134a: EDP = 50 ppm W, corresponding to a dew point temperature of -37 °C
- R404A: EDP = 10 ppm W, corresponding to a dew point temperature of -40 °C
- R407C: EDP = 10 ppm W, corresponding to a dew point temperature of -40 °C

| Model                            | Refrigerant | Acid adsorb capacity (drops) | Acid capacity (grams) |
|----------------------------------|-------------|------------------------------|-----------------------|
| S-848-C<br>(80%/20% MS/AA)       | R134a       | 196                          | 10.24                 |
|                                  | R410A       | 232                          | 12.12                 |
| S-848-CC<br>(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) - (Imperial)

| 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 |      |      |
| SRCT-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 |
| SRCT-965      | 5/8               | 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 |
| SRCT-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 |
| SRCT-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 |
| SRCT-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 |
| SRCT-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 |
| SRCH-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 |
| SRCH-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 |
| SRCH-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 |
| SRCH-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 |

Recommended plant capacity is based on:

- Evaporating temperature of  $t_e = +4.4$  °C
- Condensing temperature of  $t_c = +32.2$  °C

The information contained in this brochure is correct at the time of publication. Henry Group has a policy of continuous product development; we therefore reserve the right to change technical specifications without prior notice. Exclusive changes within our industry have seen products of Henry Group being used in a variety of new applications. We have a policy to offer research and development assistance to our clients. We readily submit our products for assessment at the development stage, to enable our clients to ascertain product suitability for a given design application. It remains the responsibility of the system designer to ensure all products used in the system are suitable for the application. For details of our warranty cover, please refer to our standard terms and conditions of sale. Copies are available upon request.

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