

Filter Driers & Strainers

Introduction

New refrigerants and synthetic oils (such as POE/PAG) demand a more precise operating environment than ever before. Excessive moisture and contamination levels can quickly lead to a loss of refrigeration capacity, system efficiency or even breakdown.

The Solution?

Trust time-tested Henry Tech Filter Driers & Drier Cores to offer reliable, long lasting protection, for both food service and air conditioning applications, whether it's a new installation, field replacement or retrofit.

The First Line of System Protection

The Filter Drier & Drier Core in a refrigeration or air conditioning system is often referred to as the system protector. It removes harmful elements from the circulating refrigerants and lubricants before serious damage results.

1. Moisture

Moisture or water can come from many sources:

- Improper dehydration of new equipment
- Improper field assembly or poor service procedures
- Refrigerant leaks
- Wet refrigerant
- Wet oil, Poly-ol Ester (POE) which is much more "moisture loving" (Hygroscopic) than mineral oils

Note: If the moisture content of the POE oil is greater than 75 PPM (parts per million), the POE reverts back to its original chemical – an alcohol and an organic acid. Alcohol reduces the Filter Drier's effectiveness with water and acid attacks the refrigeration system's internals.

A leading international compressor manufacturer's experience with Poly-ol Ester Oil is presented in Fig. 1.

The seriousness of POE's hygroscopic nature is depicted as the compressor with its oil, moves its way from manufacture, to rack fabrication, to field installation and finally commissioning.

For the most cost effective method of removing the harmful effects of moisture, simply choose a Henry Tech Filter Drier/Drier Core.



The Filter Driers & Drier Cores Function

The primary contaminants which Filter Driers & Drier Cores are expected to remove are:

- Moisture
- Acids
- Solid contaminants such as metal filings, flux, dirt, oxides and wax
- Sludges and Varnish

2. Acids

Acids are formed by a combination of refrigerants being heated to elevated temperatures and the presence of high moisture content in the system. This Hydrolysis forms both Hydrochloric and Hydrofluoric (inorganic) acids. Organic acids are also created from the lubricant's breakdown in the presence of moisture. Since acids attack and corrode the metals in a refrigeration system, it is crucial that they be removed as quickly as possible to minimise damage.

It is crucial to be aware of the harmful effects of high discharge or condensing temperatures on refrigeration systems, as they act as the major catalyst in the production of acids. It is good trade practice to replace the Filter Drier or Core whenever a system has operated for extended periods under high operating temperatures.

Henry Tech Filter Driers/Cores have a critical mission, to remove this acid, prolonging the life of compressors and refrigerants.

3. Solid Contaminants

These include dirt, copper oxide scale, sludges, flux, metallic particles etc... Such contaminants can be introduced during manufacture, field assembly or service. They can damage compressor cylinder walls, bearings and cause blockages of capillary tubes or TX Valve strainers. These contaminants create the conditions necessary for the decomposition of the refrigerant/lubricant mixture at high temperatures.

The effective removal of contaminants is difficult due to the wide range of particle sizes that can be encountered in a system.

A refrigeration system demands:

- Thorough flow micron filtration to capture these particles.
- Guaranteed uniform porosity through the entire Filter Drier Core.
- A core shaped to give maximum surface area with negligible pressure drop.
- Improved filtration and long lasting results.

Henry Tech Filter Driers/Cores offer thorough flow filtration with less chance of total core blockage.

4. Sludges and Varnish

Even the cleanest system when subjected to unusually high discharge temperatures will suffer from lubricant breakdown. Sludge, varnish and carbon deposits are some of the by-products of this occurrence. A refrigeration system can feature certain catalytic metals (iron & copper) that can further contribute to the refrigerant/lubricant mixture's breakdown.

Compressor/Polyol Ester Oil
Moisture Content Versus Time

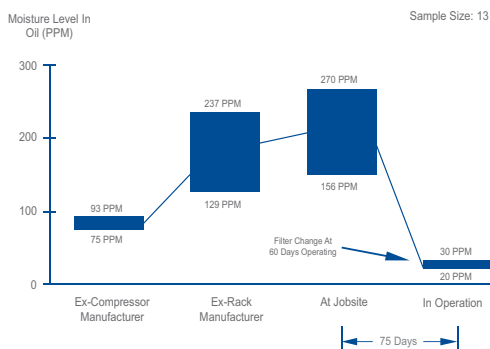


Fig 1.

Total Filtration Management Solutions

Henry Tech's range of Filter Driers/Drier Cores are manufactured from the desiccants 3A Molecular Sieve, Activated Alumina and Activated Carbon. The most suitable desiccant is chosen for the Filter Drier's intended application and its location within the refrigeration system. Henry Tech's vast experience has resulted in the creation of proprietary mixtures to target the removal of system contaminants before they can do damage and cause breakdowns to the refrigeration system. Designed in conjunction with the Suction Filter Element, Henry Tech delivers total filtration management solutions for the benefit of customers.

3A Molecular Sieve (MS)

Used for maximum moisture removal, the 3A Molecular Sieve traps and removes water molecules from the circulating refrigerant and oil. Tested in accord with ARI 710-86, when installed in the Liquid Line these Filter Driers provide the drying capacity necessary to keep the moisture content of the circulating fluids below 75 parts per million (ppm). This therefore avoids the creation of acids in POE oils.

Henry Tech's 3A Molecular Sieve Filter Driers/Drier Cores are suitable for the traditional refrigerants (including R717) as well as the modern refrigerants including high pressure R410A and CO₂. 3A MS Filter Driers/Drier Cores deliver the most cost effective means of removing the harmful effects of moisture from the refrigeration system.

3A MS and Activated Alumina (AL) mixtures

For high performance moisture, acid and contaminant removal, Henry Tech provides its customers with Filter Drier Cores that contain a mixture of both 3A MS and Activated Alumina. The Activated Alumina chemically attracts acids that may be present in the refrigeration system, locking them away so as to prolong the life of compressors, refrigerants and oils.

Note: High percentage mixes of AL are not recommended for long term use with POE oils, as they can strip the compressor manufacturer's oil additives from the systems lubricant.

3A MS, AL and Activated Carbon (AC) mixtures

Best suited for clean up after burnout and for severely contaminated systems plagued with moisture, acids, sludge/varnish and other contaminant issues. Working in conjunction with the other desiccants present in this type of Filter Drier, the Activated Carbon cleans the operating system of the deposits that contribute to the breakdown of refrigerant and lubricants. When fitted, these Filter Driers/Drier Cores provide the best insurance policy available for any compressor replaced in the field.

Suction Core – 100% Molecular Sieve

Targets moisture & particulate removal from the suction line before these contaminants can reach the compressor. Ideal for commissioning purposes, these replaceable Cores feature a unique design that delivers both low pressure drop, in conjunction with high refrigerant flow rates.

Compressor manufacturers know that motor burnouts can be caused by system contaminants returning down the suction line. Foreign particles including copper oxides, metal and copper pieces enter the compressor and become embedded in the motor windings themselves. As the compressor starts and stops, these windings flex and move. The particles present scrape the insulation of the motor windings leading to motor burnout, system downtime and possible stock losses.

To extend the life span of the compressor, adequate filtration is required before the suction service valve.

Specially designed for such an application, the Suction Filter Element removes returning contaminants down to 10 microns (Filter Beta rating = 10: ISO 4548-12). Its fluted design keeps the collected debris safely embedded in the filter whilst its large surface area keeps pressure drop to a minimum.

Henry Tech Suction Filter Element provides the compressor with the particulate protection it needs to prevent breakdowns caused by a contaminated system.

Note: Good trade practice dictates that the Maximum recommended pressure drop in the Suction Line Filter for commercial refrigeration (R134a) is 10.3 kPa.



Sealed Filter Driers

Applications

Sealed Filter Driers are designed to protect refrigeration and air-conditioning systems by removing moisture, acids and solid particles. Sealed Filter Driers are for use in the liquid line of the system. The range is suitable for use with HCFC, HFC and CO₂ refrigerants (see core data).

Main features

- Available with solid copper solder connections or steel flare connections
- Solid core for drying/acid removal
- Filter pad and mesh to remove solid particles
- Suitable for HCFC, HFC and CO₂ refrigerants

Cores

'M' Core

- 100% Molecular Sieve
- High drying capacity
- Suitable for HCFC, HFC and CO₂ refrigerants

'A' Core

- 80% Molecular Sieve and 20% Activated Alumina
- Absorbs moisture and acid in the system
- Not suitable for oils containing additives
- Suitable for HCFC, HFC and CO₂ refrigerants

Materials of Construction

The shell is constructed from carbon steel and powder coated for corrosion resistance. Connections are available as either copper ODS or steel flare type. Each core is constructed from a moulded composite of desiccant materials bonded to provide very high mechanical strength, micron filtration and high moisture absorption. The 'A' core also provides acid removal.



Technical Specification

Allowable operating temperature = -40°C to +100°C

Allowable operating pressure = 0 to 45 barg

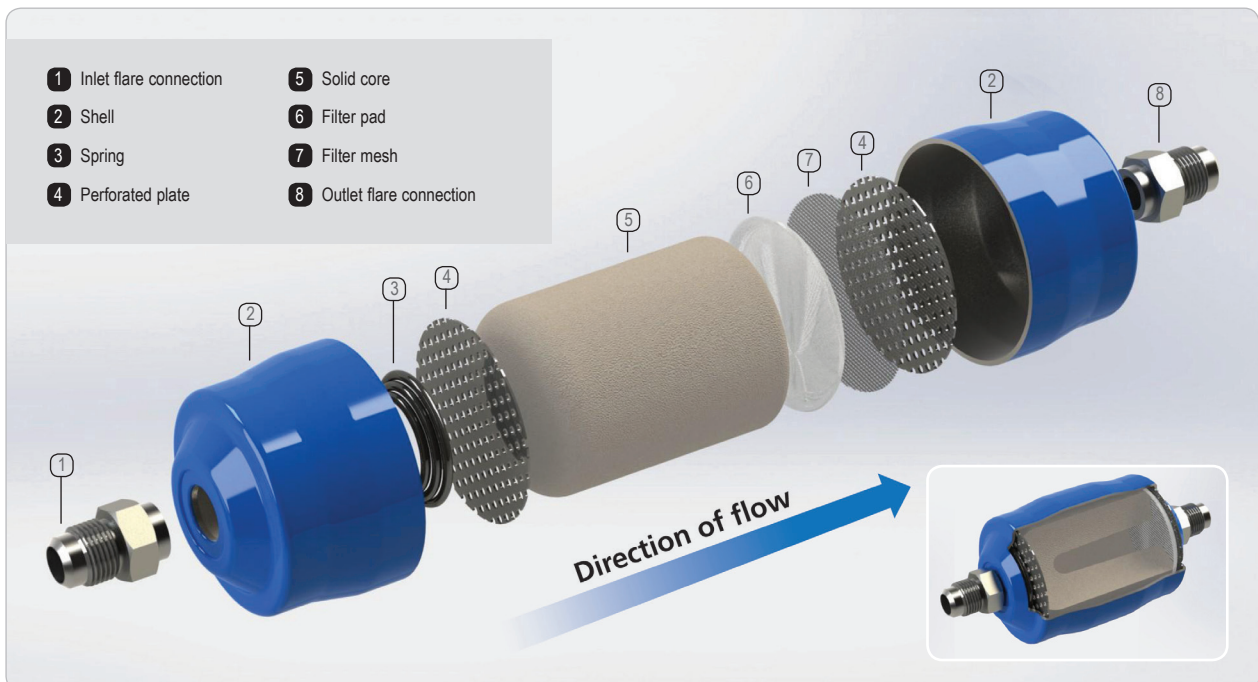
Selection Guidelines

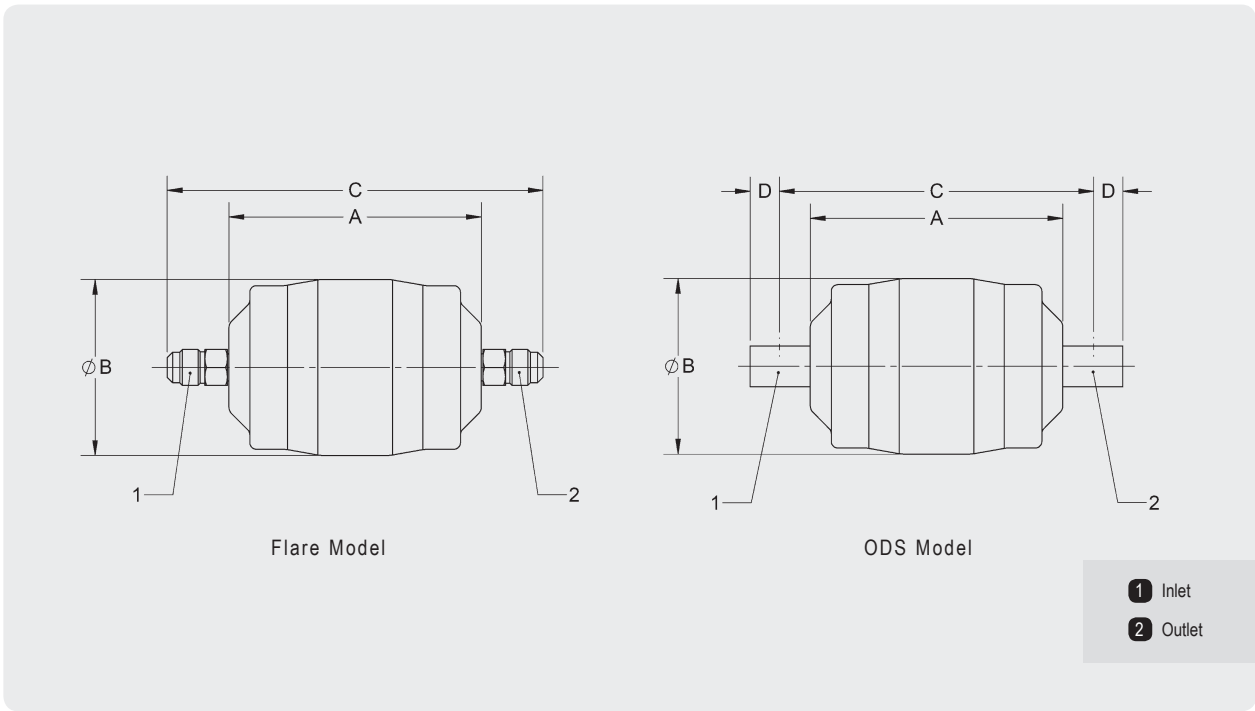
The user should select the appropriate core based on refrigerant and oil types (see note). The model should then be selected based on the required drying and liquid capacities.

Note: Cores with Activated Alumina (type 'A') are not recommended for use with oils containing additives.

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 the indicated flow direction is complied with.





SAE FLARE MODELS

Part No	Conn Size (inch)	Shell Diameter (mm)	A (mm)	ØB (mm)	C (mm)	Weight (kg)	CE Cat
SDM/SDA-032	1/4	46	63	46	110	0.26	SEP
SDM/SDA-033	3/8	46	63	46	120	0.31	SEP
SDM/SDA-052	1/4	65	72	65	119	0.40	SEP
SDM/SDA-053	3/8	65	72	65	129	0.44	SEP
SDM/SDA-082	1/4	65	98	65	145	0.52	SEP
SDM/SDA-083	3/8	65	98	65	155	0.55	SEP
SDM/SDA-084	1/2	65	98	65	163	0.58	SEP
SDM/SDA-162	1/4	78	112	78	159	0.75	SEP
SDM/SDA-163	3/8	78	112	78	169	0.79	SEP
SDM/SDA-164	1/2	78	112	78	177	0.83	SEP
SDM/SDA-165	5/8	78	112	78	185	0.90	SEP
SDM/SDA-303	3/8	78	185	78	242	1.24	SEP
SDM/SDA-304	1/2	78	185	78	250	1.29	SEP
SDM/SDA-305	5/8	78	185	78	258	1.35	SEP
SDM/SDA-306	3/4	78	185	78	264	1.37	SEP
SDM/SDA-413	3/8	92	192	92	249	1.87	Cat I
SDM/SDA-414	1/2	92	192	92	257	1.89	Cat I
SDM/SDA-415	5/8	92	192	92	265	1.94	Cat I
SDM/SDA-416	3/4	92	192	92	271	1.97	Cat I

ODS MODELS

Part No	Conn Size (inch)	Shell Diameter (mm)	A (mm)	ØB (mm)	C (mm)	D (mm)	Weight (kg)	CE Cat
SDM/SDA-032S	1/4	46	63	46	81	13	0.23	SEP
SDM/SDA-033S	3/8	46	63	46	85	13	0.26	SEP
SDM/SDA-052S	1/4	65	72	65	90	13	0.36	SEP
SDM/SDA-053S	3/8	65	72	65	94	13	0.38	SEP
SDM/SDA-082S	1/4	65	98	65	116	13	0.48	SEP
SDM/SDA-083S	3/8	65	98	65	120	13	0.49	SEP
SDM/SDA-084S	1/2	65	98	65	122	13	0.50	SEP
SDM/SDA-162S	1/4	78	112	78	130	13	0.76	SEP
SDM/SDA-163S	3/8	78	112	78	134	13	0.81	SEP
SDM/SDA-164S	1/2	78	112	78	136	13	0.82	SEP
SDM/SDA-165S	5/8	78	112	78	134	13	0.90	SEP
SDM/SDA-303S	3/8	78	185	78	207	13	1.21	SEP
SDM/SDA-304S	1/2	78	185	78	209	13	1.25	SEP
SDM/SDA-305S	5/8	78	185	78	220	13	1.27	SEP
SDM/SDA-306S	3/4	78	185	78	209	15	1.29	SEP
SDM/SDA-413S	3/8	92	192	92	214	13	1.81	Cat I
SDM/SDA-414S	1/2	92	192	92	216	13	1.82	Cat I
SDM/SDA-415S	5/8	92	192	92	214	13	1.83	Cat I
SDM/SDA-416S	3/4	92	192	92	216	15	1.84	Cat I

DRYING AND LIQUID CAPACITY TABLE - 'M' CORE

Model Details		Drying Capacity (kg of refrigerant)								Liquid Capacity (kW)					
Part No	Conn Size (inch)	R22		R134a		R404A/R507		R407C/R410A		R-22	R-134a	R-404A	R-407C	R-410A	CO ₂
		24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C						
SDM-032/S	1/4	4.9	4.6	5.3	5	7.8	4.8	5.3	4.6	6.1	5.8	3.2	6.1	6.5	8.9
SDM-033/S	3/8	4.9	4.6	5.3	5	7.8	4.8	5.3	4.6	20.8	17.7	10.3	20.8	22.1	27.1
SDM-052/S	1/4	9.8	9.1	10.6	10.1	15.6	9.6	10.6	9.1	7.7	6.4	3.5	7.7	8.2	9.8
SDM-053/S	3/8	9.8	9.1	10.6	10.1	15.6	9.6	10.6	9.1	19	17.2	10.2	19	20.2	26.3
SDM-082/S	1/4	15.8	14.6	16.9	16.1	24.9	15.4	17	14.6	7.9	6.6	3.6	7.9	8.5	10.1
SDM-083/S	3/8	15.8	14.6	16.9	16.1	24.9	15.4	17	14.6	21.7	18.7	10.5	21.7	23.1	28.7
SDM-084/S	1/2	15.8	14.6	16.9	16.1	24.9	15.4	17	14.6	31.1	26.7	15.6	31.1	33.2	40.8
SDM-162/S	1/4	24.6	22.8	26.4	25.2	38.9	24.1	26.6	22.8	8.6	7.2	3.9	8.6	9.2	11
SDM-163/S	3/8	24.6	22.8	26.4	25.2	38.9	24.1	26.6	22.8	23	20.1	11.1	23	24.5	30.8
SDM-164/S	1/2	24.6	22.8	26.4	25.2	38.9	24.1	26.6	22.8	34.9	30.3	16.9	34.9	37.3	46.4
SDM-165/S	5/8	24.6	22.8	26.4	25.2	38.9	24.1	26.6	22.8	34.4	30.1	16	34.4	36.7	46.1
SDM-303/S	3/8	51.2	47.4	55	52.3	81	50	55.3	47.4	23.2	20.2	11	23.2	24.7	31
SDM-304/S	1/2	51.2	47.4	55	52.3	81	50	55.3	47.4	35.7	31.1	16.8	35.7	38.1	47.6
SDM-305/S	5/8	51.2	47.4	55	52.3	81	50	55.3	47.4	43.5	38.2	21.3	43.5	46.4	58.4
SDM-306/S	3/4	51.2	47.4	55	52.3	81	50	55.3	47.4	64.3	56	30.9	64.3	68.5	85.6
SDM-413/S	3/8	76.8	71.2	82.4	78.5	121.4	75	82.9	71.1	26.3	23.2	12.7	26.3	28	35.5
SDM-414/S	1/2	76.8	71.2	82.4	78.5	121.4	75	82.9	71.1	41.6	36.4	19.9	41.6	44.4	55.6
SDM-415/S	5/8	76.8	71.2	82.4	78.5	121.4	75	82.9	71.1	58.3	50.9	27.1	58.3	62.2	77.9
SDM-416/S	3/4	76.8	71.2	82.4	78.5	121.4	75	82.9	71.1	67.7	59.1	31.4	67.7	72.2	90.4

DRYING AND LIQUID CAPACITY TABLE - 'A' CORE

Model Details		Drying Capacity (kg of refrigerant)								Liquid Capacity (kW)					
Part No	Conn Size (inch)	R22		R134a		R404A/R507		R407C/R410A		R-22	R-134a	R-404A	R-407C	R-410A	CO ₂
		24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C						
SDA-032/S	1/4	4.3	4	4.6	4.4	7.4	4	4.5	3.9	6.1	5.8	3.2	6.1	6.5	8.9
SDA-033/S	3/8	4.3	4	4.6	4.4	7.4	4	4.5	3.9	20.8	17.7	10.3	20.8	22.1	27.1
SDA-052/S	1/4	8.6	8	9.2	8.8	14.8	8	9.1	7.7	7.7	6.4	3.5	7.7	8.2	9.8
SDA-053/S	3/8	8.6	8	9.2	8.8	14.8	8	9.1	7.7	19	17.2	10.2	19	20.2	26.3
SDA-082/S	1/4	13.8	12.8	14.8	14.1	23.7	12.8	14.5	12.4	7.9	6.6	3.6	7.9	8.5	10.1
SDA-083/S	3/8	13.8	12.8	14.8	14.1	23.7	12.8	14.5	12.4	21.7	18.7	10.5	21.7	23.1	28.7
SDA-084/S	1/2	13.8	12.8	14.8	14.1	23.7	12.8	14.5	12.4	31.1	26.7	15.6	31.1	33.2	40.8
SDA-162/S	1/4	21.5	19.9	23.1	22	37	19.9	22.6	19.3	8.6	7.2	3.9	8.6	9.2	11
SDA-163/S	3/8	21.5	19.9	23.1	22	37	19.9	22.6	19.3	23	20.1	11.1	23	24.5	30.8
SDA-164/S	1/2	21.5	19.9	23.1	22	37	19.9	22.6	19.3	34.9	30.3	16.9	34.9	37.3	46.4
SDA-165/S	5/8	21.5	19.9	23.1	22	37	19.9	22.6	19.3	34.4	30.1	16	34.4	36.7	46.1
SDA-303/S	3/8	44.8	41.5	48.1	45.7	77	41.5	47.1	40.2	23.2	20.2	11	23.2	24.7	31
SDA-304/S	1/2	44.8	41.5	48.1	45.7	77	41.5	47.1	40.2	35.7	31.1	16.8	35.7	38.1	47.6
SDA-305/S	5/8	44.8	41.5	48.1	45.7	77	41.5	47.1	40.2	43.5	38.2	21.3	43.5	46.4	58.4
SDA-306/S	3/4	44.8	41.5	48.1	45.7	77	41.5	47.1	40.2	64.3	56	30.9	64.3	68.5	85.6
SDA-413/S	3/8	67.1	62.2	72.1	68.6	115.5	62.2	70.6	60.2	26.3	23.2	12.7	26.3	28	35.5
SDA-414/S	1/2	67.1	62.2	72.1	68.6	115.5	62.2	70.6	60.2	41.6	36.4	19.9	41.6	44.4	55.6
SDA-415/S	5/8	67.1	62.2	72.1	68.6	115.5	62.2	70.6	60.2	58.3	50.9	27.1	58.3	62.2	77.9
SDA-416/S	3/4	67.1	62.2	72.1	68.6	115.5	62.2	70.6	60.2	67.7	59.1	31.4	67.7	72.2	90.4

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

- R22:** From 1050 ppm W to 60 ppw W in accordance with ARI 710-86
- R134a:** From 1050 ppm W to 75 ppm W. If refrigerant is to be dried to 50 ppm W, reduce the stated capacities by 15%
- 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°C for CO₂)
- Condensing temperature of $t_c = +30^\circ\text{C}$ (-5°C for CO₂)
- Pressure drop across filter drier of $\Delta p = 0.07$ bar

SURFACE AND VOLUME INFORMATION

Model	Core surface area	Core Volume	Shell Volume
	cm ²	cm ³	ltr
SDM/SDA-03	64	43	0.1
SDM/SDA-05	127	90	0.2
SDM/SDA-08	180	146	0.3
SDM/SDA-16	290	219	0.5
SDM/SDA-30	442	451	0.9
SDM/SDA-41	551	649	1.3

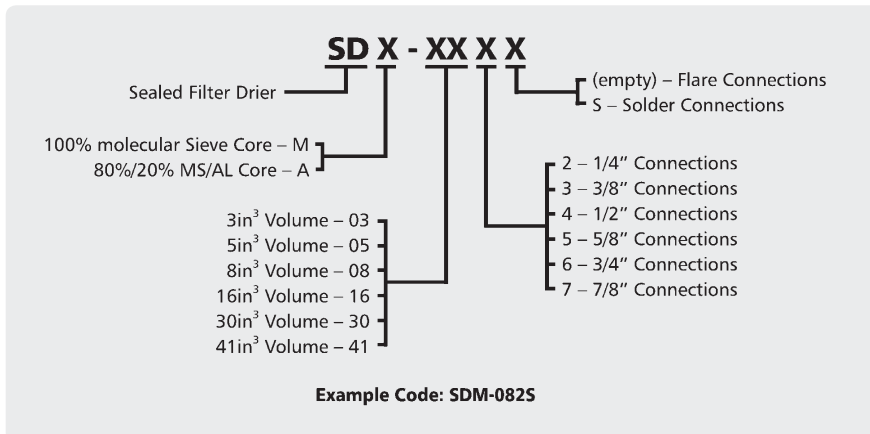
ACID CAPACITY INFORMATION

Model	Acid Capacity*
	g
SDA-03	0.8
SDA-05	1.6
SDA-08	2.6
SDA-16	4
SDA-30	8.3
SDA-41	12.5

*Absorption capacity of oleic acid at 0.05 TAN (Total Acid Number)

PART NUMBER CROSS REFERENCE

NEW - Henry Tech Park No.		OLD - Heldon Part No.	
Flare	Solder	Flare	Solder
SDM-032	SDM-032S	3000-032	3001-032S
SDM-033	SDM-033S	3000-033	3001-033S
SDM-052	SDM-052S	3000-052	3001-052S
SDM-053	SDM-053S	3000-053	3001-053S
SDM-082	SDM-082S	3000-082	3001-082S
SDM-083	SDM-083S	3000-083	3001-083S
SDM-084	SDM-084S	3000-084	3001-084S
SDM-162	SDM-162S	3000-162	3001-162S
SDM-163	SDM-163S	3000-163	3001-163S
SDM-164	SDM-164S	3000-164	3001-164S
SDM-165	SDM-165S	3000-165	3001-165S
SDM-303	SDM-303S	3000-303	3001-303S
SDM-304	SDM-304S	3000-304	3001-304S
SDM-305	SDM-305S	3000-305	3001-305S
SDM-306	SDM-306S	3000-306	3001-306S
-	SDM-307S	-	3001-307S
-	SDM-413S	3000-413	3001-413S
SDM-414	SDM-414S	3000-414	3001-414S
SDM-415	SDM-415S	3000-415	3001-415S
SDM-416	SDM-416S	3000-416	3001-416S
-	SDM-417S	-	3001-417S



Sealed Burnout Filter Driers

Henry Tech Sealed Burnout Filter Driers offer a high level of contaminant removal from refrigeration and air-conditioning systems following a compressor motor burnout. Designed to remove moisture, acids and solid particles that can lead to the premature failure of the replacement compressor.

Employing a solid core design, Henry Tech Sealed Burnout Filter Driers deliver minimal pressure drop via total core utilisation. This results in quicker uptake of inorganic acids and other contaminants. The solid core itself is formed through a binding process that maximizes surface area and protects the core from acid decomposition.

Available in both standard and short lay-in lengths these models feature inlet and outlet access Schrader ports for the monitoring of pressure drop. For smaller suction pressure drop critical systems, the 3026 series is supplied with a replacement jumper tube.

Note: It is good practice to remove suction burnout driers after performing a successful acid test, in order to prevent loss of system performance and the risk of catalytic hydrolysis in POE oil systems.

Features

- Maximum Working Pressure = 42 bar
- Designed for use in both the liquid and suction lines of refrigerated systems employing fluorinated refrigerants and CO₂
- Solid copper connections (7/8" through to 2-1/8")
- Single core through to 4 core models available
- Accepts a range of 48 cu. in desiccant filter cores to specifically target the removal of system contaminants
- Designed for the long term usage with Pleated Suction Filter Elements
- Perfect for supermarket installations
- Incorporates a 100 mesh stainless steel strainer in the internal assembly
- The internal assembly end plate provides a unique filter cup that cleans the internal wall of the shell during its removal for service
- Standardised to replace other manufacturers units and cores
- Powder Coated Shell
- Capacities from 10 kW through to 509 kW available
- End plate options are aluminium, zinc plated steel or stainless steel

Benefits

- Increased operating life in low temperature application due to corrosion protection
- Ideal for HP refrigerants including CO₂
- Flexibility of application
- Full flow connections provide easy brazing for the installer
- Large range of both Refrigeration and Drying capacities available
- Henry Tech provides a total filtration management system via its comprehensive range of Replaceable Cores & Filters
- Suction filter elements capture foreign particles returning to the compressor before they can destroy motor winding insulation and cause burnout
- Provides secondary particulate filtration & retention
- Creates the cleanest possible environment in which the Filter Drier Cores can operate
- Drop in replacement for common brands
- Suitable for harsh environments
- Large range available to suit most applications

Note: Larger connection sizes are available on request, please consult with Henry Tech sales for further information.



Manufacturing Standards

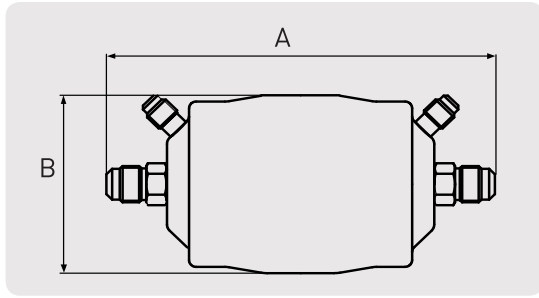
Manufactured to AS2971, UL207 + CE

Safe Working Pressure: 4,200 kPa

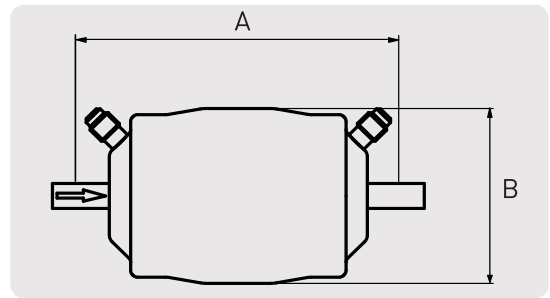
PART NUMBER CROSS REFERENCE

NEW - Henry Tech Part No.		OLD - Heldon Part No.	
Flare	Solder	Flare	Solder
SDCS-082	SDAS-082S	3021-082	3022-082S
SDCS-083	SDAS-083S	3021-083	3022-083S
SDCS-084	SDAS-084S	3021-084	3022-084S
SDCS-162	SDAS-162S	3021-162	3022-162S
SDCS-163	SDAS-163S	3021-163	3022-163S
SDCS-164	SDAS-164S	3021-164	3022-164S
SDCS-165	SDAS-165S	3021-165	3022-165S
-	SDAS-166S	-	-
-	SDAS-167S	-	-
-	SDAS-304S	3021-304	3022-304S
SDCS-305	SDAS-305S	3021-305	3022-305S
SDCS-306	SDAS-306S	3021-306	3022-306S
-	SDAS-307S	-	3022-307S
-	SDAS-309S	-	3022-309S
-	SDAS-311S	-	3022-311S
SDCS-414	SDAS-414S	3021-414	3022-414S
SDCS-415	SDAS-415S	3021-415	3022-415S
SDCS-416	SDAS-416S	3021-416	3022-416S
-	SDAS-417S	-	3022-417S

Flare



Solder



Burnout Filter Drier

Connection (Inch)	Flare Part No.	Dimensions (mm)		Weight (kg)	Capacity kW			Solder Part No.	Dimensions (mm)		Weight (kg)
		Length (Lay-In) A	B		R22 R407C	R134a	R404A		Length (Lay-In) A	B	
3/8	-	-	-	-	4.0	3.0	3.0	SDAS-033S	85	46	0.34
1/4	SDCS-082	146	65.5	0.57	6.0	3.5	4.0	SDAS-082S	120	65	0.57
3/8	SDCS-083	156	65.5	0.60	6.0	3.5	4.5	SDAS-083S	120	65	0.60
1/2	SDCS-084	163	65.5	0.64	10.0	5.5	8.0	SDAS-084S	122	65	0.64
1/4	SDCS-162	160	78	0.80	10.5	5.0	7.5	SDAS-162S	130	78	0.80
3/8	SDCS-163	170	78	0.86	13.0	5.5	8.0	SDAS-163S	134	78	0.86
1/2	SDCS-164	177	78	0.88	15.0	6.0	8.5	SDAS-164S	134	78	0.88
5/8	SDCS-165	186	78	0.96	20.0	9.5	13.0	SDAS-165S	134	78	0.96
1/2	SDCS-304	250	78	1.40	17.0	10.0	15.0	SDAS-304S	209	78	1.40
5/8	SDCS-305	259	78	1.46	18.0	12.5	15.0	SDAS-305S	220	78	1.46
3/4	SDCS-306	265	78	1.44	22.0	14.0	19.0	SDAS-306S	209	78	1.44
7/8	-	-	-	-	26.0	16.0	22.0	SDAS-307S	215	78	1.50
1 1/8	-	-	-	-	31.0	20.0	27.0	SDAS-309S	215	78	1.55
1 3/8	-	-	-	-	31.0	20.0	27.0	SDAS-311S	225	78	1.55
1/2	-	-	-	-	25.0	14.5	23.0	-	-	-	-
1/2	SDCS-415	266	92	1.96	26.5	16.0	24.5	-	-	-	-
3/4	SDCS-416	272	92	-	29.5	17.5	25.0	SDAS-416S	216	92	2.00

- Designed for use after motor burnout or mechanical failure; for clean up of the most contaminated systems.
- Activated Alumina and Carbon removes acids and waxes.
- Stainless steel mesh and a post core non-woven fine Polyester Filter provide additional filtering for the best in system protection.
- Suitable for use in either the liquid or suction lines. Best practice is to install Burnout Filter Driers in the suction line to protect the replacement compressor.
- With POE and PAG oils, burnout driers should be removed as soon as all contaminants are absorbed from the system. This will reduce the risk of catalytic hydrolysis and the formation of new acids.
- Safe Working Pressure 4,200 kPa (610 psi).
- Fitted with dual access ports to measure pressure drop.

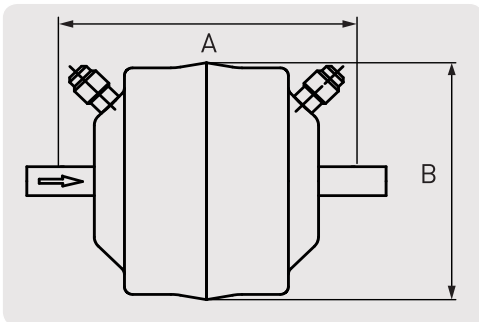
Pancake Filter Driers

- Designed for a compact fit in the suction line.
- Core composition is a combination of Molecular Sieve, Activated Alumina and Activated Carbon.
- Features dual access ports.
- Safe Working Pressure 2,500 kPa (350 psi).



PART NUMBER CROSS REFERENCE

NEW - Henry Tech Part No.	OLD - Heldon Part No.
SDCP-403S	3025-403S
SDCP-404S	3025-404S
SDCP-405S	3025-405S
SDCP-406S	3025-406S
SDCP-707S	3025-407S
SDCP-409S	3025-409S



Pancake Burnout Filter Drier

Connection (Inch)	Part No.	Dimensions (mm)		Capacity kW			Weight (kg)
		Length (Lay-In) A	Dia. B	R22 R407C	R134a	R404A	
1/2	SDCP-404S	106	91	17.0	14.0	15.0	0.65
5/8	SDCP-405S	117	91	23.0	17.5	19.5	0.65
3/4	SDCP-406S	106	91	23.0	17.5	19.5	0.65
7/8	SDCP-407S	112	91	25.0	19.0	21.0	0.70
1 1/8	SDCP-409S	112	91	27.0	21.0	23.0	0.70

Bi Flow Filter Driers

The function of a Bi-Flow Filter Drier is to capture and retain system contaminants and moisture in order to protect system components and prevent the harmful formation of acid in refrigerant systems requiring bi-directional flow.

Applications

Henry Technologies' Bi-Flow Filter Driers offer a high level of protection for refrigeration and air-conditioning systems. They are specifically designed to capture and retain moisture and solid particles from circulating throughout the system, which can create acid that causes damage to the compressor and other components piped within the circuit. Bi-flow filter driers are suitable for HCFC, HFC and CO₂ refrigerants including R-410A, and their associated oils.

Main Features

- Solid copper ODS connections
- Increased drying capacity over 80% Molecular Sieve and 20% Activated Alumina cores
- Solid particle filtration down to 150 microns
- Powder coat finish suitable for UV exposure and harsh environments
- 1000 hour salt spray tested to ASTM B117
- Solid core construction of 100% Molecular Sieve desiccant

Materials of Construction

The shell is constructed from carbon steel and powder coated for corrosion resistance. The connection is ODS and made from solid copper. The valve plate assembly and perforated plate are made from galvanized steel. The core is made from 100% molecular sieve. The filter pad is made from nonwoven polyester. The filter mesh is made from stainless steel.

Technical Specifications

Maximum working pressure = 650 PSI (45 Bar)
 Allowable operating temperature = -40°F to +212°F (-40°C to +100°C)

Bi-Flow Filter Driers are UL and C-UL Listed by Underwriters Laboratories, Inc. Additionally, Bi-Flow Filter Driers are CE marked in accordance with PED.

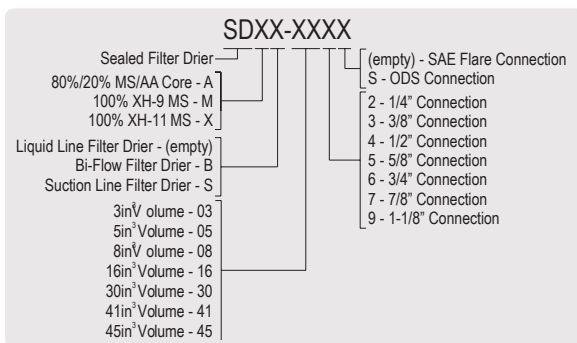


Selection Guidelines

Sealed Filter Driers should be selected for a particular application based on a number of factors. Full dimensional specifications are provided to ensure easy installation. Models should be selected based both on drying capacity and liquid capacity to ensure adequate drying and minimal pressure drop.

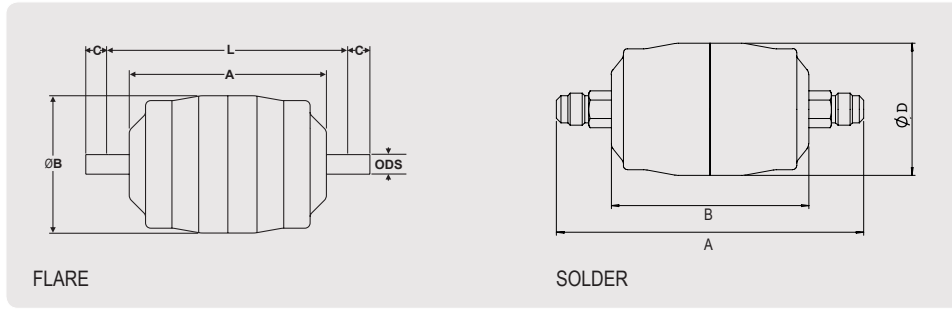
Installation - Notes

1. A moisture indicator should be installed in conjunction with each filter drier in order to monitor drying effectiveness.
2. Full instructions are given in the Product Instruction Sheet, included with each filter drier.



PART NUMBER CROSS REFERENCE

NEW - Henry Tech Part No.		OLD - Heldon Part No.	
Flare	Solder	Flare	Solder
SDXB-082	-	3040-082	3040-082S
SDXB-083	SDXB-083S	3040-083	3040-083S
SDXB-084	-	3040-084	3040-084S
SDXB-163	SDXB-163S	3040-163	3040-163
SDXB-164	SDXB-164S	3040-164	3040-164S
SDXB-165	-	3040-165	3040-165S
-	SDXB-305S	-	-



Part No	ODS (inch)	Dimensions (mm)				CE Cat	Weight (kg)
		L	A	ØB	C		
SDXB-083S	3/8	119.88	98.04	66.04	12.95	SEP	0.43
SDXB-163S	3/8	134.11	112.01	77.97	12.95	SEP	0.63
SDXB-164S	1/2	135.89	112.01	77.97	12.95	SEP	0.63
SDXB-305S	5/8	219.96	184.91	77.97	12.95	SEP	1.29
SDXB-456S	3/4	230.12	203.96	91.94	14.98	CAT I	1.29

DRYING AND LIQUID CAPACITY RATINGS

Model Details	Drying Capacity* (kg of refrigerant)							
	R22		R134a		R404A/R507		R407C/R410A	
	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C
SDXB-083S	8.9	8.2	9.5	9.1	14.0	8.7	9.6	8.2
SDXB-163S	14.8	13.7	15.9	15.1	23.4	14.4	15.9	13.7
SDXB-164S	14.8	13.7	5.9	15.1	23.4	14.4	15.9	13.7
SDXB-305S	30.5	28.3	32.8	31.2	48.3	29.8	33.0	28.3
SDXB-456S	58.1	53.8	62.4	59.4	91.9	56.8	62.7	53.8

Model Details	Drying Capacity** (drops of water)											
	R22		R134a		R507		R404A		R407C		R410A	
	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C
SDXB-083S	159.5	147.8	168.6	160.6	252.2	155.8	252.2	1558	172.3	147.6	172.3	147.6
SDXB-163S	265.8	246.3	281.1	267.6	420.4	259.7	420.4	259.7	287.1	246.1	287.1	246.1
SDXB-164S	265.8	246.3	281.1	267.6	420.4	259.7	420.4	259.7	287.1	246.1	287.1	246.1
SDXB-305S	549.4	509.0	580.8	553.0	868.8	536.8	868.8	536.8	593.3	508.6	593.3	508.6
SDXB-456S	1045.6	968.8	1105.5	1052.5	1653.5	1021.7	1653.5	1021.7	1129.2	967.9	1129.2	967.9

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

R22: From 1050 ppm W to 60 ppm W in accordance with ARI 710-86

R134a: From 1050 ppm W to 75 ppm W. If refrigerant is to be dried to 50 ppm W, reduce the stated capacities by 15%

R404A, R407C, R507: From 1020 ppm W to 30 ppm W

R410A: From 1050 ppm W to 60 ppm W

**20 drops = 1 gram in accordance with ARI 710-86

Model Details	Liquid Capacity*											
	R22		R134a		R404A		R407C		R410A		CO ₂	
	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW	Tons	kW
SDXB-083S	2.3	8.0	2.1	7.4	1.2	4.1	2.3	8.0	2.3	8.0	2.8	10.0
SDXB-163S	5.4	18.9	4.8	17.0	2.7	9.4	5.4	18.9	5.4	18.9	6.7	23.7
SDXB-164S	8.5	30.0	7.7	27.0	4.3	15.0	8.5	30.0	8.5	30.0	10.7	37.6
SDXB-305S	10.2	35.8	9.2	32.3	5.1	18.0	10.2	35.8	10.2	35.8	12.8	44.9
SDXB-456S	15.9	56.1	13.9	48.9	7.7	27.1	15.9	56.1	17.0	59.8	21.3	74.9

*Liquid capacity is based on the following conditions:

Evaporating temperature of t_e = +5°F (-15°C) (-22°F (-30°C) for CO₂)

Condensing temperature of t_c = +86°F (+30°C) (+23°F (-5°C) for CO₂)

Pressure drop across filter drier of Δp = 1 PSI (0.07 bar)

Part No.	Size	Dimensions		
		A ±2	B ±2	ØD ±1
SDXB-082	1/4 MSAE	145	98	66
SDXB-083	3/8 MSAE	155	98	66
SDXB-084	1/2 MSAE	163	98	66
SDXB-163	3/8 MSAE	169	112	78
SDXB-164	1/2 MSAE	177	112	78
SDXB-165	5/8 MSAE	185	112	78

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 CO₂ 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 (Optional)
- Nickel Plated Steel Cover Plate

Cores

S-848-CM

- 100% molecular sieve
- High drying capacity
- Suitable for HCFC, HFC and CO₂ refrigerants

S-848-C

- 80% molecular sieve and 20% activated alumina
- Absorbs moisture and acid in the system
- Suitable for HCFC, HFC and CO₂ 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 CO₂ refrigerants
- Not suitable for oils containing additives

S-848-SC

- 100% molecular sieve
- Low pressure drop
- Suitable for HCFC, HFC and CO₂ 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, micronic 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

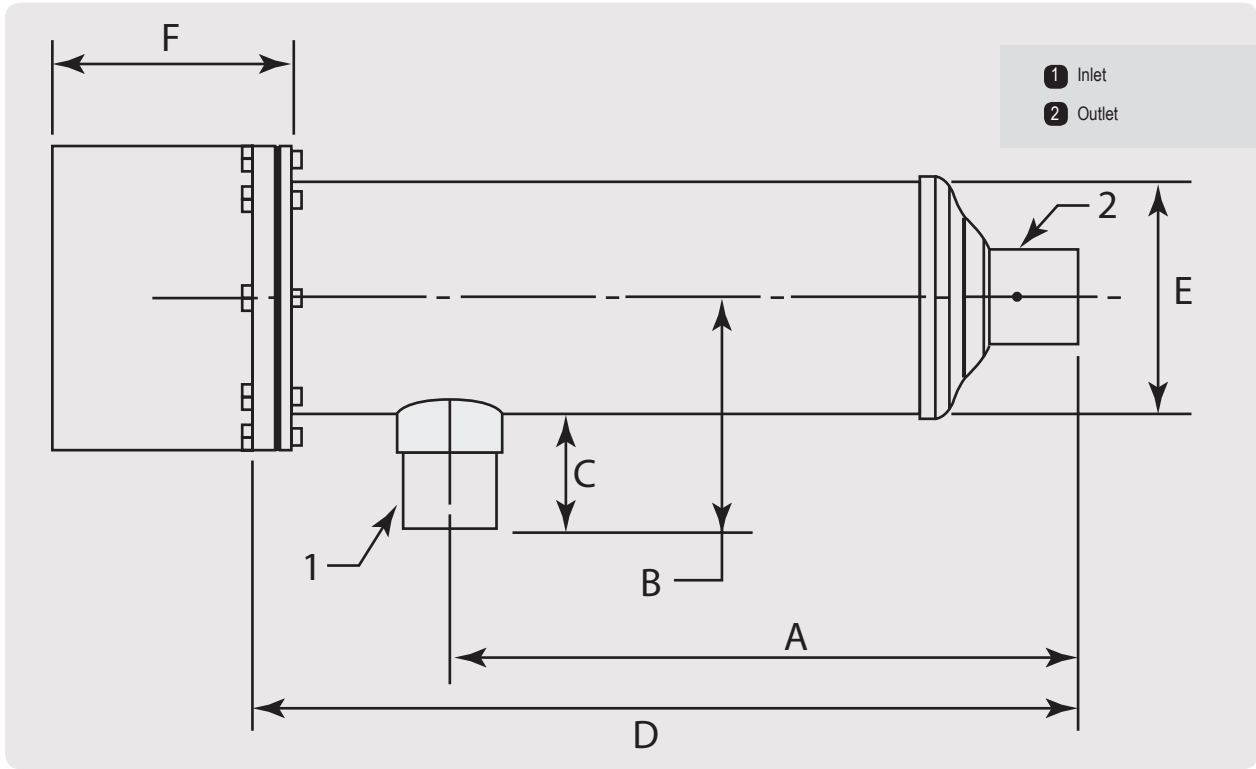
Selection Guidelines

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.



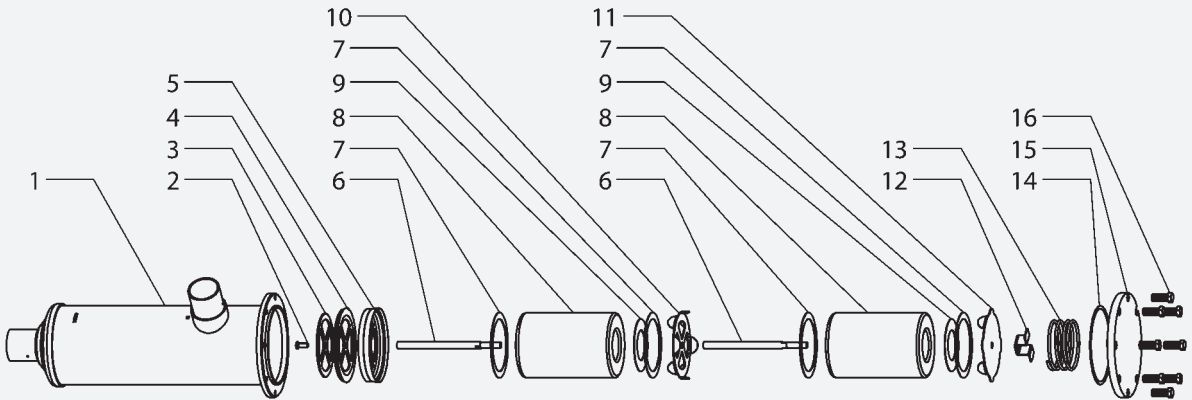
Replaceable Core Filter Drier Shells

Model Details			Core Data		Dimensions (mm)						Weight (kg)	CE Cat
Part No	Conn. Size (inch)	Cores	Surface Area (cm ²)	Volume (cm ³)	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 ₂
			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



- 1 Filter Drier Shell
- 2 Retaining Bolt
- 3 End Plate
- 4 Mesh Screen & Rubber Seal
- 5 Core Holder
- 6 Central Rod
- 7 Large Gasket
- 8 Drier Core
- 9 Small Gasket
- 10 Core Plate
- 11 Core End Plate
- 12 Wing Nut
- 13 Spring
- 14 Cover Gasket
- 15 Cover Plate
- 16 Cover Plate Bolts