



®

HENRY GROUP



COALESCENT OIL SEPARATORS

INTELLIGENT MANUFACTURING. INTELLIGENT PRODUCTS.

COALESCENT OIL SEPARATORS

How it works

The word coalesce means to bring many pieces together to form a mass. With regards to Oil Separators, this specifically applies to bringing the tiny droplets of oil that are present in the discharge gas of the compressor together to form a mass of oil, heavy enough to separate from the gas stream and drop into the retaining sump under the filter.

Coalescing units are capable of delivering up to 99%-plus efficiency, by capturing the small oil droplets and a large percentage of atomized oil vapour, depending on the grade of filter core used and the attention paid to design details.

An added benefit of the coalescing filter is that it also captures solid contaminants from the gas flow, helping to clean the system.

Due to their higher efficiency than conventional separators, they are typically used on larger industrial refrigeration systems where efficiencies and reduced running costs are important.

Materials of construction

- Shell and end caps are carbon steel
- Connections are carbon steel
- Filter is proprietary composition

Features

- Low pressure drop
- Large filtration surface area
- Replaceable filter



Certification

- CE, UKCA, AS2971.2, UL-listed

Model Variations

- OOX models are hermetically-sealed and the core is not replaceable
- OXX models have a replaceable core
- OXXR models have a replaceable core and increased height to provide an oil reservoir

Benefits

- Negligible loss in system efficiency
- Filtration to 0.3 micron
- Easy to change filter

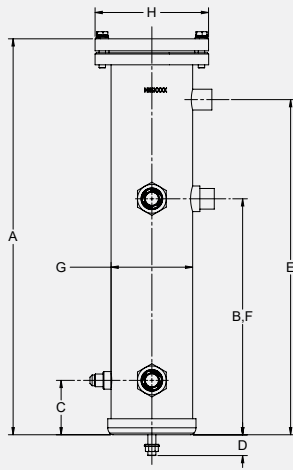


FIG. 1

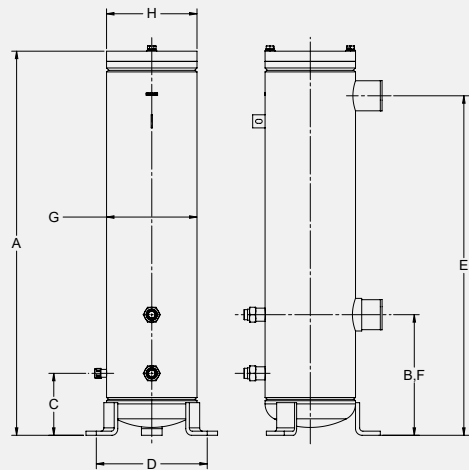


FIG. 2

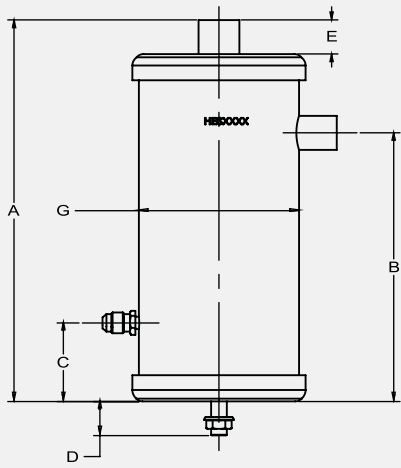


FIG. 3

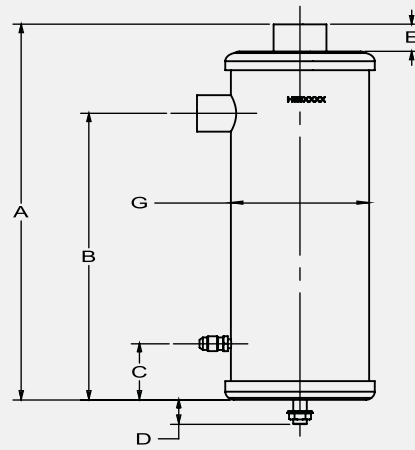


FIG. 4

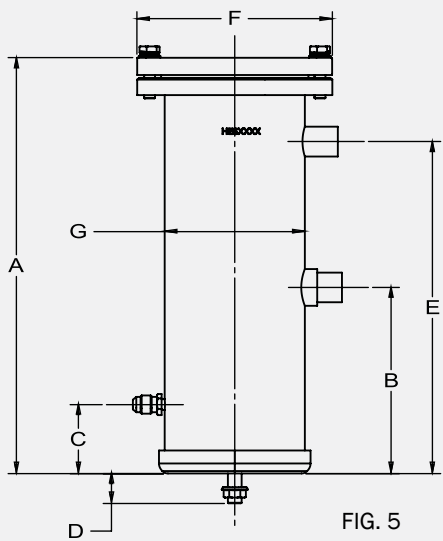


FIG. 5

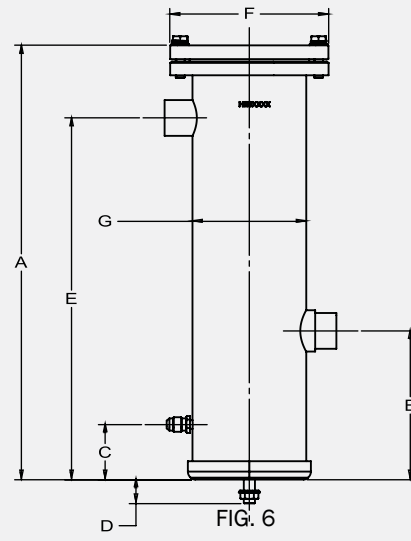


FIG. 6

DISCHARGE (HOT-GAS) LINES

Hot-gas lines should be designed to:

- Avoid trapping oil at part-load operation.
- Prevent condensed refrigerant and oil in the line from draining back to the head of the compressor.
- Have carefully selected connections from a common line to multiple compressors
- Avoid developing excessive noise or vibration from hot-gas pulsations, compressor vibration, or both.

Note:

Although a low pressure drop is desired, oversized hot-gas lines can reduce gas velocities to a point where the refrigerant will not transport oil. Therefore, when using multiple compressors with capacity control, hot-gas risers must transport oil at all possible loadings. The previous table gives max load only (Refer right for min. loads)

Minimum kW for Hot gas risers, Based on R134a @ 45°C Condensing and 0°C Evap.

Model	Line size	Minimum kW
HCOS-002/022/R	5/8" ODS	1.0
HCOS-003/023/R	7/8" ODS	2.4
HCOS-004/024/R	1-1/8" ODS	4.6
HCOS-005/025/R	1-3/8" ODS	8.2
HCOS-026R	1-5/8" ODS	13.3
HCOS-027R	2-1/8" ODS	25.5
HCOS-028R	2-5/8" ODS	44.0

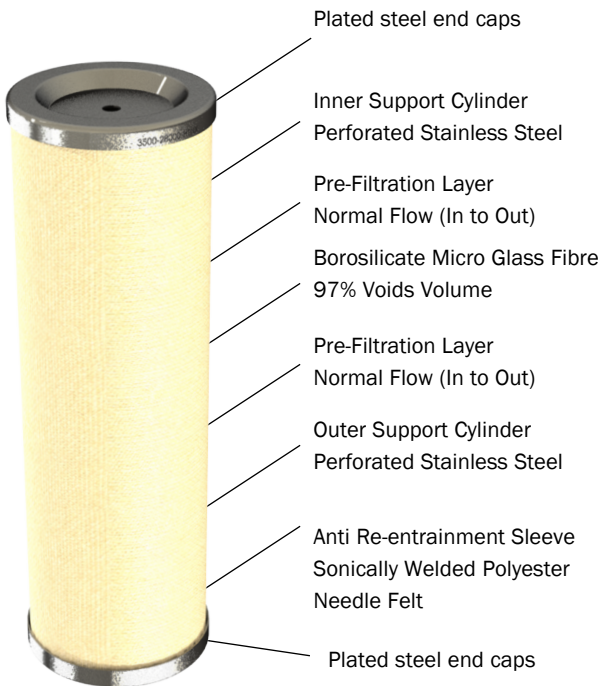
Ordering Info.			R134a Evaporating (kW)				R404A Evaporating (kW)					†R744 Evaporating (kW)			Pressure rating	
Model	Filter Number	Line Size	-10	-5	0	5	-40	-30	-20	-15	-10	-5	-40	-30	-20	Barg
HCOS-002/022/R	3500-34000	5/8" ODS	14.0	14.3	14.6	15.0	15.5	17.0	18.4	19.0	19.7	20.3	35.0	35.1	35.2	45
HCOS-003/023/R	3500-34000	7/8" ODS	31.6	32.3	33.0	33.7	35.0	38.3	41.4	42.9	44.4	45.8	78.5	79.0	79.2	45
HCOS-004/024/R	3500-37000	1-1/8" ODS	49.4	50.5	51.6	52.7	54.8	59.8	64.7	67.1	69.4	71.6	123.0	123.5	123.8	45
HCOS-005/025/R	3500-37000	1-3/8" ODS	87.8	89.8	91.8	93.8	97.4	106.5	115.0	119.3	123.4	127.4	218.7	219.5	220.1	45
HCOS-026R	3500-28000	1-5/8" ODS	126.4	129.4	132.2	135.1	140.3	153.2	165.5	171.6	177.6	183.5	315.0	316.8	317.0	45
HCOS-027R	3500-28000	2-1/8" ODS	224.8	230.0	235.1	240.2	249.0	272.5	294.4	305.4	316.0	326.0	560.0	563.2	563.6	45
HCOS-028R	3500-51000	2-5/8" ODS	351.3	359.5	367.4	375.3	389.0	425.0	460.0	477.0	493.0	509.5	-	-	-	32

†Cascade only

Filter efficiency = 0.3 Micron at a 45 Bar stagnation pressure within the limits of the table
 Table is based on 45°C Condensing Temperature/ -10°C for R744 Cascade condenser
 kW = Maximum kW for line size and pressure drop

Part No.	Conn Size (inch)	Dimensions (mm)								Drawing Ref	Reservoir Capacity (ltr)	Weight	CE/UKCA Cat
		A	B	C	D	E	F	G	H				
HCOS-002	5/8	292	205	60	26	26	N/A	102	N/A	FIG 3	-	5.0	CAT II
HCOS-022	5/8	361	162	60	26	289	N/A	102	142	FIG 5	-	8.6	CAT II
HCOS-022R	5/8	495	295	68	24	423	295	102	142	FIG 1	1.96	10.7	CAT II
HCOS-003	7/8	292	205	60	26	26	N/A	102	N/A	FIG 3	-	5.0	CAT II
HCOS-023	7/8	362	162	60	26	289	N/A	102	142	FIG 5	-	8.6	CAT II
HCOS-023R	7/8	495	295	68	24	419	295	102	142	FIG 1	1.96	10.6	CAT II
HCOS-004	1-1/8	397	306	60	26	25	N/A	102	N/A	FIG 4	-	6.7	CAT II
HCOS-024	1-1/8	473	162	60	26	394	N/A	102	142	FIG 6	-	10.7	CAT II
HCOS-024R	1.1/8	727	416	68	24	648	416	102	142	FIG 1	2.80	14.0	CAT II
HCOS-005	1-3/8	401	306	60	26	29	N/A	102	N/A	FIG 4	-	6.7	CAT II
HCOS-025	1-3/8	473	162	60	26	394	N/A	102	142	FIG 6	-	10.7	CAT II
HCOS-025R	1.3/8	727	416	68	24	644	416	102	142	FIG 1	2.80	14.0	CAT II
HCOS-026R	1.5/8	977	422	102	279	888	422	152	192	FIG 2	6.20	34.0	CAT II
HCOS-027R	2.1/8	977	422	102	279	883	422	152	192	FIG 2	6.20	32.0	CAT II
HCOS-028R	2.5/8	930	292	150	294 pcd	822	292	219	219	FIG 2	9.00	49.0	CAT II

Coalescent Oil Separator Filters



- Max Temp 120°C
- 5 Bar burst pressure
- Depth filtration - Multi-wrap design
- Neoprene O ring for chemical resistance and reliable sealing

Accessories / Spare parts

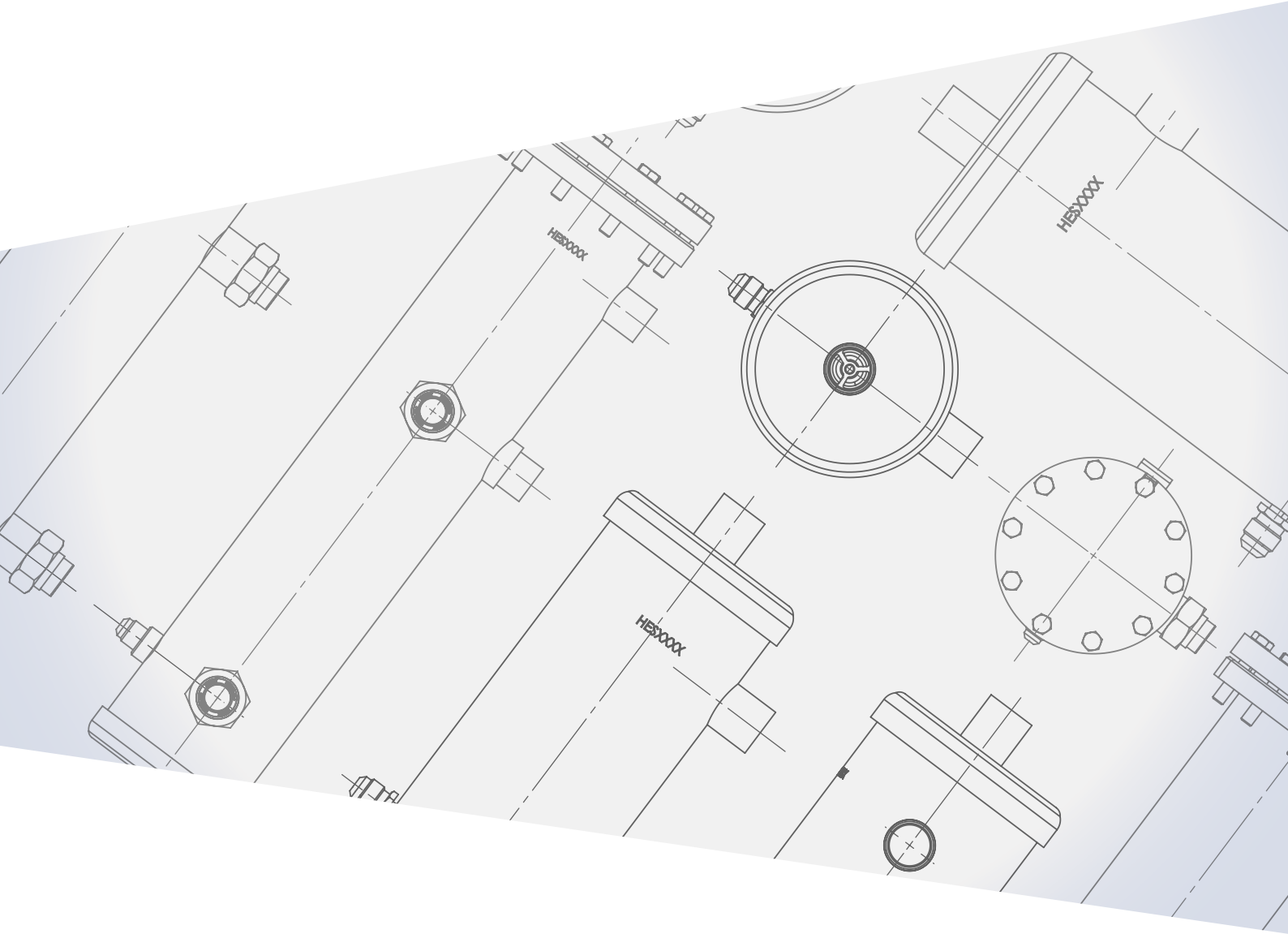
Differential pressure gauge / Switch

Part No: 850-150PD

Operating pressure: 200 Bar (Max)
 Operation Temperature: 66°C (Max)
 Max differential pressure: 1.5 Bar

SPST Normally Open Switch
 Switch Rating: 125VAC, 0.7A

Filter Part No.	To Suit Model	Line Size
3500-34000	HCOS-022R	5/8" ODS
	HCOS-023R	7/8" ODS
3500-37000	HCOS-024R	1-1/8" ODS
	HCOS-025R	1-3/8" ODS
3500-28000	HCOS-026R	1-5/8" ODS
	HCOS-027R	2-1/8" ODS
3500-51000	HCOS-028R	2-5/8" ODS



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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