



## Cleaning filters for suction line (permanent use, with and without automatic bypass)

### → FACY

#### ■ Applications

- Permanent refrigerant filtering, compressor and regulation element protection in refrigerating and air conditioning installations.
- Recommended use after commissioning, during circuit decontamination and refrigerant regeneration operations, and after the burn-out of a compressor.
- Particularly recommended for sealed groups, their automatic bypass system prevents a major drop in suction pressure.



#### ■ Functional features

- Products are compatible with CFCs, HCFCs, HFCs, CO<sub>2</sub>, as well as with their associated oils and additives. Products are designed for use of non-hazardous refrigerants from group 2 of PED 2014/68/EU. To use CARLY components with fluids of the hydrocarbon group 1 – Propane R290, Butane R600, Isobutane R600a, Propylene R1270 – with HFOs and transcritical CO<sub>2</sub> and for a RANKINE organic cycle application, contact CARLY technical department.
- External steel body hermetically sealed with paint to ensure a high resistance to corrosion
- Product classification in CE categories is performed using the PED 2014/68/EU table, corresponding to a volume-based selection.
- Filtering at outlet preventing propagation within the circuit of particles bigger than 10 microns, with a very low pressure drop.
- Presence of a permanent magnet at the intake of the filters, for steel metallic particle trapping.
- Several types of connections are possible on standard products:
  - To be screwed type SAE
  - To be brazed for tubes in inches (S)
  - To be brazed for tubes in millimeters (MMS)



#### Possible customization on demand:

- Specific connections (O-RING, ORFS, ...)

#### ■ CARLY advantages

- Maximal working pressure: 46 bar.
- Two access valves allow measurement of the filters' pressure drop, to check filter saturation.
- Permanent treatment until saturation and regular refrigerant distribution, through a tubular felt core, that creates a lower depression than in the connection piping.
- Internal automatic bypass system in case of filter blocking.
- Very economical cleaning process without loss of time, because the installation is still running during the operation.
- Environmental protection and refrigerants savings because, according to the refrigerants pollution level, using those cleaning filters allows the reuse of the refrigerant after its cleaning up.
- The copper-plated steel connections up to a diameter of 3/4" to be welded facilitate the brazing and allow using filler metals with a low silver percentage.



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### ■ Warning

Before selecting or installing any component, please refer to the chapter 0 - **WARNING**.

### ■ General assembly precautions

The installation of a component in a refrigeration system by a skilled professional, requires some precautions:

- Some are specific to each component, and in this case, they are specified in the **RECOMMENDATIONS SPECIFIC** part defined hereafter ;
- Other are general to all CARLY components, they are presented in the chapter 115 – **GENERAL ASSEMBLY PRECAUTIONS**.
- The recommendations relating to the CARLY components for the subcritical CO<sub>2</sub> applications are also developed in

chapter 115 – **GENERAL ASSEMBLY PRECAUTIONS**.

### ■ Recommendations specific to the FACY Cleaning filters

- Cleaning filters are to be mounted on the suction line between the evaporator outlet and the compressor.
- On reversing cycle installations, FACY cleaning filters should always be installed between the inversion valve and the compressor.
- Never use these cleaning filters on the oil line; in such a case, use HCYF oil filters, or HYDROIL filter driers for POE oils (refer to chapters 45 and 47).
- Pay attention to the filters' assembly order, because the automatic bypass operation depends on the refrigerant direction indicated on the filter tag.
- In the event of compressor burnout, the cleaning and pollution control procedure is described in the FNCY cleaning filter chapter (refer to chapter 15).
- FNCY cleaning filters used for these operations are perfectly interchangeable with FACY filters; therefore, they can be temporarily mounted instead of FACY filters.
- Closely monitor the pressure drops using the access valves, in order to prevent shortage of the refrigerant vapour required to cool the compressor engine.
- Upon saturation or when the bypass system is used, filters have to be replaced.
- The replacement of the cleaning filters is imperative when the pressure drop measured in the filter is too large. As a precaution, CARLY recommends this operation at least once a year.
- Make sure that the piping can support, without deformation, the weight of the filter drier; otherwise, plan the attachment of the filter drier with a clamp on a stable part of the installation.



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### ■ Selection table

CARLY references	Connections		CARLY references	Connections	Refrigerating capacity kW <sup>(1)</sup>			
	To screw SAE inch	To solder ODF inch			To solder ODF mm	R134a	R404A R507	R22 R407C R410A R407F
FACY 283	3/8				5,13	3,67	5,58	6,3
FACY 284	1/2				8,55	6,11	9,31	10,5
FACY 285	5/8				19,33	13,81	21,03	23,8
FACY 285 S/MMS		5/8	FACY 285 S/MMS	16	19,33	13,81	21,03	23,8
FACY 286 S		3/4	FACY 286 MMS	18	27,63	19,74	30,06	34,0
FACY 287 S/MMS		7/8	FACY 287 S/MMS	22	34,73	24,81	37,78	42,7
FACY 289 S		1 1/8	FACY 289 MMS	28	44,31	31,65	48,21	54,5
FACY 489 S		1 1/8	FACY 489 MMS	28	52,61	37,58	57,23	64,7
FACY 4811 S/MMS		1 3/8	FACY 4811 S/MMS	35	63,98	45,70	69,61	78,7
FACY 4813 S		1 5/8	FACY 4813 MMS	42	69,97	49,98	76,12	86,1

<sup>(1)</sup> Refrigerating capacities according to Standard ARI 730-2001 for  $T_o = 4.4\text{ }^\circ\text{C}$ ,  $T_k = 32\text{ }^\circ\text{C}$ .

<sup>(2)</sup> Refrigerating capacities  $Q_n$  for  $T_k = -10\text{ }^\circ\text{C}$  and  $T_o = -40\text{ }^\circ\text{C}$

If different conditions, refer to correction factors in chapter 112.

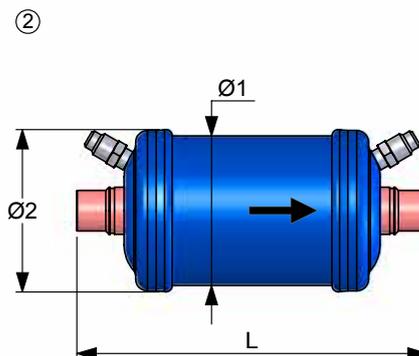
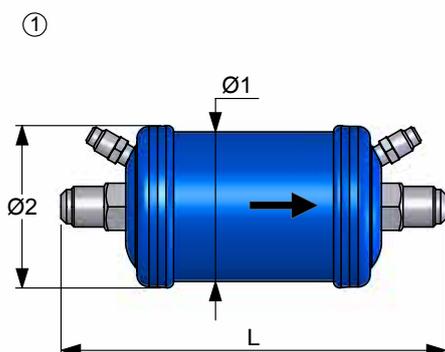
If different conditions, refer to correction factors in chapter 112.

Nota: the diameter of connections must not be inferior to the diameter of the main pipe.

### ■ Technical features

CARLY references	Connection types <sup>(1)</sup>	Drawing Nb	Filtering surface cm <sup>2</sup>	Dimensions mm		
				Ø1	Ø2	L
FACY 283	1	1	150	70	76	226
FACY 284	1	1	150	70	76	230
FACY 285	1	1	150	70	76	234
FACY 285 S/MMS	2	2	150	70	76	214
FACY 286 S	FACY 286 MMS	2	150	70	76	220
FACY 287 S/MMS	2	2	150	70	76	234
FACY 289 S	FACY 289 MMS	3	150	70	76	244
FACY 489 S	FACY 489 MMS	3	356	89	96	317
FACY 4811 S/MMS	3	2	356	89	96	337
FACY 4813 S	FACY 4813 MMS	3	356	89	96	337

<sup>(1)</sup> Chapter «Connection features and drawings» (refer to chapter 114).





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### ■ Technical features

CARLY references	Volume	Maximal working pressure	Working pressure <sup>(1)</sup>	Maximal working temperature	Minimal working temperature	Working temperature <sup>(1)</sup>	CE Category <sup>(2)</sup>	
								V L
FACY 283	0,58	46	15	80	-40	-30	Art4§3	
FACY 284	0,58	46	15	80	-40	-30	Art4§3	
FACY 285	0,58	46	15	80	-40	-30	Art4§3	
FACY 285 S/MMS	0,58	46	15	80	-40	-30	Art4§3	
FACY 286 S	FACY 286 MMS	0,58	46	15	80	-40	-30	Art4§3
FACY 287 S/MMS		0,59	46	15	80	-40	-30	Art4§3
FACY 289 S	FACY 289 MMS	0,60	46	15	80	-40	-30	Art4§3
FACY 489 S	FACY 489 MMS	1,39	46	15	80	-40	-30	I
FACY 4811 S/MMS		1,40	46	15	80	-40	-30	I
FACY 4813 S	FACY 4813 MMS	1,42	46	15	80	-40	-30	I

<sup>(1)</sup> The working pressure is limited to the PS BT value when working temperature is lower than or equal to TS BT value.

<sup>(2)</sup> Classification by volume, according to PED 2014/68/EU (refer to chapter 0).

### ■ Weights and packaging

CARLY references	Unit weight kg		Packaging number of pieces
	With packaging	Without packaging	
FACY 283	0,94	0,90	1
FACY 284	0,99	0,95	1
FACY 285	1,04	1,00	1
FACY 285 S/MMS	1,04	1,00	1
FACY 286 S & MMS	1,04	1,00	1
FACY 287 S/MMS	1,04	1,00	1
FACY 289 S & MMS	1,14	1,10	1
FACY 489 S & MMS	1,77	1,70	1
FACY 4811 S/MMS	1,97	1,90	1
FACY 4813 S & MMS	2,07	2,00	1