



Replaceable core filter drier shells (liquid line)

→ BBCY

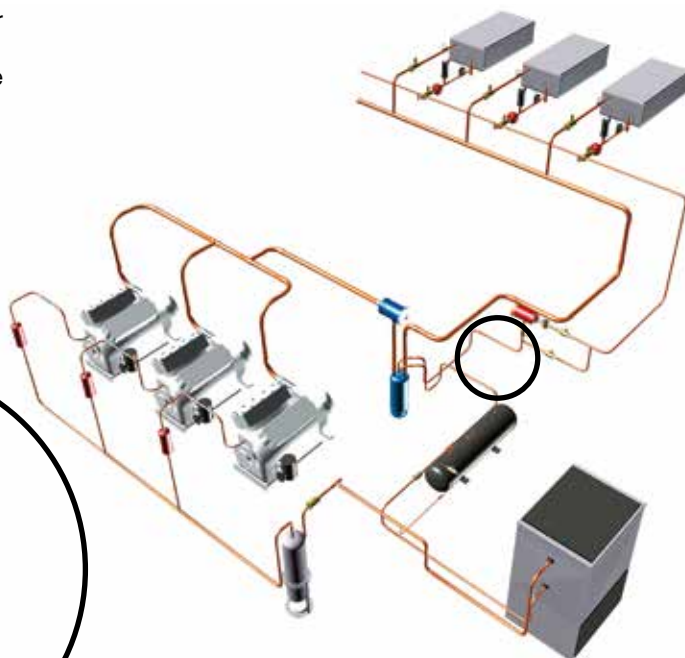
■ Applications

- Refrigerant filtering and drying and acid neutralization for refrigerating and air conditioning installation liquid lines.
- Replaceable core filter drier shells allow the replacement of the filter drier's active parts only.

Shell reference	Core reference (size)
BDCY	CCY 42
BCY / BCY-HP	CCY 48 / PLATINIUM 48
BCY-P6 / BCY-P14	PLATINIUM 48 / CCY 48
BBCY	CCY 100 / PLATINIUM 100



Customized product



■ Functional features

- Products are compatible with CFCs, HCFCs, HFCs, CO₂, 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 CO₂ and for a RANKINE organic cycle application, contact CARLY technical department.
- Product classification in CE categories is performed using the PED 2014/68/EU table, corresponding to a volume-based selection.
- Filtering at outlet preventing the propagation within the circuit of particles bigger than 150 microns, with a very low pressure drop.
- 1/4" NPT taper tapping and its plug on end plate, allowing the installation of a pressure tap or a feeding valve.
- End plate perfectly tight thanks to its circular rim and its gasket compatible with all CFCs, HCFCs, HFCs and CO₂s.



Possible customization on demand:

- Stainless steel casings and connections (corrosion resistance and for use at very low temperature).

■ CARLY advantages

- Individual core holders treated against corrosion by zinccoating, with a reduced course for easy core replacement; therefore, replacement time is extremely reduced, limiting the time the drying cores and the inner part of the circuit are exposed to the atmosphere.
- Hermetically sealed external body made of steel to which an impregnation varnish and paint are applied to ensure a high resistance to corrosion ; this varnish ensures the internal anti-corrosion protection of the shell when it is opened for the initial set-up or during the replacement of the drying cores.
- Core holder design ensures automatic and immediate centring of the filter drier shells.
- No flow area restriction outside the filter drier shells thanks to an appropriate filtering system.



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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

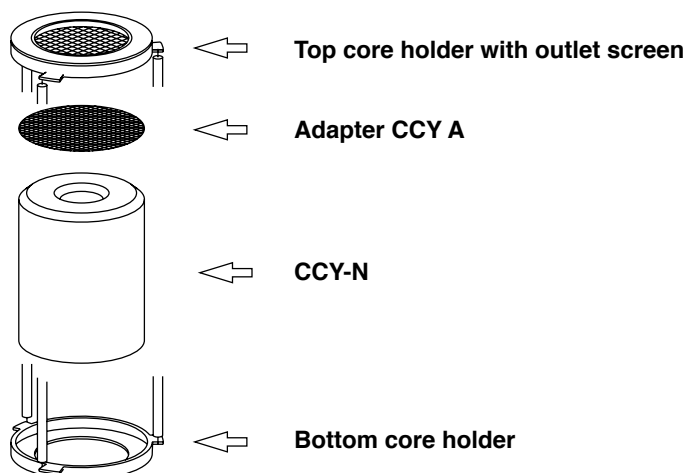
RECOMMENDATIONS SPECIFIC part defined hereafter ;

- 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 CO₂ applications are also developed in chapter 115 – **GENERAL ASSEMBLY PRECAUTIONS**.

■ Specific recommendations to replaceable core filter drier shells BBCY

- Filter drier shells are to be mounted on the liquid line between the receiver and the expansion element.
- The refrigerant flow direction, indicated by an arrow on the filter drier shells' tags, should be complied with.
- Assembly can be performed in any position, but not vertically with the outlet connection oriented downwards.
- During filter drier shells assembly, provide for sufficient course to allow core replacement (refer to sizes L2 in the technical features table).
- The connection to the installation, by soldering or welding, of the filter shell, must be done only after removing the closing flange, its gasket and the internal core holders.
- We recommend to clean and to protect the connections of the filter drier shell with appropriate products in order to ensure a good resistance to corrosion of the affected areas.
- Be careful to properly select the solenoid valves located downstream of the filter drier shells; their oversizing could cause liquid hammer phenomena hindering the filter drier shells' proper mechanical behaviour; protection of the regulation elements upstream of the evaporator should be performed with FILTRY dirt filters (refer to chapter 11); these liquid hammer phenomena can originate from other sources, in long-piping installations.
- Never install filter drier shells in an area of the circuit that can be isolated.
- Never trap refrigerant in its liquid state (between a check valve and a solenoid valve, for instance).
- The filter drier shells' efficiency and the refrigerant's moisture content should be checked using VCYL or VCYLS liquid sight glasses (refer to chapter 9 or 10).
- Make sure that the piping can support without deformation the weight of the filter drier shell ; otherwise, provide for a clamp of the filter drier shell with a clamp on a stable part of the installation.
- In order to avoid risk of frost and condensation on the suction filter shells mounted on a cold pipe, it is recommended to insulate them thermally.



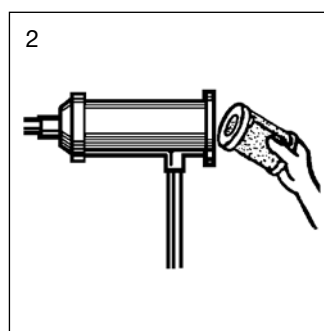
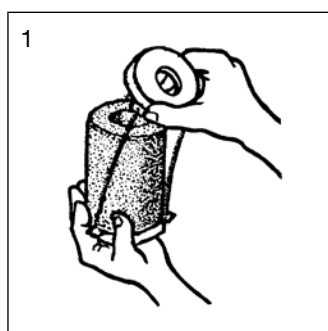


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→ **BBCY** (corresponding cores: CCY 100)

■ Core replacement procedure

- 1 • Isolate the **BBCY** filter drier shell.
- 2 • Purge the installation up to atmospheric pressure (shell should be empty of refrigerant)
- 3 • Remove the end plate.
- 4 • Remove the core holders one after the other.
- 5 • Remove the used cores.
- 6 • Clean very carefully the core holders, the adapter (**CCY A 100**) and the inner part of the shell case.
- 7 • Replace systematically the gasket on the end plate and check the core holder and core end gaskets.
- 8 • Remove the core from its can and put it on the core holder, separating by traction the two flanges that hold the core holder (sketch 1)
- 9 • Repeat the operation for each core holder.
- 10 • Quickly install the core holders with their core in the shell complying with their mounting order: the first one holds the filter elements and the last one is equipped with a compression spring (sketch 2)
- 11 • Reinstall the closing flange making sure that the compression spring is correctly positioned and gradually and uniformly tighten the closing screws (refer to chapter 115 – **GENERAL MOUNTING PRECAUTIONS** – Criss-cross tightening).
Maximum bolt tightening torque: 55 N.m.
- 12 • Make sure that the end plate's 1/4" NPT taper tapping has been properly plugged in and sealed.
- 13 • Make vacuum in the installation and check air-tightness of the whole set before putting back under pressure.



⚠ The standard gasket of the CCY (neoprene) is not compatible with CO₂. Use the reference CY 15555200.



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➔ **BBCY** (corresponding cores: CCY 100)

■ Selection table

CARLY references	Connections To solder ODF inch	CARLY references	Connections To solder ODF mm	Refrigerating capacity kW ⁽¹⁾					Number of cores
				R22	R134a	R404A R507 R407F	R407C R410A	R744 ⁽²⁾	
BBCY 20017 S/MMS	2 1/8	BBCY 20017 S/MMS	54	454,0	413,0	295,0	450,0	509,0	2
BBCY 20021 S	2 5/8	BBCY 20021 MMS	67	500,0	455,0	325,0	495,0	560,0	2
BBCY 30021 S	2 5/8	BBCY 30021 MMS	67	580,0	528,0	377,0	574,0	650,0	3
BBCY 40017 S/MMS	2 1/8	BBCY 40017 S/MMS	54	591,0	538,0	385,0	586,0	662,0	4
BBCY 40021 S	2 5/8	BBCY 40021 MMS	67	700,0	637,0	456,0	693,0	784,0	4
BBCY 40025 S	3 1/8	BBCY 40025 MMS	80	840,0	765,0	547,0	832,0	941,0	4

⁽¹⁾ Refrigerating capacities according to Standard ARI 710-86 for $T_o = -15^{\circ}\text{C}$, $T_k = 30^{\circ}\text{C}$ and $\Delta p = 0.07$ bar.
If different conditions, refer to correction factors in chapter 112.

⁽²⁾ Refrigerating capacities Q_n for $T_k = -10^{\circ}\text{C}$ and $T_o = -40^{\circ}\text{C}$
If different conditions, refer to correction factors in chapter 112.

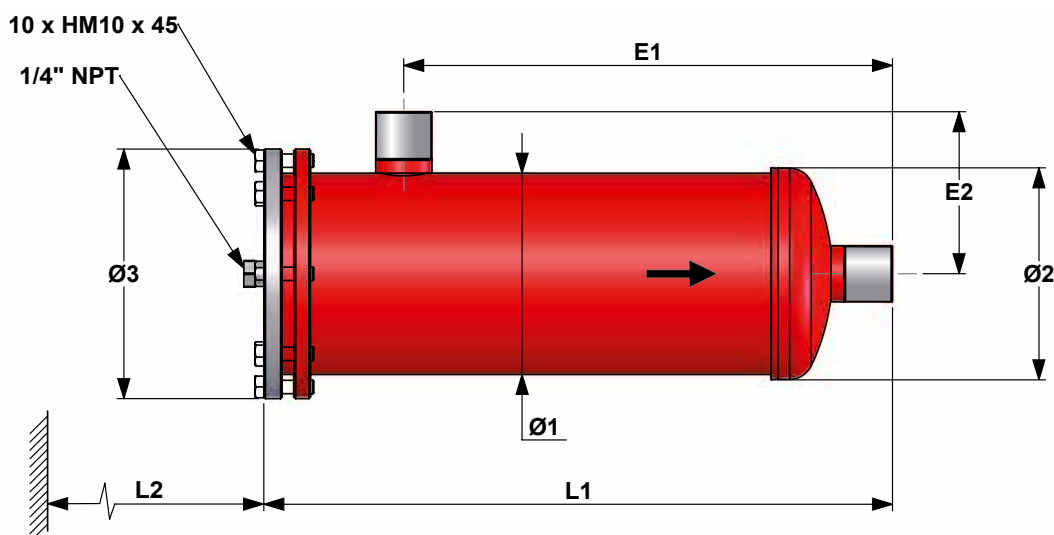
Nota: the diameter of connections must not be inferior to the diameter of the main pipe.

■ Technical features

CARLY references	Connection types ⁽¹⁾	Filtering surface cm ²	Dimensions mm						
			Ø1	Ø2 ⁽²⁾	Ø3	L1	L2	E1	E2
BBCY 20017 S/MMS	3	1260	152	156	200	544	300	402	135
BBCY 20021 S	BBCY 20021 MMS	3	152	156	200	555	300	412	138
BBCY 30021 S	BBCY 30021 MMS	3	152	156	200	745	300	612	138
BBCY 40017 S/MMS	3	2520	152	156	200	899	470	780	136
BBCY 40021 S	BBCY 40021 MMS	3	152	156	200	910	470	777	138
BBCY 40025 S	BBCY 40025 MMS	3	152	156	200	919	470	777	130

⁽¹⁾ Chapter «Connection features and drawings» (refer to chapter 114).

⁽²⁾ Including weld.





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■ Technical features

CARLY references	Volume	Maximal working pressure	Working pressure ⁽¹⁾	Maximal working temperature	Minimal working temperature	Working temperature ⁽¹⁾	CE Category ⁽²⁾
	V L	PS bar	PS BT bar	TS maxi °C	TS mini °C	TS BT °C	
BBCY 20017 S/MMS	7,20	33	15	100	-40	-30	II
BBCY 20021 S BBCY 20021 MMS	7,30	33	15	100	-40	-30	II
BBCY 30021 S BBCY 30021 MMS	10,60	33	15	100	-40	-30	II
BBCY 40017 S/MMS	13,20	33	15	100	-40	-30	II
BBCY 40021 S BBCY 40021 MMS	13,30	33	15	100	-40	-30	II
BBCY 40025 S BBCY 40025 MMS	13,40	33	15	100	-40	-30	II

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

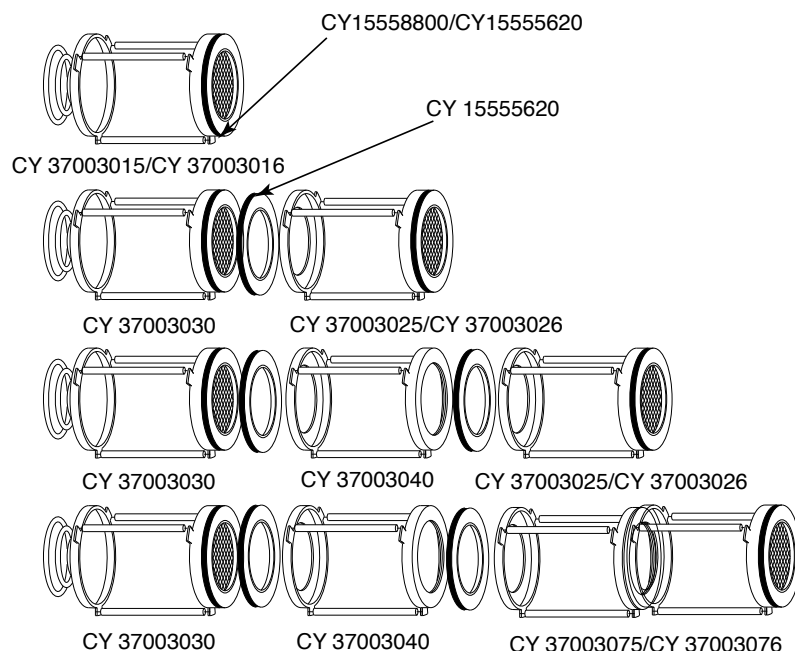
⁽²⁾ Classification by volume, according to PED 2014/68/EU (refer to chapter 0).

■ Spare parts

Shells	CARLY References for core holders	Quantity and type of gaskets for use	
		Core holders gasket ⁽¹⁾	End plate gasket ⁽²⁾
BBCY 1 Core	CY 37003015/CY 37003016	1 Gasket CY 15558800/CY 15555620	
BBCY 2 Cores	CY 37003030 + CY 37003025/CY 37003026	1 Gasket CY 15555620 +1 Gasket CY 15558800/CY 15555620	
BBCY 3 Cores	CY 37003030 + CY 37003040 + CY 37003025/CY 37003026	2 Gaskets CY 15555620 +1 Gasket CY 15558800/CY 15555620	1 Gasket CY 15555701
BBCY 4 Cores	CY 37003030 + CY 37003040 + CY 37003075/CY 37003076	2 Gaskets CY 15555620 +1 Gasket CY 15558800/CY 15555620	

⁽¹⁾ Gasket delivered with core holders

⁽²⁾ Gasket delivered with cores CCY 100 N and CCY 100 HP



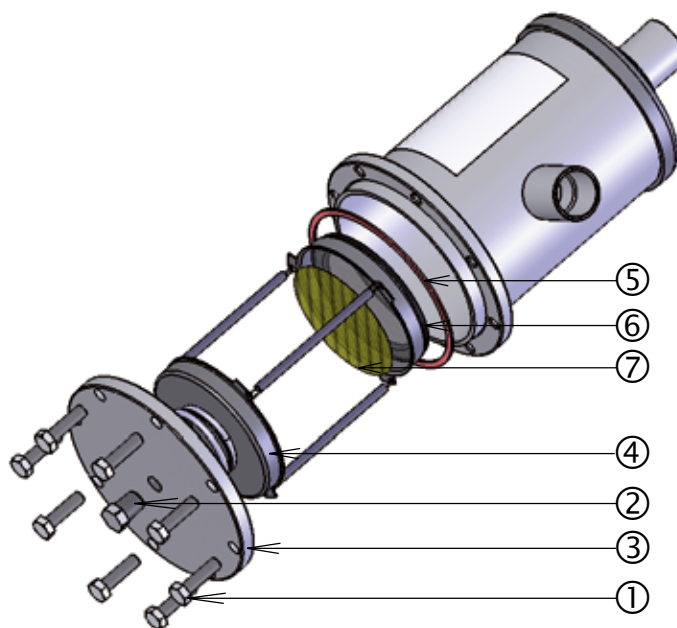


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■ Spare parts

CARLY references	Part N°	Description	Quantity
CY 19900520	1	Set of 10 fastening screws for end plate	1
CY 10810010	2	1/4" NPT phosphate plug for end plate	1
CY 33301700	2 + 3 + 5	1/4" NPT plug + end plate + gasket	1
CY 37003015/CY 37003016	4	Core holder (1 core)	1
CY 37003025/CY 37003026	4	Core holder (2 and 3 cores)	1
CY 37003030	4	Core holder (2, 3 and 4 cores)	1
CY 37003040	4	Core holder (3 and 4 cores)	1
CY 37003075/CY 37003076	4	Core holder (4 cores)	1
CY 15555701	5	End plate gasket (red)	1
CY 15555620	6	Adhesive gasket for core holders: CY 37003030 - CY 37003040 - CY 37003016 - CY 37003026 - CY 37003076	1
CCY A 100	7	Adapter for end core holder	1



■ Weights and packaging

CARLY references	Unit weight kg		Packaging number of pieces
	With packaging	Without packaging	
BBCY 20017 S/MMS	15,70	14,40	1
BBCY 20021 S & MMS	15,80	15,10	1
BBCY 30021 S & MMS	18,80	18,05	1
BBCY 40017 S/MMS	21,00	20,10	1
BBCY 40021 S & MMS	22,20	21,30	1
BBCY 40025 S & MMS	23,90	23,00	1