



Discharge line mufflers

→ SCY-P6 / 64 bar (928 psig)

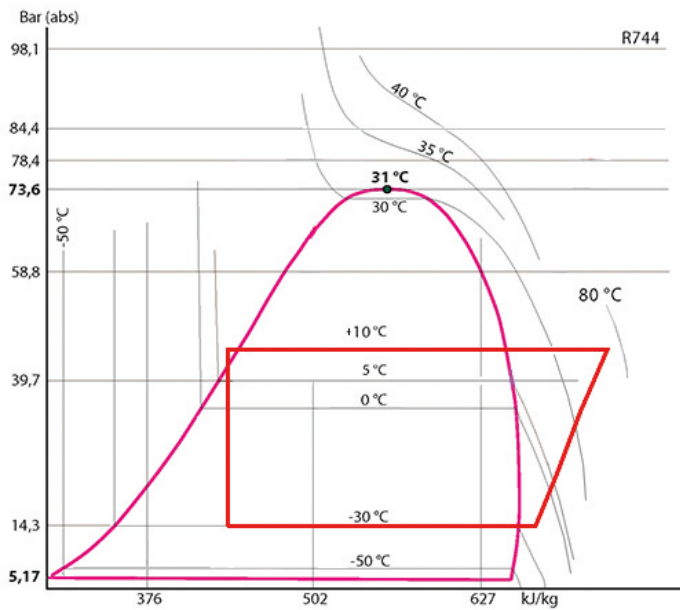
■ Applications

- Reduction of noise caused by gas pulses in the discharge lines of refrigerating and air conditioning installations, running with high working pressures.
- Those pulses generally come from reciprocating compressors or screw compressors. The mufflers have no effect on the mechanical vibrations transmitted to the pipes by the compressors.



64 bar

CO₂ SUBCRITICAL



■ Functional features

- Products are compatible with HFC, 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.
- Product classification in CE categories is performed using the PED 2014/68/EU table, corresponding to a volume-based selection.
- Hermetically sealed outer steel enclosure with paint to ensure a high resistance to corrosion.
- Several types of connections are possible on standard products:
 - To be brazed for tubes in inches (S)
 - To be brazed for tubes in millimeters (MMS).



Possible customization on demand :

- Specific connections (SAE, O-RING, ORFS, ...).
- Stainless steel casings and connections (resistance to corrosion and at low temperature).

■ CARLY advantages

- Maximal working pressure: up to 64 bar with CO₂ in subcritical compression systems.
- Design allows coverage of a wide range of frequencies.
- Discharge line muffler mounting is possible in vertical and horizontal positions. There is no oil trap whichever the position. The refrigerant can flow in both directions.
- Excellent distribution of the refrigerant in its gaseous phase, with minimum pressure drop.
- The copper-plated steel connections up to a diameter of 3/4" - 18 mm facilitate the brazing and allow using brazing alloys with a low silver percentage.



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■ Warning

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

■ General assembly precautions

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

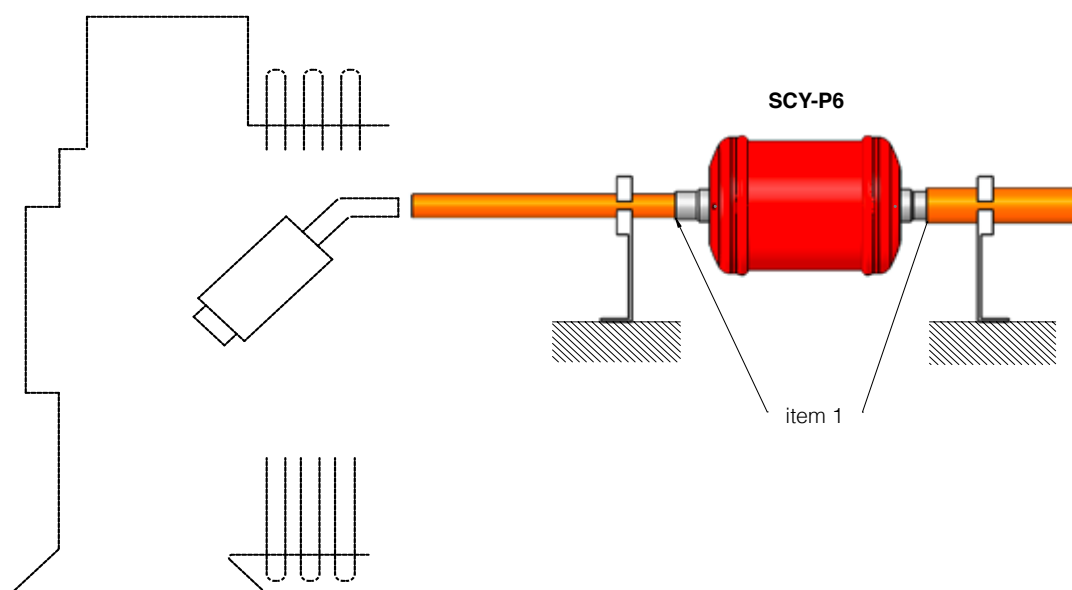
- Some are specific to each component,
- Other are general to all CARLY components,

and in this case, they are specified in the **RECOMMENDATIONS SPECIFIC** part defined hereafter ;

they are presented in the chapter 115 of CARLY technical catalogue – **GENERAL ASSEMBLY PRECAUTIONS**.

■ Recommendations specific to SCY-P6 mufflers

- The discharge line mufflers are to be mounted on the discharge gas line between the compressor and the condenser; the muffler's connections diameter must correspond to the discharges pipes diameter.
- The optimum muffler position will be determined according to your installation's features, by getting in touch with your distributor or with CARLY's technical services.
- It is recommended to perform an inner connection at the intake point, and an outer connection at the muffler outlet point (refer to drawing below item 1).
- In case of vertical assembling, it is recommended not to place the muffler just over the compressor.
- Provide for efficient clamping before the intake and after the outlet of the mufflers (refer to drawing below).





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■ Special precautions for components used with CO₂ in subcritical and transcritical systems

- The maximal working pressure and the power variations of the installation must be taken into account as of its design, in order to select all the components consequently.
- The pressure of the circuit during the stop phases must also be taken into account, because it can be very high, due to the pressure equalization according to the ambient temperature; several solutions exist to limit and control this pressure when the installation is stopped.
 - Design of the installation allowing to resist to this pressure.
 - Implementation of a « buffer » volume of storage or expansion (receiver).
 - Installation of a secondary circuit with valve or solenoid valve, allowing the fluid transfer to the coldest point, or the less high in pressure of the installation.
 - Implementation of a small separate refrigeration unit, to maintain the liquid temperature at a pressure lower than the maximal working pressure ; it is so far the most effective technical solution, but with a major drawback, which is the power failure (safety unit to be considered, or backup power supply).
- The hot gas defrost, frequently used with CO₂ for low temperatures applications, generates also high pressures (to take in consideration)
- The implementation on the liquid line of a filter drier **DCY-P6**, or a filter drier shell **BCY-P6** equipped with drying cores **CCY 48 HP** or **PLATINIUM 48**, is highly recommended. Serious problems can occur in the presence of moisture, such as expansion valve blocking and formation of dry ice even carbonic acid. To avoid this, it is imperative to limit the circuit openings in order to avoid air introduction, causing the condensation in the pipes, and to proceed to a high evacuation of the installation, before any commissioning or restarting.
- For an operation with CO₂ at low temperature, provide thermal insulation on the components which can be covered by frost.
- There is no incompatibility between CO₂ and the main metallic materials commonly used in refrigeration systems (steel, copper, brass...)
- On the other hand, there is a real compatibility issue between CO₂ and polymers. For example, swelling phenomena and internal explosion of the seal are possible. Carly mufflers SCY-P6 do not have polymer gaskets directly in contact with CO₂.



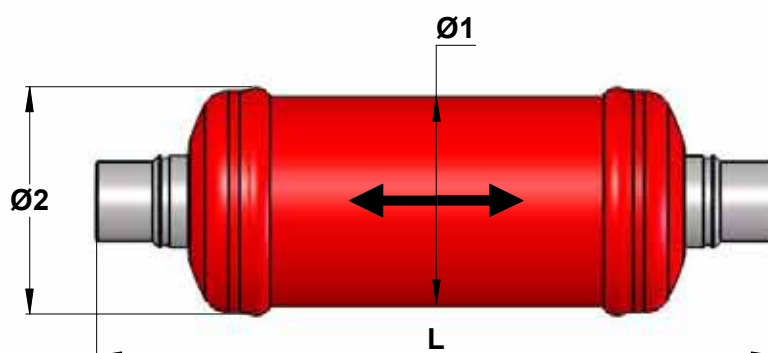
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■ Technical features

CARLY references	Connections ⁽¹⁾		Dimensions mm			
	To solder ODF	CARLY references	To solder ODF	Ø1	Ø2	L
	pouce		mm			
SCY-P6 30 S	3/8	SCY-P6 30 MMS	10	50	55	159
SCY-P6 40 S	1/2	SCY-P6 40 MMS	12	50	55	159
SCY-P6 50 S/MMS	5/8		16	50	55	163
SCY-P6 60 S	3/4	SCY-P6 60 MMS	18	89	96	171
SCY-P6 70 S/MMS	7/8		22	89	96	185

⁽¹⁾ Chapter «Connection features and drawings» (refer to chapter 114 of CARLY technical catalogue).



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	
SCY-P6 30 S	SCY-P6 30 MMS	0,19	64	15	120	-40	-30	Art4§3
SCY-P6 40 S	SCY-P6 40 MMS	0,19	64	15	120	-40	-30	Art4§3
SCY-P6 50 S/MMS		0,19	64	15	120	-40	-30	Art4§3
SCY-P6 60 S	SCY-P6 60 MMS	0,56	64	15	120	-40	-30	Art4§3
SCY-P6 70 S/MMS		0,57	64	15	120	-40	-30	Art4§3

⁽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 of CARLY technical catalogue).



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■ Weights and packaging

CARLY references	Unit weight kg		Packaging number of pieces
	With packaging	Without packaging	
SCY-P6 30 S & MMS	0,41	0,38	1
SCY-P6 40 S & MMS	0,41	0,38	1
SCY-P6 50 S/MMS	0,41	0,38	1
SCY-P6 60 S & MMS	1,32	1,27	1
SCY-P6 70 S/MMS	1,32	1,27	1