

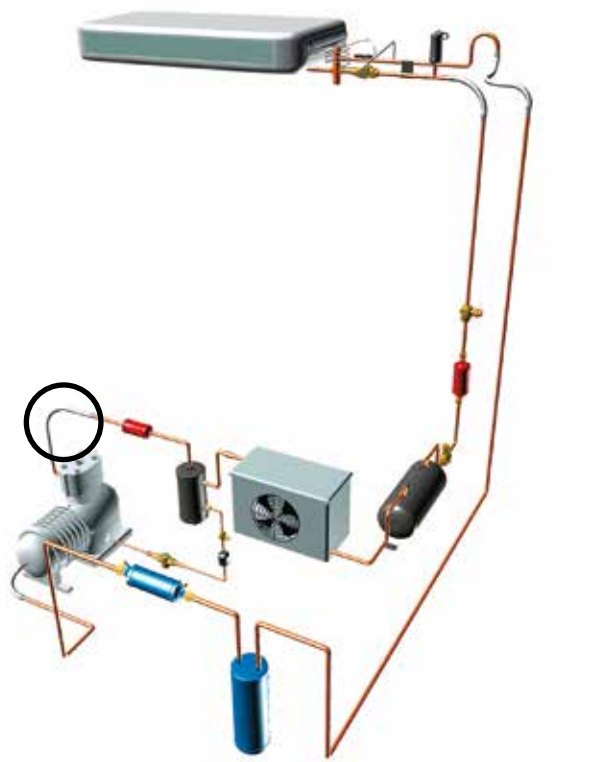


Stainless steel double effect vibration eliminators, nickel-plated connections

→ EVCYDEAC (double effect)

■ Applications

- Reduction of the mechanical vibrations transmitted by the compressor to the discharge, liquid, suction and oil return lines, and indirectly, of the noises they generate, and elimination of stresses linked with piping thermal expansion in refrigerating and air conditioning installations.
- Vibrations generated by a refrigerating compressor propagate in several directions, therefore, it is usually recommended to install two vibration eliminators placed at 90°; the use of EVCYDEAC double-effect vibration eliminators replaces this assembly, because it is possible to bend them at 90°.
- The vibration eliminators have no effect on the reduction of the noises caused by the gas pulsations in the discharge lines. This is the role of the mufflers SCY.



■ Functional features

- Products are compatible with HCFCs, HFCs, HFOs, 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, contact CARLY technical department.
- Product classification in CE categories is performed using the PED 2014/68/EU table, corresponding to a nominal diameter-based selection.
- Flexible wavy stainless steel metallic hoses constituted of parallel waves from a tube welded end to end and covered with a stainless steel wire braid (see sketch n° 2).
- Construction allows the use in a straight or curved position, with an imposed minimum radius of curvature (see technical specifications table below)
- Nickel-plated steel connections, for the standards models.
- Vibration eliminators are cleaned and dried before individual packaging under heat-sealed plastic tubular film.



Possible customization on request, even for unit needs:

- Specific lengths
- Stainless steel connections, for better resistance to corrosive environments (e.g. railway and maritime application, ...)
- Specific flanges or connections.

■ CARLY advantages

- Maximal working pressure: until 46 bar.
- Specifically designed in order to resist frost and major temperature shifts, from - 40 °C to + 140 °C.
- Principle for connecting the components together (stainless steel hose + air-tightness ring + braid + connection) by stainless steel TIG weld. Contrary to a braze, this weld eliminates all risks of deteriorating the vibration eliminator by heat transfer during connection to the installation's piping.
- Reduction of installation costs and of footprint, compared with the use of two vibration eliminators placed at 90°.
- Very high mechanical resistance to corrosion.
- Long brazed or welded connections, in order to facilitate connection to installation.
- Unity helium air-tightness inspection.
- Marking meets perfectly the requirements of PED 2014/68/EU.



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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

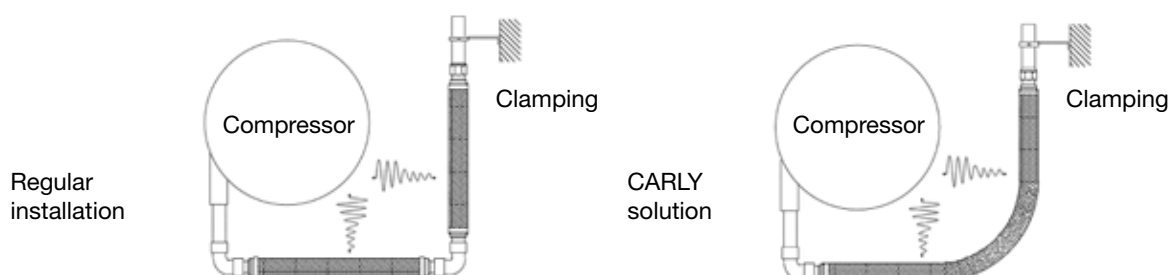
RECOMMENDATIONS SPECIFIC part defined hereafter ;

- 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**.

■ Recommendations specific to EVCYDEAC double effect vibration eliminators

- Mounting of vibration eliminators should be performed:
 - As close as possible of the vibration generator: compressor, evaporator, condenser, etc ...
 - Imperatively in horizontal position at compressor's suction.
 - without twisting, extension or axial compression stress
 - without over-bending, or extension of the hose
 - preferably 90° in relation to vibration source, if straight-up mounting.
- Warning, when put under pressure, the vibration eliminators can present a slight extension (about 2 % of initial length); it is therefore necessary to take this into account during the assembly operation.
- Respect the minimum radius of curvature (static and dynamic) indicated in the technical specifications table, and the configurations of sketch n° 3 hereafter.
- For the brazing operation, we recommend the use of filler metal with a high silver content (38 % minimum) and the use of a neutral gas inside the vibration eliminators in order to not trigger internal corrosion phenomena.
- During the brazing operation, be careful that the scouring flux used does not come in contact with the hose and its braid.
- The nickel lining of the connections hold really nicely during temperature increase; it is nevertheless recommended to protect the connections after brazing with an appropriate product, against corrosion risks.
- Provide for clamping of the vibration eliminators ends that are located opposite the vibration source (refer to sketch N° 1).
- All arrangements must be taken, in order to prevent water concentration that may freeze and then deteriorate the vibration eliminator.
- For semi-static use, the assembly must be qualified by the machine manufacturer. The product lifetime can vary enormously depending on:
 - Pulsating effects and water hammers
 - Pressure variations
 - Rapid and intermittent movements
 - Frequent temperature changes
 - Environment
- Be paid to the possible presence of damage such as buckling, braid failure, corrosion and dirt. The component is to be replaced as soon as one of these anomalies appears.



Sketch N° 1



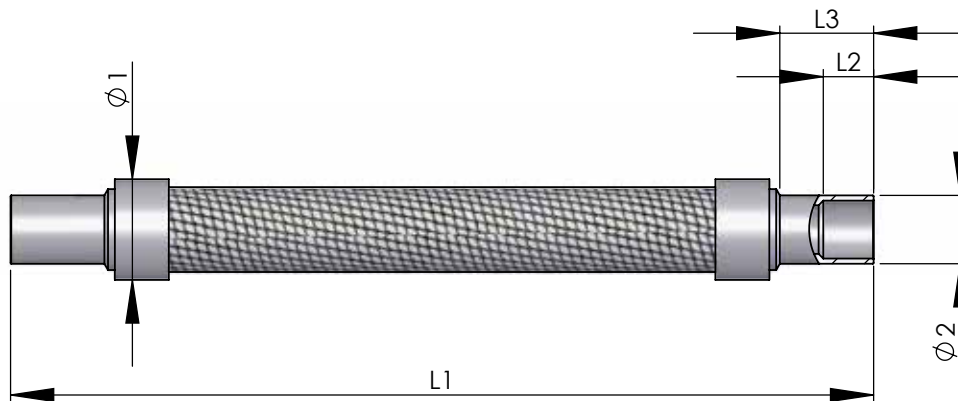
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→ EVCYDEAC (double effect)

■ Technical features

CARLY references	Connections To solder ODF inch	CARLY references	Connections To solder ODF mm	Dimensions mm					Minimal bending radius mm	
				Ø1	Ø2	L1	L2	L3	Statique	Dynamique
EVCYDEAC 2 S	1/4	EVCYDEAC 2 MMS	6,0	14	9	270	6	16	27	80
EVCYDEAC 3 S	3/8	EVCYDEAC 3 MMS	10,0	18	13	340	9	21	38	129
EVCYDEAC 4 S	1/2	EVCYDEAC 4 MMS	12,0	20	16	360	11	24	45	139
EVCYDEAC 5 S	5/8	EVCYDEAC 5 MMS	15,0	25	19	420	14	29	56	160
EVCYDEAC 6 S	3/4	EVCYDEAC 6 MMS	18,0	30	22	462	15	33	67	167
EVCYDEAC 7 S/MMS	7/8	EVCYDEAC 7 S/MMS	22,0	30	25	480	18	42	67	167
EVCYDEAC 9 S	1 1/8	EVCYDEAC 9 MMS	28,0	37	32	530	20	51	85	190
EVCYDEAC 11 S/MMS	1 3/8	EVCYDEAC 11 S/MMS	35,0	47	40	630	30	56	104	258
EVCYDEAC 13 S	1 5/8	EVCYDEAC 13 MMS	42,0	58	48	750	30	68	129	298
EVCYDEAC 17 S/MMS	2 1/8	EVCYDEAC 17 S/MMS	54,0	70	60	880	40	88	159	319
EVCYDEAC 21 S	2 5/8	EVCYDEAC 21 MMS	67,0	84	75	1060	50	105	203	508
EVCYDEAC 25 S	3 1/8	EVCYDEAC 25 MMS	80,0	108	88	1210	55	124	229	559
EVCYDEAC 29 S	3 5/8	EVCYDEAC 29 MMS	88,9	132	102	1575	55	142	330	686
EVCYDEAC 33 S	4 1/8	EVCYDEAC 33 MMS	108,0	135	114	1610	60	160	330	686





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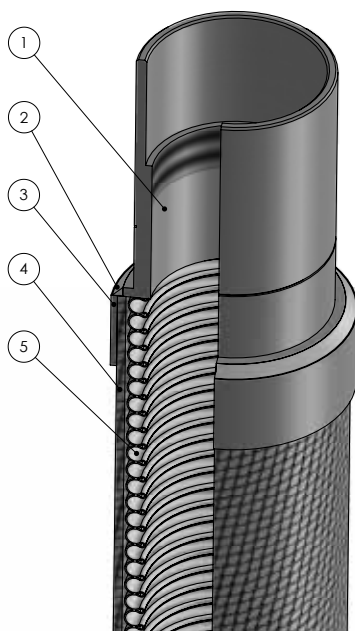
■ Technical features

CARLY references	Connections To solder ODF inch	CARLY references	Connections To solder ODF inch	Maximal working pressure	Working pressure (1)	Maximal working temperature	Minimal working temperature	Working temperature (1)	CE Category (2)
				PS bar	PS BT bar	TS maxi* °C	TS mini °C	TS BT °C	
EVCYDEAC 2 S	1/4	EVCYDEAC 2 MMS	6,0	46	15	140	-40	-30	Art4§3
EVCYDEAC 3 S	3/8	EVCYDEAC 3 MMS	10,0	46	15	140	-40	-30	Art4§3
EVCYDEAC 4 S	1/2	EVCYDEAC 4 MMS	12,0	46	15	140	-40	-30	Art4§3
EVCYDEAC 5 S	5/8	EVCYDEAC 5 MMS	15,0	46	15	140	-40	-30	Art4§3
EVCYDEAC 6 S	3/4	EVCYDEAC 6 MMS	18,0	42	15	100	-40	-30	Art4§3
EVCYDEAC 7 S/MMS	7/8	EVCYDEAC 7 S/MMS	22,0	42	15	100	-40	-30	Art4§3
EVCYDEAC 9 S	1 1/8	EVCYDEAC 9 MMS	28,0	42	15	100	-40	-30	Art4§3
EVCYDEAC 11 S/MMS	1 3/8	EVCYDEAC 11 S/MMS	35,0	35	15	120	-40	-30	I
EVCYDEAC 13 S	1 5/8	EVCYDEAC 13 MMS	42,0	35	15	120	-40	-30	I
EVCYDEAC 17 S/MMS	2 1/8	EVCYDEAC 17 S/MMS	54,0	34	15	120	-40	-30	I
EVCYDEAC 21 S	2 5/8	EVCYDEAC 21 MMS	67,0	25	15	120	-40	-30	I
EVCYDEAC 25 S	3 1/8	EVCYDEAC 25 MMS	80,0	20	15	120	-40	-30	I
EVCYDEAC 29 S	3 5/8	EVCYDEAC 29 MMS	88,9	20	15	120	-40	-30	I
EVCYDEAC 33 S	4 1/8	EVCYDEAC 33 MMS	108,0	20	15	120	-40	-30	I

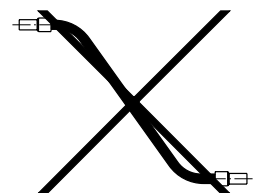
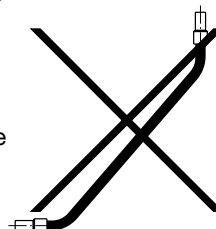
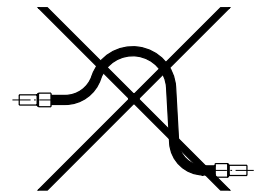
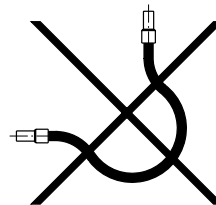
(1) The working pressure is limited to the PS BT value when working temperature is lower than or equal to TS BT value.

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

* Other WT (working temperatures) possible on demand.



- 1 - Nickel plated steel connections (or, stainless steel, on request)
- 2 - TIG weld
- 3 - Stainless steel ring
Inox 1.4307 - AISI 304L 1.
- 4 - Stainless steel wire braid
Inox 1.4307 - AISI 304L 1.
- 5 - Flexible wavy stainless steel hose
Inox 1.4404 - AISI 316L
or 1.4541 AISI
EVCYDEAC 2 to 17, flexible type
1-10 according EN ISO 10380
EVCYDEAC 21 to 33, flexible type
2-10 according EN ISO 10380



Sketch N° 2

Sketch N° 3



Stainless steel double effect vibration eliminators, nickel-plated connections

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→ EVCYDEAC *(double effect)*

■ Weights and packaging

CARLY references	Unit weight kg		Packaging number of pieces
	With packaging	Without packaging	
EVCYDEAC 2 S et MMS	0,07	0,07	1
EVCYDEAC 3 S & MMS	0,12	0,12	1
EVCYDEAC 4 S et MMS	0,17	0,17	1
EVCYDEAC 5 S & MMS	0,26	0,26	1
EVCYDEAC 6 S et MMS	0,37	0,37	1
EVCYDEAC 7 S/MMS	0,42	0,42	1
EVCYDEAC 9 S et MMS	0,69	0,68	1

CARLY references	Unit weight kg		Packaging number of pieces
	With packaging	Without packaging	
EVCYDEAC 11 S/MMS	1,16	1,15	1
EVCYDEAC 13 S et MMS	1,50	1,49	1
EVCYDEAC 17 S/MMS	3,80	3,79	1
EVCYDEAC 21 S et MMS	6,45	6,40	1
EVCYDEAC 25 S & MMS	9,00	8,95	1
EVCYDEAC 29 S et MMS	12,10	12,05	1
EVCYDEAC 33 S & MMS	13,20	13,15	1