



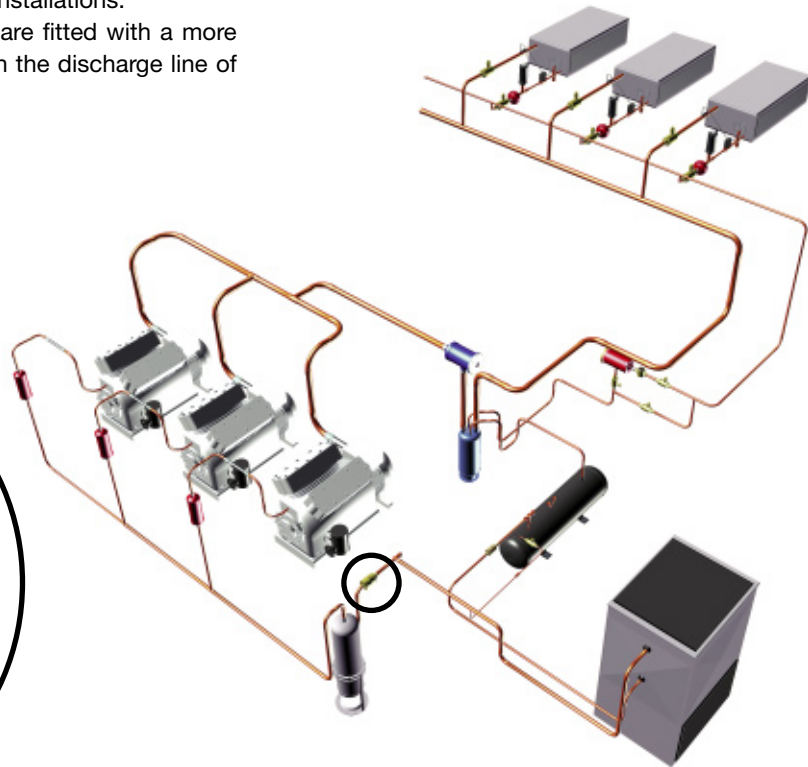
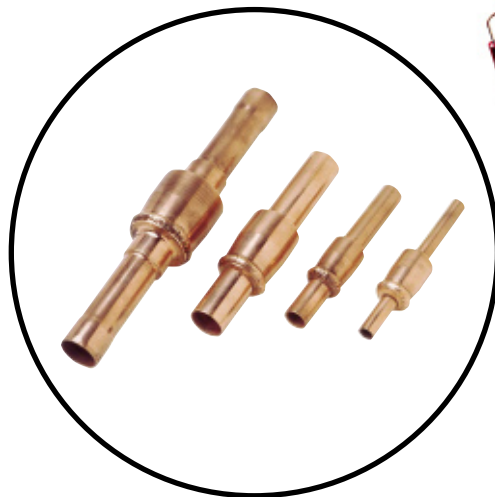
Check valves

→ CRCY / CRCYP (high Pressure)

01/10

■ Applications

- The check valves ensure a one-way direction of the refrigerant flow, in refrigerating and air conditioning installations.
- The CRCYP high Pressure check valves are fitted with a more powerful spring and are to be installed on the discharge line of compressors coupled in parallel.



■ Functional features

- Products are compatible with HFCs, HCFCs, CFCs, as well as with their associated oils and additives. Products are designed for use of non-hazardous refrigerants from group 2 of PED 97/23/EC.
- Product classification in CE categories is performed using the PED 97/23/EC table, corresponding to a nominal diameter-based selection.
- An arrow indicating the refrigerant flow direction is engraved on the brass body of the valve.
- 10 models with SAE connections to screw, except for model 3/4" which is a BSP threading (from 1/4" to 3/4" and from 6 to 18 mm).
- 24 models with connections to braze (from 1/4" to 7/8" and from 6 to 22 mm).
- For use on the discharge line of compressors coupled in parallel, select the CRCYP high Pressure models, with more powerful springs and with connections identical to those of standard check valves.

■ CARLY advantages

- The check valves can be installed in all positions.
- They are equipped with an internal pulse absorber piston, with PTFE gasket.
- Pressure drops are negligible.
- Perfect air tightness ensured by a TIG brass weld of the body.
- Check valves with connections to braze do not require removal, thanks to long length sleeves made of copper-plated brass up to model 5 S/MMS, and made of copper for models 6 and 7 S/MMS.
- GOST certified products .



Check valves

→ CRCY

01/10

■ Recommendations

* The check valves are to be mounted on the suction, discharge and liquid lines.

* On a discharge line, the valves should be installed as far as possible from the compressor.

* General assembly precautions: refer to chapter 115.

■ Selection table CRCY

CARLY references	Connections			Refrigerating capacity (kW) ⁽²⁾												Δ P ⁽³⁾ (bar)	kv ⁽⁴⁾ (m ³ /h)
	To screw SAE ⁽¹⁾ inch	To solder ODF		Liquid				Suction compressor				Compressor discharge line					
		inch	mm	R22	R134a	R404A R507	R407C R410A	R22	R134a	R404A R507	R407C R410A	R22	R134a	R404A R507	R407C R410A		
CRCY 2	1/4			6,7	6,2	4,4	6,2	1,0	0,8	0,8	1,0	4,4	3,2	3,7	4,7	0,06	0,37
CRCY 2 S		1/4		6,7	6,2	4,4	6,2	1,0	0,8	0,8	1,0	4,4	3,2	3,7	4,7	0,06	0,37
CRCY 2 MMS			6	6,7	6,2	4,4	6,2	1,0	0,8	0,8	1,0	4,4	3,2	3,7	4,7	0,06	0,37
CRCY 3	3/8			31,7	29,3	20,8	29,2	4,7	3,8	3,8	4,5	20,8	15,1	17,5	22,2	0,06	1,75
CRCY 3 S		3/8		31,7	29,3	20,8	29,2	4,7	3,8	3,8	4,5	20,8	15,1	17,5	22,2	0,06	1,75
CRCY 3 MMS			10	31,7	29,3	20,8	29,2	4,7	3,8	3,8	4,5	20,8	15,1	17,5	22,2	0,06	1,75
CRCY 4	1/2			59,2	54,8	38,9	54,6	8,8	7,1	7,1	8,4	38,0	28,3	32,7	40,6	0,05	3,27
CRCY 4 S		1/2		59,2	54,8	38,9	54,6	8,8	7,1	7,1	8,4	38,0	28,3	32,7	40,6	0,05	3,27
CRCY 4 MMS			12	59,2	54,8	38,9	54,6	8,8	7,1	7,1	8,4	38,0	28,3	32,7	40,6	0,05	3,27
CRCY 5	5/8			65,9	61,0	43,3	60,7	9,8	7,9	7,9	9,3	43,3	31,5	36,4	46,3	0,05	3,64
CRCY 5 S/MMS		5/8	16	65,9	61,0	43,3	60,7	9,8	7,9	7,9	9,3	43,3	31,5	36,4	46,3	0,05	3,64
CRCY 6	3/4 BSP			125,5	116,1	82,4	115,7	18,7	15,0	15,0	17,8	82,4	59,9	69,3	88,0	0,03	6,93
CRCY 6 S		3/4		125,5	116,1	82,4	115,7	18,7	15,0	15,0	17,8	82,4	59,9	69,3	88,0	0,03	6,93
CRCY 6 MMS			18	125,5	116,1	82,4	115,7	18,7	15,0	15,0	17,8	82,4	59,9	69,3	88,0	0,03	6,93
CRCY 7 S		7/8		136,4	126,4	89,8	125,7	20,5	16,3	17,0	19,5	87,5	63,8	75,0	93,5	0,03	7,50
CRCY 7 MMS			22	136,4	126,4	89,8	125,7	20,5	16,3	17,0	19,5	87,5	63,8	75,0	93,5	0,03	7,50

⁽¹⁾ Male/male connections.

⁽²⁾ **Warning:**

Liquid/Compressor discharge: refrigerating capacity calculated with a flow rate corresponding to a pressure drop of 0.15 bar for $T_o = 4^\circ\text{C}$ and $T_k = 38^\circ\text{C}$.

Compressor suction line: refrigerating capacity according to Standard ARI 710-86. Flow rate corresponding to a pressure drop of 1 bar suction temperature = 18°C .

⁽³⁾ i.e. the minimum pressure difference for which the check valve remains fully open.

⁽⁴⁾ i.e. the flow rate in m³/hr for a pressure drop in the check valve of 1 bar (refrigerant used: water with per volume ratio = 1.000 kg/m³).



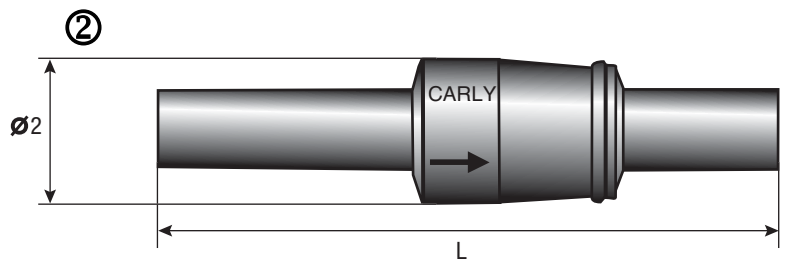
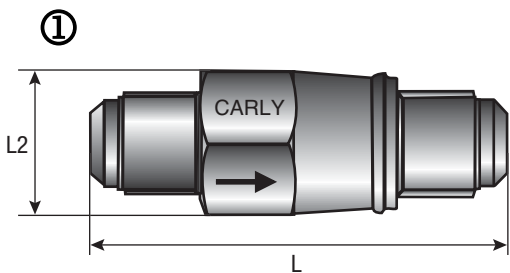
Check valves

→ CRCY

09/10

■ Technical features

CARLY references	Connections		CARLY references	Connections To solder ODF mm	Drawing Nb	Dimensions (mm)			Net weight (kg)
	To screw SAE inch	To solder ODF inch				Ø2	L2 upper faces	L	
CRCY 2	1/4				1		19	55,0	0,05
CRCY 2 S		1/4	CRCY 2 MMS	6	2	18,0		92,0	0,05
CRCY 3	3/8				1		19	63,0	0,05
CRCY 3 S		3/8	CRCY 3 MMS	10	2	18,0		95,0	0,05
CRCY 4	1/2				1		27	76,0	0,15
CRCY 4 S		1/2	CRCY 4 MMS	12	2	27,0		116,5	0,15
CRCY 5	5/8				1		27	82,5	0,20
CRCY 5 S/MMS		5/8	CRCY 5 S/MMS	16	2	27,0		116,5	0,20
CRCY 6	3/4 BSP				1		36	86,3	0,25
CRCY 6 S		3/4	CRCY 6 MMS	18	2	35,5		158,3	0,25
CRCY 7 S		7/8	CRCY 7 MMS	22	2	35,5		180,0	0,25



CARLY references	Nominal diameter	CARLY references	Nominal diameter	Maximal working pressure	Working pressure (1)	Maximal working temperature	Minimal working temperature	Working temperature (1)	CE Category (2)
	DN (inch)		DN (mm)						
CRCY 2	1/4			42,0	10	120	-40	-20	Art3§3
CRCY 2 S	1/4	CRCY 2 MMS	6	42,0	10	120	-40	-20	Art3§3
CRCY 3	3/8			42,0	10	120	-40	-20	Art3§3
CRCY 3 S	3/8	CRCY 3 MMS	10	42,0	10	120	-40	-20	Art3§3
CRCY 4	1/2			42,0	10	120	-40	-20	Art3§3
CRCY 4 S	1/2	CRCY 4 MMS	12	42,0	10	120	-40	-20	Art3§3
CRCY 5	5/8			42,0	10	120	-40	-20	Art3§3
CRCY 5 S/MMS	5/8	CRCY 5 S/MMS	16	42,0	10	120	-40	-20	Art3§3
CRCY 6	3/4			31,5	10	120	-40	-20	Art3§3
CRCY 6 S	3/4	CRCY 6 MMS	18	31,5	10	120	-40	-20	Art3§3
CRCY 7 S	7/8	CRCY 7 MMS	22	31,5	10	120	-40	-20	Art3§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 diameter, according to PED 97/23/EC (refer to chapter 0 page 7).



Check valves

→ CRCYP (high Pressure)

01/10

■ Selection table

CARLY references	Connections			Refrigerating capacity (kW) ⁽²⁾								Δ P ⁽³⁾ (bar)	kv ⁽⁴⁾ (m ³ /h)
	To screw SAE ⁽¹⁾	To solder ODF		Liquid				Compressor discharge line					
		inch	inch	mm	R22	R134a	R404A R507	R407C R410A	R22	R134a	R404A R507		
CRCYP 2	1/4			5,6	5,2	3,7	5,2	3,7	2,7	3,1	4,0	0,30	0,31
CRCYP 2 S		1/4		5,6	5,2	3,7	5,2	3,7	2,7	3,1	4,0	0,30	0,31
CRCYP 2 MMS			6	5,6	5,2	3,7	5,2	3,7	2,7	3,1	4,0	0,30	0,31
CRCYP 3	3/8			28,4	26,3	18,7	26,2	18,7	13,6	15,7	20,0	0,30	1,57
CRCYP 3 S		3/8		28,4	26,3	18,7	26,2	18,7	13,6	15,7	20,0	0,30	1,57
CRCYP 3 MMS			10	28,4	26,3	18,7	26,2	18,7	13,6	15,7	20,0	0,30	1,57
CRCYP 4	1/2			48,2	44,6	31,6	44,4	31,6	23,0	26,6	33,8	0,30	2,66
CRCYP 4 S		1/2		48,2	44,6	31,6	44,4	31,6	23,0	26,6	33,8	0,30	2,66
CRCYP 4 MMS			12	48,2	44,6	31,6	44,4	31,6	23,0	26,6	33,8	0,30	2,66
CRCYP 5	5/8			52,5	48,6	34,5	48,4	34,5	25,1	29,0	36,9	0,30	2,90
CRCYP 5 S/MMS		5/8	16	52,5	48,6	34,5	48,4	34,5	25,1	29,0	36,9	0,30	2,90
CRCYP 6	3/4 BSP			114,4	105,9	75,2	105,4	75,2	54,7	63,2	80,3	0,30	6,32
CRCYP 6 S		3/4		114,4	105,9	75,2	105,4	75,2	54,7	63,2	80,3	0,30	6,32
CRCYP 6 MMS			18	114,4	105,9	75,2	105,4	75,2	54,7	63,2	80,3	0,30	6,32
CRCYP 7 S		7/8		125,5	116,3	82,6	115,7	80,5	58,7	69,0	86,0	0,30	6,90
CRCYP 7 MMS			22	125,5	116,3	82,6	115,7	80,5	58,7	69,0	86,0	0,30	6,90

⁽¹⁾ Male/male connections.

⁽²⁾ Warning:

Liquid/Compressor discharge: refrigerating capacity calculated with a flow rate corresponding to a pressure drop of 0.30 bar for To = 4°C and Tk = 38°C.

⁽³⁾ i.e. the minimum pressure difference for which the check valve remains fully open.

⁽⁴⁾ i.e. the flow rate in m³/hr for a pressure drop in the check valve of 1 bar (refrigerant used: water with per volume ratio = 1.000 kg/m³).



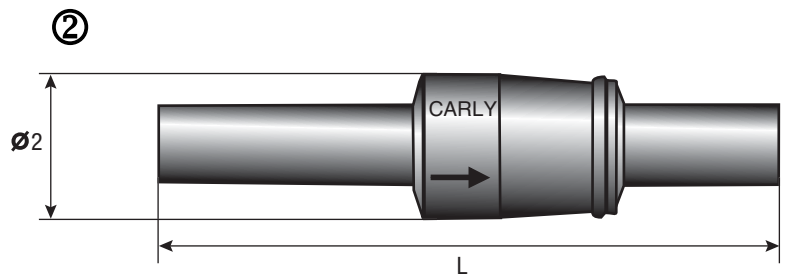
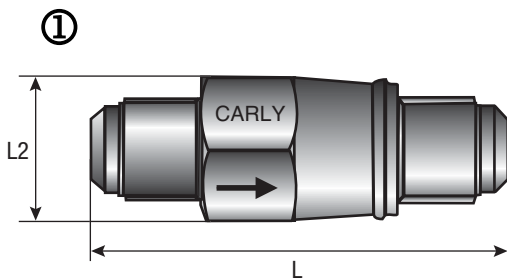
Check valves

→ CRCYP (high pressure)

09/10

■ Technical features

CARLY references	Connections		CARLY references	Connections To solder ODF mm	Drawing Nb	Dimensions (mm)			Net weight (kg)
	To screw SAE inch	To solder ODF inch				Ø2	L2 upper faces	L	
CRCYP 2	1/4				1		19	55,0	0,05
CRCYP 2 S		1/4	CRCYP 2 MMS	6	2	18,0		95,0	0,05
CRCYP 3	3/8				1		19	63,0	0,05
CRCYP 3 S		3/8	CRCYP 3 MMS	10	2	18,0		95,0	0,05
CRCYP 4	1/2				1		27	76,0	0,15
CRCYP 4 S		1/2	CRCYP 4 MMS	12	2	27,0		116,5	0,15
CRCYP 5	5/8				1		27	82,5	0,20
CRCYP 5 S/MMS		5/8	CRCYP 5 S/MMS	16	2	27,0		116,5	0,20
CRCYP 6	3/4 BSP				1		36	86,3	0,25
CRCYP 6 S		3/4	CRCYP 6 MMS	18	2	35,5		158,3	0,25
CRCYP 7 S		7/8	CRCYP 7 MMS	22	2	35,5		180,0	0,25



CARLY references	Nominal diameter	CARLY references	Nominal diameter	Maximal working pressure	Working pressure (1)	Maximal working temperature	Minimal working temperature	Working temperature (1)	CE Category (2)
	DN (inch)		DN (mm)						
CRCYP 2	1/4			42,0	10	120	-40	-20	Art3§3
CRCYP 2 S	1/4	CRCYP 2 MMS	6	42,0	10	120	-40	-20	Art3§3
CRCYP 3	3/8			42,0	10	120	-40	-20	Art3§3
CRCYP 3 S	3/8	CRCYP 3 MMS	10	42,0	10	120	-40	-20	Art3§3
CRCYP 4	1/2			42,0	10	120	-40	-20	Art3§3
CRCYP 4 S	1/2	CRCYP 4 MMS	12	42,0	10	120	-40	-20	Art3§3
CRCYP 5	5/8			42,0	10	120	-40	-20	Art3§3
CRCYP 5 S/MMS	5/8	CRCYP 5 S/MMS	16	42,0	10	120	-40	-20	Art3§3
CRCYP 6	3/4			31,5	10	120	-40	-20	Art3§3
CRCYP 6 S	3/4	CRCYP 6 MMS	18	31,5	10	120	-40	-20	Art3§3
CRCYP 7 S	7/8	CRCYP 7 MMS	22	31,5	10	120	-40	-20	Art3§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 diameter, according to PED 97/23/EC (refer to chapter 0 page 7).



Check valves

→ CRCY / CRCYP

01/10

■ Weights and packaging

CARLY references	Unit weight (kg)		Packaging unit	
	With packaging	Without packaging	standard	OEM'S
CRCY 2	0,06	0,05	1	/
CRCY 2 S & MMS	0,06	0,05	1	/
CRCY 3	0,06	0,05	1	/
CRCY 3 S & MMS	0,06	0,05	1	/
CRCY 4	0,16	0,15	1	/
CRCY 4 S & MMS	0,16	0,15	1	/
CRCY 5	0,21	0,20	1	/
CRCY 5 S/MMS	0,21	0,20	1	/
CRCY 6	0,28	0,25	1	/
CRCY 6 S & MMS	0,28	0,25	1	/
CRCY 7 S & MMS	0,28	0,25	1	/

CARLY references	Unit weight (kg)		Packaging unit	
	With packaging	Without packaging	standard	OEM'S
CRCYP 2	0,06	0,05	1	/
CRCYP 2 S & MMS	0,06	0,05	1	/
CRCYP 3	0,06	0,05	1	/
CRCYP 3 S & MMS	0,06	0,05	1	/
CRCYP 4	0,16	0,15	1	/
CRCYP 4 S & MMS	0,16	0,15	1	/
CRCYP 5	0,21	0,20	1	/
CRCYP 5 S/MMS	0,21	0,20	1	/
CRCYP 6	0,28	0,25	1	/
CRCYP 6 S & MMS	0,28	0,25	1	/
CRCYP 7 S & MMS	0,28	0,25	1	/