ENGINEERING TOMORROW



**Data Sheet** 

# Hot gas bypass regulator and Liquid gas mixer Type **CPCE** and **LG**

CPCE hot gas bypass regulator adapt compressor capacity to actual evaporator load.



CPCE hot gas bypass regulator adapt compressor capacity to actual evaporator load.

They are designed for installation in a bypass line between the low and high pressure sides of the refrigeration system, for hot gas injection between the evaporator and thermostatic expansion valve.

Injection should be arranged to occur through an LG liquid gas mixer.

#### **CPCE** hot gas bypass regulator

- Superior control accuracy
- Direct connection to system suction line regulates hot gas injection independent of evaporator pressure drop
- The regulator increases evaporator gas velocity, thus ensuring better oil return to compressor
- Protection against too low an evaporating temperature, i.e. prevents evaporator icing
- May be used in the following EX range: Category 3 (Zone 2)

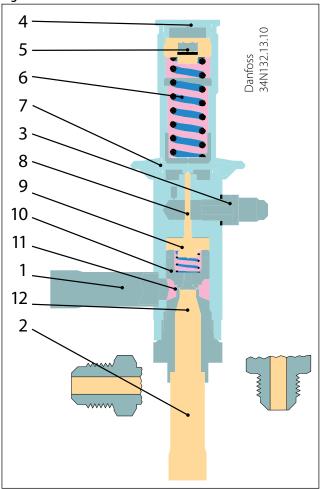
#### LG liquid gas mixer

- LG provides homogeneous mixing of the liquid and hot gas refrigerant injected into the evaporator
- Prevents high suction superheat by combining hot gas injection with expansion valve characteristics
- LG can be used for hot gas defrosting or reverse cycle systems



# **Functions**

Figure 1: CPCE



1	Inlet
2	Outlet
3	Pilot pressure connection
4	Protective cap
5	Setting screw
6	Main spring
7	Diaphragm
8	Pressure pin
9	Pilot orifice
10	Servo piston
11	Pressure equalising hole
12	Main orifice

Hot gas bypass regulator, type CPCE is servo-operated.

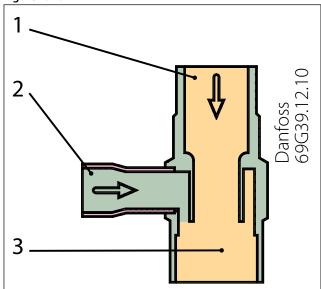
The diaphragm (7) is actuated on the upper side by the force developed by the spring (6) and on the lower side by the pilot pressure from (3). When the pilot pressure drops below the preset value, the throttling ball is forced away from the pilot orifice (9) by the spring which acts via the pressure pin (8).

The pressure over the servo piston (10) is then relieved. The differential pressure which is thus created moves the servo piston up and causes the regulator to open so that hot gas is able to flow to the suction side.

When the pilot pressure rises above the setting, the pilot orifice shuts off the evacuation from the space over the servo piston. Pressure then builds up again over the piston via the pressure equalising hole (11), thus closing the regulator.







- 1 Liquid inlet
- 2 Hot gas inlet
- **3** Outlet



#### **Product specifications**

#### **Technical data**

Table 1: Pressure range

Table 1.1 ressure range	
Range	Description
Refrigerants	R22, R1234ze *), R1270 *), R134a, R290 *), R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R507A, R513A, R600 *), R600a *) *) only LG 12-16 and LG 16-22; see more details in the note below the table
Regulating range	$p_e = 0 - 6 bar$
	Factory setting = 0.4 bar
Maximum working pressure	PS/MWP = 28 bar
Maximum test pressure	$P_e = 31 \text{ bar}$
Maximum differential pressure	$\Delta p = 18 \text{ bar}$
Maximum media temperature	140 °C
Minimum media temperature	-50 °C

This product is evaluated for R290, R600, R600a, R1234ze, R1270 by ignition source assessment in accordance with standard EN ISO80079-36. Flare connections are only approved for A1 and A2L refrigerants.

For complete list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of technical data.

#### Sizing

For optimum performance, it is important to select a CPCE valve according to system conditions and application.

The following data must be used when sizing a CPCE valve:

- · Refrigerant: HCFC, HFC and HC
- Minimum suction temperature: t<sub>c</sub> in [°C] / [bar]
- Compressor capacity at minimum suction temperature: Q, in [kW]
- Evaporator load at minimum suction temperature: Q<sub>2</sub> in [kW]
- Liquid temperature ahead of expansion valve: t, [°C]
- Reduction of suction temperature/suction pressure in [K]
- Connection type: flare or solder
- Connection size in [in] or [mm]

#### Selection

#### **Example**

When selecting the appropriate valve it may be necessary to convert the actual capacity using a correction factor. This is required when system conditions are different from table conditions.

The following examples illustrate how this is done.

- Refrigerant: R404A
- Minimum suction temperature: t<sub>s</sub> = -30 °C
- Compressor capacity at -30 °C, Q<sub>1</sub>= 80 kW
- Evaporator load at -30 °C, Q<sub>2</sub> = 60 kW
- Liquid temperature ahead of expansion valve: t<sub>i</sub> = 40 °C
- Reduction of suction temperature/suction pressure = 5 K
- · Connection type: solder
- Connection size =  $\frac{1}{2}$  in

Determine the replacement capacity. This is done by taking the compressor capacity at minimum suction temperature Q<sub>1</sub> minus evaporator load at minimum suction temperature Q<sub>2</sub>. Q<sub>1</sub>- Q<sub>2</sub>=80-60=20 kW



# Step 2

Determine the correction factor for the reduction of suction temperature / suction pressure. From the correction factor table a suction temperature reduction of 5 K (R404A) corresponds to a factor of 1.3.

**Table 2: Refrigerant and Suction temperature** 

Suction temp. t	5							
	Refrigerant		Suction temperature $\Delta t_s$ [K]					
10	R134a	0.1	0.5	0.9	1.0	1.0	1.0	1.0
	R22, R404A, R507, R407C	0.3	0.9	1.0	1.0	1.0	1.0	1.0
0	R134a	0.1	0.3	0.7	1.0	1.0	1.0	1.0
	R22, R404A, R507, R407C	0.2	0.9	1.0	1.0	1.0	1.0	
-10	R134a	0.1	0.3	0.6	1.0	1.3	1.4	1.4
	R22, R404A, R507, R407C	0.1	0.5	1.0	1.0	1.0	1.0	1.0
-20	R134a	0.1	0.3	0.6	1.0	1.5	2.2	2.4
	R22, R404A, R507, R407C	0.1	0.3	0.7	1.0	1.0	1.0	1.0
-30	R134a	0.1	0.3	0.6	1.0	1.5	2.2	2.9
	R22, R404A, R507, R407C	0.1	0.3	0.6	1.0	1.3	1.4	1.4
-40	R22, R404A, R507, R407C	0.1	0.3	0.6	1.0	1.5	2.0	2.2

The correction table is used when suction temperature change deviates from 4 K. The replacement capacity must be divided by the correction factor determined.

Corrected replacement capacity is Q=20/1.3=15.4 kW

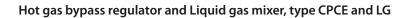
# Step 4

Now select the appropriate capacity table for R404A and choose the column with a suction temperature of  $t_c = -30$ °C. Using the corrected replacement capacity, select a valve that provides an equivalent or greater capacity. A CPCE 12 delivers a replacement capacity of 17.9 kW at a minimum suction temperature of -30 °C.

#### Step 5 CPCE 12, ½ in solder connection, **code no. 034N0082**.

# **Capacity tables**

	Suction temperature		Regulator capacity	Q [kW] at condensing	temperature tc [°C]	
Туре	ts after pressure / temperature reduc- tion [°C]	20	30	40	50	60
R22						
	10	7.9	16.3	21.6	26.9	33.4
	0	12.9	17.3	21.7	27.1	33.4
CPCE 12	-10	13.6	17.4	22	27.4	33.4
CPCE 12	-20	13.7	17.6	22.2	27.7	33.4
	-30	8	11	14.7	18.6	33.4
	-40	4.3	5.7	7.6	-	33.4
	10	11.5	24	31.7	39.4	49
	0	18.8	25.4	32	39.9	49
CPCE 15	-10	20	25.6	32.3	40.2	49
CPCE 15	-20	20.1	25.8	32.6	40.7	49
	-30	11.5	16	21.2	27.1	49
	-40	5.9	7.8	10.6	-	49





			Suction temperature		Regulator capacity	Q [kW] at condensing t	emperature tc [°C]	
PCE 12    10	PCE 12 10 15.2 31.7 42 52.3 64.9   PCE 22 1-10 26.5 34 42.8 33.4 64.9   PCE 22 1-10 26.5 34 42.8 33.4 64.9   PCE 23 36.6 42.4 31 33.8 64.9   PCE 24 10 26.6 34.2 43.1 33.8 64.9   PCE 25 34 42.8 33.4 64.9   PCE 26 10 26.6 34.2 43.1 33.8 64.9   PCE 12 10 2.3 10.4 14.3 - 64.9   PCE 12 10 5.8 7.9 10.8 14.4 18.1 22.6   PCE 12 10 5.8 7.9 10.8 14.4 18.1 22.6   PCE 12 10 5.8 7.9 10.8 14.4 18.1 12.2   PCE 12 10 2.3 4 6.6 6.1 8.3 10.6   PCE 12 10 2.3 15.2 21.1 26.5 33.2   PCE 15 10 8.3 11.6 15.7 21.1 26.6 33.2   PCE 15 10 8.3 11.6 15.7 21.1 26.6   PCE 15 10 8.3 11.6 15.7 21.1 26.6   PCE 15 10 8.3 11.6 15.7 21.1 26.6   PCE 16 10 8.3 11.6 15.7 21.1 26.6   PCE 17 10 8.3 11.6 15.7 21.1 26.6   PCE 18 10 31 20.4 28 35.2 43.9   PCE 22 10 10 10.9 15.2 20.9 27.7 35.2   PCE 22 10 10 10.9 15.2 20.9 27.7 35.2   PCE 24 10 10.9 15.2 20.9 27.7 35.2   PCE 15 10 10 12.9 16.4 20.6 25.7 31.1   PCE 16 10 12.9 16.4 20.7 25.7 31.1   PCE 17 10 12.9 16.4 20.6 25.7 31.1   PCE 18 10 12.2 16.4 20.6 25.7 31.1   PCE 19 10 12.2 16.4 20.6 25.7 31.1   PCE 19 10 12.2 16.4 20.6 25.7 31.1   PCE 19 10 11.1 22.8 30.3 37.8 46.9   PCE 25 13.1 16.4 20.7 - 31.1   PCE 15 10 10 13.1 16.4 20.7 - 31.1   PCE 15 10 10 12.9 16.4 20.6 25.7 31.1   PCE 15 10 10 12.9 16.4 20.7 - 31.1   PCE 15 10 10 12.9 16.4 20.7 - 31.1   PCE 15 10 10 12.9 16.4 20.7 - 31.1   PCE 15 10 10 12.9 16.4 20.7 - 4   PCE 15 10 10 12.9 16.4 20.7 - 4   PCE 15 10 10 12.9 16.4 20.7 - 4   PCE 15 10 10 12.9 16.4 20.7 - 4   PCE 15 10 10 11 22.8 30.3 37.8 46.9   PCE 26 13.1 16.4 20.7 - 4   PCE 27 2.0 13.1 16.4 20.7 - 4   PCE 28 2.0 13.1 16.4 20.7 - 4   PCE 29 2.0 13.1 16.4 20.7 - 2   PCE 20 13.1 16.4 20.1   PCE 15 10 10 10 10 10 10 10 10 10 10 10 10 10	Туре		20	30	40	50	60
PCE 12 2 -0	PCE 12		10	15.2	31.7	42	52.3	64.9
CPCE 12	PCE 12		0	25	33.6	42.4	52.8	64.9
Page	10	CDCF 00	-10	26.5	34	42.8	53.4	64.9
RITMA    10	1346  1346  10	CPCE 22	-20	26.6	34.2	43.1	53.8	64.9
REPSHAB    10	10		-30	15.4	21.3	28.1	35.9	64.9
PCCE 12    10	PCE 12		-40	8	10.7	14.3	-	64.9
CPCE 12  0 7.8 11.3 14.4 18.1 226  10 58 7.9 10.8 14.4 18.1 11.1 16.1 16.1 16.1 16.1 16.1 16.1	PCE 12	R134a						
CPCE 12 -10 5.8 7.9 10.8 14.4 18.1 18.1 -20 3.4 4.6 6.1 8.3 10.6 18.3 10.6 18.3 10.6 18.3 10.6 18.3 10.6 18.3 10.6 18.3 10.6 18.3 10.6 18.3 10.6 18.3 10.6 18.3 10.6 18.3 10.6 18.3 10.6 18.3 10.6 18.3 10.6 18.3 10.6 18.3 10.6 19.5 10.0 10.0 11.4 10.6 18.2 21.1 26.6 18.3 12.2 11.1 26.6 18.3 12.2 11.1 26.6 18.3 11.0 11.1 26.6 18.3 11.6 15.7 21.1 26.6 18.3 11.6 15.7 21.1 26.6 18.0 19.0 19.0 15.2 19.0 14.8 19.0 19.0 15.2 19.0 14.8 19.0 19.0 15.2 19.0 19.0 19.0 15.2 19.0 19.0 19.0 19.0 19.0 19.0 19.0 19.0	PCE 12		10	2.3	10.4	14.4	18	22.6
1-20	PCE 15  -20  -34  -46  -30  -2  -28  -37  -49  -62  -30  -23  -52  -52  -62  -62  -7  -7  -7  -7  -7  -7  -7  -7  -7  -		0	7.8	11.3	14.4	18.1	22.6
1-30   2   2.8   3.7   4.9   6.2	PCE 15  -30  -30  -2  -2  -38  -37  -49  -62  -30  -10  -11.4  -166  -21.2  -266  -33.2  -20  -48  -66  -88  -11.9  -15.2  -30  -26  -3.5  -49  -64  -8  -8  -10  -30  -26  -3.5  -30  -26  -3.5  -49  -64  -8  -8  -10  -30  -15.1  -22.8  -28  -30  -30  -30  -30  -31  -30  -32  -49  -40  -40  -40  -40  -40  -40  -40	CPCE 12	-10	5.8	7.9	10.8	14.4	18.1
PCEC 15    10	PCE 15    10		-20	3.4	4.6	6.1	8.3	10.6
CPCE 15    0	PCE 15		-30	2	2.8	3.7	4.9	6.2
CPCE 15	PCE 15		10	2.3	15.2	21.1	26.5	33.2
10	PCE 12		0	11.4	16.6	21.2	26.6	33.2
10	PCE 12	CPCE 15	-10	8.3	11.6	15.7		26.6
CPCE 15   10   2.6   3.5   4.9   6.4   8   10   3.1   20.4   28   35.2   43.9	PCE12   -30   2.6   3.5   4.9   6.4   8							
CPCE 12    10	PCE 12    10							
CPCE 12  0 15.1 22.8 28.1 35.2 43.9  -10 10.9 15.2 20.9 27.7 35.2  -20 6.4 8.8 11.8 15.7 20.3  -30 3.7 5 6.8 8.9 11.3  RAGNAMRSO7  TO 12.2 16.4 20.6 25.7 31.1  0 12.2 16.4 20.6 25.7 31.1  -10 12.9 16.4 20.6 25.7 31.1  -20 13.1 16.4 20.7 - 31.1  -20 13.1 16.4 20.7 - 31.1  -30 10.3 13.8 17.9 - 31.1  -40 5.5 7.5 9.5 - 31.1  10 11 22.8 30.3 37.8 46.9  -40 5.5 7.5 9.5 - 31.1  10 11 22.8 30.3 37.8 46.9  -0 18 24.2 30.3 37.8 46.9  -0 18 24.2 30.3 37.8 46.9  -10 19.1 24.2 30.3 37.8 46.9  -20 19.1 24.3 30.4 - 46.9  -30 15 20.3 26.5 - 46.9  -40 8 10.6 13.4 - 46.9  -40 8 10.6 13.4 - 46.9  -40 8 10.6 13.4 - 46.9  -40 8 10.6 13.4 - 46.9  -40 8 10.6 13.4 - 46.9  -40 8 10.6 13.4 - 46.9  -40 8 10.6 13.4 - 62.3  -20 25.3 32.1 40.1 49.9 62.3  -20 25.3 32.1 40.1 49.9 62.3  -20 25.3 32.1 40.1 49.9 62.3  -20 25.3 32.1 40.1 49.9 62.3  -20 25.3 32.1 40.1 50 62.3  -20 25.3 32.1 40.2 - 62.3  -20 25.3 32.1 40.2 - 62.3  -20 25.3 32.1 40.2 - 62.3  -20 25.3 32.1 40.2 - 62.3  -20 25.3 32.1 40.1 49.9 62.3  -20 25.3 32.1 40.2 - 62.3  -20 25.3 32.1 40.2 - 62.3  -20 15.1 18.8 23.1 27.4 33.4  -20 15.1 19 23.3 27.4 33.4  -20 15.1 19 23.3 27.4 33.4  -20 15.1 18.8 23.1 27.4 33.4  -20 15.1 18.8 23.1 27.4 33.4  -20 15.1 18.8 23.1 27.4 33.4  -20 15.1 18.8 23.1 27.4 33.4  -30 8.7 11.7 15 18 33.4  -30 8.7 11.7 15 18 33.4  -40 4.6 5.9 7.6 - 33.4  -40 4.6 5.9 7.6 - 33.4  -40 4.6 5.9 7.6 - 33.4  -40 4.6 5.9 7.6 - 33.4  -40 4.6 5.9 7.6 - 33.4  -40 4.6 5.9 7.6 - 33.4  -40 4.6 5.9 7.6 - 33.4  -40 4.6 5.9 7.6 - 33.4  -40 4.6 5.9 7.6 - 33.4  -40 4.6 5.9 7.6 - 33.4  -40 4.6 5.9 7.6 - 33.4  -40 4.6 5.9 7.6 - 33.4  -40 4.6 5.9 7.6 - 33.4  -40 4.6 6.9 9 34.6 41.4  -40 4.9 9 62.2  -40 4.6 6.9 9 34.6 41.4  -40 4.9 9 62.2  -40 4.6 6.9 9 34.6 41.4  -40 4.9 9 62.2  -40 4.6 6.9 9 34.6 41.4  -40 4.9 9 62.2  -40 4.6 6.9 9 34.6 41.4  -40 4.9 9 62.3  -40 4.0 6.9 9 34.6 41.4  -40 4.9 9 62.3  -40 4.0 6.9 9 34.6 41.4  -40 4.9 9 62.3  -40 4.0 6.9 9 34.6 41.4  -40 4.9 9 62.3  -40 4.0 6.9 9 34.6 41.4  -40 4.9 9 62.3  -40 4.0 6.9 9 34.6 41.4  -40 4.9 9 62.3  -40 4.0 6.9 9 34.6 61.1	PCE 12							
CPCE 12 -10 -10 -109 -15.2 -20 -64 -88 -11.8 -15.7 -20.3 -30 -3.7 -5 -68 -89 -11.3 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	PCE 12 -10 10.9 15.2 20.9 27.7 35.2 20.9 27.8 35.2 20.0 6.4 8.8 11.8 15.7 20.3 3.0 3.7 5 6.8 8.9 11.3 30.4 40.4 5.5 5 5 6.8 8.9 11.3 30.4 40.4 5.5 5 5 6.8 8.9 11.3 30.4 40.4 5.5 5 5 6.8 8.9 11.3 30.4 40.4 5.5 5 5 6.8 8.9 11.3 30.4 40.4 5.5 5 7.5 15.5 20.6 25.7 31.1 20.6 25.7 31.1 31.1 31.1 31.1 31.1 31.1 31.1 31							
R404A/R507   February   R404A/R507   R404A	PCE 12	CPCF 22						
RAO4A/RSO7  RAO4A/RSO7    10	1-30   3.7   5   6.8   8.9   11.3   11.3   1404A/R507	C. C. 2.2						
RADAL/RSO7    10	AMAYARSOT    10							
CPCE 12    10	PCE 12    10	P404A/P507	50	5.7	3	0.0	0.5	11.5
CPCE 12    0	PCE 12  0 122 164 20.6 25.7 31.1  -10 12.9 16.4 20.7 25.7 31.1  -20 13.1 16.4 20.7 - 35.7 31.1  -30 10.3 13.8 17.9 - 31.1  -40 5.5 7.5 9.5 - 31.1  -40 5.5 7.5 9.5 - 31.1  -10 11 22.8 30.3 37.8 46.9  -10 18 24.2 30.3 37.8 46.9  -10 19.1 24.2 30.4 37.8 46.9  -10 19.1 24.3 30.4 37.8 46.9  -20 19.1 24.3 30.4 37.8 46.9  -40 8 10.6 13.4 - 46.9  -40 8 10.6 13.4 - 46.9  -40 8 10.6 13.4 - 46.9  -40 8 10.6 13.4 - 46.9  -70 23.8 32 40.1 49.9 62.3  -70 25.3 32 40.1 49.9 62.3  -70 25.3 32.1 40.2 - 62.3  -30 19.9 26.7 34.8 - 62.3  -40 10.6 14.2 18 - 62.3  -40 10.6 14.2 18 - 62.3  -40 10.6 14.2 18 2 - 62.3  -40 10.6 14.1 19 23.2 27.9 33.4  -70 25.1 18.8 23.1 27.4 33.4  -70 15.1 18.8 23.1 27.4 33.4  -70 15.1 18.8 23.1 27.4 33.4  -70 15.1 18.8 23.1 27.4 33.4  -70 15.1 18.8 23.1 27.4 33.4  -70 15.1 18.8 23.1 27.4 33.4  -70 15.1 18.8 23.1 27.4 33.4  -70 15.1 18.8 23.1 27.4 33.4  -70 15.1 18.8 23.1 27.4 33.4  -70 15.1 18.8 23.1 27.4 33.4  -70 20 15.1 18.8 23.1 27.4 33.4  -70 20 15.1 18.8 23.1 27.4 33.4  -70 20 15.1 18.8 23.1 27.4 33.4  -70 20 15.1 18.8 23.1 27.4 33.4  -70 20 15.1 27.9 34.2 41.1 49  -70 21.1 27.9 34.2 41.1 49  -70 21.1 27.9 34.2 41.1 49  -70 22.2 27.9 34.2 40.2 49  -70 22.1 27.6 33.9 40.3 49	114047/11307	10	7.5	15.5	20.6	25.7	21.1
CPCE 12  -10 -10 -12.9 -16.4 -20 -13.1 -16.4 -20.7 -31.1 -30 -30 -30 -30.3 -31.8 -40 -5.5 -7.5 -5.9 -5.5 -7.5 -31.1 -40 -5.5 -7.5 -9.531.1 -40 -6.9 -6.9 -6.9 -6.9 -6.9 -6.9 -6.9 -6.9	PCE 12 -10 -10 -12.9 -16.4 -20 -13.1 -16.4 -20.7 -31.1 -30 -30 -30.3 -31.8 -40 -5.5 -7.5 -9.531.1 -40 -5.5 -7.5 -9.531.1 -40 -5.5 -7.5 -9.531.1 -40 -5.5 -7.5 -9.531.1 -40 -5.5 -7.5 -9.531.1 -40 -6.9 -6.9 -6.9 -6.9 -6.9 -6.9 -6.9 -6.9							
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CPCE 15  -40  -40  -40  -40  -46,9  -46,9  -46,9  -46,9  -46,9  -46,9  -46,9  -46,9  -46,9  -46,9  -46,9  -46,9  -46,9  -46,9  -62,3  -62,3  -70  -70  -70  -70  -70  -70  -70  -7	PCE 12  -40 -40 -8 -10 -146 -30.2 -40.1 -49.9 -62.3 -6						-	
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-30 12.5 17 21.6 26.3 49		52 13		22.1	27.6	33.9	40.3	
	-40 6.3 8.1 10.6 – 49		-30		17	21.6	26.3	
-40 6.3 8.1 10.6 – 49			-40	6.3	8.1	10.6	-	49



	Suction temperature	Regulator capacity Q [kW] at condensing temperature tc [°C]						
Type	ts after pressure / temperature reduc- tion [°C]	20	30	40	50	60		
	10	18.7	35.5	45.8	54.9	64.9		
	0	28	37	45.4	54.4	64.9		
CPCE 22	-10	29.4	37.1	45.4	53.4	64.9		
CFCL 22	-20	29.3	36.6	44.8	53.3	64.9		
	-30	16.8	22.6	28.7	34.8	64.9		
	-40	8.6	11.1	14.3	-	64.9		

The capacities are determined by reducing the suction temperature/suction pressure at  $\Delta t_s = 4$  K. The given suction temperatures are minimum values, i.e. after reduction.

The capacities are made up of the CPCE hot gas capacity + the extra capacity given by the thermostatic expansion valve to maintain the superheat after of the evaporator constant

# **Dimensions and weights**

Figure 3: CPCE

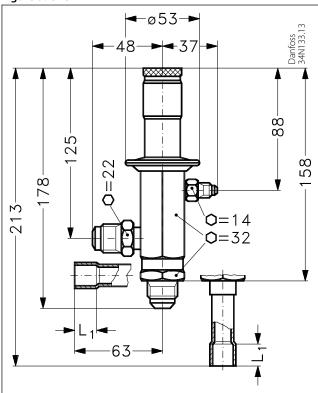
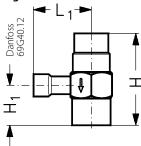


Table 3: Dimensions and weight for CPCE

Туре	L,	Net weight
CPCE 12	10	0.9
CPCE 15	12	0.9
CPCE 22	17	0.9

Figure 4: LG





# Hot gas bypass regulator and Liquid gas mixer, type CPCE and LG

# Table 4: Dimensions and weight for LG

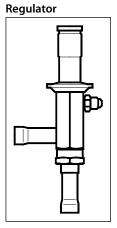
Туре	н	H <sub>1</sub>	L,	NV	Net weight
LG 12 – 16	54	22	40	24	0.1
LG 12 – 22	62	26	42	28	0.2
LG 16 – 28	79	35	48	36	0.3
LG 22 – 35	89	40	66	41	0.4



# Ordering

# **Hot gas bypass regulator**

Figure 5:

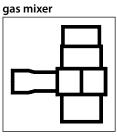


	Connection				Rated capacity (1)[kW]						
Туре	Flare		Solder		D22 D424	R22 R134a		D22 D424 D	R404A/R507	R407C	Code no.
	[in]	[mm]	[in]	[mm]	NZZ	K134a	K404A/K307	K40/C			
CPCE 12	1/2	12	-	-	17.4	7.9	16.4	19.0	034N0081		
CPCE 12	-	-	1/2	12	17.4	7.9	16.4	19.0	034N0082		
CPCE 15	-	-	5/8	16	25.6	11.6	24.2	27.9	034N0083		
CPCE 22	-	-	7/8	22	34.0	15.2	32.0	37.1	034N0084		

 $<sup>^{\</sup>mbox{\scriptsize (1)}}$  The rated capacity is the regulator capacity at:

- evaporating temperature  $t_e = -10 \, ^{\circ}\text{C}$ ,
- condensing temperature  $t_c = 30 \,^{\circ}\text{C}$ ,
- reduction of suction temperature / suction pressure  $\Delta t_{\epsilon} = 4 \text{ K}$ .

Figure 6: Liquid



	Connection								
Туре	Outle	t ODM	Inlet hot	gas ODF	Inlet liquid ODF		Code no.		
	[in]	[mm]	[in]	[mm]	[in]	[mm]			
LG 12 – 16	5/8	16	1/2	12	5/8	16	069G4001		
LG 12 – 22	7/8	22	1/2	12	7/8	22	069G4002		
LG 16 – 28	1 1/8	28	5/8	16	1 1/8	28	069G4003		
LG 22 – 35	1 3/8	35	7/8	22	1 3/8	35	069G4004		



# Certficates, declaration and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

Some approvals may change over time. You can check the most current status at danfoss.com or contact your local Danfoss representative if you have any questions.

Table 5: Certificates, declaration and approvals

Document name	Document type	Document topic	Approval authority
RU Д-DK.БЛ08.В.00191_18	EAC Declaration	Machinery & Equipment	EAC
MD 034N0625.AA	Manufacturers Declaration	PED	Danfoss



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