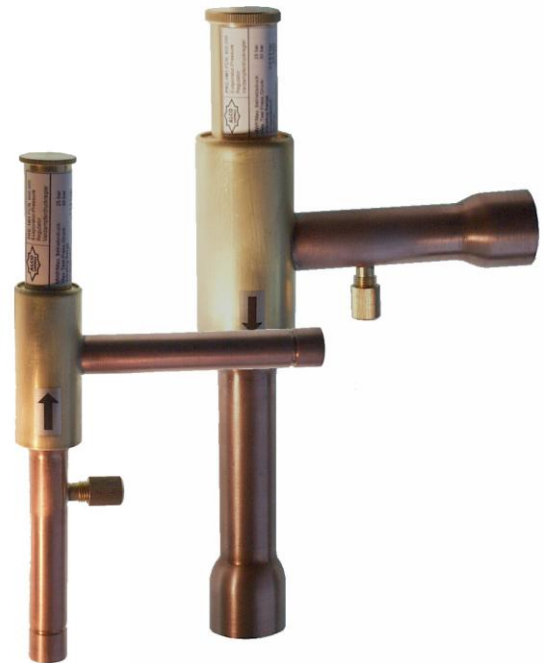


**Features**

- Compact Design permits minimal space requirements
- Schraeder Valve on Inlet for ease of setting
- Direct operated Regulator
- Balanced Port Design provides accurate Pressure Control
- Copper tubes for easy soldering



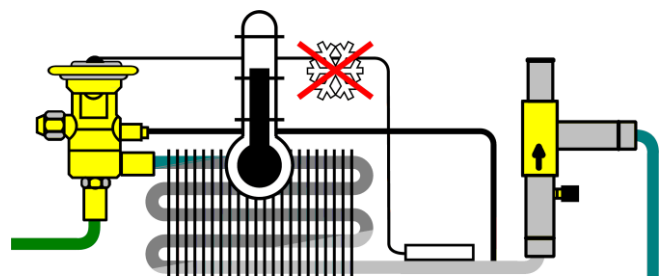
**PRE / PRC**

**Introduction**

**Evaporator Pressure Regulator Series PRE**

**PRE** Upstream Pressure Regulators accurately maintain a predetermined minimum evaporator pressure, regardless of sudden load or suction pressure changes. These valves operate from an inlet pressure signal, opening on rise in pressure above the valve set point and closing at any inlet pressure below the set point. By avoiding lower evaporating pressures than designed, a de-humidification of the chilled goods is limited. PRE Regulators can also be used to avoid freezing of water in water chillers or to avoid too low evaporating temperatures in air-conditioning systems. As a further application the PRE allows to run with different evaporating temperatures in a multiple evaporator system. Compressor cycling, using pressure or temperature controls is not always satisfactory. Although a Thermostatic Expansion Valve can regulate the flow of refrigerant depending on the load at the evaporator, it cannot control evaporator pressure.

have no impact on the valve setting assuring precise pressure control.

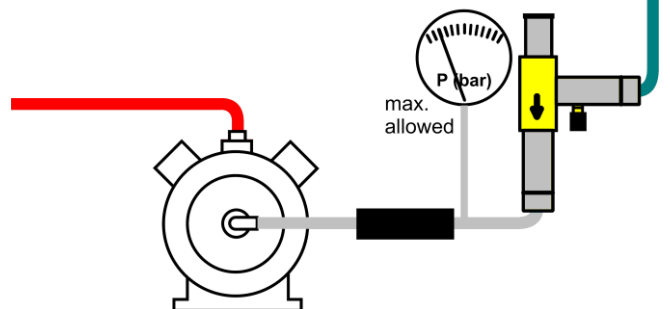


**Crankcase Pressure Regulator Series PRC**

**PRC** Downstream Pressure Regulators accurately maintain a predetermined maximum outlet pressure. Designed to prevent compressor motor overload at start up conditions and other conditions (i.e. after defrost cycle) where high evaporating pressures can be expected. PRC Regulators limiting crankcase pressures above setting.

**Description**

Valve is made from corrosion resistant materials brass and copper. Copper connections provide easy and quick brazing process for the installation. Bellows are pressure equalized (balanced) which has the advantage, that varying pressures



**D A T A S H E E T**

**Technical Data**

Refrigerants	HFC, HCFC
Oil compatibility	Mineral, Alkyl Benzene and Polyol-Ester (POE) lubricants
Max. Operating Pressure	PS: 25 bar
Max. Test pressure	PT: 30 bar
Material, Housing	CW509L (EN12420)
Temperature:	
Storage	-30°C to 80°C
Medium	Ts: -30°C to 80°C
Ambient	-30°C to 80°C

Pressure change per turn:	
Valve Size 1	0,6 bar
Valve Size 2	0,4 bar
Pressure range:	0,5 to 6,9 bar
Factory setting:	2 bar
Weight:	
PRC/PRE-1..	0,6 kg
PRC/PRE-2..	1,3 kg

**Selection**

Type	Part Code Nr.	Tube Connection ODF	Pressure Range (bar)	Factory setting (bar)	Nominal Capacity Qn (kW)*			
					R 134a	R 404A / R 507	R 407C	R 22
PRE-11A	800 380	16mm-5/8"	0,5 – 6,9	2 bar	3,0	4,5	4,5	4,8
PRE-11B	800 381	22mm-7/8"			7,4	11,1	11,1	11,9
PRE-21C	800 382	28mm						
PRE-21D	800 383	1-1/8"						
PRC-11A	800 384	16mm-5/8"	0,5 – 6,9	2 bar	3,0	4,5	4,5	4,8
PRC-11B	800 385	22mm-7/8"			7,4	11,1	11,1	11,9
PRC-21C	800 386	28mm						
PRC-21D	800 387	1-1/8"						
PRC-21E	800 388	35mm-1-3/8"						

\*Nominal Capacities are based on Evaporating Temperature +4°C and Condensing Temperature 38°C and a pressure drop of 1 K.

**Selection for other operating conditions**

**Table 1: Correction table for Selection of Evaporator Pressure Regulator PRE**

**Example**

Capacity Q<sub>o</sub>: 2 kW                      K<sub>t</sub> from Table below: 3,05  
 Refrigerant: R404A                      **Qn = Qo \* K<sub>t</sub>**  
 Evaporating Temperature: -20°C                      Qn = 2 kW \* 3,05 = 6,1 kW  
 Condensing Temperature: 50°C                      **Result: PRE-21**

K<sub>t</sub>-Factor (Correction Factors include 1 K pressure drop at the mentioned Evaporating Temperature)

Refrigerant	Condensing temperature °C	Correction Factor K <sub>t</sub> Evaporating Temperature °C				
		10	0	-10	-20	-30
<b>R 404 A / R 507</b>	60	1,35	1,91	2,77	4,18	6,53
	50	1,05	1,46	2,07	3,05	4,62
	40	0,88	1,22	1,71	2,48	3,69
	30	0,77	1,06	1,48	2,12	3,13
<b>R 407 C</b>	55	1,02	1,42	2,04		
	50	0,94	1,31	1,87		
	40	0,84	1,17	1,66		
	30	0,77	1,06	1,50		
<b>R 134 a</b>	60	1,04	1,51	2,17		
	50	0,92	1,34	1,91		
	40	0,83	1,20	1,71		
	30	0,76	1,1	1,55		
<b>R 22</b>	60	1,02	1,37	1,87	2,67	3,91
	50	0,93	1,25	1,70	2,42	3,53
	40	0,86	1,15	1,57	2,22	3,23
	30	0,80	1,07	1,45	2,05	2,98

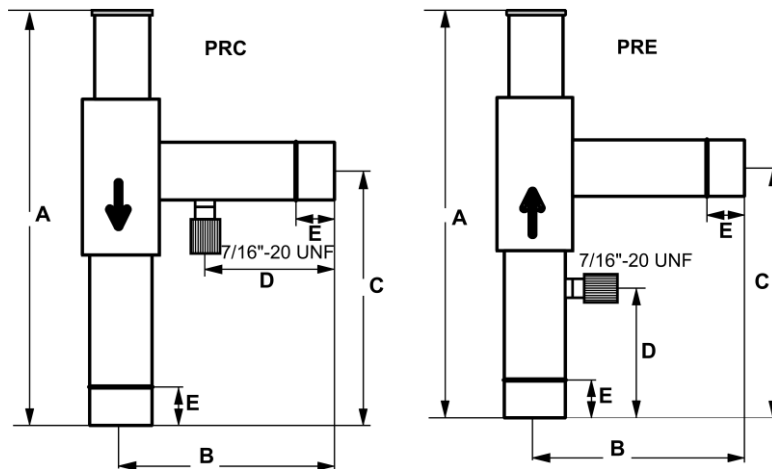
**D A T A S H E E T**

**Table 2: Capacity Table for Selection of Crankcase Pressure Regulators PRC**

(capacities are based on a pressure drop of 0,07 bar)

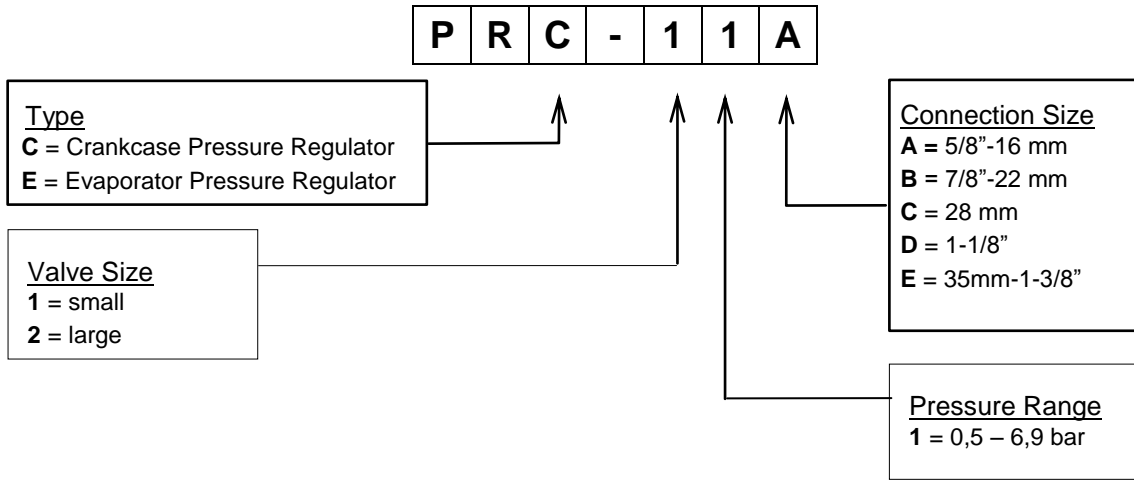
Refrigerant	Evaporating temperature °C	Capacity (kW)													
		Valve setting °C PRC-11x							Valve setting °C PRC-21x						
		-20	-15	-10	-5	0	5	10	-20	-15	-10	-5	0	5	10
R 22	-29	2,3	3,4	4,4	4,8	4,9			5,8	8,8	10,0	10,0	10,0		
	-21		2,4	4,1	5,4	5,8				6,5	12,1	12,1	12,1		
	-14			2,7	4,9	6,2					8,1	13,8	13,8		
	-8				3,5	5,3						9,0	15,4		
	-3					3,1							9,9		
R 407 C	-6				3,1	4,8						7,9	13,9		
	-1					2,9							9,2		
R 134 a	-6					2,1	3,9	5,3					5,2	10,3	12,9
	1						2,4	4,7						6,1	12,2
	7							3,3							8,1
R 404A / R 507	-27	1,6	2,9	3,7	3,9				4,8	8,2	8,2	8,2			
	-20		1,9	3,5	4,5					5,7	9,8	9,8			
	-14			2,2	4,5						6,8	11,6			
	-10				3,1							8,1			

**Dimensions**



Type	Connection ODF	Weight kg	Dimension				
			A	B	C	D	E
PRE-11A	16mm-5/8"	0,55	245	133	151	83	13
PRE-11B	22mm-7/8"	0,6	245	133	151	83	19
PRE-21C	28mm	1,2	310	145	196	85	25
PRE-21D	1-1/8"	1,2	310	145	196	85	25
PRC-11A	16mm-5/8"	0,55	245	133	151	83	13
PRC-11B	22mm-7/8"	0,6	245	133	151	83	19
PRC-21C	28mm	1,2	310	145	196	85	25
PRC-21D	1-1/8"	1,2	310	145	196	85	25
PRC-21E	35mm-1-3/8"	1,25	310	145	196	85	25

**Name Scheme**



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This document replaces all earlier versions.

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