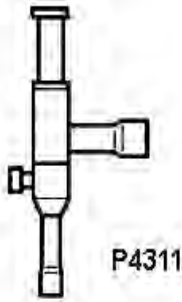


## DANFOSS EVAPORATOR PRESSURE REGULATORS

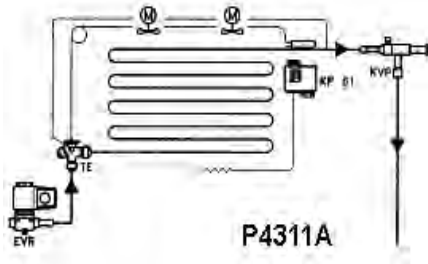
### ORDERING



P4311

### INTRODUCTION

KVP evaporator pressure regulators are mounted in the suction line of refrigeration and air conditioning systems. They are used to maintain a constant pressure corresponding to a constant temperature on the evaporator. They also protect against too low an evaporating pressure by throttling down when pressure falls below the set value. They are also used to differentiate the evaporating pressures in two or more evaporators in systems with one compressor.



P4311A

### APPROVALS

UL listed, file SA7200.  
CSA approved.

### ORDERING

TYPE	RATED CAPACITY*(Tons)			FLARE CONNECTION†		SOLDER CONNECTION	
	R22	R134a	R404A/R507	in	Part No	Part No	in ODF
KVP 12	1.3	0.9	1.2	1/2	034L0021	034L0023	1/2
KVP 15	1.3	0.9	1.2	5/8	034L0022	034L0029	5/8
KVP 22	1.3	0.9	1.2	--	--	034L0025	7/8
KVP 28	2.8	1.9	2.4	--	--	034L0026	1-1/8
KVP 35	2.8	1.9	2.4	--	--	034L0032	1-3/8

\*Rated capacity is based on:

Evaporating temperature  $t_e = 40^\circ \text{F}$

Condensing temperature  $t_c = 100^\circ \text{F}$

Pressure drop across regulator  $\Delta p = 2 \text{ psi}$

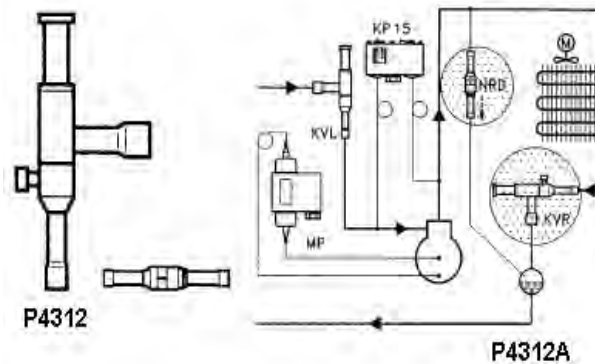
Offset (design evaporating pressure minus minimum allowable evaporator pressure) = 9 psi.

†KVP supplied without flare nuts.

**NOTE:** The connection dimensions chosen must not be too small, as gas velocities in excess of 130 ft/s at the inlet of the regulator can result in flow noise.

## DANFOSS EVAPORATOR PRESSURE REGULATORS CONDENSER PRESSURE REGULATORS

Ordering



KVR condenser regulators can be mounted in either the gas or liquid side of the condenser in refrigeration and air conditioning systems. They are used to maintain a constant and sufficiently high condensing pressure with systems using air-cooled condensers. They can also be used with valve types NRD or KVD to assure that adequate pressure is maintained on the receiver.



### ORDERING

TYPE	Rated Liquid Capacity <sup>1)</sup> (Evaporator Capacity) tons			Rated Hot Gas <sup>1)</sup> (Evaporator Capacity) tons			Flare Connection <sup>2)</sup>		SOLDER CONNECTION	
	R22	R134a	R404A/R507	R22	R134a	R404A/R507	in.	Part No	in.	Part No
KVR 12	12.7	11.8	8.2	4.13	3.03	3.27	1/2	034L0091	1/2	034L0093
KVR 15	12.7	11.8	8.2	4.13	3.03	3.27	5/8	034L0091	5/8	034L0097
KVR 22	12.7	11.8	8.2	4.13	3.03	3.27	--	--	7/8	034L0094
KVR 28	32.6	30.2	20.9	10.93	8.04	8.66	--	--	1 1/8	034L0095
KVR 35	32.6	30.2	20.9	10.93	8.04	8.66	--	--	1 3/8	034L0100

1) Rated capacity is based on:

Evaporating temperature  $t_e = 40^\circ \text{F}$

Condensing temperature  $t_c = 100^\circ \text{F}$

Pressure drop across valve  $\Delta p = 3 \text{ psi}$  for liquid capacity

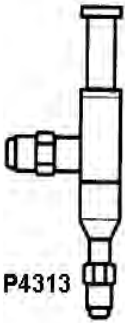
$\Delta p = 3 \text{ psi}$  for hot gas capacity

2) KVR are delivered without flare nuts.

NOTE: The connection dimensions chosen must not be too small, as gas velocities in excess of 130 ft/s at the inlet of the regulator can result in flow noise.

## DANFOSS HOT GAS BYPASS CAPACITY REGULATORS

### ORDERING



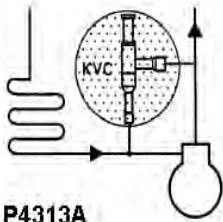
P4313

### INTRODUCTION

KVC capacity regulators are used to adapt compressor capacity to actual evaporator load by supplying a replacement capacity in form of hot/cool gas. It is installed in a bypass line between the high and low pressure sides of the refrigeration system and is designed for direct gas injection into the suction line.

### Approvals.

UL listed, file SA7200.  
CSA approved



P4313A

### ORDERING

TYPE	RATED CAPACITY*(Tons)			FLARE CONNECTION†		SOLDER CONNECTION	
	R22	R134a	R404A/R507	in	PART NO	in ODF	PART NO
KVC 12	2.14	1.36	2.02	1/2	034L0141	1/2	034L0143
KVC 15	4.17	2.65	3.93	5/8	034L0142	5/8	034L0147
KVC 22	5.35	3.41	5.04	--	--	7/8	034L0144

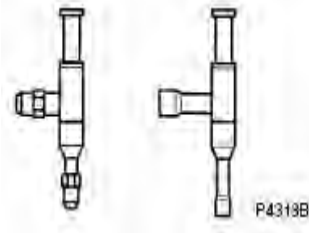
\*Rated capacity is based on:

Suction gas temperature  $t_s = 10^\circ \text{F}$   
Liquid temperature  $t_l = 100^\circ \text{F}$   
Offset  $\Delta p = 10 \text{ psi}$

†KVC are delivered without flare nuts.

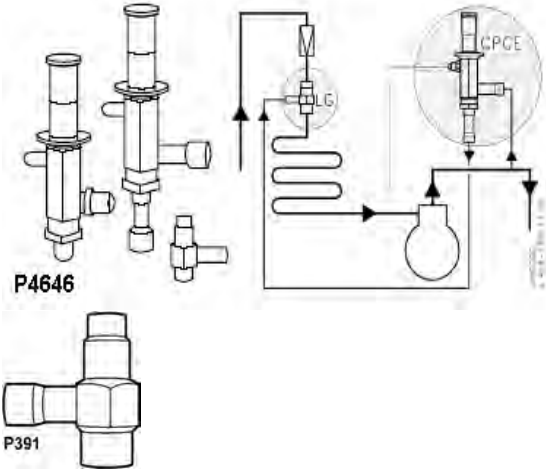
**NOTE:** The connection dimensions chosen must not be too small, as gas velocities in excess of 130 ft/s at the inlet of the regulator can result in flow noise. If the temperature in the discharge gas line is too high according to the compressor specifications, it is recommended to install a liquid injection valve in a bypass from the liquid line to the suction line.

- For CFC, HCFC, and HFC Refrigerants
- Regulating range: 3 to 85 PSIG. Factory setting -29 psig.



P4313B

## DANFOSS HOT GAS BYPASS CAPACITY REGULATORS TYPE CPCE/LG (LIQUID-GAS MIXERS)



### INTRODUCTION

CPCE capacity regulators are used to adapt compressor capacity to actual evaporator load. They are installed in a bypass line between the high and low pressure sides of the refrigeration system and is designed for hot gas injection into the evaporator just after the expansion valve. Liquid-gas mixer type LG can be used at the point of injection to assure a proper mixture

TYPE	EXPANSION VALVE (in) ODM	CONNECTION FOR		PART NO
		HOT-GAS (in) ODM	LIQUID DISTRIBUTOR (in) ODF	
LG 12/16	5/8	1/2	5/8	069G4001
LG 12/22	7/8	1/2	7/8	069G4002
LG 16/28	1 1/8	5/8	1 1/8	069G4003
LG 22/35	1 3/8	7/8	1 3/8	069G4004

### Ordering

Capacity regulator (Hot Gas capacity valve)



TYPE	CONNECTION		RATED CAPACITY <sup>1)</sup> tons			PART NO
	Flare in	SOLDER-ODF in	R22	R134a	R404A/R507	
CPCE 12	1/2	--	6.2	4.3	6.3	034N0081
CPCE 12	--	1/2	6.2	4.3	6.3	034N0082
CPCE 15	--	5/8	9.2	6.3	9.1	034N0083
CPCE 22	--	7/8	12.2	8.4	12.1	034N0084

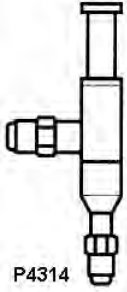
1) Rated capacity is based on:

Minimum suction temperature       $t_s = 15^\circ \text{F}$   
 Condensing temperature               $t_c = 100^\circ \text{F}$   
 Superheat of expansion valve         $\Delta t_s = 7^\circ \text{F}$

- Provides protection against too low an evaporator temperature.
- For use with CFC, HCFC, and HFC Refrigerants

## DANFOSS CRANKCASE PRESSURE REGULATORS

DCPR01




P4314

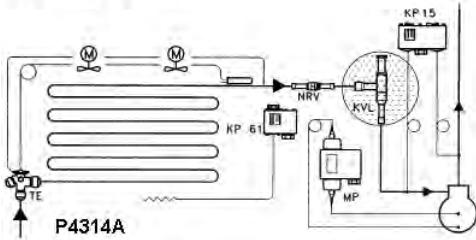
### INTRODUCTION

KVL crankcase pressure regulators are used to protect the compressor motor against overload experienced during startup after long off periods or just after defrost periods. They are installed in the suction line of refrigeration systems.

- For use with CFC, HCFC and HFC Refrigerants
- Refrigerants Range 3 to 85 PSIG  
(Factory Setting = 25 PSIG)

### APPROVALS

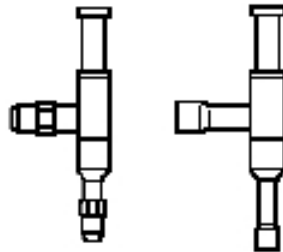
C  US listed, file SA7200.  
CSA approved.



P4314A

### TYPE KVL

Ordering



TYPE	Rated Capacity <sup>1)</sup> TR			Flare Connection <sup>2)</sup>		Solder Connection	
	R22	R134a	R404A/R507	in.	PART NO	in.	PART NO
KVL 12	0.34	0.22	0.28	1/2	034L0041	1/2	034L0043
KVL 15	0.34	0.22	0.28	5/8	034L0042	5/8	034L0049
KVL 22	0.34	0.22	0.28	--	--	7/8	034L0045
KVL 28	1.60	0.74	0.96	--	--	1 1/8	034L0046
KVL 35	1.60	0.74	0.96	--	--	1 3/8	034L0052

### Metric conversions

- 1 psi = 0.07 bar
- 5/9 (t<sup>1</sup>F - 32) = t<sup>2</sup>C
- 1 ton = 3.5 kW
- 1 in. = 25.4 mm

- 1) Rated capacity is based on:
- Maximum suction pressure ps = 70 psig
  - Suction temperature ts = 10° F
  - Condensing temperature tc = 100° F
  - Press. drop across regulator Δp = 2 psi

**Note:** The connection dimensions chosen must not be too small, as gas velocities in excess of 130 ft/s at the inlet of the regulator can result in flow noise.

Compressors,  
Chillers, Condensers

Motors

Electrical

Heating  
Components

Indoor Air  
Quality

Thermostats

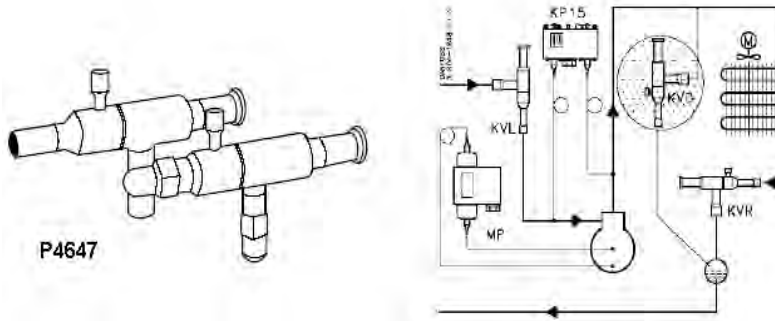
Oils &  
Chemicals

Accessories, Supplies  
& Commodities

Tools &  
Instruments

Refrigeration

## DANFOSS RECEIVER PRESSURE REGULATORS TYPE KVD

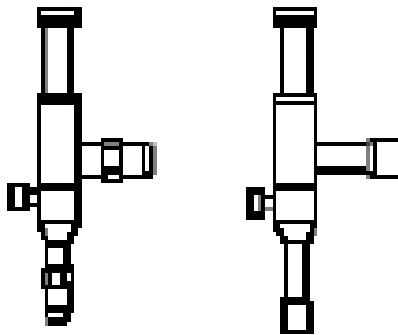


### INTRODUCTION

KVD is a modulating pressure regulator. It opens on falling receiver pressure and bypasses hot gas to maintain the receiver pressure at the regulator setting (adjustable). KVD and KVR form a regulating system, used to maintain constant and adequately high condensing and receiver pressure in systems with heat-recovery, and in refrigeration and air conditioning systems with air-cooled condensers.

- For use with CFC, HCFC and HFC Refrigerants.
- Regulating range 45 to 290 PSIG (Factory setting = 145 PSIG.)

### Ordering



Type	Flare connection <sup>1)</sup>		Solder connection	
	in.	PART NO	in.	PART NO
KVD 12	1/2	034L0171	1/2	034L0173
KVD 15	5/8	034L0172	5/8	034L0177

1) KVD supplied without flare nuts.

The size of connection must not be chosen too small since gas velocities of more than 40 m/s in the inlet can cause flow noise.