宁波新布鲁能源科技有限公司
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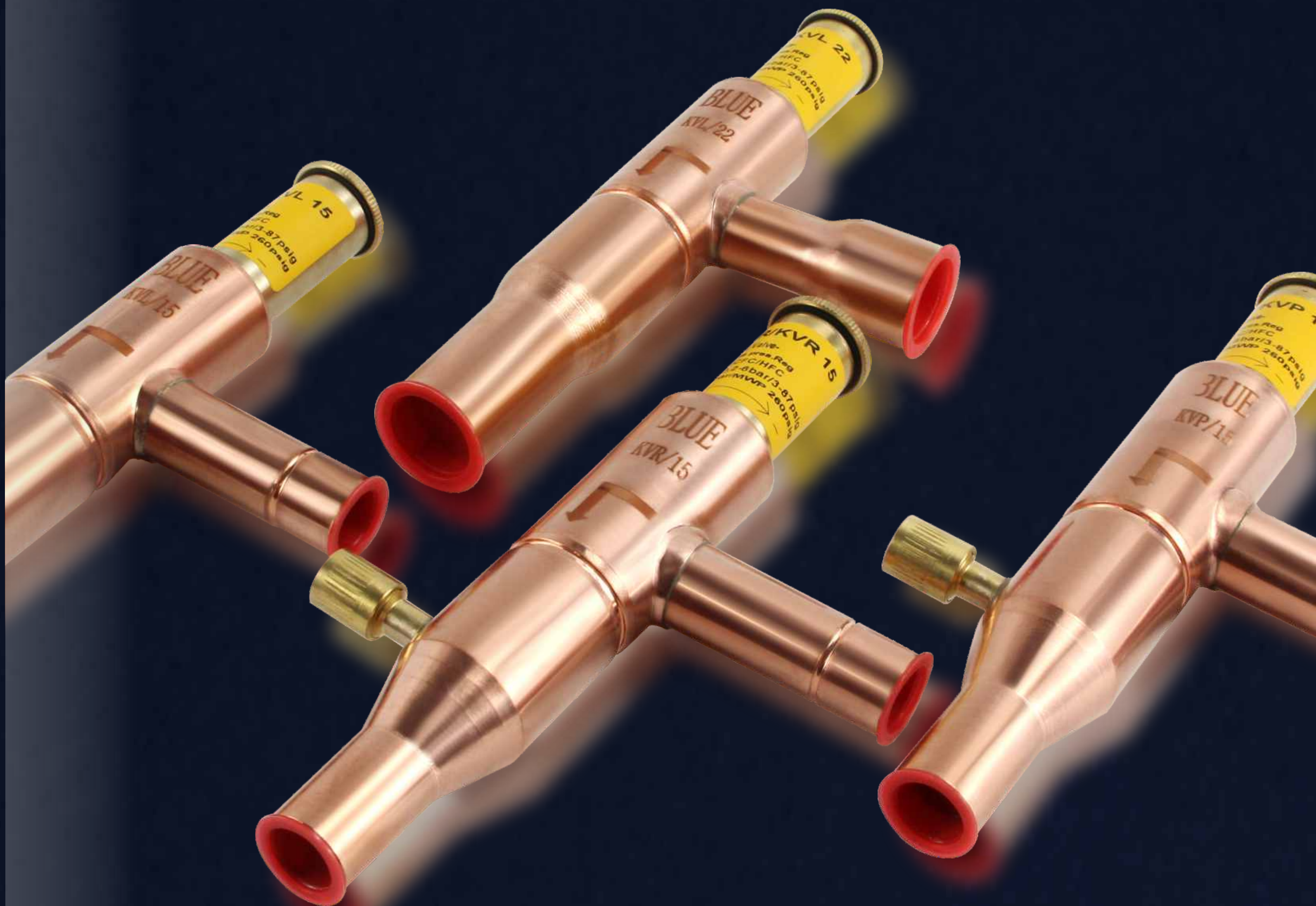
BLUE REFRIGERATION

ISO 9001:2008

PRESSURE REGULATOR



NINGBO NEW BLUE ENERGY TECHNOLOGY CO.,LTD

A COMPANY OF REFWORLD GROUP

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Product Introduction

BLR/KVL crankcase pressure regulator is installed in the suction line ahead of compressor in the refrigeration systems.

BLR/KVL crankcase pressure regulator is used to protect the compressor motor against overload during startup after long off periods or just after defrost periods.

Features

- •Accurate, adjustable pressure regulation
- •Wide capacity and operating ranges
- •Pulsation damping design
- •Stainless steel bellows
- •"Hermetic" brazed construction
- •Available in a wide size range of flare and ODF solder types
- •For CFC, HCFC or HFC
- •Compact angle design for easy installation in any position

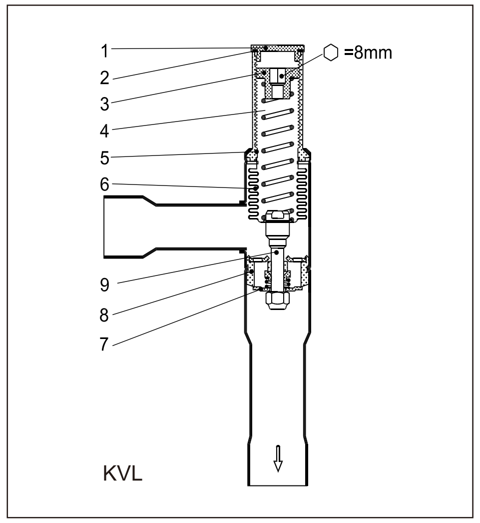
Technical Parameters

Refrigerants	CFC ,HCFC , HFC
Regulating Range	0.2-6 bar
	factory setting=2 bar
Max. Working Pressure	PS/MWP= 18 bar
Max. Test Pressure	Pe= 19.8 bar
Medium Temperature Range	-60—130 °C
Maximum P-band	BLR/KVL 12-22 : 2 bar
	BLR/KVL 28-35 : 1.5 bar

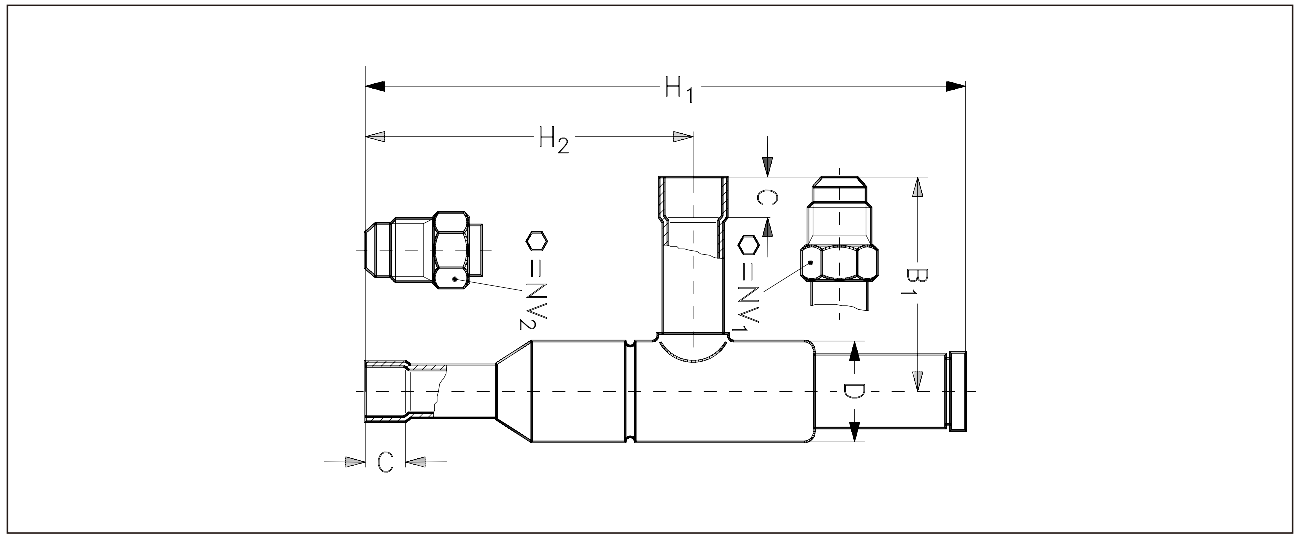
The KV value is the flow of water in m^3 /h at a pressure drop acorss valve of 1 bar, p=1000kg/m^3

Design Function

1. Protective cap
2. Gasket
3. Setting screw
4. Main spring
5. Valve body
6. Equalization bellows
7. Valve plate
8. Valve seat
9. Damping device



Dimensions



Model	Nominal refrigerating capacity (kw)				SAE		ODF		Dimensions				
	R22	R134a	R404A/R507	R407C	[in]	[mm]	[in]	[mm]	H, mm	H, mm	B, mm	C solder mm	ØD mm
BLR/KVL-12	7.1	5.3	6.3	6.4	1/2	12	1/2	12	179	99	64	10	30
BLR/KVL-15	7.1	5.3	6.3	6.5	5/8	16	5/8	16	179	99	64	12	30
BLR/KVL-22	7.1	5.3	6.3	6.5	—	—	7/8	22	179	99	64	17	30
BLR/KVL-28	17.8	13.2	15.9	16.4	—	—	11/8	28	259	151	105	20	43
BLR/KVL-35	17.8	13.2	15.9	16.4	—	—	13/8	35	259	151	105	25	43

Nominal Refrigerating Capacity is based on: evaporating temperature te=-10°C condensing temperature tC=+25°C Pressure drop in regulator=0.2 bar

BLR/KVL CRANKCASE PRESSURE REGULATOR
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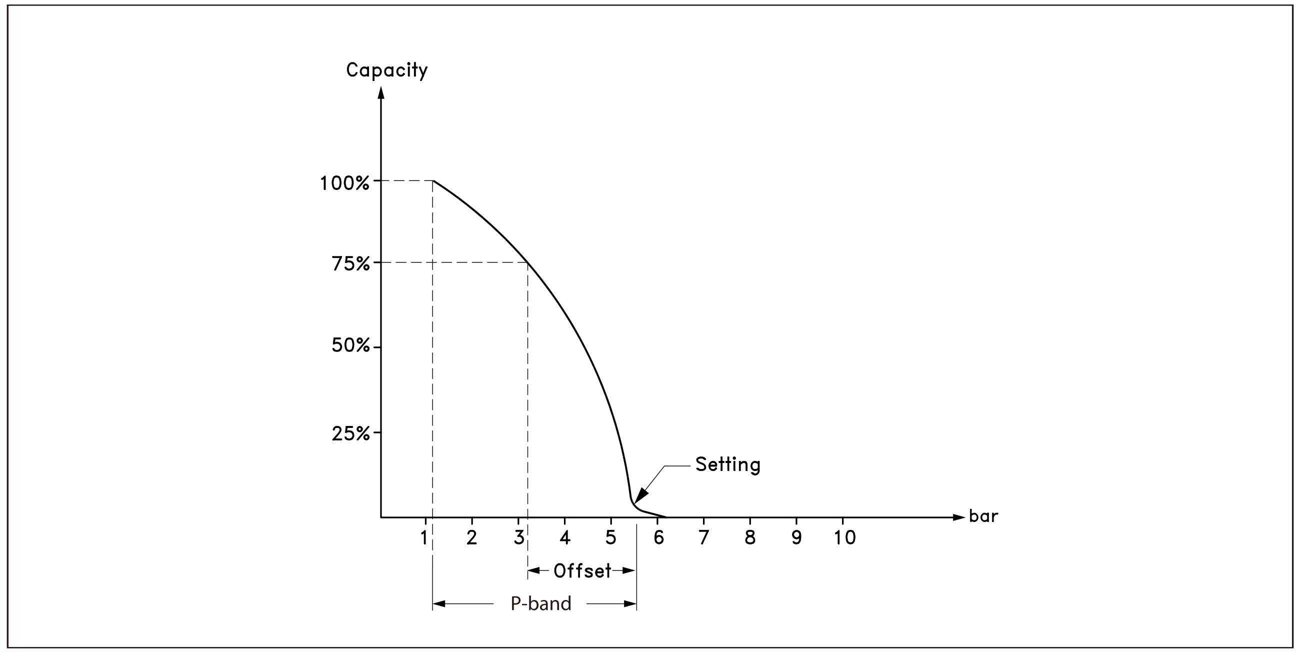
P-band and Offset



Proportional band

The proportional band or P-band is defined as the amount of pressure required to move the valve plate from closed to full open position.

Example: If the valve is set to open at 4 bar and the valve p-band is 2 bar, the valve will give maximum capacity when the inlet pressure reaches 2 bar.

Offset

The offset is defined as the permissible pressure variation in evaporator pressure (temperature). It is calculated as the difference between the required working pressure and the minimum allowable pressure.

The offset is always a part of the P-band. Offset is not used in connection with KVL due to the function of the valve.

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Product Introduction

Regulating system BLR/KVR and BLR/NRD is used to maintain a constant and sufficiently high condenser and receiver pressure in refrigeration and air conditioning plant with air-cooled condensers.

BLR/KVR can also be used together with receiver pressure regulator, type BLR/KVD.

Features

- •Accurate, adjustable pressure regulation
- •Wide capacity and operating range
- •Pulsation damping design
- •Stainless steel bellows
- •Compact angle design for easy installation in any position
- •"Hermetic" brazed construction
- •1/4 in. Schrader valve for pressure testing
- •Available with flare and ODF solderconnections
- •For use with CFC, HCFC and HFC refrigerants

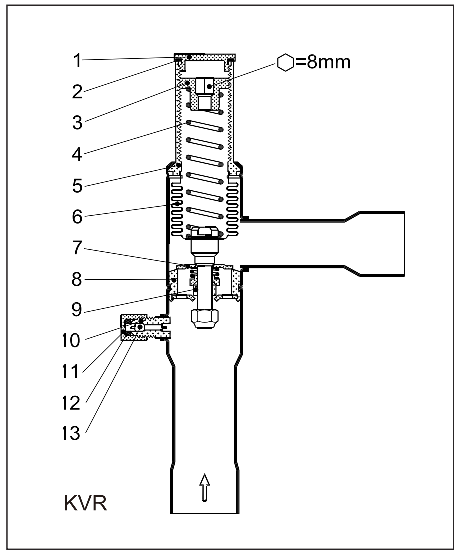
Technical Parameters

Refrigerants	CFC ; HCFC , HFC
Regulation Range	5-17.5 bar
	factory setting=10 bar
Max. Working Pressure	KVR : PS/MWP=28 bar
	NRD : PS/MWP=46 bar
Max. Testing Pressure	BLR/KVR : Pe=31 bar
	BLR/NRD : Pe=60 bar
Medium Temperature Range	-45—130°C
P-band	BLR/KVR12—BLR/KVR22=6.2 bar
	BLR/KVR28—BLR/KVR35=5 bar

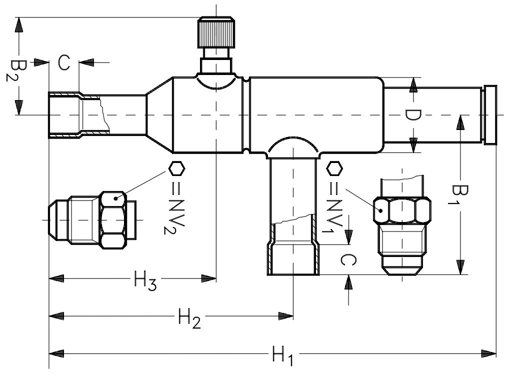
BLR/KVR CONDENSING PRESSURE REGULATOR | BLUE REFRIGERATION

Design Function

1. Seal cap
2. Gasket
3. Setting screw
4. Main spring
5. Valve body
6. Equalizing bellows
7. Valve plate
8. Valve seat
9. Damping device
10. Manometer connection
11. Cap .
12. Gasket
13. Insert



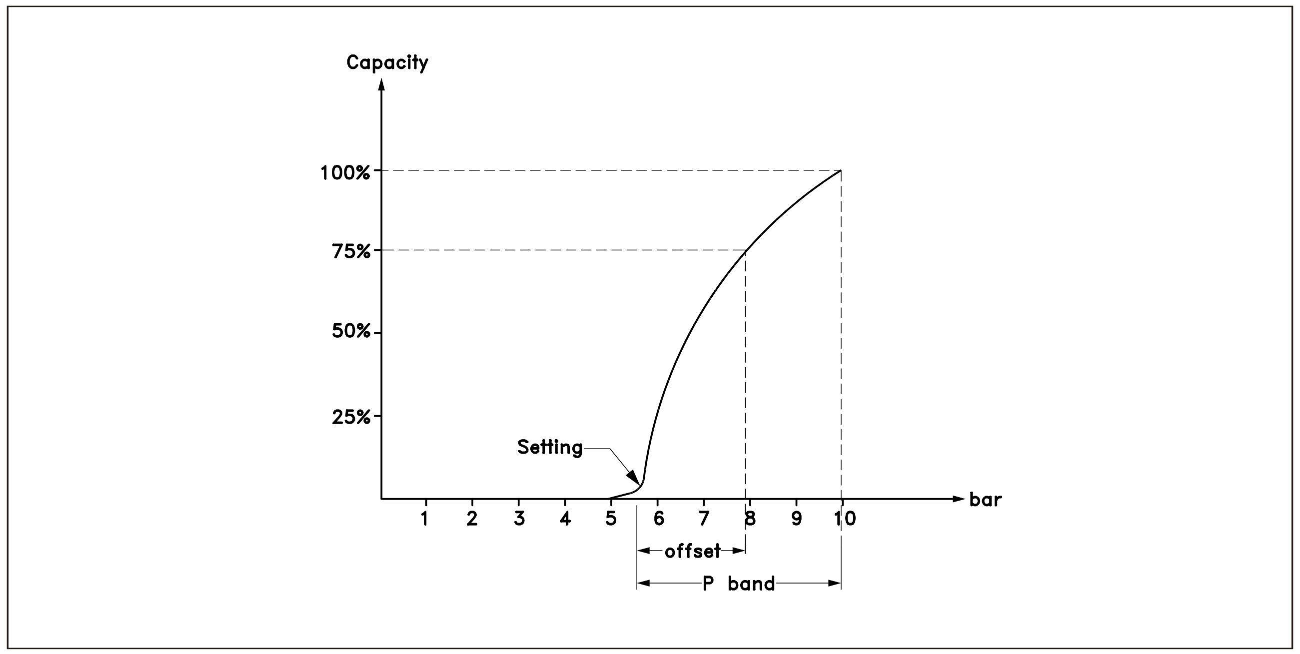
Dimensions



Model	Connection				Dimensions						
	Flare		solder ODF		H1	H2	H3	B1	B2	C SoLder	ØD
	in.	mm	in.	mm	mm	mm	mm	mm	mm	mm	mm
BLR/KVR 12	1/2	12	1/2	12	179	99	66	64	41	10	30
BLR/KVR 15	5/8	16	5/8	16	179	99	66	64	41	12	30
BLR/KVR 22	—	—	7/8	22	179	99	66	64	41	17	30
BLR/KVR 28	—	—	11/8	28	259	151	103	105	48	20	43
BLR/KVR 35	—	—	13/8	35	259	151	103	105	48	25	43

Model	Rated liquid capacity (Evaporator capacity)				Rated thermal capacity (Evaporator capacity)			
	R22	R134a	R404A/R507	R407C	R22	R134a	R404A/R507	R407C
BLR/KVR 12	50.4	47.3	36.6	54.4	13.2	11.6	12.0	14.3
BLR/KVR 15	50.4	47.3	36.6	54.4	13.2	11.6	12.0	14.3
BLR/KVR 22	50.4	47.3	36.6	54.4	13.2	11.6	12.0	14.3
BLR/KVR 28	129	121	93.7	139.3	34.9	30.6	34.9	37.7
BLR/KVR 35	129	121	93.7	139.3	34.9	30.6	34.9	37.7

P-band and Offset



Proportional band

The proportional band or P-band is defined as the amount of pressure required to move the valve plate from closed to full open position.

Example: If the valve is set to open at 8 bar and the valve p-band is 6.2, the valve will give maximum capacity when the inlet pressure reaches 14.2 bar.

Offset

The offset is defined as the permissible pressure variation in evaporator pressure (temperature). It is calculated as the difference between the required working pressure and the minimum allowable pressure.

The offset is always a part of the P-band.

Example with R22:

A working temperature of 30°C~ 11 bar is . required, and the temperature must not drop below 25°C ~ 9.5 bar.

The offset will then be 1.5 bar.

Product Introduction

BLR/KVP is mounted in the suction line after the evaporator and is used to:

1. Maintain a constant evaporating pressureand thereby a constant surface temperature on the evaporator.

The regulation is modulating. By throttling in the suction line , the amount of refrigerant gas is matched to the evaporator load.

2. Protect against an evaporating pressure that is too low (e.g. as protection against freezing in a water chiller).

The regulator closes when the pressure in the evaporator falls below the set value.

3. Differentiate between the evaporating pressures in two or more evaporators in systems with one compressor.

Features

•Accurate, adjustable pressure regulation
•Wide capacity and operating range
•Pulsation damping design
•Stainless steel bellows
•Compact angle design for easy installation in any position
•"Hermetic" brazed construction
•1/4 in. Schrader valve for pressure testing
•Available with flare and ODF solder connections
•For use with CFC, HCFC and HFC refrigerants

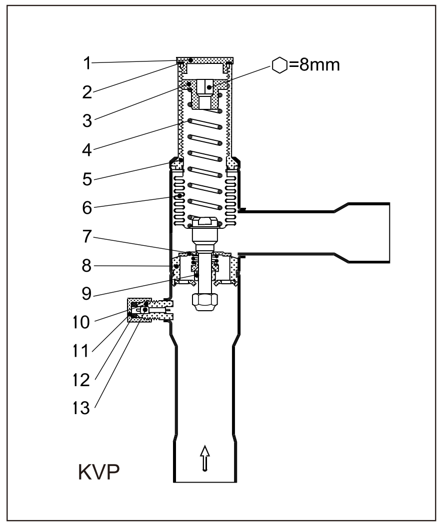
Technical Parameters

Refrigerants	CFC , HCFC , HFC
Regulation Range	0-5.5 bar
	factory setting=2 bar
Max. Working Pressure	PS/MWP= 18 bar
Max. Testing Pressure	Pe= PSX1.1=19.8 bar
Medium Temperature Range	-45—130 °C
Maximum P-band	BLR/KVP 12-22 : 1.7 bar
	BLR/KVP 28-35 : 2.8 bar
KV-value With Offset 0.6 bar	BLR/KVP 12-22 : 1.7 m3/h
	BLR/KVP 28-35 : 2.8 m3/h
KV-value With Maximum P-band	BLR/KVP 12-22 : 2.5 m3/h
	BLR/KVP 28-35 : 8.0 m3/h

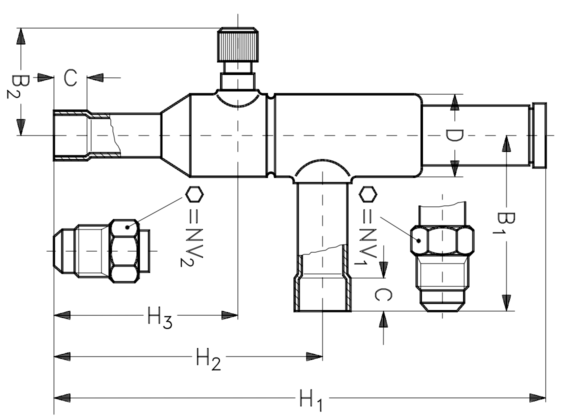
The KV value is the flow of water in m^3 /h at a pressure drop acorss valve of 1 bar, p=1000kg/m^3

Design Function

1. Protective cap
2. Gasket
3. Setting screw
4. Main spring
5. Valve body
6. Equalization bellows
7. Valve plate
8. Valve seat
9. Damping device
10. Pressure gauge connection
11. Cap
12. Gasket
13. Insert



Dimensions



Model	Nominal refrigerating capacity (kw)				Flare		Solder		Dimensions									
									NV1	NV2	H1	H2	H3	B1	B2	C	D
	R22	R134a	R404A/R507	R407C	[in]	[mm]	[in]	[mm]	mm	mm	mm	mm	mm	mm	mm	mm	mm
BLR/KVP 12	4.0	2.8	3.6	3.7	1/2	12	1/2	12	19	19	179	99	66	64	41	10	30
BLR/KVP 15	4.0	2.8	3.6	3.7	5/8	16	5/8	16	24	24	179	99	66	64	41	12	30
BLR/KVP 22	4.0	2.8	3.6	3.7	—	—	7/8	22	24	24	179	99	66	64	41	17	30
BLR/KVP 28	8.6	6.1	7.7	7.9	—	—	11/8	28	24	24	259	151	103	105	48	20	43
BLR/KVP 35	8.6	6.1	7.7	7.9	—	—	13/8	35			259	151	103	105	48	25	43

Nominal Refrigerating Capacity is based on: evaporating temperature te=-10°C condensing temperature tC=+25°C Pressure drop in regulator=0.2 bar

BLR/KVP EVAPORATING PRESSURE REGULATOR
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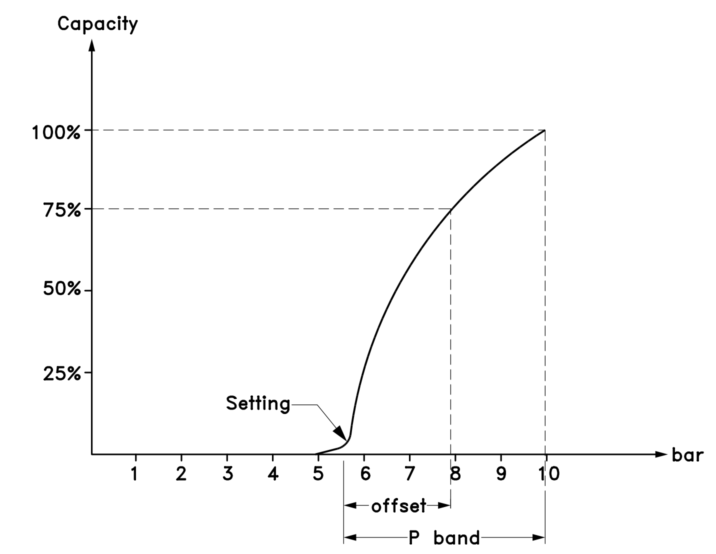
P-band and Offset



Proportional band

The proportional band or P-band is defined as the amount of pressure required to move the valve plate from closed to full open position.

Example: If the valve is set to open at 4 bar and the valve p-band is 1.7, the valve will give maximum capacity when the inlet pressure reaches 5.7 bar.

The offset is defined as the permissible pressure variation in evaporator pressure (temperature). It is calculated as the difference between the required working pressure and the minimum allowable pressure.
The offset is always a part of the P-band.

Example with R22:
A working temperature of 5°C ~ 4.9 bar is required, and the temperature must not drop below 0.5°C ~ 4.1 bar.
The offset will then be 0.8 bar.
When selecting a valve, be sure to correct the evaporator capacity based on the required offset.

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