ENGINEERING TOMORROW

Data sheet

Check valve for high pressure

Type NRV 10s H for R744 (CO_2)



NRV 10s H check valves for R744 (CO2) can work as an internal relief valve when installed in parallel with GBC Ball Valves or service shut off valves, at the inlet and outlet of components to be serviced. The NRV 10s H can also be used in hot gas defrosting lines.

Features

- The valve ensures that refrigerant only flow in one direction.
- Allows for internal pressure relief in the standstill system or during maintenance.
- The valve can withstand 90 bar / 1305 psig differential pressure and 90 bar / 1305 psig maximum working pressure.

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Document type | **Check valves, type NRV 10s H for R744 (CO_2)**

Technical data

Refrigerants	R744 (CO_2)
Oil	POE, PAG
Media temperature range	-50 – 140 °C / -58 – 285 °F
Max. working pressure (PS/MWP)	90 bar / 1305 psig

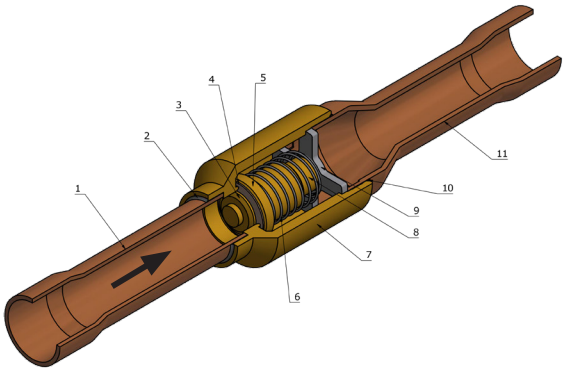
Approvals:

Notes:
For the application use with R744 as part of a secondary loop or cascade:

1. The design pressure of the refrigerant containing component is not less than the design pressure of the associated components.
2. The component is not provided with any pressure relief or pressure regulating relief valve and that a sufficient number of valves having capacity deemed adequate shall be field-installed on the refrigeration system.
3. When the refrigeration system is de-energized, venting of R744 may occur through the pressure regulating relief valves, and may need to be recharged, but the valve should not be defeated or bypassed.
4. A sufficient number of pressure relief and pressure regulating valves may need to be provided based upon system capacity and located such that no stop valve is provided between the relief valve and the parts or section of the system being protected.

Design

1. Copper tube
2. Solder ring
3. Washer
4. Sealing disk with special material
5. Piston
6. Spring
7. Valve body
8. Guide
9. Stop face
10. Solder ring
11. Copper tube



Ordering

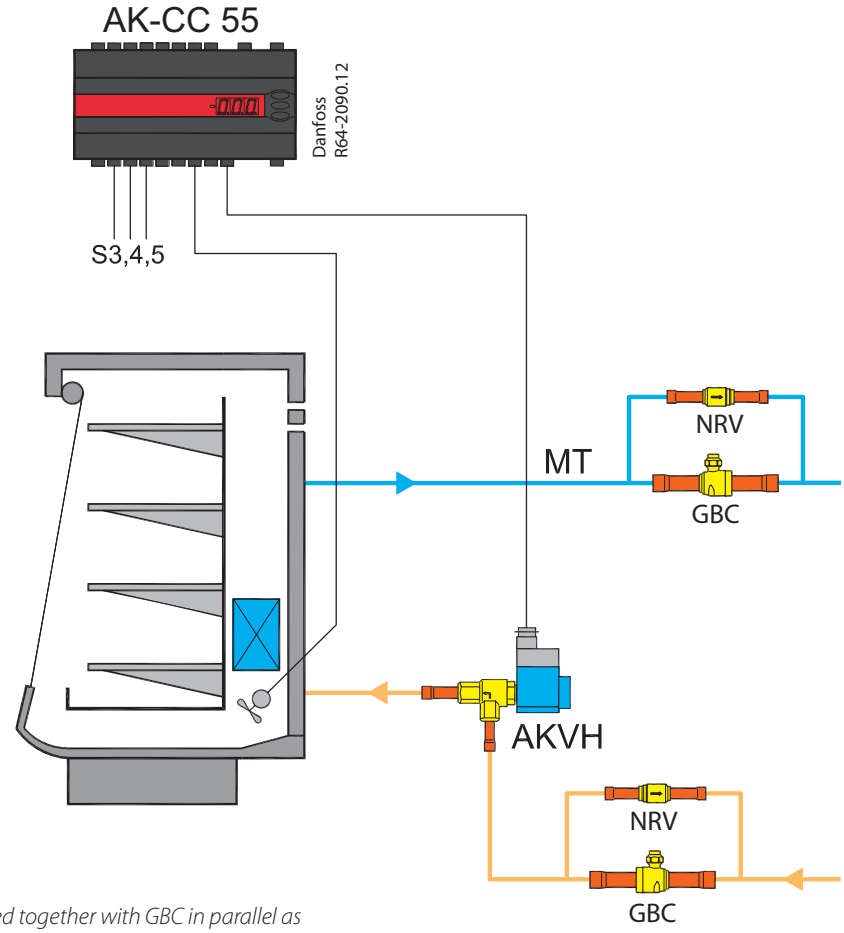


Type	Connection type	Connection size		Min. OPD ΔP_1		K_v value [2]	C_v value [2]	Code no.
		[in.]	[mm]	[bar]	[psi]	[m3/h]	[gal/min]	
NRV 10s H	Straightway Solder ODF	3/8		0.4	5.8	0.9	1.04	020B4000
			10	0.4	5.8	0.9	1.04	020B4300

[1] *ΔP_1 = Minimum Opening Pressure Differential*
[2] *The k_v value is the flow of water in m^3/h at a pressure drop across valve of 1 bar, ρ = 1000 kg/m^3. The C_v value is the flow of water in gal/min at a pressure drop across valve of 14.5 psi.*

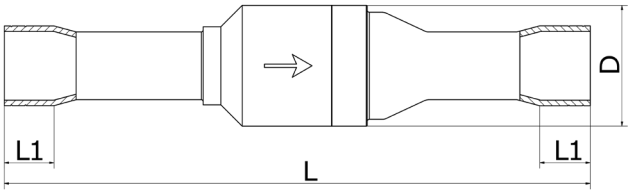
Application

NRV 10s H for CO_2 can be installed at component inlet and outlet in parallel with GBC ball valve and function as relief valve to release the pressure in the stand-still system during maintenance.



When the NRV is used together with GBC in parallel as a pressure relief valve, it is recommended to install the NRV above the GBC.

Dimensions and weight



ODF solder version - SI Units

Type	Connection type	Connection size		L	L_1	Φ D	Weight
		[in.]	[mm]	[mm]	[mm]	[mm]	[kg]
NRV 10s H	Straightway Solder ODF	3/8		109	8	18	0.07
			10	109	9	18	0.07

ODF solder version - US Units

Type	Connection type	Connection size	L	L_1	Φ D	Weight
		[in.]	[in.]	[in.]	[in.]	[lb]
NRV 10s H	Straightway Solder ODF	3/8	4.29	0.31	0.71	0.15

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