

Data sheet

## Check valve for high pressure Type NRV 10s H for R744 (CO<sub>2</sub>)



NRV 10s H check valves for R744 (CO<sub>2</sub>) 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.

**Technical data**

<b>Refrigerants</b>	R744 (CO <sub>2</sub> )
<b>Oil</b>	POE, PAG
<b>Media temperature range</b>	-50 – 140 °C / -58 – 285 °F
<b>Max. working pressure (PS/MWP)</b>	90 bar / 1305 psig
<b>Max. test pressure</b>	149 bar / 2161 psig
<b>Approvals</b>	UL, EAC



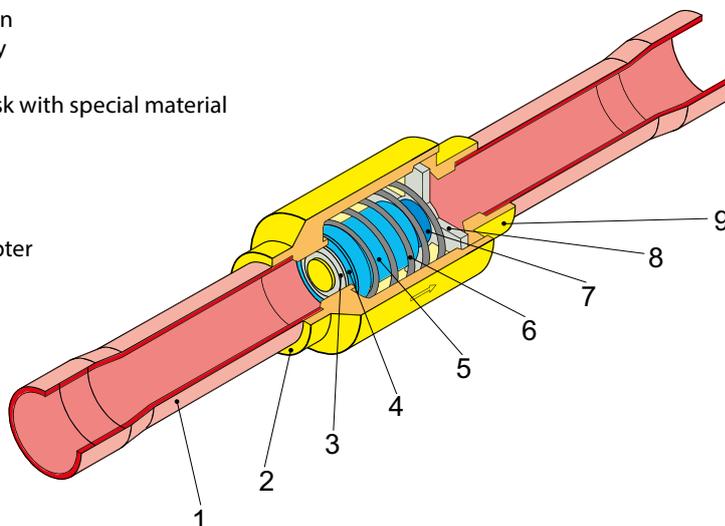
**Notes:**

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

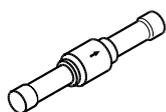
1. The design pressure of the refrigerant containing component is not less than the design pressure of the associated components.
2. The component is not provided with any pressure relief or pressure regulating relief valve and that a sufficient number of valves having capacity deemed adequate shall 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. Connection
2. Valve body
3. Washer
4. Sealing disk with special material
5. Piston
6. Spring
7. Guide
8. Stop face
9. Valve adapter



**Ordering**



Type	Connection type	Connection size		Differential pressure to start opening the valve $\Delta P_1$		Pressure drop across valve $\Delta P_2$ bar <sup>1)</sup>		$K_v$ value <sup>2)</sup> (calculated value)	$C_v$ value <sup>2)</sup> (calculated value)	Code no.
		[in.]	[mm]	[bar]	[psi]	[bar]	[psi]	[m <sup>3</sup> /h]	[gal/min]	
NRV 10s H	Straightway	3/8		0.4	5.8	1.0	14.5	0.9	1.04	020-4000
	Solder ODF		10	0.4	5.8	1.0	14.5	0.9	1.04	020-4300

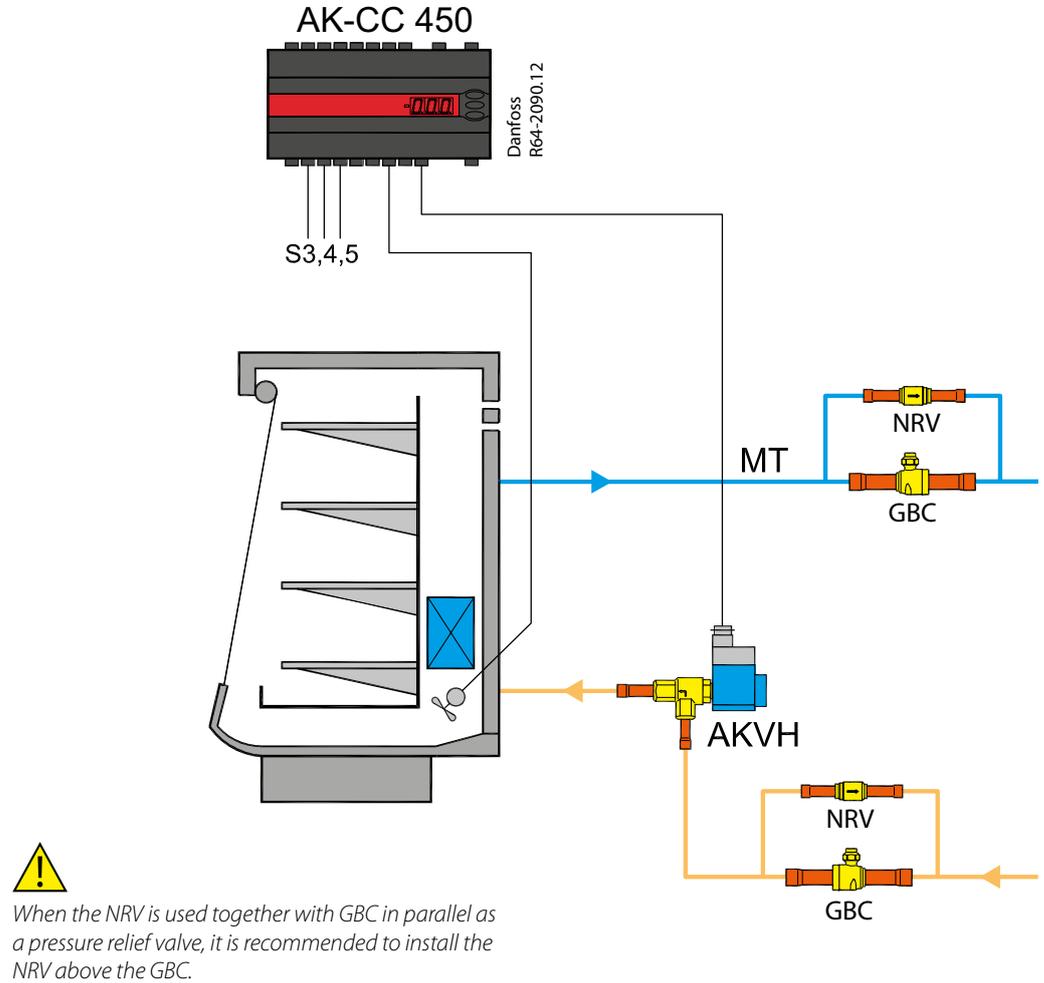
<sup>1)</sup>  $\Delta P_1$  = the minimum pressure at which the valve start opening.

$\Delta P_2$  = the minimum pressure at which the valve is completely open.

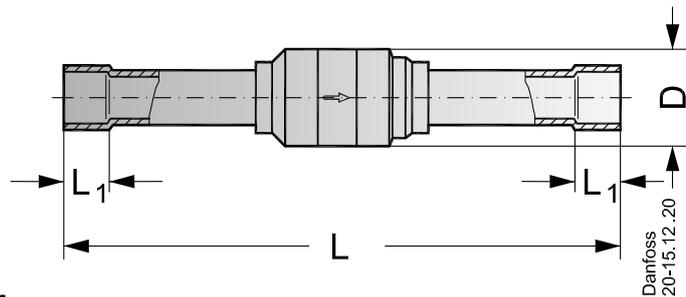
<sup>2)</sup> The  $K_v$  value is the flow of water in m<sup>3</sup>/h at a pressure drop across valve of 1 bar,  $\rho = 1000 \text{ kg/m}^3$ .  
The  $C_v$  value is the flow of water in gal/min at a pressure drop across valve of 14.5 psi.

**Application**

NRV 10s H for CO<sub>2</sub> 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.



**Dimensions and weight**



**ODF solder version - SI Units**

Type	Connection type	Connection size		L [mm]	L <sub>1</sub> [mm]	Ø D [mm]	Weight [kg]
		[in.]	[mm]				
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 [in.]	L <sub>1</sub> [in.]	Ø D [in.]	Weight [lbs]
		[in.]					
NRV 10s H	Straightway Solder ODF	3/8		4.29	0.31	0.71	0.15

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