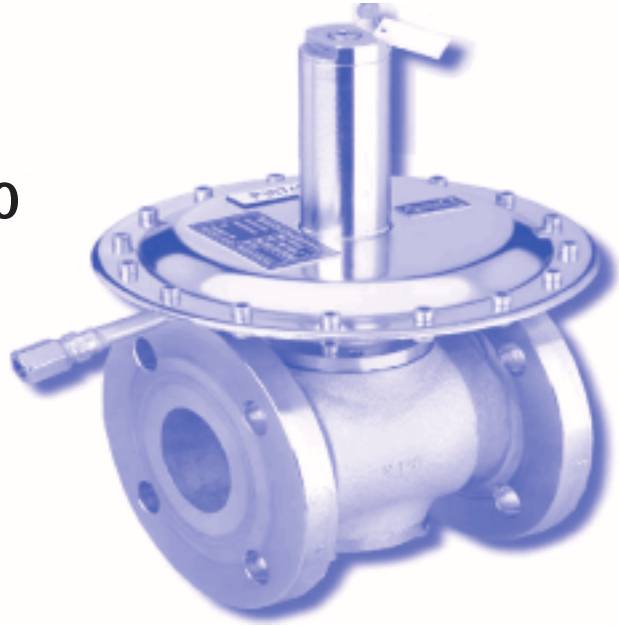




DATASHEET

LOW PRESSURE TANK BLANKETING VALVE

CNC400



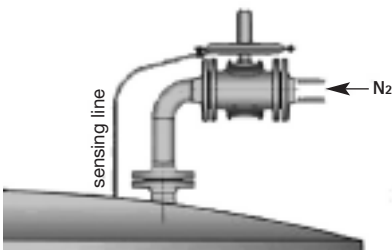
APPLICATION

Motherwell Tank Protection (MTP) CNC400 series of tank blanketing valves offer complete protection to the storage tank product against contamination and to the storage tank itself against rupture or damage. The CNC400 series valve is mainly used in the chemical, bulk storage and pharmaceutical industries to improve efficiency, thereby reducing emissions and lowering the cost of product loss. In addition to preventing outside air and moisture from entering the storage vessel, a blanket gas pressure reduces the evaporation of the stored product to a negligible amount.

BENEFITS

- The inert (oxygen-free) atmosphere reduces the risk of fire which could reduce the cost of your insurance premium.
- Tank corrosion is reduced
- **Reduction from very high primary pressure (up to 16 bar) to very low tank design pressures (down to 5 mbar)**
- High accuracy settings achieved, in order to avoid any interaction with relief valves

PRINCIPLE OF OPERATION



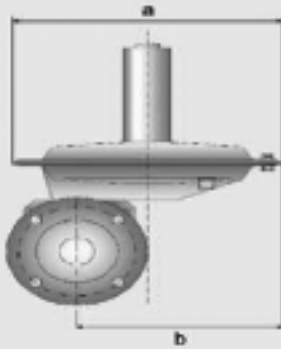
The principle operation of the CNC 400 tank blanketing valve is to maintain a positive pressure within an enclosed storage tank by introducing a gas such as nitrogen at a required pressure. This 'blanket' also prevents the stored product from vaporizing into the atmosphere, prevents contamination to the stored product and also helps to reduce product combustibility by eliminating oxygen-rich air. The CNC400 also offers primary vacuum relief for the storage tank. It does this by supplying gas to the vapor space when pressure decreases within the tank to the valves set point. Once the gas cushion is re-established, the pressure regulator closes.

PRODUCT SUPPORT

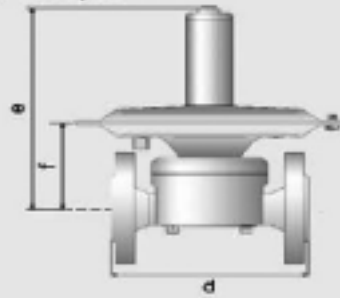
All parts that come into contact with the product consist of stainless steel or hastelloy with smooth surfaces. The valve seal material is either PTFE or Viton. The CNC400 is manufactured in an oil and grease free environment, is self actuating and no control line is required for operation.

Different sizes are available ranging from 15mm to 100mm and the valve can be installed with horizontal or vertical diaphragm housing position (horizontal position is recommended).

INSTALLATION DIMENSIONS



ZM-R 15, 25



Dimension	ZM-R 15 mm (inch)	ZM-R 25 mm (inch)
a	214 (8.4)	214 (8.4)
b	168 (6.6)	168 (6.6)
d	150 (5.9)	160 (6.3)
e	214 (8.4)	214 (8.4)
f	87 (3.4)	87 (3.4)
flange DN (ANSI)	DN 15 (1/2") PN 10 - 16 (150 lbs)	DN 25 (1") PN 10 - 16 (150 lbs)

The valve can either be installed with horizontal or vertical diaphragm housing. Horizontal position is recommended.

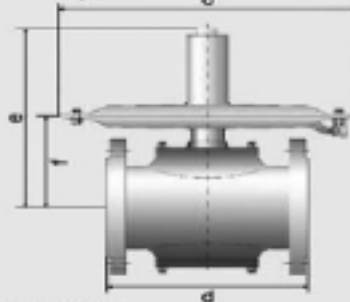
Types of sensing line:

DN 15, 25 (ANSI 1/2", 1"): 1/2" fem. BSP

DN 50 (ANSI 2") : SERTO screwing

DN 100 (ANSI 4") : 1/2" fem. BSP or SERTO screwing

ZM-R 50, 100



Dimension	ZM-R 50 mm (inch)	ZM-R 100 mm (inch)
c (depends on size of diaphragm)	214 (8.4)	360 (14.1)
d	150 (5.9)	250 (9.8)
e	230 (9.0)	275 (10.8)
f	103 (4.1)	148 (5.8)
Device is symmetric		
flange DN (ANSI)	DN 50 (2") PN 10 - 16 (150 lbs)	DN 100 (4") PN 10 - 16 (150 lbs)

The sensing line 10 x 1mm shall be installed on the jobsite.

Installation length as per DIN EN 558-1

CHARACTERISTICS

Type of Vent	spring type	pressure range in mbar (psi)*	Diaphragm type	Seat in mm (inch)	Kvs	
ZM-R 15, 25	10	2 ... 12 (0.03 ... 0.17)	200	4,5 (0.2)	0,6	maximum primary pressure P1: 16 bar (232 psi)
	20	3 ... 22 (0.04 ... 0.32)	200	7,5 (0.3)	1,2	
	50	5 ... 60 (0.07 ... 0.87)	200	10 (0.4)	1,7	
	100	10 ... 120 (0.15 ... 1.7)	200	14 (0.6)	2,4	
	200	15 ... 220 (0.22 ... 3.2)	200			
	500	20 ... 520 (0.29 ... 7.5)	200			
	0	+5 ... -5 (0.07 ... -0.07)	200			
	-10	-3 ... -15 (-0.04 ... -0.22)	200			
	-50	-10 ... -60 (-0.15 ... -0.87)	200			
	-100	-20 ... -120 (-0.29 ... -1.7)	200			
ZM-R 50	10	3 ... 10 (0.04 ... 0.15)	360	14 (0.6)	2,8	temperature-application-area: up to 150°C (302°F) (above on demand)
	20	4 ... 20 (0.06 ... 0.29)	360	18 (0.7)	6,8	
	50	6 ... 40 (0.09 ... 0.58)	360	26 (1.0)	14,5	
	100	20 ... 100 (0.29 ... 1.45)	200	(double valve seat)		
	200	20 ... 200 (0.29 ... 2.9)	200			
	500	20 ... 500 (0.29 ... 7.25)	200			
ZM-R 100	100	8 ... 50 (0.12 ... 0.73)	600	42 (1.7)	33,5	(double valve seat)
	100	10 ... 120 (0.15 ... 1.74)	360	55 (2.2)	68	
	200	10 ... 80 (0.15 ... 1.16)	600			
	200	15 ... 180 (0.22 ... 2.61)	360			

* The given pressure ranges are reference values and apply to a primary pressure of 2 bar / 29 psi and vertical installation. Different ranges for other operating conditions are available on request.

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