

Pressure Maintaining Valve (Start up device) **Type DA-VPM-B20/415** (hereinafter called DA-VPM)

Operating Instructions

Maximum working pressure: 415 bar (6019 psig)

Standard set pressure ranges: 3 - 408 bar (5917 psig)
3 - 238 bar (3450 psig)

Description

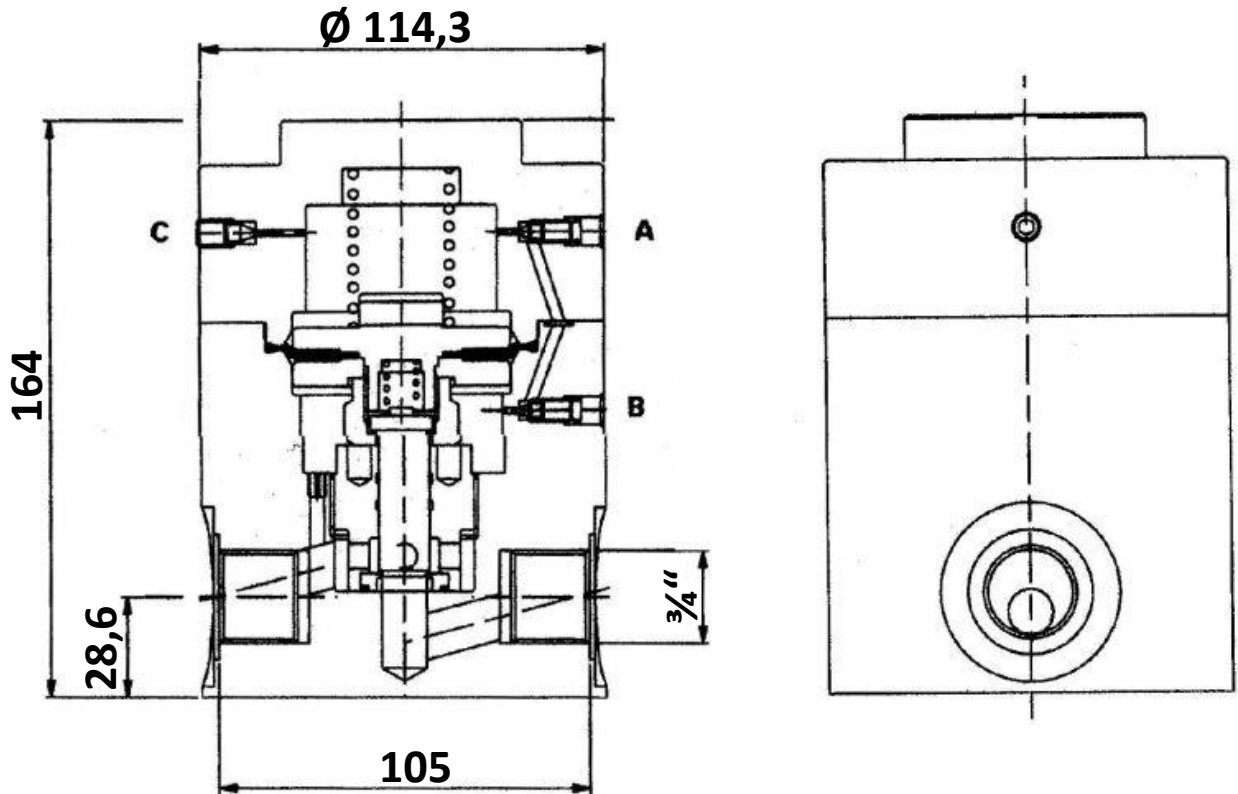
The DA-VPM is a sensitive relief valve in which a reference gas pressure, sealed in the Dome of the valve, is made to balance the inlet pressure acting below the diaphragm. At the balance point the main orifice will commence to open and flow will pass to the outlet. Diaphragm rupture will cause the valve to fail closed..

The standard valve is constructed from aluminium alloy, brass, stainless steel and plated steel with a soft seating manufactured from an engineering plastic. Alternative materials such as brass, bronze and stainless steel are available.

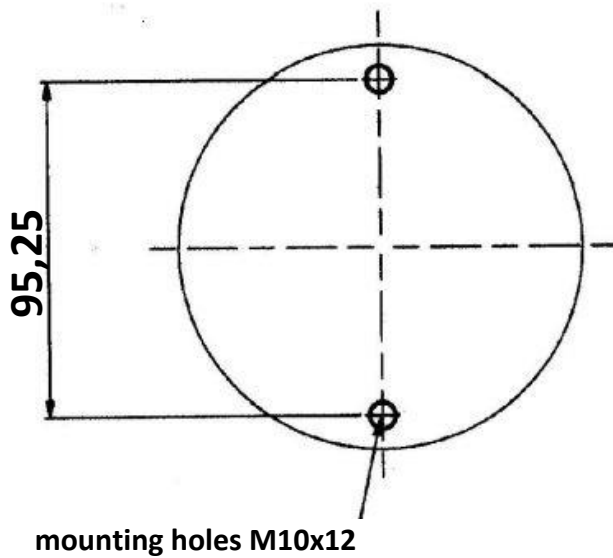
Installation

The valve is supplied with atmospheric pressure only in the dome. This should be checked by slackening the Dome Needle Valve (C) by one full turn to release any pressure that may be present and then firmly closing it. The valve can be installed in any attitude provided access to the Needle Valves is possible. Care must be taken to ensure no foreign particles enter the valve, particularly on the inlet side, as this may cause damage to the valve seating and cause leakage.

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Orifice Ø 12,7 mm



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Setting Instructions

To set the valve it is necessary to have a pressure gauge fitted into the inlet supply.

With no pressure on the inlet or outlet of the valve, check Needle Valve C is closed and open the Body Needle Valve (B) and Dome Needle Valve (A) by approximately one half turn, retain the key in the Needle Valve. Begin to apply pressure to the valve inlet and allow to build up steadily to the desired opening pressure. At this point quickly close the Dome Needle Valve (A). Then close the Body Needle Valve (B) firmly. With further increase of inlet pressure the main valve will lift at a value above the desired setting and allow flow to pass to the outlet. Final pressure adjustment is achieved by slightly cracking the Dome Vent Needle Valve (C) and allowing the Dome pressure to drop to give the correct setting required. Finally check all needle valves are firmly closed

Maintenance / Valve Refurbishment

This instruction is confined to the replacement of the valve, valve seat and seals only. Any damage caused to other components would require the units return to the manufacturer.

Before carrying out any servicing of the valve, ensure the valve is completely isolated from the supply and outlet pressures, all pressure must be removed from the valve and the dome must be de-pressurised by unscrewing all needle valves a minimum one full turn. It is recommended the valve is removed from the system and servicing carried out in a clean area. Special peg spanners are available for service.

Cleanliness during assembly is most important, particularly on all sealing surfaces.

Ensure the Spares Kit is suitable for the gas or fluid in the system.

When ordering a spares kit it is important to state the valve type, serial number and or the gas or fluid in the system.

It is advisable to hold a spares kit for emergency situations.

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Dismantling

1. Unscrew the dome securing bolts (6) and separate the Dome (7) and Body (8).
2. Remove Body 'O' ring (5).
3. Lift out the Diaphragm assembly (3, 9-14) which includes the Valve Plunger and Spring.
4. Unscrew the Valve Plunger Retaining Nut (12) and remove the Plunger (11) and Spring (13).
5. Unscrew the Upper and Lower Diaphragm Plates (9 & 10) and remove the Diaphragm (3).
6. Check all components for damage or wear. Replace if necessary.
7. Fit the new Diaphragm and securely clamp between the Diaphragm Plates.
Tighten plates to abutment, this will give the correct clamping force.
8. Replace the Plunger and Spring and retain with the Retaining Nut. Ensuring Nut is tightened.
9. Unscrew the Seat Retainer (15) and remove the Seat, Support Ring and 'O' ring (1, 2 & 4).
10. Fit the new Seat and 'O' ring and secure with the Seat Retainer. Ensure Retainer is tight.
11. Refit the Diaphragm / Plunger assembly ensuring the plunger slides freely in the Seat Retainer.
A light application of a suitable lubricant on the Plunger is advisable.
12. Replace the Body 'O' ring.
13. Replace the Spring and Dome and secure with the bolts. Tighten bolts to 70-80 Nm.
14. Remove the charging Needle Valves (16) and replace the 'O' ring (5), refit the Needle Valve.
15. Check condition of Dome Vent Needle (17).
16. The Valve is ready for test re-installation.

NOTE ensure lubricants are compatible with the gas in the system and change if necessary.

Pressure Maintaining Valve (Start up device) Type SK-VPM-B20/415

Spare parts (Service kit no. SK-VPM-B20-415-001)

Item	Article no.	Description	Qty.
1	A1751	Valve seat	1
2	A1754	Seat support ring	1
3	A2601	Diaphragm	1
4	S1016	O-Ring	1
5	S1004	O-Ring	3

