

Installation & Operating Instructions

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Replaces: 03.02

HAB Bladder and HAD Diaphragm Accumulators



Accumulator Installation & Operating Instructions

General

Hydraulic circuits incorporating accumulators may store hydraulic oil under pressure depending on the function of the accumulator in the system. Therefore, the system may remain pressurized after the pump is turned off.

CAUTION - Prior to performing any maintenance or system modifications, bleed off any stored system pressure.

Completely release all hydraulic fluid pressure in a safe controlled manner using appropriate valving. Installation of an automatic accumulator discharge valve in the hydraulic circuit is recommended.

Accumulator repairs must be performed by trained hydraulic service personnel experienced in servicing accumulators. Contact your local authorized distributor for application or repair assistance.

Bladder accumulators

Bladder accumulators will ship from the factory with a primer coating on the shell and with a rust preventative applied to other surfaces. The exception to this policy would be if Bosch Rexroth supplies a complete power unit assembly or accumulator stand and the customer specifies a particular finish coating on the entire unit.

It is the user's responsibility to provide sufficient corrosion protection corresponding to the ambient conditions that the accumulator will be exposed to over the life time of the equipment. If a finish coat is desired, it is strongly recommended to mask the accumulator nameplate and all caution / warning labels prior to painting. Nameplate information is required for warranty evaluation and replacement purposes, therefore proper masking should preserve the condition of the nameplate for future use!!

Bladder type accumulators are generally delivered with a nitrogen precharge pressure of approximately 25 psi (2 bar) for shipping purposes unless a higher pressure is specified in the accumulator model code. After installation and prior to initial start-up, the precharge pressure must be set to the application requirements, or machine manufacturer's specifications.

Diaphragm accumulator

Diaphragm type accumulators can be delivered with or without precharge pressure. The precharge pressure must be set to the application requirements, or machine manufacturer's specifications prior to initial start-up.

CAUTION - Improper accumulator precharge may result in decreased life or failure of the bladder or diaphragm.

Mounting & Installation

Bladder type accumulators should be mounted in a vertical position with the fluid port assembly at the bottom. Mounting bladder type accumulators in other orientations may result in reduced bladder life. Please consult the factory if other mounting positions are necessary.

Mounting of diaphragm accumulators is unrestricted. All accumulators must be rigidly installed using clamps and support brackets specifically designed for accumulator mounting. The fluid port assembly must not be used to support the weight of the accumulator.

CAUTION – DO NOT use gas valve or fluid port assembly as lifting points. The accumulator shell must not be altered. DO NOT weld or machine pressure vessel.

Improper installation may result in damage to the gas valve or fluid port assembly, accumulator shell, or seals. Exercise care not to paint over rating nameplate or the warning label.

Checking the gas pre-charge pressure

Bleed off hydraulic system pressure. After the accumulator has been put in service, the precharge pressure should be checked with an accumulator charging and testing device at least once in the first week. If this check reveals no loss in pressure, the precharge should be checked on the following schedule:

1st Check -	1 week
2nd Check -	3 months
3rd Check -	1 year
4th & Continued -	yearly

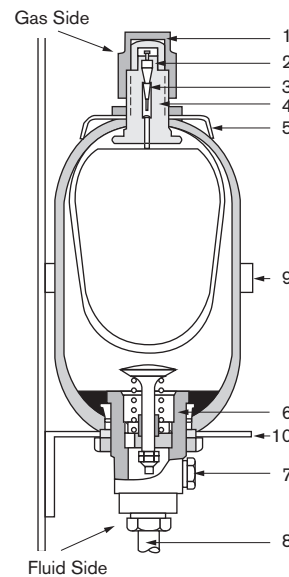


Fig.1 – Typical Bladder Accumulator Installation

1 Valve guard	6 Fluid port assy
2 Valve cap	7 Gauge port
3 Gas valve core	8 Hydraulic line
4 Gas valve body	9 Clamp
5 Name plate	10 Support bracket

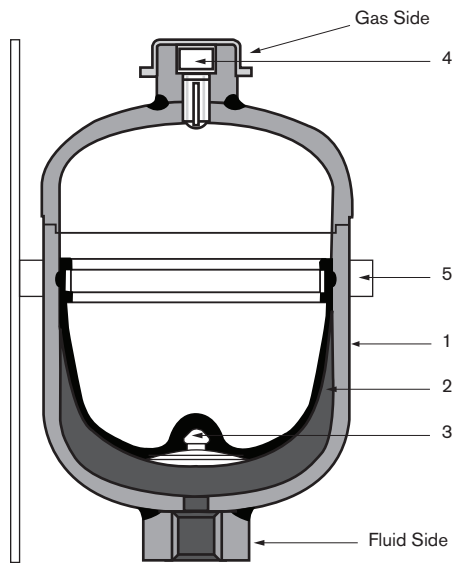


Fig. 2 – Typical Diaphragm Accumulator Installation

- 1 Shell
- 2 Diaphragm
- 3 Shut-off button
- 4 Screw plug
- 5 Clamp

If the gas precharge is low, investigate cause and correct. Possible causes of lost precharge pressure includes leaking or damaged gas valve, or damaged bladder or diaphragm.

Testing pre-charge pressure

Completely release accumulator hydraulic system pressure in a safe controlled manner. Install the charging and testing device onto the gas valve. Measure the pre-charge pressure using the gauge supplied in the charge kit.

Charging the accumulator

CAUTION - USE only dry 99.99% pure nitrogen for charging accumulators. NEVER USE OXYGEN OR AIR, due to the risk of explosion.

Close the drain valve on the charging and testing device and connect the hose to the nitrogen bottle.

Remove the valve guard and valve cap and screw the charging and testing device onto the gas valve. More detail information is provided in the instruction sheet furnished with the charging and testing device. Open the gas shut-off valve on the nitrogen bottle and allow the gas to flow slowly into the accumulator. Close the shut-off valve frequently and check the value of the precharge pressure on the gauge.

If the precharge pressure is too high, it may be reduced by opening the drain valve and allowing some nitrogen to escape.

Note: The precharge pressure will vary depending on the gas temperature. Once the desired precharge is reached, it is necessary to wait 2 minutes until the gas temperature has equalized. Once again the precharge pressure needs to be checked and adjusted if necessary.

Unscrew the charging and testing device and replace the valve guard and cap (see Fig. 1, Item #1 & #2) A check for leaks with a soapy solution should follow. If a leak is found, it should be repaired following recommended repair procedures. If the gas valve core is replaced, use only valve cores approved for accumulator service, NEVER USE AN AUTOMOTIVE TYPE VALVE CORE.

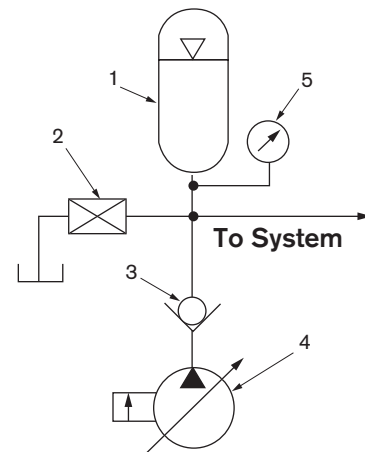


Fig. 3 – Typical Circuit

- | | |
|-----------------------------------|----------------------|
| 1 Accumulator | 3 Check valve |
| 2 Bleed automatic discharge valve | 4 Pump |
| | 5 Oil pressure gauge |

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