

IMPORTANT INSTRUCTIONS



B177 BY-PASS VALVES

WARNING: (1) Periodic inspection and maintenance of Corken products is essential. (2) Inspection, maintenance and installation of Corken products must be made only by experienced, trained and qualified personnel. (3) Maintenance, use and installation of Corken products must comply with Corken instructions, applicable laws and safety standards (such as NFPA Pamphlet 58 for LP-Gas and ANSI K61.1-1972 for Anhydrous Ammonia). (4) Transfer of toxic, dangerous, flammable or explosive substances using Corken products is at user's risk and equipment should be operated only by qualified personnel according to applicable laws and safety standards.

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IBEX

THE CORKEN B177 VALVE

Your new Corken B177 Valve is designed to maintain a constant differential pressure across a pump or any other piece of equipment requiring differential pressure control. Since horsepower on positive displacement pumps is directly related to the differential pressure developed by the pump, limiting pressure also limits horsepower. This is particularly important on electric motor driven LP Gas bulk plant pumps used to load or unload product from bobtails or transports to prevent overloading of the motor when a valve might be inadvertently closed in the pump discharge line.

Maximum working pressure of the B177 is 400 psi.

Following these instructions will help insure optimum performance of your new by-pass valve as well as your entire pumping system.

INSTALLATION OF THE B177 VALVE

The valve may be installed either vertically or horizontally. Figure 1 illustrates how the B177 may be installed as a pump differential by-pass valve. The valve inlet and outlet piping should be at least as large as the valve openings. The outlet piping should return to the storage tank, and may go either into the liquid or vapor section. *On liquified gas systems do not connect the valve outlet back into the pump inlet piping.*

A balance line *must* connect the valve bonnet to the storage or supply tank. The minimum size for this balance line is indicated in the following table:

B177 Valve Size	Balance Line Tubing Size
1¼" or 1½"	¼"
2" or 2½"	½"

ADJUSTMENT OF CORKEN B177 VALVES

The differential pressure setting of the B177 valve is adjustable in various ranges depending on the size of the spring. A tag is attached to the valve bonnet to identify the spring furnished and that information is repeated in the table below. All of the springs for each valve size are interchangeable.

B177 Size	Spring Number	Differential Pressure, PSIG
1¼" or 1½"	1817	20-70
	1818	60-100
	1819	80-160
2" or 2½"	1783	10-40
	1785	30-80
	1786	80-110
	1782, 1786	100-125

To set the by-pass valve properly on an electric motor driven bulk plant pump an ammeter is required. Follow the steps listed below:

1. Adjust the B177 Valve to its lowest pressure setting by turning the adjusting screw fully *clockwise*.
2. Close off the pump discharge line downstream of the by-pass valve and open the inlet valve.
3. Attach an ammeter to one of the wires leading to the electric motor.
4. Start the pump to allow full pump capacity to by-pass back into the tank from which you are pumping.
5. Slowly increase the by-pass valve setting by turning the adjusting screw *counter clockwise* until the ammeter indicates the full load current indicated on the motor nameplate. *Do not adjust the valve beyond the range of the spring.*

Note: On LP Gas installations, a maximum differential pressure of 125 psi is allowed by Underwriters Laboratories, Inc. and NFPA Pamphlet #58. Also, Corken model 1521 pump should never be operated over 100 psi differential.

6. Attach the tamper proof seal furnished with your valve to prevent unauthorized valve adjustment.

On installations where the pump has an internal safety relief valve, the B177 valve should be set at least 10 to 20 psi *below* the setting of the built in safety relief valve. This will eliminate the possibility of erratic "hunting" between the two valves.

Where an oversized motor is used, set the B177 valve with the pressure gauge mounted in the discharge of the pump. Increase the valve setting until the pressure is about 75 psi above the pressure gauge reading when the pump is turned off. However, do not exceed the maximum differential indicated above.

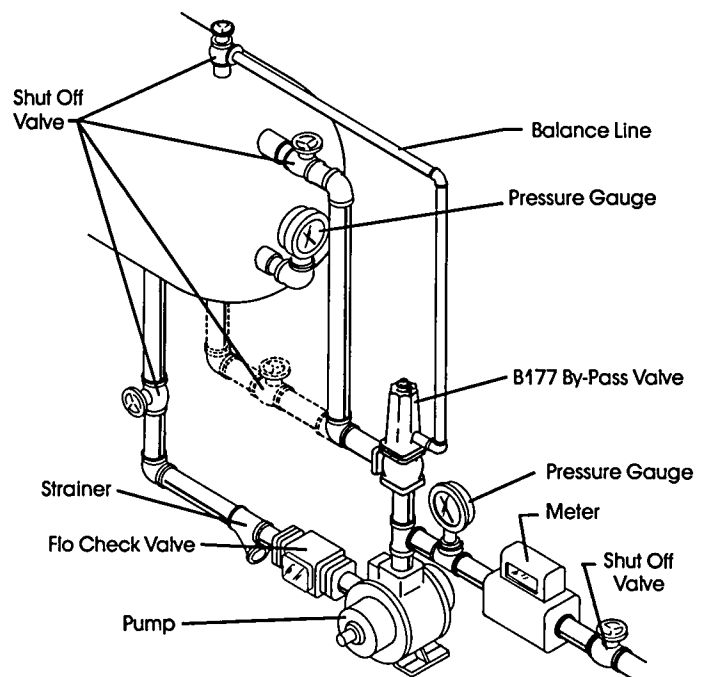
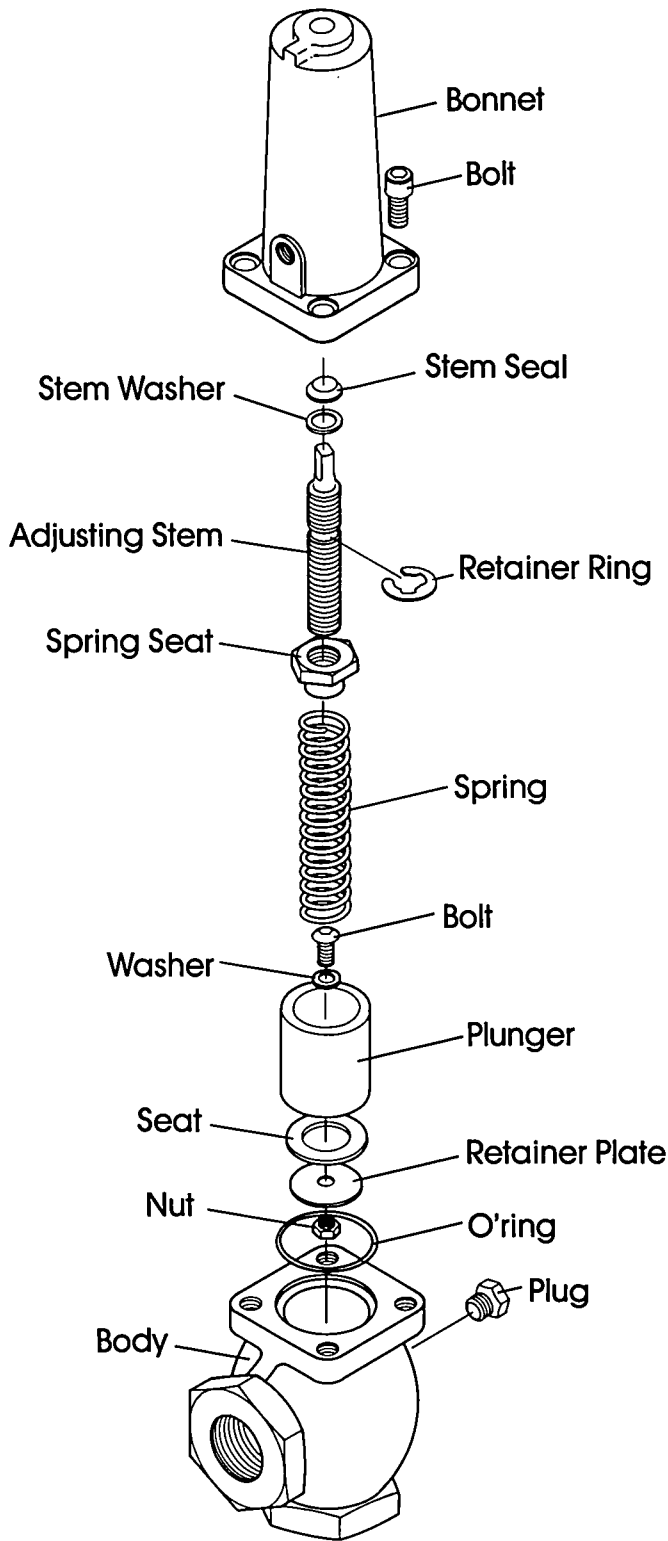
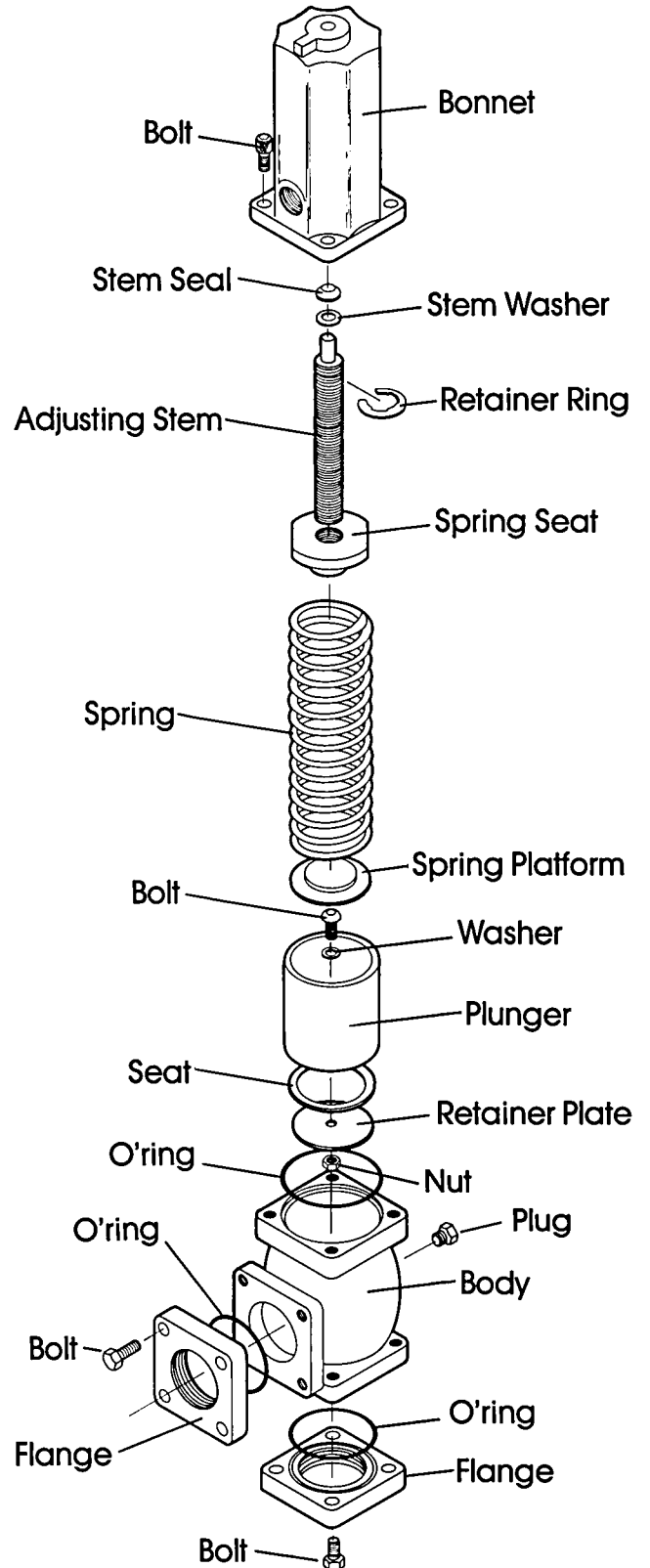


FIGURE 1

**DIFFERENTIAL BY-PASS VALVE
MODEL B177
1 1/4" or 1 1/2" N.P.T.**



**DIFFERENTIAL BY-PASS VALVE
MODEL B177
2" or 2 1/2" N.P.T.**



Refer to Service Manual page H102 for part no's.

WARNING

Install, use and maintain this equipment according to CORKEN, INC. instructions and all applicable federal, state, local laws and codes, and NFPA Pamphlet 58 for LP-Gas or ANSI K61.1-1972 for Anhydrous Ammonia. Periodic inspection and maintenance is essential.

CORKEN ONE-YEAR LIMITED WARRANTY

CORKEN, INC. warrants that its products will be free from defects in material and workmanship for a period of 12 months following date of purchase from CORKEN. CORKEN products which fail within the warranty period due to defects in material or workmanship will be repaired or replaced, at CORKEN's option, when returned, freight prepaid, to CORKEN, INC., 3805 N.W. 36th Street, Oklahoma City, Oklahoma 73112.

Parts subject to wear or abuse, such as mechanical seals, blades, piston rings and packing, and other parts showing signs of abuse are not covered by this limited warranty. Also, equipment, parts and accessories not manufactured by CORKEN but furnished with CORKEN products are not covered by this limited warranty and the purchaser must look to the original manufacturer's warranty, if any. This limited warranty is void if the CORKEN product has been altered or repaired without the consent of CORKEN.

All implied warranties, including any implied warranty of merchantability or fitness for a particular purpose, are expressly negated to the extent permitted by law and shall in no event extend beyond the expressed warranty period.

CORKEN DISCLAIMS ANY LIABILITY FOR CONSEQUENTIAL DAMAGES DUE TO BREACH OF ANY WRITTEN OR IMPLIED WARRANTY ON CORKEN PRODUCTS. Transfer of toxic, dangerous, flammable or explosive substances using CORKEN PRODUCTS is at the user's risk. Such substances should be handled by experienced, trained personnel in compliance with governmental and industrial safety standards.

WRITING THE FACTORY

For your convenience, the valve size and serial code are given on the valve nameplate. This serial code tells the month and year your valve was built. Space is provided below for you to keep a written record of this information.

Always include the valve size and serial code when ordering parts.

VALVE MODEL _____ VALVE SIZE _____ SERIAL CODE _____

DATE PURCHASED _____ DATE INSTALLED _____

PURCHASED FROM _____

INSTALLED BY _____

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