

Models 16L, 16LX Small Volume High Pressure Regulator INSTALLATION AND OPERATION

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NOTE: The following drawings form a part of this Instruction:

Installation Drawing	W-15L-B01	(Applies to 16L)
Assembly Drawing	W-16L-A01,	or as applicable

General

Model 16L and 16LX Regulators may be used in either gas or liquid systems. The 16L is designed for inlet pressure of 3000/6000 psi, the 16LX for inlet pressure of 6000 psi. Both models are available in a variety of outlet pressure ranges and port connection types and sizes. Non-metallic parts are available in various materials to suit service requirements. These design variations are identified by a basic figure number, followed by code letters.

Check pressure range and port connection fittings against service requirements. Do not use in systems where pressure may exceed ratings given on the nameplate.

Operation

The Model 16L/16LX is a reducing regulator, designed to maintain a constant reduced or delivered fluid pressure in a line or closed vessel where variations may occur in inlet pressure or in flow volume requirements.

There are two main cavities in the regulator, separated by the controlling diaphragm. The lower cavity, in the body, contains the line fluid at the outlet pressure. The upper cavity, which houses the operating parts, is vented to the atmosphere.

When the handwheel is turned clockwise, the operating spring is compressed and drives the diaphragm assembly down to open the valve. Line fluid is admitted through the valve of the regulator into the body cavity, and out through the outlet port. The flow of fluid

through the regulator builds up the pressure in the outlet system. This outlet pressure acts upward on the diaphragm in opposition to the operating spring. As this upward force builds up, the diaphragm assembly moves upward and allows the valve to close, thus reducing or shutting off the flow and holding the outlet pressure constant. Changing the compressing of the operating spring by turning the handwheel will cause a corresponding change in outlet pressure, thus allowing outlet pressure to be set at any pint within the design range of the regulator

Installation

1. The 16L/16LX Regulator may be installed in any position, at the location most convenient for adjustment and service. It may be panel, pipe, or flush mounted. Refer to Installation Drawing W-15L-B01 for mounting dimensions and diagrams.
2. Before connecting the regulator, blow out the supply line thoroughly to eliminate scale, chips, etc.
3. Turn handwheel counterclockwise to its limit, and admit upstream pressure to the inlet port.

Adjustment

1. Turn handwheel clockwise to increase, counter-clockwise to decrease the outlet pressure. Set at desired outlet pressure.

The RedQ Model 16L/16LX Regulator is now in operation.

Service Suggestions

Minor difficulties can be corrected with the regulator in the line. If the regulator does not respond to the following checks, it must be removed from the line and disassembled for cleaning and inspection.

Be sure to use only RedQ replacement parts. The Model 16L/16LX Regulator is manufactured to extremely close tolerances which must be maintained if the regulator is to function properly.

Instructions for complete overhaul are given in W-16L-B00-2, MAINTENANCE INSTRUCTIONS.

1. Failure to deliver pressure when handwheel is turned indicates inlet trouble.
 - a. First check supply pressure.
 - b. If supply is satisfactory, filter unit may have become clogged. Filter is mounted inside inlet port fitting and may be replaced without removing regulator from its mounting. Proceed as follows:
 - i. Release inlet pressure from regulator
 - ii. Unscrew inlet port fitting from body unit, holding body against torque to avoid damage to mounting.

- iii. Remove filter unit and inspect. If feasible, it may be cleaned and re-used. If not, discard and replace with new filter unit.
- iv. Replace inlet port fitting and tighten, using 140 ft-lb torque to ensure a tight metal-to-metal seal. Use a second wrench on the outlet port fitting to hold unit against torque and avoid damage to panel.

2. Heavy flow of line fluid out through spring barrel indicates diaphragm failure.
 - a. Remove regulator from line, for disassembly and replacement of damaged parts. Refer to W-16L-B01-2, MAINTENANCE INSTURCTIONS.

Appendix

Installation Drawing.	W-15L-B01
Assembly Drawing.	(As applicable)
Parts List.	(As applicable)

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