

April 2021

# Type 92W Liquid Regulator

## Introduction

### Scope of the Manual

This Instruction Manual provides installation, maintenance and parts ordering information for the Type 92W liquid pressure-reducing regulator, which includes the Type 6492H or 6492L pilot. Accessories used with this regulator, including any pressure-loading device for a Type 6492H or 6492L pilot with tapped spring case, are covered in other manuals for those accessories.

### Product Description

The Type 92W pressure-reducing regulator for liquid service includes either a Type 6492H or a Type 6492L pilot (Figure 1). Both pilots have a friction-reducing bellows seal on the stem. They offer precise pressure-setting adjustment plus high sensitivity to downstream pressure changes.

These pilots are available in either a standard version with a drilled spring case vent or an optional version with a tapped spring case vent and a sealed adjusting screw for pressure-loading service. A Fisher™ 67 or 1301 Series regulator or a 670 Series panel-mounted regulator may be used to load the pilot of a version for pressure-loading service.

### Principle of Operation

Pilot supply pressure is piped from the main valve inlet (Figure 2) to the pilot inlet connection. Downstream pressure registers on the main valve pistons through the downstream control line and then on the pilot diaphragm.

When increased downstream demand lowers the downstream pressure to a value below the setting of the pilot control spring, this spring forces the pilot valve plug open to increase the loading pressure on the main valve pistons. At the same time, the increased demand lowers the downstream pressure on the main valve piston(s). This opens the main valve plug, increasing flow to the downstream system to satisfy the increased demand and to restore downstream pressure to the setting of the pilot control spring.



**Figure 1.** Typical Connections

Decreased downstream demand increases the downstream pressure registered on the pilot diaphragm. The increased pressure overcomes the force of the pilot control spring and allows the pilot valve plug spring to close the pilot valve plug. As the pilot valve plug closes, excess loading pressure bleeds to the downstream

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## Specifications

This section lists the specifications for the Type 92W regulator. Factory specifications are stamped on the nameplate fastened on the regulator at the factory.

### Main Valve Body Sizes and End Connection Styles

| BODY SIZE,<br>NPS / DN  | END CONNECTION STYLE AND RATING <sup>(1)</sup> |                                   |
|---|--|-----------------------------------|
|   | Cast Iron Body                                 | Steel Body                        |
| 1, 1-1/2 and 2  | NPT  | NPT                               |
| 1, 1-1/2, 2, 2-1/2,<br>3 and 4 /<br>25, 40, 50, 65,<br>80 and 100 | CL125B FF or<br>CL250B RF                      | CL150 RF, CL300 RF<br>or CL600 RF |

### Maximum Inlet and Pilot Supply Pressure<sup>(1)</sup>

**Cast Iron Main Valve and Pilot:** 250 psig /  
17.2 bar or body rating limit, whichever is lower

**Steel Main Valve and Pilot:** 300 psig / 20.7 bar or  
body rating limit, whichever is lower

### Maximum Differential Pressure<sup>(1)</sup>

150 psig / 10.3 bar or body rating limit,  
whichever is lower

### Minimum Differential Pressure<sup>(1)</sup>

20 psig / 1.4 bar

### Outlet (Control) Pressure Ranges

See Table 1

### Maximum Outlet Pressures<sup>(1)</sup>

See Table 2

### Maximum Allowable Loading Pressure for Pilot with Tapped Spring Case<sup>(1)</sup>

Combination of pilot control spring setting and spring  
case loading pressure must not exceed 150 psig /  
10.3 bar for Type 6492H pilot or 25 psig / 1.7 bar  
for Type 6492L pilot

### Main Valve Port Diameters and Flow Coefficients

| BODY SIZE,<br>NPS / DN | PORT DIAMETER |      | REGULATING<br>CAPACITIES | K <sub>m</sub> |
|------------------------|---------------|------|--------------------------|----------------|
|                        | In.           | mm   |                          |                |
| 1 / 25                 | 7/8           | 22.2 | 10                       | 0.62           |
| 1-1/2 / 40             | 1-1/8         | 28.6 | 20                       | 0.62           |
| 2 / 50                 | 1-29/64       | 36.9 | 35                       | 0.62           |
| 2-1/2 / 65             | 1-5/8         | 41.3 | 48                       | 0.71           |
| 3 / 80                 | 2-1/16        | 52.4 | 66                       | 0.71           |
| 4 / 100                | 2-3/8         | 60.3 | 78                       | 0.71           |

### Maximum Material Temperature Capabilities<sup>(1)</sup>

**Cast Iron Construction:** 406°F / 208°C

**Steel Construction:** 500°F / 260°C

### Pressure Registration

External through downstream control line

### Downstream Control Line Connection

**NPS 1, 1-1/2 or 2 / DN 25, 40 or 50 Body Size:**

1/4 NPT female in main valve cylinder spacer

**NPS 2-1/2, 3 or 4 / DN 65, 80 or 100 Body Size:**

1/4 NPT female in pilot body

### Pilot Spring Case Vent

1/8 in. / 3.18 mm drilled hole (**standard** pilot) or

1/4 NPT female tapping for pressure loading  
service (optional pilot)

### Approximate Weights

| BODY SIZE,<br>NPS / DN | END CONNECTION | APPROXIMATE WEIGHT |          |
|------------------------|----------------|--------------------|----------|
|                        |                | Lbs                | kg       |
| 1 / 25                 | NPT or flanged | 32                 | 14       |
| 1-1/2 / 40             | NPT or flanged | 44                 | 20       |
| 2 / 50                 | NPT<br>Flanged | 55<br>67           | 25<br>30 |
| 2-1/2 / 65             | Flanged        | 90                 | 41       |
| 3 / 80                 | Flanged        | 115                | 52       |
| 4 / 100                | Flanged        | 165                | 75       |

1. The pressure/temperature limits in this Instruction Manual or any applicable code or standard limitations, must not be exceeded.

**Table 1. Outlet (Control) Pressure Ranges**

| OUTLET (CONTROL) PRESSURE RANGE |              |                  |             | PILOT CONTROL SPRING<br>COLOR CODE (SEE PARTS<br>LIST FOR PART NUMBER) |
|---------------------------------|--------------|------------------|-------------|--|
| Type 6492L Pilot                |              | Type 6492H Pilot |             |  |
| psig                            | bar          | psig             | bar         |  |
| 2 to 6                          | 0.14 to 0.41 | 10 to 30         | 0.69 to 2.1 | Yellow   |
| 5 to 15                         | 0.34 to 1.0  | 25 to 75         | 1.7 to 5.2  | Green  |
| 13 to 25                        | 0.90 to 1.7  | 70 to 150        | 4.8 to 10.3 | Red  |

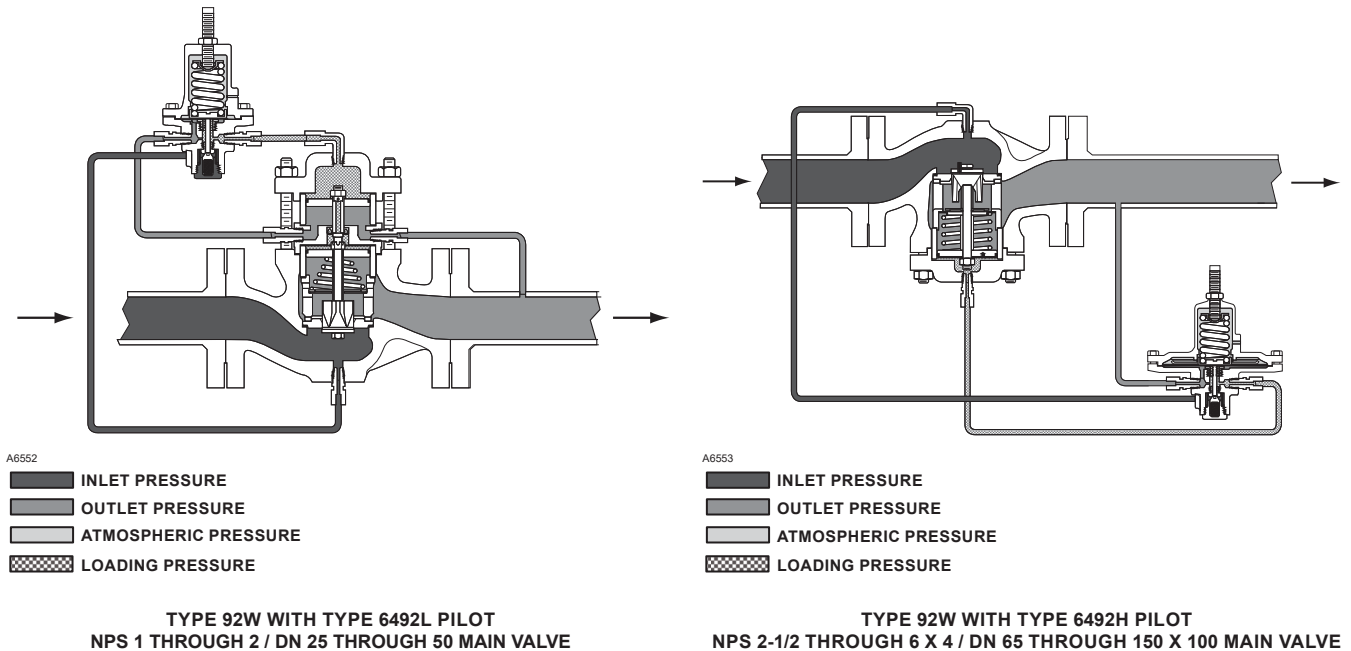


Figure 2. Operational Schematics

Table 2. Maximum Outlet Pressures

| CONSTRUCTION          | MAXIMUM OPERATING OUTLET PRESSURE | MAXIMUM EMERGENCY OUTLET PRESSURE (IF EXCEEDED, PRESSURE VESSEL INTEGRITY MAY NOT BE RETAINED AND PERSONAL INJURY OR PROPERTY DAMAGE COULD RESULT) |   |
|-----------------------|-----------------------------------|--|---|
|                       |                                   | Cast Iron Main Valve and Pilot Body  | Steel Main Valve and Pilot Body   |
| With Type 6492H pilot | 150 psig / 10.3 bar               | 250 psig / 17.2 bar or main valve body rating limit, whichever is lower  | 300 psig / 20.7 bar or main valve body rating limit, whichever is lower |
| With Type 6492L pilot | 25 psig / 1.7 bar                 | 50 psig / 3.4 bar  | 125 psig / 8.6 bar  |

system through the pilot bleed restriction. At the same time, decreased downstream demand increases the downstream pressure registered on the main valve piston(s). This allows the main valve spring to close the main valve plug, reducing flow to the downstream system in response to the decreased demand.

With a pressure-loaded or on-off pilot, the operation is the same as for a standard pilot except that the pilot control spring force on the pilot valve plug is aided by pneumatic pressure from the loading device or solenoid valve.

## Installation



### WARNING

Personal injury, equipment damage or leakage due to escaping liquid or bursting of pressure-containing parts may result if this regulator is overpressured or is installed where service conditions could exceed the limits given in the Specifications section and

on the appropriate nameplates or where conditions exceed any ratings of the adjacent piping or piping connections. To avoid such injury or damage, provide pressure-relieving or pressure-limiting devices to prevent service conditions from exceeding those limits.

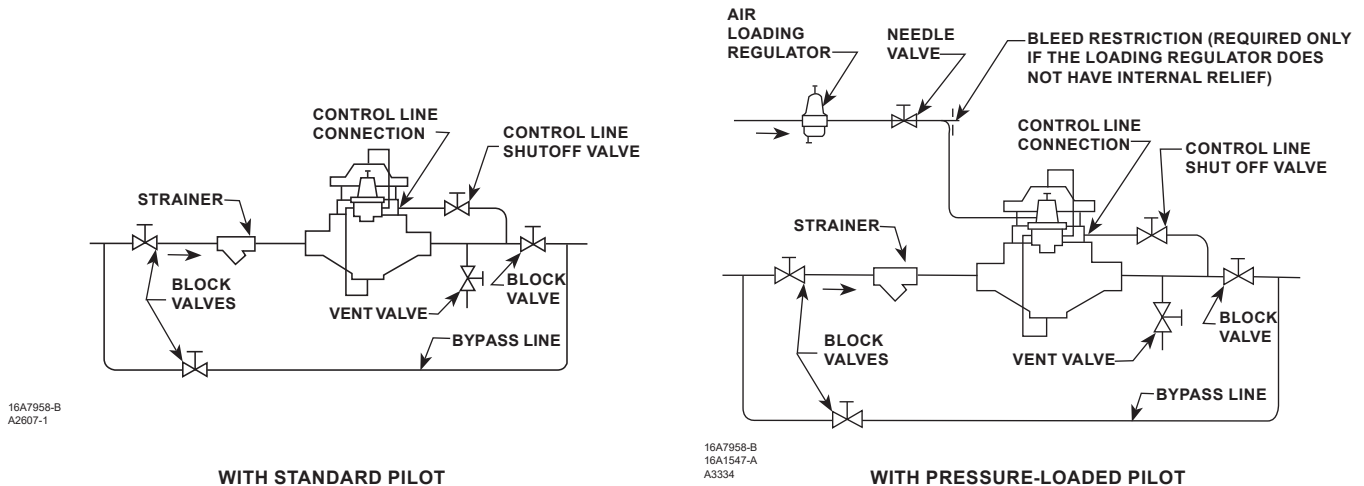
Additionally, the pilot could be broken off the main valve by physical damage, causing personal injury and property damage due to escaping liquid. To avoid such injury and damage, install the regulator in a safe location where it is protected from physical damage.



### CAUTION

Liquid pressure control systems should be designed using good engineering practices to eliminate quick starting or stopping of the flow stream, which can produce water hammer.

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**Figure 3. Typical Installations**

1. Only personnel qualified through training and experience should install, operate and maintain a Type 92W regulator. Before installation, make sure that there is no damage to or debris in, the regulator. Also make sure that all tubing and piping are clean and unobstructed.
2. A Type 92W regulator may be installed in any orientation, as long as flow through the regulator matches the direction of the arrow on the main valve body.
3. Apply liquid-compatible pipe compound to the male pipeline threads for an NPT body or use suitable line gaskets for a flanged body. Use acceptable piping procedures when installing the regulator.
4. If continuous operation of the system is required during inspection and maintenance, install a three-valve bypass around the regulator. If the flowing medium contains solids, install a properly sized strainer upstream of the regulator.

## Note

**A regulator that has the Type 6492H or 6492L pilot with a 1/8 in. / 3.2 mm drilled hole in the spring case may function improperly if this spring case vent hole becomes clogged. Install and maintain such regulator so that the spring case vent hole stays clear.**

5. As shown in Figure 3, connect a control line as large as possible but no smaller than 3/8 in. / 9.5 mm) diameter bushed down to the 1/4 NPT connection in the cylinder spacer (NPS 1, 1-1/2 or 2 / DN 25, 40 or 50 body size) or the pilot body (NPS 2-1/2, 3 or 4 / DN 65, 80 or 100 body size). With the NPS 2-1/2, 3 or 4 / DN 65, 80 or 100 body size, the pilot may be

mounted as shown in Figure 6 so that the control line connection faces either upstream or downstream.

6. Locate the control line connection at least 10 pipe diameters away from the regulator or swage and in a section of straight pipe.
7. Do not locate the control line connection in a gate, plug or check valve; or in an elbow, swage or other area of the pipeline where turbulence or abnormal velocities may occur; or in a large-volume vessel that can cause noticeable control lag.
8. Install a shutoff valve (not a needle valve) in the control line to isolate the pilot during maintenance.
9. Install a pressure gauge in the control line or near the regulator, to aid in setting the outlet pressure.
10. With a pressure-loaded or on-off pilot, connect the pressure-loading or on-off piping or tubing to the 1/4 NPT connection in the tapped pilot spring case.
11. The pressure setting of the regulator is determined by:
  - The pilot control spring adjustment on a standard pilot or
  - The pressure-loading device in conjunction with the control spring adjustment on a pressure-loaded pilot. In both cases, check these settings to make sure they are correct for the application.

## Startup and Adjustment

### Note

**The maximum inlet pressure for a specific construction is stamped on the main valve nameplate. Use pressure gauges to monitor upstream and downstream pressures during startup.**

## Adjustment

**On a regulator with a standard or pressure-loaded Type 6492H or 6492L pilot,** loosen the hex nut (key 16, Figure 4). Turn the adjusting screw (key 15, Figure 4) into the spring case to increase the downstream pressure. Turn the adjusting screw out of the spring case to decrease the downstream pressure. When the required downstream pressure is maintained for several minutes, tighten the hex nut to lock the adjusting screw in position.

**On a regulator with a pressure-loaded Type 6492H or 6492L pilot,** also refer to the instruction manual of the pressure-loading device for downstream pressure adjustment procedures. Make sure that the combined pilot control spring setting pressure and spring case loading pressure does not exceed 150 psig / 10.3 bar for the Type 6492H pilot or 25 psig / 1.7 bar for the Type 6492L pilot. For example, combining a 5 psig / 0.34 bar spring setting pressure and a 10 psig / 0.69 bar spring case loading pressure results in a regulator pressure of 15 psig / 1.0 bar.

## Startup with New Regulator Installation

1. Remove all pilot control spring compression by turning the adjusting screw out of the spring case according to the adjustment procedure.
2. Slowly open the upstream block valve.
3. Open the downstream block valve.
4. Open the control line shutoff valve.
5. If a bypass is used, slowly close the bypass line block valve.
6. Perform the adjustment procedure until the downstream pressure reaches the desired setting.

## Startup with Existing Regulator Installation After Normal Shutdown

1. Open the upstream and downstream block valves and let the regulator take over control at the existing pilot control spring setting.
2. If a bypass line is used, slowly control the bypass line block valve.

## Shutdown

1. If a bypass line is used, slowly open the bypass line block valve while monitoring the downstream pressure.
2. Close the control line shutoff valve.

3. Close the downstream block valve.
4. Close the upstream block valve.
5. If a pressure-loaded or on-off pilot is used, close the needle valve to the pilot.
6. Vent the regulator and control line to release any trapped pressure.

## Maintenance

Regulator parts are subject to normal wear and must be inspected periodically and replaced as necessary. The frequency of inspection and replacement depends upon the severity of service conditions and upon applicable codes and government regulations.



### WARNING

**Avoid personal injury or damage to property from sudden release of pressure or uncontrolled process fluid. Before starting to disassemble:**

- Isolate the regulator from the process,
- Release process pressure and
- Vent the pilot supply and main valve loading pressures.

## Types 6492H and 6492L Pilots

These procedures are to be performed if inspecting, cleaning or replacing any pilot parts or if cycling, erratic control or too high or too low an outlet (control) pressure is noted. Perform only those procedures in this section required to correct the problem. Key numbers refer to Figure 4 unless otherwise noted.

### Note

**Before performing any maintenance, loosen the hex nut (key 16), if used and turn the adjusting screw (key 15) counterclockwise until all compression is removed from the control spring (key 12). Remove the pilot from the pipe nipple and connectors (keys 82 and 83, Figure 6).**

1. Unscrew the plug guide (key 2). Remove the screen (key 77), plug (key 4), plug spring (key 3) and stem (key 7). Unscrew the seat ring (key 5). Examine the seat ring and plug seating surfaces for damage.
2. Clean and replace parts as necessary. Apply Anti-Seize sealant or equivalent to the seat ring threads. Thread the seat ring into place and tighten it to between 19 and 25 ft-lbs / 26 and 34 N•m of torque.



3. Handle the parts carefully and place the plug spring (key 3) in the plug guide (key 2). Slide the plug (key 4) over the spring and into the plug guide. Place the screen (key 77) onto the plug guide. Place the stem (key 7) in the center hole of the plug guide. Apply Anti-Seize sealant or equivalent to the plug guide threads and screw the guide plus attached parts into the body (key 1).
4. Remove the pipe plug and bleed restriction (keys 74 and 76). Clean or replace the restriction as necessary.
5. Sparingly apply Anti-Seize sealant or equivalent to the threads of the restriction and thread the restriction into place.
6. Apply Anti-Seize sealant or equivalent to the threads of the pipe plug. Thread the pipe plug into place and tighten it to between 5 and 15 ft-lbs / 7.0 and 20 N•m of torque.
7. Remove the cap screws (key 17), spring case (key 14), control spring (key 12) and upper spring seat (key 13) from the body.
8. Remove the lower spring seat (key 11, Type 6492H pilot only) or diaphragm assembly (key 24, Type 6492L pilot only), diaphragms (key 10) and diaphragm gasket (key 18) from the body. Inspect and clean the diaphragm gasket and replace it if necessary.
9. Unscrew the bellows retainer (key 8) and remove the bellows (key 9). Replace worn parts as necessary and install the bellows and bellows retainer. Tighten the bellows retainer to between 19 and 25 ft-lbs / 26 and 34 N•m.
10. Install the diaphragm gasket. Install both diaphragms with their raised preformed centers facing toward the spring case.
11. Lubricate the upper spring seat and the exposed threads of the adjusting screw with Anti-Seize sealant lubricant or equivalent. Install the lower spring seat (key 11, Type 6492H pilot only) or diaphragm assembly (key 24, Type 6492L pilot only), control spring (key 12), upper spring seat (key 13) and spring case (key 14). Insert and tighten the cap screws (key 17) to between 12 and 18 ft-lbs / 16.0 and 24.0 N•m of torque, using a crisscross bolting pattern.
12. When pilot maintenance is complete, refer to the startup and adjustment procedure to put the regulator back in operation and adjust the pressure setting.

## Type 92W Main Valve

Perform these procedures if replacing the piston(s), cylinder(s), stem(s), seals, valve plug or seat ring. All key numbers are referenced in Figure 5 except where otherwise indicated. Instructions are given for complete disassembly and assembly. Disassemble the main valve only as far as necessary to complete the required maintenance. Then, begin the assembly procedure at the appropriate step.

### Note

**The regulator may remain in the pipeline during maintenance procedures unless the main valve body is replaced or removed for repairs.**

**Whenever a gasket seal is disturbed by removing or shifting gasketed parts, a new gasket should be installed upon reassembly. This is necessary to ensure a good gasket seal.**

## Disassembly

1. Disconnect all tubing and remove the pilot from the main valve.
2. Remove the cap screws (key 3, not shown) from a cast iron body or stud nuts (key 4) from a steel body and lift off the body flange.
3. For the NPS 1, 1-1/2 and 2 / DN 25, 40 and 50 sizes, remove the top cylinder (key 17) and pull out the top piston with attached stem and other parts. Remove the hex nut (key 41), lock washer (key 40), top ring retainer (key 26) and top piston ring (key 25) from the top piston (key 24).
4. For the NPS 1, 1-1/2 and 2 / DN 25, 40 and 50 sizes, lift off the cylinder spacer (key 21) and remove the stem seal retainer (key 23) and stem seal (key 22) from the spacer.
5. Remove the cylinder (key 17), piston (key 24) with attached parts and spiral wound gasket (key 8).
6. Remove the cotter pin (key 16, NPS 1, 1-1/2 and 2 / DN 25, 40 and 50 sizes only), stem nut (key 15), bottom stem (key 9) with hex head, valve plug (key 6), piston ring retainer (key 26), piston ring (key 25), bottom piston ring retainer (key 26, NPS 1, 1-1/2 and 2 / DN 25, 40 and 50 sizes only), piston (key 24), spring (key 12), piston spacer (key 11), cage (key 5) and seat ring (key 7).
7. Either remove the retaining ring (key 14) or, if it is necessary to remove the baffle (key 13), remove the spring seat, washer and O-ring (keys 32, 34

and 38). With an NPS 2-1/2 through 4 / DN 65 through 100 sizes only, also remove the plug spacer (key 33).

## Assembly

1. Inspect and replace parts as necessary, making sure that the hollow passage in the top stem (NPS 1, 1-1/2 and 2 / DN 25, 40 and 50 sizes only) is free from debris.
2. Install a spiral wound gasket (key 8) into the body (key 1).
3. If installing a new valve plug and/or a new seat ring, lap the seating surfaces together outside the body. Use a commercial lapping compound or a mixture of solidified vegetable oil and 600-grit or finer silicon carbide or aluminum oxide.
4. Install the baffle (key 13), plug spacer (key 33) if used and either the retaining ring (key 14) or the O-ring, washer and spring seat (keys 38, 34 and 32) and then install the seat ring (key 7), valve plug (key 6) and stem (key 9) into the cage (key 5). Then, install the piston spacer (key 11) down through the baffle until it contacts the valve plug. Install the spring (key 12) and secure with the piston (key 24), piston ring (key 25) with its open end pointing out, piston ring retainer (key 26) and stem nut (key 15). For the NPS 1, 1-1/2 and 2 / DN 25, 40 and 50 sizes, lock the stem nut in place with a cotter pin (key 16), but do not fold the pin ends up on top of the stem since this can interfere with loading pressure registration through the top stem passage.
5. Install the main piston cage assembly with attached parts into the body. Coat one of the serrated edges of the main cylinder (key 17) with Anti-Seize sealant or equivalent, install a new cylinder gasket (key 18) onto this edge and install the cylinder gasket-side-up on the cage.
6. Install a new body gasket (key 19) onto the appropriate edge of the body.
7. For NPS 1, 1-1/2 and 2 / DN 25, 40 and 50 sizes, install the stem seal (key 22) onto the cylinder spacer (key 21) in the orientation shown in Figure 5 and secure with the stem seal retainer (key 23). Coat the serrated edge of the spacer with Anti-Seize sealant or equivalent and install the spacer edge-side-down over the bottom cylinder.
8. For NPS 1, 1-1/2 and 2 / DN 25, 40 and 50 sizes, install the top piston ring (key 25) with its open end pointing out, ring retainer (key 26) and stem (key 20) on the top piston. Secure these parts with the lock washer and hex nut (keys 40 and 41).

Install the top piston plus attached parts stem-first through the stem seal until the top stem contacts the bottom stem.

9. For NPS 1, 1-1/2 and 2 / DN 25, 40 and 50 sizes, coat both serrated edges of the top cylinder (key 17) with Anti-Seize sealant or equivalent, install new cylinder gaskets (key 18) on these edges and install the cylinder down over the top piston into the cylinder spacer.
10. Install the body flange (key 2) on the body and secure with the cap screws (key 3, not shown) for a cast iron body or with the stud nuts (key 4) for a steel body.
11. Install the pilot and connect all tubing as shown in Figure 6.
12. When all maintenance is complete, refer to the startup and adjustment procedure to put the regulator back into operation and adjust the pressure setting.

## Parts Ordering

When corresponding with a local Sales Office about this equipment, always reference the equipment serial number as found on the regulator nameplates.

When ordering replacement parts, reference the complete 11-character part number of each needed part as found in the following parts list.

## Parts List

### Types 6492L and 6492H Pilots (Figure 4)

| Key | Description  | Part Number |
|-----|--|-------------|
|     | Repair Kits (included are keys 4, 5, 7, 8, 9, 10 and 18) |             |
|     | Type 6492L pilot   | R6492LX0012 |
|     | Type 6492H pilot   | R6492HX0012 |
| 1   | Body   |             |
|     | Cast Iron  |             |
|     | Type 6492L pilot   | 32A0404X012 |
|     | Type 6492H pilot   | 22A0403X012 |
|     | Steel  |             |
|     | Type 6492L pilot   | 32A0404X052 |
|     | Type 6492H pilot   | 22A0403X052 |
| 2   | Plug Guide, Stainless steel                              | 1E391835132 |
| 3   | Plug Spring, Stainless steel                             | 1E392437022 |
| 4*  | Plug, Stainless steel                                    | 1F967446172 |
| 5*  | Seat Ring, Stainless steel                               | 1H564446172 |
| 7*  | Stem, Stainless steel                                    | 1F967835132 |
| 8*  | Bellows Retainer, Brass                                  | 1F971214012 |
| 9*  | Bellows, Brass   | 1F971318992 |
| 10* | Diaphragm, Stainless steel (2 required)                  |             |
|     | Type 6492L pilot   | ERCA00490A0 |
|     | Type 6492H pilot   | ERCA00459A0 |

\*Recommended spare part.

# Type 92W

| Key | Description  | Part Number | Key | Description  | Part Number |
|-----|--|-------------|-----|--|-------------|
| 11  | Lower Spring Seat, Aluminum<br>(Type 6492H pilot only)   | 1J9140X0032 | 2   | Body Flange (continued)<br>WCC steel (continued)           |             |
| 12  | Control Spring, Steel, Cadmium Plate<br>(see Table 1 for outlet pressure ranges)                     |             |     | NPS 2 / DN 50 body   | 26A7870X012 |
|     | Yellow   | 1E395627022 |     | NPS 2-1/2 / DN 65 body                                     | 27A1549X012 |
|     | Green  | 1D7455T0012 |     | NPS 3 / DN 80 body   | 27A1577X012 |
|     | Red  | 1E395727192 |     | NPS 4 / DN 100 body  | 27A1601X012 |
| 13  | Upper Spring Seat Steel, Cadmium Plate   | 1D667125072 | 3   | Cap Screw (not shown), Plate steel<br>(for cast iron body) |             |
| 14  | Spring Case  |             |     | NPS 1 / DN 25 body (4 required)                            | 16A7839X012 |
|     | Standard cast iron   |             |     | NPS 1-1/2 or 2 / DN 40 or 50<br>body (8 required)          | 1U625631192 |
|     | Type 6492L pilot   | 3J496319012 |     | NPS 2-1/2 / DN 65 body (8 required)                        | 1R281124052 |
|     | Type 6492H pilot   | 2J496219012 |     | NPS 3 / DN 80 body (8 required)                            | 1A454124052 |
|     | Tapped cast iron   |             |     | NPS 4 / DN 100 body (8 required)                           | 1A440224052 |
|     | Type 6492L pilot   | 3L442119012 | 3   | Stud Bolt, Steel (for steel body)                          |             |
|     | Type 6492H pilot   | 2L441919012 |     | NPS 1 / DN 25 body (4 required)                            | 1V5426X0052 |
|     | Standard steel   |             |     | NPS 1-1/2 or 2 / DN 40 or 50 body<br>(8 required)          | 16A7902X032 |
|     | Type 6492L pilot   | 3L416122012 |     | NPS 2-1/2 / DN 65 body (8 required)                        | 1R2848X0752 |
|     | Type 6492H pilot   | 2L416322012 |     | NPS 3 / DN 80 body (8 required)                            | 1A3781X0562 |
|     | Tapped steel   |             |     | NPS 4 / DN 100 body (8 required)                           | 1R3690X0592 |
|     | Type 6492L pilot   | 3L442222012 | 4   | Hex Nut, Steel (for steel body)                            |             |
|     | Type 6492H pilot   | 2L442022012 |     | NPS 1 / DN 25 body (4 required)                            | 1C3306X0832 |
| 15  | Adjusting Screw (standard spring case only)  |             |     | NPS 1-1/2 or 2 / DN 40 or 50 body<br>(8 required)          | 1A3772X0892 |
|     | Steel, Cadmium Plate   | 1D995448702 |     | NPS 2-1/2 / DN 65 body (8 required)                        | 1C3306X0832 |
|     | With handwheel   | 1J496428982 |     | NPS 3 / DN 80 body (8 required)                            | 1A3760X0832 |
| 16  | Hex Nut (standard spring case only),<br>Steel, Cadmium Plate   | 1A353724122 |     | NPS 4 / DN 100 body (8 required)                           | 1A3520X0922 |
| 17  | Cap Screw, steel, plate (10 required for<br>Type 6492L pilot and 8 required for<br>Type 6492H pilot) | 1A381624052 | 5   | Cage, Cast Iron  |             |
| 18* | Diaphragm Gasket, Graphite   |             |     | NPS 1 / DN 25 body   | 29A1379X012 |
|     | Type 6492L pilot   | 1E3970X0012 |     | NPS 1-1/2 / DN 40 body                                     | 26A7903X012 |
|     | Type 6492H pilot   | ERCA00485A1 |     | NPS 2 / DN 50 body   | 26A7872X012 |
| 19  | Drive Screw, Stainless steel (2 required)  | 1A368228982 |     | NPS 2-1/2 / DN 65 body                                     | 27A1550X012 |
| 20  | Nameplate, Aluminum  | -----       |     | NPS 3 / DN 80 body   | 27A1578X012 |
| 24  | Diaphragm Plate Assembly,<br>Aluminum/Steel/Stainless steel<br>(Type 6492L pilot only)               | 1E3967X0012 |     | NPS 4 / DN 100 body  | 27A1602X012 |
| 38  | Handwheel  | 1J496144012 | 6   | Valve Plug, Stainless steel                                |             |
| 34  | Machine Screw  | 16A5763X012 |     | NPS 1 / DN 25 body   | 16A7842X012 |
| 38  | Lockwasher   | 1A352332992 |     | NPS 1-1/2 / DN 40 body                                     | 16A7904X012 |
| 74  | Pipe Plug, Steel   | 0Z020128992 |     | NPS 2 / DN 50 body   | 16A7873X012 |
| 76  | Bleed Restriction, Stainless steel   | 19A2612X012 |     | NPS 2-1/2 / DN 65 body                                     | 27A1552X012 |
| 77  | Screen, Stainless steel  | 16A1512X012 |     | NPS 3 / DN 80 body   | 27A1580X012 |
| 78  | Reducing Bushing, Carbon steel   | 1C379026232 |     | NPS 4 / DN 100 body  | 27A1604X012 |
| 87  | Sealing Washer, Carbon steel<br>(tapped spring case only)  | 1V205699012 | 7   | Seat Ring, Stainless steel                                 |             |
|     |  |             |     | NPS 1 / DN 25 body   | 16A7844X012 |
|     |  |             |     | NPS 1-1/2 / DN 40 body                                     | 16A7906X012 |
|     |  |             |     | NPS 2 / DN 50 body   | 16A7875X012 |
|     |  |             |     | NPS 2-1/2 / DN 65 body                                     | 27A1553X012 |
|     |  |             |     | NPS 3 / DN 80 body   | 27A1581X012 |
|     |  |             |     | NPS 4 / DN 100 body  | 27A1605X012 |
|     |  |             | 8*  | Spiral Wound Gasket,<br>Stainless steel and Graphite       |             |
|     |  |             |     | NPS 1 / DN 25 body   | 16A7845X012 |
|     |  |             |     | NPS 1-1/2 / DN 40 body                                     | 16A7907X012 |
|     |  |             |     | NPS 2 / DN 50 body   | 16A7876X012 |
|     |  |             |     | NPS 2-1/2 / DN 65 body                                     | 17A1554X012 |
|     |  |             |     | NPS 3 / DN 80 body   | 17A1582X012 |
|     |  |             |     | NPS 4 / DN 100 body  | 17A1606X012 |
|     |  |             | 9   | Bottom Stem, Plate steel                                   |             |
|     |  |             |     | NPS 1 / DN 25 body   | 16A7846X012 |
|     |  |             |     | NPS 1-1/2 / DN 40 body                                     | 16A7908X012 |
|     |  |             |     | NPS 2 / DN 50 body   | 16A7877X012 |
|     |  |             |     | NPS 2-1/2 / DN 65 body                                     | 17A1556X012 |
|     |  |             |     | NPS 3 / DN 80 body   | 17A1584X012 |
|     |  |             |     | NPS 4 / DN 100 body  | 17A1608X012 |
|     |  |             | 10  | Pipe Plug (NPS 1,2 and 4 /<br>DN 25, 50 and 100 only)      | 1A767524662 |
|     |  |             | 11  | Piston Spacer, Steel                                       |             |
|     |  |             |     | NPS 1 / DN 25 body   | 16A7848X012 |
|     |  |             |     | NPS 1-1/2 / DN 40 body                                     | 16A7910X012 |
|     |  |             |     | NPS 2 / DN 50 body   | 16A7879X012 |
|     |  |             |     | NPS 2-1/2 / DN 65 body                                     | 17A1558X012 |

## Type 92W Main Valve (Figure 5)

Repair Kits (included are keys 8, 16,  
18, 19, 25 and 38)

|                        |             |
|------------------------|-------------|
| NPS 1 / DN 25 body     | R92SX000052 |
| NPS 1-1/2 / DN 40 body | R92SX000062 |
| NPS 2 / DN 50 body     | R92SX000072 |
| NPS 2-1/2 / DN 65 body | R92EX0000B2 |
| NPS 3 / DN 80 body     | R92EX000032 |
| NPS 4 / DN 100 body    | R92EX000042 |

|   |                        |                     |
|---|------------------------|---------------------|
| 1 | Body                   | See following Table |
| 2 | Body Flange            |                     |
|   | Cast iron              |                     |
|   | NPS 1 / DN 25 body     | 26A7837X012         |
|   | NPS 1-1/2 / DN 40 body | 26A7900X012         |
|   | NPS 2 / DN 50 body     | 26A7869X012         |
|   | NPS 2-1/2 / DN 65 body | 27A1548X012         |
|   | NPS 3 / DN 80 body     | 27A1576X012         |
|   | NPS 4 / DN 100 body    | 27A1600X012         |
|   | WCC steel              |                     |
|   | NPS 1 / DN 25 body     | 26A7838X012         |
|   | NPS 1-1/2 / DN 40 body | 26A7901X012         |

\*Recommended spare part.



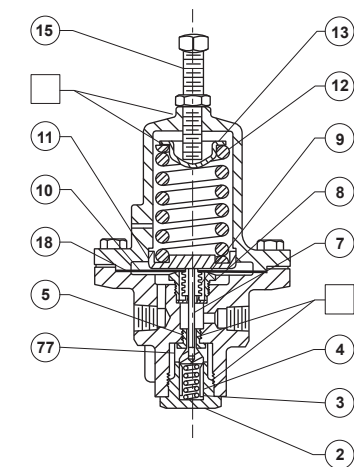
## Key 1, Body

| BODY MATERIAL | END CONNECTION STYLE                    | BODY SIZE, NPS / DN |             |             |             |             |             |
|---------------|---|---------------------|-------------|-------------|-------------|-------------|-------------|
|               |   | 1 / 25              | 1-1/2 / 40  | 2 / 50      | 2-1/2 / 65  | 3 / 80      | 4 / 100     |
| Cast iron     | NPT<br>CL125 FF<br>CL250 RF             | GE11518X012         | 26A7893X012 | GE10583X012 | ----        | ----        | ----        |
|               |   | GE11528X012         | 26A7894X012 | GE10585X012 | 37A1543X012 | 37A1571X012 | GE10707X012 |
|               |   | GE11580X012         | 26A7895X012 | GE10587X012 | 37A1544X012 | 37A1572X012 | GE10822X012 |
| WCB steel     | NPT<br>CL150 RF<br>CL300 RF<br>CL600 RF | GE11581X012         | 26A7896X012 | GE10588X012 | ----        | ----        | ----        |
|               |   | GE11583X012         | 26A7897X012 | GE10676X012 | 37A1545X012 | 37A1573X012 | GE10835X012 |
|               |   | GE11607X012         | 26A7898X012 | GE10678X012 | 37A1546X012 | 37A1574X012 | GE10839X012 |
|               |   | GE11608X012         | 26A7899X012 | GE10679X012 | 37A1547X012 | 37A1575X012 | GE10842X012 |

| Key | Description                         | Part Number | Key | Description                                     | Part Number |
|-----|-------------------------------------|-------------|-----|---|-------------|
| 11  | Piston Spacer, Steel (continued)    |             | 22  | Stem Seal, Polytetrafluoroethylene (PTFE)/glass |             |
|     | NPS 3 / DN 80 body                  | 17A1585X012 |     | NPS 1 / DN 25 body                              | 16A7962X012 |
|     | NPS 4 / DN 100 body                 | 17A1610X012 |     | NPS 1-1/2 or 2 / DN 40 or 50 body               | 16A7963X012 |
| 12  | Spring, Spring Wire                 |             | 23  | Stem Seal Retainer, Stainless steel             |             |
|     | NPS 1 / DN 25 body                  | 16A7849X012 |     | NPS 1 / DN 25 body                              | 16A7857X012 |
|     | NPS 1-1/2 / DN 40 body              | 16A7911X012 |     | NPS 1-1/2 or 2 / DN 40 or 50 body               | 16A7888X012 |
|     | NPS 2 / DN 50 body                  | 16A7880X012 | 24  | Piston, Stainless steel                         |             |
|     | NPS 2-1/2 / DN 65 body              | 17A1559X012 |     | NPS 1 / DN 25 body (2 required)                 | 19A6005X012 |
|     | NPS 3 / DN 80 body                  | 17A1586X012 |     | NPS 1-1/2 / DN 40 body (2 required)             | 19A6006X012 |
|     | NPS 4 / DN 100 body                 | 17A1611X012 |     | NPS 2 / DN 50 body (2 required)                 | 19A6007X012 |
| 13  | Baffle, Stainless steel             |             |     | NPS 2-1/2 / DN 65 body (1 required)             | 17A1564X012 |
|     | NPS 1 / DN 25 body                  | 19A1378X012 |     | NPS 3 / DN 80 body (1 required)                 | 17A1590X012 |
|     | NPS 1-1/2 / DN 40 body              | 16A7912X012 |     | NPS 4 / DN 100 body (1 required)                | 17A1615X012 |
|     | NPS 2 / DN 50 body                  | 16A7881X012 | 25  | Piston Ring, PTFE                               |             |
|     | NPS 2-1/2 / DN 65 body              | 17A1560X012 |     | NPS 1 / DN 25 body (2 required)                 | 19A6010X012 |
|     | NPS 3 / DN 80 body                  | 17A1587X012 |     | NPS 1-1/2 / DN 40 body (2 required)             | 19A6011X012 |
|     | NPS 4 / DN 100 body                 | 17A1612X012 |     | NPS 2 / DN 50 body (2 required)                 | 19A6012X012 |
| 14  | Retaining Ring, Steel               |             |     | NPS 2-1/2 / DN 65 body (1 required)             | 17A1565X012 |
|     | NPS 1 / DN 25 body                  | 16A7851X012 |     | NPS 3 / DN 80 body (1 required)                 | 17A1591X012 |
|     | NPS 1-1/2 / DN 40 body              | 16A7913X012 |     | NPS 4 / DN 100 body (1 required)                | 17A1616X012 |
|     | NPS 2 / DN 50 body                  | 16A7882X012 | 26  | Ring Retainer, Stainless steel                  |             |
| 15  | Hex Nut, Steel                      |             |     | NPS 1 / DN 25 body (2 required)                 | 16A7860X012 |
|     | NPS 1 / DN 25 body                  | 16A7852X012 |     | NPS 1-1/2 / DN 40 body (2 required)             | 16A7922X012 |
|     | NPS 1-1/2 or 2 / DN 40 or 50 body   | 16A7914X012 |     | NPS 2 / DN 50 body (2 required)                 | 16A7891X012 |
|     | NPS 2-1/2 or 3 / DN 65 or 80 body   | 1A413224122 |     | NPS 2-1/2 / DN 65 body (1 required)             | 17A1566X012 |
|     | NPS 4 / DN 100 body                 | 1A420124122 |     | NPS 3 / DN 80 body (1 required)                 | 17A1592X012 |
| 16  | Cotter Pin, Stainless steel         |             |     | NPS 4 / DN 100 body (1 required)                | 17A1617X012 |
|     | NPS 1 / DN 25 body                  | 16A7930X012 | 28  | Nameplate, Stainless steel                      | -----       |
|     | NPS 1-1/2 or 2 / DN 40 or 50 body   | 17A5574X012 | 29  | Flow Arrow, Stainless steel                     | -----       |
| 17  | Cylinder, 416 Stainless steel       |             | 30  | Drive Screw, Stainless steel (4 required)       | 1A368228982 |
|     | NPS 1 / DN 25 body (2 required)     | 16A7853X012 | 32  | Spring Seat, Carbon steel                       |             |
|     | NPS 1-1/2 / DN 40 body (2 required) | 16A7915X012 |     | NPS 2-1/2 / DN 65 body                          | 17A1567X012 |
|     | NPS 2 / DN 50 body (2 required)     | 16A7884X012 |     | NPS 3 / DN 80 body                              | 17A1593X012 |
|     | NPS 2-1/2 / DN 65 body (1 required) | 17A1561X012 |     | NPS 4 / DN 100 body                             | 17A1618X012 |
|     | NPS 3 / DN 80 body (1 required)     | 17A1588X012 | 33  | Plug Spacer, steel                              |             |
|     | NPS 4 / DN 100 body (1 required)    | 17A1613X012 |     | NPS 2-1/2 / DN 65 body                          | 17A1568X012 |
| 18* | Cylinder Gasket, Copper             |             |     | NPS 3 / DN 80 body                              | 17A1594X012 |
|     | NPS 1 / DN 25 body (3 required)     | 16A7854X012 |     | NPS 4 / DN 100 body                             | 17A1619X012 |
|     | NPS 1-1/2 / DN 40 body (3 required) | 16A7916X012 | 34  | Washer, Carbon steel                            |             |
|     | NPS 2 / DN 50 body (3 required)     | 16A7885X012 |     | NPS 2-1/2 or 3 / DN 65 or 80 body               | 17A1569X012 |
|     | NPS 2-1/2 / DN 65 body (1 required) | 14A5685X022 |     | NPS 4 / DN 100 body                             | 17A1620X012 |
|     | NPS 3 / DN 80 body (1 required)     | 17A1589X012 | 35  | Groove Pin, Stainless steel                     |             |
|     | NPS 4 / DN 100 body (1 required)    | 17A1614X012 |     | NPS 2-1/2 / DN 65 or larger body                | 1C8989X0012 |
| 19* | Body Gasket, Copper                 |             | 38* | O-ring, PTFE                                    |             |
|     | NPS 1 / DN 25 body                  | 14A6785X022 |     | NPS 2-1/2 or 3 / DN 65 or 80 body               | 17A7396X012 |
|     | NPS 1-1/2 / DN 40 body              | 14A3384X022 |     | NPS 4 / DN 100 body                             | 17A7397X012 |
|     | NPS 2 / DN 50 body                  | 14A5685X022 | 40  | Lockwasher, Stainless steel                     |             |
|     | NPS 2-1/2 / DN 65 body              | 17A1563X012 |     | NPS 1 / DN 25 body                              | 1F128035022 |
|     | NPS 3 / DN 80 body                  | 13A0354X022 |     | NPS 1-1/2 or 2 / DN 40 or 50 body               | 1A505638992 |
|     | NPS 4 / DN 100 body                 | 14A5650X022 | 41  | Hex Nut   |             |
| 20  | Top Stem, Stainless steel           |             |     | NPS 1 / DN 25 body, 316 Stainless steel         | 1A391535252 |
|     | NPS 1 / DN 25 body                  | 16A7855X012 |     | NPS 1-1/2 or 2 / DN 40 or 50 body,              |             |
|     | NPS 1-1/2 or 2 / DN 40 or 50 body   | 16A7886X012 |     | Zinc-plated steel                               | 1A346524122 |
| 21  | Cylinder Spacer, Steel              |             |     |   |             |
|     | NPS 1 / DN 25 body                  | 26A7856X012 |     |   |             |
|     | NPS 1-1/2 / DN 40 body              | 26A7918X012 |     |   |             |
|     | NPS 2 / DN 50 body                  | 26A7887X012 |     |   |             |

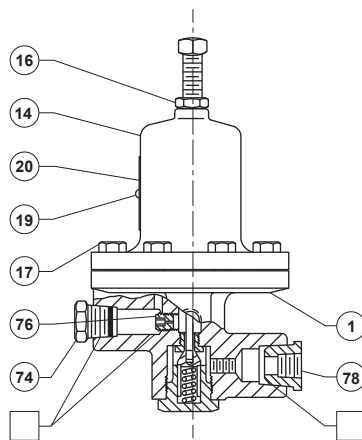
\*Recommended spare part.

# Type 92W



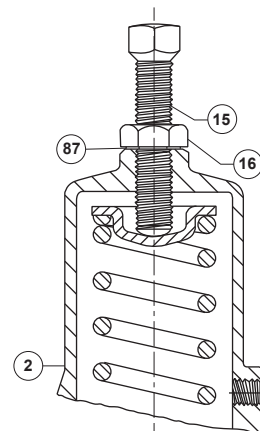
39A3514-B

□ APPLY LUBRICANT/SEALANT



39A3514-B

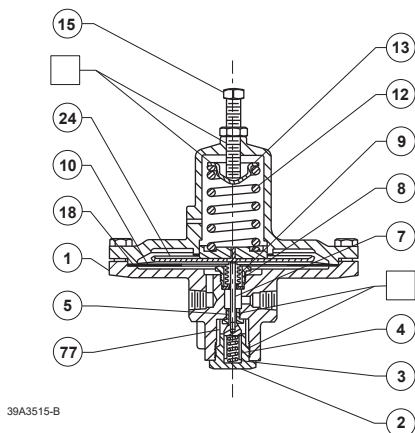
□ APPLY LUBRICANT/SEALANT



32A4712-A  
A3505

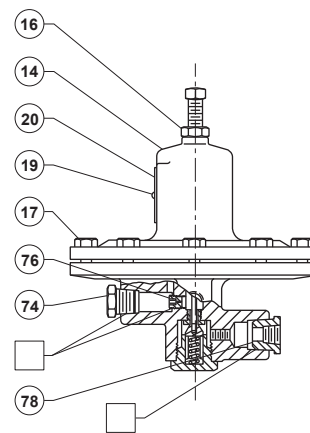
DETAIL OF TAPPED SPRING CASE  
WITH SEALED ADJUSTING SCREW

COMPLETE TYPE 6492H PILOT



39A3515-B

□ APPLY LUBRICANT/SEALANT



COMPLETE TYPE 6492L PILOT

Figure 4. Pilot Assemblies

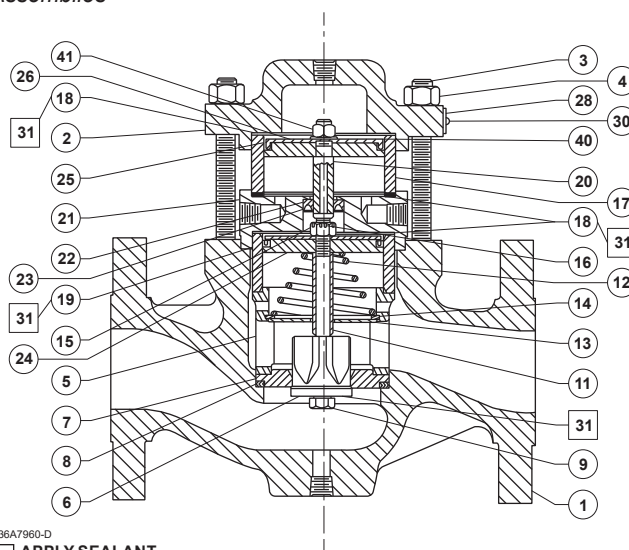
## Pilot Mounting Parts (Figure 6)

### Key Description

- 81 Loading Tubing, Copper
- 82 Pipe Nipple, Steel
- 83 Connector, Brass
- 84 Elbow, brass (3 required for NPS 1, 1-1/2 or 2 / DN 25, 40 or 50 body size and 1 required for larger sizes)
- 85 Inlet Tubing, copper (NPS 1, 1-1/2 or 2 / DN 25, 40 or 50 body only)

### Part Number

-----  
-----  
-----  
-----  
-----

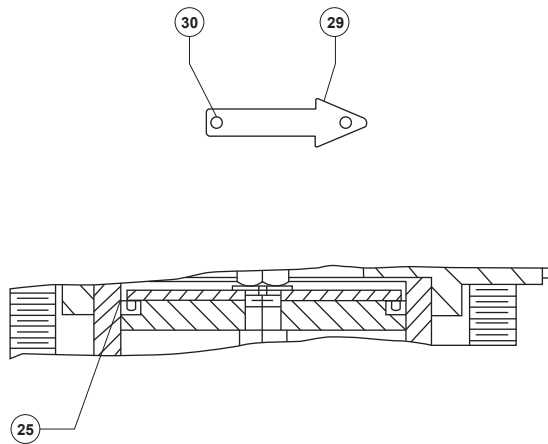


36A7960-D

□ APPLY SEALANT

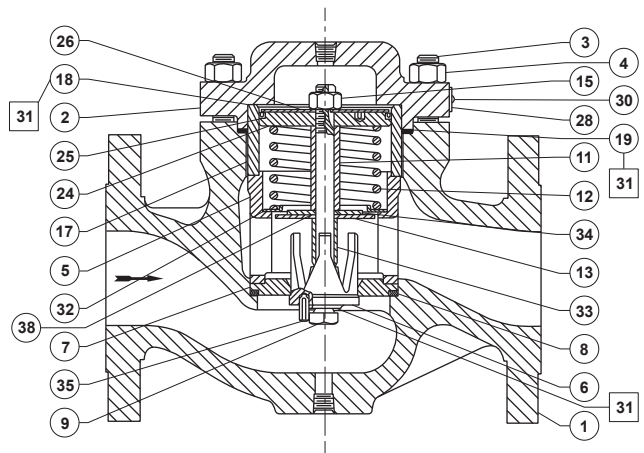
NPS 1, 1-1/2 OR 2 / DN 25, 40 OR 50 BODY SIZE

Figure 5. Type 92W Main Valve Assemblies



36A7960-D

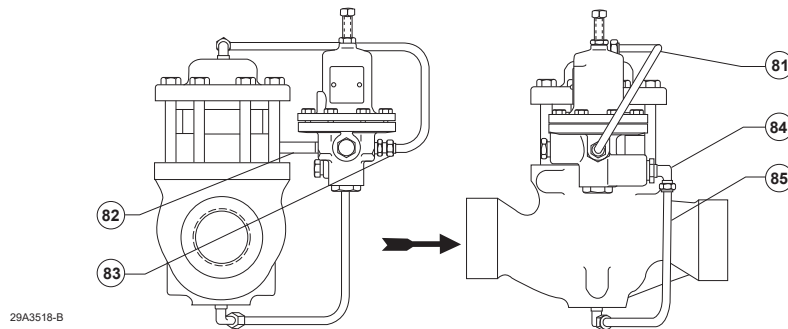
**CORRECT ORIENTATION OF PISTON RING (KEY 25)**



37A1622-D

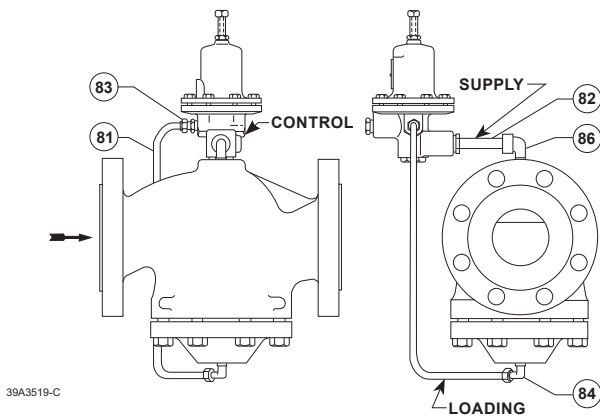
**NPS 2-1/2, 3 OR 4 / DN 65, 80 OR 100 BODY SIZE**

**Figure 5. Type 92W Main Valve Assemblies (continued)**



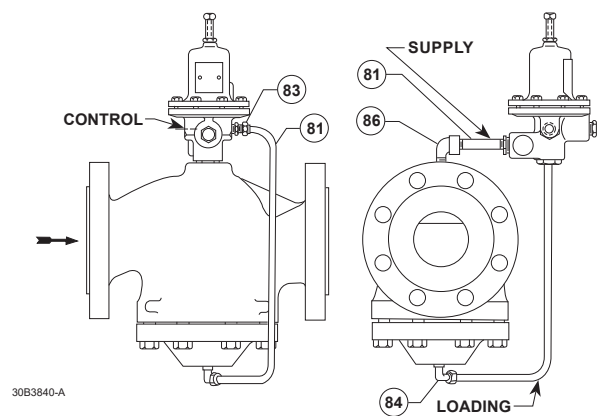
29A3518-B

**NPS 1, 1-1/2 OR 2 / DN 25, 40 OR 50 BODY SIZE**



39A3519-C

**WITH PILOT MOUNTED IN STANDARD POSITION SO CONTROL LINE CONNECTION FACES DOWNSTREAM**



30B3840-A

**WITH PILOT MOUNTED IN OPTIONAL POSITION SO CONTROL LINE CONNECTION FACES UPSTREAM**

**NPS 2-1/2, 3 OR 4 / DN 65, 80 OR 100 BODY SIZE**

**Figure 6. Pilot Mounting Parts**

# Type 92W

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 Webadmin.Regulators@emerson.com

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 Facebook.com/EmersonAutomationSolutions

 LinkedIn.com/company/emerson-automation-solutions

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## Emerson Automation Solutions

### Americas

McKinney, Texas 75070 USA  
T +1 800 558 5853  
+1 972 548 3574

### Europe

Bologna 40013, Italy  
T +39 051 419 0611

### Asia Pacific

Singapore 128461, Singapore  
T +65 6777 8211

### Middle East and Africa

Dubai, United Arab Emirates  
T +971 4 811 8100

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