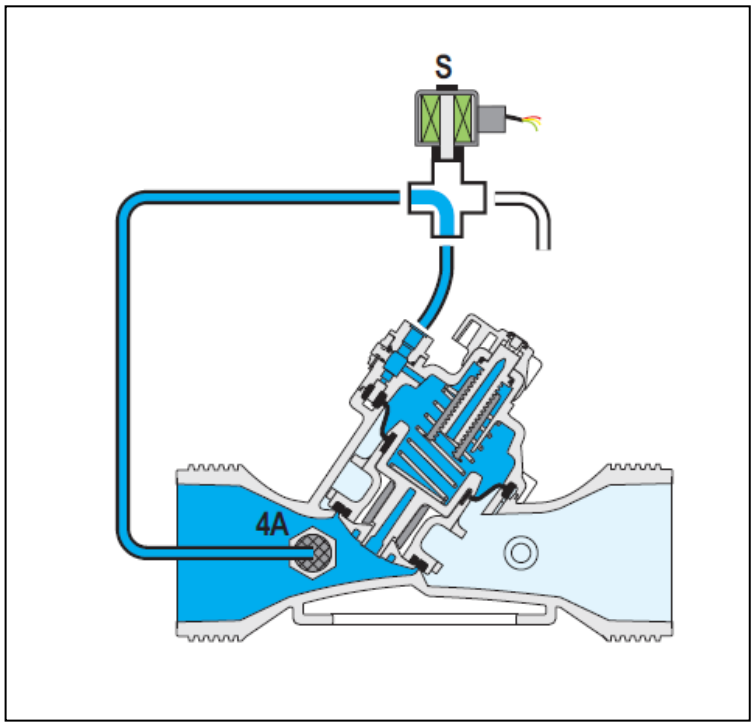
Solenoid Control Valve

(Sizes 1.5''- 6"; DN40-150)



Description:

The BERMAD Solenoid Controlled Valve is a Hydraulically operated, diaphragm actuated control valve. The BERMAD Model IR-110-X opens and closes Drip-tight in response to an electric signal.

Installation:

1. Ensure enough space around the valve assembly for future maintenance and adjustments.
2. Prior to valve installation, flush the pipeline to insure flow of clean fluid through the valve.
3. For future maintenance, install Isolation gate valves upstream and downstream from Bermad control valve.
4. Install the valve in the pipeline with the valve flow direction arrow in the actual flow direction.
5. For best performance, it is recommended to install the valve horizontally and upright.
6. After installation carefully inspect/correct any damaged accessories, piping, tubing, or fittings.
7. Cross-Check solenoid specifications with design requirements and solenoid/coil label.
8. Ensure approved cable protection. Confirm that the wires data meet solenoid specifications.

Note: Energizing the solenoid coil when it is not fixed in its place, is dangerous and might burn the coil.

Commissioning & Calibration:

1. Confirm that the valve installed in the flow direction.
2. Allow the valve to open by using the solenoid manual override or by: Operating the solenoid.
3. Open fully the upstream isolating valve and slowly open the downstream isolating valve, to fill-up, carefully, the consumers' line downstream from the Valve.
4. Check valve solenoid control feature by De-Energizing & Energizing the solenoid to close & open the valve.

Trouble-Shooting:

Symptoms	Cause	Remedy
Valve fails to open	1. Not sufficient inlet pressure. 2. Not sufficient flow. 3. Solenoid functioning	1. Check for sufficient inlet pressure. 2. Create demand/flow, confirm pilot setting. 3. Check solenoid power supply, coil & Manual Override Handle position
Valve fails to close	1. Control circuit is clogged. 2. Debris. 3. Diaphragm. 4. Solenoid functioning	1. Check for any debris trapped in the valve control circuit. 2. Check for any debris trapped in the valve body. 3. Check diaphragm is not leaking. 4. Check solenoid power supply, coil & Manual Override Handle position.

Preventive Maintenance:

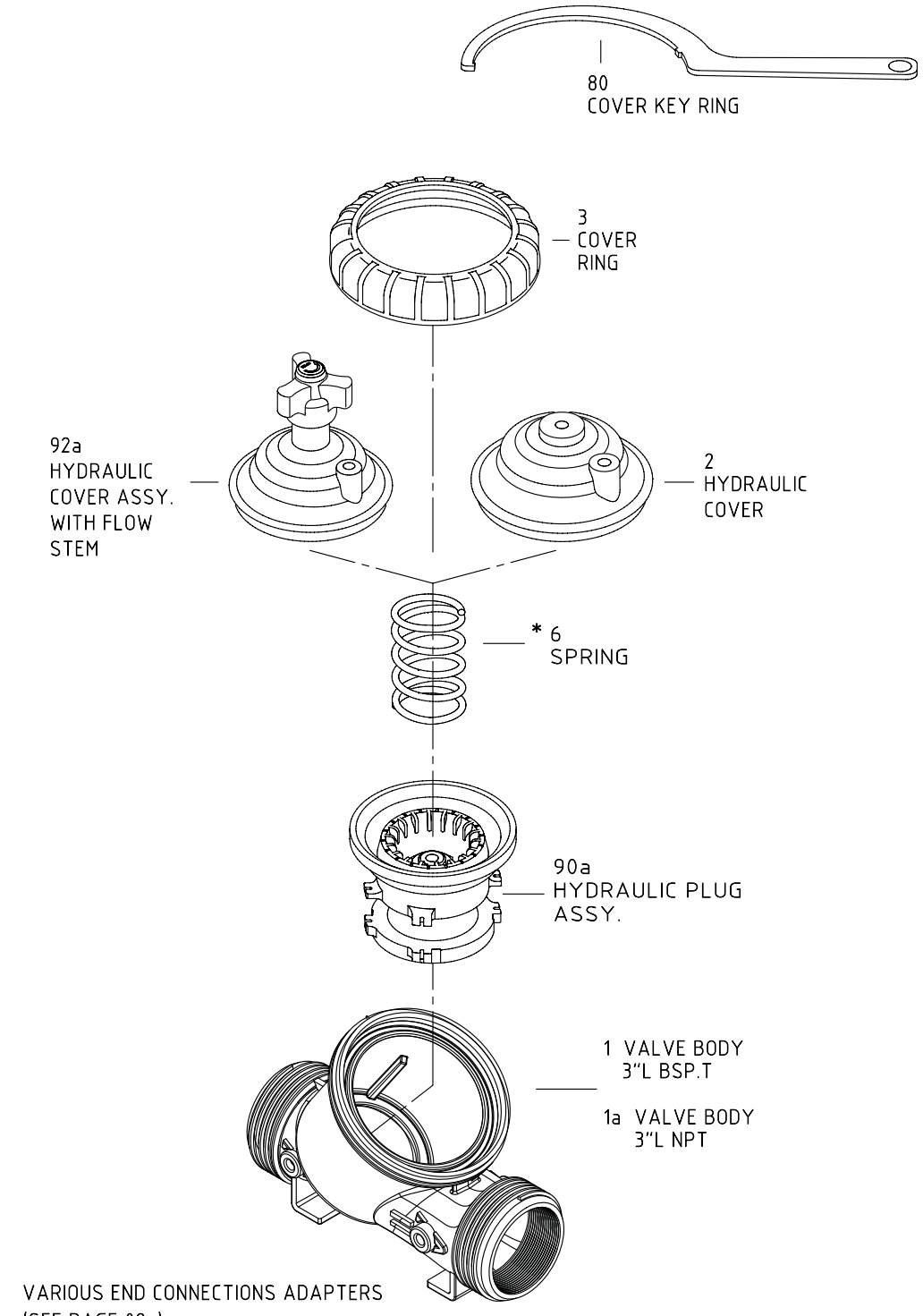
1. System operating conditions that effect on the valve should be checked periodically to determent the required preventative maintenance schedule.
2. Maintenance instructions:
   - 2.1. Tools required:
     - 2.1.1. Metric and imperial wrenches
     - 2.1.2. Anti-seize grease
     - 2.1.3. Visual inspection to locate leaks and external damages
   - 2.2. Functional inspection including: closing, opening and regulation.
   - 2.3. Close upstream and downstream isolating valves (and external operating pressure when used)
   - 2.4. Once the valve is fully isolated vent pressure by loosening a plug or a fitting.
   - 2.5. Open the screw nuts and remove the cover unit from the valve body. Disassemble necessary control tubs.
   - 2.6. It is highly recommended to stock a reserve parts assembly for each size. This allows minimum system field work. And system down time.
   - 2.7. Disassemble the cover and examine the inside parts carefully for signs of wear, corrosion, or any other abnormal conditions.
   - 2.8. Replace worn parts and all the Elastomers. Lubricate the bolts and screws threads with Anti seize grease.
   - 2.9. Winterizing /freezing prevention: drain the valve & the valve accessories (pilot, solenoid) on time.

Spare Parts

Bermad has a convenient and easy to use ordering guide for valve spare-parts and control system components.
For solenoid valves refer to model and S/N on solenoid tags.

Y-Pattern Hydraulic Control Valves

Sizes: 3L - 4"; DN80L-100

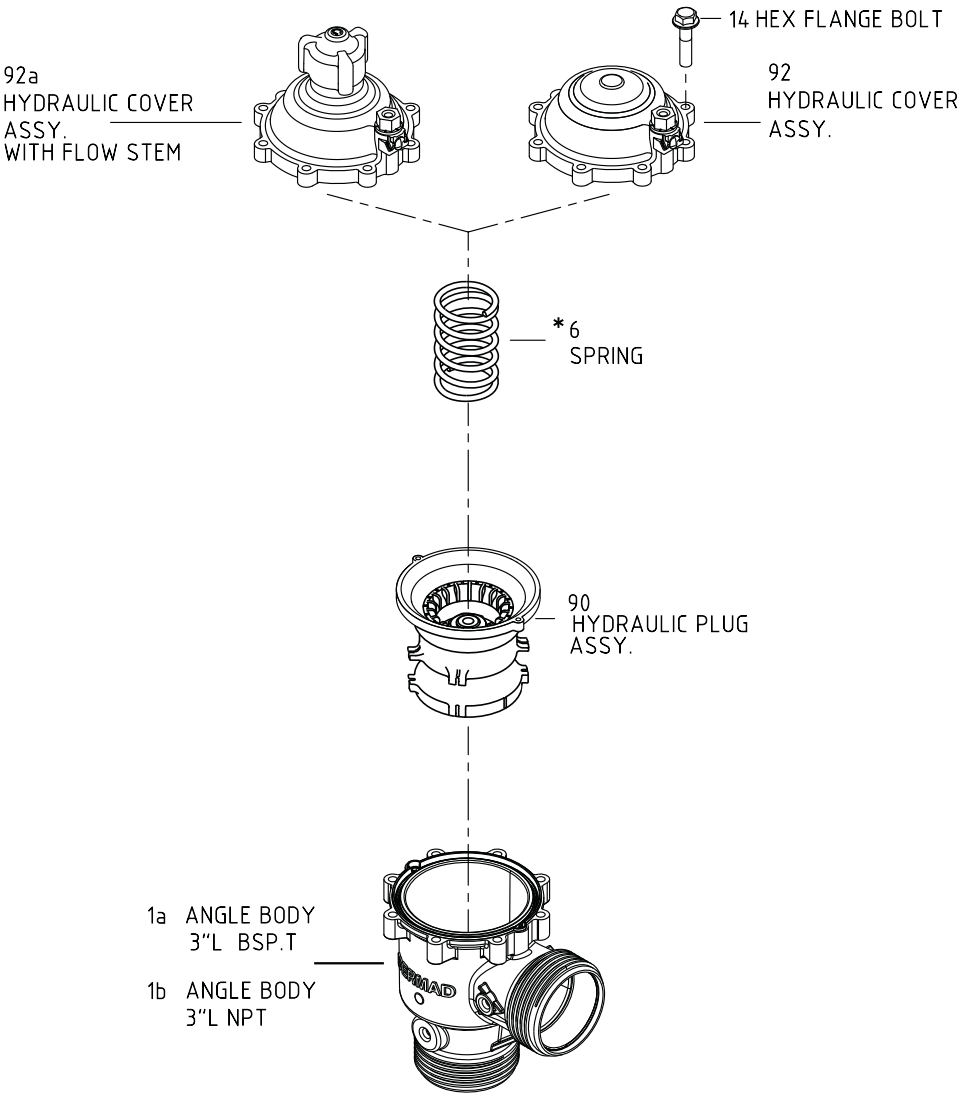


VARIOUS END CONNECTIONS ADAPTERS
(SEE PAGE 02g)

* DIFFERENT SPRINGS

A-Pattern Hydraulic Control Valves

Sizes: 3L-4"; DN80L-100

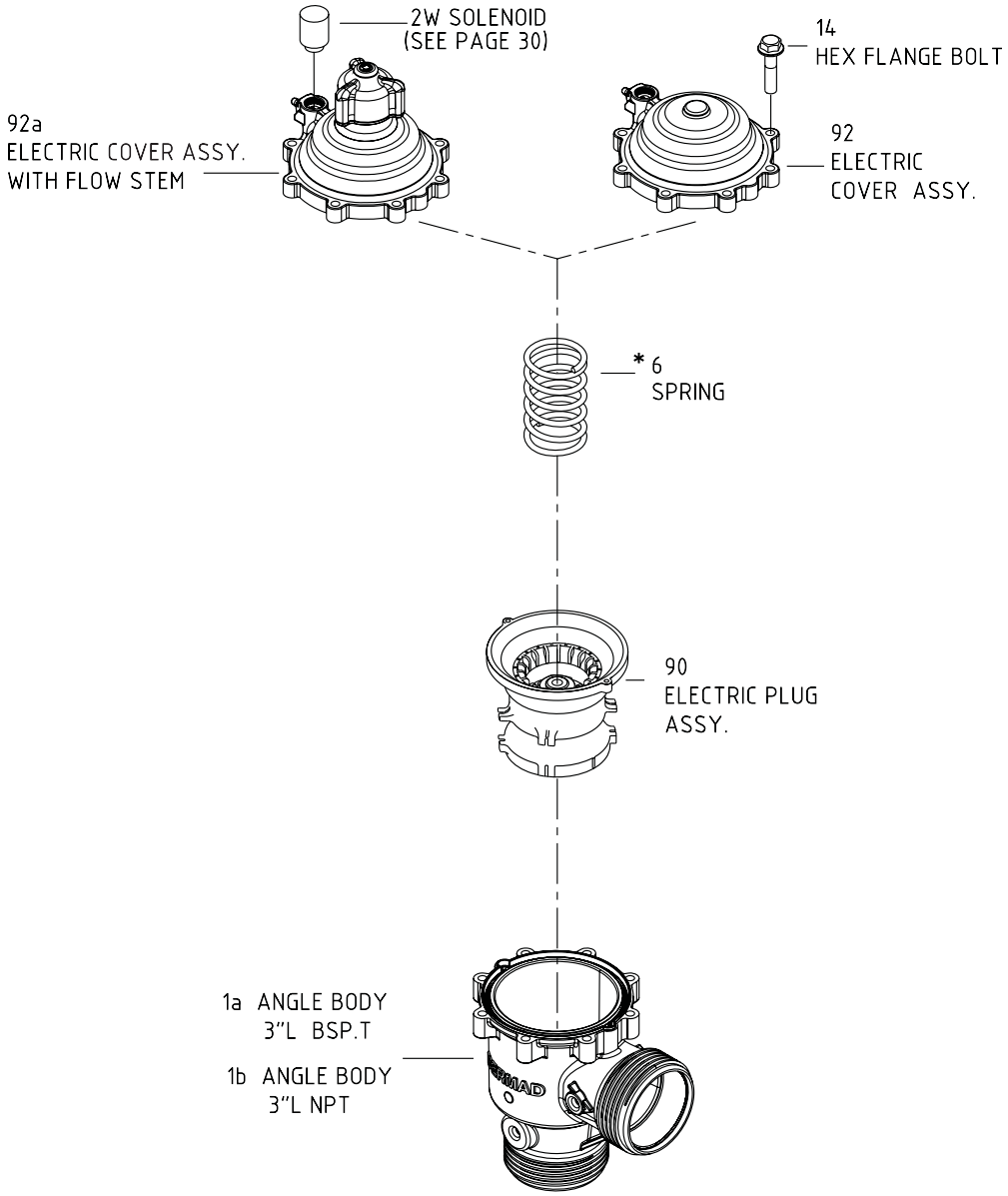


VARIOUS END CONNECTIONS ADAPTERS
(SEE PAGE 02g)

*DIFFERENT SPRINGS

A-Pattern Electric Control Valves

Sizes: 3L-4"; DN80L-100

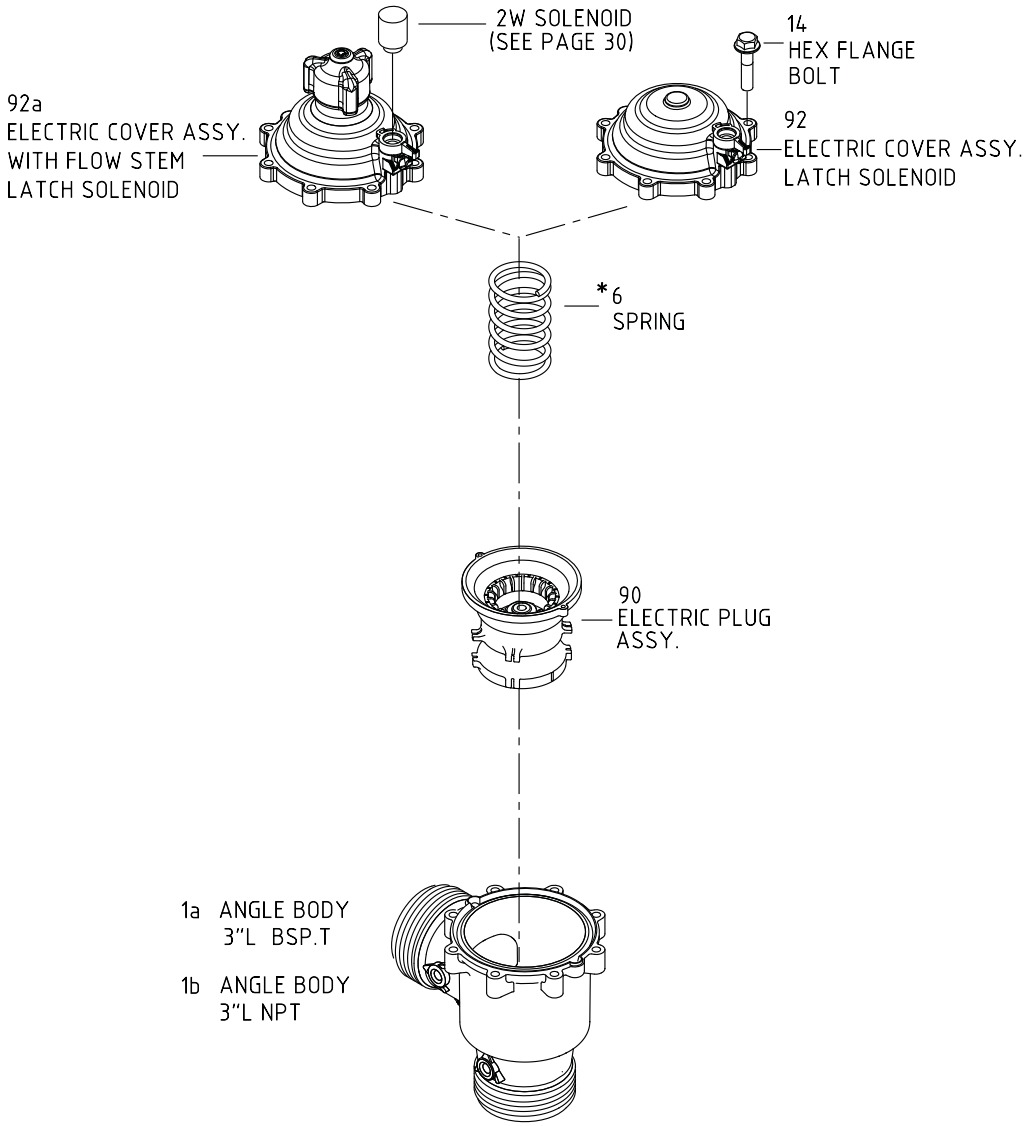


VARIOUS END CONNECTIONS ADAPTERS
(SEE PAGE 02g)

* DIFFERENT SPRINGS

A-Pattern Electric Control Valves
Latch Solenoid Model

Sizes: 3L-4"; DN80L-100

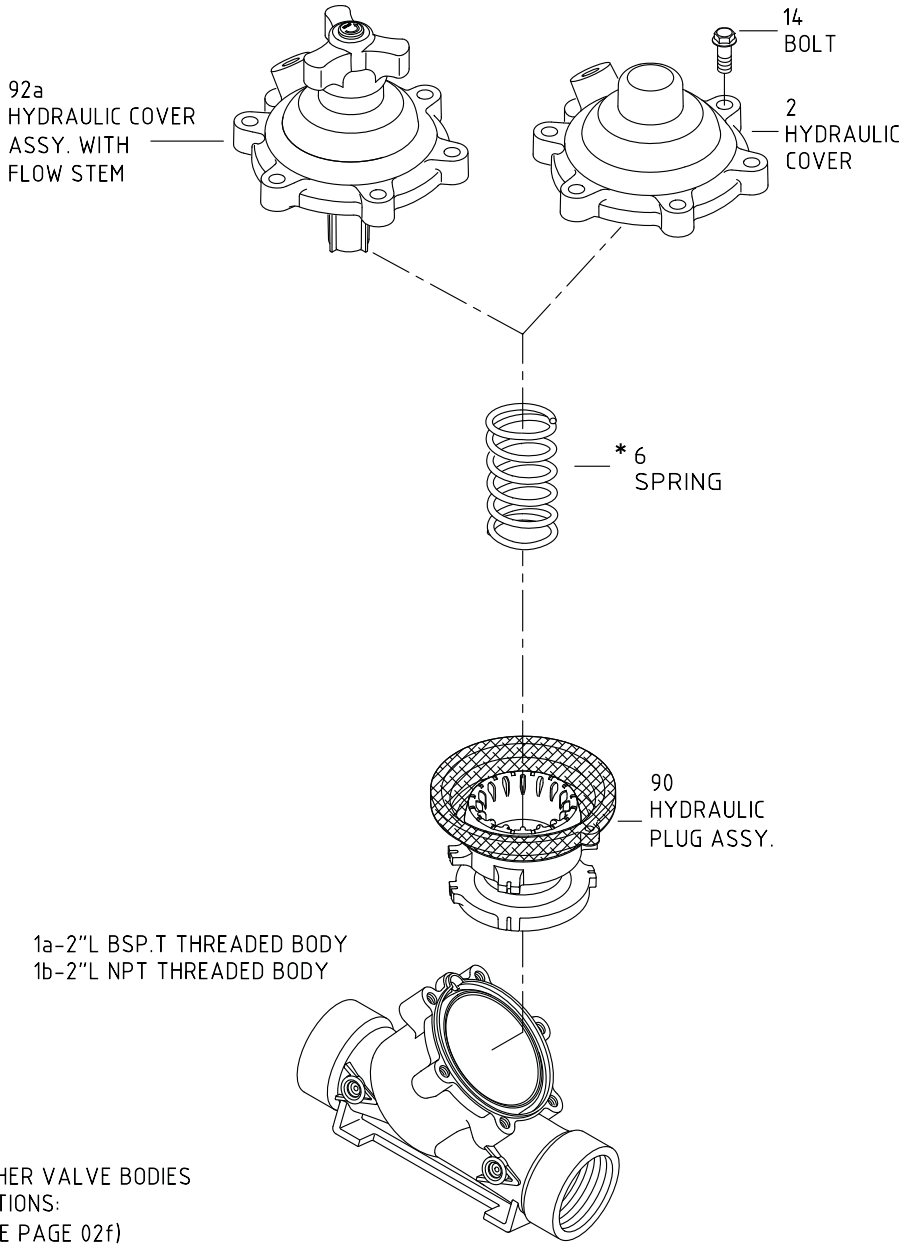


VARIOUS END CONNECTIONS ADAPTERS
(SEE PAGE 02g)

* DIFFERENT SPRINGS

Y, A ,T, & D-Pattern Hydraulic Control Valves

Sizes: 2L-3"; DN50L-80



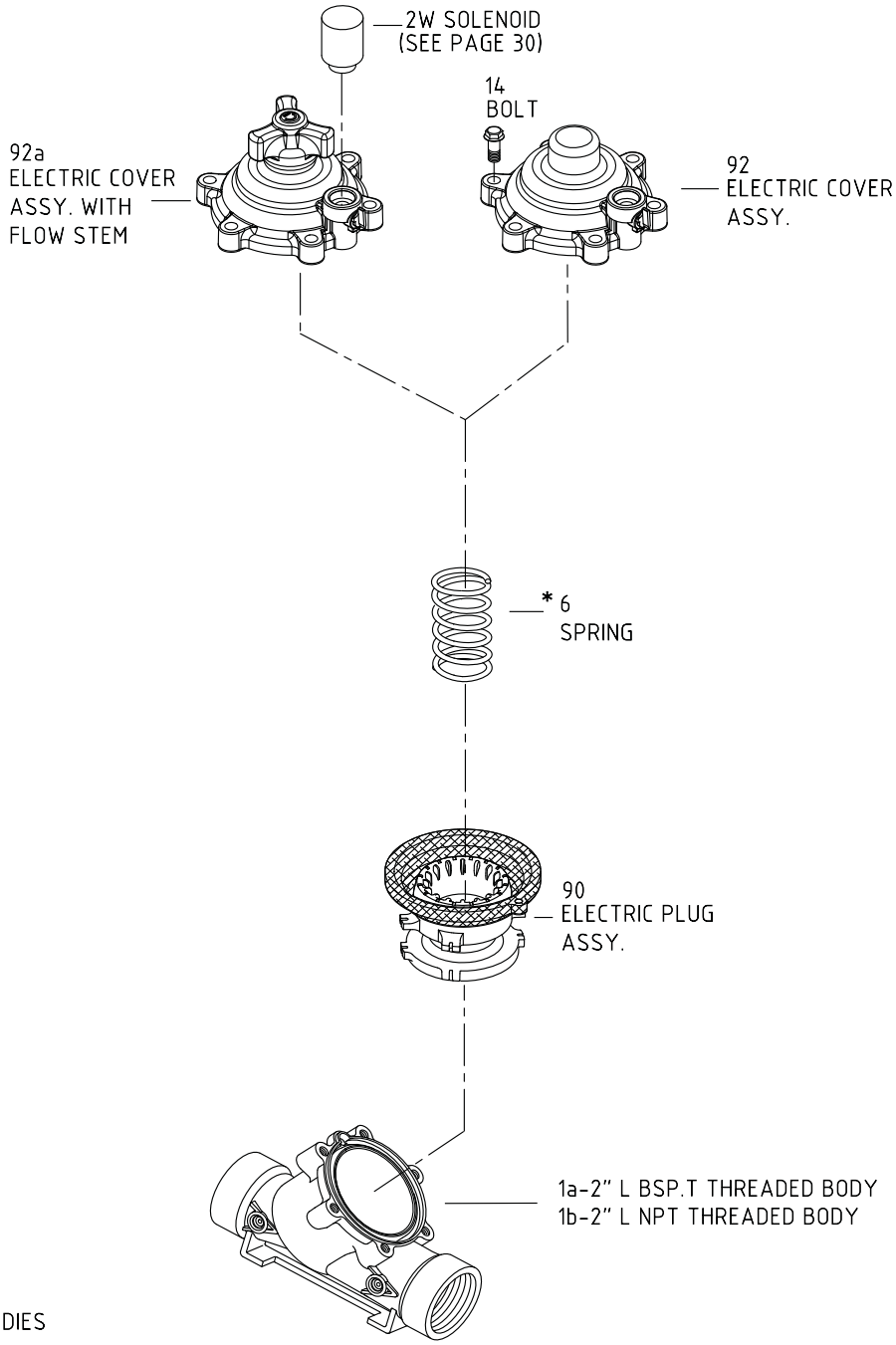
OTHER VALVE BODIES
OPTIONS:
(SEE PAGE 02f)

VARIOUS END CONNECTIONS ADAPTERS
(SEE PAGE 02g)

*DIFFERENT SPRINGS

Y, A, T, & D-Pattern Electric Control Valves

Sizes: 2L-3"; DN50L-80

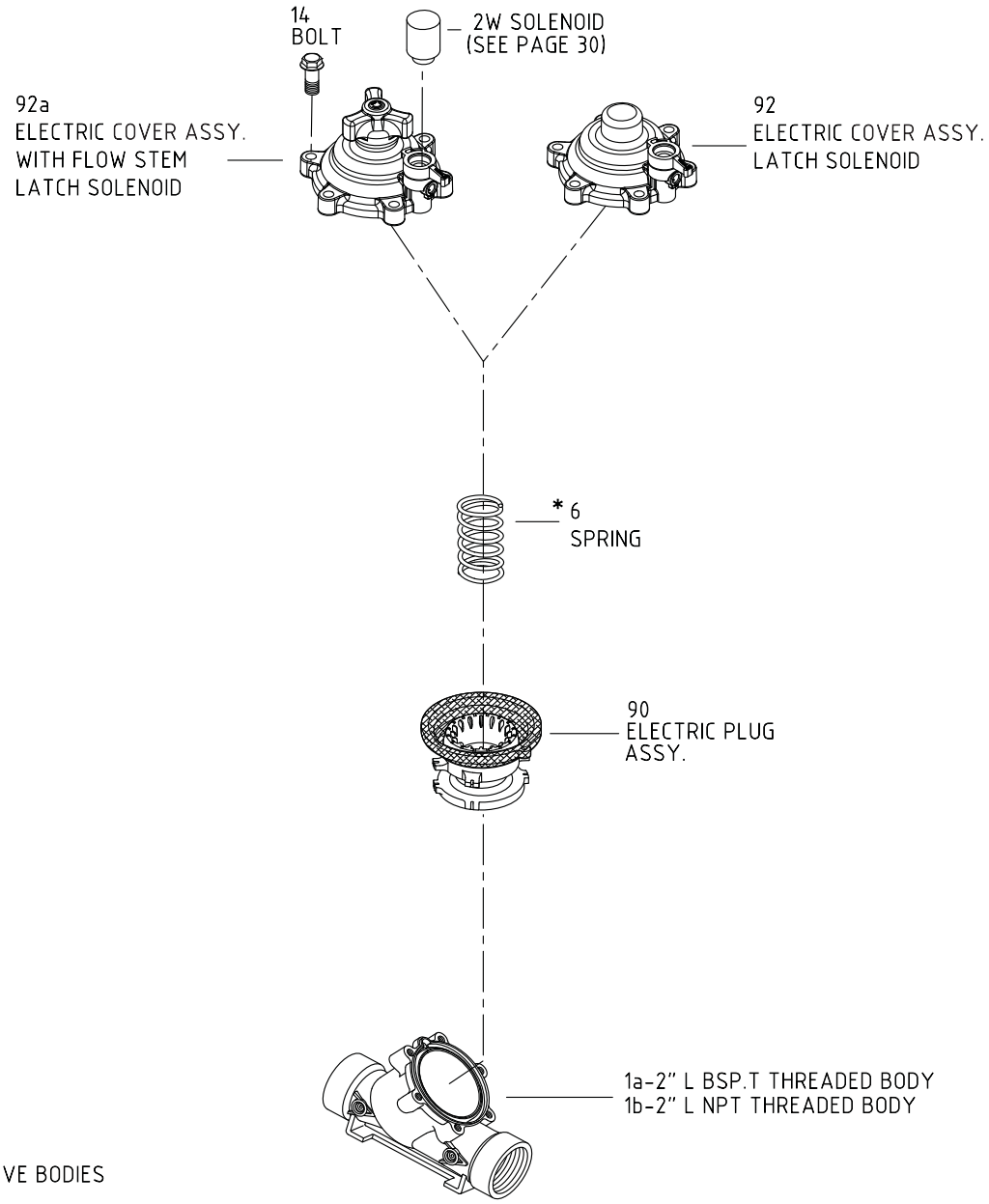


OTHER VALVE BODIES
OPTIONS:
(SEE PAGE 02f)
VARIOUS END CONNECTIONS ADAPTERS
(SEE PAGE 02g)

* DIFFERENT SPRINGS

Y, A, T, & D-Pattern Electric Control Valves
Latch Solenoid Model

Sizes: 2L-3"; DN50L-80



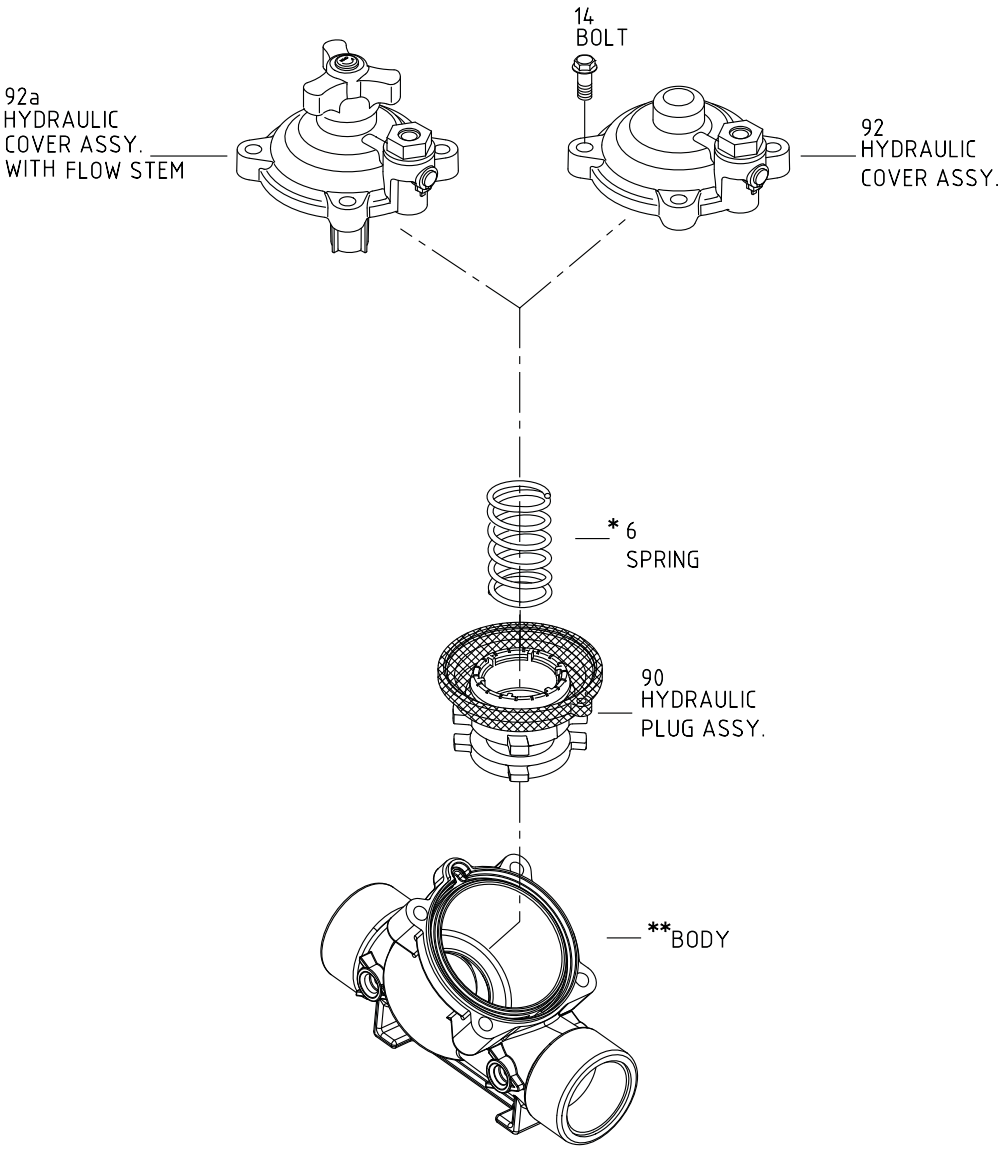
OTHER VALVE BODIES
OPTIONS:
(SEE PAGE 02f)
VARIOUS END CONNECTIONS ADAPTERS
(SEE PAGE 02g)

* DIFFERENT SPRINGS

Effective 10/2014

Y-Pattern Hydraulic Control Valves

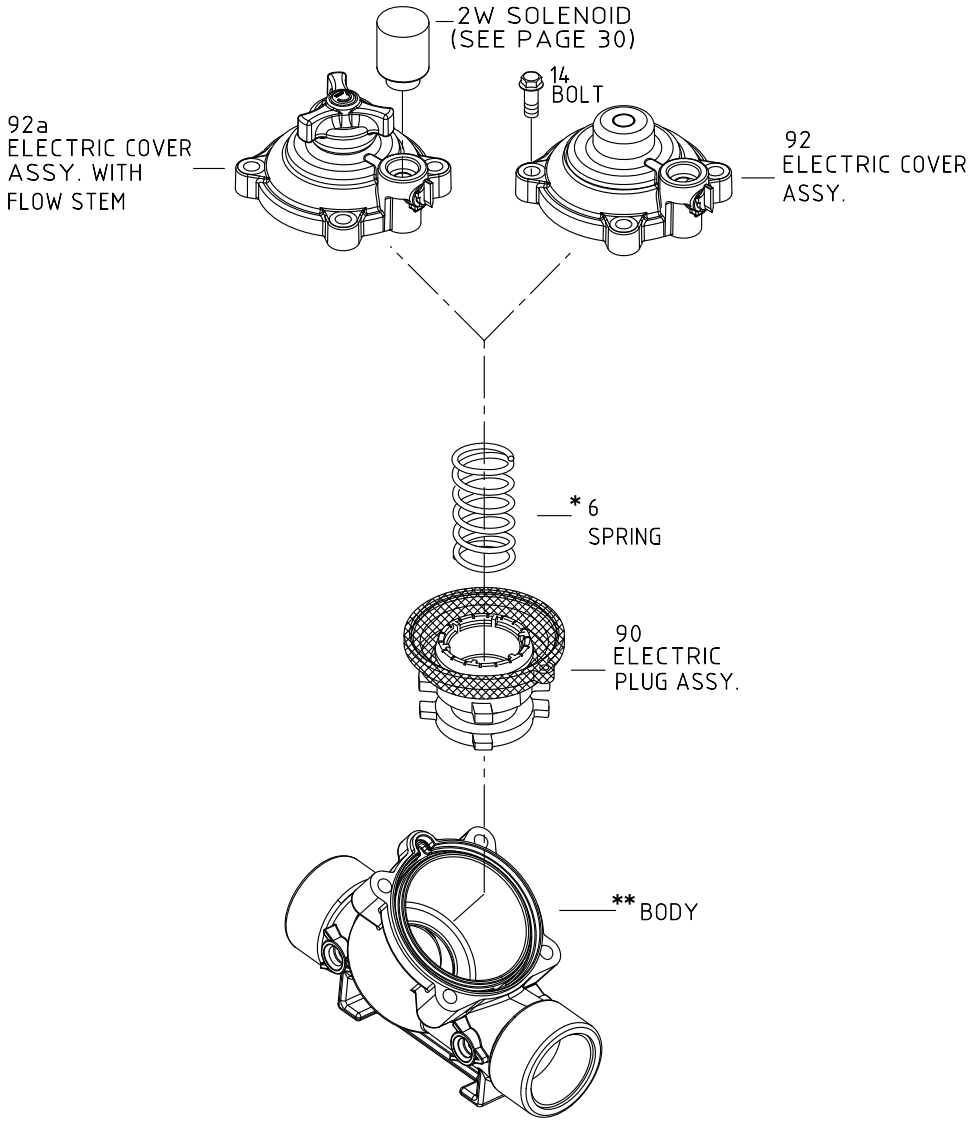
Sizes: 1½-2"; DN40-50



** OPTION BODY
2" ; DN50 -1e,1d
1.5"; DN40 - 1a,1b
2" ; DN50-BSP.F BODY-1c
* DIFFERENT SPRINGS

Y-Pattern Electric Control Valves

Sizes: 1½-2"; DN40-50

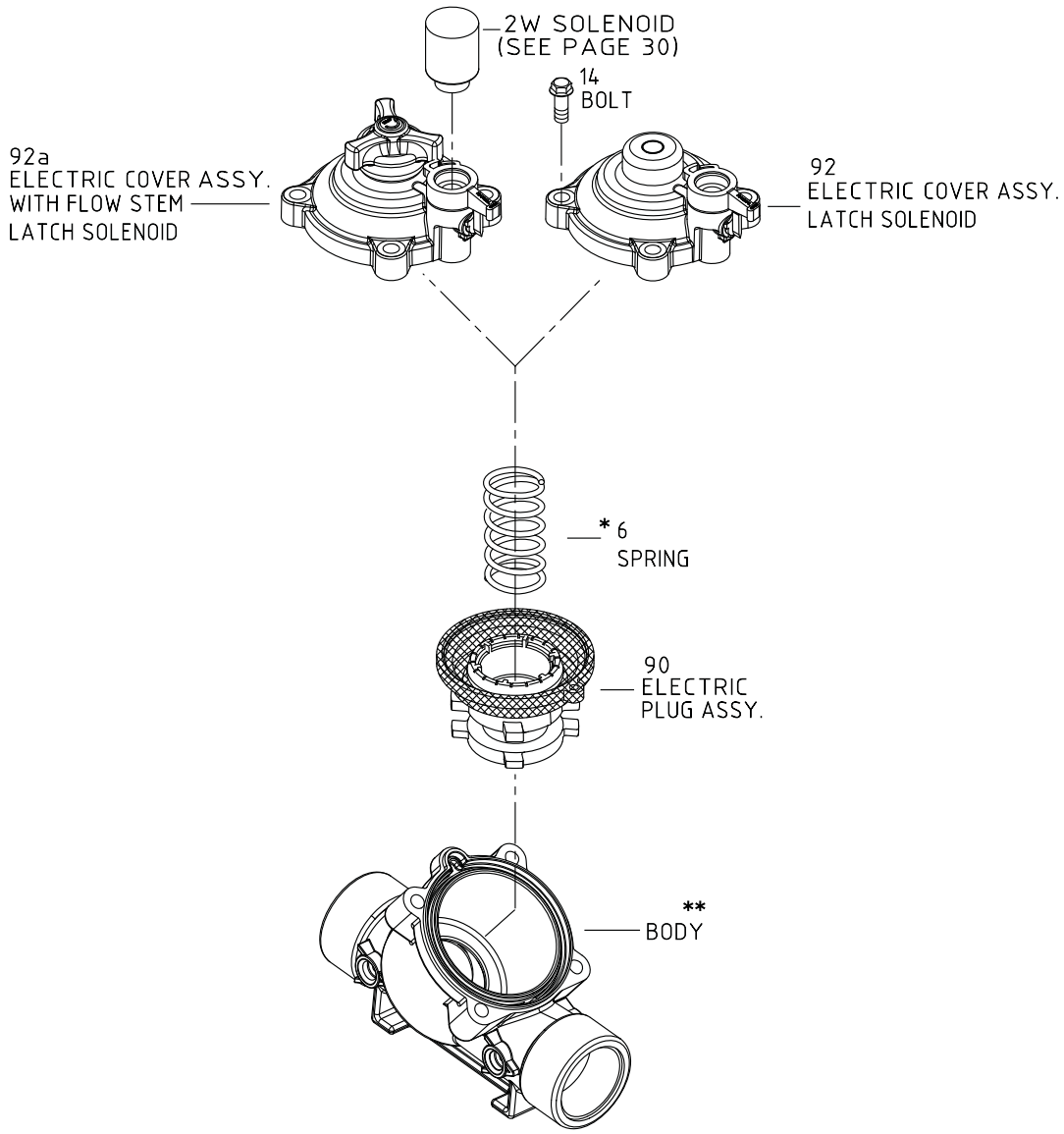


* OPTION BODY
2" ; DN50 -1e,1d
1.5"; DN40 - 1a,1b
2" ; DN50-BSP.F BODY-1c
DIFFERENT SPRINGS

Y-Pattern Electric Control Valves

Latch Solenoid Model

Sizes: 1½-2"; DN40-50

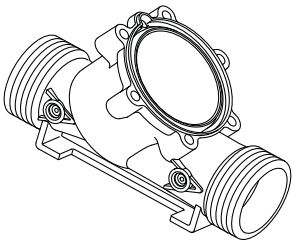


** OPTION BODY
2" ; DN50 -1e,1d
1.5"; DN40 - 1a,1b
2" ; DN50-BSP.F BODY-1c
* DIFFERENT SPRINGS

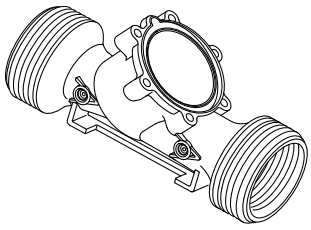
Y, A, T & D- Bodies Patterns Options

Sizes: 2L-3"; DN50L-80

1f-2.5"BSP.F
THREAD BODY

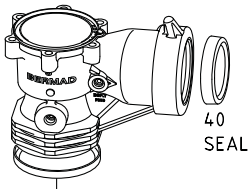


1d-3"BSP.T THREAD BODY
1e-3"NPT THREAD BODY



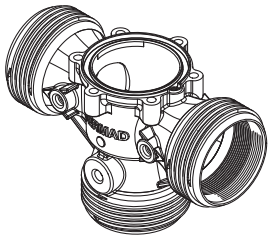
VARIOUS END CONNECTORS
ADAPTERS SEE PAGE 02g

95j-3"BSP.T
ANGLE HORN BODY ASSY.
95k - 3"NPT
ANGLE HORN BODY ASSY.



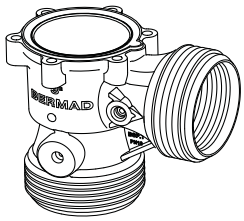
S.S. REINFORCEMENT
RING

95g 3" BSP.T
EXTERNAL THREAD ENDS
TEE BODY
95h 3" NPT
EXTERNAL THREAD ENDS
TEE BODY



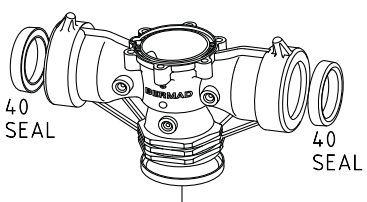
VARIOUS END CONNECTORS
ADAPTERS SEE PAGE 02g

1t -3"BSP.T
EXTERNAL THREAD ENDS
ANGLE BODY
1u - 3"NPT
EXTERNAL THREAD ENDS
ANGLE BODY



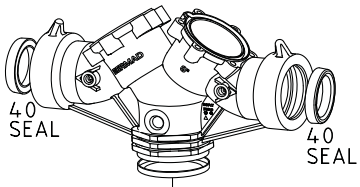
VARIOUS END CONNECTORS
ADAPTERS SEE PAGE 02g

95l - 3"BSP.T
HORN TEE BODY ASSY.
95m- 3"NPT
HORN TEE BODY ASSY.



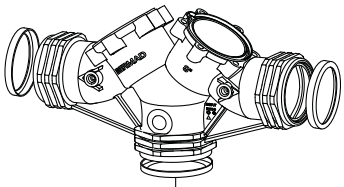
S.S. REINFORCEMENT
RING

95n-3"BSP.T
HORN DUAL BODY ASSY.
95p-3"NPT
HORN DUAL BODY ASSY.



S.S. REINFORCEMENT
RING

95r -3"BSP.T
THREAD DUAL BODY ASSY.
95s -3"NPT
THREAD DUAL BODY ASSY.

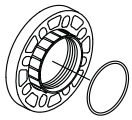


S.S. REINFORCEMENT
RING

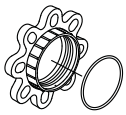
End Connections Adaptors Options

Sizes: 3-4"; DN80-100

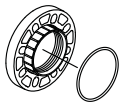
FLANGE ASSY. END CONNECTIONS ADAPTORS



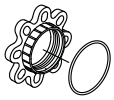
91
4" PLASTIC FLANGE ASSY.



91a
4" METAL FLANGE ASSY.



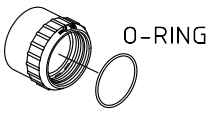
91
3" PLASTIC FLANGE ASSY.



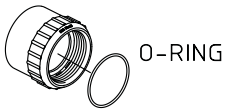
91a
3" METAL FLANGE ASSY.

PVC END CONNECTIONS ADAPTORS

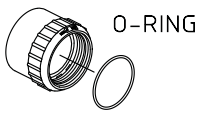
T1 ID 90mm
OD 110mm



T2 ID 110 mm
OD 125 mm

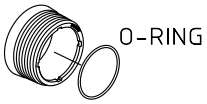


T3 ID 3"
OD 4"



T4 ID 4"

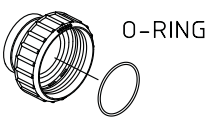
BJ ID 75mm
OD R3"(3"BSPT)



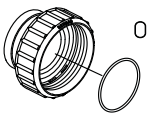
NJ ID 2.5"
OD 3"NPT

GROOVE END CONNETIONS ADAPTORS

TV -3 3" GROOVE ADAPTOR

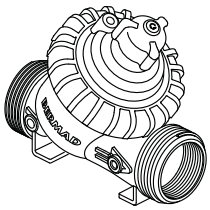


TV -4 4" GROOVE ADAPTOR

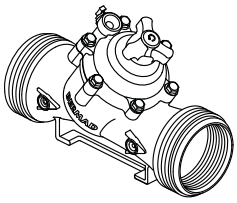


SUTAIBLE CONFIGURATION

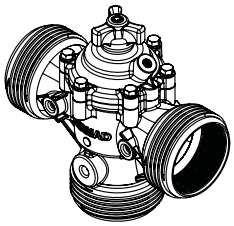
3"L
Y PATERN



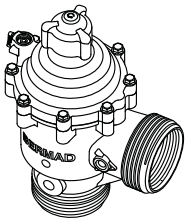
3"
Y PATERN



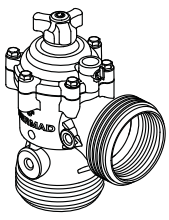
3"
T PATERN



3"L
A PATERN

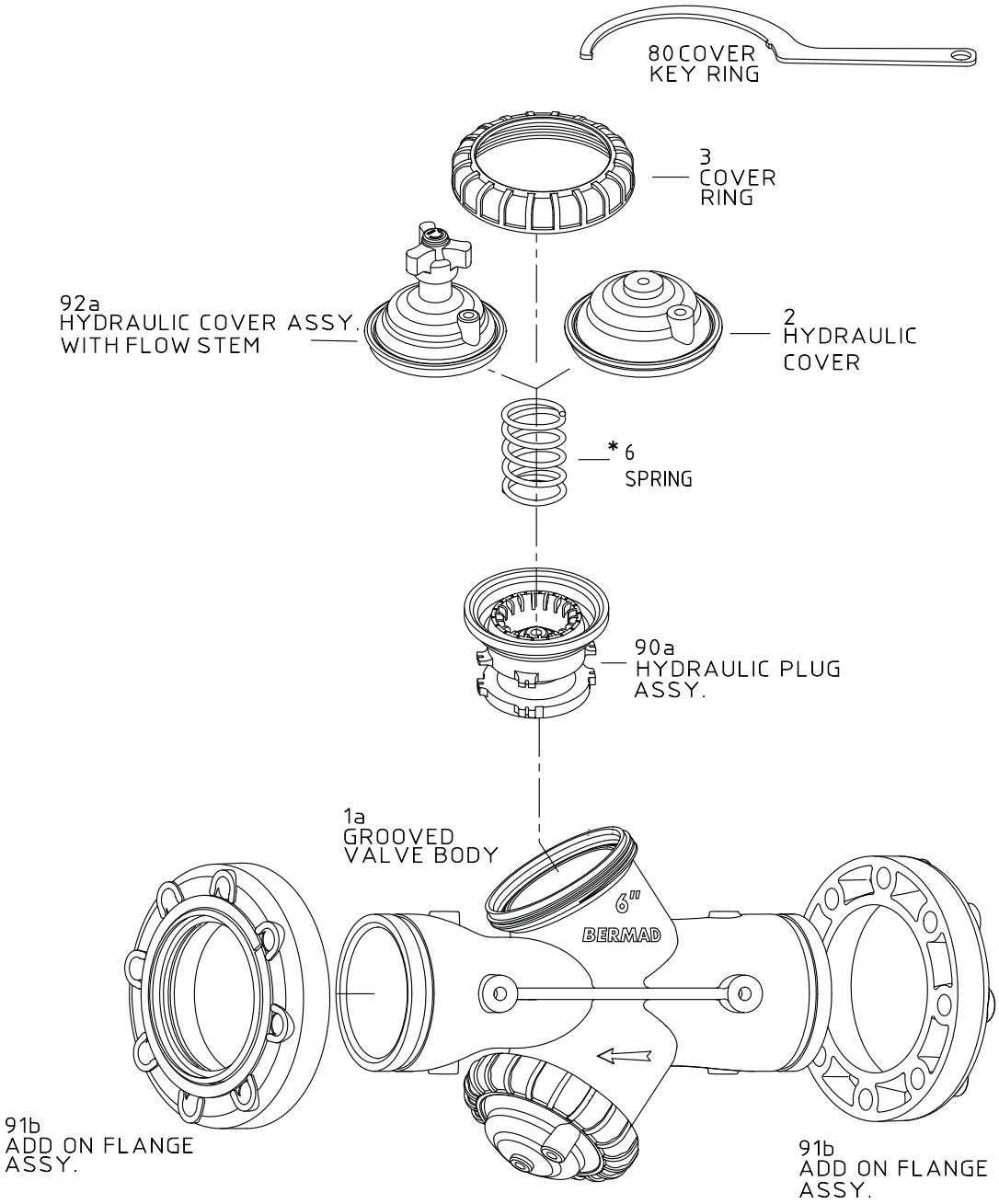


3"
A PATERN



Boxer-Pattern Hydraulic Control Valve

Size: 6"; DN150



* DIFFERENT SPRINGS