

Control Circuits & Accessories

Pocket Guide



Irrigation

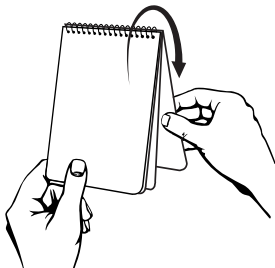


Water Control Solutions

Browsing through the Pocket Guide

The Pocket Guide was designed with the pages bound by top spiral, to allow smooth sliding in & out of your pocket.

- 1 The best way to “browse” while working with your Pocket Guide is to turn the page all the way back,



- 2 Then flip the Pocket Guide horizontally to view the next page.



BERMAD IR Pocket Guide

This quick reference Pocket Guide is designed to assist you when handling and servicing BERMAD valves. It contains the most common BERMAD application & control circuits.

For those not found herein, please contact your local BERMAD representative.

The Pocket Guide is divided into eight, color distinguished, sections (A-H):

Section A Control Accessories:

1. Photo
2. Drawing
3. Connections
4. Icon & Operation modes

Sections B to H Schematics of control circuits:

1. BERMAD code and valve application*
2. Control circuit and accessories

Notes:

1. The letter “**N**” in the model code, replaces the Series first digit. (For example: Model 430 will appear as **N**30, Model 120 as **N**20 etc).
2. The **100 Series** valve also represents other Series using plastic control circuits.
3. The **400 Series** valve also represents other Series using metal control circuits.



Valve Type Identification According to Series



100 Series

Plastic Hydraulic / Electric Control Valves
Single Chamber



200 Series

Plastic Hydraulic / Electric Control Valves
Single Chamber



300 Series

Plastic/Metal Hydraulic / Electric Control Valves
Single or Double Chamber



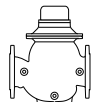
400 Series

Hydraulic Diaphragm Control Valves
Single Chamber



700 Series

Hydraulic Diaphragm Control Valves
Single or Double Chamber



900 Series

Hydrometers / Automatic Metering Valves
Single Chamber

A Accesories

PC-Sharp-X-P	Positioning 3-Way Sharp Mini-Pilot Valve, Plastic	A-1
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PC-20-A-M	Pressure Reducing 2-Way Mini-Pilot Valve, Metal	A-6
PC-30-A-P	Pressure Sustaining 2-Way Mini-Pilot Valve, Plastic	A-7
PC-30-A-M	Pressure Sustaining 2-Way Mini-Pilot Valve, Meta	A-8
PC-3Q-A-P	Quick Pressure Relief Mini-Pilot Valve, Plastic	A-9
PC-3Q-A-M	Quick Pressure Relief Mini-Pilot Valve, Metal	A-10
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PC-70-A-M	Paddle Flow Rate Servo Mini-Pilot Valve, Metal	A-12
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#8	Altitude Positioning Pilot Valve	A-16
3W-SOP	3-Way Shut-Off Pilot for AMV	A-17



A Accesories

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S-392-2W	2-Way Latching Solenoid Valves	A-23
S-982/985 S-402	3-Way Magnetic Latch Solenoid Valves	A-24
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2-Way / 3-Way Manometer	Ball Valves	A-26
4-Way Manual Selector	Ball Valves	A-27
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N10-KX	Solenoid Controlled Valve	B-6
N10-N1-2W	Solenoid Controlled Valve with 2-Way Internal Control	B-7
N10-RX	Solenoid Controlled Valve	B-8-9

C Pressure Reducing Valves

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N20-R	Pressure Reducing 2-Way Valve	C-2-3
N20-50-K	Pressure Reducing 2-Way Valve with Hydraulic Control	C-4
N20-50-R	Pressure Reducing 2-Way Valve with Hydraulic Control	C-5-6
N20-54-K	Pressure Reducing 2-Way Valve N.C. with Hydraulic Relay	C-7
N20-54-R	Pressure Reducing 2-Way Valve N.C. with Hydraulic Relay	C-8
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C Pressure Reducing Valves

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N20-50-KXZ	Pressure Reducing 3-Way Valve with Hydraulic Control	C-15
N20-50-RXZ	Pressure Reducing 3-Way Valve with Hydraulic Control	C-16
N20-54-KX	Pressure Reducing 3-Way Valve N.C. with Hydraulic Relay	C-17
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N20-55-RX	Pressure Reducing 3-Way Valve with Solenoid Control	C-22-23
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C Pressure Reducing Valves

N20-55-bK	Pressure Reducing 2/3-Way (Servo) Valve with Solenoid Control (982/985 Only)	C-29
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D Pressure Reducing & Sustaining Valves

N23-K	Pressure Reducing & Sustaining 2-Way Valve	D-1
N23-R	Pressure Reducing & Sustaining 2-Way Valve	D-2-3
N23-50-K	Pressure Reducing & Sustaining 2-Way Valve with Hydraulic Control	D-4
N23-50-R	Pressure Reducing & Sustaining 2-Way Valve with Hydraulic Control	D-5-6
N23-55-K	Pressure Reducing & Sustaining 2-Way Valve with Solenoid Control	D-7
N23-55-R	Pressure Reducing & Sustaining 2-Way Valve with Solenoid Control	D-8-9
N23-KXZ	Pressure Reducing & Sustaining 3-Way Valve	D-10-11
N23-RXZ	Pressure Reducing & Sustaining 3-Way Valve	D-12
N23-50-KXZ	Pressure Reducing & Sustaining with Hydraulic Control	D-13
N23-50-RXZ	Pressure Reducing & Sustaining 3-Way Valve with Hydraulic Control	D-14



D Pressure Reducing & Sustaining Valves

N23-54-KX	Pressure Reducing & Sustaining 3-Way Valve (N.C. with Hydraulic Relay)	D-15
N23-55-KX	Pressure Reducing & Sustaining 3-Way Valve with Solenoid Control (982/5 Only)	D-16
N23-55-RXZ	Pressure Reducing & Sustaining 3-Way Valve with Solenoid Control	D-17-18

E Pressure Sustaining & Relief Valves

N30-K	Pressure Sustaining 2-Way Valve	E-1
N30-R	Pressure Sustaining 2-Way Valve	E-2-3
N30-50-K	Pressure Sustaining 2-Way Valve with Hydraulic Control	E-4
N30-50-R	Pressure Sustaining 2-Way Valve with Hydraulic Control	E-5
N30-55-K	Pressure Sustaining 2-Way Valve with Solenoid Control	E-6
N30-55-R	Pressure Sustaining 2-Way Valve with Solenoid Control	E-7-8
N30-KXZ	Pressure Sustaining 3-Way Valve	E-9
N30-RXZ	Pressure Sustaining 3-Way Valve	E-10-11
N30-50-KXZ	Pressure Sustaining 3-Way Valve with Hydraulic Control	E-12
N30-50-RXZ	Pressure Sustaining 3-Way Valve with Hydraulic Control	E-13
N30-54-KX	Pressure Sustaining 3-Way Valve N.C. with Hydraulic Relay	E-14
N30-55-KX	Pressure Sustaining 3-Way Valve with Solenoid Control (982/985 Only)	E-15



E Pressure Sustaining & Relief Valves

N30-55-KX	Pressure Sustaining 3-Way Valve with Solenoid Control	E-16
N30-55-RX	Pressure Sustaining 3-Way Valve with Solenoid Control (982/985 Only)	E-17
N30-55-RX	Pressure Sustaining 3-Way Valve with Solenoid Control	E-18
930-D0-KX	Pressure Sustaining 3-Way Valve Automatic Metering Valve (AMV)	E-19
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N3Q-R	Pressure Relief Valve (Quick Type)	E-21

F Level Control Valves

N50-60-R	Level Control Valve with Modulating Horizontal Float	F-1
N50-N3-60-K	Level Control Valve with Modulating Horizontal Float	F-2
450-66-Z	Level Control Valve with Bi-Level Vertical Float	F-3-4
750-66-B	Level Control Valve with Bi-Level Vertical Float	F-5
N50-80-XZ	Level Control Valve with Altitude Pilot	F-6-7
N53-66	Level Control & Pressure Sustaining Valve with Bi-Level Vertical Float	F-8
N57-66-U	Level & Flow Control Valve with Bi-Level Vertical Float	F-9



G Flow Control Valves

170-bDZ	Flow Control Valve (Differetial Pressure Duct)	G-1
N70-bKUZ	Flow Control Valve (Orifice Assembly)	G-2
N70-bRUZ	Flow Control Valve (Orifice Assembly)	G-3
970-KVZ	Flow Control Valve (Paddle Pilot)	G-4
970-RVZ	Flow Control Valve (Paddle Pilot)	G-5
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N70-50-bKUZ	Flow Control Valve with Hydraulic Control (Orifice Assembly)	G-7
N70-50-bRUZ	Flow Control Valve with Hydraulic Control (Orifice Assembly)	G-8
970-50-KVZ	Flow Control Valve with Hydraulic Control (Paddle Pilot)	G-9
970-50-RVZ	Flow Control Valve with Hydraulic Control (Paddle Pilot)	G-10
170-55-bD	Flow Control Valve with Solenoid Control (Differetial Pressure Duct) for 982/985 Only	G-11
170-55-bD	Flow Control Valve with Solenoid Control (Differetial Pressure Duct)	G-12
N70-55-bKU	Flow Control Valve with Solenoid Control (Orifice Assembly) for 982/985 Only	G-13
N70-55-bKU	Flow Control Valve with Solenoid Control (Orifice Assembly)	G-14
N70-55-bRU	Flow Control Valve with Solenoid Control (Orifice Assembly)	G-15
970-55-KV	Flow Control Valve with Solenoid Control (Paddle Pilot) for 982/985 Only	G-16
970-55-KV	Flow Control Valve with Solenoid Control (Paddle Pilot)	G-17



H Flow Control & Pressure Reducing Valves

172-bDZ	Flow Control & Pressure Reducing Valve (Differetial Pressure Duct)	H-1
N72-bKUZ	Flow Control & Pressure Reducing Valve (Orifice Assembly)	H-2
N72-bRU	Flow Control & Pressure Reducing Valve (Orifice Assembly)	H-3
972-KVZ	Flow Control & Pressure Reducing Valve (Paddle Pilot)	H-4
972-RV	Flow Control & Pressure Reducing Valve (Paddle Pilot)	H-5
172-50-bDZ	Flow Control & Pressure Reducing with Hydraulic Control (Differetial Pressure Duct)	H-6
172-55-bD	Flow Control & Pressure Reducing with Solenoid Control (Differetial Pressure Duct)	H-7
N72-50-bKUZ	Flow Control & Pressure Reducing with Hydraulic Control (Orifice Assembly)	H-8
N72-50-bRU	Flow Control & Pressure Reducing with Hydraulic Control (Orifice Assembly)	H-9
N72-55-bKU	Flow Control & Pressure Reducing with Solenoid Control (Orifice Assembly)	H-10
N72-55-bKU	Flow Control & Pressure Reducing with Solenoid Control (Orifice Assembly)	H-11
N72-55-bRU	Flow Control & Pressure Reducing with Solenoid Control (Orifice Assembly)	H-12
972-50-KV	Flow Control & Pressure Reducing with Hydraulic Control (Paddle Pilot)	H-13
972-50-RV	Flow Control & Pressure Reducing with Hydraulic Control (Paddle Pilot)	H-14
972-M0-55-bKV	Flow Control & Pressure Reducing with Hydraulic Control (Paddle Pilot)	H-15-16
972-M0-55-RV	Flow Control & Pressure Reducing with Hydraulic Control (Paddle Pilot)	H-17



PC-SHARP-X-P

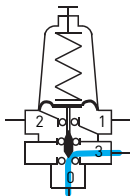
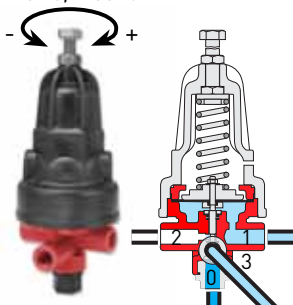
Positioning 3-Way Mini-Pilot Valve, Plastic

Pilot Adjustment

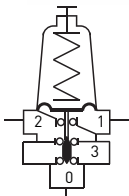
Turn Clock-Wise
to increase setting
and Counter Clock-Wise
to decrease it.

Connections

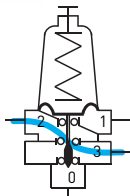
- 0 Upstream for Reducing
Vent for Sustaining
- 1 Sensing, Regulated Pressure
- 2 Vent for Reducing
Upstream for Sustaining
- 3 Valve Control Chamber



Modulating Close (PRV)
Modulating Open (PSV)
Regulated pressure
higher than
setting: $0 \leftrightarrow 3$



Locked Position
Regulated pressure
equal to setting:
 $0 \leftrightarrow 3 \leftrightarrow 2$
all passages locked



Modulating Open (PRV)
Modulating Close (PSV)
Regulated pressure lower
than setting: $3 \leftrightarrow 2$

PC-SHARP-X-M

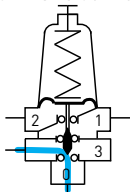
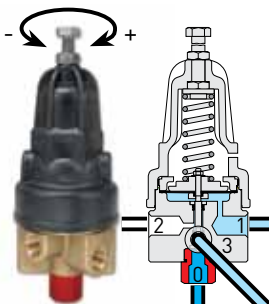
Positioning 3-Way Mini-Pilot Valve, Metal

Pilot Adjustment

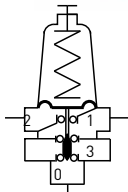
Turn Clock-Wise
to increase setting
and Counter Clock-Wise
to decrease it.

Connections

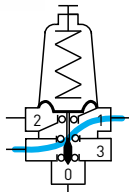
- 0 Upstream for Reducing
Vent for Sustaining
- 1,4 Sensing, Regulated Pressure
- 2 Vent for Reducing
Upstream for Sustaining
- 3 Valve Control Chamber



Modulating Close (PRV)
Modulating Open (PSV)
Regulated pressure
higher than
setting: $0 \leftrightarrow 3$



Locked Position
Regulated pressure
equal to setting:
 $0 \leftrightarrow 3 \leftrightarrow 2$
all passages locked



Modulating Open (PRV)
Modulating Close (PSV)
Regulated pressure
lower than setting: $3 \leftrightarrow 2$

PC-S-A-P

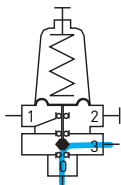
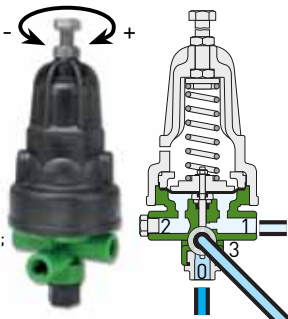
Pressure Reducing Servo 2/3-Way Mini-Pilot Valve, Plastic

Pilot Adjustment

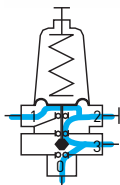
Turn Clock-Wise
to increase setting
and Counter Clock-Wise
to decrease it.

Connections

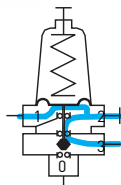
- 0 Upstream for Reducing
Downstream for Sustaining
- 1,2 Sensing, Regulated Pressure;
Downstream for Reducing
Upstream for Sustaining
- 3 Valve Control Chamber



Modulating close
Regulated pressure
higher than setting:
0 ↔ 3



Stable Position
Regulated pressure
equal to setting:
0 ↔ 3 ↔ 1, 2
controlled passage



Modulating Open
Regulated pressure
lower than setting:
3 ↔ 1, 2

PC-S-A-M

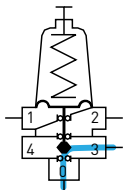
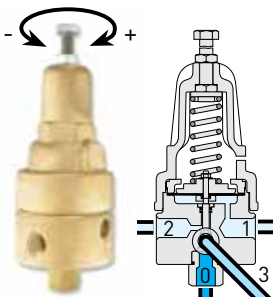
Pressure Reducing Servo 2/3-Way Mini-Pilot Valve, Metal

Pilot Adjustment

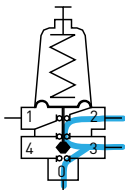
Turn Clock-Wise
to increase setting
and Counter Clock-Wise
to decrease it.

Connections

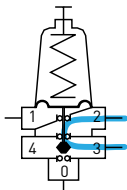
- 0 Upstream for Reducing
Downstream for Sustaining
- 1 Sensing, Regulated Pressure
- 2 Downstream for Reducing
Upstream for Sustaining
- 3 Valve Control Chamber



Modulating close
Regulated pressure
higher than setting:
0 ↔ 3



Stable Position
Regulated pressure
equal to setting:
0 ↔ 3 ↔ 2
controlled passage



Modulating Open
lower than setting:
3 ↔ 2

PC-20-A-P

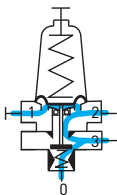
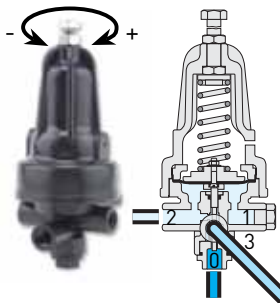
Pressure Reducing 2-Way Mini-Pilot Valve, Plastic

Pilot Adjustment

Turn Clock-Wise
to increase setting
and Counter Clock-Wise
to decrease it.

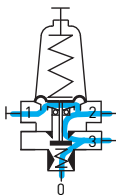
Connections

- 0 Upstream (internal restriction)
- 1 Plugged/External sensing
- 2 Downstream
- 3 Valve Control Chamber



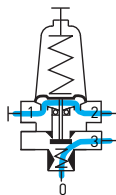
Modulating Open

Regulated pressure
lower than setting:
0 ↔ 3 ↔ 2



Stable Position

Regulated pressure
equal to setting:
0 ↔ 3 ↔ 2
controlled passage



Modulating Close

Regulated pressure
higher than setting:
0 ↔ 3 ↔ 2

PC-20-A-M

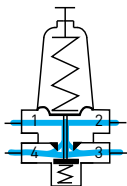
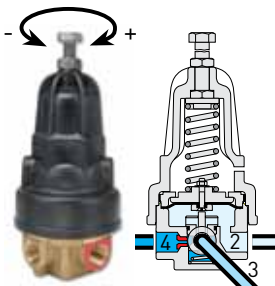
Pressure Reducing 2-Way Mini-Pilot Valve, Metal

Pilot Adjustment

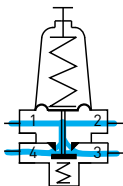
Turn Clock-Wise
to increase setting
and Counter Clock-Wise
to decrease it.

Connections

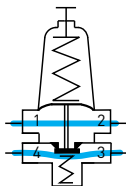
- 1,2** Downstream / Remote Sensing
/ Pressure gauge
- 3** Valve Control Chamber
- 4** Upstream
(through internal restriction)



Modulating Open
Regulated pressure
lower than setting:
 $4 \leftrightarrow 3 \leftrightarrow 1,2$



Stable Position
Regulated pressure
equal to setting:
 $4 \leftrightarrow 3 \leftrightarrow 1,2$
controlled passage



Modulating Close
Regulated pressure
higher than setting:
 $4 \leftrightarrow 3 \nleftrightarrow 1,2$

PC-30-A-P

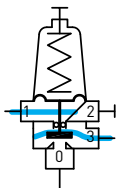
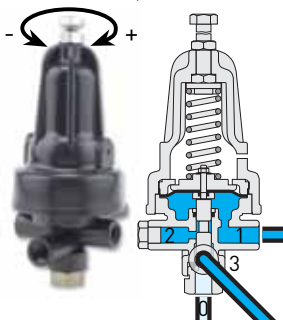
Pressure Sustaining 2-Way Mini-Pilot Valve, Plastic

Pilot Adjustment

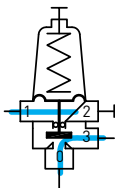
Turn Clock-Wise
to increase setting
and Counter Clock-Wise
to decrease it.

Connections

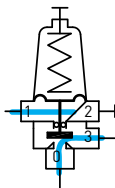
- 0 Downstream
- 1 Remote Sensing
- 2 Plugged
- 3 Upstream (downstream from inlet restriction and from control chamber connection)



Modulating close
Regulated pressure
Lower than setting:
0 \leftrightarrow 3



Stable Position
Regulated pressure
equal to setting:
0 \leftrightarrow 3
controlled passage



Modulating Open
Regulated pressure
higher than setting:
0 \leftrightarrow 3

PC-30-A-M

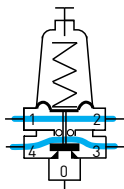
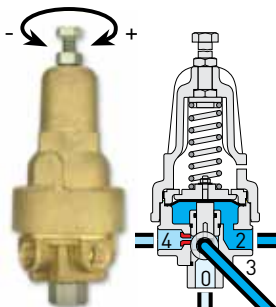
Pressure Sustaining 2-Way Mini-Pilot Valve, Metal

Pilot Adjustment

Turn Clock-Wise
to increase setting
and Counter Clock-Wise
to decrease it.

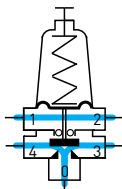
Connections

- 0 Downstream
- 1,2 Sensing / Pressure Gauge
- 3 Valve Control Chamber
- 4 Upstream
(through internal restriction)



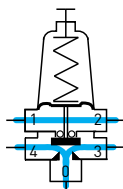
Modulating close

Regulated pressure
Lower than setting:
 $4 \leftrightarrow 3 \nrightarrow 0$



Stable Position

Regulated pressure
equal to setting:
 $4 \leftrightarrow 3 \leftrightarrow 0$
controlled passage



Modulating Open

Regulated pressure
higher than setting:
 $4 \leftrightarrow 3 \leftrightarrow 0$

PC-3Q-A-P

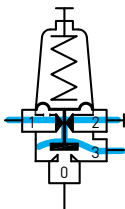
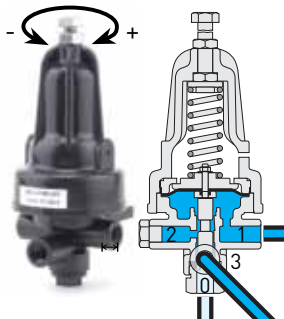
Quick Pressure Relief Mini-Pilot Valve, Plastic

Pilot Adjustment

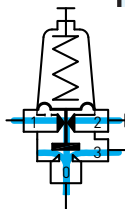
Turn Clock-Wise
to increase setting
and Counter Clock-Wise
to decrease it.

Connections

- 0 Downstream
- 1 Upstream
- 2 Plugged
- 3 Valve Control Chamber



Main Valve Closed
System pressure
lower than setting:
0 ↔ 3 ↔ 1



Main Valve Opens
System pressure
Higher than setting:
0 ↔ 3 ↔ 1

PC-3Q-A-M

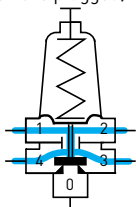
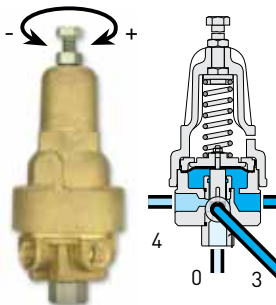
Quick Pressure Relief Mini-Pilot Valve, Metal

Pilot Adjustment

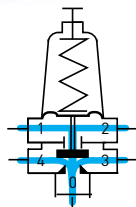
Turn Clock-Wise
to increase setting
and Counter Clock-Wise
to decrease it.

Connections

- 0 Downstream
- 1,2 Upstream / Pressure Gauge
- 3 Valve Control Chamber (when 4 is plugged)
- 4 Valve Control Chamber (when 3 is plugged)



Main Valve Closed
System pressure
lower than setting:
 $1,2 \leftrightarrow 3,4 \nleftrightarrow 0$



Main Valve Opens
System pressure
Higher than setting:
 $1,2 \leftrightarrow 3,4 \leftrightarrow 0$

PC-70-A-P

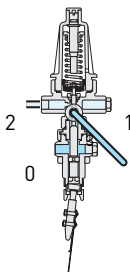
Paddle Flow Rate Servo Mini-Pilot Valve, Plastic

Pilot Adjustment

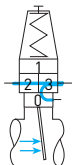
Turn Clock-Wise to decrease setting
and Counter Clock-Wise to increase it.

Connections

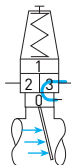
- 0 Upstream
- 1 Plugged
- 2 Downstream
- 3 Valve Control Chamber



Modulating Open
Flow lower than
setting:
3 ↔ 2



Stable Position
Flow equal to
setting:
0 ↔ 3 ↔ 2



Modulating Close
Flow higher than
setting:
0 ↔ 3

PC-70-A-M

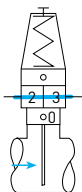
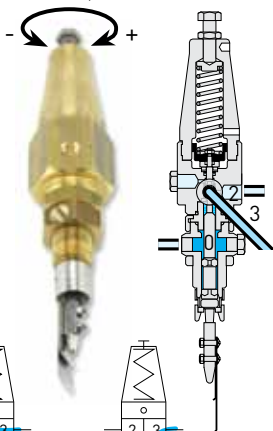
Paddle Flow Rate Servo Mini-Pilot Valve, Metal

Pilot Adjustment

Turn Clock-Wise
to increase setting
and Counter Clock-Wise
to decrease it.

Connections

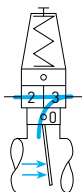
- 0 Upstream
- 2 Downstream
- 3 Valve Control Chamber



Modulating Open

Flow lower than
setting:

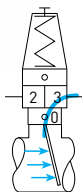
3 ↔ 2



Stable Position

Flow equal to
setting:

0 ↔ 3 ↔ 2



Modulating Close

Flow higher than
setting:

0 ↔ 3

#X

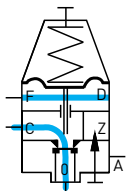
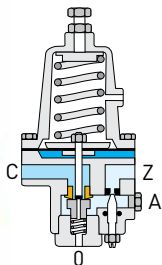
Positioning 3-Way Pilot Valve

Pilot Adjustment

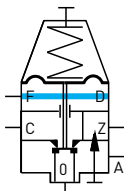
Turn Clock-Wise
to increase setting
and Counter Clock-Wise
to decrease it.

Connections

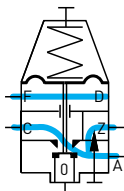
- 0** Upstream for Reducing
Vent for Sustaining
- C** Valve Control Chamber
- A/Z** Vent for Reducing
Upstream for Sustaining
- F/D** Sensing/Pressure Gauge



Modulating close
Regulated pressure
higher than setting:
 $0 \leftrightarrow C$



Locked Position
Regulated pressure
equal to setting:
 $0 \leftrightarrow 2 \leftrightarrow A/Z$
all passages locked



Modulating Open
Regulated pressure
lower than setting:
 $C \leftrightarrow A/Z$

#2

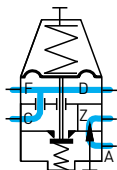
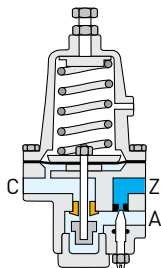
Pressure Reducing Pilot Valve

Pilot Adjustment

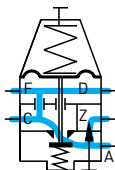
Turn Clock-Wise
to increase setting
and Counter Clock-Wise
to decrease it.

Connections

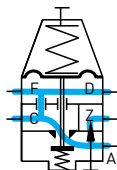
- Z** Upstream
- C** Downstream
- A** Valve Control Chamber
- F/D** External Sensing/
Pressure Gauge



Modulating close
Regulated pressure
higher than setting:
 $Z \leftrightarrow A \nleftrightarrow C$



Stable Position
Regulated pressure
equal to setting:
 $Z \leftrightarrow A \leftrightarrow C$
controlled passage



Modulating Open
Regulated pressure
lower than setting:
 $Z \leftrightarrow A \leftrightarrow C$

#3

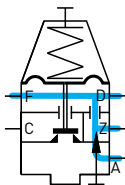
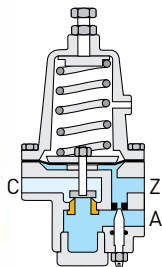
Pressure Sustaining Pilot Valve

Pilot Adjustment

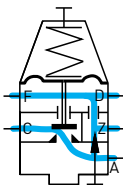
Turn Clock-Wise
to increase setting
and Counter Clock-Wise
to decrease it.

Connections

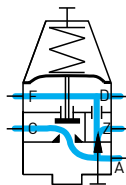
- Z** Upstream
- C** Downstream
- A** Valve Control Chamber
- F/D** External Sensing/
Pressure Gauge



Modulating close
Regulated pressure
Lower than setting:
 $Z \leftrightarrow A \rightarrow C$



Stable Position
Regulated pressure
equal to setting:
 $Z \leftrightarrow A \leftrightarrow C$
controlled passage



Modulating Open
Regulated pressure
higher than setting:
 $Z \leftrightarrow A \leftrightarrow C$

#8

Altitude Positioning Pilot Valve

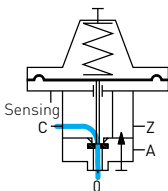
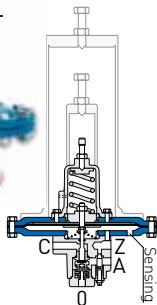
Pilot Adjustment

Turn Clock-Wise
to increase setting
and Counter Clock-Wise
to decrease it.

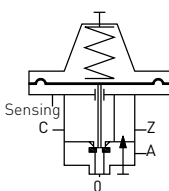
Connections

- 0** Upstream
- C** Valve Control Chamber
- A** Vent (Z Plugged)
- Z** Vent through Needle Valve (A Plugged)

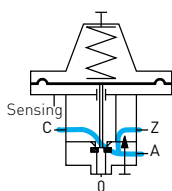
Sensing Still Point at Reservoir Bottom

**Sensed close**

Regulated pressure
higher than setting:
 $0 \leftrightarrow C$

**Locked Position**

Sensed pressure
equal to setting:
 $0 \leftrightarrow C \leftrightarrow A/Z$
all passages locked

**Modulating Open**

Sensed pressure
lower than setting:
 $C \leftrightarrow A/Z$

3W-SOP

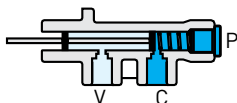
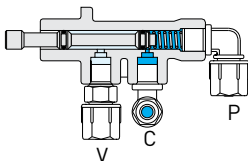
3-Way Shut-Off Pilot for AMV

Connections

P Upstream Pressure

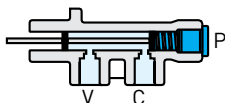
C Control Chamber

V Vent



AMV Close:

Passage Between
P and **C**



AMV Open:

Passage Between
C and **V**

5W-SSOP

5-Way Sequential Shut-off Pilot for AMV

Connections

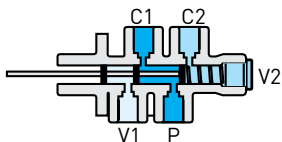
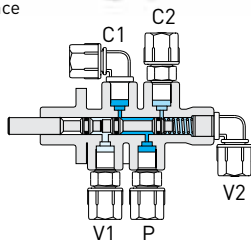
P Pressure

C1 Control Chamber

V1 Vent or Connection to Preceding AMV

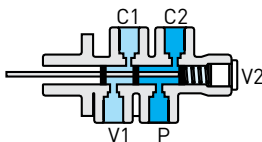
C2 Connection to next AMV In sequence

V2 Vent



AMV Close:

Passage Between
P & C1 and **C2 & V2**



AMV Open (Set):

Passage Between
P & C2 and **C1 & V1**

3W-SOP-S

3-Way Shut-Off Pilot Valve with Pump Shut-Off Electrical Switch

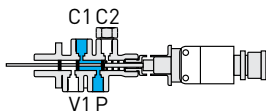
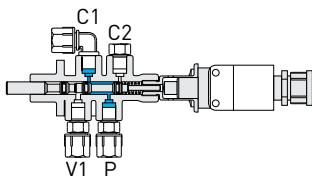
Connections

P Pressure

C1 Control Chamber

V1 Vent

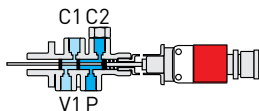
C2 Plugged



AMV Close:

Passage Between

P & C1



AMV Open (Set):

Passage Between

C1 & V1

Main Network

Irrigation Head

Infield Head

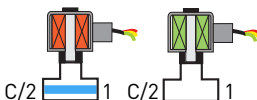
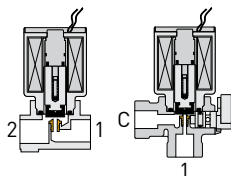
Infield System

S-390-2W



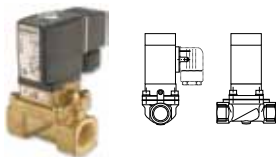
Connections

C/2 Inlet
1 Outlet



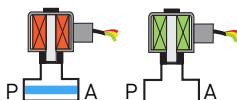
Normally Closed

Burkert 5281

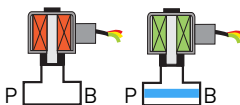


Connections

P Inlet
A/B Outlet



5281A Normally Closed



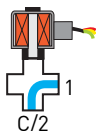
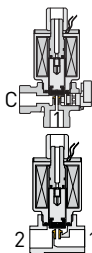
5281B Normally Open



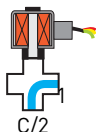
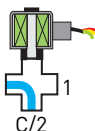
S-390-2W / Burkert 5281
2-Way Solenoid Valves

A-20

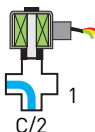
S-390-3W



Normally Closed



Normally Open



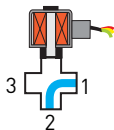
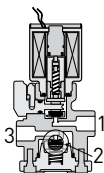
Connections

1 Vent (N.O); Pressure (N.C)

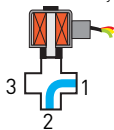
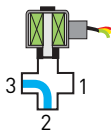
C/2 Valve Control Chamber

Actuator Port Pressure (N.O); Vent (N.C)

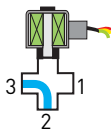
S-400-3W with Hydraulic Base



Normally Closed



Normally Open



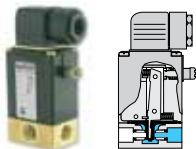
Connections

1 Vent (N.O); Pressure (N.C)

2 Valve Control Chamber

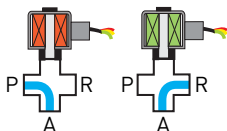
3 Pressure (N.O); Vent (N.C)

Burkert 330 with Isolating Membrane

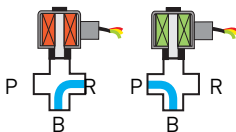


Connections

- R** Vent
A/B Valve Control Chamber
P Pressure



330C Normally Closed



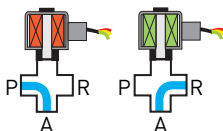
330D Normally Open

Burkert 6014

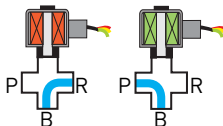


Connections

- R** Vent
A/B Valve Control Chamber
P Pressure



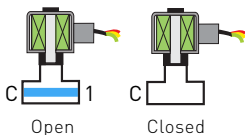
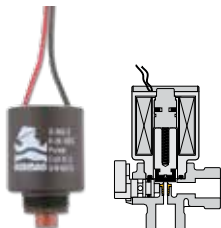
6014C Normally Closed



6014D Normally Open

S-392-2W

Magnetic Latch Solenoid, Actuator or with Base



Connections

- 1** Downstream
- C** Pressure

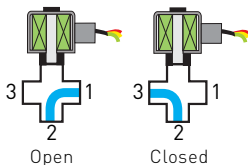
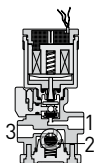
S-982/985-3W

with Isolating Membrane



Connections

- 1 Vent
- 2 Valve Control Chamber
- 3 Pressure

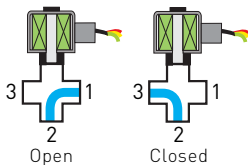
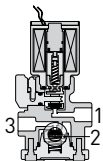


S-402-3W

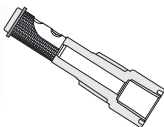


Connections

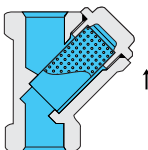
- 1 Vent
- 2 Valve Control Chamber
- 3 Pressure



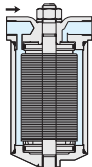
In-Line Self Flushing Filter



Y-Strainer Control Filter

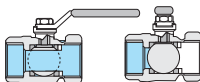


Large Control Filter



2-Way Ball Valve

On-Off Manual Control



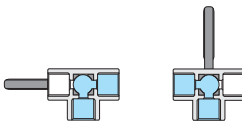
Open

Close

Icon on
Control Loops

3-Way Ball Valve

2-Position On-Off Manual Control



Open

Close

Icon on
Control Loops

2-Way Manometer Ball Valve

Manual Isolating and Venting



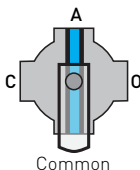
Open

Close

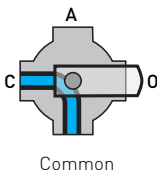
Icon on
Control Loops

4-Way 3-Positions Manual Selector

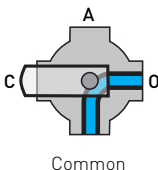
On-Off Manual Control



Automatic Mode:
Passage between
Common and **A**



Close Mode:
Passage between
Common and **C**



Open Mode:
Passage between
Common and **O**

50-P Plastic



Mode A:

Command -
No Passage Between
1 and 2

(Main Valve Closes)



Mode B:

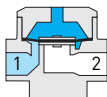
No Command -
Passage Between
1 and 2

(Main Valve Opens)

Connections

- 1** Inlet
- 2** Outlet

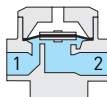
50-M Metal



Mode A:

Command -
No Passage Between
1 and 2

(Main Valve Closes)



Mode B:

No Command -
Passage Between
1 and 2

(Main Valve Opens)

Connections

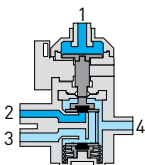
- 1** Inlet
- 2** Outlet

54-PZ Plastic, Double Chamber

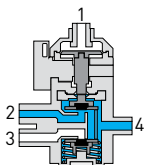


Connections

- 1 Command
- 2 Vent for N.O.
Upstream for N.C
- 3 Upstream for N.O.
Vent for N.C
- 4 Valve Control Chamber



Mode A:
Command-
Passage
Between
3 and 4



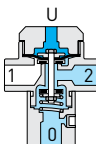
Mode B:
No Command-
Passage
Between
2 and 4

54-M Metal, Single Chamber

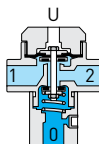


Connections

- 1 Upstream for N.O.
Vent for N.C
- 2 Control Chamber
- 0 Vent for N.O.
Upstream for N.C
- U Command



Mode A:
Command-
Passage
Between
0 and 2

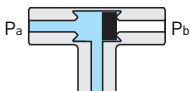
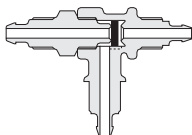


Mode B:
No Command-
Passage
Between
1 and 2

* N.O.: with top spring (main valve closed)

* N.C.: with bottom spring (main valve open)

50-X-P Plastic Pressure Selector Shuttle Valve

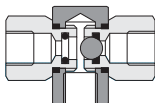


Common



Common

50-X-M Metal Pressure Selector Shuttle Valve



Common

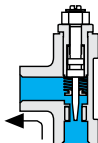
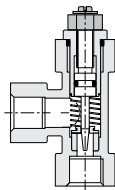


Common

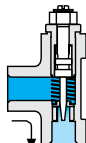
One-Way Flow Control Plastic



One-Way Flow Control Metal

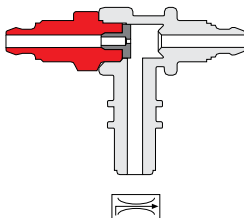


Free Flow

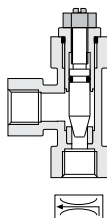


Restricted Flow

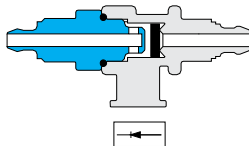
Restrection Orifice Plastic



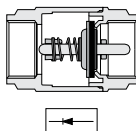
Needle Valve Metal



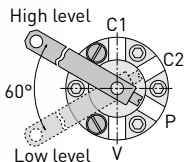
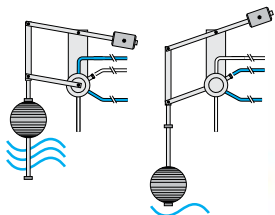
20-P Plastic Check Valve



20-M Metal Check Valve



#66 4-Way Bi-Level Vertical Float



Connections

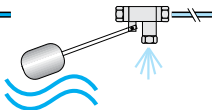
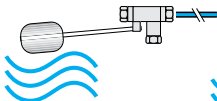
C1 Upper control chamber

C2 Lower control chamber (or plugged)

P Upstream pressure

V Vent

#60-P/#60-M Modulating Horizontal Float



Main Network

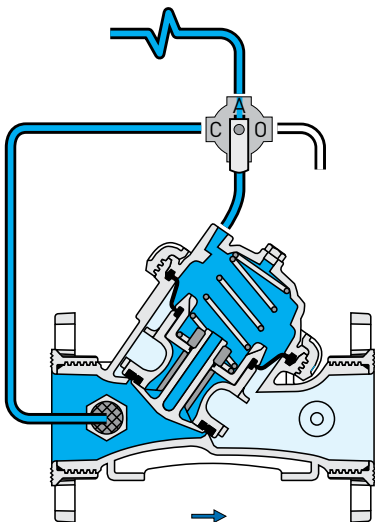
Irrigation Head

Infield Head

Infield System

NO5-Z 105 | 205 | 300 | 405 | 900

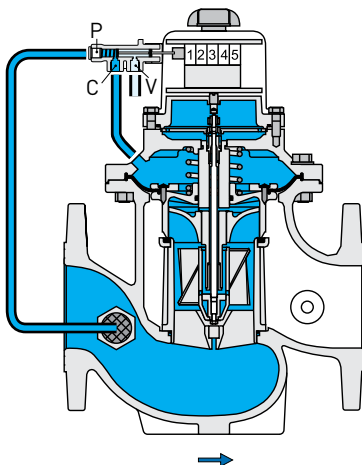
with Manual Selector



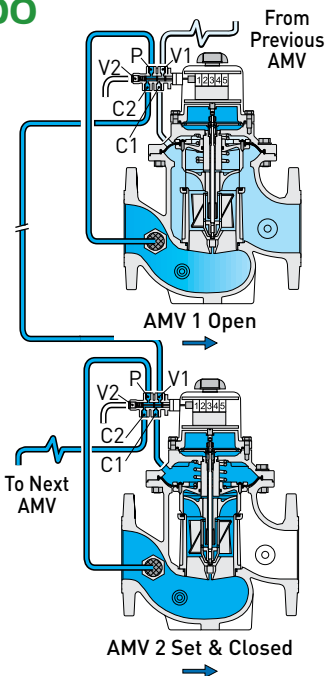
NO5-Z
Hydraulic Control Valve

B-1

900-DO



900-DD



Main Network

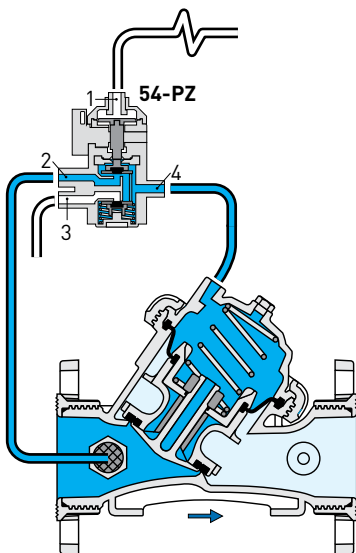
Irrigation Head

Infield Head

Infield System

N05-54-KX 105 | 205 | 300 | 405 | 900

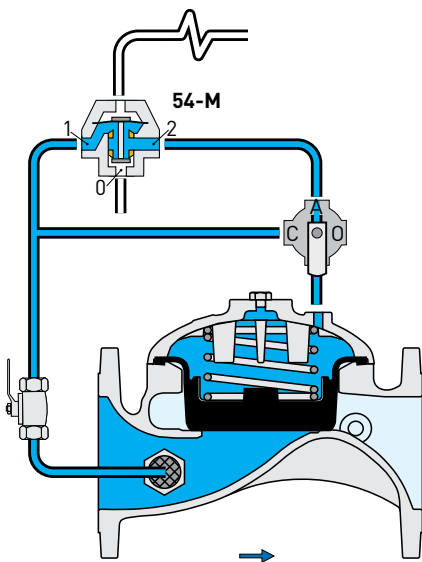
Plastic Accessories



N05-54-KX Hydraulic Control Valve
N.C. with Hydraulic Relay

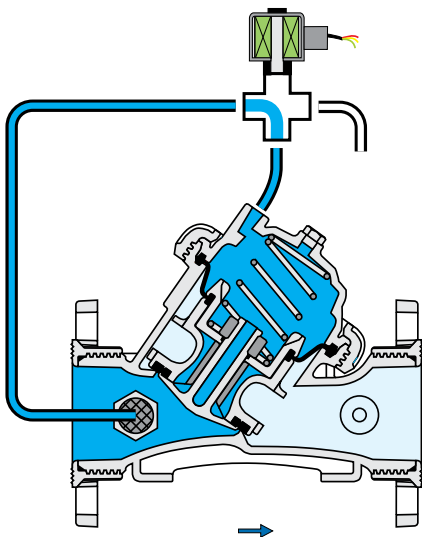
N05-54-RXZ 405 | 900

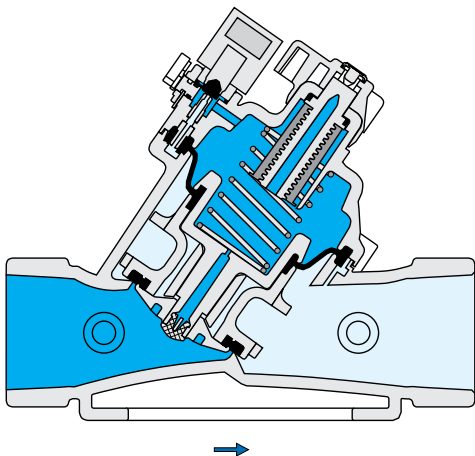
Metal Accessories



NIO-KX 110 | 210 | 310 | 410 | 910

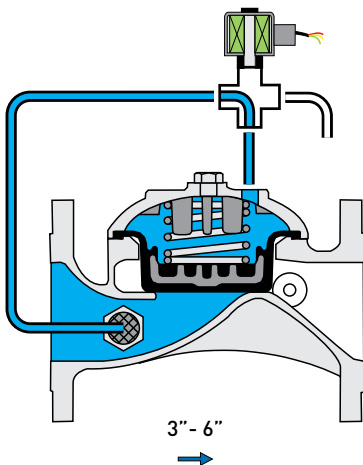
Plastic Accessories



NIO-N1-2W 110-N1 | 210-N1 | 210

NIO-RX 410 | 910

Metal Accessories



Main Network

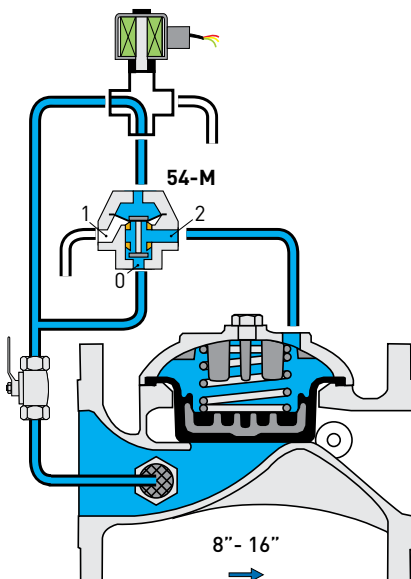
Irrigation Head

Infield Head

Infield System

NIO-RX 410 | 910

Metal Accessories



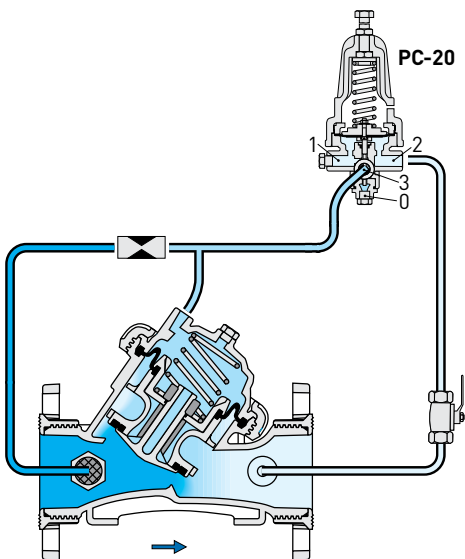
NIO-RX

Solenoid Controlled Valve

B-9

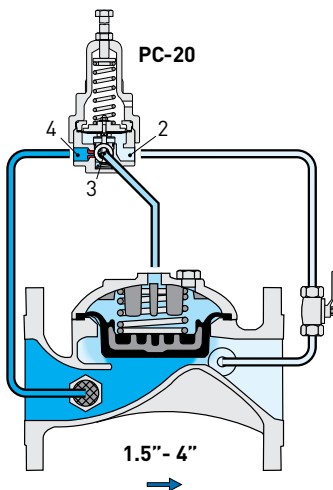
N20-K 120 | 220 | 320 | 420 | 920

Plastic Accessories



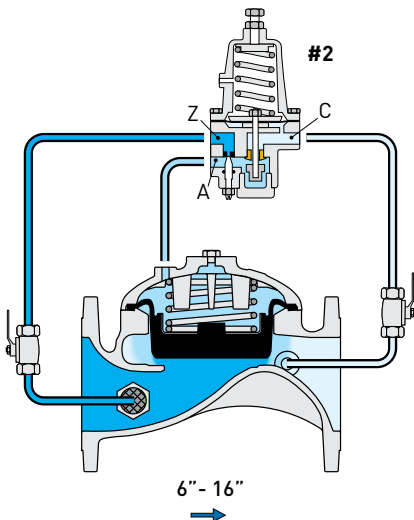
N20-R 420 | 920

Metal Accessories



N20-R 420 | 920

Metal Accessories



Main Network

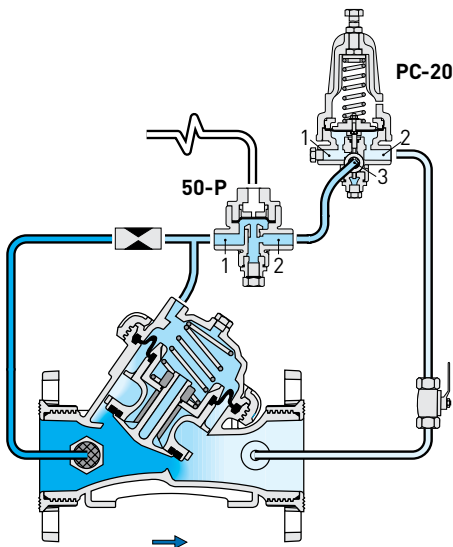
Irrigation Head

Infield Head

Infield System

N20-50-K 120 | 220 | 320 | 420 | 920

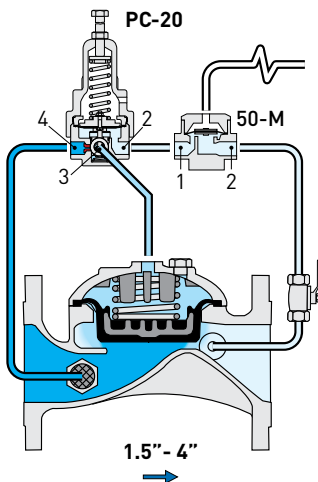
Plastic Accessories



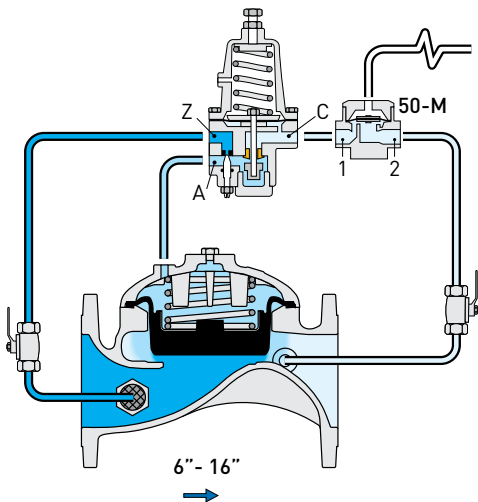
N20-50-K Pressure Reducing 2-Way Valve
with Hydraulic Control

N20-50-R 420 | 920

Metal Accessories

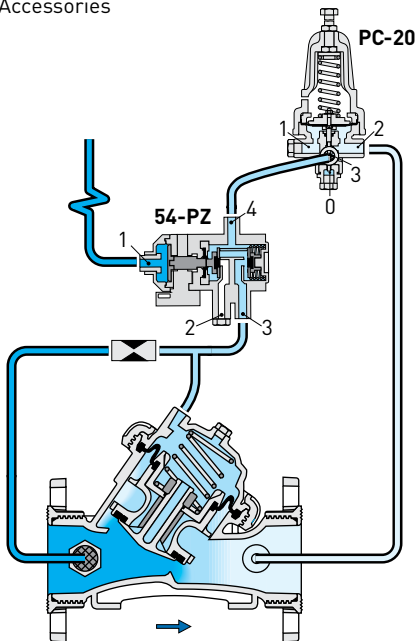


Metal Accessories



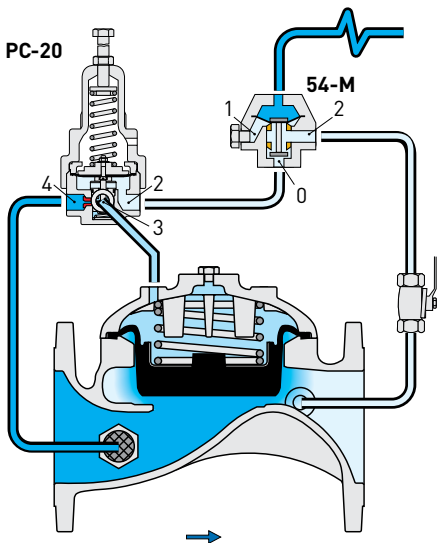
N20-54-K 120 | 220 | 320 | 420 | 920

Plastic Accessories



N20-54-R 420 | 920

Metal Accessories



Main Network

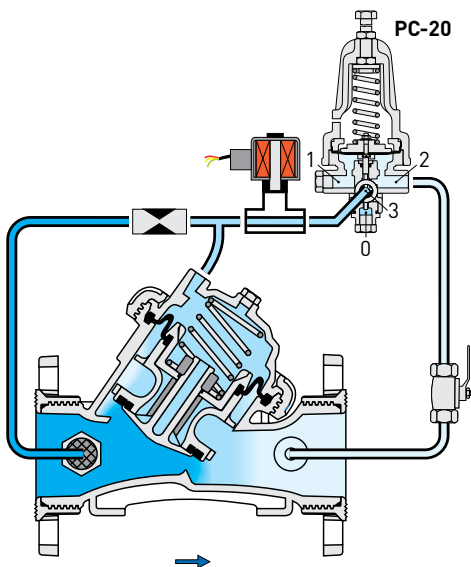
Irrigation Head

Infield Head

Infield System

N20-55-K 120 | 220 | 320 | 420 | 920

Plastic Accessories

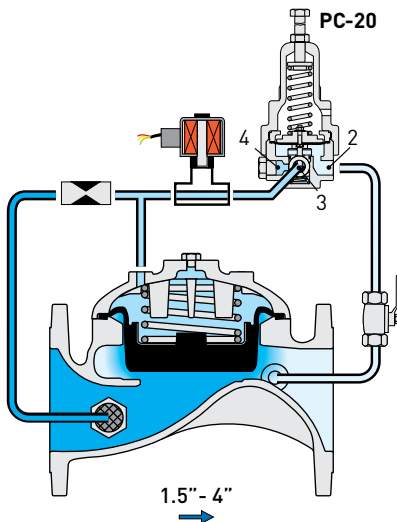


N20-55-K Pressure Reducing 2-Way Valve
with Solenoid Control

C-9

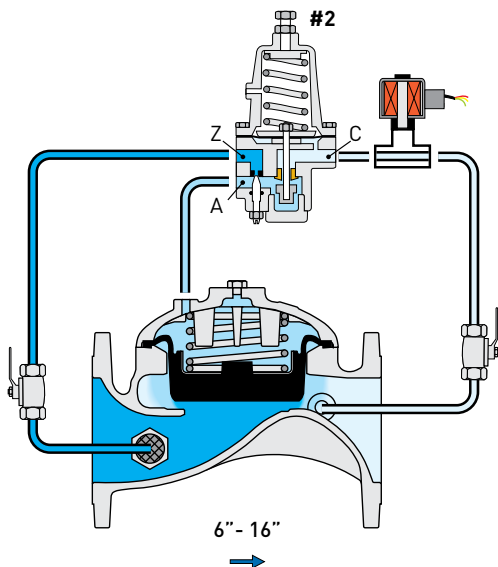
N20-55-R 420 | 920

Metal Accessories



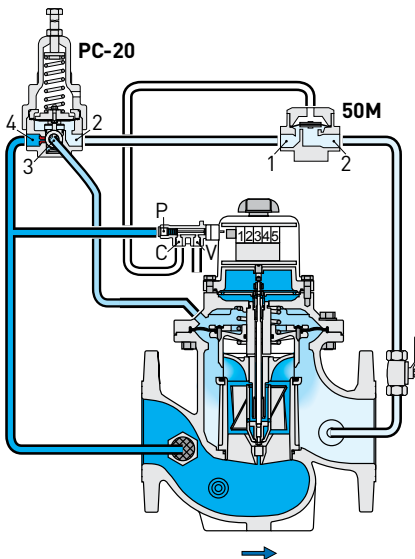
N20-55-R 420 | 920

Metal Accessories



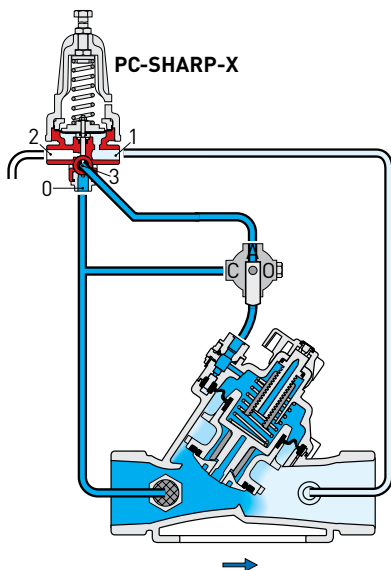
IR-920-D2-R

Metal Accessories



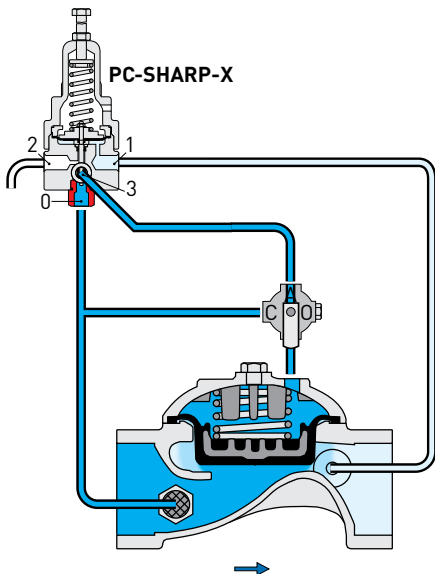
N2O-KXZ 120 | 220 | 320 | 420 | 920

Plastic Accessories, with Manual Selector



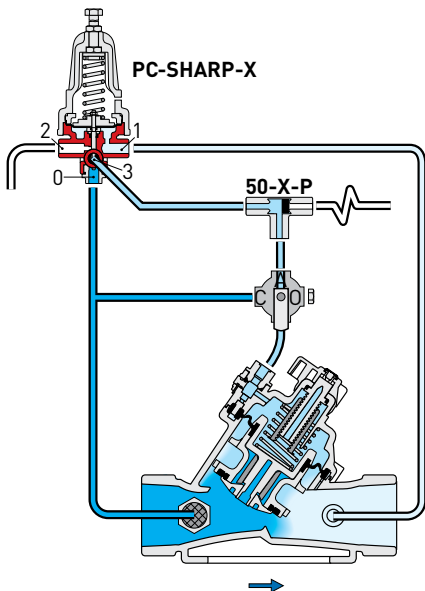
N20-RXZ 420 | 920

Metal Accessories, with Manual Selector



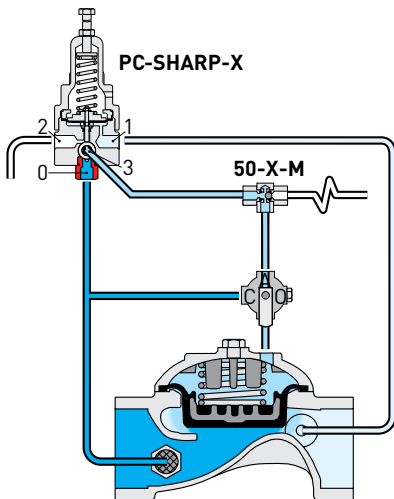
N20-50-KXZ 120 | 220 | 320 | 420 | 920

Plastic Accessories, with Manual Selector



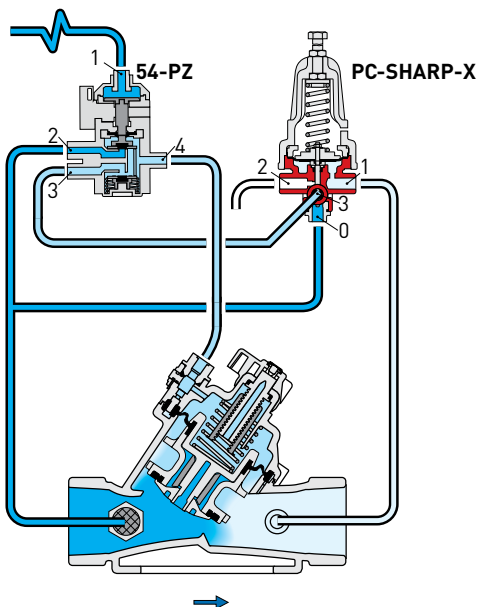
N20-50-RXZ 420 | 920

Metal Accessories, with Manual Selector



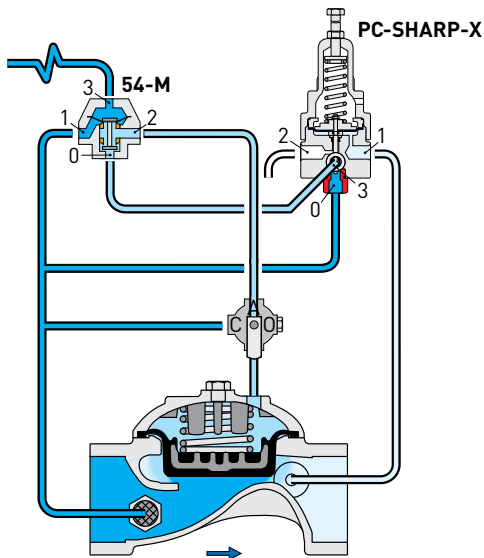
N20-54-KX 120 | 220 | 320 | 420 | 920

Plastic Accessories



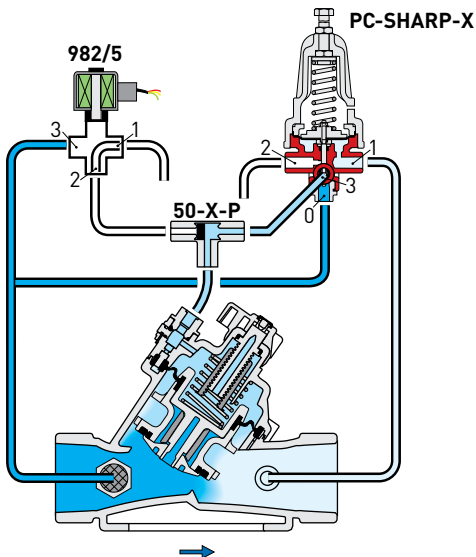
N20-54-RXZ 420 | 920

Metal Accessories



N20-55-KX 120 | 220 | 320 | 420 | 920

Plastic Accessories



Main Network

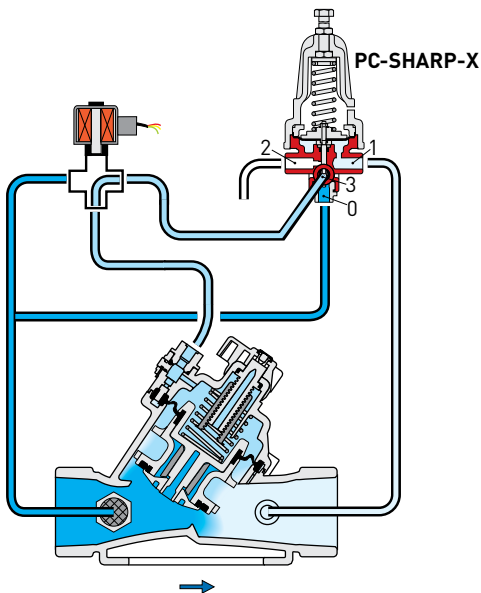
Irrigation Head

Infield Head

Infield System

N20-55-KX 120 | 220 | 320 | 420 | 920

Plastic Accessories

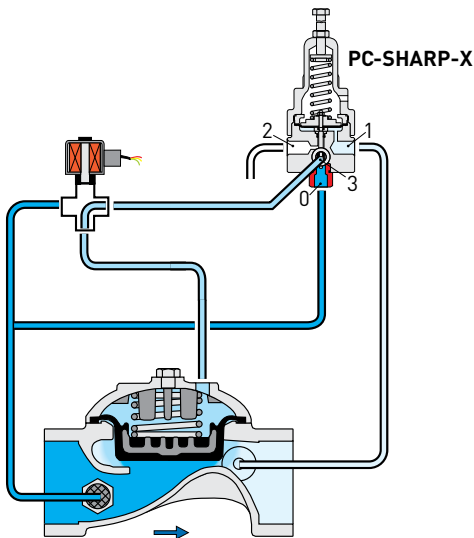


N20-55-KX Pressure Reducing 3-Way Sharp Valve with Solenoid Control

C-20

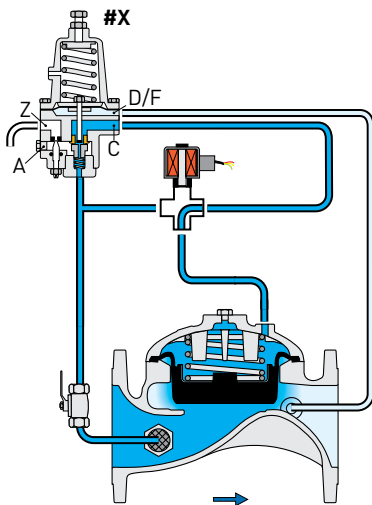
N20-55-RX 420 | 920

Metal Accessories



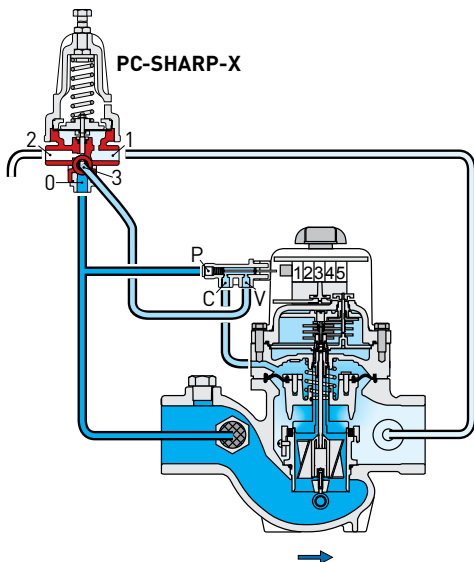
N20-55-RX 420 | 920

Metal Accessories



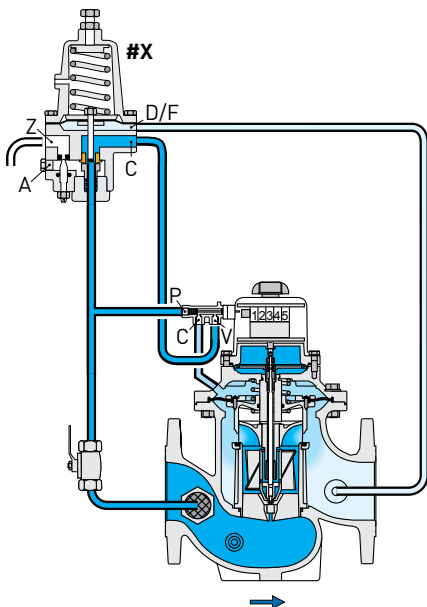
IR-920-DO-KX

Plastic Accessories



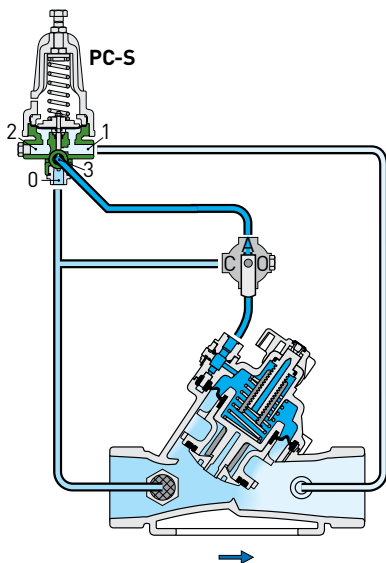
920-D2-RX

Metal Accessories



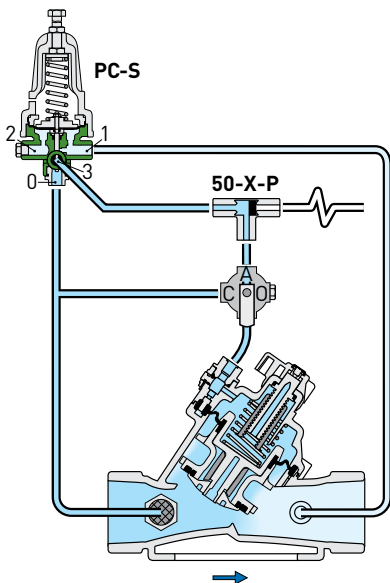
N2O-bKZ 120 | 220 | 320 | 420 | 920

Plastic Accessories, with Manual Selector



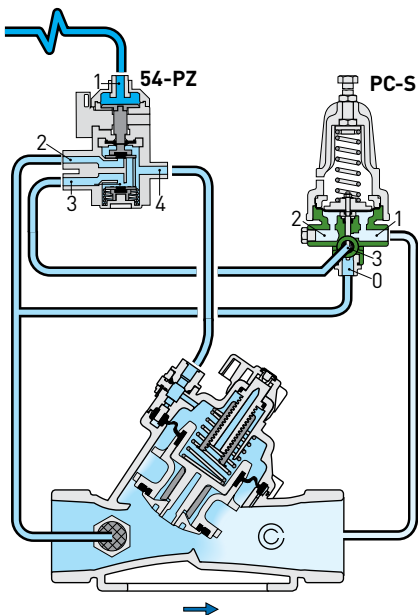
N20-50-bKZ 120 | 220 | 320 | 420 | 920

Plastic Accessories, with Manual Selector



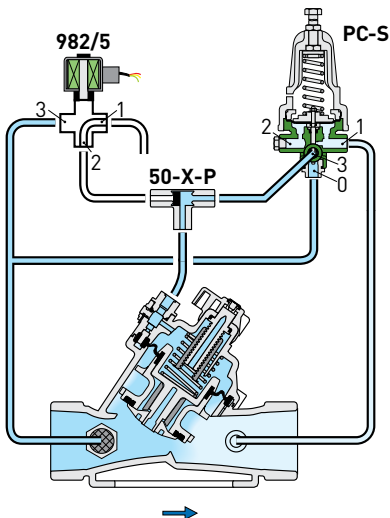
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Plastic Accessories



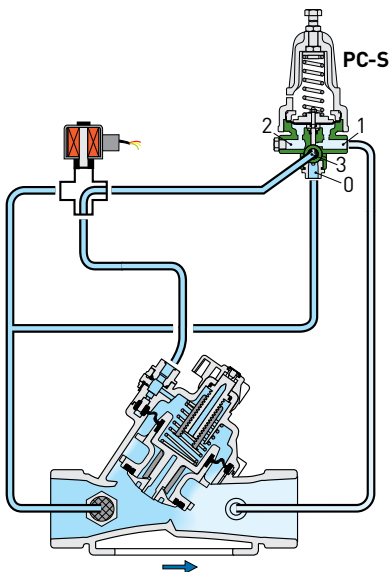
N20-55-bK 120 | 220 | 320 | 420 | 920

Plastic Accessories



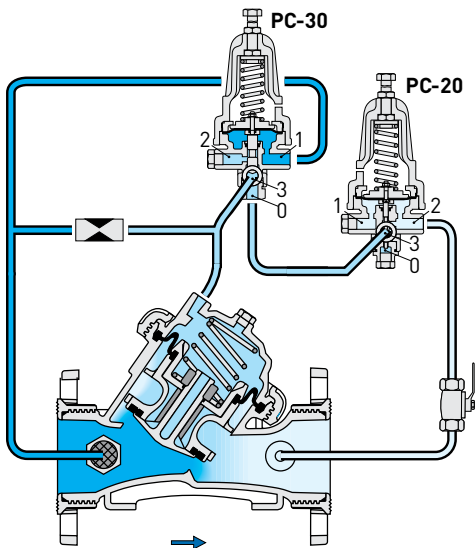
N20-55-bK 120 | 220 | 320 | 420 | 920

Plastic Accessories



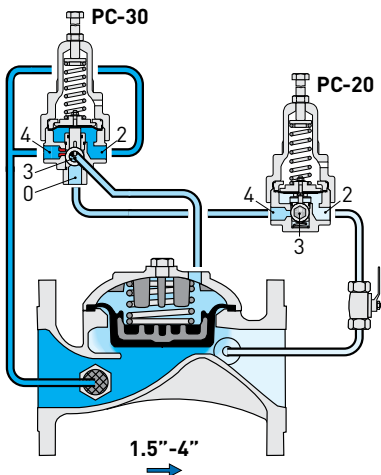
N23-K 123 | 223 | 323 | 423 | 923

Plastic Accessories



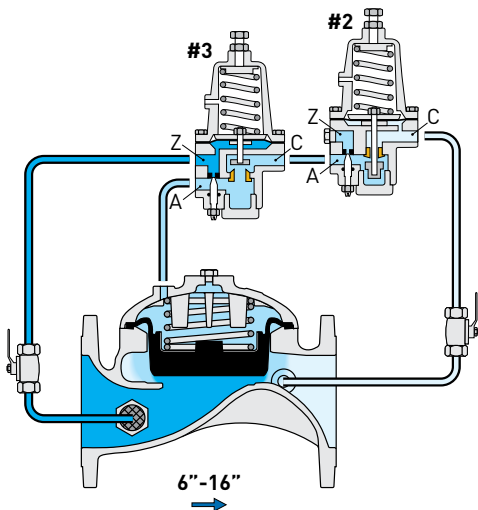
N23-R 423 | 923

Metal Accessories



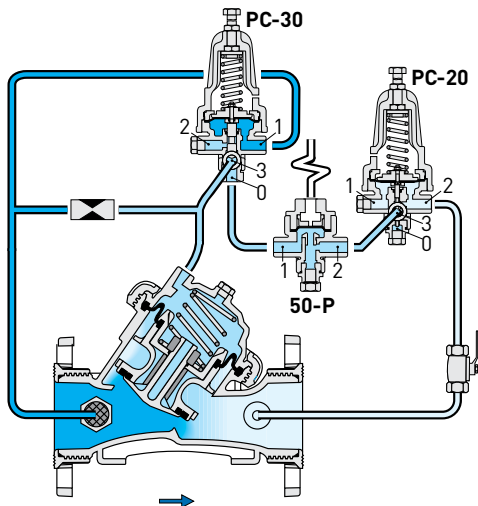
N23-R 423 | 923

Metal Accessories



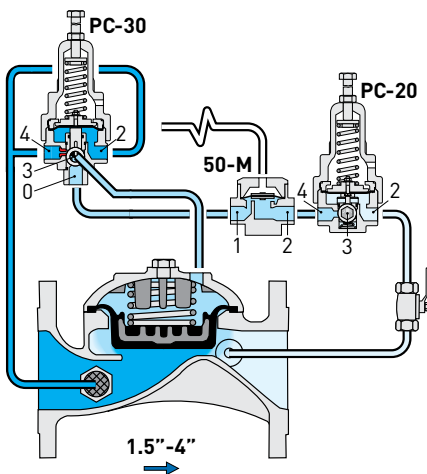
N23-50-K 123 | 223 | 323 | 423 | 923

Plastic Accessories



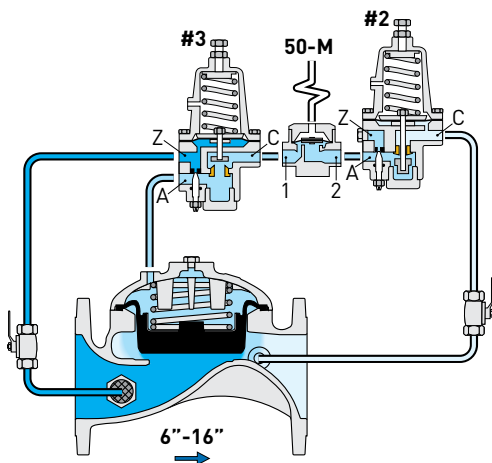
N23-50-R 423 | 923

Metal Accessories



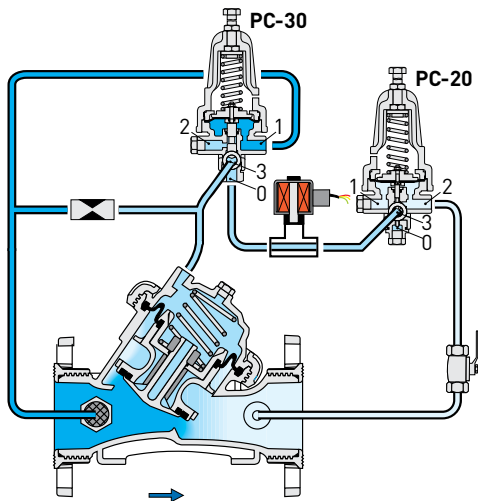
N23-50-R 423 | 923

Metal Accessories



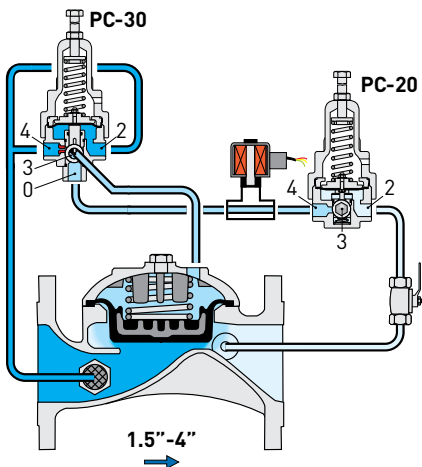
N23-55-K 123 | 223 | 323 | 423 | 923

Plastic Accessories



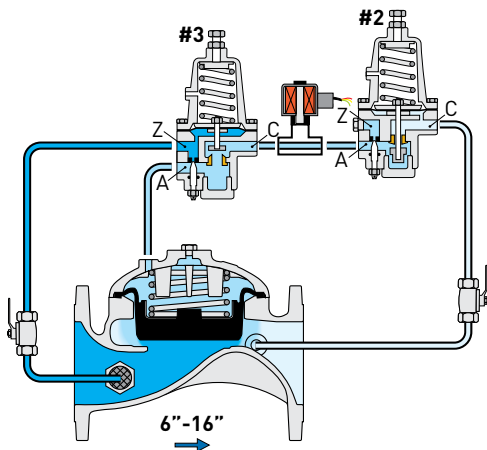
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Metal Accessories



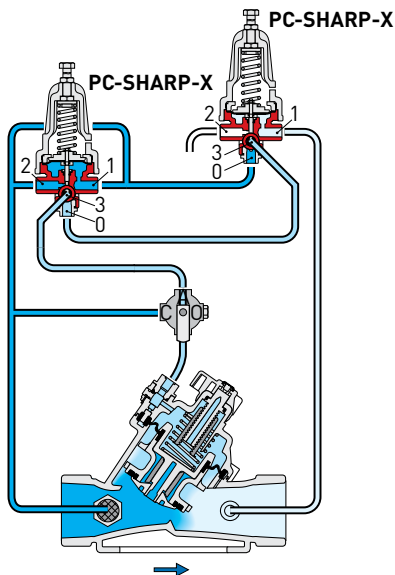
N23-55-R 423 | 923

Metal Accessories



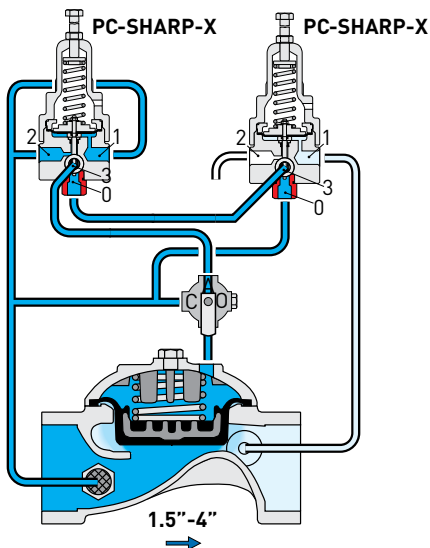
N23-KXZ 123 | 223 | 323 | 423 | 923

Plastic Accessories, with Manual Selector



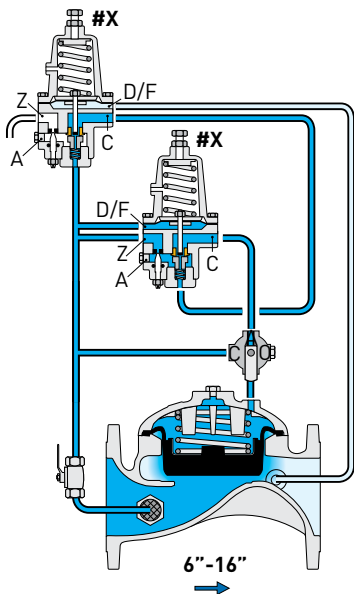
N23-RXZ 423 | 923

Metal Accessories, with Manual Selector



N23-RXZ 423 | 923

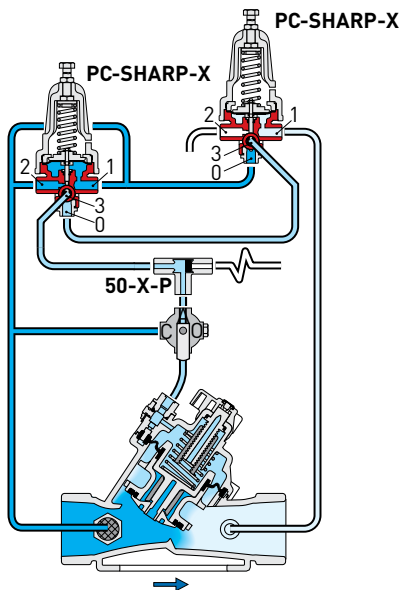
Metal Accessories, with Manual Selector



N23-RXZ Pressure Reducing & Sustaining 3-Way Valve

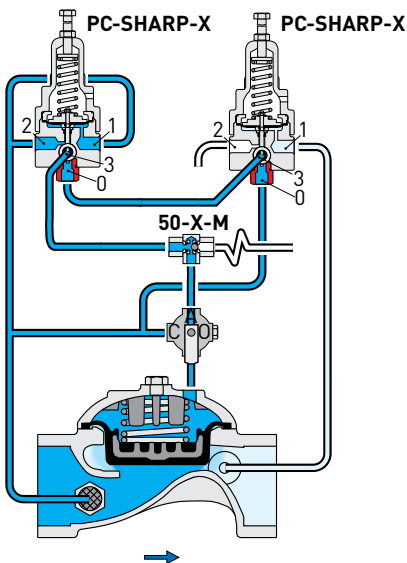
N23-50-KXZ 123 | 223 | 323 | 423 | 923

Plastic Accessories, with Manual Selector



N23-50-RXZ 423 | 923

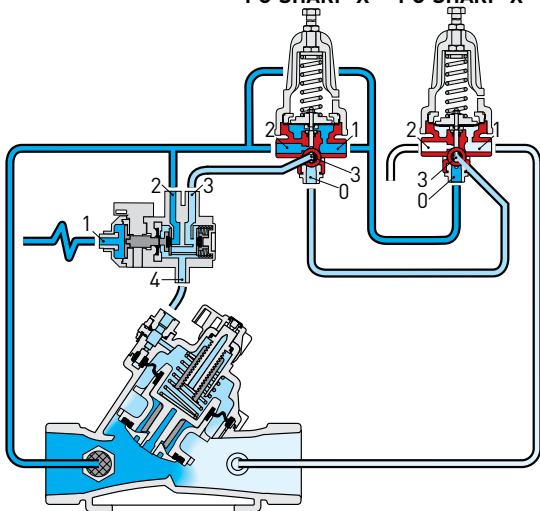
Metal Accessories, with Manual Selector



N23-54-KX 123 | 223 | 323 | 423 | 923

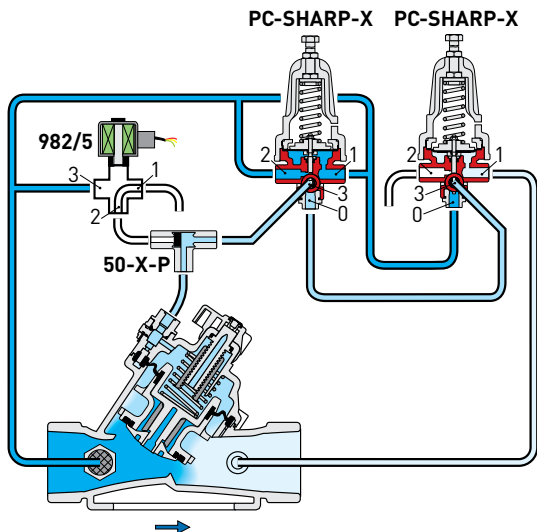
Plastic Accessories

PC-SHARP-X PC-SHARP-X



N23-55-KX 123 | 223 | 323 | 423 | 923

Plastic Accessories



Main Network

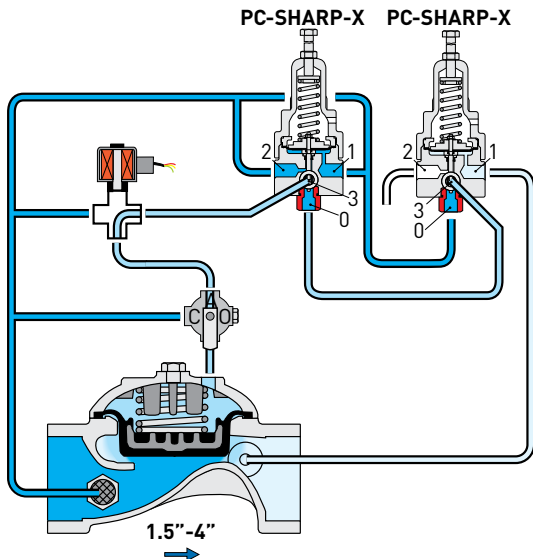
Irrigation Head

Infield Head

Infield System

N23-55-RXZ 123 | 223 | 323 | 423 | 923

Metal Accessories, with Manual Selector

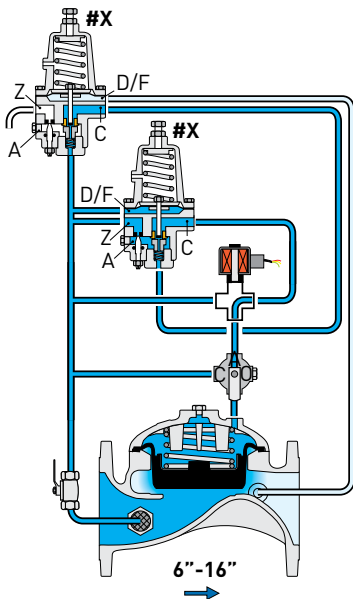


N23-55-RXZ Pressure Reducing & Sustaining
3-Way Sharp Valve with Solenoid Control

D-17

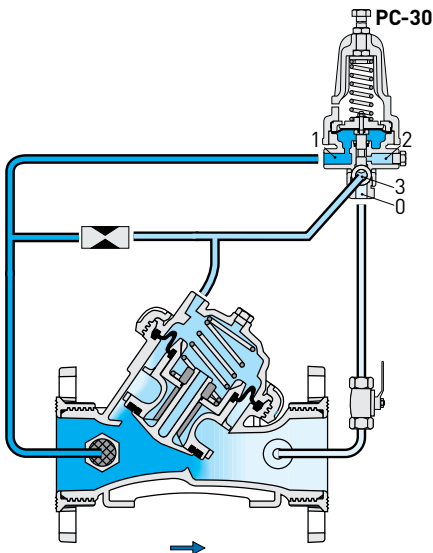
N23-55-RXZ 123 | 223 | 323 | 423 | 923

Metal Accessories, with Manual Selector



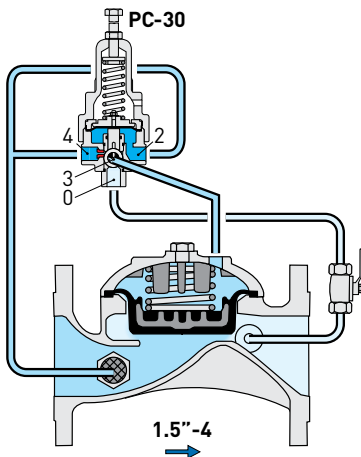
N30-K 130 | 230 | 330 | 430 | 930

Plastic Accessories



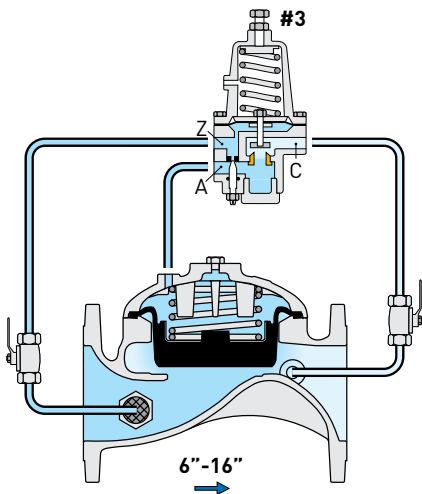
N30-R 430 | 930

Metal Accessories



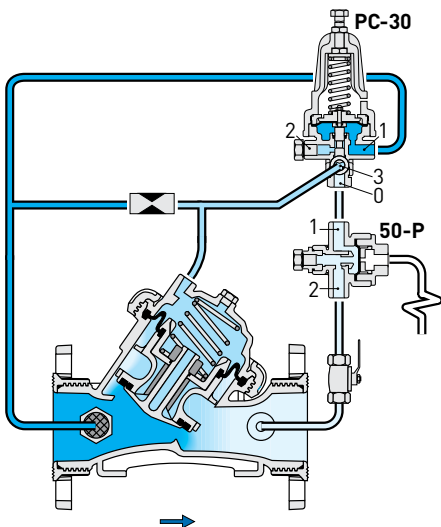
N30-R 430 | 930

Metal Accessories



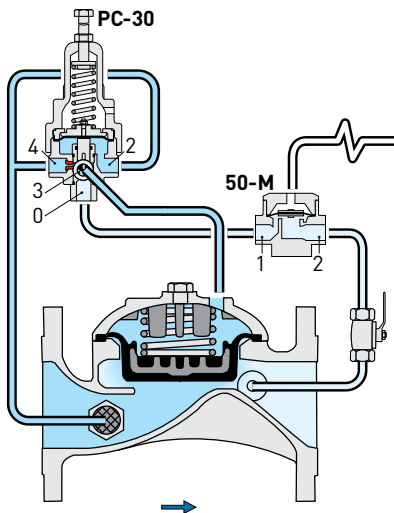
N30-50-K 130 | 230 | 330 | 430 | 930

Plastic Accessories



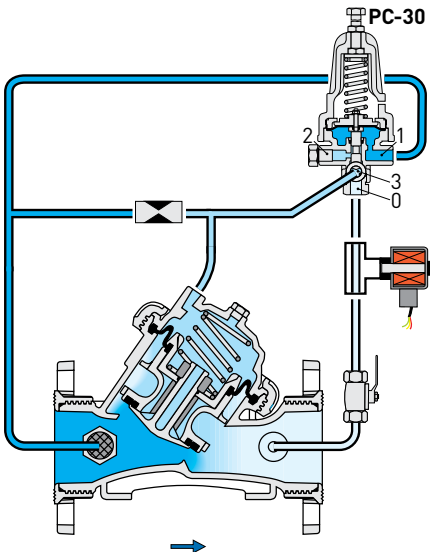
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Metal Accessories



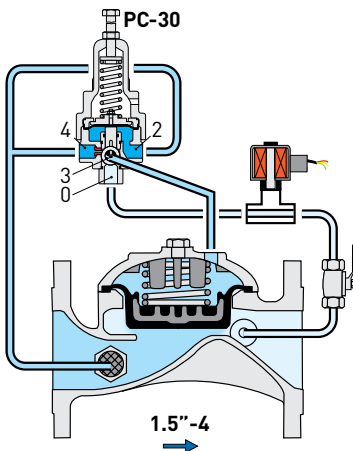
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Plastic Accessories



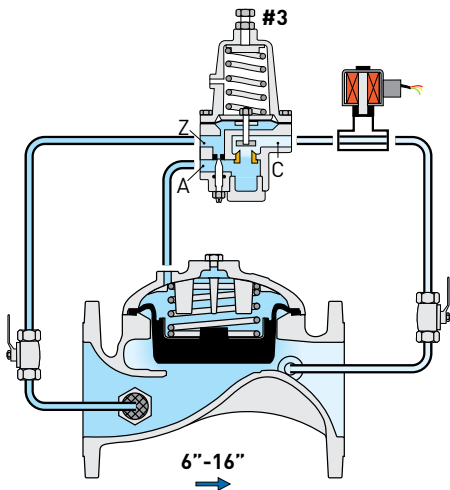
N30-55-R 430 | 930

Metal Accessories



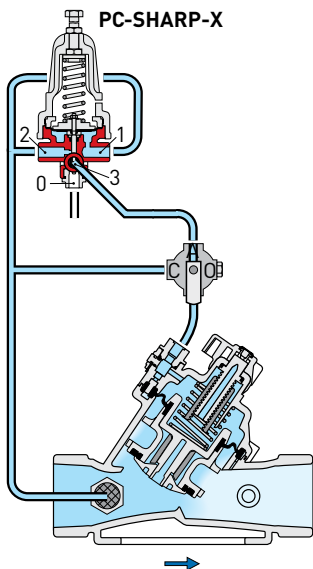
N30-55-R 430 | 930

Metal Accessories



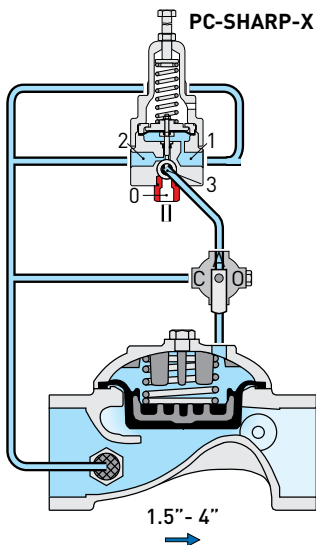
N30-KXZ 130 | 230 | 330 | 430 | 930

Plastic Accessories, with Manual Selector



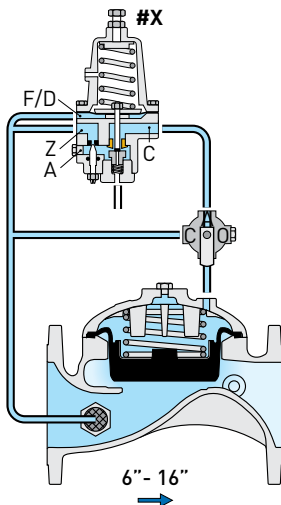
N30-RXZ 430 | 930

Metal Accessories, with Manual Selector



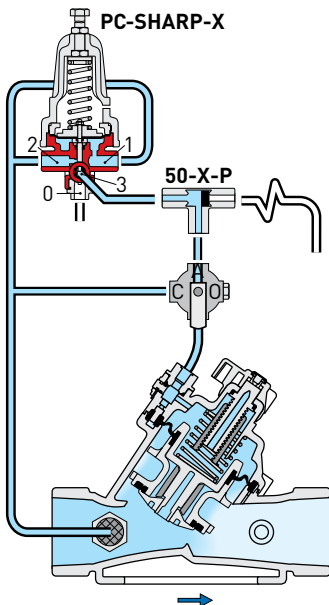
N30-RXZ 430 | 930

Metal Accessories, with Manual Selector



N30-50-KXZ 130 | 230 | 330 | 430 | 930

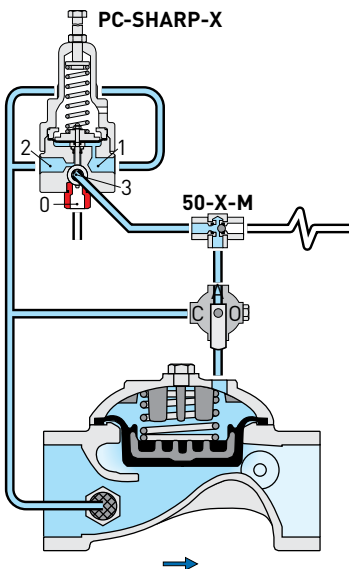
Plastic Accessories, with Manual Selector



N30-50-KXZ Pressure Sustaining 3-Way
Sharp Valve with Hydraulic Control

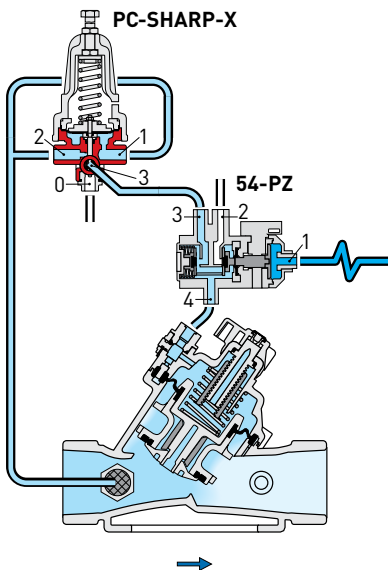
N30-50-RXZ 430 | 930

Metal Accessories, with Manual Selector



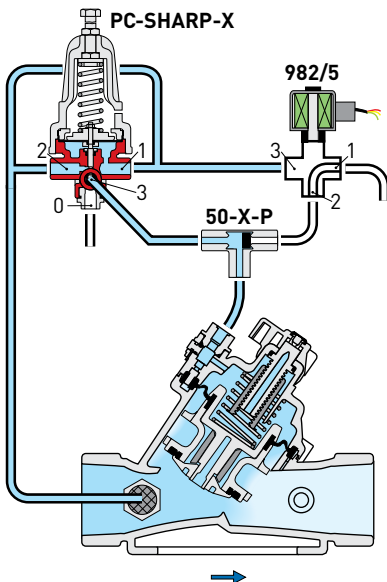
N30-54-KX 130 | 230 | 330 | 430 | 930

Plastic Accessories



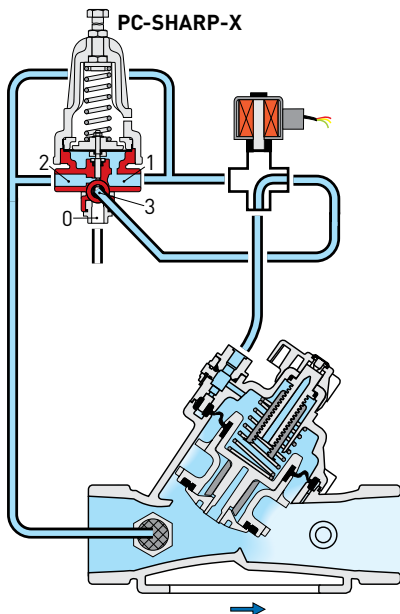
N30-55-KX 130 | 230 | 330 | 430 | 930

Plastic Accessories



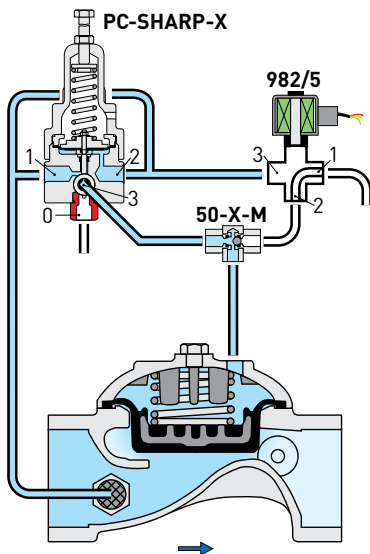
N30-55-KX 130 | 230 | 330 | 430 | 930

Plastic Accessories



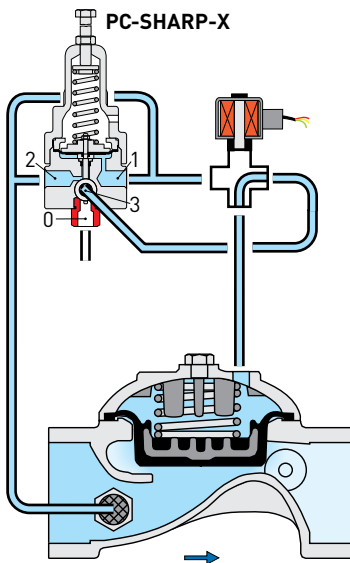
N30-55-RX 430 | 930

Metal Accessories



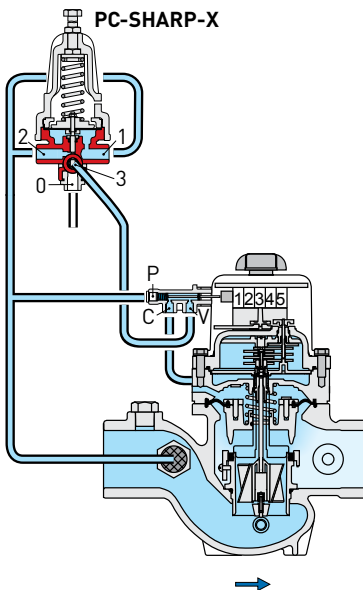
N30-55-RX 430 | 930

Metal Accessories



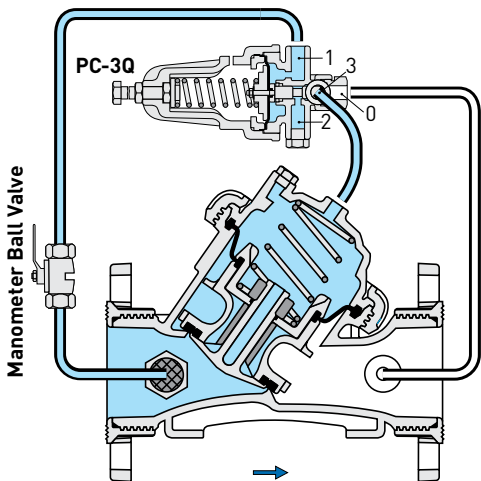
930-DO-KX

Plastic Accessories



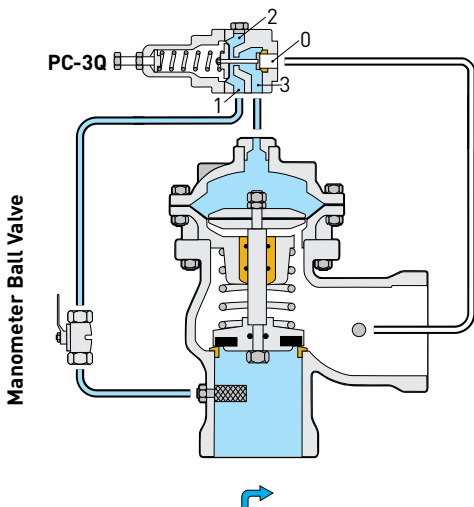
N3Q-K 13Q | 33Q

Plastic Accessories



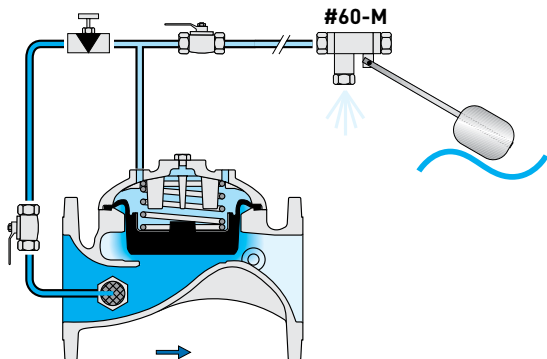
N3Q-R 43Q | 73Q

Metal Accessories



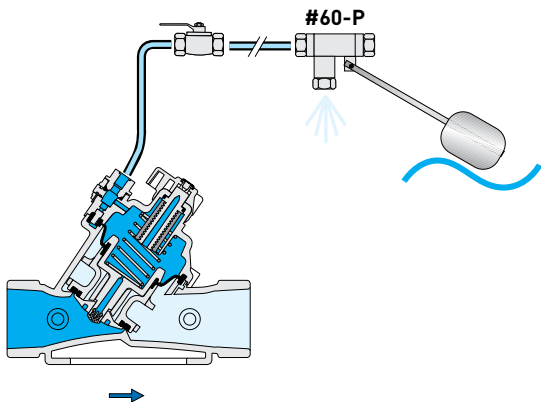
N50-60-R 450-60

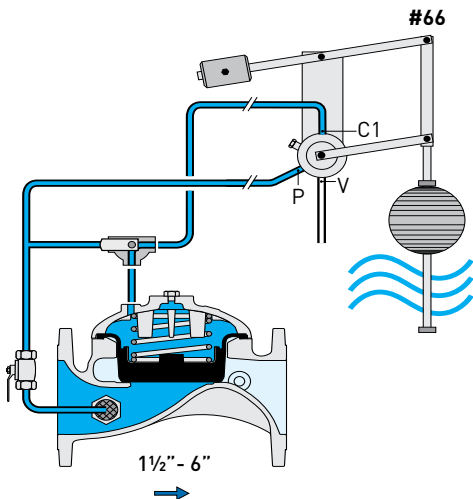
Metal Accessories



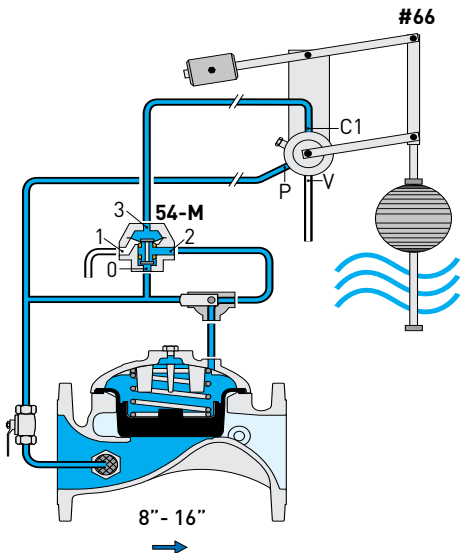
N50-N3-60-K 150-60 | 250-60

Plastic Accessories

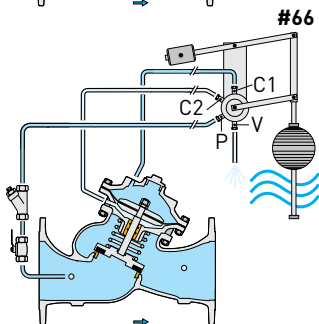
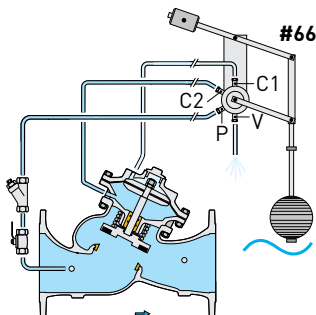


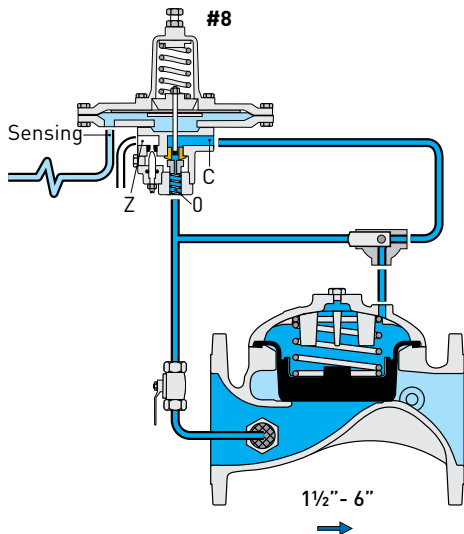


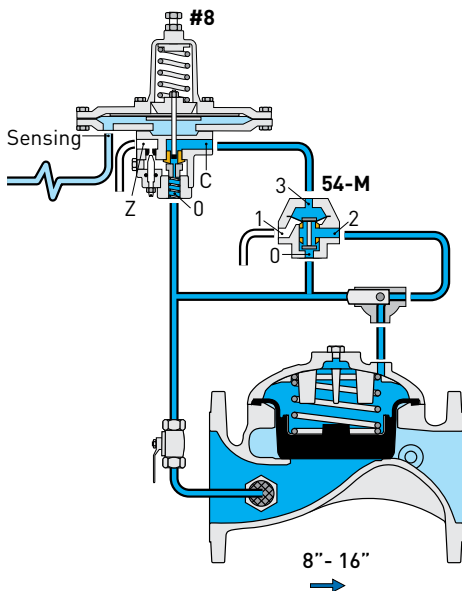
450-66-Z



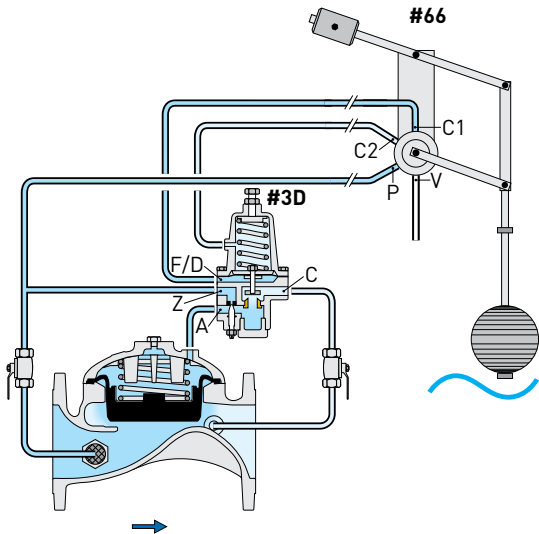
750-66-B



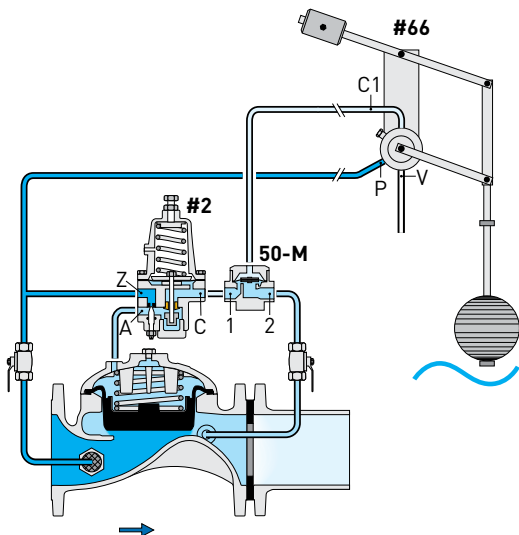
N50-80-XZ 450-80 | 750-80

N50-80-XZ 450-80 | 750-80

N53-66

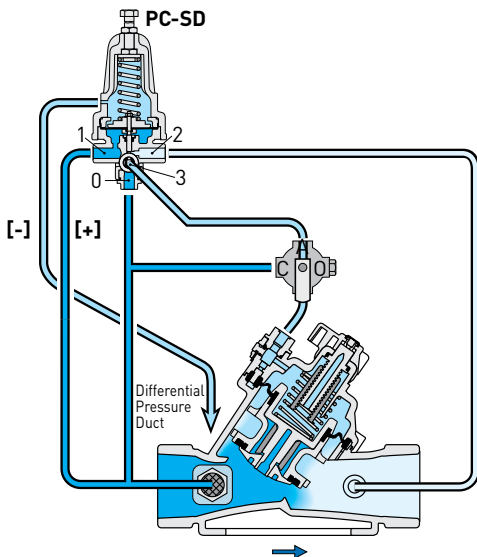


N57-66-U 457-66 | 757-66



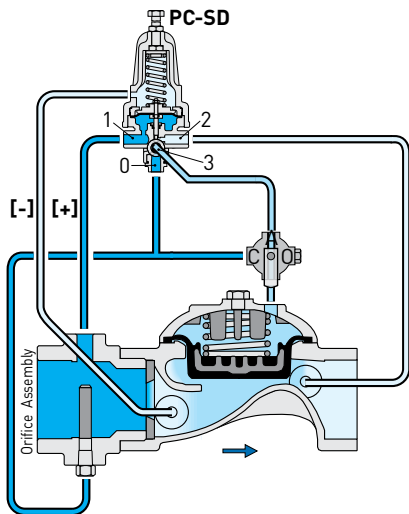
I70-bDZ

Plastic Accessories, with Manual Selector



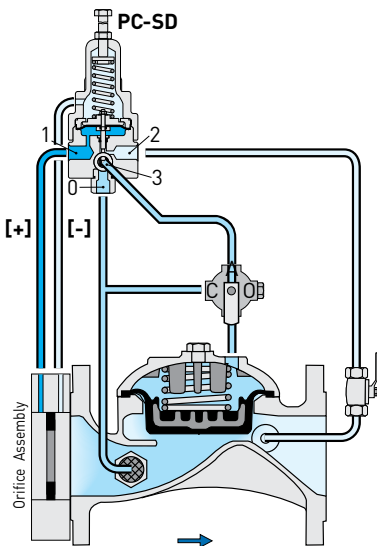
N70-bKUZ 470 | 970

Plastic Accessories, with Manual Selector



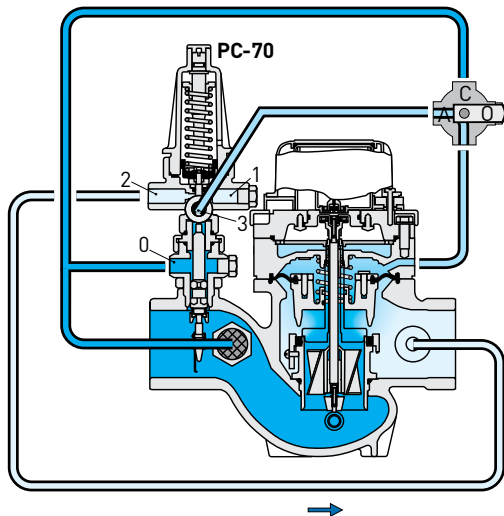
N70-bRUZ 470 | 970

Metal Accessories, with Manual Selector



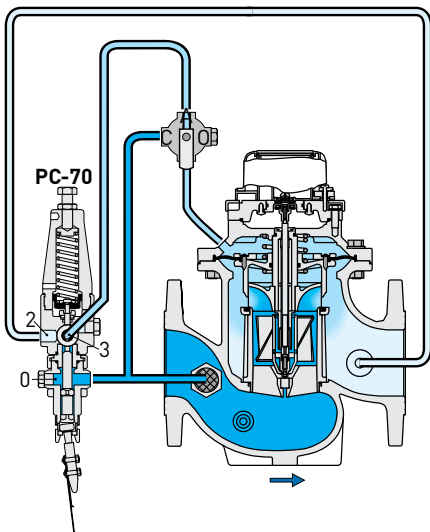
970-KVZ

Plastic Accessories, with Manual Selector



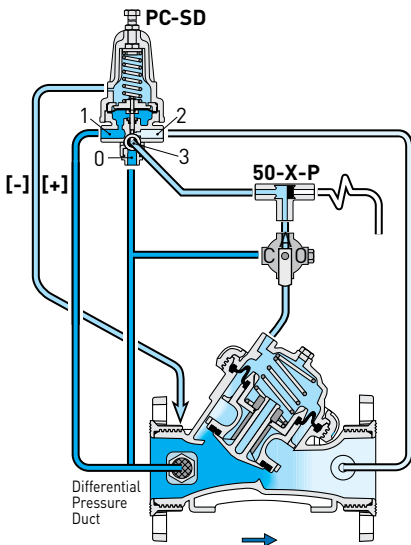
970-RVZ

Metal Accessories, with Manual Selector



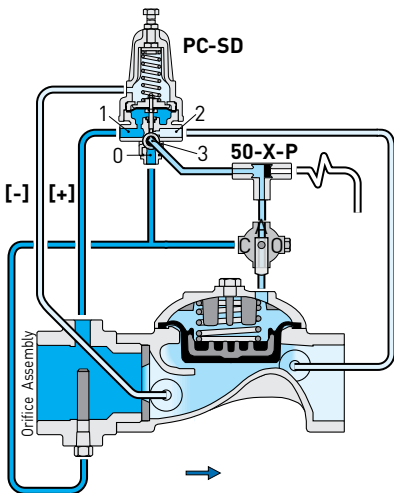
I70-50-bDZ

Plastic Accessories, with Manual Selector



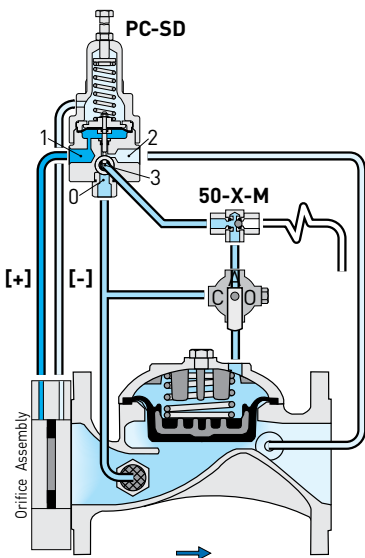
N70-50-bKUZ 470-50 | 970-50

Plastic Accessories, with Manual Selector



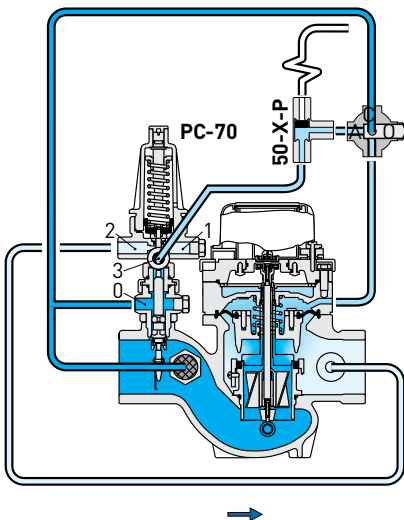
N70-50-bRUZ 470-50 | 970-50

Metal Accessories, with Manual Selector



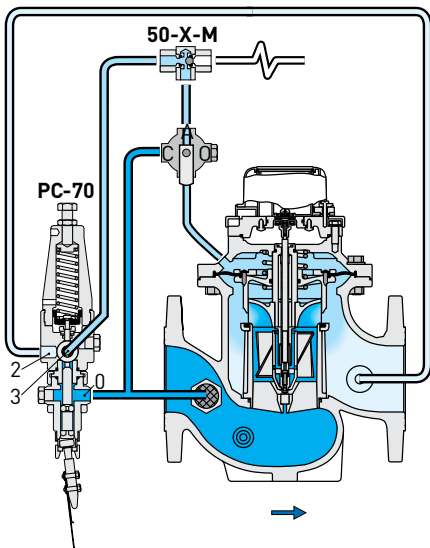
970-50-KVZ

Plastic Accessories, with Manual Selector



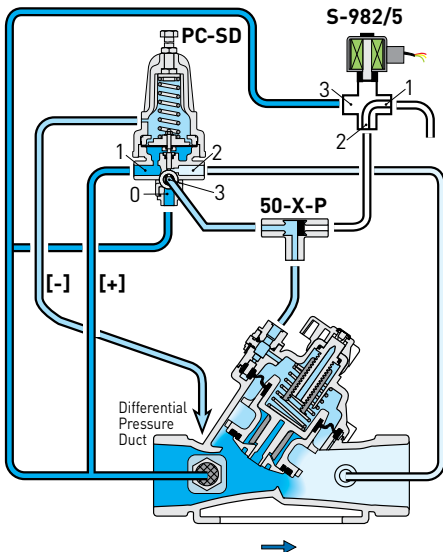
970-50-RVZ

Metal Accessories, with Manual Selector



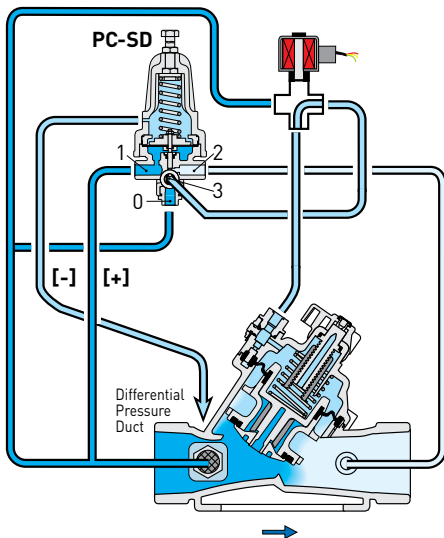
170-55-bD

Plastic Accessories



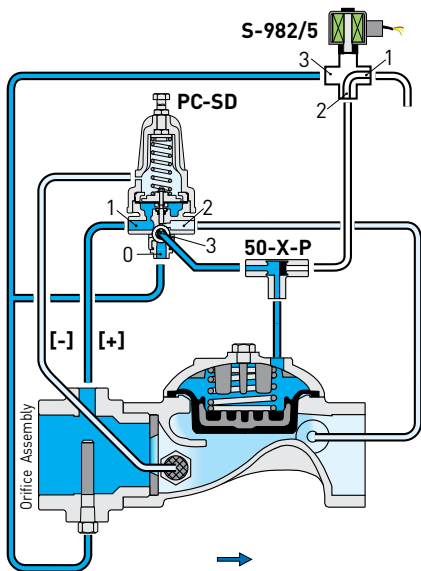
I70-55-bD

Plastic Accessories



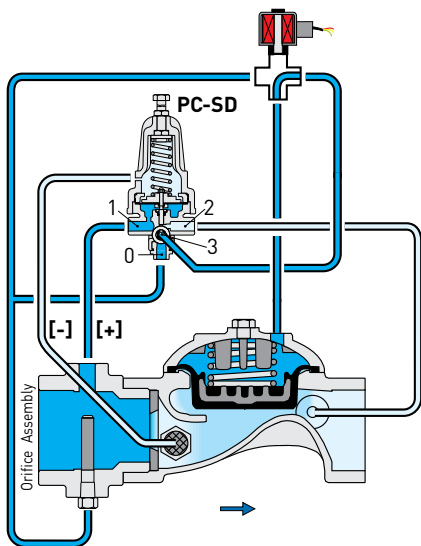
N70-55-bKU 470-55 | 970-55

Plastic Accessories



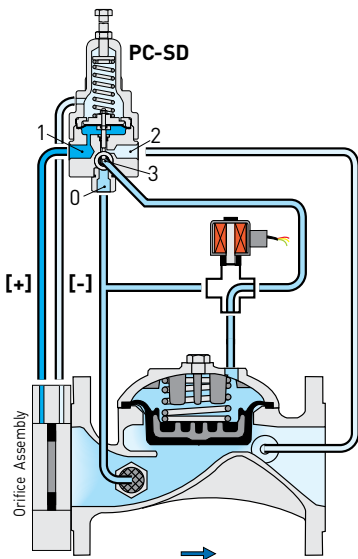
N70-55-bKU 470-55 | 970-55

Plastic Accessories



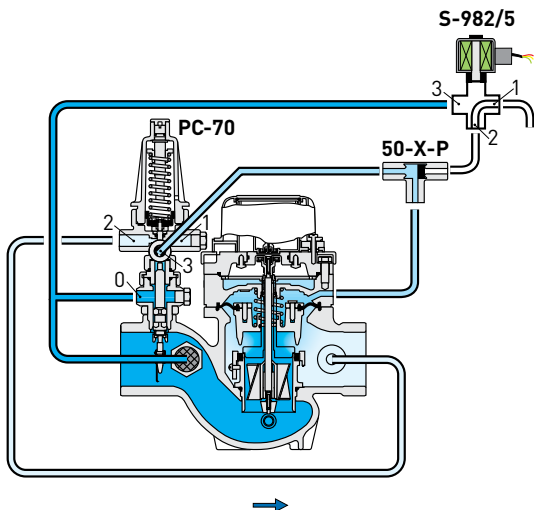
N70-55-bRU 470-55 | 970-55

Metal Accessories



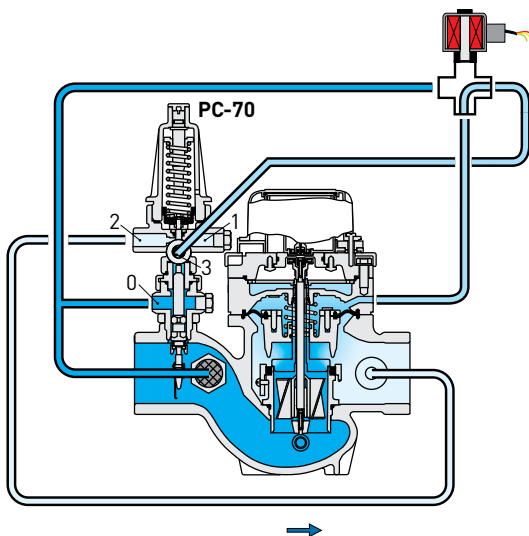
970-55-KV

Plastic Accessories



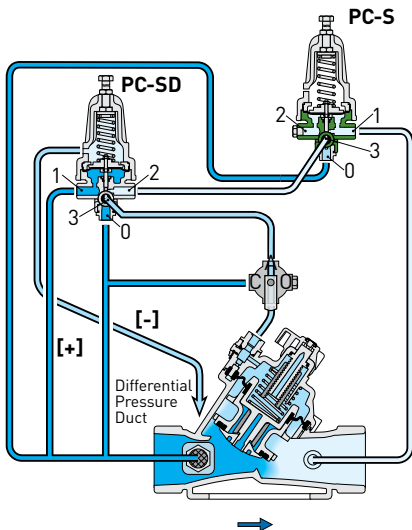
970-55-KV

Plastic Accessories



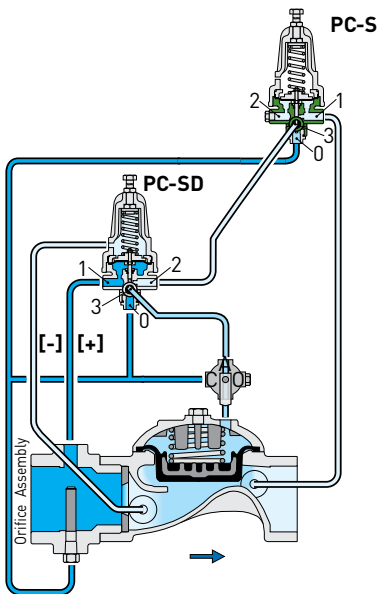
172-bDZ

Plastic Accessories, with Manual Selector



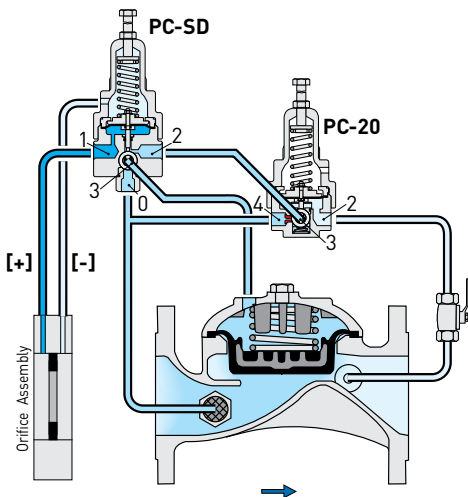
N72-bKUZ

Plastic Accessories, with Manual Selector



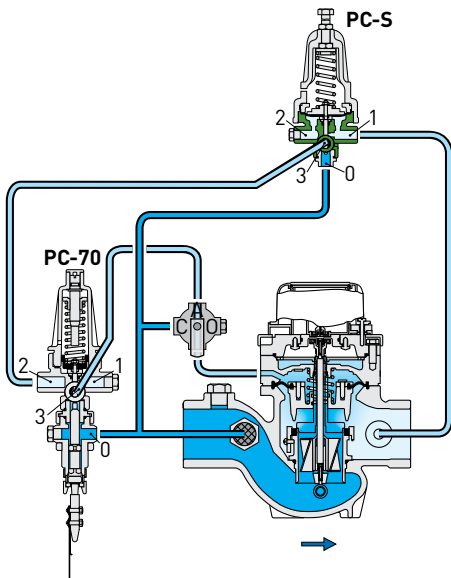
N72-bRU

Metal Accessories, with Manual Selector



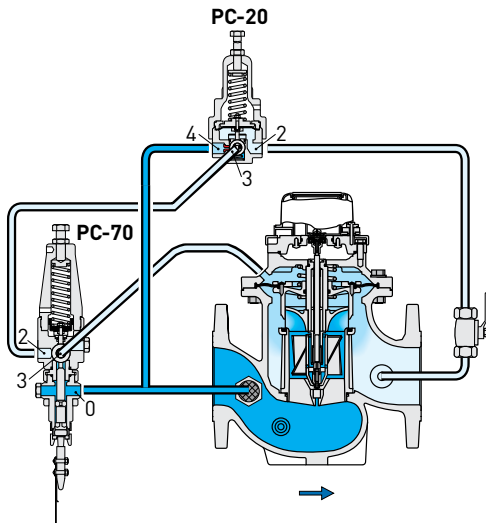
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Plastic Accessories, with Manual Selector



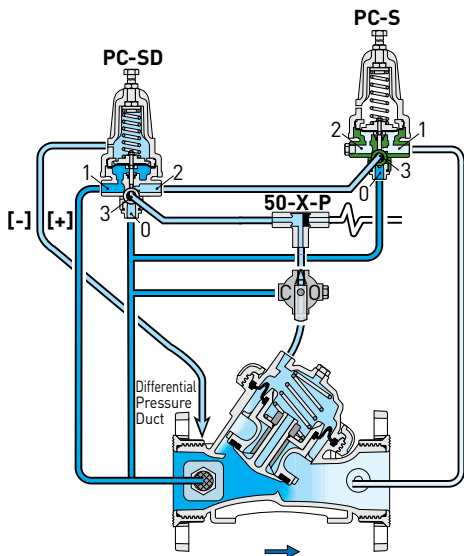
972-RV

Metal Accessories, with Manual Selector



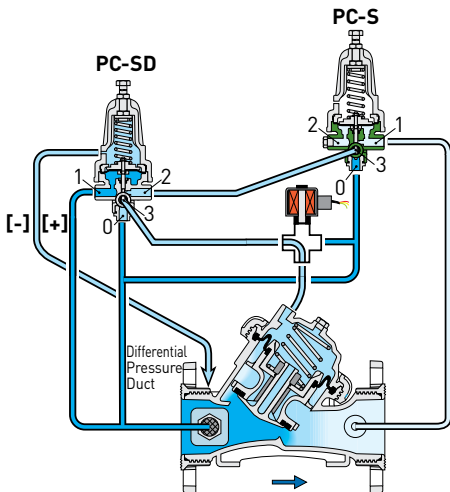
172-50-bDZ

Plastic Accessories



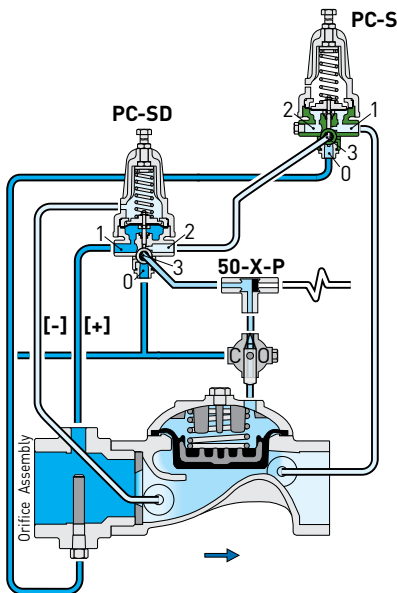
172-55-bD

Plastic Accessories



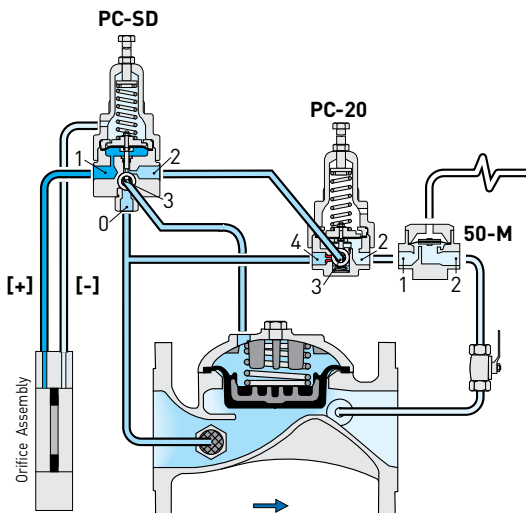
N72-50-bKUZ 472-50 | 972-50

Plastic Accessories, with Manual Selector



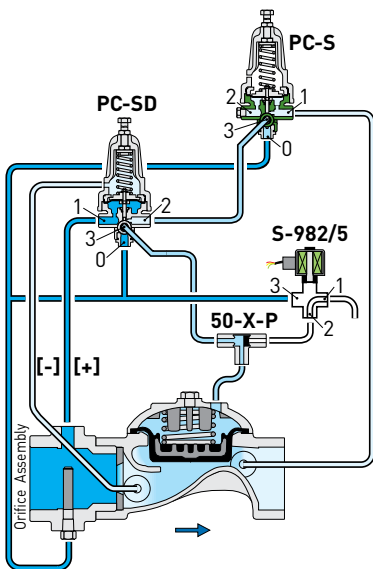
N72-50-bRU 472-50 | 972-50

Metal Accessories, with Manual Selector



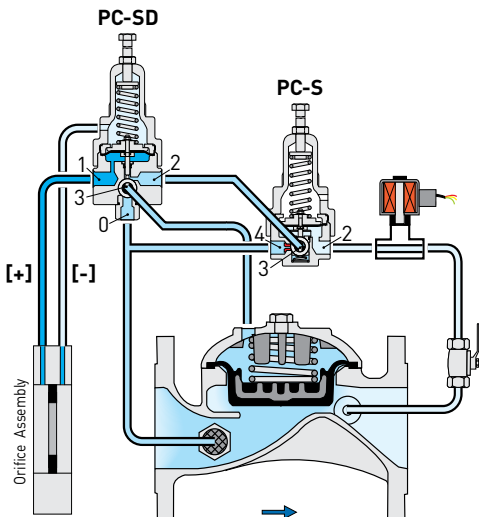
N72-55-bKU 472-55 | 972-55

Plastic Accessories, for 982/985 Solenoid only



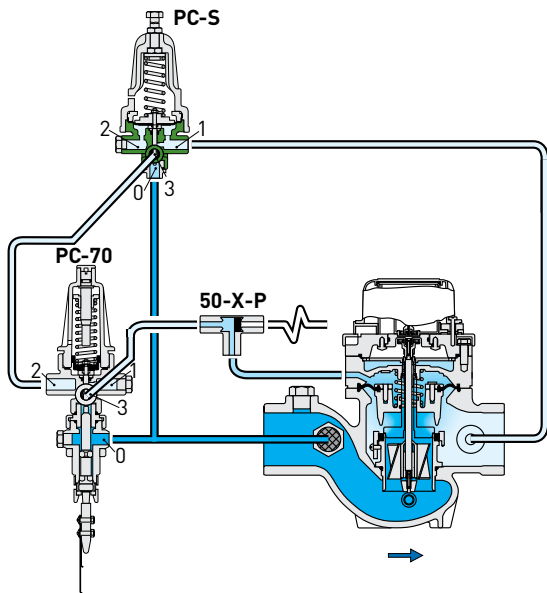
N72-55-bRU 472-55 | 972-55

Metal Accessories



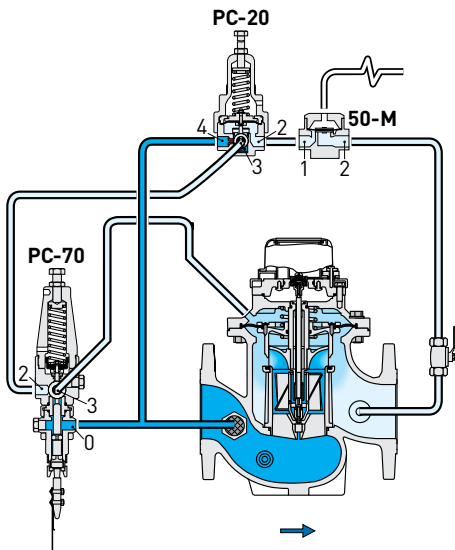
972-50-KV

Plastic Accessories

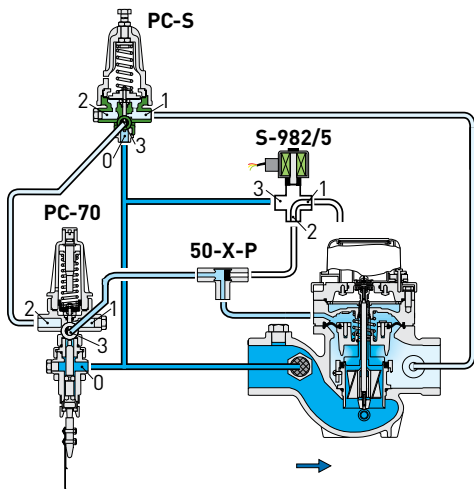


972-50-RV

Metal Accessories

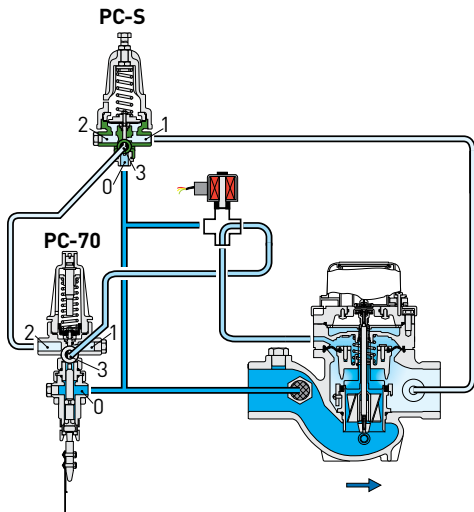


Plastic Accessories, for 982/985 Solenoid only



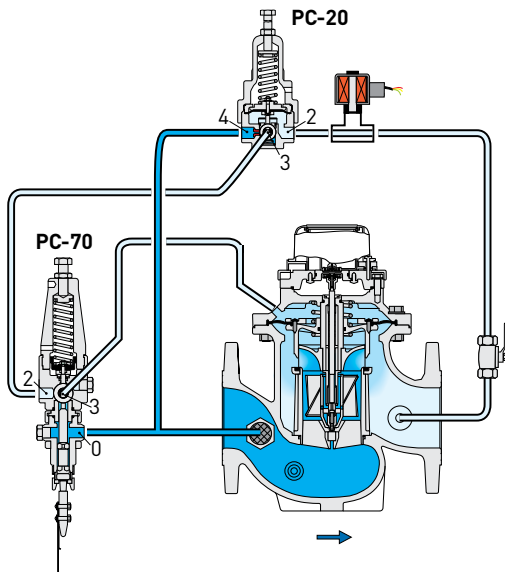
972-MO-55-bKV

Plastic Accessories



972-MO-55-RV

Metal Accessories



Conversion Table

To Convert From	To	Multiply By
Pressure		
kg/cm ²	psi	14.22
bar	psi	14.50
kPa	psi	0.145
Water Head		
m	psi	1.422
Flow		
l/s	gpm	15.873
m ³ /h	gpm	4.405
Length		
mm	in	0.0394
m	ft	3.2808
Volume		
l	gal	0.264
m ³	gal	264.2
m ³	ft ³	35.315
Weight		
kg	lb	2.205

To Convert From	To	Multiply By
Pressure		
psi	kg/cm ²	0.070
psi	bar	0.069
psi	kPa	6.896
Water Head		
psi	m	0.703
Flow		
gpm	l/s	0.063
gpm	m ³ /h	0.227
Length		
in	mm	25.40
ft	m	0.3048
Volume		
gal	l	3.785
gal	m ³	0.00378
ft ³	m ³	0.0283
Weight		
lb	kg	0.454

Pressure

kg/cm² kilogram per square centimeter
 psi pound per square inch
 bar bar
 kPa kilo pascal

Flow

l/s litre per second
 m³/h cubic metre/hour
 gpm gallon per minute

Length

mm millimetre
 m metre
 in inch
 ft foot

Volume

l litre
 gal gallon
 m³ cubic metre
 ft³ cubic foot

Weight

kg kilogram
 lb pound

Note: gal and gpm = U.S.A. gallons

BERMAD, Evron, 22808, Israel
Tel: +972 4 9855311 • Fax: +972 4 9855333
info@bermad.com • www.bermad.com

PTGAE11



Water Control Solutions