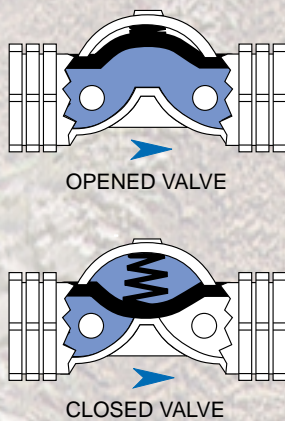


# gal<sup>®</sup> PLASTIC VALVES

## DESCRIPTION

The direct-sealing diaphragm valves are operated by line pressure . The reinforced rubber diaphragm seals the water passage when line pressure reaches the valve's control chamber. Relieving the pressure from the control chamber, to the atmosphere or to downstream, causes the valve to open. The valve's only moving component is its diaphragm; no shaft, seals, or bearings are located within the water passage. The valve is made of sturdy, high-quality materials. It is produced in a number of structurally different versions (throttling, built-in solenoid operator, etc), with a wide range of control functions (manual activation, pressure control, etc).



## ADVANTAGES

- Structural simplicity
- Superb hydraulic performance
- Reliable control of corrosive liquids
- Light-weight, cost-saving
- Minimum maintenance - maximum dependability



MODEL 95



MODEL 96



MODEL 96-6



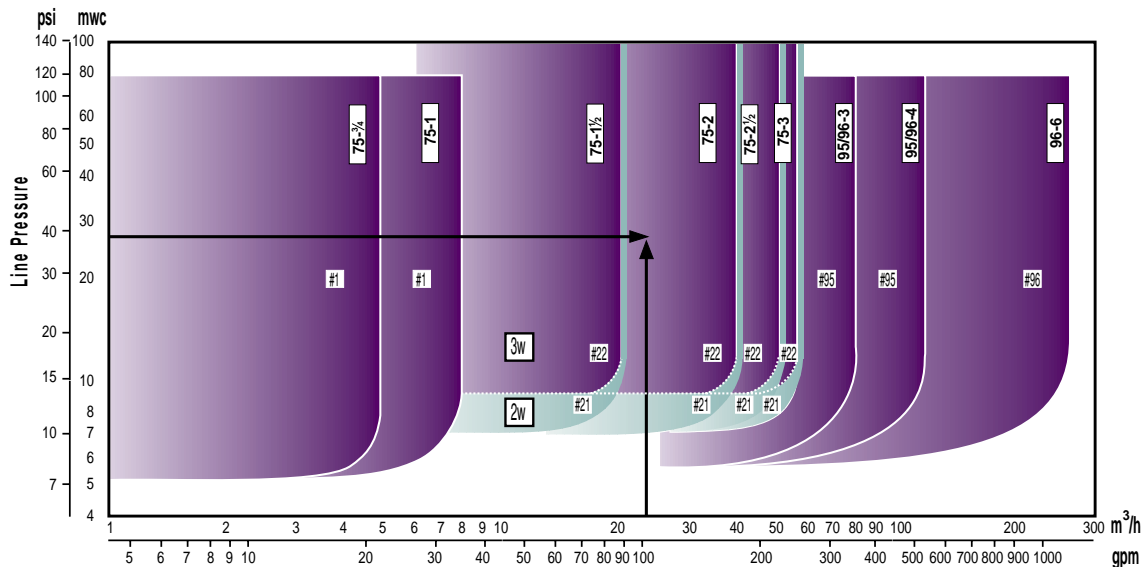
MODEL 75-1-E/D2



MODEL 75-2-T-E/D2

## SIZE SELECTION GUIDE

This graph provides a guide, based on flow rate and pressure, for the proper selection of valve size.



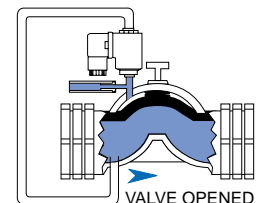
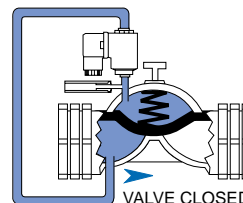
Locate the **flow rate** on the horizontal axis and draw a line upwards.  
 Locate the **line pressure** on the vertical axis and draw a line to the right.  
 The intersection point of the two lines marks the appropriate valve size.

**Example:** line pressure 28m (40 psi), flow rate 23 m³/h (100 gpm), appropriate valve = model 75-2"

## PRINCIPLE OF OPERATION

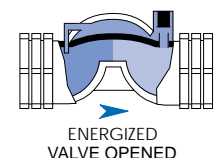
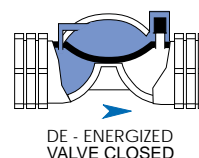
### 1 3-WAY CONTROL

This control device admits pressure into the control chamber, closing the valve, or relieves pressure to the atmosphere, fully opens the valve.



### 2 2-WAY ELECTRIC CONTROL

A solenoid operator plugs the control chamber outlet. A permanent connection from the upstream to the control chamber ensures line pressure in the chamber and thus valve closure. Energizing the solenoid operator causes the control chamber to drain to downstream, opening the valve.



## MODEL SELECTION TABLE

MODEL		75						95	96		
MATERIAL		GRP						uPVC	uPVC		
CONNECTION		TH						TH	SW		
SIZE	Inch mm	3/4 20	1 25	1 1/2 40	2 50	2 1/2 65	3 80	3 80	3 90	4 110	6 160
STRUCTURAL VERSION	CODE										
BASIC	-			●	●	●	●	●	●	●	●
THROTTLING	T			●	●	●	●				
INTEGRAL 2-WAY ELECTRIC CONTROL (DOROT SOLENOID)	E/D2	●	●	●	●	●	●				
INTEGRAL 3-WAY ELECTRIC CONTROL (GEMSOL SOLENOID)	E/B3			●	●	●	●				
THROTTLING + 2-WAY ELECTRIC CONTROL DOROT SOL.	T-E/D2	●	●	●	●	●	●				
THROTTLING + 3-WAY ELECTRIC CONTROL GEMSOL	T-E/B3			●	●	●	●				

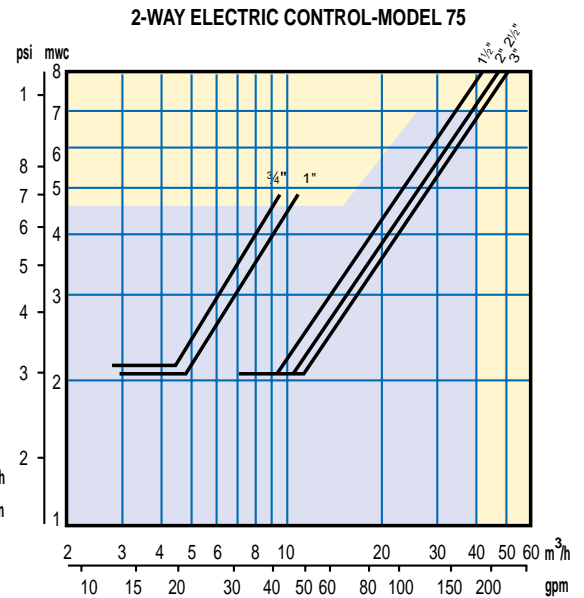
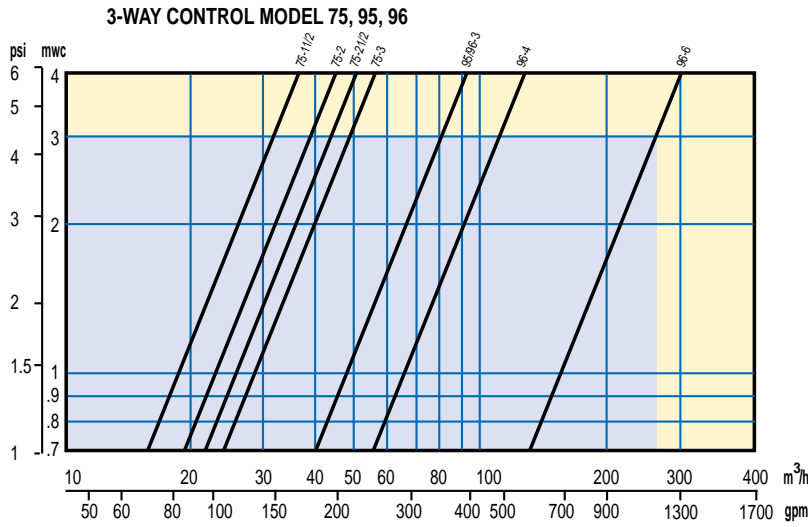
\* Non - Integral Solenoid

**ABBREVIATIONS:** ● GRP = GLASS - REINFORCED POLYAMIDE ● uPVC = UNPLASTICIZED POLYVINYL CHLORIDE ● TH = THREADED ● SW = SOLVENT WELDED

\* FOR NON-RETURN FEATURE, PLEASE ADD "N" - E/D2-N

## HEADLOSS CHART

(BLUE AREA INDICATES RECCONENDED OPERATING RANGE)



## PRESSURE RATING

MODEL 75 SIZES 3/4", 1" - 80 m (115 psi)  
 MODEL 75 SIZES 1 1/2" - 3" - 100 m (145 psi)  
 MODEL 95/96 SIZES 3", 4" - 80 m (115 psi)  
 MODEL 96 SIZE 6" - 100 m (145 psi)

## SPECIFICATIONS

### MATERIALS

VALVE: BODY ..... MODEL 75: 30% GLASS REINFORCED POLYAMIDE MODELS 95, 96: uPVC  
 BONNET ..... 30% GLASS REINFORCED POLYAMIDE  
 DIAPHRAGM ..... NATURAL RUBBER  
 SPRING ..... SST 302  
 SPRING SEAT ..... POLYAMIDE  
 NUTS AND BOLTS --- COATED STEEL OR SST 304

### SOLENOID OPERATOR:

COIL ..... POLYESTER-COATED STEEL  
 PLUNGER ..... SST  
 SEAL ..... BUNA-N OR NR

### ELECTRICAL DATA

8 WATT OPERATOR: VOLTAGE 24VAC 50HZ, OTHERS ON REQUEST  
 INRUSH CURRENT 1.1A, HOLDING 0.66A

3 WATT OPERATOR: VOLTAGE 24VAC, 50HZ/60HZ, OTHERS ON REQUEST  
 INRUSH CURRENT 0.3 A, HOLDING 0.15A

NOTE: THE STANDARD COIL IS 24 VAC, 50HZ. OTHERS ON REQUEST

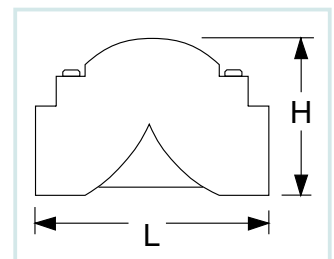
THE FACTORY RESERVES THE RIGHT TO MODIFY SPECIFICATIONS WITHOUT PRIOR NOTICE.

### CONNECTIONS

THREAD:  
 FEMALE ISO (BSP), ANSI (NPT)  
 SOLVENT WELDING:  
 BS 4346.1/ASTM D2467/AS 1477  
 ISO 727, DIN 8063.

## DIMENSIONS

MODEL	SIZE		L		H	
	Inch	mm	mm	Inch	mm	Inch
75	3/4	20	113	4 1/2	70	2 3/4
75	1	25	124	4 7/8	73	2 7/8
75	1 1/2	40	188	7 3/8	110	4 3/8
75	2	50	199	7 7/8	110	4 3/8
75	2 1/2	65	228	9	119	4 3/8
75	3	80	236	9 1/4	120	4 3/4
95/96	3	80	258	10 1/8	195	7 7/8
96	4	110	278	11	202	8
96	6	160	360	14	380	15

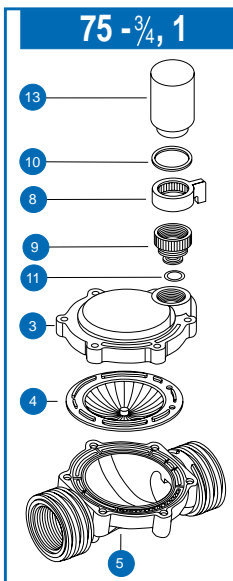
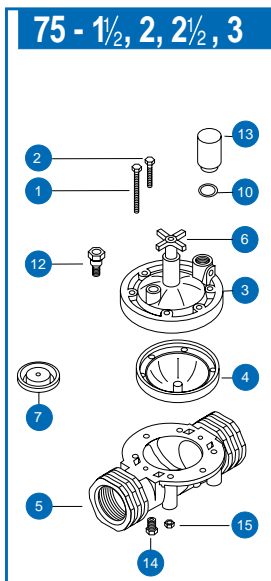


## COMPONENTS

Specify **model code** and **size** when ordering spare parts. Example: **Part no. 4** for **75 - 2 - E/D2**

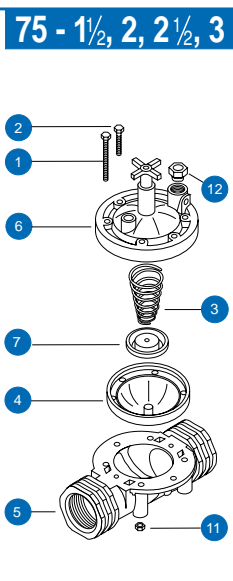
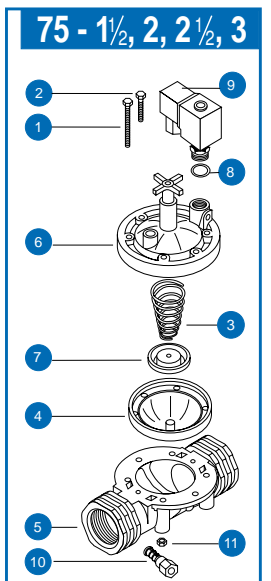
### DESCRIPTION 75-2WAY

- 1 LONG BOLT
- 2 SHORT BOLT
- 3 2-WAY BONNET
- 4 2-WAY DIAPHRAGM
- 5 BODY
- 6 2-WAY OPTIONAL THROTTLING
- 7 THROTTLING DISC
- 8 MANUAL ACTIVATION RING
- 9 ADAPTOR
- 10 O-RING
- 11 O-RING
- 12 INLET FILTER
- 13 2 Watt OPERATOR (2-WAY)
- 14 PLUG
- 15 NUT



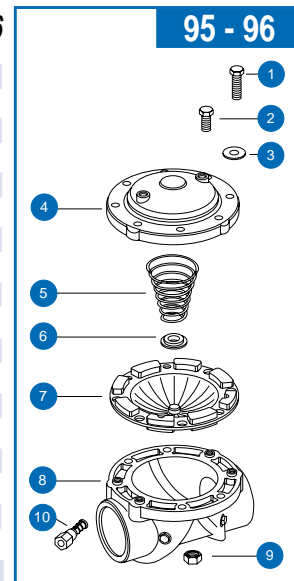
### DESCRIPTION 75-3WAY

- 1 LONG BOLT
- 2 SHORT BOLT
- 3 SPRING
- 4 3-WAY DIAPHRAGM
- 5 BODY
- 6 3-WAY OPTIONAL THROTTLING
- 7 THROTTLING DISC
- 8 O-RING
- 9 8 Watt OPERATOR (3-WAY)
- 10 FINGER FILTER
- 11 NUT
- 12 3-WAY CONTROL VALVE ADAPTOR



### DESCRIPTION 95, 96

- 1 LONG BOLT
- 2 SHORT BOLT
- 3 WASHER
- 4 BONNET
- 5 SPRING
- 6 SPRING SEAT
- 7 DIAPHRAGM
- 8 BODY
- 9 NUT
- 10 FINGER FILTER



## ORDERING GUIDE

- 1 Select valve size, using the "size selection" graph located on page 9.
- 2 Select valve model, using table on page 10.

Example: selected, is a 2" valve, made of glass-reinforced polyamide, controlled by a 2-way solenoid operator.

### SPECIFY:

- **MODEL**  
75,95,96
- **SIZE**  
/d<sub>4</sub> 1", 1 1/2", 2", 2 1/2", 3", 4", 6"  
80mm, 90mm, 110mm, 160mm
- **CONNECTION STANDARD**  
(THREADED MODELS ONLY) NPT, BSP
- **STRUCTURAL VERSION (WHEN APPLICABLE)**  
T, E/D2, E/B3, T-E/D2, T-E/B3

75 - 2 - BSP - E/D2

FOR OTHER CONTROL FUNCTIONS REFER TO SECTION F.



# PILOT VALVES AND ACCESSORIES

## 29-100 PILOT VALVE (BLACK, 3-WAY)

USED FOR:  
PRESSURE REDUCING VALVES (PR) SIZES: 3/4" - 4"

### ADJUSTMENT RANGE

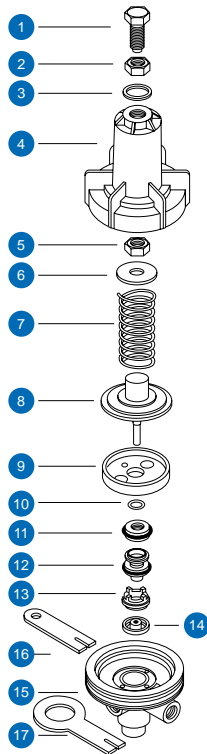
SPRING NO.	COLOR	RANGE
54 (STANDARD)	GREEN	10 - 45 m 14 - 65 psi
72	YELLOW	5 - 25 m 8 - 35 psi
65	RED	20 - 60 m 30 - 90 psi

MAX. LINE PRESSURE: 100 m (140 psi)

### SPECIFICATIONS

COMPONENT NO.	MATERIAL
1, 5, 6	BRASS
3, 4, 9, 11, 12, 13, 15	PLASTIC
10	NITRILE RUBBER
2, 7, 16, 17	SST
8	SST, NATURAL RUBBER, PLASTIC
14	NATURAL RUBBER

## 29-100



### COMPONENTS

1 ADJUSTING BOLT -	10 O-RING
2 LOCKING NUT -	11 SEALING DISC KIT -
3 SPRING IDENTIFICATION RING	12 PORTS SELECTION BODY -
4 BONNET -	13 PLUG SEAT -
5 BONNET NUT -	14 PLUG -
6 SPRING DISC -	15 BODY -
7 SPRING -	16 BRACKET 3/8" -
8 DIAPHRAGM ASSEMBLY -	17 BRACKET 5/8" -
9 DIAPHRAGM BOWL -	

## 29-110 PILOT VALVE (3-WAY)

USED FOR:  
PRESSURE REDUCING VALVE (PR) SIZES: 3/4" - 6"

### ADJUSTMENT RANGE

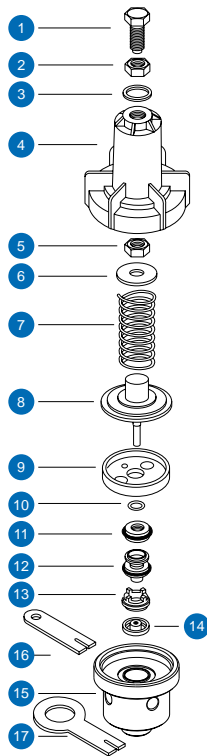
SPRING NO.	COLOR	RANGE
54 (STANDARD)	GREEN	10 - 45 m 14 - 65 psi
65	RED	20 - 60 m 30 - 90 psi
29	-	30 - 130 m 45 - 190 psi

HIGH INLET PRESSURE: 160 m (230 psi)

### SPECIFICATIONS

COMPONENT NO.	MATERIAL
1, 5, 6, 15	BRASS
3, 4, 9, 11, 12, 13	PLASTIC
10	NITRILE RUBBER
2, 7, 16, 17	SST
8	SST, NATURAL RUBBER, PLASTIC
14	NATURAL RUBBER

## 29-110



### COMPONENTS

1 ADJUSTING BOLT -	10 O-RING
2 LOCKING NUT -	11 SEALING DISC KIT -
3 SPRING IDENTIFICATION RING	12 PORTS SELECTION BODY -
4 BONNET -	13 PLUG SEAT -
5 BONNET NUT -	14 PLUG -
6 SPRING DISC -	15 BODY -
7 SPRING -	16 BRACKET 3/8" -
8 DIAPHRAGM ASSEMBLY -	17 BRACKET 5/8" -
9 DIAPHRAGM BOWL -	

## 29-200 PILOT VALVE (BLUE, 3-WAY)

**USED FOR:**

PRESSURE REDUCING VALVE (PR) SIZES: 3/4" - 4"  
 PRESSURE SUSTAINING/RELIEF VALVE (PS) SIZES: 3/4" - 4"  
 TWO-STAGE OPENING VALVE (TO) SIZES: 3/4" - 4"  
 REMOTE CONTROL VALVE (RC) SIZES: 3/4" - 4"

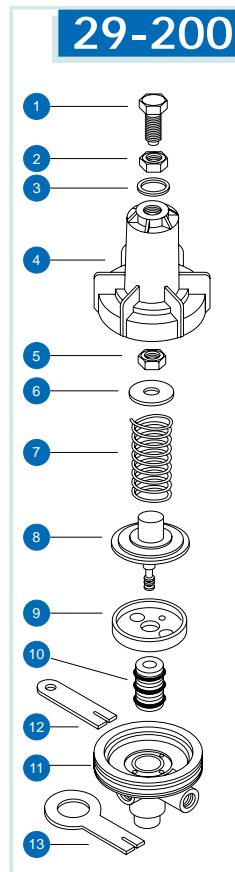
### ADJUSTMENT RANGE

SPRING NO.	COLOUR	RANGE
54 (STANDARD)	GREEN	10 - 45 m 14 - 65 psi
72	YELLOW	5 - 25 m 8 - 35 psi
65	RED	20 - 60 m 30 - 90 psi

MAX. LINE PRESSURE: 100 m (140 psi)

### SPECIFICATIONS

COMPONENT NO.	MATERIAL
1, 5, 6	BRASS
3, 4, 9, 11	PLASTIC
2, 7	SST
8	BRASS, RUBBER, PLASTIC
10	TEFLON
12, 13	SST



### COMPONENTS

- 1 ADJUSTING BOLT
- 2 LOCKING NUT
- 3 SPRING IDENTIFICATION RING
- 4 BONNET
- 5 BONNET NUT
- 6 SPRING DISC
- 7 SPRING
- 8 DIAPHRAGM ASSEMBLY
- 9 DIAPHRAGM BOWL
- 10 PORTS SELECTION BODY
- 11 BODY
- 12 BRACKET- 3/8"
- 13 BRACKET- 5/8"

## 29-300 DIFFERENTIAL PILOT VALVE (3-WAY)

**USED FOR:**

FLOW RATE CONTROL VALVE (FR) SIZES: 2" - 4"  
 EXCESSIVE FLOW SHUT-OFF VALVE (FE) SIZES: 2" - 4"  
 DIFFERENTIAL CONTROL VALVE (DI) SIZES: 2" - 4"

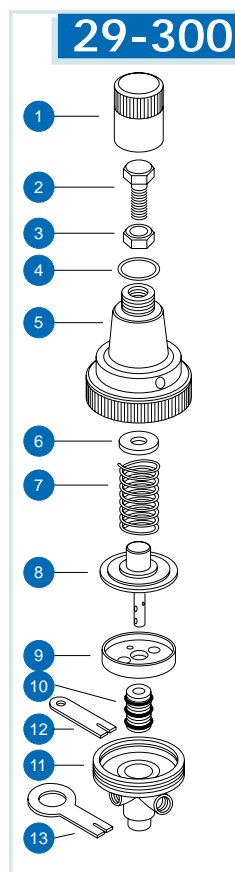
### ADJUSTMENT RANGE (PRESSURE DIFFERENTIAL)

SPRING NO.	COLOUR	RANGE
82 (STANDARD)	—	2 - 5 m 3 - 7 psi
72	YELLOW	6 - 20 m 8 - 30 psi

MAX. LINE PRESSURE: 100 m (140 psi)

### SPECIFICATIONS

COMPONENT NO.	MATERIAL
1, 5, 9, 11	PLASTIC
2, 6	BRASS
4	NITRILE RUBBER
3, 7, 12, 13	SST
8	SST, NATURAL RUBBER, PLASTIC
10	BRASS, NITRILE RUBBER



### COMPONENTS

- 1 COVER
- 2 ADJUSTING BOLT
- 3 LOCKING NUT
- 4 COVER SEAL (O-RING 6-360)
- 5 BONNET
- 6 SPRING DISC
- 7 SPRING
- 8 DIAPHRAGM ASSEMBLY
- 9 DIAPHRAGM BOWL
- 10 PORTS SELECTION BODY KIT
- 11 BODY
- 12 BRACKET- 3/8"
- 13 BRACKET- 5/8"