

AUTOMATIC FLOW & PRESSURE CONTROL VALVES

DIAPHRAGM TYPE SCADA COMPATIBLE



***FLOW-TEK VALVES & CONTROLS INC
AHMEDABAD, GUJARAT, INDIA.***

FLOW & PRESSURE CONTROL VALVES

AUTOMATIC CONTROL VALVES

DESCRIPTION

- » Flow & Pressure Control Valves are Diaphragm Actuated, Electrical Solenoid Valve/Electric Actuator Operated Automatic Control Valves, which uses Water/Line Fluid for actuation. This Valve has single moving assembly. A flexible, non-wicking, Nylon Fabric reinforced Buna-N Elastomer Diaphragm shall be integral with this assembly to form a sealed-chamber, operating free of drag or wear. The Diaphragm shall not be used as sealing surface.
- » Valve assembly shall have a stainless steel stem, which is fully guided by top and bottom to avoid any deflection.
- » When the Valve is in closed position, sealing at the stainless steel seat shall be accomplished by the contact between securely retained Quad Ring and smooth seat surface to give Bubble Tight Shut-Off as per Leakage Class VI, as per ANSI FC 70-2. The seat shall be removable type.
- » The internal Valve components shall be removable and repairable without removing Valve Body from the line. There are no packing glands and Pistons are not permitted, hence minimum maintenance.
- » The Valve body and cover shall be of Ductile Iron or Cast Steel and Fused Epoxy coated inside and outside.
- » These Valves are used as Self Regulating Type when power supply is not available or operated through Electrical Solenoid Valve or Electric Actuator when SCADA compatibility is required.

FLOW & PRESSURE CONTROL VALVES

AUTOMATIC CONTROL VALVES

SPECIFICATIONS

Body and Cover - Ductile Iron to ASTM A-536 or GGC40 as per DIN 1639 Fused Epoxy coated.
Cast Steel to ASTM A 216 Gr. WCB – Fused Epoxy coated.

Seal and Stem - Stainless Steel AISI-316.

Internal - Stainless Steel AISI-304/CF8.

Spring - Stainless Steel.

Elastomer - Buna-N.

End Connection - As per ANSI B-16.5, Class 150 and Class 300.

Body Hydro Test - As per ASME B-16.34/ 16.42

Flange to Flange distance - As per requirement. ANSI B 16.1
Seat Leakage Test - Class VI as per ANSI FC-70.2.

Seat Leakage Test - Class-VI as per ANSI FC-70.2.

Sizes available - 50 mm (2") to 600 mm (24").

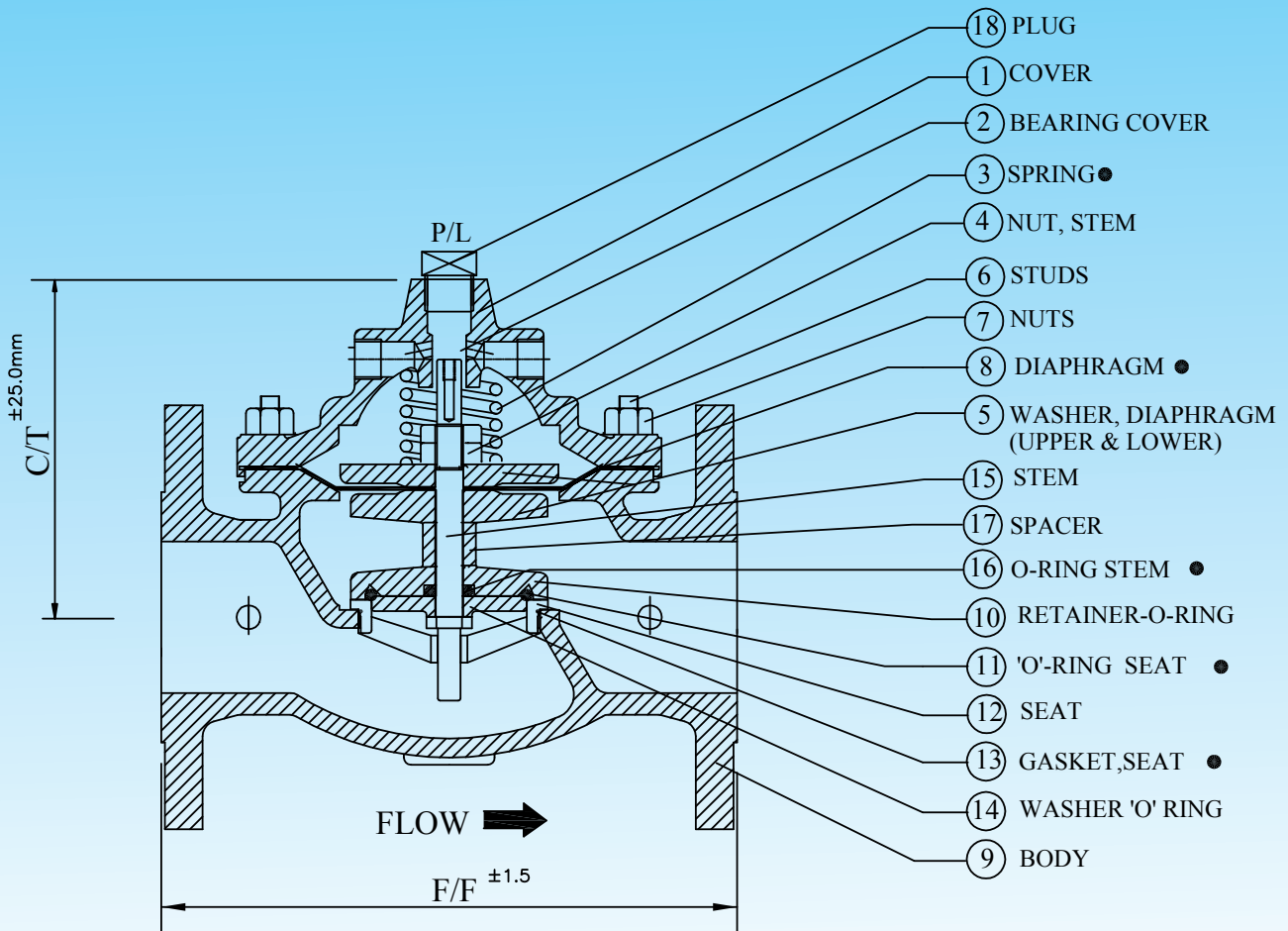
FLOW & PRESSURE CONTROL VALVES

AUTOMATIC CONTROL VALVES

FIGURE FT-100 BASIC VALVE

VALVE FUNCTION

- DIAPHRAGM ACTUATED HYDRAULIC OPERATION SAME AS FIGURE FT-1100 GLOBE TYPE ANGLE.
- POSITIVE 'O'-RING SEAT SEAL
- PRESSURE DROP ADVANTAGE OF GLOBE TYPE PATTERN
- IN-LINE SERVICE
- CAPABLE OF PERFORMING NUMEROUS FUNCTIONAL COMBINATIONS



● RECOMMENDED SPARE

VALVE SIZE - Inch	1"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"	20"	24"
VALVE SIZE - mm	25	40	50	65	80	100	150	200	250	300	350	400	500	600
F/F (150 ANSI)	152	179	238	241.5	305	381	508	645	756	864	991	1051	1321	1562
F/F (300 ANSI)	160	192	250	257.0	324	397	530	670	790	902	1029	—	—	—
C/T Max. - FT-100	75	115	140	160	175	220	305	400	480	530	570	665	890	1010



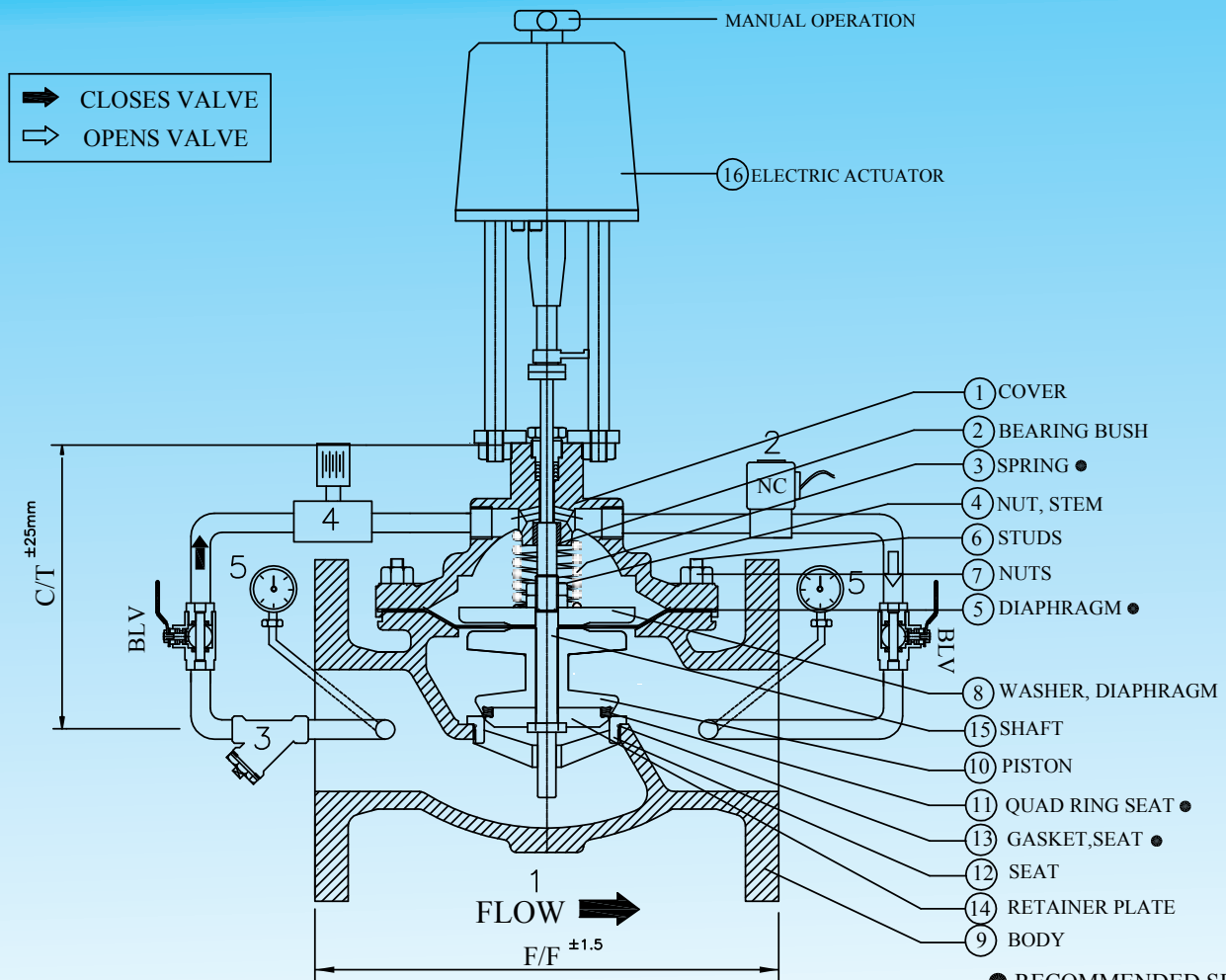
FLOW & PRESSURE CONTROL VALVES

AUTOMATIC CONTROL VALVES

FLOW CONTROL ELECTRIC ACTUATOR OPERATED FT-113-14-EA

VALVE FUNCTION

- DIAPHRAGM ACTUATED HYDRAULIC OPERATION.
- POSITIVE 'O'-RING SEAT SEAL
- PRESSURE DROP ADVANTAGE OF GLOBE TYPE PATTERN
- IN-LINE SERVICE
- CAPABLE OF PERFORMING NUMEROUS FUNCTIONAL COMBINATIONS



VALVE SIZE - INCH	1"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"	20"	24"
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F/F (300 ANSI)	160	192	250	257.0	324	397	530	670	790	902	1029	—	—	—
C/T Max. - FT-100	75	115	140	160	175	220	305	400	480	530	570	665	890	1010

COMPONENTS

- | | |
|--|--|
| 1 - BASIC VALVE | 4 - NEEDLE VALVE - Adjusting Closing Speed |
| 2 - 2-WAY SOLENOID VALVE - Normally Closed | 5 - PRESSURE GAUGE |
| 3 - STRAINER-'Y' TYPE | |



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05

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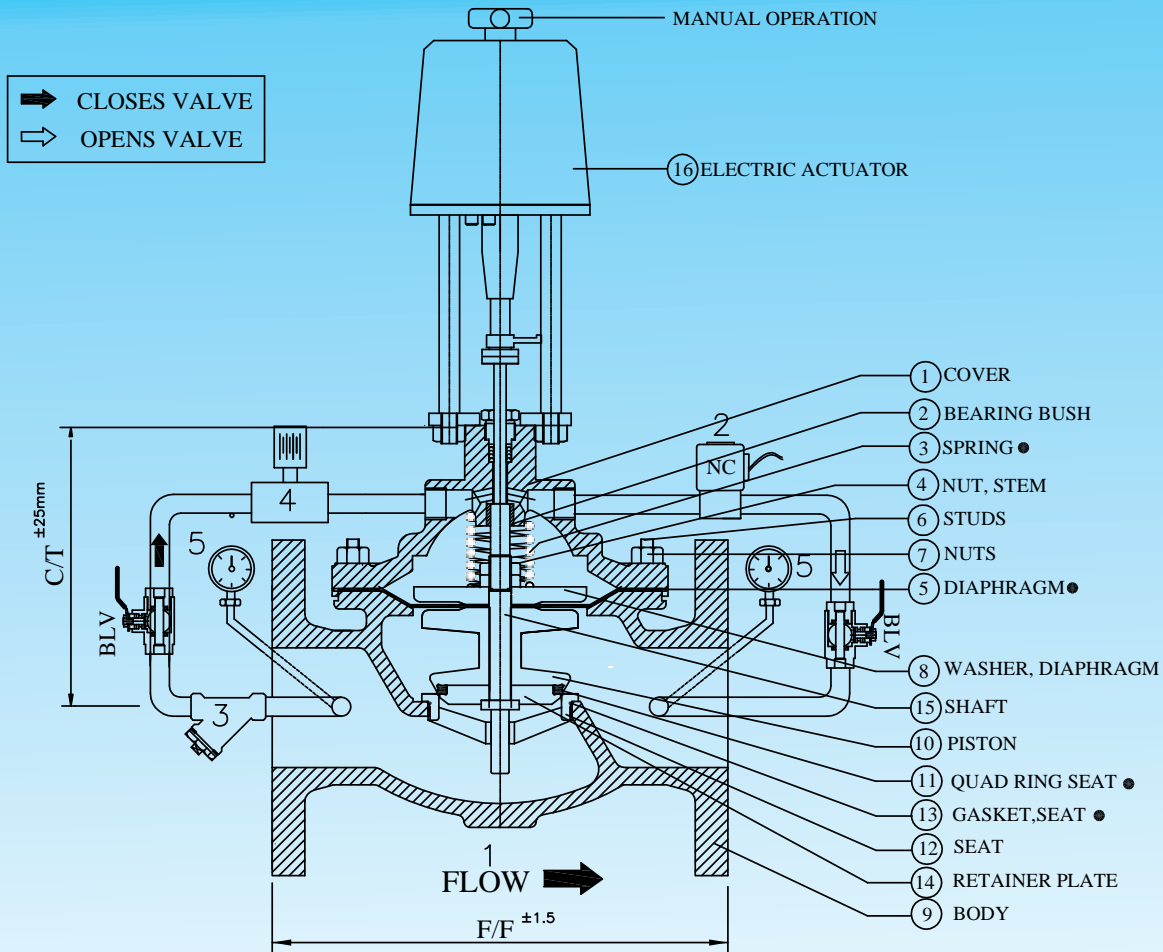
FLOW & PRESSURE CONTROL VALVES

AUTOMATIC CONTROL VALVES

PRESSURE CONTROL ELECTRIC ACTUATOR OPERATED FT-113-115-EA

VALVE FUNCTION

- DIAPHRAGM ACTUATED HYDRAULIC OPERATION.
- POSITIVE 'O'-RING SEAT SEAL
- PRESSURE DROP ADVANTAGE OF GLOBE TYPE PATTERN
- IN-LINE SERVICE
- CAPABLE OF PERFORMING NUMEROUS FUNCTIONAL COMBINATIONS



● RECOMMENDED SPARE

VALVE SIZE - INCH	1"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"	20"	24"
VALVE SIZE - mm	25	40	50	65	80	100	150	200	250	300	350	400	500	600
F/F (150 ANSI)	152	179	238	241.5	305	381	508	645	756	864	991	1051	1321	1562
F/F (300 ANSI)	160	192	250	257.0	324	397	530	670	790	902	1029	—	—	—
C/T Max. - FT-100	75	115	140	160	175	220	305	400	480	530	570	665	890	1010

COMPONENTS

- 1 - BASIC VALVE
- 2 - 2-WAY SOLENOID VALVE-
- 3 - STRAINER-`Y' TYPE
- 4 - NEEDLE VALVE - Adjusting Closing Speed
- 5 - PRESSURE GAUGE



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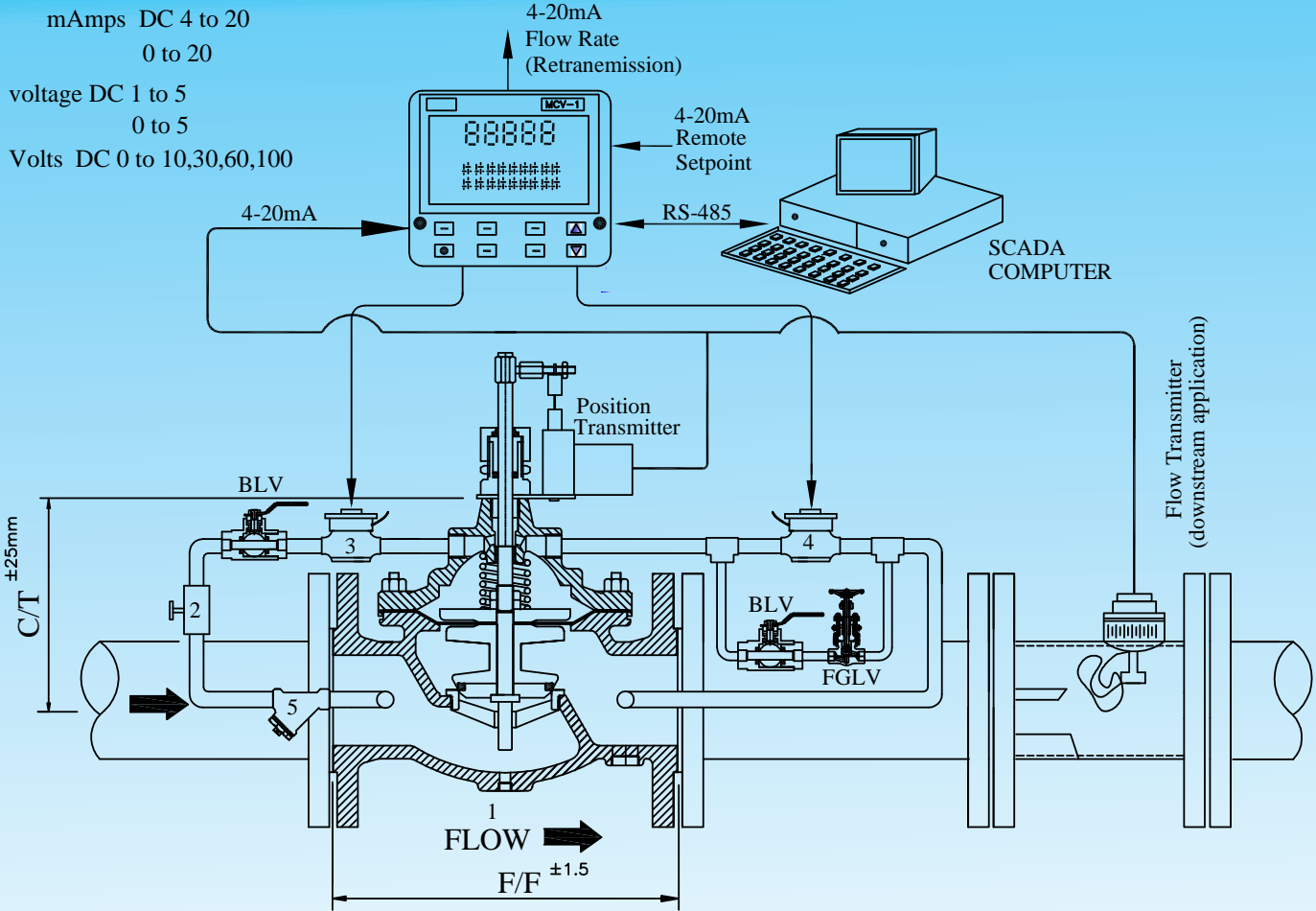
FLOW & PRESSURE CONTROL VALVES

AUTOMATIC CONTROL VALVES

FLOW CONTROL VALVE FT-113-14 WITH POSITION TRANSMITTER

VALVE FUNCTION

- Offers reliable and accurate flow control when utilized with a flow transmitter. applications include upstream or downstream meter application. Flow meter locations should be strictly observed per the flow meter manufacturer's installation specifications for maximum flow meter Valve control accuracy. Square root linearization of the input allow you to directly control flow loops without the need for renaive signal conditioners. Flow meters may be proppeller,turbine,Electro magnet , Insertion type or any other flow instruments, which produce the following signals



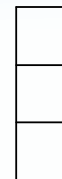
VALVE SIZE - INCH	1"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"	20"	24"
VALVE SIZE - mm	25	40	50	65	80	100	150	200	250	300	350	400	500	600
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F/F (300 ANSI)	160	192	250	257.0	324	397	530	670	790	902	1029	—	—	—
C/T Max. - FT-100	75	115	140	160	175	220	305	400	480	530	570	665	890	1010

COMPONENTS

- 1 - BASIC VALVE
- 2 - NEEDLE VALVE - Adj. closing speed
- 3 - 2-WAY SOLENOID VALVE - Normally Closed
- 4 - 2-WAY SOLENOID VALVE - Normally open
- 5 - STRAINER- 'Y' TYPE

ACCESSORIES

LOCATED AS INDICATED
INCLUDED AS MARKED



X - ISOLATION COCKS

L - LIMIT SWITCH

P - POSITION INDICATOR



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07

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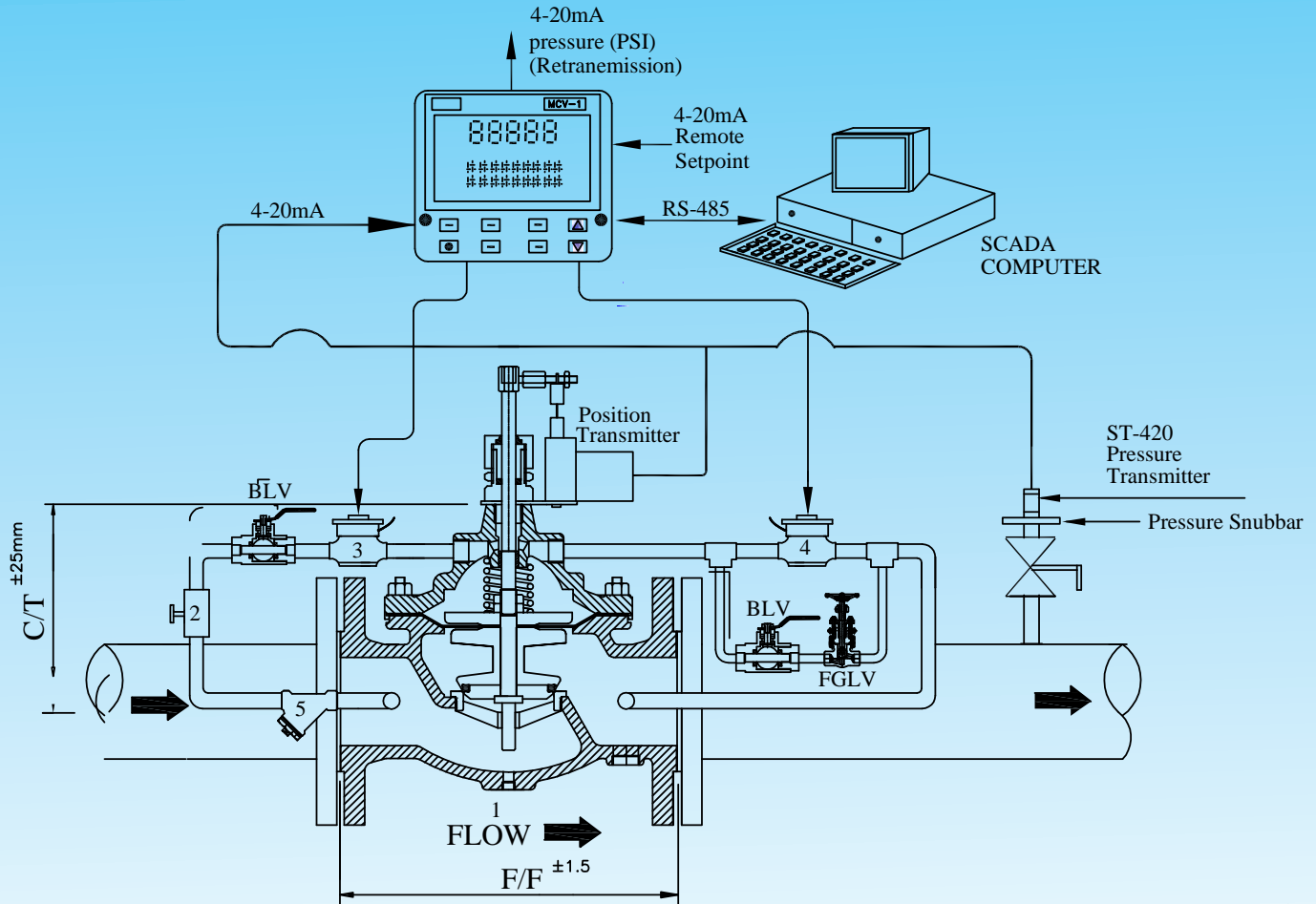
PRESSURE CONTROL FT-113-115 WITH POSITION TRANSMITTER

VALVE FUNCTION

- Application requiring pressure reducing sustaining control the MCV-1 is configured with an ST-420 State pressure transmitter for accurate upstream direct pressure feedback. sampled at a rate of a time per second the pressure is continuously analyzed and the MCV-1 makes modifications to the tunings

Pressure is displayed and optionally 15-bit analog output card The mcv-1 an internal isolated 24VDC loop power supply for customer supplied pressure sensors.

ST-420 solid state pressure transmitters are available on 1/4" of 1/2" NPT process connections and a variety pressure ranges.



VALVE SIZE - INCH	1"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"	20"	24"
VALVE SIZE - mm	25	40	50	65	80	100	150	200	250	300	350	400	500	600
F/F (150 ANSI)	152	179	238	241.5	305	381	508	645	756	864	991	1051	1321	1562
F/F (300 ANSI)	160	192	250	257.0	324	397	530	670	790	902	1029			
C/T Max. - FT-100	75	115	140	160	175	220	305	400	480	530	570	665	890	1010

COMPONENTS

- 1 - BASIC VALVE
- 2 - NEEDLE VALVE - Adj. closing speed
- 3 - 2-WAY SOLENOID VALVE - Normally Closed
- 4 - 2-WAY SOLENOID VALVE - Normally open
- 5 - STRAINER-'Y' TYPE

ACCESSORIES

LOCATED AS INDICATED
INCLUDED AS MARKED

- X - ISOLATION COCKS
- L - LIMIT SWITCH
- P - POSITION INDICATOR



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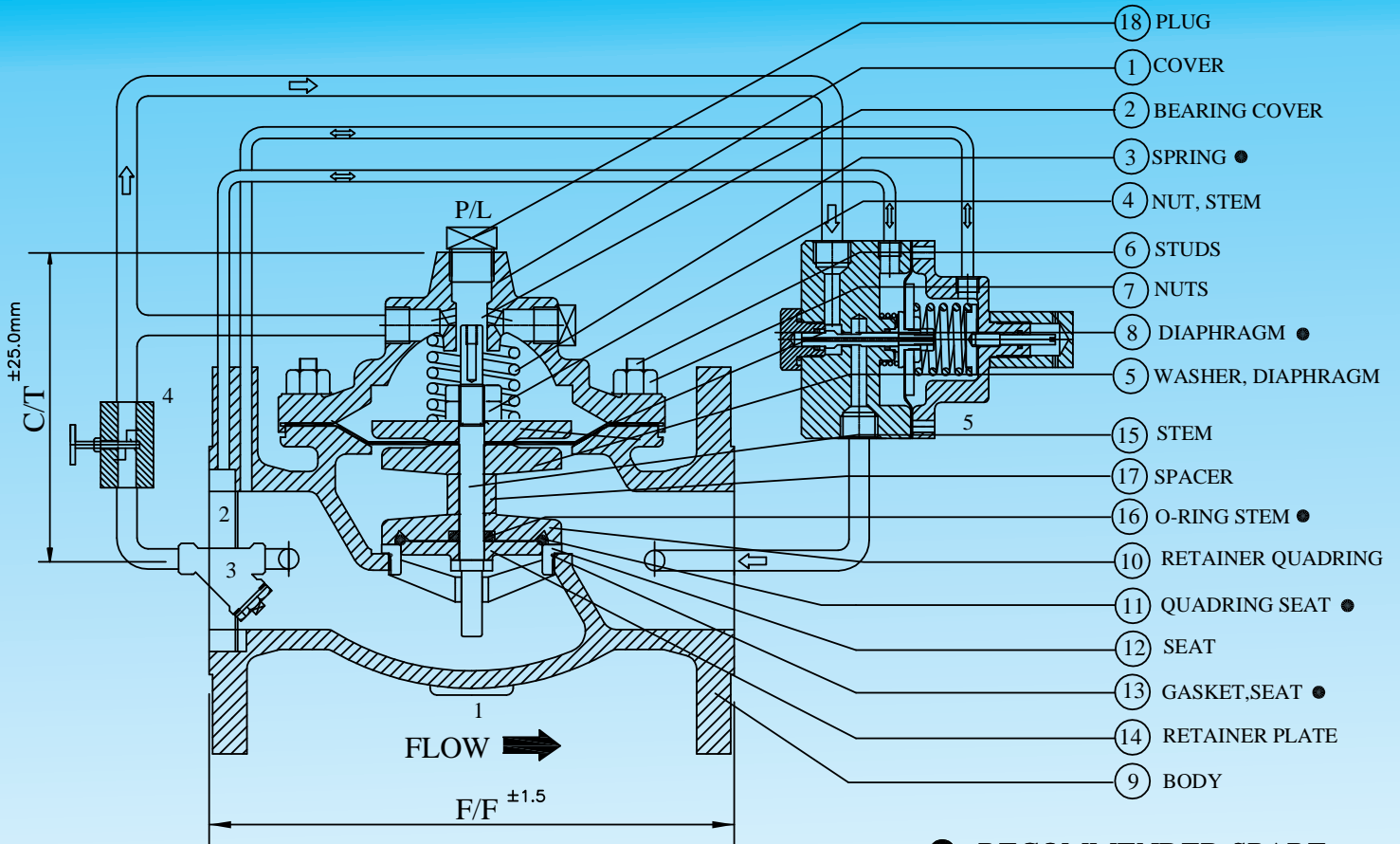
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AUTOMATIC CONTROL VALVES

RATE OF FLOW FT-114-R

VALVE FUNCTION

- REGULATES A CONSTANT FLOW RATE (ADJUSTABLE)



● RECOMMENDED SPARE

VALVE SIZE - INCH	1"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"	20"	24"
VALVE SIZE - mm	25	40	50	65	80	100	150	200	250	300	350	400	500	600
F/F (150 ANSI)	152	179	238	241.5	305	381	508	645	756	864	991	1051	1321	1562
F/F (300 ANSI)	160	192	250	257.0	324	397	530	670	790	902	1029	—	—	—
C/T Max. - FT-100	75	115	140	160	175	220	305	400	480	530	570	665	890	1010

COMPONENTS

- 1 - BASIC VALVE
- 2 - ORIFICE PLATE
- 3 - STRAINER-'Y' TYPE
- 4 - NEEDLE VALVE - Adj. closing speed
- 5 - FIG. FT-14 RATE OF FLOW CONTROL

ACCESSORIES

LOCATED AS INDICATED
INCLUDED AS MARKED



X - ISOLATION COCKS

L - LIMIT SWITCH

P - POSITION INDICATOR



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09

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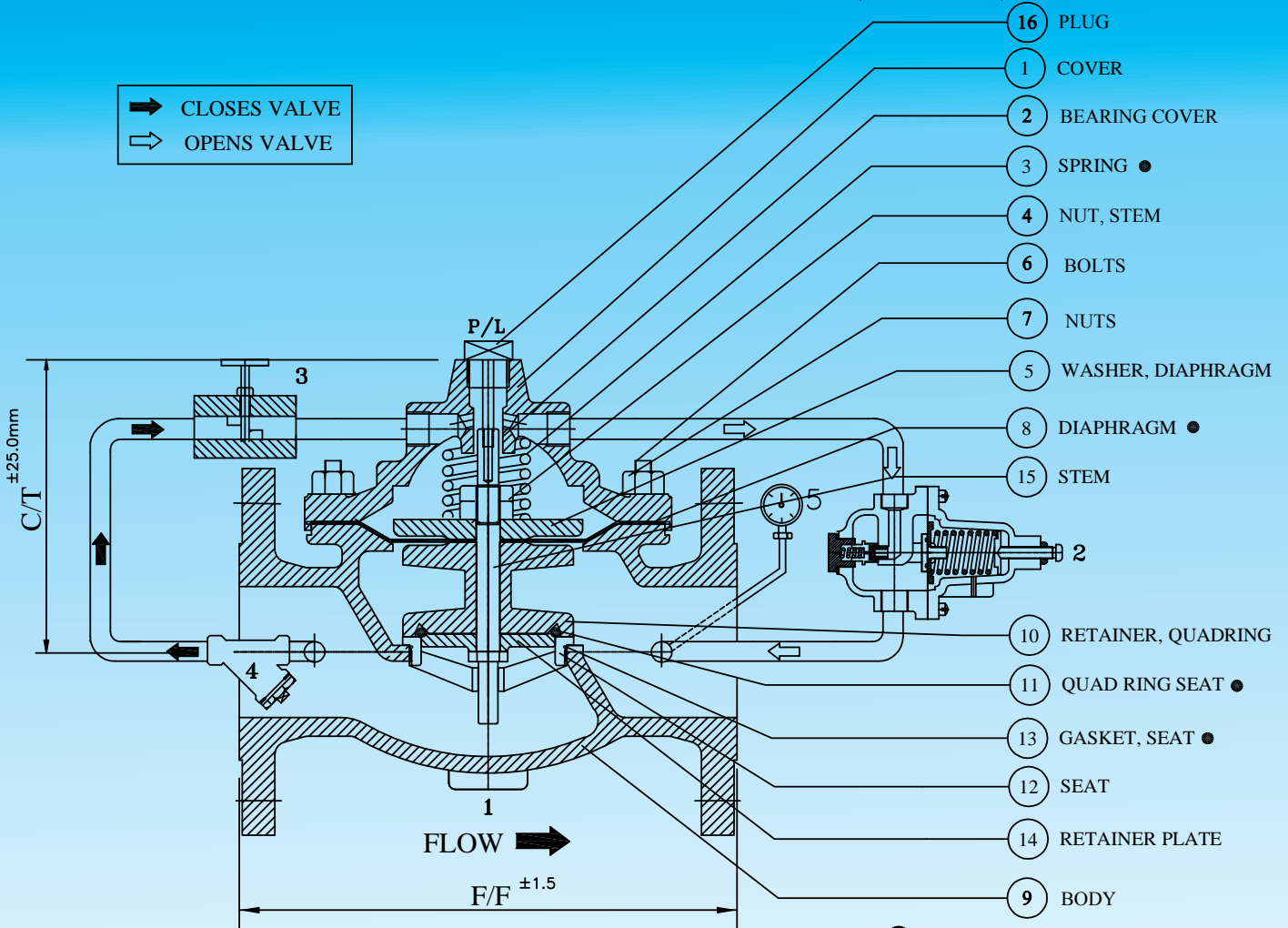
FLOW & PRESSURE CONTROL VALVES

AUTOMATIC CONTROL VALVES

PRESSURE REDUCING VALVE FT-115

VALVE FUNCTION

- REDUCES HIGHER INLET PRESSURE TO CONSTANT LOWER OUTLET PRESSURE (ADJUSTABLE)



● RECOMMENDED SPARE

VALVE SIZE - INCH	1"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"	20"	24"
VALVE SIZE - mm	25	40	50	65	80	100	150	200	250	300	350	400	500	600
F/F (150 ANSI)	152	179	238	241.5	305	381	508	645	756	864	991	1051	1321	1562
F/F (300 ANSI)	160	192	250	257.0	324	397	530	670	790	902	1029	—	—	—
C/T Max. - FT-100	75	115	140	160	175	220	305	400	480	530	570	665	890	1010

COMPONENTS

- 1 - BASIC VALVE
- 2 - FIG. FT-15 REDUCING VALVE
- 3 - NEEDLE VALVE - Adj. closing speed
- 4 - STRAINER-Y TYPE
- 5 - PRESSURE GAUGE - 2" DIAL

ACCESSORIES

LOCATED AS INDICATED
INCLUDED AS MARKED



- X - ISOLATION COCKS
- L - LIMIT SWITCH
- P - POSITION INDICATOR



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10

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FLOW & PRESSURE CONTROL VALVES

AUTOMATIC CONTROL VALVES

FLOW DATA - FT-ACV-100 (GLOBE)

VALVE FUNCTION

VALVE SIZE - INCH	1"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"	20"	24"
VALVE SIZE - mm	25	40	50	65	80	100	150	200	250	300	350	400	500	600
F/F DISTANCE 150# (mm) (GLOBE)	152	179	238	241	305	381	508	645	756	864	991	1051	1321	1562
CV VALUE (GLOBE) FT-100 (G.P.M. @ 1 PSIΔP)	14	37	55	90	125	220	460	840	1400	1730	2300	2950	5250	7500
MAXIMUM CONTINUOUS FLOW RATE LPM (WATER)	227	454	775	1135	1740	3030	6810	11735	18550	26495	32175	41600	68130	83280
MAXIMUM INTERMITTENT FLOW RATE LPM (WATER)	321	598	985	1400	2155	3785	8700	14740	22700	32550	39750	52990	79595	90850
APPROX WEIGTH (Kgs)	6	14	20	24	28	55	115	182	375	500	728	1025	1700	2800

- Maximum Continuous flow based on pipe line velocity of 20 ft. per Second.
- Maximum Intermittent flow based on pipe line velocity of 25 ft per Second.
- The Cv factor of a valve is the flow rate in USGPM at 60 degrees F that will cause a one psi drop in pressure.
- The factors stated are based on a fully open valve.

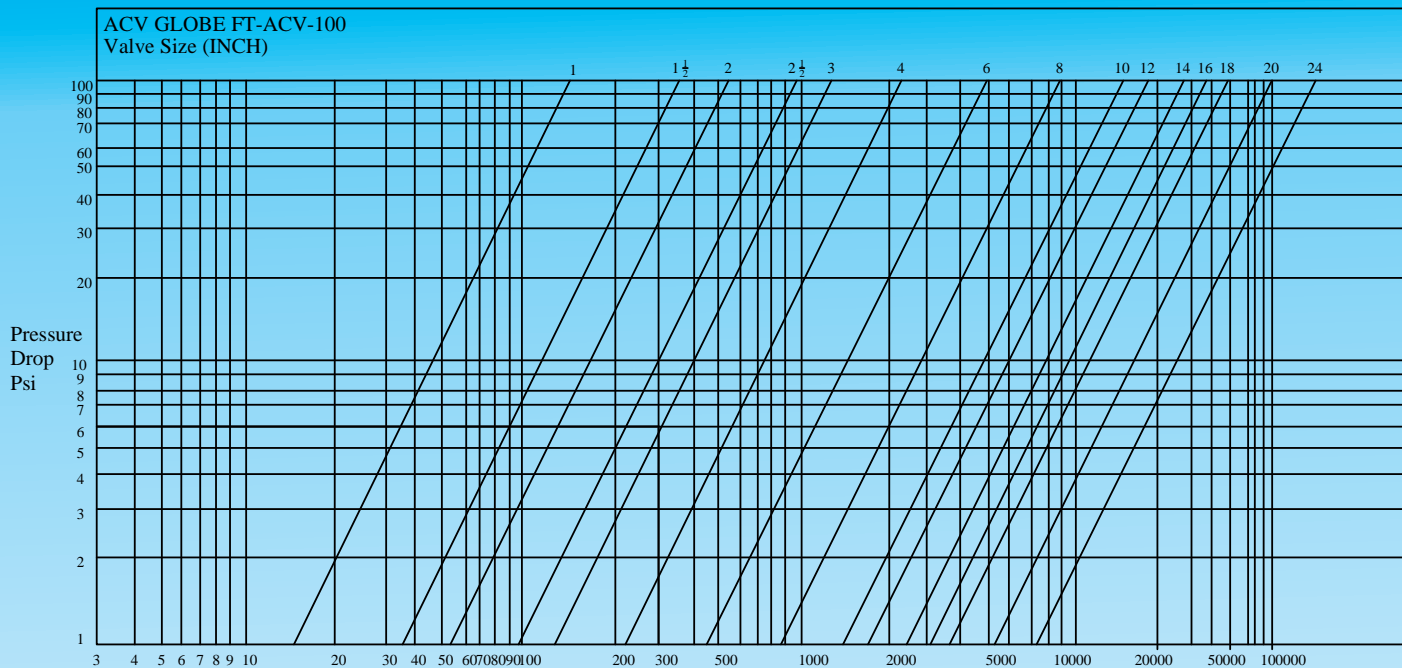
- Cv factor can be used in the following equations
- $Q \text{ (flow)} = C_v \sqrt{\Delta P}$ $\Delta P \text{ (pressure drop)} = (Q/C_v)^2$



FLOW & PRESSURE CONTROL VALVES

AUTOMATIC CONTROL VALVES

PRESSURE DROP CHART FT-ACV-100 (GLOBE)



Flow Rate - US Gallons per minute (water)

Example : 300 GPM Flow Rate - Valve Size 3" - Shall Have 6 PSI Pressure Drop Across The Valve

Flow Data of FT-113-40-R / FT-2113-40-R

Valve Size (inch)	1"	1 ½"	2"	2 ½"	3"	4"	6"	8"	10"	12"	14"	16"
Valve Size (mm)	25	40	50	65	80	100	150	200	250	300	350	400
F/F Distance-150# (mm) (Globe)	152	179	238	241	305	381	508	645	756	864	991	1051
F/F Distance-150# (mm) (Y-Type)	--	--	238	--	305	345	--	--	--	--	--	--
CV Value (Globe) FT-100 (G.P.M.@1PSI ΔP)	14	37	55	90	125	220	460	840	1400	1730	2300	2950
CV Value (Y Type) FT-100 (G.P.M.@1PSI ΔP)	--	--	60	--	140	240	--	--	--	--	--	--
Maximum Continuous Flow Rate GPM (Water)	60	120	205	300	460	800	1800	3100	4900	7000	8500	11000
Maximum Intermittent Flow Rate GPM (Water)	85	158	260	370	570	1000	2300	3900	6000	8600	10500	14000
Approx Weight (Kgs)	6	14	20	24	28	55	120	175	375	500	728	1025



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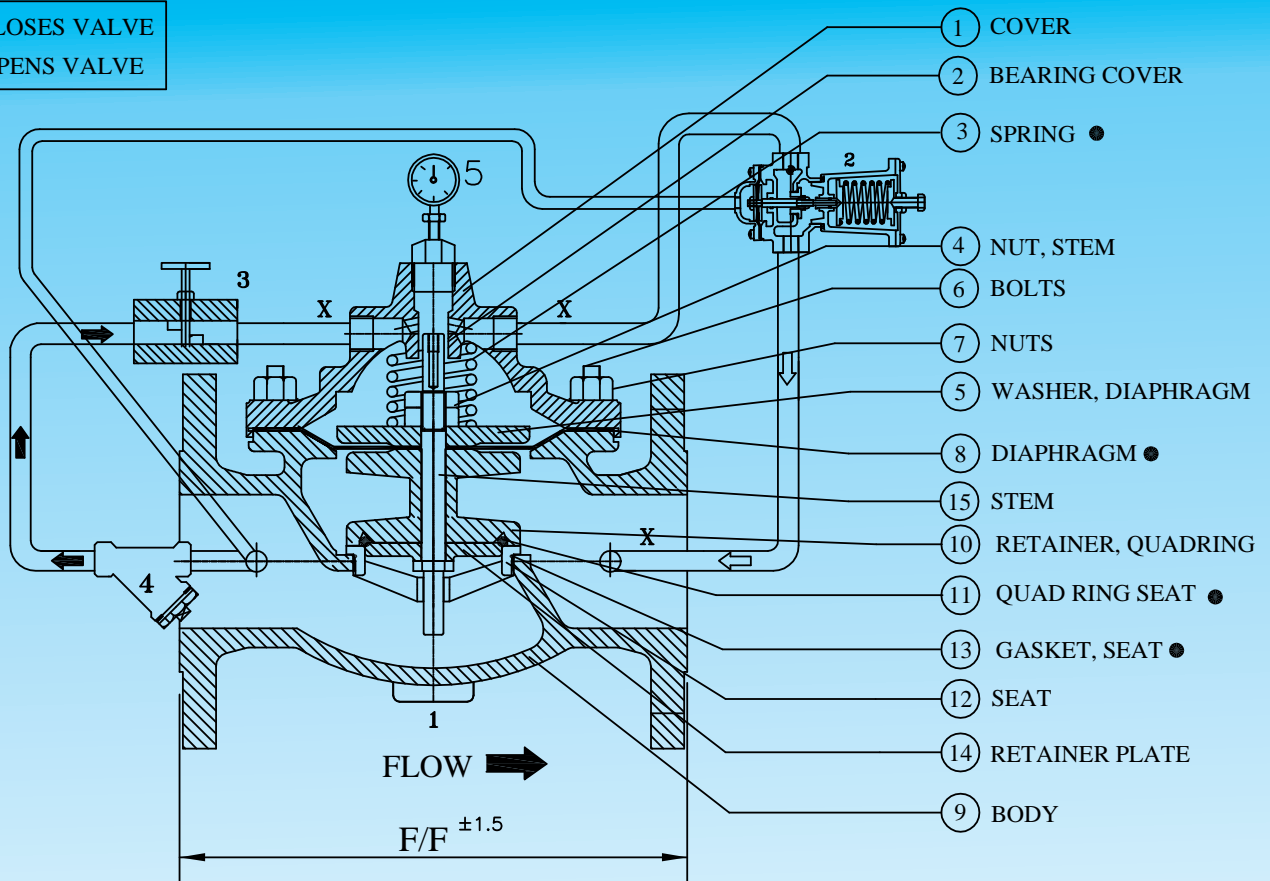
FLOW & PRESSURE CONTROL VALVES

AUTOMATIC CONTROL VALVES

PUMP BY PASS / AUTO RECIRCULATION / PRESSURE RELIEF VALVE FT-116

VALVE FUNCTION

- MAINTAINS CONSTANT UPSTREAM PRESSURE (INLET TO OUTLET) BY RELIEF EXCESS PRESSURE



● RECOMMENDED SPARE

VALVE SIZE - INCH	1"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"	20"	24"
VALVE SIZE - mm	25	40	50	65	80	100	150	200	250	300	350	400	500	600
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F/F (300 ANSI)	160	192	250	257.0	324	397	530	670	790	902	1029	—	—	—
C/T Max. - FT-100	75	115	140	160	175	220	305	400	480	530	570	665	890	1010

COMPONENTS

- 1 - BASIC VALVE
- 2 - FIG. FT-16 RELIEF CONTROL
- 3 - NEEDLE VALVE - Adj. closing speed
- 4 - STRAINER-Y TYPE
- 5 - PRESSURE GAUGE - 2" DIAL

ACCESSORIES

LOCATED AS INDICATED
INCLUDED AS MARKED



X - ISOLATION COCKS

L - LIMIT SWITCH

P - POSITION INDICATOR



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13

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