

# CAST IRON VALVES

FLOAT VALVE



# NETAFIM CAST IRON VALVES

## FLOAT VALVE

INLINE 25 - 400MM

ANGLE 50 - 100MM



### SPECIFICATIONS

- Manufactured to ISO 9001
- Available Valve sizes INLINE Flanged 50mm to 600mm & Threaded 19mm to 80mm
- Available Valve sizes ANGLE Flanged 80mm to 150mm & Threaded 40mm to 80mm
- Body and cover material Cast Iron/ASTM A45 CIS25A Cast Bronze/BS 1400 LG Ductile Iron/ ASTM A-536
- Cover bolts steel cobalt coated (standard) stainless steel 304 option
- Flanged connections BST-D (standard) BST-E, ANSI, ISO
- Threaded Connections BSP, NPT 25, 40, 50 & 80mm  
Victaulic Connections 80, 100 & 150mm
- Body coating fusion bonded Polyester (Standard) Nylon 11, Rilsan, Enamel & Ceramic options available
- Diaphragm nylon reinforced Acrylonitrile - Butadiene (NBR) (standard) other options available, EPDM and Viton
- Operating Pressure Range 0.4 - 25 Bar
- Temperature range water up to 80°C (175°F).

### FEATURES & BENEFITS

- Fast & accurate modulation over a wide range of flows & pressures
- Supplied fully plumbed & assembled with 8mm Polyethylene tubing, Nylon fittings Pressure change point & Plastic filters
- Maximum working range of 3:1 (Standard configuration)
- Pressure Reducing range from 0.3 - 7.5 Bar (29-100 Pilot)
- Full range of springs for varying operating pressures
- Available in both AC and DC Electric options plus Hydraulic Relay Control
- Supplied with manual override for positive valve closure.

# 70-400

## FLOAT PILOTS (METAL) 2-WAY FLOAT ACTUATED PILOT-VALVE MODULATING



### DESCRIPTION

The **70-400** is a 2 way, float pilot-valve that is designed for the control of the constant level control valves. The float pilot-valve will vent or pressurize the control chamber of the main valve to open or to close, in direct proportion to the level changes. It proportionally modulates open or throttle closed the main valve, maintaining constant water level, regardless of fluctuating demand.

### FEATURES

- No overflow - drip tight closure
- Can be used with any hydraulic control valve of any size
- “Soft” closure (regulating)
- Inlet flow equalize to the demand flow (constant level)
- External simple installation, easy maintenance
- Drip tight shut-off

### INSTALLATION

Sample drawing. Consult Netafim for the assembly design to fit your needs.

### MAIN COMPONENTS:

1. Self flushing filter
2. Cock valve
3. Needle valve / Restriction
4. **70-400** Float pilot valve

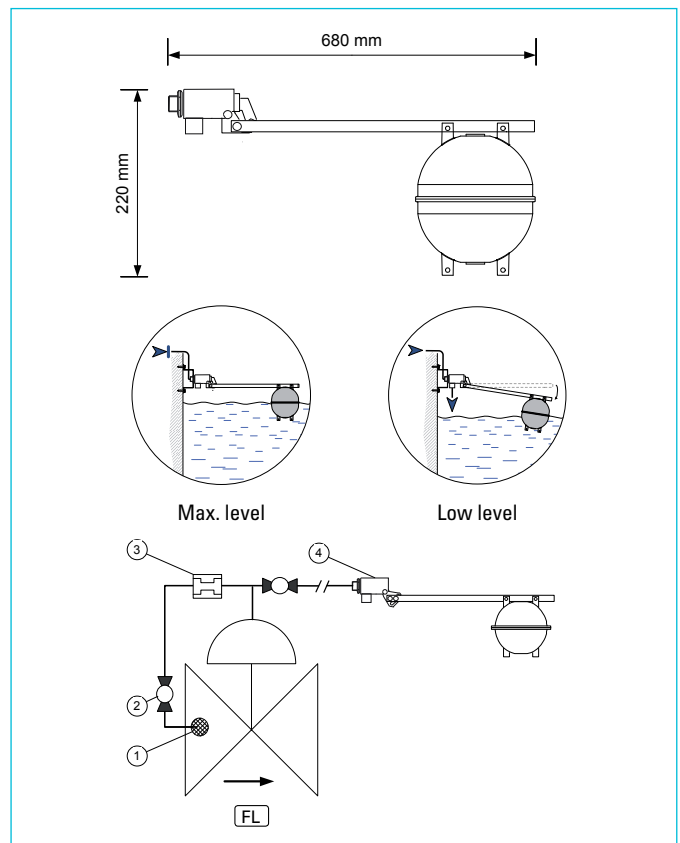
### APPLICATIONS

Level control - modulating float pilot-valve - **FL**

GENERAL		
<b>PRESSURE RATING</b>	16 bar / 230 psi **	
<b>FLUID TEMPERATURE</b>	80°C max. / 175°F max.	
MATERIALS	STANDARD	OPTIONAL*
<b>PILOT BODY</b>	Brass	SST
<b>INTERNAL PARTS</b>	SST	-
<b>FLOAT</b>	PP	SST
<b>FLOAT ROD</b>	Brass	SST
PORT CONNECTIONS		
BSP (Male) 1/2"		

\* Other materials available upon demand

\*\* Optional 25 bar / 360 psi (for SST pilot body material)



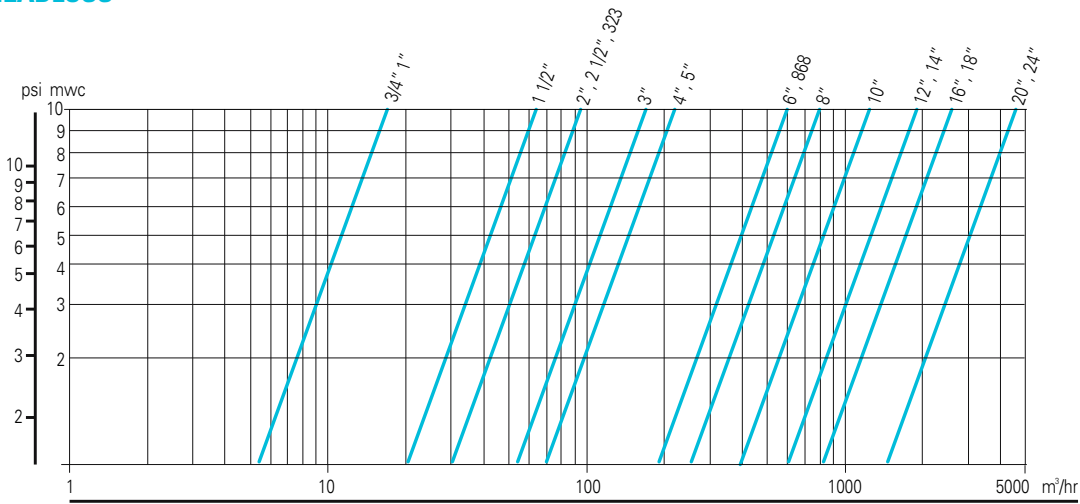


# SERIES 100

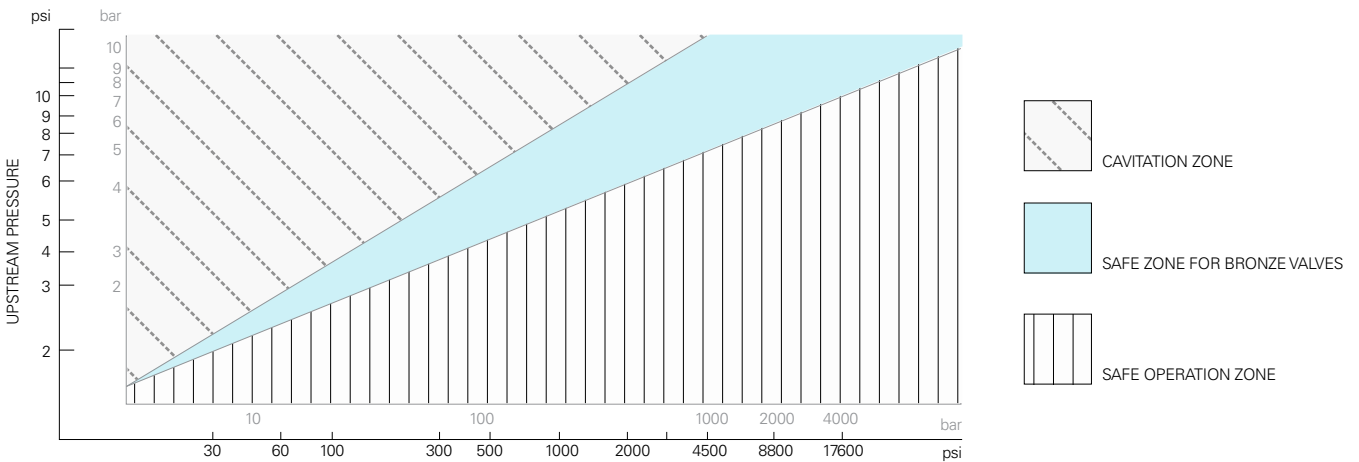
## HEADLOSS & CAVITATION DATA



### HEADLOSS



### CAVITATION DATA





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## HYDRAULIC PERFORMANCE



### HYDRAULIC PERFORMANCE

VALVE		MAX. FLOW CONTINUANCE	MAX. FLOW INTERMITTENT	MINIMAL FLOW	STANDARD PRESSURE KV	HIGH PRESSURE MODELS KV
MM	INCH	M <sup>3</sup> /HR	M <sup>3</sup> /HR	M <sup>3</sup> /HR	M <sup>3</sup> /HR @ 1 BAR	M <sup>3</sup> /HR @ 1 BAR
20	3/4"	6	16	<1	17	-
25	1"	10	27	<1	17	-
40	1½"	25	68	<1	64	-
50	2"	40	109	<1	95	78
80LF	323	40	109	<1	95	-
80	3"	90	245	<1	170	120
100	4"	100	273	<1	220	200
150	6"	350	955	<1	600	550
200	8"	480	1,309	<1	800	800
250	10"	970	2,645	<1	1,250	1,300
300	12"	1,400	3,818	<1	1,900	-
350	14"	1,400	3,818	<1	1,900	-
400	16"	2,500	6,818	<1	2,600	2,600
450	18"	2,500	6,818	<1	2,600	2,600
500	20"	3,890	10,609	<1	4,600	4,600
600	24"	5,500	10,609	<1	4,600	4,600

LF = Low Flow

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## DIMENSIONS



### STRAIGHT FLOW THREADED CONNECTION

VALVE SIZE		LENGTH		HEIGHT		D	W	WEIGHT	
		CAST IRON	BRONZE	CAST IRON	BRONZE			CAST IRON	BRONZE
MM	INCH	MM	MM	MM	MM	MM	MM	KG	KG
20	3/4"	115	112	43	43	20	68	1.0	1.0
25	1"	120	119	52	52	24	68	1.0	1.0
40	1 1/2"	170	149	93	86	33	93	2.2	1.8
50	2"	188	184	115	101	42	112	3.2	2.6
65	2 1/2"	219	212	118	109	46	112	3.6	3.4
80LF	323	225	221	126	116	54	112	4.5	3.9
80	3"	316	316	135	135	53	200	11.0	-

LF = Low flow

### STRAIGHT FLOW FLANGED CONNECTIONS STANDARD MODELS 16 BAR / 230 PSI

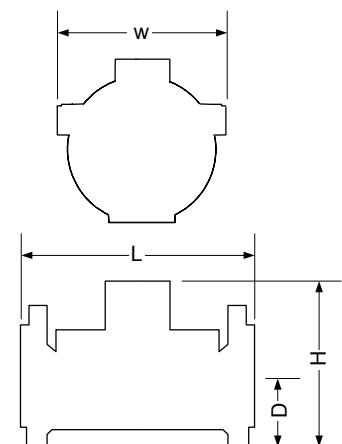
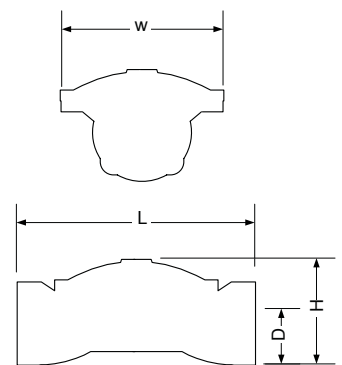
VALVE SIZE		L	H	D	W	WEIGHT		
						CAST IRON	DUCT. IRON	BRONZE
MM	INCH	MM	MM	MM	MM	KG	KG	KG
50	2"	200	166	85	166	7.2	7.7	8.0
80LF	323	200	202	105	200	11.0	11.8	-
80	3"	285	200	105	200	17.0	18.2	19.0
100	4"	305	230	110	230	22.0	24.0	24.0
150	6"	390	314	145	300	46.0	49.0	51.0
200LF	868	385	350	170	365	50.0	54.0	-
200	8"	460	400	170	365	80.0	86.0	89.0
250	10"	535	445	205	440	117.0	125.0	131.0
300	12"	580	495	240	490	156.0	167.0	147.0
350	14"	580	495	270	540	182.0	172.0	180.0

LF - Low flow

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Cast Iron  
Float Valve  
Issued: January 2016

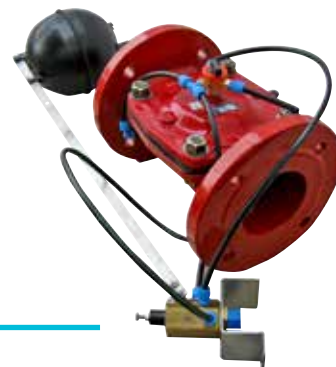


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## DIMENSIONS



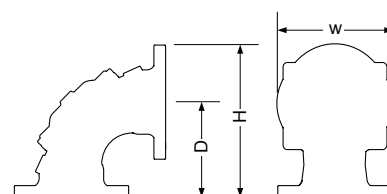
### ANGLE FLOW THREADED CONNECTION

VALVE SIZE		H	D	W	WEIGHT
MM	INCH	MM	MM	MM	KG
40	1½"	110	75	93	1.7
50	2"	136	90	112	2.4
80LF	323	165	114	112	3.6
80	3"	239	145	200	10.8

LF = Low flow

### ANGLE FLOW FLANGED CONNECTION

VALVE SIZE		H	D	W	WEIGHT
MM	INCH	MM	MM	MM	KG
80	3"	278	174	200	18.0
100	4"	300	185	230	21.0
150	6"	380	230	300	45.0





# SERIES 100

## DIAPHRAGM SELECTION TABLE



### DIAPHRAGM SELECTION TABLE

DIAMETER		TYPE	NO.	PRESSURE RANGE	
MM	INCH			MWC	PSI
20, 25	3/4", 1"	Standard	18	12 - 160	17 - 230
20, 25	3/4", 1"	Low Pressure	85	5 - 100	7 - 140
40	1 1/2"	Standard	13	12 - 160	17 - 230
40	1 1/2"	S. Low Pressure	82	5 - 50	7 - 70
50, 65	2", 2 1/2", 323	Standard	03	15 - 160	21 - 230
50, 65	2", 2 1/2", 323	Low Pressure	02	7 - 100	10 - 140
50, 65	2", 2 1/2", 323	S. Low Pressure	12	4 - 50	6 - 70
50, 65	2", 2 1/2", 323	Extreme	60	20 - 160	28 - 230
50HP	2"HP	High Pressure	69	10 - 250	15 - 360
80, 100	3", 4"	Standard	32	12 - 160	17 - 230
80, 100	3", 4"	Low Pressure	05	4 - 100	6 - 140
80, 100	3", 4"	Extreme	61	20 - 160	28 - 230
80HP	3"HP	High Pressure	70	10 - 250	15 - 360
100HP	4"HP	High Pressure	71	10 - 250	15 - 360
150	6", 868	Standard	62	15 - 160	21 - 230
150	6", 868	Low Pressure	09	5 - 100	7 - 140
150	6", 868	S. Low Pressure	91	2 - 60	3 - 85
150	6", 868	Extreme	35	20 - 160	28 - 230

Standard Diaphragm: Nylon Reinforced Natural Rubber. Optional Materials: Nitrile, EPDM, Neoprene Available Upon Request.

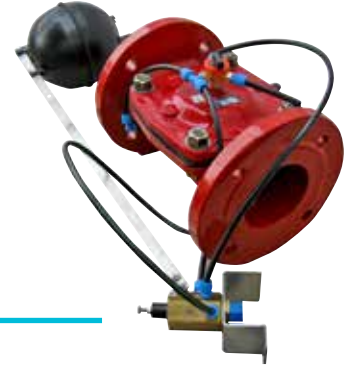
HP = High Pressure





# SERIES 100

## DIAPHRAGM SELECTION TABLE



### DIAPHRAGM SELECTION TABLE

DIAMETER		TYPE	NO.	PRESSURE RANGE	
MM	INCH			MWC	PSI
150HP	6"HP	High Pressure	72	10 - 250	15 - 360
200, 300, 350	8", 12", 14"	Standard	36	7 - 160	10 - 230
200, 300, 350	8", 12", 14"	Low Pressure	37	2 - 100	3 - 140
200, 300, 350	8", 12", 14"	Extreme	63	20 - 160	28 - 230
200HP	8"HP	High Pressure	73	10 - 250	15 - 360
250	10"	Standard	40	7 - 160	10 - 230
250	10"	Low Pressure	50	2 - 100	3 - 140
250HP, 400HP, 500HP, 600HP	10"HP, 16"HP, 20"HP, 24"HP	High Pressure	78	10 - 250	15 - 360
250HP, 400HP, 500HP, 600HP	10"HP, 16"HP, 20"HP, 24"HP	Low Pressure	92	2 - 100	3 - 140

Standard Diaphragm: Nylon Reinforced Natural Rubber. Optional Materials: Nitrile, EPDM, Neoprene Available Upon Request.  
 HP = High Pressure

### PRESSURE RATING

Pressure rating of series 100 valves is body strength, connection standard and diaphragm type.

Pressure rating of valve body of standard models: 16 Bar / 230 psi.

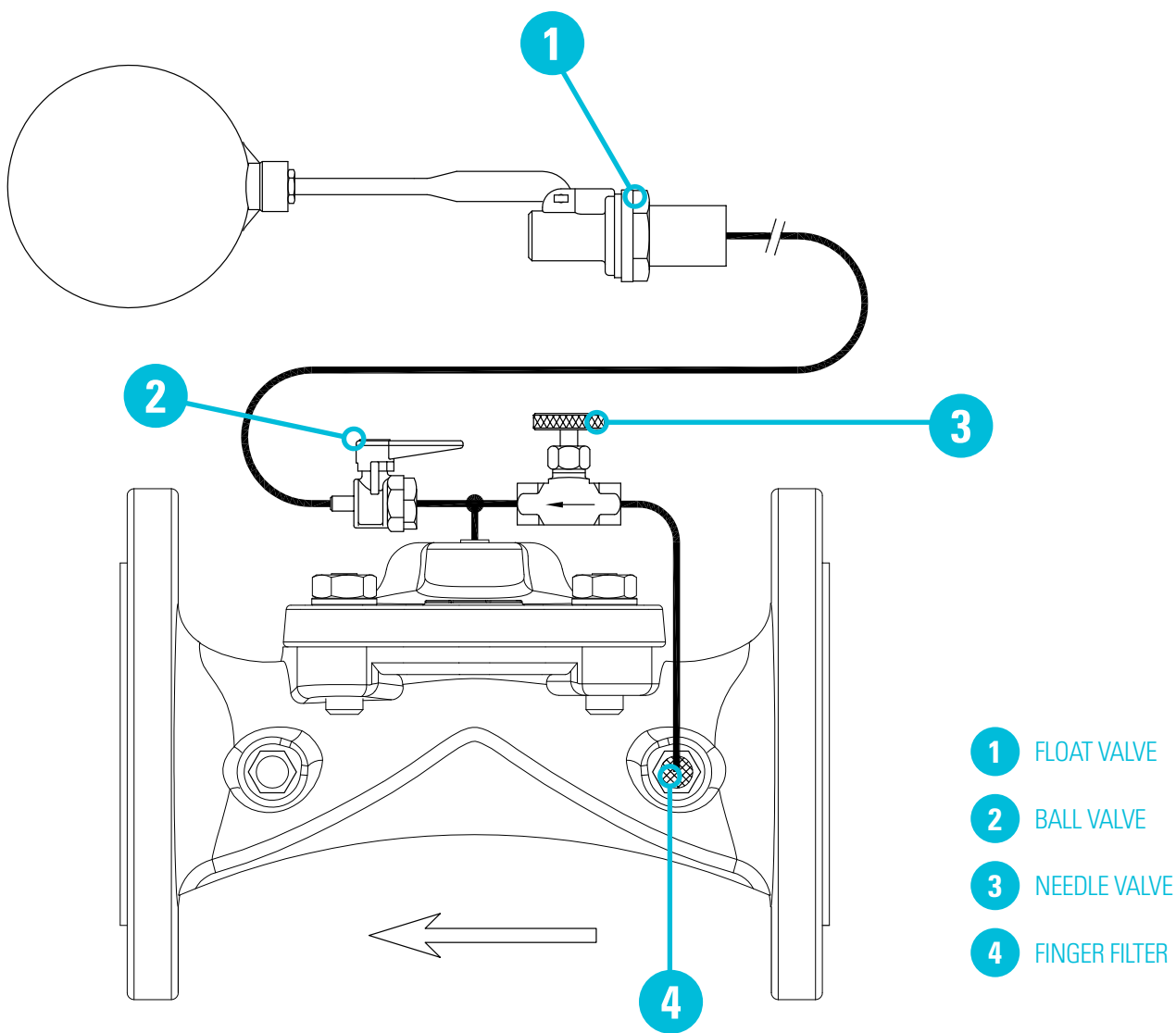
Pressure rating of valve body of high pressure models: 25 Bar / 360 psi.

Connection standard is marked on the identification plate, assembled on the valve body. Diaphragms operation pressure range is presented at the above table.



# CAST IRON FLOAT VALVE

## OVERVIEW



# CAST IRON FLOAT VALVE

## INSTALLATION OPERATING INSTRUCTIONS MAINTENANCE



### INSTALLATION

- Before installing the valve, flush the pipeline to remove any scale, dirt and other particles that might affect the valve's performance.
- Install the valve as indicated by the arrow on the valve's cover, showing flow direction towards tank.
- It is recommended to install an isolation valve upstream of the float valve.
- Turn ball valve **(2)** to "Close" position.
- Turn on the water supply to the valve.
- Check for leaks; tighten bolts and fittings if necessary.

### OPERATING INSTRUCTIONS

- Fully shut down the needle valve **(3)** by turning the knob fully clockwise.
- Open ball valve **(2)**.
- Turn on water supply to float valve by opening isolation valve.
- Valve should now start to open.
- Slowly open needle valve **(3)** and check that a steady flow is entering into the tank via the float valve **(1)**.
- Check valve is still fully open.
- Close off float valve **(1)** by pulling float valve upwards.
- Valve should close.
- Record how long it takes for valve to close, if time is excessive, open up needle valve **(3)** by slowly turning it anti-clockwise to speed up closing time.
- Once correctly set, valve will shut-off when float valve is actuated.
- Check and adjust height in tank by bending float arm so water level is below tank overflow.
- To manually close the valve, close ball valve **(2)** this will instantly close the valve and override the float level valve.

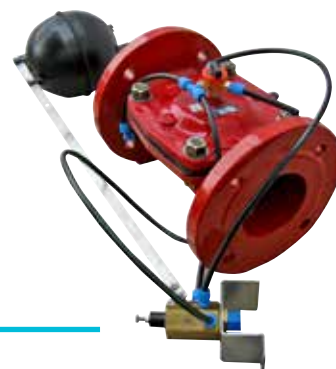
### MAINTENANCE

- From time to time it is recommended to adjust the needle valve **(3)** by fully opening and closing to remove any build-up in the internal passages.
- Open and close the ball valve **(2)** to keep free in operation.
- Check and clean the float valve to remove slime or mineral build up.
- Check float valve in tank for leaking or damaged seats, replace if necessary.

It is recommended that the valve is easily accessible as well as clearly marked to prevent damage.

# CAST IRON FLOAT VALVE

## RECOMMENDED WORKING CONDITIONS



METAL VALVES		STRAIGHT	ANGLE	STANDARD	THREADED	FLANGED	GROOVED
MM	INCHES						
25	1"	•			•		
40	1.5"	•			•		
40	1.5"S	•			•		
50	2"	•	•		•		
80-50-80	3"R	•	•		•		
80	3"N	•	•		•	•	•
80-100-80	3"S	•	•		•	•	
100	4"	•	•			•	•
150	6"	•				•	•
200	8"	•				•	
250	10"	•				•	
300	12"	•				•	
350	14"	•				•	
400	16"	•				•	

NOMINAL DIAMETER		INLET PRESSURE MINIMUM		INLET PRESSURE MAXIMUM		MINIMUM FLOWRATE	MAXIMUM FLOWRATE	FULLY OPENED VALVE
MM	INCH	PSI	BAR	PSI	BAR	M <sup>3</sup> /H	M <sup>3</sup> /H	*KV FACTOR
25	1"	6	0.4	228	16	0.1	15	24
40	1.5"	6	0.4	228	16	0.1	25	28
40-50-40	1.5"S	6	0.4	228	16	0.5	35	60
50	2"	6	0.4	228	16	0.5	40	95
80-50-80	3"R	6	0.4	228	16	0.5	55	95
80	3"	6	0.4	228	16	0.5	80	160
80	3"S	6	0.4	228	16	0.5	105	260
100	4"	6	0.4	228	16	0.5	165	270
150	6"	6	0.4	228	16	0.5	370	680
200	8"	6	0.4	228	16	0.5	440	710
250	10"	6	0.4	228	16	0.5	1100	1800
300	12"	6	0.4	228	16	0.5	1470	2000
350	14"	6	0.4	228	16	0.5	1470	2000
400	16"	6	0.4	228	16	0.5	2500	3500

# CAST IRON FLOAT VALVE

## TROUBLESHOOTING



PROBLEM	CAUSE	CHECK	SOLUTION
<b>THE VALVE DOES NOT OPEN.</b>	1. Ball valve (2) is closed.	1. Ball valve (2) is open.	1. Turn to open position and check water flow to valve in tank.
	2. Blocked float valve (1) in tank.	2. Float valve (1) for flow of water into tank.	2. If no flow is coming from float valve strip and clean to remove blockage, refit and check flow valve. Valve should now open.
<b>THE VALVE DOES NOT CLOSE.</b>	1. Blocked finger filter (4).	1. Check finger filter (4) for flow.	1. Disconnect tube from finger and check for flow. If no flow, then strip and clean to remove blockage.
	2. Needle valve is blocked.	2. Check for flow.	2. Disconnect tube between needle valve and ball valve. Check for flow, strip and clean to clear blockage if necessary.
<b>VALVE WILL NOT FULLY OPEN.</b>	1. Needle valve is adjusted too high.	1. Check needle valve adjustment.	1. Turn needle valve knob slowly clockwise, valve should start to open once full flow is achieved. Set needle valve.
	2. Ball valve (2) is partially closed.	2. Check ball valve is fully open.	2. Open ball valve and check that valve is now fully open.
	3. Float valve in tank is partially blocked.	3. Check for adequate flow into tank.	3. Clean float valve assembly, to remove build up or blockage.
<b>VALVE WILL NOT CLOSE WHEN SHUTTING BALL VALVE (2).</b>	1. Damaged diaphragm.	1. Open ball valve (2). Close off needle valve (3). Check that water is still running into tank.	1. Shut off isolation valve, remove top cover off valve and inspect diaphragm for damage. Replace if necessary.

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