



# Multi-Function

## MFV



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001-cat-2016-mfV

# TABLE OF CONTENTS

<b>MFV- PRODUCT SPECIFICATIONS.....</b>	<b>2-3</b>
<b>MFV - TRIPLE DUTY VALVES.....</b>	<b>4-7</b>
<b>FEATURES.....</b>	<b>8</b>
<b>PERFORMANCE CURVES.....</b>	<b>9-20</b>
<b>TYPICAL PIPING DETAILS.....</b>	<b>21</b>

## HISTORY

Flo Fab was established in 1981 by Denis Gauvreau who created and developed the products line and constantly being perfected by Marc Gauvreau, as well as by a team of professional engineers and designers. It's a combination of existing designs from several renowned products and the innovative ideas of a new generation professionals.

Through the years, Flo Fab has acquired several companies and service entities including : AQUA-PROFAB (ASME Tanks manufacturer), MÉNARD, LÉONARD ÉLECTRIQUE, PMA. , Furthermore Flo Fab purchased equipment, fabrication designs and patterns from IDEALCO, a manufacturer of shell and tube type heat exchangers.

The after sales services, sales, engineering, R&D, production, quality control, accounting and administration departments of all the above companies share the same location.

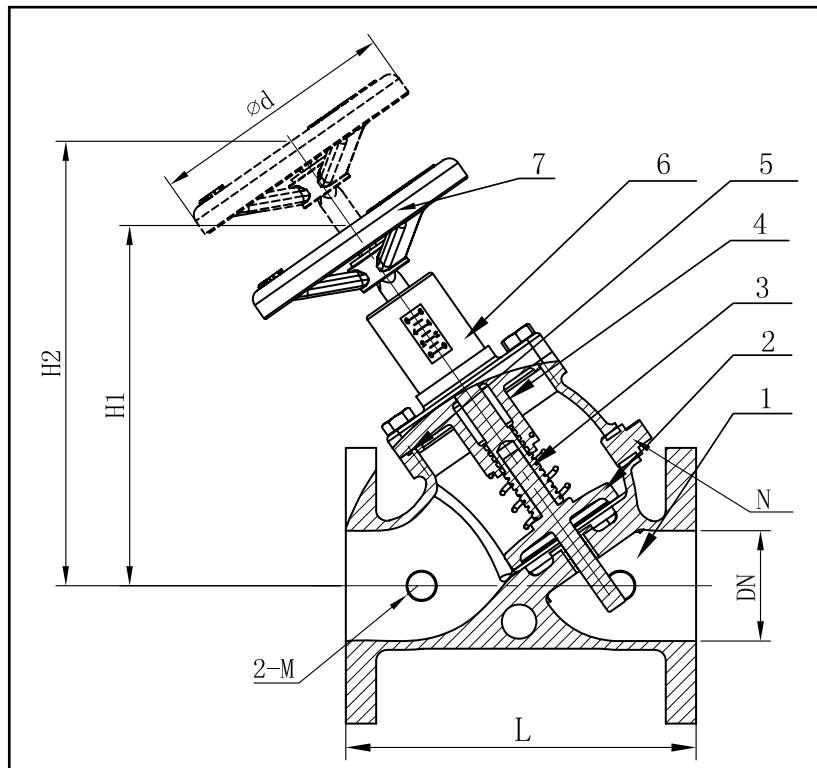
In December 2014, Marc Gauvreau, son of the founder, acquired all shares of The company. Flo Fab and is constantly investing in new state of the art innovations new product like the XRI series and Prefab Skid for Hydronic Heating & cooling system, pumping systems. This has allowed Flo Fab to retain competent and experienced staff of professionals with varied and specialized abilities that constantly work on improving our existing products and add new engineered solutions that exceeding customer's expectations .

Flo Fab has grown quite rapidly and now proudly offers of a wide range of products available directly from one manufacturer. This includes pumps & pump packages, tanks, heat exchangers & hydronic accessories. This allows each project stakeholders to enjoy economical savings, peace of mind, best value for their investment and optimized total cost of ownership.



## Product Specifications

Calibrated Balancing Valve - Shut Off Valve - Non Slam Check



No.	Name	Material
1	Body	CI
2	Disc	DI+EPDM
3	Stem	SS410
4	Cover	CI
5	Gasket	EPDM
6	Scale Plate	Plastic
7	Handwheel	Carbon Steel

### Technical

**Pressure:**  
Class125

**Working Temp:**  
-20°C -120°C  
-4°F -248°F

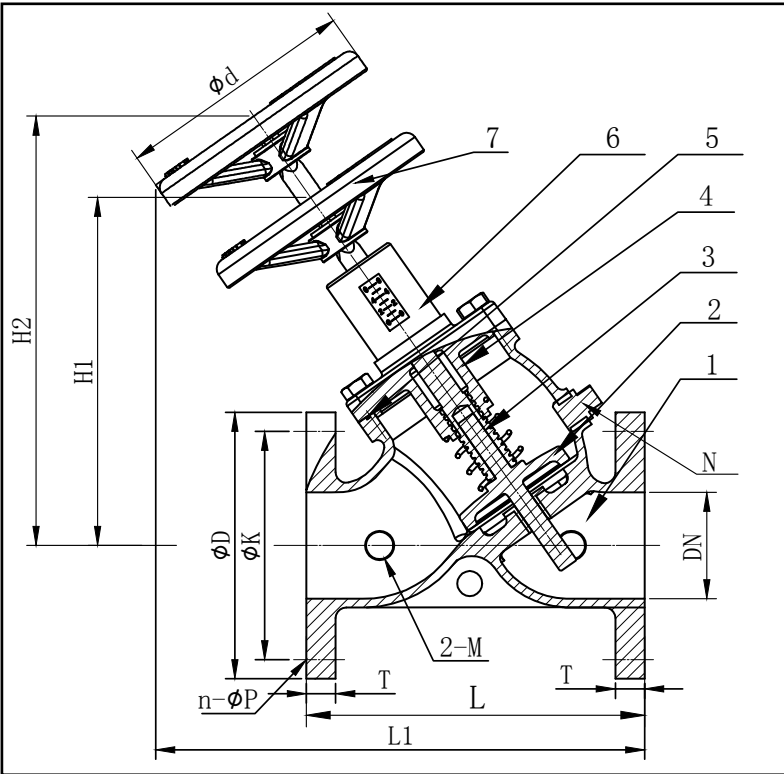
**Flange to:**  
ANSI B16.1

Dimensions (mm/in)									
✓									
<b>MFV</b>	<b>0200-150F</b>	<b>0250-150F</b>	<b>0300-150F</b>	<b>0400-150F</b>	<b>0500-150F</b>	<b>0600-150F</b>	<b>0800-150F</b>	<b>1000-150F</b>	<b>1200-150F</b>
<b>NPS</b>	<b>2</b>	<b>2 1/2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>8</b>	<b>10</b>	<b>12</b>
<b>DN</b>	50 1.97	65 2.56	80 3.15	100 3.94	125 4.92	150 5.90	200 7.88	250 9.84	300 11.81
<b>L</b>	213 8.39	250 9.84	254 10	368 14.49	407 16.02	457 17.99	546 21.50	648 25.51	762 30.00
<b>H1</b>	226 8.90	240 9.45	257 10.12	295 11.61	330 12.99	352 13.85	530 20.87	584 22.99	609 23.98
<b>H2</b>	251 9.88	265 10.43	282 11.10	320 12.60	363 14.29	380 14.96	579 22.80	663 26.10	711 27.99
<b>ød</b>	180 7.09		250 9.84			350 13.78		450 17.72	
<b>M</b>	6.35 - 1/4" NPT								

MODELS	MFV1400-150F	MFV1600-150F	MFV1800-150F
✓			
<b>Sizes</b>	14" 350 mm	16" 400 mm	18" 450 mm
<b>DIM "L"</b>	35"	26 3/4"	28 3/8"
<b>DIM "H"</b>	41"	41"	41"

\*All dimensions are NOT certified.  
\*Do not use for construction.  
\*Design, dimensions and material are subject to change without notice.

## ● Products Specifications



No.	Name	Material
1	Body	DI
2	Disc	DI+EPDM
3	Shaft	SS410
4	Cover	DI
5	Gasket	EPDM
6	Scale Plate	Plastic
7	Handwheel	Carbon Steel

### Technical

**Pressure:**

**Class250**

**Working Temp:**

-20°C-120°C

-4°F -184°F

**Flange to:**

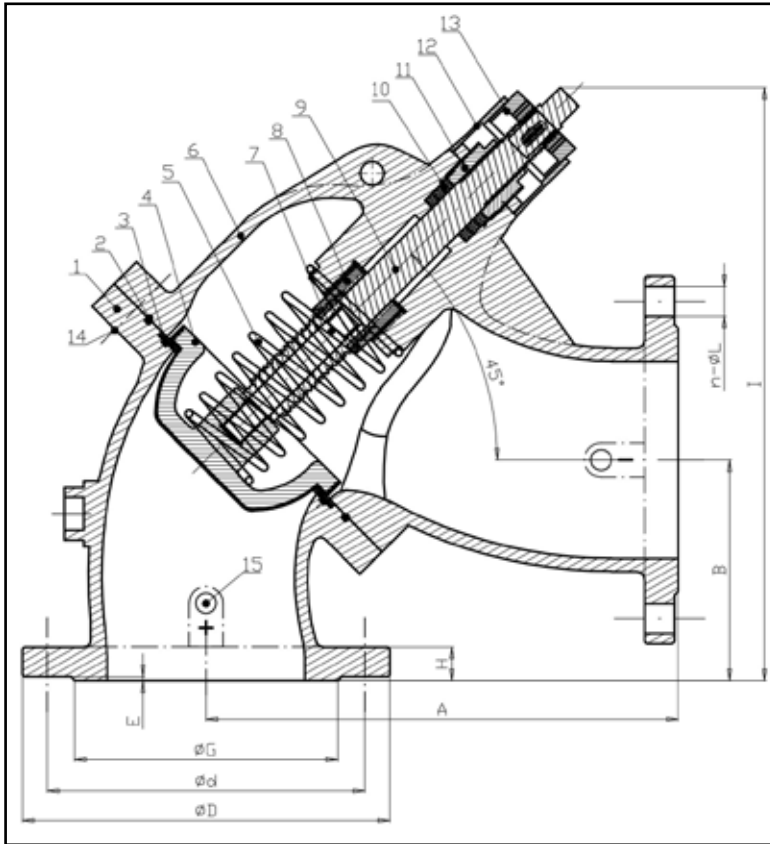
ANSI B16.1

### Dimensions (mm/in)

√									
<b>MFV</b>	<b>0200-250F</b>	<b>0250-250F</b>	<b>0300-250F</b>	<b>0400-250F</b>	<b>0500-250F</b>	<b>0600-250F</b>	<b>0800-250F</b>	<b>1000-250F</b>	<b>1200-250F</b>
<b>NPS</b>	<b>2</b>	<b>2 1/2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>8</b>	<b>10</b>	<b>12</b>
<b>DN</b>	50 1.97	65 2.56	80 3.15	100 3.94	125 4.92	150 5.90	200 7.88	250 9.84	300 11.81
<b>L</b>	213 8.39	250 9.84	254 10	368 14.49	407 16.02	457 17.99	546 21.50	648 25.51	762 30.00
<b>L1</b>	309 12.17	336 13.23	340 13.39	439 17.28	472 18.58	560 22.05	691 27.20	787 30.98	951 37.44
<b>H1</b>	226 8.90	240 9.45	257 10.12	295 11.61	330 12.99	352 13.85	530 20.87	589 23.19	691 27.20
<b>H2</b>	251 9.88	265 10.43	282 11.10	320 12.60	363 14.29	380 14.96	579 22.80	668 26.30	809 31.85
<b>Ø d</b>	180 7.09			250 9.84			350 13.78		450 17.72
<b>Ø D</b>	165.1 6.5	190.5 7.5	209.6 8.25	254 10	279.4 11	317.5 12.5	381 15	444.5 17.5	520.7 20.5
<b>Ø K</b>	127 5	149.4 5.88	168.2 6.62	200.2 7.88	235 9.25	269.8 10.62	330.2 13	387.4 15.25	450.9 17.75
<b>T</b>	401.32 15.8	444.5 17.5	485.14 19.1	607.06 23.9		645.16 25.4	723.9 28.5	767.08 30.2	807.72 31.8
<b>M</b>	6.35mm - 1/4" NPT								
<b>N</b>	12.7mm - 1/2" NPT			25.4mm - 1" NPT					
<b>Weight (kg/lbs)</b>	13.2 29.10	16 35.27	20.5 45.19	40 88.18	53 116.85	68 149.91	158 348.33	182 401.24	320 705.48



## • Triple Duty Valves



No.	Name	Qty	Material
1	Lower Body	1	DI
2	O Ring	1	NBR/EPDM
3	Seat	1	Casting Brass
4	Disc	1	CI+EPDM
5	Spring	1	SS302
6	Upper Body	1	DI
7	Disc Shaft	1	SS410
8	Shaft Nut	1	Brass
9	Shaft	1	SS410
10	Packing	3	Graphit
11	Gland	1	SS410
12	Accessories	1	Plastic
13	Accessories	1	Plastic
14	Bolt & Nut	8	WCB
15	Plug/Testing Point	4	WCB/HPb59-1

### Technical

Pressure:

**861.25 kPa - 1033.5 kPa**

**124.88 PSI - 149.82 PSI**

**ANSI B16.1**

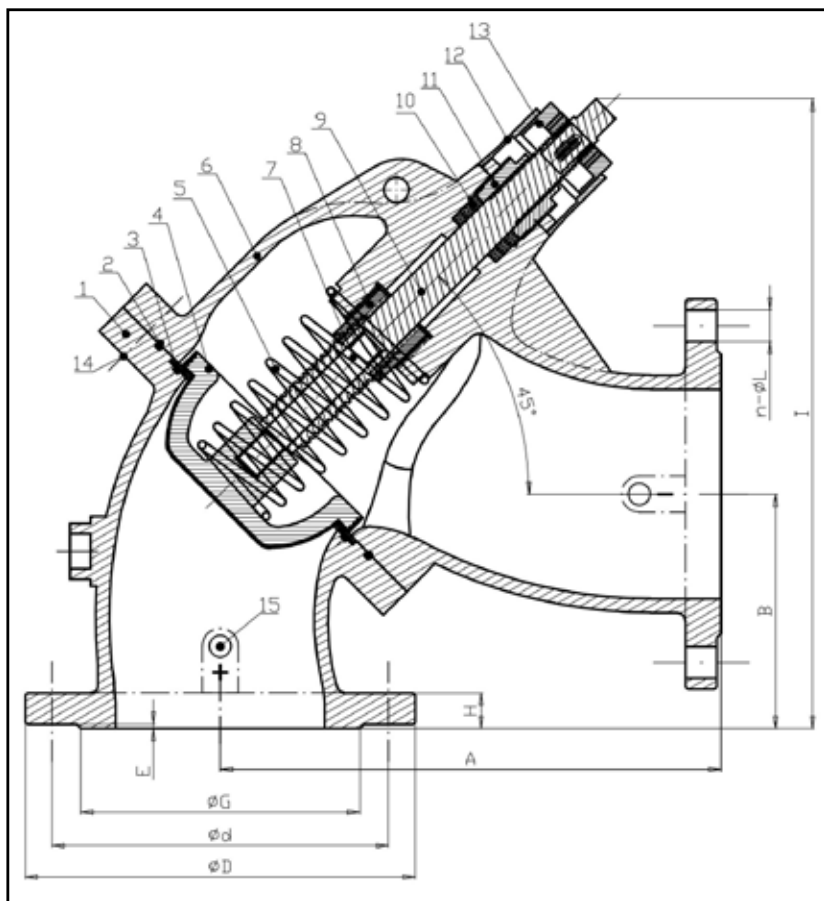
PN10 : 125-150 lbs

PN16 : 225-250 lbs

√	SIZE	Ø D	Ø d	H	n-ØL	ØG	E	A	B	Open	Close
	2 1/2	7.01	5.50	0.69	4-Ø.75	-	-	7.36	4.61	11.77	12.91
	DN65	7.28	5.71	0.88		4.65	.12				
	3	7.5	6	0.75	8-Ø.75	-	-	8.19	3.86	12.28	13.62
	DN80	7.87	6.3	0.94		5.20	.12				
	4	9.02	7.5	0.75	8-Ø.75	-	-	9.61	4.37	12.56	13.90
	DN100	8.66	7.09	0.94		6.14	.12				
	5	10	8.5	0.75	8-Ø.91	-	-	12.01	5.51	16.10	18.11
	DN125	9.84	8.27	0.94	8-Ø.75	7.24	.12				
	6	11	9.5	1	8-Ø.91	-	-	14.13	6.61	17.76	20.00
	DN150	11.22	9.45	0.75	8-Ø.91	8.31	.12				
	8	13.5	11.75	1.12	-	-	-	18.94	9.17	24.09	27.44
	DN200	13.39	11.61	0.79	8-Ø.91	10.47	.12				
	10	16	14.25	1.18	12-Ø1.02	-	-	20.31	9.76	27.44	31.46
	DN250	15.55	13.78	0.87	12-Ø.91	12.56	.12				
	12	19	17	1.25	12-Ø1.1	-	-	24.06	14.02	33.94	38.62
	DN300	17.52	15.75	0.96	12-Ø.91	14.57	.16				
		18.11	16.14	0.96	12-Ø1.1	-	-				

See next page  
for measures  
in millimeters

# • Triple Duty Valves



No.	Name	Qty	Material
1	Lower Body	1	DI
2	O Ring	1	NBR/EPDM
3	Seat	1	Casting Brass
4	Disc	1	CI+EPDM
5	Spring	1	SS302
6	Upper Body	1	DI
7	Disc Shaft	1	SS410
8	Shaft Nut	1	Brass
9	Shaft	1	SS410
10	Packing	3	Graphit
11	Gland	1	SS410
12	Accessories	1	Plastic
13	Accessories	1	Plastic
14	Bolt & Nut	8	WCB
15	Plug/Testing Point	4	WCB/HPb59-1

## Technical

**Pressure:**

**861.25 kPa - 1033.5 kPa**  
**124.88 PSI - 149.82 PSI**

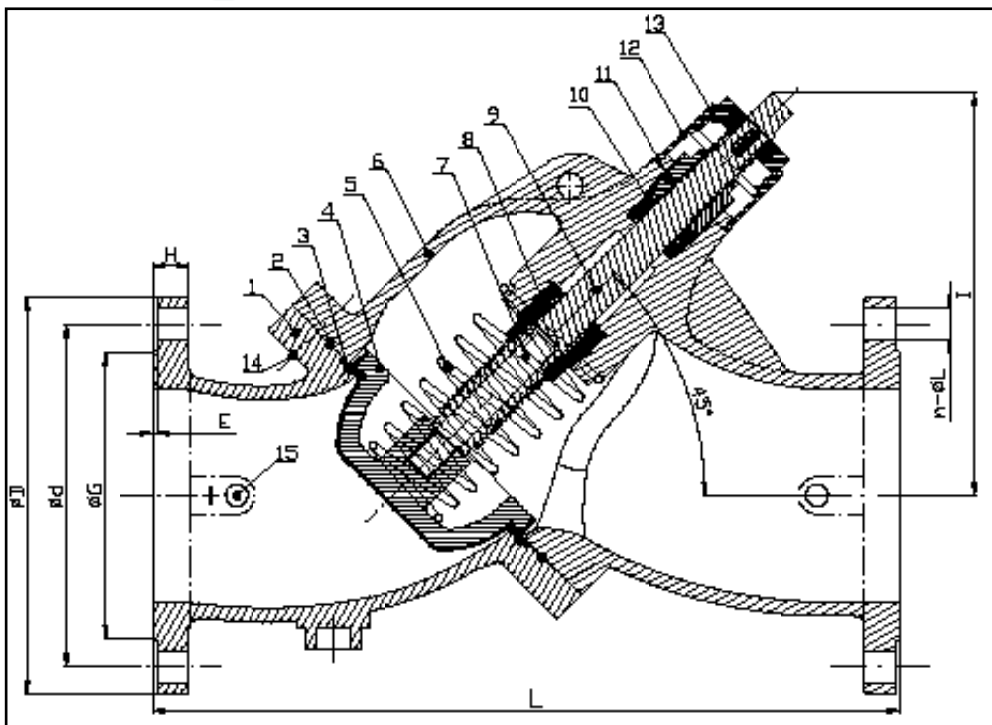
**ANSI B16.1**

- PN10 : 125-150 lbs
- PN16 : 225-250 lbs

**See previous page for measures in inches**

√	Dimensions (mm)										
SIZE	Ø D	Ø d	H	n-ØL	ØG	E	A	B	Open	Close	
2 1/2	178	139.7	17.6	4-Ø19	-	-	187	117	299	328	
			22.4								
DN65	185	145	19	8-Ø19	118	3	208	98	312	346	
3	190.5	152.4	19.1		-	-					
DN80	200	160	19	8-Ø19	132	3	244	111	319	353	
4	229	190.5	24		-	-					
DN100	220	180	19	8-Ø23	156	3	305	140	409	460	
5	254	215.9	23.9		-	-					
DN125	250	210	19	8-Ø23	184	3	359	168	451	508	
6	279.4	241.3	25.5		-	-					
DN150	285	240	19	8-Ø23	211	3	481	233	612	697	
8	342.9	298.5	28.5		-	-					
DN200	340	295	20	8-Ø23	266	3	516	248	697	799	
10	406.4	362	30	12-Ø26							-
			395	350	22	12-Ø23	319	3	611	356	862
DN250	405	355	22	12-Ø28	-	-					
12	482.6	431.8	31.8	12-Ø26	370	4	611	356	862	981	
DN300	445	400	24.5	12-Ø23							-
			460	410	24.5	12-Ø28	-	-			

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✓	SIZE	Ø D	Ø d	H	n-ØL	ØG	E	L	Open	Close
	2 1/2	7.01	5.50	0.69 0.88	4-Ø.75	-	-	11.97	7.17	8.31
	DN65	7.28	5.71	0.75		4.65	.12			
	3	7.5	6	0.75 0.94	8-Ø.75	-	-	12.01	8.43	9.76
	DN80	7.87	6.3	0.75		5.20	.12			
	4	9.02	7.5	0.94	8-Ø.75	-	-	13.98	8.19	9.53
	DN100	8.66	7.09	0.75		6.14	.12			
	5	10	8.5	0.94	8-Ø.91	-	-	17.52	10.55	12.56
	DN125	9.84	8.27	0.75	8-Ø.75	7.24	.12			
	6	11	9.5	1	8-Ø.91	-	-	20.67	11.18	13.43
	DN150	11.22	9.45	0.75		8-Ø.91	8.31			
	8	13.5	11.75	1.12	8-Ø.91 12-Ø.91	-	-	28.19	14.92	18.27
	DN200	13.39	11.61	0.79		8-Ø.91	10.47			
	10	16	14.25	1.18	12-Ø1.02	-	-	30	17.72	22.40
	DN250	15.55	13.78	0.87	12-Ø.91	12.56	.12			
		15.94	13.98	0.87	12-Ø1.1	-	-	38.07	19.96	24.65
	12	19	17	1.25	12-Ø1.02	-	-			
	DN300	17.52	15.75	0.96	12-Ø.91	14.57	.16	38.07	19.96	24.65
		18.11	16.14	0.96	12-Ø1.1					

## Technical

**Pressure:**

**861.25 kPa - 1033.5 kPa**

**124.88 PSI - 149.82 PSI**

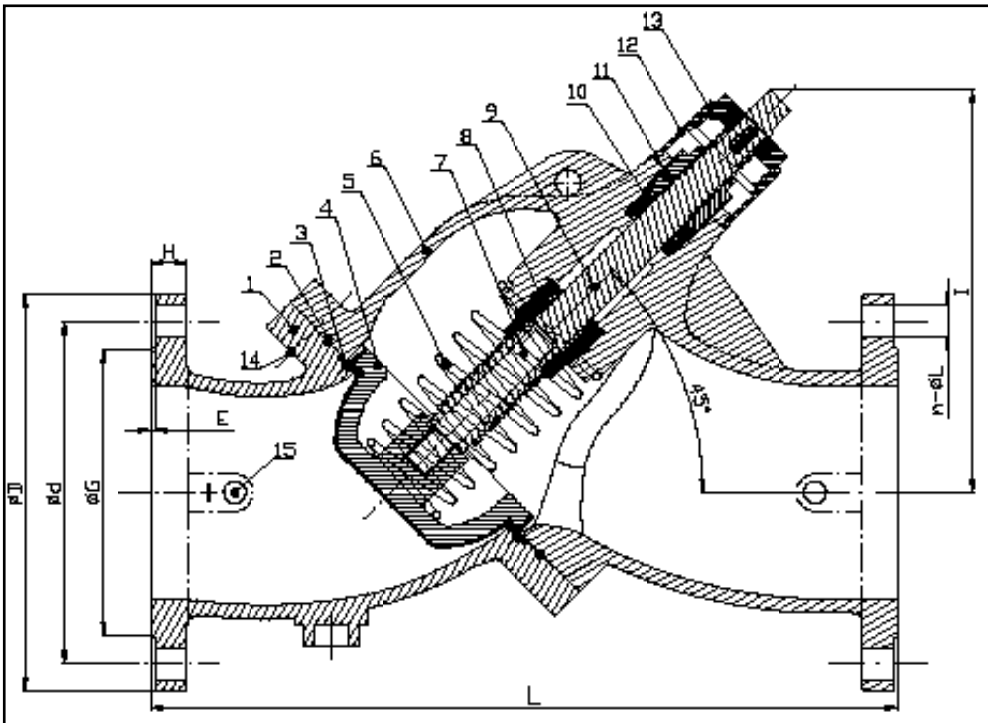
**ANSI B16.1**

PN10 : 125-150 lbs

PN16 : 225-250 lbs

**See next page  
for  
measures in  
millimeters**

# ● Triple Duty Valves



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			22.4							
DN65	185	145	19	4-Ø19	118	3				
3	190.5	152.4	19.1							
			24							
DN80	200	160	19	8-Ø19	132	3	355	208	242	
4	229	190.5	24							
DN100	220	180	19	8-Ø23	-	-	445	268	319	
5	254	215.9	23.9							
DN125	250	210	19	8-Ø19	184	3				
6	279.4	241.3	25.5	8-Ø23	-	-	525	284	341	
8	342.9	298.5	28.5	8-Ø23	-	-	716	379	464	
10	406.4	362	30	12-Ø26	-	-	762	450	569	
				DN250						
12	482.6	431.8	31.8	12-Ø28	319	3				
				DN300						
12	482.6	431.8	31.8	12-Ø26	-	-	967	507	626	
				DN300						

**See previous page for measures in inches**





### ● Features

#### **Low Pressure Drop**

The multi-function valve streamlined design results in low pressure drop making it extremely energy efficient.

#### **Control**

Greater range of control allows precise flow control versus On-Off throttling valves.

#### **Positive Shut-Off**

Without valve chattering. These valves are positive shut-off valves, when using MFV valves, other types of valves are not required

#### **Calibrated Nameplate**

The multi-function valve allows you to return to the balance position after shutting it off.

#### **Durability**

Bronze seat and disc with stainless steel stem construction ensure long life and reliability.

#### **Design**

The multi-function valve is a double regulating, control and shut-off valve with a built in pressure drop measuring in-line flow. Balancing problems are quite evident in a system, like central air conditioning plants and in process heat exchangers. The MFV valve is a combination of a shut-off valve (gate / plug / ball / butterfly valve) plus a flow regulating (globe style valve), a flow measuring station. It is not merely a valve but a system control valve in itself. It provides a scientific basis for flow balancing in a system with database. The valves are used HVAC systems and other process applications wherever balancing is required. Balancing is done to improve the performance of a closed circuit, forced circulation water in the system for heating and cooling. Balancing makes the building provide the desired indoor climate under all operating conditions at minimum energy cost. Balancing is a matter of adjusting pressure drops to get the precise required flow of water in a circuit. Balancing reduces energy costs by almost 10% to 40% by reducing average temperature in a heating system and increasing average temperature in a cooling system with less energy for pumping. Replacing three valves with one MFV-F (flange) or MFV-G (grooved) valves can dramatically reduce your up-front material and labor costs

#### **Spring Loaded Clapper**

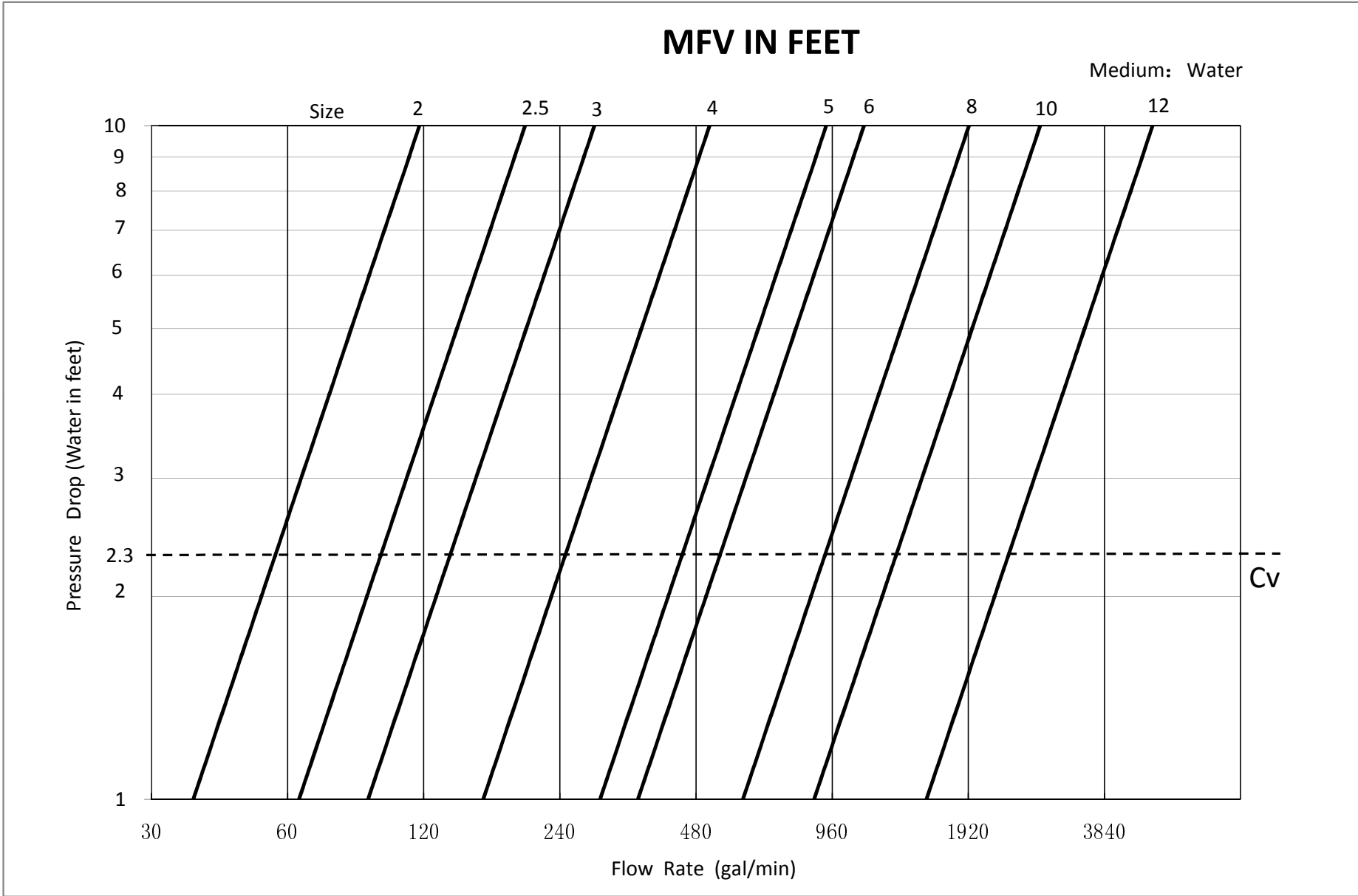
Allows the Multi-function valve to be installed horizontally or vertically upward. In-line

#### **Serviceability**

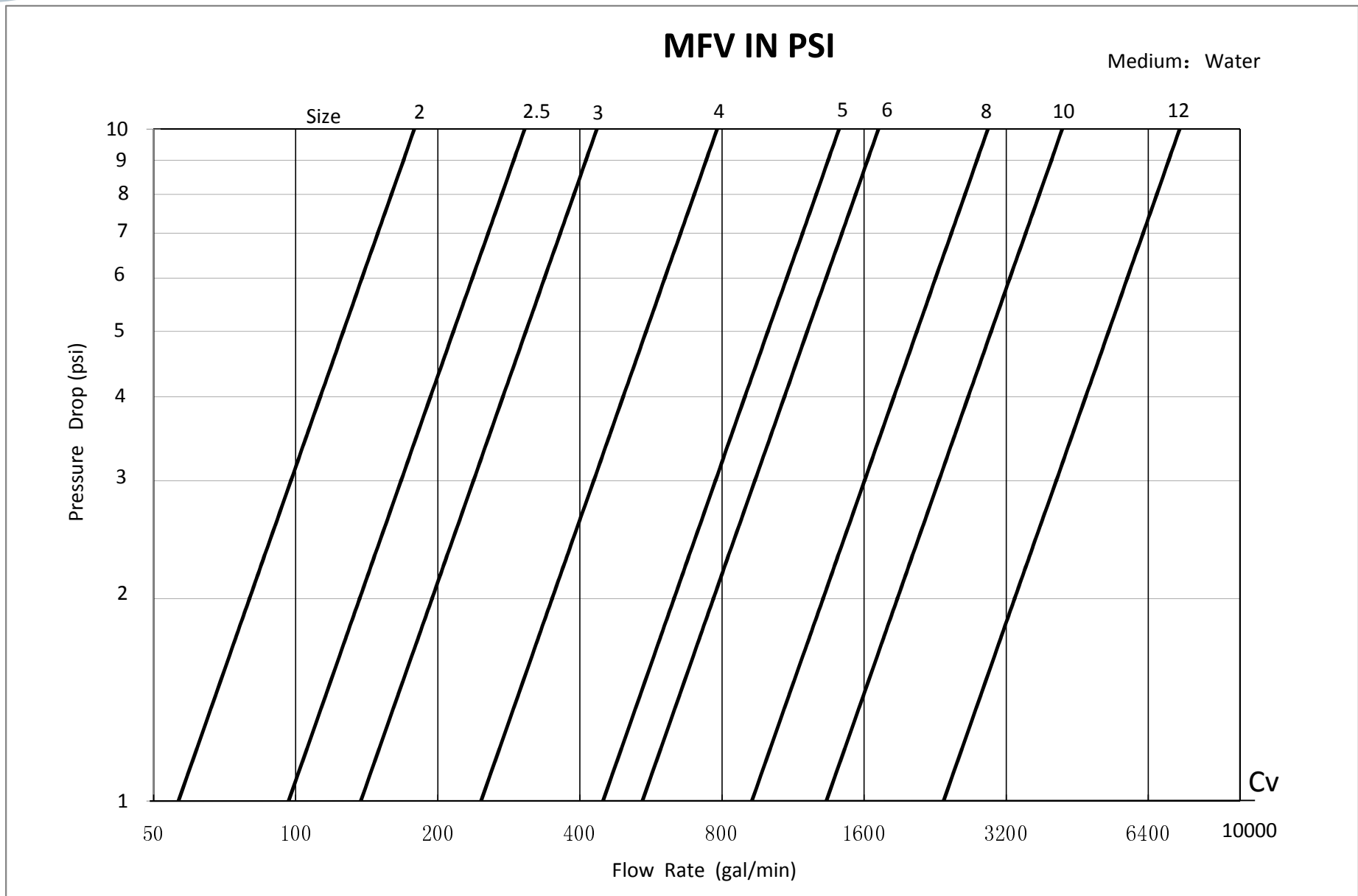
Allows easy maintenance and replacement without disturbing the piping.

#### **Benefits**

- 1) Using a multifunction valve avoid user's complaints with unbalanced heating or cooling systems in different parts of the building.
- 2) Easy correction of system design and installation errors
- 3) Better accuracy of flow measurement
- 4) Economic; system components like boilers/chillers don't have to be oversized for possible errors and varying conditions. A balanced system only needs the actually required flows which is usually less than system when not balanced.



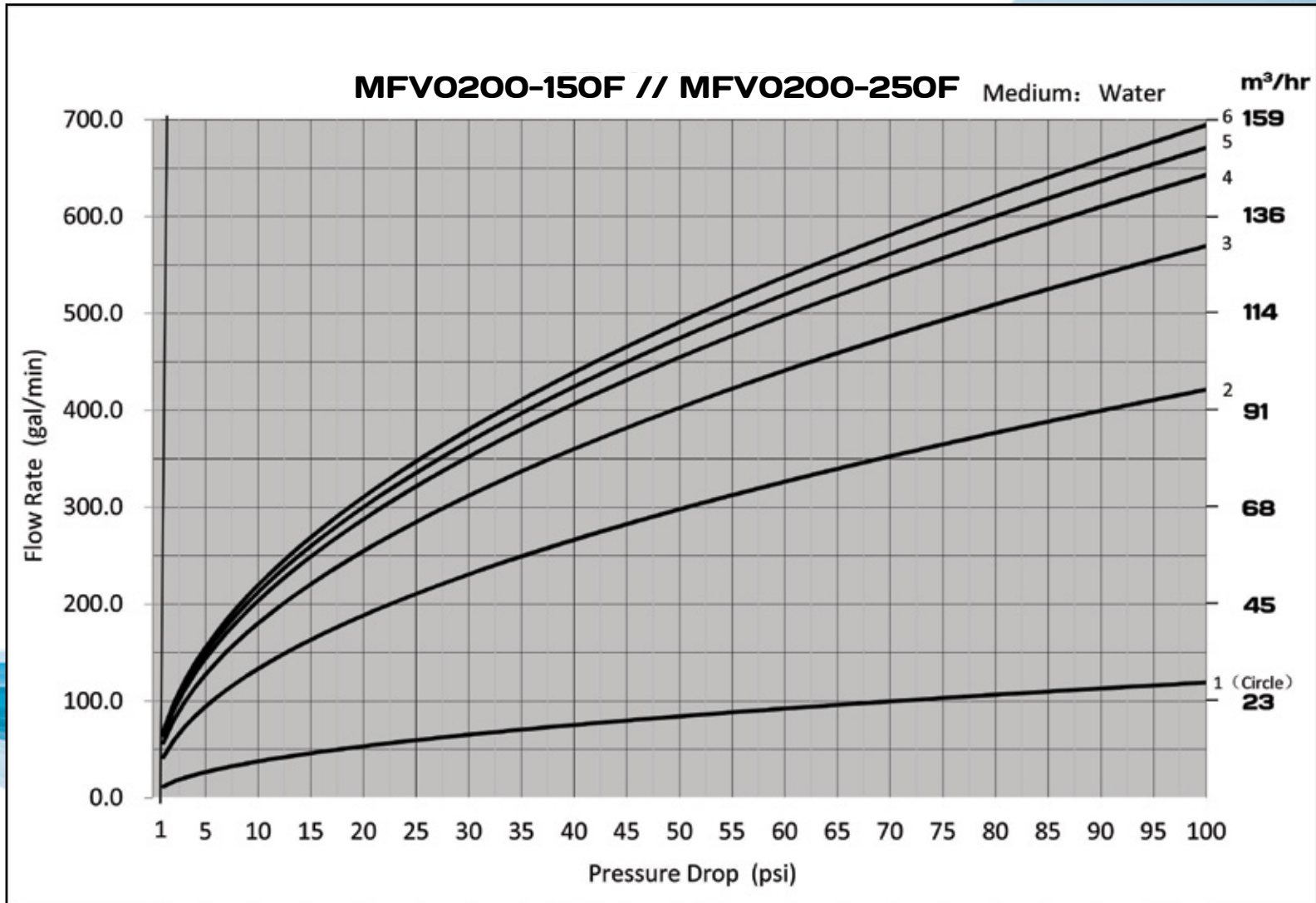
NOTE: MULTI-FUNCTION VALVES PROVIDES REGULATION AND FLOW MEASUREMENT WITHIN ACCURACY OF +-5%



NOTE: MULTI-FUNCTION VALVES PROVIDES REGULATION AND FLOW MEASUREMENT WITHIN ACCURACY OF +-5%



• Performance Curves



Graph of signal. Head Loss against Flow Rate indicating pressure drop attributable to the valve installed in a circuit.

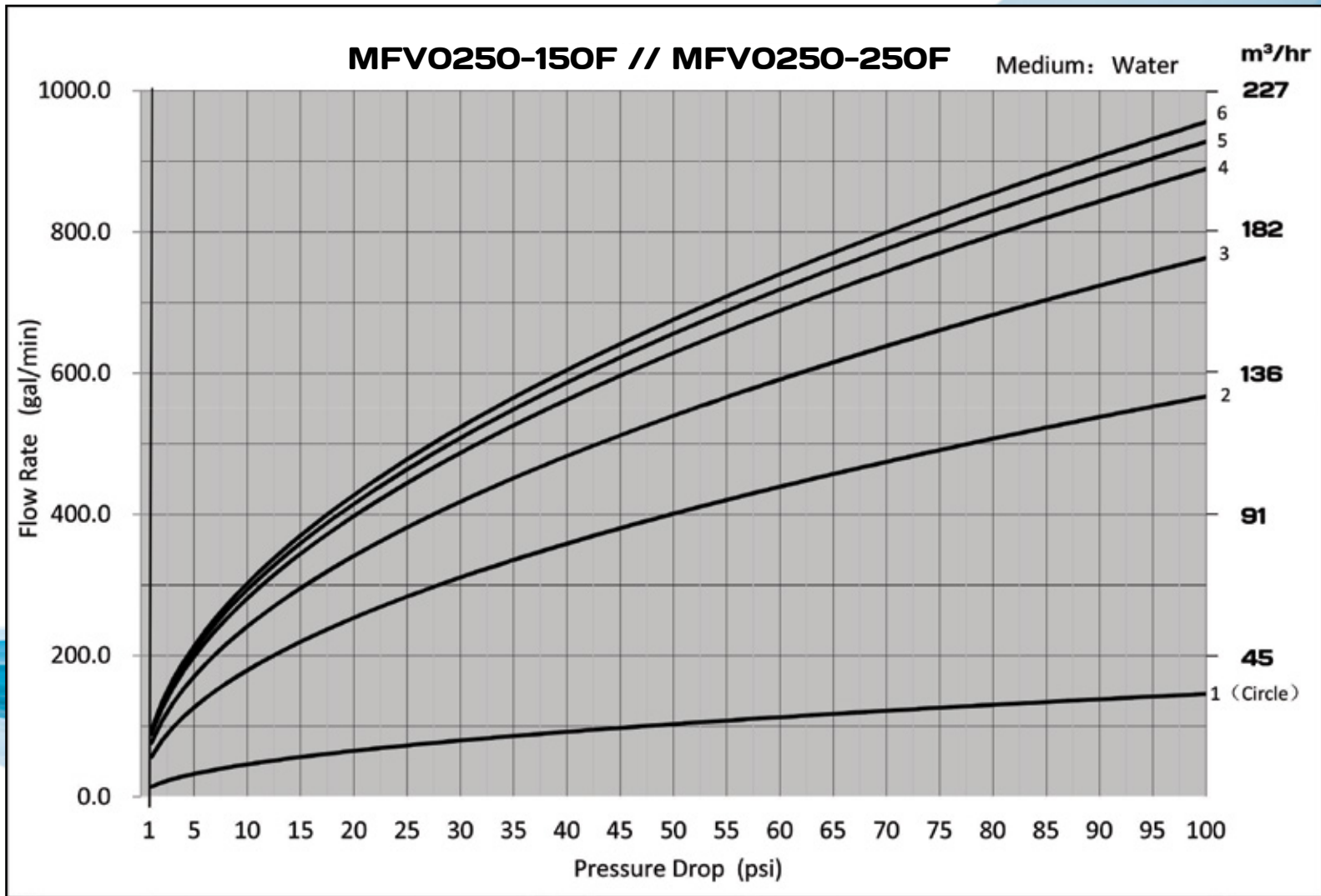
Velocity based on average inside diameter of Schedule 40 pipe.

**NOTE: MULTI-FUNCTION VALVES PROVIDES REGULATION AND FLOW MEASUREMENT WITHIN ACCURACY OF 25 %**





● Performance Curves



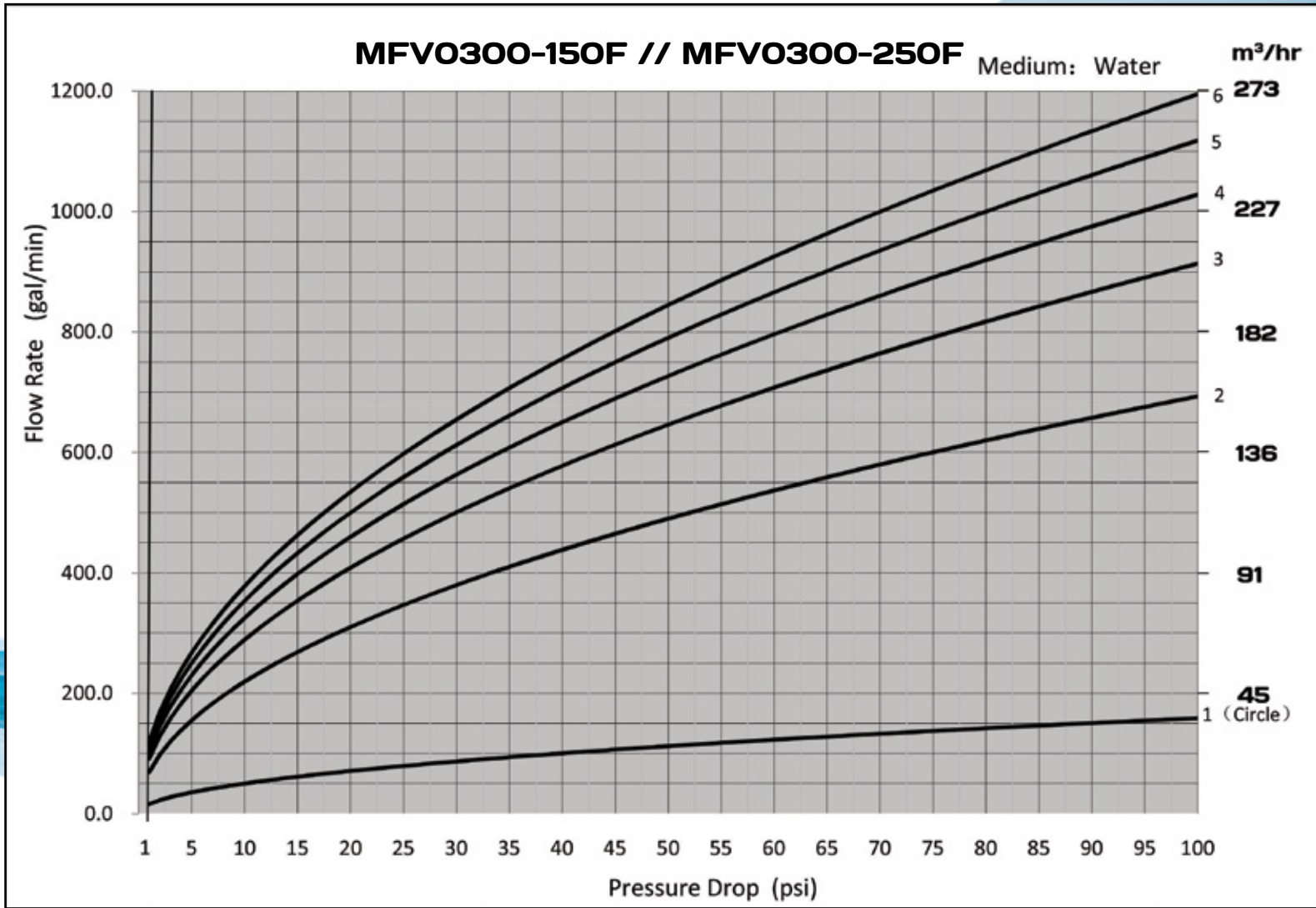
Graph of signal. Head Loss against Flow Rate indicating pressure drop attributable to the valve installed in a circuit.

Velocity based on average inside diameter of Schedule 40 pipe.

**NOTE: MULTI-FUNCTION VALVES PROVIDES REGULATION AND FLOW MEASUREMENT WITHIN ACCURACY OF 25 %**



● Performance Curves



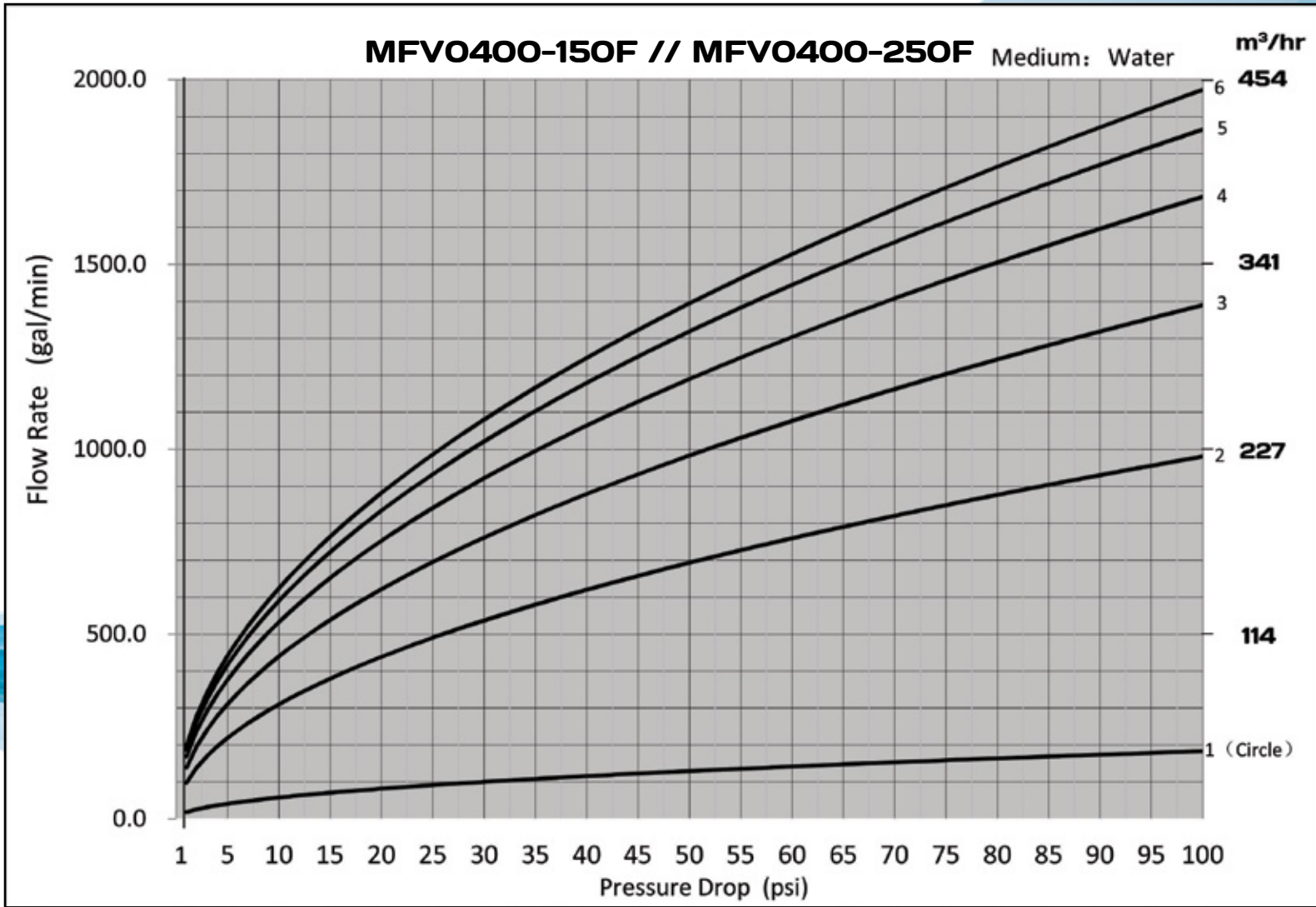
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● Performance Curves



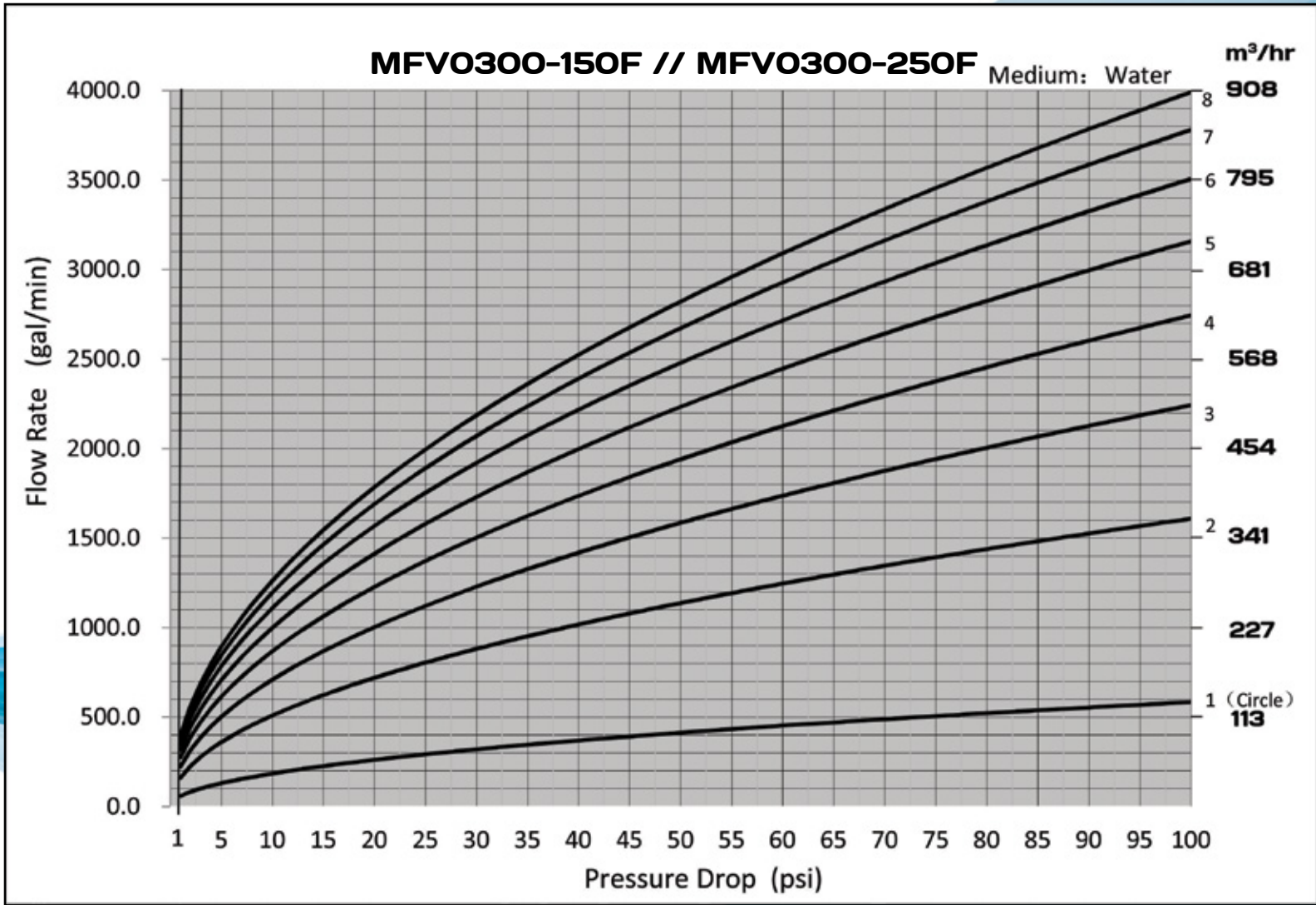
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Velocity based on average inside diameter of Schedule 40 pipe.

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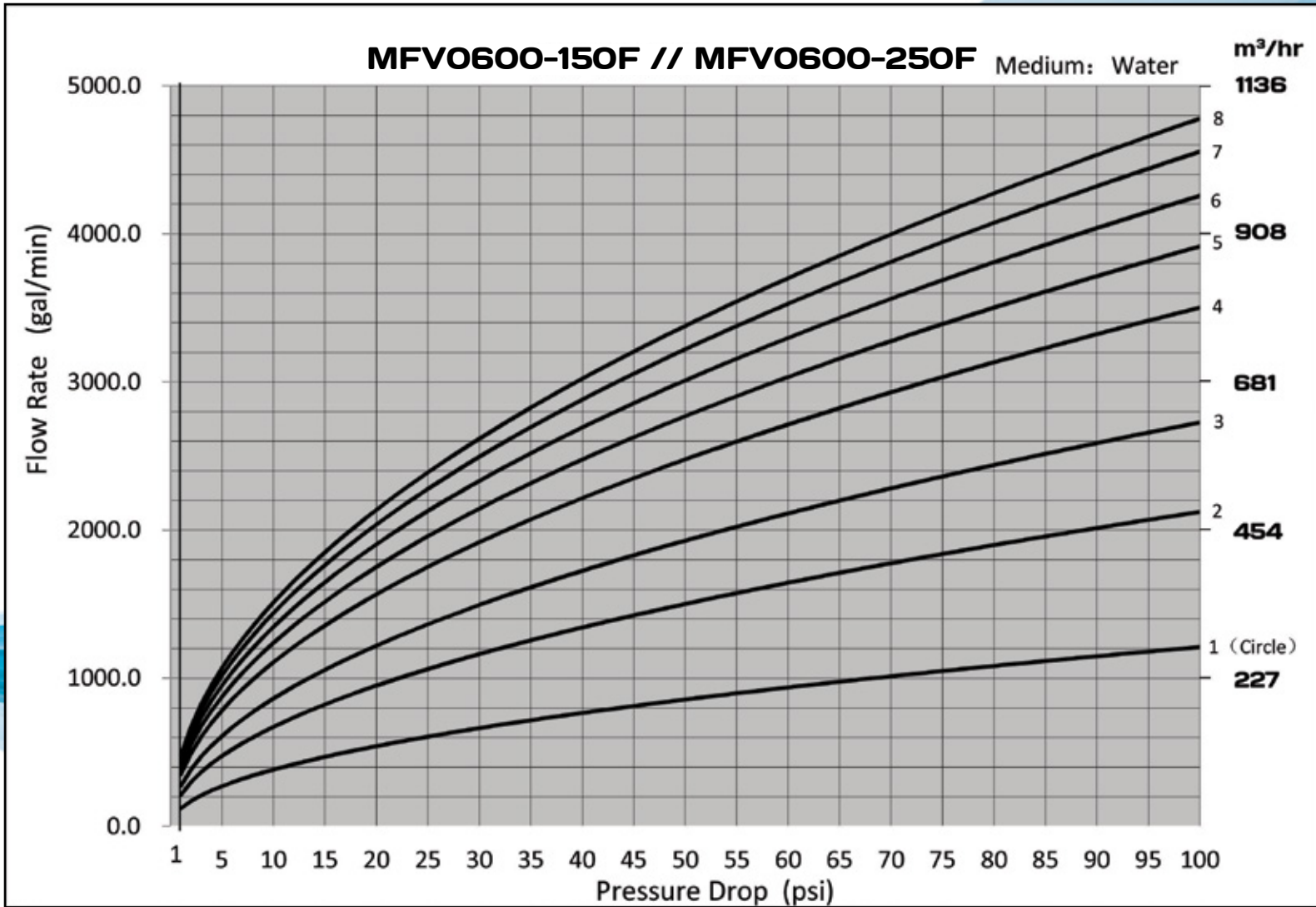
Velocity based on average inside diameter of Schedule 40 pipe.

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● **Performance Curves**



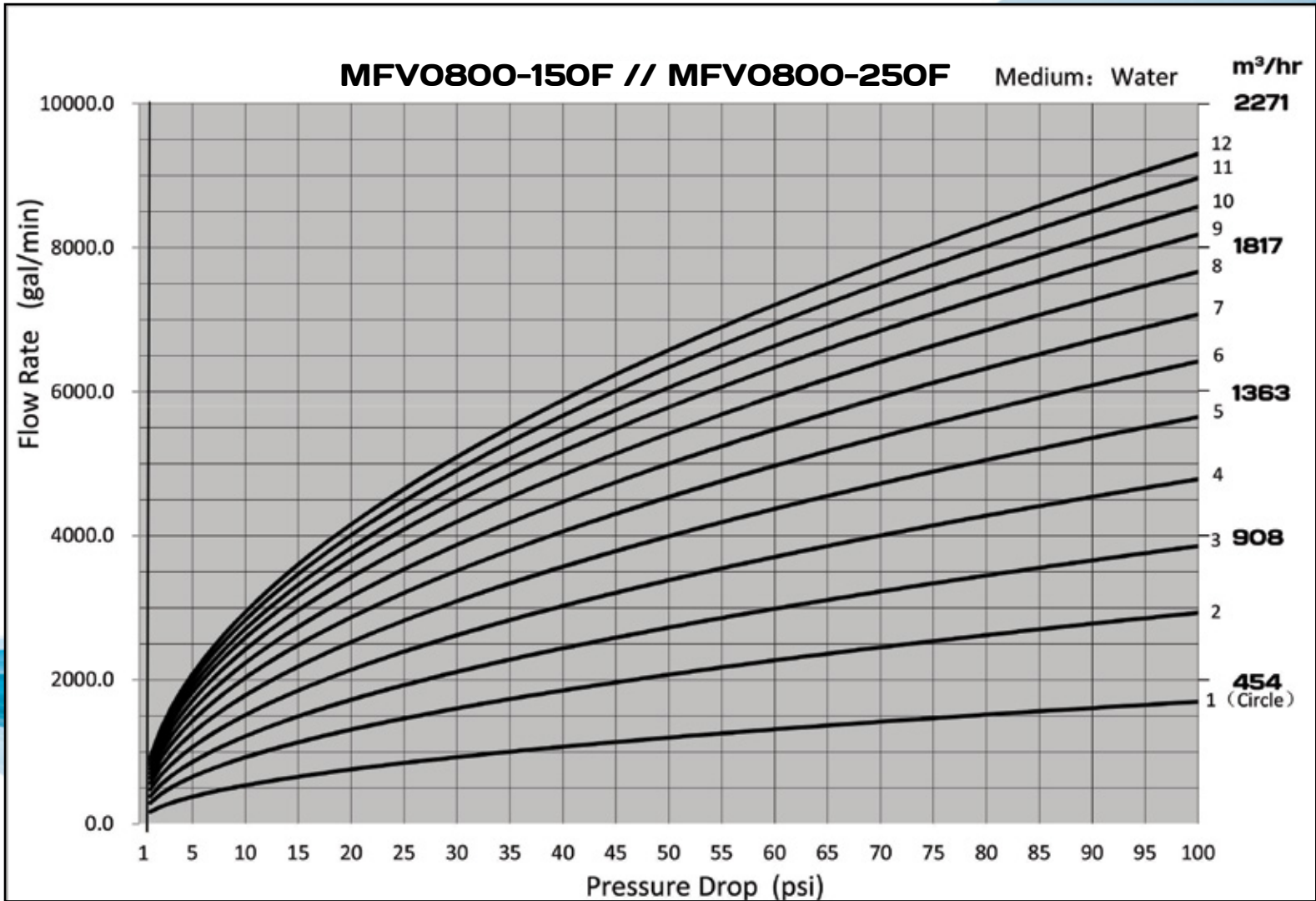
Graph of signal. Head Loss against Flow Rate indicating pressure drop attributable to the valve installed in a circuit.

Velocity based on average inside diameter of Schedule 40 pipe.

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● Performance Curves



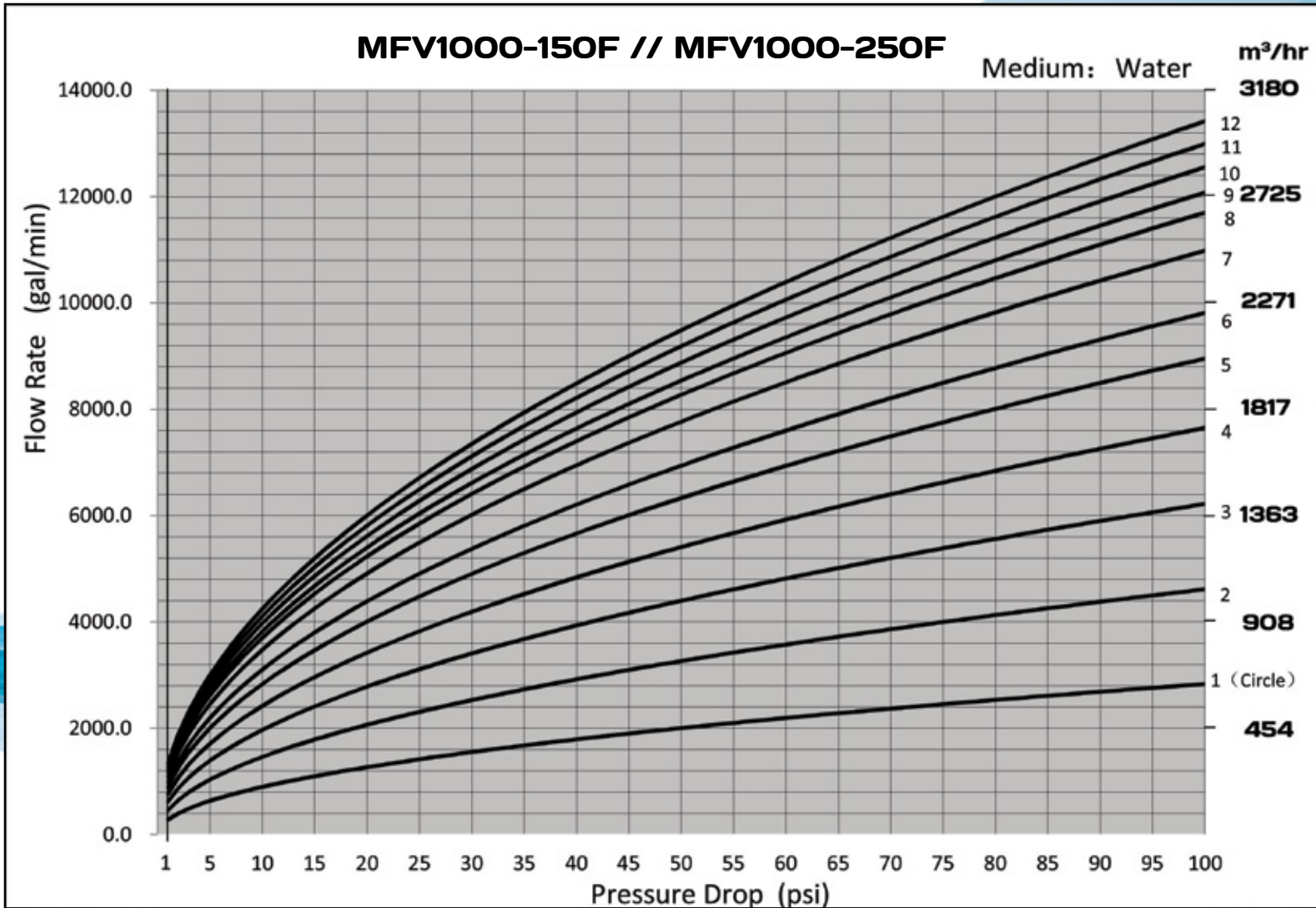
Graph of signal. Head Loss against Flow Rate indicating pressure drop attributable to the valve installed in a circuit.

Velocity based on average inside diameter of Schedule 40 pipe.

**NOTE: MULTI-FUNCTION VALVES PROVIDES REGULATION AND FLOW MEASUREMENT WITHIN ACCURACY OF 25 %**



● **Performance Curves**



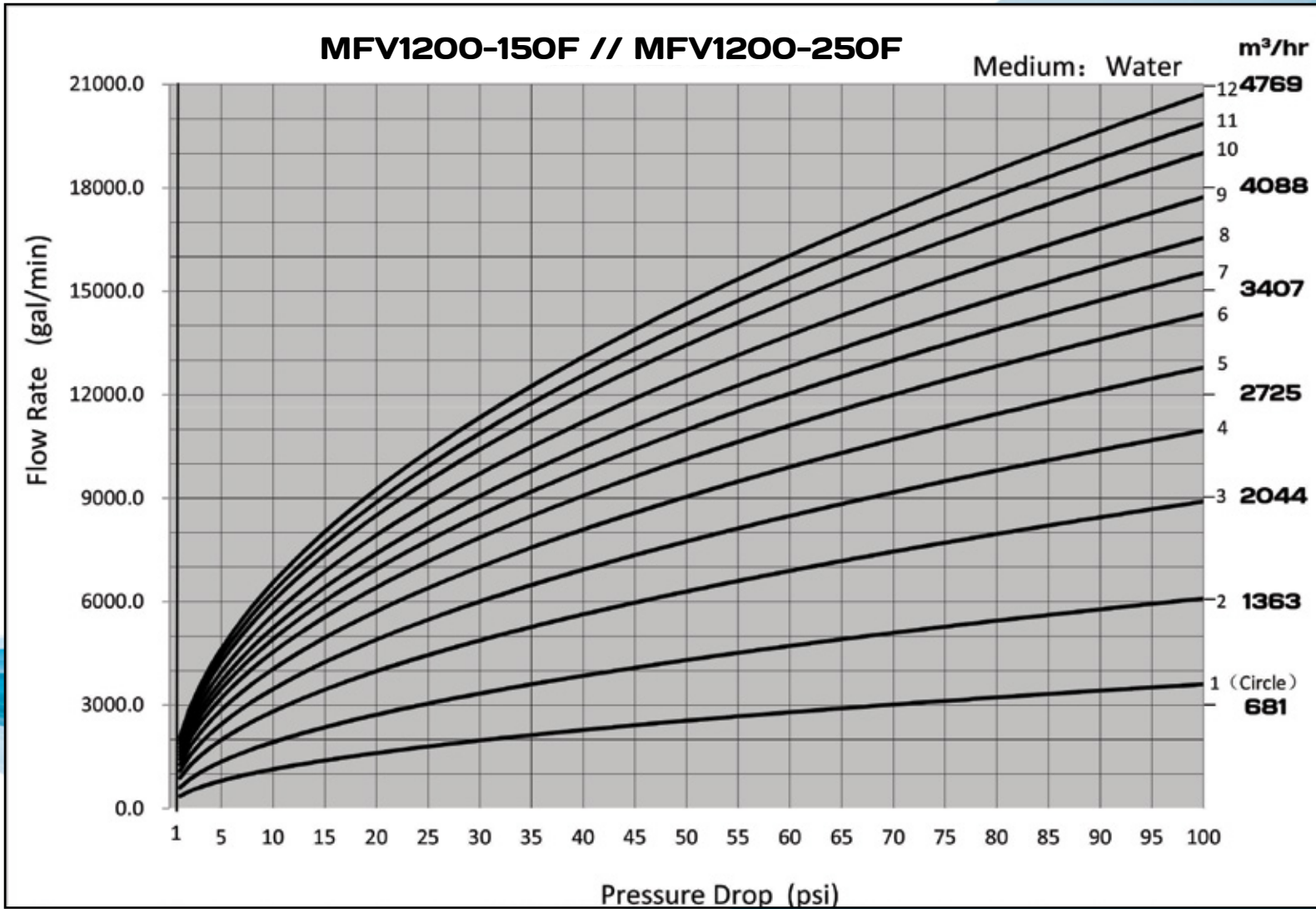
Graph of signal. Head Loss against Flow Rate indicating pressure drop attributable to the valve installed in a circuit.

Velocity based on average inside diameter of Schedule 40 pipe.

**NOTE: MULTI-FUNCTION VALVES PROVIDES REGULATION AND FLOW MEASUREMENT WITHIN ACCURACY OF 25 %**



● Performance Curves



Graph of signal. Head Loss against Flow Rate indicating pressure drop attributable to the valve installed in a circuit.

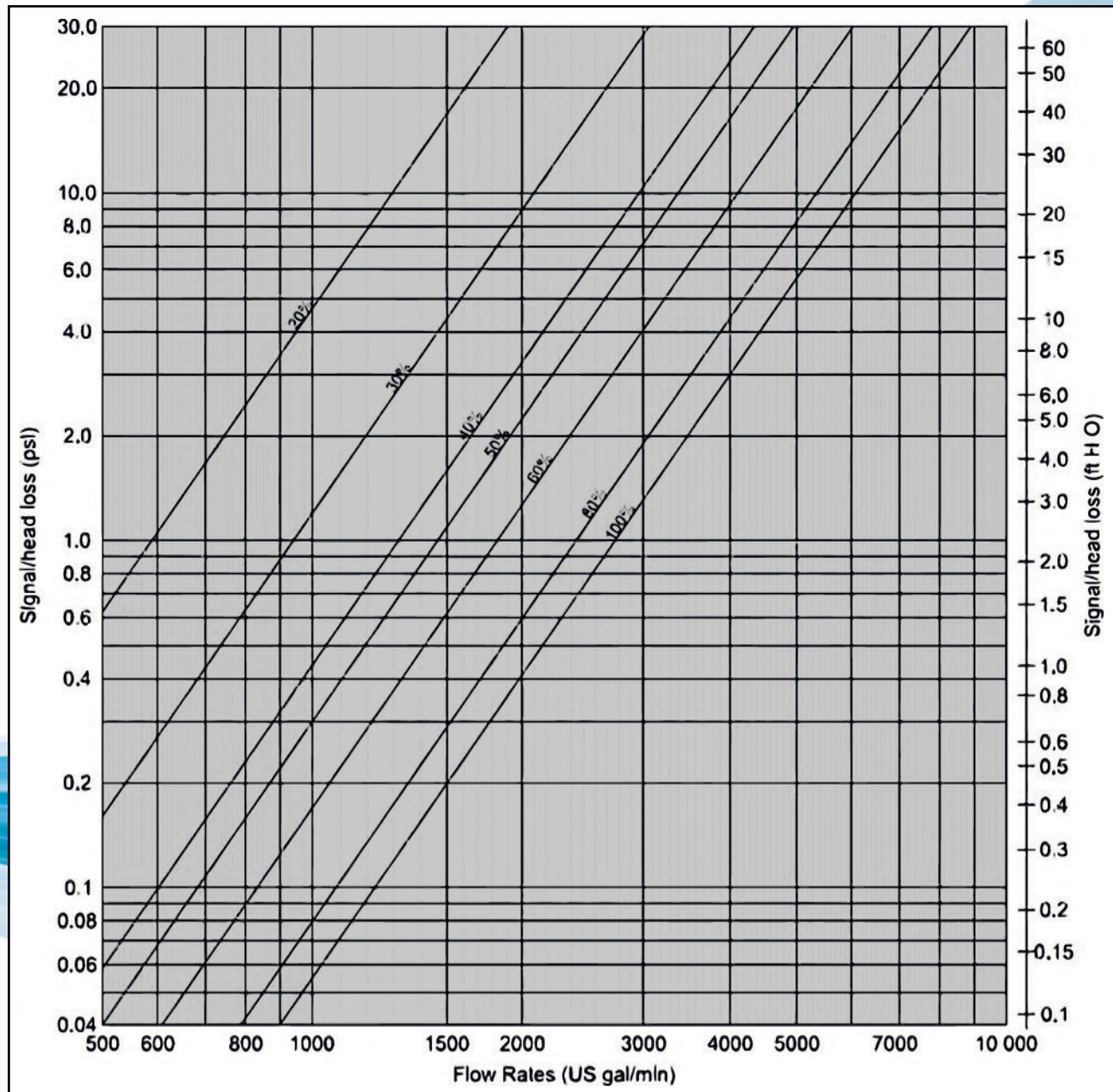
Velocity based on average inside diameter of Schedule 40 pipe.

**NOTE: MULTI-FUNCTION VALVES PROVIDES REGULATION AND FLOW MEASUREMENT WITHIN ACCURACY OF 25 %**





● Performance Curves  
MFV1400-150F



Graph of signal. Head Loss against Flow Rate indicating pressure drop attributable to the valve installed in a circuit.

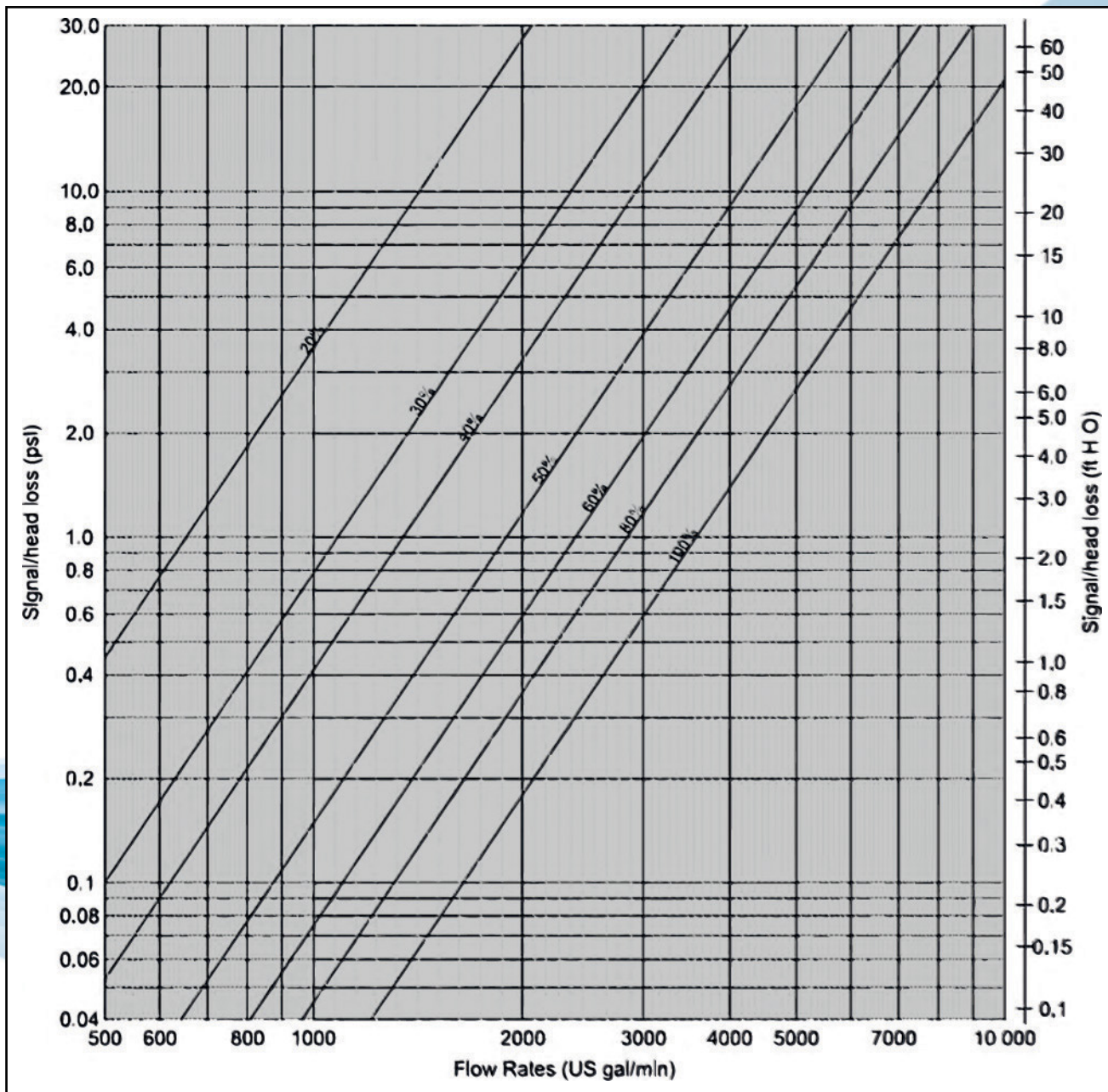
Velocity based on average inside diameter of Schedule 40 pipe.

**NOTE: MULTI-FUNCTION VALVES PROVIDES REGULATION AND FLOW MEASUREMENT WITHIN ACCURACY OF 25 %**



# ● Performance Curves

## MFV1600-150F



Graph of signal. Head Loss against Flow Rate indicating pressure drop attributable to the valve installed in a circuit.

Velocity based on average inside diameter of Schedule 40 pipe.

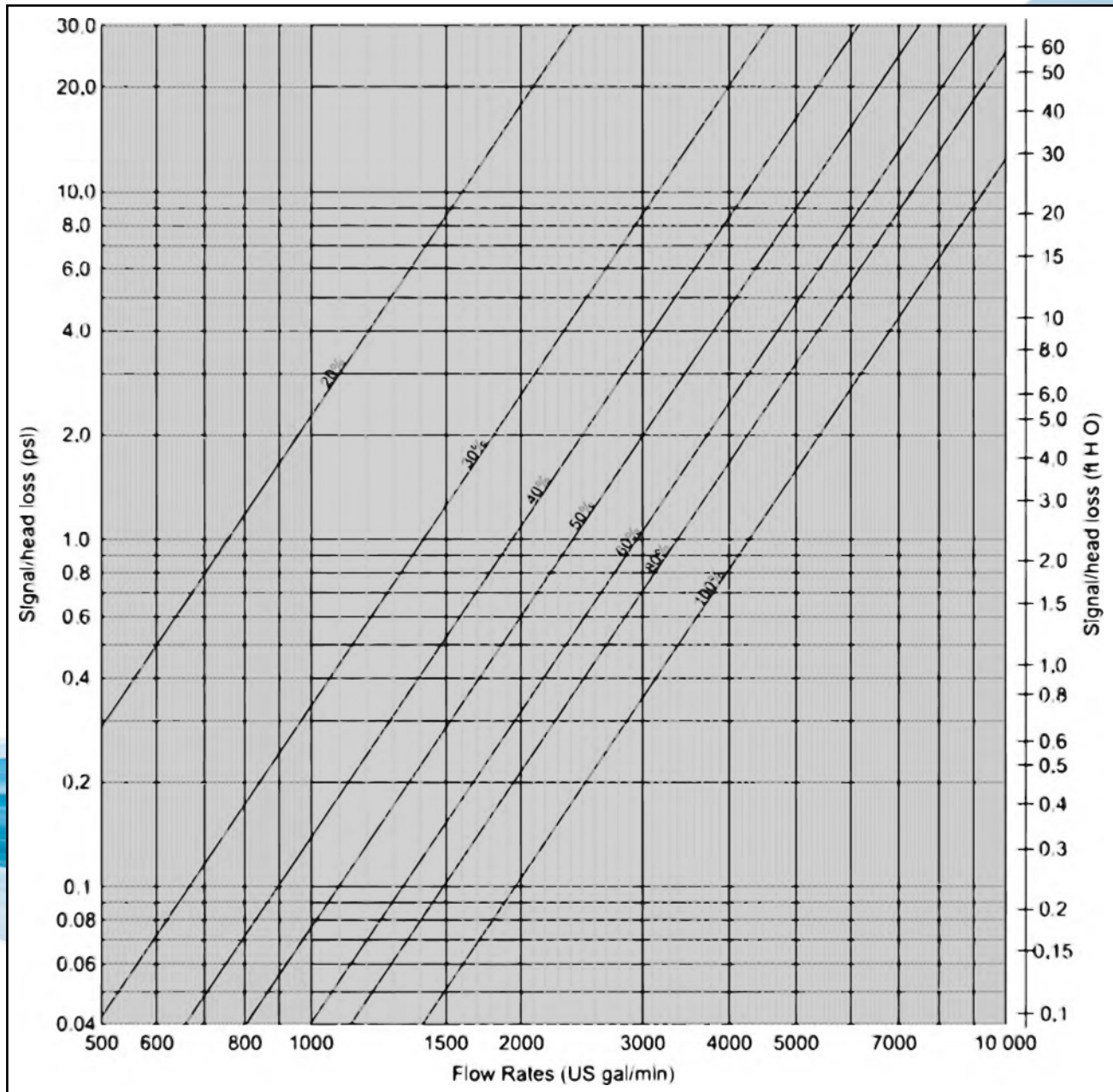
**NOTE: MULTI-FUNCTION VALVES PROVIDES REGULATION AND FLOW MEASUREMENT WITHIN ACCURACY OF 25 %**





# ● Performance Curves

## MFV1800-150F



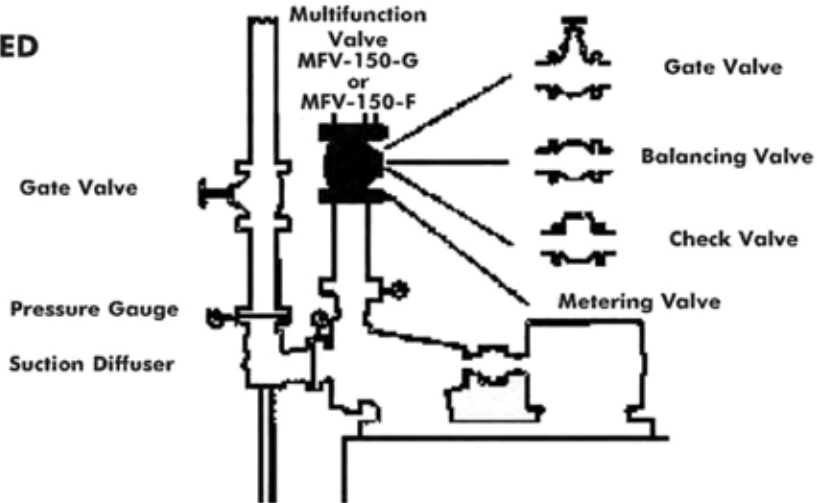
Graph of signal. Head Loss against Flow Rate indicating pressure drop attributable to the valve installed in a circuit.

Velocity based on average inside diameter of Schedule 40 pipe.

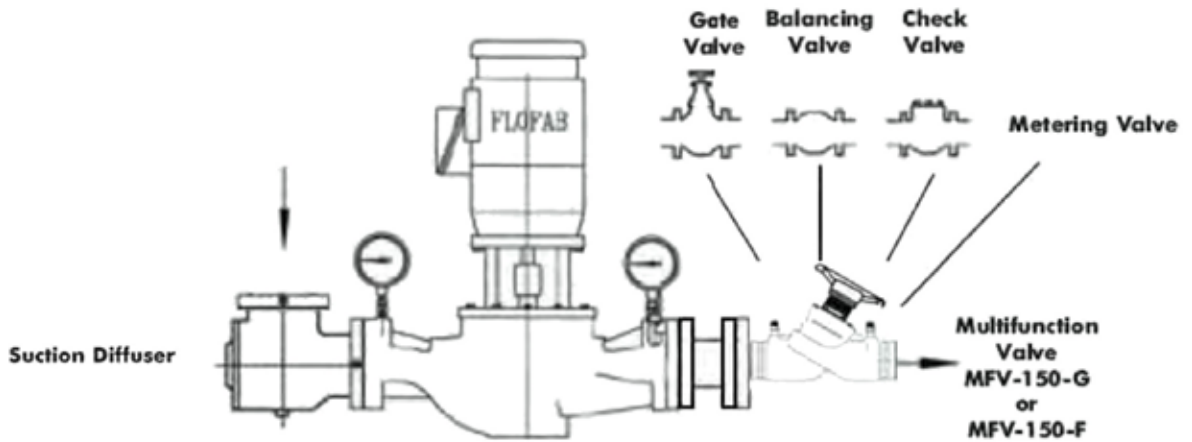
**NOTE: MULTI-FUNCTION VALVES PROVIDES REGULATION AND FLOW MEASUREMENT WITHIN ACCURACY OF 25 %**

## Typical Piping Details Series MFV-F & MFV-G

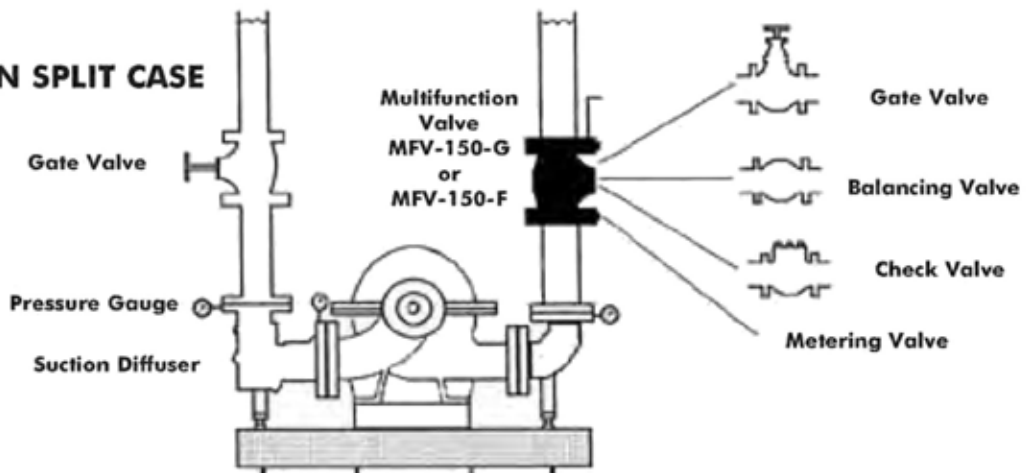
### FRAME MOUNTED



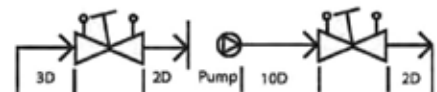
### IN-LINE



### DOUBLE SUCTION SPLIT CASE

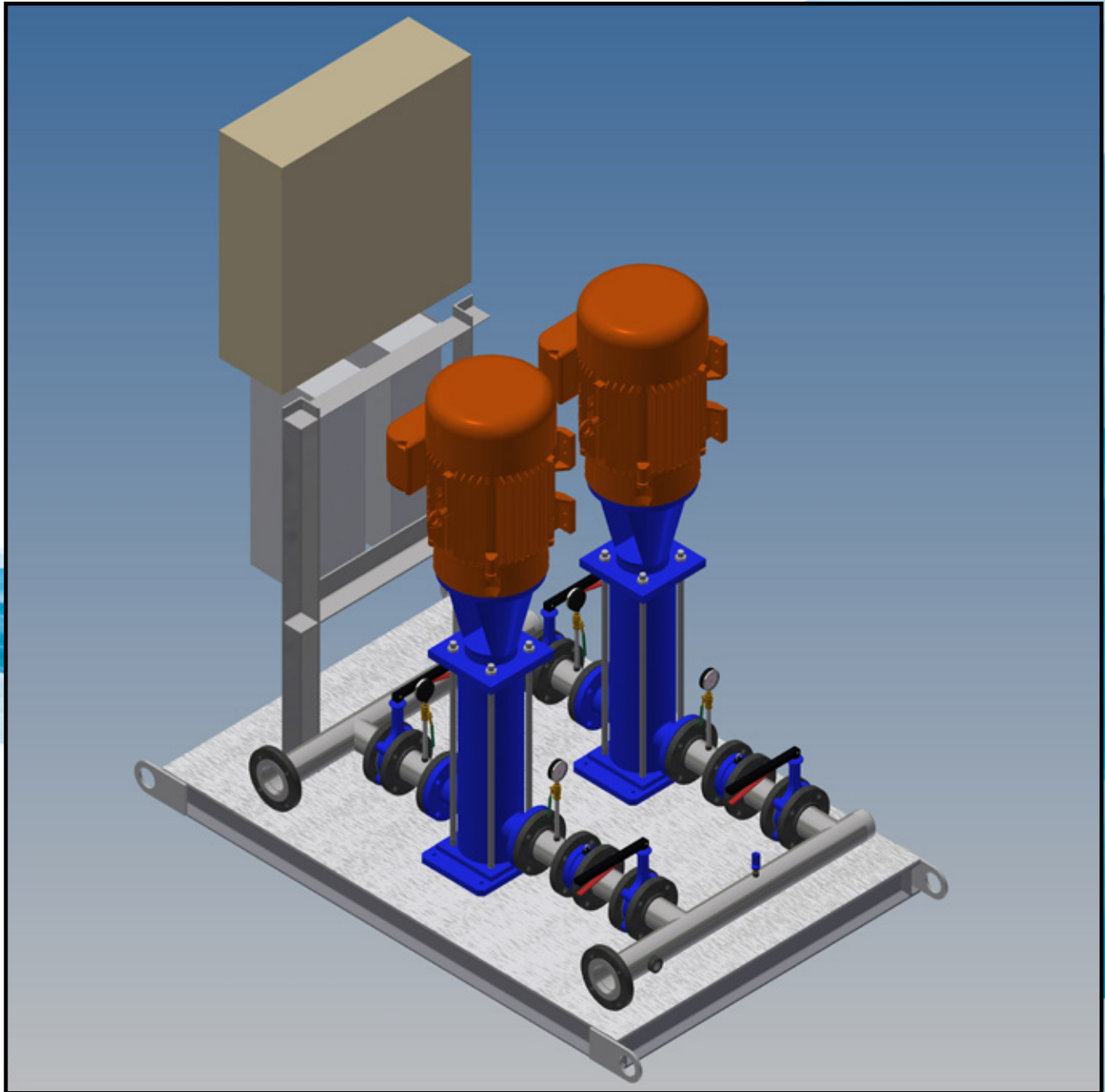


### RECOMMENDED PIPING LENGTH FOR INSTALLATION





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