

# **BVM Series (ANSI 150)** Flanged Industrial Control Ball Valves

2-Way • 2-1/2"- 12"

# Application

The BVM Series of Flanged Industrial Ball Valves are ideally suited to a wide range of steam and water applications that require a high degree of rangeability. These valves provide exceptional characterized control, flow capacity and pressure drops; all with bi-directional ANSI class VI shut off.

Our exclusive Thrust Washer and Thrust Washer Protector design combine to provide a primary seal, reduce torque and prevent galling. The BVM Series ball valves also feature a floating ball design for low torque and increased cycle life. Characterized V-Balls and full port versions provide multiple Cv values in each size.

# **Features and Benefits**

High Cycle Packing Design

Years of trouble free service

Bubble Tight Shut-Off with Zero Leakage

Energy efficient

Independent Packing Gland

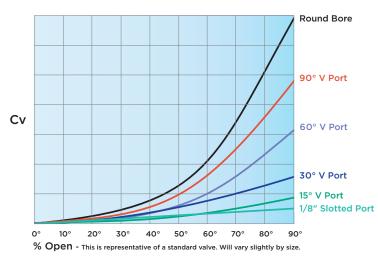
Allows in-line servicing

- Phosphate Coated Carbon Steel Bodies For cost effective applications up to 225°F at 285 PSI
- Available NEMA 4 Actuators

Reliable, cost effective control

# **Flow Curve Chart**

These curves of standard ports are general guidelines and are not specific to any particular valve size.

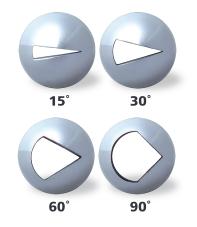






# **Increased Linear Response**

Due to the in-line design inherent with characterized control ball valves, line media flows linearly through the piping system. The direct pattern provides increased media control and rapid response times to controller commands.



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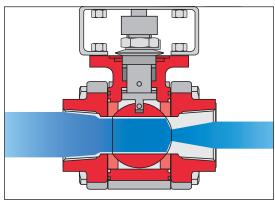
# **BVM Series - Specifications**

Technical Specifications -	BVM Flanged Indust	rial Ball Valve Body					
		V-Port	Full- Port				
Service		Chilled/Hot Water, 50/50 Glyd	col Solutions & Saturated Steam				
Size Range	2-Way	2-1/2" to 12"	Flanged Valves				
Valve Fluid	Water	Meets ASME Clas	s 150 temperatures				
Temperature Limits	Saturated Steam	100 PSI (689 kPa)					
Valve Body Pressure Rating		ANSI (	Class 150				
Maximum Close-Off Pressure		285 PSI (	(1,965 kPa)				
Maximum Recommended	Water	80 PSI (551 kPa)					
Operating Pressure Drop	Steam	50 PSI (	(344 kPa)				
	V15 Port	Linear	N/A				
Flow Characteristic	V30 Port	Modified Equal Percentage	N/A				
	V60 & 90 Port	Equal Percentage	N/A				
Rangeability		20	00:1				
Leakage		Bubble Tigh	t per API 598				
End Connections		ANSI	Class 150				
Ambient Operating Temperature Range			ator Rating mounting kit may be required)				
	Body	WCB Ca	rbon Steel				
	Ball & Stem	316 Stair	nless Steel				
Materials	Seat	Tek-Fil	TFM				
raterials	Stem Seal/Packing	P.	TFE				
	Body Seal	316/G	iraphite				
	Body Bolts	ASTM	A 193 B7				
Warranty		3 Years limited from time of sl	nipment.				

**Disclaimer** - The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Bray office. Bray, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

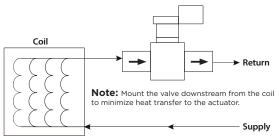
# **BVM - Piping Diagram**

- V-Port Valves Note the arrow engraved on the ends which shows the flow going from the bolt head to the nut so that the V-ball is downstream.
- Full Port Valves are bi-directional.

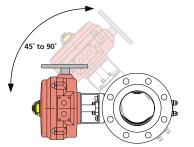


Media Flow entering valve from left. Installing the V downstream is preferred.

## **BVM - Mode of Actuation** Typical Two-Way Ball Valve Application



#### **BVM - For Steam Applications** Install valve with stem at 45° to 90° from vertical.



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### **BVM Series - Cut Away View**

The **BVM Flanged Series Ball Valves** feature a floating ball design for low torque and increased cycle life. Most standard large size valves feature trunnion-type ball support. These rugged ball valves are ideal for heavy commercial and industrial-type applications.



#### **Stem Seals**

BVM Flanged Series Valves 2<sup>1</sup>/<sub>2</sub>" - 12" valves utilize an independent packing gland which can be easily adjusted without removing mounting hardware or operator. The packing gland is contoured to more uniformly distribute the load across the packing. The primary stem seal is a combination of a thrust washer and a thrust washer protector. An adjustable stem packing creates a secondary seal between the stem and body. The stem packing is composed of RPTFE V-rings as standard – graphite stem packing is standard on all Fire Safe valves.

#### Ball

BVM Flanged Series Valves balls are precision machined and mirror finished for bubble-tight shut off and less operating torque. As an added safety feature, a hole in the stem slot of each ball equalizes pressure between the body cavity and the line media flow.

#### Seat

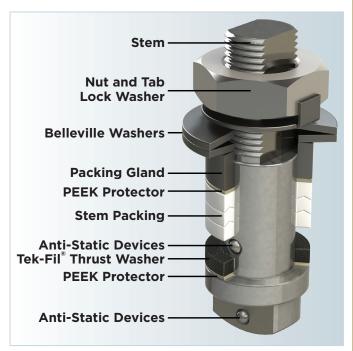
The seat design ensures bi-directional, bubble-tight sealing with low operating torque. All resilient seats feature relief slots or seat O.D. clearance to relieve pressure past the upstream seat, and positive preloading to ensure low pressure/vacuum sealing.

#### **Stem Assemblies**

BVM Flanged Series Valves are heavy duty, high quality stems with double "D" connection to ball and operator mounting. Stems are mated with the ball to ensure positive contact. All stems are internal entry and blowout proof for maximum safety.

#### **Stem Packing**

An adjustable V-ring design creates a multiple seal between the stem and body. Each stem assembly is composed of three or four (dependent on valve size) rings providing a very high cycle life by resisting creep and cold flow. The Thrust Washer and the Thrust Washer Protector combine to provide a primary seal, reduce torgue and prevent galling.



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# **BVM Series** - 2-Way with On/Off Series 70 Actuators Close-Off Charts

#### 2-Way, 24 VAC and 120 VAC, On/Off Actuators (100 PSI Steam and 285 PSI Water)

	Actuator Model Details													
Model		alve ize	V-Cut	Flow Coefficient		Series 70/AU Actuators On/Off, 120VAC	Series 70 Actuators On/Off, 24VAC							
Number	In.	mm	VCut	Cv	Kv	Model	Model							
BVM250-CF15-27			15°	27.2	23.5	70-0081H	70-24-0081H							
BVM250-CF15-56			30°	56.3	48.5	70-0081H	70-24-0081H							
BVM250-CF15-114	2.5	15	60°	113.7	98.0	70-0081H	70-24-0081H							
BVM250-CF15-177			90°	177.3	152.8	70-0081H	70-24-0081H							
BVM250-CF15-780			Full Port	780.0	672.4	70-0081H	70-24-0081H							
BVM3-CF15-32			15°	31.8	27.4	70-0121H	70-24-0201H							
BVM3-CF15-70			30°	69.8	60.1	70-0121H	70-24-0201H							
BVM3-CF15-150	3	80	60°	149.9	129.2	70-0121H	70-24-0201H							
BVM3-CF15-237			90°	237.3	204.6	70-0121H	70-24-0201H							
BVM3-CF15-1150			Full Port	1150.0	991.3	70-0121H	70-24-0201H							
BVM4-CF15-76			15°	75.5	65.1	70-E301H	70-24-E301H							
BVM4-CF15-159	]		30°	158.5	136.7	70-E301H	70-24-E301H							
BVM4-CF15-330	4	100	60°	329.5	284.0	70-E301H	70-24-E301H							
BVM4-CF15-547			90°	546.6	471.2	70-E301H	70-24-E301H							
BVM4-CF15-2100			Full Port	2100.0	1810.2	70-E301H	70-24-E301H							
BVM6-CF15-134	_		15°	134.4	115.9	70-0651H	70-24-0501H*							
BVM6-CF15-282			30°	282.3	243.3	70-0651H	70-24-0501H*							
BVM6-CF15-587	6	150	60°	586.8	505.8	70-0651H	70-24-0501H*							
BVM6-CF15-974			90°	973.5	839.2	70-0651H	70-24-0501H*							
BVM6-CF15-5000			Full Port	5000.0	4310.0	70-0651H	70-24-0501H*							
BVM8-CF15-346			15°	345.5	297.8	70-1300H	-							
BVM8-CF15-481			30°	480.5	414.2	70-1300H	-							
BVM8-CF15-999	8	200	60°	998.7	860.9	70-1300H	-							
BVM8-CF15-1657			90°	1656.8	1428.2	70-1300H	-							
BVM8-CF15-9600			Full Port	9600.0	8275.2	70-1300H	-							
BVM10-CF15-545			15°	545.0	469.8	AU-2130	-							
BVM10-CF15-751			30°	750.7	647.1	AU-2130	-							
BVM10-CF15-1561	10	250	60°	1560.5	1345.2	AU-2130	-							
BVM10-CF15-2589			90°	2588.7	2231.5	AU-2130	-							
BVM10-CF15-15000			Full Port	15000.0	12930.0	AU-2130	-							
BVM12-CF15-1101			15°	1101.1	949.1	AU-4068	-							
BVM12-CF15-1051			30°	1051.0	906.0	AU-4068	-							
BVM12-CF15-2185	12	300	60°	2184.6	1883.2	AU-4068	-							
BVM12-CF15-3624			90°	3624.2	3124.0	AU-4068	-							
BVM12-CF15-21000			Full Port	21000.0	18102.0	AU-4068	-							
Ontions (Addens	1													

**Options/Adders** 

For Battery Back-Up Failsafe Option (BBU) option on 24VAC actuators, add "-BBU".
 Add "SEI5" in place of CEIE for Stainland Charles of the black.

Add "SF15" in place of CF15 for Stainless Steel body option.

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 Steam Only
 \*\*For normally Closed, add a "C" to the end of the valve part number, i.e. BVM250-CF15-27C, otherwise normally open. Fail safe models only. V-port ball valves have a 20 to 85% max angle of controllability.

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# 2-Way, 24 VAC and 120 VAC, Modulating Actuators (100 PSI Steam and 285 PSI Water)

Model Number         Size         V-Cut         Coefficient         Modulating, 120VAC         Modulating, 24VAC           BVM250-CF15-27         In.         mm         Cv         Kv         Model         Model           BVM250-CF15-27         S         70-0081SVH         70-24-0081SVH         70-24-0081SVH           BVM250-CF15-114         2.5         15         60°         113.7         98.0         70-0081SVH         70-24-0081SVH           BVM250-CF15-177         BVM350-CF15-70         90°         177.3         152.8         70-0081SVH         70-24-0081SVH           BVM3-CF15-150         BV         90°         177.3         152.8         70-0081SVH         70-24-0081SVH           BVM3-CF15-150         BV         90°         177.3         152.8         70-0121SVH         70-24-0201SVH           BVM3-CF15-150         BV         60°         149.9         129.2         70-0121SVH         70-24-0201SVH           BVM3-CF15-150         BV         60°         150.0         991.3         70-0121SVH         70-24-0201SVH           BVM4-CF15-30         4         10°         60°         329.5         284.0         70-6230SVH         70-24-2301SVH           BVM4-CF15-547         90°         158.5	Actuator Model Details													
Number         In.         mm         Cv         Kv         Model         Model           BVM250-CF15-27 BVM250-CF15-56 BVM250-CF15-177         2.5         15°         2.7.2         23.5         70-0081SVH         70-24-0081SVH           BVM250-CF15-760 BVM250-CF15-770 BVM3-CF15-32         2.5         15         60°         113.7         98.0         70-0081SVH         70-24-0081SVH           BVM250-CF15-780 BVM3-CF15-780         Full Port         780.0         672.4         70-0081SVH         70-24-0201SVH           BVM3-CF15-780 BVM3-CF15-150         3         80         60°         149.9         129.2         70-0121SVH         70-24-0201SVH           BVM3-CF15-150         3         80         60°         149.9         129.2         70-0121SVH         70-24-0201SVH           BVM4-CF15-76         Full Port         115°         75.5         65.1         70-2012ISVH         70-24-0201SVH           BVM4-CF15-59         A         15°         158.5         136.7         70-2130SVH         70-24-2201SVH           BVM4-CF15-591         BV         60°         529.5         284.0         70-6301SVH         70-24-E301SVH           BVM4-CF15-597         6         15°         134.4         115.9         70-2651SVH <td< th=""><th></th><th></th><th></th><th>V-Cut</th><th colspan="2"></th><th>-</th><th>Series 70 Actuators Modulating, 24VAC</th></td<>				V-Cut			-	Series 70 Actuators Modulating, 24VAC						
BVM250-CF15-56 BVM250-CF15-114 BVM250-CF15-770         2.5         15         30°         56.3         48.5         70-0081SVH         70-24-0081SVH           BVM250-CF15-770 BVM250-CF15-780         2.5         15         60°         113.7         98.0         70-0081SVH         70-24-0081SVH           BVM250-CF15-780         90°         177.3         152.8         70-0081SVH         70-24-0081SVH           BVM3-CF15-32         717.3         152.8         70-0081SVH         70-24-0081SVH           BVM3-CF15-70         70         70         70-0121SVH         70-24-0201SVH           BVM3-CF15-70         70         70         70-0121SVH         70-24-0201SVH           BVM3-CF15-70         70         70         70         70-0121SVH         70-24-0201SVH           BVM3-CF15-76         70         70         70         70         70         70           BVM4-CF15-76         70         70         70         70         70         70         70           BVM4-CF15-320         70         70         70         70         70         70         70         70         70           BVM4-CF15-321         70         70         70         70         70         70         70 <th>Number</th> <th>In.</th> <th>mm</th> <th></th> <th>Cv</th> <th>Kv</th> <th>Model</th> <th>Model</th>	Number	In.	mm		Cv	Kv	Model	Model						
BVM250-CF15-114 BVM250-CF15-770         2.5         15         60°         113.7         98.0         70-0081SVH         70-24-0081SVH           BVM250-CF15-780         90°         177.3         152.8         70-0081SVH         70-24-0081SVH           BVM250-CF15-780         Full Port         780.0         672.4         70-0081SVH         70-24-0081SVH           BVM3-CF15-70         BVM3-CF15-70         80         60°         149.9         129.2         70-0121SVH         70-24-0201SVH           BVM3-CF15-70         80         60°         149.9         129.2         70-0121SVH         70-24-0201SVH           BVM3-CF15-70         80         60°         149.9         129.2         70-0121SVH         70-24-0201SVH           BVM4-CF15-76         80         60°         149.9         129.2         70-0121SVH         70-24-0201SVH           BVM4-CF15-76         80         60°         150.0         991.3         70-0121SVH         70-24-201SVH           BVM4-CF15-76         80         70         158.5         136.7         70-E301SVH         70-24-E301SVH           BVM4-CF15-714         80°         50°         30°         128.2         70-651SVH         70-24-E301SVH           BVM6-CF15-547         60°<	BVM250-CF15-27			15°	27.2	23.5	70-0081SVH	70-24-0081SVH						
BVM250-CF15-177         90°         177.3         152.8         70-0081SVH         70-24-0081SVH           BVM250-CF15-780         Full Port         780.0         672.4         70-0081SVH         70-24-0081SVH           BVM3-CF15-32         BVM3-CF15-70         BSVM3-CF15-150         3         80         60°         149.9         129.2         70-0121SVH         70-24-0201SVH           BVM3-CF15-150         BVM3-CF15-76         BVM3-CF15-76         Full Port         1150.0         991.3         70-0121SVH         70-24-0201SVH           BVM4-CF15-76         BVM4-CF15-76         BVM4-CF15-76         Full Port         1150.0         991.3         70-0121SVH         70-24-0201SVH           BVM4-CF15-750         BV         Full Port         1150.0         991.3         70-0121SVH         70-24-20201SVH           BVM4-CF15-76         BV         Full Port         1150.0         991.3         70-0121SVH         70-24-E301SVH           BVM4-CF15-76         BV         Full Port         1150.0         991.3         70-0121SVH         70-24-E301SVH           BVM4-CF15-76         BV         Full Port         200.0         1810.2         70-E301SVH         70-24-E301SVH           BVM6-CF15-134         BV         Full Port         2100.0	BVM250-CF15-56	2.5		30°	56.3	48.5	70-0081SVH	70-24-0081SVH						
BVM250-CF15-780         Full Port         780.0         672.4         70-0081SVH         70-24-0081SVH           BVM3-CF15-32         J         30°         69.8         60.1         70-0121SVH         70-24-0201SVH           BVM3-CF15-70         J         30°         69.8         60.1         70-0121SVH         70-24-0201SVH           BVM3-CF15-70         J         60°         149.9         129.2         70-0121SVH         70-24-0201SVH           BVM3-CF15-75         J         60°         149.9         129.2         70-0121SVH         70-24-0201SVH           BVM4-CF15-76         Full Port         1150.0         991.3         70-0121SVH         70-24-0201SVH           BVM4-CF15-76         J         Full Port         1150.0         991.3         70-0121SVH         70-24-0201SVH           BVM4-CF15-76         J         J         S0°         158.5         136.7         70-E301SVH         70-24-E301SVH           BVM4-CF15-515         J         S0°         158.5         136.7         70-E301SVH         70-24-E301SVH           BVM4-CF15-2100         Full Port         2100.0         1810.2         70-E301SVH         70-24-E301SVH           BVM6-CF15-324         Full Port         130°         282.3	BVM250-CF15-114		15	60°	113.7	98.0	70-0081SVH	70-24-0081SVH						
BVM3-CF15-32         A         IS°         31.8         27.4         70-0121SVH         70-24-0201SVH           BVM3-CF15-70         3         30°         69.8         60.1         70-0121SVH         70-24-0201SVH           BVM3-CF15-70         3         60°         149.9         129.2         70-0121SVH         70-24-0201SVH           BVM3-CF15-76         90°         237.3         204.6         70-0121SVH         70-24-0201SVH           BVM4-CF15-76         70         75.5         65.1         70-0121SVH         70-24-0201SVH           BVM4-CF15-76         75.5         65.1         70-0121SVH         70-24-0201SVH         70-24-0201SVH           BVM4-CF15-537         75.5         65.1         70-E301SVH         70-24-E301SVH           BVM4-CF15-547         90°         546.6         471.2         70-E301SVH         70-24-E301SVH           BVM6-CF15-134         70         70         830.2         70-0651SVH         70-24-0501SVH           BVM6-CF15-282         70         15°         134.4         115.9         70-0651SVH         70-24-0501SVH           BVM6-CF15-374         70°         90°         973.5         839.2         70-0651SVH         70-24-0501SVH           BVM8-CF15-481	BVM250-CF15-177			90°	177.3	152.8	70-0081SVH	70-24-0081SVH						
BVM3-CF15-70         3         3         80         30°         69.8         60.1         70-0121SVH         70-24-0201SVH           BVM3-CF15-150         3         80         60°         149.9         129.2         70-0121SVH         70-24-0201SVH           BVM3-CF15-237         90°         237.3         204.6         70-0121SVH         70-24-0201SVH           BVM4-CF15-76         Full Port         1150.0         991.3         70-0121SVH         70-24-0201SVH           BVM4-CF15-159         J         Full Port         1150.0         991.3         70-0121SVH         70-24-0201SVH           BVM4-CF15-530         J         S0°         158.5         136.7         70-E301SVH         70-24-E301SVH           BVM4-CF15-547         B0°         546.6         471.2         70-E301SVH         70-24-E301SVH           BVM6-CF15-134         J         Full Port         2100.0         1810.2         70-E301SVH         70-24-E301SVH           BVM6-CF15-387         G         I5°         134.4         115.9         70-0651SVH         70-24-0501SVH           BVM6-CF15-587         G         G0°         586.8         505.8         70-0651SVH         70-24-0501SVH           BVM8-CF15-974         B°         90	BVM250-CF15-780			Full Port	780.0	672.4	70-0081SVH	70-24-0081SVH						
BVM3-CF15-150         3         80         60°         149.9         129.2         70-0121SVH         70-24-0201SVH           BVM3-CF15-237         90°         237.3         204.6         70-0121SVH         70-24-0201SVH           BVM3-CF15-1150         Full Port         1150.0         991.3         70-0121SVH         70-24-0201SVH           BVM4-CF15-76         Full Port         1150.0         991.3         70-0121SVH         70-24-0201SVH           BVM4-CF15-159         J         S0°         158.5         136.7         70-E301SVH         70-24-E301SVH           BVM4-CF15-547         S0°         546.6         471.2         70-E301SVH         70-24-E301SVH           BVM4-CF15-547         90°         546.6         471.2         70-E301SVH         70-24-E301SVH           BVM6-CF15-134         J         Full Port         2100.0         1810.2         70-E301SVH         70-24-E301SVH           BVM6-CF15-282         J         S0°         282.3         243.3         70-0651SVH         70-24-0501SVH           BVM6-CF15-587         G         I5°         345.5         297.8         70-0651SVH         70-24-0501SVH           BVM6-CF15-5481         J         S0°         90°         134.4         115.9	BVM3-CF15-32			15°	31.8	27.4	70-0121SVH	70-24-0201SVH						
BVM3-CF15-237         90°         237.3         204.6         70-0121SVH         70-24-0201SVH           BVM3-CF15-1150         Full Port         1150.0         991.3         70-0121SVH         70-24-0201SVH           BVM4-CF15-76         Full Port         1150.0         991.3         70-0121SVH         70-24-0201SVH           BVM4-CF15-76         Joo°         158.5         65.1         70-E301SVH         70-24-E301SVH           BVM4-CF15-730         Joo°         158.5         136.7         70-E301SVH         70-24-E301SVH           BVM4-CF15-730         Joo°         546.6         471.2         70-E301SVH         70-24-E301SVH           BVM4-CF15-700         Full Port         2100.0         1810.2         70-E301SVH         70-24-E301SVH           BVM6-CF15-714         Joo°         546.6         471.2         70-651SVH         70-24-E301SVH           BVM6-CF15-828         Joo°         282.3         243.3         70-0651SVH         70-24-0501SVH           BVM6-CF15-974         Joo°         90°         973.5         839.2         70-0651SVH         70-24-0501SVH           BVM8-CF15-481         Joo°         480.5         414.2         70-1300SVH         -           BVM8-CF15-545         Joo° <td< td=""><td>BVM3-CF15-70</td><td></td><td></td><td>30°</td><td>69.8</td><td>60.1</td><td>70-0121SVH</td><td>70-24-0201SVH</td></td<>	BVM3-CF15-70			30°	69.8	60.1	70-0121SVH	70-24-0201SVH						
BVM3-CF15-1150         Full Port         1150.0         991.3         70-0121SVH         70-24-0201SVH           BVM4-CF15-76         15°         75.5         65.1         70-E301SVH         70-24-E301SVH           BVM4-CF15-330         4         15°         75.5         65.1         70-E301SVH         70-24-E301SVH           BVM4-CF15-330         4         10°         60°         329.5         284.0         70-E301SVH         70-24-E301SVH           BVM4-CF15-547         90°         546.6         471.2         70-E301SVH         70-24-E301SVH           BVM6-CF15-2100         Full Port         2100.0         1810.2         70-E301SVH         70-24-E301SVH           BVM6-CF15-328         Full Port         15°         134.4         115.9         70-0651SVH         70-24-E301SVH           BVM6-CF15-887         6         15°         134.4         115.9         70-0651SVH         70-24-0501SVH           BVM6-CF15-587         6         15°         586.8         505.8         70-0651SVH         70-24-0501SVH           BVM6-CF15-5900         15°         345.5         297.8         70-0651SVH         70-24-0501SVH           BVM8-CF15-481         8         20°         60°         988.7         860.9	BVM3-CF15-150	3	80	60°	149.9	129.2	70-0121SVH	70-24-0201SVH						
BVM4-CF15-76         4         15°         75.5         65.1         70-E301SVH         70-24-E301SVH           BVM4-CF15-330         4         30°         158.5         136.7         70-E301SVH         70-24-E301SVH           BVM4-CF15-330         4         60°         329.5         284.0         70-E301SVH         70-24-E301SVH           BVM4-CF15-547         90°         546.6         471.2         70-E301SVH         70-24-E301SVH           BVM6-CF15-134         90°         546.6         471.2         70-E301SVH         70-24-E301SVH           BVM6-CF15-387         6         150°         134.4         115.9         70-0651SVH         70-24-E301SVH           BVM6-CF15-587         6         150°         282.3         243.3         70-0651SVH         70-24-0501SVH           BVM6-CF15-974         60°         586.8         505.8         70-0651SVH         70-24-0501SVH           BVM6-CF15-346         150°         90°         973.5         839.2         70-0651SVH         70-24-0501SVH           BVM8-CF15-346         8         15°         345.5         297.8         70-1300SVH         -           BVM8-CF15-9600         8         480.5         414.2         70-1300SVH         - <td>BVM3-CF15-237</td> <td></td> <td></td> <td>90°</td> <td>237.3</td> <td>204.6</td> <td>70-0121SVH</td> <td>70-24-0201SVH</td>	BVM3-CF15-237			90°	237.3	204.6	70-0121SVH	70-24-0201SVH						
BVM4-CF15-159         4         100         30°         158.5         136.7         70-E301SVH         70-24-E301SVH           BVM4-CF15-330         90°         546.6         471.2         70-E301SVH         70-24-E301SVH           BVM4-CF15-2100         90°         546.6         471.2         70-E301SVH         70-24-E301SVH           BVM6-CF15-134         Full Port         2100.0         1810.2         70-E301SVH         70-24-E301SVH           BVM6-CF15-282         Full Port         30°         282.3         243.3         70-0651SVH         70-24-E301SVH           BVM6-CF15-587         60°         586.8         505.8         70-0651SVH         70-24-0501SVH           BVM6-CF15-5000         150°         345.5         297.8         70-0651SVH         70-24-0501SVH           BVM8-CF15-346         Full Port         500.0         4310.0         70-0651SVH         70-24-0501SVH           BVM8-CF15-481         S0°         90°         973.5         839.2         70-0651SVH         70-24-0501SVH           BVM8-CF15-481         S0°         480.5         414.2         70-1300SVH         -           BVM8-CF15-9600         Full Port         90°         1656.8         1428.2         70-1300SVH         - </td <td>BVM3-CF15-1150</td> <td></td> <td></td> <td>Full Port</td> <td>1150.0</td> <td>991.3</td> <td>70-0121SVH</td> <td>70-24-0201SVH</td>	BVM3-CF15-1150			Full Port	1150.0	991.3	70-0121SVH	70-24-0201SVH						
BVM4-CF15-330         4         100         60°         329.5         284.0         70-E301SVH         70-24-E301SVH           BVM4-CF15-547         90°         546.6         471.2         70-E301SVH         70-24-E301SVH           BVM4-CF15-2100         Full Port         2100.0         1810.2         70-E301SVH         70-24-E301SVH           BVM6-CF15-134         Pull Port         2100.0         1810.2         70-6531SVH         70-24-E301SVH           BVM6-CF15-282         Pull Port         30°         282.3         243.3         70-0651SVH         70-24-0501SVH           BVM6-CF15-587         6         15°         134.4         115.9         70-0651SVH         70-24-0501SVH           BVM6-CF15-587         6         586.8         505.8         70-0651SVH         70-24-0501SVH           BVM6-CF15-346         Pull Port         500.0         4310.0         70-0651SVH         70-24-0501SVH           BVM8-CF15-481         Pull Port         5000.0         4310.0         70-0651SVH         70-24-0501SVH           BVM8-CF15-1657         Pull Port         5000.0         4310.0         70-0651SVH         70-24-0501SVH           BVM8-CF15-9600         Pull Port         500.0         480.5         414.2         70-1300SVH	BVM4-CF15-76			15°	75.5	65.1	70-E301SVH	70-24-E301SVH						
BVM4-CF15-547         90°         546.6         471.2         70-E301SVH         70-24-E301SVH           BVM4-CF15-2100         Full Port         2100.0         1810.2         70-E301SVH         70-24-E301SVH           BVM6-CF15-134         Full Port         2100.0         1810.2         70-651SVH         70-24-E301SVH           BVM6-CF15-282         Full Port         30°         282.3         243.3         70-0651SVH         70-24-0501SVH           BVM6-CF15-587         Full Port         500°         586.8         505.8         70-0651SVH         70-24-0501SVH           BVM6-CF15-5974         Full Port         5000.0         4310.0         70-0651SVH         70-24-0501SVH           BVM8-CF15-346         Full Port         5000.0         4310.0         70-0651SVH         70-24-0501SVH           BVM8-CF15-481         S         S         30°         480.5         414.2         70-1300SVH         -           BVM8-CF15-9600         S         60°         998.7         860.9         70-1300SVH         -           BVM10-CF15-545         Full Port         90°         1656.8         1428.2         70-1300SVH         -           BVM10-CF15-545         Full Port         9600.0         8275.2         70-1300SVH	BVM4-CF15-159			30°	158.5	136.7	70-E301SVH	70-24-E301SVH						
BVM4-CF15-2100         Full Port         2100.0         1810.2         70-E301SVH         70-24-E301SVH           BVM6-CF15-134         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J         J<	BVM4-CF15-330	4	100	60°	329.5	284.0	70-E301SVH	70-24-E301SVH						
BVM6-CF15-134         A         15°         134.4         115.9         70-0651SVH         70-24-0501SVH           BVM6-CF15-282         30°         282.3         243.3         70-0651SVH         70-24-0501SVH           BVM6-CF15-587         60°         586.8         505.8         70-0651SVH         70-24-0501SVH           BVM6-CF15-974         60°         586.8         505.8         70-0651SVH         70-24-0501SVH           BVM6-CF15-5000         40°         90°         973.5         839.2         70-0651SVH         70-24-0501SVH           BVM8-CF15-346         500.0         4310.0         70-0651SVH         70-24-0501SVH         70-24-0501SVH           BVM8-CF15-481         500.0         4310.0         70-0651SVH         70-24-0501SVH           BVM8-CF15-999         8         200         15°         345.5         297.8         70-1300SVH         -           BVM8-CF15-9600         8         480.5         414.2         70-1300SVH         -           BVM8-CF15-9600         8         15°         545.0         469.8         AU-2130SV         -           BVM10-CF15-751         10         250         60°         1560.5         1345.2         AU-2130SV         -	BVM4-CF15-547			90°	546.6	471.2	70-E301SVH	70-24-E301SVH						
BVM6-CF15-282         6         50         282.3         243.3         70-0651SVH         70-24-0501SVH           BVM6-CF15-587         60°         586.8         505.8         70-0651SVH         70-24-0501SVH           BVM6-CF15-974         90°         973.5         839.2         70-0651SVH         70-24-0501SVH           BVM6-CF15-5000         Full Port         500.0         4310.0         70-0651SVH         70-24-0501SVH           BVM8-CF15-346         Full Port         5000.0         4310.0         70-0651SVH         70-24-0501SVH           BVM8-CF15-481         A         5000.0         4310.0         70-0651SVH         70-24-0501SVH           BVM8-CF15-999         A         70         345.5         297.8         70-1300SVH         -           BVM8-CF15-999         B         A         60°         998.7         860.9         70-1300SVH         -           BVM8-CF15-9600         Full Port         90°         1656.8         1428.2         70-1300SVH         -           BVM10-CF15-545         Full Port         9600.0         8275.2         70-1300SVH         -           BVM10-CF15-751         10         Y         545.0         469.8         AU-2130SV         -	BVM4-CF15-2100			Full Port	2100.0	1810.2	70-E301SVH	70-24-E301SVH						
BVM6-CF15-587         6         150         60°         586.8         505.8         70-0651SVH         70-24-0501SVH           BVM6-CF15-974         90°         973.5         839.2         70-0651SVH         70-24-0501SVH           BVM6-CF15-5000         Full Port         5000.0         4310.0         70-0651SVH         70-24-0501SVH           BVM8-CF15-346         Full Port         5000.0         4310.0         70-0651SVH         70-24-0501SVH           BVM8-CF15-481         A         S         345.5         297.8         70-1300SVH         -           BVM8-CF15-999         B         A         480.5         414.2         70-1300SVH         -           BVM8-CF15-9600         P0°         1656.8         1428.2         70-1300SVH         -           BVM10-CF15-545         Full Port         9600.0         8275.2         70-1300SVH         -           BVM10-CF15-751         T5°         545.0         469.8         AU-2130SV         -           BVM10-CF15-1561         10         250         60°         1560.5         1345.2         AU-2130SV         -	BVM6-CF15-134			15°	134.4	115.9	70-0651SVH	70-24-0501SVH*						
BVM6-CF15-974         90°         973.5         839.2         70-0651SVH         70-24-0501SVH           BVM6-CF15-5000         Full Port         500.0         4310.0         70-0651SVH         70-24-0501SVH           BVM8-CF15-346         Full Port         500.0         4310.0         70-0651SVH         70-24-0501SVH           BVM8-CF15-481         Full Port         30°         480.5         297.8         70-1300SVH         -           BVM8-CF15-999         8         60°         998.7         860.9         70-1300SVH         -           BVM8-CF15-9600         60°         998.7         860.9         70-1300SVH         -           BVM8-CF15-9600         Full Port         90°         1656.8         1428.2         70-1300SVH         -           BVM10-CF15-545         Full Port         9600.0         8275.2         70-1300SVH         -           BVM10-CF15-751         T5°         545.0         469.8         AU-2130SV         -           BVM10-CF15-1561         10         250         60°         1560.5         1345.2         AU-2130SV         -	BVM6-CF15-282			30°	282.3	243.3	70-0651SVH	70-24-0501SVH*						
BVM6-CF15-5000         Full Port         5000.0         4310.0         70-0651SVH         70-24-0501SVH           BVM8-CF15-346         4         5000.0         4310.0         70-0651SVH         70-24-0501SVH           BVM8-CF15-346         5000.0         480.5         297.8         70-1300SVH         -           BVM8-CF15-481         5000.0         480.5         414.2         70-1300SVH         -           BVM8-CF15-9999         60°         998.7         860.9         70-1300SVH         -           BVM8-CF15-9600         60°         998.7         860.9         70-1300SVH         -           BVM8-CF15-9600         Full Port         9600.0         8275.2         70-1300SVH         -           BVM10-CF15-545         545.0         469.8         AU-2130SV         -           BVM10-CF15-751         750.7         647.1         AU-2130SV         -           BVM10-CF15-1561         10         250         60°         1560.5         1345.2         AU-2130SV         -	BVM6-CF15-587	6	150	60°	586.8	505.8	70-0651SVH	70-24-0501SVH*						
BVM8-CF15-346         A         15°         345.5         297.8         70-1300SVH         -           BVM8-CF15-481         30°         480.5         414.2         70-1300SVH         -           BVM8-CF15-999         60°         998.7         860.9         70-1300SVH         -           BVM8-CF15-9600         90°         1656.8         1428.2         70-1300SVH         -           BVM8-CF15-9600         Full Port         9600.0         8275.2         70-1300SVH         -           BVM10-CF15-545         15°         545.0         469.8         AU-2130SV         -           BVM10-CF15-751         250         60°         1560.5         1345.2         AU-2130SV         -	BVM6-CF15-974			90°	973.5	839.2	70-0651SVH	70-24-0501SVH*						
BVM8-CF15-481         A         30°         480.5         414.2         70-1300SVH         -           BVM8-CF15-999         60°         998.7         860.9         70-1300SVH         -           BVM8-CF15-1657         90°         1656.8         1428.2         70-1300SVH         -           BVM8-CF15-9600         Full Port         9600.0         8275.2         70-1300SVH         -           BVM10-CF15-545         15°         545.0         469.8         AU-2130SV         -           BVM10-CF15-751         750.7         647.1         AU-2130SV         -           BVM10-CF15-1561         10         250         60°         1560.5         1345.2         AU-2130SV         -	BVM6-CF15-5000			Full Port	5000.0	4310.0	70-0651SVH	70-24-0501SVH*						
BVM8-CF15-999         8         200         60°         998.7         860.9         70-1300SVH         -           BVM8-CF15-1657         90°         1656.8         1428.2         70-1300SVH         -           BVM8-CF15-9600         Full Port         9600.0         8275.2         70-1300SVH         -           BVM10-CF15-545         15°         545.0         469.8         AU-2130SV         -           BVM10-CF15-751         30°         750.7         647.1         AU-2130SV         -           BVM10-CF15-1561         10         250         60°         1560.5         1345.2         AU-2130SV         -	BVM8-CF15-346			15°	345.5	297.8	70-1300SVH	-						
BVM8-CF15-1657         90°         1656.8         1428.2         70-1300SVH         -           BVM8-CF15-9600         Full Port         9600.0         8275.2         70-1300SVH         -           BVM10-CF15-545         15°         545.0         469.8         AU-2130SV         -           BVM10-CF15-751         30°         750.7         647.1         AU-2130SV         -           BVM10-CF15-1561         10         250         60°         1560.5         1345.2         AU-2130SV         -	BVM8-CF15-481			30°	480.5	414.2	70-1300SVH	-						
BVM8-CF15-9600         Full Port         9600.0         8275.2         70-1300SVH         -           BVM10-CF15-545         15°         545.0         469.8         AU-2130SV         -           BVM10-CF15-751         30°         750.7         647.1         AU-2130SV         -           BVM10-CF15-1561         10         250         60°         1560.5         1345.2         AU-2130SV         -	BVM8-CF15-999	8	200	60°	998.7	860.9	70-1300SVH	-						
BVM10-CF15-545         Image: Marcol Mar	BVM8-CF15-1657			90°	1656.8	1428.2	70-1300SVH	-						
BVM10-CF15-751         30°         750.7         647.1         AU-2130SV         -           BVM10-CF15-1561         10         250         60°         1560.5         1345.2         AU-2130SV         -	BVM8-CF15-9600			Full Port	9600.0	8275.2	70-1300SVH	-						
BVM10-CF15-1561         10         250         60°         1560.5         1345.2         AU-2130SV         -	BVM10-CF15-545			15°	545.0	469.8	AU-2130SV	-						
	BVM10-CF15-751			30°	750.7	647.1	AU-2130SV	-						
BVM10-CE15-2589 90° 25887 22315 AU-21305V -	BVM10-CF15-1561	10	250	60°	1560.5	1345.2	AU-2130SV	-						
50 2300.7 2231.3 AU-21303V	BVM10-CF15-2589			90°	2588.7	2231.5	AU-2130SV	-						
BVM10-CF15-15000         Full Port         15000.0         12930.0         AU-2130SV         -	BVM10-CF15-15000			Full Port	15000.0	12930.0	AU-2130SV	-						
BVM12-CF15-1101         15°         1101.1         949.1         AU-4068SV         -	BVM12-CF15-1101			15°	1101.1	949.1	AU-4068SV	-						
BVM12-CF15-1051 30° 1051.0 906.0 AU-4068SV -	BVM12-CF15-1051			30°	1051.0	906.0	AU-4068SV	-						
BVM12-CF15-2185         12         300         60°         2184.6         1883.2         AU-4068SV         -	BVM12-CF15-2185	12	300	60°	2184.6	1883.2	AU-4068SV	-						
BVM12-CF15-3624         90°         3624.2         3124.0         AU-4068SV         -	BVM12-CF15-3624			90°	3624.2	3124.0	AU-4068SV	-						
BVM12-CF15-21000         Full Port         21000.0         18102.0         AU-4068SV         -	BVM12-CF15-21000			Full Port	21000.0	18102.0	AU-4068SV	-						

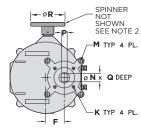
**Options/Adders** 

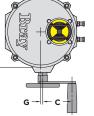
 For Battery Back-Up Failsafe Option (BBU) option on 24VAC actuators, add "-BBU".
 Add "SF15" in place of CF15 for Stainless Steel body option.
 Steam Only
 \*\*For normally Closed, add a "C" to the end of the valve part number, i.e. BVM250-CF15-27C, otherwise normally open. Fail safe models only. V-port ball valves have a 20 to 85% max angle of controllability.

# **BVM Series** - 2-Way - Flanged Ball Valve/70 Series Actuator Dimensions

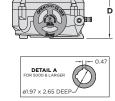
#### 70-0081 TO 70-0651

Actuator										К	М					Weight
Model Number	øA	в	с	D	E	F	G	н	J	UNC x B.C. (MM x B.C.)	UNC x B.C. (MM x B.C.)			øR	lbs. (kg)	
S70-0081	7.5 (191)	5.8 (147)	3.0 (76)	5.6 (141)	1.9 (48)	1.94 (49.2)	.19 (4.7)	1/2 (M20 x 1.5)	2.2 (55)	5/16-18 x ø2.76 [M8 x 1.25 x ø70]		.75 (19.0)	.51 (13.0)	1.75 (44.5)	3.5 (89)	13 (6)
S70-0121 S70-0201 S70-E301	10.1 (256)	7.8 (198)	3.7 (93)	6.6 (168)	2.4 (62)	2.69 (68.3)	.56 (14.3)	3/4 (M25 x 1.5)	2.6 (66)	5/16-18 x ø2.76 [M8 x 1.25 x ø70]	1/2-13 x ø4.92 [M12 x 1.75 x ø125]	1.18 (30.0)	.87 (22.0)	2.22 (56.3)	8.0 (203)	28 (13)
S70-0501 S70-0651	12.1 (308)	9.5 (241)	5.5 (139)	7.2 (183)	2.9 (73)	3.19 (80.9)	.56 (14.3)	3/4 (M25 x 1.5)	3.1 (78)	1/2-13 x ø4.92 [M12 x 1.75 x ø125]	3/4-10 x ø6.50 [M20 x 2.5 x ø165]	See Detail A		12.0 (305)	48 (22)	

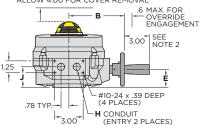




øA



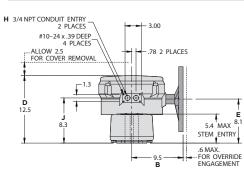
1.36

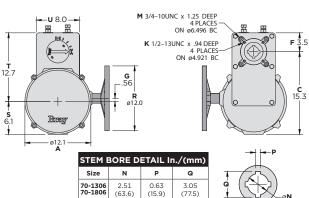


ALLOW 4.00 FOR COVER REMOVAL

#### 70-1300 TO 70-1800

Series 7	eries 70 Actuator - DIMENSIONS In./(mm)																		
Actuator Model Number	øA	в	с	D	E	F	G	н	J	K UNC x B.C. (MM x B.C.)	M UNC x B.C. (MM x B.C.)	N	Ρ	Q	øR	s	т	U	Weigh Ibs. (kg)
S70-1300 S70-1800		9.5 (241)	15.3 (389)	12.5 (316)	8.1 (206)	3.5 (89)	.56 (14.3)	3/4 (M25 x 1.5)	8.3 (211)	1/2-13 x ø4.921 F12 (12 x 125 BC x 23.9)	3/4-10 x ø6.496 F16 (20 x 165 BC x 31.8)		e Ste e De		12.0 (305)	6.1 (155)	12.7 (322)	8.0 (203)	118 (54)

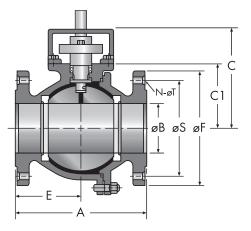




0.47 (12.0)

2.38 (60.6)

#### VALVE BODY



ANSI C	lass 15	0 in. (r	nm)							
SIZE	А	øB	с	C1	E	øF	øS	N / ØT	Cv (Kv)	Weight LBS (KG)
2-1/2"	7.5	2.6	7.4	3.4	3.1	7.0	5.5	4 x 0.75	780	36
(65)	(191)	(65)	(188)	(86)	(78)	(178)	(140)	(4 x 19.0)	(675)	(16)
3″	8.0	3.0	7.7	3.7	3.7	7.5	6.0	4 x 0.75	1150	45
(80)	(203)	(76)	(196)	(93)	(95)	(191)	(152)	(4 x 19.0)	(995)	(20)
4"	9.0	4.0	8.4	4.4	4.5	9.0	7.5	8 x 0.75	2100	65
(100)	(229)	(101)	(224)	(112)	(114)	(229)	(191)	(8 x 19.0)	(1817)	(30)
6″	15.5	6.0	11.2	7.2	7.6	11.0	9.5	8 x 0.88	5000	157
(150)	(394)	(152)	(284)	(182)	(194)	(279)	(241)	(8 x 22.0)	(4325)	(71)
8″	18.0	7.9	11.6	7.6	8.4	13.5	11.8	8 x 0.88 (8	9600	290
(200)	(457)	(200)	(295)	(193)	(212)	(343)	(299)	x 22.0)	(8304)	(132)
10"	21.0	9.8	15.9	9.9	10.5	16.0	14.3	12 x 1.00	15000	500
(250)	(533)	(250)	(404)	(251)	(266)	(406)	(362)	(12 x 25.0)	(12975)	(227)
12"	24.0	11.8	17.5	11.5	12.0	19.0	17.0	12 x 1.00	21000	700
(300)	(610)	(300)	(445)	(291)	(305)	(483)	(432)	(12 x 25.0)	(18165)	(318)

(63.6)

1.97 (50.0)

70-1316 70-1816

в**V**М 6

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STEM BORE DETAIL

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  - Retail



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