

SKU: EC4701

-  VOLT V Sector Electric Control Ball Valve
-  VOLT V Sector Elektrische Regelkugelhahn
-  VOLT Válvula de bola de Control V Sector Eléctrico
-  VOLT V secteur électrique Contrôle de balle Valve

**Valves**<sup>™</sup>  
O N L I N E

- 1/2 " - 3" Electric Proportional Control V Ball Valve
- 1/2 "- 3" Proportionalmagnet V -Kugelhahn
- 1/2 " - 3" Válvula de bola V eléctrico de control proporcional
- 1/2 " - 3" Contrôle électrique proportionnel V Ball Valve



- **Various end Connections**
- **Various Voltages**
- **Power Closed / Open**
- **2000 PSI Rated**
- **Manual Override**

#### Description

A Perfect combination of our heavy duty stainless steel ball valve with V sector profile balls and powerful HQ electric actuator with (PCU) Modulating control card. The valve has 50% filled stainless steel and PTFE seats. The end connections are BSPP, with options for NPT, Socket and Butt (SCH40) weld. The actuator can be supplied in various control options a wide range of voltages. The actuators offer a condensation heater, optical indicator and manual override.

#### End connection

##### Options

Socket Weld  
Butt Weld (sch40)  
NPT and BSPP

## V Port Electric Control Valve

### Requirements

Input Signal – 4-20mA, 0-10 Volt  
Supply Voltage  
110 or 240 Volt



#### Description

Volt V-series, high performance stainless steel modulating V sector ball valve is fitted to our quality HQ electric actuator with(PCU) Positioner. This combination of transmitter and positioner provides an extremely reliable unit for all your process flow requirements.

Easy to set up accepting various input signals. Sizes range from 1/2" - 3" in BSP



#### Beschreibung

Volt V- Serie, Hochleistungs-Edelstahl Modulation V Sektor Kugelhahn ist , unsere Qualität HQ elektrischen Stelltrieb mit (PCU) Stellungsregler ausgestattet. Diese Kombination von Sender und Stellungsregler bietet eine äußerst zuverlässige Gerät für alle Ihre Prozessfluss -Anforderungen. Einfache Einrichtung akzeptieren verschiedene Eingangssignale . Die Größen reichen von 1/2 " - 3" BSP



#### Descripción

V -series voltios , válvula de bola sector modulación V de acero inoxidable de alto rendimiento se ajusta a nuestro actuador eléctrico HQ calidad con (UCP ) del posicionador . Esta combinación de transmisor y posicionador ofrece una unidad extremadamente confiable para todas sus necesidades de flujo de proceso. Fácil de configurar aceptar diversas señales de entrada. Los tamaños varían desde 1/2 " - 3" BSP



#### Descripción

Volt série V , V moduler vanne à boisseau sphérique du secteur de l'acier inoxydable de haute performance est équipé à notre QG de qualité actionneur électrique avec ( PCU ) positionneur . Cette combinaison d' émetteur et positionneur fournit une unité extrêmement fiable pour tous vos besoins de flux de processus. Facile à configurer accepter différents signaux d'entrée . Les tailles vont de 1/2 " - 3" BSP

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## Modulating V Sector Electric Actuated Ball Valve

### Description

The HQ6 electric actuators are specially designed for quarter turn applications such as small ball, butterfly, plug valves and dampers.

Small, light and compact design with high output torques. This variation is fitted with a proportional control unit (PCU) providing modulating control from an incoming signal.

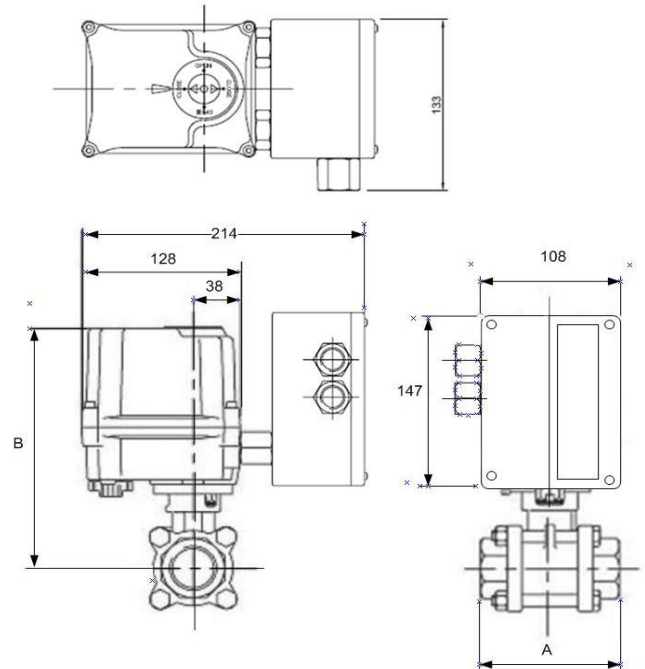
The combination of electric positioner, position transmitter and microprocessor technology provides extremely high reliability and performance.

An auto calibration feature provides the user with easy setup and installation by pressing one button.

### Standard Specification

Enclosure: Weatherproof IP67  
 Power Supply: 110/220V 50/60Hz  
 Duty Cycle: (on/off duty)  
 Motor: S2 35%  
 Limit switches: 4 x SPDT, 250V AC 3A  
 Space Heater: 2W (110/220V AC)  
 Manual Override: Hexagon  
 Conduit Entries: 2 x M20  
 Ambient Temperature: -20°C to +70°C  
 External: Coating: Dry Powder, Polyester

Input Signal: 4-20mA, 0-20Ma, 0-10vDC, 1-5vDC  
 Output Signal: 4-20mA, 0-10vDC  
 Adjustable Range: Zero 8mA, Open 16mA  
 Input Resistance: 250 ohm, Feedback Signal: 1k-10k ohm  
 Load Resistance: Max 750 ohm  
 Resolution: 1/1000



### Modulating Actuator Specification HQ006 + PCU

Enclosure	: Weatherproof IP67
Power Supply	: 110/220V 1PH
Duty Cycle (on /off duty)	: S2 35%
Limit Switches	: 4 x SPDT, 250V AC 3A
Space Heater	: 2W (110/240V AC)
Manual Override	: Hexagon
Rated Current (Amps)	: 110VAC - 0.39/0.4A 240VAC - 0.19/ 0.2A
Motor	: Reversible
Conduit Entries	: 2 x M20
Ambient Temperature	: -20 ° C to + 70 ° C
External Coating	: Dry Powder, Polyester
Input Signal	: 4-20mA, 0-20mA, 0-10vDC, 1.5vDC
Output Signal	: 4-20mA, 0-10vDC
Adjustable Range	: Zero 8mA, Open 16mA
Input Resistance	: 250 ohm, Feedback Signal: 1k-10k ohm
Load Resistance	: Max 750 ohm
Resolution	: Min 1/1000

### Dimensions

Size	Electric Actuator	A	B	W (kg)
1/2"	HQ006 + PCU	63.7	273	5.79
3/4"	HQ006 + PCU	76.2	277	6.26
1"	HQ006 + PCU	86.2	305	7.56
1.1/4"	HQ006 + PCU	102.8	309	8.21

### Performance

Type (MODEL)	Maximum Output Torque	Operating Time 50/60Hz	Motor Class E Frame Size	Rated Current (A)		Weight
				AC 1PH.50/60Hz		
HQ6	60Nm	14/12 SECS	6 * 70	110V	220V	Kg
				0.39/0.4	0.19/0.2	



Picture of actuator and positioner

### Technical and Parts List

No.	Part Name	Material	Qty
1	Body	ASTM A351 Gr.CF8M	1
2	End Cap	ASTM A351 Gr.CF8M	2
3	Ball	SUS316	1
4	Stem	SUS316	1
5	Stem Nut	SUS304	1
6	Bellville washer	SUS301	1
7	Handle	SUS304	1
8	Ball Seat	50% Filled Stainless Steel and PTFE	2
9	Gland	SUS304	1
10	V-Ring Packing	MG1241	1
11	Stem Seal	Carbon Filled PTFE	1
12	Lock Saddle	SUS304	1

### Specification

Pressure range	1/4" to 1" 2000 PSI
	1 1/4" to 2" 1500 PSI
	2 1/2" to 4" 1000 PSI
Size	1/4" to 4" Full Bore, 1/2" to 4" Reduced Bore

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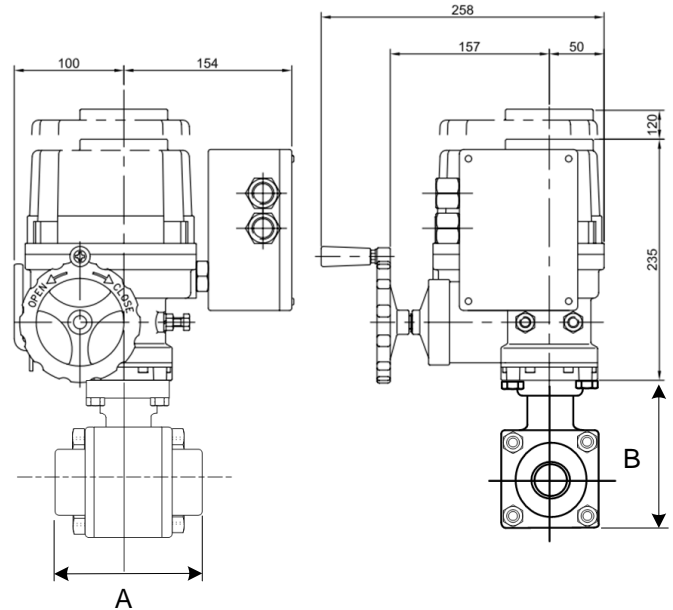
## HQ008 Modulating V Sector Electric Actuated Ball Valve

HQ008 Electric actuator offers high performance coupled with repeatability. This actuator offers modulation and delivers all the benefits of digital electronics to an actuator, which responds to analogue signals. The units position the valve in response to an analogue command and produces an analog output signal to the actual valve position. Input Signal: 4-20mA, 0-20Ma, 0-10vDC, 1-5vDC Output Signal: 4-20mA, 0-10vDC The actuator offers limit and torque switches, optical indicator, condensation heaters and a hand wheel override.

The V-port ball valve provides accurate control with high flow and low pressure drop. Offering the choice of 30°,60° and 90° segmented balls The Series 88 Heavy duty, fully encapsulated, three piece, Stainless steel ball valve is perfectly suited for your process control demands.

### End connection Options

- Socket Weld
- Butt Weld (sch40)
- NPT and BSPP (standard)



Dimensions				
Size	Electric Actuator	A	B	W (kg)
1.1/2"	HQ008	127.3	122.3	4.27

Modulating Actuator Specification HQ008	
Enclosure	: Weatherproof IP67 (IP68 Option)
Power Supply	: 110/220V 1PH
Operating Time	: see chart
Limit Switches	: 2 x SPDT, 250V AC 10A
Space Heater	: 20W (110/240V AC) Anti Condensation
Manual Override	: Handwheel Declutchable
Duty Cycle (on/offduty)	: S4, 70% standard, 100% for Max 30 Mins
Travel Angle	: 90°
Conduit Entries	: 2 x M25 (PG13.5 or 1/2" NPT Option)
Ambient Temperature	: -20° C to +60° C
Rated Current (Amps)	: 24VAC-0.3A, 24 VDC 0.2A, 110VAC-0.4A, 240VAC-0.2A
External Coating	: Dry Powder, Polyester
Input Signal	: 4-20mA, 0-20mA, 0-10vDC, 1-5vDC
Output Signal	: 4-20mA
Adjustable Range	: Zero 8mA, Open 16mA
Input Resistance	: 250 ohm, Feedback Signal: 1k-10k ohm
Load Resistance	: Max 750 ohm
Resolution	: M/h 1/1000

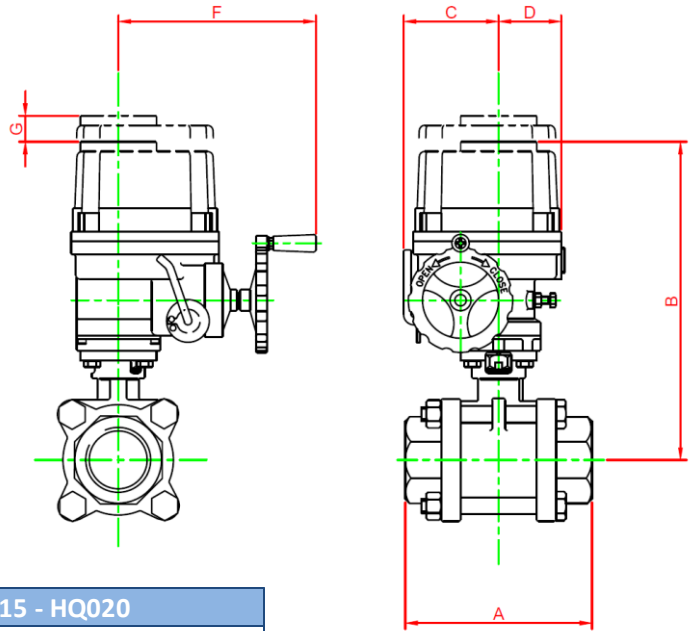
HQ008 Actuator Specification							
Type (model)	Max Output Torque	Operating Time 50/60Hz	Motor Class	Rated Current (A)			Weight
				24VAC	110VAC	220 VAC	
HQ008	80NM	16/13 Secs	103/103	1.1	0.55		7.4

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## Modulating V Sector Electric Actuated Ball Valve

Both the HQ015 and HQ020 Electric actuator offer high performance coupled with repeatability. This actuator offers modulation and delivers all the benefits of digital electronics to an actuator, which responds to analogue signals. The units position the valve in response to an analogue command and produces an analog output signal to the actual valve position. Input Signal: 4-20mA, 0-20Ma, 0-10vDC, 1-5vDC Output Signal: 4-20mA, 0-10vDC The actuator offers limit and torque switches, optical indicator, condensation heaters and a hand wheel override.

The V-port ball valve provides accurate control with high flow and low pressure drop. Offering the choice of 30°, 60° and 90° segmented balls The Series 88 Heavy duty, fully encapsulated, three piece, Stainless steel ball valve is perfectly suited for your process control demands.



Modulating Actuator Specification HQ015 - HQ020	
Enclosure	: Weatherproof IP67 (IP68 Option)
Power Supply	: 110/220V 1PH
Operating Time	: see chart
Limit Switches	: 2 x SPDT, 250V AC 10A
Space Heater	: 20W (110/240V AC) Anti Condensation
Manual Override	: Handwheel Declutchable
Duty Cycle (on/off duty)	: S4, 70% standard, 100% for Max 30 Mins
Travel Angle	: 90°
Conduit Entries	: 2 x M25 (PG13.5 or 1/2" NPT Option)
Ambient Temperature	: -20° C to +60° C
Rated Current (Amps)	: 24VAC-0.3A, 24 VDC 0.2A, 110VAC-0.4A, 240VAC-0.2A
External Coating	: Dry Powder, Polyester
Input Signal	: 4-20mA, 0-20mA, 0-10vDC, 1-5vDC
Output Signal	: 4-20mA
Adjustable Range	: Zero 8mA, Open 16mA
Input Resistance	: 250 ohm, Feedback Signal: 1k-10k ohm
Load Resistance	: Max 750 ohm
Resolution	: M/h 1/1000

**End connection Options**  
 Socket Weld  
 Butt Weld (sch40)  
 NPT and BSPP (standard)

Dimensions								
Size	Electric Actuator	A	B	C	D	F	G	Valve W (kg)
2"	HQ015	145	420	200	87	265	120	5.3
2.1/2"	HQ015	185	455	200	87	265	160	6.5
3"	HQ020	205	476	200	87	265	160	12

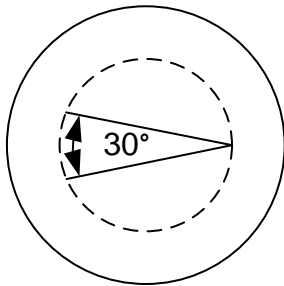
Actuator Specification HQ015 -HQ020								
Type (model)	Max Output Torque	Operating Time 50/60Hz	Motor Class	Rated Current (A)				Weight W (kg)
		90		24VAC	110VAC	220 VAC	24 VDC	
HQ015	150NM	25/21 Secs	185/166		1.65	0.88		16.6
HQ020	200NM	25/21 Secs	185/166		1.67	0.89		16.6

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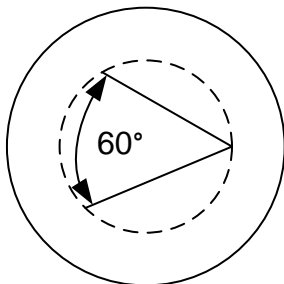
## HQ008 Modulating V Sector Electric Actuated Ball Valve

### INFORMATION NEEDED TO CORRECTLY SIZE YOUR VALVE

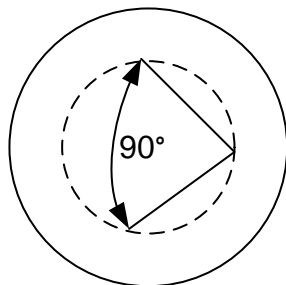
#### 30 Deg V Segment



#### 60 Deg V Segment



#### 90 Deg V Segment



V-PORT BALL(30° 60° 90°)

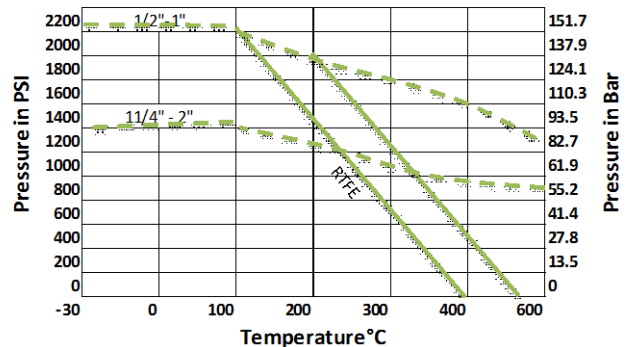


Model	Series 83	Series 88	Series 90/900	Series 99
SIZE	DN	DN	DN	DN
3/8"	#20.5M10 30° 60° 90°	#25.5M12.7 30° 60°	#27.7M16 30° 60° 90°	#27.7M16 30° 60° 90°
1/2"	#25.5M15 30° 60° 90°	#25.5M15 30° 60° 90°	#33.5M20 30° 60° 90°	#33.5M20 30° 60° 90°
3/4"	#33.5M20 30° 60° 90°	#33.5M20 30° 60° 90°	#33.5M20 30° 60° 90°	#33.5M20 30° 60° 90°
1"	#44M25.4 30° 60° 90°	#44M25.4 30° 60° 90°	#41.25M25 30° 60° 90°	#41.25M25 30° 60° 90°
1-1/4"	#54M32 30° 60° 90°	#54M32 30° 60° 90°	#50.8M32 30° 60° 90°	#50.8M32 30° 60° 90°
1-1/2"	#62M38.1 30° 60° 90°	#62M38.1 30° 60° 90°	#62M38.1 30° 60° 90°	#62M38.1 30° 60° 90°
2"	#80M50.8 30° 60° 90°	#80M50.8 30° 60° 90°	#80M50.8 30° 60° 90°	#80M50.8 30° 60° 90°
2-1/2"	#100M65 30° 60° 90°	#100M65 30° 60° 90°	#100M65 30° 60° 90°	#100M65 30° 60° 90°
3"	#120M80 30° 60° 90°	#120M80 30° 60° 90°	#120M80 30° 60° 90°	#120M80 30° 60° 90°
4"	#152M100 30° 60° 90°	#152M100 30° 60° 90°	#150M100 30° 60° 90°	#150M100 30° 60° 90°
6"	#200M150 30° 60° 90°			

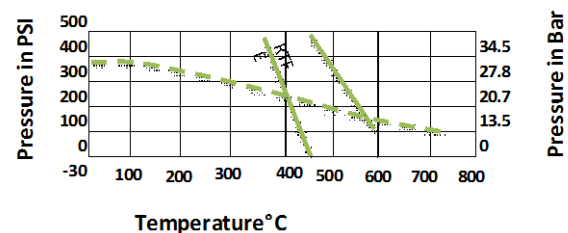
#### V SECTOR BALL

The "V" port control valves are available from Valves Online with 30° V, 60° or 90° V notch. V port valves offer better control than traditional round ported ball valves. The control port is cast and machined into the ball (not in the seat), which allows better flow characteristics and the need to replace seats. The 30° option allows for finer control and the 60°/ 90° offers a larger Flow (Cv) in addition to an accurate controlled flow. **Sizing of valves must be used in conjunction with our CV coefficient of flow chart attached.**

For valves 1/2" - 2"



For valves 1 1/2" - 4"



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## HQ008 Modulating V Sector Electric Actuated Ball Valve

### INFORMATION NEEDED TO CORRECTLY SIZE YOUR VALVE

Flow in M<sup>3</sup>/h based on 0.5 bar pressure drop

KV Calculator for Liquids												
Valve Size	Ball Angle	0%	15%	20%	30%	40%	50%	60%	70%	80%	90%	100%
1/2"	30	0	0.0865	0.0865	0.173	0.2595	0.4325	0.692	0.9515	1.384	1.903	2.249
	60	0	0.0865	0.0865	0.2595	0.4325	0.7785	1.211	1.73	2.8545	3.806	5.1899
	90	0	0.0865	0.173	0.346	0.519	0.7785	1.2975	1.903	3.287	4.671	5.9685
3/4"	30	0	0.0865	0.173	0.4325	0.6055	0.9515	1.557	2.076	2.8545	3.8925	4.671
	60	0	0.0865	0.173	0.6055	0.865	1.4705	2.422	3.46	5.6225	7.785	10.3799
	90	0	0.173	0.346	0.692	1.038	1.73	2.6815	3.9789	6.92	9.7745	12.11
1"	30	0	0.0865	0.2595	0.692	1.1245	1.9895	3.0275	4.41149	8.477	7.3525	8.65
	60	0	0.173	0.346	0.9515	1.557	2.941	4.5845	6.8335	10.6395	13.2345	18.165
	90	0	0.173	0.519	1.557	2.941	4.4115	7.0065	9.861	13.84	18.165	25.085
1.1/4"	30	0	0.173	0.346	0.9515	1.73	3.2005	4.7575	6.92	8.65	11.245	12.975
	60	0	0.173	0.519	1.557	2.595	4.7575	8.2175	11.072	16.435	22.49	33.735
	90	0	0.2595	0.692	1.73	4.325	6.92	12.11	16.435	24.22	33.735	47.575
1.1/2"	30	0	0.2595	0.519	1.384	2.595	4.325	6.4875	9.515	12.11	14.705	17.3
	60	0	0.346	0.692	2.1625	3.46	6.92	11.245	16.435	23.355	34.6	44.98
	90	0	0.346	0.7785	3.0275	6.055	11.245	17.3	26.815	36.33	54.495	67.47
2"	30	0	0.346	1.038	3.287	5.19	8.65	12.975	19.895	26.815	37.195	51.9
	60	0	0.346	1.297	3.979	7.785	14.2725	23.355	33.735	47.575	71.795	95.15
	90	0	0.4325	1.73	5.19	10.38	19.03	30.275	38.925	60.55	90.825	116.775
2.1/2"	30	0	0.346	0.865	3.46	6.92	10.38	15.57	24.22	32.005	53.63	64.875
	60	0	0.346	1.297	4.325	8.65	18.165	29.41	45.845	64.875	89.095	129.75
	90	0	0.4325	1.4705	6.055	12.11	24.22	41.52	60.55	91.69	138.4	188.57
3"	30	0	0.4325	1.04	3.46	6.92	12.11	19.895	28.5449	39.79	56.225	70.9299
	60	0	0.4325	2.1625	5.19	12.11	21.625	34.6	56.225	78.715	110.72	142.725
	90	0	0.6055	3.0275	6.92	15.57	30.275	51.9	77.85	116.775	177.325	268.15
4"	30	0	0.519	1.73	5.19	12.975	25.085	41.5199	61.415	86.5	112.45	137.535
	60	0	0.6055	2.595	9.515	21.625	34.6	51.035	77.85	121.965	183.38	307.94
	90	0	0.865	3.0275	13.84	34.6	64.875	108.125	164.35	255.175	382.33	579.55
6"	30	0	0.7785	2.768	12.11	28.545	51.9	89.095	134.075	190.3	242.2	302.75
	60	0	1.73	4.325	19.03	51.9	95.15	164.35	246.525	359.84	506.89	692
	90	0	2.595	6.92	30.275	77.85	138.4	242.2	367.625	562.25	839.05	1280.2

To Select the flow you require on our V sector ball, you should aim for looking on the chart at between 70% and 80% open for your maximum flow (this is a rough way of sizing and to be correct we would prefer it, if you contacted our technical sales to size your valve correctly). So for example if you are looking for a flow of 7 m<sup>3</sup>/h we would choose the 60Deg ball size 1" at 70% fully open-as shown below.

3/4"	60	0	0.0865	0.173	0.6055	0.865	1.4705	2.422	3.46	5.6225	7.785	10.3799
	90	0	0.173	0.346	0.692	1.038	1.73	2.6815	3.9789	6.92	9.7745	12.11
1"	30	0	0.0865	0.2595	0.692	1.1245	1.9895	3.0275	4.41149	8.477	7.3525	8.65
	60	0	0.173	0.346	0.9515	1.557	2.941	4.5845	6.8335	10.6395	13.2345	18.165
	90	0	0.173	0.519	1.557	2.941	4.4115	7.0065	9.861	13.84	18.165	25.085
	30	0	0.173	0.346	0.9515	1.73	3.2005	4.7575	6.92	8.65	11.245	12.975

#### Flow Coefficients Kv

Measured in M<sup>3</sup>/h of water at 20°C based on 0.5 bar pressure drop

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### HQ008 Modulating V Sector Electric Actuated Ball Valve

## INFORMATION NEEDED TO CORRECTLY SIZE YOUR VALVE

Gas CV/KV Calculator	
Information needed	
Full Flow	m <sup>3</sup> /h
Specific Gravity	
Upstream Pressure	PSI
Downstream Pressure	PSI
Temperature	C°
please offer full flow in cubic feet per hour	

Steam CV/KV Calculator	
Information needed	
Full Flow (Gallons/Min)	GPM
Upstream Pressure	PSI
Downstream Pressure	PSI
This is for Saturated Steam Only and not Superheated Steam	

Liquid CV/KV Calculator	
Information needed	
Full Flow	L/Min
Specific Gravity	
Upstream Pressure	PSI
Downstream Pressure	PSI
Liquid and Temp	C°
Please see our list of common liquids	

Sizing of valves must be used in conjunction with our CV coefficient of flow chart  
**THIS GIVES A GENERAL IDEA OF THE SIZE OF VALVE IF YOU HAVE THE CV**

Valve Size	Ball Angle	0% Open	15% Open	20% Open	30% Open	40% Open	50% Open	60% Open	70% Open	80% Open	90% Open	100% Open
1/4"	30	0										
	60	0										
	90	0										
3/8"	30	0										
	60	0										
	90	0										
1/2"	30	0	0.1	0.1	0.2	0.3	0.5	0.8	1.1	1.6	2.2	2.6
	60	0	0.1	0.1	0.3	0.5	0.9	1.4	2	3.3	4.4	6
	90	0	0.1	0.2	0.4	0.6	0.9	1.5	2.2	3.8	5.4	6.9
3/4"	30	0	0.1	0.2	0.5	0.7	1.1	1.8	2.4	3.3	4.5	5.4
	60	0	0.1	0.2	0.7	1	1.7	2.8	4	6.5	9	12
	90	0	0.2	0.4	0.8	1.2	2	3.1	4.6	8	11.3	14
1"	30	0	0.1	0.3	0.8	1.3	2.3	3.5	5.1	9.8	15.3	21
	60	0	0.2	0.4	1.1	1.8	3.4	5.3	7.9	12.3	15.3	21
	90	0	0.2	0.6	1.8	3.4	5.1	8.31	11.4	16	21	29
1 1/4"	30	0	0.2	0.4	1.1	2	3.7	5.5	8	10	13	15
	60	0	0.2	0.6	1.8	3	5.5	9.5	12.8	19	26	39
	90	0	0.3	0.8	2	5	8	14	19	28	39	55
1 1/2"	30	0	0.3	0.6	1.6	3	5	7.5	11	14	17	20
	60	0	0.3	0.8	2.5	4	8	13	19	27	40	52
	90	0	0.4	0.9	3.5	7	13	20	31	42	63	78
2"	30	0	0.4	1.2	3.8	6	10	15	23	31	43	60
	60	0	0.4	1.5	4.6	9	16.5	27	39	55	83	110
	90	0	0.5	2	6	12	22	35	45	70	105	135
2 1/2"	30	0	0.4	1	4	8	12	18	28	37	62	75
	60	0	0.4	1.5	5	10	21	34	53	75	103	150
	90	0	0.5	1.7	7	14	28	48	70	106	160	218
3"	30	0	0.5	1.2	4	8	14	23	33	46	65	82
	60	0	0.5	2.5	6	14	25	40	65	91	128	165
	90	0	0.7	3.5	8	18	35	60	90	135	205	310
4"	30	0	0.6	2	6	15	29	48	71	100	130	159
	60	0	0.7	3	11	25	40	59	90	141	212	356
	90	0	1	3.5	16	40	75	125	190	295	442	670
6"	30	0	0.9	3.2	14	33	60	103	155	220	280	350
	60	0	2	5	22	60	110	190	285	416	586	800
	90	0	3	8	25	90	160	280	425	650	970	1480

**CV = US Gallons per Minute (USGPM) Based on a 1 PSI Pressure Drop**