

BPE



CE



Diaphragm Valves

For Aseptic & Hygienic Application

In pharmaceutical manufacturing, precision and hygiene are paramount. Valves help achieve these by regulating the flow of ingredients, maintaining sterile conditions, and preventing contamination. They are used in processes such as mixing, batching, transferring, and filling, where precise control over the flow and pressure of fluids is essential. The reliability and performance of valves directly impact the quality of the final product and the efficiency of the manufacturing process.

Company Background

Since 1969, AVCON has been producing Solenoid Valves, Angle Seated Valves, Control Valves, Electric and Pneumatic Actuators, Ball and Butterfly Valves. However, we started manufacturing products for the pharmaceutical sector in 2001.

When the pharmaceutical business offered creative valve makers the chance to domestically design and develop diaphragm valves to regulate SIP, CIP, and purified water system, we began producing hygienic diaphragm valves in 2001. With highly dependable domestically produced diaphragm valves that satisfied industry criteria for material, drainability, particle minimization, surface quality, and the accuracy requirements of low offset, AVCON was the first Indian company to enter the domestic market. Since then, AVCON Valves have been the most often specified for mixing, batching, transferring, filling, sterile filtration, purified water, cosmetics, and process water.

Our Synopsis

AVCON was established to support ongoing innovation and expand the range of products we provide. Since 1969, we have successfully installed over 2,50,000 industrial process valves and automation for the steel, cement, textile, chemical, and food and over 1,00,000 valve installations in pharmaceuticals industry segments.

Regd. Office & Works - Unit II



Quality Objectives

Our ultimate objective at AVCON is to supply valves with lower operating and maintenance costs while increasing our customers' asset utilization and product throughput.

Invest in our Customers, goods, and services while implementing ideas and creating solutions for our clients at a purposeful pace.

Industries that we serve

Avcon Controls Pvt. Ltd. has walked through several Years, gaining valuable experience, offering Avcon equipments in the Products Manufactured by the OEMs, in various industries such as Food, Beverages, Pharmaceutical, Biotech, Cosmetic, Personal Care, Dairy, Mechanical, Chemical, Food Processing, Water Treatment & Purification, Wine Production & for all types of clean or sterile processing applications.



Manual Diaphragm Valve

6227M / 6227F Series

Design & Manufacturing Standards

Design Standard	ASME BPE
Testing Standard	EN12266-1
Certification Standard	EN-10204:2.1,2.2,3.1
Surface Finish	ASME BPE (SF4)
Diaphragm Compliance	USP CLASS VI Biological Reactivity Test In Vitro and In Vivo US FDA CFR177.1550 (PTFE)US FDA CFR177.2600 (EPDM)

Benefits

Precise Flow Control
Bubble-Tight Sealing
Resistance to Corrosion
Excellent Containment Properties
Biocompatibility
Smooth Flow Characteristics
Low Pressure Loss
Elastomeric Diaphragms for Enhanced Performance
Easy Automation
Reduced Water Hammer
Long Service Life
SIP and CIP compatibility

Applications

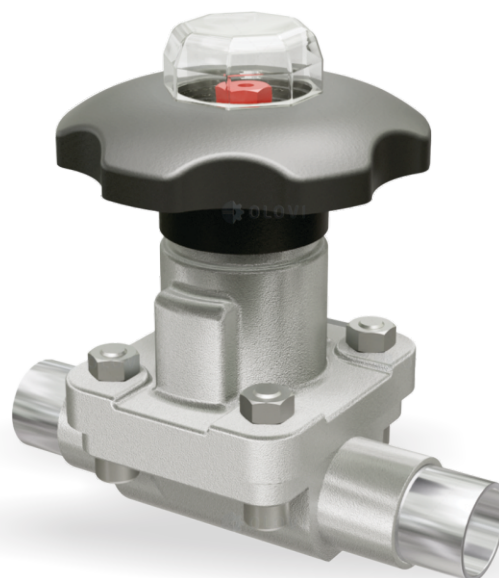
Mixing
Batching
Transferring
Filling
Sterile filtration
CIP & SIP
Cosmetics
Purified Water & Process Water

Operating Conditions

Service	Mixing, Batching, Transferring, and Filling, Purified Water & Process Water
Operating Temp	Ambient/85 °C
Design Temp	150 °C
Operating Pr.	10 Kg/cm ² (g)
Design Pressure	12 Kg/cm ² (g)/FV
Vapour	Yes
Viscosity Cp	As of service

Material Of Construction

Body	CF3M (Investment casted and machined) SS-316L (Forged & Machined)
Stem Assembly	AISI 304
Diaphragm Material	EPDM Or PTFE with EPDM backup
Bonnet	AISI 304
Hand wheel	30% graphited Nylon (PA-6)
Packing/Sealing	PTFE
Studs/Nuts	SS 304



End Connections

Inlet	Butt weld/TC end/Flanged (Optional)
Outlet	Butt weld/TC end/Flanged (Optional)

Finish

Internal	Electro polished to <0.38µm Ra
External	Mirror Polished to 180 Grit

Performance Characteristics

Hydro Test Pressure	Body 15.0 Kg/cm ² (g)
Hydro Test Pressure	Seat 10Kg/cm ² (g)

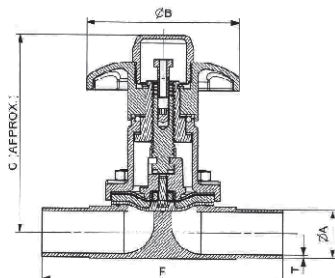
Accessory

Stroke Limiter	SS 304 with Plastic cap
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Manual Diaphragm Valve

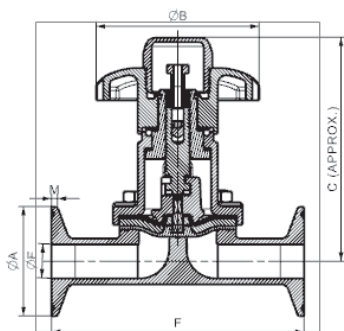
6227M Series

6227M - Casted SPG



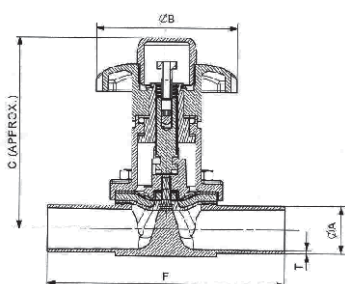
CAT NO.	SIZE	ØA	ØB	C	F	T
BS6227M086	1/4"	Ø13.5	Ø40	68.5	70	1.65
BS6227M166	1/2"	Ø12.7	Ø58	76	112	1.65
BS6227M216	3/4"	Ø19.05	Ø80	104	117	1.65
BS6227M266	1"	Ø25.4	Ø80	104	127	1.65
BS6227M416	1-1/2"	Ø38.1	Ø118	142	146	1.65
BS6227M516	2"	Ø50.8	Ø118	144	159	1.65
BS6227M666	2-1/2"	Ø63.5	Ø118	160	190	1.65
BS6227M816	3"	Ø76.2	Ø200	250	270	1.65
BS6227M1016	4"	Ø101.6	Ø200	291.7	292.1	2.11

6227M - Casted TC



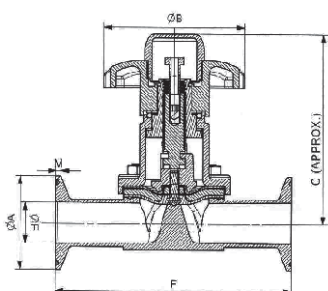
CAT NO.	SIZE	ØA	ØB	C	F	T
BS6227M167	1/2"	Ø25	Ø58	76	112	2.85
BS6227M217	3/4"	Ø50.5	Ø80	104	117	2.85
BS6227M267	1"	Ø50.5	Ø80	104	127	2.85
BS6227M417	1-1/2"	Ø50.5	Ø118	142	146	2.85
BS6227M517	2"	Ø64	Ø118	144	159	2.85
BS6227M667	2-1/2"	Ø77.4	Ø118	160	190	2.85
BS6227M817	3"	Ø90.9	Ø200	250	270	2.85
BS6227M1017	4"	Ø118.9	Ø200	291.7	292.1	2.85

6227F - Forged SPG



CAT NO.	SIZE	ØA	ØB	C	F	T
BS6227F166	1/2"	Ø12.7	Ø58	75	112	1.65
BS6227F216	3/4"	Ø19.05	Ø80	103	117	1.65
BS6227F266	1"	Ø25.4	Ø80	103	127	1.65
BS6227F266	1"	Ø25.4	Ø80	116	127	1.65
BS6227F416	1-1/2"	Ø38.1	Ø118	136	146	1.65
BS6227F516	2"	Ø50.8	Ø118	144	159	1.65
BS6227F666	2-1/2"	Ø63.5	Ø118	160	190	1.65

6227F - Forged TC



CAT NO.	SIZE	ØA	ØE	ØB	C	F	M
BS6227F167	1/2"	Ø25	Ø9.4	Ø40	68.5	90	2.85
BS6227F167	1/2"	Ø25	Ø9.4	Ø58	75	112	2.85
BS6227F217	3/4"	Ø50.5	Ø15.75	Ø80	103	117	2.85
BS6227F267	1"	Ø50.5	Ø22.1	Ø80	103	127	2.85
BS6227F467	1-1/2"	Ø50.5	Ø34.8	Ø118	136	146	2.85
BS6227F517	2"	Ø63.9	Ø47.5	Ø118	144	159	2.85
BS6227F667	2-1/2"	Ø77.4	Ø60.2	Ø118	160	190	2.85

Pneumatic Diaphragm Valve

6827M/6827F Series

Design & Manufacturing Standards

Design Standard	ASME BPE
Testing Standard	EN12266-1
Certification Standard	EN-10204: 2.1,2.2,3.1
Surface Finish	ASME BPE (SF4)
Diaphragm Compliance	USP CLASS VI Biological Reactivity Test In Vitro and In Vivo US FDA CFR177.1550 (PTFE) US FDA CFR177.2600 (EPDM)

Benefits

Precise Flow Control
Bubble-Tight Sealing
Resistance to Corrosion
Excellent Containment Properties
Biocompatibility
Smooth Flow Characteristics
Low Pressure Loss
Elastomeric Diaphragms for Enhanced Performance
Easy Automation
Reduced Water Hammer
Long Service Life
SIP and CIP compatibility

Applications

Mixing
Batching
Transferring
Filling
Sterile filtration
CIP & SIP
Cosmetics
Purified Water & Process Water

Material of Construction

Body	CF3M (Investment casted and machined) SS-316L (Forged & Machined)
Stem Assembly	AISI 304
Diaphragm Material	EPDM Or PTFE with EPDM backup
Bonnet	AISI 304
Hand wheel	30% graphited Nylon (PA-6)
Packing/Sealing	PTFE
Studs/Nuts	SS 304

Pneumatic Actuator

Type	Linear
Construction	Piston actuated
Material of construction	Plastic (Gr Pa6) & SS 304
Input	
Air Signal Supply Bar (g)	4 to 6 BAR
Pneumatic Connections	1/4" BSP (F)
Fail Safe Position	Normally Closed / Open
Local Position Indicator	Impact Resistant Thermoplastic Dome

End Connections

Inlet Spigot/Triclover end as per BS 4825/ASME BPE/Flanged (Optional)
Outlet Spigot/Triclover end as per BS 4825/ASME BPE/Flanged (Optional)

Finish

Internal	Electro polished to <0.38µm Ra
External	Mirror Polished to 180 Grit

Performance Characteristics

Hydro Test Pressure	Body 15.0 Kg/ cm ² (g)
Hydro Test Pressure	Seat 10Kg/cm ² (g)



Accessories

Solenoid Valves (optional)

Type	3/2 way, Normally close energies to open
Coil voltage	230AC/24 DC/suitable for safe area
Pressure Bar (g)	10 BAR Max
Material	PA6/Brass/SS-304
Air Connection	1/4" BSPT (F)
Cable Entry	Plug in connector PG-9
Area Classification	Safe area, Weatherproof suitable for min. IP 65

Proximity Sensor (optional)

Type of Switch	Inductive Proximity or Limit switch
Area classification	IP 65
No. of Switches	2 Nos.
Cable Entry	Supply Voltage 24VDC

Stroke Limiter (optional)

Stroke Limiter	SS 304 with Plastic cap
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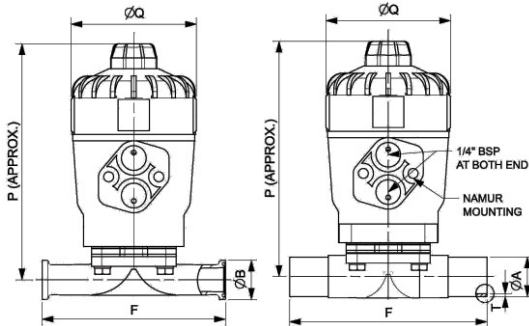
Electronic Valve Positioner (Optional)

MOC	Plastic (Gr PA6-GF30) (Standard) SS-304 (Optional)
Signal Input	4-20mA
Power Supply	24VDC
Protection Class	IP-66
Ambient Temperature	0~70 °C
Explosion-Proof Class	Ex-nA IIC T4
Signal air Pressure	4-6 Bar

Pneumatic Diaphragm Valve

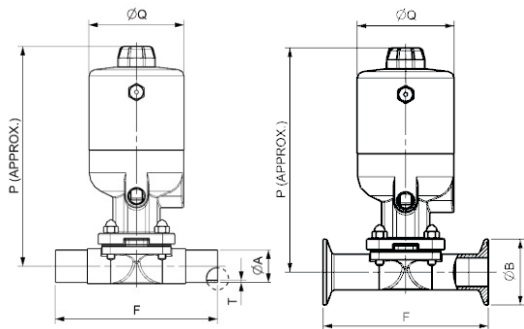
6827M (Investment Casted)

6827M - Casted SPG & TC Pneumatic Diaphragm Seated Valves (Pa6).



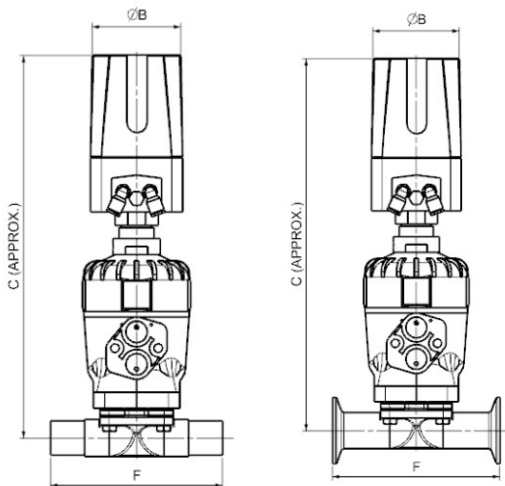
Valve Model No		Actuator (normally close)	Size		Flow Kv	Pressure M3Hr	Drain Angle	Weight	Dimensions						
TC	SPG		inch	mm		Kg/cm ²	u	Kgs	ØA	F	P	Q	T	ØB	
6827M167/TE/TC	6827M166/TE/SPG	K-52	1/2"	15	3.5	10.0	20°	0.7	12.7	112	124	63.5	1.65	25	
6827M217/TE/TC	6827M216/TE/SPG	K-62	3/4"	20	5.0	10.0	21.5°	1.2	19.05	117	150	80	1.65	50.5	
6827M267/TE/TC	6827M266/TE/SPG	K-62	1"	25	12.5	10.0	21.5°	1.3	25.4	127	150	80	1.65	50.5	
6827M417/TE/TC	6827M416/TE/SPG	K-102	1-1/2"	40	36.0	10.0	25°	5	38.1	146	240	131	1.65	50.5	
6827M517/TE/TC	6827M516/TE/SPG	K-122	2"	50	42.0	10.0	30°	7.3	50.4	159	282	161	1.65	63.9	
6827M667/TE/TC	6827M666/TE/SPG	K-123	2-1/2"	65	53.0	6.0	31.5°	8.1	63.5	190	300	161	1.65	77.4	

6827M - Casted SPG & TC Pneumatic Diaphragm Seated Valves (SS).



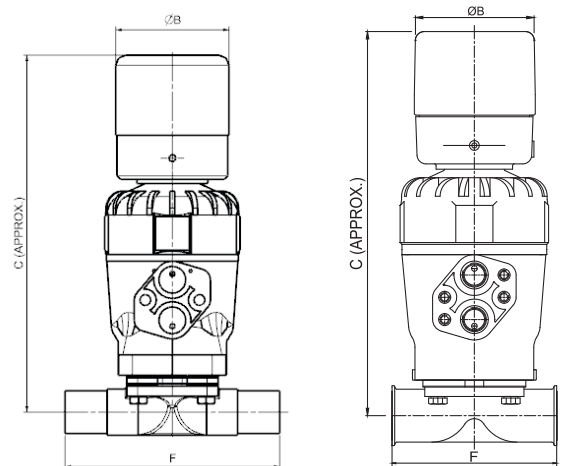
Valve Model No		Actuator (normally close)	Size		Flow Kv	Pressure M3Hr	Drain Angle	Weight	Dimensions						
TC	SPG		inch	mm		Kg/cm ²	u	Kgs	ØA	F	P	Q	T	ØB	
N.A.	6827M086/TE/SPG	M-42	1/4"	8	3.5	10	35°	0.7	12.7	90	100	47	1.65	N.A.	
6827M167/TE/TC	6827M166/TE/SPG	M-52	1/2"	15	3.5	10	50°	1.3	12.7	112	124	59	1.65	25	
6827M217/TE/TC	6827M216/TE/SPG	M-62	3/4"	20	5	10	45°	2.5	19.05	117	171.5	74	1.65	50.5	
6827M267/TE/TC	6827M266/TE/SPG	M-62	1"	25	12.5	10	40°	2.6	25.4	127	171.5	74	1.65	50.5	
6827M417/TE/TC	6827M416/TE/SPG	M-102	1-1/2"	40	36	10	35°	10.2	38.1	146	273	120	1.65	50.5	
6827M517/TE/TC	6827M516/TE/SPG	M-122	2"	50	42	10	35°	14.0	50.4	159	300	144	1.65	63.9	
6827M667/TE/TC	6827M666/TE/SPG	M-123	2-1/2"	65	53	06	30°	15.0	63.5	190	312	144	1.65	77.4	
6827M817/TE/TC	6827M816/TE/SPG	CY-150	3"	80	62	06	31°	17.9	90.9	270	375	180	1.65	90.9	
6827M1007/TE/TC	6827M1006/TE/SPG	CY-150	4"	100	72	06	31°	19.9	101.6	292	425	190	2.11	118.9	

Pneu. Valve with valve Positioner



Valve Model No	Actuator (Normally Close)	Size		Dimensions		
PTFE/EPDM		inch	mm	B	C	F
6827M166/167	K-52	1/2"	15	63.5	199	112
6827M216/217	K-62	3/4"	20	80	225	117
6827M266/267	K-62	1"	25	80	225	127
6827M416/417	K-102	1 1/2"	40	131	315	146
6827M516/517	K-122	2"	50	161	357	159
6827M666/667	K-123	2 1/2"	65	161	375	190
6827M816/817	CY-150	3"	80	180	450	270
6827M1016/1017	CY-150	4"	100	213	517	292

Pneu. Valve with Feedback Unit

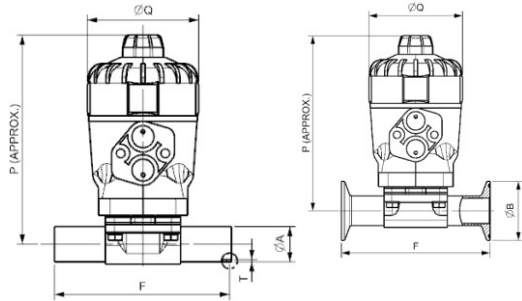


Valve Model No	Actuator (Normally Close)	Size		Dimensions		
PTFE/EPDM		inch	mm	B	C	F
6827M166/167	K-52	1/2"	15	63.5	199	112
6827M216/217	K-62	3/4"	20	80	225	117
6827M266/267	K-62	1"	25	80	225	127
6827M416/417	K-102	1 1/2"	40	131	315	146
6827M516/517	K-122	2"	50	161	357	159
6827M666/667	K-123	2 1/2"	65	161	375	190
6827M816/817	CY-150	3"	80	180	450	270
6827M1016/1017	CY-150	4"	100	213	517	292

Pneumatic Diaphragm Valve

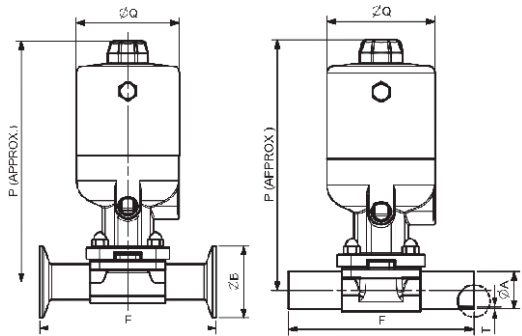
6827F (Forged)

6827F - Forged SPG & TC Pneumatic Diaphragm Seated Valves (Pa6).



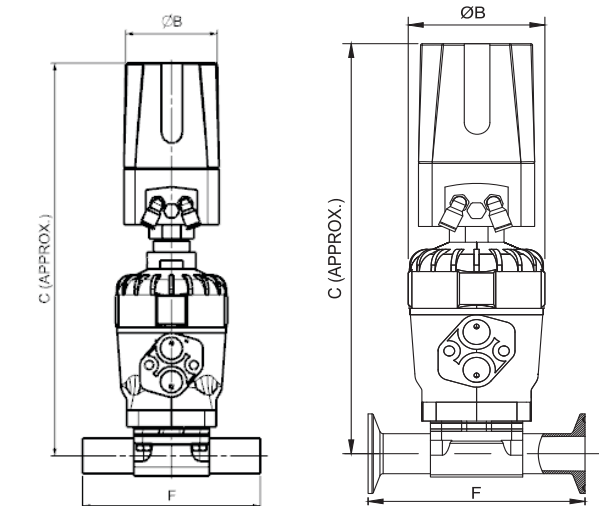
Valve Model No		Actuator (normally close)	Size		Flow Kv	Pressure Kg/cm ²	Drain Angle u	Weight Kgs	Dimensions						
TC	SPG		inch	mm	M3Hr				ØA	F	P	Q	T	ØB	
6827F167/TE/TC	6827F166/TE/SPG	K-52	1/2"	15	3.5	10.0	20°	0.7	12.7	112	124	63.5	1.65	25	
6827F217/TE/TC	6827F216/TE/SPG	K-62	3/4"	20	5.0	10.0	21.5°	1.2	19.05	117	150	80	1.65	50.5	
6827F267/TE/TC	6827F266/TE/SPG	K-62	1"	25	12.5	10.0	21.5°	1.3	25.4	127	150	80	1.65	50.5	
6827F417/TE/TC	6827F416/TE/SPG	K-102	1-1/2"	40	36.0	10.0	25°	5	38.1	146	240	131	1.65	50.5	
6827F517/TE/TC	6827F516/TE/SPG	K-122	2"	50	42.0	10.0	30°	7.3	50.4	159	282	161	1.65	63.9	
6827F667/TE/TC	6827F666/TE/SPG	K-123	2-1/2"	65	53.0	6.0	31.5°	8.1	63.5	190	300	161	1.65	77.4	

6827F - Forged SPG & TC Pneumatic Diaphragm Seated Valves (SS).



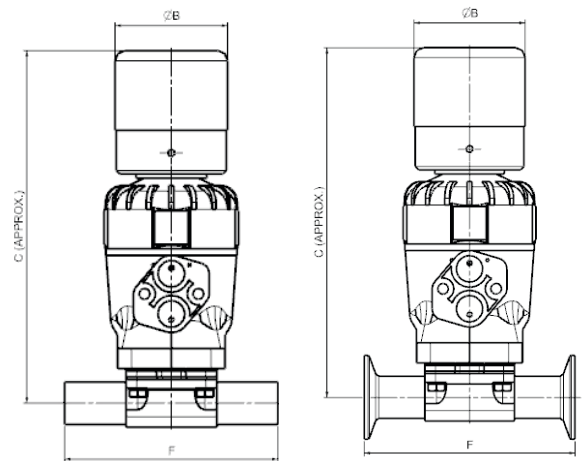
Valve Model No		Actuator (normally close)	Size		Flow Kv	Pressure Kg/cm ²	Drain Angle u	Weight Kgs	Dimensions						
TC	SPG		inch	mm	M3Hr				ØA	F	P	Q	T	ØB	
6827F087/TE/TC	6827F086/TE/SPG	M-42	1/4"	8	3.5	10	35°	0.7	12.7	90	100	47	1.65	25	
6827F167/TE/TC	6827F166/TE/SPG	M-52	1/2"	15	3.5	10	50°	1.3	12.7	112	124	59	1.65	25	
6827F217/TE/TC	6827F216/TE/SPG	M-62	3/4"	20	5	10	45°	2.5	19.05	117	171.5	74	1.65	50.5	
6827F267/TE/TC	6827F266/TE/SPG	M-62	1"	25	12.5	10	40°	2.6	25.4	127	171.5	74	1.65	50.5	
6827F417/TE/TC	6827F416/TE/SPG	M-102	1-1/2"	40	36	10	35°	10.2	38.1	146	273	120	1.65	50.5	
6827F517/TE/TC	6827F516/TE/SPG	M-122	2"	50	42	10	35°	14.0	50.4	159	300	144	1.65	63.9	
6827F667/TE/TC	6827F666/TE/SPG	M-123	2-1/2"	65	53	06	30°	15.0	63.5	190	312	144	1.65	77.4	
6827F817/TE/TC	6827F816/TE/SPG	CY-150	3"	80	62	06	31°	17.9	90.9	270	375	180	1.65	90.9	
6827F1007/TE/TC	6827F1006/TE/SPG	CY-150	4"	100	72	06	31°	19.9	101.6	292	425	190	2.11	118.9	

Pneu. Valve with valve Positioner



Valve Model No	Actuator (Normally Close)	Size		Dimensions		
PTFE/EPDM		inch	mm	B	C	F
6827F166/167	K-52	1/2"	15	63.5	199	112
6827F216/217	K-62	3/4"	20	80	225	117
6827F266/267	K-62	1"	25	80	225	127
6827F416/417	K-102	1 1/2"	40	131	315	146
6827F516/517	K-122	2"	50	161	357	159
6827F666/667	K-123	2 1/2"	65	161	375	190
6827F816/817	CY-150	3"	80	180	450	270
6827F1016/1017	CY-150	4"	100	213	517	292

Pneu. Valve with Feedback Unit



Valve Model No	Actuator (Normally Close)	Size		Dimensions		
PTFE/EPDM		inch	mm	B	C	F
6827F166/167	K-52	1/2"	15	63.5	199	112
6827F216/217	K-62	3/4"	20	80	225	117
6827F266/267	K-62	1"	25	80	225	127
6827F416/417	K-102	1 1/2"	40	131	315	146
6827F516/517	K-122	2"	50	161	357	159
6827F666/667	K-123	2 1/2"	65	161	375	190
6827F816/817	CY-150	3"	80	180	450	270
6827F1016/1017	CY-150	4"	100	213	517	292

Design & Manufacturing Standards

Design Standard	ASME BPE
Testing Standard	EN12266-1
Certification Standard	EN-10204: 2.1,2.2,3.1
Surface Finish	ASME BPE (SF4)
PTFE Compliance	US FDA CFR177.1550 (PTFE)

Benefits

High Flow Rate
Minimal Pressure Loss
Reducing Flow Impedance
High Temperatures
Large Flow Rates
Anti-water Hammer Proof
Used With Contaminated Fluids
High Cycle Life
Optical Position Indication Standard

Applications

Food and Beverage
Pharmaceuticals
Chemical Processing
Water Treatment
HVAC Systems.
Suitable for neutral, Slightly Highly Aggressive and Aggressive Media.

Operating Conditions

Service	Water/Air/Steam/Aggressive Media
Design Temp	180 °C
Operating Pr.	10 Kg/cm ² (g)
Design Pressure	12 Kg/cm ² (g)/FV
Vapour	Yes
Viscosity cP	As of service

Material of Construction

Body	ASTM 351-CF8/CF8M/CF3M
Stem Assembly	ASTM 351-CF8/CF8M/CF3M
Seat Material	Food Grade PTFE
Studs/Nuts	SS 304

Pneumatic Actuator

Type	Linear
Construction	Piston actuated (Single acting or double acting)
Hand Wheel	-
Material of construction	Plastic(Gr PA 6) & SS 304
Input	-
Air Signal Supply Bar (g)	4 to 6 BAR
Pneumatic Connections	1/4" BSP (F)
Fail Safe Position	Normally Closed / Open
Local Position Indicator	Impact Resistant Thermoplastic Dome

End Connections

Inlet	Spigot/Triclover (Standard)/ Threaded OR Flanged (Optional)
Outlet	Spigot/Triclover (Standard)/ Threaded OR Flanged (Optional)

Finish

Internal	Electro polished to <0.38µm Ra as per ASME BPE (SF4)
External	Mirror Polished to 180 Grit

Performance Characteristics

Hydro Test Pressure	Body 15.0 Kg/ cm ² (g)
Hydro Test Pressure	Seat 10Kg/cm ² (g)

Pneumatic Angle Seat Valve

6812M/6212M Series



Accessories

Solenoid Valves (optional)

Type	3/2 way, Normally close energise to open
Coil voltage	230AC/24 DC/suitable for safe area
Air Supply Bar (g)	4 to 8
Material	PA6/Brass/SS-304
Air Connection	1/4" BSPT (F)
Cable Entry	Plug in connector PG-9
Area Classification	Safe area, Weatherproof suitable for min. IP 65

Proximity Sensor (optional)

Proximity Switch	
Make	P & F or equivalent
Type	Inductive Proximity switches, 2 wire
Area classification	Safe area, Weatherproof suitable for min. IP 65
No. of Switches	2 Nos. (1 No. Each for open & close positions)
Cable Entry	1/2" NPT (F) - 2 Nos. (1 No. Plugged)

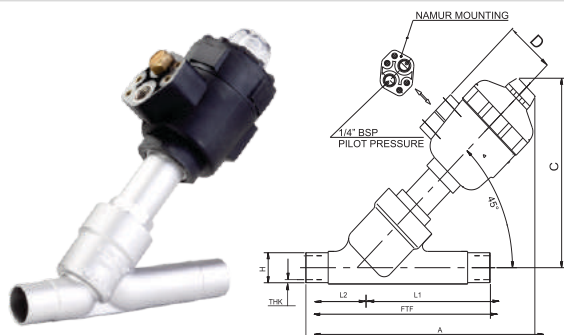
Electronic Valve Positioner (Optional)

MOC	Plastic (Gr PA6-GF30) (Standard) SS-304 (Optional)
Signal Input	4-20mA
Power Supply	24V DC $\pm$ 10%
Ambient Temperature	0-70 °C
Supply air Pressure	4-6 Bar
Protection Class	IP-65

Pneumatic Angle Seat Valve

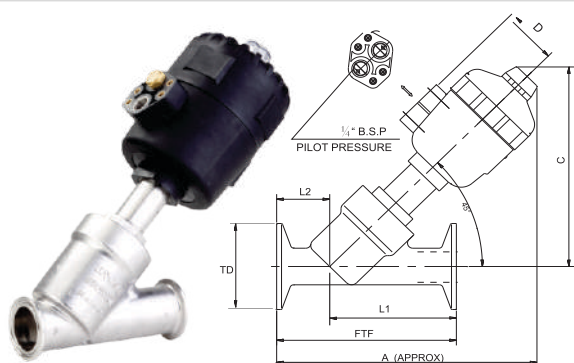
6812M/6212M Series

6812M-Casted SPG, Pneumatically Operated Angle Seated Valve



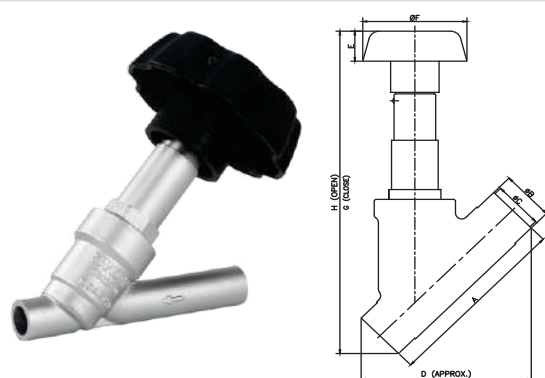
Valve Model No	Size		Actuator (normally	Flow K _v	Pressure	Weight	Dimensions							
PTFE	INCH	MM	close)	M ₃ Hr	Kg/cm ²	Kgs	A	C	D	H	L1	L2	FTF	THK
6812M166/T/SPG	1/2"	15	K-51	4.3	12.0	0.97	182	157	44	12.7	72.5	32.5	89	1.65
6812M216/T/SPG	3/4"	20	K-51	5.4	12.0	1.18	187	162	44	19.05	90.5	29.5	120	1.65
6812M266/T/SPG	1"	25	K-51	13.6	10.0	1.83	209	180	44	25.4	96	29	150	1.65
6812M416/T/SPG	1 1/2"	40	K-81	31.8	10.0	2.35	265	226	60.5	38.1	133	27	160	1.65
6812M516/T/SPG	2"	50	K-81	54.8	10.0	3.27	270	226	60.5	50.8	148	32	180	1.65
6812M666/T/SPG	2 1/2"	65	K-121	59	6	5.8	347	295	87	63.5	240	50	290	1.65
6812M816/T/SPG	3"	80	K-121	65	5	6.0	375	320	87	76.2	255	55	310	1.65

6812M-Casted TC, Pneumatically Operated Angle Seated Valve



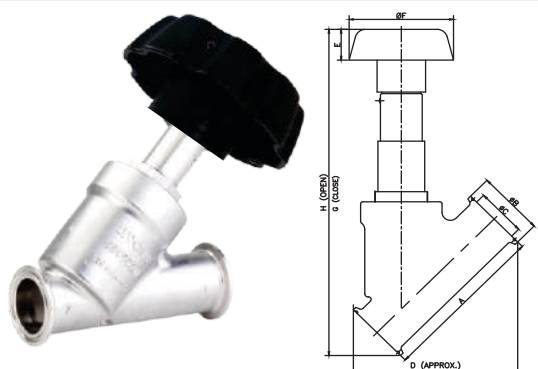
Valve Model No	Size	Actuator (normally	Flow Kv	Pressure	Weight	Dimensions								
PTFE	INCH	MM	close)	M ₃ Hr	Kg/cm2	Kgs	A	C	D	L1	L2	FTF	TD	
6812M167/T/TC	1/2"	15	K-51	4.3	12.0	0.97	182	157	44	71.6	30	101.6	25	
6812M217/T/TC	3/4"	20	K-51	5.4	12.0	1.18	187	162	44	71.6	30	101.6	50.4	
6812M267/T/TC	1"	25	K-51	13.6	10.0	1.83	209	180	44	81.3	33	114.3	50.4	
6812M417/T/TC	1 1/2"	40	K-81	31.8	10.0	2.35	270	226	60.5	112.7	27	139.7	50.4	
6812M517/T/TC	2"	50	K-81	54.8	10.0	3.27	277	230	60.5	126.7	32	158.7	63.9	
6812M667/T/TC	2 1/2"	65	K-121	59	6	5.8	360	290	87	143.8	50	193.8	77.4	
6812M817/T/TC	3"	80	K-121	65	5	6.0	375	320	87	167.3	55	222.3	90.9	

6212M - Casted SPG, Hand Operated Angle Seated Valve



Valve Model No	Size	Flow Kv	Pressure	Weight	Dimensions					
PTFE	INCH	MM	M ₃ Hr	Kg/cm ²	Kgs	A	ØB	C	D	TD
6212M166/T/SPG	1/2"	15	4.3	12.0	0.97	89	12.7	9.4	105	25
6212M216/T/SPG	3/4"	20	5.4	12.0	1.18	120	19.05	15.75	122	50.4
6212M266/T/SPG	1"	25	13.6	10.0	1.83	150	25.4	22.1	140	50.4
6212M416/T/SPG	1 1/2"	40	31.8	10.0	2.35	160	35.1	34.8	140	50.4
6212M516/T/SPG	2"	50	54.8	10.0	3.27	180	50.8	47.5	164	63.9

6212M - Casted TC, Hand Operated Angle Seated Valve



Valve Model No	Size	Flow Kv	Pressure	Weight	Dimensions				
PTFE	INCH	MM	M ₃ Hr	Kg/cm2	Kgs	A	ØB	ØC	H
6212M167/T/TC	1/2"	15	4.3	12.0	0.97	101.6	25	9.4	188
6212M217/T/TC	3/4"	20	5.4	12.0	1.18	101.6	50.4	15.75	224
6212M267/T/TC	1"	25	13.6	10.0	1.83	114.3	50.4	22.1	242
6212M417/T/TC	1 1/2"	40	31.8	10.0	2.35	139.7	50.4	34.8	252
6212M517/T/TC	2"	50	54.8	10.0	3.27	158.7	63.9	47.5	327

Zero Dead Leg Block Valve

Design & Manufacturing Standards

Design Standard	ASME BPE
Testing Standard	EN12266-1
Certification Standard	EN-10204: 2.1,2.2,3.1
Surface Finish	ASME BPE (SF4)
Diaphragm Compliance	USP CLASS VI Biological Reactivity Test In Vitro and In Vivo US FDA CFR177.1550(PTFE) US FDA CFR177.2600(EPDM)

Benefits

As per Customer's specific P&ID design
Compact design
Combination of many different Pipe diameters
Optimized drain ability
Minimized dead leg
Reduced surface contact, hold up volume & cross
Contamination of the product
Reduction of multiple fittings, tubing & Piping in the
system
Reduced Qualification & Validation Documentation

Applications

Isolating Pipelines
Distribution
Point of Use
Sampling
Diverting, Mixing
Bypass
Draining
Process Sterilization (SIP/CIP).
Dosing
Feeding

Operating Conditions

Service	Purified Water/ WIFI/ AIR/ GAS/ CIP/ SIP Intermediate and final products in the pharmaceutical & biotechnology industries.
Operating Temp	Ambient/85 °C(EPDM) 155 °C(PTFE)
Design Temp	150 °C
Operating Pr.	10 Kg/cm ² (g)
Design Pressure	12 Kg/cm ² (g)/ FV
Vapour	Yes
Viscosity cP	As of service
Specific Gravity	~1
pH	As of service

Material of Construction

Body	ASTMA 182 SS 316L
Diaphragm Material	EPDM or PTFE with EPDM backup
Studs/Nuts	SS 304

Pneumatic Actuator

Type	Linear
Construction	Piston actuated (Single acting or double acting)
Material of construction	Plastic-PA 6GF30 & SS 304
Hand Wheel	Plastic-PA 6GF30 & SS 304

Input for Pneumatic Actuator

Air Signal Supply Bar (g)	4 to 6 BAR
Pneumatic Connections	1/4" BSP (F)
Fail Safe Position	Normally Closed
Local Position Indicator	Impact Resistant Thermoplastic Dome

End Connections

Inlet	Spigot end as per BS 4825/ASME BPE
Outlet	Spigot end as per BS 4825/ASME BPE



Finish

Internal	Electro polished to <0.38µm Ra as per ASME BPE (SF4)
External	Mirror Polished to 180 Grit

Performance Characteristics

Hydro Test Pressure	Body 15.0 Kg/ cm ² (g)
Air Test Pressure	Seat 6Kg/cm ² (g)

Accessories

Solenoid Valves (optional)

Type	3/2 way, Normally close energies to open
Coil voltage	230AC/24 DC/suitable for safe area
Air Supply Bar (g)	4 to 8
Material	PA6/Brass/SS-304
Air Connection	1/4" BSPT (F)
Cable Entry	Plug in connector PG-9
Area Classification	Safe area, Weatherproof suitable for min. IP 65

Proximity Sensor (optional)

Proximity Switch	
Make	P & F or equivalent
Type	Inductive Proximity switches, 2 wire
Area classification	Safe area, Weatherproof suitable for min. IP 65
No. of Switches	2 Nos. (1 No. Each for open & close positions)
Cable Entry	1/2" NPT (F) - 2 Nos. (1 No. Plugged)

Stroke Limiter (optional)

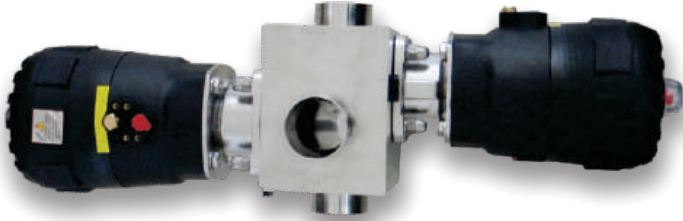
Function	Actuators of diaphragm Valves
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Smart Positioner (optional)

MOC	PA6-GF30
Signal Input	4-20mA
Power supply	24V DC ±10%
Ambient temperature	0-70 °C
Supply Air pressure	4-6 Bar
Protection class	IP-66
Explosion-proof class	Ex nA II Ct4

Multi Port Zero Dead Leg Block Valve

4/2 Way, "T" Port Integrated Block Valve



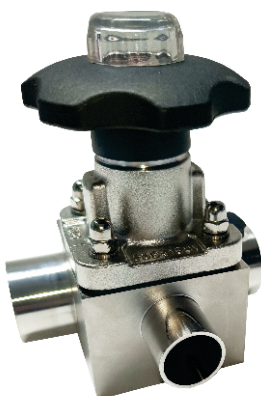
4/2 Way, "L" Port Integrated Block Valve



"L" Port ZDL Manual Block Valve



"T" Port ZDL Manual Block Valve



MULTI PORT BLOCK VALVES

The technological evaluation in the Pharmaceuticals & Biotech industries, demands for stringent quality, Human safety & High efficiency from process system components.

To meet these growing demands, Avcon controls are offering engineering solutions to process piping by developing Customised multiport block valves. Our block valves provides minimum dead-legs, maximum drainability & simplify system Validation.

Our highly experience Design & development team is using highend design Software to assist in 3D modelling, fluid dynamics & finite element analysis

Advantages & Key Features.

- Block bodies are machined from forged blocks upto 2". Above 2" they are machined from the plates as per ASTM A 262/262M & ASTM A 240/240M.
- Material SS-316L as per ASME BPE.
- Customised multiport configurations for piping systems
- Compact design provides space optimisation
- Reduce hold up volume
- Simplified Validation by single block body
- Integrated design provides easy installation shorter CIP, enhanced cleanability, minimise system welds.
- Available with Avcon's standard diaphragms actuators

Multi-port valve Application

- Mixing
- Diverting
- Sampling
- Dumping
- Auto Switching
- CIP/SIP/Product Transfer

Design & Manufacturing Standards

Design Standard	ASME BPE
Testing Standard	EN12266-1
Certification Standard	EN-10204:2.1,2.2,3.1
Surface Finish	ASME BPE (SF4)
Diaphragm Compliance	USP CLASS VI Biological Reactivity Test In Vitro and In Vivo US FDA CFR177.1550(PTFE) US FDA CFR177.2600(EPDM)

Benefits

Very compact design, ideal for applications where space is at a premium
Minimal deadlegs and optimized draining capabilities
The valve body is machined from a single piece of block Material (mono block-no welded components)
CIP/SIP capable and sterilisable
The internal surface finish of the valve body is available Mechanically and/or electro polished is Ra 0.38 µm
Optimised flow geometry
Welding into the tank bottom is simplified by a welding neck (standard 6 mm)
Available with manual, pneumatic actuator
Optical and/or electrical position indicators are available as actuator instrumentation

Applications

Manual or air actuated outlet valve for sterile vessel
Upstream:
Bioreactor/Fermenter:vessels
Perfused bioreactors: retentate or permeate vessels
Downstream: Outlet valve for process vessels in the following production
Areas: separation, filtration, chromatography, formulation

Operating Conditions

Service	Manual or air actuated outlet valve for sterile vessel.
Operating Temp	Ambient/85 °C(EPDM) 155 °C(PTFE)
Design Temp	150 °C
Operating Pr.	10 Kg/cm ² (g)
Design Pressure	12 Kg/cm ² (g)/ FV
Vapour	Yes
Viscosity cP	As of service
Specific Gravity	~1
pH	As of service

Material of Construction

Body	ASTMA 182 SS 316L
Diaphragm Material	EPDM or PTFE with EPDM backup
Studs/Nuts	SS 304

Pneumatic Actuator

Type	Linear
Construction	Piston actuated (Single acting or double acting) Manual
Material of construction	Plastic-PA 6GF30 & SS 304
Hand Wheel	Plastic-PA 6GF30 & SS 304

Input for Pneumatic Actuator

Air Signal Supply Bar (g)	4 to 6 BAR
Pneumatic Connections	1/4" BSP (F)
Fail Safe Position	Normally Closed
Local Position Indicator	Impact Resistant Thermoplastic Dome

End Connections

Inlet	Spigot end as per BS 4825/ASME BPE
Outlet	Spigot end as per BS 4825/ASME BPE

Flush Bottom Valve 6829 FBV (Radial) Tank Sampling Valve 6226 TSV (Radial)



Finish

Internal	Electro polished to <0.38µm Ra as per ASME BPE (SF4)
External	Mirror Polished to 180 Grit

Performance Characteristics

Hydro Test Pressure Body	15.0 Kg/ cm ² (g)
Air Test Pressure	6Kg/cm ² (g)

Accessories

Solenoid Valves (optional)

Type	3/2 way, Normally close energies to open
Coil voltage	230AC/24 DC/suitable for safe area
Air Supply Bar (g)	4 to 8
Material	PA6/Brass/SS-304
Air Connection	1/4" BSPT (F)
Cable Entry	Plug in connector PG-9
Area Classification	Safe area, Weatherproof suitable for min. IP 65

Proximity Sensor (optional)

Proximity Switch	
Make	P & F or equivalent
Type	Inductive Proximity switches, 2 wire
Area classification	Safe area, Weatherproof suitable for min. IP 65
No. of Switches	2 Nos. (1 No. Each for open & close positions)
Cable Entry	1/2" NPT (F) - 2 Nos. (1 No. Plugged)

Stroke Limiter (optional)

Function	Actuators of diaphragm Valves
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Smart Positioner (optional)

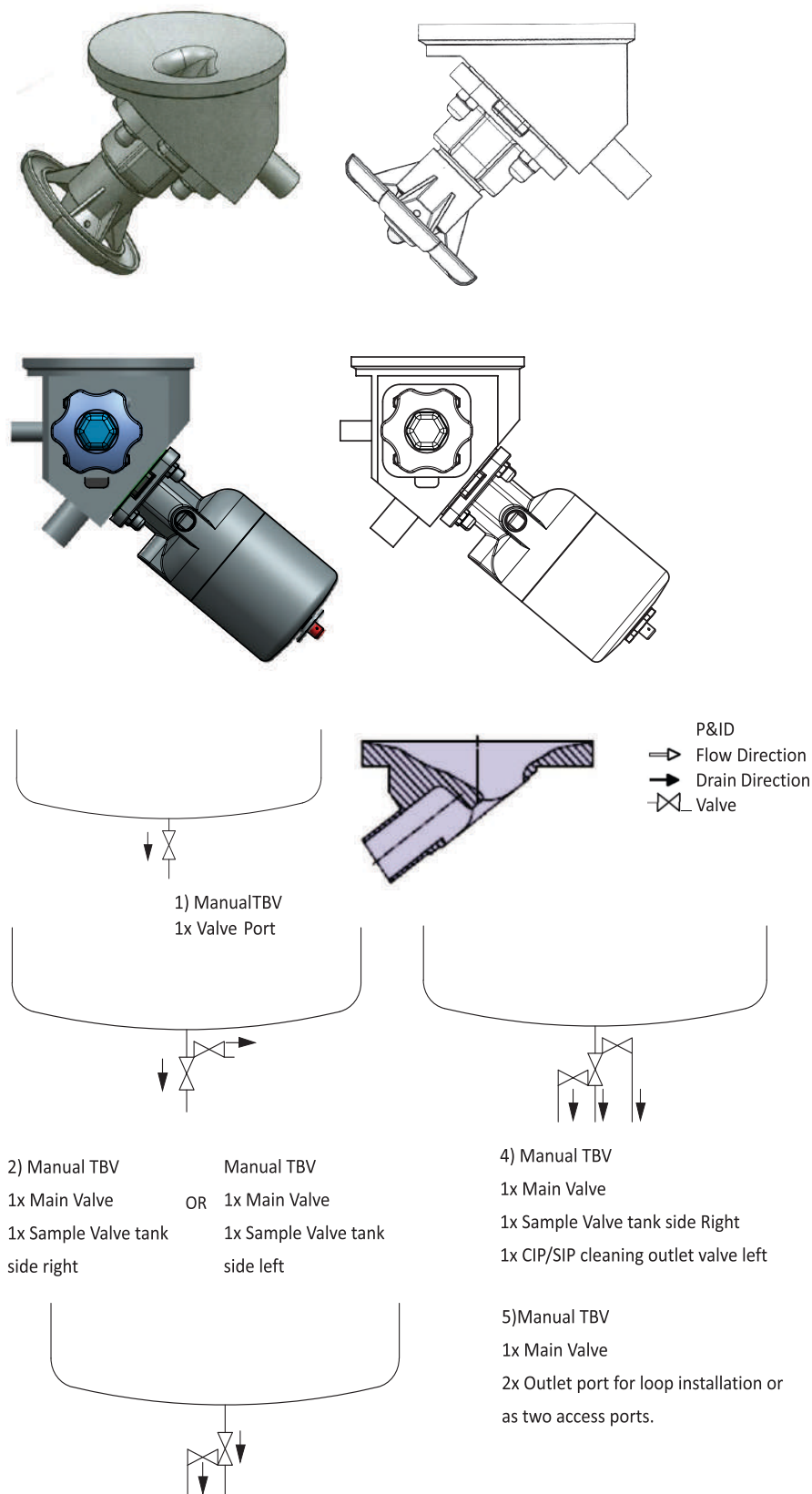
MOC	PA6-GF30
Signal Input	4-20mA
Power supply	24V DC ±10%
Ambient temperature	0-70 °C
Supply Air pressure	4-6 Bar
Protection class	IP-66
Explosion-proof class	Ex nA II Ct4

TANK BOTTOM VALVES

The AVCON Tank Bottom Valves are designed for applications in the aseptic process industry offering a pocket-free interior surface, minimized sump, eliminating entrapment areas and minimized flow resistance, hence eliminating potential process contamination.

The tank valve body is machined from solid bar stock material 316L as per ASME BPE. The standard design offers one valve port outlet. Different options are available for sampling, sterilization and multi-outlet configurations for the customized solutions.

To minimize the hold up volume we recommend to weld TBV directly to vessel. Tank Bottom valves are typically used for tank discharge, draining, sampling, cleaning and / or sterilizing, rinsing and isolation of downstream processing.



Features:

- Valve body machined from a solid bar stock material.
- Material 316L as per ASME BPE.
- Minimized dead leg and internal sump.
- Suitable for mounting with AVCON K-Series Pneumatic Actuator.

Accessories

- Stainless Steel Actuator
- Feedback Position
- Positioner
- Spare Diaphragm

**Sanitary Pneumatic SS Actuated
Ball Valve - 2390(V) / 2390(R)
Ball Valve - 2370(V) / 2370(R)
Butterfly Valve - 4322M(V) / 4322M(R)**

Design & Manufacturing Standards

Design Standard	ASME BPE
Testing Standard	EN12266-1
Surface Finish	ASME BPE (SF:2.4-1)
Conformity Standard	EN:10204

Pneumatic Actuator

Actuator Type	Linear Vertical Actuator / Rotary
Actuator Body	SS-304
Bracket	SS-304
Signal Pressure	3.5 to 6 bar
Pneumatic Connection	1/4" BSP

**Ball Valve
2370(V)**



**Ball Valve
2370M(R)**



Process Parameters

Service	Air/Water/Steam/Slightly
Working Temperature	Pneumatic Connection 1/4" BSP
Working Pressure	PTFE upto 180 °C
	10 Bar

Benefits

Maintenance-free pneumatic Rotary & Linear actuator With "Normally Closed", "Normally Open" or "Double Acting" Orientations. Available with the control unit & interface unit Standard ISO pattern mounting pad Stainless steel Construction: Forged body & ball. Two & Three Piece design with floating seals Optionally available with cavity-filled seat FDA approved PTFE seat High temperature & pressure rating Low maintenance Low torque High-grade surface finish Suitable for vacuum applications CIP/SIP capable

Applications

Food & Drinks:
Soups & Sauces, Flavorings & Ingredients, Brewery, Wine, Fats & Oils, Animal Oils.
Personal Care: Extracts, Face Creams & Lotions
Perfumes Soaps. Hair Styling Gels & Liquids, Dyes & Alcohols.
Chemical: Paints, Adhesives, Coatings, Oils & Lubricants, Detergents Emulsions, Fuels.
Utilities: Steam, CIP Flush, High Purity Water, Water for Injection (WFI).

Valve Conditions

Valve Body	SS.304/316/316L as per ASTM A 276A/182A
Body Pressure Rating	16 Bars
Surface Finish	Internal : 0.4 Ra Max
End Connections	Spigot & TC as per ASME BPE/ BS 4825

**Butterfly Valve
4322(V)**



**Butterfly Valve
4322M(R)**



Process Parameters

Service	Air/Gas/Liquid
Working Temperature	For EPDM : (-) 10 °C to 90 °C and Silicon upto 120 °C
Working Pressure	10 Bar

Elastomer

EPDM/Silicon	Seat Compliance
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Benefits

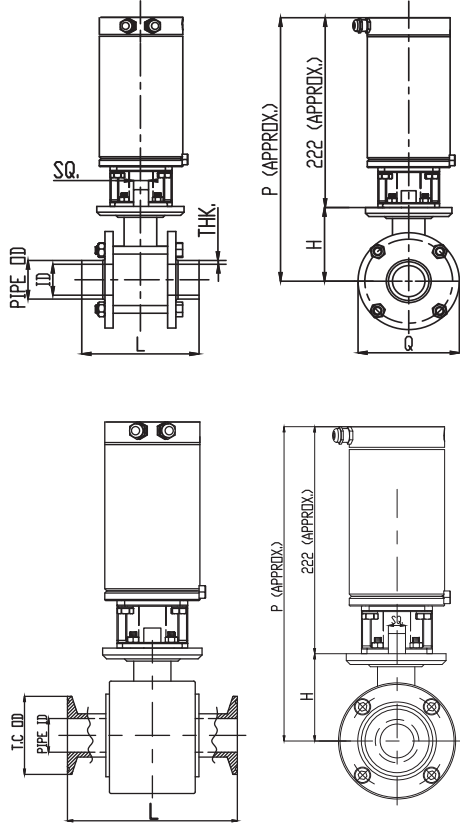
Maintenance-free pneumatic Rotary & Linear actuator With "Normally Closed", "Normally Open" or "Double Acting" orientations. Available with the identical control unit, controls interface Standard ISO pattern mounting pad. Construction: Forged SS-304, SS-316 or 316L body & disc. FDA-approved seat materials : EPDM, Silicone. Sanitary surface finish, with Ra < 0.4µm or EP (SF4) Suitable for low and medium viscosity fluids. 100% hydraulic tested / 100% inspected.

Applications

CIP Lines
Food & Beverage
Brewing, Distilling, and Wine Making
Dairy
Pharmaceuticals
Chemical Processing
Flavor and Fragrance

Sanitary Type Pneumatic Vertical Actuated Ball Valve - 2370M(V) and Butterfly Valve - 4322M(V)

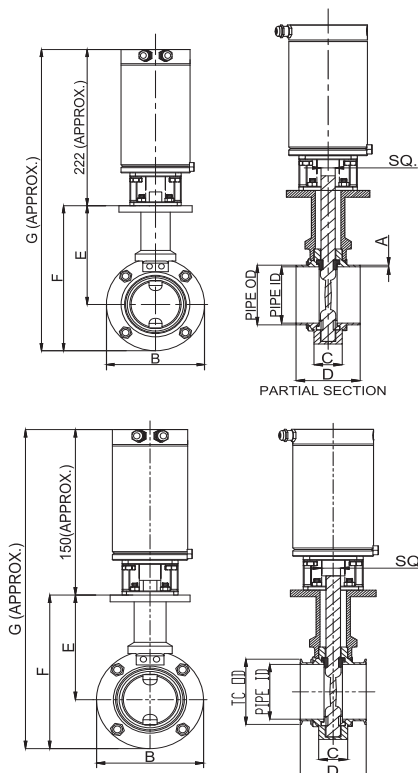
Sanitary Type Pneumatic Vertical Actuated Ball Valve - 2370M(V)



CAT. NO.	SIZE	ID	PIPE OD	THK	Q	H	P	SQ.	L
2370M166	1/2"	9.4	12.7	1.65	55	53.25	275.25	11	95
2370M216	3/4"	15.7	19.05	1.65	60	54.5	276.5	11	106
2370M266	1"	22.1	25.4	1.65	75	65	287	11	118
2370M416	1-1/2"	34.8	38.1	1.65	100	72	294	11	145
2370M516	2"	47.5	50.8	1.65	120	82.5	304.5	14	165
2370M666	2-1/2"	63	66.3	1.65	140	99	321	17	191

CAT. NO.	SIZE	PIPE OD	TC OD	H	P	SQ.	L
2370M167	1/2"	9.3	25	53.25	275.25	11	69.2
2370M217	3/4"	15.6	35	54.5	276.5	11	80.6
2370M267	1"	21.7	50.4	65	287	11	93
2370M417	1-1/2"	34	50.4	72	294	11	105
2370M517	2"	47.5	63.9	82.5	304.5	14	114
2370M667	2-1/2"	63	77.4	99	321	17	144

Sanitary Type Pneumatic Vertical Actuated Butterfly Valve - 4322(V)

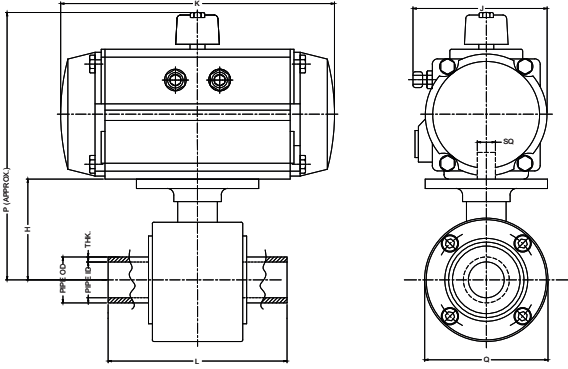


CAT. NO.	SIZE	PIPE ID	PIPE OD	A	B	C	D	E	F	G	SQ
4322M416	1-1/2"	34.8	38.1	1.65	77	22	60	87.5	126	348	11
4322M516	2"	47.5	50.8	1.65	85	22	60	91.5	134	356	11
4322M666	2-1/2"	60.2	63.5	1.65	108	22	60	104	158	380	11
4322M816	3"	72.9	76.2	1.65	122	22	72	114	178	400	14
4322M1016	4"	97.3	101.6	2.11	153	22	80	127.5	205	427	14
4322M1516	6"	146.8	152.4	2.77	200	25	85	152	252	474	14
4322M2016	8"	197.6	203.2	2.77	250	28	88	177	302	524	17

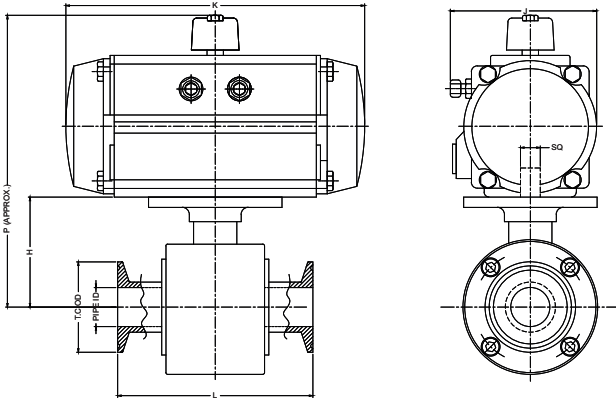
CAT. NO.	SIZE	PIPE ID	TC OD	B	C	D	E	F	G	SQ
4322M267	1"	22.1	50.4	75	22	60	86	123.5	343.5	11
4322M417	1 1/2"	34.8	50.4	77	22	60	87.5	126	348	11
4322M517	2"	47.5	63.9	85	22	60	91.5	134	356	11
4322M667	2 1/2"	60.2	77.4	108	22	60	104	158	380	11
4322M817	3"	72.9	90.9	122	22	72	114	178	400	14
4322M1017	4"	97.3	118.9	153	22	80	127.5	205	427	14
4322M1517	6"	146.8	166.9	200	25	85	152	252	474	14
4322M2017	8"	197.6	217.5	250	28	88	177	302	524	17

Sanitary Type Pneumatic Rotary Actuated Ball Valve - 2370M (R) and Butterfly valve - 4322M (R)

Sanitary Type Pneumatic Rotary Actuated Ball Valve - 2370M (R)

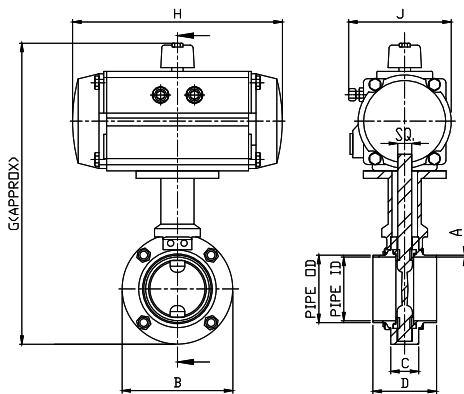


CAT. NO.	ACTUATOR MODEL	SIZE	PIPE ID	PIPE OD	THK	Q	H	P	SQ.	L	K	J
2370M166	ACT-063SR06	1/2"	9.4	12.7	1.65	55	53.25	175	11	69.2	173	82
2370M216	ACT-075SR06	3/4"	15.7	19.05	1.65	60	54.5	185	11	80.6	221	97
2370M266	ACT-090SR06	1"	22.1	25.4	1.65	75	65	210.5	11	93	260	104
2370M416	ACT-090SR07	1-1/2"	34.8	38.1	1.65	100	72	222.5	11	105	260	104
2370M516	ACT-115SR06	2"	47.5	50.8	1.65	120	82.5	241	14	114	312	132
2370M666	ACT-125SR06	2-1/2"	63	66.3	1.65	140	99	270	17	144	368	149

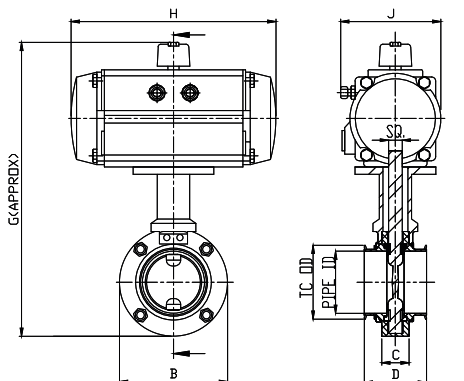


CAT. NO.	ACTUATOR MODEL	SIZE	PIPE ID	TC OD	L	K	J	H	P	SQ.
2370M167	ACT-063SR06	1/2"	9.3	25	69.2	173	82	53.25	175	11
2370M217	ACT-075SR06	3/4"	15.6	35	80.6	221	97	54.5	185	11
2370M267	ACT-090SR06	1"	21.7	50.4	93	260	104	65	210.5	11
2370M417	ACT-090SR07	1-1/2"	34	50.4	105	260	104	72	222.5	11
2370M517	ACT-115SR06	2"	47.5	63.9	114	312	132	82.5	241	14
2370M667	ACT-125SR06	2-1/2"	63	77.4	144	368	149	99	270	17

Sanitary Type Pneumatic Rotary Actuated Butterfly Valve - 4322M (R)



CAT. NO.	ACTUATOR MODEL	SIZE	PIPE ID	PIPE OD	A	B	C	D	H	J	G	SQ
4322M416	ACT-050D	1-1/2"	34.8	38.1	1.65	77	22	60	157	70	212.5	11
4322M516	ACT-063D	2"	47.5	50.8	1.65	85	22	60	173	82	239	11
4322M666	ACT-063D	2-1/2"	60.2	63.5	1.65	108	22	60	173	82	263	11
4322M816	ACT-063D	3"	72.9	76.2	1.65	122	22	72	173	82	283	14
4322M1016	ACT-090D	4"	97.3	101.6	2.11	153	22	80	260	104	340	14
4322M1516	ACT-0100D	6"	146.8	152.4	2.77	200	25	85	290	122	399	14
4322M2016	ACT - 0115D	8"	197.6	203.2	2.77	250	28	88	312	132	472	17



CAT. NO.	ACTUATOR MODEL	SIZE	PIPE ID	TC OD	B	C	D	H	J	G	SQ
4322M417	ACT-050D	1-1/2"	34.8	50.4	77	22	60	157	70	212.5	11
4322M517	ACT-063D	2"	47.5	63.9	85	22	60	173	82	239	11
4322M667	ACT-063D	2-1/2"	60.2	77.4	108	22	60	173	82	263	11
4322M817	ACT-063D	3"	72.9	90.9	122	22	72	173	82	283	14
4322M1017	ACT-090D	4"	97.3	118.9	153	22	80	260	104	340	14
4322M1517	ACT-0100D	6"	146.8	166.9	200	25	85	290	122	399	14
4322M2017	ACT - 0115D	8"	197.6	217.5	250	28	88	312	132	472	17

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Office & Works Unit -III



Office & Works Unit -II



Office & Works Unit -IV

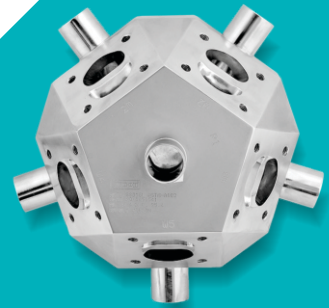
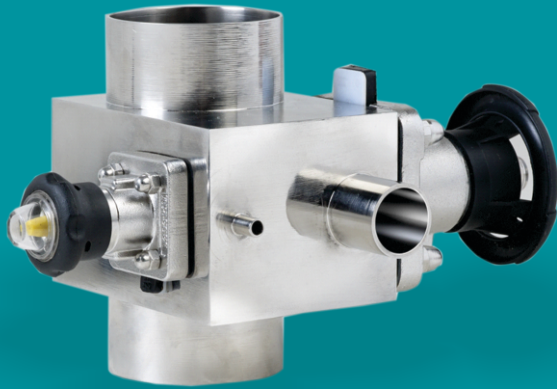
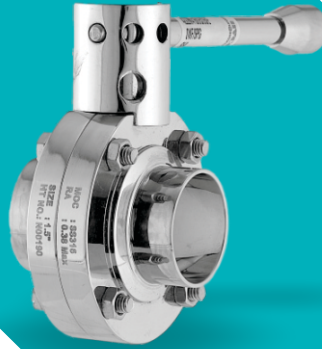
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