

VALBERS



밸버스 종합 카다로그 v1.0



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# PNEUMATIC VALVE



## 1-PIECE SCREWED BALL VALVE - DOUBLE ACTING



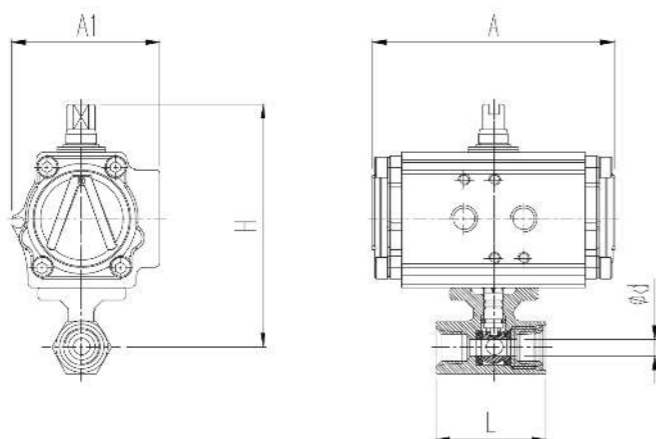
### Application

- Water Distribution Pipes
- Industrial Cleaning Machines
- Sterilizers, Boilers
- Air conditioners, Water Filters
- Medical equipments, Vacuum packing

### Specification

• This is subject to change.

Valve Size	10A (3/8")	15A (1/2")	20A (3/4")	25A (1")	32A (1-1/4")	40A (1-1/2")	50A (2")
Actuator Model	ADR40			ADR65			
Actuator Type	Double Acting						
Operating Media	Compressed Dry Air						
Operating Pressure	4 ~ 7kg/cm <sup>2</sup>						
Rotating Angle	90° ± 5°						
Fluid Temperature	-20°C ~ 80°C						
Rating	1000psi						
Body Material	A351-CF8 / Body		A351-CF8 / Ball			PTFE / Seat	
Accessory	Solenoid Valve, Limit Switch Box, Air Filter Regulator, E/P Positioner						



### Dimension

• END CONNECTION : PT SCREW (mm)

Model	Size		A	A1	H Approx.	L	φd
	mm	Inch					
ADR40-10S1	10A	3/8"	96	63	110	45	7
ADR40-15S1	15A	1/2"	96	63	111	55	9.2
ADR40-20S1	20A	3/4"	96	63	117	60	12.5
ADR40-25S1	25A	1"	96	63	120	73	15
ADR40-32S1	32A	1-1/4"	96	63	123	78	20
ADR65-40S1	40A	1-1/2"	131	89	159	89	25
ADR65-50S1	50A	2"	131	89	167	100	32

## 1-PIECE SCREWED BALL VALVE - SINGLE ACTING



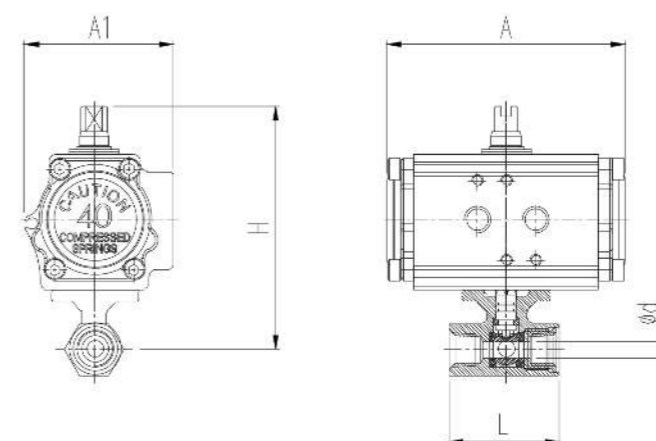
### Application

- Water Distribution Pipes
- Industrial Cleaning Machines
- Sterilizers, Boilers
- Air conditioners, Water Filters
- Medical equipments, Vacuum packing

### Specification

• This is subject to change.

Valve Size	10A (3/8")	15A (1/2")	20A (3/4")	25A (1")	32A (1-1/4")	40A (1-1/2")	50A (2")
Actuator Model	ASR40		ASR50		ASR65		ASR80
Actuator Type	Single Acting						
Operating Media	Compressed Dry Air						
Operating Pressure	4.5 ~ 7kg/cm <sup>2</sup>						
Rotating Angle	90° ± 5°						
Fluid Temperature	-20°C ~ 80°C						
Rating	1000psi						
Body Material	A351-CF8 / Body		A351-CF8 / Ball			PTFE / Seat	
Accessory	Solenoid Valve, Limit Switch Box, Air Filter Regulator, E/P Positioner						



### Dimension

• END CONNECTION : PT SCREW (mm)

Model	Size		A	A1	H Approx.	L	φd
	mm	Inch					
ASR40-10S1	10A	3/8"	96	63	110	45	7
ASR50-15S1	15A	1/2"	133	75	126	55	9.2
ASR50-20S1	20A	3/4"	133	75	132	60	12.5
ASR50-25S1	25A	1"	133	75	135	73	15
ASR50-32S1	32A	1-1/4"	133	75	139	78	20
ASR65-40S1	40A	1-1/2"	154	89	159	89	25
ASR80-50S1	50A	2"	220	101	186	100	32

## 3-PIECE SCREWED BALL VALVE - DOUBLE ACTING



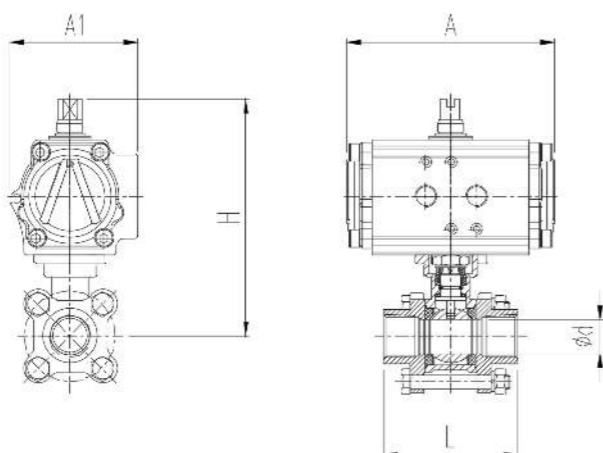
### Application

- Water Distribution Pipes
- Industrial Cleaning Machines
- Sterilizers, Boilers
- Air conditioners, Water Filters
- Medical equipments, Vacuum packing

### Specification

• This is subject to change.

Valve Size	8A(1/4")	10A(3/8")	15A(1/2")	20A(3/4")	25A(1")	32A(1-1/4")	40A(1-1/2")	50A(2")
Actuator Model	ADR40				ADR50	ADR65		ADR80
Actuator Type	Double Acting							
Operating Media	Compressed Dry Air							
Operating Pressure	4 ~ 7kg/cm <sup>2</sup>							
Rotating Angle	90° ± 5°							
Fluid Temperature	-20°C ~ 80°C							
Rating	1000psi							
Body Material	A351-CF8 / Body		A351-CF8 / Ball			PTFE / Seat		
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator, E/P Positioner							



### Dimension

• END CONNECTION : PT SCREW (mm)

Model	Size		A	A1	H Approx.	L	φ d
	mm	Inch					
ADR40-8S3	8A	1/4"	96	63	124	64	12.5
ADR40-10S3	10A	3/8"	96	63	124	64	12.5
ADR40-15S3	15A	1/2"	96	63	127	72	15
ADR40-20S3	20A	3/4"	96	63	133	80	20
ADR50-25S3	25A	1"	119	75	155	85	25
ADR65-32S3	32A	1-1/4"	131	89	177	105	32
ADR65-40S3	40A	1-1/2"	131	89	187	113	38
ADR80-50S3	50A	2"	189	101	221	132	50

## 3-PIECE SCREWED BALL VALVE - SINGLE ACTING



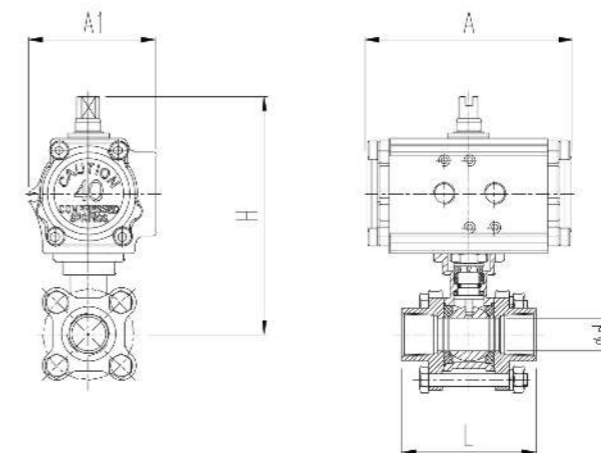
### Application

- Water Distribution Pipes
- Industrial Cleaning Machines
- Sterilizers, Boilers
- Air conditioners, Water Filters
- Medical equipments, Vacuum packing

### Specification

• This is subject to change.

Valve Size	8A(1/4")	10A(3/8")	15A(1/2")	20A(3/4")	25A(1")	32A(1-1/4")	40A(1-1/2")	50A(2")
Actuator Model	ASR40	ASR50		ASR65		ASR80		
Actuator Type	Single Acting							
Operating Media	Compressed Dry Air							
Operating Pressure	4.5 ~ 7kg/cm <sup>2</sup>							
Rotating Angle	90° ± 5°							
Fluid Temperature	-20°C ~ 80°C							
Rating	1000psi							
Body Material	A351-CF8 / Body		A351-CF8 / Ball			PTFE / Seat		
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator, E/P Positioner							



### Dimension

• END CONNECTION : PT SCREW (mm)

Model	Size		A	A1	H Approx.	L	φ d
	mm	Inch					
ASR40-8S3	8A	1/4"	96	63	124	64	12.5
ASR50-10S3	10A	3/8"	133	75	139	64	12.5
ASR50-15S3	15A	1/2"	133	75	142	72	15
ASR50-20S3	20A	3/4"	133	75	148	80	20
ASR65-25S3	25A	1"	154	89	172	85	25
ASR65-32S3	32A	1-1/4"	154	89	177	105	32
ASR80-40S3	40A	1-1/2"	220	101	206	113	38
ASR80-50S3	50A	2"	220	101	221	132	50

## ▶▶ FLANGED BALL VALVE - DOUBLE ACTING



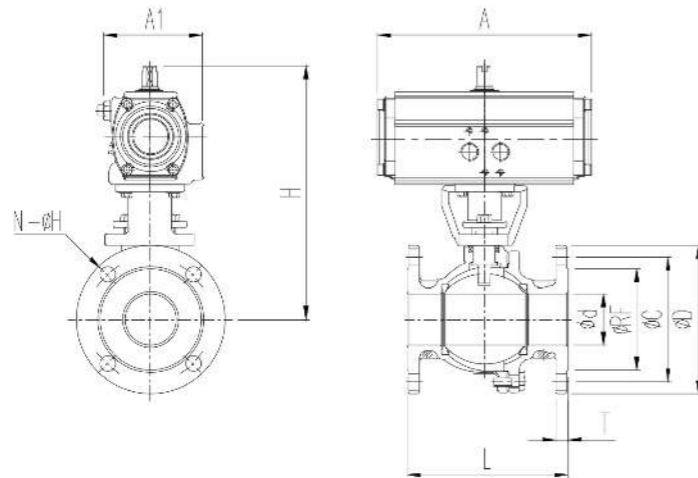
### Application

- Water Distribution Pipes
- Industrial Cleaning Machines
- Sterilizers, Boilers
- Air conditioners, Water Filters
- Medical equipments, Vacuum packing
- Food & Beverage lines
- Vacuum distribution pipes

### Specification

• This is subject to change.

Valve Size	15A(1/2")~250A(10")		
Actuator Model	AD50-AD200		
Actuator Type	Double Acting		
Operating Media	Compressed Dry Air		
Operating Pressure	4 ~ 7kg/cm <sup>2</sup>		
Rotating Angle	90° ±5°		
Fluid Temperature	-20°C ~ 150°C		
Rating	JIS 10K (20K) (40K)	ANSI 150# (300#) (600#)	
Body Material	SCS13 (SCS14, SCPH2)/Body	SCS13 (SCS14)/Ball	PTFE (RTFE, PEEK, METAL)/Seat
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator, E/P Positioner, Manual Handle		



### Dimension

Model	SIZE		A	A1	H Approx.	L	END CONNECTION (JIS 10K RF)					
	mm	inch					T	φd	φRF	φC	φD	N-φH
AD50-15F	15A	1/2"	162	75	188	108	12	15	51	70	95	4-15
AD50-20F	20A	3/4"	162	75	191	117	14	20	56	75	100	4-15
AD50-25F	25A	1"	162	75	200	127	14	25	67	90	125	4-19
AD65-32F	32A	1-1/4"	202	89	220	140	16	32	76	100	135	4-19
AD65-40F	40A	1-1/2"	202	89	242	165	16	40	81	105	140	4-19
AD65-50F	50A	2"	202	89	249	178	16	50	96	120	155	4-19
AD80-65F	65A	2-1/2"	253	101	279	190	18	65	116	140	175	4-19
AD80-80F	80A	3"	253	101	319	203	18	80	126	150	185	8-19
AD100-100F	100A	4"	311	129	357	229	18	100	151	175	210	8-19
AD125-125F	125A	5"	390	151	415	356	20	125	182	210	250	8-23
AD140-150F	150A	6"	431	164	480	394	22	150	212	240	280	8-23
AD160-200F	200A	8"	506	189	589	457	22	200	262	290	330	12-23
AD200-250F	250A	10"	605	231	720	533	24	250	324	355	400	12-25

## ▶▶ FLANGED BALL VALVE - SINGLE ACTING



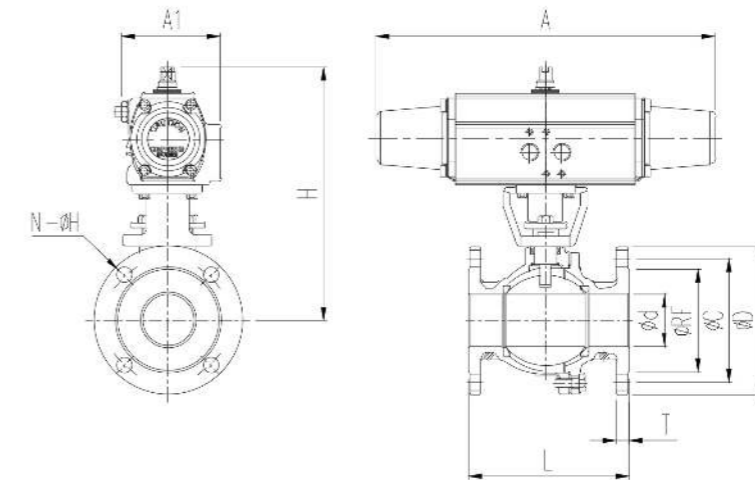
### Application

- Water Distribution Pipes
- Industrial Cleaning Machines
- Sterilizers, Boilers
- Air conditioners, Water Filters
- Medical equipments, Vacuum packing
- Food & Beverage lines
- Vacuum distribution pipes

### Specification

• This is subject to change.

Valve Size	15A(1/2")~200A(8")		
Actuator Model	AS50-AS200		
Actuator Type	Single Acting		
Operating Media	Compressed Dry Air		
Operating Pressure	4.5 ~ 7kg/cm <sup>2</sup>		
Rotating Angle	90° ±5°		
Fluid Temperature	-20°C ~ 150°C		
Rating	JIS 10K (20K) (40K)	ANSI 150# (300#) (600#)	
Body Material	SCS13 (SCS14, SCPH2)/Body	SCS13 (SCS14)/Ball	PTFE (RTFE, PEEK, METAL)/Seat
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator, E/P Positioner, Manual Handle		



### Dimension

Model	SIZE		A	A1	H Approx.	L	END CONNECTION (JIS 10K RF)					
	mm	inch					T	φd	φRF	φC	φD	N-φH
AS50-15F	15A	1/2"	257	75	188	108	12	15	51	70	95	4-15
AS50-20F	20A	3/4"	257	75	191	117	14	20	56	75	100	4-15
AS65-25F	25A	1"	314	89	217	127	14	25	67	90	125	4-19
AS65-32F	32A	1-1/4"	314	89	220	140	16	32	76	100	135	4-19
AS80-40F	40A	1-1/2"	421	101	246	165	16	40	81	105	140	4-19
AS80-50F	50A	2"	421	101	268	178	16	50	96	120	155	4-19
AS80-65F	65A	2-1/2"	421	101	279	190	18	65	116	140	175	4-19
AS100-80F	80A	3"	500	129	341	203	18	80	126	150	185	8-19
AS125-100F	100A	4"	606	151	383	229	18	100	151	175	210	8-19
AS140-125F	125A	5"	682	164	433	356	20	125	182	210	250	8-23
AS160-150F	150A	6"	781	189	504	394	22	150	212	240	280	8-23
AS200-200F	200A	8"	982	231	657	457	22	200	262	290	330	12-23

## 3-WAY SCREWED BALL VALE - DOUBLE ACTING



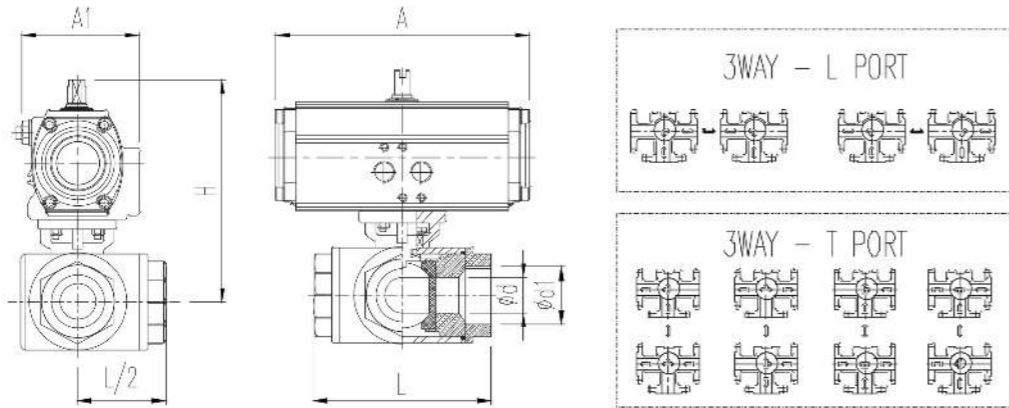
### Application

- Water Distribution Pipes
- Industrial Cleaning Machines
- Sterilizers, Boilers
- Air conditioners, Water Filters
- Medical equipments, Vacuum packing

### Specification

• This is subject to change.

Valve Size	8A(1/4")	10A(3/8")	15A(1/2")	20A(3/4")	25A(1")	32A(1-1/4")	40A(1-1/2")	50A(2")
Actuator Model	AD40			AD50			AD65	
Actuator Type	Double Acting							
Operating Media	Compressed Dry Air							
Operating Pressure	4 ~ 7kg/cm <sup>2</sup>							
Rotating Angle	90° ± 5°							
Fluid Temperature	-20°C ~ 80°C							
Rating	1000psi							
Body Material	A351-CF8/Body		A351-CF8/Ball			PTFE / Seat		
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator, E/P Positioner							



### Dimension

(mm)

Model	SIZE		A	A1	H Approx.	L	L/2	END CONNECTION (PT SCREW)	
	mm	inch						φd	φd1
AD40-8S3W	8A	1/4"	96	63	130	72	36	12	1/4"
AD40-10S3W	10A	3/8"	96	63	130	72	36	12	3/8"
AD40-15S3W	15A	1/2"	96	63	130	72	36	12	1/2"
AD50-20S3W	20A	3/4"	162	75	149	83	41.5	15	3/4"
AD50-25S3W	25A	1"	162	75	157	99	49.5	20	1"
AD50-32S3W	32A	1-1/4"	162	75	163	112	56	25	1-1/4"
AD65-40S3W	40A	1-1/2"	202	89	186	125	62.5	32	1-1/2"
AD65-50S3W	50A	2"	202	89	197	149	74.5	38	2"

## 3-WAY FLANGED BALL VALVE - DOUBLE ACTING



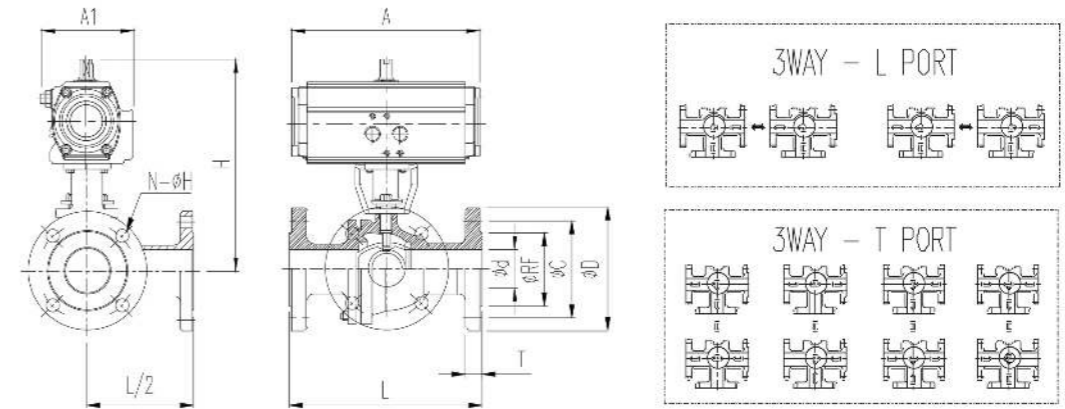
### Application

- Water Distribution Pipes
- Industrial Cleaning Machines
- Sterilizers, Boilers
- Air conditioners, Water Filters
- Medical equipments, Vacuum packing
- Food & Beverage lines
- Vacuum distribution pipes

### Specification

• This is subject to change.

Valve Size	15A(1/2")~200A(8")		
Actuator Model	AD50-AD200		
Actuator Type	Double Acting		
Operating Media	Compressed Dry Air		
Operating Pressure	4 ~ 7kg/cm <sup>2</sup>		
Rotating Angle	90° ± 5°		
Fluid Temperature	-20°C ~ 150°C		
Rating	JIS 10K		ANSI 150#
Body Material	SCS13(SCS14)/Body	SCS13 (SCS14)/Ball	PTFE/Seat
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator, E/P Positioner, Manual Handle		



### Dimension

(mm)

Model	SIZE		A	A1	H Approx.	L	L/2	END CONNECTION (JIS 10K RF)					
	mm	inch						T	φd	φRF	φC	φD	N-φH
AD50-15F3W	15A	1/2"	162	75	181	190	95	12	15	52	70	95	4-15
AD50-20F3W	20A	3/4"	162	75	184	190	95	14	20	58	75	100	4-15
AD65-25F3W	25A	1"	202	89	214	200	100	14	25	70	90	125	4-19
AD65-40F3W	40A	1-1/2"	202	89	217	240	120	16	40	85	105	140	4-19
AD80-50F3W	50A	2"	253	101	261	260	130	16	50	100	120	155	4-19
AD80-65F3W	65A	2-1/2"	253	101	270	320	160	18	65	120	140	175	4-19
AD100-80F3W	80A	3"	311	129	330	360	180	18	80	130	150	185	8-19
AD125-100F3W	100A	4"	390	151	368	430	215	18	100	155	175	210	8-19
AD140-125F3W	125A	5"	431	164	450	499	249.5	20	125	185	210	250	8-23
AD160-150F3W	150A	6"	506	189	500	560	280	22	150	215	240	280	8-23
AD200-200F3W	200A	8"	605	231	643	660	330	22	200	265	290	330	12-23

## » BUTTERFLY VALVE - DOUBLE ACTING



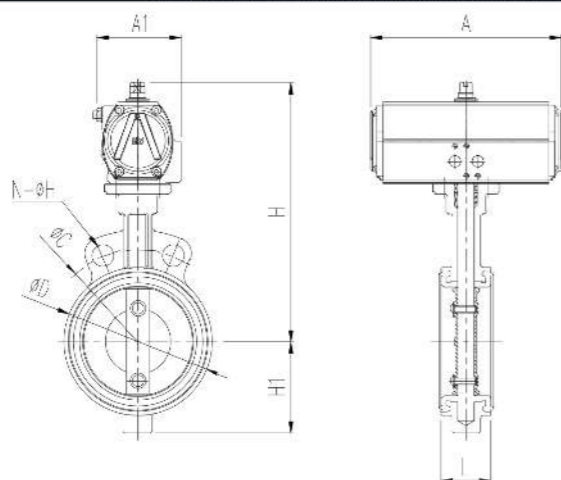
### Application

- Water Distribution Pipes
- Industrial Cleaning Machines
- Sterilizers, Boilers
- Medical equipments, Vacuum packing
- Air ventilation systems

### Specification

• This is subject to change.

Valve Size	40A(1-1/2")-600A(24")		
Actuator Model	AD50-AD200		
Actuator Type	Double Acting		
Operating Media	Compressed Dry Air		
Operating Pressure	4 ~ 7kg/cm <sup>2</sup>		
Rotating Angle	90° ±5°		
Fluid Temperature	-15°C ~ 80°C		
Rating	JIS 10K		ANSI 150#
Body Material	FC (SCS13)/Body	SCS13 (SCS14)/Disc	EPDM (PTFE)/Seat
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator, E/P Positioner, Manual Handle		



### Dimension

Model	SIZE		A	A1	H	H1	L	END CONNECTION (JIS 10K WAFER)		
	mm	inch						Approx.	φC	φD
AD50-40BF	40A	1-1/2"	162	75	215	58	41	105	86	4-19
AD50-50BF	50A	2"	162	75	217	65	43	120	105	4-19
AD50-65BF	65A	2-1/2"	162	75	227	71	46	140	114	4-19
AD65-80BF	80A	3"	202	89	256	83	46	150	129	8-19
AD65-100BF	100A	4"	202	89	270	100	52	175	155	8-19
AD80-125BF	125A	5"	253	101	300	110	56	210	180	8-23
AD80-150BF	150A	6"	253	101	314	130	56	240	207	8-23
AD100-200BF	200A	8"	311	129	390	163	60	290	260	12-23
AD100-250BF	250A	10"	311	129	428	227	68	355	331	12-25
AD125-300BF	300A	12"	390	151	482	252	78	400	377	16-25
AD140-350BF	350A	14"	431	164	510	272	78	445	416	16-25
AD160-400BF	400A	16"	506	189	585	343	102	510	475	16-27
AD160-450BF	450A	18"	506	189	625	366	114	565	535	20-27
AD200-500BF	500A	20"	605	231	783	421	127	620	590	20-27
AD200-600BF	600A	24"	605	231	870	493	154	730	695	24-33

## » BUTTERFLY VALVE - SINGLE ACTING



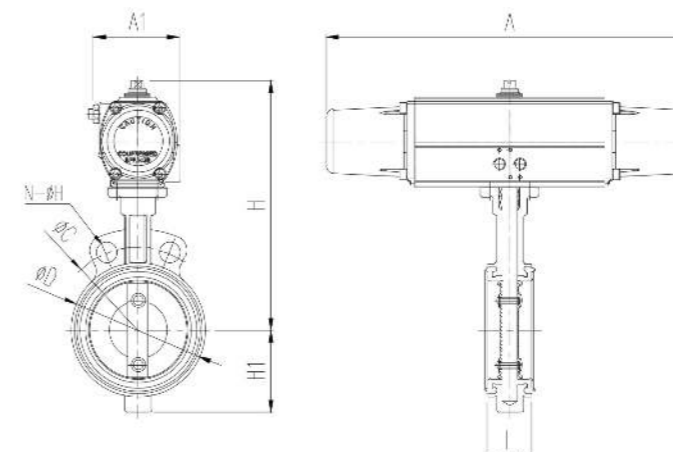
### Application

- Water Distribution Pipes
- Industrial Cleaning Machines
- Sterilizers, Boilers
- Medical equipments, Vacuum packing
- Air ventilation systems

### Specification

• This is subject to change.

Valve Size	40A(1-1/2")-500A(20")		
Actuator Model	AS50-AS200		
Actuator Type	Single Acting		
Operating Media	Compressed Dry Air		
Operating Pressure	4.5 ~ 7kg/cm <sup>2</sup>		
Rotating Angle	90° ±5°		
Fluid Temperature	-15°C ~ 80°C		
Rating	JIS 10K		ANSI 150#
Body Material	FC (SCS13)/Body	SCS13 (SCS14)/Disc	EPDM (PTFE)/Seat
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator, E/P Positioner, Manual Handle		



### Dimension

Model	SIZE		A	A1	H	H1	L	END CONNECTION (JIS 10K WAFER)		
	mm	inch						Approx.	φC	φD
AS50-40BF	40A	1-1/2"	257	75	215	58	41	105	86	4-19
AS65-50BF	50A	2"	314	89	234	65	43	120	105	4-19
AS65-65BF	65A	2-1/2"	314	89	250	71	46	140	114	4-19
AS65-80BF	80A	3"	314	89	256	83	46	150	129	8-19
AS80-100BF	100A	4"	421	101	287	100	52	175	155	8-19
AS80-125BF	125A	5"	421	101	300	110	56	210	180	8-23
AS100-150BF	150A	6"	500	129	334	130	56	240	207	8-23
AS100-200BF	200A	8"	500	129	390	163	60	290	260	12-23
AS125-250BF	250A	10"	606	151	455	227	68	355	331	12-25
AS140-300BF	300A	12"	682	164	500	252	78	400	377	16-25
AS160-350BF	350A	14"	781	189	544	272	78	445	416	16-25
AS160-400BF	400A	16"	781	189	585	343	102	510	475	16-27
AS200-450BF	450A	18"	982	231	704	366	114	565	535	20-27
AS200-500BF	500A	20"	982	231	780	421	127	620	590	20-27

## ▶ HIGH PERFORMANCE BUTTERFLY VALVE - DOUBLE ACTING

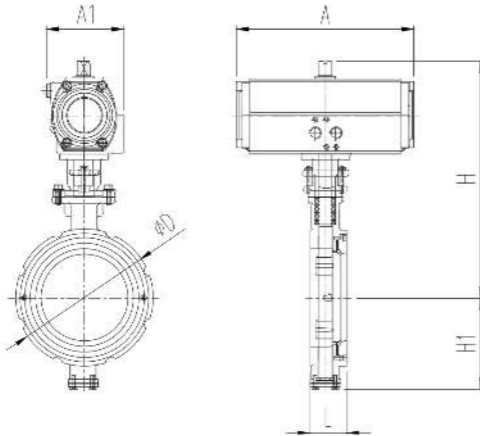


### Application

- Steam Header
- Textile Machine
- Gas and Steam Line
- Water Line

### Specification

Valve Size	15A(1-1/2")-150A(18")			
Actuator Type	Double Acting		Single acting	
Actuator Model	AD50 - AD160		AS50 - AS200	
Operating Media	Compressed Dry Air			
Operating Pressure	4 - 7kg/cm <sup>2</sup>		4.5 - 7kg/cm <sup>2</sup>	
Fluid Temperature	PTFE (-20°C - 160°C)	RTFE (-20°C - 180°C)	MTFE (-30°C - 195°C)	SS316 (-50°C - 300°C)
Rating	JIS 10K / 20K		ANSI 150# / 300#	
Body Material	FCD450, SCPH2, SCS13, SCS14			
Disc Material	SCS13, SCS14			
Seat Material	MTFE, PTFE, RTFE, SS316			
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator, E/P Positioner, Manual Handle			



### Dimension

Model	SIZE		A	A1	H Approx.	H1	L	φD
	mm	inch						
AD50-40HBF	40A	1-1/2"	162	75	254	73	43	86
AD50-50HBF	50A	2"	162	75	261	81	44	100
AD65-65HBF	65A	2-1/2"	202	89	289	83	46	123
AD65-80HBF	80A	3"	202	89	303	87	46	132
AD65-100HBF	100A	4"	202	89	310	111	52	157
AD80-125HBF	125A	5"	253	101	369	121	57	185
AD80-150HBF	150A	6"	253	101	390	145	62	220
AD100-200HBF	200A	8"	311	129	467	180	83	277
AD125-250HBF	250A	10"	390	151	531	220	87	337
AD125-300HBF	300A	12"	390	151	579	279	98	380
AD140-350HBF	350A	14"	431	164	625	309	100	410
AD160-400HBF	400A	16"	506	189	680	340	115	475
AD160-450HBF	450A	18"	506	189	720	370	115	534

Dimension will vary according to its body material.

## ▶ V-NOTCH SEGMENTAL BALL VALVE (Fire Safety Design)

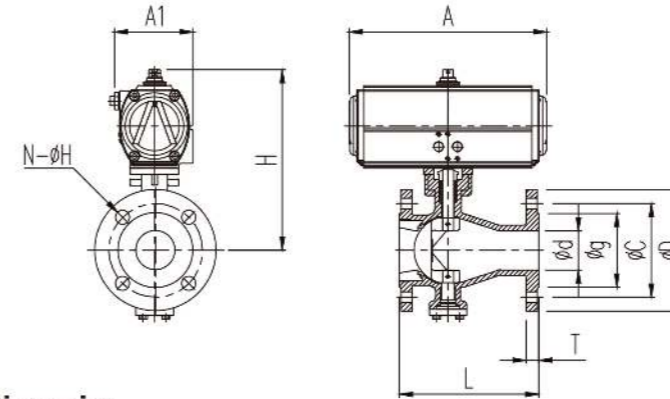


### Application

- Fiber and Slurry Service
- Pulp and Paper Industry
- Steel Industry

### Specification

Valve Size	15A(1/2") - 400A(16")	
Disc Form	Segmental ball disc with V-notch cut	
Characteristics	Inherent characteristic	
Body Rating	JIS 10K - 63K	ANSI 150# - 1500#
End Connection	RF(Flanged Type), Wafer(Flangeless Type), Butt Welding	
Body Material	SCPH2 (WCB), SCS13(CF8), SCS14(CF8M), SCS16(CF3M) and other alloy steels	
Seat Material	Soft Seat(PTFE, RTFE), Metal Seat(SUS316), Stellite Metal Seat	
Leakage Class	ANSI CLASS VI (Soft Seat), ANSI CLASS IV (Metal Seat)	
Bonnet Type	Plain, Extension, Long Extension(Cryogenic)	
Fluid Temp. Range	-196°C - 600°C	
Actuator Type	Single Acting / Double Acting Cylinder, Electric Motor	
Face To Face	ASME B16.34, API 6D	
Testing	API 598, MSS SP-61, BS 6755	



### • Cv Table

Size	Rated Cv	Size	Rated Cv
1/2" (15A)	7.5	4" (100A)	480
3/4" (20A)	17	5" (125A)	750
1" (25A)	30	6" (150A)	1080
1-1/2" (40A)	68	8" (200A)	1920
2" (50A)	120	10" (250A)	3000
2-1/2" (65A)	188	12" (300A)	4320
3" (80A)	270		

### Dimension

Model	SIZE		A	A1	H Approx.	L	END CONNECTION (JIS 10K RF)					
	mm	inch					T	φd	φg	φC	φD	N-φH
AD50-15VF	15A	1/2"	162	75	199	108	12	15	51	70	95	4-15
AD50-20VF	20A	3/4"	162	75	221	117	14	20	56	75	100	4-15
AD65-25VF	25A	1"	202	89	221	127	14	25	67	90	125	4-19
AD65-40VF	40A	1-1/2"	202	89	229	165	16	40	81	105	140	4-19
AD80-50VF	50A	2"	253	101	255	178	16	50	96	120	155	4-19
AD80-65VF	65A	2-1/2"	253	101	263	190	18	65	116	140	175	4-19
AD100-80VF	80A	3"	311	126	308	203	18	80	126	150	185	8-19
AD100-100VF	100A	4"	311	126	324	229	18	100	151	175	210	8-19
AD125-125VF	125A	5"	390	151	383	356	20	125	182	210	250	8-23
AD140-150VF	150A	6"	431	164	478	394	22	150	212	240	280	8-23
AD160-200VF	200A	8"	506	189	517	457	22	200	262	290	330	12-23
AD200-250VF	250A	10"	605	231	584	533	24	250	324	355	400	12-25
AD250-300VF	300A	12"	755	301	660	610	24	300	368	400	445	16-25

## ▶ PLASTIC BALL VALVE - DOUBLE ACTING



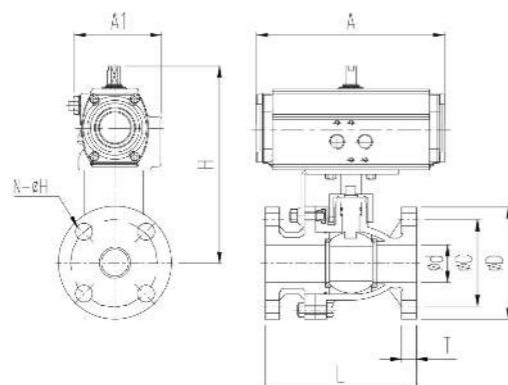
### Application

- Chemical Industry
- Sea Water Line
- Ultra Pure Water Line

### Specification

• This is subject to change.

Valve Size	15A(1/2")-150A(6")	
Actuator Model	AD50-AD125	
Actuator Type	Double Acting	
Operating Media	Compressed Dry Air	
Operating Pressure	4 ~ 7kg/cm <sup>2</sup>	
Rotating Angle	90° ±5°	
Fluid Temperature	-10°C ~ 90°C	
Rating	JIS 10K	ANSI 150#
Body Material	PP, C-PVPC, PVDF	
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator, E/P Positioner	



### Dimension

(mm)

Model	SIZE		A	A1	H Approx.	L	END CONNECTION (JIS 10K FF)				
	mm	inch					T	Ød	ØC	ØD	N-ØH
AD50-15F	15A	1/2"	162	75	168	145	14	15	70	95	4-15
AD50-20F	20A	3/4"	162	75	177	150	15	20	75	100	4-15
AD50-25F	25A	1"	162	75	190	170	15	25	90	125	4-19
AD65-30F	30A	1-1/4"	202	89	217	175	16	30	100	135	4-19
AD65-40F	40A	1-1/2"	202	89	217	190	18	40	105	140	4-19
AD65-50F	50A	2"	202	89	233	210	19	50	120	155	4-19
AD80-65F	65A	2-1/2"	253	101	301	260	20	65	140	175	4-19
AD80-80F	80A	3"	253	101	301	265	20	75	150	185	8-19
AD100-100F	100A	4"	311	129	337	300	22	100	175	210	8-19
AD125-125F	125A	5"	390	151	408	360	24	125	210	250	8-23
AD140-150F	150A	6"	431	164	451	360	24	150	240	280	8-23

## ▶ PLASTIC BUTTERFLY VALVE - DOUBLE ACTING



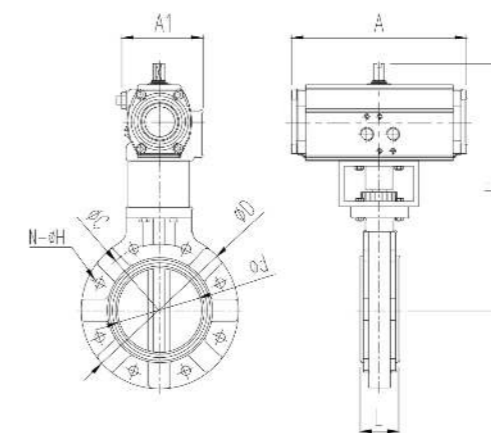
### Application

- Chemical Industry
- Sea Water Line
- Ultra Pure Water Line

### Specification

• This is subject to change.

Valve Size	50A(2")-400A(16")	
Actuator Model	AD50-AD160	
Actuator Type	Double Acting	
Operating Media	Compressed Dry Air	
Operating Pressure	4 ~ 7kg/cm <sup>2</sup>	
Rotating Angle	90° ±5°	
Fluid Temperature	-10°C ~ 90°C	
Rating	JIS 10K	ANSI 150#
Body Material	PP, C-PVC, PVDF	
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator, E/P Positioner	



### Dimension

(mm)

Model	SIZE		A	A1	H Approx.	L	END CONNECTION (JIS 10K WAFER)			
	mm	inch					Ød	ØD	ØC	N-ØH
AD50-50BF	50A	2"	162	75	284	42	59	165	120	4-19
AD50-65BF	65A	2-1/2"	162	75	298	46	70	185	140	4-19
AD65-80BF	80A	3"	202	89	338	46	79	200	150	8-19
AD65-100BF	100A	4"	202	89	363	56	103	229	175	8-19
AD80-125BF	125A	5"	253	101	411	66	130	254	210	8-23
AD80-150BF	150A	6"	253	101	438	73	151	285	240	8-23
AD100-200BF	200A	8"	311	129	558	94	203	340	290	12-23
AD100-250BF	250A	10"	311	129	660	111	255	406	355	12-25
AD125-300BF	300A	12"	390	151	747	131	311	484	400	16-25
AD140-350BF	350A	14"	431	164	771	134	348	520	445	16-25
AD160-400BF	400A	16"	506	189	932	174	398	600	510	16-27

## ▶ SANITARY BALL VALVE - DOUBLE ACTING

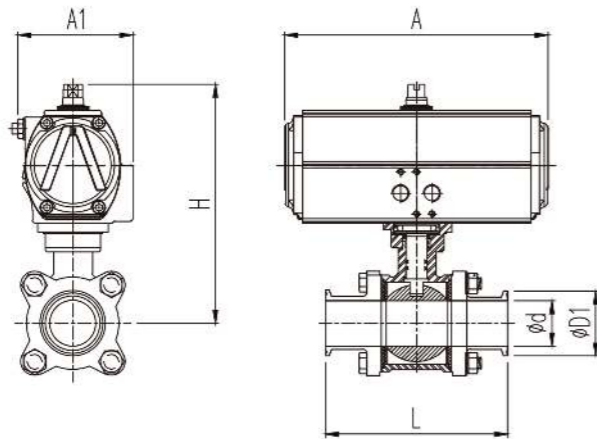


### Application

- Food
- Beverage
- Chemical Industry
- Pharmaceutical Industry
- Semiconductor Industry

### Specification

Valve Size	0.5S(1/2")	0.75S(3/4")	1.0S(1")	1.5S(1-1/2")	2.0S(2")	2.5S(2-1/2")	3.0S(3")	4.0S(4")
Actuator Model	AD40		AD50		AD65		AD80	AD100
Actuator Type	Double Acting							
Operating Media	Compressed Dry Air							
Operating Pressure	4 ~ 7kg/cm <sup>2</sup>							
Rotating Angle	90° ±5°							
Fluid Temperature	-40°C ~ 180°C							
Rating	1000psi							
Body Material	A351-CF8M/Body		A351-CF8M/Ball			PTFE/Seat		
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator, E/P Positioner							



### Dimension

• END CONNECTION : CLAMP (mm)

Model	Size		A	A1	H Approx.	L	φd	φD1
	mm	Inch						
AD40-0.5S	15A	1/2"	96	63	122	89	9.5	25.4
AD40-0.75S	20A	3/4"	96	63	132	101	15.9	25.4
AD50-1.0S	25A	1"	162	75	158	114	22.2	50.5
AD65-1.5S	40A	1-1/2"	202	89	196	140	35	50.5
AD65-2.0S	50A	2"	202	89	204	156	47.6	64
AD80-2.5S	65A	2-1/2"	253	101	246	197	60.3	77.5
AD80-3.0S	80A	3"	253	101	254	229	73	91
AD100-4.0S	100A	4"	311	129	300	241	97.4	119

## ▶ FRP BALL VALVE - DOUBLE ACTING

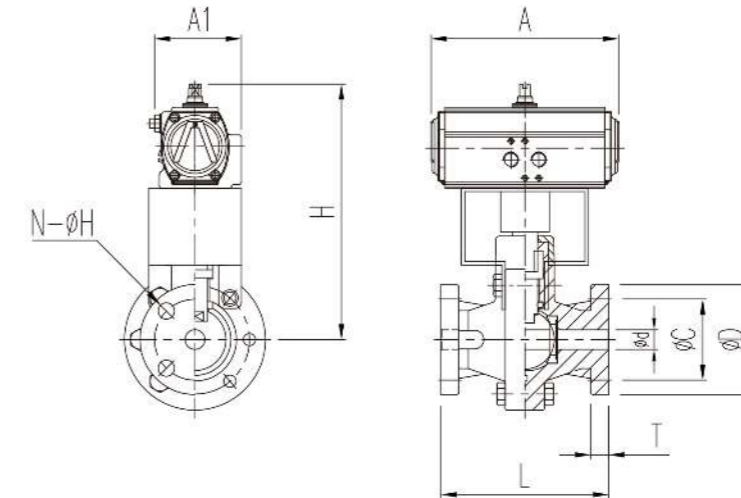


### Application

- Water Supply Facilities
- Waste Water Plant
- Sewage Treatment Plant
- Chemical Industry
- Sea Water Line

### Specification

Valve Size	15A(1/2")-300A(12")		
Actuator Model	AD50 ~AD250		
Actuator Type	Double Acting		
Operating Media	Compressed Dry Air		
Operating Pressure	4 ~ 7kg/cm <sup>2</sup>		
Rotating Angle	90° ±5°		
Fluid Temperature	-29°C ~ 150°C		
Rating	JIS 10K / ANSI 150#		
Body Material	FRP/Body	FRP/Ball	PTFE/Seat
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator, E/P Positioner		



### Dimension

(mm)

Model	SIZE		A	A1	H Approx.	L	END CONNECTION (JIS 10K FF)				
	mm	inch					T	φd	φC	φD	N-φH
AD50-15F	15A	1/2"	162	75	246	145	19	15	70	95	4-15
AD50-20F	20A	3/4"	162	75	246	150	20	20	75	100	4-15
AD50-25F	25A	1"	162	75	246	170	23	25	90	125	4-19
AD65-40F	40A	1-1/2"	202	89	307	190	23	40	105	140	4-19
AD65-50F	50A	2"	202	89	307	210	23	50	120	155	4-19
AD80-65F	65A	2-1/2"	253	101	326	260	26	65	140	175	4-19
AD80-80F	80A	3"	253	101	346	268	31	80	150	185	8-19
AD100-100F	100A	4"	311	126	403	300	30	100	175	210	8-19
AD125-125F	125A	5"	390	151	464	360	30	125	210	250	8-23
AD140-150F	150A	6"	431	164	502	360	35	150	240	280	8-23
AD160-200F	200A	8"	506	189	613	420	35	200	290	330	12-23
AD200-250F	250A	10"	605	231	736	515	38	250	355	400	12-25
AD250-300F	300A	12"	755	301	975	655	45	300	400	445	16-25

## » PINCH VALVE – DOUBLE ACTING

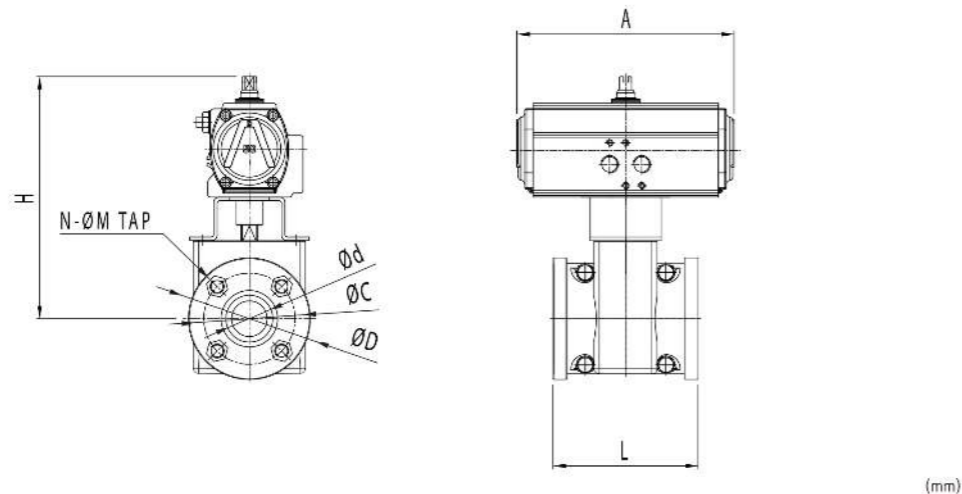


### Application

- Slurry Line (Lime Slurry)
- Granule Powder Line
- Waste Water Line
- Sea Water Line
- Corrosive Fluid Line
- ASH Line

### Specification

<b>Valve Size</b>	<b>25A(1")-80A(3")</b>	
Actuator model	AD Series	
Actuator type	Double acting	
Operation media	Compressed Dry Air	
Operating Pressure	4-7 Bar	
Rotating Angle	90°±5°	
Fluid Temperature	-20°C ~ 80°C	
Rating	JIS 10K	ANSI 150#
Connection	Tap Bolting (No gasket required.)	
Body Material	FRP	
Accessory	Solenoid valve, Limit switch, Air filter regulator, E/P positioner	

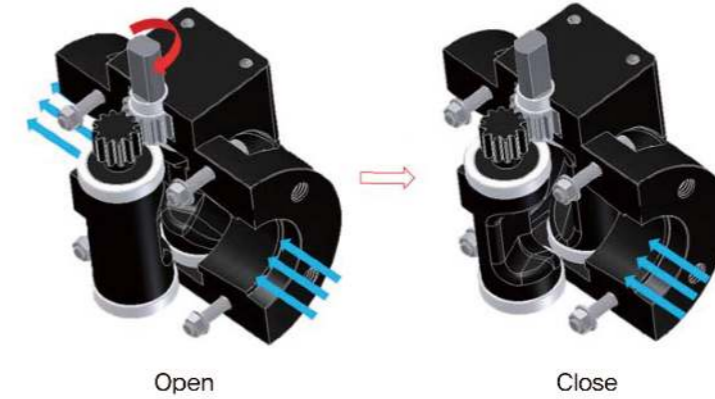


### Dimension

Model	Size		A	H	L
	mm	inch		Approx.	
AD65-25P	25	1	202	195	127
AD80-40P	40	1.5	253	270	165
AD100-50P	50	2	311	295	178
AD125-80P	80	3	390	360	203

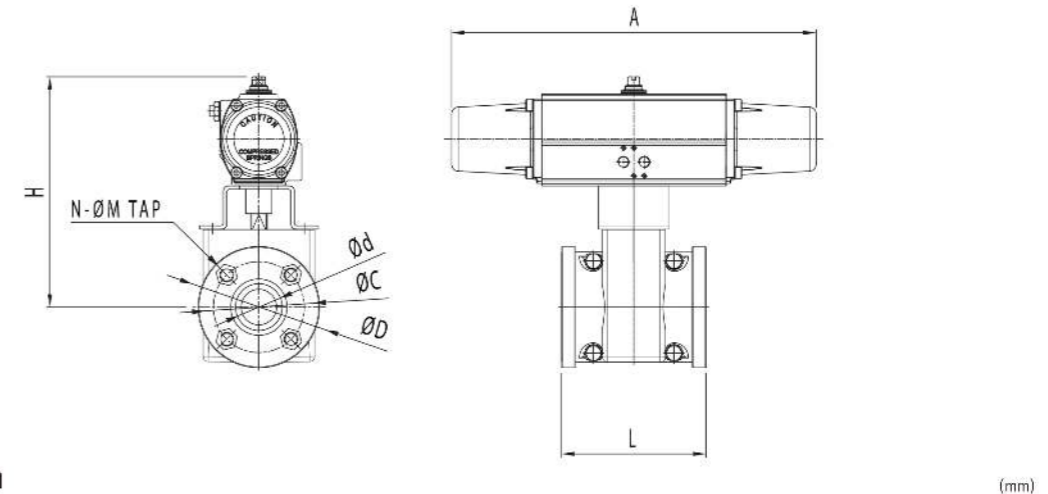
Please Check the data in the last page for flange dimensions.

## » PINCH VALVE – SINGLE ACTING



### Specification

<b>Valve Size</b>	<b>25A(1")-80A(3")</b>	
Actuator model	AS Series	
Actuator type	Single Acting	
Operation media	Compressed Dry Air	
Operating Pressure	4.5-7 Bar	
Rotating Angle	90°±5°	
Fluid Temperature	-20°C ~ 80°C	
Rating	JIS 10K	ANSI 150#
Connection	Tap Bolting (No gasket required.)	
Body Material	FRP	
Accessory	Solenoid valve, Limit switch, Air filter regulator, E/P positioner	



### Dimension

Model	Size		A	H	L
	mm	inch		Approx.	
AS80-25P	25	1"	421	215	127
AS100-40P	40	1-1/2"	500	290	165
AS125-50P	50	2"	606	325	178
AS140-80P	80	3"	682	375	203

Please Check the data in the last page for flange dimensions.

## DIAPHRAGM VALVE



Double Acting

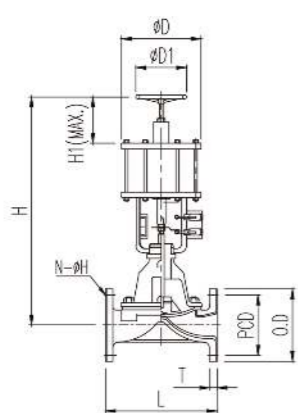
Single Acting

### Application

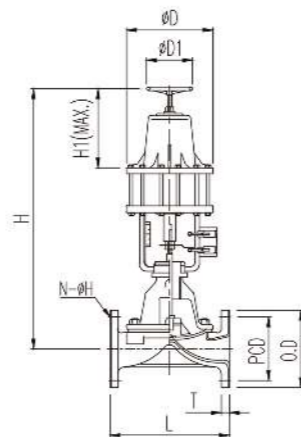
- Chemical Industry
- Pharmaceutical Industry
- Water Treatment
- Wastewater Treatment

### Specification

Valve Size	15A(1/2") - 150A(6")	
Actuator Type	Double Acting	Single Acting
Operating Media	Compressed Dry Air	
Operating Pressure	4.5 - 5.5kg/cm <sup>2</sup>	
Fluid Temperature	-20°C - 80°C	
Rating	JIS 10K	ANSI 150#
Body Material	FC(SCPH2, SCS13)/Body	EPDM/Diaphragm
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator, Manual Handle	



Double Acting



Single Acting

### Dimension

Model	SIZE		D	D1	Double		Single		L	END CONNECTION (ANSI 150# FF)		
	mm	inch			H(Approx.)		H1			O.D.	PCD	N-ØH
ADV-15A	15A	1/2"	138	95	380	420	110	85	125	89	60.5	4-16
ADV-20A	20A	3/4"	138	95	385	430	110	85	135	98	70.0	4-16
ADV-25A	25A	1"	138	95	390	430	110	85	145	108	79.5	4-16
ADV-40A	40A	1-1/2"	192	125	440	495	130	100	165	127	98.5	4-16
ADV-50A	50A	2"	192	125	490	530	135	100	197	152	120.5	4-19
ADV-65A	65A	2-1/2"	250	155	695	785	170	125	222	178	139.5	4-19
ADV-80A	80A	3"	250	155	750	835	190	130	260	191	152.5	4-19
ADV-100A	100A	4"	265	195	805	870	205	135	313	229	190.5	8-19
ADV-125A	125A	5"	265	195	845	895	215	145	364	254	216	8-22
ADV-150A	150A	6"	330	225	885	985	220	150	414	191	152.5	8-22

## PNEUMATIC CYLINDER ON-OFF GLOBE VALVE

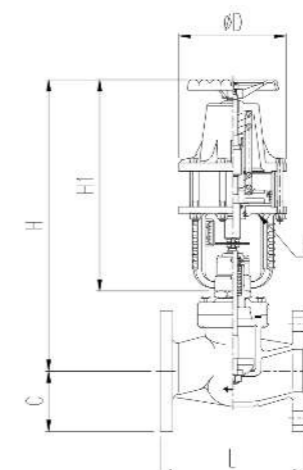


### Application

- Water Distribution Pipes
- Industrial Cleaning Machines
- Dyeing Machine Temperature Control
- Middle And Low Stem Equipments Control
- Wastewater Disposal Plant

### Specification

Valve Size	25A(1")	32A(1-1/4")	40A(1-1/2")	50A(2")	65A(2-1/2")	80A(3")
Actuator Model	Cylinder Type					
Actuator Type	Single Acting					
Operating Media	Compressed Dry Air					
Operating Pressure	4.5 - 7kg/cm <sup>2</sup>					
Manual Operation	Manual Handle(Optional)					
Fluid Temperature	-30°C - 220°C					
Rating	JIS 10K					
Body Material	SCS13					
Leakage Allowance	ANSI Class V					
Accessory	Solenoid valve, Limit Switch, Air filter Regulator					



### Dimension

Model	Size		ØD	H Approx.	H1	C	L	PT
	mm	Inch						
AGV-25A	25A	1"	138	355	271	63	140	1/4"
AGV-32A	32A	1-1/4"	138	361	271	68	156	1/4"
AGV-40A	40A	1-1/2"	138	361	271	70	180	1/4"
AGV-50A	50A	2"	138	373	271	78	186	1/4"
AGV-65A	65A	2-1/2"	192	422	300	88	196	1/4"
AGV-80A	80A	3"	192	422	300	93	250	1/4"

END CONNECTION : JIS 10K FF (mm)

## TANK BOTTOM BALL VALVE - DOUBLE ACTING

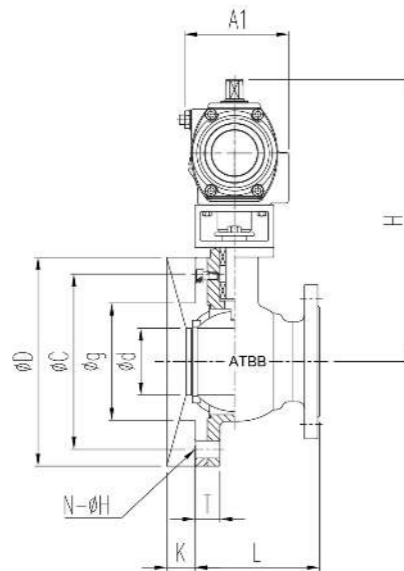


### Application

- Application For Tank Draining
- Fit For Tank Flange

### Specification

<b>Valve Size</b>	<b>25A(2")-150A(6")</b>		
Actuator Model	ATBB - Series		
Actuator Type	Double Acting		
Operating Media	Compressed Dry Air		
Operating Pressure	4 ~ 7kg/cm <sup>2</sup>		
Fluid Temperature	-10°C ~ 110°C		
Rating	JIS 10K		ANSI 150#
Material	SCS13(SCS14)/Body	SCS13(SCS14)/Ball	PTFE/Seat
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator, Speed Controller, E/P Positioner, Manual Handle		



### Dimension

Model	A1	H Approx.	L	K	TANK PAD CONNECTION (MAKER STANDARD)					
					T	φd	φg	φC	φD	N-φH
ATBB50-25F	75	235	93	28.5	25	25	49	105	140	4-15
ATBB65-40F	89	289	109	29	25	40	61	120	155	4-15
ATBB65-50F	89	302	124	32	28	50	77	140	175	4-15
ATBB80-65F	101	331	131	37	30	65	102	160	195	6-15
ATBB80-80F	101	351	153	45	32	80	140	210	250	6-19
ATBB100-100F	129	383	170	62.5	35	100	166	240	280	8-19
ATBB125-125F	151	450	254	62.5	43	125	192	265	305	8-19
ATBB140-150F	164	516	277	62.5	45	150	243	310	350	8-23

## TANK BOTTOM FLUSH VALVE

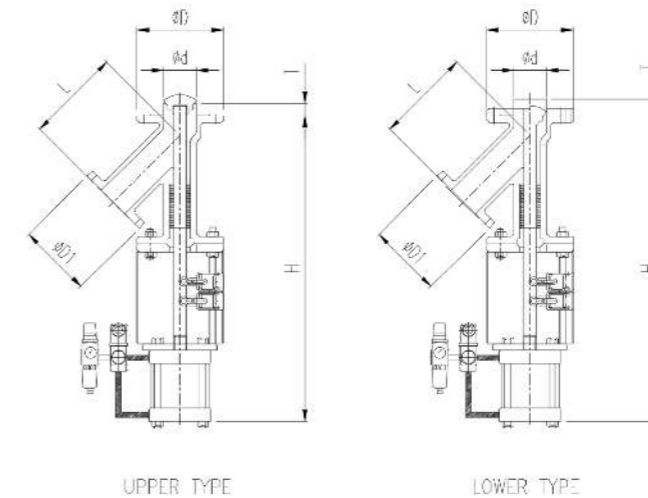


### Application

- Application For Tank Draining
- Minimize remains By Insertion nozzle Inro Tank
- Customizable suitable draining speed according to customer's demand.
- There are two types ; Upper Type And Lower Type

### Specification

<b>Valve Size</b>	<b>25A(1")-250A(10")</b>	
Actuator Model	ATFV - Series	
Actuator Type	Double Acting Cylinder	
Operating Media	Compressed Dry Air	
Operating Pressure	4 ~ 7kg/cm <sup>2</sup>	
Fluid Temperature	-40°C ~ 120°C	
Rating	JIS 10K	ANSI 150#
Body Material	SCS13, SCPH2	
Packing Material	TEFLON	
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator, Speed Controller, E/P Positioner, Manual Handle, Jacket	



### Dimension

Class	A X B	TANK PAD CONNECTION (MAKER STANDARD)										
		1" X 1-1/2"	1-1/2" X 2"	2" X 2-1/2"	2" X 3"	2-1/2" X 3"	3" X 4"	4" X 5"	5" X 6"	6" X 8"	8" X 10"	10" X 12"
JIS 10K ANSI 150#	H	570	600	800	700	700	780	780	780	800	920	1150
	T	30	30	65	65	65	64	70	90	100	115	120
	L	125	140	190	190	190	215	255	290	300	350	400
	φd	48	60	76	89	89	114	140	165	216	267	318
	φD	JIS 10K & ANSI 150# & For Approval										
	φD1	JIS 10K & ANSI 150# & For Approval										

## ▶ PNEUMATIC CYLINDER Y - TYPE VALVE

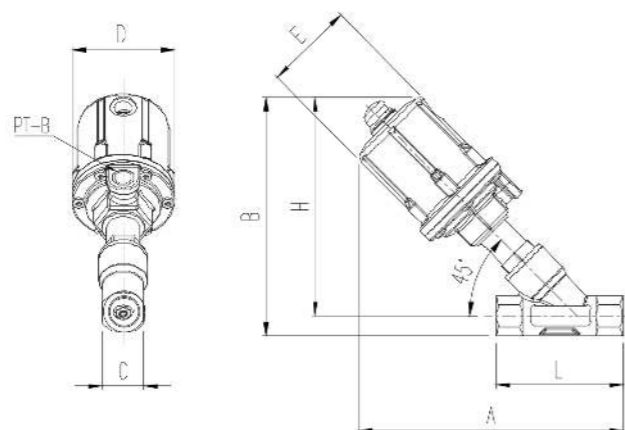


### Application

- Water Distribution Pipes
- Industrial Cleaning Machines
- Dyeing Machine Temperature Control
- Middle And Low Stem Equipments Control

### Specification

Valve Size	15A(1/2")-50A(2")	
Actuator Model	Cylinder Type	
Actuator Type	Single Acting	
Operating Media	Compressed Dry Air	
Operating Pressure	4.5 ~ 7kg/cm <sup>2</sup>	
Liner Adjust	None Manual Handle	
Fluid Temperature	Valve : -10°C ~ 180°C	
End Connection	Female Thread, Soket Welding	Flange Type (Option)
Body Material	SCS14	
Leakage Allowance	ANSI Class VI	
Accessory	Limit Switch, Air filter Regulator	



### Dimension

END CONNECTION : PT SCREW (mm)

Model	SIZE		E	A	B	C	D	H	L	PT-B
	mm	inch								
AGV-25Y	25A	1/2"	φ50	174.5	158	27	φ68	84	144.5	1/4"
AGV-20Y	20A	3/4"	φ50	182	163.5	34	φ68	94	146.5	1/4"
AGV-25Y	25A	1"	φ63	211	192.5	40	φ84	104	172.5	1/4"
AGV-32Y	32A	1-1/4"	φ63	225	211.5	49	φ84	120	187	1/4"
AGV-40Y	40A	1-1/2"	φ80	252	238.5	55	φ105	130	211	1/4"
AGV-50Y	50A	2"	φ80	275	267	70	φ105	150	232	1/4"

## ▶ KNIFE GATE VALVE - DOUBLE ACTING

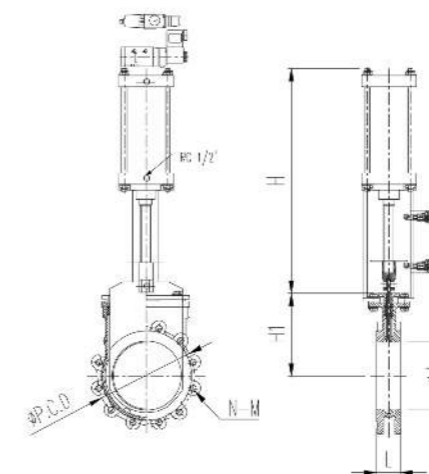


### Application

- Design Features
- Less Torque Pneumatic Cylinder
- Durable Internal Thread
- Leakage - Proof Gland
- Tow Pawls For Tight Seal

### Specification

Valve Size	50A(2")-500A(20")	
Actuator Model	AKGV - Series	
Actuator Type	Double Acting Cylinder	
Operating Media	Compressed Dry Air	
Operating Pressure	4 ~ 7kg/cm <sup>2</sup>	
Fluid Temperature	-40°C ~ 120°C	
Rating	JIS 10K	ANSI 150#
Body Material	SCS13, FCD45	
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator, E/P Positioner, Manual Handle	



### Dimension

END CONNECTION : JIS 10K LUG (mm)

Model	SIZE		H1	H Approx.	L	φd	φP.C.D	N-M
	mm	inch						
AKGV-50A	50A	2"	100	409	48	48	120	4-M16
AKGV-65A	65A	2-1/2"	109	447	51	58	140	4-M16
AKGV-80A	80A	3"	102	464	51	79	150	8-M16
AKGV-100A	100A	4"	145	526	51	100	175	8-M16
AKGV-125A	125A	5"	169	571	57	125	210	8-M20
AKGV-150A	150A	6"	180	668	57	150	240	8-M20
AKGV-200A	200A	8"	219	770	70	200	290	12-M20
AKGV-250A	250A	10"	276	902	70	252	355	12-M22
AKGV-300A	300A	12"	314	1031	76	303	400	12-M22
AKGV-350A	350A	14"	340	1153	76	337	445	16-M22
AKGV-400A	400A	16"	400	1338	89	387	510	16-M24
AKGV-450A	450A	18"	413	1472	89	438	565	16-M24
AKGV-500A	500A	20"	495	1573	114	540	620	20-M24

## 2-STAGE FLANGED BALL VALVE - DOUBLE ACTING

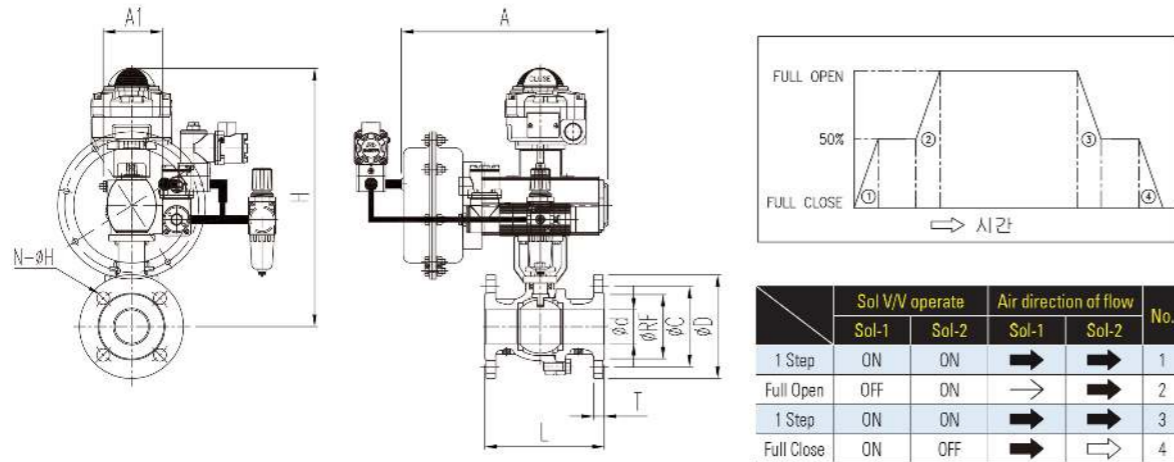


### Application

- Fixed flow control
- Water hammer protection
- Food & Beverage lines
- Vacuum distribution pipes
- Oil Tank Storage system

### Specification

Valve Size	15A ~ 80A		
Actuator Model	AD65, AD80 + Diaphragm		
Actuator Type	Double Acting		
Operating Media	Compressed Dry Air		
Operating Pressure	4 ~ 7kg/cm <sup>2</sup>		
Rotating Angle	90° ± 5°		
Fluid Temperature	-10°C ~ 90°C (-10°C ~ 150°C)		
Rating	JIS 10K	ANSI 150#	
Body Material	SCS13(SCS14, SCPH2)/Body	SCS13(SCS14)/Ball	PTFE(PTFE)/Seat
Accessory	Solenoid valve, Limit Switch Box, Air filter Regulator		



### Dimension

Model	SIZE		A	A1	H Approx.	L	END CONNECTION (JIS 10K RF)					
	mm	inch					T	φd	φRF	φC	φD	N-φH
AD65-15F-2ST	15A	1/2"	315	89	351	108	12	15	52	70	95	4-15
AD65-20F-2ST	20A	3/4"	315	89	354	117	14	20	58	75	100	4-15
AD65-25F-2ST	25A	1"	315	89	363	127	14	25	70	90	125	4-19
AD65-32F-2ST	32A	1-1/4"	315	89	366	140	16	32	80	100	135	4-19
AD65-40F-2ST	40A	1-1/2"	315	89	388	165	16	40	85	105	140	4-19
AD65-50F-2ST	50A	2"	315	89	395	178	16	50	100	120	155	4-19
AD80-65F-2ST	65A	2-1/2"	361	101	423	190	18	65	120	140	175	4-19
AD80-80F-2ST	80A	3"	361	101	465	203	18	80	130	150	185	8-19
AD100-100F-ST	100A	4"	478	137	488	229	18	100	151	175	210	8-19

## DAMPERS

### Application

- Low Pressure Air and Gas Line
- High Temperature Air and Gas Line

### Specification

Valve Size	80A ~ 1500A (3" ~ 60")
Body Type	Round Type, Square Type
Body Rating	Maker Standard Thickness / JIS 2K, 5K, 10K / ANSI 125#, 150#
End Connection	FF(Flanged Type)
Body Material	SS400, SUS304, SUS316 and etc.
Seat Material	Non Seat Type, Soft Seat(Teflon, Graphite), Metal Seat
Leakage Class	Under 5% of Full Opening Cv
Fluid Temp. Range	-5°C ~ 600°C
Actuator Type	Single Acting / Double Acting Cylinder, Electric Motor
Accessory	Air set, E/P positioner, Solenoid Valve, Limit Switch, Manual Handle and etc.

### The Methods of Calculation To Fit Damper

#### 1) Round Type Damper

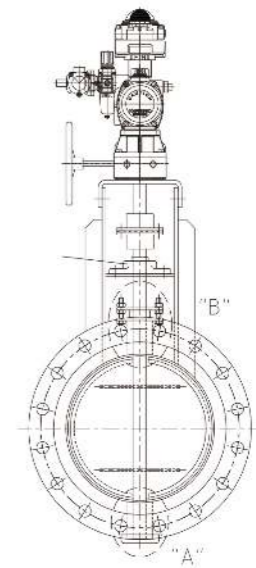
$$T = \frac{d^3 \times \Delta P}{12 \times n} \times 10^{-9} \times 1.8 = [Kg \cdot m]$$

↳ Bearing Mounting  
(None Mounting = 2.5)

#### 2) Square type Damper

$$T = \frac{a2 \times b \times \Delta P}{8 \times n} \times 10^{-9} \times 1.8 = [Kg \cdot m]$$

a: Height  
b: Horizontal  
d: Diameter  
ΔP: Pressure (mmAq)  
n: Blade Qty



## SOLENOID VALVE - ESV Series



**Explosion proof solenoid valve for a confident control under rough working environments**

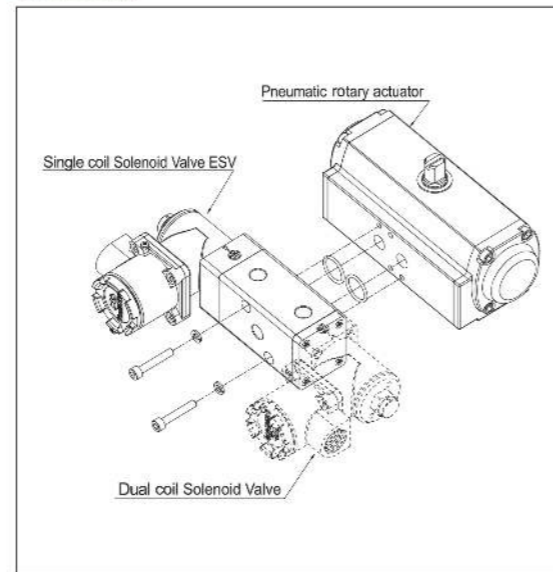
### Features

- Rugged aluminum die-cast housing
- Convertible from 5/2 way to 3/2 way
- Rotatable valve head for optimal mounting
- Direct NAMUR mounting or SCREW mounting
- Optional dual coil

### Specification

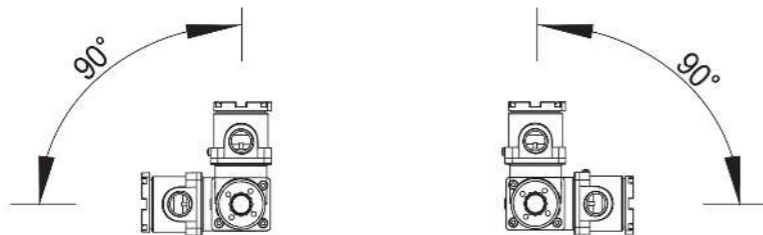
Model	ESV
Operating Air Pressure	1.5 - 10 kgf/cm <sup>2</sup>
Air Supply (Max.)	15 kgf/cm <sup>2</sup>
Operating Voltage / Power	AC 110V : 6.1 VA AC 220V : 3.8 VA DC 24V : 3.4 W
Voltage Tolerance	±10%
Frequency	50Hz / 60Hz
Explosion proof Class	Exd IIC T6
Operating Ambient Temperature	-20°C ~ +60°C
Flow Capacity (Cv)	0.9
Mounting Configuration	NAMUR or SCREW interface
Pneumatic Connections	PT 1/4" or NPT 1/4"
Electrical Connection	PF 1/2" or NPT 1/2"
Coil Insulation Grade	Class F
Duty Cycle	100%
Weight	0.9kg (Dual : 1.4kg)
Silencers	2 pcs included as standard

### Mounting



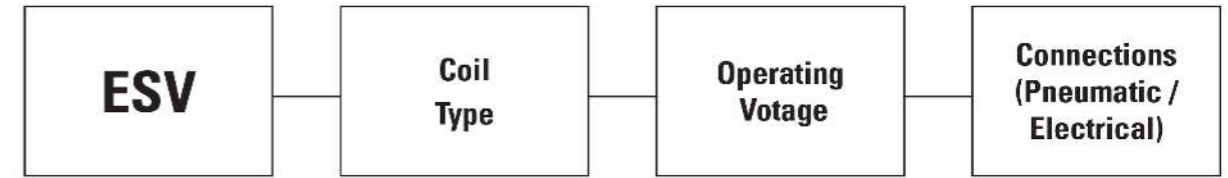
### Rotatable valve Head

The ESV valve head can be rotated by 90° to the right or the left for an optimal mounting as shown below



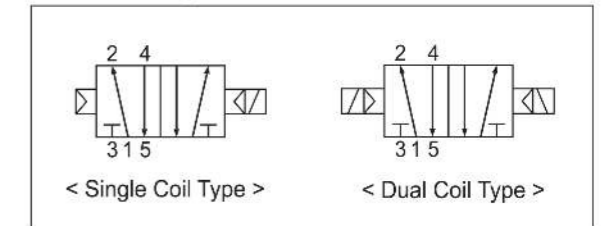
## SOLENOID VALVE - ESV Series

### How to order



Description	ESV
Coil	S : Single Coil D : Dual Coil
Operating Voltage	A220 : AC220V A110 : AC110V D24 : DC 24V
Connections (pneumatic-electrical)	P : PT1/4-PF1/2 N : NPT 1/4-NPT 1/2

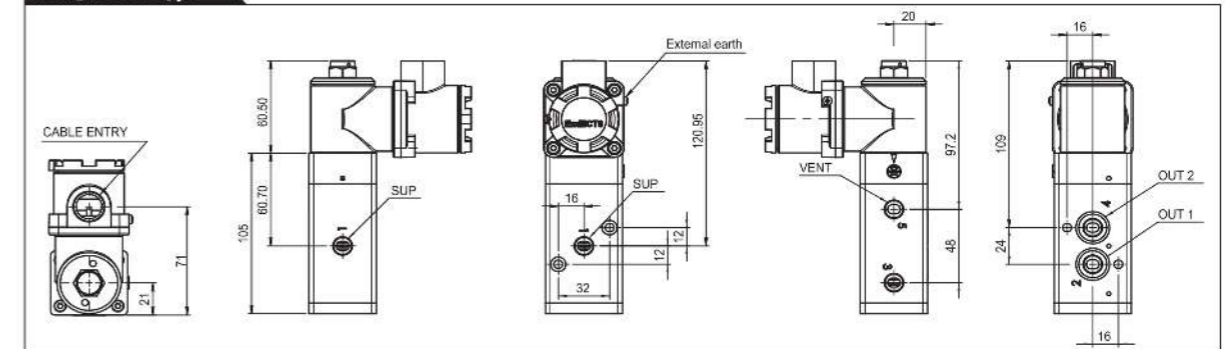
### Symbol of Operation



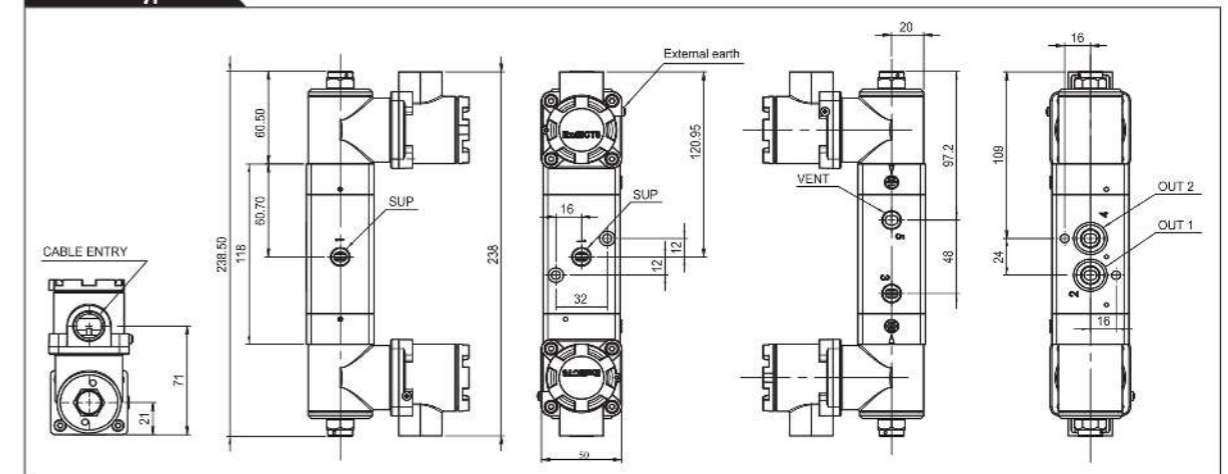
Ex) ESV-S-D24P (Single Coil, 24VDC, PT1/4-PF1/2)

### Dimension

#### Single Coil Type



#### Dual Coil Type



## SOLENOID VALVE - ANS Series

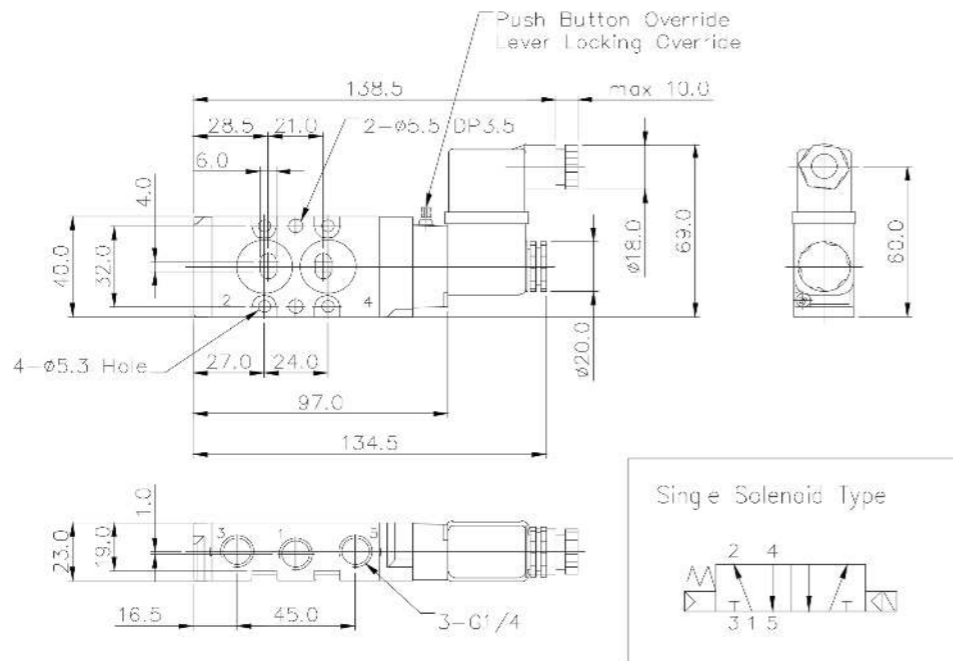


### Features

- 5 Port pilot type
- NAMUR interface
- Compact - light weight
- Mass flow -CV1.0
- Excellent endurance

### Specification

Model	ANS (single coil)	ANS-D (Dual coil)
Fluid	Air & Inert Gas	
Pressure (Bar)	1.5 - 10.0	2.0 - 10.0
Ambient Temperature	5°C - 60°C	
Response Time(at 5 Bar)	below 25ms	35ms
Lubrication	Not required	
Rated Voltage	AC110V, 220V (50/60HZ), DC24V	
Coil Insulation Grade	Class F	
Coil Enclosure	IP65	
Electric Connection	DIN connector (Standard), 1/2"PF Metal Connector (Option), Lamp Type (Option)	



## LIMIT SWITCH BOX - ALS Series



ALS 1X Series  
(Weather Proof, IP68)



ALS 3X Series  
(Explosion Proof, Exd II C T6, IP68)

### 1. Valve position Indicator

Limit switch box indicator offers clear location of the current valve position by 2 mechanical switches

### 2. "Quick-Set" Cam

The operating position of the switches can be easily changed by adjusting the high resolution spline cams manually and independently without the need for additional tools (cam closed-up, cam open-down)

### 3. Easy Wiring

ALS series are equipped with 2 standard conduit entries and 1 terminal strip with 8 point

### 4. Dual Wire Conduit

ALS10 : Dual 1/2" conduit entries  
ALS30 : Dual 3/4" conduit entries

### 5. Captive Cover Bolts

Designed to be captured into the cover

### 6. Easy Mounting Bracket

Any actuator for rotary motion can be easily mounted.  
NAMUR bracket supplied for easy mounting onto the actuator

### Ordering Number

Series	Area Classification	Switch Type
ALS	1 : Weather proof	0 : 2 SPDT
	3 : Explosion proof	1 : Proximity Sensor (PNP/NPN)
		2 : 3 SPDT
		3 : 4 SPDT
		4 : 2 DPDT (ALS 3X Series Only)

### Standard Materials of Construction

Name	No.	Specification
Outer position indicator	1	PE
Inner Position indicator	1	ABS
Housing(Body, Cover)	2	Die-Casting Aluminum
Shaft(Stem)	1	303 Stainless Steel
Mechanical Switch	2	Used in UL CSA approved
Inserts(ALS3X)	1	Bronze
O-Ring	4	Nitrile (Rubber)
Cam	2	ABS
Spring	1	304 Stainless Steel
Cover Screws	4	304 Stainless Steel
Terminal Strip	1	Polyethylene

# LIMIT SWITCH BOX - ALS Series

## Specification

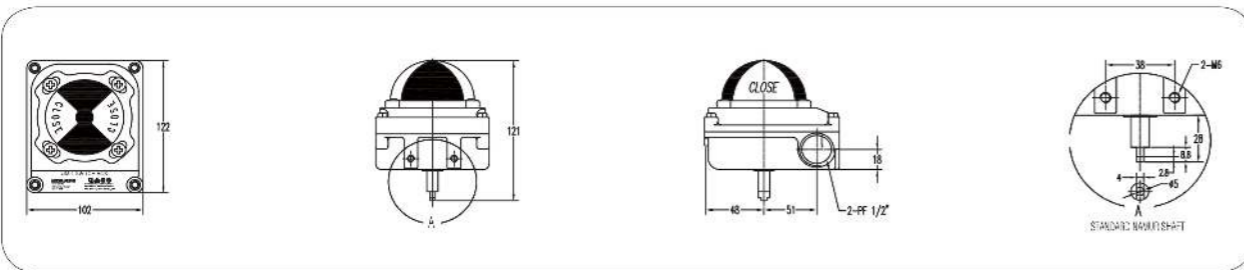
Description	Series	
Model	ALS 1X Series	ALS 3X Series
Ambient Temperature	-20°C – 85°C (-4°F – 185°F)	
Cable Entry Standard	2 x 1/2" PF/PT	2 x 3/4" PF/PT
Cable Entry Option	2 x 1/2" NPT/M20/PG13.5	2 x 3/4" NPT/M20/M25/PG13.5/PG16
Terminal Block Standard	8 Points	
Terminal Block Option	12 & 14 Points / Solenoid Valve Connection 14 Points	
Position indicator	0° to 90° (Red for Close / Yellow for Open)	
Painting	Polyester Powder Coating With Black Color	
Bracket	Steel / SUS	

## Certificate

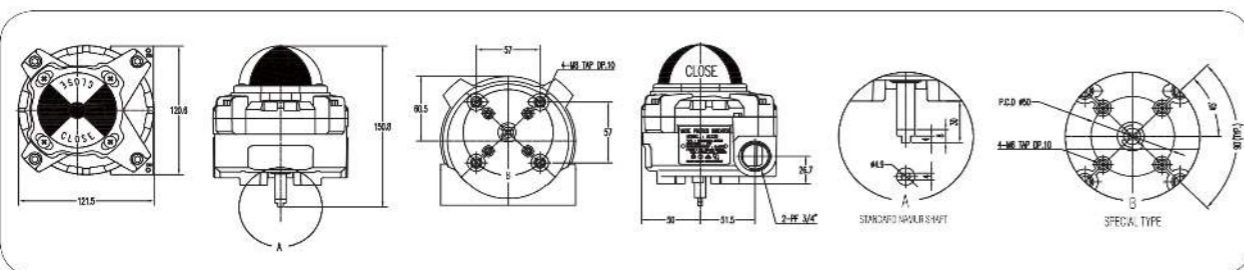
MARK	ALS 1X Series		ALS 3X Series	
	Ratings	Reg No.	Ratings	Reg No.
KTL	IP68	13-040252-01	IP68	13-054947-01
KOSHA			Exd II CT6	13-AV2B0-0752X
CE (TUV NORD)	Low-Voltage Directive 2006/95/EC	K3441/L10	Low-Voltage Directive 2006/95/EC	K3441 / L10
FM Approvals			XP/I/1/ABCD/T5Ta=+85°C; I/1/AEx d II C/T5 Ta=+85°C; DIP/ II , III /1/EFG/T5 Ta =+85°C; IP67	3041064

## Dimension

### ALS10 (Weather Proof)



### ALS30 (Explosion Proof)



# LIMIT SWITCH BOX - ALS Series

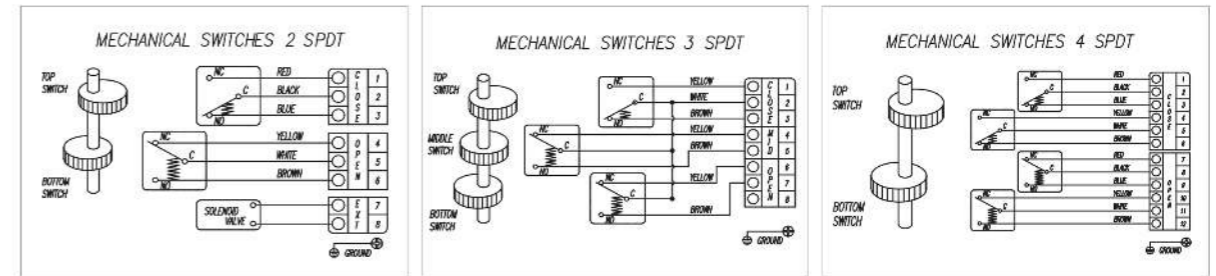
## Mounting bracket

1 NAMUR standard bracket is supplied together with 1 limit switch box as standard

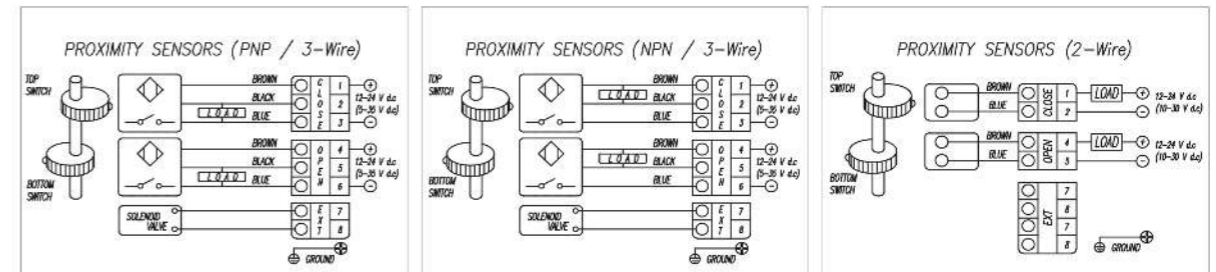
MODEL	BRACKET	Material	Actuator size	Model	Bracket	Material	Actuator size
	AB1 ALS 1X,3X Series	SUS	30 X80 H:20		AB3 ALS 1X,3X Series (For A40)	Steel	25 X 50 H:20
	AB2 ALS 1X,3X Series (For A200, 250)	SUS	30 X130 H:30		S1 ALS 1X Series	Steel	30 X 80 H:20-30

## Wiring Diagram

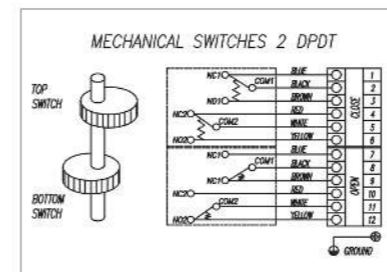
Mechanical Switch Type (UL CSA VDE Approved)



Proximity Sensor Type (UL CE Approved)



Mechanical Switch Type (UL CSA VDE Approved)



## » AIR FILTER REGULATOR - AFR Series



### Features

- Compact design
- Pressure adjustment without a tool

### Specification

Model	AFR-10	AFR-20
Max. Pressure	15 bar	
Fluids	Air	
Filtration	5micron	
Ambient Temperature	-20°C ~ 70°C	
Set Pressure Range	0 ~ 8 Bar	0.5 ~ 8.5 Bar
Drain Capacity (cm <sup>3</sup> )	12	
Port Size	PT 1/4" or NPT 1/4"	PT 1/4"
Material	Aluminum die-cast	PC Bowl
Weight	0.5kg	

## » ELECTRO-PNEUMATIC POSITIONER - EP Series



### Features

- Easy maintenance
- Simple SPAN and ZERO adjustments
- NAMUR mounting
- Simple structure for feedback connection
- Simple conversion direct acting and reverse acting

### Specification

Model	EP R (Rotary type)	EP L (Linear type)
Enclosure	Ex dmb II B+H <sub>2</sub> T6, Ex dmb II C T6/T5, Ex ia II T6/IP66	
Fluids	Air	
Input Signal	4 ~ 20 mA DC	
Split range Application	4 ~ 12 or 12 ~ 20 mA DC	
Voltage Supply Min/ Max	8 Vdc / 30 Vdc	
Linearity	Within ± 1.0 % F.S	
Hysteresis	Within 1.0 % F.S	
Sensitivity	Within ± 0.5 % F.S	
Operating Temperature	-20 ~ +70°C	
Pneumatic Connections	1/4" PT(NPT)	
Electrical Connections	1/2" PF(NPT)	
Material	Aluminum die-cast	
Weight	3.5kg(with terminal box)	3.3kg(with terminal box)

## » SPEED CONTROLLER - FC Series



### Features

The speed controller is installed on actuators such as cylinders and air motors and controls to adjust the flow through the actuator.

### Specification

Model	FC1-8	FC3-8	FC3G-8
Operating Pressure	0.5~15.3 kgf/cm <sup>2</sup>		
Fluids Temperature	5°C ~ 60°C		
Ambient Temperature	-10°C ~ 60°C		
No. of Needle Rotations	14	10	
Port Size	PT 1/4"		

## » MUFFLER - AS Series



### Features

Mufflers are designed to attenuate the exhaust noise caused by control of pneumatic lines. In general, mufflers are mounted on the exhaust ports of solenoid valve, directional control valves and so on, to reduce exhaust noise when direction is changed. This contributes to overall noise reduction in plants.

### Specification

Model	ASC-8A	ASL-8A
Operating Pressure	0~10 kgf/cm <sup>2</sup>	
Fluids Temperature	5°C ~ 60°C	
Ambient Temperature	-10°C ~ 60°C	
Noise	20dB	
Port Size	PT 1/4"	
Material	Metal	
Function	Speed control + Suppression	Sound Suppression

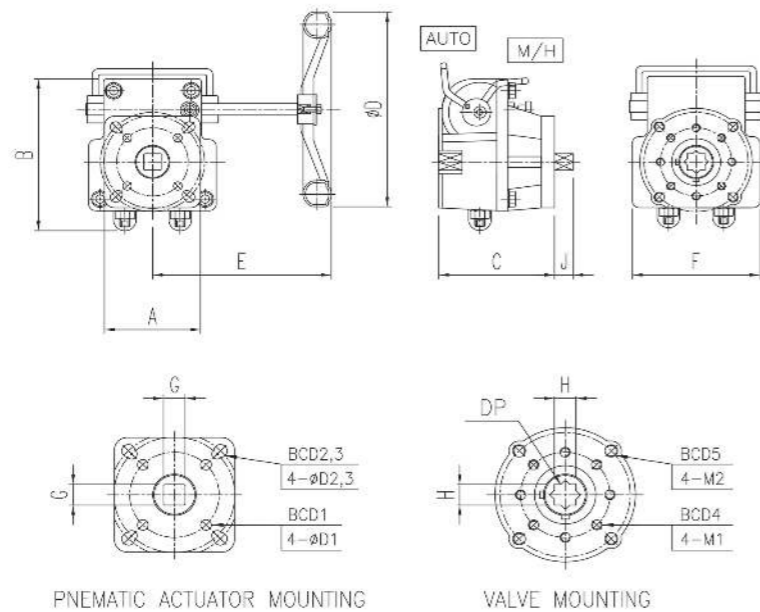


**Features**

- Direct Mounting
- High Power

**Specification**

Model	ADG050N	ADG070N	ADG102N	ADG140N
MAX. Output Torque	270 Nm	360 Nm	780 Nm	1300 Nm
Pneumatic Actuator Mounting Flange (ISO 5211)	F05 / F07	F07 / F10	F10 / F12	F10 / F12 / F14
Valve Mounting Flange (ISO 5211)	F05 / F07	F07 / F10	F10 / F12	F10 / F12
Reduction Ratio	40 : 1	38 : 1	36 : 1	50 : 1
Number Of Turns 90°	10 TURN	9.5 TURN	9 TURN	12.5 TURN
Handwheel Diameter	Ø200	Ø200	Ø280	Ø400
Weight	3.1 Kg	4.5 Kg	7.0 Kg	14.7 Kg
Application For Pneumatic Actuator	AS50/65 AD50/65/80	AS80 AD100/125	AS100 -	AS125 AD140/160
Material	Housing : Aluminium, Handwheel : SS400			



**Dimension**

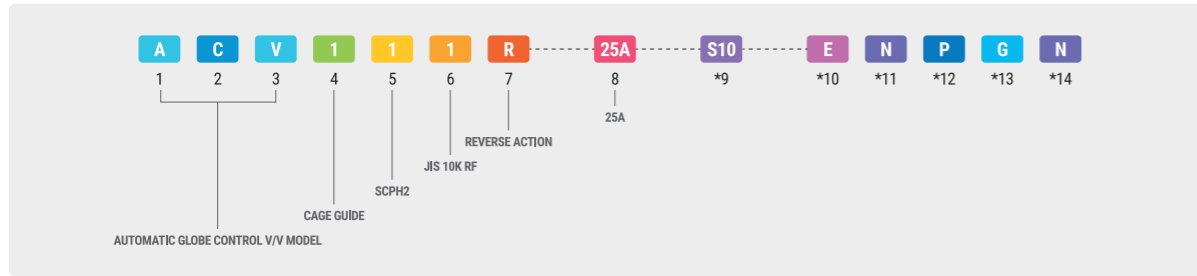
Model	DIM	A	B	C	ØD	E	F	G (TOP)	J	H (BOTTOM)	DP	Pneumatic Actuator		Valve Mounting	
												BCD1/2/3	4-ØD1/2	BCD4/5	4-ØM1/2
ADG050N		70	131	103	200	151	88	14X14	16	17X17	20	Ø50/70	4-Ø6.5/8.5	Ø50/70	4-M6/M8
ADG070N		95	161	114	200	178	125	17X17	18	17X17	20	Ø70/102	4-Ø8.5/10.5	Ø70/102	4-M8/M10
ADG102N		114	182	130	280	220	140	22X22	24	22X22	30	Ø102/125	4-Ø10.5/12.5	Ø102/125	4-M10/M12
ADG140N		129	231	167	400	290	187	22X22	24	27X27	30	Ø102/125/140	4-Ø11/12.5/16.6	Ø102/125	4-M10/M12

# GLOBE VALVE



# MODEL SELECTION GUIDE

# 2-WAY GLOBE VALVE



## AUTOMATIC GLOBE CONTROL V/V MODEL

**A** **C** **V**  
1 2 3

## BODY TYPE

**1**  
4

- 1 : CAGE GUIDE (80A & Larger)
- 2 : TOP GUIDE (65A & Lower)
- 3 : 3-WAY GLOBE
- 4 : TEFLON GLOBE
- 5 : ANGLE Valve

## BODY MATERIAL

**1**  
5

- 1 : SCPH2 (A216 WCB / DIN 1.0619)
- 2 : SCS13 (A351 CF8 / DIN 1.4308)
- 3 : SCS14 (A351 CF8M / DIN 1.4408)
- 4 : SCS16 (A351 CF3M / DIN 1.4404)
- 5 : DUPLEX
- 6 : HASTELLOY-C
- 7 : TEFLON
- 8 : TITANIUM
- 9 : SCPH21 (A217 WC6)
- 10 : SCPH32 (A217 WC9)

## RATING & CONNECTION

**1**  
6

- 1 : KS (JIS) 10K RF
- 2 : KS (JIS) 20K RF
- 3 : ANSI CL 150 RF
- 4 : ANSI CL 300 RF
- 5 : PN 10 RF
- 6 : PN 16 RF
- 7 : PN 40 RF
- 8 : KS(JIS) 40K RF
- 9 : ANSI CL 600 RF
- 10 : KS(JIS) 63K RF
- 11 : ANSI CL 900 RF
- 12 : ANSI CL 1500 RF
- 13 : JIS 30K RF

## ACTUATOR ACTION

**R**  
7

- R : REVERSE ACTION
- D : DIRECT ACTION

## BODY SIZE

**25A**  
8

- 15A (1/2B)
- 20A (3/4B)
- 25A (1B)
- 32A (1-1/4B)
- 40A (1-1/2B)
- 50A (2B)
- 65A (2-1/2B)
- 80A (3B)
- 100A (4B)
- 125A (5B)
- 150A (6B)
- 200A (8B)
- 250A (10B)
- 300A (12B)
- 350A (14B)
- 400A (16B)

## Cv TRIM NO

**S10**  
\*9

Refer to Cv TABLE

## PLUG OPTION

**E**  
\*10

- Q : QUICK OPEN
- E : EQ%
- L : LINEAR
- M : MODIFIED PARABOLIC
- R : MICRO
- C : ANTI CAVITATION TRIM
- N : ANTI NOISE TRIM

## SEAT MATERIAL

**N**  
\*11

- N : METAL SEAT (SUS316)
- E : METAL SEAT (SUS304)
- H : STELLITED TREAT (SUS316+STL.)
- 41 : METAL SEAT (SUS410)
- 42 : METAL SEAT (SUS420+QT)
- S1 : SOFT SEAT (SUS316+PTFE)
- S2 : SOFT SEAT (SUS316+PEEK)

## BONNET TYPE

**P**  
\*12

- P : PLAIN BONNET
- B : BELLOWS BONNET
- F : FIN BONNET
- S : INSULATION FIN BONNET
- E : EXTENTION BONNET
- L : LONG EXTENTION BONNET

## GLAND PACKING MAT'L

**G**  
\*13

- G : GRAFOIL (P6710+6610)
- V : V-PACKING (PTFE)
- P : PTFE PACKING

## HANDLE POSITION

**N**  
\*14

- N : NONE
- T : TOP
- S : SIDE

**ACV series is our latest control valve designed using recent high technology. It is used to control a wide variety fluid like as water or liquids, steam, gas. ACV series trim is a quick change design to repair and to replace trim easily. It is available to use multi-hole trim or multi-stage trim for high differential pressure service as an option.**

## STANDARD SPECIFICATION

Body	Series	ACV	
	Valve Size	15A ~ 400A (1/2" ~16")	
	Trim Type	Top Guide Unbalance Trim, Cage Guide Balance Trim, Multi-Hole Balance Trim, Multi-Stage Balance Trim	
	Pressure Rating	JIS 10K ~ 63K / ANSI CLASS 150 ~ 1500 / DIN PN16	
	End Connections	Flanged(RF, FF, RTJ), Weld Ends (SW: 2" & Lower, BW: 2.5" & Larger), Screw(2" & Lower)	
	Body Materials	Carbon Steel : SCPH2/WCB Stainless Steel : SCS13/CF8, SCS14/CF8M Chrome-moly Steel : SCPH21/WC6, SCPH32/WC9 Duplex Stainless Steel, Hastelloy, Teflon	
	Trim Materials	SUS316 SUS316+STELLITE SUS410 SUS420 Duplex Stainless Steel, Hastelloy	
	Bonnet Type	Standard : -20°C ~ 230°C Fin/Extension : -45°C ~ -20°C or over 230°C Long-Extension : -196°C ~ -45°C Bellows-Seal	
	Gland Packing Type	V-PTFE(Standard), PTFE yarn, Graphite yarn	
	Gasket Type	SUS316 + Graphite spiral wound, 316+TFE spiral wound or other composite Gasket	
Painting Color	Standard is Silver. In the case of stainless steel, Body is not painted.		
Plug Characteristics	EQ%, Linear, Modified Parabolic, On-Off		
Actuator Type		Pneumatic Diaphragm, Pneumatic Cylinder, Electric Motor.	
Performance	Valve Action	Reverse action, Direct action	
	Rangeability	30:1, 50:1, 80:1, 100:1	
	Action Accuracy	Hysteresis	≤ 1% of Full Stroke with positioner
		Linearity	≤ ±1% of Full Stroke with positioner
	Leakage	ANSI CLASS IV (Metal Seat), ANSI CLASS VI (Soft Seat)	

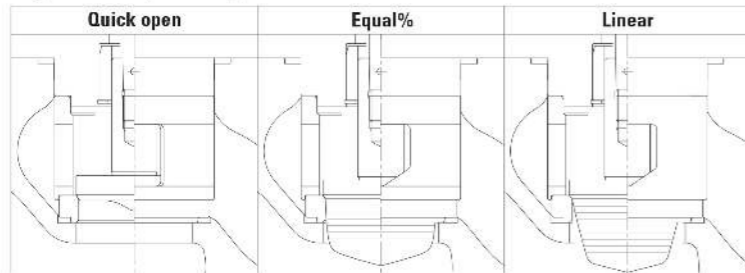
## » BODY & TRIM MATERIAL COMBINATION

### BODY & TRIM MATERIAL COMBINATION

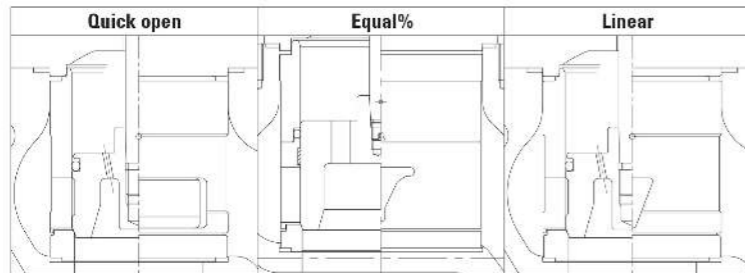
Body	SCPH2	SCS13	SCS14
Bonnet	SCPH2	SCS13	SCS14
Plug	SUS316	SUS316	SUS316
Plug treatment (Option)	STELLITE	STELLITE	STELLITE
Seat	SUS316	SUS316	SUS316
Seat treatment (Option)	STELLITE	STELLITE	STELLITE
	SOFT SEAT(PTFE)	SOFT SEAT(PTFE)	SOFT SEAT(PTFE)
Stem	SUS316	SUS316	SUS316
Cage	SCS14	SCS14	SCS14
Gland packing	V-PTFE or Graphite	V-PTFE or Graphite	V-PTFE or Graphite
Bonnet Gasket	316+GRAFOIL	316+GRAFOIL	316+GRAFOIL
Seat Gasket	316+GRAFOIL	316+GRAFOIL	316+GRAFOIL
Cage Gasket (80A over)	316+GRAFOIL	316+GRAFOIL	316+GRAFOIL
Guide Bushing (65A under)	SUS420J2	SUS420J2	SUS420J2
Balance Seal (80A over)	304+Teflon	304+Teflon	304+Teflon
	Graphite	Graphite	Graphite
Bonnet Bolt	Stainless Steel	Stainless Steel	Stainless Steel
Bonnet Nut	Stainless Steel	Stainless Steel	Stainless Steel

## » TRIM TYPE

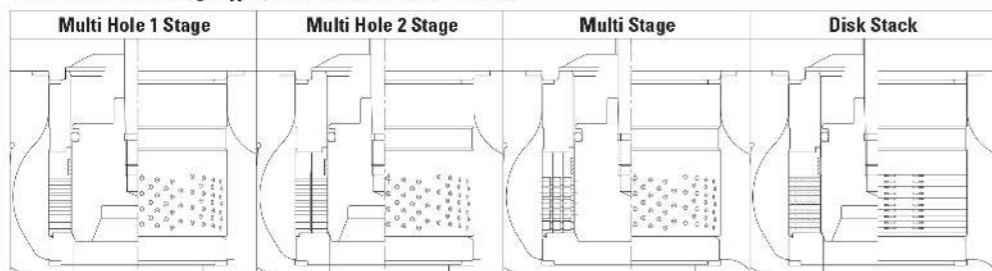
### Single Seated Top Guide Type



### Cage Guide Type

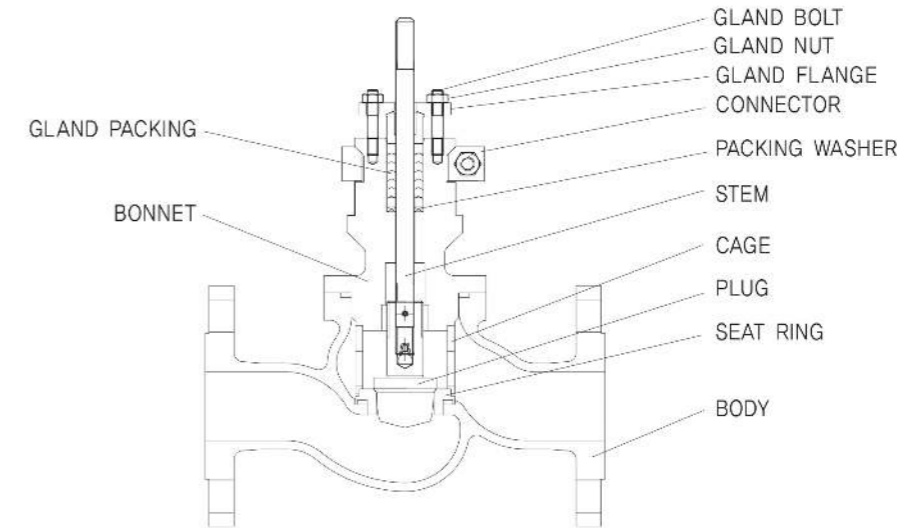


### Multi Hole & Multi Stage Type (Anti - Cavitation & Low Noise)

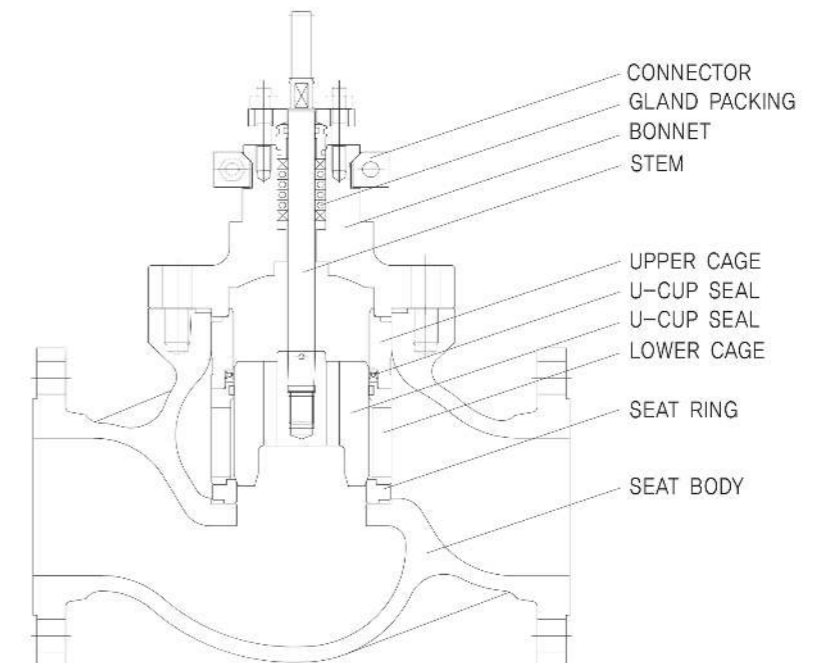


## » BODY INTERNAL STRUCTURE

### BODY SIZE 2-1/2" (65A) AND LOWER (TOP GUIDE)



### BODY SIZE 3" (80A) AND LARGER (CAGE GUIDE)



**Top Guide Single Seat Type - Micro Trim Type (Unbalance Type)**

Valve Size		Travel (mm)	Trim No. (Trim Size)																		
(mm)	(inch)		A24	A23	A22	A21	A20	A19	A17	A16	A15	A14	A13	S2.7	S3.3	S3.6	S4.1	S4.5	S5.3	S6.3	S7.5
15A	1/2"	20	0.01	0.012	0.015	0.02	0.03	0.04	0.06	0.08	0.1	0.12	0.15	0.20	0.25	0.30	0.40	0.50	0.70	1.00	1.5
20A	3/4"	20												0.20	0.25	0.30	0.40	0.50	0.70	1.00	1.5
Characteristic			LINEAR										EQ%, LINEAR								

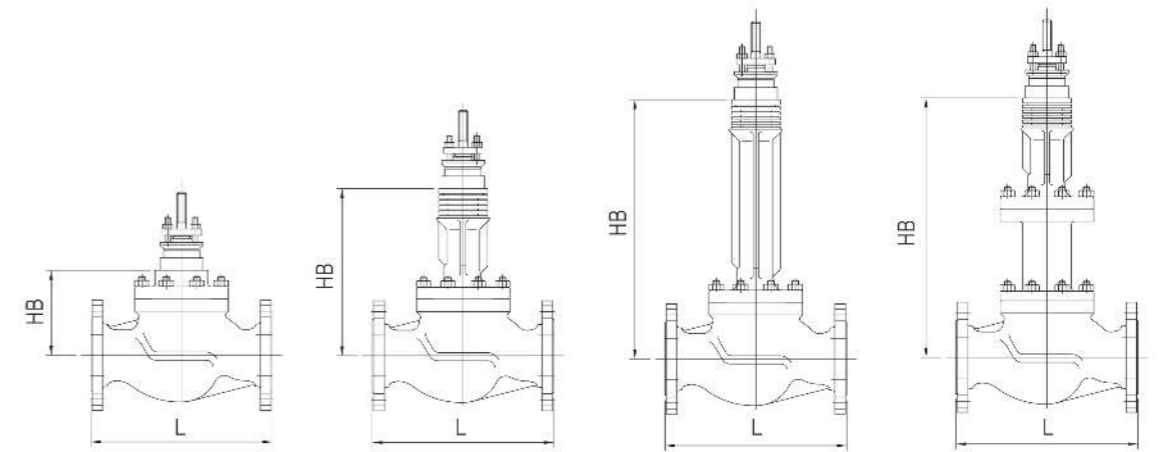
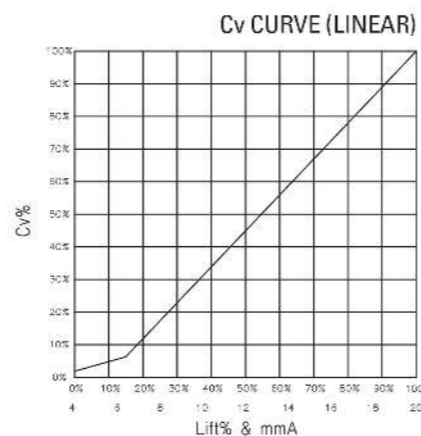
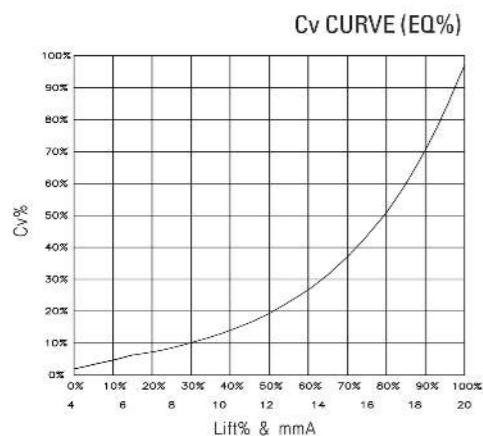
**Top Guide Single Seat Type - P Port Type (Unbalance Type)**

Valve Size		Travel (mm)	Trim No. (Trim Size)													
(mm)	(inch)		S8.6	S10	S11	S11.5	S12.5	S14	S15	S20	S25	S32	S40	S40F	S50	S65
15A	1/2"	20	2.0	2.7	3.0	3.6	4	5	6							
20A	3/4"	20	2.0	2.7	3.0	3.6	4	5	6	9						
25A	1"	20						5	6	9	14					
32A	1-1/4"	25							6	9	14	25				
40A	1-1/2"	25								9	14	25	33	40		
50A	2"	25									14	25	33	40	50	
65A	2-1/2"	30										25	33	40	50	85
Characteristic			EQ%, LINEAR													

**Cage Guide Type - Balance Type**

Valve Size		Travel (mm)	Trim No. (Trim Size)															
(mm)	(inch)		S80		S100		S125		S150		S200		S250		S300	S350	S400	
(mm)	(inch)		4Port	3Port	4Port	3Port	6Port	5Port	4Port	3Port	8Port	6Port	4Port	8Port	6Port	8Port	8Port	8Port
80A	3"	40	106	90														
100A	4"	40			175	149												
125A	5"	50				266												
150A	6"	50					335	284	212									
200A	8"	75								660	580	388						
250A	10"	75										945	750					
300A	12"	100												1400				
350A	14"	100													2000			
400A	16"	130																3500
Characteristic			EQ%, LINEAR															

**Characteristic Curve**



STANDARD BONNET

FIN/EXTENSION BONNET

LONG EXTENSION BONNET

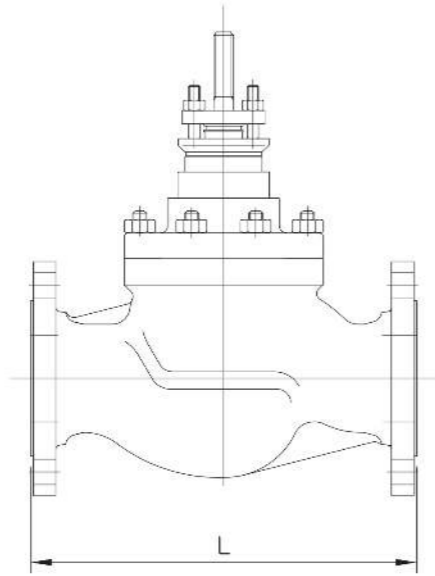
BELLOWS SEAL BONNET

**Dimension**

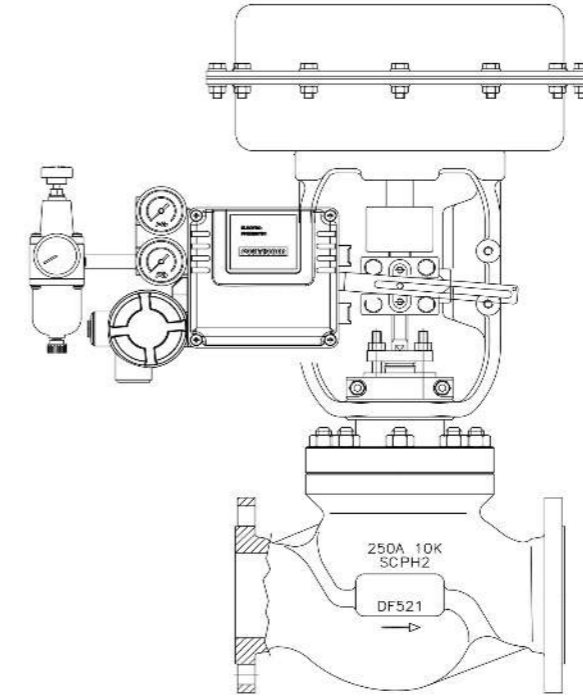
Unit: mm

Size		STANDARD BONNET		FIN BONNET		LONG EXTENSION	BELLOWS BONNET
mm(A)	Inch(B)	150#,300#	600#	150#,300#	600#	150#,300#	150#,300#
15	1/2	110	150	216	350	460	220
20	3/4	110	150	216	350	460	220
25	1	110	185	223	385	460	235
32	1-1/4	115	197	237	397	465	240
40	1-1/2	115	197	237	397	465	240
50	2	125	197	255	397	475	255
65	2-1/2	140	263	270	463	490	325
80	3	170	300	351	500	520	355
100	4	190	316	403	516	540	375
125	5	280	409	470	609	630	556
150	6	285	409	480	609	635	562
200	8	355	420	580	650	705	730
250	10	420	460	620	660	775	770
300	12	497	-	-	-	-	-
350	14	580	-	-	-	-	-
400	16	653	-	-	-	-	-

## FACE TO FACE DIMENSION (면간거리)



## VALVE WEIGHT (밸브 중량)



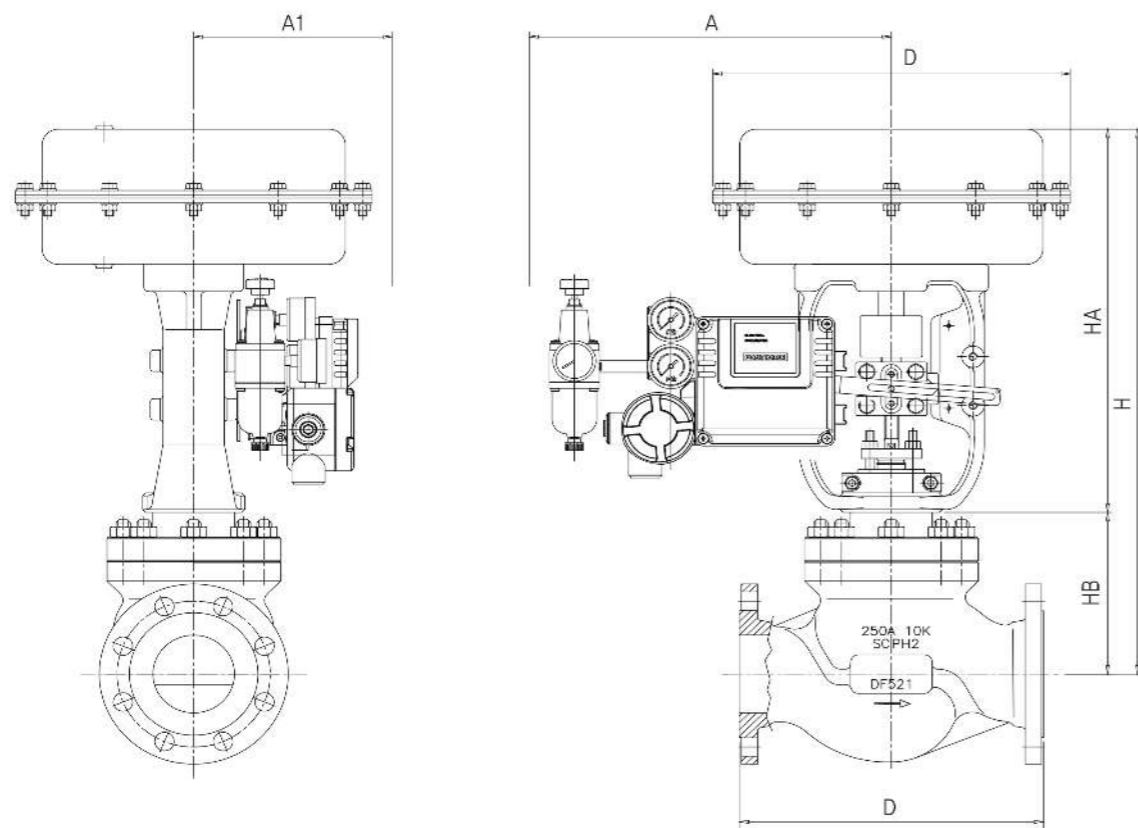
## FACE TO FACE DIMENSION (면간거리)

Unit: mm

SIZE		FACE TO FACE DIMENSION ( L )							
		FLANGE TYPE					WELDING TYPE (SW or BW)		DIN
		JIS 10K RF	JIS20K RF	JIS30/40K RF	ANSI 900# RF	ANSI 1500# RF	ANSI 300#	ANSI 600#	PN16
mm	Inch	ANSI 150# RF	ANSI 300# RF	ANSI 600# RF					
15	1/2	184	194	206			206	206	130
20	3/4	184	194	206			206	206	150
25	1	184	197	210	292	292	210	210	160
32	1-1/4	222	235	251			251	251	180
40	1-1/2	222	235	251	333	333	251	251	200
50	2	254	267	286	375	375	286	286	230
65	2-1/2	276	292	311			311	311	290
80	3	298	318	337	440	460	317	337	310
100	4	352	368	394	510	530	368	394	350
125	5	403	425	460			425	460	400
150	6	451	473	508	715	770	473	508	480
200	8	543	568	610	854	911	568	610	
250	10	673	708	752	1251	1327	708	752	
300	12	737	775	819	1311	1400	775	819	
350	14	889	927	972			927	972	
400	16	1016	1057	1108			1057	1108	

Size		Weight (Kg)									
		STANDARD BONNET			FIN BONNET			LONG EXTENSION BONNET		BELLOWS BONNET	
		150# RF	300# RF	600# RF	150# RF	300# RF	600# RF	150# RF	300# RF	150# RF	300# RF
mm(A)	Inch(B)										
15	1/2	13	13	15	15.6	15.6	18	20.8	20.8	22.1	22.1
20	3/4	13	13	15	15.6	15.6	18	20.8	20.8	22.1	22.1
25	1	16	16	18.5	19.2	19.2	22.2	25.6	25.6	27.2	27.2
32	1-1/4	22	24	26	26.4	28.8	31.2	35.2	38.4	37.4	40.8
40	1-1/2	22	25	27	26.4	30	32.4	35.2	40	37.4	42.5
50	2	28	30	34	33.6	36	40.8	44.8	48	47.6	51
65	2-1/2	48	52	58	57.6	62.4	69.6	76.8	83.2	81.6	88.4
80	3	61	66	72	73.2	79.2	86.4	97.6	105.6	103.7	112.2
100	4	69	72	78	82.8	86.4	93.6	110.4	115.2	117.3	122.4
125	5	155	165	185	186	198	222	248	264	263.5	280.5
150	6	175	182	210	210	218.4	252	280	291.2	297.5	309.4
200	8	280	305	325	336	366	390	448	488	476	518.5
250	10	350	365	405	420	438	486	560	584	595	620.5

## » GLOBE VALVE ASSEMBLY DIMENSION (STANDARD BONNET TYPE)



### Dimension

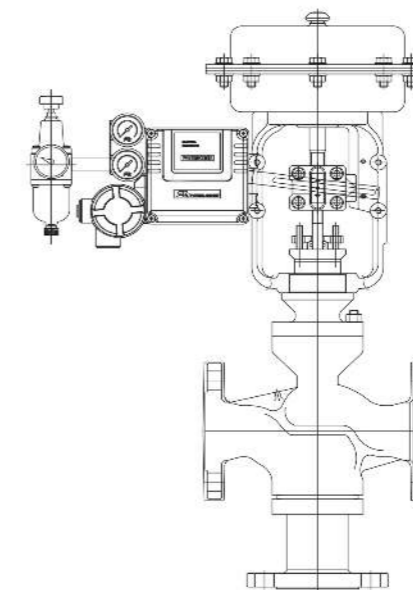
Unit: mm

SIZE		FACE TO FACE DIMENSION ( L )		H	HA	HB	D	A	A1	Weight (Kg)		
		JIS 10K RF	JIS 20K RF							JIS 10K RF	JIS 20K RF	
mm	Inch	ANSI 150# RF	ANSI 300# RF							ANSI 150# RF	ANSI 300# RF	
15	1/2	184	194	390	280	110	220	250	140	13	13	
20	3/4	184	194							13	13	
25	1	184	197							16	16	
32	1-1/4	222	235	435	320	115	270	260		22	24	
40	1-1/2	222	235							22	25	
50	2	254	267	445	320	125	350	270		160	28	30
65	2-1/2	276	292	535	395	140			48		52	
80	3	298	318	565	395	170			61		66	
100	4	352	368	585	395	190	470	300	250		69	72
125	5	403	425	780	500	280					155	165
150	6	451	473	785	500	285					175	182
200	8	543	568	890	535	355	560	-		-	280	305
250	10	673	708	960	535	420					350	365
300	12	737	775	1177	680	497	560	-		-	-	-

## » 3-WAY GLOBE VALVE

This valve is three way control valve suitable to the mixing service or diverting service. Mixing type is the type mixing two flows into one and diverting type is the type diverting one flow into two.

Multi-spring Diaphragm actuator is standard for this valve.

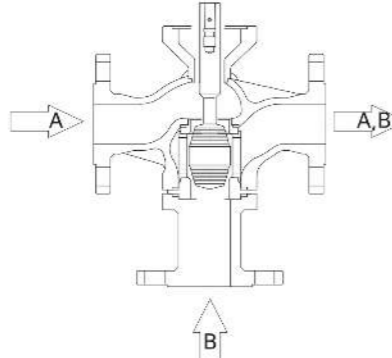
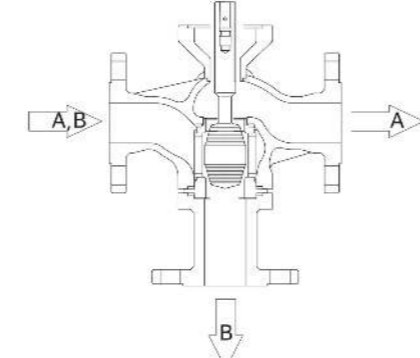


### STANDARD SPECIFICATION

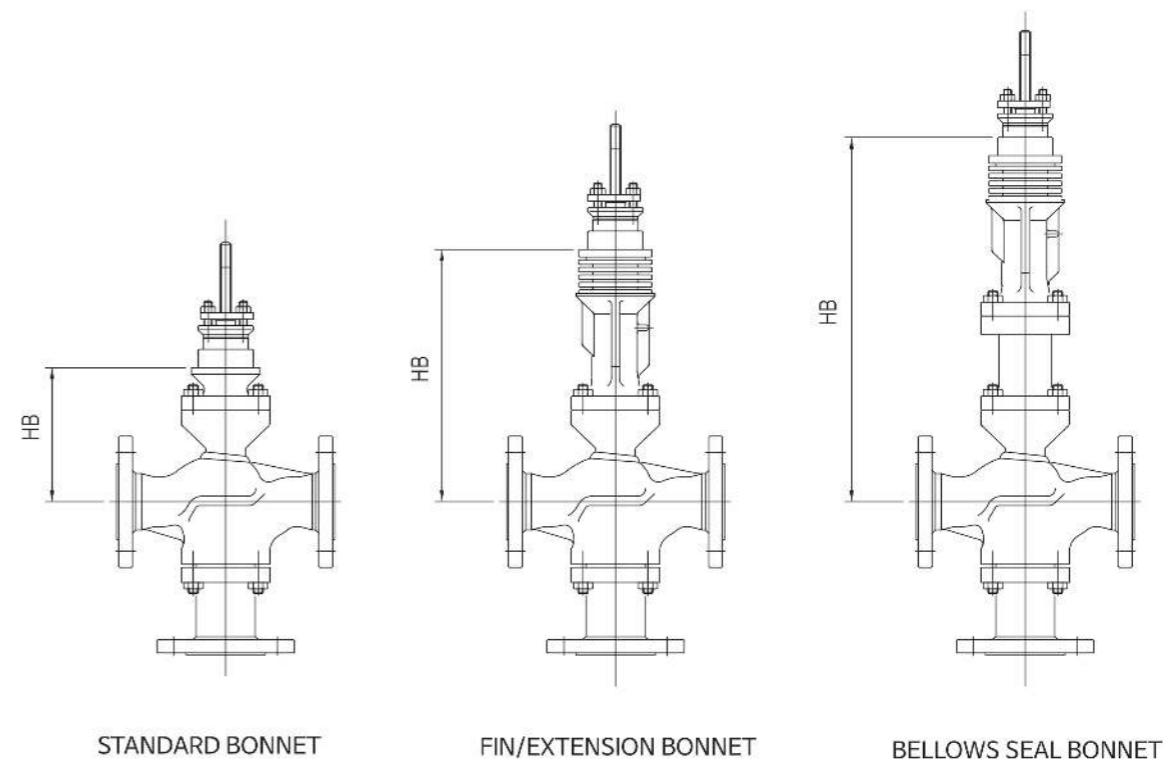
Body	Series	ACV
	Service	Mixing / Diverting
	Valve Size	15A ~ 400A (1/2" ~ 16")
	Trim Type	Top Guide Unbalance Trim
	Pressure Rating	JIS 10K ~ 20K / ANSI CLASS 150# ~ 300# / DIN PN16
	End Connections	Flanged(RF, FF)
	Body Materials	Carbon Steel : SCPH2/WCB Stainless Steel : SCS13/CF8, SCS14/CF8M Chrome-moly Steel : SCPH21/WC6, SCPH32/WC9 Duplex Stainless Steel, Hastelloy
	Trim Materials	SUS316 SUS316+STELLITE SUS410 SUS420 Duplex Stainless Steel
	Bonnet Type	Standard : -20°C ~ 230°C Fin/Extension : -45°C ~ -20°C or over 230°C Long-Extension : -196°C ~ -45°C Bellows-Seal
	Gland Packing Type	V-PTFE(Standard), PTFE yarn, Graphite yarn
	Gasket Type	SUS316 + Graphite spiral wound, 316+TFE spiral wound or other composite Gasket
	Painting Color	Standard is Silver. In the case of stainless steel, Body is not painted.
	Plug Characteristics	Linear
	Leakage	ANSI CLASS III (CLASS IV is available on request.)
Actuator Type	Pneumatic Diaphragm, Pneumatic Cylinder, Electric Motor.	

## ▶ FLOW DIRECTION & Cv TABLE (3-WAY GLOBE VALVE)

### Flow direction

		Mixing type	Diverting type
Direct Action Actuator	Air To	A → A,B	A,B → A
	Air Fail	B → A,B	A,B → B
Reverse Action Actuator	Air To	B → A,B	A,B → B
	Air Fail	A → A,B	A,B → A
Flow direction			

## ▶ BONNET TYPE (3-WAY GLOBE VALVE)



### Cv Table

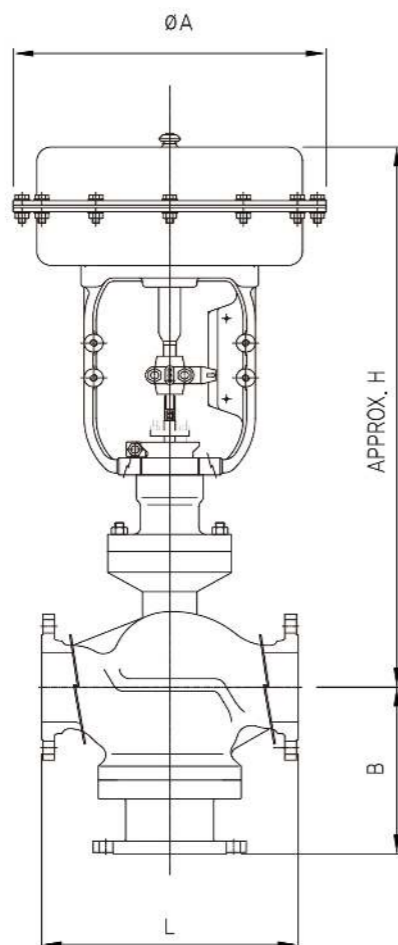
Valve Size		Travel (mm)	Cv Value
(mm)	(inch)		
15A	1/2"	20	6
20A	3/4"		9
25A	1"		14
32A	1-1/4"	25	25
40A	1-1/2"		33
50A	2"		50
65A	2-1/2"	30	85
80A	3"	40	106
100A	4"		175
125A	5"		266
150A	6"	50	335
200A	8"	75	660
250A	10"		945
300A	12"		1400

### DIMENSION

Unit: mm

SIZE		HB		
mm	Inch	STANDARD BONNET	FIN BONNET	BELLOWS BONNET
15	1/2	110	216	220
20	3/4	110	216	220
25	1	110	223	235
32	1-1/4	115	237	240
40	1-1/2	115	237	240
50	2	125	255	255
65	2-1/2	140	270	325
80	3	170	351	355
100	4	190	403	375
125	5	280	470	556
150	6	285	480	562
200	8	355	580	730
250	10	425	620	770
300	12	497	-	-

## 3-WAY GLOBE VALVE ASSEMBLY DIMENSION (STANDARD BONNET TYPE)



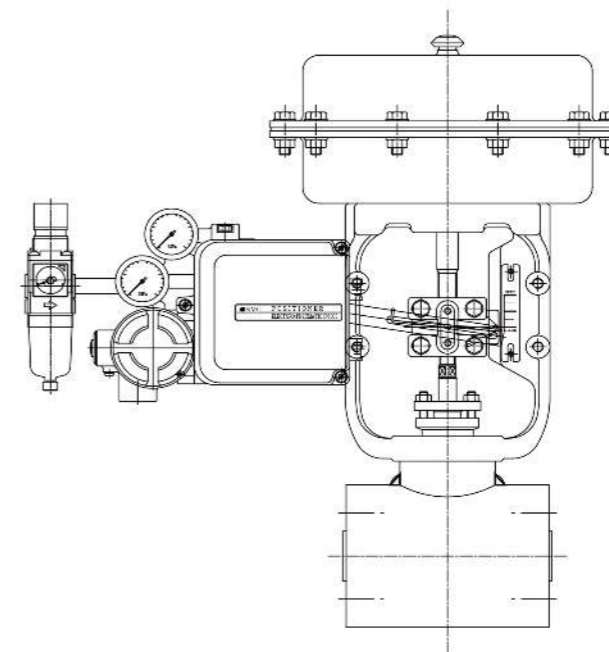
### DIMENSION

Unit: mm

SIZE		FACE TO FACE DIMENSION ( L )			B	H (Aprox.)	A	Weight (Kg)	
mm	Inch	JIS 10K ANSI 150#	JIS 20K ANSI 300#	PN16				JIS 10K	JIS 20K
15	1/2	184	194	130	144	396	220	16.9	16.9
20	3/4	184	194	150	144	396	220	16.9	16.9
25	1	184	197	160	144	430	220	20.8	20.8
32	1-1/4	222	235	180	163	465	270	28.6	31.2
40	1-1/2	222	235	200	163	465	270	28.6	32.5
50	2	254	267	230	178	475	270	36.4	39
65	2-1/2	276	292	290	197	580	350	62.4	67.6
80	3	298	318	310	215	600	350	79.3	85.8
100	4	352	368	350	240	645	350	89.7	93.6
125	5	403	425		340	895	470	201.5	214.5
150	6	451	473		350	900	470	227.5	236.6
200	8	543	568		380	960	560	364	396.5

## TEFLON GLOBE VALVE

This valve is used for controlling corrosive fluids.  
Body wetted parts are made of PTFE and body is covered by stainless body.

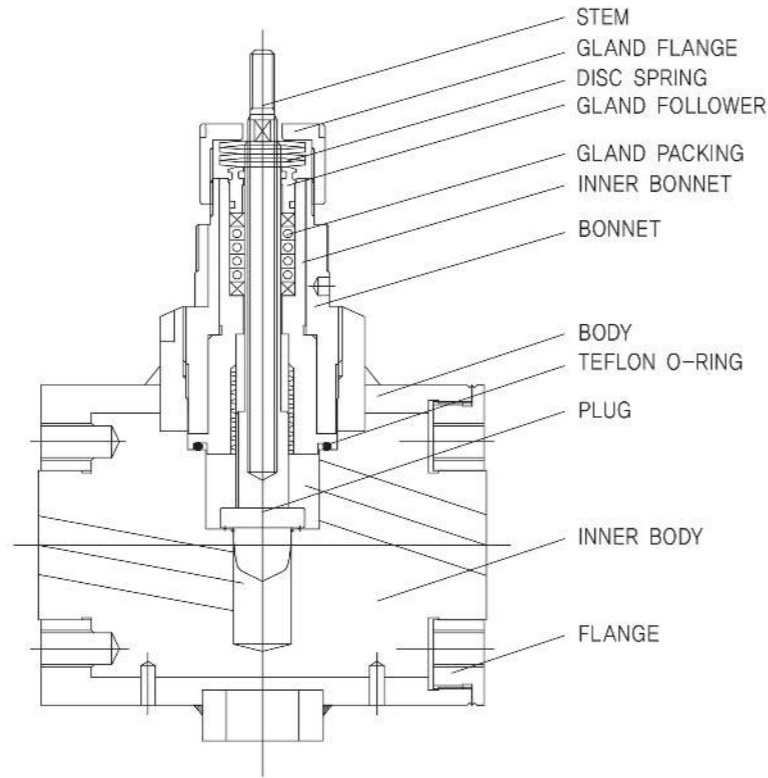


### STANDARD SPECIFICATION

Body	Series	ACV
	Valve Size	15A ~ 50A (1/2" ~ 2")
	Trim Type	Unbalance plug type (P port)
	Pressure Rating	JIS 10K / ANSI 150#
	End Connections	Flanged Tap Bolting (FF Type)
	Body Materials	COVER : SUS304 (SUS316 is available on request) BODY : PTFE
	Trim Materials	PTFE
	Bonnet Type	Standard : 0°C ~ 150°C
	Gland Packing Type	V-PTFE
	Painting Color	Body is not painted.
	Plug Characteristics	EQ%, Linear
	Leakage	ANSI CLASS VI
Actuator Type	Pneumatic Diaphragm, Pneumatic Cylinder, Electric Motor.	

## ▶ BODY INTERNAL STRUCTURE & Cv VALUE (TEFLON GLOBE)

### Body Internal Structure

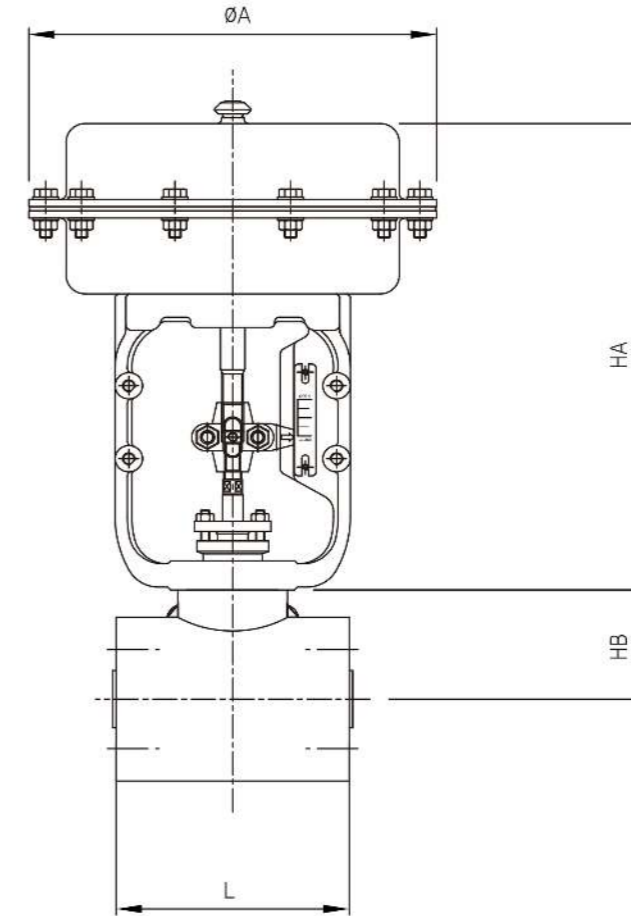


Body	SUS304+TEFLON
Bonnet	SUS304+TEFLON
Plug	TEFLON
Seat	Integral Seat type
Stem	SUS316+TEFLON
Gland packing	V-PTFE
Bonnet Bolt	Stainless Steel
Bonnet Nut	Stainless Steel

### Cv Table

Valve Size		Travel (mm)	Cv Value
(mm)	(inch)		
15A	1/2"	20	6
20A	3/4"		9
25A	1"		14
32A	1-1/4"	25	25
40A	1-1/2"		33
50A	2"		50

## ▶ TEFLON GLOBE VALVE ASSEMBLY DIMENSION



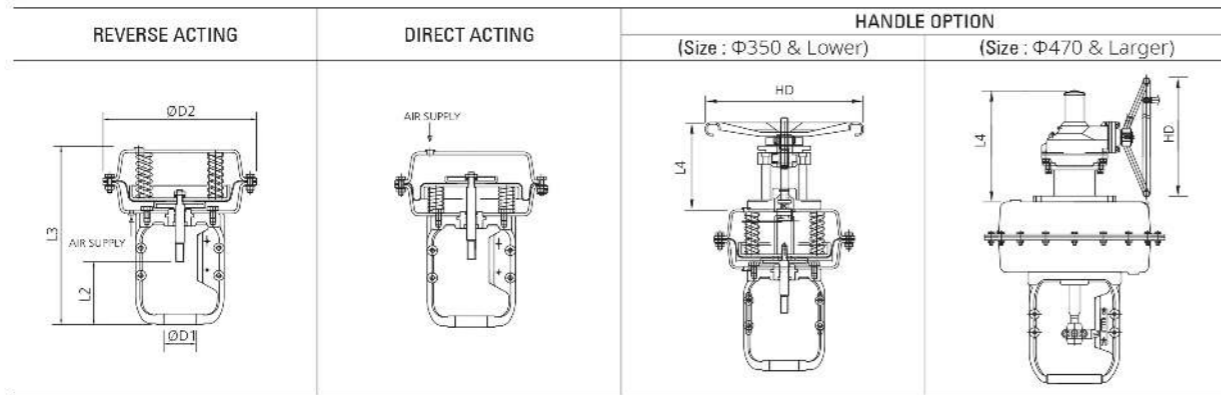
### DIMENSION

Unit: mm

Size		FACE TO FACE : L	HB	HA	A	Weight (Kg)
mm(A)	Inch(B)					
15	1/2	140	88	280	220	6.5
20	3/4	140	90	280	220	6.5
25	1	184	105	280	220	8
32	1-1/4	222	111	320	270	11
40	1-1/2	222	111	320	270	11
50	2	254	( 125 )	320	270	14

JIS 10K / ANSI 150# ONLY

## ▶ PNEUMATIC DIAPHRAGM ACTUATOR

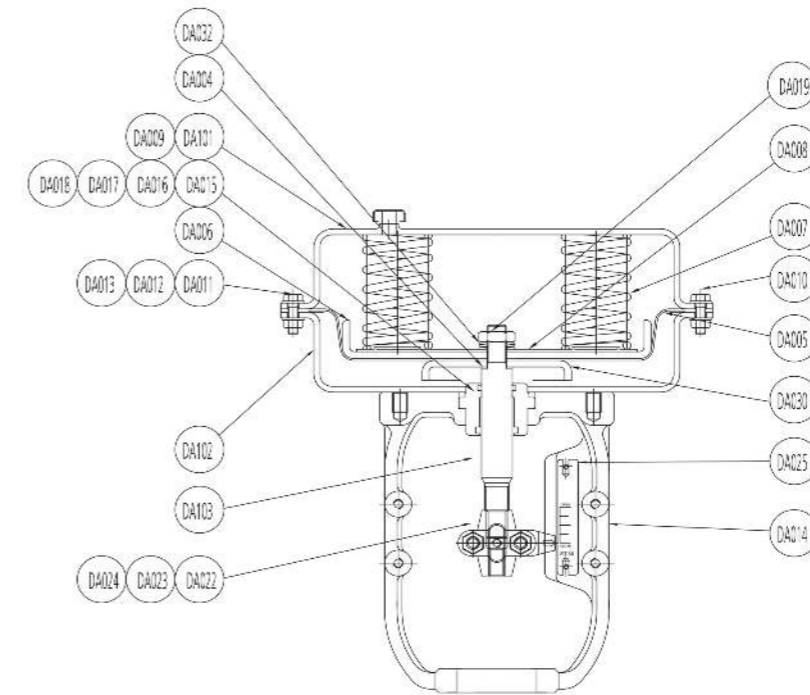


Size	Stroke (mm)	Dimension (mm)				Actuator Rod diameter	Air conn.	Effective Area (cm <sup>2</sup> )	Actuator Volume (Liter)	Weight (Kg)	Handle Dimension (mm)	
		$\Phi D1$	$\Phi D2$	$L2$	$L3$						$L4$	$HD$
220	20	56	220	115	280	$\Phi 16$	1/4"PT	188	0.8	6.4	163	160
270	25	56	270	115	320	$\Phi 16$	1/4"PT	308	1.5	11.7	174	300
350	30, 40	65.5	350	135	395	$\Phi 25$	1/4"PT	563	3.3	22.7	209	300
470	50	80	470	155	500	$\Phi 30$	1/4"PT	961	8	55.7	-	-
	75				535							
560	100	101	560	168	680	$\Phi 35$	3/8"PT	1632	20	-	-	-

## SPECIFICATION

Type	Multi-spring type
Size	220, 270, 350, 470, 560
Function	Direct Acting (DA) : Air to output shaft down Reverse Acting (RA) : Air to output shaft up
Air Supply	3.5 bar
Operating Spring Range	0.8bar ~ 2.4bar
Ambient Temperature	-40°C ~ +93°C
Materials	Diaphragm casing : Carbon steel plate
	Diaphragm : EPDM
	Yoke : FCD45
	Diaphragm Rod : SUS304
	Spring : SWOCS-V
	Handle Case : Carbon steel
Color	HJ BLUE

## ▶ PNEUMATIC DIAPHRAGM ACTUATOR (INTERNAL STRUCTURE)

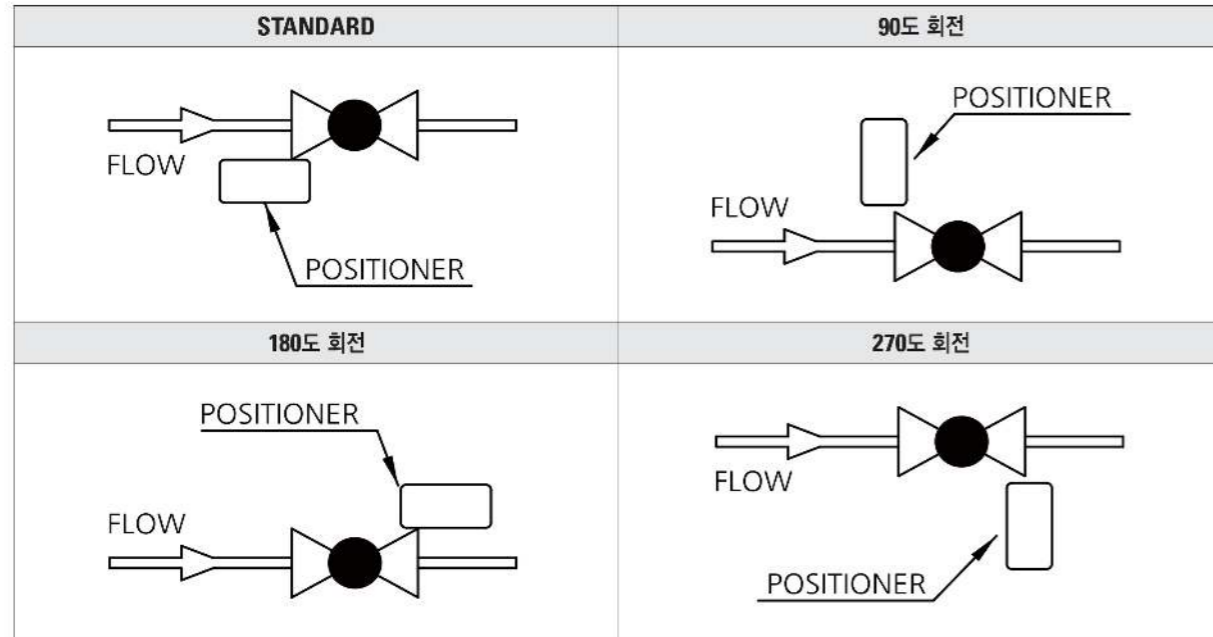


### DIAPHRAGM ACTUATOR PART

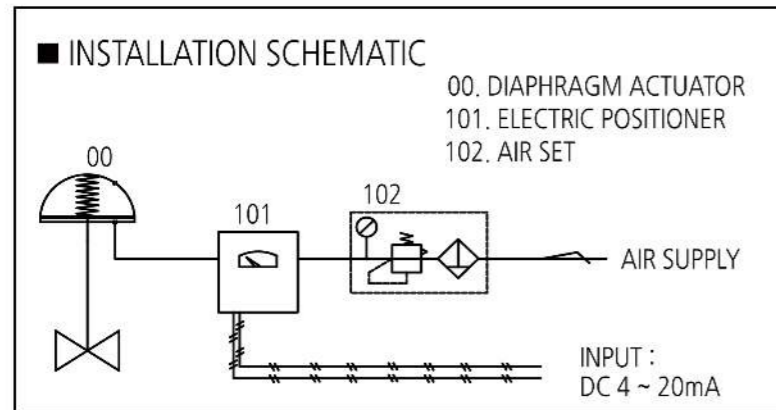
NO.	PART NAME	Q'TY	MATERIAL	REMARK
DA101	UPPER CASE	1	CARBON STEEL PLATE	
DA102	LOWER CASE	1	CARBON STEEL PLATE	
*DA103	DIAPHRAGM ROD	1	STAINLESS STEEL	
DA004	ROD BASE WASHER	1	BRASS	SET
DA005	DIAPHRAGM	1	EPDM	
DA032	DISK SPRING	1	SPRING MATERIAL	
DA006	DIAPHRAGM PLATE	1	CARBON STEEL PLATE	
DA019	NYLON NUT	1	CARBON STEEL	
DA030	CENTER PLATE	1	CARBON STEEL PLATE	
DA007	SPRING	SET	SWOCS-V	
DA008	SPRING BASE PLATE	1	CARBON STEEL PLATE	
DA009	AIR VENT CAP	1	BRASS PLATE	
DA010	CASE I-NUT	SET	STAINLESS STEEL	
DA011	CASE BOLT	SET	STAINLESS STEEL	
DA012	CASE NUT	SET	STAINLESS STEEL	
DA013	CASE PLATE WASHER	SET	STAINLESS STEEL	
DA014	YOKE	1	FCD450	
*DA015	SEAL BOX	1	CARBON STEEL	SET
DA016	SEAL BOX O-RING	1	NBR	
DA017	SEAL BOX DUST SEAL	1	NBR	
DA018	SEAL BOX & YOKE O-RING	1	NBR	
DA022	STEM CLAMP	SET	CF8	SET
DA023	STEM CLAMP BOLT	SET	STAINLESS STEEL	
DA024	STEM CLAMP BOLT	SET	STAINLESS STEEL	
DA025	INDICATOR	1	STAINLESS STEEL	

## ▶ ACTUATOR MOUNTING FORM & SCHEMATIC DIAGRAM

### ACTUATOR MOUNTING FORM



### SCHEMATIC DIAGRAM



## ▶ PRESSURE - TEMPERATURE RATING TABLE

### PRESSURE-TEMPERATURE RATING TABLE

Unit : Kg/cm<sup>2</sup>G

ANSI Temp. (°C)	Class 150			Class 300			Class 600			Class 900			Class 1500		
	SCPH2 WCB	SCS13A CF8	SCS14A CF8M	SCPH2 WCB	SCS13A CF8	SCS14A CF8M	SCPH2 WCB	SCS13A CF8	SCS14A CF8M	SCPH2 WCB	SCS13A CF8	SCS14A CF8M	SCPH2 WCB	SCS13A CF8	SCS14A CF8M
-5~38	20	19	19	52	51	51	104	101	101	156	152	152	260	253	253
93	18	16	17	48	42	44	96	84	87	143	127	131	239	211	218
149	16	14	15	46	38	39	92	76	79	138	114	118	230	189	197
204	14	13	14	45	35	36	89	70	72	134	105	108	223	175	181
260	12	12	12	43	33	34	85	65	67	127	98	101	212	164	168
316	10	10	10	40	31	32	80	62	63	120	93	95	200	155	159
343	9	9	9	39	30	31	77	61	62	116	91	93	193	152	155
371	8	8	8	37	30	31	75	59	61	112	89	92	187	148	153
399	7	7	7	36	29	30	71	58	60	107	87	90	178	145	150
427	6	6	6	29	28	30	58	57	59	87	85	89	144	143	148
454	5	5	5	22	28	30	45	56	59	67	84	88	112	139	147
482	4	4	4	16	27	29	32	55	58	49	82	88	81	137	146
510	2	2	2	9	27	27	19	54	54	29	81	82	48	134	136
538	1	1	1	6	25	26	12	50	51	18	75	77	30	124	128
566		1	1		23	11		46	51		69	76		115	127
593		1	1		18	21		36	43		54	64		90	107
621		1	1		14	17		29	33		43	50		72	83
649		1	1		12	13		23	26		35	39		58	65
677		1	1		9	10		19	21		28	31		47	52
704		1	1		8	8		16	17		24	25		40	41
732		1	1		7	7		13	13		20	20		33	34
760		1	1		5	5		11	11		16	16		27	27
788		1	1		4	4		8	8		12	12		20	20
816		1	1		3	3		6	6		9	9		14	14

### ALLOWABLE TEMPERATURE RANGE OF BODY MATERIAL

MATERIAL GROUP	MATERIAL			LOWER (°C)	UPPER (°C)
	MAT'L TYPE	JIS	ASTM		
CAST IRON (FC)		FC	A126 CLASS B	-29	210
DUCTILE IRON (FCD)		FCD	A395	-29	343
CARBON STEEL	C-Mn-Fe	SCPH2	A216 WCB	-29	475
		SCPL1	A352 LCB	-45	350
ALLOY STEEL (Chrome Moly)	1-1/4Cr, 1/2Mo	SCPH21	A217 WC6	-29	593
	2-1/4Cr, 1Mo	SCPH32	A217 WC9	-29	593
	5Cr, 1/2Mo	SCPH61	A217 C5	-29	593
	9Cr, 1Mo		A217 C12	-29	593
STAINLESS STEEL	18Cr-8Ni	SCS13A	A351 CF8	-29	800
	16Cr-12Ni-2Mo	SCS14A	A351 CF8M	-29	800

## ▶ ALLOWABLE SEAT LEAKAGE & SHELL TEST PRESSURE

### ALLOWABLE SEAT LEAKAGE

Applicable Code : ANSI B 16.104 - 1976

CLASS	TEST FLUID	ALLOWABLE SEAT LEAKAGE
CLASS I	-	Not specified
CLASS II	3.5 bar Water or Air	Rated Cv x 0.5%
CLASS III	3.5 bar Water or Air	Rated Cv x 0.1%
CLASS IV	3.5 bar Water or Air	Rated Cv x 0.01%
CLASS V	Actual Differential Pressure by Water	5 x 10 <sup>-4</sup> x D x ΔP cc/min
CLASS VI	3.5 bar Air	See below Table (in case of soft seat)

\* D : SEAT RING DIA(inch), ΔP : psi

### Allowable Seat leakage Calculation Formula (ANSI CLASS IV)

$Q = 14.6 \times P1 \times Cv \times \sqrt{G \times 1000/60 \times 0.0001}$	<p>Q = Volumetric Flow (NI/min)                  G = Gas Weight (Air = 1)                  P1 = Valve inlet Pressure (Kg/cm2A)</p>
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### Class VI Allowable Seat leakage

Port Size (inch)	cc/min	Bubbles per minute
1	0.15	1
1-1/2	0.30	2
2	0.45	3
2-1/2	0.60	4
3	0.90	6
4	1.70	11
6	4.00	27
8	6.75	45

### Class IV Allowable Seat leakage (AUTOMA GLOBE VALVE)

Port Size (inch)	cc/min
1/2	735
3/4	1,103
1	1,715
1-1/4	3,062
1-1/2	4,042
2	6,124
2-1/2	10,410
3	12,980
4	21,430
5	32,580
6	41,030
8	80,840
10	115,740

Test Fluid : Air (Test Pressure : 4kg/□ G)

### HYDROSTATIC TEST PRESSURE TABLE (ANSI/ISA 75.19)

(Unit : barG)

Body Material	150#	300#	600#	900#	1500#
A216 WCB	30	77	154	230	383
A216 WCC	30	78	156	233	388
A352 LCB	28	72	144	216	360
A217 WC6	30	78	156	233	388
A217 WC9					
A217 C5					
A217 C12					
A351 CF8 / CF8	29	75	149	224	373
A351 CF8M / CF3M					

### DURATION TIME OF HYDROSTATIC TEST

(ANSI/ISA 75.19 5.2 phase)

(Unit : min)

Valve Size (inch)	CLASS			
	150	300-600	900-1500	2500 over
2" & Smaller	1	1	2	3
2-1/2"~4"	2	2	4	5
5"~8"	2	3	5	8
10" & Larger	3	5	8	10

## ▶ APPLICABLE STANDARDS FOR CONTROL VALVE

### • CONTROL VALVE RELATED STANDARDS

#### 1. CONTROL VALVE SELECTION FOR THE TERMS & CONDITIONS

ANSI B 16. 104-1976	American National Standard for Control valve seat Leakage FIC 70-2
IEC PUB 534-1	Industrial Process Valve Part 1 : General Considerations
JPI-7B-56-77	Instrumentation Design Data for Air System
PART 1: PROCESS	Instrumentation and Control Section 6 : Control Valve and Port

#### 2. SIZING

FCI 62-1	Recommend Volume Tray Standard Formulas for Sizing Control Valves
ANSI/ISA S75.01	Control Valve Sizing Equations
ISA	Hand Book of Control Valves, 2ND Edition

#### 3. VALVE BODY

ANSI B16.34	Steel Valve
ISA	Hand Book of Control Valves, 2ND Edition

#### 4. TRIM

JIS B 2003	General of Valve Inspection
ISA	Hand Book of Control Valves, 2ND Edition

#### 5. MATERIAL

JPI-7S-15-81	Steel Flange for Petroleum Industry
ANSI B16.34	Steel Valve
JIS G 4303	Stainless Steel Bar
JIS G 5101	Carbon Steel, Cast Steel
JIS G 5121	Stainless Cast Steel
JIS G 5151	High Temperature High pressure Cast Steel
JIS G 5152	Low Temperature High pressure Cast Steel
JIS G 5501	Gray Cast Iron
JIS G 5502	Ductile Cast Iron
JIS B 8243	Structure of Pressure Vessel

#### 6. NOISE

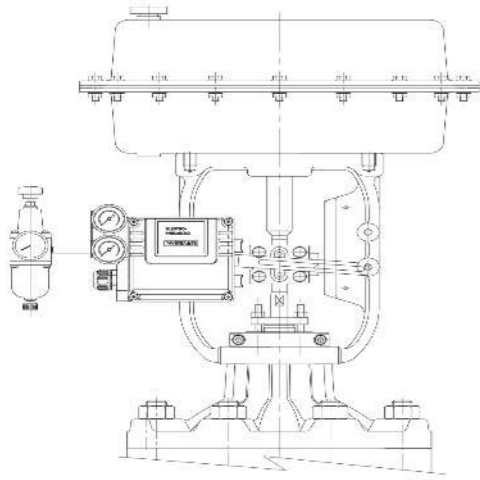
ISA RP 59.2	Field Measurements of Air Borne Sound Level Generated by Control valve
OSHA 1910 95	Occupational Noise Exposure, 1971
VDMA 24422	Control and Shut-Off Valves Guidelines for Computation

#### 7. TEST

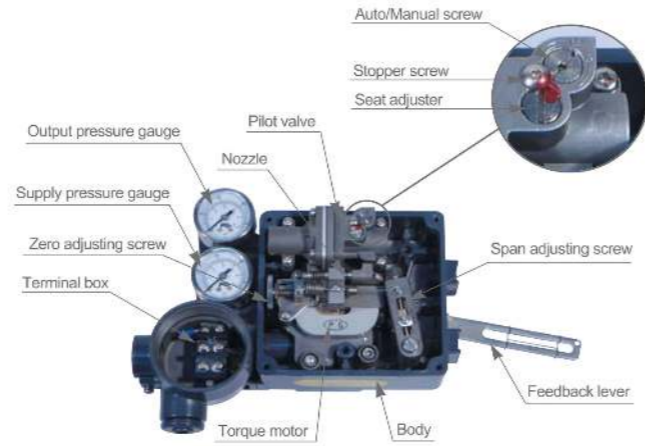
HYDROSTATIC SHELL TEST : ISA 75.19
SEAT LEAK TEST : ANSI/FCI 70-2

# POSITIONER INSTALLATION

## • POSITIONER INSTALLATION SAMPLE



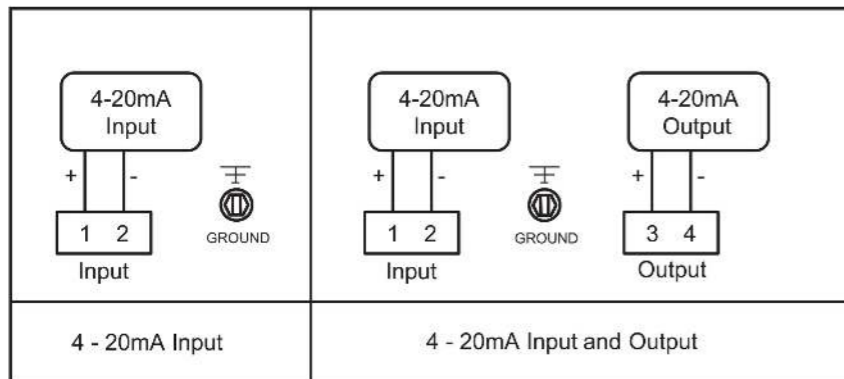
## • POSITIONER INTERNAL VIEW



## • AIR CONNECTIONS

Direct Acting (DA)		Reverse Acting (RA)	
As the input signal increases, Valve stem moves downwards Actuator : DA Connection : out 1		As the input signal increases, Valve stem moves upwards Actuator : RA Connection : out 2	
As the input signal increases, Valve stem moves downwards Actuator : DA Connection : out 2		As the input signal increases, Valve stem moves upwards Actuator : RA Connection : out 1	
As the input signal increases, Valve stem moves downwards		As the input signal increases, Valve stem moves upwards	

## • WIRING DIAGRAM



# ELECTRIC VALVE



## » ROTARY TYPE ACTUATOR



### Motor

- Specially designed induction motor to generate high starting torque and high efficiency equipped with thermal protector to prevent damage from over heating.
- Insulation Class F

### Housing

- Hard anodized Aluminum casting and external epoxy powder coated against severe industrial environment.

### Sealing

- By O-ring in all interfaces IP67(Standard), and double o-ring for IP68(Option)

### Handwheel

- Difference sizes depending on actuator torque, and knob on handwheel for easy operation.

### Gearing

- Precisely machined double worm gear c/w minimum back-lash, low noise, high output torque.

### Self locking

- Provided by double worm gearing to keep position of valve unchanged against reverse torque from valve.



### External mechanical stopper

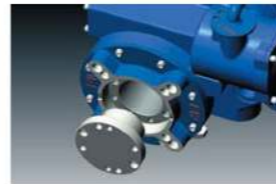
- Prevents over run of travel angle when limit switch fails.

### Cable entries

- Standard 2xPF 3/4" (Max 1") for various cable gland.

### Removable drive bushing and ISO5211 mounting base

- (F07~F16) for easy mounting on valve.



### Captive cover bolt

- Designed to prevent losing it during maintenance or installation.
- \* All external bolts are stainless steel for rust prevention

## » ROTARY TYPE ACTUATOR

### Tapered interface between cover and lower housing

- For easy lifting cover up from lower housing for wiring or maintenance.
- Standard : Short interface for providing easier access to internal component.
- Explosion proof : Long interface for keeping the length of flame path.



Standard

Explosion proof



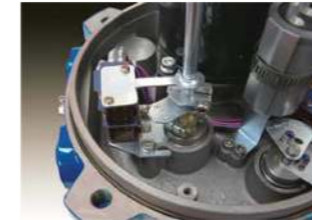
### Indicator

- Continuous mechanical position indicator and window with dial.



### Torque switches

- Protect actuator from damage caused by overload from the driven valve over the whole travel.
- 1 each for open / close



### Limit switches

- Directly engaged with driving shaft to set accurate position of valve.
- 2ea for each travel end (Open/Close).
- Optional Extra Limit switches (Max 4ea for each end) : Except for ATM 0020~0100.



### Terminal

- Spring loaded push type terminal for tight wiring connection under severe vibration.



### Space Heater

- Anti-condensation



### Manual override

- Auto/Manual switchable lever and handwheel engagement for emergency manual operation.
- Drive force automatically resorted by motor start, unless lever padlock to prevent this occurring.

## Technical Data

Model	Rated torque	Duty cycle	Operating time			Stem adaption	Motor insulation	Rated current 50/60Hz					No of hand wheel turns	Weight
			50Hz	60Hz	24DC (No Load)			1Phase		3Phase		DC		
	Nm	%	Second	mm	Class	110V	220V	380V	440V	24V	90°	Kg		

### • Small ATM Series

ATM0020	25	50	11	11	11	□ 11 x 11	E	0.16	0.08	-	-	0.55	-	1
ATM0040	40	50	16	13	7	□ 14 x 14	B	0.27	0.21	-	-	0.80	6	2.5
ATM0080	80	50	16	14	12	□ 17 x 17	E	0.97	0.52	0.52	0.56	3.80	7	3.5

### • Regular ATM Series

ATM0100	100	50	21	18	18	Φ22 □ 20	F	0.98/1.10	0.52/0.58	0.43/0.33	0.59/0.42	2.80	10	7
ATM0160	160	50	26	22	33	Φ25 □ 23	F	1.60/1.70	0.85/0.90	0.30/0.30	0.30/0.32	1.80	12	15
ATM0240	240	50	26	22	33	Φ25 □ 23	F	1.62/1.72	0.87/0.90	0.32/0.32	0.32/0.35	2.40	12	15
ATM0350	350	50	31	26	37	Φ40 □ 34	F	1.72/1.80	0.92/0.95	0.32/0.32	0.32/0.35	3.80	14	20
ATM0500	500	30	31	26	34	Φ40 □ 34	F	3.60/3.90	1.50/1.60	0.52/0.56	0.55/0.58	5.00	14	20
ATM0800	800	25	39	32	-	Φ48 □ 40	F	3.90/4.20	2.05/2.20	0.82/0.88	0.82/0.88	-	17	25
ATM1100	1100	25	39	32	-	Φ48 □ 40	F	3.90/4.30	2.15/2.30	0.84/0.90	0.84/0.88	-	17	25
ATM2000	2000	25	59	50	-	Φ75 □ 64	F	4.95/4.55	2.95/3.15	1.50/1.80	2.30/2.20	-	13	42
ATM3000	3000	25	59	50	-	Φ75 □ 64	F	6.60/6.10	3.75/3.85	1.60/2.00	2.50/2.40	-	13	42

### • Large ATM Series

ATM6000	6000	25	178	149	-	Φ120 □ 100	F	4.95/4.55	2.95/3.15	1.50/1.80	2.30/2.20	-	39	152
ATM9000	9000	25	178	149	-	Φ120 □ 100	F	6.60/6.10	3.75/3.85	1.60/2.00	2.50/2.40	-	39	152

## Standard Specification

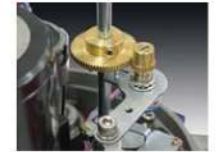
<b>Enclosure</b>	Weatherproof IP67, NEMA 4X and 6, O-ring sealed (ATM0020 : IP66)
<b>Main Power Supply</b>	24VDC, 110/220VAC/1Ph/50/60Hz, 380/440VAC/3Ph/50/60Hz ±10% (ATM0020&ATM0040 : 1Phase, 24VDC)
<b>Control Power Supply</b>	110/220VAC/1Ph/50/60Hz ±10%
<b>Duty Cycle (On-Off)</b>	S2 : 10min ~ 30min
<b>Duty Cycle (Modulating)</b>	S4 : 30~50%, 300~1200 start/hour
<b>Motor</b>	Squirrel cage induction motor
<b>Limit Switches</b>	2 each for open and close (SPDT 250VAC/10A rating)
<b>Torque Switches</b>	1 each for open and close (SPDT 250VAC/10A rating except for ATM0020/0040/0080/0100)
<b>Stall Protection/set temp.</b>	Built in thermal protection, open 150°C±5°C, Close 97°C ± 15°C
<b>Travel Angle</b>	90° ± 5° (0° ~ 100°)
<b>Position Indicator</b>	Continuous mechanical indicator with arrow
<b>Manual Override</b>	Declutchable (except for ATM0020 : N/A, ATM0040 : By shaft, ATM0080 : By Wrench)
<b>Self Locking</b>	Provided by double worm gearing (no brake) (except for ATM0020/0040/0080)
<b>Mechanical Stopper</b>	1 each for each travel end (open and close), external & adjustable (except for ATM0020/0040)
<b>Space Heater</b>	5W(110/220VAC) for anti condensation
<b>Cable Entries</b>	2-PF3/4" TAP (except for ATM0020 : 1-PG11, ATM0040, ATM0080 : 2-M20x1.5)
<b>Lubrication</b>	EP Type grease
<b>Terminal block</b>	Screw and lever push type (spring loaded)
<b>Ambient Temperature</b>	Basic actuator : -20°C ~ +70°C (except for ATM0020 : -10°C ~ +65°C C/W Control Option : -10°C ~ +60°C)
<b>Ambient Humidity</b>	90%RH Max(Non-condensing)
<b>Anti Vibration</b>	XYZ 10g, 02~34Hz, 30minutes
<b>External Coating</b>	Dry Powder(Polyester), Blue Color, Munsell No. B-0188

## • Mechanical

Symbol	Description	Remark
EX	Explosion proof(Exd II BT4) / Approved by KTL, ATEX, NEPSI	Except for ATM0020/0040/0080
WT	Wathertight(IP68), Temporary submersible / 10M Head 1000hours	Except for ATM0020/0040/0080
ALS	Auxiliary limit switches (Max 2 for each travel end)	Except for ATM0020/0040
ATS	Auxiliary torque switches (Max 2 for each travel end)	Except for ATM0020/0040/0080/0100
EXT	Extended travel angle (up to 120°, 135°, 180°, 270°)	Except for ATM with Gear box (Large ATM Series)
SV	Variation in torque and operating speed	Please consult before ordering

## • Remote monitoring and control

<b>PK</b>	<b>Potentiometer Kit</b> (output signal : 0~1 Kohm) High resolution potentiometer and precisely machined gearing are directly engaged with drive shaft to feedback continuous position of valve
<b>CT</b>	<b>Current transmitter</b> (output signal : 4-20mA) Zero / Span Adjustment
<b>RPC /Signal configuration</b>	<b>Remote position controller</b> (by input and output signal) Input : 4-20mA, 0-10VDC, 2~10VDC, 1~5VDC, 0~5VDC Output : 4-20mA (Option : 0-10VDC, 2~10VDC, 1~5VDC, 0~5VDC) Auto-calibration Reverse operating direction
<b>Bus Communication</b>	Profibus Communication CANopen Communication



PK



CT



RPC

## • Local control

### LP4 for 1 & 3 Phase (ATM 0100~9000)

Control power : Free Voltage (85~265VAC) 50/60Hz, Option : 24VDC  
Magnetic selector switches, SMPS (Switching Module Power Supply)  
: Open/Close & Local/Stop/Remote

#### Local lamp indication

: Power - White(on), Remote : Blue(on)  
: In case of Close Torque Switch Trip - Yellow(on)+Green(flickering : only at Local Position)  
: In case of Open Torque Switch Trip - Yellow(on)+Red(flickering : only at Local Position)  
: Full Close - Green(on), Closing - Green(flickering : only at Local Position)  
: Full Open - Red(on), Opening - Red(flickering : only at Local Position)

\* Options Available : PK, CT, RPC(Modulating), IP68, Explosion proof

### LM4 for 3 Phase (ITQ0160~9000)

Including the same functions as LP4  
Reversing electric contactors, Transformer



## » OPTIONS AVAILABLE

### • Local control

#### ICM1 for 1 & 3 Phase (Integral Control Module) (ATM0160~9000)

Main Power : 3Ph / 220/380/440 VAC  
1Ph / 110/220 VAC

Control power : 24VDC (Internal Power)  
(Option : 110VAC, 220VAC (External Power))

Magnetic selector switches  
: Open/Close & Local/Stop/Remote  
Reversing electric contactors, Transformer, Phase Detector  
Auto-Phase Discriminator

Local lamp indication

: Power - White(on), Remote : Blue(on)  
: In case of Close Torque Switch Trip - Yellow(on)+Green(flickering)  
: In case of Open Torque Switch Trip - Yellow(on)+Red(flickering)  
: Full Close - Green(on), Closing - Green(flickering)  
: Full Open - Red(on), Opening - Red(flickering)  
: Single & Reverse Phasing : (Yellow + Green + Red) all flickering

\* Options Available : Explosion Proof, IP68



#### ICM2 for 1 & 3 phase (Integral with LCD Display) (ATM0160~9000)

Including the same functions as ICM1  
Reversing electric contactors, Transformer, Auto-Phase Discriminator, LCD Display

\* Options Available : CT, RPC(Modulating), Explosion Proof, IP68, Bus Communication



#### ICM3 for 1 & 3 phase (Integral with LCD Display / IP68 Enclosure) (ATM0160~9000)

Including the same functions as ICM2

Reversing electric contactors, Transformer, Auto-Phase Discriminator, LCD Display, IP68, Explosion Proof, RPC(Modulating), Bus Communication, 34pins separate compartment for terminal block



### • Fail safe

#### BP for 1Phase (ATM0160~0500)

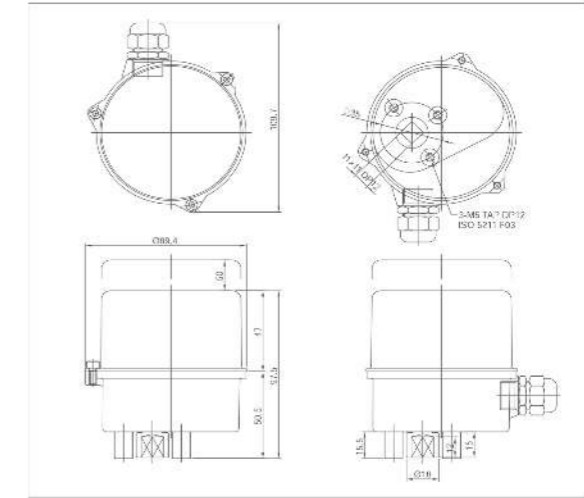
Motor : 24 VDC  
Rechargeable Battery back up - Fail safe function  
When Main power is alive, actuator works as normally.  
Once power fails, actuator will move to pre-set fail safe position.  
Input power : Free Voltage (85~265 VAC) 50/60Hz  
Output contacts : open/close/Alarm relay  
LED signal indication : 4 LEDs (Full Open/Close, Over Torque and Power)  
Rechargeable battery : 2.0AH 27.5VDC(Ni-Cd)

## » DIMENSIONS

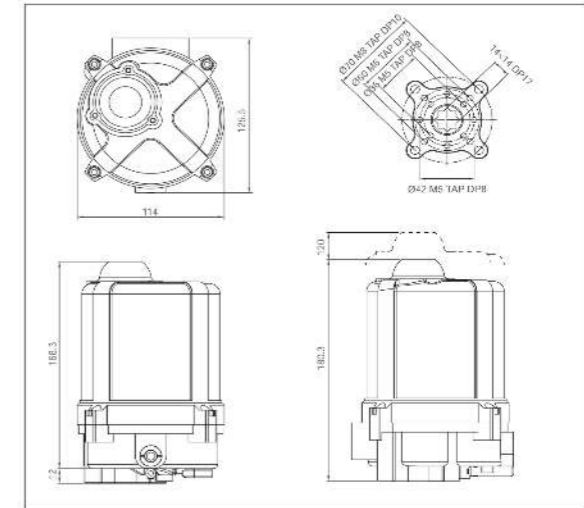
### Small ATM Series



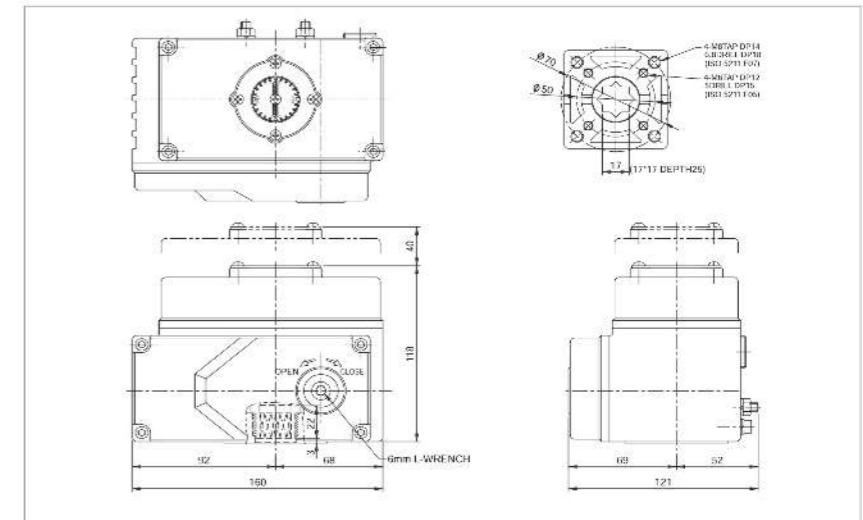
ATM0020



ATM0040



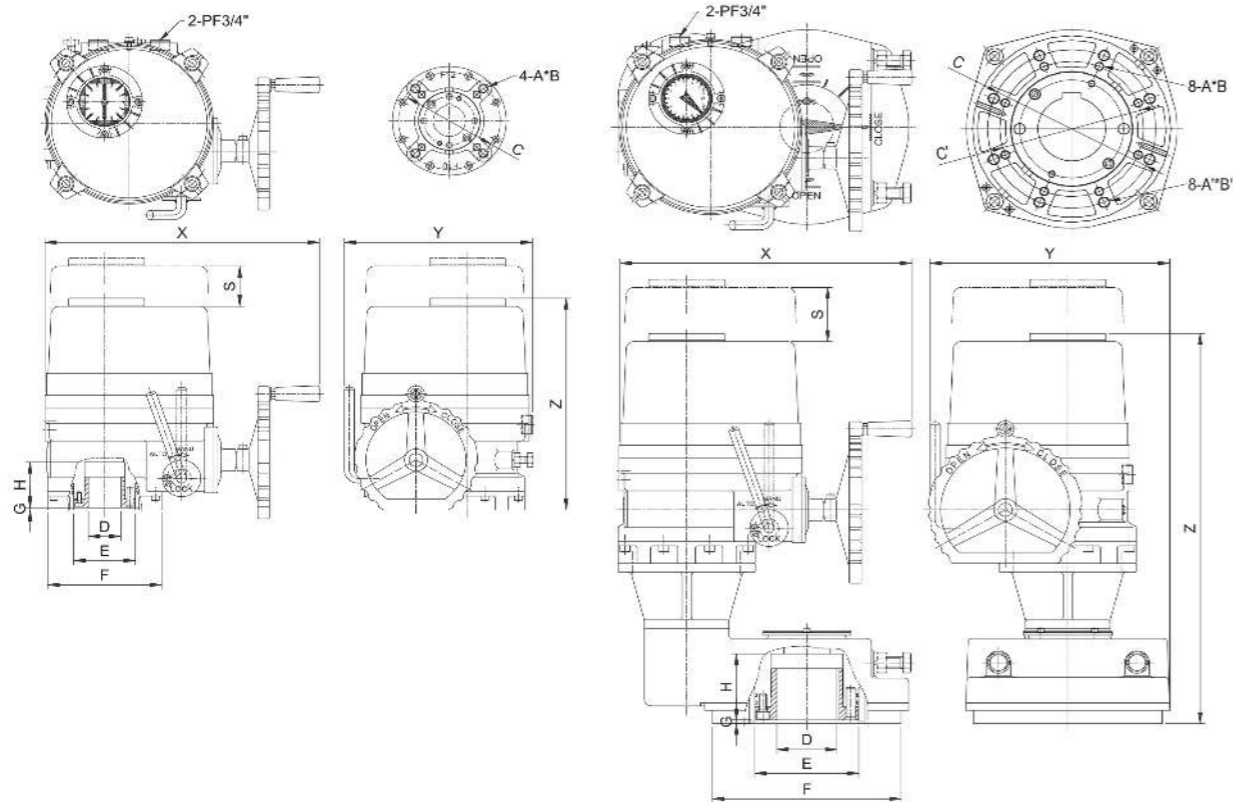
ATM0080



**Regular ATM Series**

Type	ATM0100	ATM0160	ATM0240	ATM0350	ATM0500	ATM0800	ATM1100	ATM2000	ATM3000	With Gear Box	
										ATM6000	ATM9000
Flange ISO5211	F07	F07 F10	F07 F10	F10 F12	F10 F12	F12 F14	F12 F14	F16	F16	F25 F30	F25 F30
C	Φ70	Φ70 Φ102	Φ70 Φ102	Φ102 Φ125	Φ102 Φ125	Φ125 Φ140	Φ125 Φ140	Φ165	Φ165	Φ254 Φ298	Φ254 Φ298
A	M8	M8/M10	M8/M10	M10/M12	M10/M12	M12/M16	M12/M16	M20	M20	M16/M20	M16/M20
B	14	14/17	14/17	17/21	17/21	20/25	20/25	32	32	30/35	30/35
D (Key)	Φ22	Φ25	Φ25	Φ40	Φ40	Φ48	Φ48	Φ75	Φ75	Φ120	Φ120
D (Squ.)	□20	□23	□23	□38	□38	□40	□40	□64	□64	□100	□100
E	Φ50	Φ58.5	Φ58.5	Φ80	Φ80	Φ95	Φ95	Φ135	Φ135	Φ216	Φ216
F	Φ88	Φ125	Φ125	Φ148	Φ148	Φ178	Φ178	Φ226	Φ226	Φ350	Φ350
G	3	3	3	3	3	3	3	5	5	5	5
H	37	57	57	62	62	67	67	90	90	114	114
S	125	140	140	170	170	195	195	225	225	225	225
X	258	338	338	357	357	380	380	440	440	532	532
Y	172	229	229	244	244	287	287	375	375	417	417
Z	245	284	284	313	313	338	338	385	385	668	668

(mm) (mm)



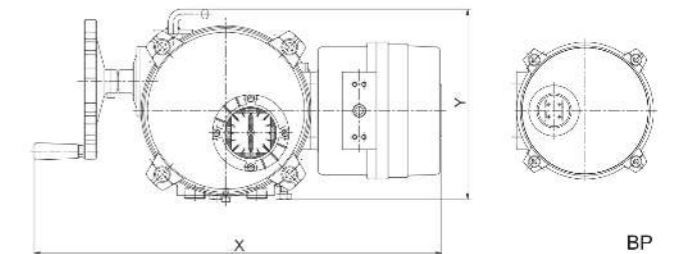
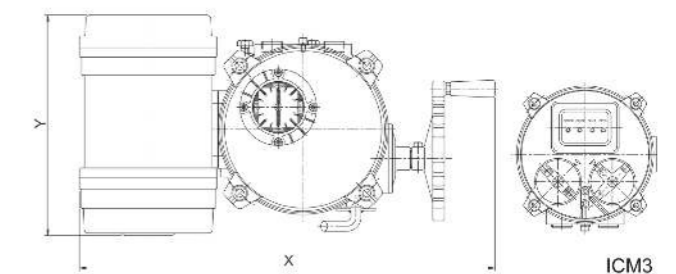
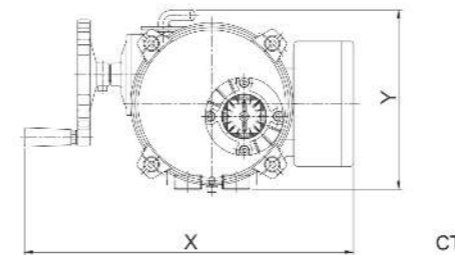
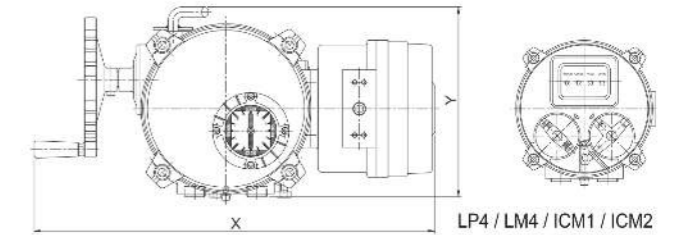
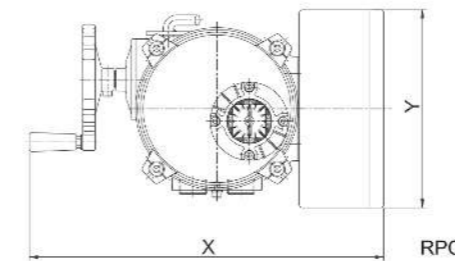
**Control Option**

Type	RPC			CT			BP			LP4/LM4/ICM1/ICM2			ICM3		
	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
ATM0100	340	190	220	316	172	220	428	172	220	X			X		
ATM0160 / 0240	0			0			508	229	259	499	229	259	517	284	259
ATM0350 / 0500	0			0			527	244	288	518	244	288	536	284	288
ATM0800 / 1100	0			0			X			541	284	313	559	284	313
ATM2000 / 3000	0			0			X			600	375	385	620	375	385
ATM6000 / 9000	0			0			X			677	417	668	697	417	668

\* 0 : Installed inside of actuator \* X : Not available \* Z : Height of basic actuator

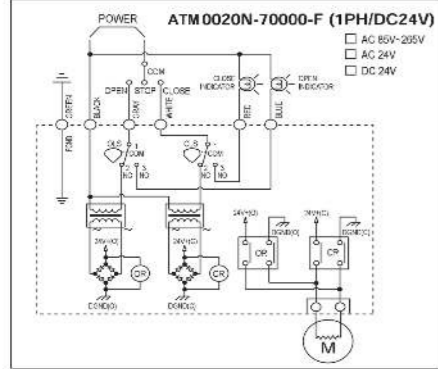
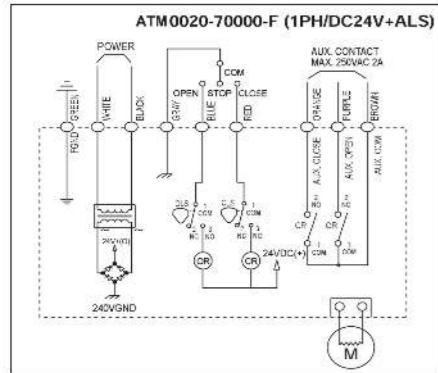
**ATM0100**

**ATM0160~9000**

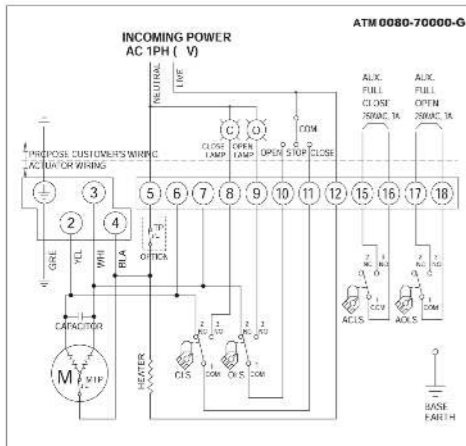


**ATM0020 ~ 0080**

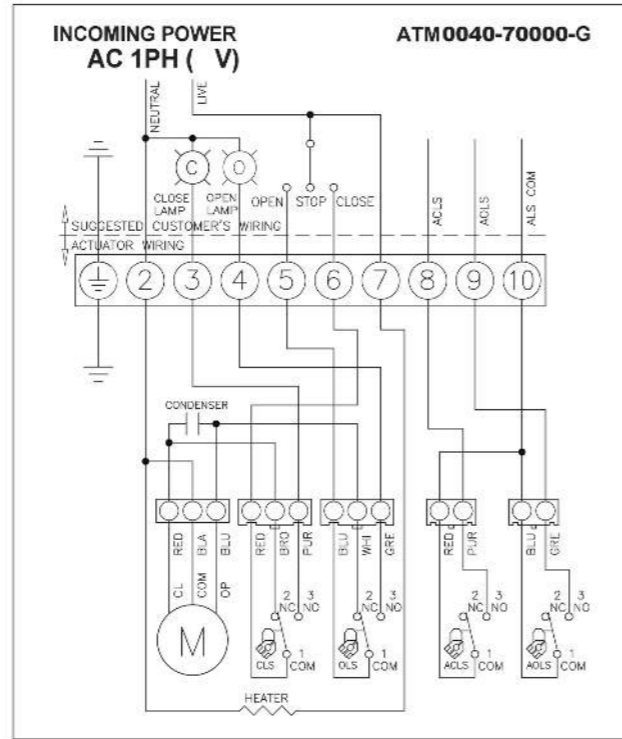
**ATM 0020 110/220 (On-Off)**



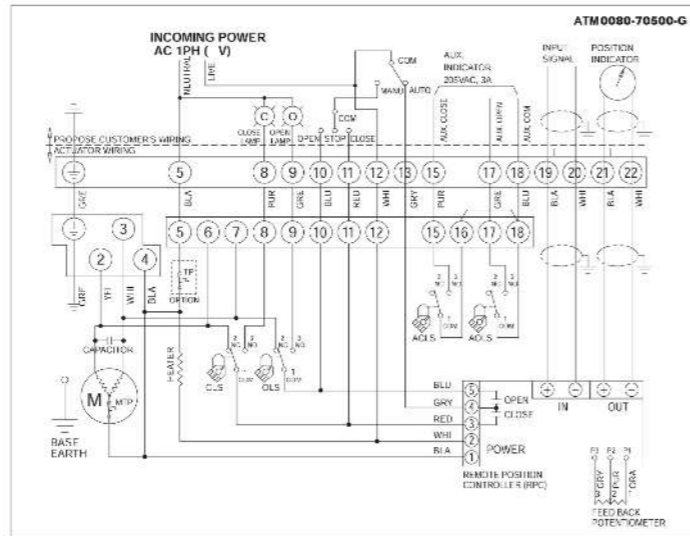
**ATM 0080 110/220 (On-Off)**



**ATM 0040 110/220 (On-Off)**

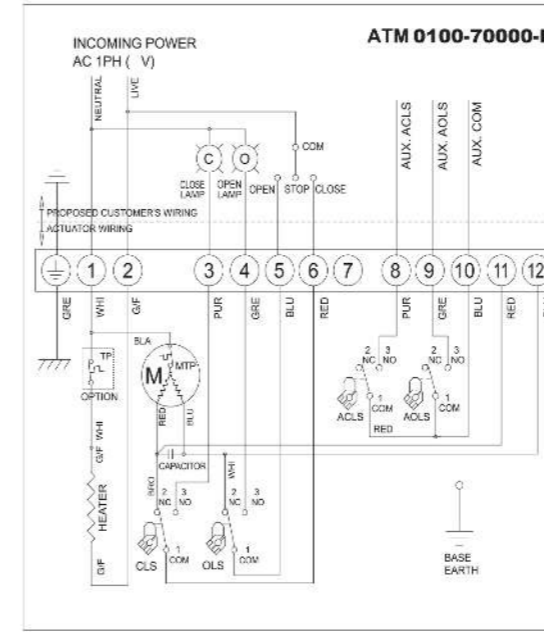


**ATM 0080 110/220 RPC**

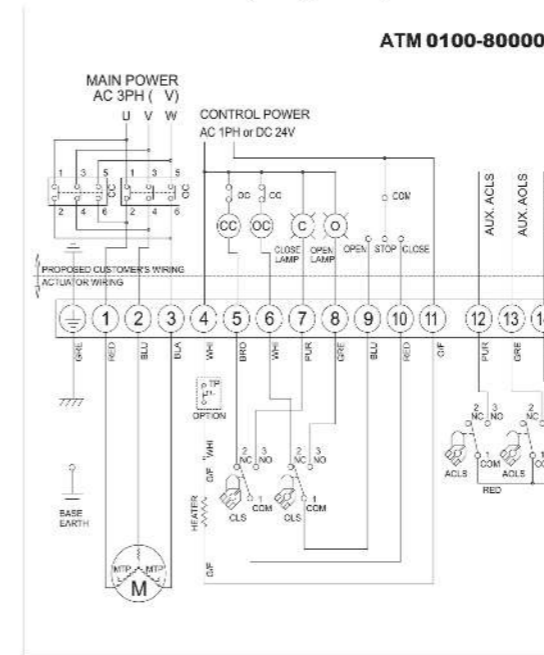


**ATM0100**

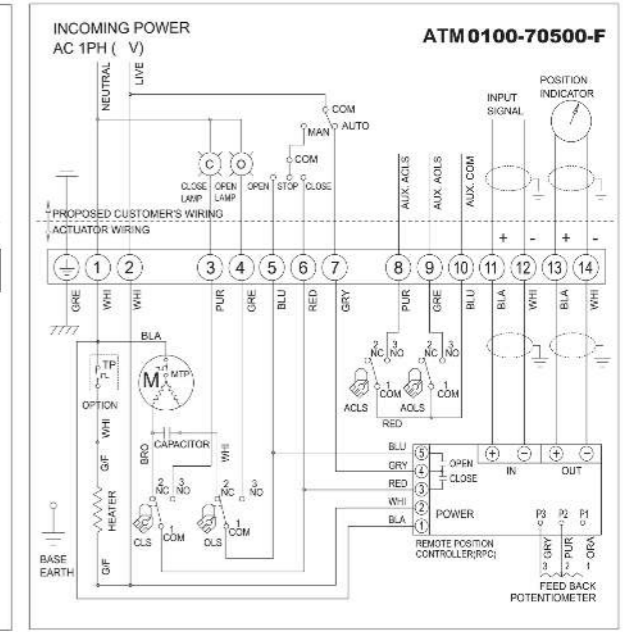
**110/220VAC/50/60Hz, 1Ph(On-Off)**



**380/440VAC/50/60Hz, 3Ph(On-Off)**



**110/220VAC/50/60Hz, 1Ph(Modulating : RPC)**



**TORQUE AND LIMIT SWITCHES OPERATION**

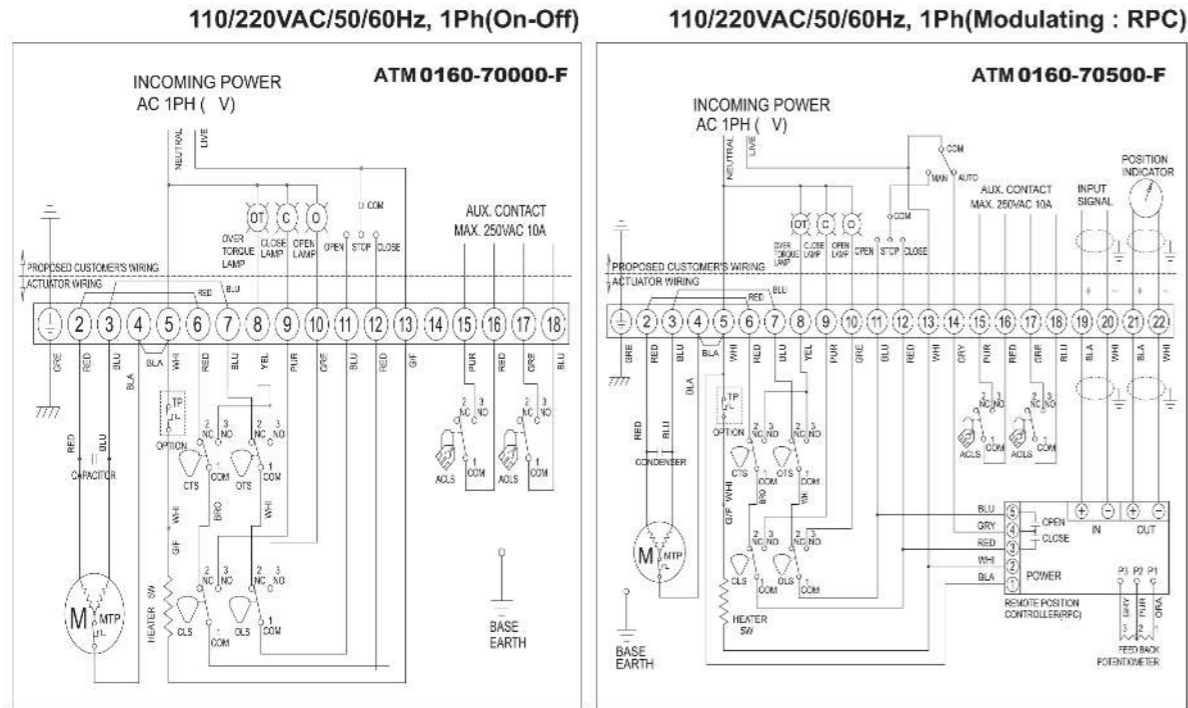
SWITCH	CLOSE	INTERMEDIATE	OPEN
CLS 1-2	█		
CLS 1-3	█		
OLS 1-2		█	
OLS 1-3		█	
ACLS1-2			█
ACLS1-3			█
AOLS1-2			█
AOLS1-3			█
CTS 1-3	Closing Torque Switch interrupts control if Mechanical overload occurs during closing cycle		
OTS 1-3	Opening Torque Switch interrupts control if Mechanical overload occurs during opening cycle		

**Important Notice**

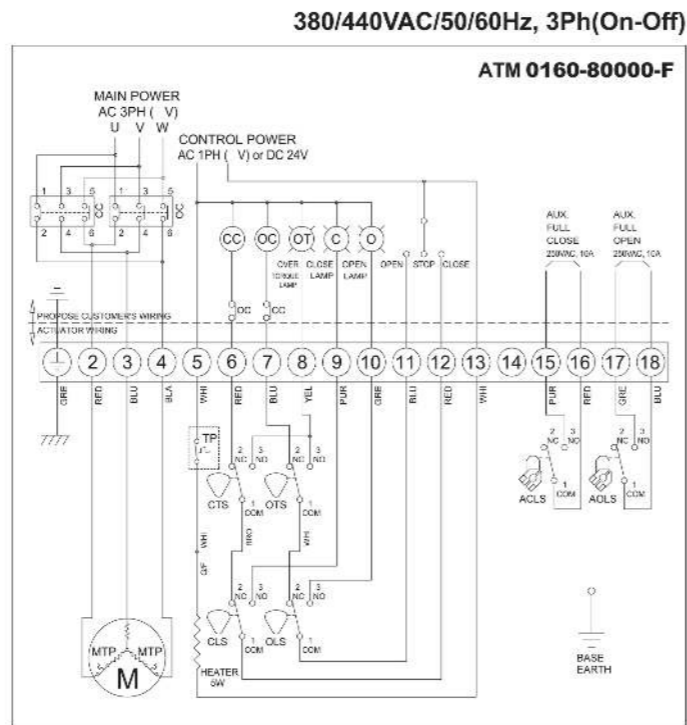
- The Electric Wiring Diagrams shall be modified with terminal no and wires in Red Color For our customers' convenience from 1st of June 2009.
- please only refer to the Wiring Diagram Sticker or separate Wiring Diagram inside of each actuator. If there is any confusion please contact our distributor.

# TYPICAL WIRING

## ATM0160 ~ 9000



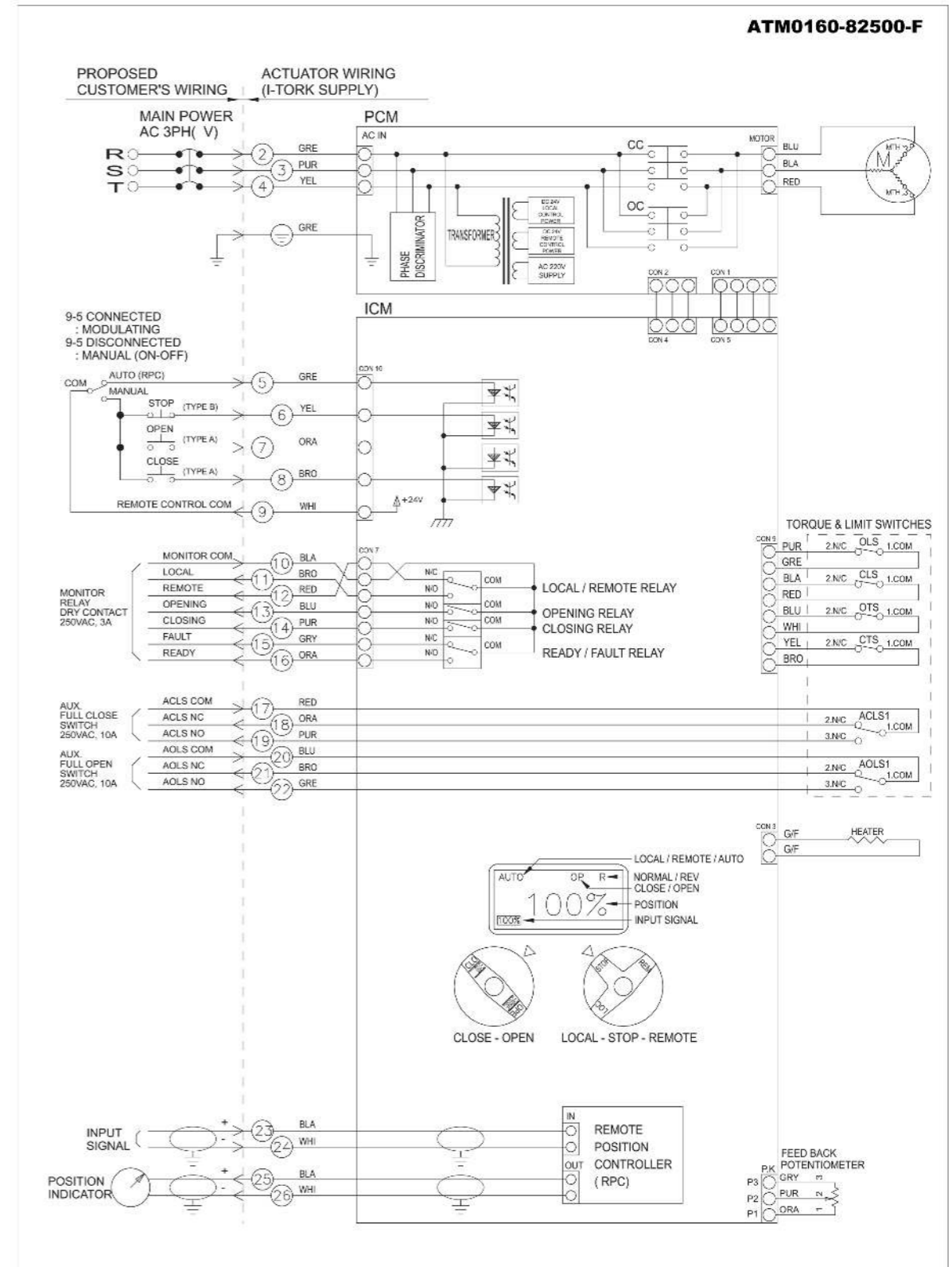
- ALS : Auxiliary Limit Switch
- AOLS : Auxiliary Open Limit Switch (Dry contact)
- ACLS : Auxiliary Close Limit Switch (Dry Contact)
- O : Open Lamp
- C : Close Lamp
- OT : Over Torque Lamp
- CLS : Close Limit Switch (250VAC 10A)
- OLS : Open Limit Switch (250VAC 10A)
- CTS : Close Torque Switch (250VAC 10A)
- OTS : Open Torque Switch (250VAC 10A)
- CC : Close Magnetic Coil
- OC : Open Magnetic Coil
- M : Motor
- TP : Thermal Protector (250VAC 15A Option)
- MTP : Thermal Protector built in motor
- \* Each actuator should be powered through its own individual switch or relay contacts to prevent cross feed between two or more actuators.
- \* In case of 3ph actuator, make sure to place actuator on the middle of travel angle before electrical operation to avoid "Jamming"
- \* All internal wiring is done as color coding.



# TYPICAL WIRING

## ICM2 for 3Phase

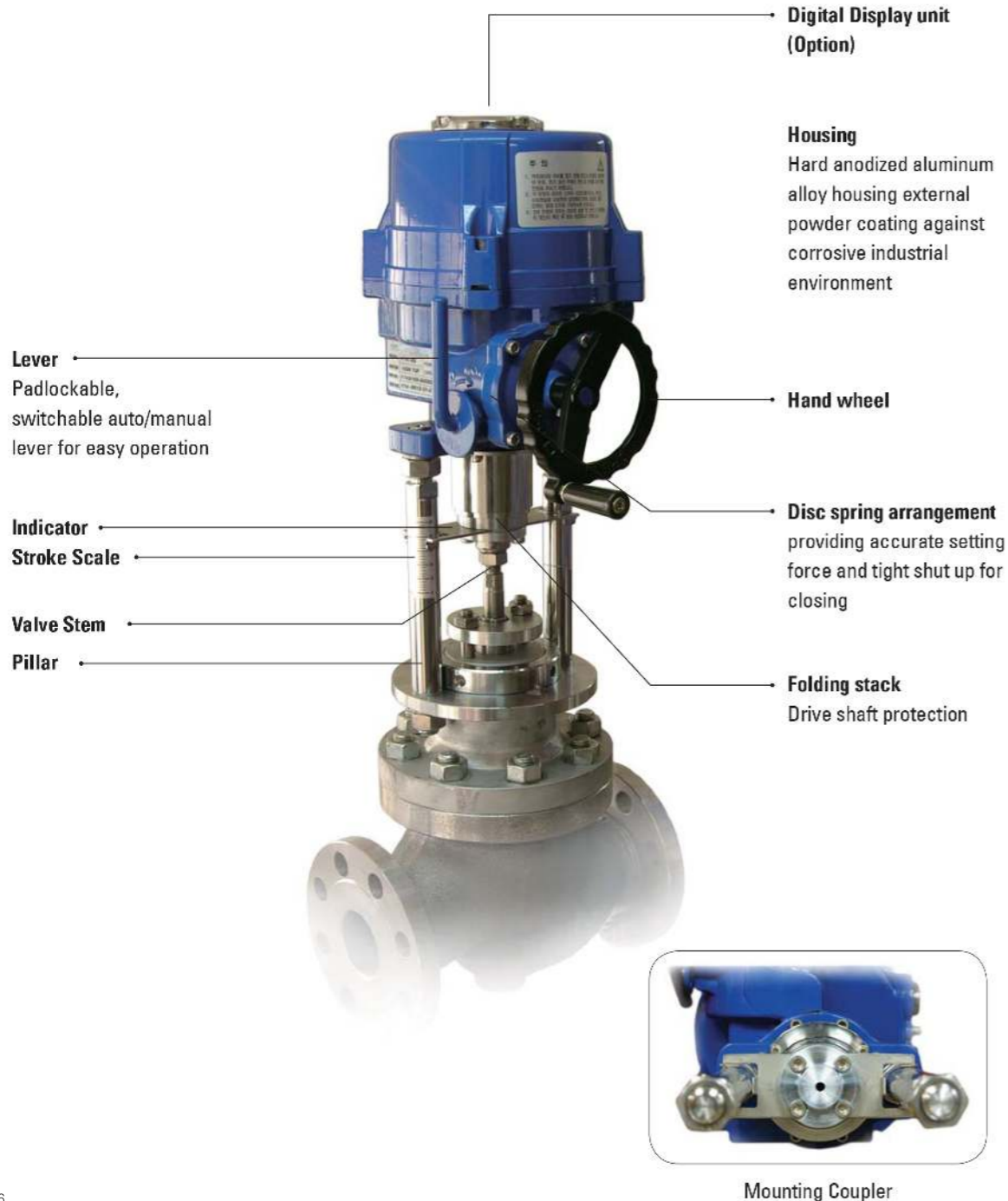
## ICM2 for 3Phase



## » LINEAR TYPE ACTUATOR

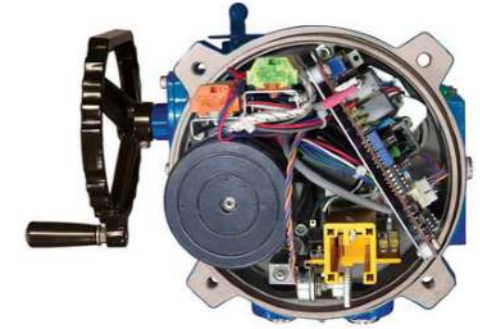
### • AQL Series

Automa designs, produces and provides high quality electric actuator and services related to industrial valve automation and controls. AQL series linear actuator has been developed for a wide range of linear applications and to service reliable performance, long trouble free operation, more flexibility and maximized ability to integrate fully into sophisticated control system.



## » LINEAR TYPE ACTUATOR

- Robust construction, precise positioning, reliable performance
- Wide range of application
- Compact internal Arrangement
- Modulating control options can be installed on site
- Local control options for easy commissioning and emergency operation in the field



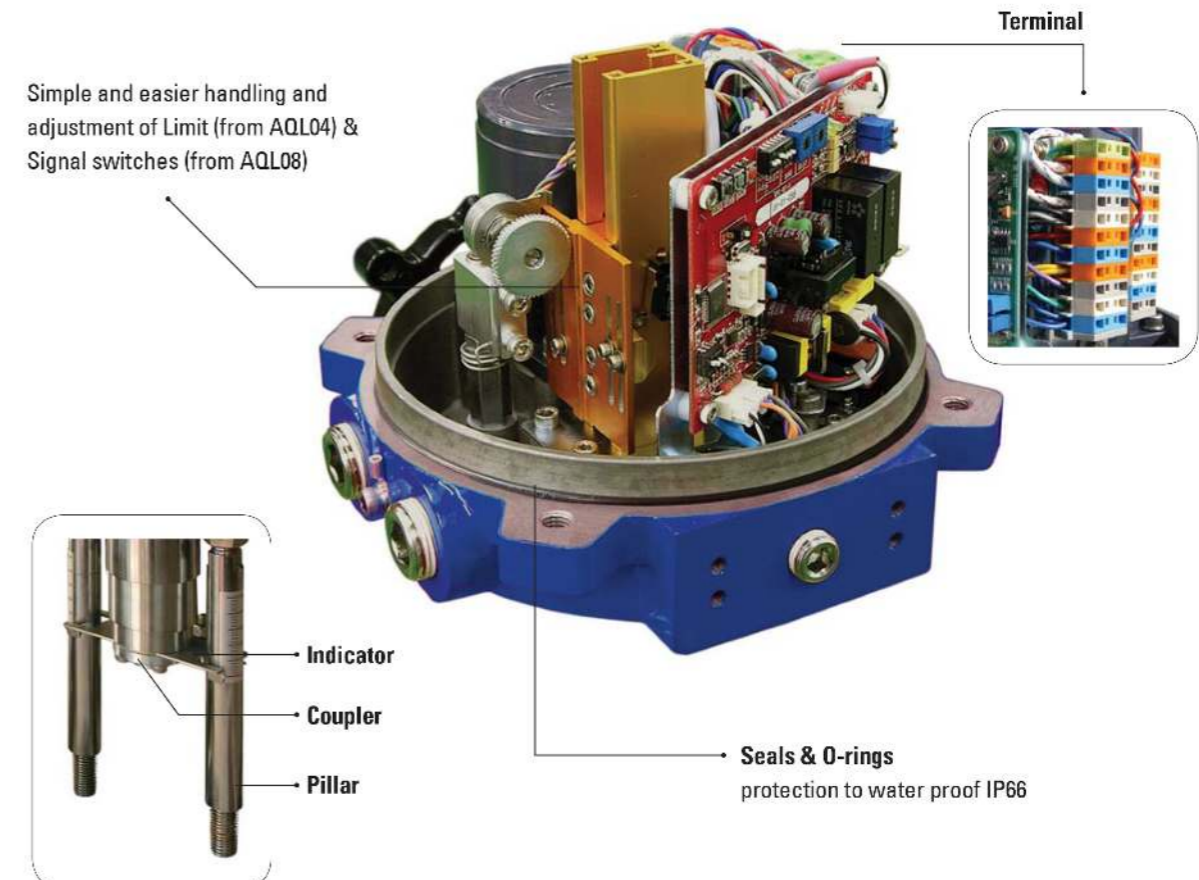
### • Electric Operation

- On-off

### • Modulating control

- Input : 4-20mA, 0-10VDC, 2~10VDC, 1~5VDC, 0~5VDC
- Output : 4-20mA (Option : 0-10VDC, 2~10VDC, 1~5VDC, 0~5VDC)
- Auto-calibration
- 0-10V or other signal selection
- Transmitter output 4-20 mA

Simple and easier handling and adjustment of Limit (from AQL04) & Signal switches (from AQL08)



# SPECIFICATION, OPTIONS AVAILABLE

## Technical Data

Model	Max Force KN	Max. Stroke mm	Positioning Speed mm/sec (50/60Hz)	Rated Current(A)				AC/DC 24V	Valve Stem Threads mm	PCD on Flange mm	Pillar Threads M16	Weight Kg
				1 Phase		3 Phase						
				110VAC	220VAC	380VAC	440VAC					
AQL04	4	40	0.7/0.83	0.45/0.44	0.26/0.25	0.30/0.31	0.28/0.40	3.00	Max. M20	100	M16	9
AQL06	6	40	0.7/0.9	0.49/0.48	0.29/0.28	0.32/0.33	0.30/0.42	3.50	Max. M20	100	M16	9
AQL08	8	50	0.9/1.1	0.92/0.88	0.48/0.46	0.18/0.17	0.17/0.16	2.90	Max. M20	100	M16	18
AQL10	10	50	0.9/1.1	0.95/0.91	0.50/0.48	0.19/0.18	0.18/0.17	3.20	Max. M20	100	M16	18
AQL12	12	50	0.9/1.1	0.98/0.94	0.52/0.50	0.20/0.19	0.19/0.18	3.50	Max. M20	100	M16	18
AQL20	20	100	0.9/1.1	1.75/1.68	0.93/0.89	0.30/0.30	0.32/0.31	6.00	Max. M24	155	M20	23
AQL25	25	100	0.9/1.1	1.80/1.72	0.95/0.92	0.32/0.32	0.34/0.33	7.00	Max. M24	155	M20	24

## Standard Specification

Manual Override	Handwheel with switchable declutchable lever
Enclosure (EN60529)	IP66
Cable Entry	2 X PF 3/4" TAP
Position Indication	Gradulation on pillar pointed by carrier plate
Housing	Aluminum alloy hard anodized for anti-corrosion
Painting	Epoxy power coated
Ambient Temperature	-20°C ~ +70°C
Operating Mode (IEC34-1, 8)	S2 30 Min S4 1200 c/h 50%ED
Motor Protection	Thermal switch, Class F insulation
Space Heater	5W (110/220VAC) for anti condensation
Limit Switch	2 each for open/close (SPDT 10A 250VAC rating)
Force Switch	1 each for open/close (SPDT 10A 250VAC rating)
Mounting Direction	Any direction except for heading downward
Pillar Material	Stainless steel, carbon steel with special surface treatment

## • Available Optional Controls

RPC	Remote position controller 4-20mA input/output, Selectable other signal
PK	Potentiometer 0~1Kohm feedback
CT	Current transmitter 4-20mA output
ADC 16	AC / DC converter

## • Local Control

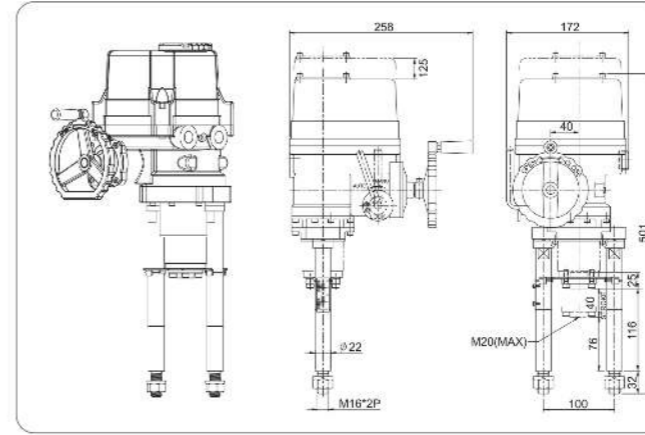
LP4	Local control (1 phase) Local control unit
LM4	Local control (3 phase) LP4 with reversing contactor and transformer
ICM1/2	Integral unit Local controller with phase discriminator (except for AQL04/06)
BP	Battery back up unit Fail Safe (Fail position either open/close/stay put) (except for AQL04/06)
EX	Explosion proof Exd II B T4 (Nepsi)



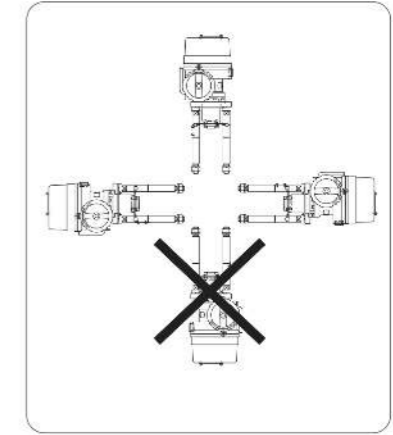
# DIMENSIONS, WIRING

## AQL 04 / 06

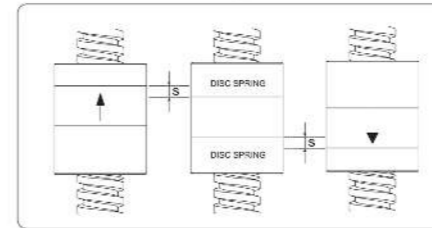
### Dimensions(mm)



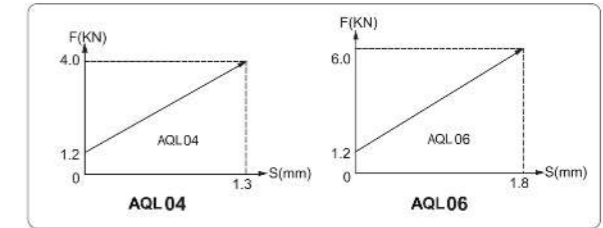
### Correct mounting direction



### Setting closing(opening) force

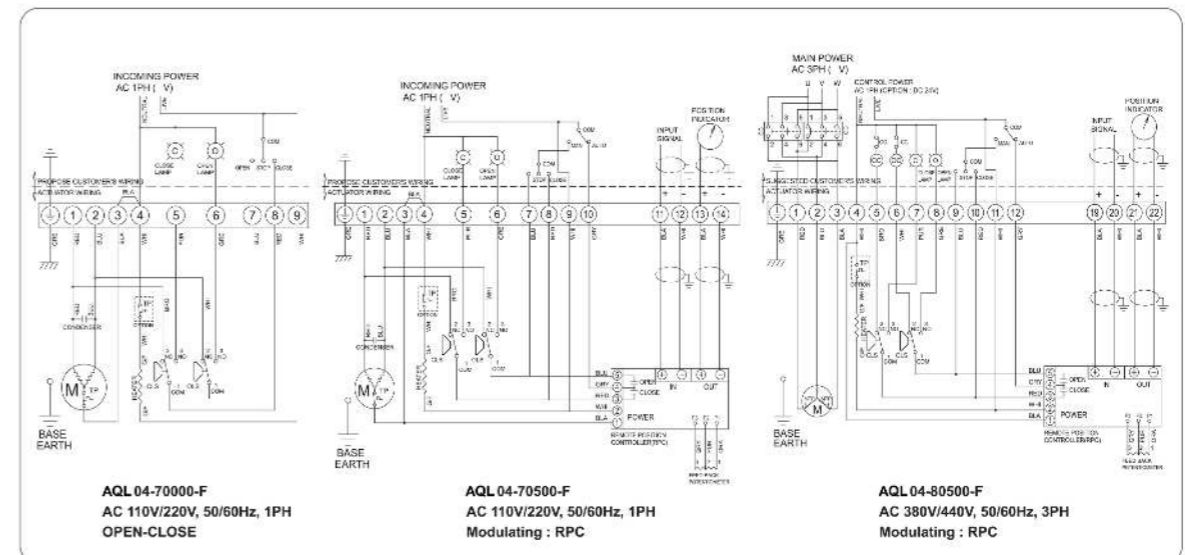


Disc spring arrangement



F : Closing(opening)force  
S : Amount of disc spring compression

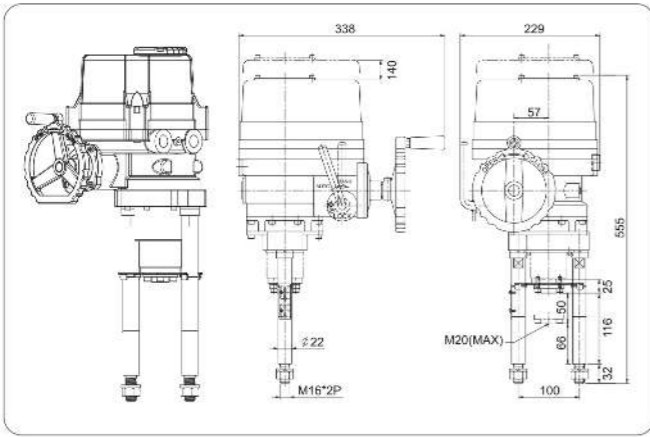
## Standard wiring



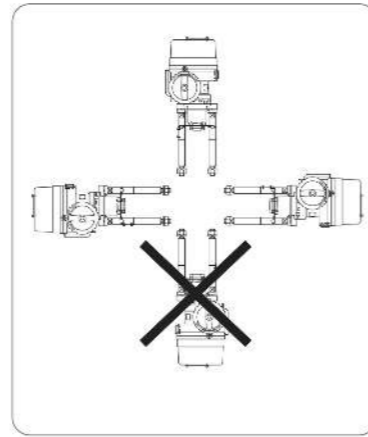
# » DIMENSIONS, WIRING

AQL 08 / 10 / 12

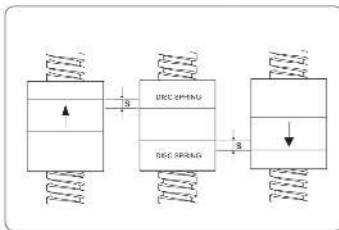
## Dimensions(mm)



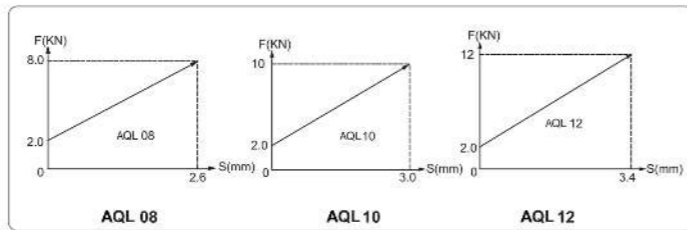
## Correct mounting direction



## Setting closing(opening) force

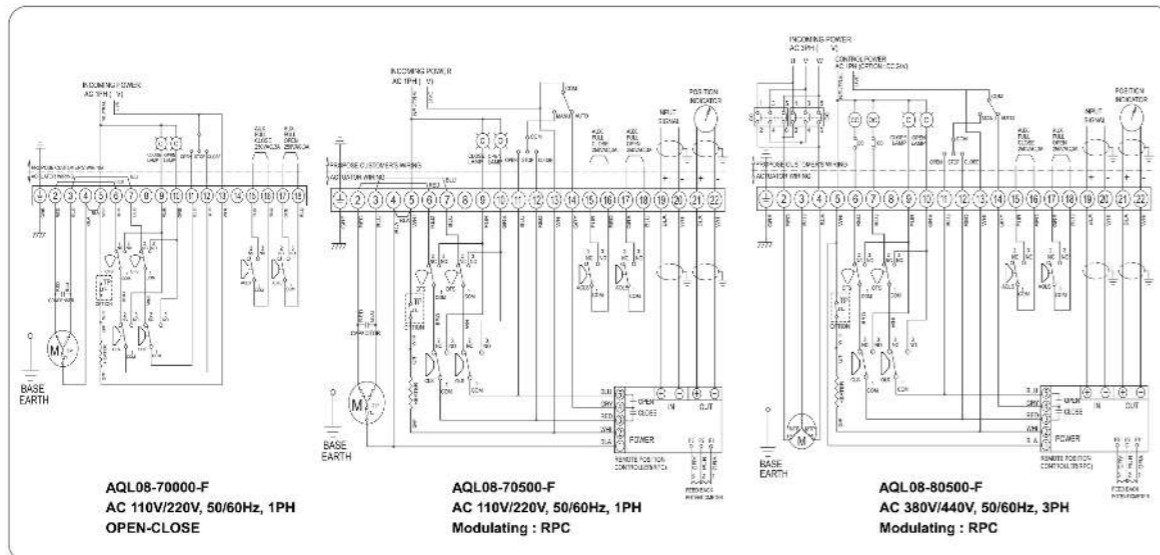


Disc spring arrangement



F : Closing(opening)force  
S : Amount of disc spring compression

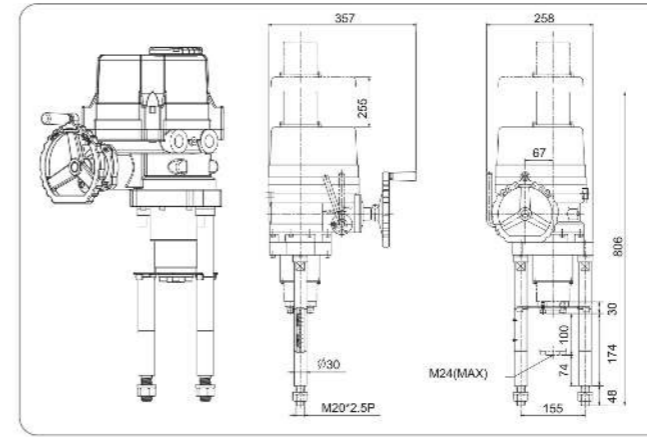
## Standard wiring



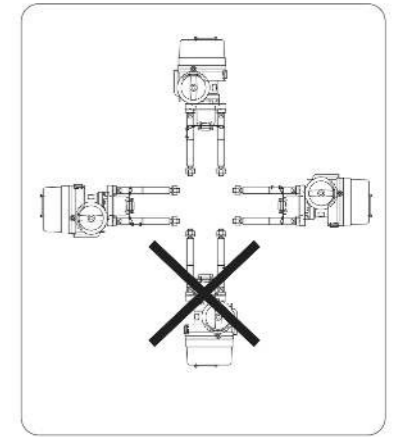
# » DIMENSIONS, WIRING

AQL 20 / 25

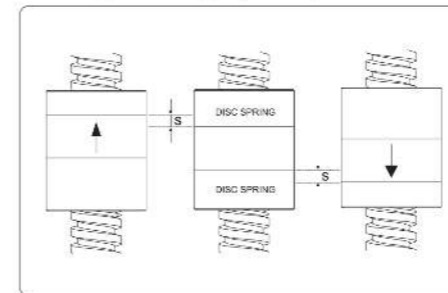
## Dimensions(mm)



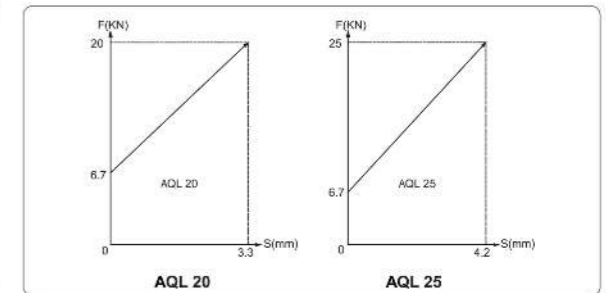
## Correct mounting direction



## Setting closing(opening) force

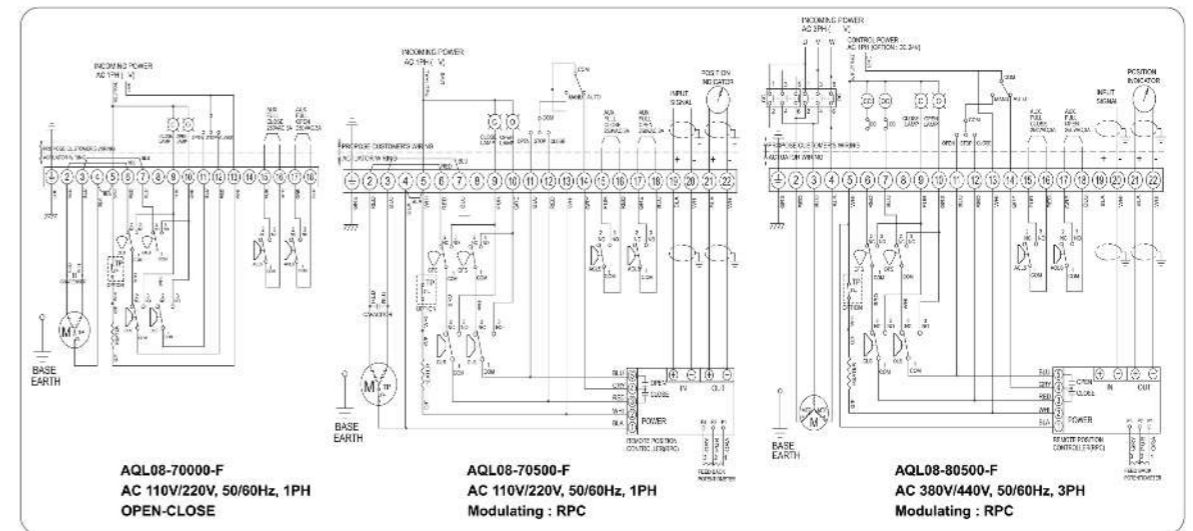


Disc spring arrangement



F : Closing(opening)force  
S : Amount of disc spring compression

## Standard wiring



## ELECTRIC 1-PIECE SCREWED BALL VALVE



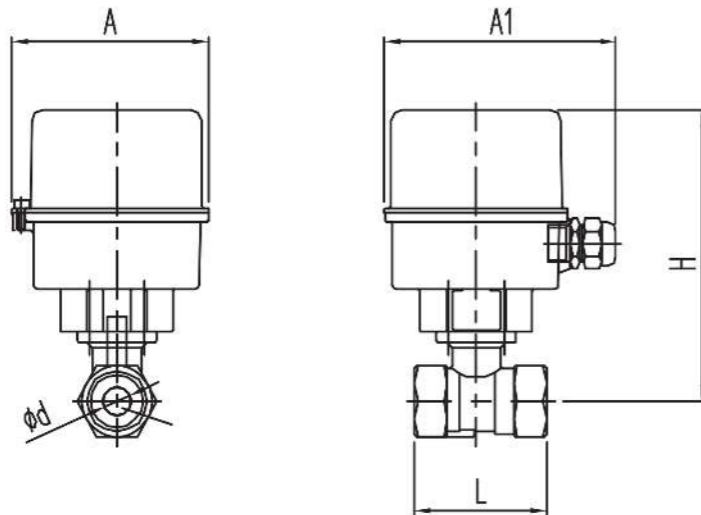
### Application

- Water distribution pipes
- Industrial cleaning machines
- Sterilizers, Boilers
- Air conditioners, Water filters
- Medical equipments, Vacuum packing

### Specification

• This is subject to change.

Valve Size	10A (3/8")	15A (1/2")	20A (3/4")	25A (1")	32A(1-1/4")	40A (1-1/2")	50A (2")
Actuator Model	ATM0020			ATM0040			
Actuator Type	Electric						
Main Power	AC110V, AC220V, DC24V						
Travel Angle	90° ± 5°						
Fluid Temperature	-20°C ~ +80°C						
Rating	1000psi						
Body Material	A351-CF8 / Body		A351-CF8 / Ball		PTFE / Seat		



### Dimension

End Connection : PT SCREW (mm)

Model	Size		Motor		H (Approx.)	L	φd
			A	A1			
ATM0020-10S1	10A	3/8"	90	110	126	45	7
ATM0020-15S1	15A	1/2"	90	110	128	55	9.2
ATM0020-20S1	20A	3/4"	90	110	134	60	12.5
ATM0020-25S1	25A	1"	90	110	137	73	15
ATM0020-32S1	32A	1-1/4"	90	110	140	78	20
ATM0040-40S1	40A	1-1/2"	114	126	227	89	25
ATM0040-50S1	50A	2"	114	126	235	100	32

## ELECTRIC 3-PIECE SCREWED BALL VALVE



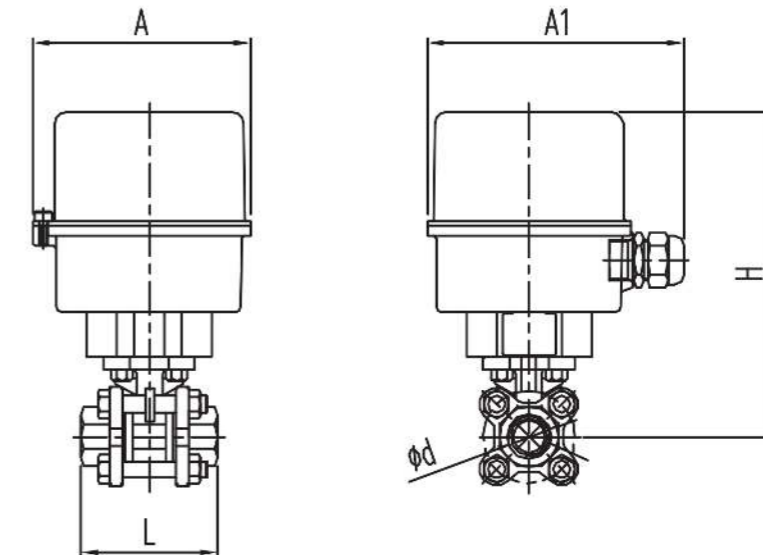
### Application

- Water distribution pipes
- Industrial cleaning machines
- Sterilizers, Boilers
- Air conditioners, Water filters
- Medical equipments, Vacuum packing

### Specification

• This is subject to change.

Valve Size	8A (1/4")	10A (3/8")	15A (1/2")	20A (3/4")	25A (1")	32A(1-1/4")	40A (1-1/2")	50A (2")
Actuator Model	ATM0020			ATM0040		ATM0080		
Actuator Type	Electric							
Main Power	AC110V, AC220V, DC24V							
Travel Angle	90° ± 5°							
Fluid Temperature	-20°C ~ +80°C							
Rating	1000psi							
Body Material	A351-CF8 / Body		A351-CF8 / Ball		PTFE / Seat			



### Dimension

End Connection : PT SCREW (mm)

Model	Size		Motor		H (Approx.)	L	φd
			A	A1			
ATM0020-8S3	8A	1/4"	90	110	141	64	12.5
ATM0020-10S3	10A	3/8"	90	110	141	64	12.5
ATM0020-15S3	15A	1/2"	90	110	145	72	15
ATM0020-20S3	20A	3/4"	90	110	151	80	20
ATM0040-25S3	25A	1"	114	126	240	85	25
ATM0040-32S3	32A	1-1/4"	114	126	245	105	32
ATM0040-40S3	40A	1-1/2"	114	126	255	113	38
ATM0080-50S3	50A	2"	160	121	209	132	50

## ELECTRIC FLANGED BALL VALVE



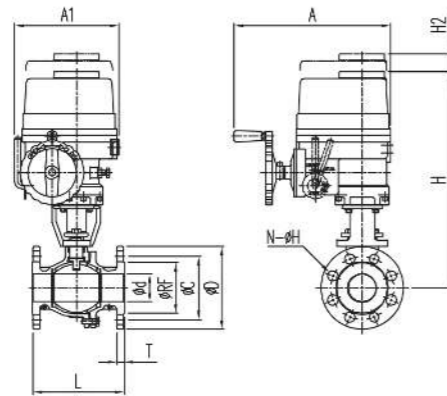
### Application

- Water distribution pipes
- Industrial cleaning machines
- Sterilizers, Boilers
- Air conditioners, Water filters
- Medical equipments, Vacuum packing
- Food & Beverage lines
- Vacuum distribution pipes

### Specification

• This is subject to change.

Valve Size	15A ~ 300A		
Actuator Model	ATM0040 ~ ATM3000		
Actuator Type	Electric		
Main Power	AC110V, AC220V, AC380V, AC440V, DC24V		
Travel Angle	90° ± 5°		
Fluid Temperature	-20°C ~ +150°C		
Rating	JIS 10K (20K) (40K)	ANSI 150# (300#) (600#)	
Body Material	SCS13(SCS14, SCPH2) / Body	SCS13(SCS14) / Ball	PTFE(RTFE, PEEK, METAL) / Seat



### Dimension

(mm)

Model	Size	Motor		H (Approx.)	H2	L	End Connection (JIS 10K RF)						
		A	A1				T	Ød	ØRF	ØC	ØD	N-ØH	
ATM0040-15F	15A	1/2"	114	126	280	-	108	12	15	51	70	95	4-15
ATM0040-20F	20A	3/4"	114	126	283	-	117	14	20	56	75	100	4-15
ATM0040-25F	25A	1"	114	126	292	-	127	14	25	67	90	125	4-19
ATM0040-32F	32A	1-1/4"	114	126	295	-	140	16	32	76	100	135	4-19
ATM0080-40F	40A	1-1/2"	160	121	260	40	165	16	40	81	105	140	4-19
ATM0080-50F	50A	2"	160	121	267	40	178	16	50	96	120	155	4-19
ATM0100-65F	65A	2-1/2"	258	172	397	125	190	18	65	116	140	175	4-19
ATM0160-80F	80A	3"	338	229	478	140	203	18	80	126	150	185	8-19
ATM0350-100F	100A	4"	357	244	521	170	229	18	100	151	175	210	8-19
ATM0500-125F	125A	5"	357	244	575	170	356	20	125	182	210	250	8-23
ATM0800-150F	150A	6"	380	284	597	195	394	22	150	212	240	280	8-23
ATM1100-200F	200A	8"	380	284	627	195	457	22	200	262	290	330	12-23
ATM2000-250F	250A	10"	440	375	763	225	533	24	250	324	355	400	12-25
ATM3000-300F	300A	12"	440	375	829	225	610	24	300	368	400	445	16-25

## ELECTRIC BUTTERFLY VALVE



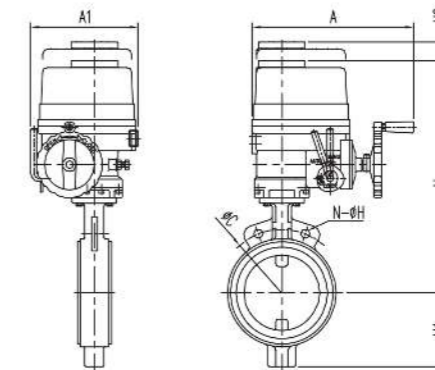
### Application

- Water distribution pipes
- Industrial cleaning machines
- Sterilizers, Boilers
- Medical equipments, Vacuum packing
- Air ventilation systems

### Specification

• This is subject to change.

Valve Size	40A ~ 600A		
Actuator Model	ATM0040 ~ ATM3000		
Actuator Type	Electric		
Electrical	AC110V, AC220V, AC380V, AC440V, DC24V		
Rotating Angle	90° ± 5°		
Fluid Temperature	-15°C ~ +80°C		
Rating	JIS 10K	ANSI 150#	
Body Material	FC (SCS13) / Body	SCS13 (SCS14) / Disc	EPDM (PTFE) / Seat



### Dimension

End Connection : JIS 10K WAFER (mm)

Model	Size	Motor		H (Approx.)	H1	H2	L	ØC	N-ØH	
		A	A1							
ATM0040-40BF	40A	1-1/2"	114	126	314	58	-	41	105	4-19
ATM0040-50BF	50A	2"	114	126	321	67	-	43	120	4-19
ATM0080-65BF	65A	2-1/2"	160	121	269	71	40	46	140	4-19
ATM0080-80BF	80A	3"	160	121	279	83	40	46	150	8-19
ATM0080-100BF	100A	4"	160	121	292	96	40	52	175	8-19
ATM0100-125BF	125A	5"	258	172	433	114	125	56	210	8-23
ATM0160-150BF	150A	6"	338	229	485	124	140	56	240	8-23
ATM0240-200BF	200A	8"	338	229	532	175	140	60	290	12-23
ATM0350-250BF	250A	10"	357	244	618	210	170	68	355	12-25
ATM0500-300BF	300A	12"	357	244	638	248	170	78	400	16-25
ATM0800-350BF	350A	14"	380	284	684	250	195	78	445	16-25
ATM1100-400BF	400A	16"	380	284	703	280	195	102	510	16-27
ATM2000-450BF	450A	18"	440	375	827	366	225	114	565	20-27
ATM2000-500BF	500A	20"	440	375	880	421	225	127	620	20-27
ATM3000-600BF	600A	24"	440	375	965	493	225	154	730	24-33

## ELECTRIC GLOBE VALVE (AQL SERIES)



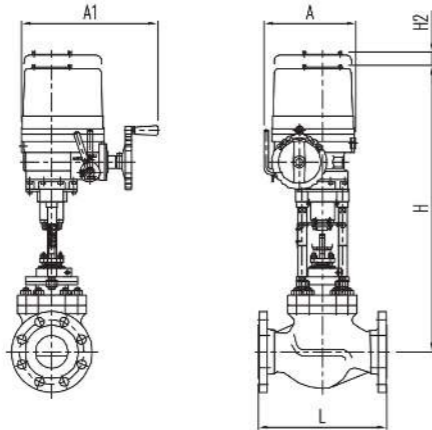
### Application

- Applicable where Instrument air can't be supplied.
- Applicable where quick operating time isn't required.
- Flow control, Pressure control, Temperature control service is available.

### Specification

• This is subject to change.

Valve Size	15A ~ 250A
Actuator Model	AQL04 ~ AQL20
Cable entry	2 x PF 3/4"
Electrical	AC110V, AC220V, AC380V, AC440V, DC24V
Fluid Temp	-20°C ~ +230°C
Rating	JIS 10K, JIS 20K, JIS 30K, ANSI 150#, ANSI 300#, ANSI 600#
Connection	RF, BW, SW, SCR'D
Body Material	SCPH2, SCS13, SCS14, SCS16
Trim Material	316SS, 316LSS



### Dimension

End Connection : JIS 10K RF (mm)

Model	Size		Motor		H (Approx.)	H2	L (JIS 10K RF)
			A	A1			
AQL04-15A	15A	1/2"	172	340	595	125	184
AQL04-20A	20A	3/4"	172	340	595	125	184
AQL04-25A	25A	1"	172	340	595	125	184
AQL04-32A	32A	1-1/4"	172	340	620	125	222
AQL04-40A	40A	1-1/2"	172	340	620	125	222
AQL06-50A	50A	2"	172	340	674	125	254
AQL06-65A	65A	2-1/2"	172	340	674	125	276
AQL08-80A	80A	3"	229	340	758	140	298
AQL08-100A	100A	4"	229	340	758	140	352
AQL10-125A	125A	5"	229	340	910	140	403
AQL12-150A	150A	6"	229	340	910	140	451
AQL20-200A	200A	8"	258	357	1100	255	543
AQL20-250A	250A	10"	258	357	1100	256	673

## ELECTRIC GLOBE VALVE (AGL SERIES)



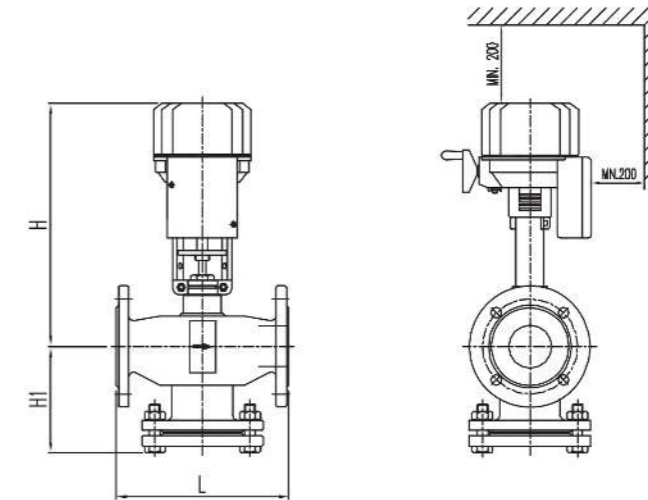
### Application

- Building automation
- Air conditioning & Heating system
- District heating, Ice thermal storage system
- Cooling & Hot water control (Temperature)

### Specification

• This is subject to change.

Valve Size	15A ~ 150A
Actuator Model	AGL-10(P) ~ AGL-250(P)
Cable entry	2 x PF 1/2"
Electrical	AC24V, AC220V
Fluid Temp	-25°C ~ +120°C
Rating	JIS 10K, ANSI 150#
Body Material	FCD45, SCPH2, SCS13, SCS14



### Dimension

End Connection : JIS 10K RF (mm)

Model	Size		L	H1	H (Approx.)		
					AGL20	AGL35	AGL55
AGL-15A	15A	1/2"	130	69	330	330	-
AGL-20A	20A	3/4"	150	75	334	334	-
AGL-25A	25A	1"	160	75	334	334	-
AGL-32A	32A	1-1/4"	200	97	339	339	-
AGL-40A	40A	1-1/2"	200	97	339	339	-
AGL-50A	50A	2"	230	147	339	339	-
AGL-65A	65A	2-1/2"	290	180	360	360	-
AGL-80A	80A	3"	310	186	360	360	-
AGL-100A	100A	4"	350	205	-	421	-
AGL-125A	125A	5"	400	238	-	432	-
AGL-150A	150A	6"	480	279	-	448	478