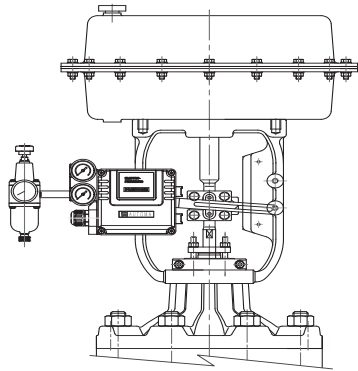
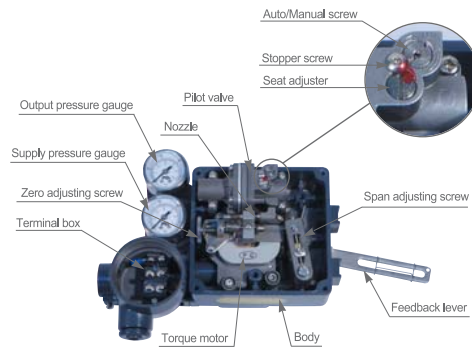


POSITIONER AIR LINE CONNECTION BLOCK DIAGRAM

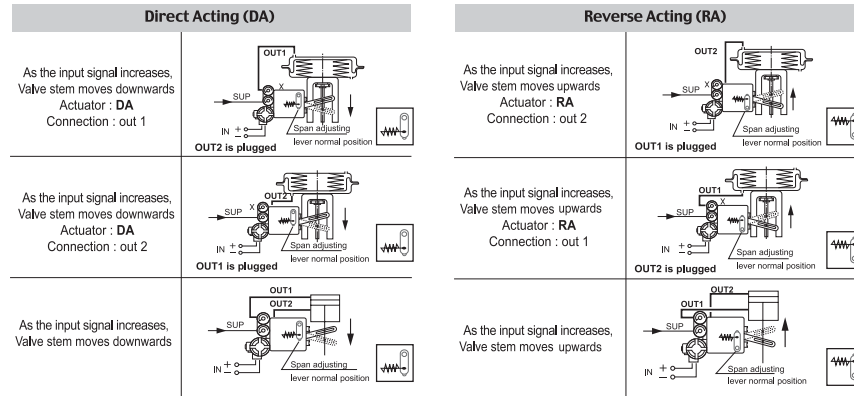
• Positioner Equipped State



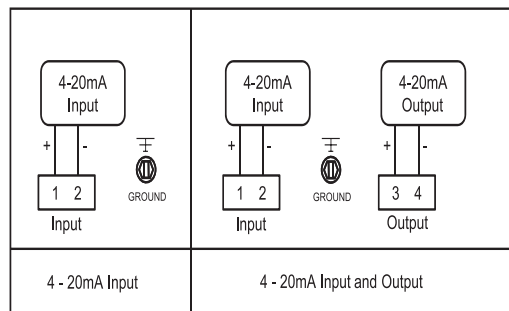
• Positioner Inner Structure



• AIR Piping Connection Diagram according to the direction of ACTING



• Wiring Diagram



Motor Actuator & Valves

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



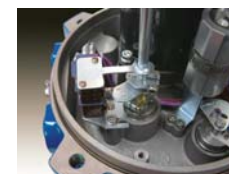
Indicator

- 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.

SPECIFICATION

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	-	□ 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	Φ 22 □ 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	Φ 25 □ 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	Φ 25 □ 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	Φ 40 □ 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	Φ 40 □ 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	-	Φ 48 □ 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	-	Φ 48 □ 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	-	Φ 75 □ 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	-	Φ 75 □ 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	-	Φ 120 □ 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	-	Φ 120 □ 100	F	6.60/6.10	3.75/3.85	1.60/2.00	2.50/2.40	-	39	152

Standard Specification

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

OPTIONS AVAILABLE

• Mechanical

Symbol	Description	Remark
EX	Explosion proof(Exd II BT4) / Approved by KTL, ATEX, NEPSI	Except for ATM0020/0040/0080
WT	Watertight(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

PK	Potentiometer Kit (output signal : 0~1 Kohm) High resolution potentiometer and precisely machined gearing are directly engaged with drive shaft to feedback continuous position of valve
CT	Current transmitter (output signal : 4-20mA) Zero / Span Adjustment
RPC /Signal configuration	Remote position controller (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
Bus Communication	Profibus Communication CANopen Communication



PK



CT

• 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



RPC

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)

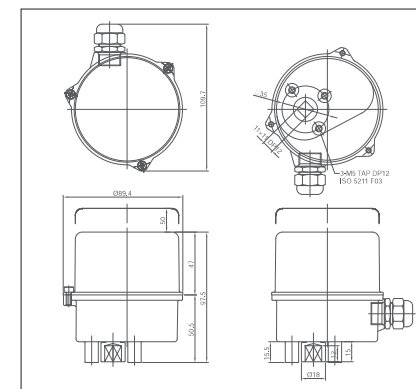
Rechargeable battery : 2.0AH 27.5VDC(Ni-Cd)

DIMENSIONS

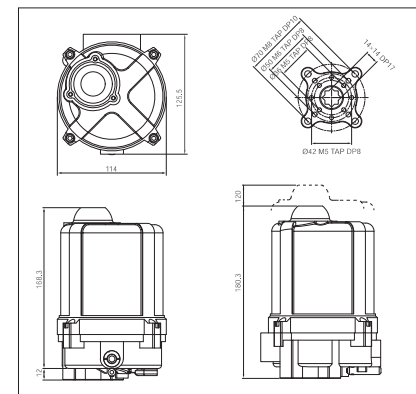
Small ATM Series



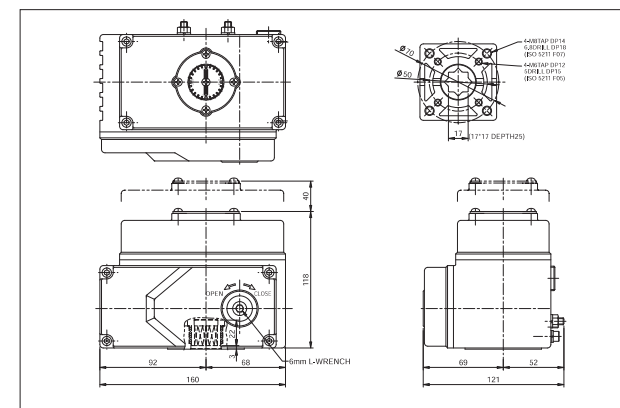
ATM0020



ATM0040



ATM0080



DIMENSIONS

Regular ATM Series

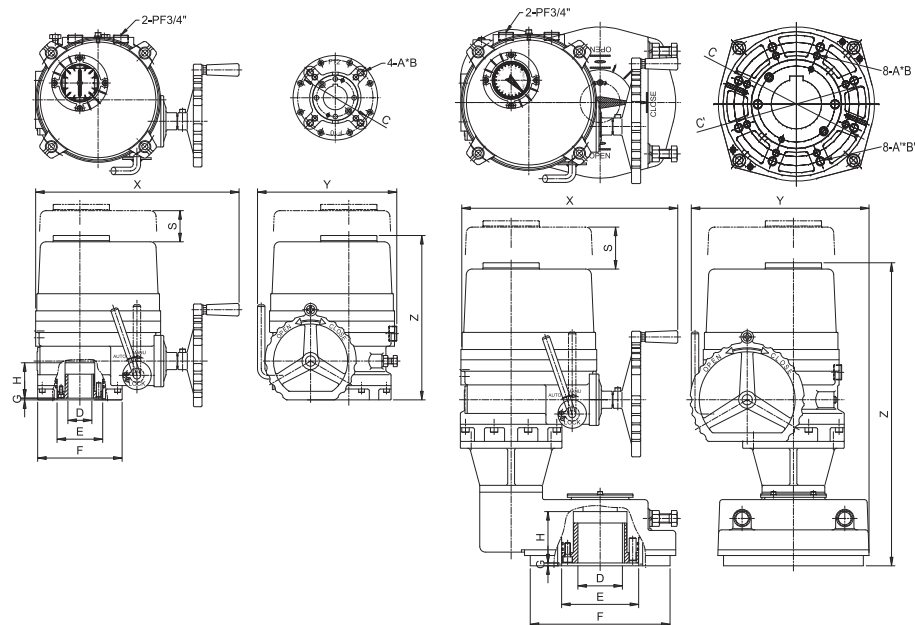
Large ATM Series

With Gear Box

Type	ATM0100	ATM0160	ATM0240	ATM0350	ATM0500	ATM0800	ATM1100	ATM2000	ATM3000	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)



DIMENSIONS

Control Option

(mm)

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

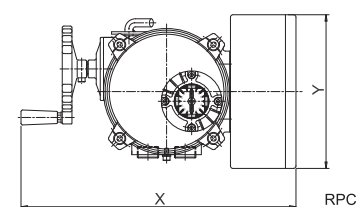
* O : Installed inside of actuator

* X : Not available

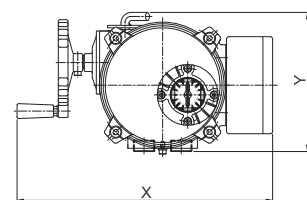
* Z : Height of basic actuator

ATM0100

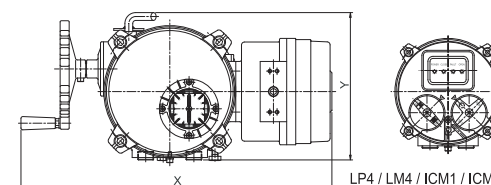
ATM0160-9000



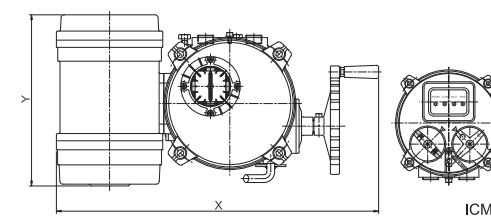
RPC



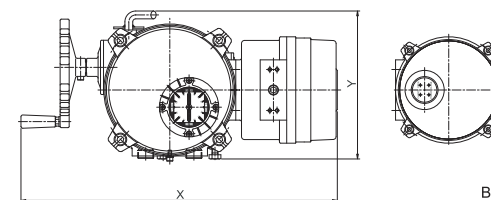
CT



LP4 / LM4 / ICM1 / ICM2



ICM3

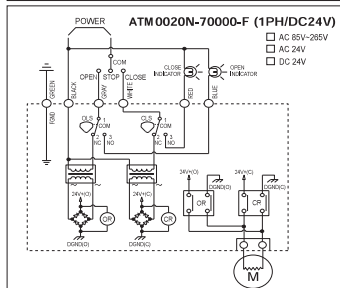
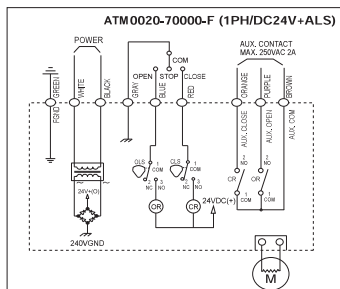


BP

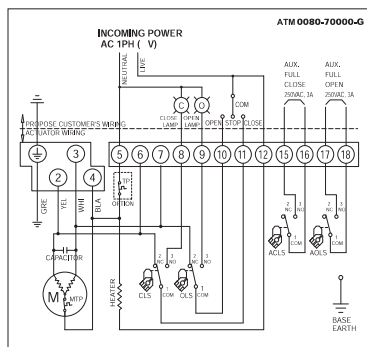
TYPICAL WIRING

ATM0020 ~ 0080

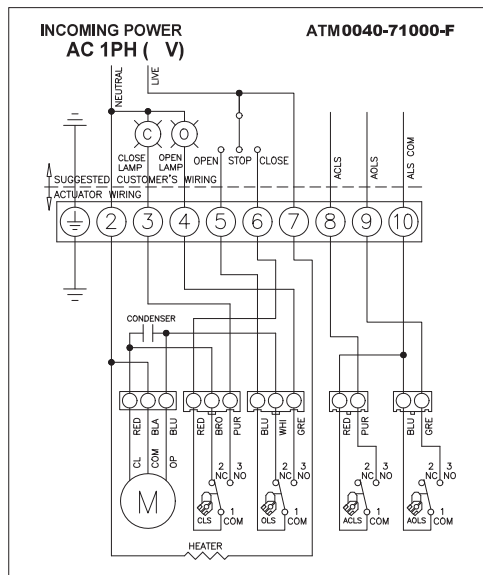
ATM 0020 110/220 (On-Off)



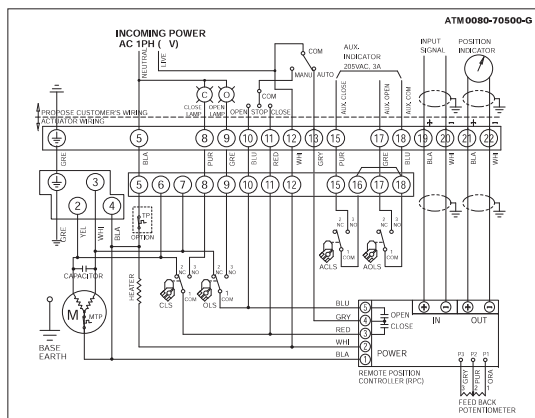
ATM 0080 110/220 (On-Off)



ATM 0040 110/220 (On-Off)



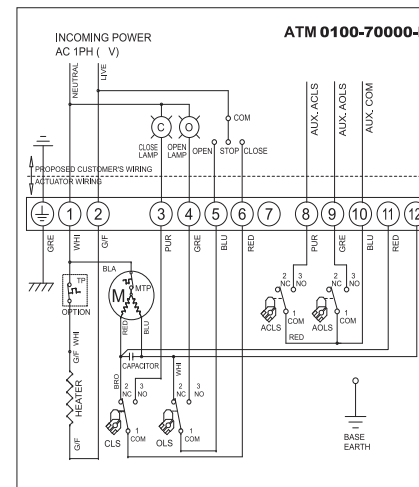
ATM 0080 110/220 RPC



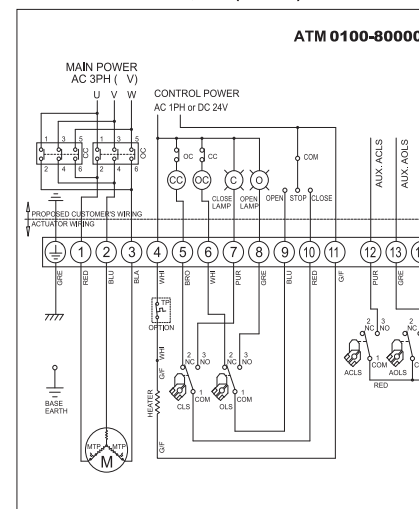
TYPICAL WIRING

ATM0100

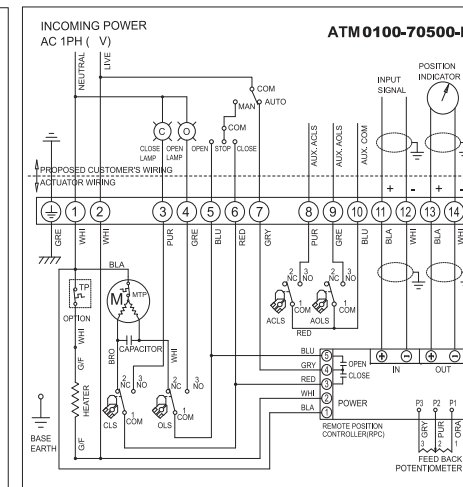
110/220VAC/50/60Hz, 1Ph(On-Off)



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		

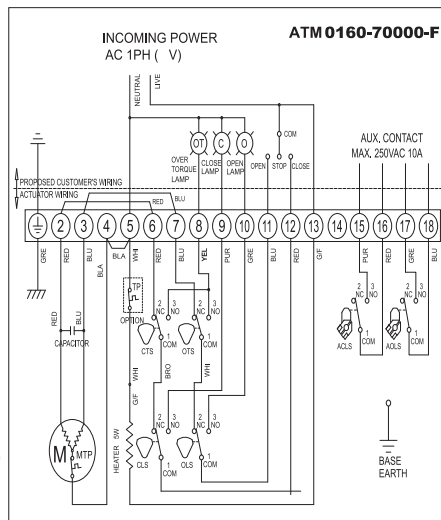
Important Notice

- 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.

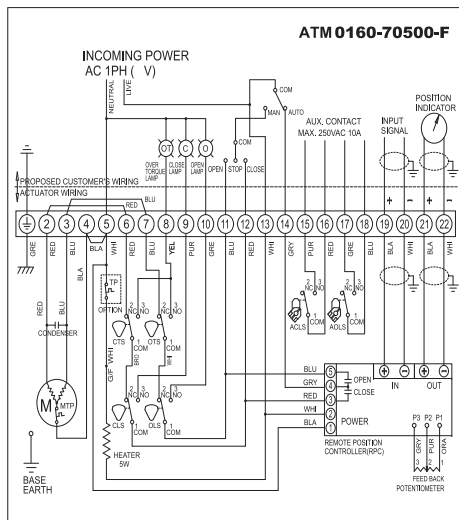
TYPICAL WIRING

ATM0160 ~ 9000

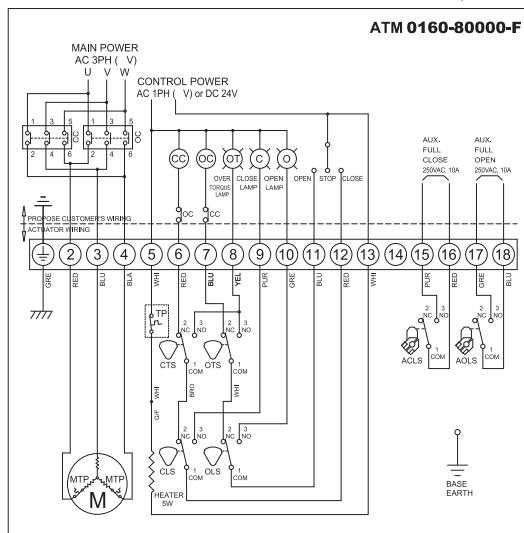
110/220VAC/50/60Hz, 1Ph(On-Off)



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



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



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"

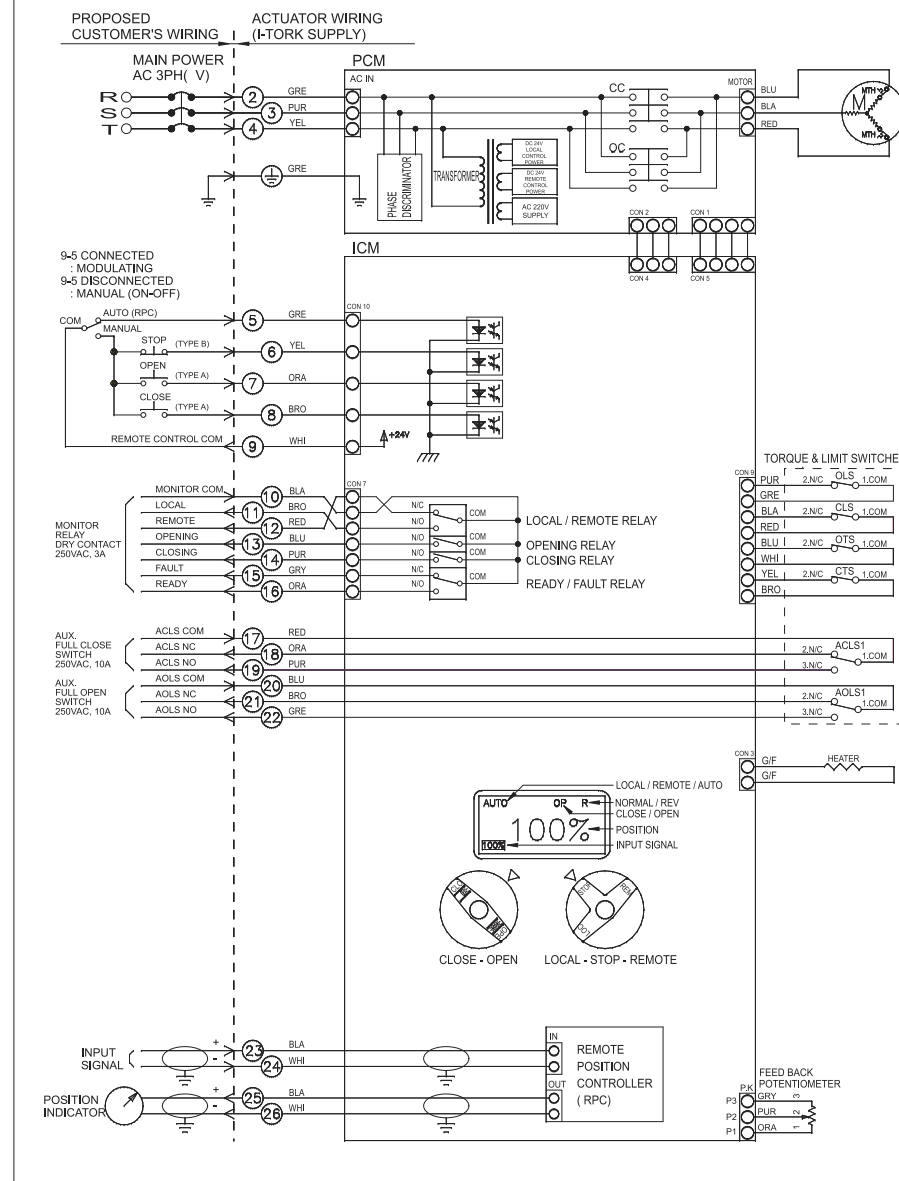
* All internal wiring is done as color coding.

TYPICAL WIRING

ICM2 for 3Phase

ICM2 for 3Phase

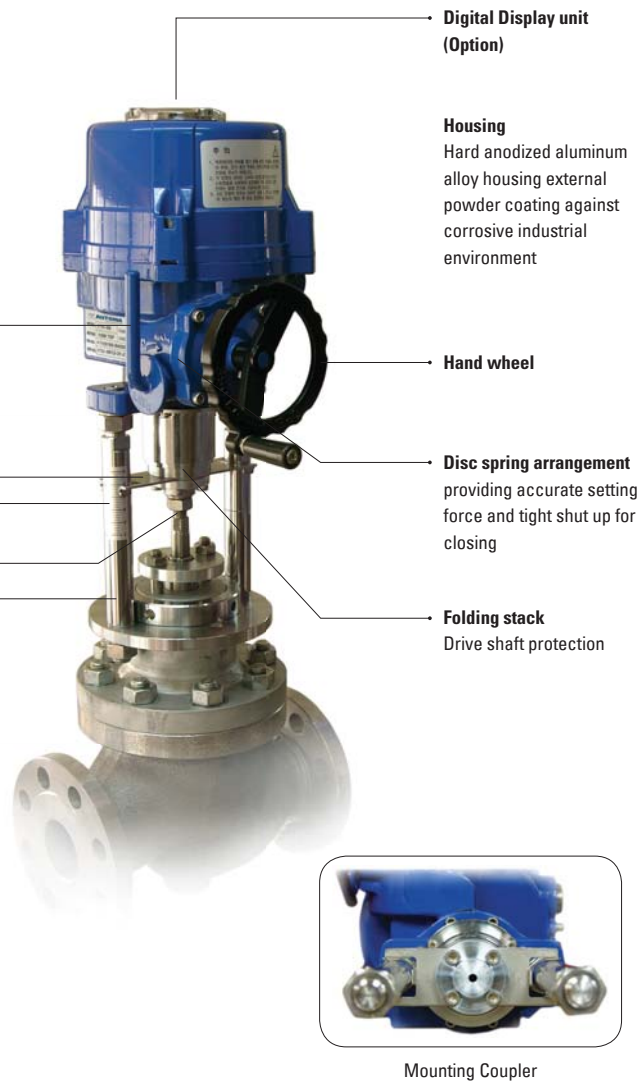
ATM0160-82500-F



LINEAR TYPE ACTUATOR

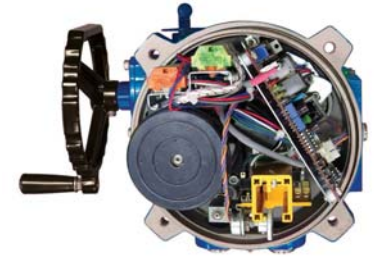
• AQL Series

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



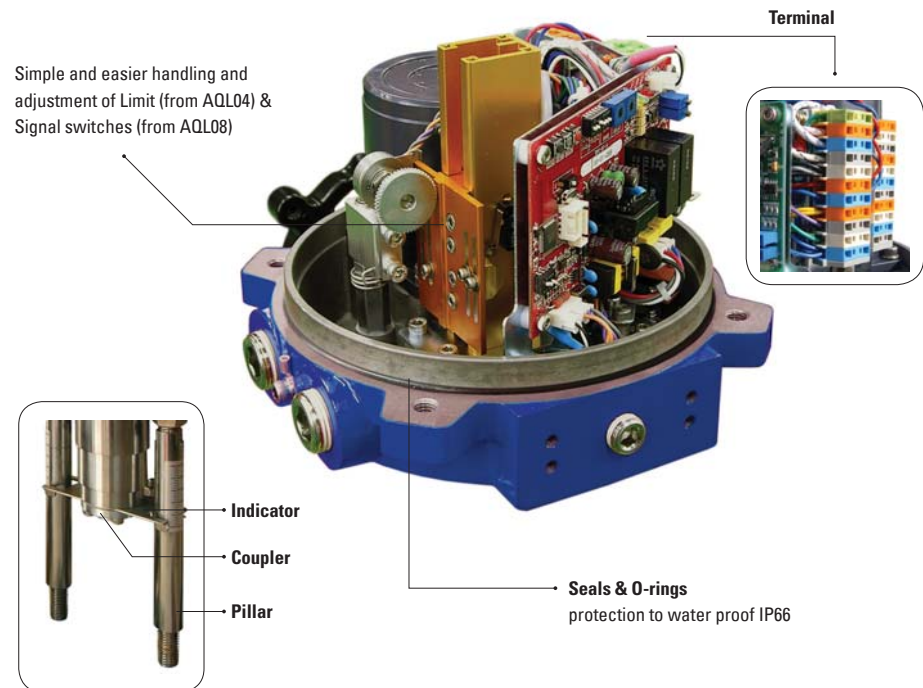
• Electric Operation

- 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	Max. Stroke	Positioning Speed	Rated Current(A)					Valve Stem Threads	PCD on Flange	Pillar Threads	Weight
	KN	mm		mm/sec (50/60Hz)	1 Phase		3 Phase					AC/DC
			110VAC		220VAC	380VAC	440VAC					
			50/60HZ				24V					
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

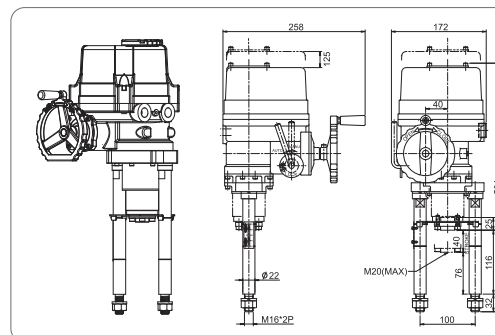
LP4	Local control (1 phase) Local control unit
LM4	Local control (3 phase) LP4 with reversing contactor and transformer
ICM1/2	Integral unit Local controller with phase discriminator (except for AQL04/06)
BP	Battery back up unit Fail Safe (Fail position either open/close/stay put) (except for AQL04/06)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



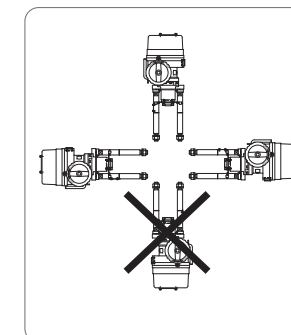
DIMENSIONS, WIRING

AQL 04 / 06

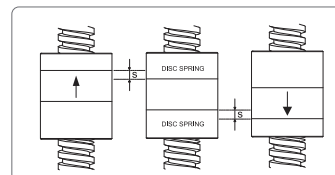
Dimensions(mm)



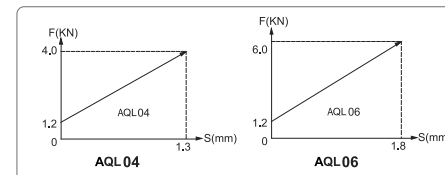
Correct mounting direction



Setting closing(opening) force

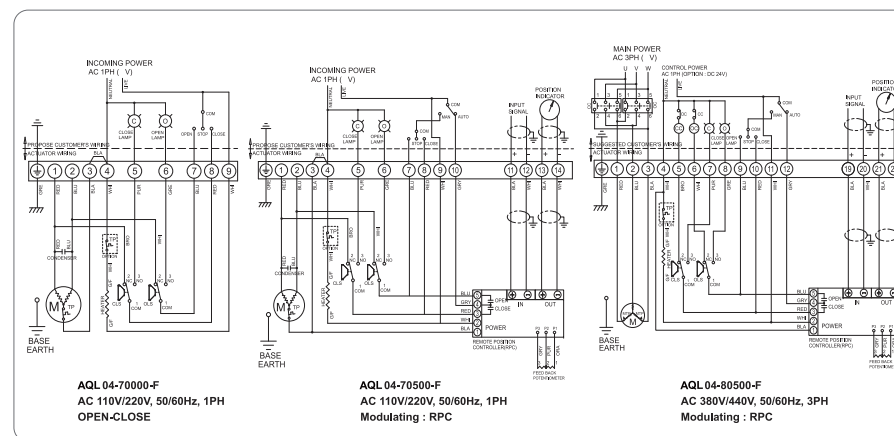


Disc spring arrangement



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

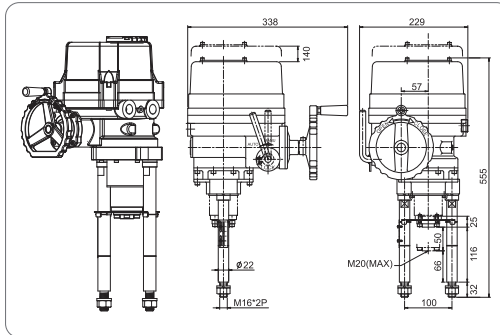
Standard wiring



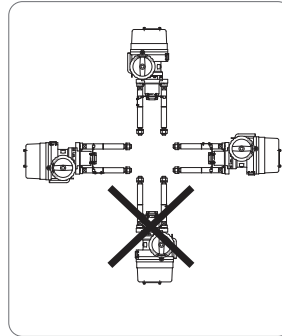
DIMENSIONS, WIRING

AQL 08 / 10 / 12

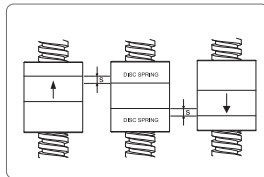
Dimensions(mm)



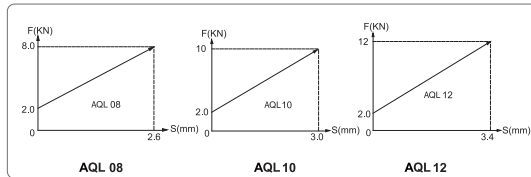
Correct mounting direction



Setting closing(opening) force



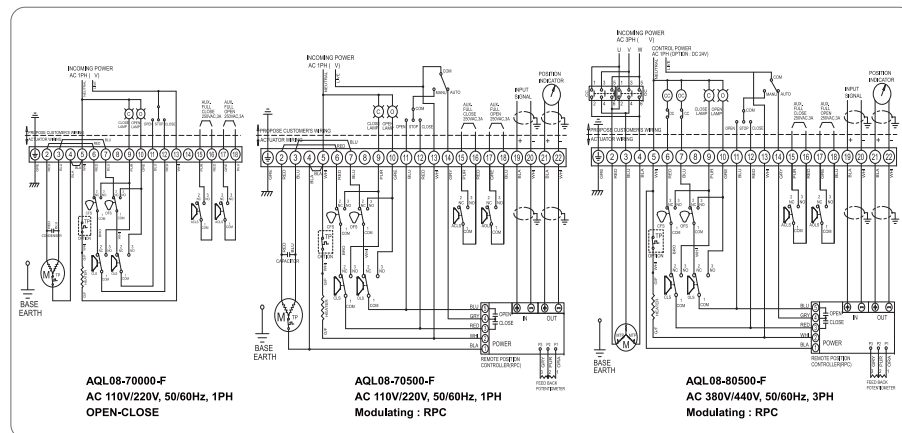
Disc spring arrangement



F : Closing(opening)force

S : Amount of disc spring compression

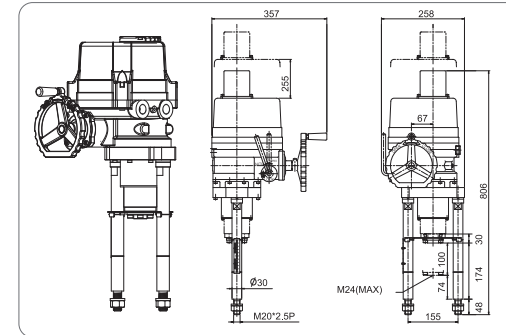
Standard wiring



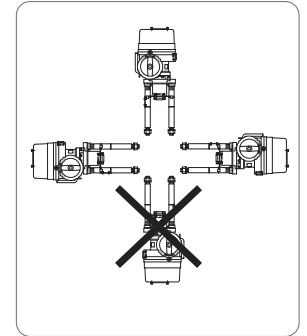
DIMENSIONS, WIRING

AQL 20 / 25

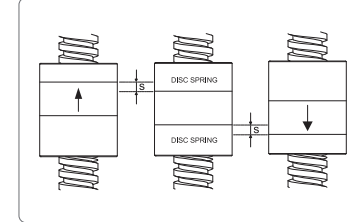
Dimensions(mm)



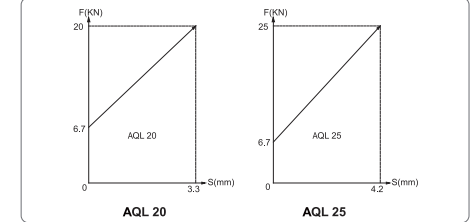
Correct mounting direction



Setting closing(opening) force



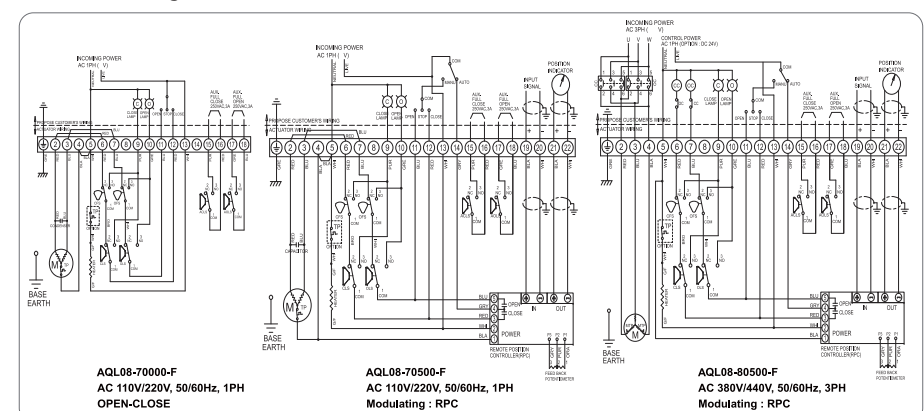
Disc spring arrangement



F : Closing(opening)force

S : Amount of disc spring compression

Standard wiring



ELECTRIC 1-PIECE SCREWED BALL VALVE



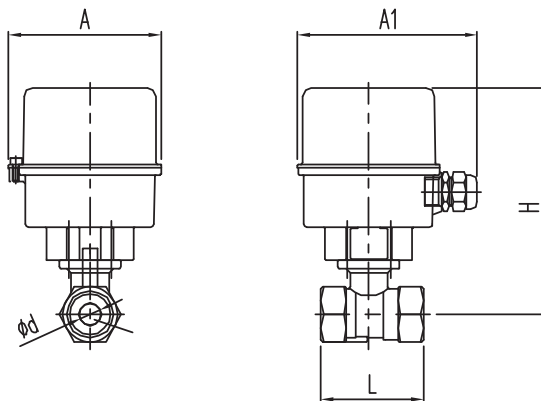
Application

- 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



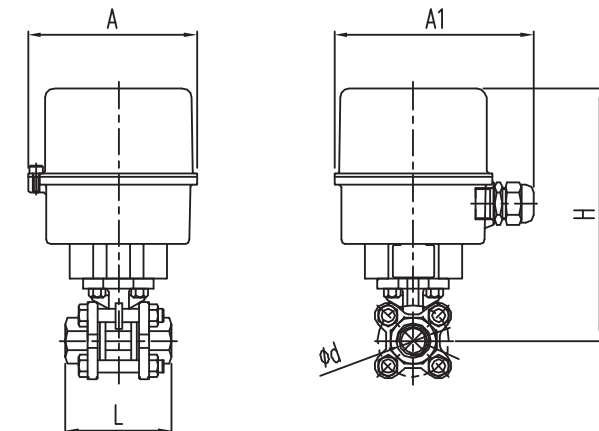
Application

- 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



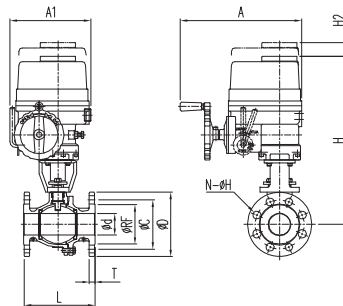
Application

- 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	Φd	ΦRF	ΦC	ΦD	N-ΦH
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



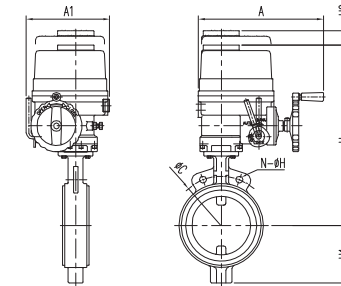
Application

- 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	ΦC	N-ΦH
		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)



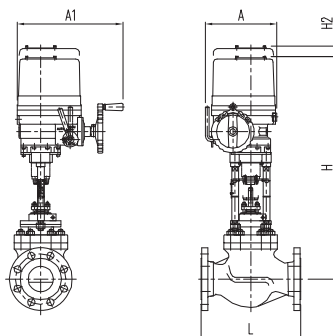
Application

- 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)



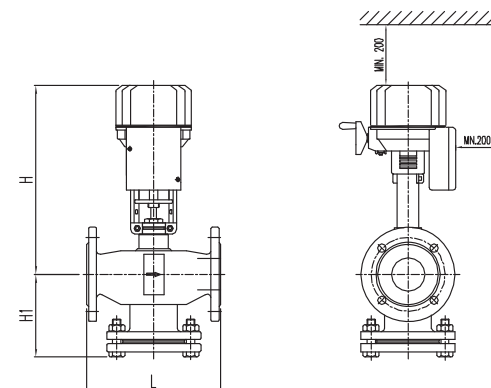
Application

- 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