

ONER

Actuator Driven Quarter Turn Valves

Class 10k Bronze and Stainless Steel Threaded Ball Valves



ACTUATOR DRIVEN
QUARTER TURN VALVES

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ONER 10K Compact Ball Valves

Valve design features

- Convenient size range from 1/4" through 2".
- Integral actuator mounting pads enabling easy mounting or dismantling of actuators for maintenance service.
- Tight contact between PTFE ball seats and high precision machined balls for leakage-free service.
- Dezincification resistant stems made of ONER's special copper alloy K-Metal for long service life of valve operating mechanism.
- Choice of materials: Stainless steel for corrosion resistant service, or brass and bronze for general W.O.G. service.

Valve design specifications

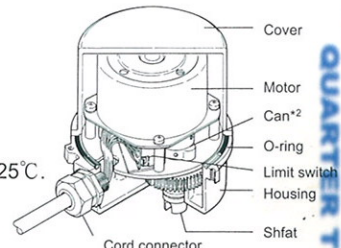
Threaded ends:	JIS B0203
Union ends:	JIS B2301
Maximum service pressure:	0.98MPa(10kgf/cm ²)
Seat P-T rating:	See Page1
Test pressure:	Body: 2.06MPa(21kgf/cm ²)Hydrostatic Seat: 0.59MPa(6kgf/cm ²)Pneumatic

Applications

Automated on-off or 3-way flow control in HVAC service handling water, oil, gas and air (by brass and bronze valves) or in light load industrial processes for pharmaceutical, fine chemical, petro-chemical, food, beverage, textile and other general industries.

Precautions

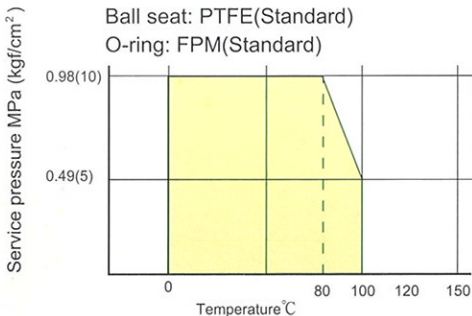
- No application to fluids including powders, muds or sands.
- Fluid of high viscosity, steam or vacuum
 - Operational frequency higher than 10 times an hour
 - Velocity of 3 m/sec or faster
 - Service with concern of an extraordinary pressure raise of line fluid or a variation of fluid temperature higher than 25°C.
 - For line voltage other than ONER standard specification. Contact ONER or its local distributors for technical advice on application to:



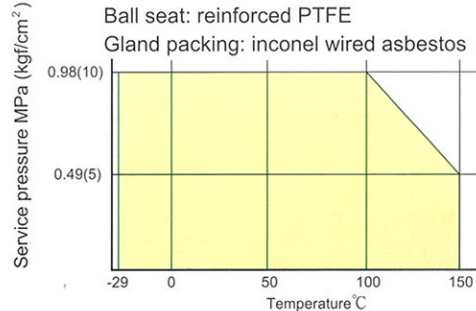
Type AE110 / 220
Size: 2

PTFE seat pressure-temperature ratings

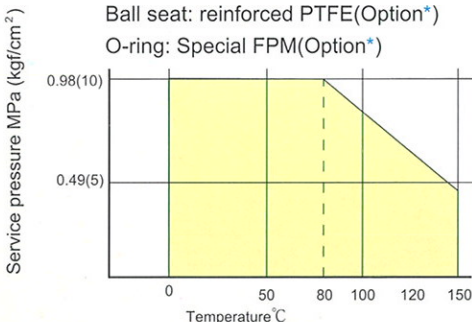
Valve: **TE . TFE . UTE . UTFE**
Fluid: water , oil or gas(unfrozen)
Ball seat: PTFE(Standard)
O-ring: FPM(Standard)



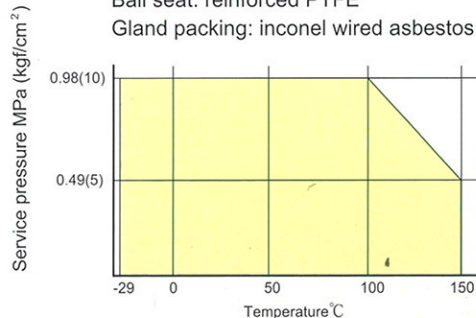
Valve: **TGE**
Fluid: water , oil or gas(unfrozen)
Ball seat: reinforced PTFE
Gland packing: inconel wired asbestos



Valve: **TE . TFE . UTE . UTFE**
Fluid: water , oil , gas or saturated steam (unfrozen)
Ball seat: reinforced PTFE(Option*)
O-ring: Special FPM(Option*)



Valve: **UTGE**
Fluid: water , oil , gas or saturated steam
Ball seat: reinforced PTFE
Gland packing: inconel wired asbestos



Specify these materials in your orders so that valves can perform the pressure-temperature ratings mentioned here, except 1 1/2" and 2" for which only standard materials are available.

ONER Electric Actuators: AE

General design features

- Compact size and light weight with diecast aluminium housing and powerful miniature motor for economy and handling ease.
- Simple mechanism with minimized number of component parts for high durability and trouble-free service.
- Free from concerns common with conventional solenoid valves such as water hammer, pressure loss, malfunction caused by jammed valve interior, and restricted flow direction.
- All weather type design for outdoor service.
- Availability of manual operation in case of electric failure.
- Versatile applications by means of optional built-in relay circuit for parallel drive, terminal boxes and 180° rotary mechanism for 3-way flow direction.
- Safety provision to protect the motor from overheat damage caused by accidental overload.
- Factory-made actuator-to-valve assembly for off-the-shelf supply.

Type AE Electric Actuators / Class 10k Bronze Ball Valves

AE110 / 220-TE

Actuator size: 2

Valve size: 1/2" to 2" (Standard bore)

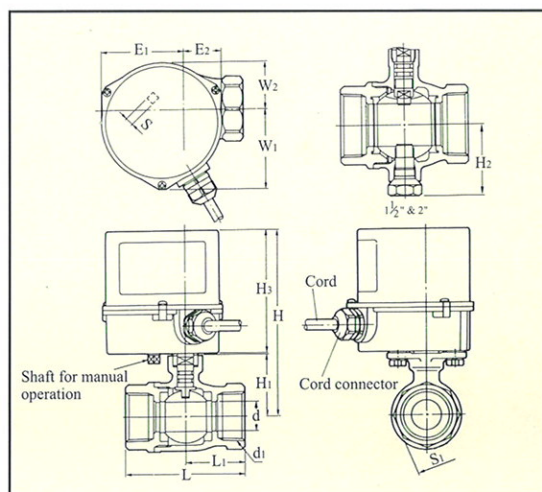


Valve material

Parts	JIS materials
Body	BC6
Body cap	BC6
Stem	K-Metal*1.*2
Ball	K-Metal*1+ Ni-Cr plating
Ball seat	PTFE
O-ring	FPM

*1K-Metal is a special brass developed for anti-dezincification.

*2 Cr plating (1/2" & 2")



Dimensions

Valve size (inch)	d	d1	H	H1	H2	L	L1	S1	Actuator						
									H3	E1	E2	W1	W2	S	Type
1/2	10	Rc 1/2	110	33.5	—	65	32.5	28	82	54.5	25	53	31.5	5.5	AE110 / 220-2
3/4	15	Rc 3/4	121	38	—	68	34	34							
1	20	Rc 1	124.5	41.5	—	79	39.5	41							
1 1/4	25	Rc 1 1/4	129	46	—	86	43	50							
1 1/2	32	Rc 1 1/2	133.5	50.5	45	96	48	56							
2	40	Rc 2	149	66	60	109	54.5	68							

Type AE Electric Actuators / Class 10k Brass Ball Valves

AE110 / 220-TFE

Actuator size: 2

Valve size: 1/2" to 1 1/2" (Full bore)

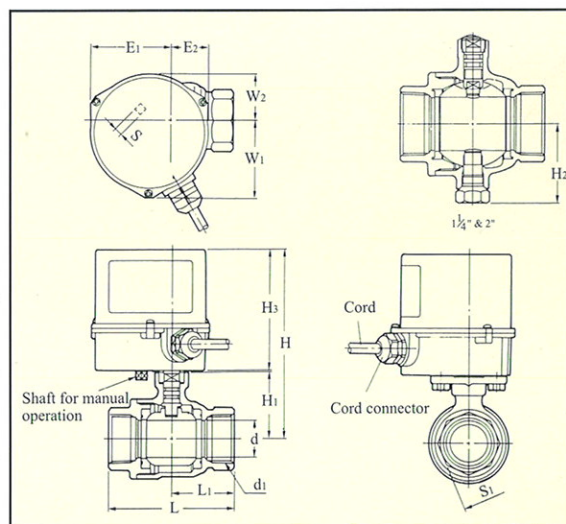


Valve material

Parts	JIS materials
Body	BC6
Body cap	BC6
Stem	K-Metal*1.*2
Ball	K-Metal*1+ Ni-Cr plating
Ball seat	PTFE
O-ring	FPM

*1K-Metal is a special brass developed for anti-dezincification.

*2 Cr plating (1 1/4" & 1 1/2")

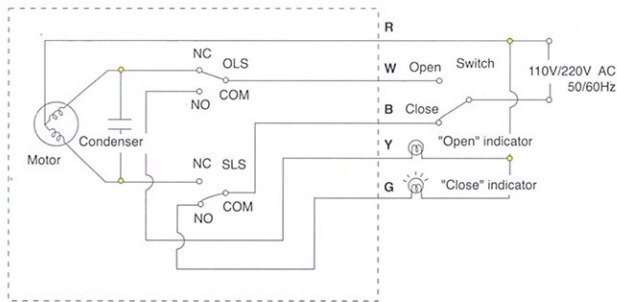


Dimensions

Valve size (inch)	d	d1	H	H1	H2	L	L1	S1	Actuator						
									H3	E1	E2	W1	W2	S	Type
1/2	15	Rc 1/2	113.5	37.5	—	63	31.5	26	82	54.5	25	53	31.5	5.5	AE110 / 220-2
3/4	20	Rc 3/4	117.5	41.5	—	73	36.5	32							
1	25	Rc 1	128.5	45.5	—	85	42.5	39							
1 1/4	32	Rc 1 1/4	142.5	59.2	53.5	98	49	50							
1 1/2	40	Rc 1 1/2	148.5	65.5	59.5	108	54	56							

Type AE actuator circuit diagrams (with the valve fully closed)

AE110 / 220 Size 2



- Wire color: R red W white B black Y yellow G green
- Actuator rotates:
 - R-W: counter-clockwise to fully open the valve
 - R-B: clockwise to fully close the valve
- Limit switches activate:
 - OLS: on fully opening the valve (R-W: off W-Y: on)
 - SLS: on fully closing the valve (R-B: off B-G: on)

Note: For all sizes of Type AE 110/ 220, the terminals are numbered 1, 2, 3, 4 and 5 in place of R, W, B, Y and G respectively.

Note: When two or more actuators are driven by a single switch, ensure to prevent unintended current flows using relay contacts.

Type AE Electric Actuators / Class 10k Bronze Ball Valves

AE110 / 220-TGE

Actuator size: 2

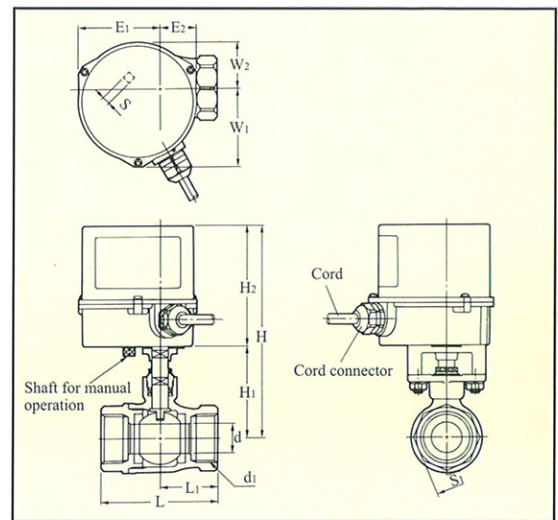
Valve size: 1/2" to 1" (Standard bore)



Valve material

Parts	JIS materials
Body	BC6
Body cap	BC6
Stem	K-Metal*
Ball	K-Metal*+ Ni-Cr plating
Ball seat	Reinforced PTFE
Gland packing	Inconel wire asbestos

*K-Metal is a special brass developed for anti-dezincification.



Dimensions

Valve size (inch)	d	d1	H	H1	L	L1	S1	Actuator						
								H2	E1	E2	W1	W2	S	Type
1/2	10	Rc 1/2	135.5	53.5	65	32.5	28	82	54.5	25	53	31.5	5.5	AE110 / 220-2
3/4	15	Rc 3/4	139.5	58	68	34	34							
1	20	Rc 1	143.5	61.5	79	39.5	41							

Type AE Electric Actuators / Class 10k Stainless Steel Ball Valves

AE110 / 220-UTFE

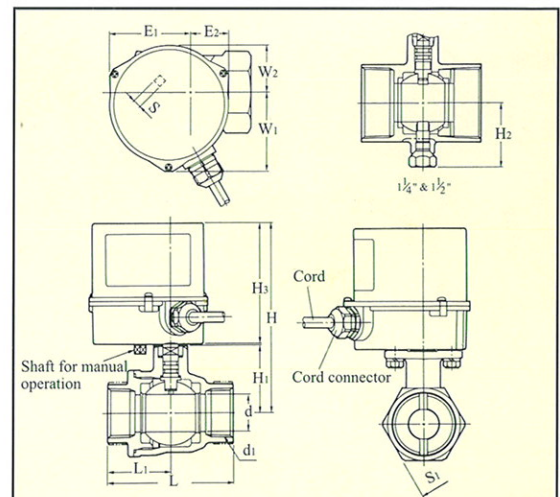
Actuator size: 2

Valve size: 1/2" to 1 1/2" (Full bore)



Valve material

Parts	JIS materials
Body	SCS14A
Body cap	SCS14A
Stem	SUS316+Cr plating
Ball	SUS316
Ball seat	PTFE
O-ring	FPM
Gasket	PTFE



Dimensions

Valve size (inch)	d	d1	H	H1	H2	L	L1	S1	Actuator						
									H3	E1	E2	W1	W2	S	Type
1/2	15	Rc 1/2	113.5	37.5	—	62	31	26	82	54.5	25	53	31.5	5.5	AE110 / 220-2
3/4	20	Rc 3/4	117.5	41.5	—	73	36.5	32							
1	25	Rc 1	128.5	45.5	—	85	42.5	39							
1 1/4	32	Rc 1 1/4	143.5	60.5	55	98	49	48							
1 1/2	40	Rc 1 1/2	149.5	66.5	61	108	54	54							

Type AE Electric Actuators / Class 10k Stainless Steel Ball Valves AE110 / 220-UTGE

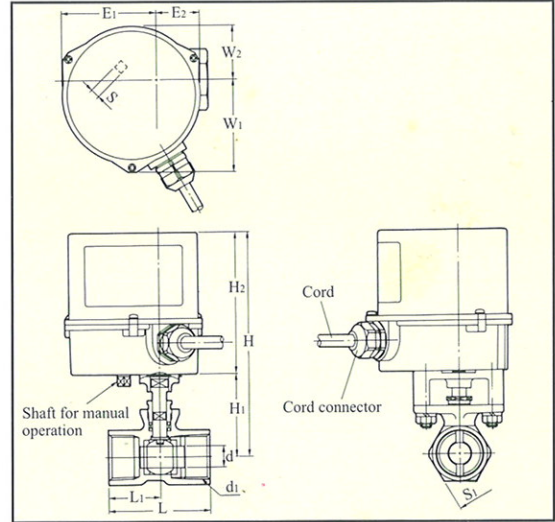
Actuator size: 2

Valve size: 1/2" to 1" (Reduced bore)



Valve material

Parts	JIS materials
Body	SCS14A
Stem	SUS316+Cr plating
Ball	SUS316
Ball seat	Reinforced PTFE
Insert	SUS316
Gland packing	Inconel wire asbestos



Dimensions

Valve size (inch)	d	d1	H	H1	L	L1	S1	Actuator (mm)						
								H2	E1	E2	W1	W2	S	Type
1/2	9.2	Rc 1/2	121	46	56.5	27.5	25	82	54.5	25	53	31.5	5.5	AE110 / 220-2
3/4	12.5	Rc 3/4	131	49	59	30	32							
1	16	Rc 1	134	52	71	36	38							

Type AE Electric Actuators / Class 10k Stainless Steel Ball Valves AE110 / 220-UTE

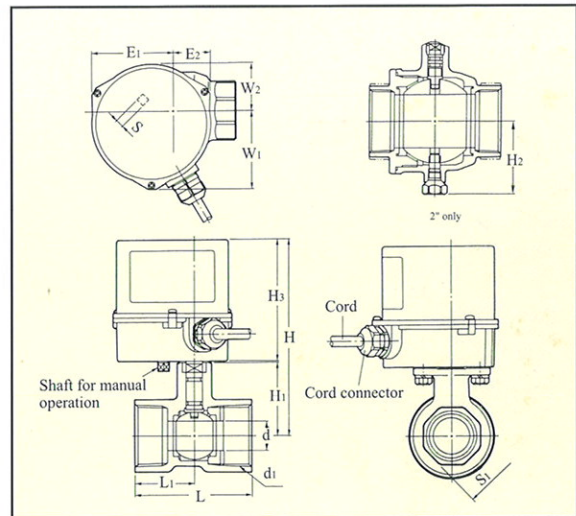
Actuator size: 2

Valve size: 1/2" to 2" (Reduced bore)



Valve material

Parts	JIS materials
Body	SCS14A
Stem	SUS316+Cr plating
Ball	SUS316
Ball seat	PTFE
Insert	SUS316
O-ring	FPM



Dimensions

Valve size (inch)	d	d1	H	H1	H2	L	L1	S1	Actuator (mm)						
									H3	E1	E2	W1	W2	S	Type
1/2	9.2	Rc 1/2	102	26	—	56.5	27.5	25	82	54.5	25	53	31.5	5.5	AE110 / 220-2
3/4	12.5	Rc 3/4	105	29	—	59	30	32							
1	16	Rc 1	108	32	—	71	36	38							
1 1/4	20	Rc 1 1/4	132.5	49.5	—	78	40	49							
1 1/2	24.5	Rc 1 1/2	135.5	52.5	—	83	42.5	53							
2	32	Rc 2	141.5	58.5	53.5	100	51	65							

Type AE Electric Actuators / Class 10k Bronze or Stainless Steel Ball Valves

90° bi-directional rotation

110V / 220V AC 50Hz / 60Hz

Type AE actuator design specifications

Specification	Type	AE 110-2	AE 220-2
Power source 50Hz/60Hz		110V AC	220V AC
Rated current		100mA	50mA
Max. power consumption		10W	
Valve closing time 90°	50Hz	15sec.	
	60Hz	13sec.	
Max. output torque		9.8N·m (100kgf·cm)	
Rated time		Continuous	
Insulation Class		JIS Class E	
Sensitive switch contact capacity		110 AC 3A(Resistan load) 250V AC 3A (Resistanload)	
Position limit switch		1 pce each for opening/closing (Using the source voltage)	
Insulation strength		1500V AC (1 min.interval)	
Insulation resistant		Minimum 10MΩ (500V DC)	
Standard protection		All weather type (for outdoor use)	
Ambient temperature		-20°C to +50°C	
Mounting position		Vertical to horizontal	
Wiring		Vinyl 5-core cord (700mm long)	
		0.5mm ²	
Lubrication		Grease	
Overload protection		Impedance protection	
Coating color		Housing: black Cover: light blue	

Note: Contact to ONER for technical advice when the service conditions are different.



CAUTION

Pressure - temperature ratings and other performance data published in this catalog have been developed from our design calculation, in-house testing, field reports provided by our customers and/or published official standards or specifications. They are good only to cover typical applications as a general guideline to users of ONER products introduced in this catalog.

For any specific application, users are kindly requested to contact ONER Corporation for technical advice, or to carry out their own study and evaluation for proving suitability of these products to such an application. Failure to follow this request could result in property damage and/or personal injury, for which we shall not be liable.

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