



# Actuator Driven Compact Ball Valves

■KELMO® Electric Actuators : EA, EC, EAE and ED Series

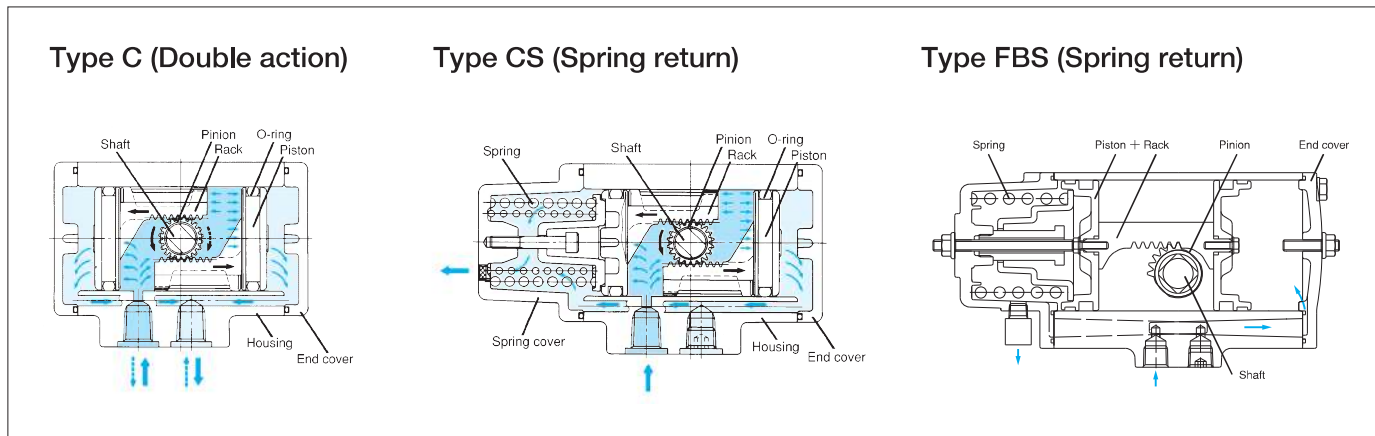
■Pneumatic Actuators : C, CS, FBS Series

■ $\frac{1}{4}$ "~2" Class 5K / 10K Bronze and Stainless Steel Threaded Ball Valves



KITZ CORPORATION

## KITZ C•CS Series Pneumatic Actuators



### Actuator design Specifications

Specification \ Type	C-1	C-2	CS-1	CS-2	FBS-1
Operating media	Instrumentation air				
Standard operating pressure	0.39 MPa (60psi)				
Operating pressure range	0.39 ~ 0.69 MPa (60~100psi)				
Output torque <sup>*1</sup>	3.9 N-m	8.5 N-m	1.3 N-m	3.1 N-m	7.6 N-m
Housing shell test pressure	0.97 MPa (140psi)				
Angle of Revolution	90° (+1° ~ +5°)				90° ± 7°
Cylinder Volume (Litter)	0.073	0.160	0.033	0.071	0.15
Operation Time	Max. 1 sec. <sup>*4</sup>				
Service Temperature range <sup>*2</sup>	-20°C ~ +60°C -4°F ~ +140°F				-20°C ~ +80°C -4°F ~ +176°F
Ambient Condition <sup>*3</sup>	Indoor				

#### Notes:

- \*1 At supply pressure, 0.39MPa
- \*2 Free from freezing of supply air
- \*3 For outdoor service, consult a KITZ Engineer
- \*4 On a condition of KITZ standard air equipments and no load on a valve

## KITZ Standard Accessories

C type actuator has a direct mount type special solenoid valve. It makes piping-less and compact mounting. This special solenoid valve is not waterproof type. Prevent water if you use them outdoor.

### ◆ Special solenoid valve

Electrical connection	Lead wire type
Working pressure range	0.15~0.7MPa
Ambient temperature range	5~50°C
Air inlets	Rc1/8
Effective area of valve	4.0mm <sup>2</sup>
Power supply	AC100, 110V/50, 60Hz:±10% AC200, 220V/50, 60Hz:±10% DC24:±10%

### ◆ Limit Switch

Sensing position	1 position
Power supply	AC: 5A-125VAC 5A-250VAC DC: 0.5A-115VDC 0.25A-230VDC
Ambient temperature range	-10~70°C
Electrical connection	Conduit type
Electric wire diameter	φ5.8-φ7.8

### ◆ Filter-Regulator

Structure	Relief type
Working pressure range	0.04~0.83MPa
Ambient temperature range	5~65°C
Nominal filtration rating	5μm
Air inlets	Rc1/4

### ◆ Silencer

Connection	Rc1/8
Effective area	15mm <sup>2</sup>
Noise reduction	18dB
Maximum working pressure	0.9MPa
Ambient temperature range	5~60°C

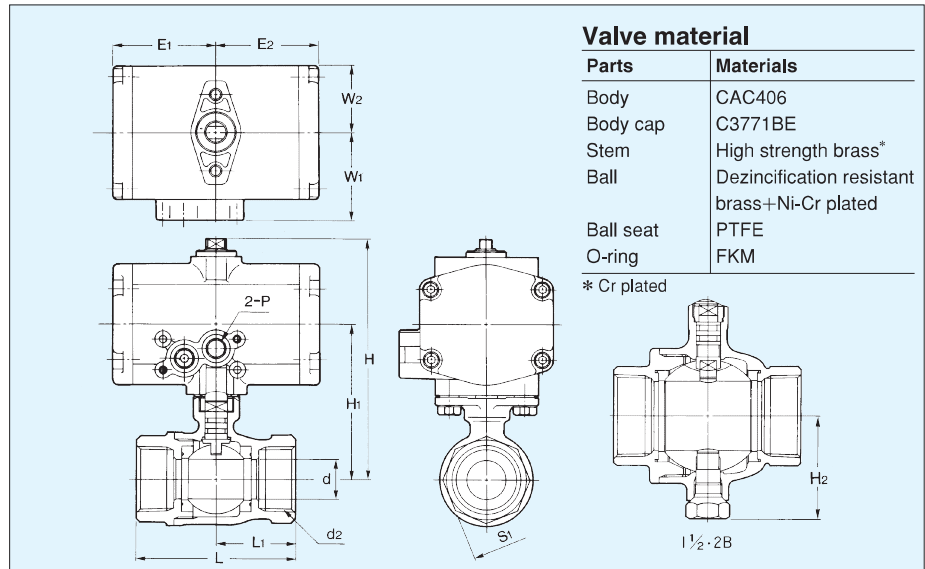
### ◆ Speed Controller

Structure	Restrictor	Exhaust restrictor	Exhaust restrictor with silencer
Working pressure range	0.05~1MPa	0.1~1MPa	0~1MPa
Ambient temperature range	5~60°C	-5~60°C	0~60°C
Air inlets	Rc1/8	R1/8•Rc1/8	Rc1/8

## Type C Pneumatic Actuators / Class 10K Bronze Ball Valves

Fig. **C-TE**

(Standard bore)



### Dimensions

Valve Size (inch)	d	d <sub>2</sub>	H	H <sub>1</sub>	H <sub>2</sub>	L	L <sub>1</sub>	S <sub>1</sub>	Actuators					
									E <sub>1</sub>	E <sub>2</sub>	W <sub>1</sub>	W <sub>2</sub>	P	Type
3/8	7.5	Rc3/8	87.5	56	—	46	22	22	43	43	34.5	26	Rc1/8	C-1
1/2	10	Rc1/2	93.5	62	—	65	32.5	28						
3/4	15	Rc3/4	97.5	66	—	68	34	34						
1	20	Rc1	101.5	70	—	79	39.5	41						
1 1/4	25	Rc1 1/4	124.5	82	—	86	43	50	51.4	51.4	44	33.5	Rc1/8	C-2
1 1/2	32	Rc1 1/2	137.5	95	53.5	96	48	56						
2	40	Rc2	144.5	102	60	109	54.5	68						

(mm)

## Type CS / FBS Pneumatic Actuators / Class 10K Bronze Ball Valves

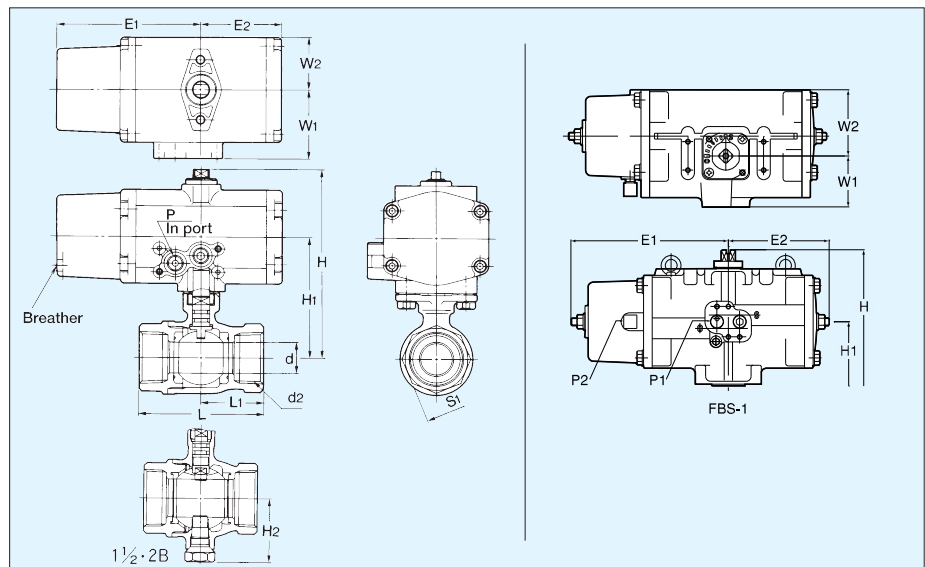
Fig. **CS-TE**

Valve size: 3/8" to 1"

### FBS-TE

Valve size: 1 1/4" to 2"

(Standard bore)



### Dimensions

Valve Size (inch)	d	d <sub>2</sub>	H	H <sub>1</sub>	H <sub>2</sub>	L	L <sub>1</sub>	S <sub>1</sub>	Actuators						
									E <sub>1</sub>	E <sub>2</sub>	W <sub>1</sub>	W <sub>2</sub>	P <sub>1</sub>	P <sub>2</sub>	Type
3/8	7.5	Rc3/8	87.5	56	—	46	22	22	69.5	43	34.5	26	—	Rc1/8	CS-1
1/2	10	Rc1/2	112.5	70	—	65	32.5	28							
3/4	15	Rc3/4	116.5	74	—	68	34	34							
1	20	Rc1	120.5	78	—	79	39.5	41	92	51.4	44	33.5	—	Rc1/8	CS-2
1 1/4	25	Rc1 1/4	182	112	—	86	43	50							
1 1/2	32	Rc1 1/2	195	125	53.5	96	48	56							
2	40	Rc2	202	132	60	109	54.5	68	132	87	50	54	Rc1/4	Rc1/8	FBS-1

(mm)