

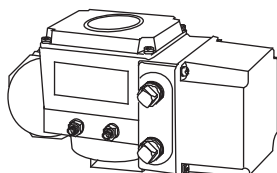
Final Control Elements

SERVO-TOP VALVE ACTUATOR TYPE C

(rotary type)

Functions & Features

- Lightweight, compact design
- Simple adjustments
- ISO standard flange



MODEL: CRP-[1]1-[2][3][4]

ORDERING INFORMATION

- Code number: CRP-[1]1-[2][3][4]
- Specify a code from below for each [1] through [4].
(e.g. CRP-241-AB/K)

[1] TORQUE, OPERATION TIME

- 01:** 68.6 N·m, 12 sec./90° (7 kgf·m)
(DISCONTINUED; replace with MODEL PRP.)
- 03:** 68.6 N·m, 24 sec./90° (7 kgf·m)
(DISCONTINUED; replace with MODEL PRP.)
- 11:** 196 N·m, 12 sec./90° (20 kgf·m)
(DISCONTINUED; replace with MODEL PRP.)
- 13:** 196 N·m, 24 sec./90° (20 kgf·m)
(DISCONTINUED; replace with MODEL PRP.)
- 22:** 588 N·m, 18 sec./90° (60 kgf·m)
- 24:** 588 N·m, 36 sec./90° (60 kgf·m)

SPAN

- 1:** 45° - 90°

[2] POSITION SETPOINT INPUT

Current

A: 4 - 20 mA DC (Input resistance 250 Ω)

Voltage

6: 1 - 5 V DC (Input resistance 1 MΩ min.)

[3] POWER INPUT

AC Power

- B:** 100 V AC
C: 110 V AC
G: 200 V AC
H: 220 V AC

[4] OPTIONS

Adaptor

blank: without

/K: Adaptor for Kitamura Valve

GENERAL SPECIFICATIONS

Degree of protection: IP55

Action: Direct or reverse; field selectable with DIP switches (factory set to "reverse")

Operation at abnormally low input: Open, close or stop; field selectable with DIP switches (factory set to "stop")

Detectable input drop level: 0.37 ±0.1 V DC; converted into voltage

Wiring conduits: G 1/2 female thread (two)

Terminal board: M3 screw (leadwire size 2 mm² max.; torque 0.5 N·m)

Housing material: Aluminum alloy

Drive: AC reversible motor (15-minute continuous rating)

Insulation class: E (thermal protector incorporated; 120 ±5°C or 248 ±9°F)

Power control element: Semiconductor switch

Position detection: Potentiometer

Span: 90 degrees (100 degrees max.)

Deadband adjustment: 0.5 - 5.5 % (factory set to approx. 1.5 %)

Re-start limiting timer: Approx. 1.5 seconds

Mechanical limiter: Fixed to 90 degrees position

Isolation: Input or output to power to ground

Zero adjustment: 0 - 25 %

Span adjustment: 50 - 100 %

OUTPUT SPECIFICATIONS

■ Operation Time & Torque(50 / 60 Hz, with no load)

CRP-221: 18 / 15 sec. ±15 %; 588 N·m (434.0 ft·lbf)

CRP-241: 36 / 30 sec. ±15 %; 588 N·m (434.0 ft·lbf)

■ Position Signal: 4 - 20 mA DC

Load resistance: ≤ 300 Ω

INSTALLATION

Power input

- **AC:** Operational voltage range: rating ±10 %, 50/60 Hz

Power Consumption

Power code B

CRP-221: 253 VA (50 Hz), 259 VA (60 Hz)

CRP-241: 215 VA (50 Hz), 198 VA (60 Hz)

Power code C

CRP-221: 303 VA (50 Hz), 273 VA (60 Hz)

CRP-241: 273 VA (50 Hz), 182 VA (60 Hz)

Power code G

CRP-221: 280 VA (50 Hz), 188 VA (60 Hz)

CRP-241: 320 VA (50 Hz), 238 VA (60 Hz)

Power code H

CRP-221: 394 VA (50 Hz), 249 VA (60 Hz)

CRP-241: 425 VA (50 Hz), 291 VA (60 Hz)

Operating temperature: -10 to +50°C (14 to 122 °F)

Operating humidity: 30 to 85 %RH (non-condensing)

Vibration: $\leq 2 \text{ G}$ (19.6 m/s²)

Mounting position: All directions

Weight: 15 kg (33.1 lb)

PERFORMANCE

Resolution: 0.68° (CRP - 22) 0.45° (CRP - 24)

Insulation resistance: $\geq 100 \text{ M}\Omega$ with 500 V DC

Dielectric strength: 1500 V AC @ 1 minute (input or output or power to ground)

FUNCTIONS

•Lock Detection

When the valve stroke does not come into deadband range for longer than 2 minutes (approx.) due to motor locking or some other reasons, the CRP stops power supply to the motor.

In order to reset the lock, apply 0 % and 100 % input repeatedly or turn the power supply off and on.

•Overload Protection

In order to protect the motor from frequent control operations at high load (load rate $\geq 50 \%$), the CRP is equipped with a thermal protector in its motor.

When the thermal protector is activated, the motor must be cooled down at least for 30 minutes before restarting.

•Electrical Stroke Limits

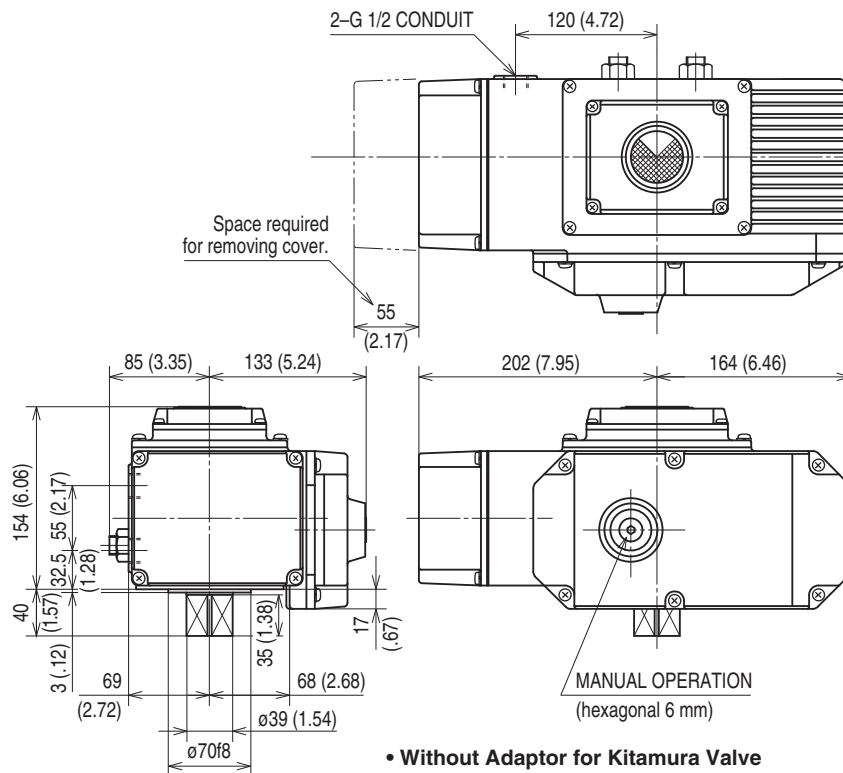
The valve operation can be limited within specific electrical limits without utilizing mechanical limit switches.

Both limits are relative to the operation range adjusted with zero/span adj. The lower limit is fixed to 3.8 mA, while the higher limit is fixed to 20.2 mA.

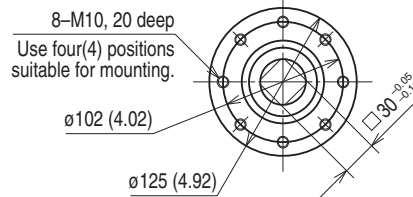
•Manual Operation Handle

The CRP is manual operated in 25 turns.

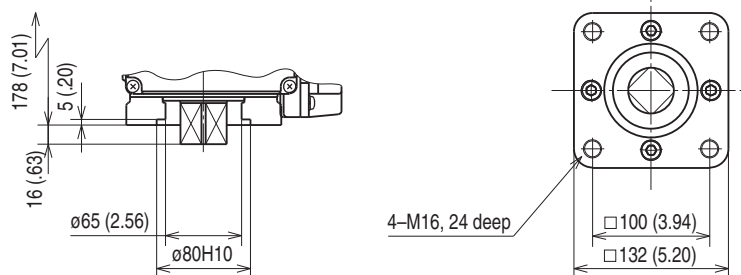
EXTERNAL DIMENSIONS unit: mm (inch)



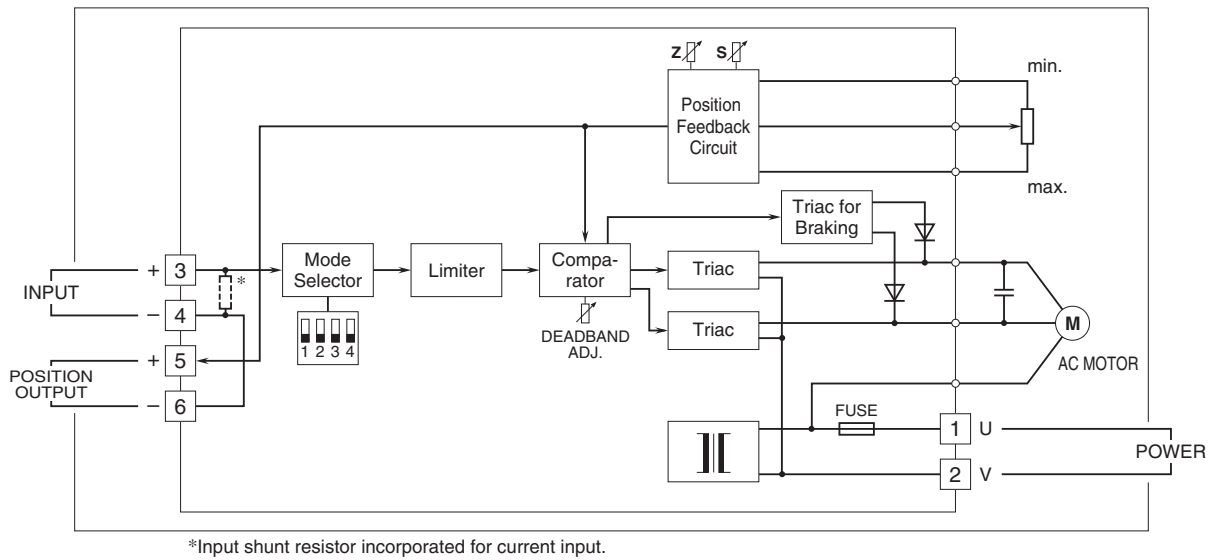
• Without Adaptor for Kitamura Valve



• With Adaptor for Kitamura Valve



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.