# REMAX ENERGY Control Valve

## Flow Control Valve
## Model: RFCJ01/RFCJ02

## Description

**RFCJ** series control valve is developed for small flow system, used for precise control of small flow, suitable for aerospace engineering, research institutions, test workshops, etc., to precisely control in electric power, chemical, pharmaceutical, food, water treatment, etc. field.

The valve opening percentage is controlled by feeding a 4-20 mA signal, and different KV values are generated for different signal values.

**RFCJ01**

## Features

- **Pressure Rating**: 16 bar
- **Temperature Rating**: -4 ~ 302°F (-20 ~ 150°C),
- -22 ~ 392°F (-30 ~ 250°C) option.
- **End connections:** tri-clamp / tri-clamp, others available upon request.
- **Surface treatment:** Ra 16 ~ 32μin (0.4 ~ 0.8μm),
- **Sealing:** Polytetrafluoroethylene (PTFE )
- **Size:** DN10 to DN80 / other size is available on request
- **Body construction:** Forged body / cast body
- **Flow characteristics:** constant percentage curve (standard) linear or inverse percentage curve (customized)
- **Cylinder function:** single acting (normally open or normally closed) double acting
- **Applicable medium:** Alcohol, fuel tincture, saline-alkali solution, organic solvent , emulsion, gas , steam.
- **Electrical control parameters:** power supply 24 V / DC control signal: 4-20mA input and output

**RFCJ02**

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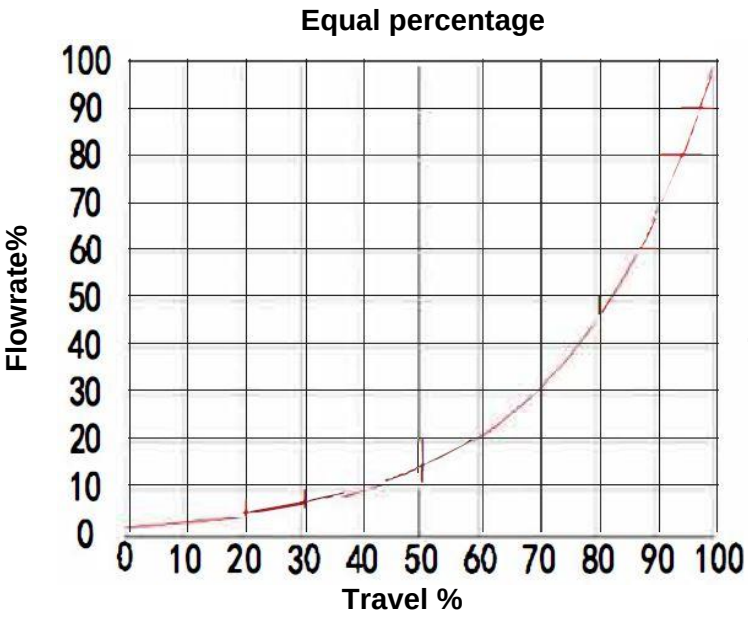
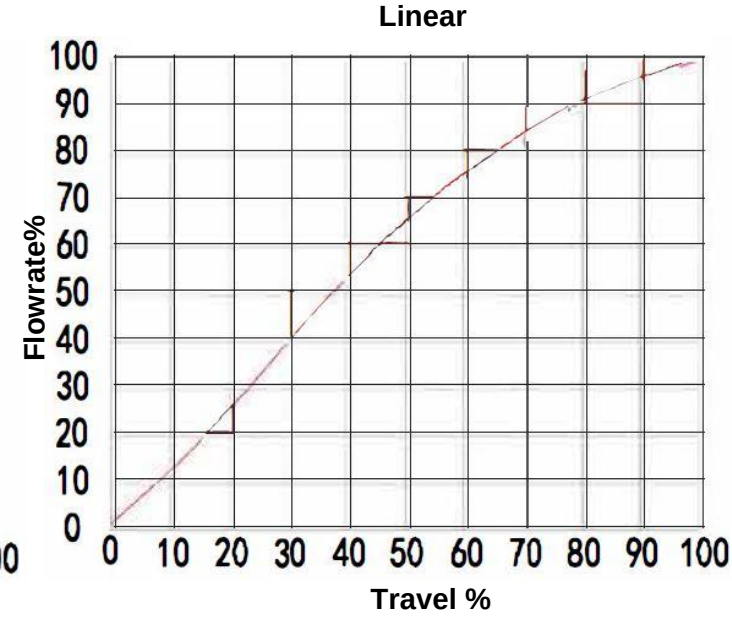
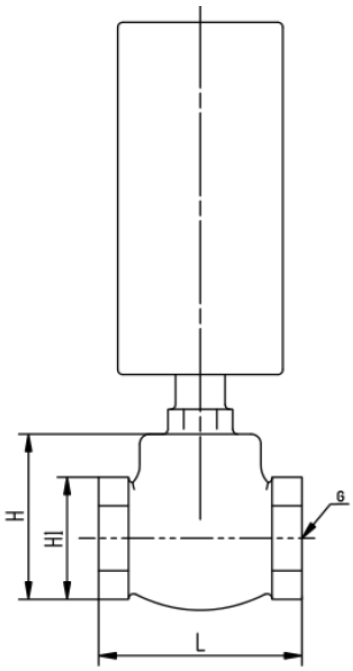
| | |
|---|---|
| **Nominal diameter** | DN10 to DN80 |
| **With actuator (cylinder)** | 65-125mm |
| **Shell Material** | PPS , Stainless steel PC PET |
| **Power** | 24V/DC+-10% ≤ 200mV ≤ 2W / 110v / 220v |
| **Signal Input** | 4~20mA (0~20mA , 0~5V , 0~10V) |
| **Input Resistance** | 4~20mA (0~20mA) ~ 180 Ω |
| | 0-5 to 10V≥ 20MΩ |
| **Signal Feedback** | Option: valve position feedback 4-20mA output (active) |
| **Binary Input** | Option:1 high-level programmable binary (24V 0V) input |
| **Binary Output** | Option:2 high-level programmable binary (24V 0V) input |
| **Bus Communication** | Option: profibus DP |
| **Stroke** | Option:12mm ,20mm ,30mm ,45mm ,65mm , (custom) |
| **Control gas volume** | QNn (optional) 3LN/min~150LN/min |
| **Input Air** | Neutral gas, air class5 (<40μm particle size) |
| **Air Connection** | G1/4(air source) and G1/8(actuator interface) |
| **Air Pressure** | 1.5~7 bar (pilot) , 0~7 bar (direct motion) |
| **Internal Gas Path** | Option: no connection to the air pipe, positioner direct connection cylinder |
| **Positive pressure function** | Option: protect the internal components of the cylinder (spring seal) |
| **Executive Agency** | Suitable for straight stroke: piston type,film type,single action, double action |
| **Protection Level** | IP 67(IP 68 on demand) |
| **Electrical Connection** | Standard M12 4/6/8 pin water proof plug |
| | Customized on demand: Provide PG13, corrugated bobbin |
| **Working Temperature (positioner)** | -15°c ~ +65°c |
| **Installation Method** | Can be installed as needed |
| **Auxiliary instruction** | 1- controlled by profibus DP protocol(analog signal input and output function) |
| | 2- Multi stroke option for better matching of valve travel for optimum control time |
| | 3- Multi gas option better match valve cylinder capacity for optimum control time |
| | 4- 10LN/min(direct acting) > 10LN/min (pilot) |




| size | L | H | H1 | G(threaded) |
|---|---|---|---|---|
| DN15 | 57 | 40 | 26 | ½” |
| DN20 | 67 | 47 | 35 | ¾” |
| DN25 | 72 | 53 | 42 | 1” |
| DN32 | 85 | 64 | 50 | 1 ¼” |
| DN40 | 98 | 73 | 56 | 1 ½” |
| DN50 | 112 | 87 | 68 | 2” |

Valve position Display


## CT100(straight stroke) basic function and application description

CT100 the intelligent positioner accepts the 4-20mA signal from remote upper CPU and the difference between the CV600's own CPU calculation(opening command) and (valve opening%) , the precise and intelligent PID operation output is made to drive the valve quickly and accurately to the target valve position.

**CT100 Adoption:** High-precision position detection + fine air control loop + hardware + software synergistic matching , control deviation up to 0.1%, at the top level in the industry. Refine the flow adjustment of the fluid in the pipeline.

**CT100** powerful software features + self-learning base on AI algorithm + technical parameter matching to easily match third-party manufacturer valves. Matching regulators for optimum control accuracy, better control times and more user specific parameter requirements.

**Flow Control Valve with C-TOP Controller**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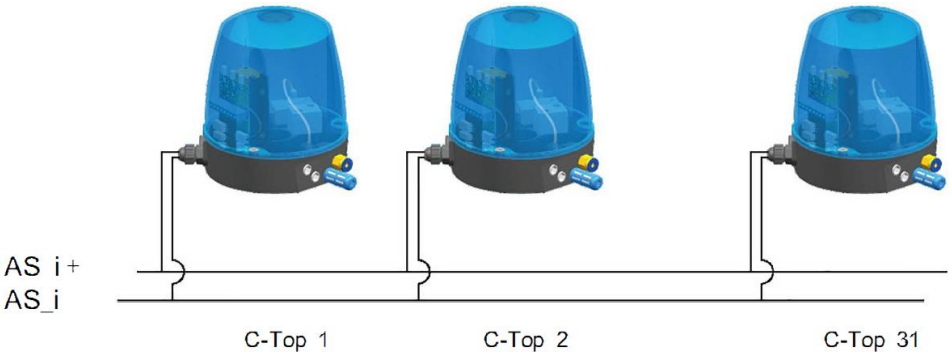
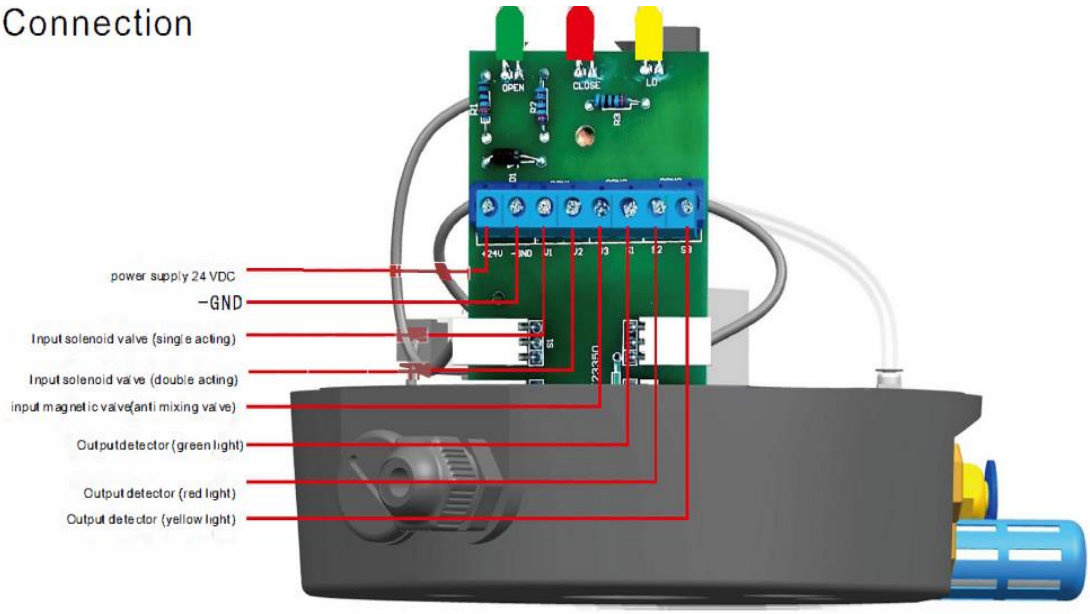
# Applications

- **The c-top controller with AS-I communication is designed for automatic valves. It is suitable for pneumatic butterfly valve, reversing valve, ball valve, anti-mixing valve, seat valve and other straight stroke actuators. (maximum travel distance≤62mm)**

- Each host can connect up to 31 C-Top AS-i control units




## Connection




- Pneumatic joint
- Air inlet: insert connector for G1/8 "-6/4 pipes
- Exhaust outlet: G1/8 "- silencer
- Air outlet: insert connector or plug for G1/8 "-6/4 pipes
- Medium: compressed air
- Temperature: ≤50° C
- Pressure of work: 0. 15to0. 7Mpa (22-102PSI)
- Traffic: 200Nl/min (0. 6Mpa, 20℃, 0. 1MpaPressure range)
- Operation: Minimum stroke induction height 30mm
  Maximum stroke induction height is 92mm
  Minimum operating height: 18mm

- Detector (inductive)
- Power supply: 24V DC
- Current: 2. 1mA
- Protection level: IP66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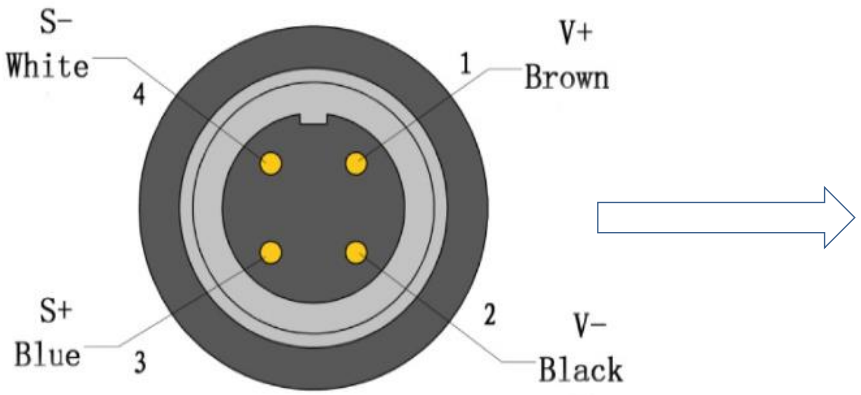
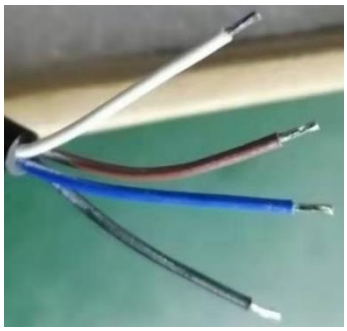
**CT100—4PIN (Without valve position feedback output)**
**Wiring instructions**



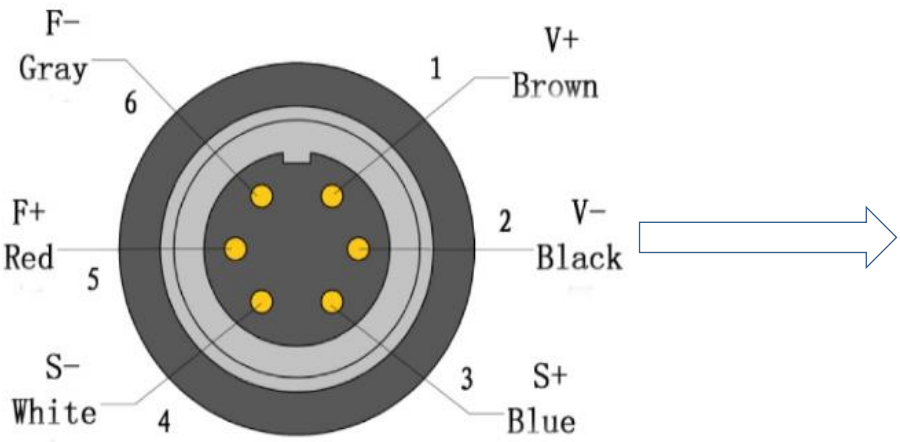



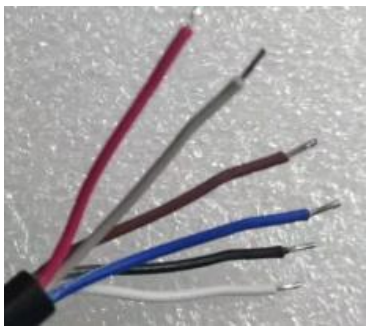
①Supply 24V+ Extended line ---Brown
② Supply 24V- Extended line ---Black
③ Input signal +（Current or voltage : for example 4～20mA OR 0～10V）
Extended line --Blue
④ Input signal - （Current or voltage : for example 4～20mA OR 0～10V）
Extended line --white

**Reminder**

- “Input signal” selects current mode or voltage mode.
- Please change the setting in “input menu” the software.
- CT100 factory standard set to 4-20 mA - input”

**CT100—6PIN (With valve position feedback output)**
**Wiring instructions**



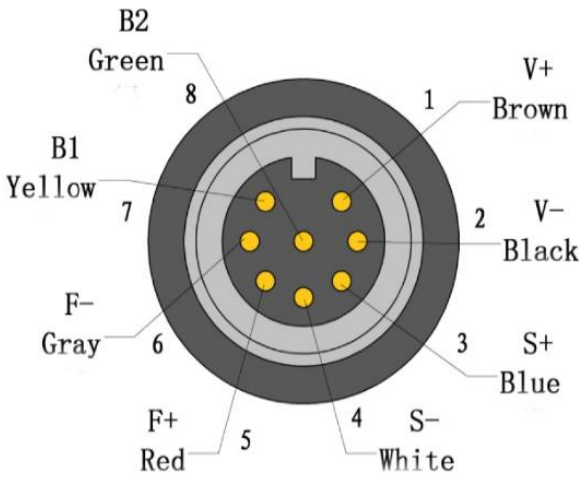



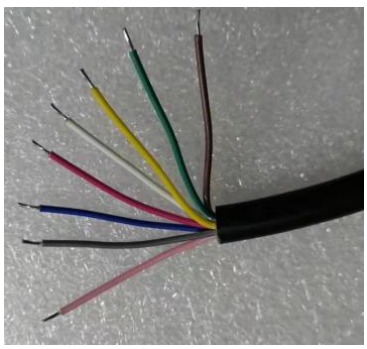
① Supply 24V+ Extended line ---Brown
② Supply 24V- Extended line ---Black
③ Input signal + （Current or voltage : for example 4～20mA OR 0～10V)Extended line ---Blue
④ Input signal - （Current or voltage : for example 4～20mA OR 0～10V) Extended line ---white
⑤ Output signal + 4～20mA Extended line ---Red
⑥ Output signal - 4～20mA Extended line ---Gray

## Reminder

- “Input signal” selects current mode or voltage mode.
- Please change the setting in “input menu ” the software.
- CT100 factory standard set to 4-20 mA - input ”

**CT100-8PIN (With valve position feedback output and Two binary outputs Wiring instructions )**



①Supply 24V+ Extended line ---Brown
② Supply 24V- Extended line ---Black
③ Input signal + （Current or voltage : for example 4～20mA OR 0～10V） Extended line --Blue
④ Input signal - （Current or voltage : for example 4～20mA OR 0～10V） Extended line --white
⑤ Output signal + 4～20mA Extended line ---Red
⑥ Output signal - 4～20mA Extended line ---Gray
⑦ Binary 1 -output: 24V high level Extended line ---yellow
⑧ Binary 2 -output : 24V high level Extended line ---Green

## Reminder

- “Input signal” selects current mode or voltage mode.
- Please change the setting in “input menu” the software.
- CT100 factory standard set to 4-20 mA - input”

**Reminder**

- CT100 has power and signal anti-interference design, so power and signal share a set of cable channels
- It is assumed that the wrong wiring between power supply and signal will not damage the equipment.

# Ordering Code:

| RFCJ | Body type | Size | Body material | Connection | Flow characteristic | Voltage | Input signal | Position% display | stroke | Binary signal | positioner | Positioner connection | Protection level |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01: forge | 08: DN8 | 04: ss304 | 01: TC clamp | L: linear | 24: 24vDC | 01: 4-20 mA | 0: yes | 12: 12mm | 0: 4-20 mA | CT100 | 4: 4pin | 5: IP65 |
| | 02: cast | 10: DN10 | 16: ss316 | 02: buttweld | E: equal percentage | 11: 110vAC | 00: 0-20 mA | 1: no | 20: 20mm | 1: no | C-TOP | 6: 6pin | 6: IP66 |
| | | 15: DN15 | 17: ss316L | 03: NPT thread | | 22: 220vAC | 05: 0-5V | | 30: 30mm | | | 8: 8pin | 7: IP67 |
| | | 20: DN20 | | 04: G thread | | | 10: 0-10V | | 45: 45mm | | | | 8: IP68 |
| | | 25: DN25 | | 05: Socketweld | | | | | 65: 65mm | | | | |
| | | 32: DN32 | | 06: flanged | | | | | | | | | |
| | | 40: DN40 | | | | | | | | | | | |
| | | 50: DN50 | | | | | | | | | | | |

**You can mention any extra option with your ordering code. Other options are available on request.**