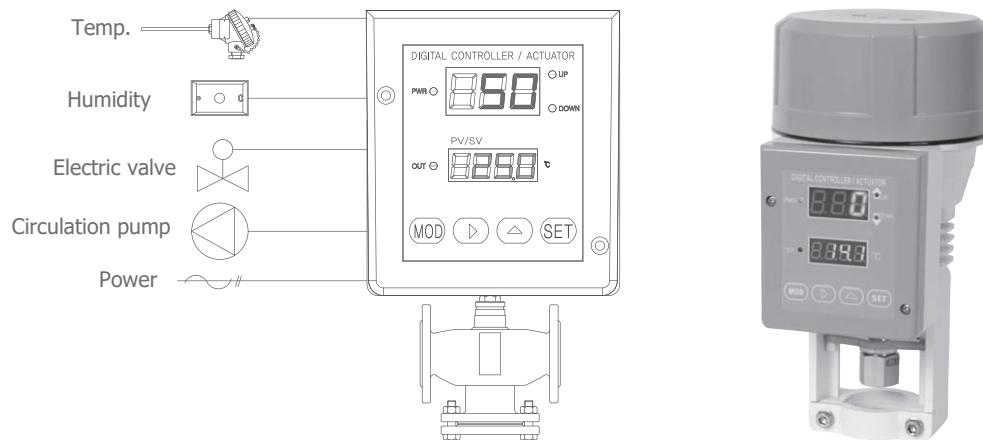


## 8-10

### Digital controller + valve actuator(integrated) GDCA-20P / GDCA-35P



#### Summary

Digital controller & Actuator detects Temp. or humidity to control valve actuator with setting value of digital proportional control box as integrated actuator. Panel for Temp. controller on-site is not necessary and only needs wire-connection to Temp. controller from Temp or humidity sensor. As linear type, it is proper to control Globe valve and display opening position from 0 ~ 100% with accurate feedback.

- Various functions, robust design, reliable operating
- Low maintenance
- For HVAC

#### Type Summary

Electric power for operation is 220VAC. Proportional valve actuator is operated by PT100Ω or 4 ~ 20mA for input signal. Digital display by 4 ~ 20mA of output signal shows opening position of valve.

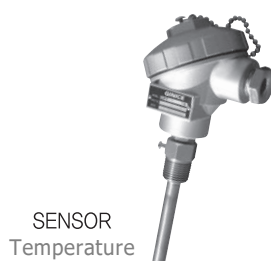
| Model    | Normal stroke(mm) | Normal force  |
|----------|-------------------|---------------|
| GDCA-20P | 20                | 2000N (2.0KN) |
| GDCA-35P | 40                | 3500N (3.5KN) |

#### Application

To operate 2-way and 3-way valve in type of bronze screw and (ductile) flange, in the system of HVAC for heating & cooling, floor heating, ice thermal storage.

<Electromagnetic interference TEST>

- Standard : CE(No. EMC2226-04-01)
- EMC standard : EN60730-2-14(1997), EN60730-1:2000



## Technical Data

### ▶ standard specifications

| Model               | GDCA-20P                         | GDCA-35P                    |
|---------------------|----------------------------------|-----------------------------|
| Norminal stroke     | 20mm                             | 40mm                        |
| Norminal force      | 2000N (2.0KN)                    | 3500N (3.5KN)               |
| Operating time      | 50Sec                            | 100Sec                      |
| voltage             | 220Vac ±10% / 60Hz               | 220Vac ±10% / 60Hz          |
| Consumption power   | 16.5VA                           | 16.5VA                      |
| Input signal        | 4 ~ 20mAdc(internal wiring)      | 4 ~ 20mAdc(internal wiring) |
| Condenser           | 0.474μF                          | 0.474μF                     |
| Rated load          | 0.075A                           | 0.075A                      |
| Display             | DIGITAL display, 0 ~ 100%        |                             |
| Withstand voltage   | 1000VAC, 50/60Hz, 1min           |                             |
| Ambient temperature | -15 ~ 65°C                       |                             |
| Ambient humidity    | 5 ~ 95% RH(without condensation) |                             |
| Motor               | E (IEC)                          |                             |
| Housing protection  | IP54(IP65(front side))           |                             |
| Weight              | 4.2Kg                            | 4.5Kg                       |

※ Standard frequency is 60Hz with 50Hz optional

### ▶ Controller specifications

| Front side             | Digital display type                                                                                             |
|------------------------|------------------------------------------------------------------------------------------------------------------|
| Input                  | Temp. : Pt100Ω(3wire) in use                                                                                     |
| D2-Dip S/W             | Temp. humidity : 4 ~ 20mA(2wire) in use                                                                          |
| Auxiliary power supply | External input sensor 2wire, 4 ~ 20mA as power supply 24VDC ±10%                                                 |
| Output signal          | 4 ~ 20mA, Max. load 500Ω(wiring in the factory)                                                                  |
| Relay 1(N/C)           | SPST N.O - 5A/250VAC - for electricity                                                                           |
| Relay 2(CP)            | SPST N.O - 5A/250VAC - for circulating pump                                                                      |
| Heating / Cooling      | Installed (DIP S/W D1-(1) switch                                                                                 |
| Parameter              | Adjusting : -99.9 ~ + 199.9<br>Dead Zone : 0.0 ~ 9.9<br>Proportional(P) : 0.0 ~ 99.9<br>Integrated(I) : 0 ~ 5999 |
| Ambient Temp. humidity | -15 ~ 65°C / 5 ~ 95%rh(without condensation)                                                                     |
| Housing protection     | IP65 (front side)                                                                                                |

※ Specifications to be changed without notice for development and upgrading

## Technical data

### ▶ 2-WAY FLANGED (Water) VALVE USED – VITON ,TEFLON SEAL (Close-Off BAR)

| VALVE SIZE |          |         | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2"  | 2 1/2" | 3"  | 4"  | 5"  | 6"  |
|------------|----------|---------|------|------|----|--------|--------|-----|--------|-----|-----|-----|-----|
| TYPE       | ACTUATOR | VOLTAGE |      |      |    |        |        |     |        |     |     |     |     |
| 2-Way      | GDCA-20P | 220Vac  | 10   | 10   | 10 | 10     | 10     | 6.7 | 5.0    | 3.0 | –   | –   | –   |
|            |          |         |      |      |    |        |        |     |        |     |     |     |     |
|            | GDCA-35P | 220Vac  | –    | –    | –  | –      | –      | –   | 6.5    | 4.1 | 2.4 | 2.0 | 1.5 |
|            |          |         |      |      |    |        |        |     |        |     |     |     |     |

### ▶ 2-WAY FLANGED (Steam) VALVE USED – VITON, PTFE SEAL (Close-Off BAR)

| VALVE SIZE |          |         | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2"  | 2 1/2" | 3"  | 4"  | 5" | 6" |
|------------|----------|---------|------|------|----|--------|--------|-----|--------|-----|-----|----|----|
| TYPE       | ACTUATOR | VOLTAGE |      |      |    |        |        |     |        |     |     |    |    |
| 2-Way      | GDCA-20P | 220Vac  | 10   | 10   | 10 | 10     | 8.5    | 4.7 | –      | –   | –   | –  | –  |
|            |          |         |      |      |    |        |        |     |        |     |     |    |    |
|            | GDCA-35P | 220Vac  | –    | –    | –  | –      | –      | –   | 4.7    | 3.0 | 1.7 | –  | –  |
|            |          |         |      |      |    |        |        |     |        |     |     |    |    |

### ▶ 2-WAY SCREWED VALVE USED – VITON,TEFLON SEAL (Close-Off BAR)

| VALVE SIZE |          |         | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2"  |
|------------|----------|---------|------|------|----|--------|--------|-----|
| TYPE       | ACTUATOR | VOLTAGE |      |      |    |        |        |     |
| 2-Way      | GDCA-20P | 220Vac  | 10   | 10   | 10 | 10     | 10     | 7.4 |
|            |          |         |      |      |    |        |        |     |

### ▶ 3-WAY FLANGED VALVE USED – VITON ,TEFLON SEAL (Close-Off BAR)

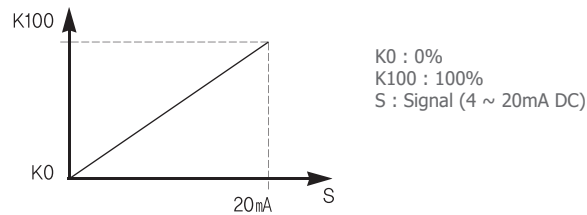
| VALVE SIZE |          |         | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2"  | 2 1/2" | 3"  | 4"  | 5"  | 6" |
|------------|----------|---------|------|------|----|--------|--------|-----|--------|-----|-----|-----|----|
| TYPE       | ACTUATOR | VOLTAGE |      |      |    |        |        |     |        |     |     |     |    |
| 3-Way      | GDCA-20P | 220Vac  | 10   | 10   | 10 | 10     | 8.8    | 5.2 | 4.0    | 3.0 | –   | –   | –  |
|            |          |         |      |      |    |        |        |     |        |     |     |     |    |
|            | GDCA-35P | 220Vac  | –    | –    | –  | –      | –      | –   | 4.8    | 2.7 | 1.3 | 1.0 | –  |
|            |          |         |      |      |    |        |        |     |        |     |     |     |    |

### ▶ 3-WAY SCREWED VALVE USED – VITON , TEFLON SEAL (Close-Off BAR)

| VALVE SIZE |          |         | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2"  |
|------------|----------|---------|------|------|----|--------|--------|-----|
| TYPE       | ACTUATOR | VOLTAGE |      |      |    |        |        |     |
| 3-Way      | GDCA-20P | 220Vac  | 10   | 10   | 10 | 10     | 10     | 7.4 |
|            |          |         |      |      |    |        |        |     |

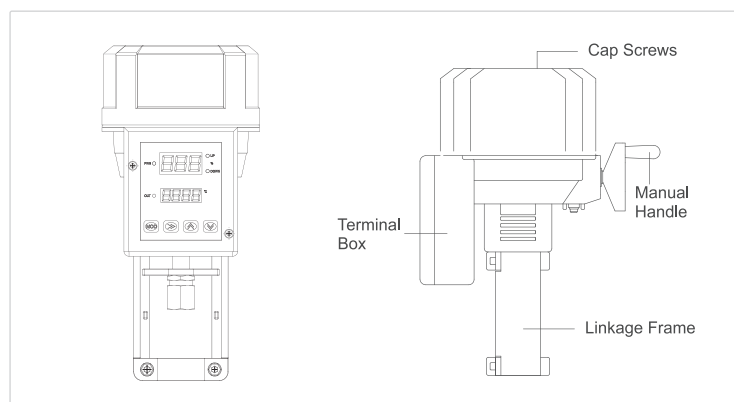
## Technical features

- Easy to check opening position of valve by digital display(0 ~ 100%) on front side of actuator
- Torque limit switch installed to protect valve and actuator when over-loaded
- 0 ~ 100% Auto-setting to be adjusted within the scope of stroke
- NC / NO to be selected without special device
- Constant speed by Synchronous Motor in voltage fluctuation



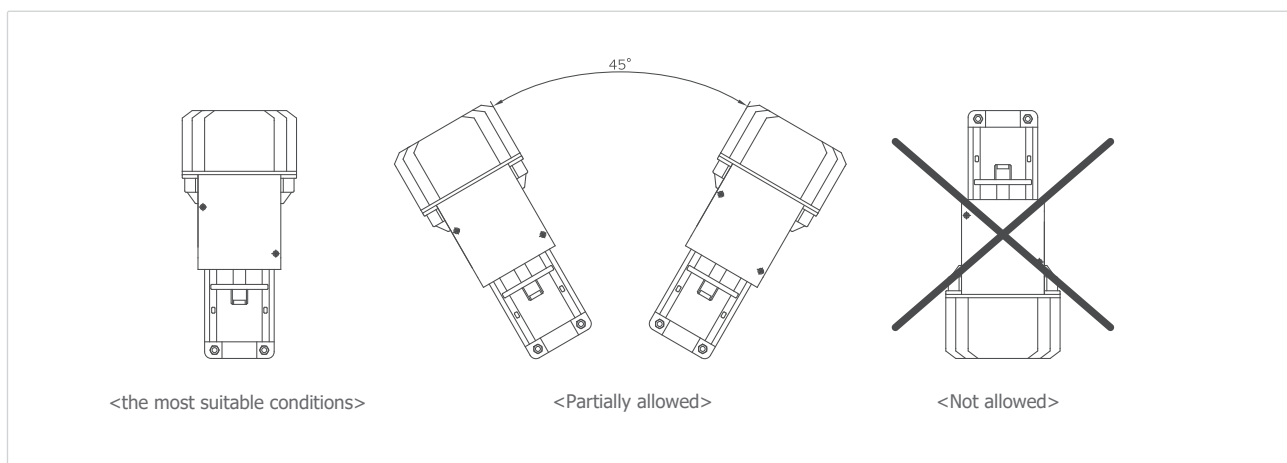
## Design Character

- Easy mounting actuator on to valve without special device
- Low maintenance on Synchronous motor for CW/CCW, which to be replaced in repair
- Easy manual hand-wheel by De-Clutching system



## Installation and Mounting Notes

Assure to go through before valve installation

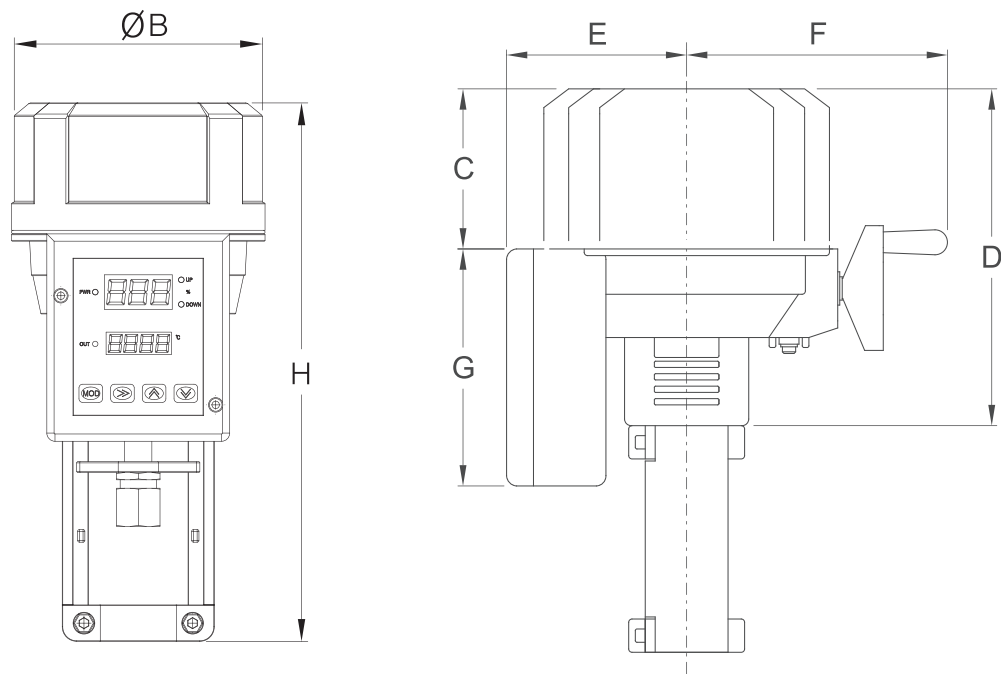


## Check Point

Assure of wiring and functions and test



## Shape Dimension



GDCA - 20P, 35P

| Model           | GDCA - 20P | GDCA - 35P |
|-----------------|------------|------------|
| $\varnothing B$ | 138        | 138        |
| H               | 269        | 297        |
| C               | 72         | 73         |
| D               | 160        | 161        |
| E               | 88         | 89         |
| F               | 124        | 123        |
| G               | 113        | 113        |