

# DIRECT TYPE RELIEF VALVES PRESSURE CONTROL VALVES

# EQUUS

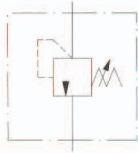
## Specification:

DG-02,DT-02

SYMBOL

DG-02-※

DT-02-※



DG02,DT-02

| Model                |                    | Max. Operating Pressure (kgf/cm <sup>2</sup> ) | Pressure Adj. Range kgf/cm <sup>2</sup> | Rated Flow l/min | Weight kg |     |
|----------------------|--------------------|------------------------------------------------|-----------------------------------------|------------------|-----------|-----|
| Threaded Connections | Sub-Plate Mounting | 250                                            | 1: 7-70<br>2: 7-140<br>3: 7-210         | 16               | 1.5       | 1.5 |
| EDT-02-※             | EDG-02-※           |                                                |                                         |                  |           |     |

## Ordering Code:

**E DG - 02 - 1 - 30**

## Attachment:

|        |                   |
|--------|-------------------|
| Model  | Soc Hol Cap Screw |
| EDG-02 | M5X45.....4pcs    |

Design Number  
**30**: Standard Type

Pressure Adjusting Range  
**1**: 7-70 KGF/CM<sup>2</sup> **2**: 7-140 kgf/cm<sup>2</sup>  
**3**: 7-210 kgf/cm<sup>2</sup>

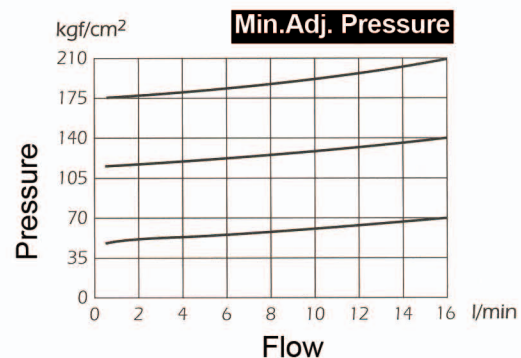
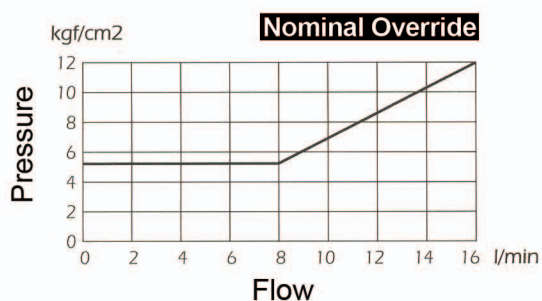
Valve Size  
**02**: 1/4"

Mounting  
**DG**: Sub-Plate Mounting  
**DT**: Threaded Connections

## Performance Curves:

TEST FLUID VISCOSITY : 35 cSt

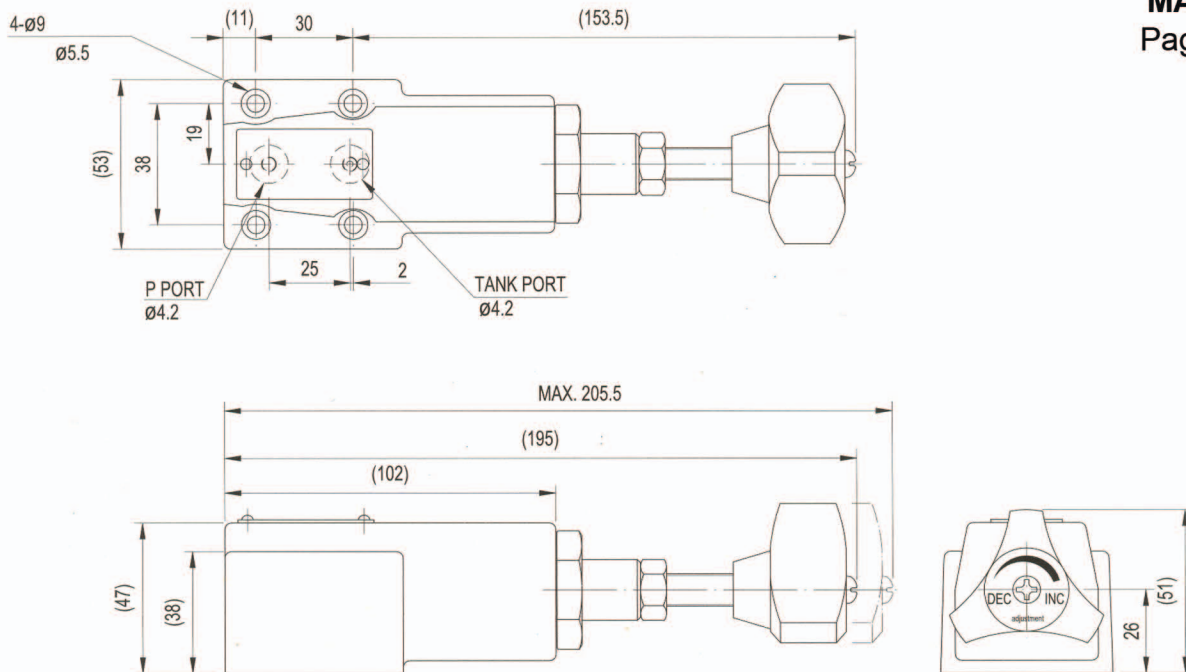
TEST TEMPERATURE : 50°C



### Installation Dimensions:

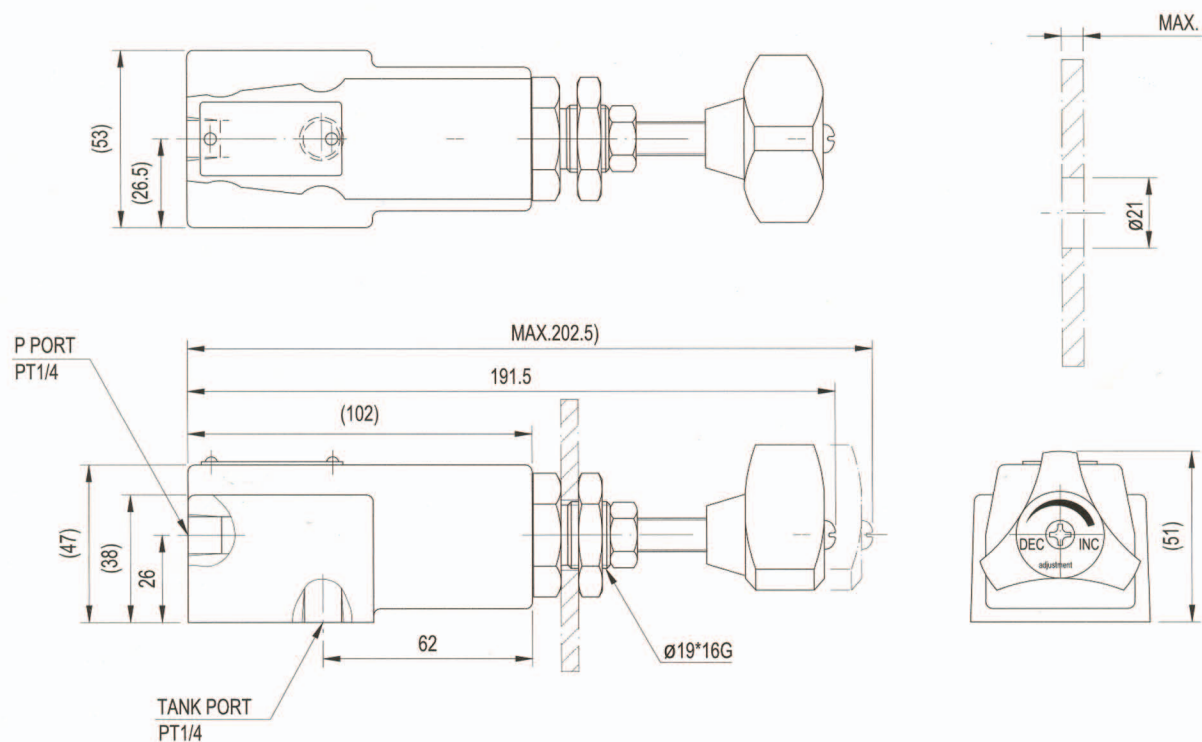
E DG-02

MA-01-1  
Page M-1



### Installation Dimensions:

E DT-02





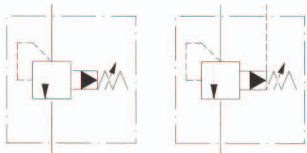
PILOT OPERATED RELIEF VALVES  
 PRESSURE CONTROL VALVES



Epecifications:

E RV-T04/RV-T10

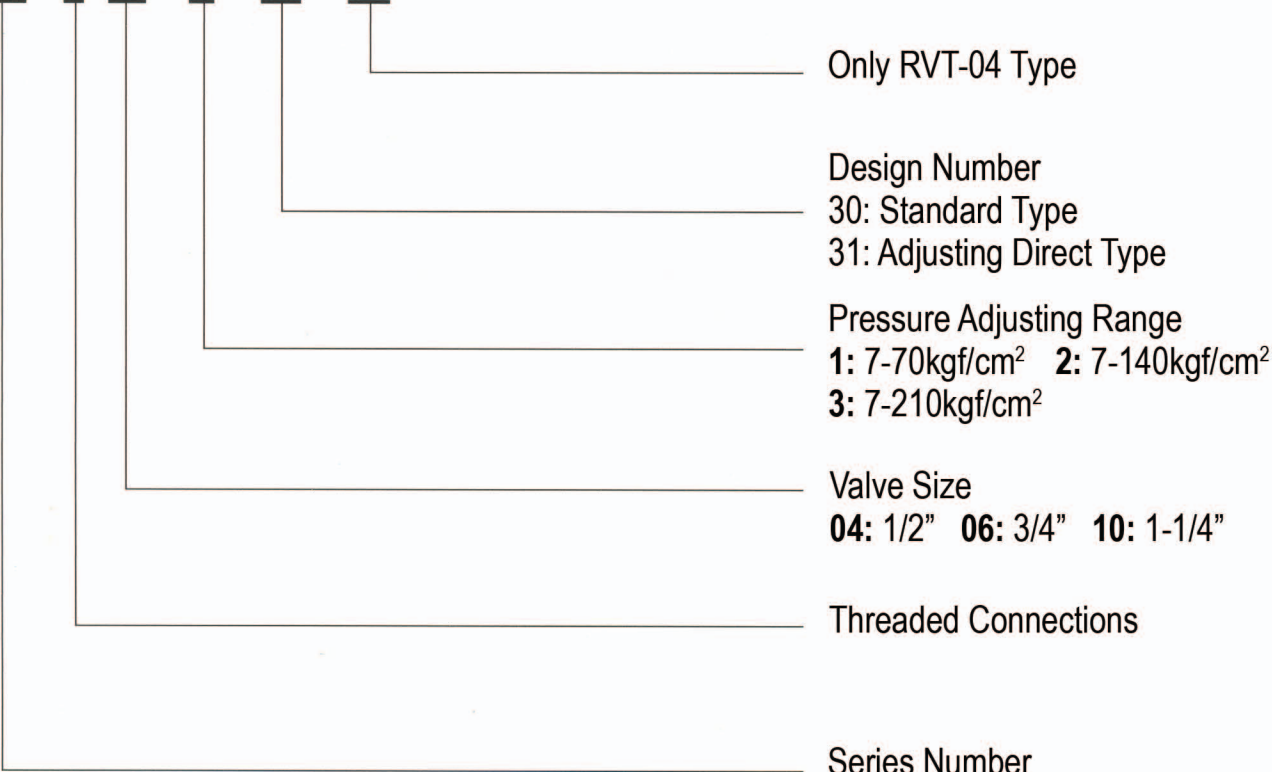
SYMBOL  
RV-T-※



| Model      | Max. Operating Pressure (kgf/cm <sup>2</sup> ) | Pressure Adj. Range kgf/cm <sup>2</sup> | Rated Flow l/min | Weight kg |
|------------|------------------------------------------------|-----------------------------------------|------------------|-----------|
| E RV-T04-※ | 250                                            | 1: 7-70                                 | 80               | 2.6       |
| E RV-T06-※ |                                                | 2: 7-140                                | 200              | 4.4       |
| E RV-T10-※ |                                                | 3: 7-210                                | 400              | 6.9       |

Ordering Code:

ERV - T 06 - 3 - 30 - TU

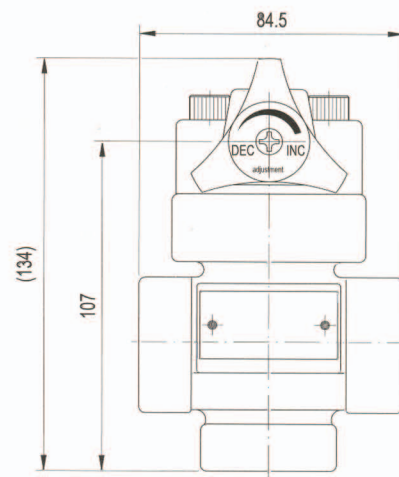
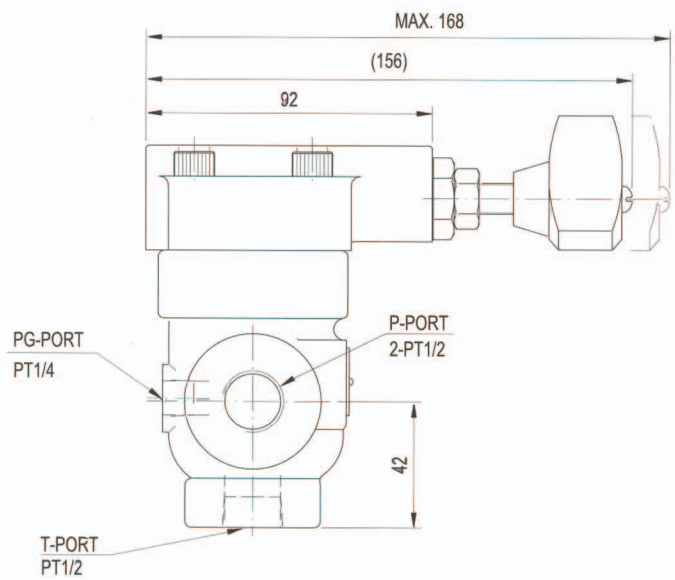
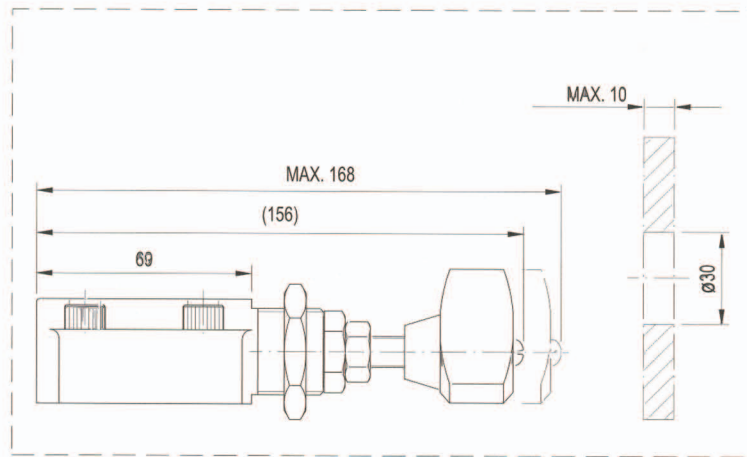


E RV-T04/RV-T10

### Installation Dimensions:

E RV-04

E RV-04

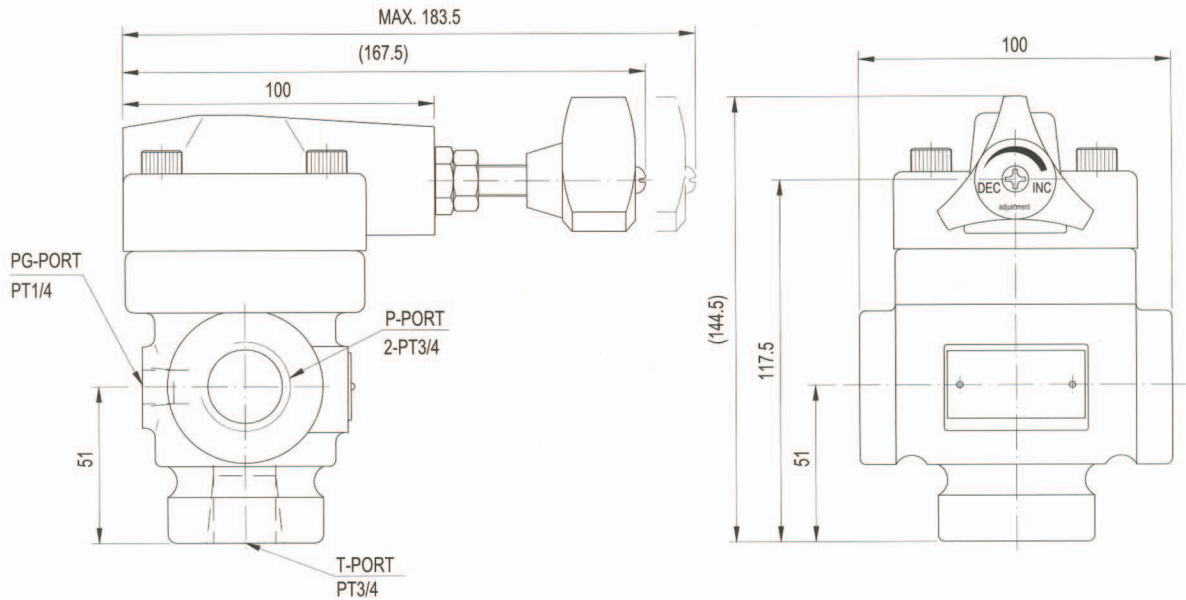


# PILOT OPERATED RELIEF VALVES PRESSURE CONTROL VALVES



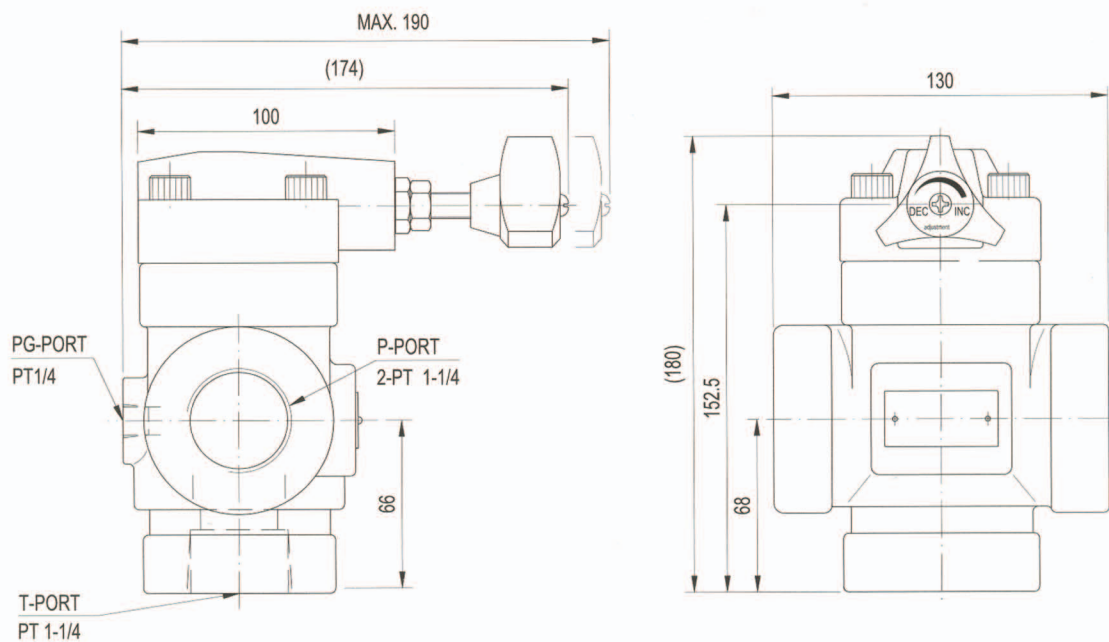
## Installation Dimensions:

E RV-06



## Installation Dimensions:

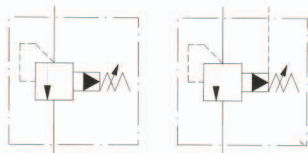
E RV-10



### Specification:

E BG-03/BG-10

SYMBOL  
BG-※



| Model      | Max. Operating Pressure (kgf/cm <sup>2</sup> ) | Pressure Adj. Range kgf/cm <sup>2</sup> | Rated Flow l/min | Weight kg |
|------------|------------------------------------------------|-----------------------------------------|------------------|-----------|
| E BG-03- ※ | 250                                            | 0: 7-35                                 | 100              | 5.5       |
| E BG-06- ※ |                                                | 1: 7-70                                 | 200              | 6.8       |
| E BG-10- ※ |                                                | 2: 7-140<br>3: 7-210                    | 400              | 10.5      |

### Ordering Code:

**E BG - 06 - 3 - 30**

Design Number

30: Standard Type

31: Adjusting Direct Type

Pressure Adjusting Range

0: 7-35kgf/cm<sup>2</sup> 1: 7-70kgf/cm<sup>2</sup>

2: 7-140kgf/cm<sup>2</sup> 3: 7-210kgf/cm<sup>2</sup>

Valve Size

03: 3/8" 06: 3/4" 10: 1-1/4"

Mounting

G: Sub-Plate Mounting

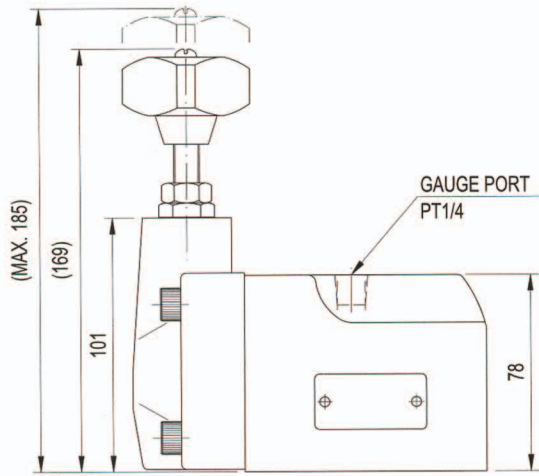
### Attachment:

| Model   | Soc Hol Cap Screw |                  |
|---------|-------------------|------------------|
| E BG-03 | M12x75L.....2pcs  | M12x95L.....2pcs |
| E BG-06 | M16x60L.....2pcs  | M16x80L.....2pcs |
| E BG-10 | M20x75L.....2pcs  | M20x95L.....2pcs |

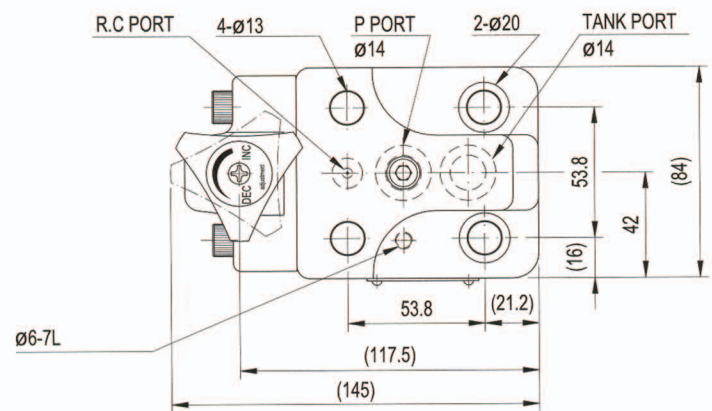


## Installation Dimensions:

E BG-03

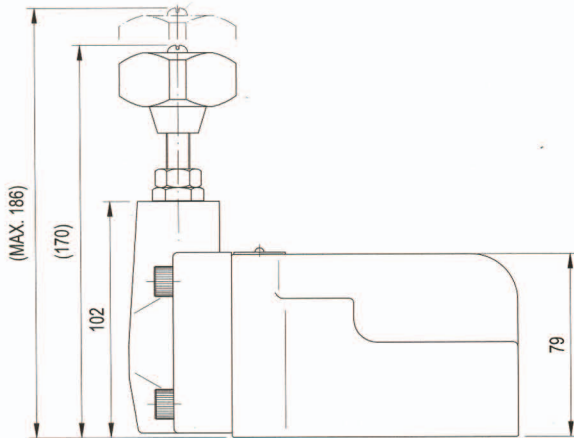


MA-02-1  
Page M-2

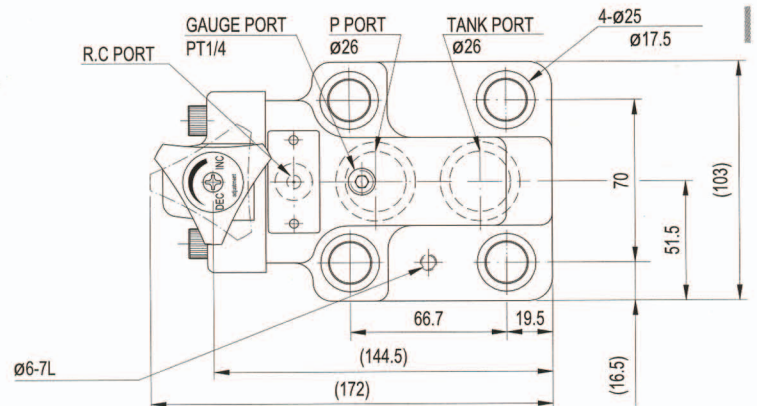


## Installation Dimensions:

E BG-06



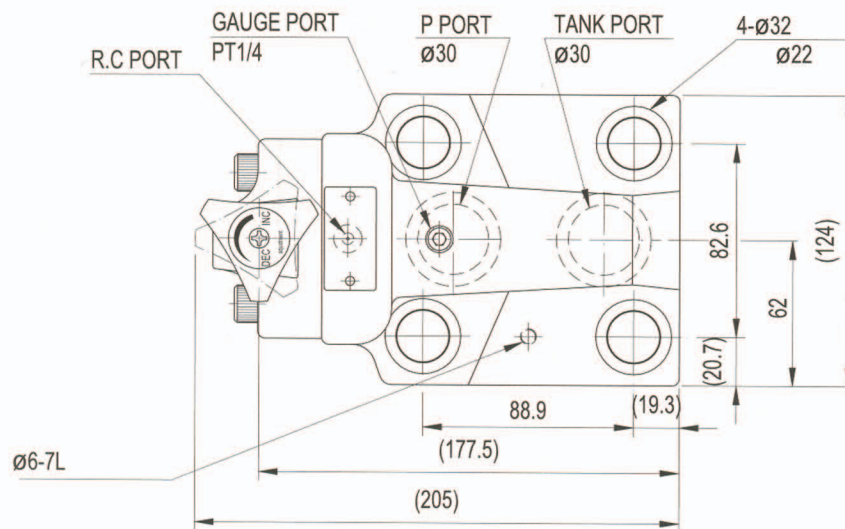
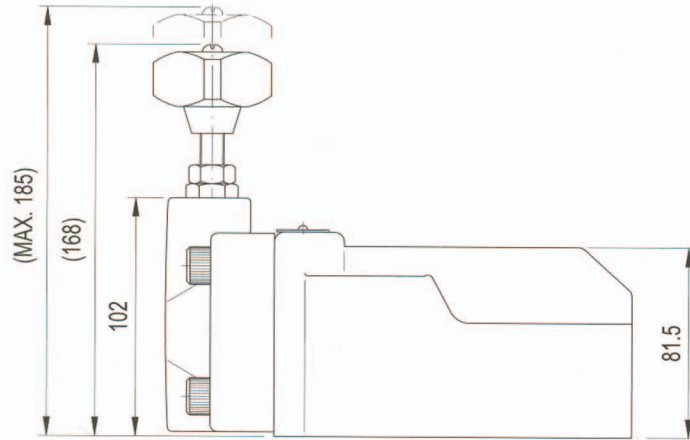
MA-02-2  
Page M-2



### Installation Dimensions:

E BG-10

MA-02-3  
Page M-2



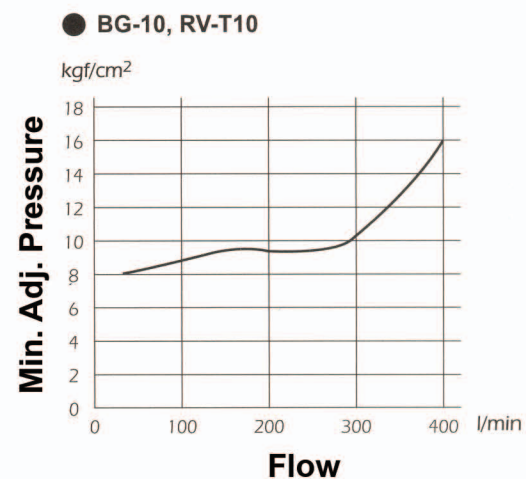
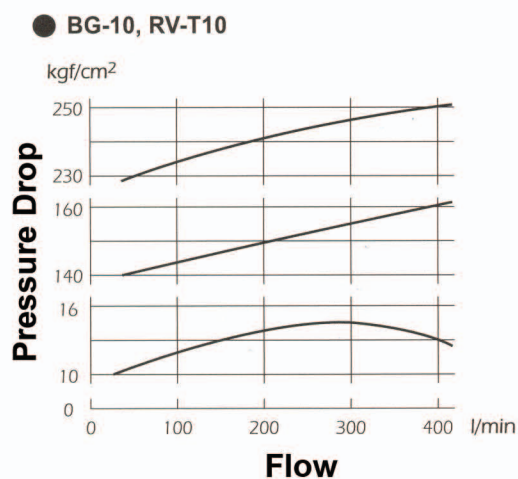
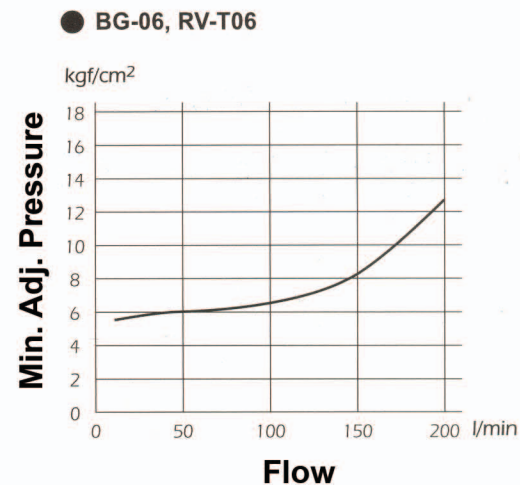
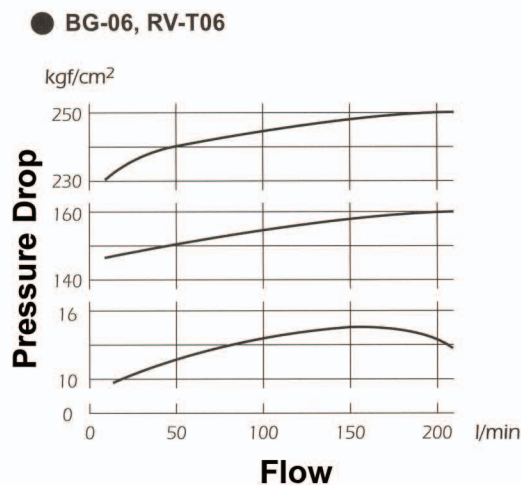
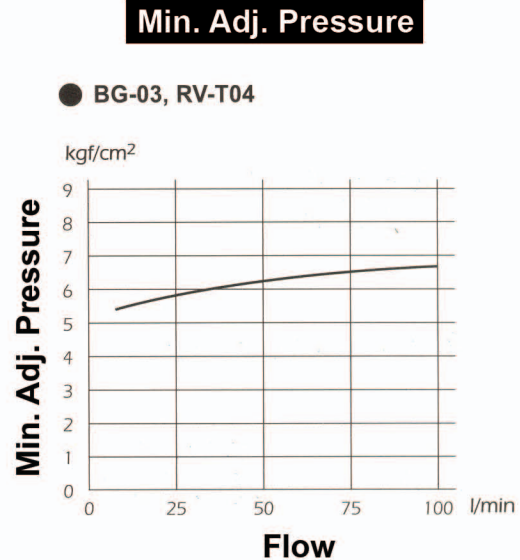
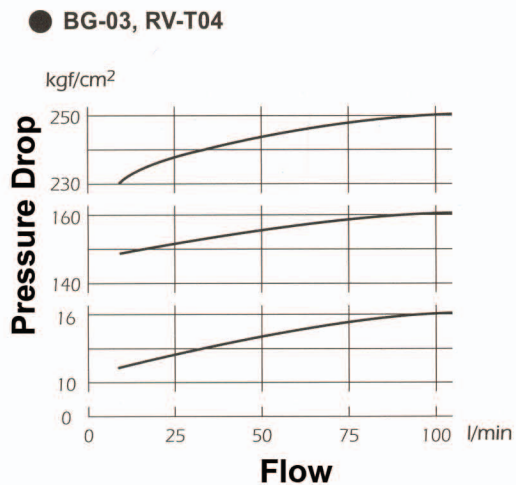
## Performance Curves:

E RVT/BG

Test Fluid Viscosity: 35cSt

Test Temperature: 50°C

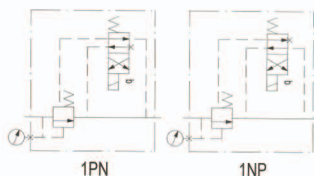
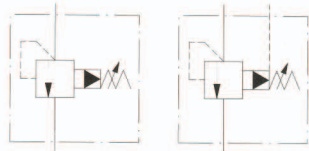
### Nominal Override



### Specification:

E JBG-03, JBG-06

SYMBOL JBG-03-※



| 4WE-06 Solenoid Weight (kg) |     |     |
|-----------------------------|-----|-----|
|                             | AC  | DC  |
| 1 Single Solenoid Valve     | 1.6 | 1.7 |
| 2 Valve With 2 Solenoids    | 2.1 | 2.1 |

| Model      |            | Max. Operating Pressure (kgf/cm <sup>2</sup> ) | Pressure Adj. Range kgf/cm <sup>2</sup> | Max. Flow l/min | Weight (Not Contain Electro Magnetic Valve) (kg) |     |
|------------|------------|------------------------------------------------|-----------------------------------------|-----------------|--------------------------------------------------|-----|
| E JBG-03-※ | E JBG-03-※ | 250                                            | 1: 7-70                                 | 100             | 3.1                                              | 3.2 |
| E JBG-06-※ | E JBG-06-※ |                                                | 2: 7-140<br>3: 7-210                    | 200             | 5.1                                              | 5.2 |

### Ordering Code:

**E JBG - 03 - 1PN - 1 - 30 - D - W220 - 20**

### Attachment:

| Model      | Soc Hol Cap Screw |
|------------|-------------------|
| E JBG-03-※ | M12x45L.....4pcs  |
| E JBG-06-※ | M16x60L.....4pcs  |

Valve Design Numbers  
**10:** (Withg Lamp Central Connection)  
**20:** (Plrg-in Connection)

Coil Voltage  
**G12:**12V DC **G24:**24V DC **W110:**110/60Hz  
**W220:** 220/60Hz **W240:** 240/60Hz

Pilot Valve Type  
**D:** **HA:**

Design Number  
**30:** Standard Type  
**31:** Adjusting Direct Type

Pressure Adjusting Range  
**1:** 7-70kgf/cm<sup>2</sup> **2:** 7-140kgf/cm<sup>2</sup>  
**3:** 7-210kgf/cm<sup>2</sup>

Valve Type  
**1PN:** Normally Vented  
**1NP:** Energized to vent

Valve Size  
**03:** 3/8" **06:** 3/4"

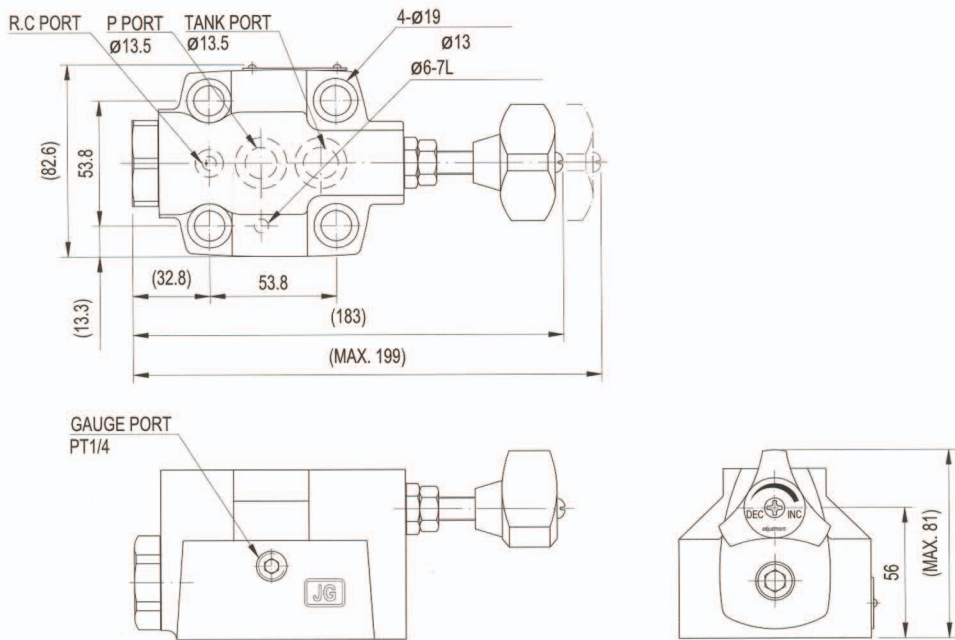
Series Number



Installation Dimensions:

E JBG-03

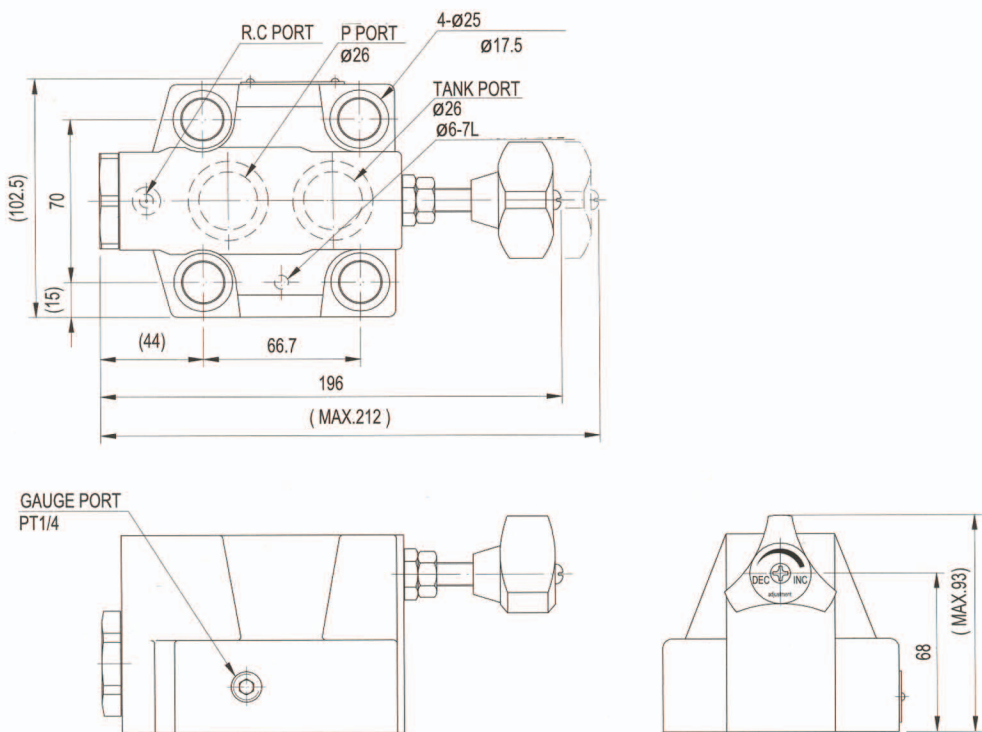
MA-02-1  
Page M-2



Installation Dimensions:

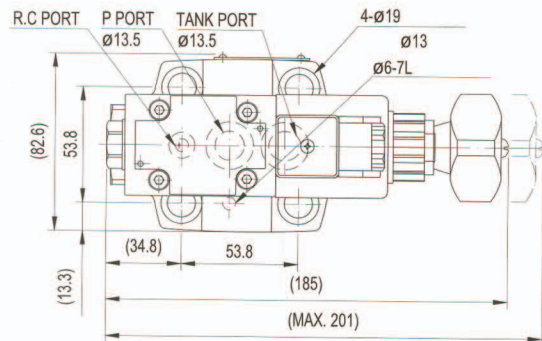
E JBG-06

MA-02-2  
Page M-2

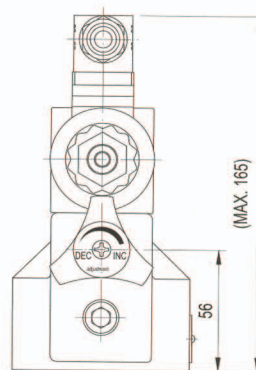
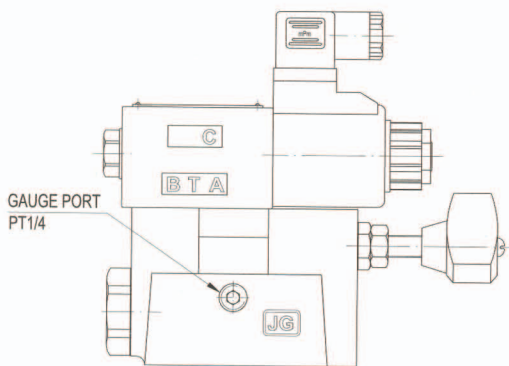


### Installation Dimensions:

E JBG-03-1PN...DC

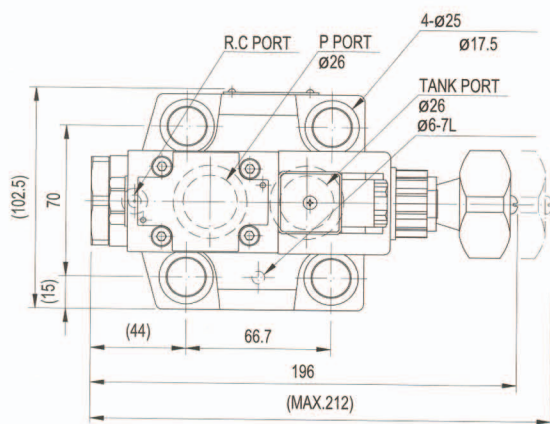


MA-02-1  
Page M-2

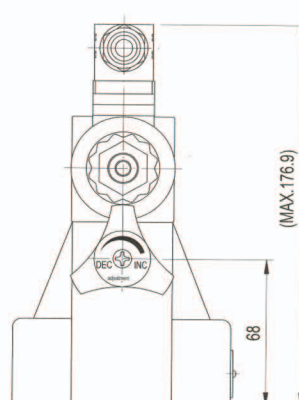
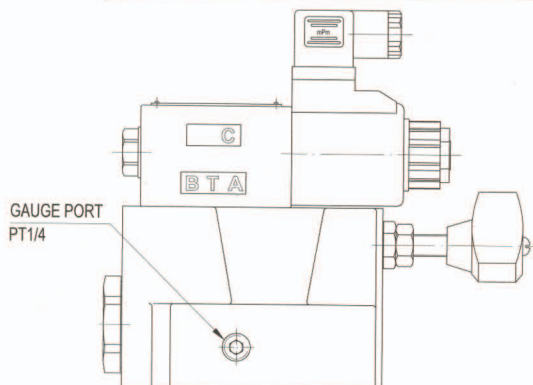


### Installation Dimensions:

E JBG-06-1PN...DC



MA-02-2  
Page M-2



**SYMBOL**  
**BSG-※**

The diagrams illustrate the internal wiring and port configurations for the BSG-※ valve in five different modes:

- 1PN**: Single solenoid control, normally closed (NC) configuration.
- 1NP**: Single solenoid control, normally open (NO) configuration.
- 2P**: Two solenoid controls, normally closed (NC) configuration.
- 2PN**: Two solenoid controls, normally open (NO) configuration.
- 3P**: Three solenoid controls, normally open (NO) configuration.

**Ordering Code:****EBSG-03/BST-10**

Attachment:

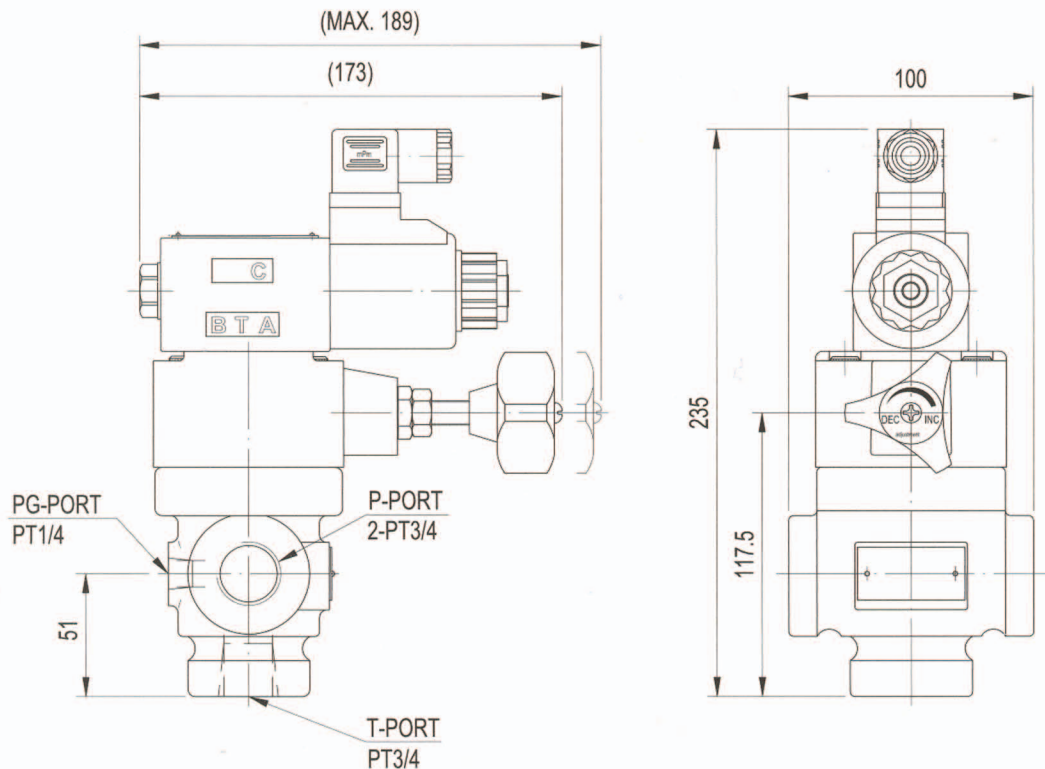
E BSG-03-BSG-10

| Model    | Soc Hol Cap Screw |                  |
|----------|-------------------|------------------|
| E BSG-03 | M12x75L.....2pcs  | M12x95L.....2pcs |
| E BSG-06 | M16x60L.....2pcs  | M16x80L.....2pcs |
| E BSG-10 | M20x75L.....2pcs  | M20x95L.....2pcs |

| 4WE-06 Solenoid Weight (kg) |     |     |
|-----------------------------|-----|-----|
|                             | AC  | DC  |
| 1 Single Solenoid Valve     | 1.6 | 1.7 |
| 2 Valve With 2 Solenoids    | 2.1 | 2.1 |

Installation Dimensions:

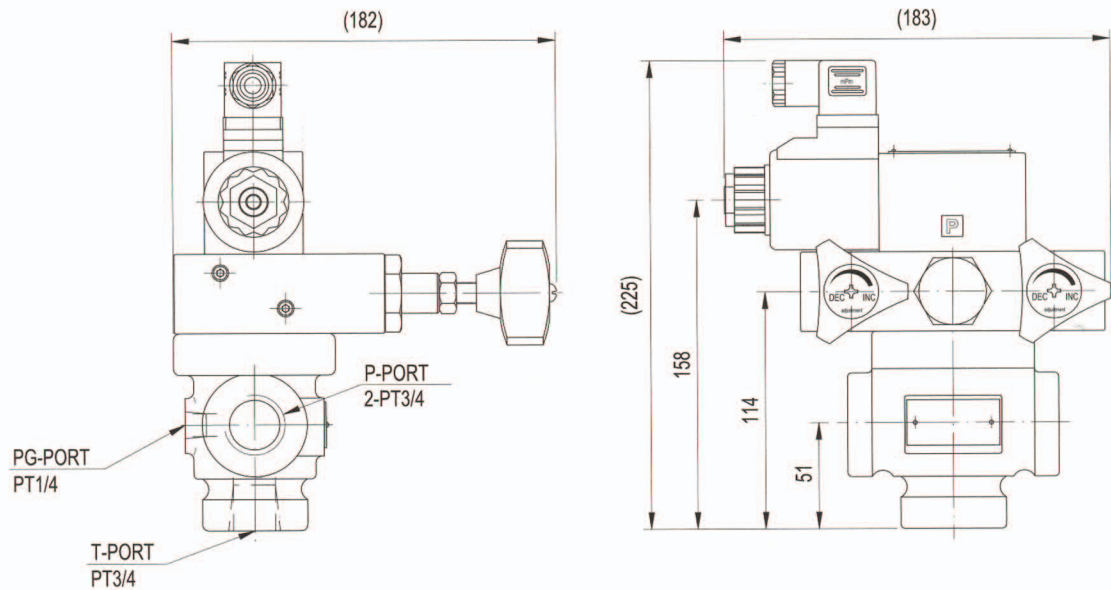
E BST-06-1NP...DC





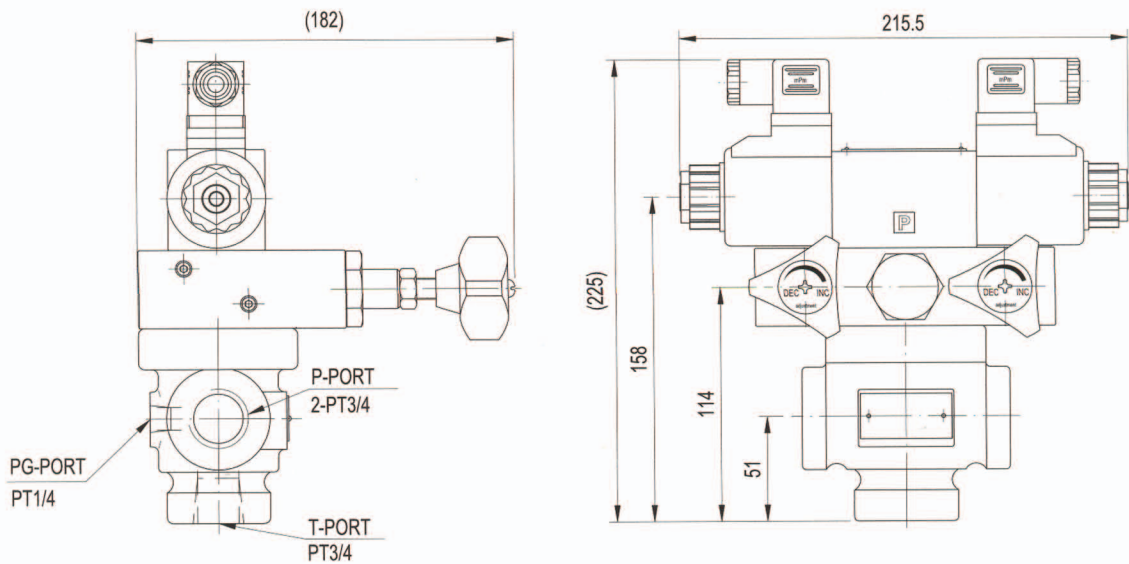
Intallation Dimensions:

E BST-06-2P...DC



Intallation Dimensions:

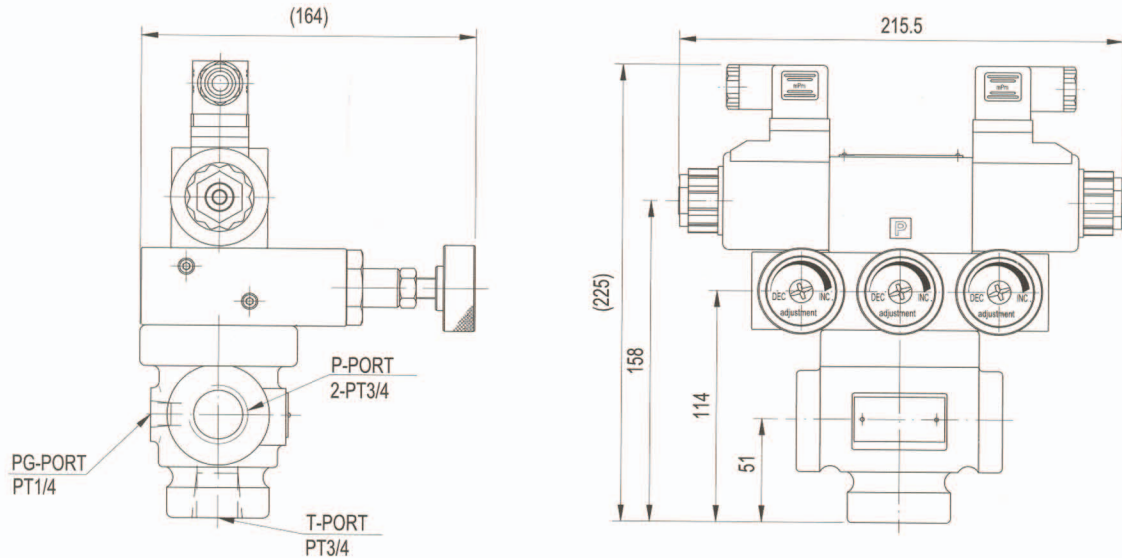
E BST-06-2PN...DC



E BST-06-2P,2PN...(DC)

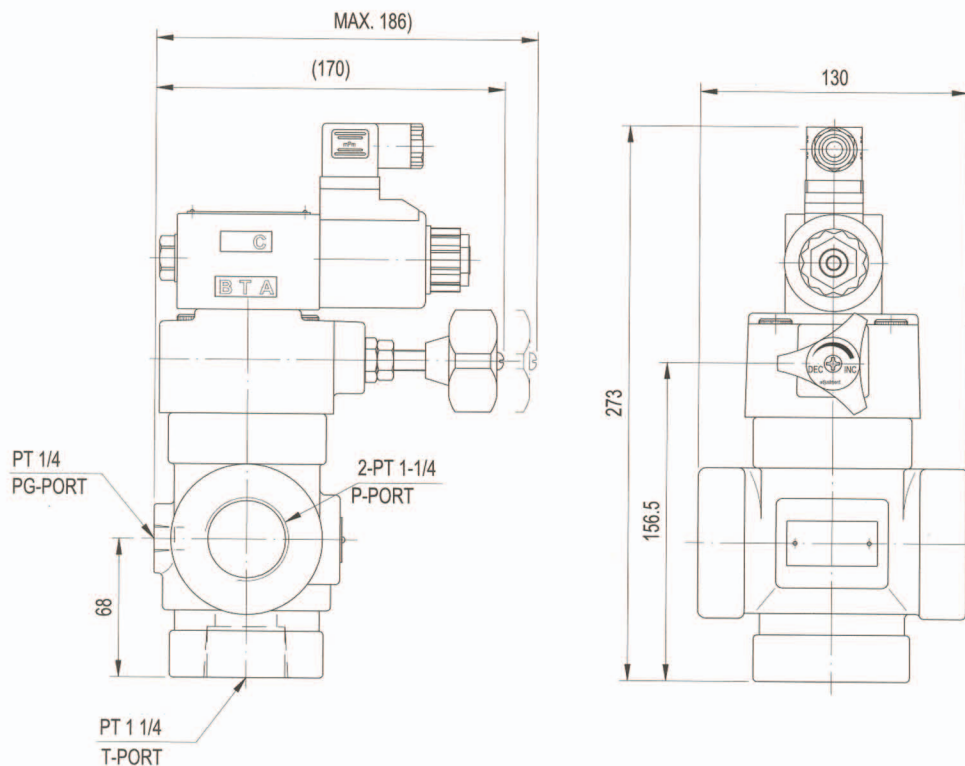
### Installation Dimensions:

E BST-06-3P...DC



### Installation Dimensions:

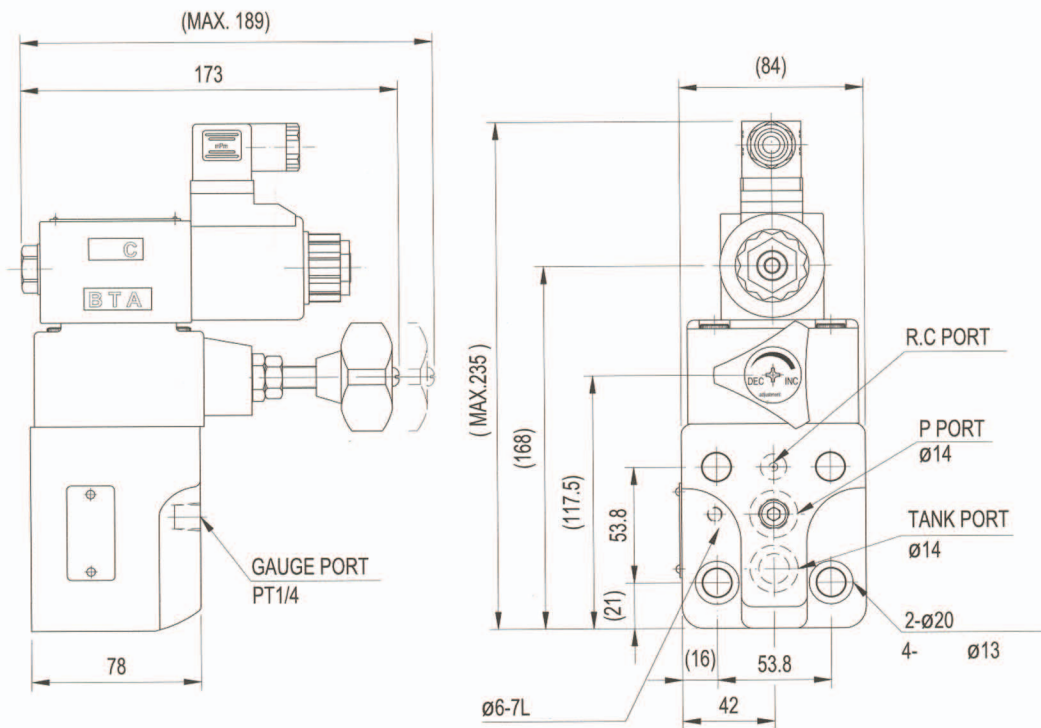
E BST-10-1PN/1NP...DC



## Intallation Dimensions:

E BSG-03-1PN/1NP...DC

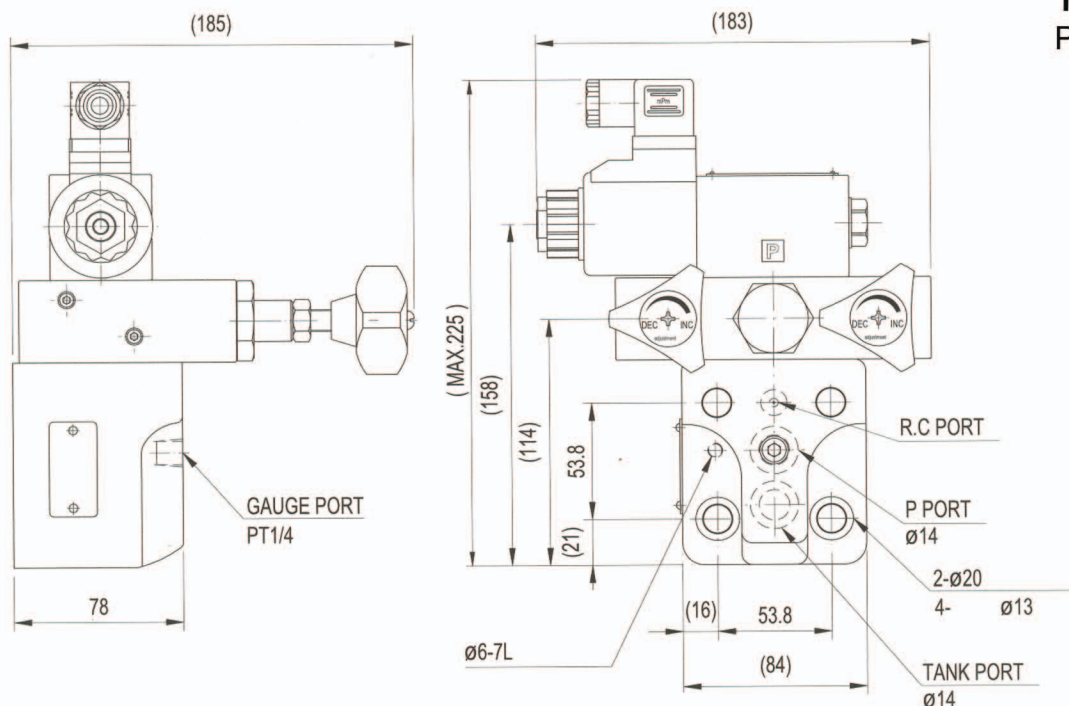
MA-02-1  
Page M-2



## Intallation Dimensions:

E BSG-03-2P...DC

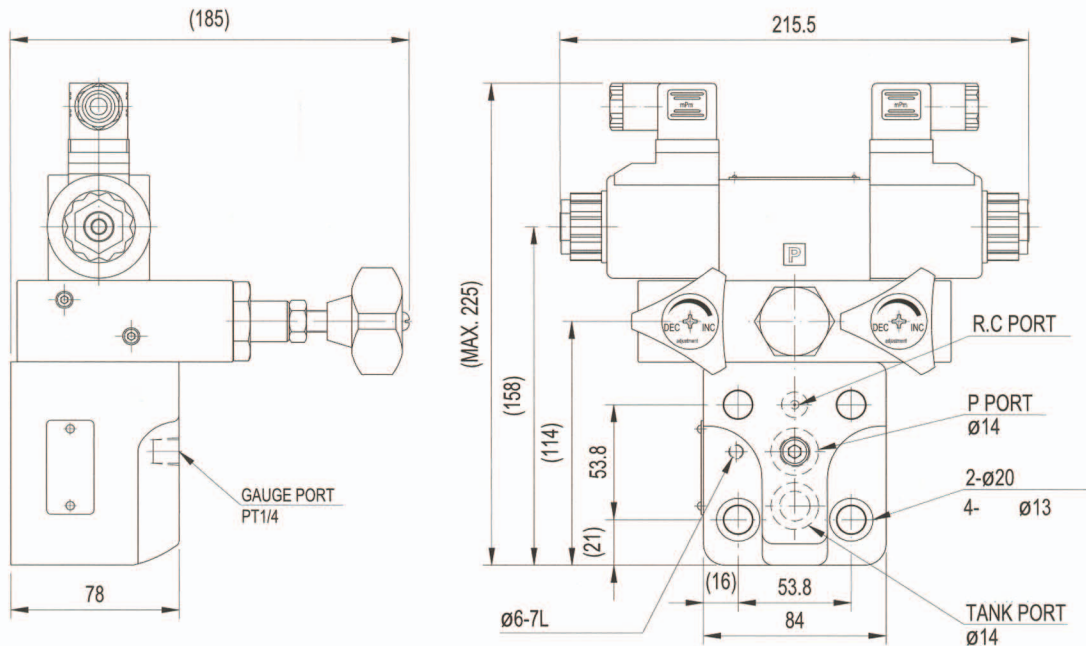
MA-02-1  
Page M-2



### Installation Dimensions:

E BSG-03-2PN...DC

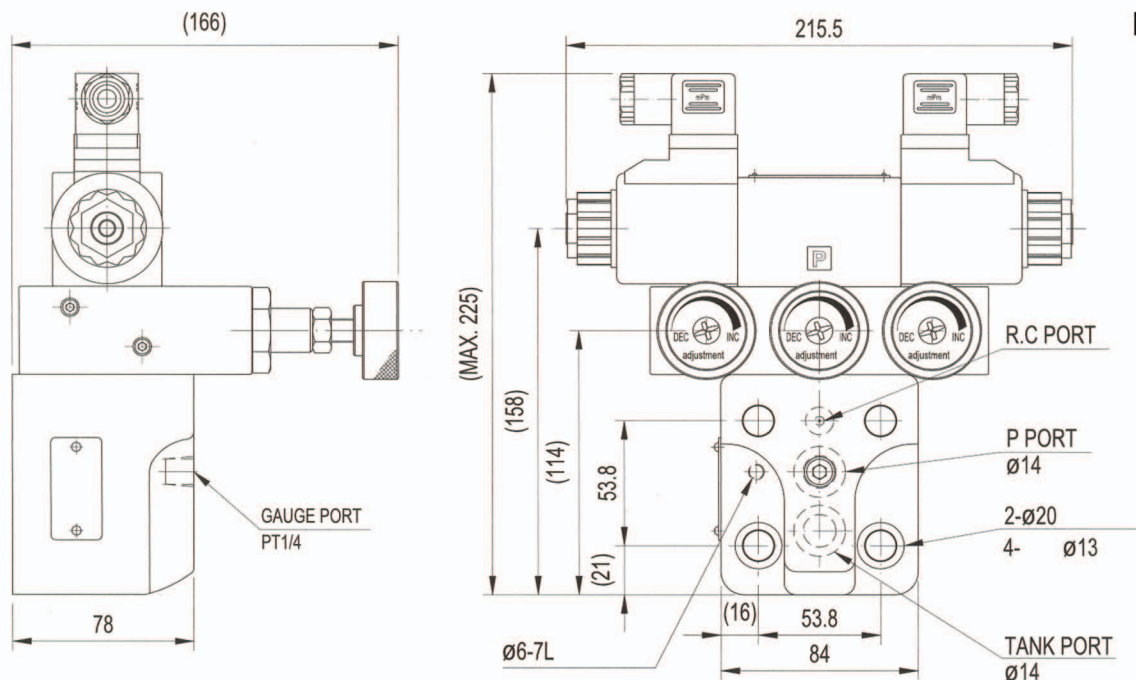
MA-02-1  
Page M-2



### Installation Dimensions:

E BSG-03-3P...DC

MA-02-1  
Page M-2

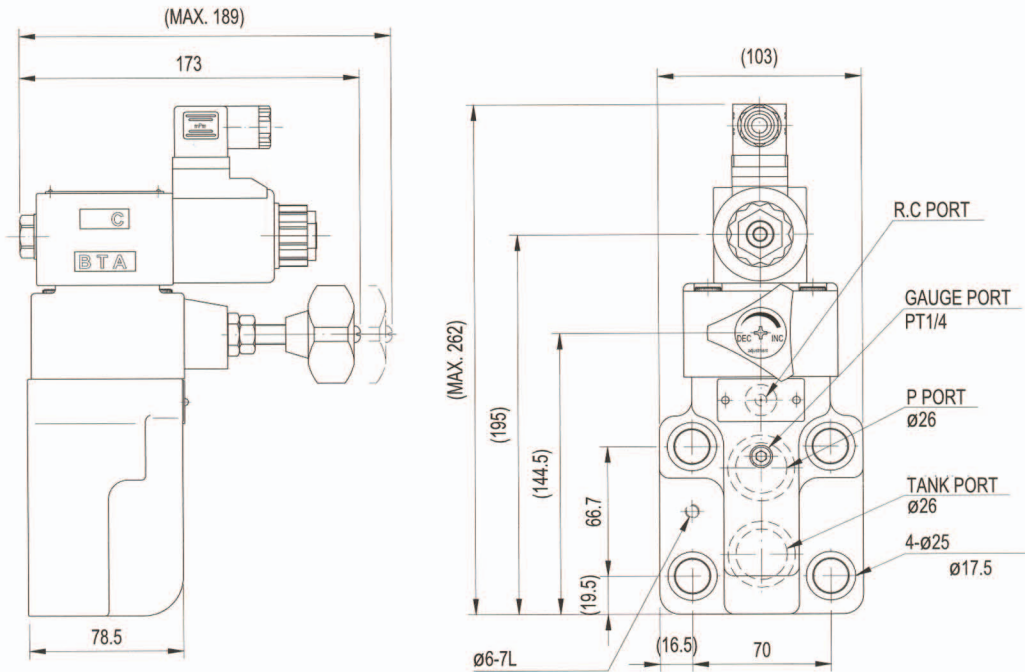




## Intallation Dimensions:

E BSG-06-1PN/1NP...DC

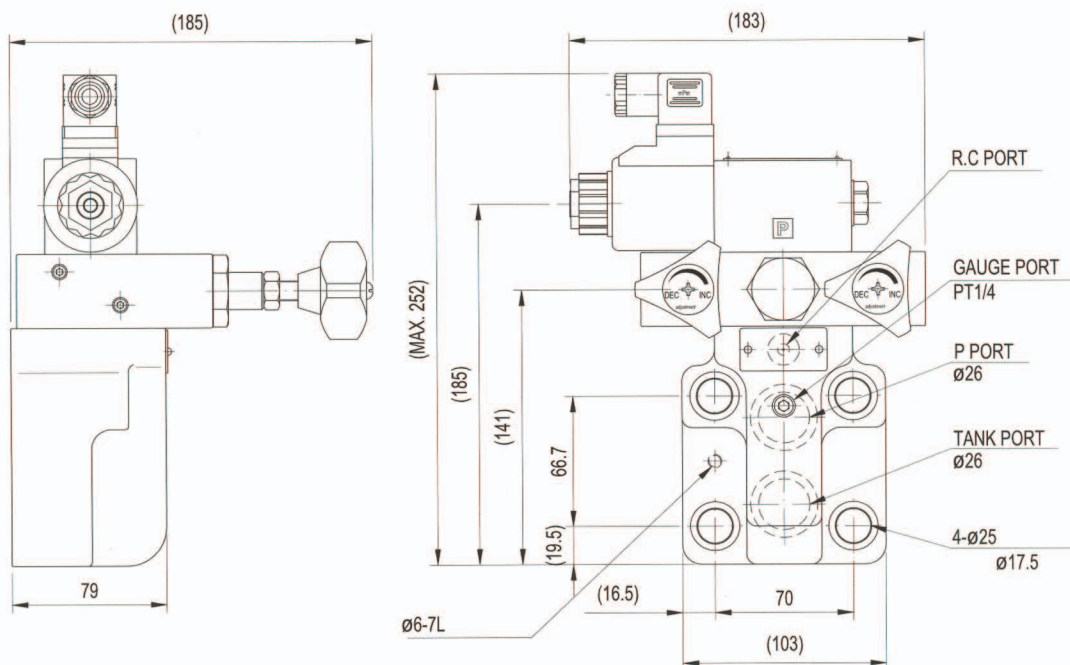
MA-02-2  
Page M-2



## Intallation Dimensions:

E BSG-06-2P...DC

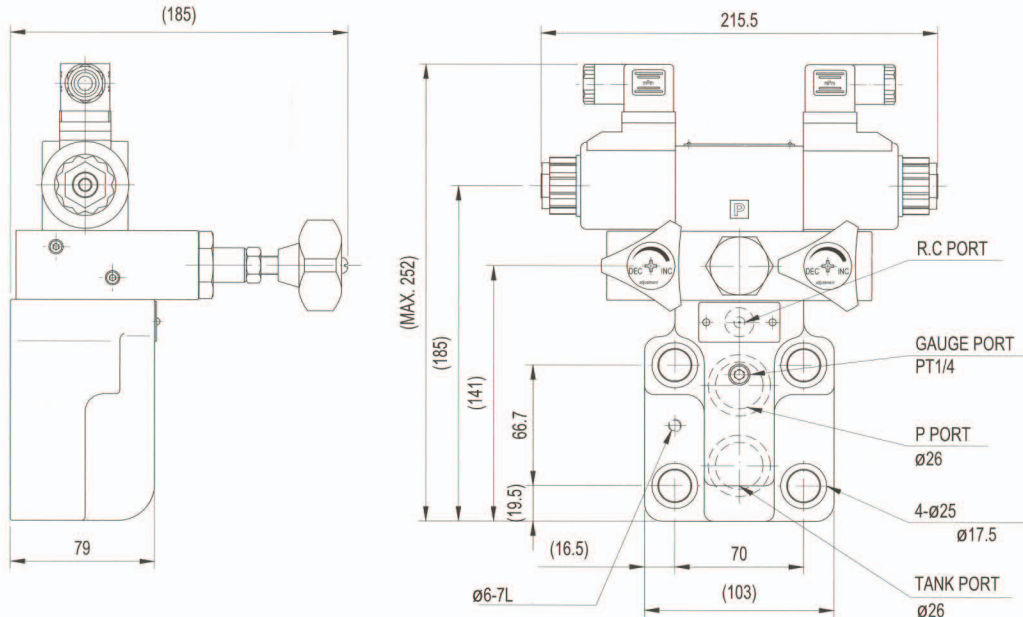
MA-02-2  
Page M-2



### Installation Dimensions:

E BSG-06-2PN...DC

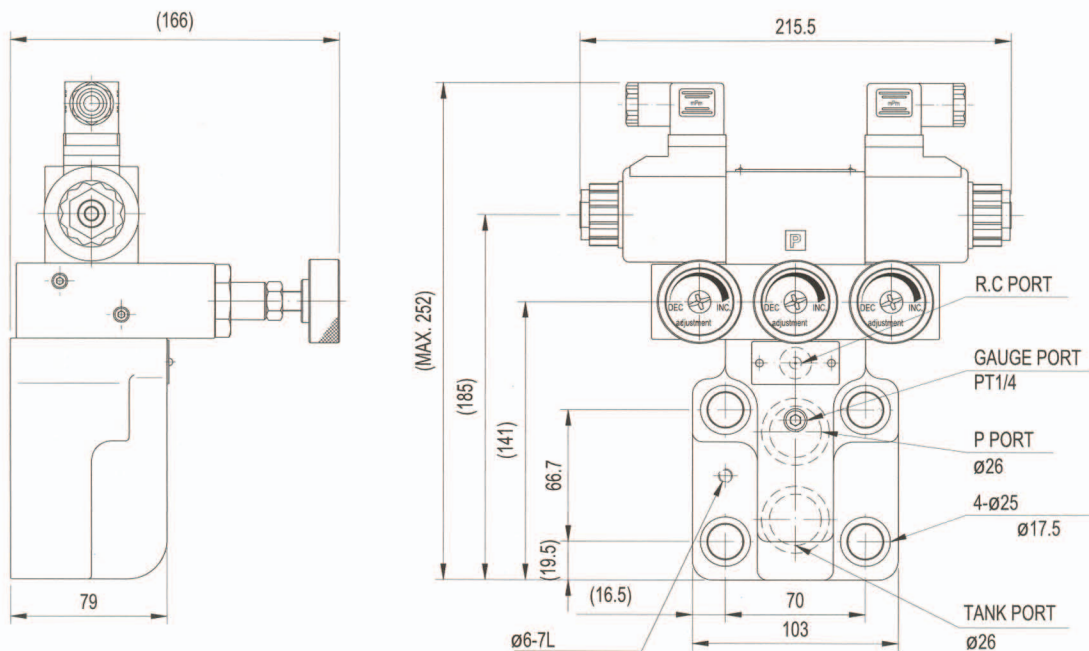
**MA-02-2**  
Page M-2



### Installation Dimensions:

E BSG-06-3P...DC

**MA-02-2**  
Page M-2



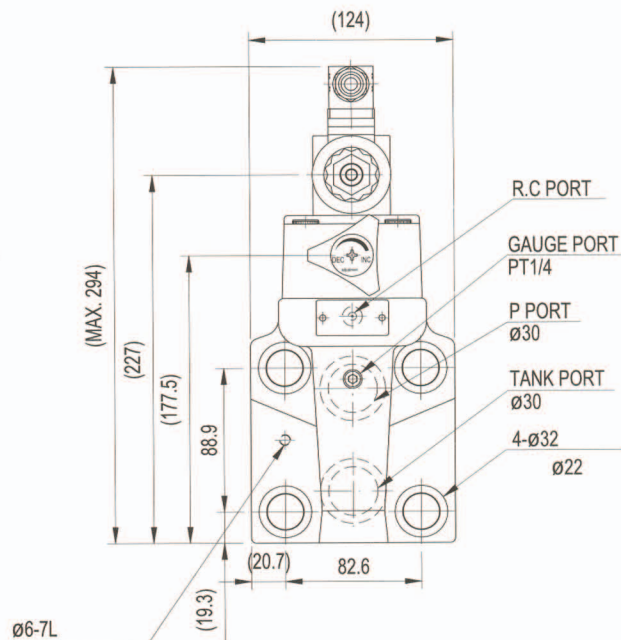
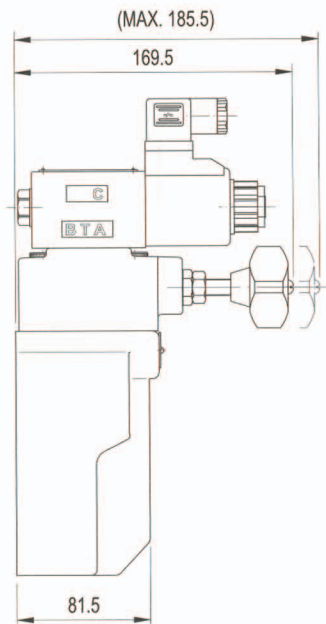
# SOLENOID CONTROL RELIEF VALVES PRESSURE CONTROL VALVES

**EQUUS**

## Intallation Dimensions:

E BSG-10-1PN/1NP...DC

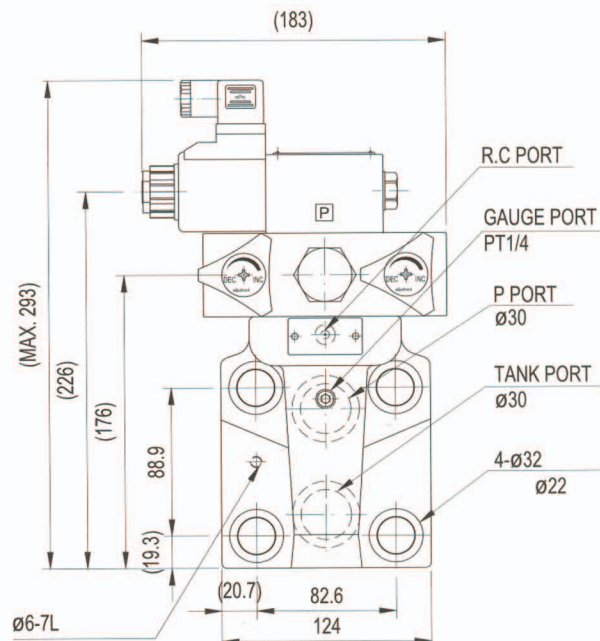
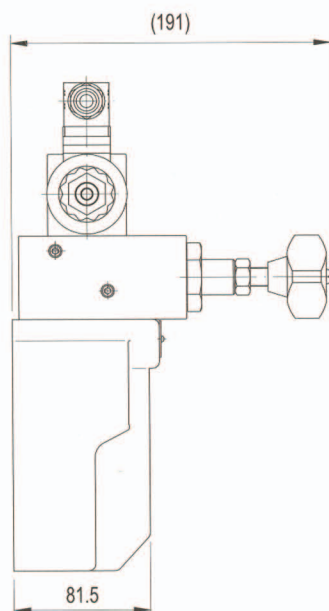
MA-02-3  
Page M-2



## Intallation Dimensions:

E BSG-10-2P...DC

MA-02-3  
Page M-2

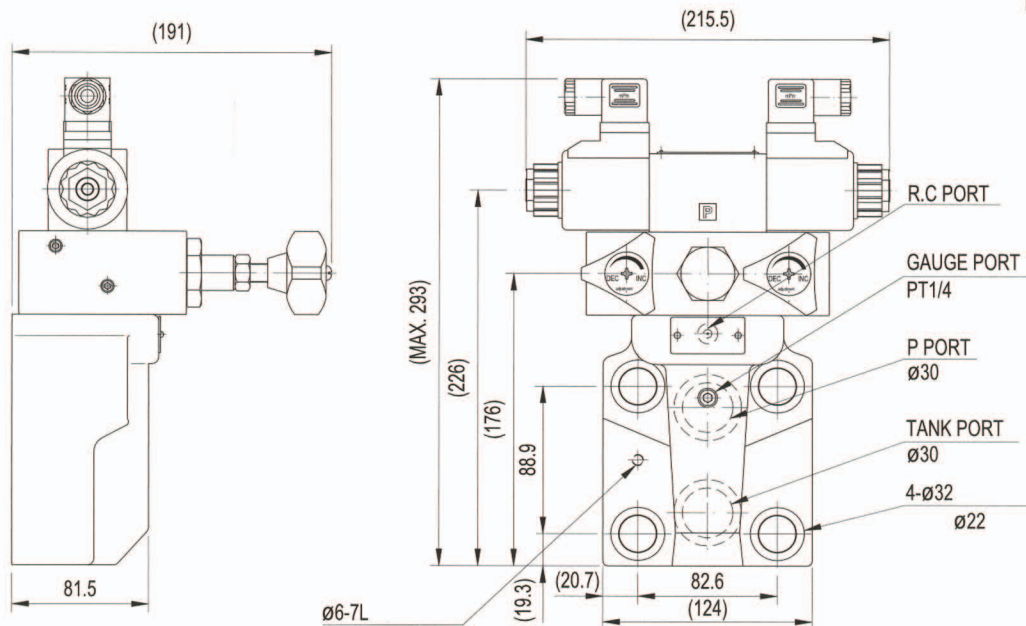


E BSG-10-1PN/1NP, BSG-10-2P...DC

### Installation Dimensions:

E BSG-10-2PN...DC

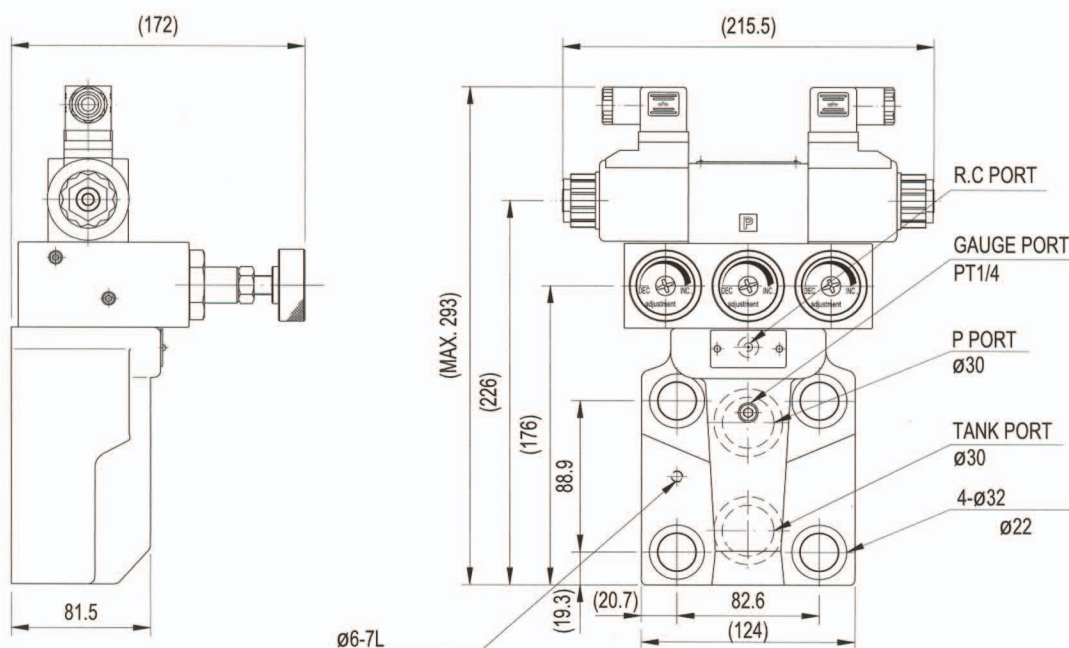
MA-02-2  
Page M-2



### Installation Dimensions:

E BSG-10-3P...DC

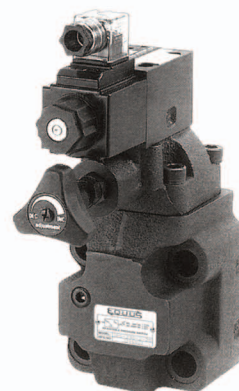
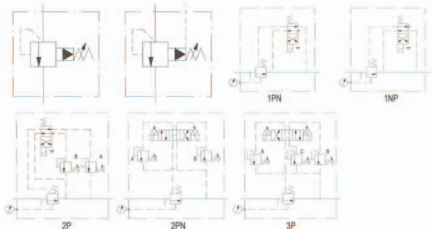
MA-02-3  
Page M-2





## SPECIFICATION:

SYMBOL HR-※ SHR-※



| Model   |            | Max. Operating Pressure (kgf/cm <sup>2</sup> ) | Pressure Adj. Range kgf/cm <sup>2</sup> | Max.Flow l/min | Weight (Not Contain Electro Magnetic Valve) (kg) |           |           |           |
|---------|------------|------------------------------------------------|-----------------------------------------|----------------|--------------------------------------------------|-----------|-----------|-----------|
|         |            |                                                |                                         |                | HR ※                                             | SHR-※-1PN | SHR-※-2PN | SHR-※-3PN |
| E HR-06 | E SHR-06-※ | 250                                            | 1: 7-70<br>2: 7-140<br>3: 7-210         | 100            | 7.6                                              | 7.6       | 10.2      | 10.3      |
| E HR-10 | E SHR-10-※ |                                                |                                         | 200            | 23.5                                             | 23.5      | 24.8      | 24.8      |

## Intallation Dimensions:

## Attachment:

EHR - 06 - IPN - 3 - 30 - D - W220 - 20

| Model   |            | Soc Hol Cap Screw |
|---------|------------|-------------------|
| E HR-06 | E SHR-06-※ | M16X85L....4pcs   |
| E HR-10 | E SHR-10-※ | M20x95L....4pcs   |

Valve Design Numbers

10: (Withg Lamp Central Connection)

20: (Plrg-in Connection)

Coil Voltage

G12:12V DC G24:24V DC W110:110/60Hz

W220: 220/60Hz W240: 240/60Hz

Pilot Valve Type

D: G: H: HA:

Design Number

30: Standard Type

31: Adjusting Direct Type

Pressure Adjusting Range

1: 7-70kgf/cm<sup>2</sup> 2: 7-140kgf/cm<sup>2</sup> 3: 7-210kgf/cm<sup>2</sup>

Valve Type

1PN: Normally Ventd 1NP: Energized to vent

2PN: Dual Pressure Adjusting Ranges

2PN: Dual Pressure and Vent

3P: Three Pressure Adjusting Ranges

Valve Size

06: 3/4" 10: 1-1/4"

Series Number

HR: Pilot Operated Relief Valves

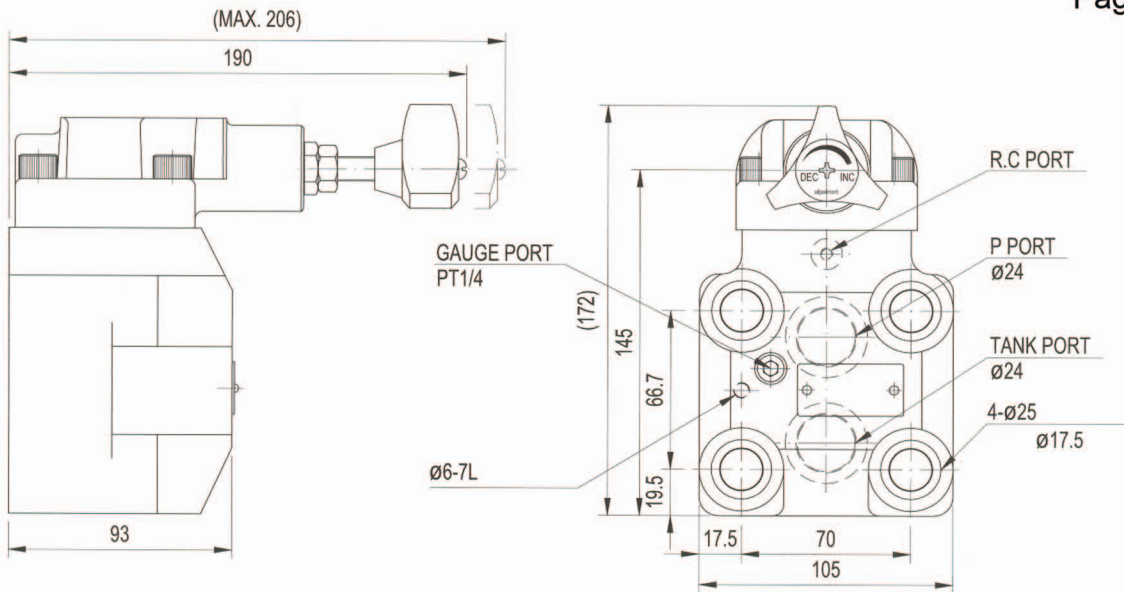
SHR: Solenoid Controlled Relief Valves

### Installation Dimensions:

E HR-06

MA-02-2

Page M-2

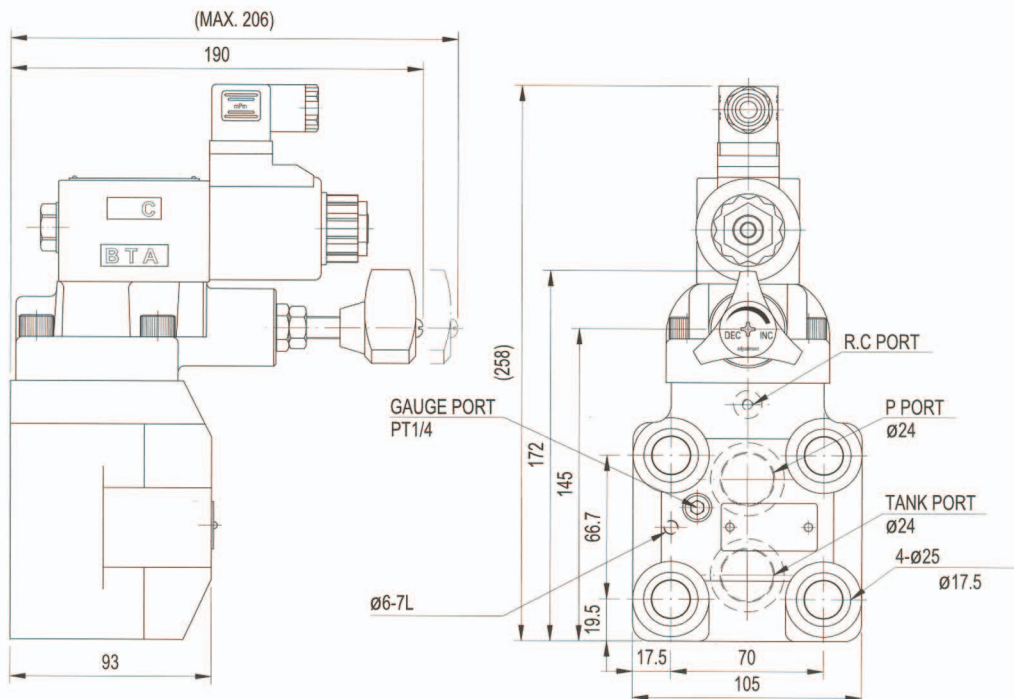


### Installation Dimensions:

E SHR-06-1PN/1NP...DC

MA-02-2

Page M-2

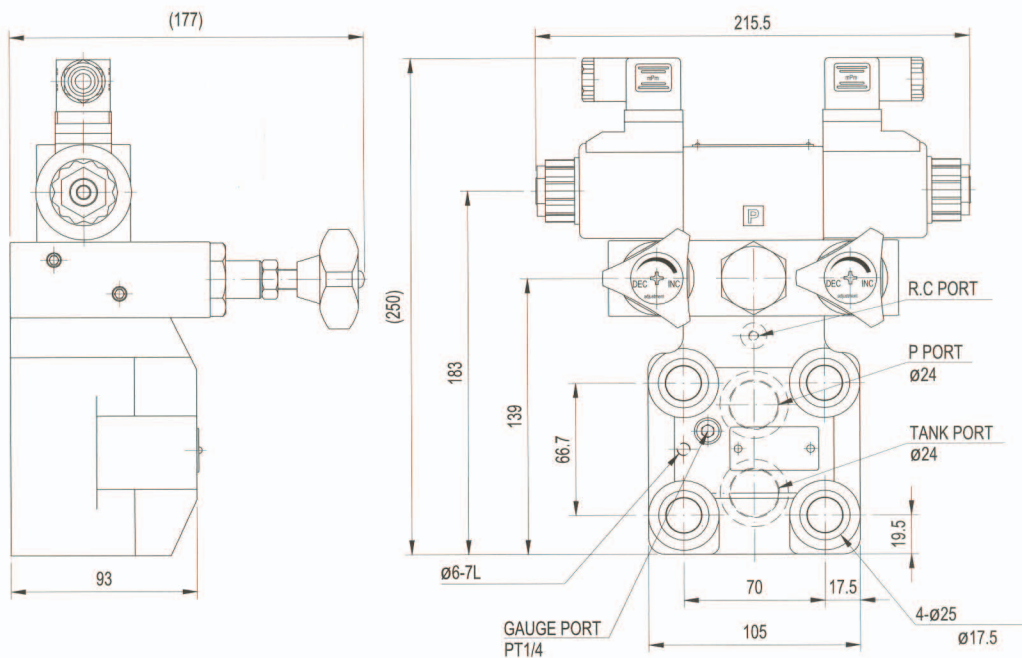


**Intallation Dimensions:**

**E SHR-06-2PN...DC**

**MA-02-2**

Page M-2

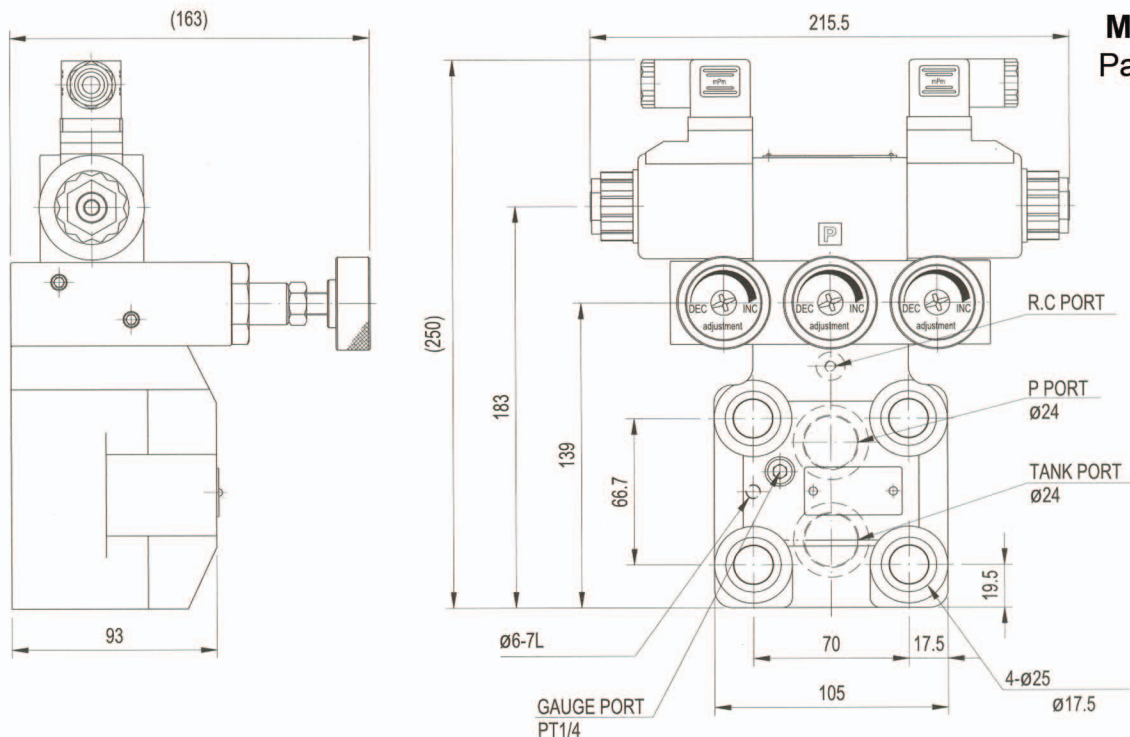


**Intallation Dimensions:**

**E SHR-06-3PN...DC**

**MA-02-2**

Page M-2



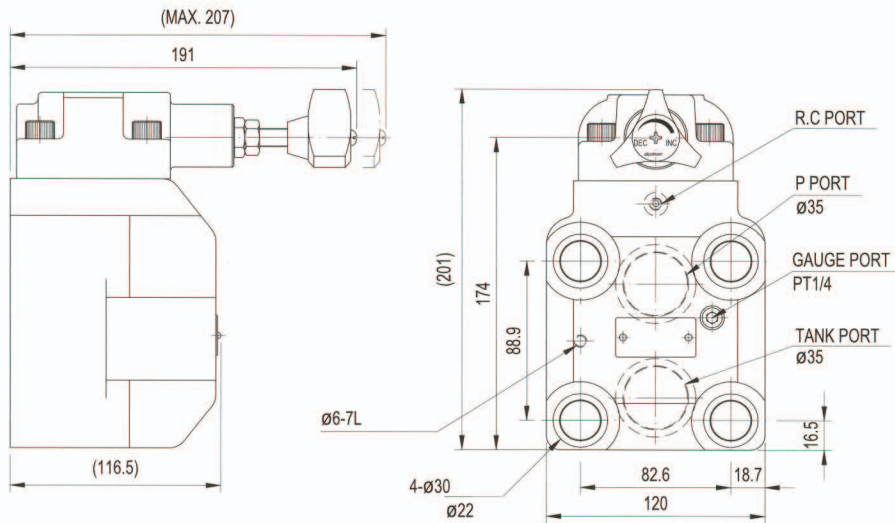


### Installation Dimensions:

E HR-10

MA-02-3

Page M-2

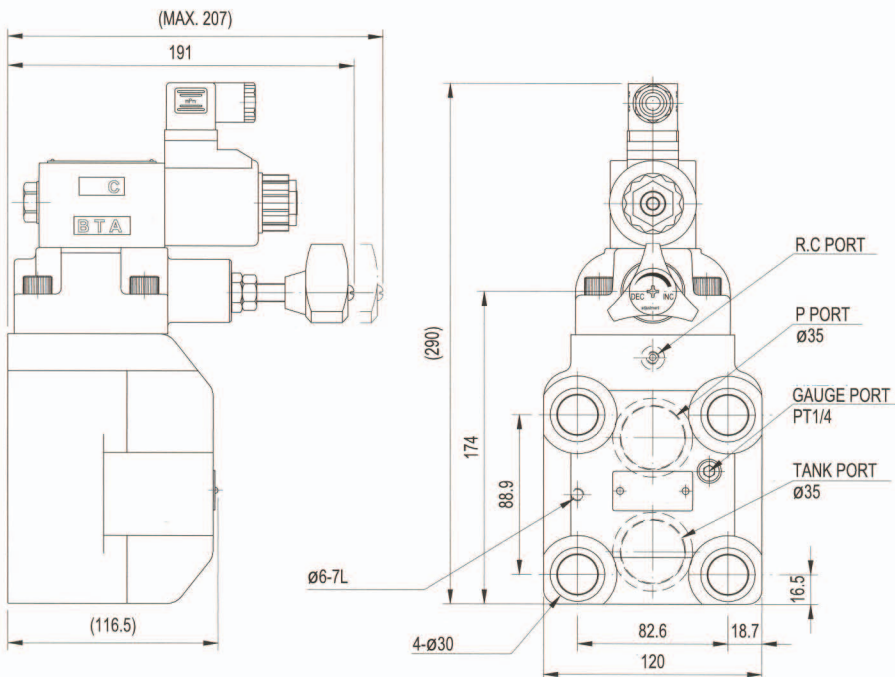


### Installation Dimensions:

E SHR-10-1PN/1NP...DC

MA-02-3

Page M-2

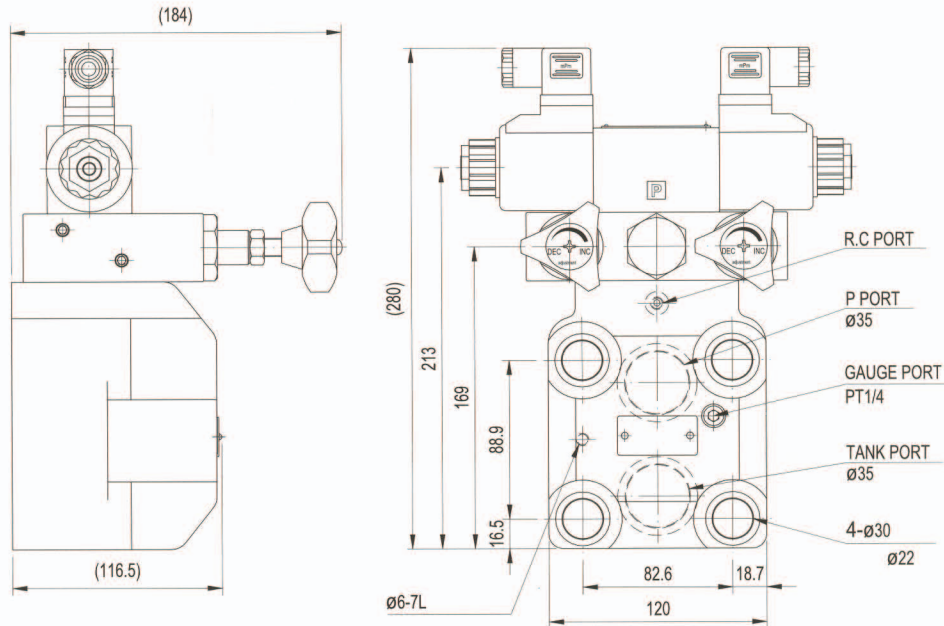




**Intallation Dimensions:**

**E SHR-10-2PN...DC**

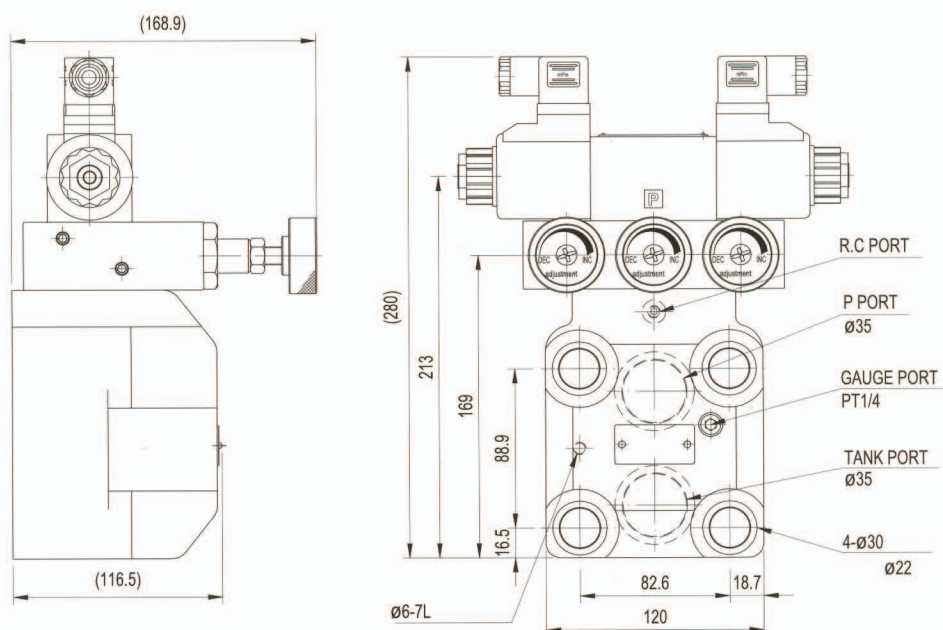
**MA-02-3**  
 Page M-2



**Intallation Dimensions:**

**E SHR-10-3PN...DC**

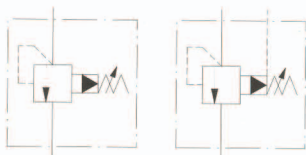
**MA-02-3**  
 Page M-2



### Specification:

E SBG-03/SBG-10

SYMBOL  
SBG-※



| Model      | Max. Operating Pressure (kgf/cm <sup>2</sup> ) | Pressure Adj. Range kgf/cm <sup>2</sup> | Rated Flow l/min | Weight kg |
|------------|------------------------------------------------|-----------------------------------------|------------------|-----------|
| E SBG-03-※ | 250                                            | 1: 7-70                                 | 100              | 4.8       |
| E SBG-06-※ |                                                | 2: 7-140                                | 200              | 6.1       |
| E SBG-10-※ |                                                | 3: 7-210                                | 400              | 9.8       |

### Ordering Code:

**ESB G - 06 - 3 - R - 30**

Design Numbers

**30:** (Standard Type) **31:** (Adjusting Direct Type )

Direction of Knob

**R:** Right (P Port Side Standard) **L:** Left (T Port Side)

Pressure Adjusting Range

**1:** 7-70kgf/cm<sup>2</sup> **2:** 7-140kgf/cm<sup>2</sup> **3:** 7-210kgf/cm<sup>2</sup>

Valve Size

**03:** 3/8" **06:** 3/4" **10:** 1-1/4"

Mounting

**G:** Sub-Plate Mounting

Series Number

### Attachment:

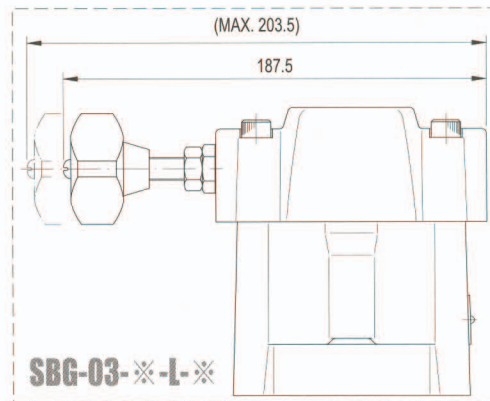
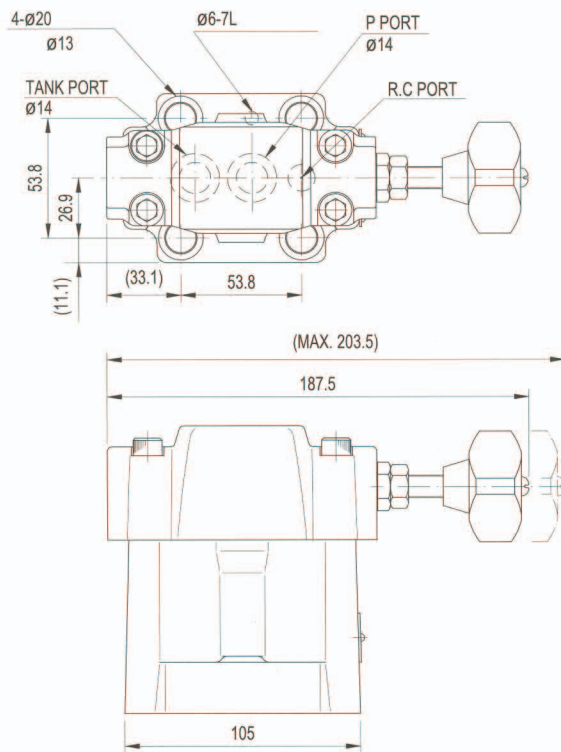
| Model       | Soc Hol Cap Screw |
|-------------|-------------------|
| E SBG-03- ※ | M12x40L.....2pcs  |
| E SBG-06- ※ | M16x50L.....2pcs  |
| E SBG-10- ※ | M20x65L.....2pcs  |

# LOW NOISE TYPE PILOT OPERATED RELIEF VALVES PRESSURE CONTROL VALVES

**EQUUS**

## Intallation Dimensions:

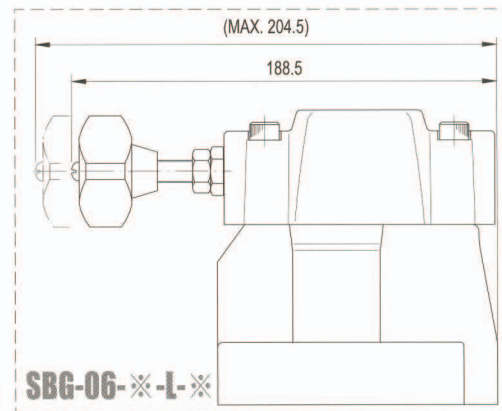
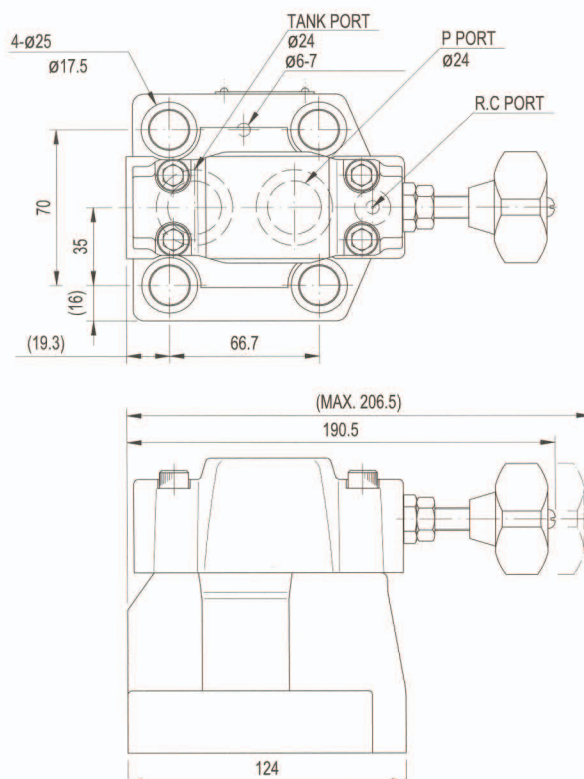
E SBG-03-R



MA-02-1  
Page M-2

## Intallation Dimensions:

E SBG-06-R

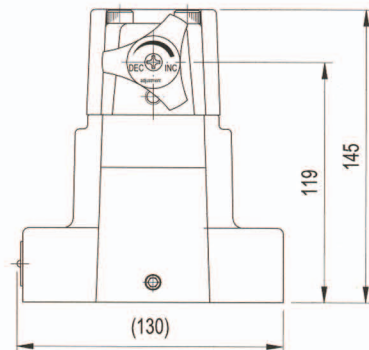
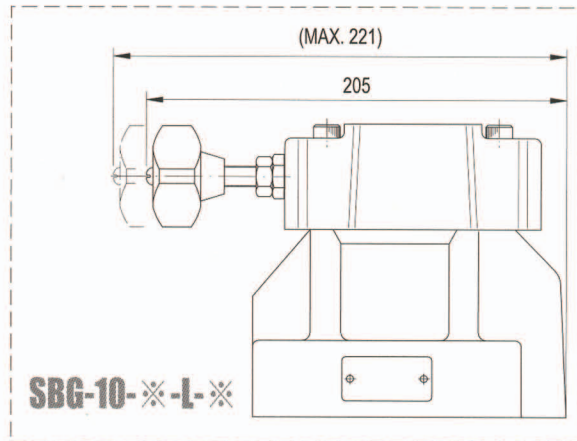
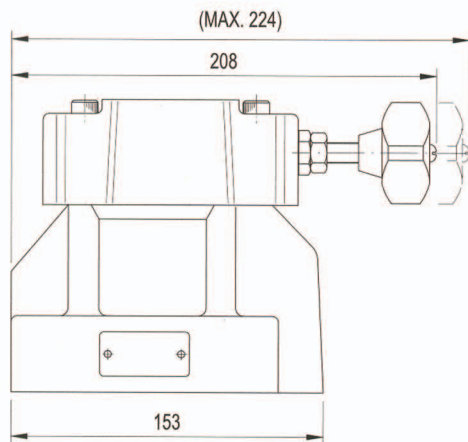
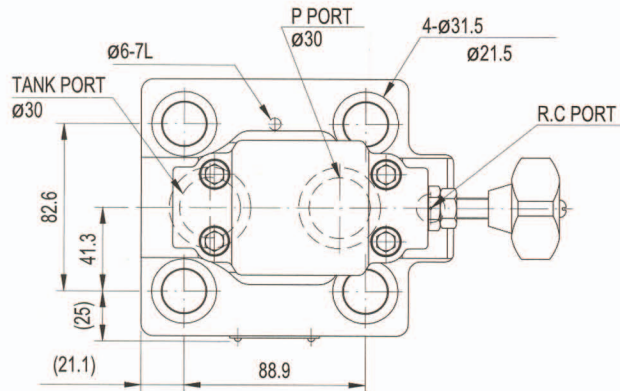


MA-02-2  
Page M-2

### Specification:

E SBG-10-※R-※

MA-02-3  
Page M-2



ESBG-10-R-

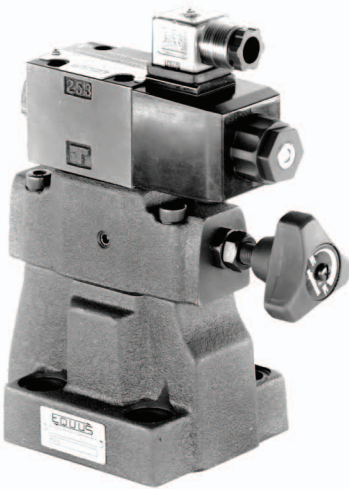
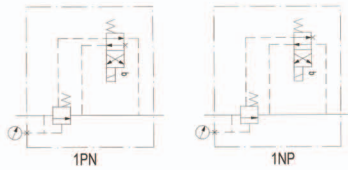


LOW NOISE TYPE SOLENOID CONTROL RELIEF VALVES  
PRESSURE CONTROL VALVES



Specification:

SYMBOL  
SBSG-※



| Model       | Max. Operating Pressure (kgf/cm <sup>2</sup> ) | Pressure Adj. Range kgf/cm <sup>2</sup> | Rated Flow l/min | Weight (Not Contain Electro Magnetic Valve) (kg) |
|-------------|------------------------------------------------|-----------------------------------------|------------------|--------------------------------------------------|
| E SBSG-03-※ | 250                                            | 1: 7-70                                 | 100              | 4.8                                              |
| E SBSG-06-※ |                                                | 2: 7-140                                | 200              | 6.0                                              |
| E SBSG-10-※ |                                                | 3: 7-210                                | 400              | 9.8                                              |

Ordering Code:

ESBSG - 03 - 1PN - 3 - R - 30 - D - W220 - 20

Valve Design Numbers  
10: (Withg Lamp Central Connection)  
20: (Plrg-in Connection)

Coil Voltage  
G12:12V DC G24:24V DC W110:110/60Hz  
W220: 220/60Hz W240: 240/60Hz

Pilot Valve Type  
D: Y: HA:

Design Number  
30: Standard Type  
31: Adjusting Direct Type

Direction of Knob  
R:Right (P Port Side Standard)  
L: Left (T Port Side)

Pressure Adjusting Range  
1: 7-70kgf/cm<sup>2</sup> 2: 7-140kgf/cm<sup>2</sup>  
3: 7-210kgf/cm<sup>2</sup>

Valve Type  
1PN: Normally Vented 1NP: Energized to vent

Valve Size  
03: 3/8" 06: 3/4" 10: 1-1/4"

Mounting  
G: Sub-Plate Mounting

Series Number

E SBSG-03-/SBSG-10

Attachment:

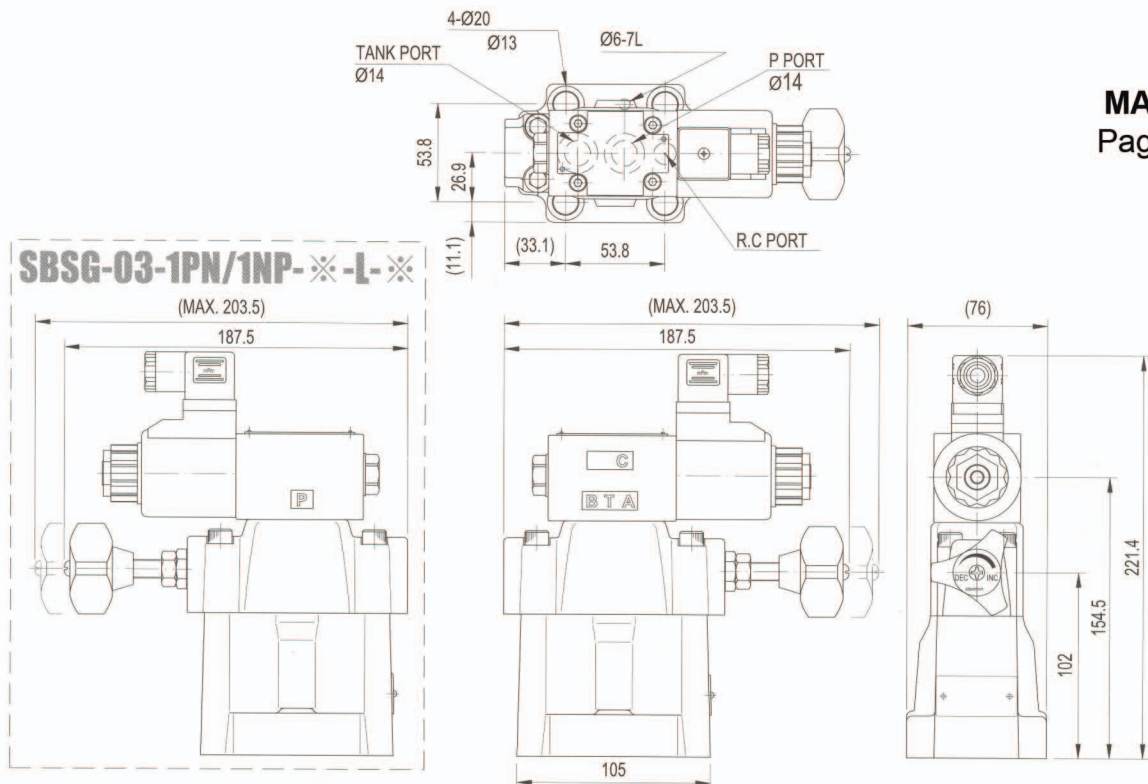
E SBSG-03/SBSG-10

| Model     | Soc Hol Cap Screw |
|-----------|-------------------|
| E SBSG-03 | M12x40L.....2pcs  |
| E SBSG-06 | M16x50L.....2pcs  |
| E SBSG-10 | M20x65L.....2pcs  |

| 4WE-06 Solenoid Weight (kg) |     |     |
|-----------------------------|-----|-----|
|                             | AC  | DC  |
| 1 Single Solenoid Valve     | 1.6 | 1.7 |
| 2 Valve With 2 Solenoids    | 2.1 | 2.1 |

Installation Dimensions:

E SBSG-03-1PN/1NP-R...DC



MA-02-1  
Page M-2

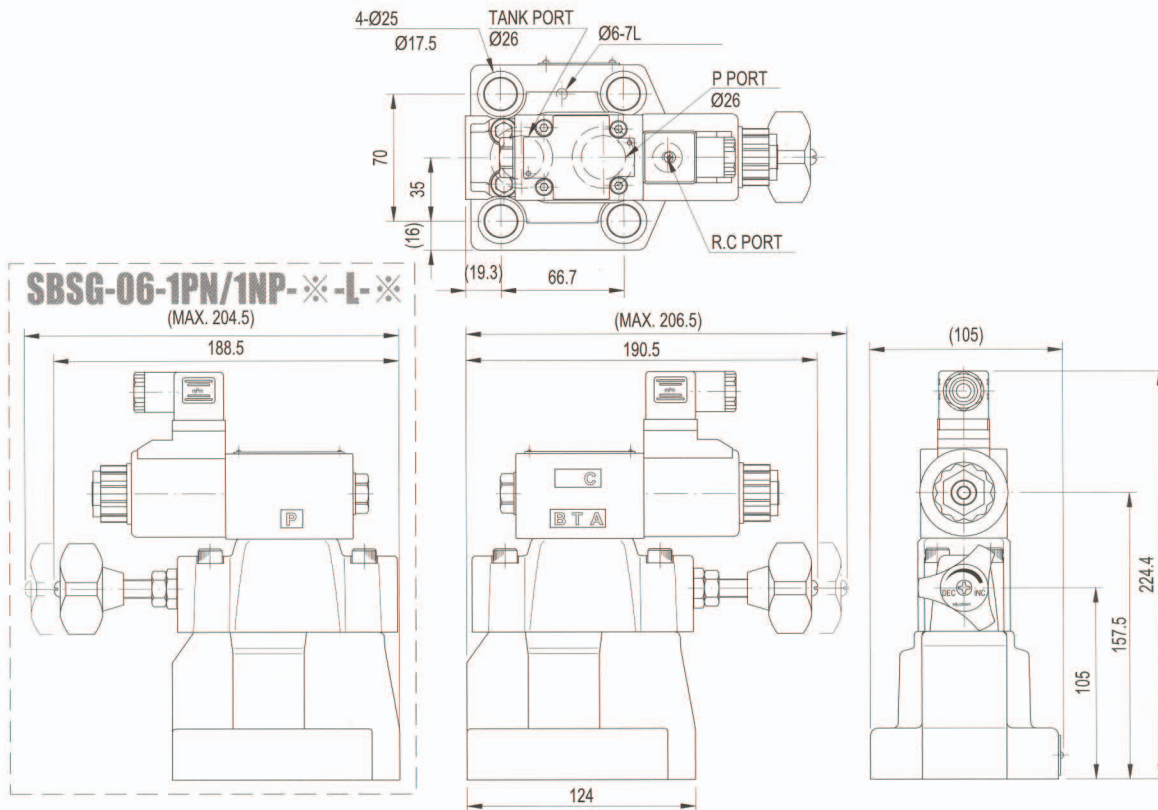
# LOW NOISE TYPE SOLENOID CONTROL RELIEF VALVES PRESSURE CONTROL VALVES

**EQUUS**

## Installation Dimensions:

E SBSG-06-1PN/1NP-R...DC

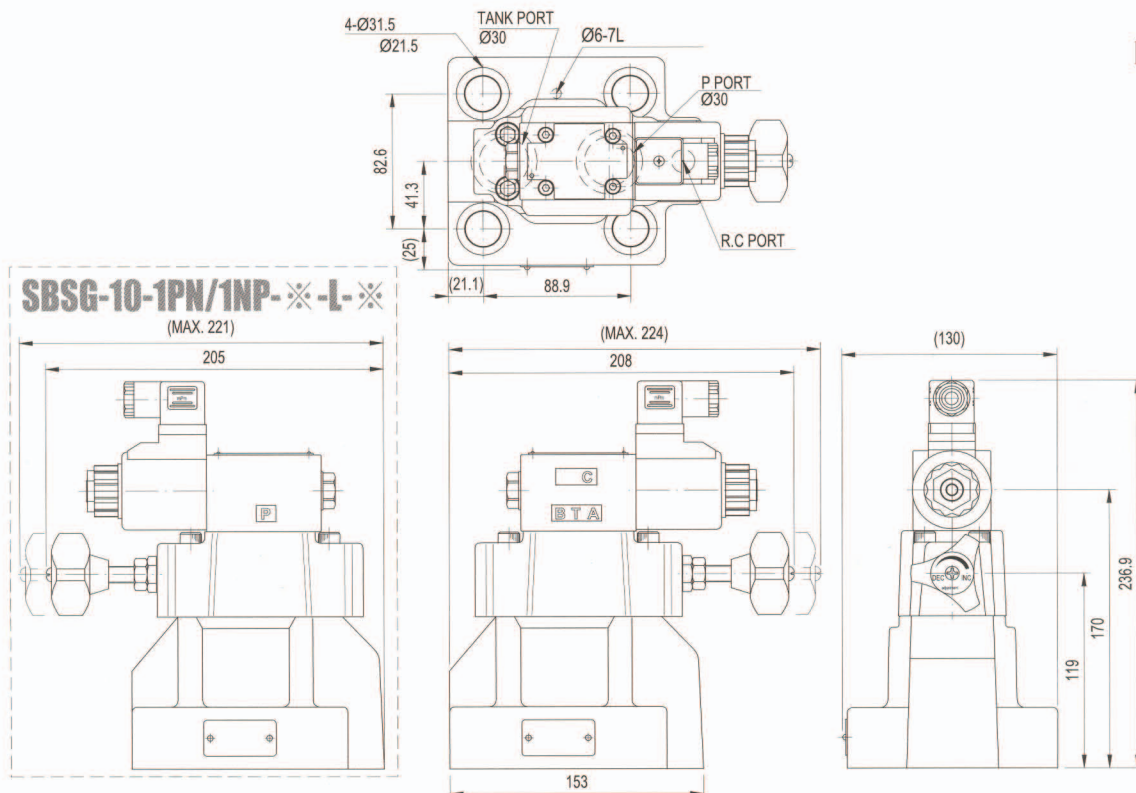
MA-02-2  
Page M-2



## Intallation Dimensions:

E SBSG-10-1PN/1NP-R...DC

MA-02-3  
Page M-2



E SBSG-06,SBSG-10(1PN/1NP-R...DC)



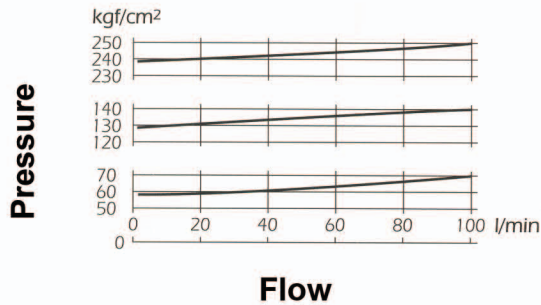
### Performance Curves:

E SBG/SBSG

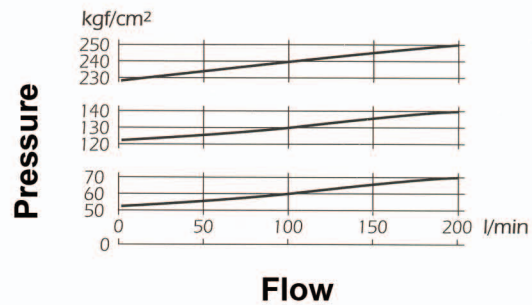
Test Fluid Viscosity: 35cSt

Test Temperature: 50°C

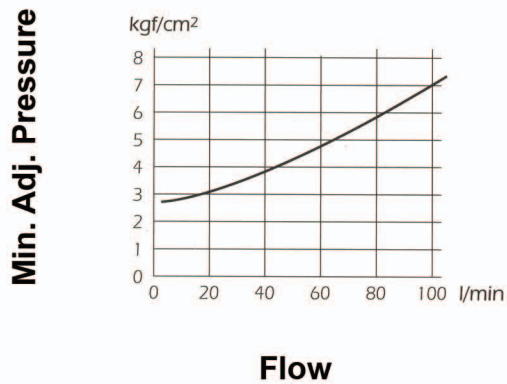
● SBG . SBSG-03



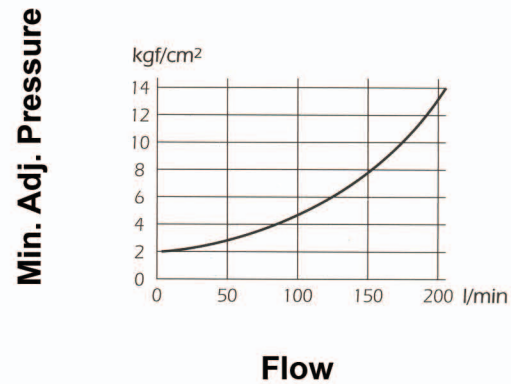
● SBG . SBSG-06



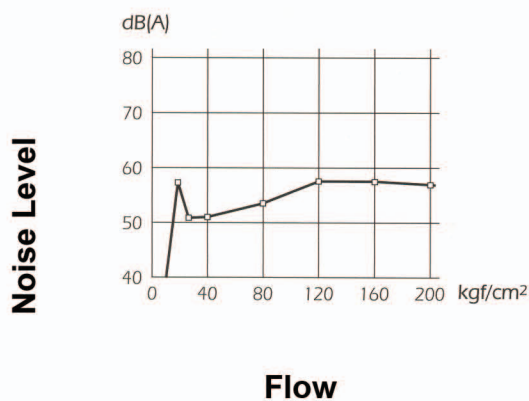
● SBG . SBSG-03



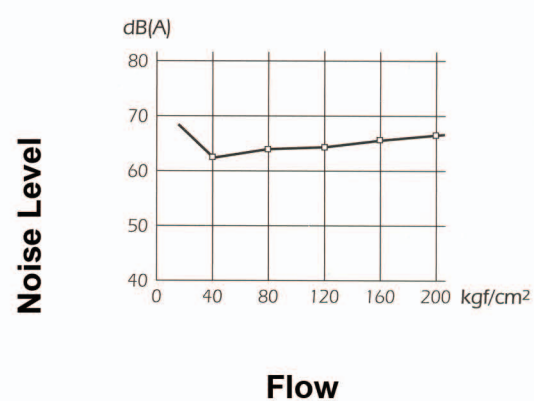
● SBG . SBSG-06



● SBG . SBSG-03



● SBG . SBSG-06





# PILOT OPERATED RELIEF VALVES

## PRESSURE CONTROL VALVES

# EQUUS

### Specification:

E DBK-20-※

SYMBOL  
DBK-※



| Model      | Max. Pressure<br>(kgf/cm <sup>2</sup> ) | Pressure Adj. Range<br>kgf/cm <sup>2</sup> | Max. Flow<br>l/min | Weight<br>kg |
|------------|-----------------------------------------|--------------------------------------------|--------------------|--------------|
| E DBK-20-※ | 320                                     | 1: 7-70                                    | 100                | 3.4          |
|            |                                         | 2: 7-210                                   | 200                |              |
|            |                                         | 3: 7-320                                   | 400                |              |

### Ordering Code:

**EDB K - 20 - 1 - XY**

Pilot and Drain Type

**X:** External Pilot

**Y:** External Drain

**XY:** External Pilot and Drain

Pressure Adjusting Range

**1:** 7-70kgf/cm<sup>2</sup>    **2:** 7-210kgf/cm<sup>2</sup>

**3:** 7-320kgf/cm<sup>2</sup>

Valve Size

**20:** 3/4"

Mounting

**K:** Used for Oil Way Installation  
(Insert Put Style)

Series Number

### Attachment:

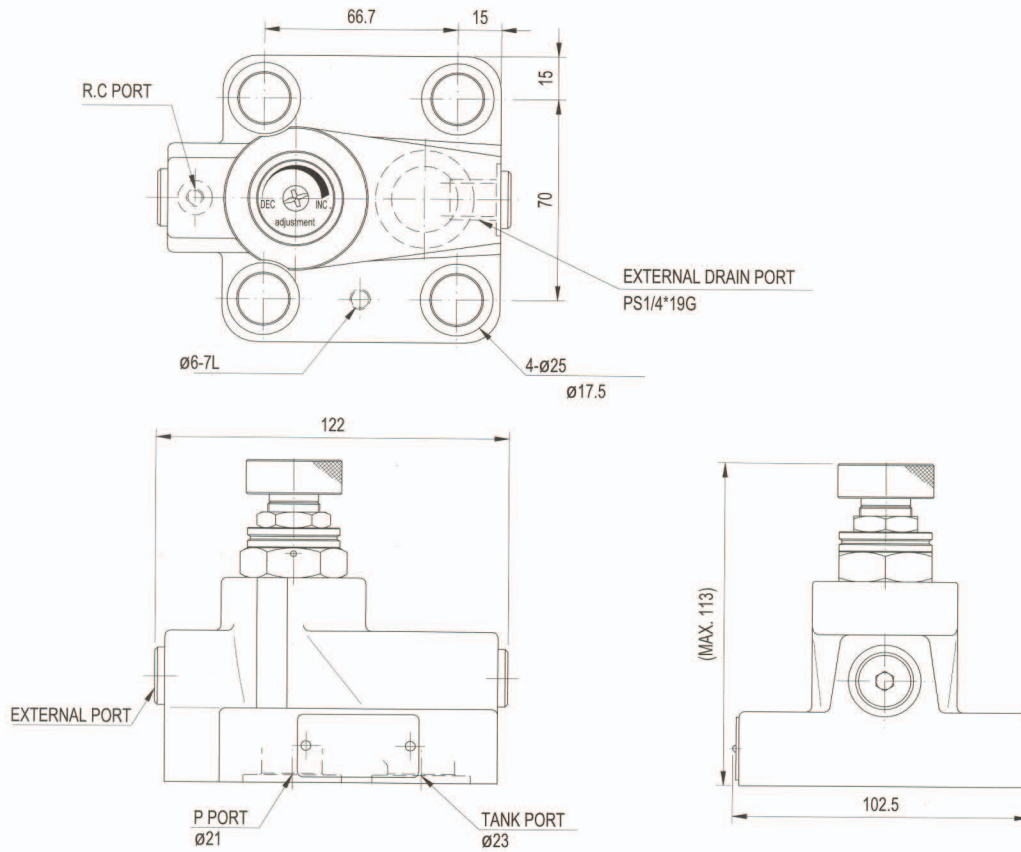
| Model      | Soc Hol Cap Screw |
|------------|-------------------|
| E DBK-20-※ | M16x45L....4pcs   |

E DBK-20

### Installation Dimensions:

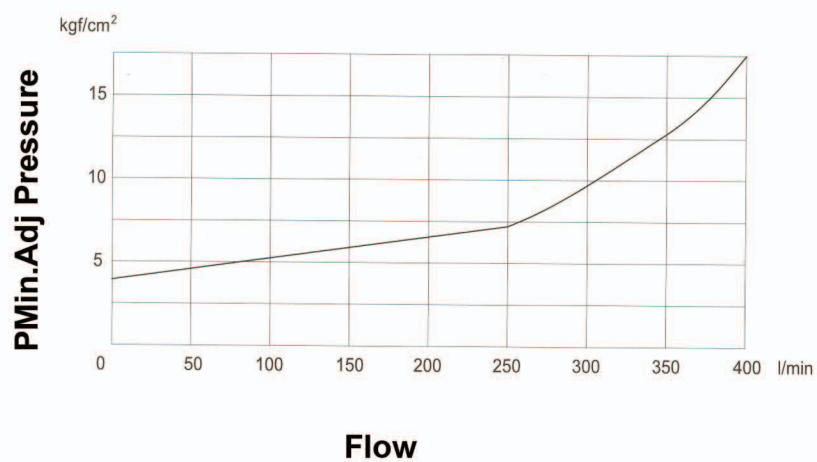
E DBK-20

**MA-02-2**  
Page M-2



DBK-20-※

Min. Adj. Pressure



**Characteristics:**

E DB,DBW-G03/DB,DBW-G10

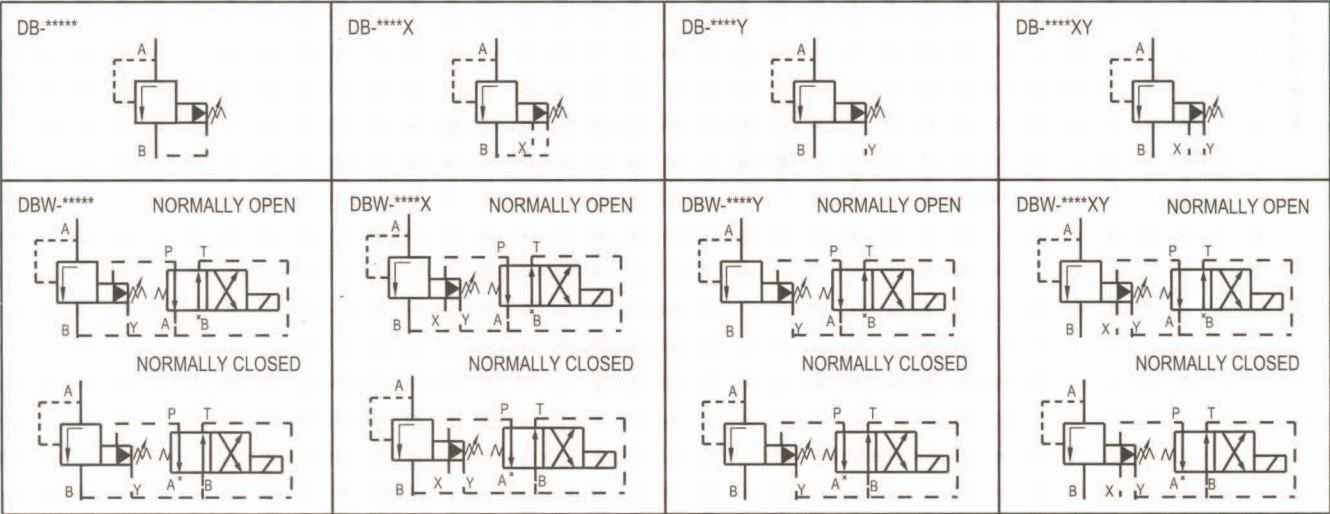
Max.operated pressure 320 kgf/cm<sup>2</sup>  
For subplate mounting  
For installation in manifolds  
Solenoid operated unloading via a  
builtion directional spool valve,or directional poppet valve



| 4WE-06 Solenoid Weight (kg) |     |     |
|-----------------------------|-----|-----|
|                             | AC  | DC  |
| 1 Single Solenoid Valve     | 1.6 | 1.7 |
| 2 Valve With 2 Solenoids    | 2.1 | 2.1 |

| Model        | O Ring A,B Port | O Ring X Port | Sochol Cap Screw | Sub Plate Type |
|--------------|-----------------|---------------|------------------|----------------|
| E DB,DBW-G03 | P 18 NBR90 9 B  | P 9 NBR90 9 B | M12X40L...4PCS   | MA-02-1        |
| E DB,DBW-G06 | P 28 NBR90 9 B  | P 9 NBR90 9 B | M16X45L...4PCS   | MA-02-2        |
| E DB,DBW-G10 | P 34 NBR90 9 B  | P 9 NBR90 9 B | M20X55L...4PCS   | MA-02-3        |

**Symbol:**



E DB,DBW-G03/G10

### Specification:

E DB-G03/DBW-G10

| Model    |           | Max. Pressure<br>(kgf/cm <sup>2</sup> ) | Pressure Adj. Range<br>kgf/cm <sup>2</sup> | Max. Flow<br>l/min | Max. Back<br>kgf/cm <sup>2</sup> | Weight(Not Contain Electro<br>Magnetic Valve) (kg) |     |
|----------|-----------|-----------------------------------------|--------------------------------------------|--------------------|----------------------------------|----------------------------------------------------|-----|
| E DB-G03 | E DBW-G03 | 250                                     | 1: 7-70                                    | 100                | 160                              | 3.5                                                | 3.4 |
| E DB-G06 | E DBW-G06 |                                         | 2: 7-210                                   | 200                | 160                              | 4.5                                                | 4.4 |
| E DB-G10 | E DBW-G10 |                                         | 3: 7-320                                   | 400                | 160                              | 6.0                                                | 5.9 |

### Ordering Code:

**E DBW - G06 - A - 1 - XY - D - W220 - 20**

Wiring  
10: Joing box with Indicating Light  
20: Hirschmann Type with Indicating light

Coil Voltage  
G12:12V DC G24:24V DC W110:110/60Hz  
W220: 220/60Hz W240: 240/60Hz

Pilot Valve Type  
D:  Y:  HA: 

Pilot and Drain Type  
No Code: International Pilot and Drain Type  
X: External Pilot  
Y: External Drain  
XY: External Pilot and Drain Type

Pressure Adjusting Range  
1: 7-70kgf/cm<sup>2</sup> 2: 7-210kgf/cm<sup>2</sup>  
3: 7-320kgf/cm<sup>2</sup>

Valve Type  
A: Normally Vented B: Energized to vent

Valve Size  
03: 3/8" 06: 3/4" 10: 1-1/4"

Mounting  
G: Sub-Plate Mounting

No Code: no Directional  
W: Solenoid Dcontrolled

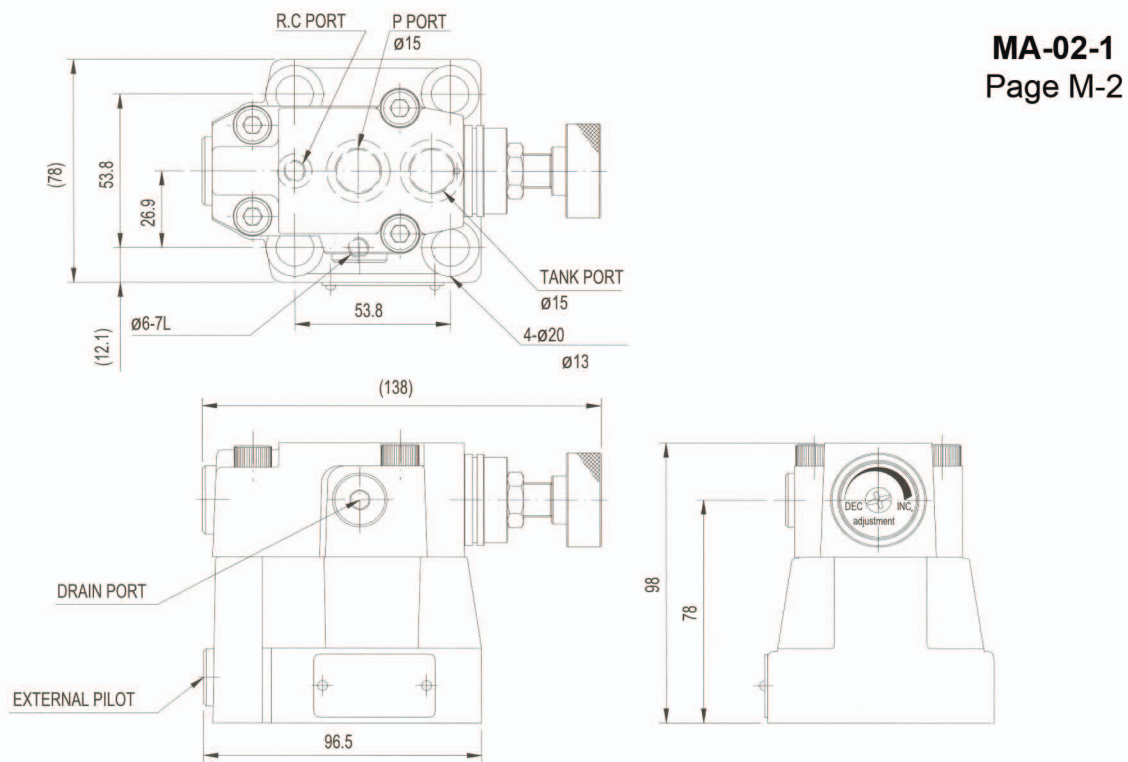
Series Number



E DB/DBW

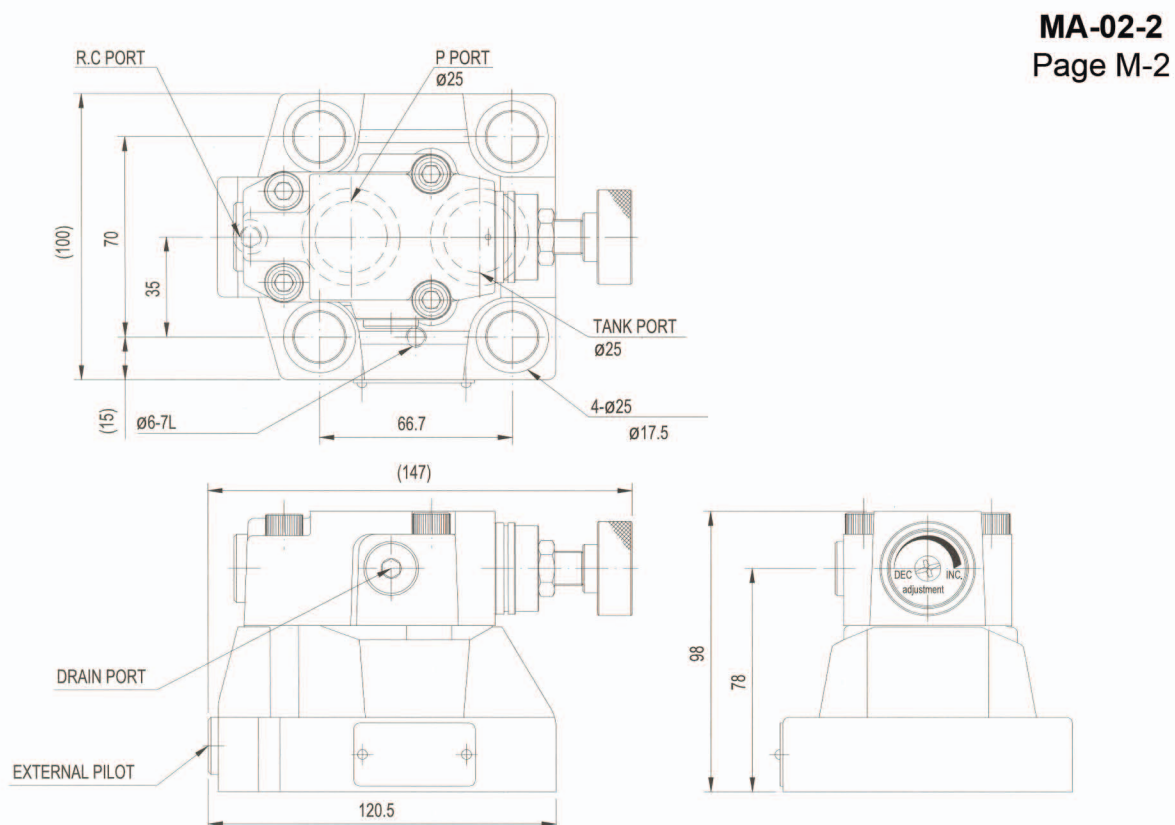
### Installation Dimensions:

E DB-G03



### Installation Dimensions:

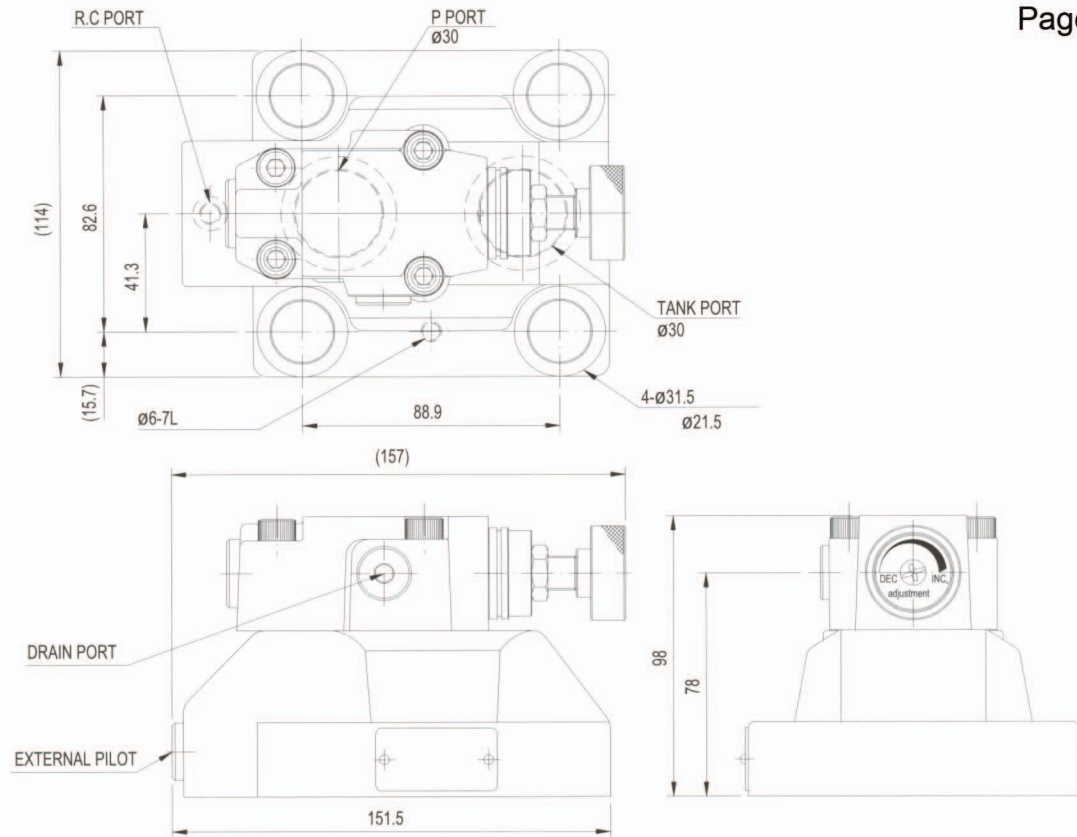
E DB-G06



**Intallation Dimensions:**

**E DB-G10**

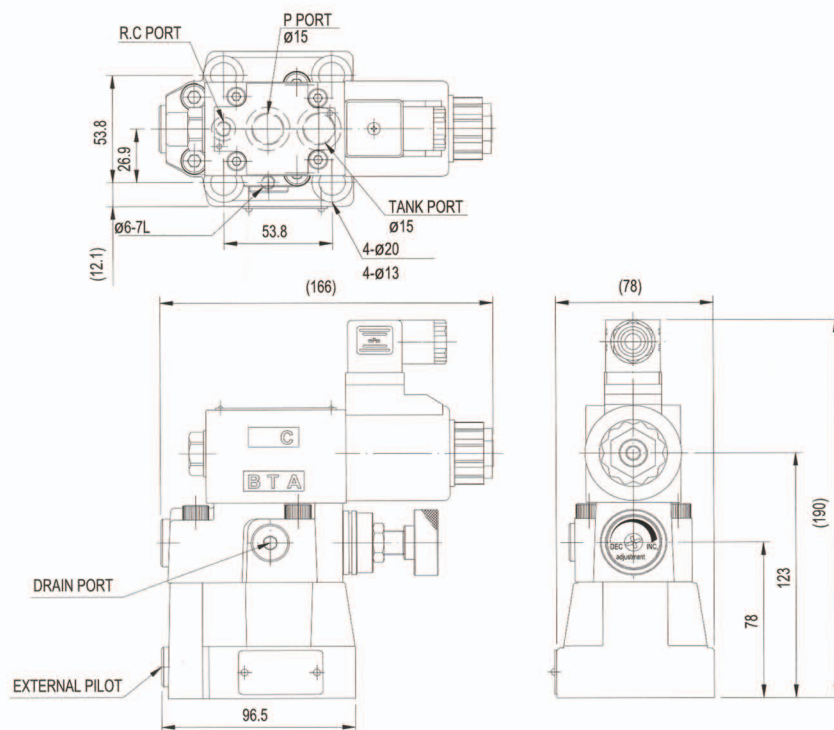
**MA-02-3**  
Page M-2



### Installation Dimensions:

E DBW-G03...DC

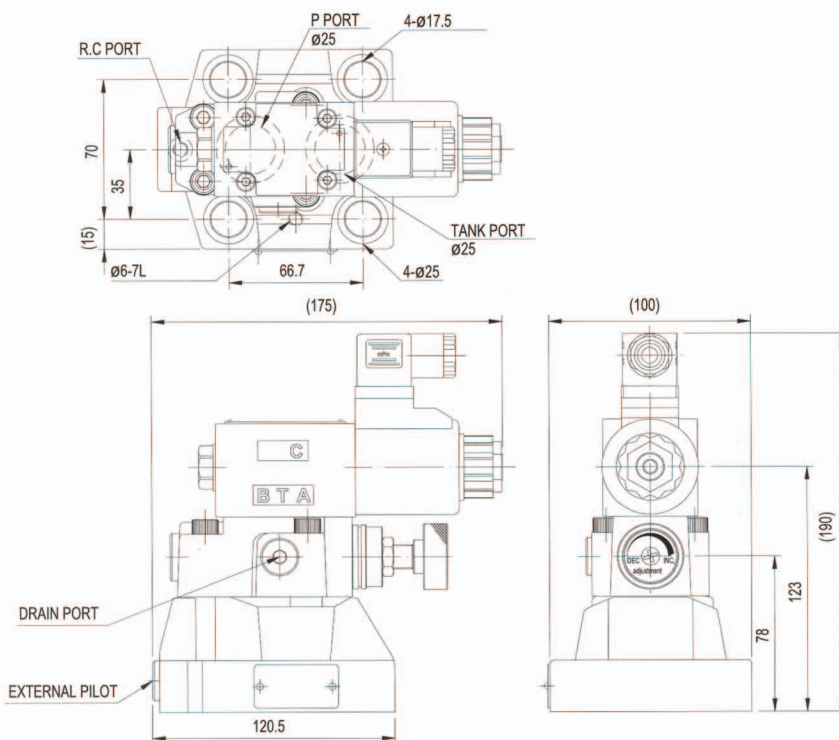
**MA-02-1**  
Page M-2



### Installation Dimensions:

E DBW-G06...DC

**MA-02-2**  
Page M-2



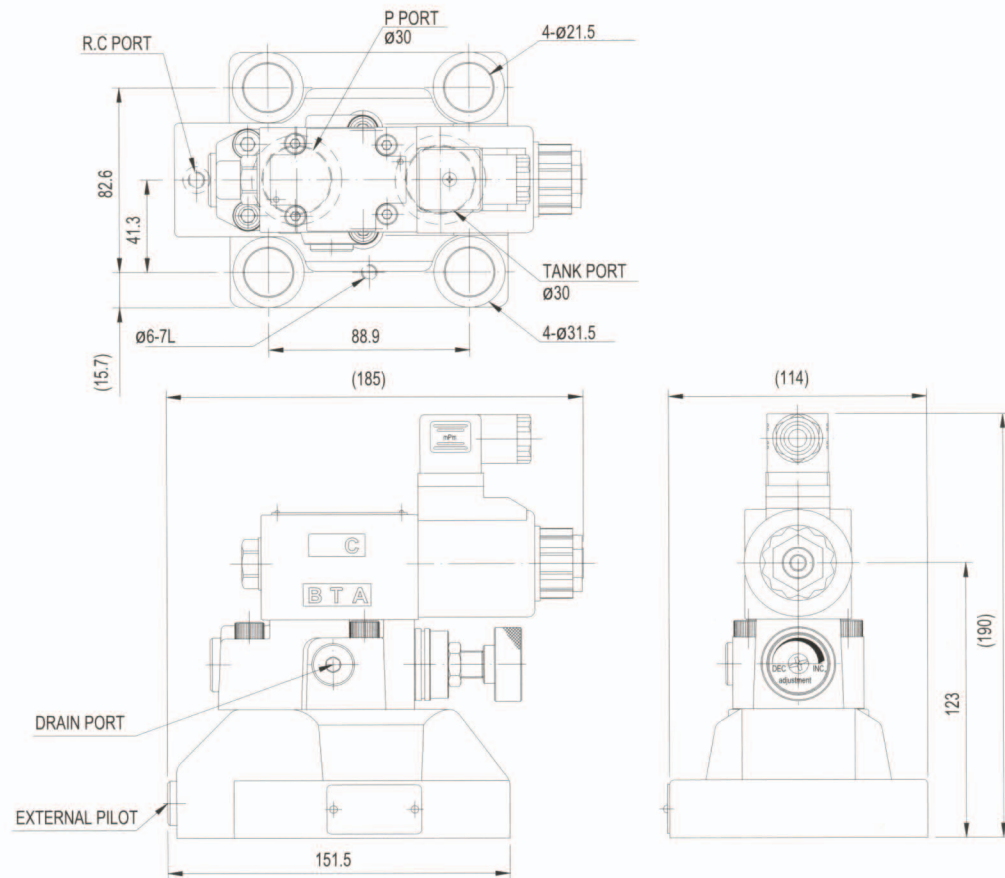


**Installation Dimensions:**

**E DBW- G10...DC**

**MA-02-3**

Page M-2



E DBW-G10...DC

### Performance Curves:

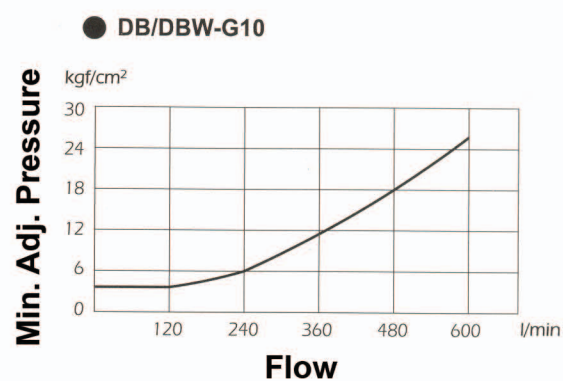
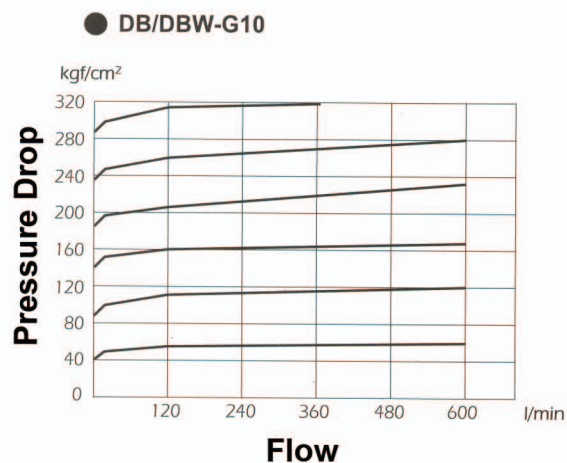
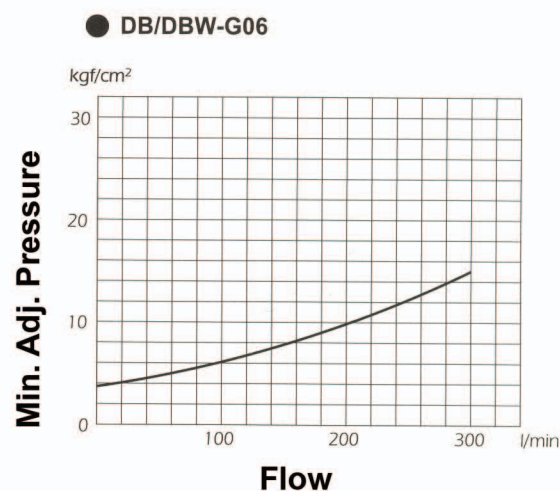
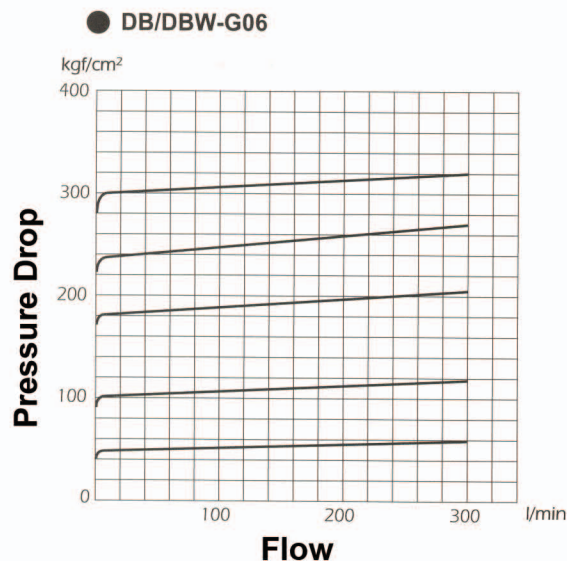
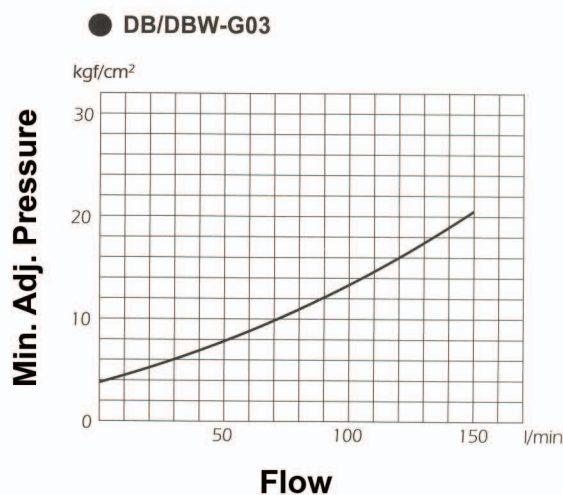
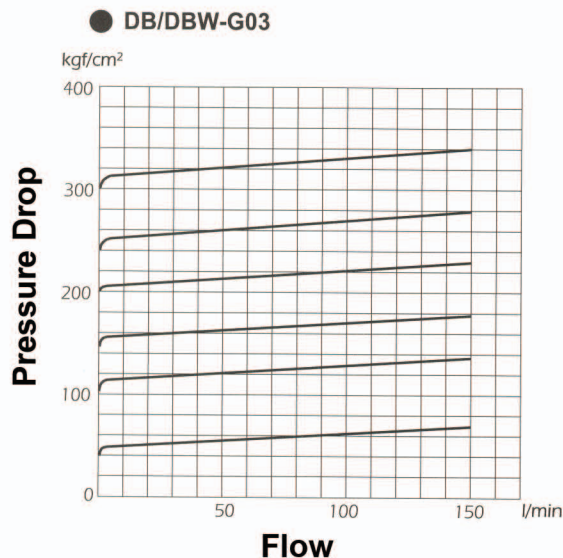
E DB-G03/DBW-G10

Test Fluid Viscosity: 35cSt

Test Temperature: 50°C

#### Nominal Override

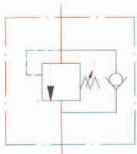
#### Min. Adj. Pressure



Specification:

E MCA-03-10-/MCA-10-20

SYMBOL  
MCA-※



| Model           |                 | Max. Operating Pressure (kgf/cm <sup>2</sup> ) | Pressure Adj. Range kgf/cm <sup>2</sup> | Max. Flow l/min | Weight kg |      |
|-----------------|-----------------|------------------------------------------------|-----------------------------------------|-----------------|-----------|------|
| E MAC-03-※-10-※ | E MAC-03-※-20-※ | 250                                            | 1: 7-70                                 | 100             | 7.5       | 6.8  |
| E MAC-06-※-11-※ |                 |                                                | 2: 7-140                                | 200             | 9.0       |      |
| E MAC-10-※-10-※ | E MAC-10-※-20-※ |                                                | 3: 7-210                                | 400             | 16        | 15.3 |

Ordering Code:

**EMCA - 03 - 1 - 10 - 1PN - 30**

Design Numbers  
30: Standard Type 31: Adjusting Direct Type

No Code Standard  
1PN: Normally Vented  
1NP: Energized to Vent

Valve Type  
10: Pilot Operated Type 11: Only 06 Type  
20: Low Noise Type

Pressure Adjusting Range  
1: 7-70kgf/cm<sup>2</sup> 2: 7-140kgf/cm<sup>2</sup>  
3: 7-210kgf/cm<sup>2</sup>

Valve Size  
03: 3/8" 06: 3/4" 10: 1-1/4"

Series Number

**Attachment:**

## E MCA

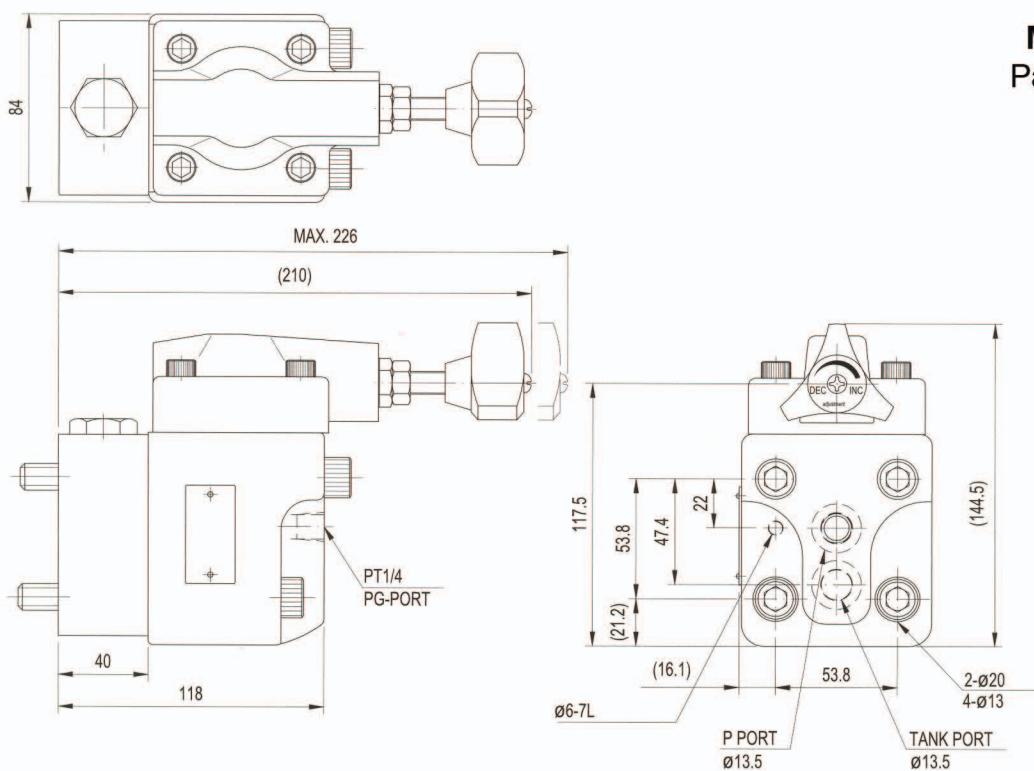
| Model                                                                                           | Soc Hol Cap Screw                      |
|-------------------------------------------------------------------------------------------------|----------------------------------------|
| E MCA-03-  -10 | M12x115L.....2pcs<br>M12x135L.....2pcs |
| E MCA-06-  -11 | M16x75L.....2pcs<br>M16x115L.....2pcs  |
| E MCA-10-  -10 | M12x150L.....2pcs<br>M16x170L.....2pcs |

|               |                   |
|---------------|-------------------|
| Modle         | Soc Hol Cap Screw |
| E MCA-03-※-20 | M12x80L.....4pcs  |
| E MCA-10-※-20 | M16x135L.....4pcs |

**EMCA-03-10**

### Installation Dimensions:

E MCA-03-10

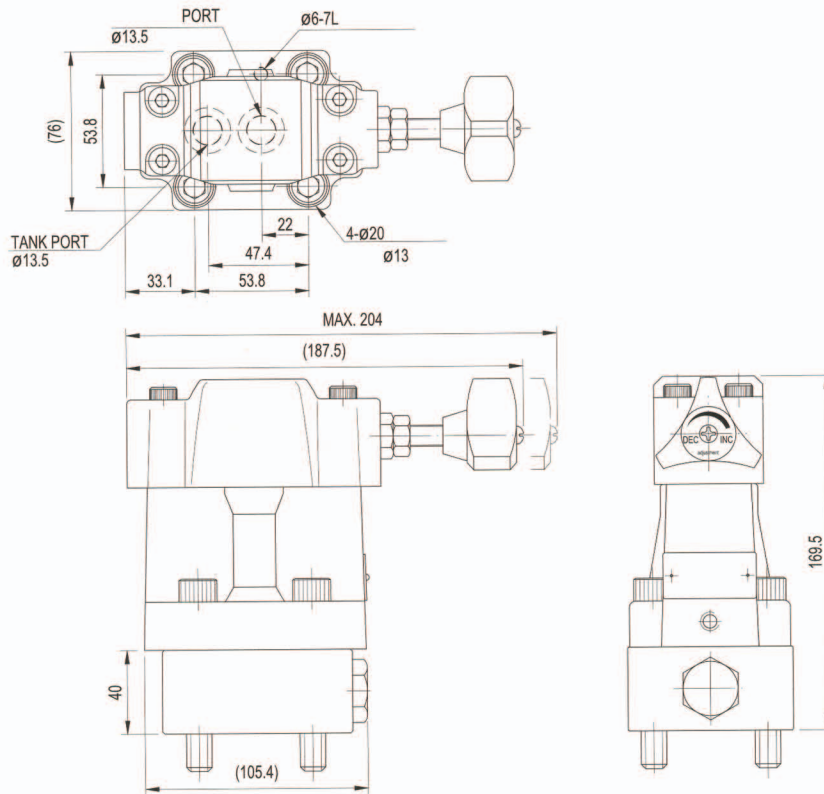


**MA-03-1**  
Page M-3



## Installation Dimensions:

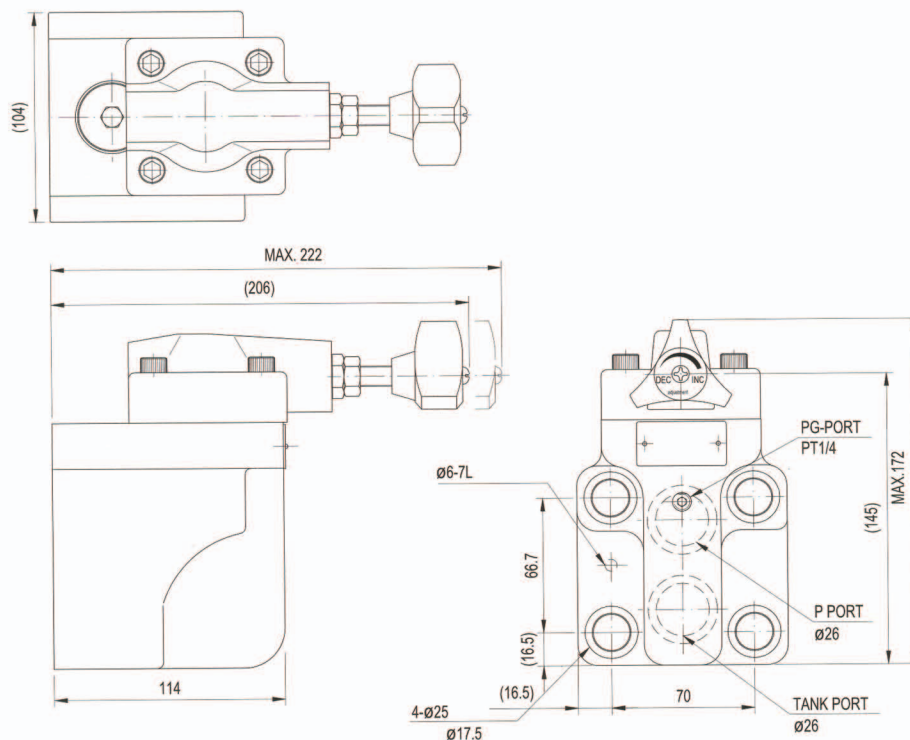
E MCA-03-20



MA-03-1  
Page M-3

## Intallation Dimensions:

E MCA-06-11

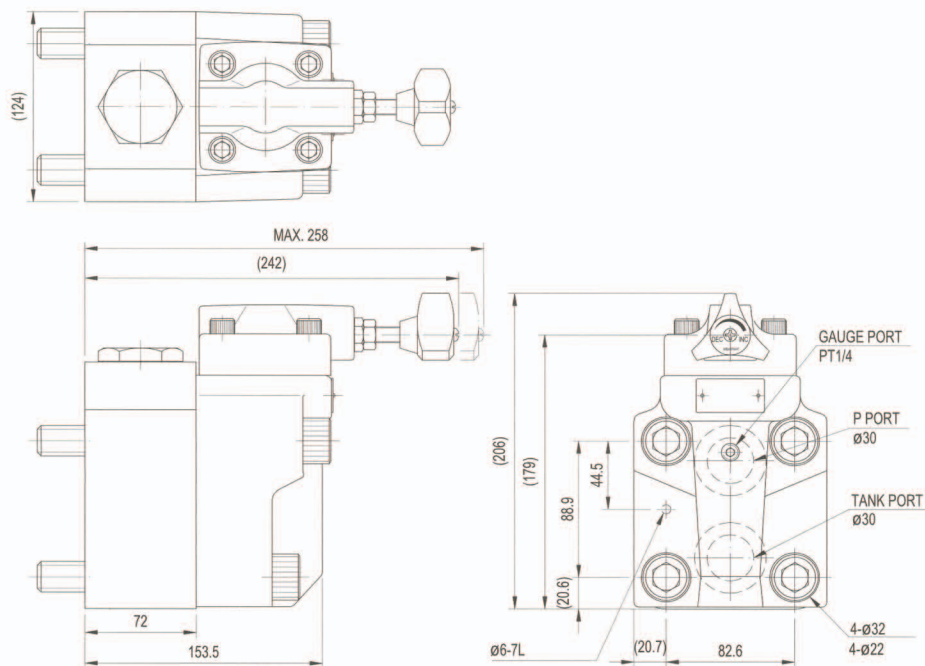


MA-02-3  
Page M-3

### Installation Dimensions:

E MCA-10-10

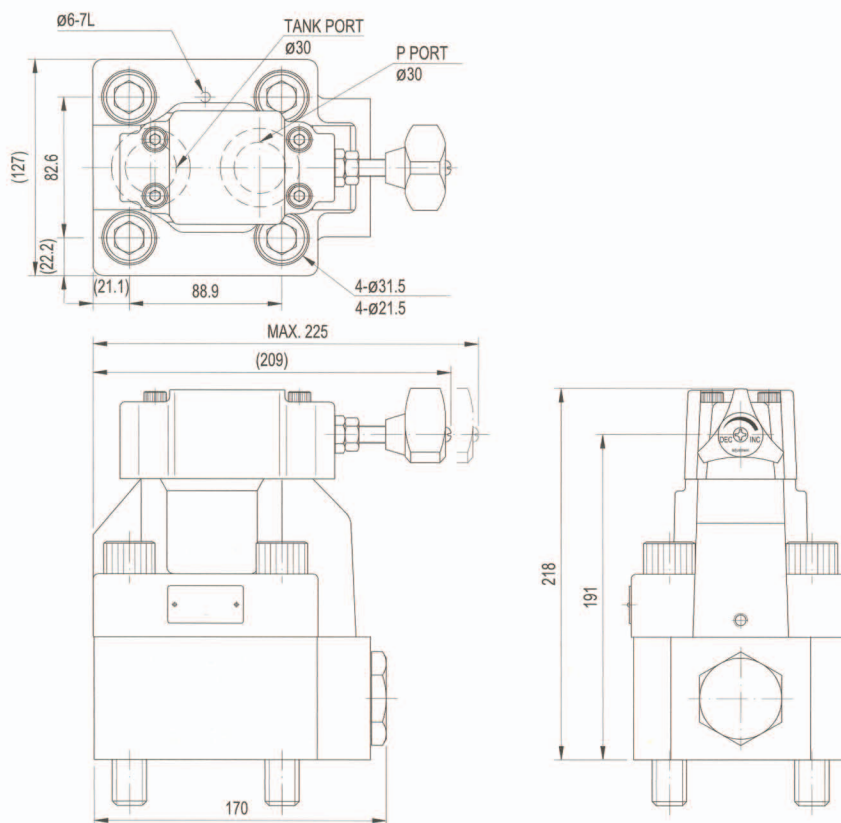
**MA-03-3**  
Page M-3



### Installation Dimensions:

E MCA-10-20

**MA-03-3**  
Page M-3



UNLOADING RELIEF VALVES  
PRESSURE CONTROL VALVES



Specification:

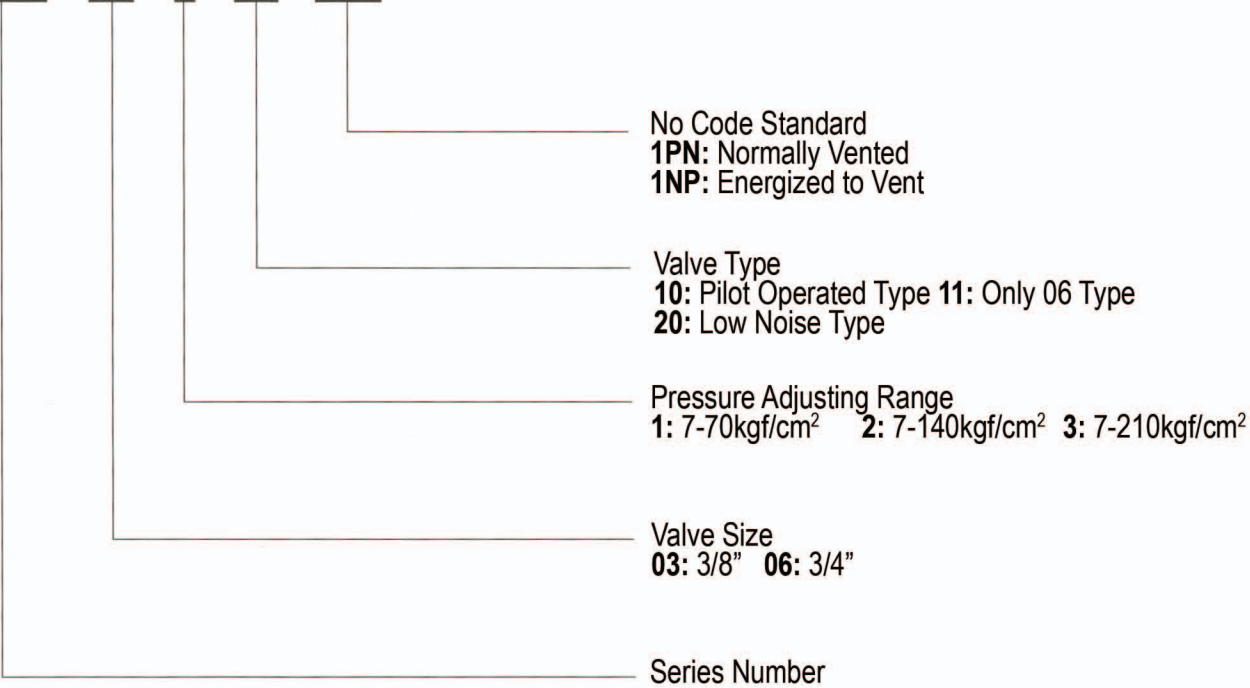
E BUCG-03-10/BUCG-06-20



| Model            |                  | Max. Operating Pressure (kgf/cm <sup>2</sup> ) | Pressure Adj. Range kgf/cm <sup>2</sup> | Max. Flow l/min | Weight kg |      |
|------------------|------------------|------------------------------------------------|-----------------------------------------|-----------------|-----------|------|
| E BUCG-03-※-10-※ | E BUCG-03-※-20-※ | 250                                            | 1: 7-70<br>2: 7-140                     | 60              | 8.6       | 7.5  |
| E BUCG-06-※-10-※ | E BUCG-06-※-20-※ |                                                | 3: 7-210                                | 125             | 13        | 11.2 |

Ordering Code:

**EBUCG - 06 - 3 - 10 - 1PN**



E BUCG-03-10/BUCG-06-20

Attachment:

E BUCG-03-10/BUCG-06-20

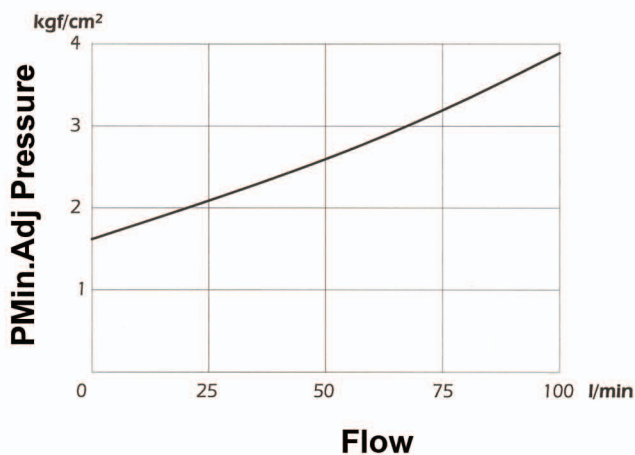
| Model          | Soc Hol Cap Screw                                          |
|----------------|------------------------------------------------------------|
| E BUCG-03-※-10 | M12x115L.....2pcs<br>M12x135L.....2pcs                     |
| E BUCG-06-※-10 | M16x60L.....2pcs<br>M16x115L.....2pcs<br>M16x135L.....2pcs |

| Model          | Soc Hol Cap Screw                     |
|----------------|---------------------------------------|
| E BUCG-03-※-20 | M12x80L.....4pcs                      |
| E BUCG-06-※-20 | M16x60L.....2pcs<br>M16x100L.....4pcs |

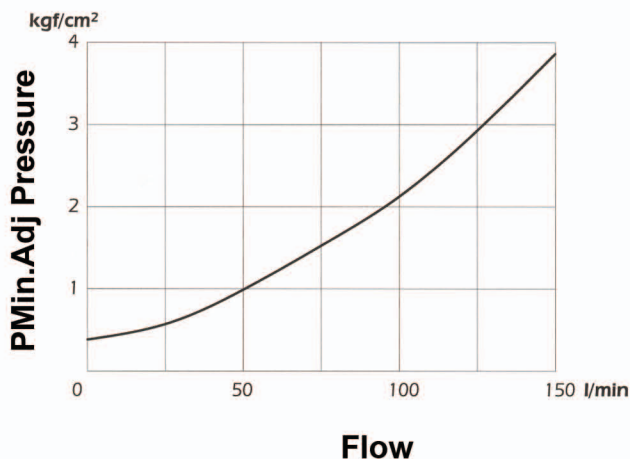
Perform Curves:

### Min. Adj. Pressure

● BUCG-03-※



● BUCG-06-※

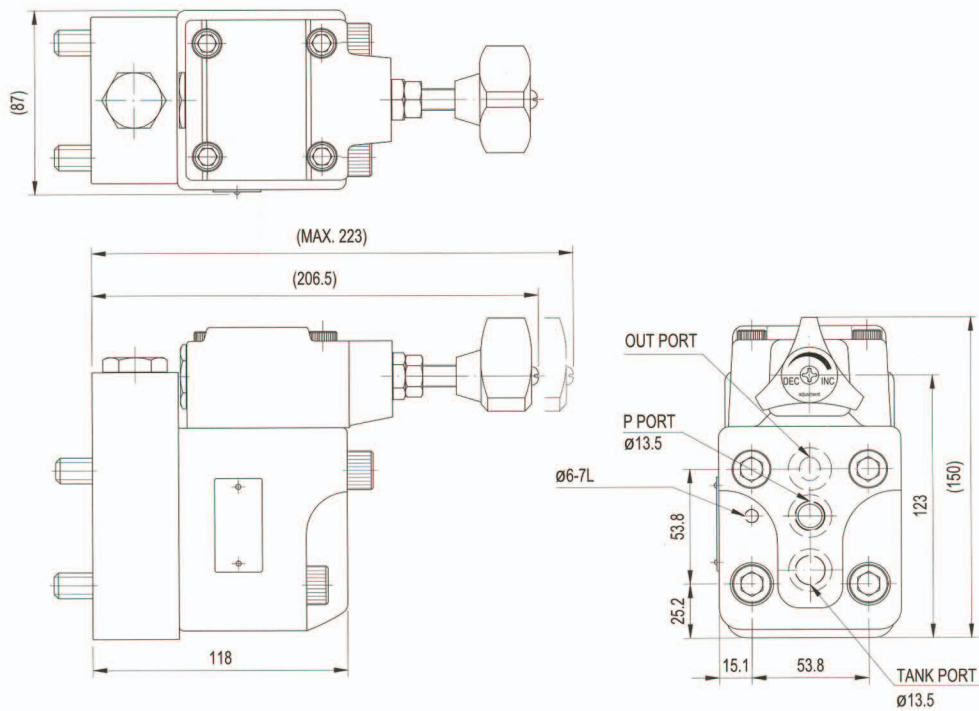




## Installation Dimensions:

E BUCG-03-10

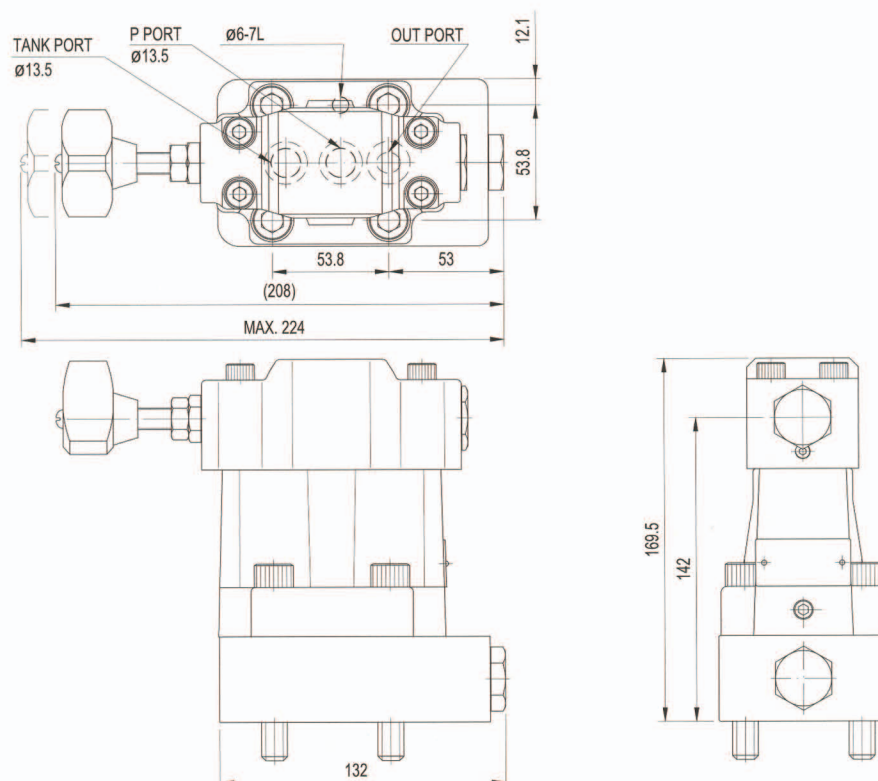
MA-04-1  
Page M-4



## Intallation Dimensions:

E BUCG-03-20...L

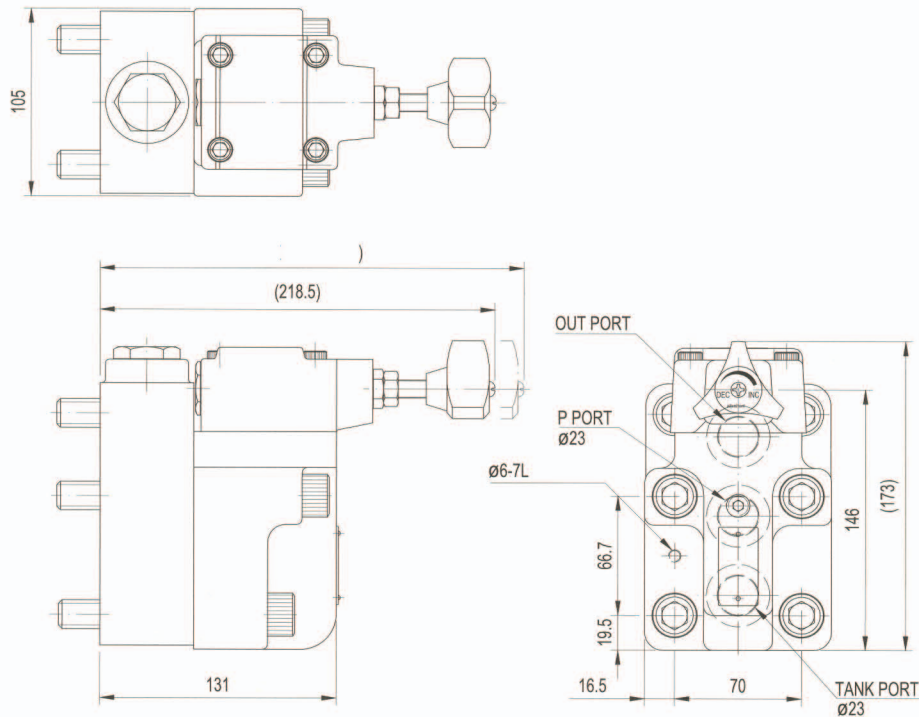
MA-04-1  
Page M-4



### Installation Dimensions:

E BUCG-06-10

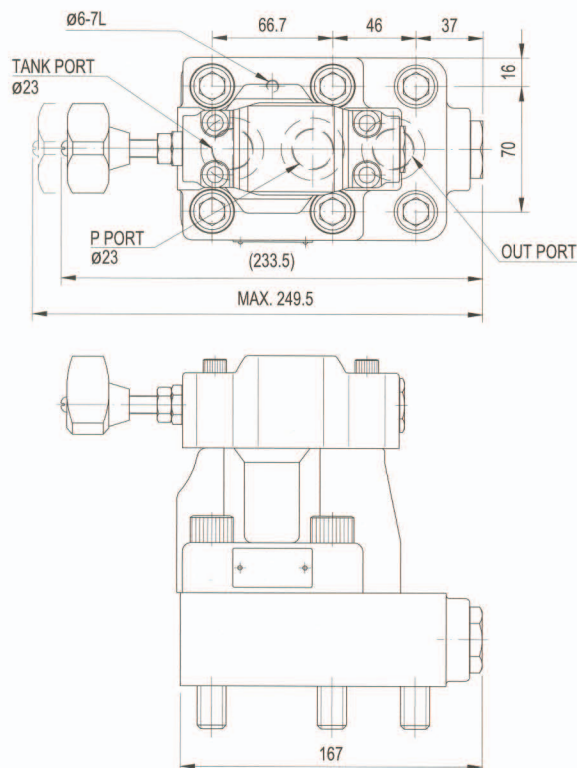
**MA-04-2**  
Page M-4



### Installation Dimensions:

E BUCG-06-20

**MA-04-2**  
Page M-4



# H. TYPE PRESSURE CONTROL VALVES

## PRESSURE CONTROL VALVES



**Specification:**

**E HT-03/HG-10**



| Model                |                    | Max. Operating Pressure (kgf/cm <sup>2</sup> ) | Max. Flow l/min | Pressure Adj. Range kgf/cm <sup>2</sup> | Weight (kg) |      |
|----------------------|--------------------|------------------------------------------------|-----------------|-----------------------------------------|-------------|------|
| Threaded Connections | Sub-Plate Mounting |                                                |                 |                                         |             |      |
| <b>E HT-03- ✖</b>    | <b>E HG-03- ✖</b>  | 250                                            | 50              | <b>A: 18.35</b>                         | 4.2         | 4.4  |
| <b>E HT-06- ✖</b>    | <b>E HG-06- ✖</b>  |                                                | 125             | <b>B: 35.70</b>                         | 7.3         | 6.5  |
| <b>E HT-06- ✖</b>    | <b>E HG-10- ✖</b>  |                                                | 250             | <b>C: 70.140</b>                        | 12.8        | 11.3 |

**Ordering Code:**

**EH G - 06 - A - 4**

| Model          | Soc Hol Cap Screw |
|----------------|-------------------|
| <b>E HG-03</b> | M10x55L.....4pcs  |
| <b>E HG-06</b> | M10x55L.....4pcs  |
| <b>E HG-10</b> | M10x55L.....6pcs  |

- 1: Internal Pilot & Drain
- 2: Internal Pilot External Drain
- 3: External Drain & Pilot
- 4: External Pilot Internal Drain

Pressure Adjusting Range  
**A:** 18-35kgf/cm<sup>2</sup>    **B:** 35-70kgf/cm<sup>2</sup>    **C:** 70-140kgf/cm<sup>2</sup>

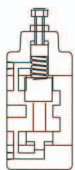
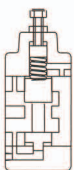
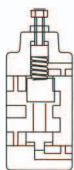
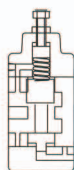
Valve Size  
**03:** 3/8"    **06:** 3/4"    **10:** 1-1/4"

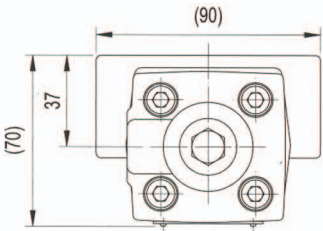
Mounting  
**G:** Sub-Plate Mounting  
**T:** Threaded Connections

Series Number

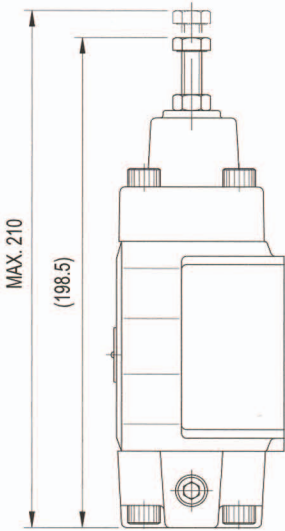
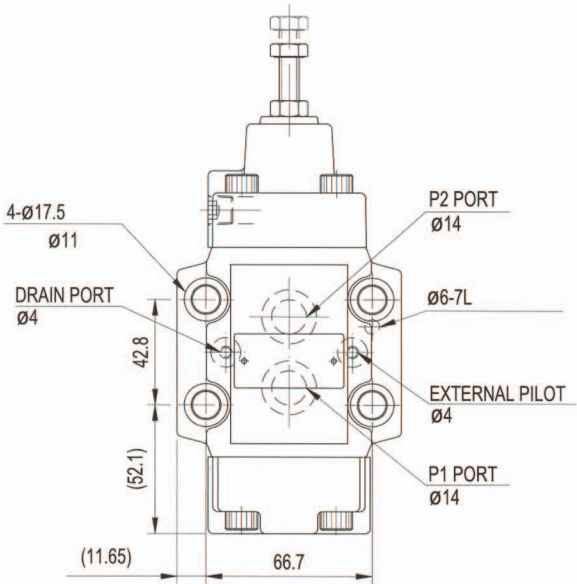
### Installation Dimensions:

E HG-03

| Valve Type       | Type1. Low Pressure Relief Valve                                                  | Type 2. Sequence Valve                                                            | Type 3. Sequence Valve                                                            | Type 4. Unloading Relief Valve                                                      |
|------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Pilot Drain Type | Internal Pilot Internal Drain                                                     | Internal Pilot External Drain                                                     | External Pilot External Drain                                                     | ExternalPilot Internal Drain                                                        |
| Activity Diagram |  |  |  |  |
| Symbol           |  |  |  |  |



MA-05-1  
Page M-5





# H. TYPE PRESSURE CONTROL VALVES

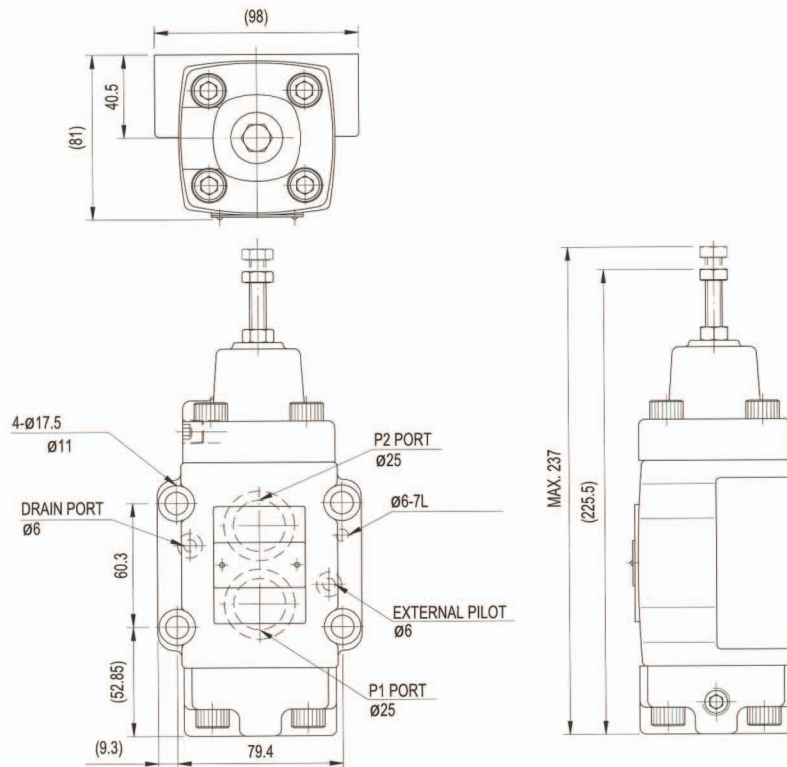
## PRESSURE CONTROL VALVES



### Installation Dimensions:

E HG-06

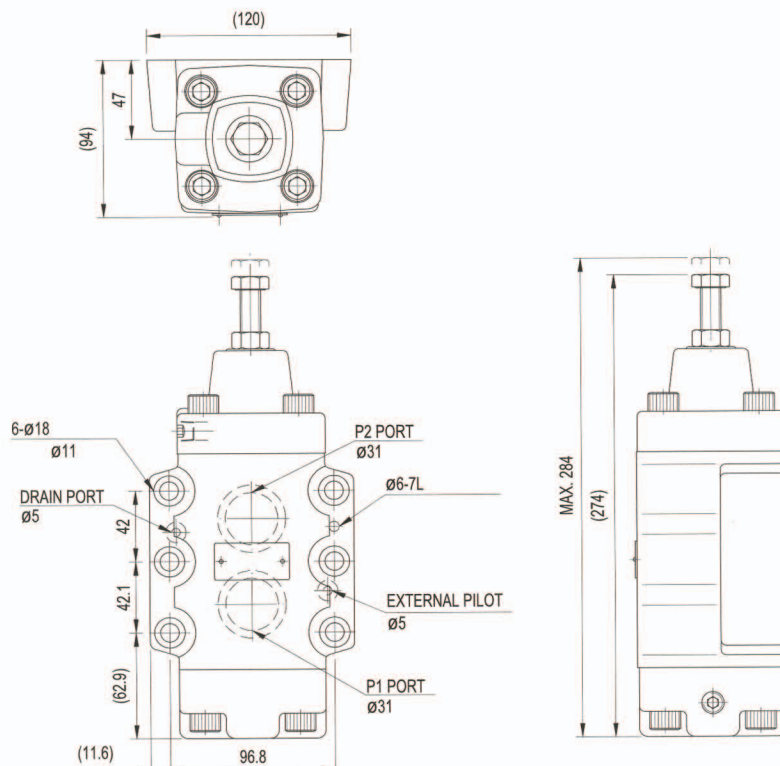
MA-05-2  
Page M-5



### Intallation Dimensions:

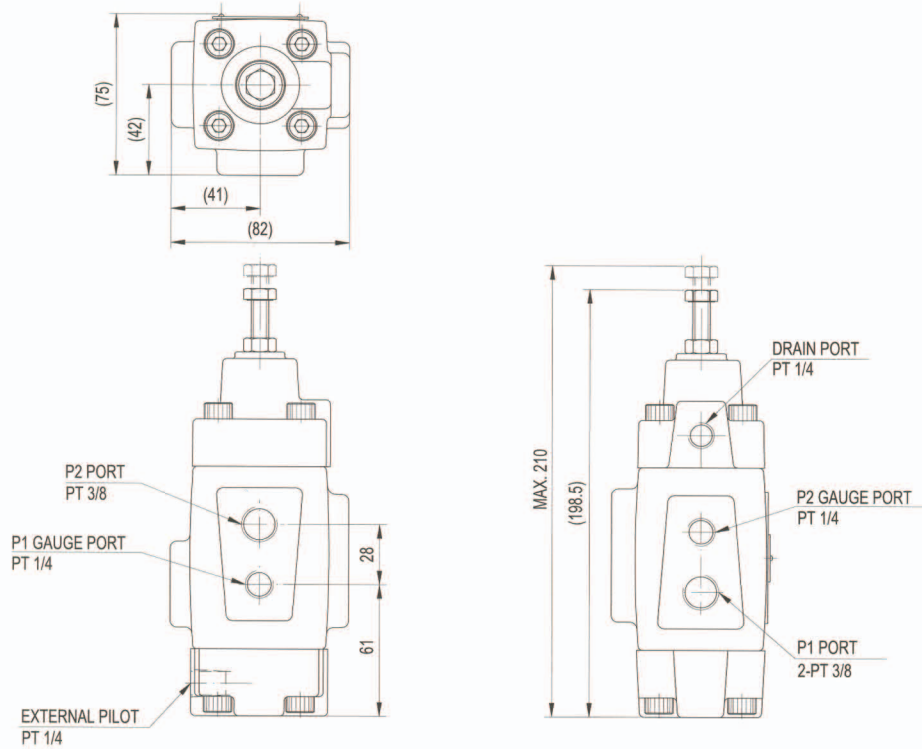
E HG-10

MA-05-3  
Page M-5



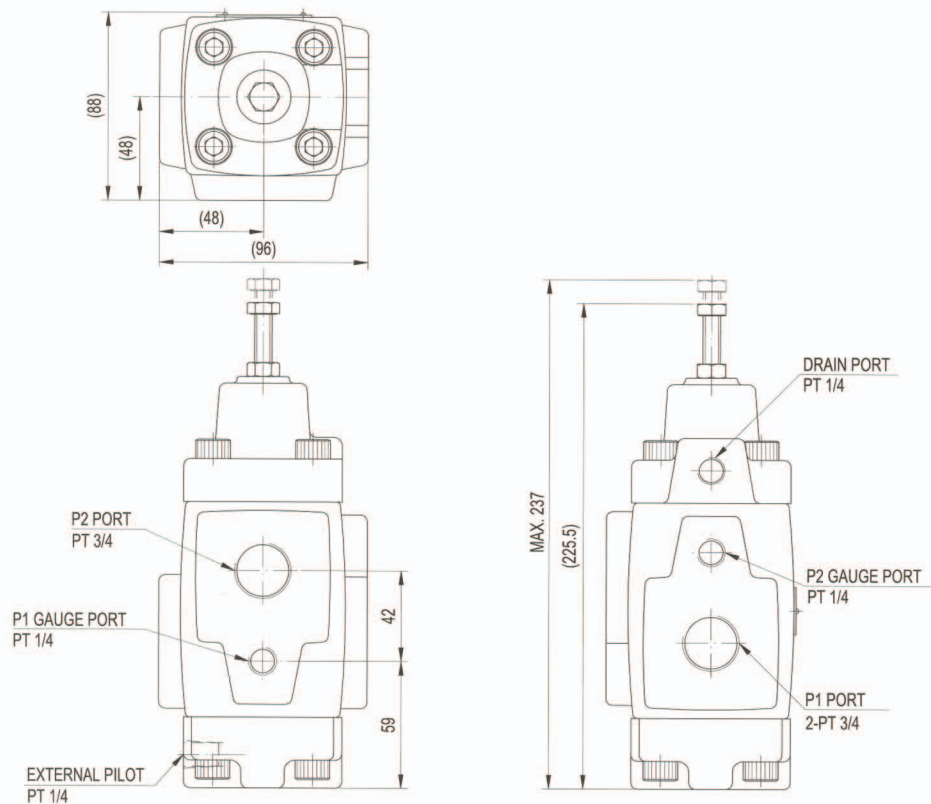
### Installation Dimensions:

E HT-03



### Installation Dimensions:

E HT-06

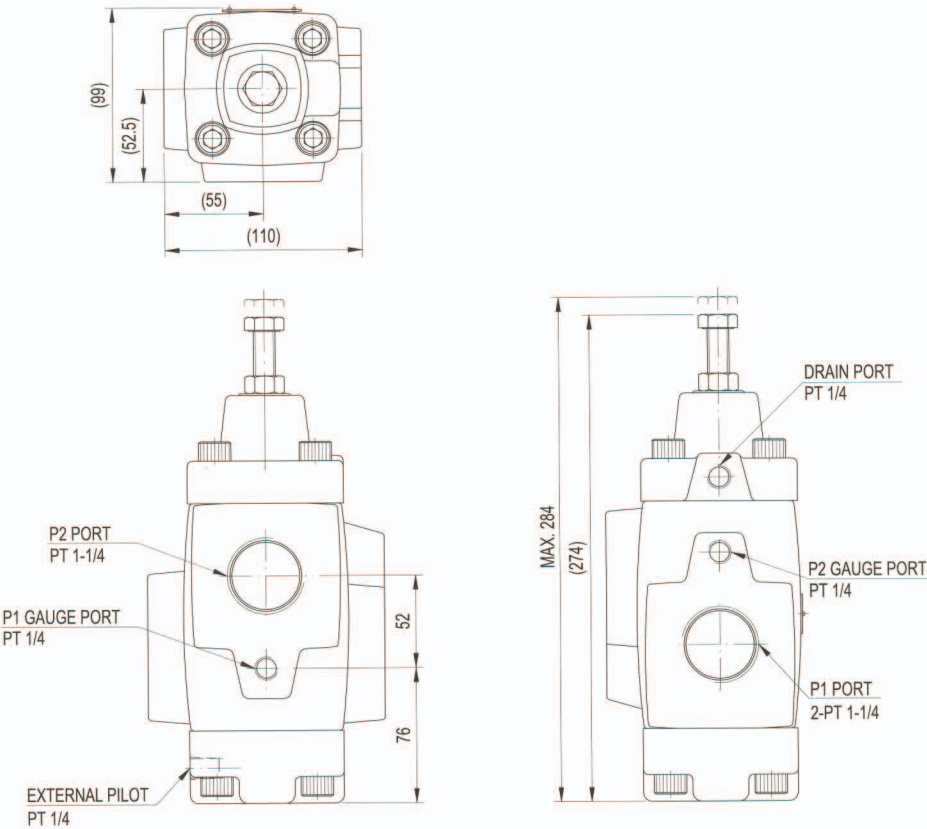


H. TYPE PRESSURE CONTROL VALVES  
PRESSURE CONTROL VALVES



Installation Dimensions:

E HT-10



EHT-10

### Specification:

E HCT-03/HCG-10



| Model                |                    | Max. Operating Pressure (kgf/cm <sup>2</sup> ) | Max. Flow l/min | Pressure Adj. Range kgf/cm <sup>2</sup> | Weight (kg) |    |
|----------------------|--------------------|------------------------------------------------|-----------------|-----------------------------------------|-------------|----|
| Threaded Connections | Sub-Plate Mounting |                                                |                 |                                         |             |    |
| E HCT-03-※           | E HCG-03-※         | 250                                            | 50              | A: 18.35                                | 4.3         | 5  |
| E HCT-06-※           | E HCG-06-※         |                                                | 125             | B: 35.70                                | 7.3         | 8  |
| E HCT-10-※           | E HCG-10-※         |                                                | 250             | C: 70.140                               | 15.8        | 14 |

### Ordering Code:

### Attachment:

**EHC G - 06 - A - 4**

| Model    | Soc Hol Cap Screw |
|----------|-------------------|
| E HCG-03 | M10x70L.....4pcs  |
| E HCG-06 | M10x80L.....4pcs  |
| E HCG-10 | M10x95L.....6pcs  |

- 1: Internal Pilot & Drain
- 2: Internal Pilot External Drain
- 3: External Drain & Pilot
- 4: External Pilot Internal Drain

Pressure Adjusting Range  
**A:** 18-35kgf/cm<sup>2</sup>    **B:** 35-70kgf/cm<sup>2</sup>  
**C:** 70-140kgf/cm<sup>2</sup>

Valve Size  
**03:** 3/8"    **06:** 3/4"    **10:** 1-1/4"

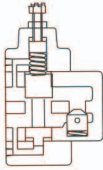
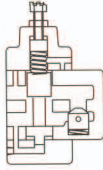
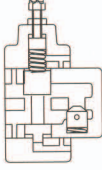
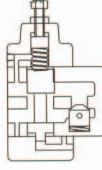
Mounting  
**G:** Sub-Plate Mounting  
**T:** Threaded Connections

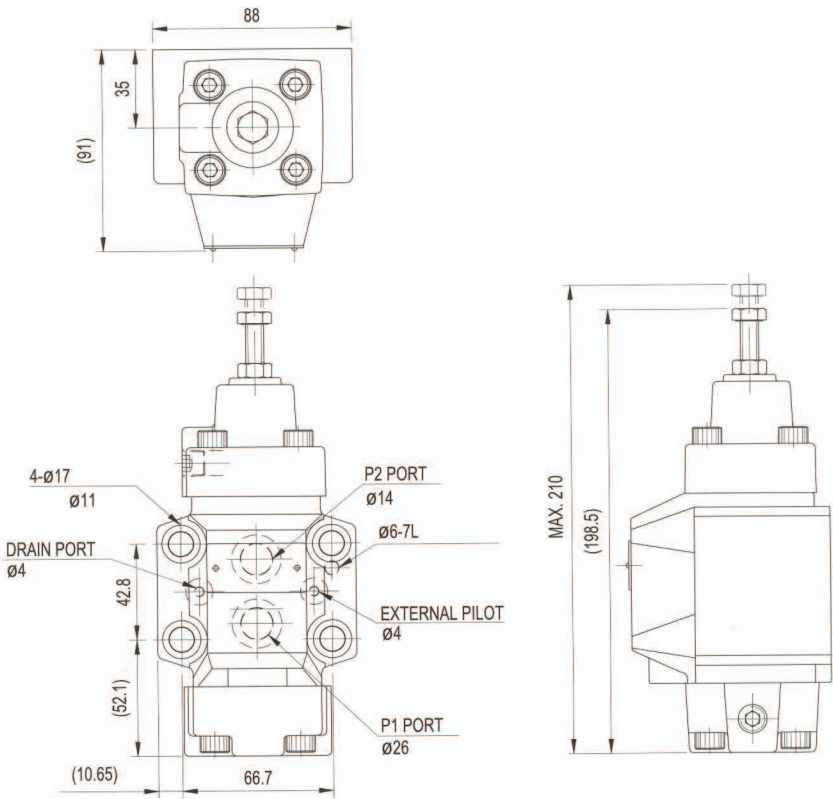
Series Number



Installation Dimensions:

E HCG-03

| Valve Type       | Type1. Low Pressure Relief Valve                                                  | Type 2. Sequence Valve                                                            | Type 3. Sequence Valve                                                             | Type 4. Unloading Relief Valve                                                      |
|------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Pilot Drain Type | Internal Pilot Internal Drain                                                     | Internal Pilot External Drain                                                     | External Pilot External Drain                                                      | ExternalPilot Internal Drain                                                        |
| Activity Diagram |  |  |  |  |
| Symbol           |  |  |  |  |

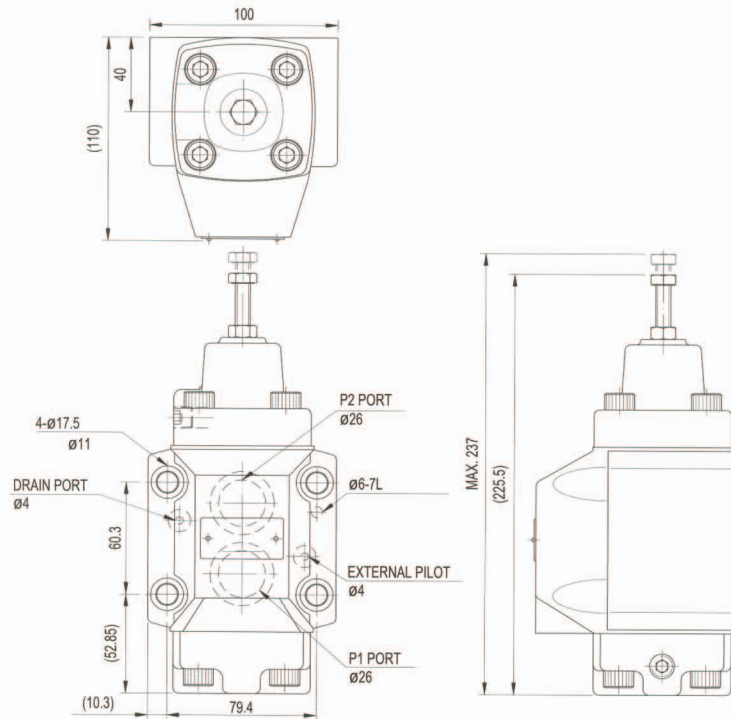


E HCG-03

#### Installation Dimensions

E HCG-06

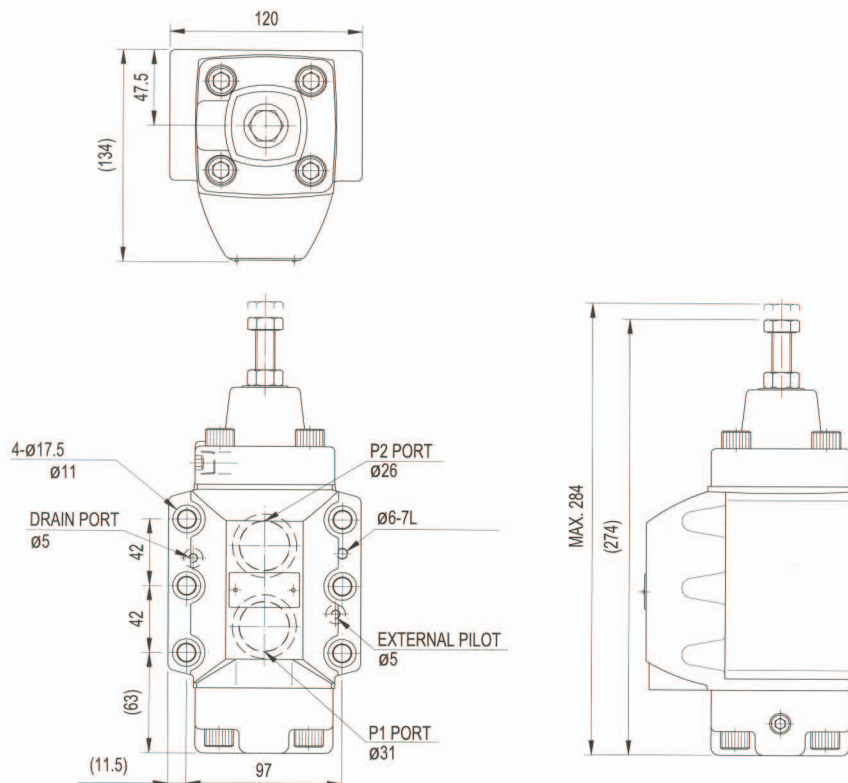
MA-05-2  
Page M-5



#### Installation Dimensions:

E HCG-10

MA-05-3  
Page M-5



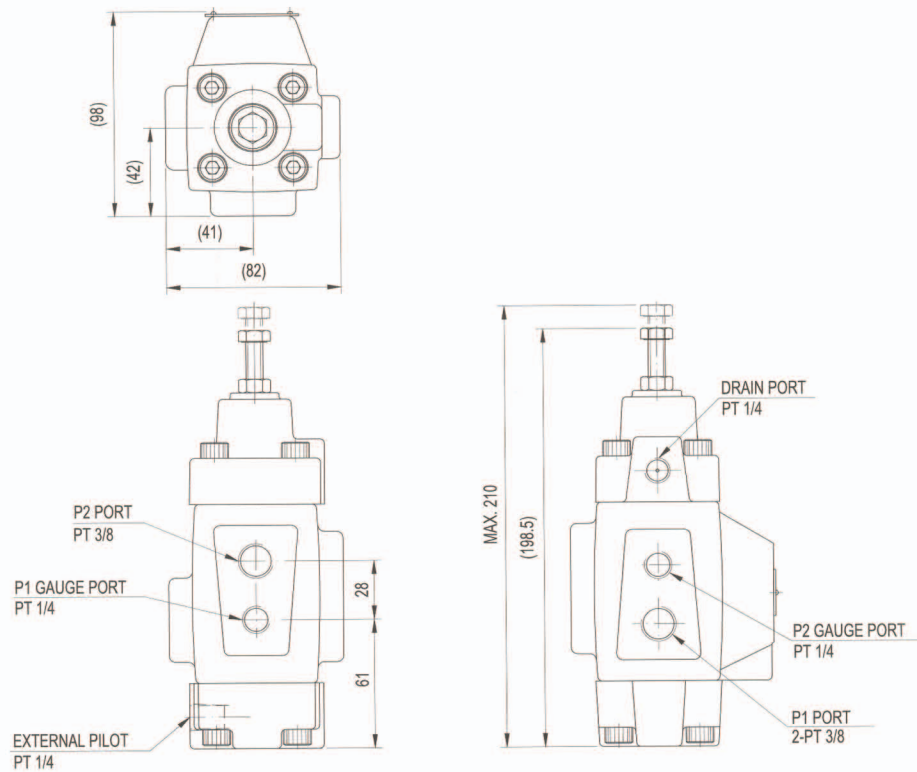
# HC. TYPE PRESSURE CONTROL VALVES

## PRESSURE CONTROL VALVES



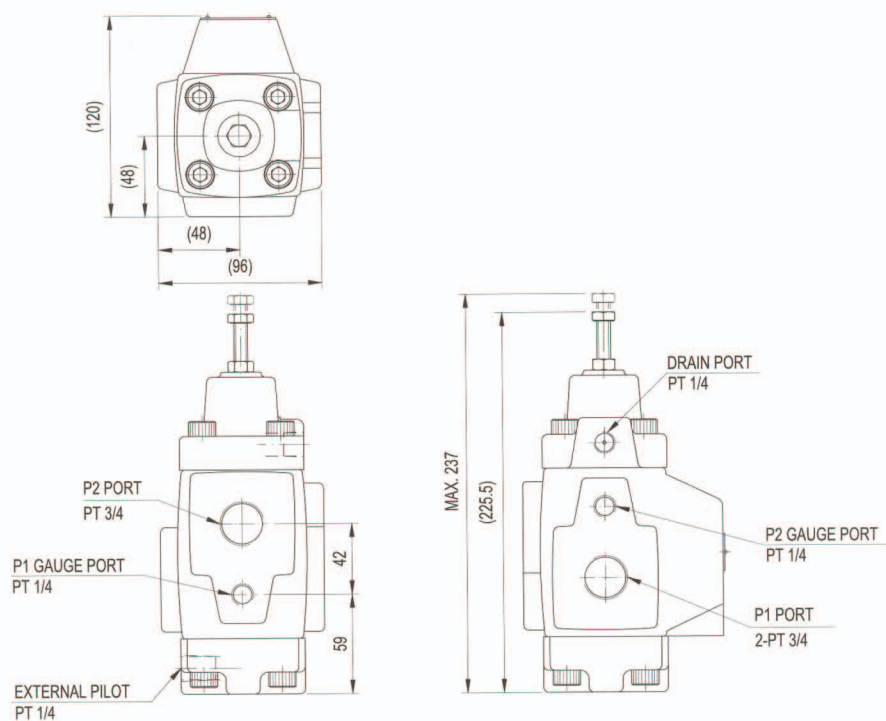
### Installation Dimensions:

E HCT-03



### Intallation Dimensions:

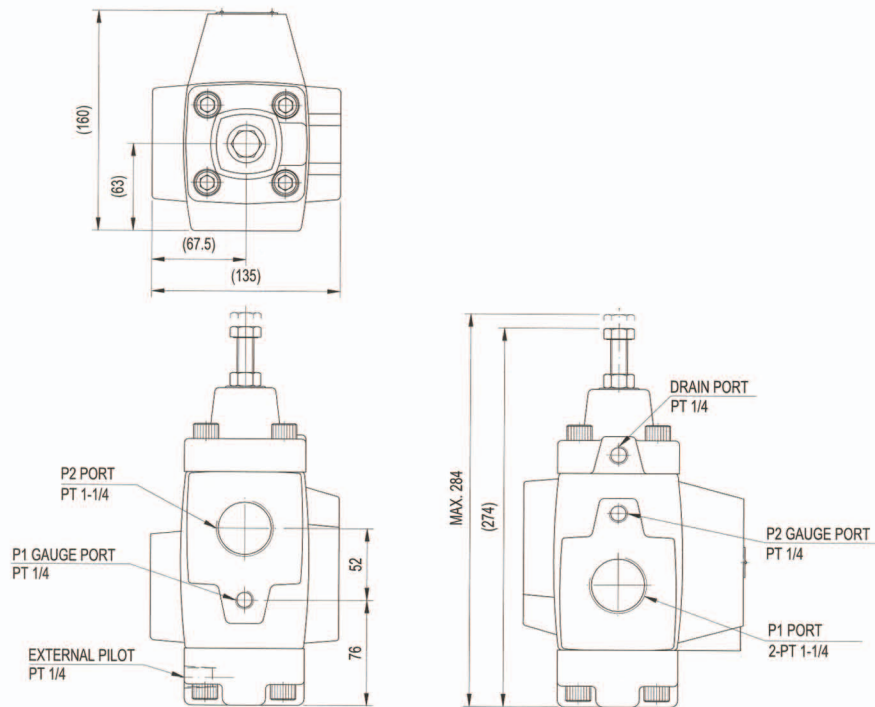
E HCT-06



E HCG-03

### Installation Dimensions:

E HCT-10



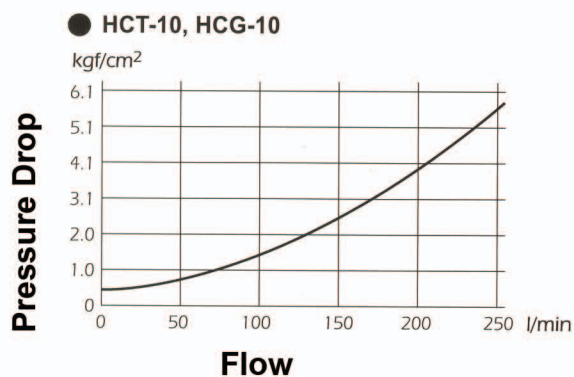
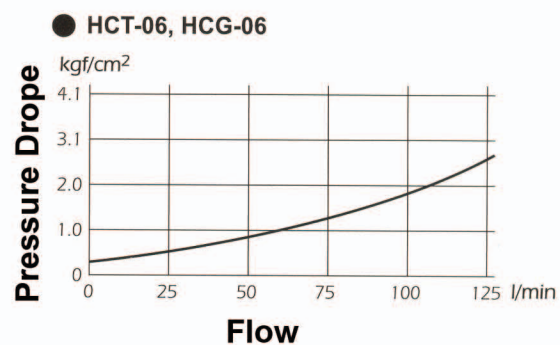
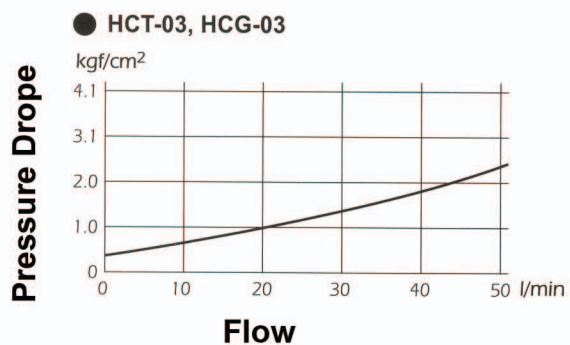
### Performance Curves:

E HCT-03/HCG-06

TEST FLUID VISCOSITY : 35 cSt

TEST TEMPERATURE : 50°C

#### Pressure Drop For Free Flow





PRESSURE REDUCING VALVES  
PRESSURE CONTROL VALVES



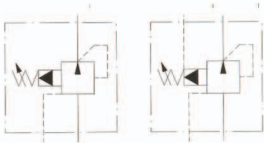
Specification:

E RT-03/RG-10

SYMBOL

RT-※

RG-※



| Model                   |                       | Max. Pressure<br>(kgf/cm <sup>2</sup> ) | Rated Flow<br>l/min | Pressure Adj. Range<br>kgf/cm <sup>2</sup> | Weight<br>(kg) |      |
|-------------------------|-----------------------|-----------------------------------------|---------------------|--------------------------------------------|----------------|------|
| Threaded<br>Connections | Sub-Plate<br>Mounting |                                         |                     |                                            |                |      |
| E RT-03- ※              | E RG-03- ※            | 250                                     | 50                  | 1: 7-70                                    | 4.4            | 4.9  |
| E RT-06- ※              | E RG-06- ※            |                                         | 125                 | 2: 7-140                                   | 7.5            | 7.2  |
| E RT-10- ※              | E RG-10- ※            |                                         | 250                 | 3: 7-210                                   | 12.2           | 12.2 |

Ordering Code:

Attachment:

ERG - 03 - 1 - 31 - TU

| Model   | Soc Hol Cap Screw |
|---------|-------------------|
| E RG-03 | M10x55L.....4pcs  |
| E RG-06 | M10x55L.....4pcs  |
| E RG-10 | M10x55L.....6pcs  |

Only RT-03 Type

Design Number  
30: Standard Type  
31: Adjusting Direct Type

Pressure Adjusting Range  
1: 7-70kgf/cm<sup>2</sup> 2: 7-140kgf/cm<sup>2</sup> 3: 7-210kgf/cm<sup>2</sup>

Valve Size  
03: 3/8" 06: 3/4" 10: 1-1/4"

Series Number  
RG: Sub-Plate Mounting  
RT: Threaded Connections

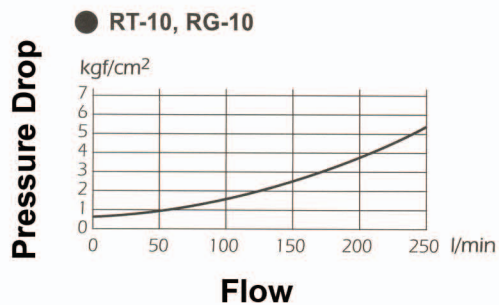
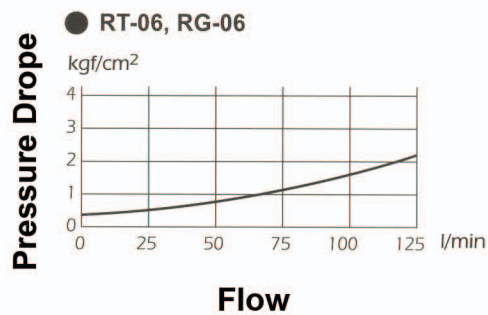
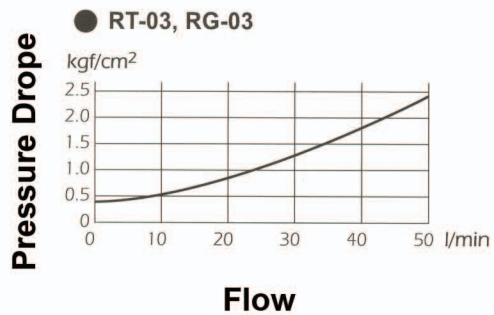
E RT-03/RG-10

### Performance Curves:

E RT-03/RG-10

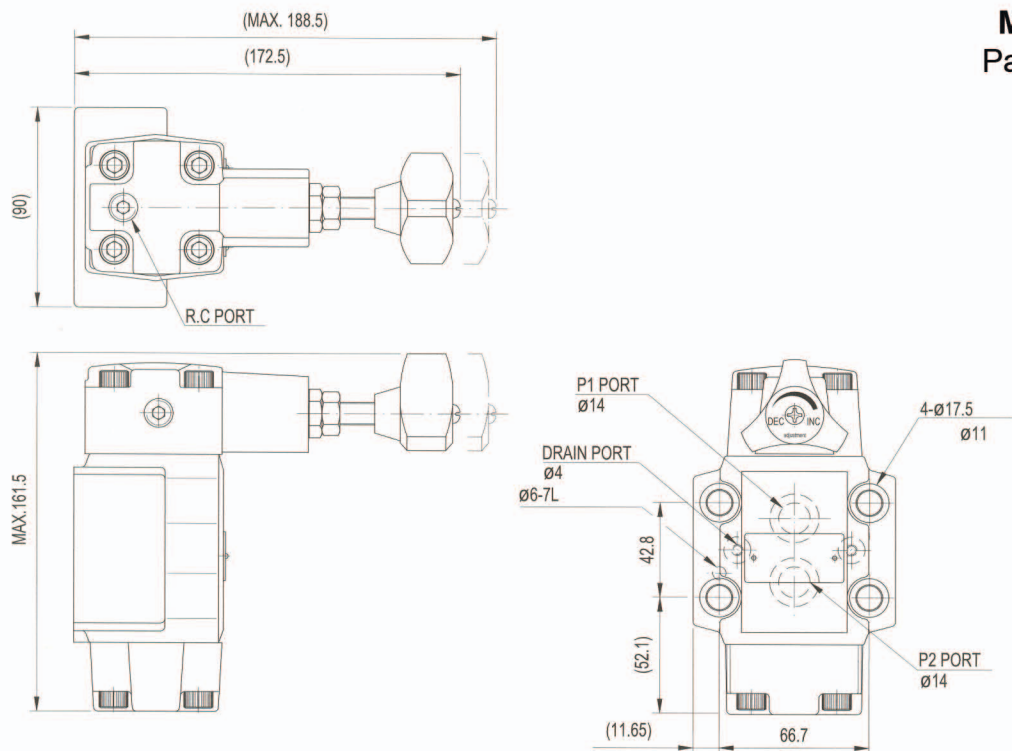
TEST FLUID VISCOSITY : 35 cSt

TEST TEMPERATURE : 50°C



### Installation Dimensions:

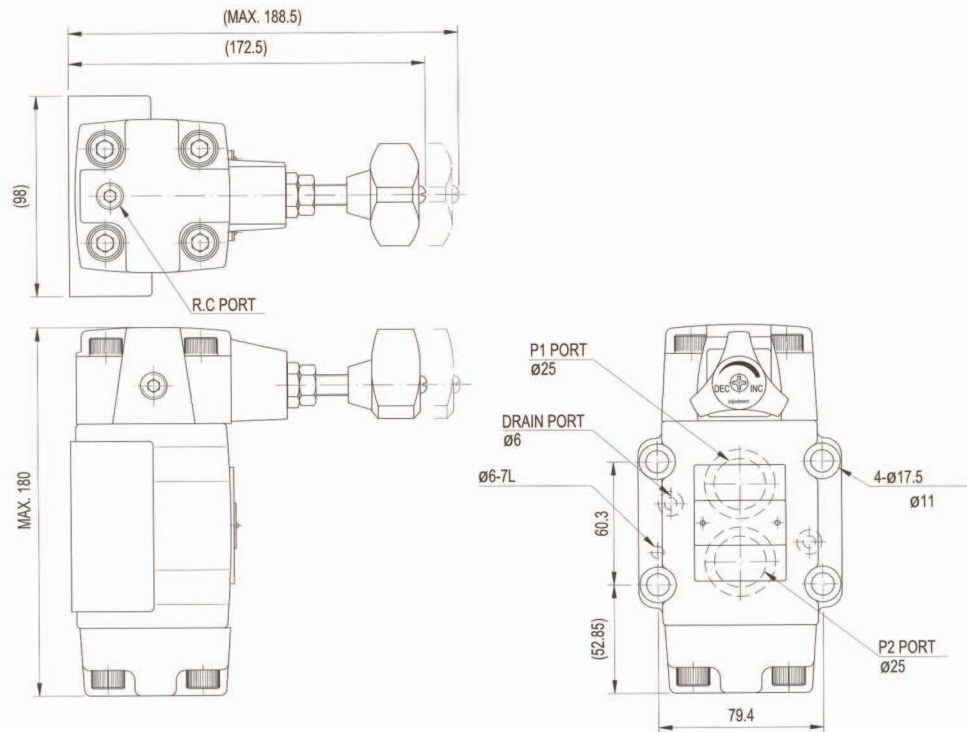
E RG-03



MA-06-1  
Page M-6

Installation Dimensions:

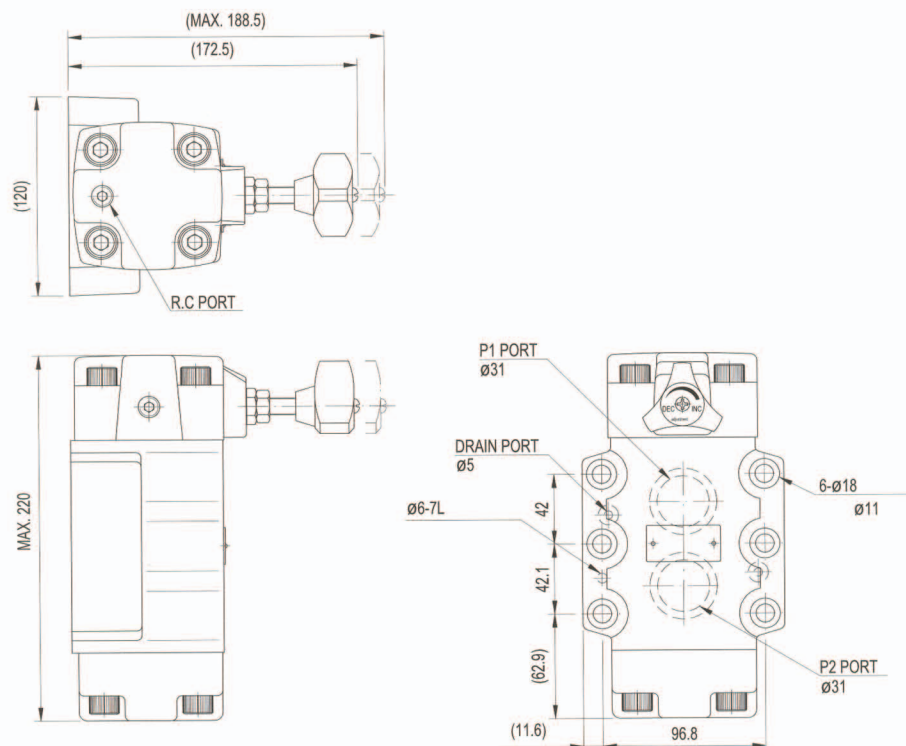
E RG-06



MA-06-2  
Page M-6

Intallation Dimensions:

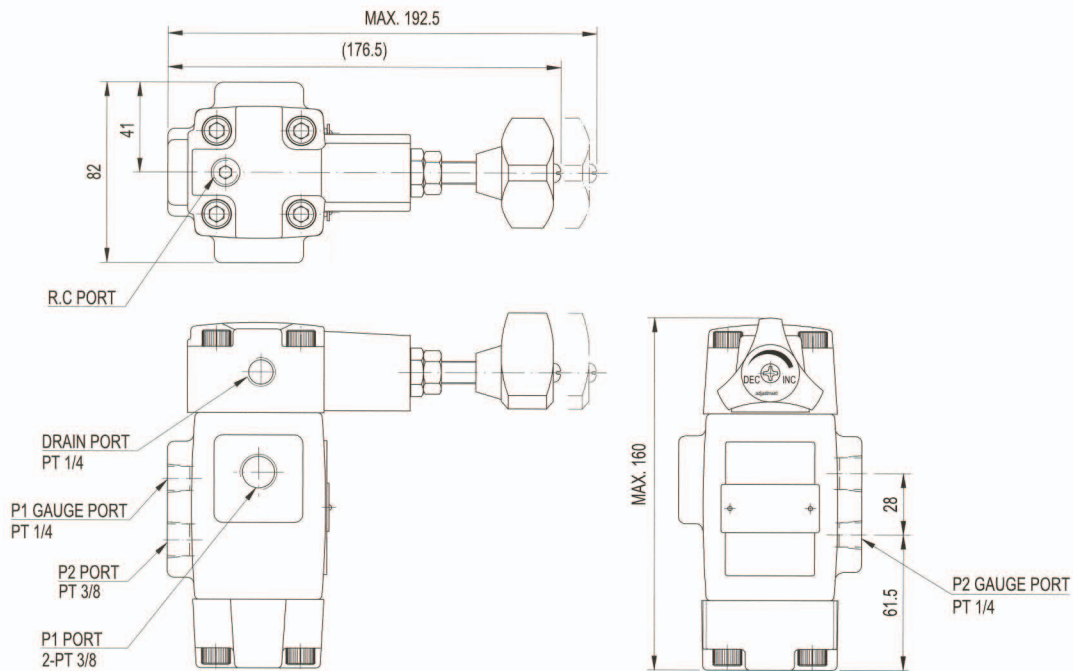
E RG-10



MA-06-3  
Page M-6

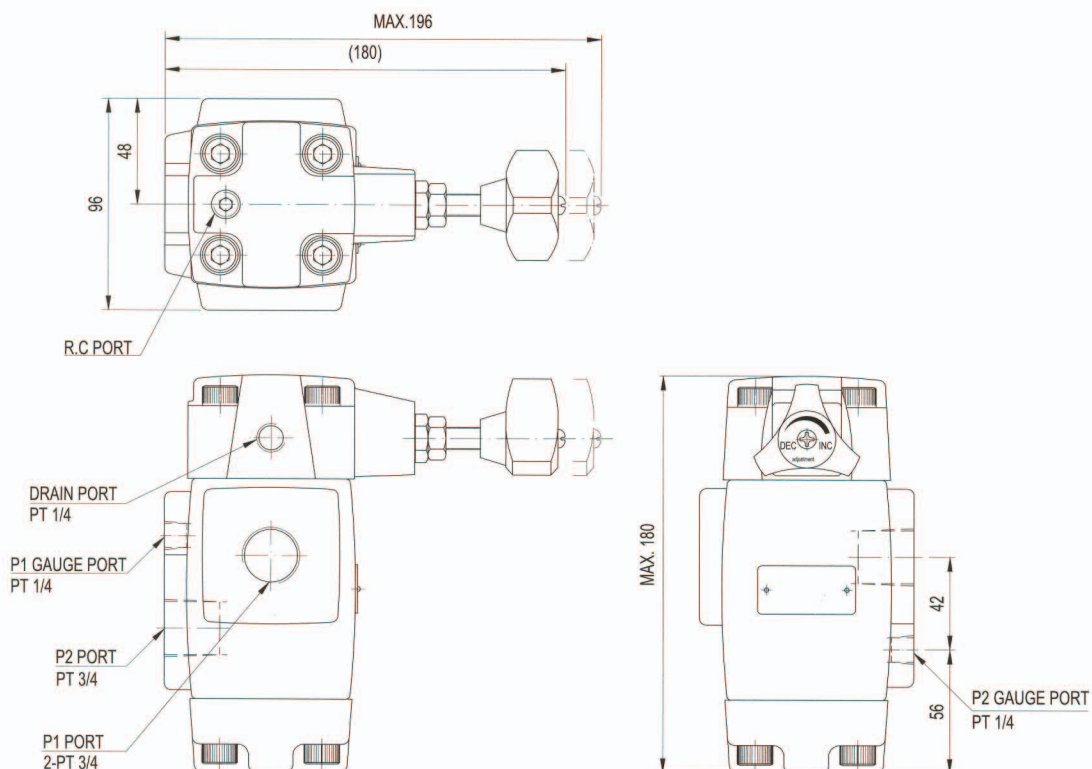
### Installation Dimensions:

E RT-03



### Installation Dimensions:

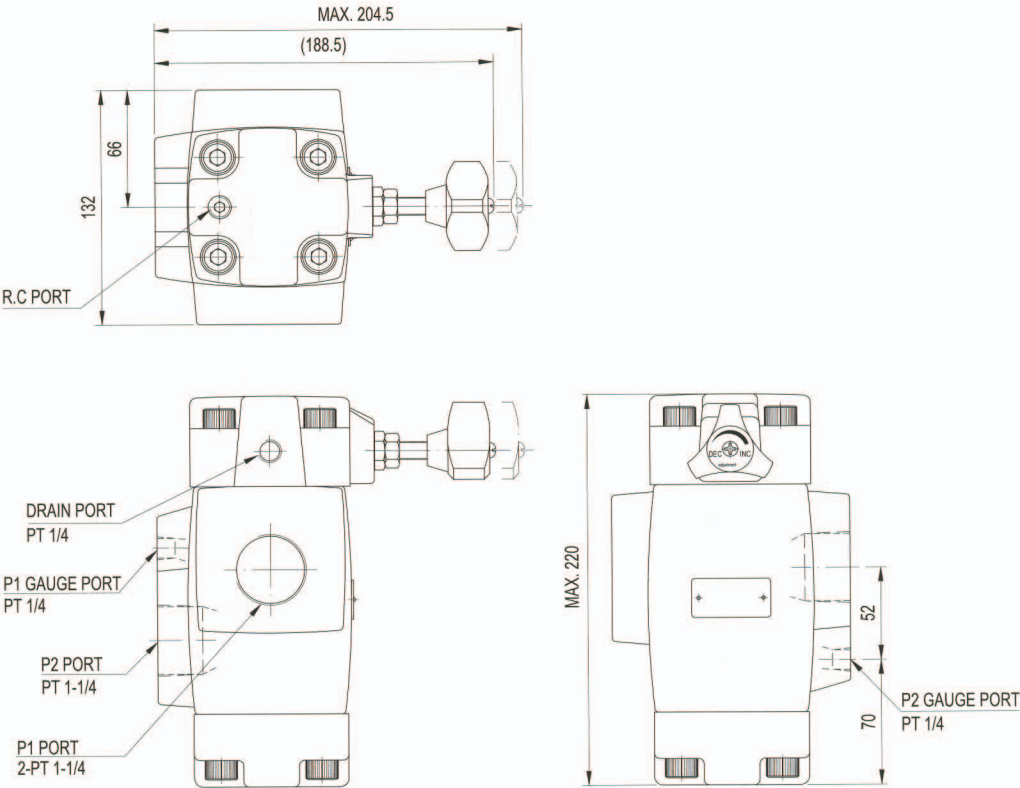
E RT-06





Installation Dimensions:

E RT-10

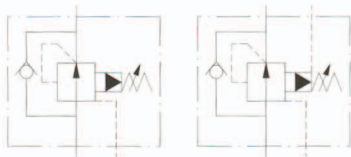


ERT-10

### Specification:

E RCT-03/RCG-10

SYMBOL  
RC-※



| Model                |                    | Max. Operating Pressure (kgf/cm <sup>2</sup> ) | Rated Flow l/min | Pressure Adj. Range kgf/cm <sup>2</sup> | Weight (kg) |     |
|----------------------|--------------------|------------------------------------------------|------------------|-----------------------------------------|-------------|-----|
| Threaded Connections | Sub-Plate Mounting |                                                |                  |                                         |             |     |
| E RCT-03-※           | E RCG-03-※         | 250                                            | 50               | 1: 7-70                                 | 4.9         | 5.5 |
| E RCT-06-※           | E RCG-06-※         |                                                | 125              | 2: 7-140                                | 8.4         | 8.7 |
| E RCT-06-※           | E RCG-10-※         |                                                | 250              | 3: 7-210                                | 17          | 15  |

### Ordering Code:

**ERCG - 03 - 1 - 31 - TU**

### Attachment:

| Model      | Soc Hol Cap Screw |
|------------|-------------------|
| E SBG-03-※ | M12x40L.....2pcs  |
| E SBG-06-※ | M16x50L.....2pcs  |
| E SBG-10-※ | M20x65L.....2pcs  |

Only RCT-03 Type

Design Number  
30: Standard Type  
31: Adjusting Direct Type

Pressure Adjusting Range  
1: 7-70kgf/cm<sup>2</sup> 2: 7-140kgf/cm<sup>2</sup> 3: 7-210kgf/cm<sup>2</sup>

Valve Size  
03: 3/8" 06: 3/4" 10: 1-1/4"

Mounting  
RG: Sub-Plate Mounting  
RT: Threaded Connections

Series Number

# PRESSURE REDUCING AND CHECK VALVES

## PRESSURE CONTROL VALVES

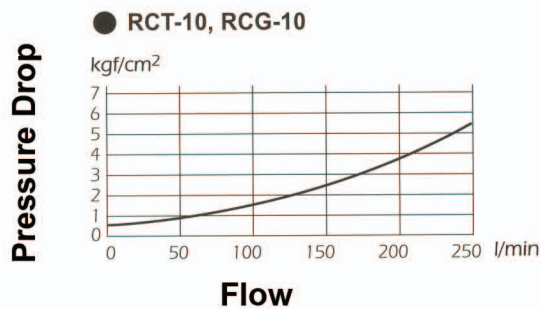
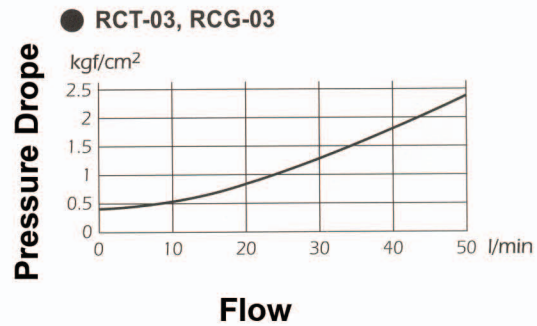
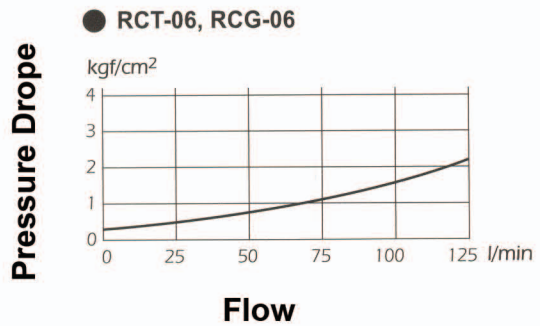


### Performance Curves:

E RCT-06/RCG-10

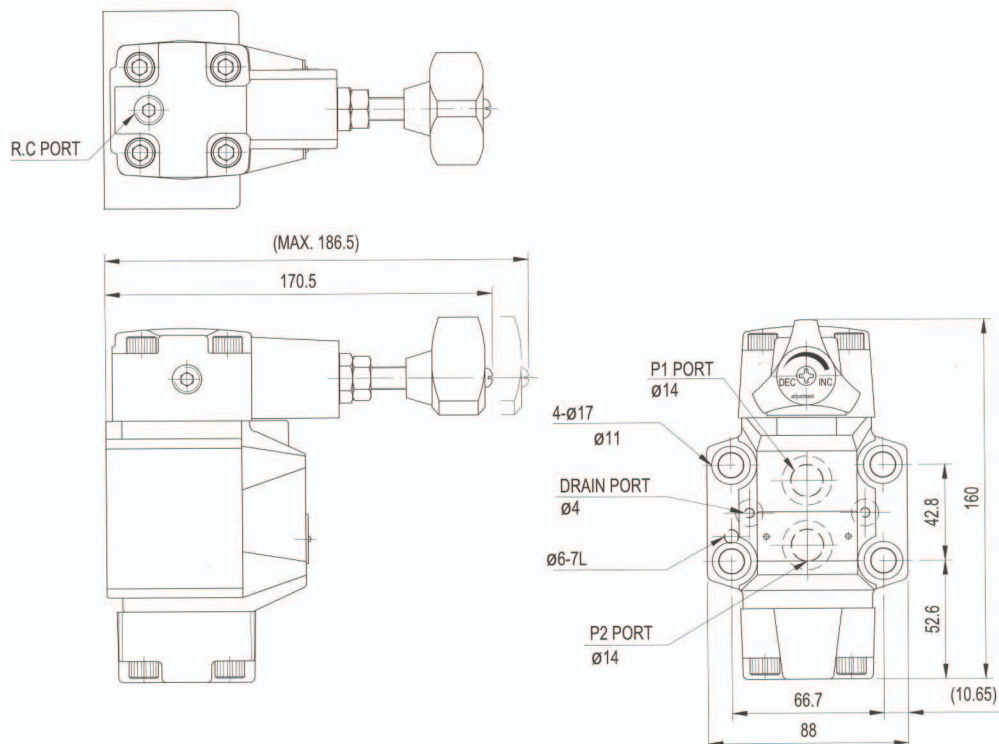
TEST FLUID VISCOSITY : 35 cSt

TEST TEMPERATURE : 50°C



### Intallation Dimensions:

E RCG-03

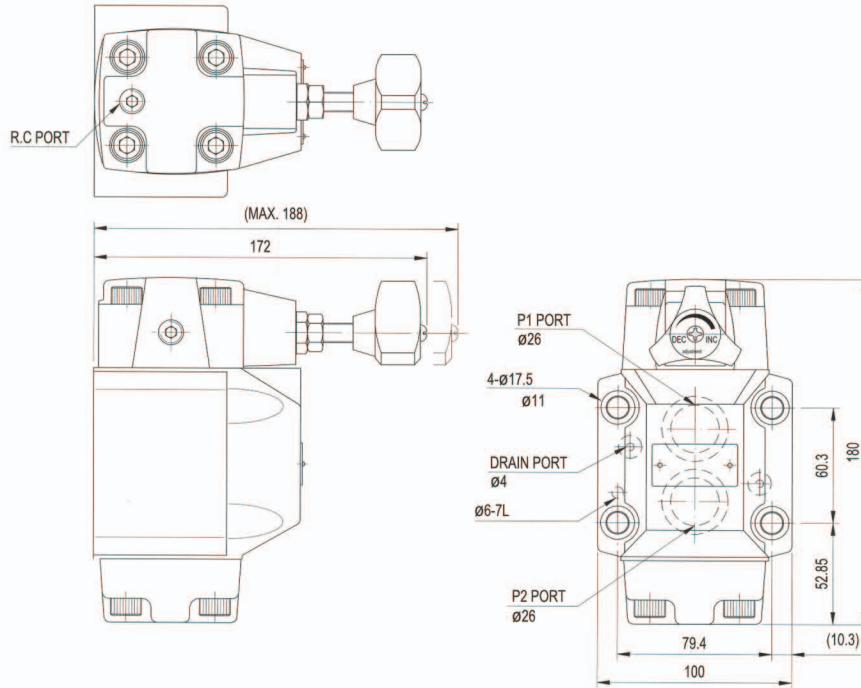


MA-06-1  
Page M-6

### Installation Dimensions:

E RCG-06

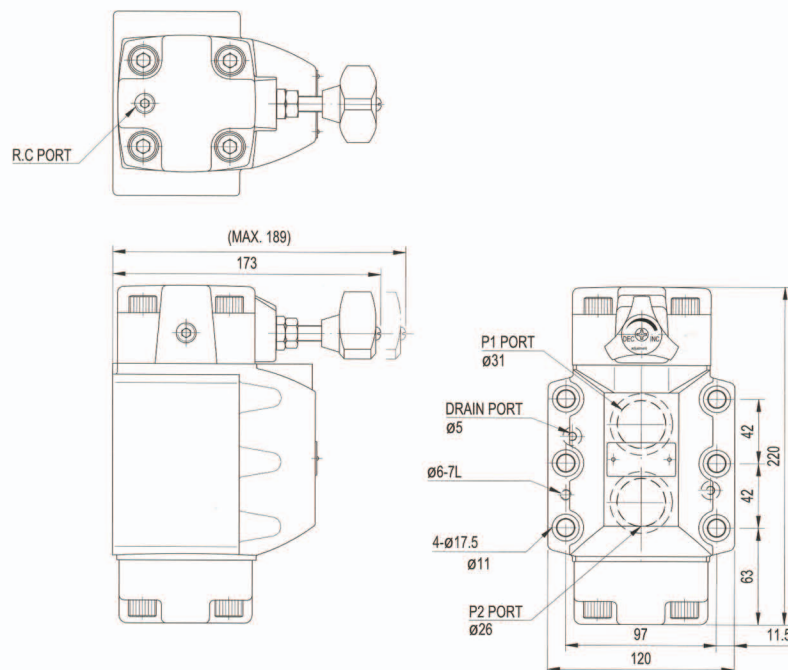
MA-06-2  
Page M-6



### Installation Dimensions:

E RCG-10

MA-06-3  
Page M-6





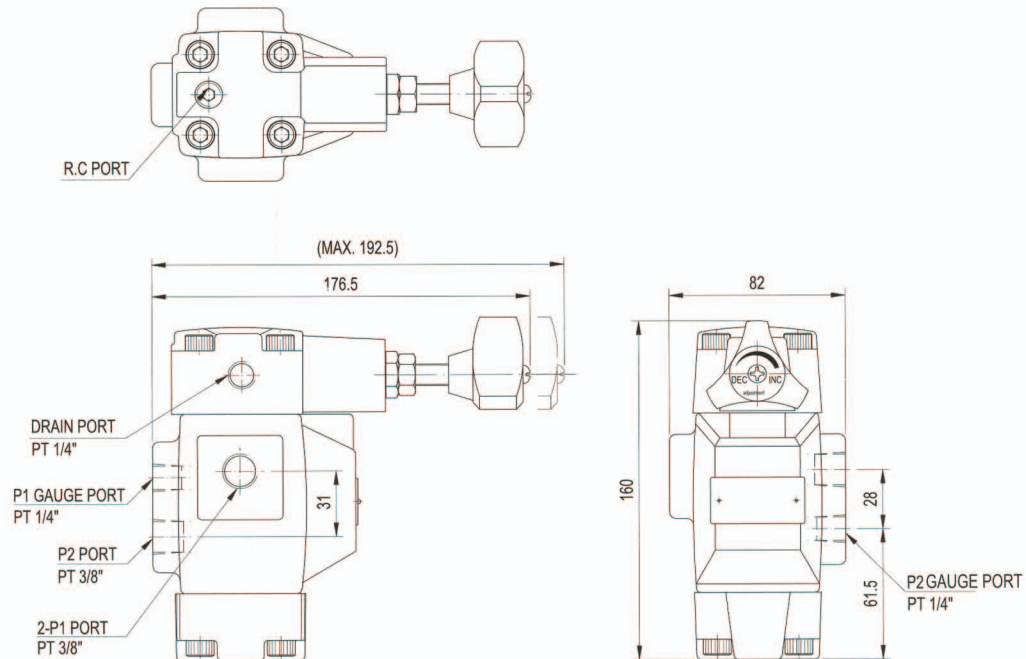
# PRESSURE REDUCING AND CHECK VALVES

## PRESSURE CONTROL VALVES



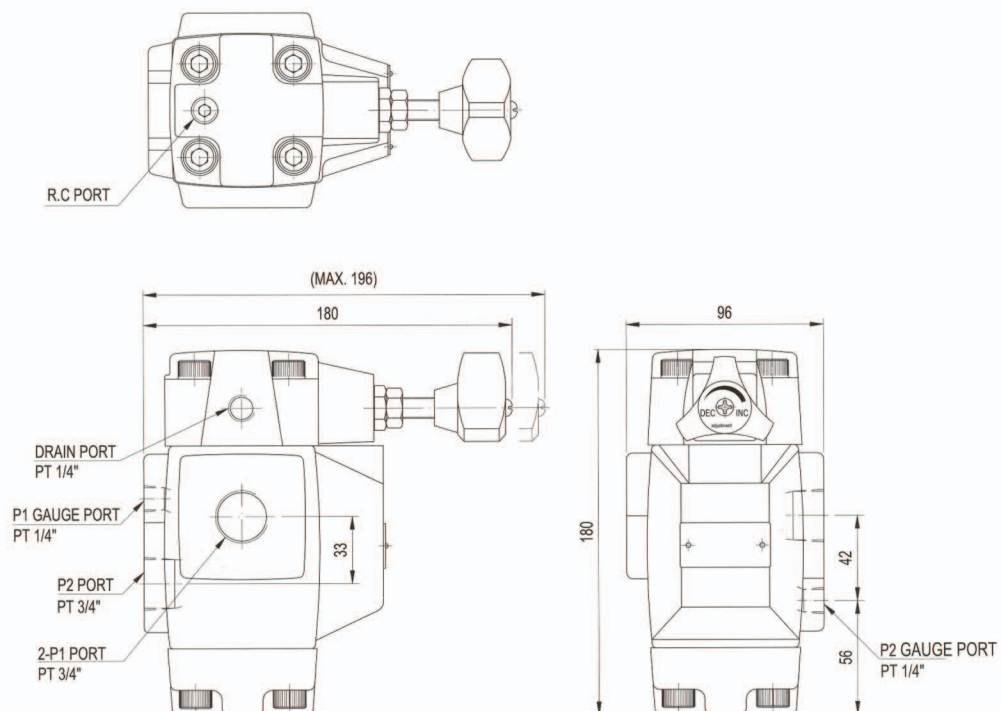
### Performance Curves:

E RCT-03



### Intallation Dimensions:

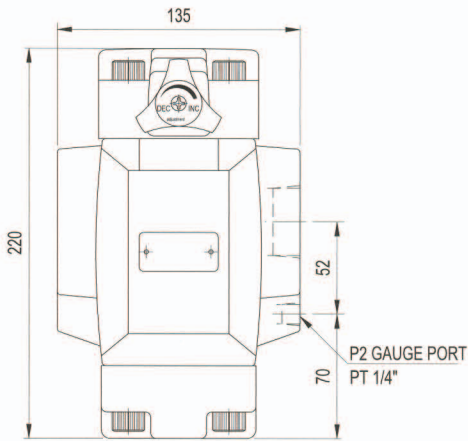
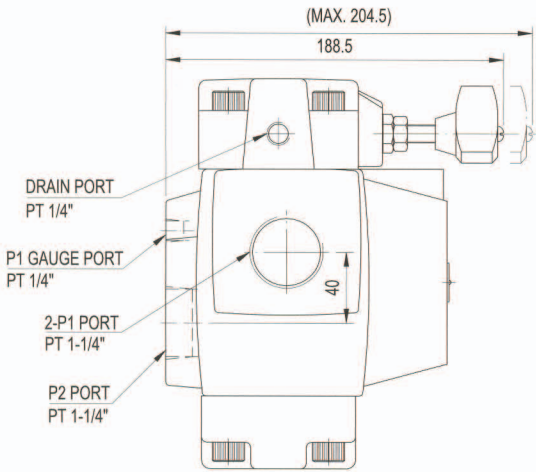
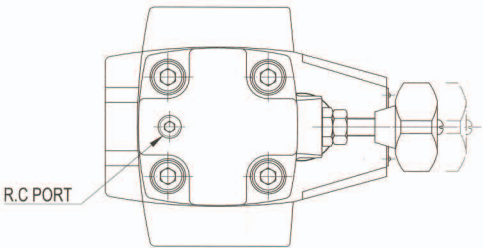
E RCT-06



E RCT-03, RCT-06

### Installation Dimensions:

E RCT-10



E RCT-10

# PILOT OPERATED RELIEF VALVE

## PRESSURE CONTROLS



### Features and Handling:

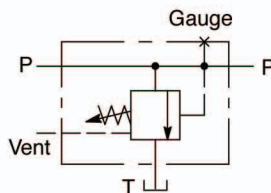
E RB-T04/T10

- RB Series are Balanced Piston type relief valves with three pressure ranges available. The valves come with optional Vent port and Gauge port. The valves can be controlled by Solenoid Operated Directional Control valve with optional cover setting for mounting the Solenoid Operated Directional Control valve on top.
- To adjust the set pressure, loosen the lock nut of the valve and turn the handle to adjust the pressure. Maintain the back pressure at the tank port as low as possible, less than 2 bar (28 psi).



### Order Code and Specification

| Model  | Maximum Flow<br>L/min (gpm) | Maximum Pressure<br>bar (psi) | Weight<br>kg (lb) |
|--------|-----------------------------|-------------------------------|-------------------|
| RB-T04 | 80 (21)                     | 210                           | 2.5 (5.5)         |
| RB-T06 | 175 (46)                    | (3000)                        | 4.0 (8.8)         |
| RB-T10 | 454 (120)                   |                               | 6.5 (14.3)        |



**ERB(E) - T06 - C**

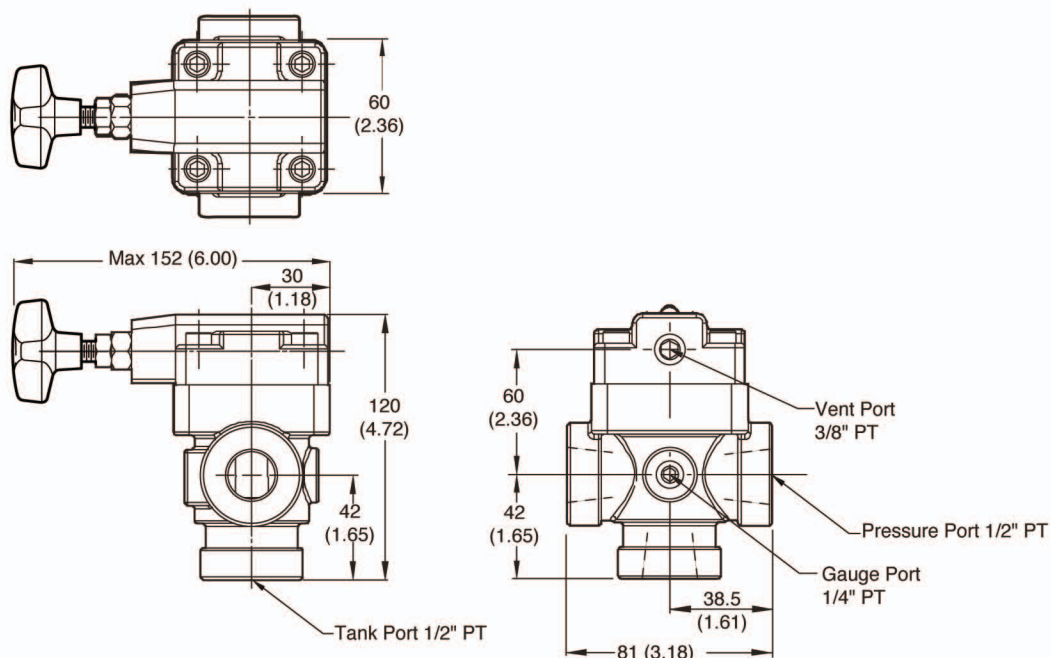
**Model RB** ———

**Cover** ———  
Omit - Standard Cover  
E - Cover for mounting CETOP3 or NG6 Solenoid Valve (size 06 and size 10 only)

**Pressure Range**  
**C** - 70-210 bar (1000-3000 psi)  
**B** - 35-140 bar (500-2000 psi)  
**A** - 7-70 bar (100-1000 psi)

**Valve Size and Thread**  
**T04** - 1/2" PT Thread  
**T06** - 3/4" NPT Thread  
**T10** - 1-1/4" NPT Thread  
**B06** - 1.0625"-12UN-2B Thread  
**B10** - 1.6250"-12UN-2B Thread

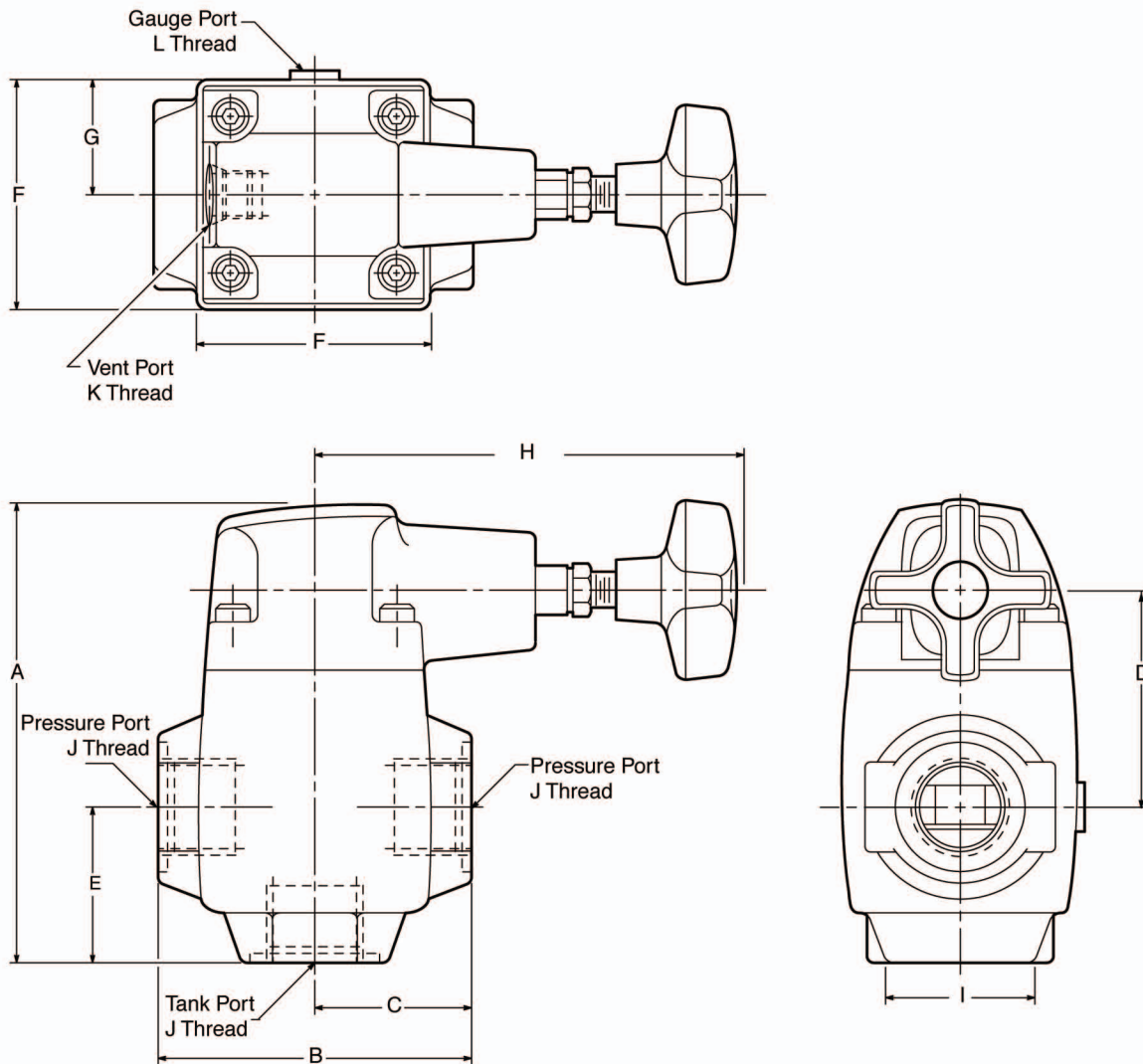
### Installation Dimensions mm (inch):



### Installation Dimensions mm (inch):

E RB-T06/T10

E RB-T06/T10



| Model  | A      | B      | C      | D      | E      | F      | G      | H      | I      | J               | K               | L               |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------|-----------------|-----------------|
| RB-T06 | 128.8  | 92.5   | 46.3   | 63     | 45.5   | 73     | 36.5   | 134    | 57     | 3/4" NPT        | 3/8" PT         | 1/4" PT         |
| RB-B06 | (5.07) | (3.64) | (1.82) | (2.48) | (1.79) | (2.87) | (1.44) | (5.28) | (2.24) | 1.0625"-12UN-2B |                 |                 |
| RB-T10 | 157.2  | 124    | 61.9   | 66.5   | 61.9   | 83.3   | 41.7   | 134    | 61.9   | 1-1/4" NPT      | .5625"-18UNF-2B | .4375"-20UNF-2B |
| RB-B10 | (6.19) | (4.88) | (2.44) | (2.62) | (2.44) | (3.28) | (1.64) | (5.28) | (2.44) | 1.6250"-12UN-2B |                 |                 |