ISO 9001 ISO 14001 ISO 45001

DHECN®

# HA (QA)
# HP (QP) Series

## Isolation Switch Selection Manual



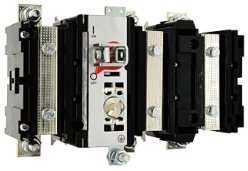
DONGHUA ELECTRIC STOCK CO., LTD. OF ZHEJIANG

# HA (QA) Series Isolation Switches

**Version Number:202403**

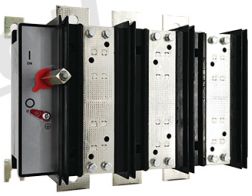
Current classification: 125A, 160A, 200A, 400A, 630A, 1000A

HA(QA)-160



HA(QA)-400

HA(QA)-630



HA(QA)-1000

## Applicable Scope

HA (QA) series isolation switches are mainly used for AC 50Hz, rated voltage up to AC690V, and agreed heating current of 125-1000A. They are used in distribution circuits and motors with high short-circuit current In circuits, as a manual and infrequently operated main switch or main switch, it is particularly suitable for installation in advanced drawer type low-voltage complete sets. Double throw switch used for infrequent connection of dual electrical circuits and used for separation. This switch complies with GB/T14048.3 and IEC60947-3 standards.

## Meaning of Product Model

H A S - □ / □ □

- "1" indicates having one auxiliary contact; "2" indicates having 2 auxiliary contacts
- Number of poles: "3" represents 3 poles; "4" represents 3 poles+N poles that can be turned on or off; "3N" represents 3 poles+straight through N poles
- Conventional thermal current
- No: single throw switch, S double throw switch (single throw products are installed on the same bottom plate, and mechanical interlocking is used to manually switch between common power supply and backup power supply)
- Design code: Direct series connection of external copper bars to replace fuse links
- Disconnecting switch

## Normal Working and Installation Conditions

1. The ambient air temperature shall not exceed +40 ℃ and not be lower than -5 ℃ .
2. The altitude of the installation site shall not exceed 2000m.
3. Humidity: When the maximum temperature is+40 ℃ , the relative humidity of the air does not exceed 50%. Higher relative humidity can be allowed at lower temperatures, such as reaching 90% at 20 ℃ . Due to temperature changes special measures should be taken to treat occasional condensation.
4. The pollution level of the surrounding environment is level 3.
5. The switch should be installed in a place without significant shaking, impact vibration, and invasion of rain and snow. At the same time, the installation location should be free of explosive hazardous media, and there should be no gas or dust in the media that can corrode metals and damage insulation

## Structure Characteristics

The switch adopts a fully enclosed structure to ensure stable operation reliability and performance improvement; Featuring a unique rolling insertion contact system. Each phase has two sets of contact systems with this dual break point, the contact system.The current is passed through several rollers separately, resulting in a significant reduction in the electric reaction force on each roller. During the movement, the contact between the roller and the static contact has both rolling and sliding friction. This can effectively avoid welding. The operating mechanism has energy storage springs, so the movement speed of the moving contact group is independent of the magnitude of the operating force and the operating speed.

The actuator consists of a panel mounted handle and a hand the driving coupling, extension shaft, shaft coupling, and driving shaft are composed of a handle meshing driving coupling.the operating handle is installed on the switchgear door. When the cabinet door is closed, the handle fits with the operating rod of the switch. When the switch is in the closed position, the handle is interlocked with the cabinet door to prevent it from opening.

## Structure Characteristics

The depth of installation of switches in a complete set of cabinets can be considered according to the needs of the combination installation of various electrical components. The extension shaft and shaft coupling are only used when the drive shaft is not long enough, and have a considerable range of movement.

## Main Technical Parameters of Switches

QA Switch Technical Parameters Table

| | | | | | | |
|---|---|---|---|---|---|---|
| Agreed heating current (A) | 125 | 160 | 200 | 400 | 630 | 1000 |
| Rated working current (A) | 125 | 160 | 200 | 400 | 630 | 1000 |
| Rated insulation voltage (V) | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| Rated impulse withstand voltage (kV) | 8 | 8 | 8 | 8 | 8 | 8 |
| On/off capability (A) | 375 | 480 | 600 | 1200 | 1890 | 3000 |
| Mechanical lifespan (times) | 1400 | 1400 | 1400 | 500 | 500 | 500 |
| Electrical lifespan (times) | 200 | 200 | 200 | 100 | 100 | 100 |
| Short time withstand current (kA/1s) | 5 | 5 | 5 | 32 | 32 | 32 |
| Operating force (N) | ≤400 | ≤400 | ≤400 | ≤400 | ≤400 | ≤600 |
| Utilization category | AC-22B | AC-22B | AC-22B | AC-22B | AC-22B | AC-22B |
| Pollution degree | 3 | 3 | 3 | 3 | 3 | 3 |
| Degrees of protection provided by enclosure | IP00 | IP00 | IP00 | IP00 | IP00 | IP00 |

## Installation Precautions

1.The contact parameters of the switch have been set by the manufacturer and cannot be adjusted freely during use.

2.During the connection process between the busbar and the product, it is necessary to ensure that the distance between the busbar holes is consistent with the product wiring holes to avoid product damage caused by external forces.

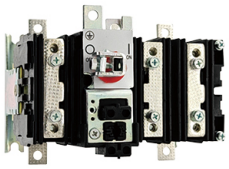
## Ordering Notice

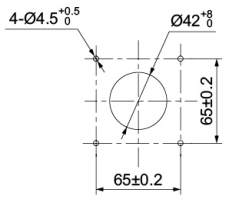
The customer must specify the product model, agreed heating current, number of poles, whether auxiliary contact switches are provided, and the number of switches when ordering the switch.

Ordering example: HA (QA) -1000/32, quantity 20 units.

Note: The specifications and external dimensions may change due to product improvements without prior notice, and the actual product shall prevail.

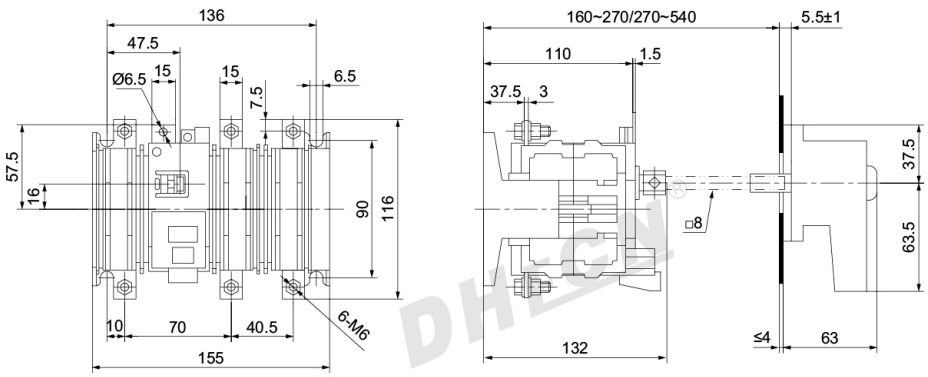
### HA(QA)-125/3 Installation and external dimensions (mm)



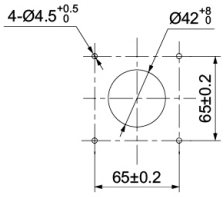



Panel open pore size

HA(QA)-125/3 installation drawing

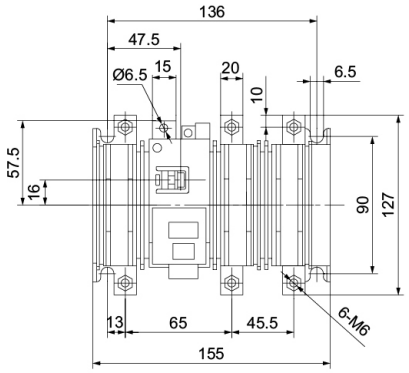


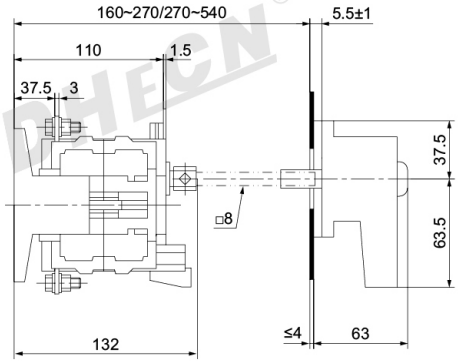
## HA(QA)-160/3 Installation and external dimensions (mm)



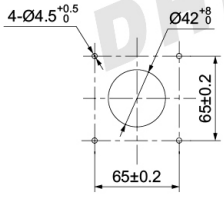

Panel open pore size

HA(QA)-160/3 installation drawing



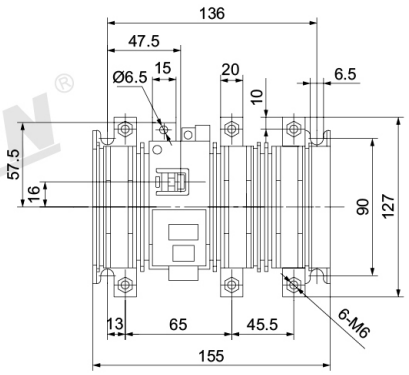



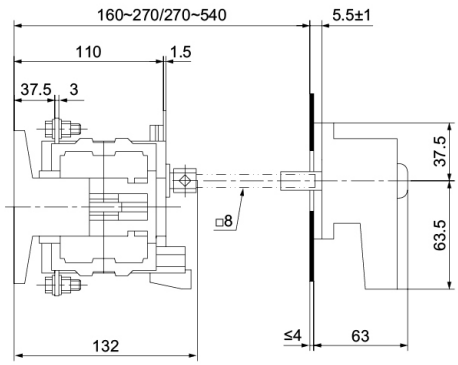

## HA(QA)-200/3 Installation and external dimensions (mm)



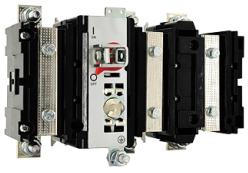

Panel open pore size

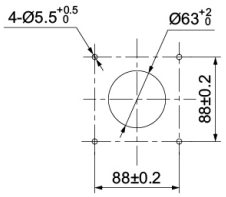
HA(QA)-200/3 installation drawing



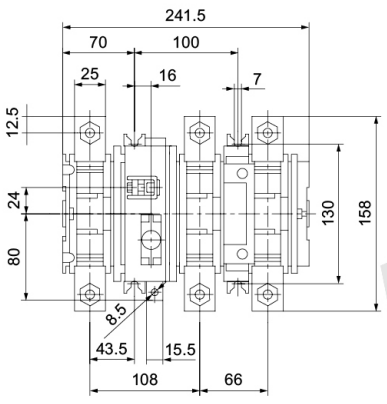

## HA(QA)-400/3 Installation and external dimensions (mm)

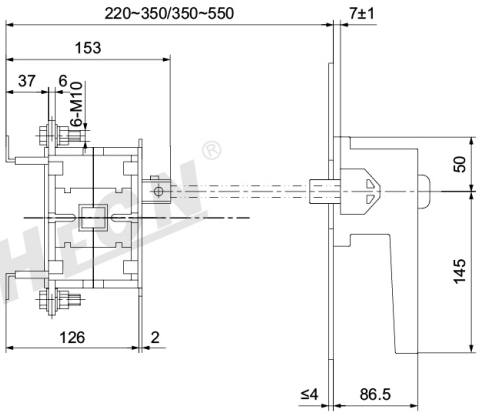




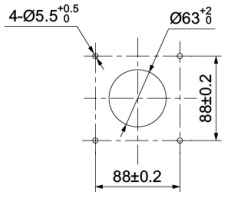

Panel open pore size

HA(QA)-400/3 installation drawing



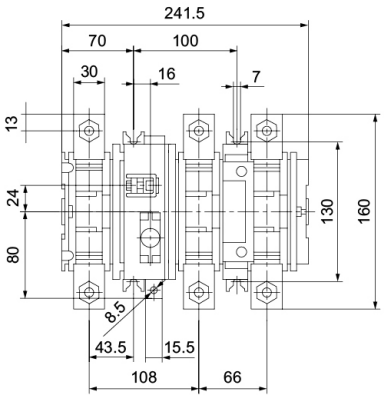



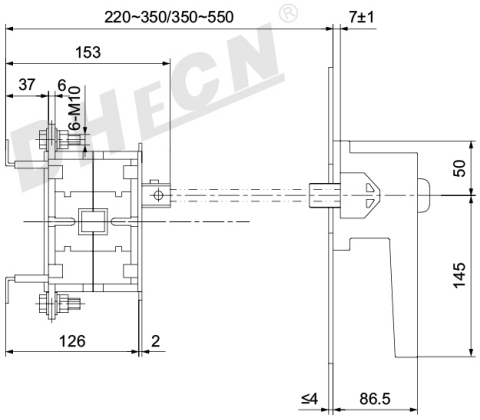
## HA(QA)-630/3 Installation and external dimensions (mm)



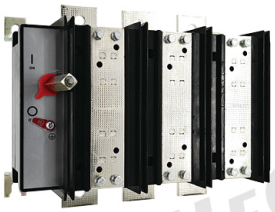

Panel open pore size

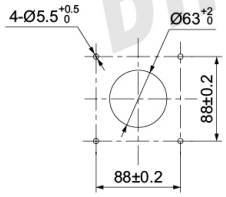
HA(QA)-630/3 installation drawing



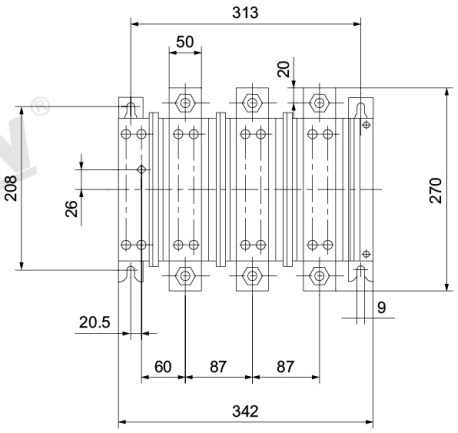

## HA(QA)-1000/3 Installation and external dimensions (mm)

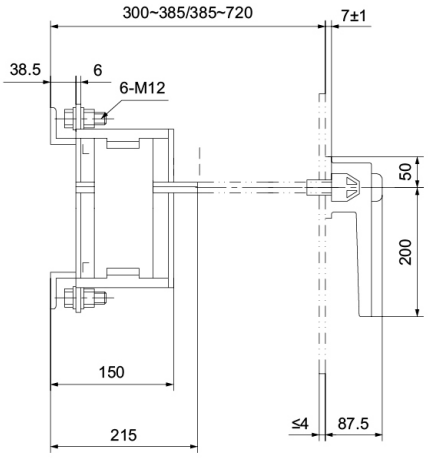





Panel open pore size

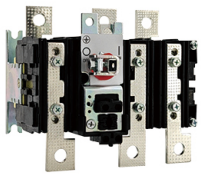
HA(QA)-1000/3 installation drawing



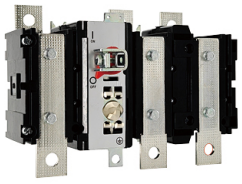



# HP (QP) Series Isolation Switch

Current classification: 250A, 630A ,1000A ,1250A ,1600A ,2500A ,3150A

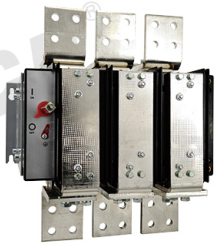


HP(QP)-250



HP(QP)-630

HP(QP)-1250



HP(QP)-2500

## Applicable Scope

HP (QP) series isolation switches are mainly used for AC 50Hz, rated voltage up to AC690V, and agreed heating current of 250-3150A. They are used in distribution circuits and motors with high short-circuit current In circuits, as a manual and infrequently operated main switch or main switch, it is particularly suitable for installation in advanced drawer type low-voltage complete sets. Double throw switch used for infrequent connection of dual electrical circuits and Used for separation. This switch complies with GB/T14048.3 and IEC60947-3 standards.

## Meaning of Product Model

H P S - □ / □ □

- "1" indicates having one auxiliary contact; "2" indicates having 2 auxiliary contacts
- Number of poles: "3" represents 3 poles; "4" represents 3 poles+N poles that can be turned on or off; "3N" represents 3 poles+straight through N poles
- Conventional thermal current
- No: single throw switch, S double throw switch (single throw products are installed on the same bottom plate, and mechanical interlocking is used to manually switch between common power supply and backup power supply)
- Design code: Direct series connection of external copper bars to replace fuse links
- Disconnecting switch

## Normal Working and Installation Conditions

1. The ambient air temperature shall not exceed+40 ℃ and not be lower than -5 ℃ .
2. The altitude of the installation site shall not exceed 2000m.
3. Humidity: When the maximum temperature is+40 ℃ , the relative humidity of the air does not exceed 50%. Higher relative humidity can be allowed at lower temperatures, such as reaching 90% at 20 ℃ . Due to temperature changes special measures should be taken to treat occasional condensation.
4. The pollution level of the surrounding environment is level 3.
5. The switch should be installed in a place without significant shaking, impact vibration, and invasion of rain and snow. At the same time, the installation location should be free of explosive hazardous media, and there should be no gas or dust in the media that can corrode metals and damage insulation

## Structure Characteristics

The switch adopts a fully enclosed structure to ensure stable operation reliability and performance improvement; Featuring a unique rolling insertion contact system. Each phase has two sets of contact systems with this dual break point, the contact system.The current is passed through several rollers separately, resulting in a significant reduction in the electric reaction force on each roller. During the movement, the contact between the roller and the static contact has both rolling and sliding friction. This can effectively avoid welding. The operating mechanism has energy storage springs, so the movement speed of the moving contact group is independent of the magnitude of the operating force and the operating speed.

The actuator consists of a panel mounted handle and a hand the driving coupling, extension shaft, shaft coupling, and driving shaft are composed of a handle meshing driving coupling.the operating handle is installed on the switchgear door. When the cabinet door is closed, the handle fits with the operating rod of the switch. When the switch is in the closed position, the handle is interlocked with the cabinet door to prevent it from opening.

## Structure Characteristics

The depth of installation of switches in a complete set of cabinets can be considered according to the needs of the combination installation of various electrical components. The extension shaft and shaft coupling are only used when the drive shaft is not long enough, and have a considerable range of movement.

## Main Technical Parameters of Switches

QP Switch Technical Parameters Table

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Agreed heating current (A) | 250 | 630 | 1000 | 1250 | 1600 | 2500 | 3150 |
| Rated working current (A) | 250 | 630 | 1000 | 1250 | 1600 | 2500 | 3150 |
| Rated insulation voltage (V) | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| Rated impulse withstand voltage (kV) | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| On/off capability (A) | 750 | 1890 | 3000 | 1875 | 2400 | 3750 | 4725 |
| Mechanical lifespan (times) | 1400 | 500 | 500 | 500 | 500 | 500 | 300 |
| Electrical lifespan (times) | 200 | 100 | 100 | 100 | 100 | 100 | 100 |
| Short time withstand current (kA/1s) | 5 | 32 | 32 | 50 | 50 | 80 | 80 |
| Operating force (N) | ≤400 | ≤400 | ≤400 | ≤600 | ≤600 | ≤600 | ≤600 |
| Utilization category | AC-22B | AC-22B | AC-22B | AC-21B | AC-21B | AC-21B | AC-21B |
| Pollution degree | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Degrees of protection provided by enclosure | IP00 | IP00 | IP00 | IP00 | IP00 | IP00 | IP00 |

## Installation Precautions

1.The contact parameters of the switch have been set by the manufacturer and cannot be adjusted freely during use.

2.During the connection process between the busbar and the product, it is necessary to ensure that the distance between the busbar holes is consistent with the product wiring holes to avoid product damage caused by external forces.

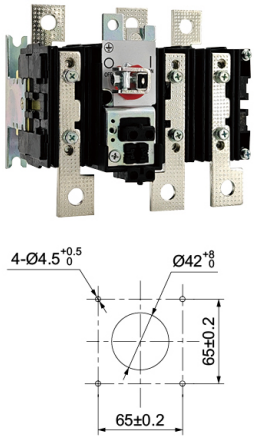
## Ordering Notice

The customer must specify the product model, agreed heating current, number of poles, whether auxiliary contact switches are provided, and the number of switches when ordering the switch.

Ordering example: HP (QP) -1000/32, quantity 20 units.

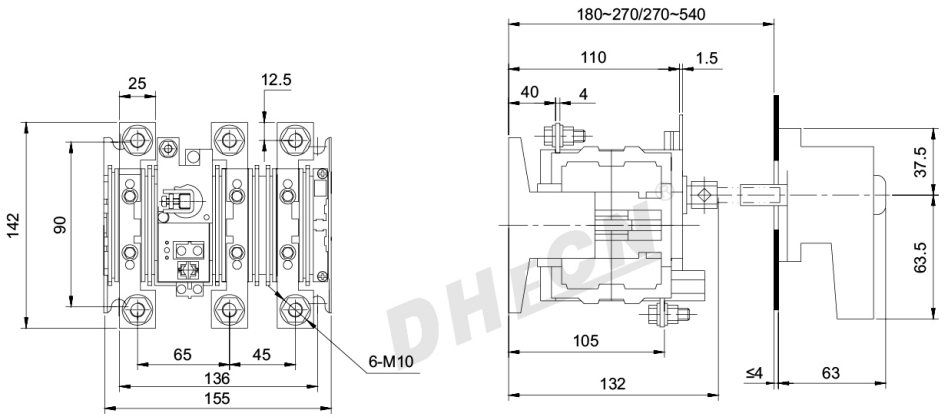
Note: The specifications and external dimensions may change due to product improvements without prior notice, and the actual product shall prevail.

### HP(QP)-250/3 installation and external dimensions (mm)

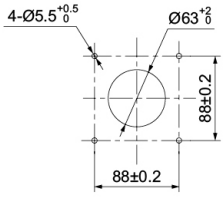



Panel open pore size

HP(QP)-250/3 installation drawing

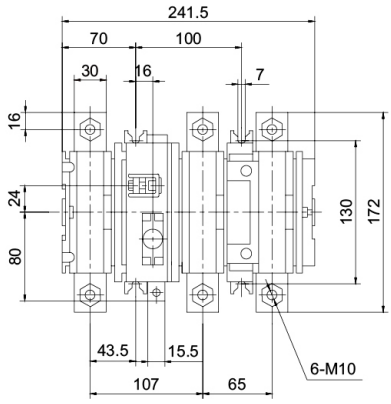


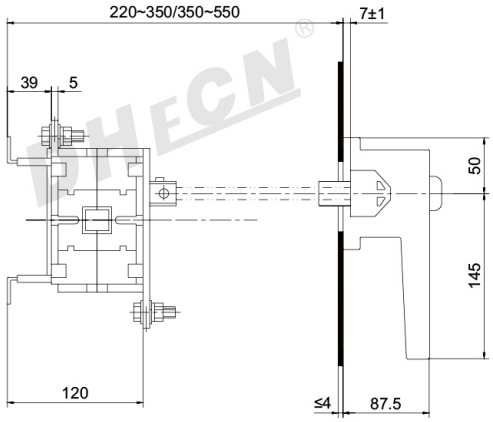
## HP(QP)-630/3 installation and external dimensions (mm)



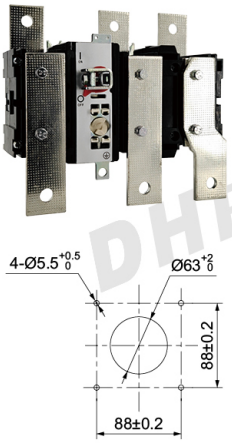

Panel open pore size

HP(QP)-630/3 installation drawing



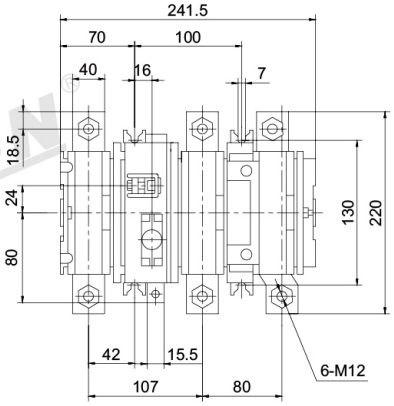

## HP(QP)-1000/3 installation and external dimensions (mm)

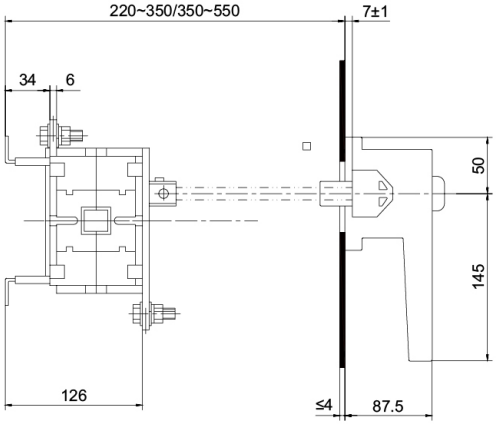




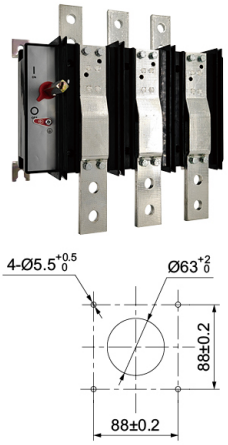

Panel open pore size

HP(QP)-1000/3installation drawing



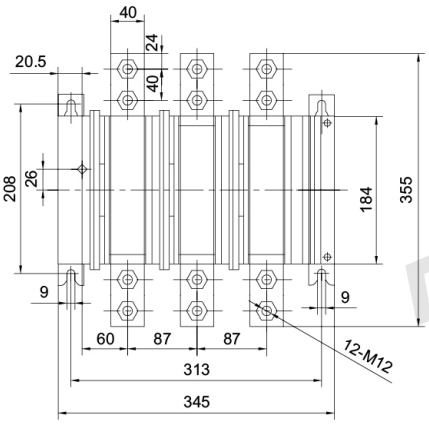

## HP(QP)-1250/3 installation and external dimensions (mm)

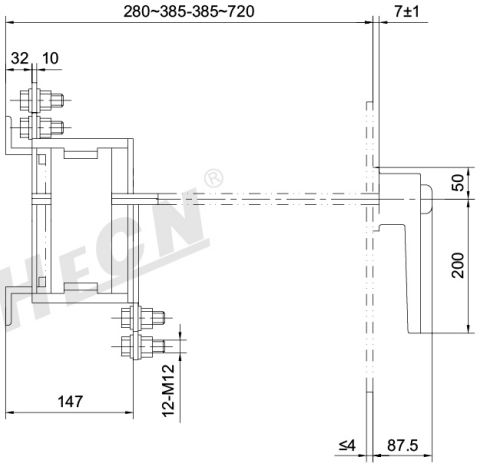




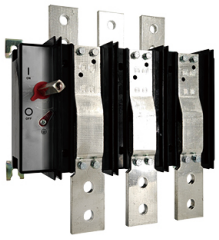

Panel open pore size

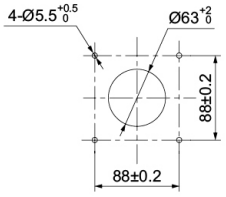
HP(QP)-1250/3 installation drawing



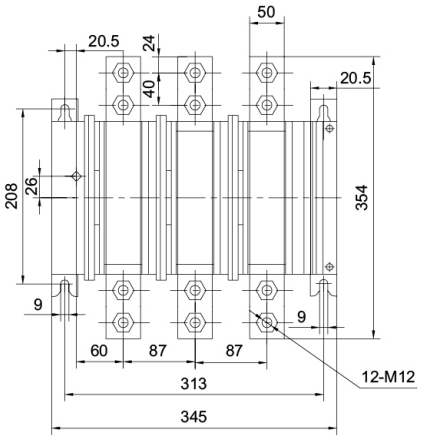
## HP(QP)-1600/3 installation and external dimensions (mm)

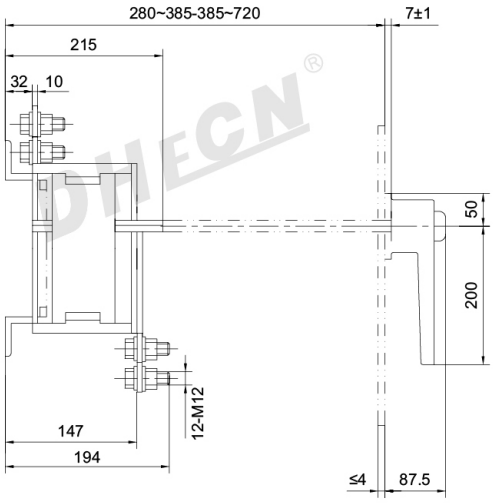




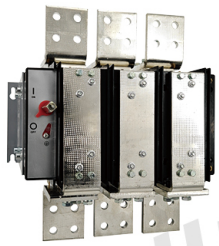

Panel open pore size

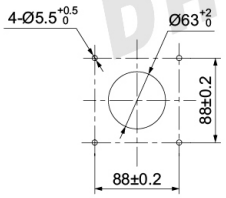
HP(QP)-1600/3 installation drawing



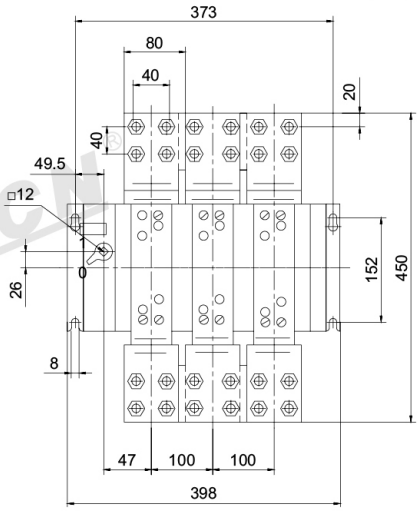

## HP(QP)-2500/3 installation and external dimensions (mm)

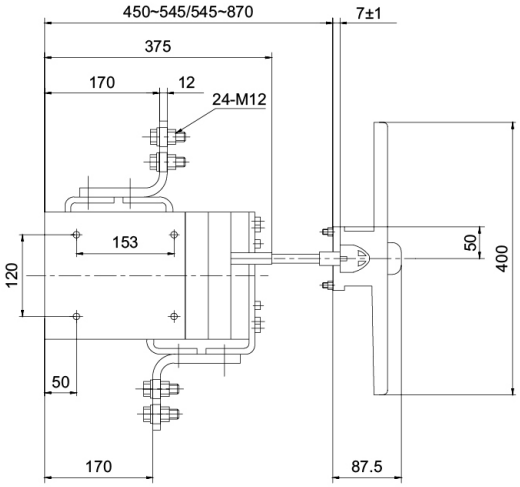




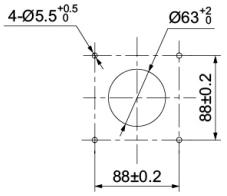

Panel open pore size

HP(QP)-2500/3 installation drawing




## HP(QP)-3150/3 installation and external dimensions (mm)






Panel open pore size

HP(QP)-3150 installation drawing