

# Zone



IP 66



- Enclosure in sheet steel
- 5 basic enclosure sizes
- Enclosures can be combined (modular system)
- Available as empty enclosures or as completely fitted and wired control and distribution units
- For use in underground mines
- Cable entries available:

*Direct : cable glands,*

*Indirect : via Ex e enclosure multiwire bushing, conductor insulator*

# R3002...R3006



## CONSTRUCTION

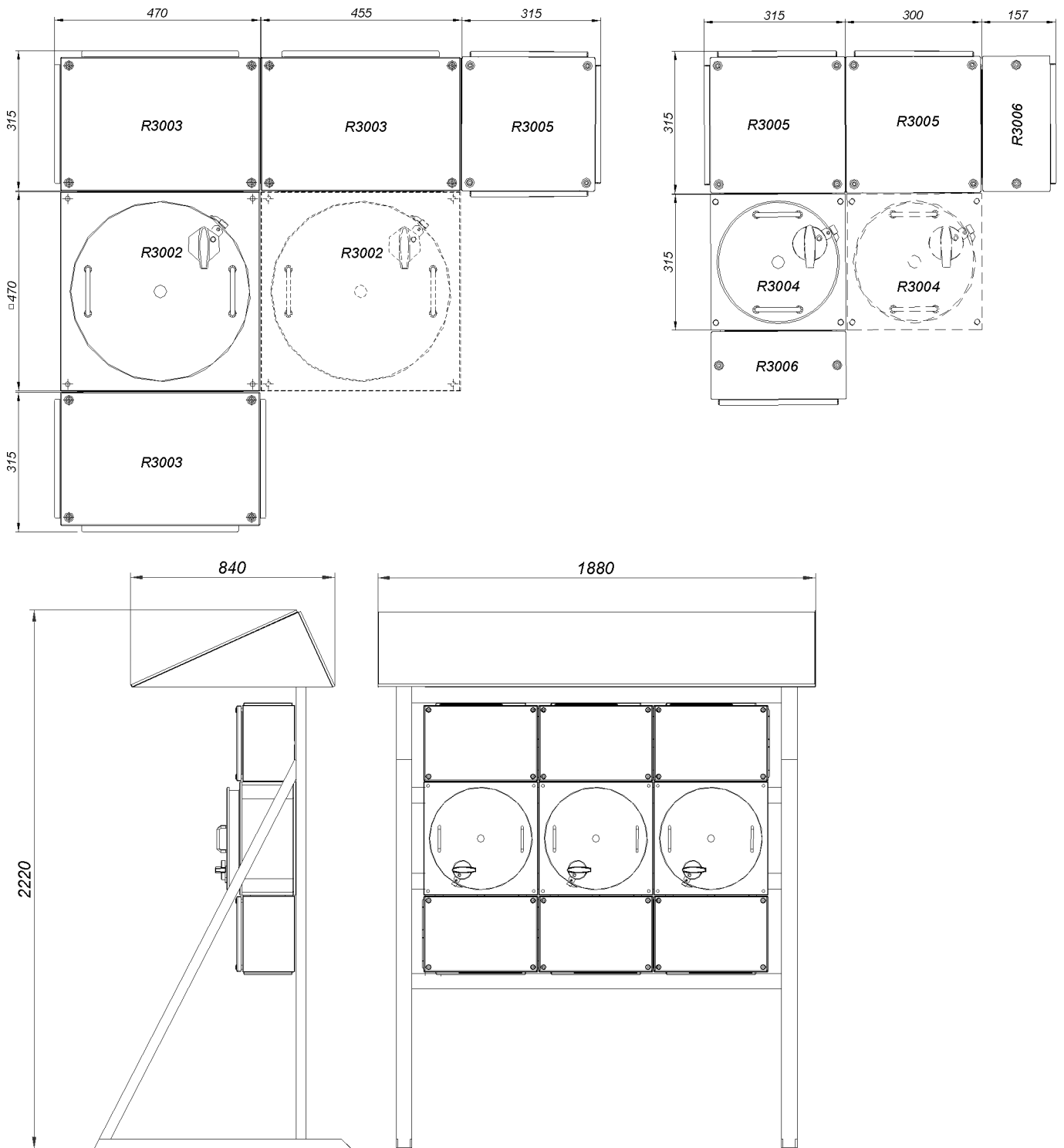
Enclosure: sheet steel (Exd enclosure 12mm thickness, Exe enclosure 3mm thickness)  
Gasket: EPDM formed gasket

## TECHNICAL DATA

<b>Certificate:</b>	Ex FIDI 19 ATEX 0058X , RU C-HR.AB24.B.03297
<b>Marking:</b>	CE 0722
<b>Apparatus category:</b>	II 2G II 2D I M2
<b>Marking of explosion protection:</b>	Ex db eb I/II C T6 Gb Mb Ex tb IIIC Db
<b>Ambient temperature ATEX:</b>	-20°C ≤ T <sub>a</sub> ≤ +50°C
<b>EAC:</b>	-50°C ≤ T <sub>a</sub> ≤ +50°C
<b>Degree of protection:</b>	IP 66 category 1
<b>Resistance to shock:</b>	IK 09
<b>Protection class :</b>	I (protective earthing)
<b>Rated voltage:</b>	Up to 690 V AC
<b>Rated current:</b>	Up to 500 A (depends upon built-in device)
<b>Terminal cross-section:</b>	240 mm <sup>2</sup>
<b>Weight:</b>	
- Enclosure R3002	70 kg
- Enclosure R3003	18 kg
- Enclosure R3004	47 kg
- Enclosure R3005	15 kg
- Enclosure R3006	9 kg
<b>Color:</b>	Yellow, RAL1016 (other color on request)
<b>Mounting types:</b>	temporary wall-mounted free-standing (with or without protection canopy)

# Distribution cabinets

## DIMENSION DRAWING (mm)



Free-standing modular system with protection canopy

All technical data is relevant at the time of print.

A distribution cabinets type R3002 and R3004 is made of steel with Ex d flameproof protection type. Closing of the cabinet is of threaded type and is protected against opening by lock switch, so that it can be opened only when it is not under voltage. The units is protected against corrosion by its painting inside and outside.

Ex d steel enclosures (type R3002 and R3004) and Ex e sheet steel enclosures (type R3003, R3005, R3006) can be used as single enclosures and combinations.

The dimensions of the enclosures are so designed that they can be combined into a large modular unit. A large number of components, such as contactors, switches, instruments and PLCs can be built into these enclosures. Naturally, customer-supplied equipment can also be incorporated into the layout. The equipment layout is designed by us to customer's requirements. Cable entry is either direct (cable glands or conduit entries) or indirect via an Ex e enclosures type R3003, R3005, R3006.

The "flameproof" type protection 'Ex d' is based on the principle that electrical components which may cause sparks or arcing in normal operation (switches, contactors etc.) are in an enclosure constructed so that it will contain an explosion of flammable gas or vapor and will not permit ignition of a surrounding explosive atmosphere. Further, the temperature of the outside surface of the enclosures must not exceed the prescribed temperature limit for the appropriate temperature class. That means, the heat loss from the components fitted must not exceed a specified value.

#### Data required for the layout of control and distribution boards

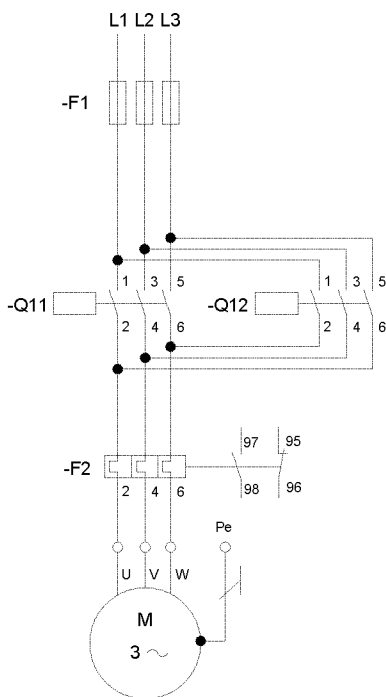
We produce distribution cabinets according to customer requirements and basis to the project data:

- the required minimum type of protection
- as appropriate, details of the hazardous atmosphere for which the equipment must be suitable
- single line or wiring diagram
- schematic for control systems
- operating, auxiliary and control voltages
- frequency
- power and current ratings of connected loads
- quantities and types of components required, e.g. contactors, switches, circuit-breakers, fuses, thermal relays, instruments, terminals etc.
- quantity and types of cables
- number and size of conductors
- quantity and location of entries (from top, bottom, side, center)
- environmental conditions
- method of installation

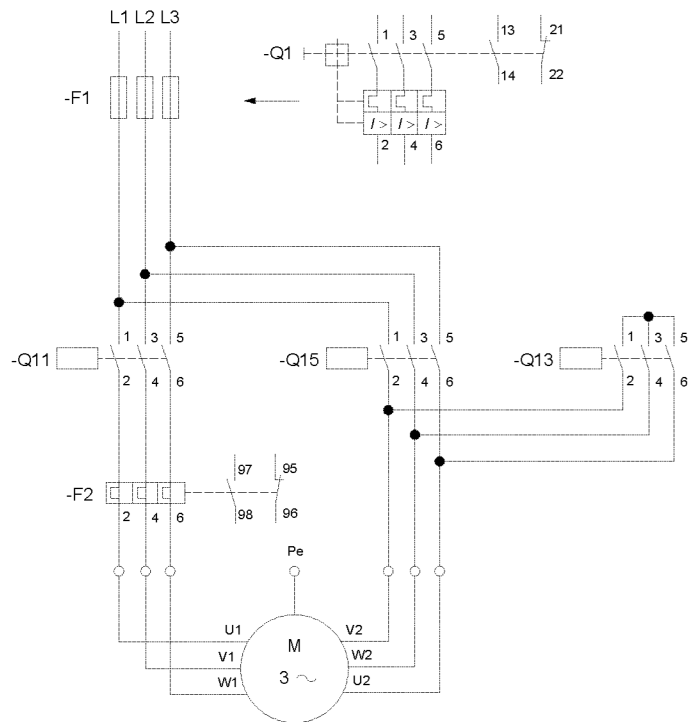
#### Examples of Ex distribution cabinets



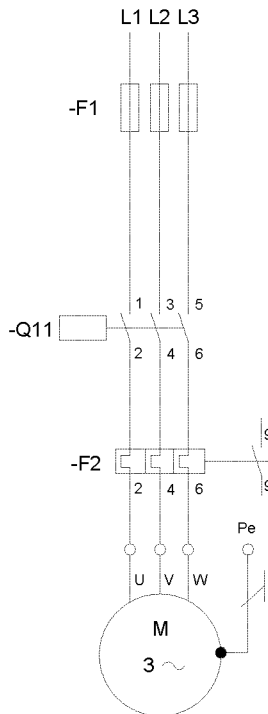
## Examples of wiring diagram for distribution cabinets



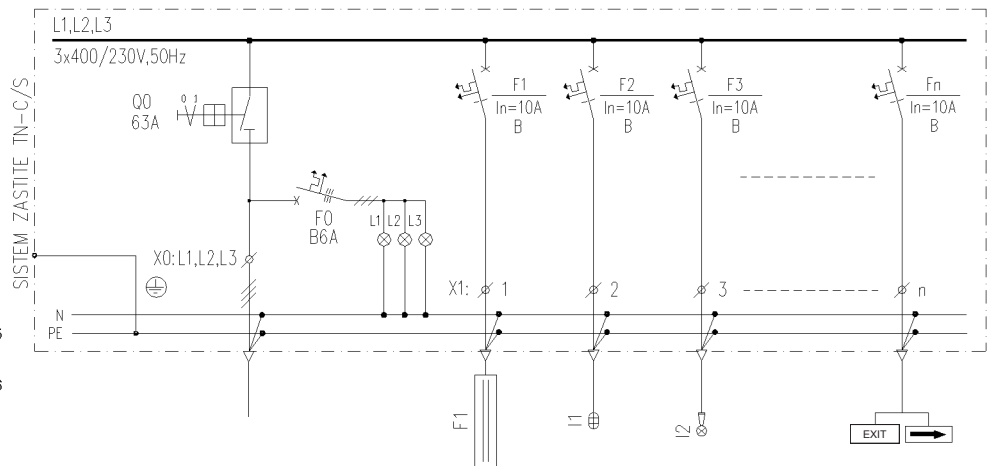
A) Direct on line start of three phase motor;  
two directions of rotation



B) STAR-DELTA switching of three phase motor



C) Direct on line start of three phase motor



D) Light fittings control panel