

Motor operated drives VM90

for outdoor switching devices



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Motor operated drives VM90 for outdoor switching devices

The motor drives VM90 are used for the remote control of switching devices, in particular MV disconnectors and switch disconnectors. The drive mechanism is linked to the switching device using a set of pull rods. The drives can be delivered in various power supply options (24, 110 and 220 V DC, or 230 V AC).

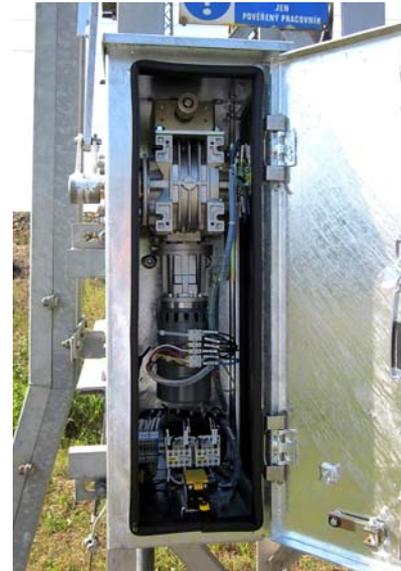
The drives can easily be mounted and adjusted. They can additionally be installed to the existing switching devices as a replacement for hand operated drives. They feature an adequate output torque combined with high switching speed. In emergency situations, each of the options can also be operated with a crank. The components in the inside of the cabinets are fixed using insulated parts to the body of the cabinet.

The drive mechanism consists of the following components:

- the MV motor operated drive mechanism
- control electronics (optional)
- indication switches and a switch to indicate door opening (optional)
- connecting terminal board
- crank for manual control in case of emergency

The motor drives can be equipped with various outfit items, depending on the client's requirements. They can be provided with push buttons used to control the drive locally, or with remote control modules. The respective versions to be delivered depend on the equipment level of the drive, as follows:

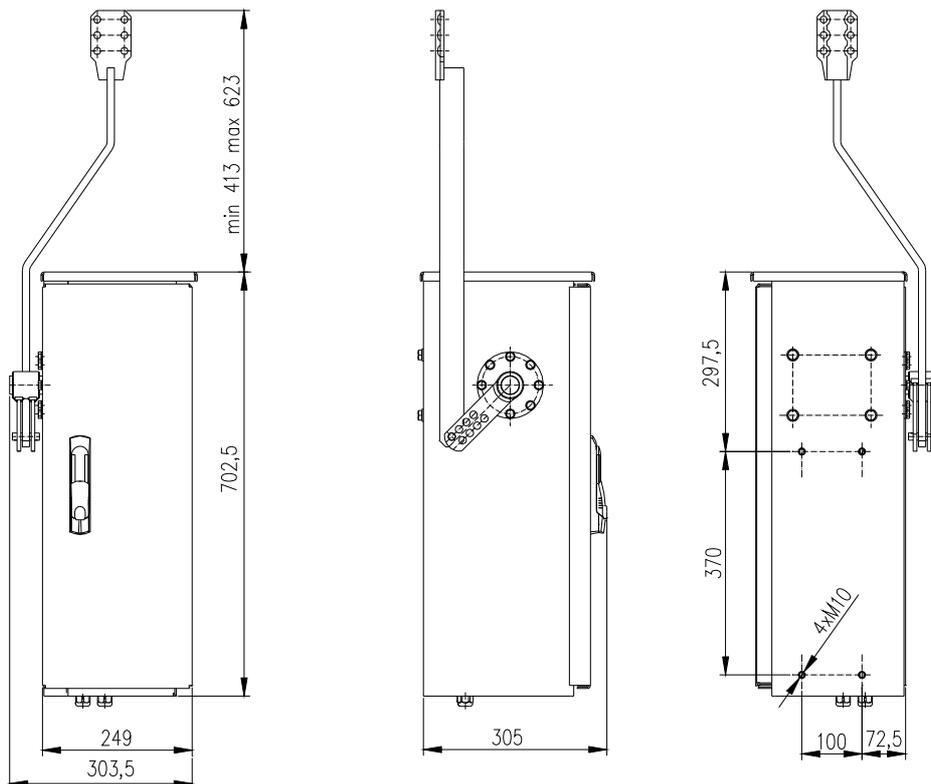
- version without control electronics and indication facilities
- version without control electronics, with indication facilities
- version with control electronics and the indication facilities



Design of motor operated drives VM90

The VM90 motor operated drive mechanism is mounted in a hot-galvanized steel sheet cabinet (of 2.5 mm steel sheet thickness). The cabinet features the IP 44 protection degree.

The cabinet is made ready for mounting on a concrete or lattice pole. The drive body is fixed to the carrying brackets via 4 threaded M10 holes. The clamping end piece on the pull rods provides for the connection of the drive to various pull rod kits, with slide rails or interbearings. The connection of the pull rod and the crank takes place from the cabinet's lateral face, and the pull rod can be brought out via the cabinet's centre (see Figure).



Technical data

Power supply	Rated input power [W]	Rated current [A]
24 V DC	125	7
110 V DC	160	1.9
220 V DC	135	0.8
230 V AC	150	1.6
230 / 400 V AC 3f	180	1.1 / 0.65

Operation and service

The drive mechanism may be controlled remotely or locally via push buttons (optional). The drive can be equipped with switches for remote indication of the switching device position.

The local control uses a manually operated crank serving to operate the drive in emergency situations. By turning the crank in clockwise direction the drive is brought into ON switching position, and vice versa.

After opening the cabinet doors the power supply to the motor can be switched off using an end switch. This is a safety measure which prevents the drive mechanism to be put in operation in situations of manual emergency control if an command is sent out from the switching station or the remote control room.

The drive mechanism wiring diagrams are available at the manufacturer's.

Maintenance

The VM90 motor operated drive mechanisms are maintenance free. Mechanical parts subject to movement are greased with durable lubricants which provide for reliable operation of the drive during its whole service life.

In normal operating conditions it is recommended to check visually the drive unit visually, once a year, and to verify its proper functioning. The inspection mentioned consists of the following steps:

- visual inspection of the drive cabinet and the system of pull rods in terms of damaging (vandalism, theft)
- inspection of the correct functioning and adjustment of the drive by performing several ON and OFF switching cycles, both locally using the emergency control crank, and by motor operation,
- inspection of the insulation condition of the motor operated drive.

After 10 years of operation it is recommended to carry out a comprehensive inspection and maintenance of the drive mechanism.