



Specifications:

Why use HAPAM disconnectors?

- * More than 75 years of experience
- * Durable and reliable design
- * Over 30 000 disconnectors and earthing switches are in service in more than 80 countries throughout the world
- * Virtually maintenance free

General

The horizontal centre-break disconnector consists of three poles. Each pole consists of a frame, two rotating support insulators and a main blade that moves in a horizontal plane.

Frame

The frame is made of a square tube in which the bearing housings and the turntables are installed.

The turntable is supported by two roller bearings. The bearing housing is sealed and filled up with grease, to ensure a long lifetime.

All steel parts of the disconnector are hot-dip galvanized.

Insulators

The disconnectors can be equipped with insulators in accordance with IEC, ANSI or DIN specifications.

Main blade

The main blade consists of a U-shaped tube, in which the main contacts and the rotating contacts are installed.

The rotating contact consists of a silver-plated copper pin and a bronze housing. Silver-plated bronze balls, which are pressed against these two parts by means of a stainless steel spring, ensure that the current is transferred from the pin into the housing. This contact construction is sealed and maintenance free.

The main contacts are installed inside the main blade. They are made of copper, with a silver plated surface. Each contact finger is provided with stainless steel springs to ensure reliable contact pressure.

The contacts are self-cleansing, which makes the disconnector suitable for installation in areas with severe climatic conditions. Depending on the voltage rating, anti-corona shields will be provided.

Earthing switch

HAPAM disconnectors may be equipped with earthing switches, which can be built-on to the right hand side and/or to the left hand side.

The earthing switch consists of an aluminium tube, provided with silver-plated contacts at both ends.

Drive mechanism

The disconnectors and/or earthing switches can be single-pole or three-pole operated by means of a motor-operated drive mechanism or a manual-operated drive mechanism. In case only one drive mechanism is used for three-pole operation, the poles are interconnected by means of adjustable coupling rods.

The drive mechanism also houses the auxiliary contacts for position indication.

Testing

The disconnectors and earthing switches are designed and tested in accordance with latest IEC specifications. HAPAM maintains a quality assurance system according to ISO 9001, certified by KEMA.

Installation

The disconnectors and earthing switches are pre-assembled and adjusted in our works as complete as possible. The construction is designed so that all disconnectors can be installed and adjusted at site very easily, without the need of any special tools. HAPAM provides clear installation instructions and assembly drawings.

Maintenance

The disconnectors and earthing switches supplied by HAPAM are designed so as to ensure that they are virtually maintenance free.

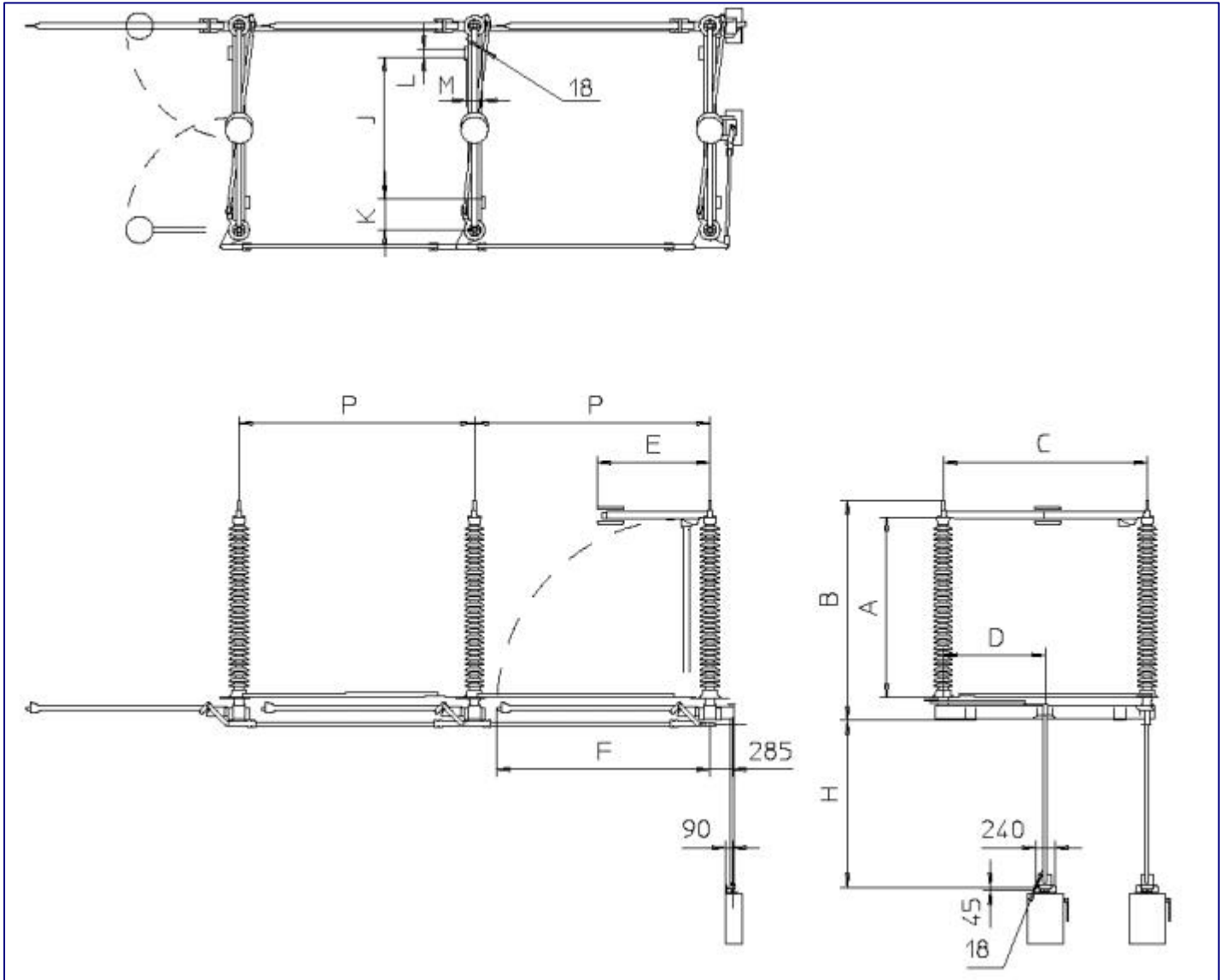
However, to warrant a long and trouble-free service period, we advise that a visual inspection of the contacts and bearing points be carried out at regular intervals.

Technical Data:

| Rated Voltage | | 72.5 | 123 | 145 | 170 | 245 | 300 | 362 | 420 | 550 |
|--|----|--|-----|-----|-----|------|--------------|--------------|--------------|--------------|
| Lightning Impulse Withstand Voltage | | | | | | | | | | |
| - to earth | kV | 325 | 550 | 650 | 750 | 1050 | 1050 | 1175 | 1425 | 1550 |
| - across the isolating distance | kV | 375 | 630 | 750 | 860 | 1200 | 1050 +170 | 1175 +205 | 1425 +240 | 1550 +315 |
| Power frequency withstand Voltage | | | | | | | | | | |
| - to earth | kV | 140 | 230 | 275 | 325 | 460 | 460 | 460 | 520 | 620 |
| - across the isolating distance | kV | 160 | 265 | 315 | 375 | 530 | 530 | 530 | 610 | 800 |
| Switching Impulse Withstand Voltage | | | | | | | | | | |
| - to earth | kV | - | - | - | - | - | 850 | 950 | 1050 | 1175 |
| - across the isolating distance | kV | - | - | - | - | - | 700 +245 | 800 +295 | 900 +345 | 900 +450 |
| Current and Short circuit ratings | | <ul style="list-style-type: none"> • 1600 A - 80 kA peak - 32 kA/3 sec. • 2000 A - 100 kA peak - 40 kA/3sec. • 3150 A - 125 kA peak - 50 kA/3sec. • 4000 A - 160 kA peak - 63 kA/3sec. | | | | | | | | |

| Dimensions (mm) | | 72.5 | 123 | 145 | 170 | 245 | 300 | 362 | 420 | 550 |
|---------------------|--|------------------------------|------|------|------|------|------|------|------|------|
| Voltage (kV) | | | | | | | | | | |
| A | | 770 | 1220 | 1500 | 1700 | 2300 | 2650 | 3150 | 3650 | 4400 |
| B | | 1195 | 1645 | 1925 | 2125 | 2805 | 3155 | 3655 | 4215 | 5085 |
| C | | 900 | 1400 | 1650 | 1850 | 2600 | 2800 | 3500 | 4000 | 4400 |
| D | | 250 | 700 | 825 | 925 | 1300 | 1400 | 1750 | 2000 | 2200 |
| E | | 485 | 750 | 875 | 1040 | 1440 | 1540 | 1950 | 2205 | 2450 |
| F | | 1190 | 1685 | 1965 | 2165 | 2740 | 3090 | 3590 | 4190 | 5150 |
| J | | 500 | 1000 | 1250 | 1450 | 2000 | 2200 | 2800 | 3300 | 3700 |
| K | | 200 | 200 | 200 | 200 | 300 | 300 | 350 | 350 | 350 |
| L | | - | - | - | - | 100 | 100 | 100 | 200 | 200 |
| M | | 175 | 175 | 175 | 175 | 210 | 210 | 210 | 250 | 280 |
| P & H | | defined by substation layout | | | | | | | | |

Drawing:



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