



### 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.

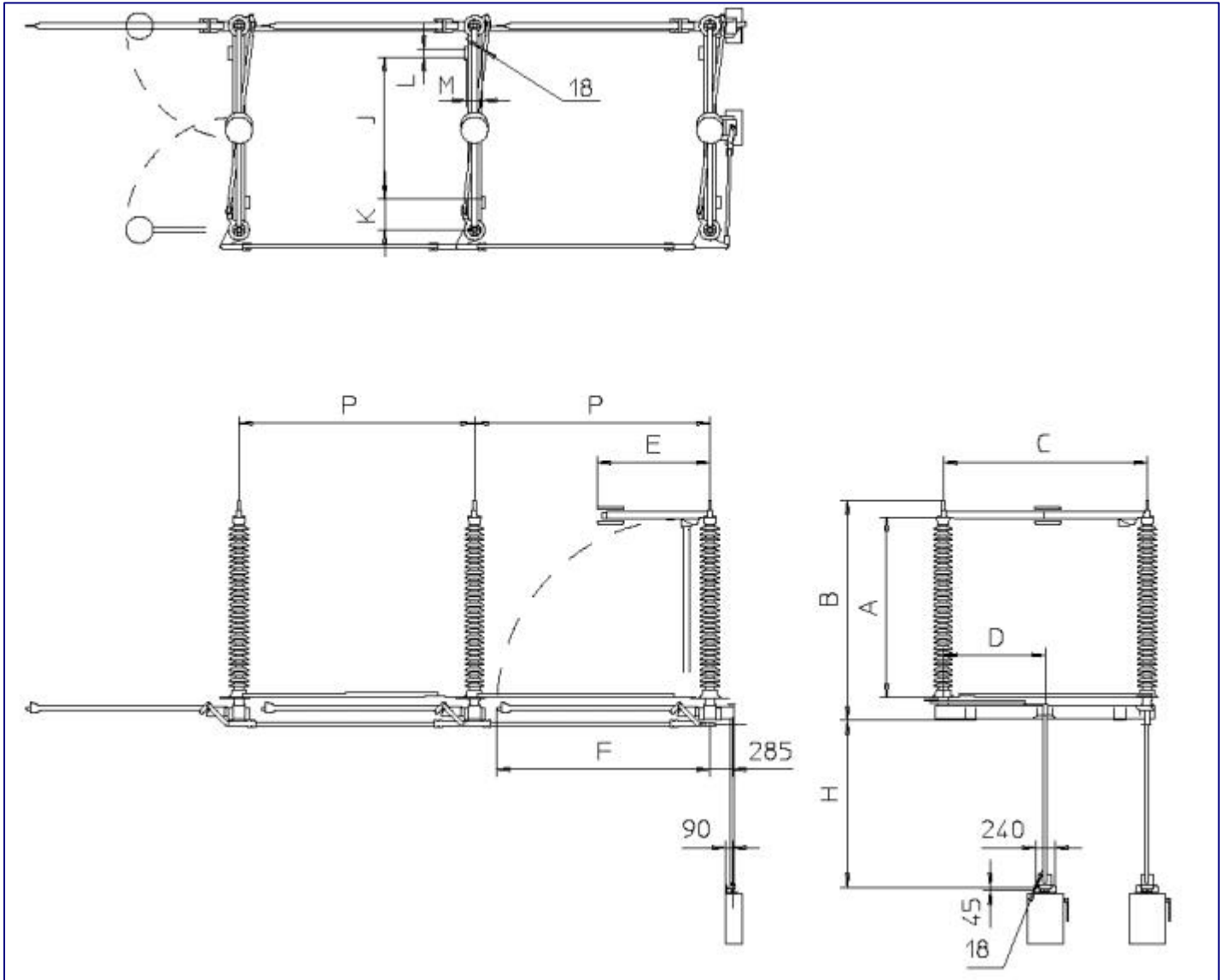
However, to warrant a long and trouble-free service period, we advise that a visual inspection of the contacts and bearing points be carried out at regular intervals.

### Technical Data:

Rated Voltage		72.5	123	145	170	245	300	362	420	550
<b>Lightning Impulse Withstand Voltage</b>										
- 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
<b>Power frequency withstand Voltage</b>										
- 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
<b>Switching Impulse Withstand Voltage</b>										
- to earth	kV	-	-	-	-	-	850	950	1050	1175
- across the isolating distance	kV	-	-	-	-	-	700 +245	800 +295	900 +345	900 +450
<b>Current and Short circuit ratings</b>										
		<ul style="list-style-type: none"> <li>• 1600 A - 80 kA peak - 32 kA/3 sec.</li> <li>• 2000 A - 100 kA peak - 40 kA/3sec.</li> <li>• 3150 A - 125 kA peak - 50 kA/3sec.</li> <li>• 4000 A - 160 kA peak - 63 kA/3sec.</li> </ul>								

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

Drawing:



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