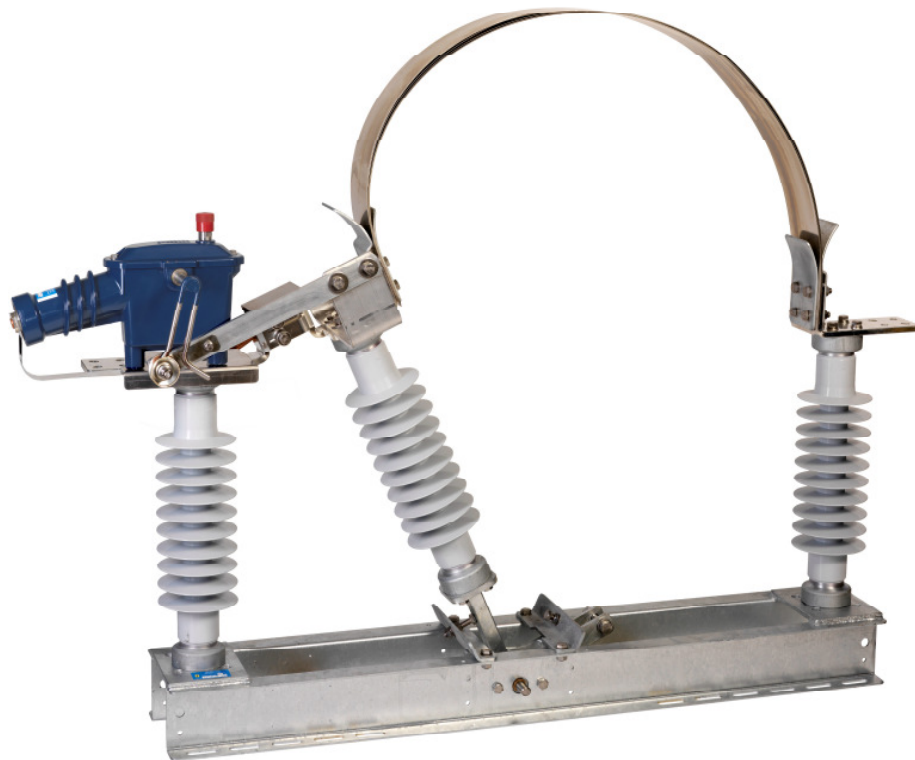


## Load break switch FHV-B1

Load break switch for 15 kV and 25 kV AC-overhead lines



The load break switch - also named switch-disconnector - FHV-B1 can be used in an AC-overhead line (OHL) up to 25 kV to connect or to isolate sections of conductor line under load.

As the switch-off procedure is taken over by a high-vacuum disconnecting chamber, no external arc occurs what is particularly interesting if it has to be used in space-restricted areas such as tunnels.

A closing operation under load is only possible within limits.

The switch FHV-B1 is of rocker type with two fixed and one movable insulators, the latter ensuring the switching, whereas the former two, placed at the switch's extremities, support the

terminals. The length variation is absorbed by flexible copper strips.

The flat terminals allow different connection variations.

The load break switch is designed to be operated by rod with linear movement (motorised or manual).

Our switches are manufactured according to IEC 62271-1:2007 and IEC 62271-103:2011. Thanks to a very long experience in the branch, our company has been awarded with accreditations by different national railways.

## Features and benefits

- All steel parts either in stainless steel or hot-dip galvanised
- Solid and stable base frame
- Main contact with icing protection
- Insulators available in porcelain or alternatively in silicone
- Minimal sag for the line-connection thanks to the two fixed terminals
- Completely maintenance-free vacuum disconnecting chamber
- Switching-off procedure without external arc
- Short circuit making capacity under specific conditions possible
- Fixing on the supporting structure either by clamping (free setting) or screwing (holes in base frame)
- Easy on-site installation and setting
- High reliability: up to 10'000 cycles (depending on the making current)
- All conducting parts either silver, nickel or tin-plated
- Practically maintenance-free
- As option: direct status indication is available (voltage-free contacts); retrofitting also possible

## Technical data

### Rated values

Nominal voltage $U_{nom}$	kV AC	<b>25</b>	<b>15</b>
Rated voltage $U_r$	kV	27.5	17.5
Highest system voltage $U_{lim1}$	kV	52	36
Highest voltage for vacuum disconnecting chamber $U_{lim2}$	kV	36	36
Rated frequency $f_r$	Hz	16.7 - 60	16.7 - 60
Rated normal current $I_r$	A	1'600	1'600
Rated short time withstand current $I_k$	kA	31.5	31.5
Peak withstand current $I_p$	kA	80	80
Duration of short circuit $t_k$	s	3	3

### Withstand values

One minute power frequency withstand voltage (50 Hz, dry/wet) $U_d$	- between earth and pole	kV	95	70
	- across the isolating distance	kV	110	80
Impulse withstand voltage (1.2/50 $\mu$ s) $U_p$	- between earth and pole	kV	250	170
	- across the isolating distance	kV	290	195

### Making and breaking current

Breaking current at power factor 0.7 $I_{break}$	A	2'000	2'000
Making current at power factor 0.7 $I_{make1}$	A	2'000	2'000 (5x)*
Short time making current (rms) $I_{make2}$ (5x)	kA	8	
Peak making current $I_{pmake}$ (5x)	kA	20	
Duration of short circuit $t_{k2}$	s	0.2	
* by closing over the pre-arcing horns			

### Insulators

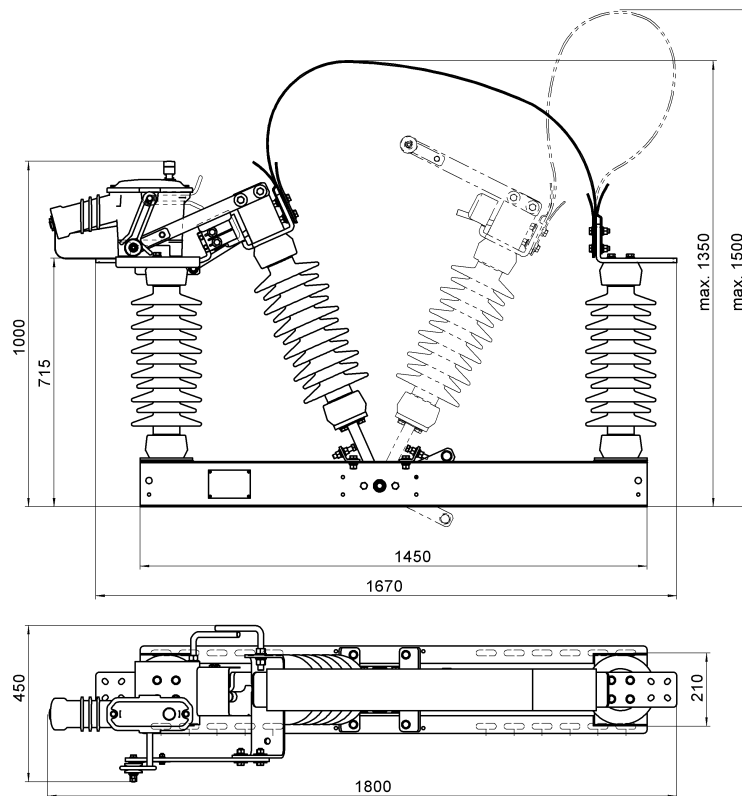
Material		porcelain or silicone	
Highest system voltage $U_{lim3}$	kV	52	36
Minimum creepage distance	mm	1'300	715
Minimum bending breaking load	kN	4	4

### Construction characteristics

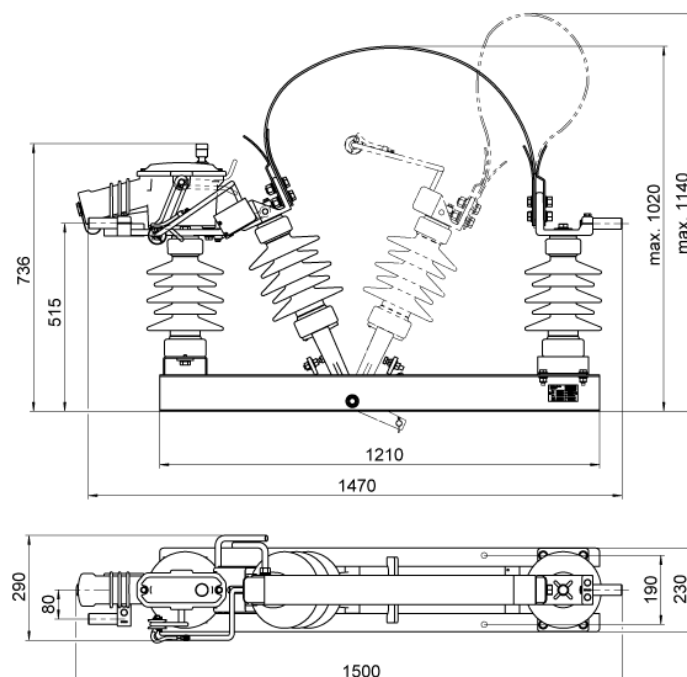
Mechanical life	cycles	10'000	10'000
Operating stroke	mm	180	120
Approximate weight (with porcelain insulators)	kg	137	93
Approximate weight (with silicone insulators)	kg	99	72

### Dimensional drawings

FHV-B1-25



FHV-B1-15



## Ordering information

Basic types	Description	Article-No.
FHV-B1-25	Load break switch 25 kV with porcelain insulators	19509
FHV-B1-15	Load break switch 15 kV with porcelain insulators	12610

Options:

- S = silicone insulators instead of porcelain
- I = with direct status indication (1x open, 1x closed)
- V = Pre-arcing horns (only for 25kV-switch, included in 15kV-switch)