

CBD 72.5 - 550 kV Centre Break disconnecter

**HV Switching**



## We know how

**Our range of centre break disconnectors is designed to ensure the highest performance, with reliability resulting from our 50-year experience.**

**Over 50000 disconnecting switches installed in more than 100 countries worldwide give the guarantee of a best-buy.**



## The CBD centre break disconnecting switch

The CBD centre break disconnecter is formed by three poles, operated simultaneously either by a single operating mechanism and mechanical linkages between the poles or by one mechanism for each pole.

Its versatility and weatherability are considered as a reference: the CBD has been installed in virtually any possible layout throughout the world and under the harshest environmental conditions: from  $-50^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$ , in icy or desert countries and even in the most seismic regions of the planet.

The simplicity of the design of the centre break disconnecter makes it the most commonly used in the world. From the use of only two insulators for each pole it is an economic solution for general purpose disconnecting function.

The horizontal motion and the design of contacts allow the actuation torque to be as low as possible for a smooth and fast operation.

The insulating columns used for the CBD can comply with either IEC or ANSI standard. Special heights and creepage distances are also available on request.

To adapt to various layouts of substations, the poles can be erected traditionally (horizontal) or wall-mounted, and even upside down.

Like all our models, the CBD meets the latest international standards (IEC, ANSI) but can also be customised according to particular specification.

## Earthing switch

Integrated earthing switches are available for mounting at each or both sides of the pole, with the same short-time current withstand capability.

The earthing switch is actuated by the same types of operating mechanisms as the disconnecter, either manually or electrically, single-pole or 3-pole. It can be electrically and/or mechanically interlocked with the main blade.

## Construction features

The arms are made of drawn aluminium profiles with silver plated copper contacts bolted at the central ends (number of fingers and silver thickness are according to rated current).

The rotary contacts are bolted on the top of the insulators. Depending on the voltage and current, they are either built around fingers, loaded by stainless steel springs or made with flexible aluminium straps.

The springs ensuring contact pressure, as well as the hardware of live parts, are made of stainless steel.

The HV terminals are made of copper or aluminium.

Where necessary, the live part is protected from corona effects by suitable corona shields, according to rated voltage.

The base frame and the rotary support are made of hot-dip galvanised steel profiles. The bearings are sealed and greased for a lifetime of maintenance free operation.

All our design and manufacturing process is ruled by ISO 9001 certified procedures to guarantee a perfect reproducibility of the performances from the type-testing to the delivery of series.

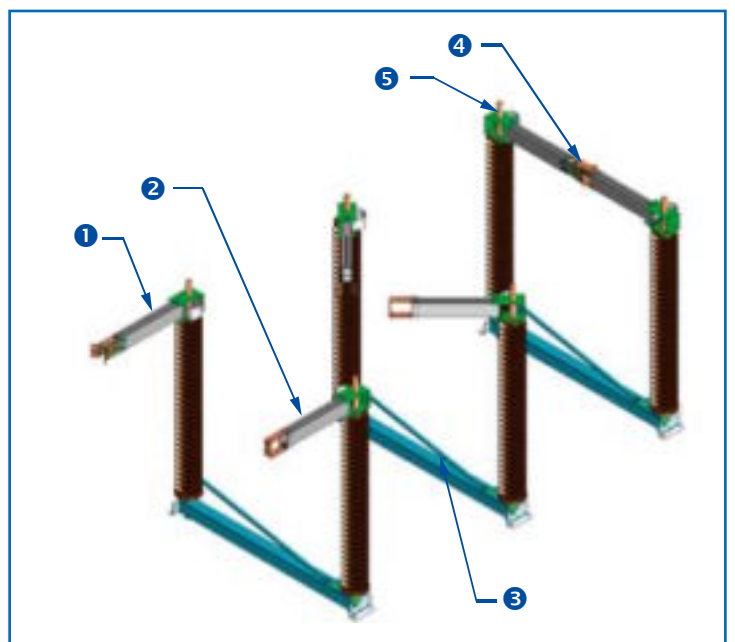


## Operating principle

The base frame supports two rotating insulators which support and operate the arms.

The live part is very simple in its design and motion. From the open position, the arms **1** and **2** rotate together, synchronised by their linkage bar **3** to join in the middle of the pole, and to close the main contact **4**.

The HV terminals **5** are as per the next page figure. Customised terminals are also available upon request.



## Ratings and dimensions

The values in the table refer to IEC standards, unless explicit reference to ANSI is made.

Rated voltage		Ur (kV)	72.5	123	145	170	245		300	362	420	550
Rated power frequency withstand voltage	TE	Ud (kV)	140	230	275	325	395	460	380	450	520	620
	AID	Ud (kV)	160	265	315	375	460	530	435	520	610	800
Rated lightning impulse withstand voltage	TE	Up (kV)	325 (IEC) 350 (ANSI)	550 (IEC) 550 (ANSI)	650 (IEC) 650 (ANSI)	750 (IEC) 750 (ANSI)	950 (IEC) 900 (ANSI)	1050 (IEC) 1050 (ANSI)	1050 (IEC) -	1175 (IEC) -	1425 (IEC) 1300 (ANSI)	1550 (IEC) 1800 (ANSI)
	AID	Up (kV)	375	630	750	860	1050	1200	1050 (+170)	1175 (+205)	1425 (+240)	1550 (+315)
Rated switching impulse withstand voltage	TE	Us (kV)	-	-	-	-	-	-	850	950	1050	1175
	AID	Us (kV)	-	-	-	-	-	-	700 (+245)	800 (+295)	900 (+345)	900 (+450)

TE: To Earth

AID : Across the Isolating Distance

Rated permanent current	Ir (A)	Up to 4000 A IEC / ANSI
Rated short-time withstand current	Ik (kA)	Up to 63 kA / 3s
Rated peak withstand current	Ip (kA)	Up to 160 kA

Dimensions (mm)		A	900	1400	1600	1800	2400	2400	2900	3200	4000	4500
B	IEC	770	1220	1500	1700	2100	2300	2300	2650	3350	3650	
	ANSI	762	1143	1372	1575	2032	2337	-	-	3099	3861	
C	IEC	940	1390	1670	1870	2370	2570	2570	2920	3630	3930	
	ANSI	932	1313	1542	1745	2302	2607	-	-	3379	4141	
D		515	775	875	975	1335	1335	1585	1735	2200	2450	
E		150	150	150	150	270	270	270	270	270	270	
F		-	-	-	-	270	270	270	270	270	270	
G		1050	1550	1750	1950	2200	2200	2700	3470	4270	4770	
H		4 Ø18	4 Ø18	4 Ø18	4 Ø18	8 Ø18	8 Ø18	8 Ø18	8 Ø18	8 Ø18	8 Ø18	

## Reliability and maintenance

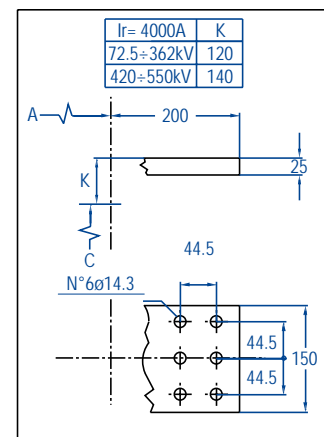
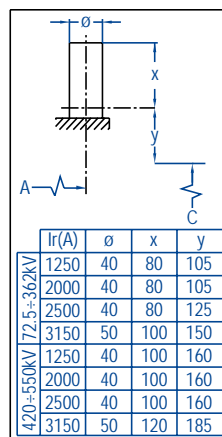
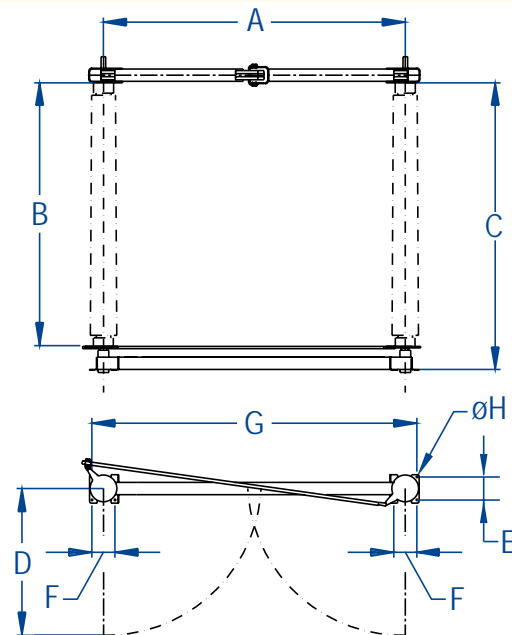
Due to lifetime greased or self-lubricated hinges, and self-wiping contact, the maintenance of the CBD metallic parts is ensured by its own motion. The use of corrosion-free or protected materials for all the components induces an exceptional reliability over many years of service. The mechanical endurance performance exceeds the IEC standard requirements.

## Optional devices

Upon request, the disconnector can be equipped with a bus-transfer current switching device, according to IEC 62271-102 (annex B).

The integrated earthing switch can also be fitted with an optional induced current switching device, as per IEC 62271-102 (annex C).

For operation under severe ice conditions (up to 20 mm), ice shields are available to protect the parts, where needed.



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