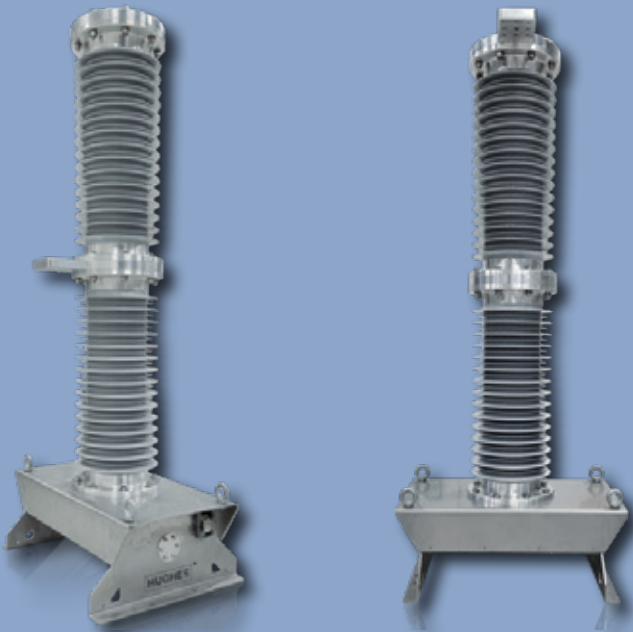


Innovative Power Engineering at its best!

HIGH VOLTAGE VACUUM CIRCUIT BREAKER

FOR 72 KV, 1-2-3 POLE GANG OPERATION



OVX720 HIGH VOLTAGE, SOLID INSULATED VACUUM
CIRCUIT BREAKER SERIES FOR DIFFERENT APPLI-
CATIONS:

- Railway feeder stations;
- Electrical transmission systems;

ABOUT US

Hughes Power System is a Swedish manufacturer of environmentally friendly equipment for electrification and automation of mass transport and electrical distribution systems. Very high quality standards together with innovative approach result in an advanced range of products, aiming to improve network quality by minimizing the number and duration of faults.

Our product portfolio includes:

- Reclosers
- Vacuum interrupter switches
- Disconnectors
- Motor drives
- Voltage transformers
- D/C power supplies

With its more than 30 years expertise in research, development, manufacturing, marketing and sales the company operates in many countries though cooperation with local partners. As we move towards our goal of being a world class advanced technological company in electrical utility products, we guarantee our commitment to the well known Swedish standards of reliability, safety and quality.

The majority of Hughes Power System's products are designed and built in Sweden.



GENERAL DESCRIPTION



WHAT IS AN OVX720 MODULARIZED VACUUM CIRCUIT BREAKER

Hughes OVX720 high voltage, solid insulated vacuum circuit breaker for 72kV is designed and manufactured in Sweden for railway feeder station and electrical transmission system applications.

OVX720 SERIES MODEL RANGE

- OVX721 one pole vacuum circuit breaker for 72kV for railway feeder stations;
- OVX722 two poles vacuum circuit breaker for 72kV for railway feeder stations;
- OVX723 three pole vacuum circuit breaker for 72kV for electrical transmission systems;

OVX720 KEY FEATURES:

- Solid insulated;
- 72.5 kV 3-phase;
- 42 kV single or double pole;
- 2500 A, 31.5 kA;
- 365 kV BIL;
- 140 kV PF@ 50 Hz;
- Stored energy mechanical actuator;
- Solutions for 1-phase, 2-phase, 3-phase systems;
- Vacuum interrupter enclosed in a solid insulation with silicone surface;
- Anti-vandalism poles fitted with polymeric insulators as standard;



OVX720 ADVANTAGES:

- **Low maintenance.** Hughes vacuum circuit breakers are built to remain in operation for more than 30 years without major maintenance due to the highest quality materials used in its construction;
- **Solid insulated bushings** (1) that exclude risk for SF6 or mix gas leakage and oil leakage;
- **High current vacuum interrupters** (2) that will not produce any harmful switching products and are very easy to replace in comparison to gas insulated interrupters;
- The OVX720 uses **high-level insulated bushings** (3) with silicone surface that gives superior BIL rating;
- The vacuum interrupter has **innovative design** allowing the unit to be modularized between 1, 2 or 3 poles for different applications. Normally 1 and 2 poles versions are used for railway electrification and 3 poles version is used for electrical transmission systems including renewable energy sectors;
- **Low life cycle cost** is guaranteed due to the combination of extremely high mechanical endurance and outstanding electrical parameters;
- The circuit breaker is **completely prewired** which makes it an easily remote-controlled solution;
- Both connection terminals can be supplied with **hole patterns** (4) in accordance with ANSI or IEC standards.

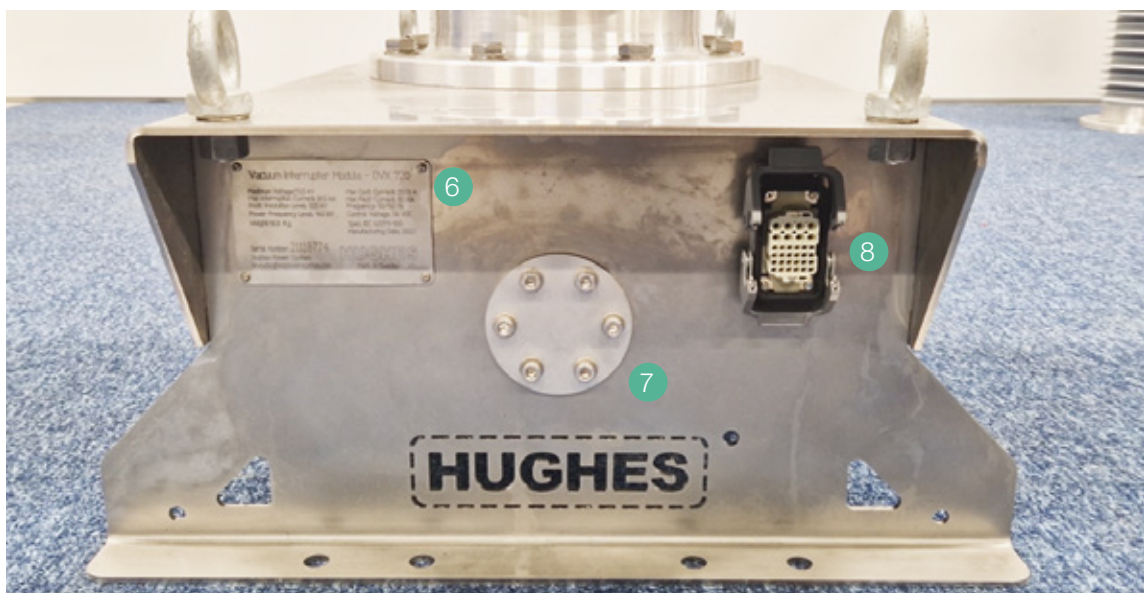
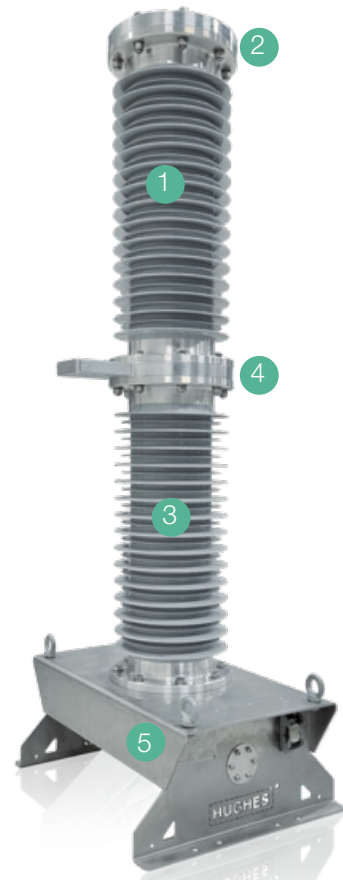


MODULARIZED VACUUM CIRCUIT BREAKER

GENERAL DESCRIPTION

OVX720 COMPONENTS:

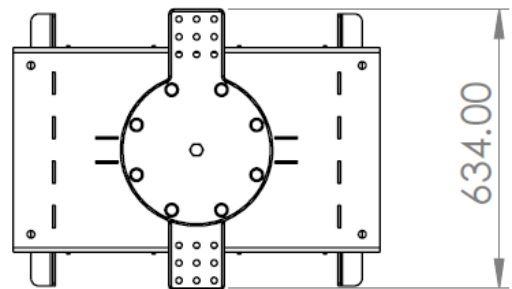
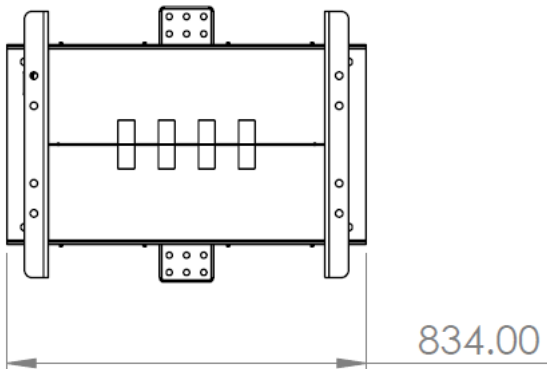
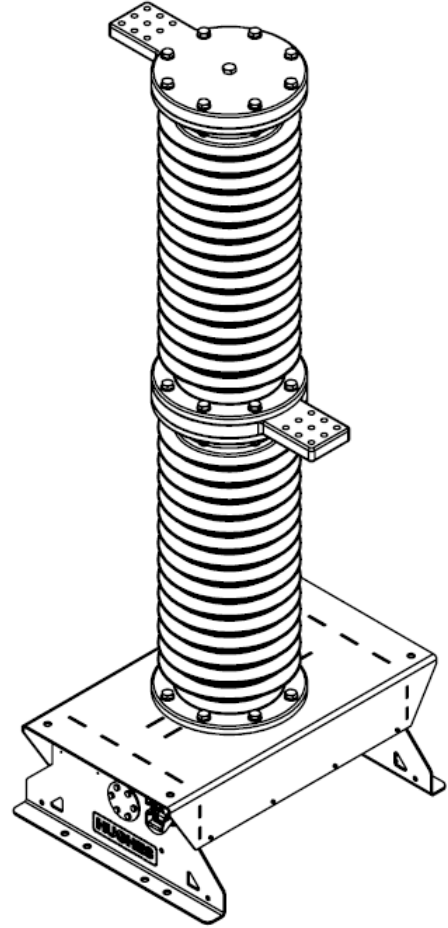
- Top solid insulated bushing (1) has upper connection terminal with low internal resistance;
- Thick metal element (2) that functions also as a heat radiator for a vacuum interrupter bottle, that is installed inside the top bushing;
- The lower bushing (3) with the internal operating push-pull rod installed inside;
- The lower connection terminal (4) is a joint point for both bushings;
- The foot of the circuit breaker (5) contains the mandatory rating plate (6) with the electrical data in accordance with ANSI and IEC standards;
- The switch interconnection interface (7) is the connection point for the drive shaft between a switch module and an operating mechanism;
- The IP67 electrical contact (8) is the prewired SCADA interface that provides information about the switch position. It also connects to multiple CAM switches and the heating element;



OVX720 foot

DRAWINGS

OVX720



INSTALLATIONS

OVX720



En example of a 72kV vacuum circuit breaker installation, copnnecting a renewable energy plant with a transmission network.

TECHNICAL DATA

TECHNICAL DATA	OVX 721	OVX 722	OVX 723
Type	circuit breaker	circuit breaker	circuit breaker
Rated frequency, Hz	50/60	50/60	50/60
Operating voltage (phase to ground), kV	42	42	
Operation voltage (phase to phase), kV			72
Rated power frequency withstand voltage (50 Hz/1 min), kV	140	140	140
Lightning impulse withstand voltage (1.2/50 μ s), kV	325	325	325
Rated current, A	2500	2500	2500
Rated short-circuit breaking current, kA	31.5	31.5	31.5
Rated short-circuit making current, kA	80	80	80
Short circuit withstand current, kA/s	31.5	31.5	31.5
Operation mechanism	Stored energy	Stored energy	Stored energy
Number of poles	1	2	3
Opening time, ms	≤ 17	≤ 22	≤ 22
Closing time, ms	≤ 60	≤ 60	≤ 65
Insulators	Polymeric	Polymeric	Polymeric
Operating class (IEC 62271-100)	E2	E2	E2
Dimensions (H x L x W), mm	1989 x 834 x 634 per module		
Operation voltage	24 VDC, 110 VDC, 220 VAC		
Drive voltage	24 VDC, 110 VDC, 220 VAC		



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