

TVR Pressurized and ventilated containerized substation

The TVR pressurized and ventilated containerized substation is suitable for installation in areas with danger of explosion, and it's designed to contain electro-instrumental materials, electrical panels, transformers, inverters, etc.

The cabin is equipped with the PCS-Ex p SIL2 pressurization control system, necessary to maintain the internal overpressure. The control unit is made with Ex-d protection, with auxiliary power supply independent of the main line, adequately protected, which can therefore be used in "ATEX" classified areas (Zone 1 and 21 - Group I category M2).

In association with this system there is a power and control panel for the ventilation and auxiliary services that is mounted inside the container.

- Manufactured for outdoor and tunnel installations;
- Free-standing, easy to move and ready for use;
- Maximum overpressure capacity 76m3;
- Fitted with safety devices;
- Designed to suit the customer's requirements.

Safety and reference standards

International standard	EN 60079-0 EN-60079-1 EN-60079-2 EN 60079-7 EN 60079-11 N 60079-31 EN 50381
Atex Directive	2014/34/EU I M2 Ex db [ib Mb] eb pxb I Mb II 2G Ex db [ib Gb] eb pxb IIC T4 Gb II 2D Ex pxb tb [ib Db] IIIC T135°C Db I M2 Ex db [ib Mb] eb vM2 I Mb II 2G Ex db [ib Gb] eb v2 IIC T4 Gb

Main Electrical Features

Distribution system	TN
Transformer type	Cast resin
Rated power transformer (Pn)	4000 KVA
Connection	Dyn11 - Class F
Earthed neutral system	Direct
Frequency	50 Hz
Rated voltage HV (Ue1)	15 KV
Rated voltage HV cabinet (Ur)	24 kV
Rated current HV (In1)	630 A
Power frequency withstand voltage (50/60 Hz 1 min) - (Ud)	50 kV
Rated lighting impulse withstand voltage (Up)	95 kV
Short current Icc x 1 sec	10 kA
Rated voltage LV (Ue1)	0.4 kV
Rated current LV (In1)	600 A
Auxiliary circuit voltage	24 V dc 230 V ac
Cable entry	bottom

The electrical references are purely indicative and can be made according to customer specifications and in accordance with the reference legislation.

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Features of Construction

The pressurized and ventilated containerized substation can be done according to dimensional standards ranging from 10 to 40 ISO standard feet (also high cube), or out of shape with a maximum surface area of 76m³.

Service and environmental conditions

Type of installation	for tunnel and outdoor
Pressurization Total nominal Volume	From 15 to 76m ³
Maximum and minimum overpressure in service	From 0,5mbar up to 10mbar
Compartment number	Starting from 2
Maximum ambient temperature	+ 55°C
Minimum ambient temperature	- 20°C
External protection class	IP 55
Altitude	<1000m s.l.m.
Relative humidity	0÷90%
Painting	RAL 3020 (other shades on request)



Fittings & Accessories

Accessory electrical equipment

- External cabinet sockets and plugs up to 800A and Atex certified up to 500A;
- PFC switchgear for transformer;
- UPS (Uninterruptable Power Supply);
- APFC switchgear (optional);
- Fire detection and extinguishing system (optional);
- Plug protection cover (optional).

External cabinet accessories

- Warning horn (IP66), suitable for long term continuous activation;
- Flashing warning light (IP55);
- Emergency pushbutton (under glass).