

Medium voltage switchgear type W 38.5

rated voltage 38.5 kV
rated current up to 1250 A



ELEKTROTECHNISCHE WERKE
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General

The air-insulated switchboards type W 38.5 consist of type-tested panels, which are separated each from the other and provided with one single bus bar system.

The design of the air-insulated switch panels corresponds to the specifications of the EN 60298 standard. The built-in instruments and apparatuses meet the requirements of the subject standards. The panels have been tested for resistance to accidental arc to VDE 0670, part 6 and appendix A (the PEHLA tests), eqv. EN 60298 at 16 kA / 1 sec.

The earthing switches feature short-circuit making capacity and they are provided with interlocking.

The welded frame structure and the supporting parts of the switchboard are provided with two layers of varnish.

The switchboard panel is designed as one single MV space, which can be further equipped with a small terminal box. The front side of the panel is equipped with two-wing steel sheet doors with central lock and inspection window made of multi-layer glued safety glass.

The front part bears the corresponding mimic diagram. The bus bar space is covered with fixed and screwed covers. Both the doors and the bus bar covers, as standard, are supplied with the RAL 7032 (grey) colour dye.

From the rear part all the panels are covered with 2 mm galvanized sheets. From the left side is each panel equipped with PE 5 mm insulation plate stiffened with glass fibres and provided with bushings. The complete panel separation at the bus bar area can be supplied on request.

From the upper side the panels are covered with screwed-on steel sheets. The cable compartment remains opened.

The switchboard sidewalls are provided with PE insulation boards and metallic termination walls.

When work is being carried out protective plates can be inserted in the open isolating distance of the switching devices in question, with the door closed.

The design and the setout of the panels are based on building-block principle. The latter provides for the possibility of customer specific arrangements while offering a progressive and variable design system that makes it possible to provide for later changes in the switchboard configuration. On request the switchboards can be provided with accessories such as the bases, consoles for the mounting of instrument transformers, electric motor drive units, capacitive voltage sensors, short-circuit current indicators etc.

The protection relays, transducers and control instruments have to be placed in separated control boxes.

The concept of the switchboard in all its parts is designed in a way to achieve the required dielectric strength, without the necessity of using additional insulation made of solid, liquid or gaseous insulators.

Cables could be connected using any standard cable heads.

This switchgear guarantees the environmental compatibility, also in the event of a malfunction; there are no toxic reaction products under the influence of accidental arcs.

The concept of the switchboard is future-oriented. The modules and groups of the switchboard are recyclable. The operating personnel does not come into contact with dangerous products.

Technical data

rated voltage	38.5 kV
rated frequency	50 Hz
degree of protection	IP 3X
rated short-time withstand voltage	80 kV
rated lightning impulse withstand voltage	180 kV
bus bar rated current	630 / 1250 A
rated current of branches	do 1250 A
rated short-time withstand current	16 kA
rated dynamic withstand current	40 kA
ambient temperature (class "Minus 15 Indoor", to the EN 60694 standard)	- 15 °C ÷ +40 °C
24 hours temperature average	max.+ 35 °C
withstand capacity against internal short circuit	16 kA / 1s

Dimensions

width	1200 mm
depth	1550 mm
height	2700 mm

Switch panel types

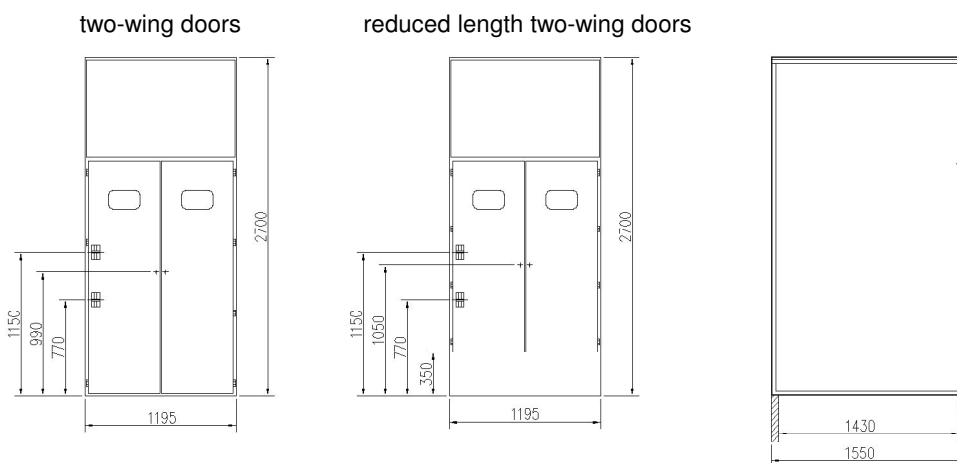
Marking	Type of the panel	Weight in kg
WK 38.5	cable panel	383
WT 38.5	transformer panel	424
WM1 38.5	measuring panel no. 1	352 ¹⁾
WM2L 38.5	measuring panel no. 2 – left hand side	303 ¹⁾
WM2P 38.5	measuring panel no. 2 – right hand side	303 ¹⁾
WM 3 38.5	measuring panel no. 3	300 ¹⁾
WPL 38.5	transition panel – left hand side	376
WPP 38.5	transition panel – right hand side	376
WH 38.5	upper outlet	284
WV 38.5	circuit breaker panel	576 ¹⁾
	end wall of 70 mm thickness	98

¹⁾ weight without instrument transformers

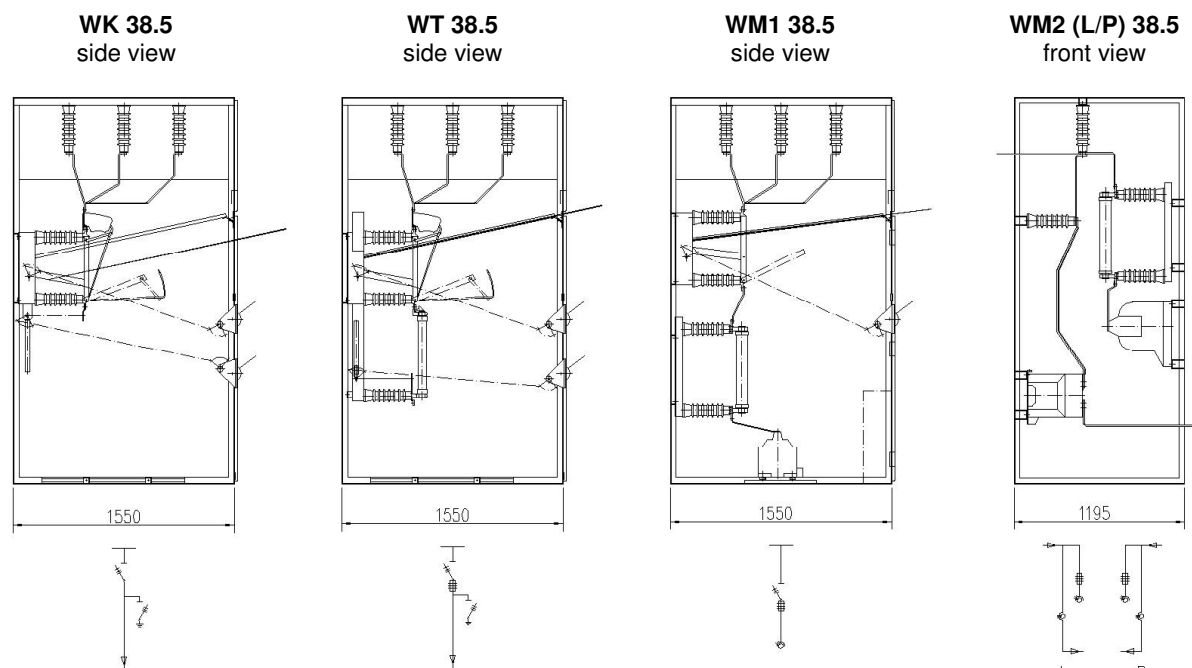
W 38.5 switchboard design

The switchboard panels are manufactured in two versions:

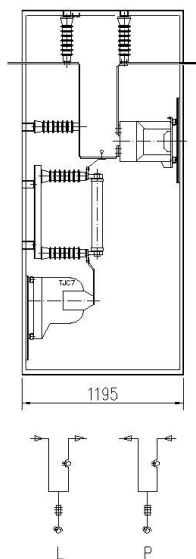
1. for indoor installation in buildings
2. with reduced door length for anchorage in concrete type of substations



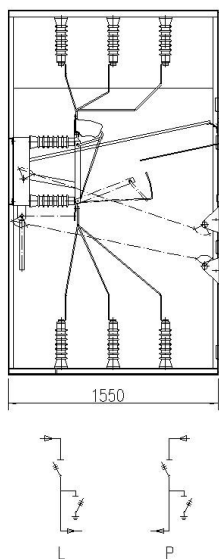
Switch panel types



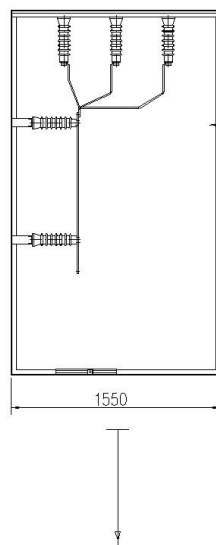
WM3 38.5
front view



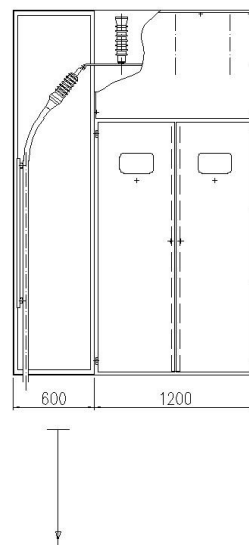
WP(L/P) 38.5
side view



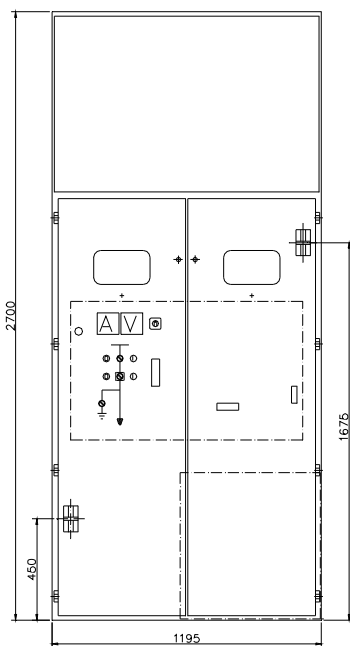
WH1 38.5
side view



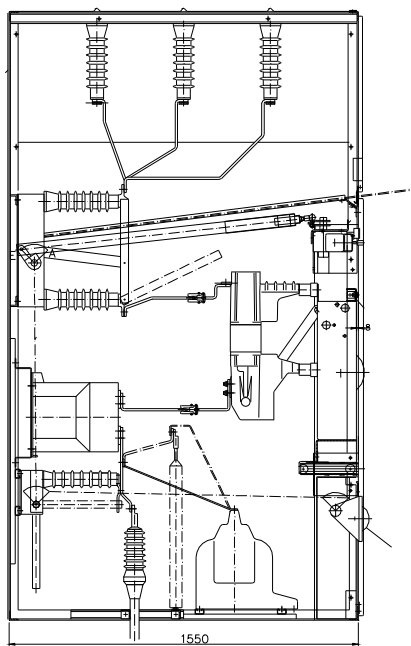
WH2 38.5
front view



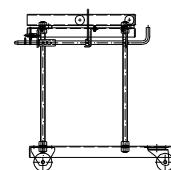
front view



WV 38.5
side view



auxiliary cart



Accessories

- 1 manual operating lever
- 1 door key with double-bit DIN 43668, size 5
- 1 FRP withdraw able plate, red, type 1165, VDE 0681, part 8

Available auxiliary accessories

- consoles for the installation of surge arresters and the instrument transformers
- electric motor drive units
- short-circuit current passage indicators
- capacitive voltage sensors with sockets on the front panel
- switchboard provided with corner panels