

Data Sheet 1.15/4

Medium-Voltage Switchgear, Type SMV

The medium-voltage switchgear (SMV) connects the high-voltage test system directly to the medium-voltage (MV) power net feeding the HV test system.

The SMV comprises the MV switchgear cubicle and the associated switchgear cabinet for control.

Table 1: Global parameters

Maximum ambient temperature	°C	40
Duty cycle		continuous operation
Installation		indoor

Medium-Voltage switchgear cubicle

The stand-alone cubicle is made of steel sheets and contains mainly the following elements:

- hand-operated 2-phase switch disconnecter with load break;
- hand-operated earthing switch;
- 2 medium-voltage vacuum contactors;
- overcurrent protection, shunt releases and undervoltage release in the power circuit;
- low-voltage compartment to connect with the switchgear cabinet for control and to install protection devices;
- basically at the front: emergency off switch, status indication of MV switch position and voltage indications.

Depending on the construction of the regulating transformer additional items might be arranged in the MV switchgear cubicle:

- voltage transformer
- current transformer

Table 2: Main parameters of MV switchgear cubicle

Type	Rated voltage	Rated current ¹⁾	Frequency	Length x Width x Height (approx.) ²⁾	Weight (approx.)
	kV	A	Hz	mm	kg
SMV 12T	12	630	50/60	750 x 1800 x 2150	640
SMV 12R	12	630	50/60	750 x 1800 x 2150	640
SMV 24T	24	630	50/60	1100 x 2654 x 2350	640
SMV 24R	24	630	50/60	1100 x 2654 x 2350	640

¹⁾ related to the busbar

²⁾ observation of necessary clearances to all walls and ceiling and dimensions of cable duct (see figure 1)

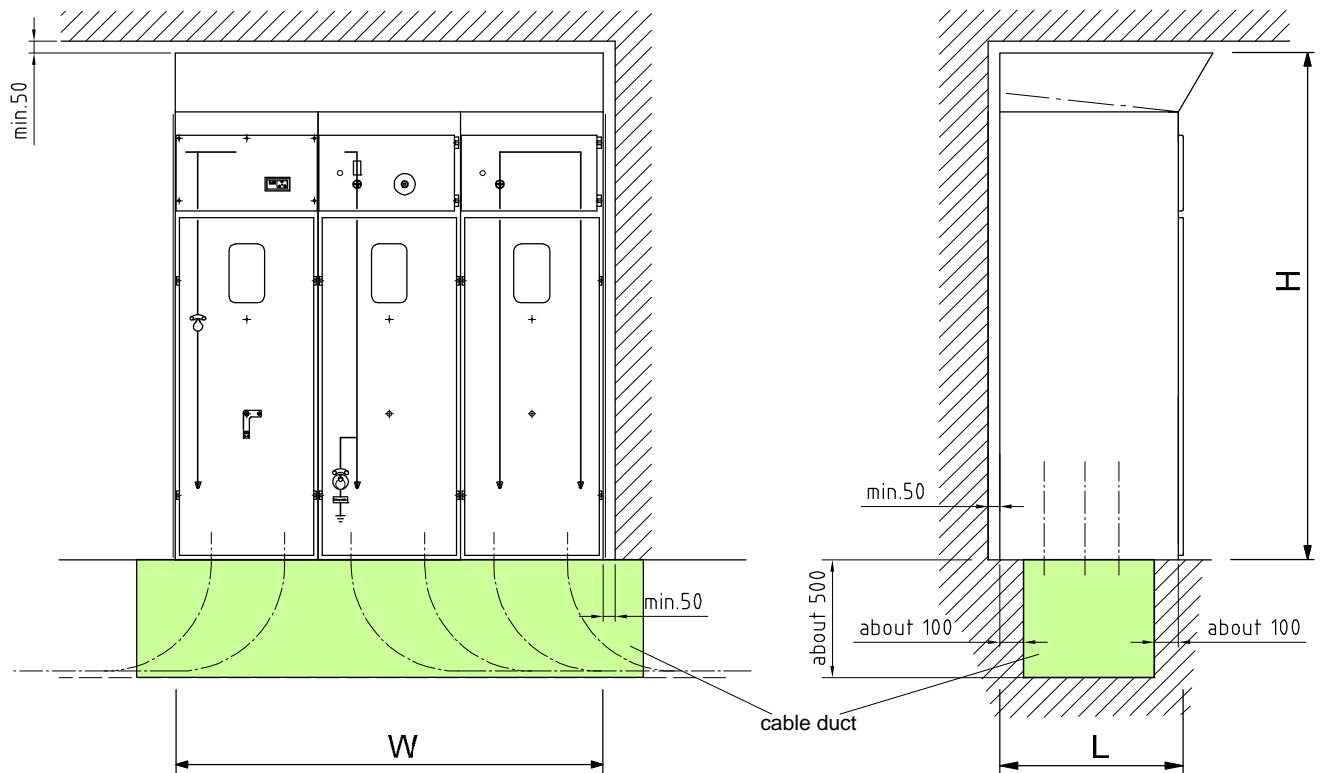


Figure 1: MV switchgear cubicle (without switchgear cabinet for control)

Switchgear cabinet for control

The switchgear cabinet for control is a stand-alone cabinet close to the MV switchgear cubicle. It mainly contains:

- transducers for the measurement of feeding voltage and current;
- programmable logic controller of the type SIMATIC of the control and measuring system (see Catalog Sheet 1.52);
- isolating amplifiers, coupling relays, fuses for the control, overvoltage protection of all inputs and outputs of control and measuring cables; contactors for drives;
- ETHERNET coupling for connection to an operator device to the control computer (if any).

Additional optional items might be arranged in the switchgear cabinet for control dependent on test system type and arrangement:

- peak voltmeter (see Data Sheet 5.56), without own display (display on operator device or control computer),
- components of the breakdown detection unit, type BDC (see Data Sheet 1.57), of the secondary current measurement (see Data Sheet 1.58) and of the fast switch-off circuit (see Data Sheet 1.59) as far as applicable.

Table 3: Main parameters of switchgear cabinet for control

Supply voltage ³⁾	V	230/400
Frequency	Hz	50/60
Dimensions (approx.)		
Length (L)	mm	606
Width (W)	mm	606
Height (H)	mm	2258
Weight (approx.)	kg	240

³⁾ can be adapted to the local mains voltage

Type designation

SMV a z

a = rated voltage in kV

z = letter T: for use with HV AC test system based on HV transformer

letter R: for use with HV AC test system based on HV resonant reactor