

Data Sheet 1.27/4

High-Power Regulating Transformers, Type RTT

Application

The powerful regulating transformers are well suited for feeding HIGHVOLT's larger test transformers and resonant test systems. With the regulating transformers the output voltage of the test system can be varied without significant steps.

Description

The input and output are electrically isolated by separated input and output windings. For transformers with voltages above 1000 V an intermediate transformer is connected to the output winding. The output voltage is controlled by means of an AC motor with a frequency converter. Thus, the regulating time can be adapted to the customer's demands. The regulating transformer is equipped with an upper and lower limit switch. The control provides a "zero-start".

All parts are built into an oil-filled steel tank. The oil is mineral-oil-based transformer oil that is PCB free and fulfils all the requirements for oils according to IEC 60296. The regulating transformers are equipped with a conservator with silica gel air breather. They are protected by a Buchholz relay, an oil level indicator and an oil thermometer. The connections are made by bushings according to the relevant DIN / IEC standards.

The regulating transformers are designed for continuous operation; they can be overloaded for short time duty (details on request).

The short-circuit impedance of these transformers is about 5 % without adaptation transformer and 7.5 % with adaptation transformer.

Table 1: Operating conditions

Frequency	Hz	50 / 60
Temperature range	°C	5 ... 40
Daily mean temperature	°C	≤ 30
Relative humidity	%	≤ 90
Height above sea level	m	≤ 1000
Duty cycle		Continuous operation

Table 2: Reference atmospheric conditions (according to IEC 60060-1: 2010)

Temperature	°C	20
Absolute pressure	hPa	1013
Absolute humidity	g/m ³	11

Table 3: Control features

Supply voltage for motor drive	V (AC)	400 / 3NPE
Supply power for motor drive	VA	approx. 1000
Regulating time	s	50 ... 250
Type of cooling		ONAN
Type of enclosure		Steel tank with switching cubicle, IP20

Table 4: Main parameters

Type	Rated power	Rated input voltage	Rated output voltage	Rated current	Length x Width x Height ¹⁾ (approx.) (L x W x H)	Weight Total (approx.)	Weight Oil (approx.)
	kVA	kV	kV	A	mm x mm x mm	kg	kg
RTT 350/1.0	350	1.0	0 ... 1.0	0 ... 350	2000 x 1400 x 1600	4000	900
RTT 500/1.0	500	1.0	0 ... 1.0	0 ... 500	2200 x 1300 x 2800	4400	1000
RTT 600/1.0	600	1.0	0 ... 1.0	0 ... 600	2300 x 1500 x 3000	6000	1400
RTT 750/1.0	750	1.0	0 ... 1.0	0 ... 750	2500 x 1600 x 3100	8000	1700
RTT 500/6.3	500	10.0	0 ... 6.3	0 ... 80	2200 x 1300 x 2800	4400	1000
RTT 1000/6.3	1000	10.0	0 ... 6.3	0 ... 160	2700 x 1600 x 3300	9200	2000
RTT 1500/6.3	1500	10.0	0 ... 6.3	0 ... 240	2800 x 1700 x 3300	13200	2900
RTT 2000/6.3	2000	10.0	0 ... 6.3	0 ... 315	3000 x 1700 x 3300	16000	3700
RTT 2500/6.3	2500	10.0	0 ... 6.3	0 ... 430	3200 x 1800 x 3300	19800	4500

¹⁾ For the control of the motor drive a switching cubicle is necessary on one side of the unit (depth approx. 500 mm). This should be added to one of the dimensions

Type designation

RTT a/b

a = rated power in kVA

b = rated output voltage in kV

Please contact HIGHVOLT for any special application or parameters.