

Data Sheet 1.26/3

Regulating Transformers, Type RT

Application

The single-phase regulating transformers are well suited for feeding the HIGHVOLT test transformers and resonant test systems. With the regulating transformers the output voltage of the test system can be varied without significant steps.

Description

We use two variants for the electrical isolation of the input and output. One method is the usage of separate input and output windings. The other one, especially for larger transformers, is realized by an intermediate transformer in conjunction with the regulating autotransformer. The transformer input is protected by built-in varistors. 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 regulator is equipped with an upper and lower limiting switch. The control provides a "zero-start".

All parts are installed in a cabinet with lifting lugs for transportation by crane. The regulating transformers (dry type transformers) are built in a switching cubicle. They are designed for stationary indoor operation.

The short-circuit impedance of the regulating transformer depends on the output voltage and varies from approx. 30 % (at 10 % rated output voltage) to approx. 5 % (at 100 % rated output voltage).

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

Table 1: Operating conditions

Frequency	Hz	50 / 60
Rated input voltage	V	400
Temperature range	°C	5 ... 40
Daily mean temperature	°C	≤ 30
Relative humidity	%	≤ 90
Height above sea level	m	≤ 1000
Duty cycle		Continuous operation

Other input and output voltages (especially 500 V; with different currents) or different regulation times are possible on request.

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		AN
Degree of protection		IP 20

Table 4: Main parameters

Type	Rated power	Rated output voltage	Rated current	Length x Width x Height (L x W x H) (approx.)	Weight Total (approx.)
	kVA	kV	A	mm x mm x mm	kg
RT 20/0.4	20	0 ... 0.4	0 ... 50	600 x 600 x 2250	350
RT 25/0.4	25	0 ... 0.4	0 ... 63	600 x 800 x 2250	500
RT 30/0.4	30	0 ... 0.4	0 ... 75	600 x 800 x 2250	500
RT 40/0.4	40	0 ... 0.4	0 ... 100	600 x 1000 x 2250	550
RT 60/0.4	60	0 ... 0.4	0 ... 150	600 x 1200 x 2250	750
RT 75/0.4	75	0 ... 0.4	0 ... 188	600 x 1200 x 2250	800
RT 100/0.4	100	0 ... 0.4	0 ... 250	800 x 1200 x 2250	1200
RT 125/0.4	125	0 ... 0.4	0 ... 312	800 x 1200 x 2250	1250
RT 150/0.4	150	0 ... 0.4	0 ... 375	1200 x 1200 x 1600	1300
RT 175/0.4	175	0 ... 0.4	0 ... 437	1000 x 1600 x 1700	1500
RT 210/0.4	210	0 ... 0.4	0 ... 525	1200 x 1600 x 1700	1600
RT 250/0.4	250	0 ... 0.4	0 ... 625	1200 x 1600 x 1850 ¹⁾	2200
RT 300/0.4	300	0 ... 0.4	0 ... 750	1200 x 1600 x 1850 ¹⁾	2900
RT 350/0.4	350	0 ... 0.4	0 ... 875	1800 x 2100 x 1700 ¹⁾	3600
RT 400/0.4	400	0 ... 0.4	0 ... 1000	2000 x 1600 x 1700 ¹⁾	4150
RT 500/0.4	500	0 ... 0.4	0 ... 1250	2000 x 1800 x 1900 ¹⁾	5400
RT 20/0.5	20	0 ... 0.5	0 ... 40	600 x 600 x 2250	350
RT 25/0.5	25	0 ... 0.5	0 ... 50	600 x 800 x 2250	500
RT 30/0.5	30	0 ... 0.5	0 ... 60	600 x 800 x 2250	500
RT 40/0.5	40	0 ... 0.5	0 ... 80	600 x 1000 x 2250	550
RT 60/0.5	60	0 ... 0.5	0 ... 120	600 x 1200 x 2250	750
RT 75/0.5	75	0 ... 0.5	0 ... 150	600 x 1200 x 2250	800
RT 100/0.5	100	0 ... 0.5	0 ... 200	800 x 1200 x 2250	1200
RT 125/0.5	125	0 ... 0.5	0 ... 250	800 x 1200 x 2250	1250
RT 150/0.5	150	0 ... 0.5	0 ... 300	1200 x 1200 x 1700	1300
RT 175/0.5	175	0 ... 0.5	0 ... 350	1000 x 1600 x 1800	1500
RT 210/0.5	210	0 ... 0.5	0 ... 420	1200 x 1600 x 1800	1600
RT 250/0.5	250	0 ... 0.5	0 ... 500	1200 x 1600 x 2000 ¹⁾	2200
RT 300/0.5	300	0 ... 0.5	0 ... 600	1200 x 1600 x 2000 ¹⁾	2900
RT 350/0.5	350	0 ... 0.5	0 ... 700	1800 x 2100 x 1800 ¹⁾	3600
RT 400/0.5	400	0 ... 0.5	0 ... 800	2000 x 1600 x 1800 ¹⁾	4150
RT 500/0.5	500	0 ... 0.5	0 ... 1000	2000 x 1800 x 2050 ¹⁾	5400

¹⁾ Can be divided into two units.

Type designation

RT a/b

a = rated power in kVA

b = rated output voltage in kV

Please contact HIGHVOLT for any special application or parameters.