



Three-phase oil-immersed hermetically sealed transformer  
and shunt reactor with Petersen coil capability  
200kVA+178kVAr, 20,5/0.41kV+20,5kV, Dyn11+YN

## TECHNICAL DATA

1.	Manufacturer		<b>KKM Power d.o.o, Serbia</b>				
2.	Product type		<b>Oil-immersed, hermetically sealed</b>				
3.	Product kind		<b>Distribution transformer and shunt reactor with Petersen coil capability within the same tank</b>				
4.	Standard		<b>IEC 60076 group of standards</b>				
5.	Product name		<b>SHR-T 8/200-20,5</b>				
<b>Transformer data</b>							
6.	Rated power	[kVA]	<b>200</b>				
7.	Number of phases		<b>3</b>				
8.	Rated frequency	[Hz]	<b>50</b>				
9.	Highest voltage of equipment	[kV]	<b>24</b>				
10.	Insulation level	[kV]	<b>LI 125 AC 50/ LI 0 AC 10</b>				
11.	Rated primary voltage	[kV]	<b>20.5</b>				
12.	Rated secondary voltage	[kV]	<b>0.41</b>				
13.	Connection symbol		<b>Dyn11</b>				
14.	Short circuit impedance	[%]	<b>4</b>				
<b>Shunt reactor data</b>							
15.	Type of shunt reactor		<b>A bank of three single-phase reactors coupled in YN vector group</b>				
16.	Number of phases		<b>3</b>				
17.	Rated frequency	[Hz]	<b>50</b>				
18.	Highest voltage of equipment	[kV]	<b>24</b>				
19.	Insulation level	[kV]	<b>LI 125 AC 50</b>				
20.	Rated voltage	[kV]	<b><math>20.5/\sqrt{3}</math></b>				
21.	Maximum operating voltage	[kV]	<b>20.5</b>				
22.	Tap changer position		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
23.	Rated power	[kVAr]	<b>59</b>	<b>89</b>	<b>118</b>	<b>148</b>	<b>178</b>
24.	Rated current	[A]	<b>1.67</b>	<b>2.5</b>	<b>3.33</b>	<b>4.15</b>	<b>5</b>
25.	Rated fault current	[A]	<b>5</b>	<b>7.5</b>	<b>10</b>	<b>12.5</b>	<b>15</b>
26.	Rated reactance	[ $\Omega$ /phase]	<b>7088</b>	<b>4735</b>	<b>3555</b>	<b>2852</b>	<b>2367</b>
27.	Zero-sequence reactance	[ $\Omega$ /phase]	<b>7088</b>	<b>4735</b>	<b>3555</b>	<b>2852</b>	<b>2367</b>



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28.	Rated fault duration	[h]	<b>2</b>
29.	R/X ratio at 75°C	[%]	<b>&lt;1.25</b>
<b>Temperature rises, conditions of use and installation</b>			
30.	Total losses at 75°C (at rated transformer load and tap position 5 of reactor-15A fault current)	[W]	<b>5850</b>
31.	Type of cooling		<b>ONAN</b>
32.	Installation altitude	[m]	<b>&lt;1000</b>
33.	Maximum temperature of ambient	[°C]	<b>40</b>
34.	Maximum temperature rise of winding	[K]	<b>65</b>
35.	Maximum temperature rise of oil	[K]	<b>60</b>
36.	Thermal class of insulation		<b>A</b>
37.	Installation conditions		<b>Outdoor/Indoor</b>
<b>Approximate dimensions and masses</b>			
38.	Approximate length of product	[mm]	<b>1510</b>
39.	Approximate width of product	[mm]	<b>1110</b>
40.	Approximate height of product	[mm]	<b>1310</b>
41.	Mass of oil in product	[kg]	<b>580</b>
42.	Total mass of product	[kg]	<b>2320</b>
<b>Accessories</b>			
43.	HV porcelain bushing		<b>DIN 42531 (24kV, 250A)</b>
44.	HV plug-in neutral bushing		<b>EN 50180 (24kV, 250A)</b>
45.	LV porcelain bushing		<b>DIN 42530 (1kV, 630A)</b>
46.	Reactor tap changer		<b>Standard</b>
47.	Oil drain valve		<b>Standard</b>
48.	Oil level indicator		<b>Standard, vertical, for hermetically sealed tanks</b>