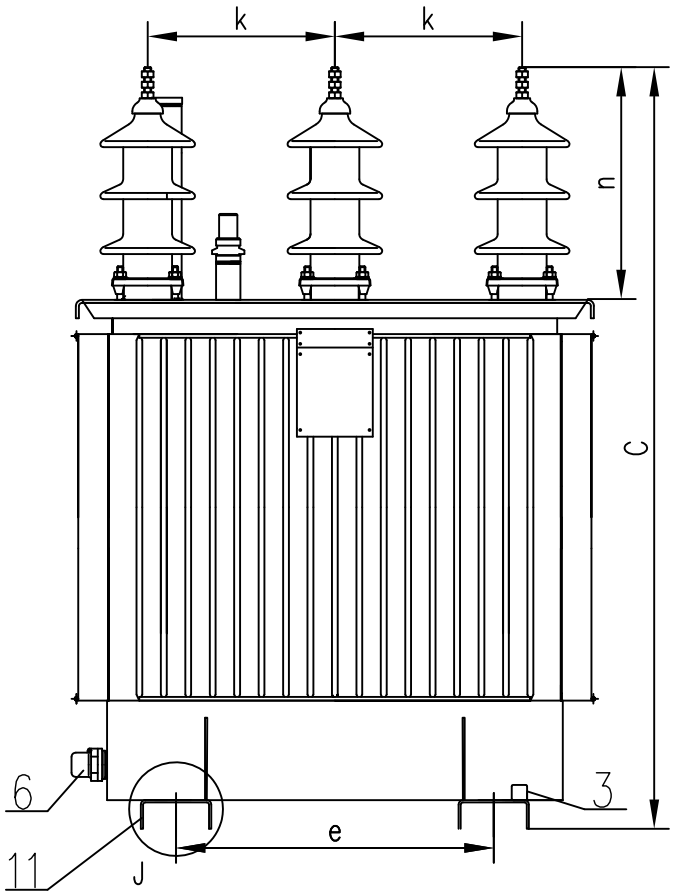
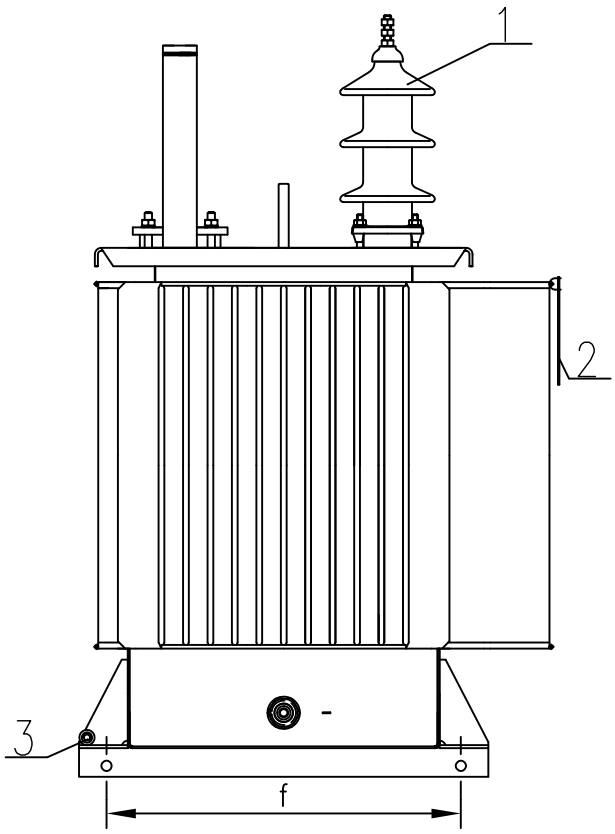
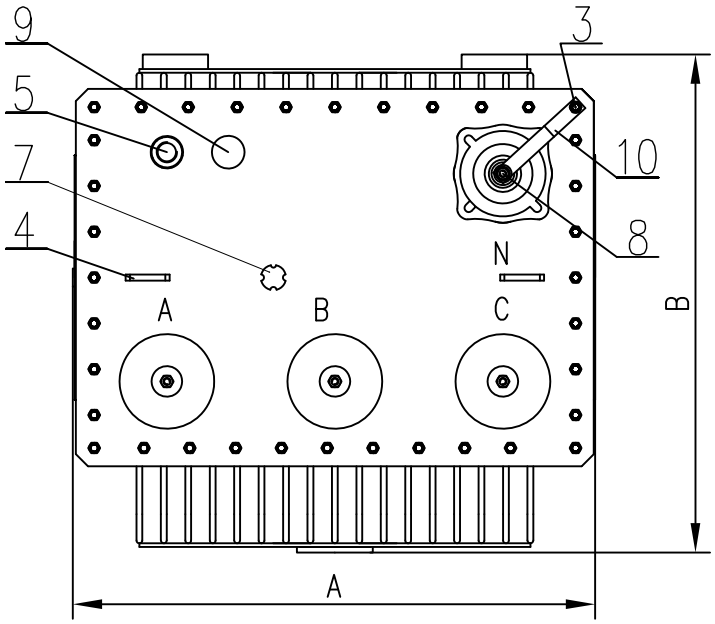
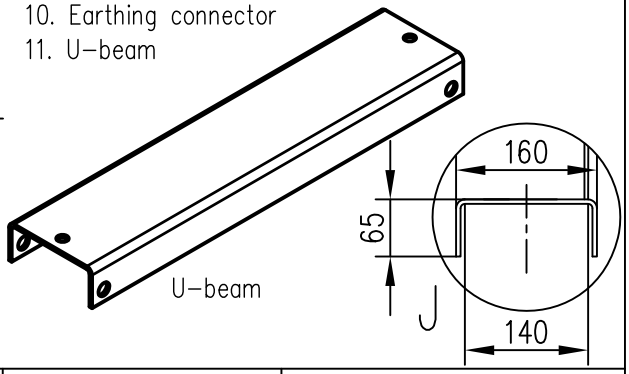
KKM	Three-phase oil-immersed hermetically sealed shunt reactor with Petersen coil functionality 71-131kVAr, 20.5kV, YN	For approval







1. Phase Bushing EN 50180 24kV, 250A
2. Rating plate
3. Earthing terminal
4. Lifting lugs
5. Oil filling tube
6. Oil drain valve
7. Tap changer
8. Neutral Plug-in bushing EN 50180 24kV, 250A
9. Oil level indicator
10. Earthing connector
11. U-beam



Note: Drawing is not to scale.

kVAr	A	B	C	e	f	k	n	Mass(kg)		SHR 10,3-20,5 U-beam
								Oil	Total	
71-131	950	940	1375	520	670	275	384	320	1148	

KKM	**Three-phase oil-immersed hermetically sealed shunt reactor with Petersen coil functionality 71-131 kVAr, 20.5kV, YN**

TECHNICAL DATA

1.	Manufacturer		KKM Power d.o.o, Serbia	
2.	Reactor type		Oil-immersed, hermetically sealed and completely filled.	
3.	Reactor kind		Shunt reactor with Petersen coil functionality.	
4.	Standard		According to standards stated in tender documentation *CARUNA-020000430 (8.2.2023.)*	
5.	Reactor name		**SHR 10,3-20,5**	
6.	SNRO		9757591	
7.	Number of phases		3	
8.	Rated frequency	[Hz]	50	
9.	Highest voltage of equipement	[kV]	24	
10.	Insulation level	[kV]	LI 125/AC 50	
11.	Rated voltage	[kV]	20.5	
12.	Maximum operating voltage	[kV]	22	
13.	Connection symbol		YN	
Tap position			1	2
14.	Rated power	[kVAr]	71	131
15.	Rated current	[A]	2	3.67
16.	Zero-sequence impedance	[Ω/phase]	5918	3228
17.	Rated neutral current (in Petersen coil functionality)	[A]	6	11
18.	Rated neutral current duration (in Petersen coil functionality)	[min]	120	
19.	Maximum total losses at rated voltage Ur under continuous normal operation conditions at 75°C	[W]	<2400	
20.	Winding material	Cu/Al	Aluminium	
21.	Tap changer	Yes/No	Yes, with two taps	
22.	R/X ratio of the total zero sequence impedance at 75°C	[%]	<1.5 (for each tap)	
23.	Non-linearity of reactance, up to 36kV phase to phase	[%]	within ±5	
24.	Sound power level	[dB(A)]	<60	
25.	Cooling		ONAN	

KKM	**Three-phase oil-immersed hermetically sealed shunt reactor with Petersen coil functionality 71-131 kVAr, 20.5kV, YN**

26.	Instalation altitude	[m]	<1000
27.	The ambient temperature range of the equipment	[°C]	-40 / 40
28.	Temperature rise of winding • as a shunt reactor use • in direct single-phase to earth fault situation	[K]	<45 <70
29.	Temperature rise of top-oil: • as a shunt reactor use • in direct single-phase to earth fault situation	[K]	<40 <60
30.	Thermal class of insulation		A
31.	Instalation conditions		Indoor/Outdoor
32.	Maximum length of reactor	[mm]	950
33.	Maximum width of reactor	[mm]	910
34.	Maximum height of reactor • U-beams on tank bottom • tank bottom support in the level of the bottom	[mm]	1370 1310
35.	Mass of oil in reactor	[kg]	335
36.	Total mass of reactor • U-beams on tank bottom • tank bottom support in the level of the bottom	[kg]	1170 1155
37.	Accessories		1. **Terminals** Phase: EN 50180 Porcelain, 24kV, 250A Neutral: EN 50180 Plug-in, 24kV, 250A 2. **De-energized tap-changer (DETC)** Standard 3. **Oil level indicator** Standard, vertical, for hermetically sealed tank 4. **Oil drain valve** Standard