



EKARAT ENGINEERING PUBLIC CO.,LTD.
BANGKOK THAILAND.

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LIST OF DRAWING

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LIST OF ACCESSORIES

Ref. SPEC. 53412522A8

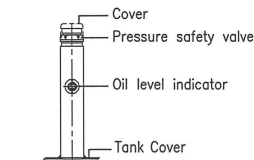
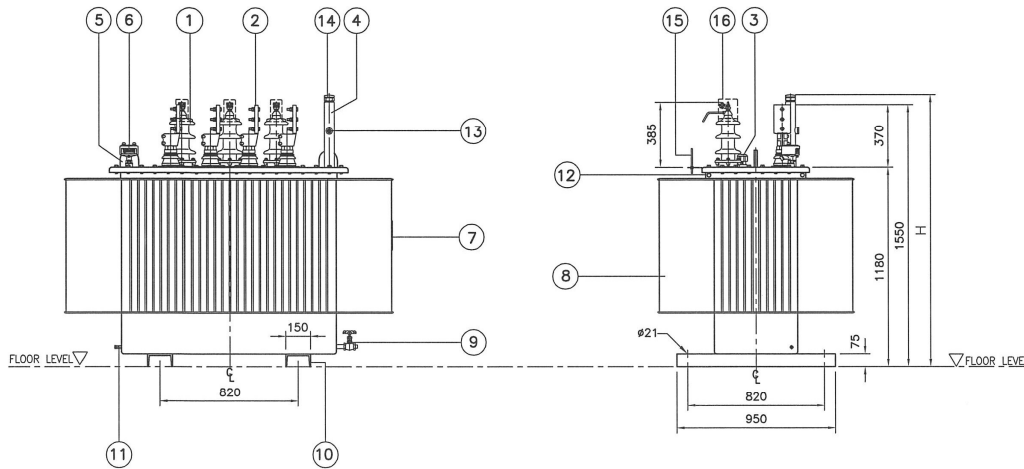
No.	DESCRIPTION	MODEL/TYPE	DWG.NO. OR CAT.NO.
1	HIGH VOLTAGE BUSHING	DT 20 Nf 250 DIN 42531	RDHVB24311
2	HV. TERMINAL CONNECTOR	35-95 sq.mm.	RDHTC10000
3	BIRD GUARD CAP	Ø115	RDBG00001
4	LOW VOLTAGE BUSHING	DT 2000 DIN 42530,EE-STD.1T	RDLVB12002
5	LV. TERMINAL CONNECTOR	2000 A. No.15	RDLTC20214
6	OIL FILLING PIPE	D1 1/2"	RDOFP00002
7	PRESSURE SAFETY VALVE	DZ-PS-25/0.25bar	RDPSRDZPS1
8	OIL LEVEL INDICATOR	GLASS BALL (FLOAT)	RDLLG53101
9	THERMOMETER WITH CONTACTS	VIAT/122-23	RDTMMVIA01
10	TAP CHANGER	20KV/335.20/A,EM3-GM02	RDTCHEM302
11	EARTH TERMINAL	For cable 35-70 sq.mm.	RDERTM1000
12	GLOBE VALVE (Oil sampling and drain valve)	1"	RDVAV15002

	NAME	FINAL DRAWING Tr. 1000 kVA. 3 Ph. Dyn11 22000 - 400/230 V. TYPE: HERMETICALLY SEALED TANK	EFF. DATE: 09 APR 2024	
DRN. BY	I.TN 05/04/2024		S/O	CHAPTER 0
CHK. BY	P.NP 08/04/2024		DESIGN NO. 53410022A7	PAGE 1
APP. BY	K.THAWORN		DWG. NO. 53410022A7	REV. 0

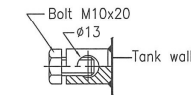


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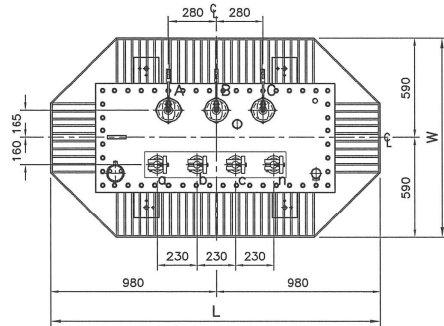
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DETAIL OF OIL FILLING PIPE

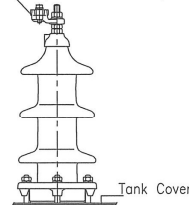


DETAIL OF EARTH TERMINAL
Suitable for Copper cable,
Galvanized steel wire strands
Size 35-70 mm²

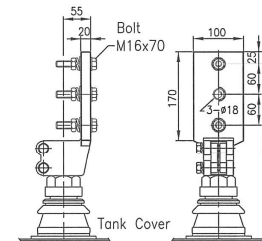


DETAIL OF TRANSFORMER BASE

Horizontal take off clamp type
for $\phi 7.5-12.6$ mm.
(Size 35-95 mm²)



DETAIL OF HV. BUSHING TERMINAL
DT 20 Nf 250 DIN 42531 / CLAMP TYPE




DETAIL OF LV. BUSHING TERMINAL
DT 2000 DIN 42530 / BAR 2000 A. No.15


No.	DESCRIPTION	Qty.
1	HIGH VOLTAGE BUSHING TERMINAL	3
2	LOW VOLTAGE BUSHING TERMINAL	4
3	TAP CHANGER	1
4	OIL FILLING PIPE	1
5	LIFTING EYES FOR LIFTING TRANSFORMER	2
6	THERMOMETER W/CONTACTS	1
7	NAMEPLATE W/CONNECTION DIAGRAM	1
8	CORRUGATED TANK	1
9	OIL SAMPLING AND DRAIN VALVE WITH PLUG	1
10	SKID BASE	2
11	EARTH TERMINAL	1
12	LUGS FOR LATCHING FOR TRANSPORTATION	4
13	OIL LEVEL INDICATOR	1
14	PRESSURE SAFETY VALVE	1
15	ARCING HORN	3
16	BIRD GUARD CAP	3

TECHNICAL DATA			
CAPACITY	1000	KVA.	
PHASE	3		
FREQUENCY	50	Hz.	
COOLING TYPE	ONAN		
% TAPPING	$\pm 2 \times 2.5$		
CONNECTION	Dyn11		
PRI. VOLT.	22000	V.	
PRI. AMP.	26.24	A.	
SEC. VOLT.	400/230	V.	
SEC. AMP.	1443.38	A.	
HIGH VOLTAGE		LOW VOLTAGE	
$\pm 2 \times 2.5\%$	① 23100 ② 22550 ③ 22000 5 Taps ④ 21450 ⑤ 20900		400/230 $n \rightarrow$
GUARANTEED DATA			TOLERANCE
NO LOAD LOSS	1600	W.	+ 15%
LOAD LOSS AT 75 °C	13500	W.	+ 15%
TOTAL LOSS	15100	W.	+ 10%
IMPEDANCE AT 75 °C	6.00	%	$\pm 10\%$
OIL TEMP. RISE	60	K	+ 0%
WINDING TEMP. RISE	65	K	+ 0%
NAME	TITLE: OUTLINE DRAWING		EFF. DATE: 09 APR 2024
DRN. BY I.TN 05/04/2024	Tr. 1000 kVA. 3 Ph. Dyn11		Symbol ISO
CHK. BY P.NP 08/04/2024	22000 - 400/230 V.		Dimension in mm.
APP. BY K.THAWORN	TYPE: HERMETICALLY SEALED TANK		SCALE 1 : 30
	POLYURETHANE/RAL 7038		PAGE 1
	EKKARAT ENGINEERING PUBLIC CO.,LTD.		DWG. NO. 53410022A7
	A/3		REV. 0

Dimension in millimetres			Total wt. (kgs.)	Oil (L)
H	L	W		
1610	1960	1180	2580	660
DESIGN NO.	53410022A7	PAINING COLOR		
S/O NO.		POLYURETHANE/RAL 7038		



EKARAT ENGINEERING PUBLIC COMPANY LIMITED
BANGKOK, THAILAND



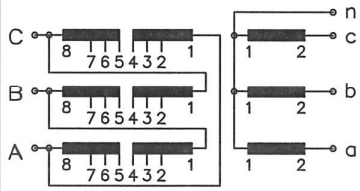
THREE PHASE – OIL IMMERSED – OUTDOOR USED TRANSFORMER

KVA. <input type="text" value="1000"/>	W/O No. <input type="text"/>
PHASE <input type="text" value="3"/>	FREQUENCY <input type="text" value="50 Hz"/>
TYPE <input type="text" value="ONAN"/>	CLASS <input type="text" value="A"/>
PRI. VOLT. <input type="text" value="22000"/>	SEC. VOLT. <input type="text" value="400/230"/>
PRI. AMP. <input type="text" value="26.24"/>	SEC. AMP. <input type="text" value="1443.38"/>
PERCENT IMP. <input type="text"/>	OIL TEMP. RISE <input type="text" value="60 K"/>
OIL QTY.(L) <input type="text"/>	DRAIN OIL QTY.(L) <input type="text"/>
TOTAL WT.(kg) <input type="text"/>	LIFTING WT.(kg) <input type="text"/>
DATE <input type="text"/>	

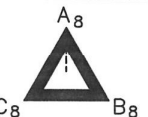
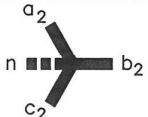
HV. SIDE		
POS.	CONNECT.	VOLTAGE
1	5 – 4	23100
2	5 – 3	22550
3	6 – 3	22000
4	6 – 2	21450
5	7 – 2	20900

LV. SIDE	
TERMINAL	VOLTAGE
a To b	400
b To c	
c To a	
a b c To n	230

CONNECTION DIAGRAM



VECTOR DIAGRAM

HV. SIDE	LV. SIDE
	

CONNECTION Dyn 11

ITEM CODE

CONTRACT No.

SER. No.

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5

105

5

5

115

5

5

160



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170

5

- Remark** 1. Percent imp., Oil Qty. and Total wt. shall be filled after test
2. Drain oil Dty. is applied for the manufacturer only.
If the oil volume is drained after first oil filling by the manufacturer.
3. Material – Stainless steel (Thickness 0.9 mm.)

	NAME	TITLE:	EFF. DATE:	09 APR 2024
DRN. BY	I.TN 05/04/2024	NAMEPLATE	 Symbol ISO	CHAPTER 2
CHK. BY	P.NP 08/04/2024	WITH CONNECTION DIAGRAM Dyn 11	Dimension in mm.	PAGE 1
APP. BY	K.THAWORN		SCALE N.T.S.	
		 EKARAT ENGINEERING PUBLIC CO.,LTD.	DWG. NO. 53410022A7	REV. 0