



Asia Trafo Co., Ltd

SPECIFICATION OF OIL IMMERSED TRANSFORMER

แบบควบคุม

ฉบับที่..... 1

## TRANSFORMER SPECIFICATION

1000 kVA. 3Ph. 50 Hz.

22000 - 400/230 V. Dyn11

HERMETICALLY SEAL TYPE

88/99 หมู่ 12 ซ. สุนทรวิภาต อ.บางพลี - คำหลุ ด.บางปลา อ.บางพลี จ.สมุทรปราการ 10540 Tel. (02) 346-0980-7 Fax. (02) 346-0978-9

88/99 Moo.12 Soi sunthonwipark Bangplee -tumroo Road Bangpra Bangplee samuthprakarn 10540 Tel. (02) 346-0980-7 Fax. (02) 346-0978-9

SPEC NO.

S-TR1000-22000-400/230

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S-TR1000-22 , Rev.02



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## SPECIFICATION OF OIL IMMERSED TRANSFORMER

**แบบควบคุม**

**ฉบับที่.....1.....**

### TECHNICAL DATA FOR 1000 kVA, 22000-400 V. Dyn11

No.	Description	Unit	Guaranteed Value		
1	Manufacture's name	-	ASIA TRAF0 CO.,LTD.		
2	Country of origin	-	Thailand		
3	Applied standard	-	IEC 60076		
4	Type of Transformer	-	Hermetically seal type (Corrugate fins)		
5	Rated power	kVA	1000		
6	Number of phase	-	3		
7	Rated frequency	Hz	50		
8	Rated high voltage	V	22000		
9	Rated low voltage	V	400		
10	Connection symbol	-	Dyn11		
11	Rated high current	A	26.24		
12	Rated low current	A	1443.38		
13	Primary tapping :	-	Off-circuit tap changer		
14	Number of steps of high voltage tapping	Step	4 Steps 5 Position		
15	Percent of rated voltage of each tapping	%	±2 x 2.5%		
16	Type of oil preservation system	-	Completely oil fill system		
17	Operation duty	-	Continuous operation		
18	Cooling System	-	ONAN		
19	Ambient	°C	40		
20	Max. temperature rise of winding, at full load	°C	65		
21	Max. temperature rise of top oil, at full load	°C	60		
22	Class of insulation	-	A (105°C)		
23	Noise level	dB(A)	≤ 58		
24	No-load current & Tolerance	% & %	2.595 % & +30%		
25	Short-circuit impedance at 75°C & Tolerance	% & %	6.00 & ±10		
26	No-load loss	W	1600		
27	Load loss at 75°C	W	14000		
28	Efficiency at 75°C	: Full load unity power factor	%	98.46	
		: Full load 0.8 power factor	%	98.09	
		: 3/4 load unity power factor	%	98.75	
		: 3/4 load 0.8 power factor	%	98.45	
		: 1/2 load unity power factor	%	98.99	
		: 1/2 load 0.8 power factor	%	98.74	
29	Voltage regulation at	: Unity power factor	%	1.57	
		: 0.8 power factor	%	1.23	
30	<b>Winding</b>		HV.Winding	LV.Winding	
	Material of winding	-	Copper	Copper	
	Insulation material of wire	-	Polyvinyl formal	Kraft paper	
	Full-wave impulse withstand voltage, or BIL	kV, peak	125	30	
	Power-frequency test voltage, 1 min	kV, r.m.s	50	10	
31	<b>Core</b>				
	Core silicon steel grade	-	Cold rolled grain oriented electrical steel		
Rev	Date	Prepared by	Checked by	Approved by	Signature
02	2/8/2563	2502110	กิตติ	กิตติ	
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## SPECIFICATION OF OIL IMMERSED TRANSFORMER

แบบควบคุม  
ฉบับที่.....1

### TECHNICAL DATA FOR 1000 kVA, 22000-400 V. Dyn11

No.	Description	Unit	Guaranteed Value	
32	Transformer oil	-	Mineral oil (None PCB) ≥55	
	Type of oil	-		
	Oil dielectric breakdown	kV		
33	<b>Bushings</b>		HV.Bushing	LV.Bushing
	Applied standard	-	DIN 42531	DIN 42530
	Rated current	A	250	2000
	Full-wave impulse withstand voltage, or BIL	kV, peak	125	30
	Low-frequency dry 1-minute test voltage	kV, r.m.s.	50	10
	Low-frequency wet 10 second test voltage	kV, r.m.s.	50	10
	Protection class	-	20NF	1N
	Color of glazing	-	Brown	Brown
	Stud thread size (Dia)	mm.	12	42
34	<b>Terminal connectors</b>		HV.Terminal	LV.Terminal
	Diameter range	mm.	Clamp (7.5-12.6)	PAD 42 mm.
	Number of circuit	-	1(35.95 mm <sup>2</sup> )	4
35	<b>Pressure relief value</b>			
	Operating pressure	kg / cm <sup>2</sup>	0.45	
	Flow rate at 1.03 Kg/cm <sup>2</sup>	cc / sec	165200	
36	Color of tank	-	Gray (RAL 7036)	

#### Accessories

- HV & LV Bushing with terminal connectors
- Name plate with connection diagram
- Arcing horn
- Bird guard cap
- Off-circuit tap changer
- Thermometer pocket
- Oil drain and sampling valve
- Earthing terminal
- Lifting eyes on the cover
- Lifting lugs
- Oil level gauge
- Pressure relief device
- Buchholz relay with alarm&trip contacts
- Dehydrating breather with silica gel
- Other ... Factory standard

#### Routine test

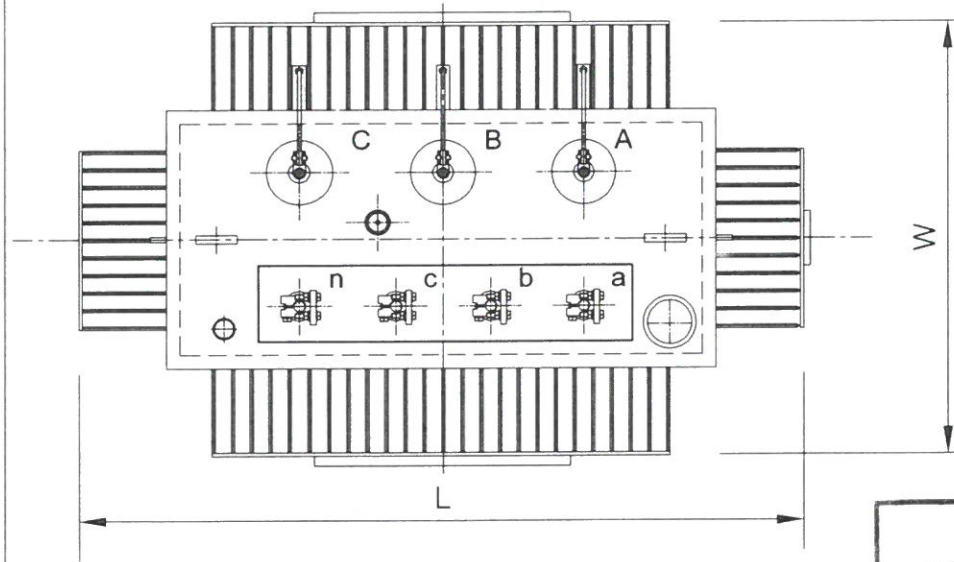
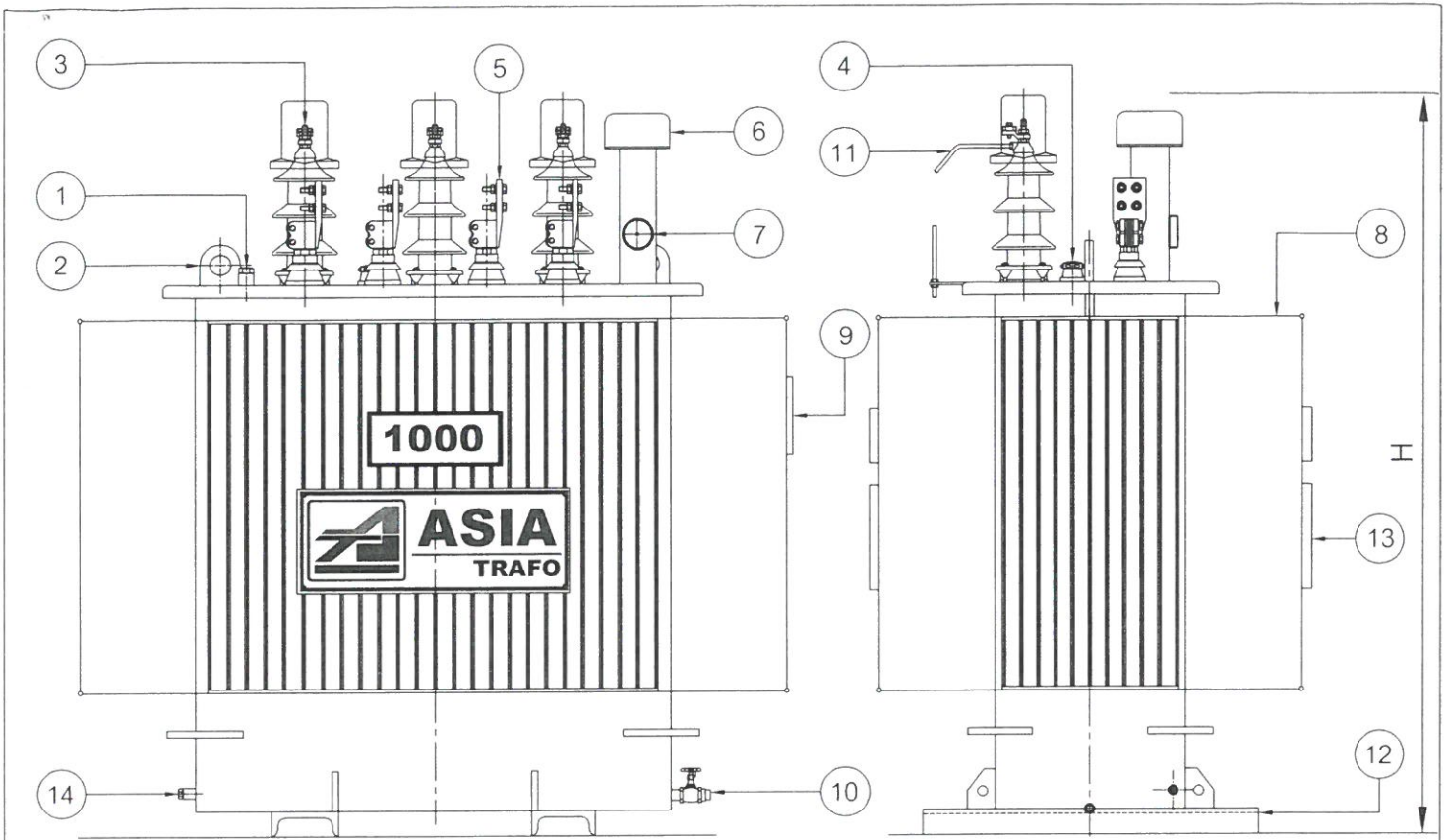
- Measurement of voltage ratio and check of phase displacement
- Insulation resistance test
- Measurement of winding resistance
- Separated source voltage withstand test
- Induce over voltage withstand test
- Measurement of no-load loss and exciting current
- Measurement of short circuit impedance and load loss
- Oil dielectric strength test

with

without

Rev	Date	Prepared by	Checked by	Approved by	Signature
02	3/8/2563	วรกานต์	กิตติ	กิตติ	
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**แบบควบคุม**  
**ฉบับที่..... 1**

**แบบต้นฉบับ**

LIST OF PART		
No.	PART NAME	Qty
1.	Thermometer pocket	1
2.	Lifting eye for cover	2
3.	HV.Bushing with terminal connectors	3
4.	Off load tap changer	1
5.	LV.Bushing with terminal connectors	4
6.	Pressure relief device	1
7.	Oil level	1
8.	Corrugated fins	4
9.	Nameplate with connection diagram	1
10.	Oil drain valve	1
11.	Arcing Horn	3
12.	Sub base	2
13.	Manufactory plate	1
14.	Earth terminal	1

**ASIA TRAF0 CO.,LTD.**

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Project :

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Title :

**OUTLINE DRAWING**  
**OIL IMMERSED TRANSFORMER**  
**1000 kVA 3Ph 50Hz 22000 - 400/230 V.**

Dimension in millimeters			Weight	Oil
H	L	W	kgs	Litres
1730	2080	1160	3040	780

SPEC NO. S-TR1000-22000-400/230

Signature		Date
Drawn By		4/8/63
Checked By		4/8/63
Approved By		4/8/63