



Asia Trafo Co., Ltd

SPECIFICATION OF OIL IMMERSSED TRANSFORMER

แบบควบคุม  
ฉบับที่..... 1

## TRANSFORMER SPECIFICATION

800 kVA. 3Ph. 50 Hz.

33000 - 400/230 V. Dyn 11

HERMETICALLY SEAL TYPE

88/99 หมู่ 12 ซ. สุนทรวินาศ ถ.บางพลี - ลำห้วย ต.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-TR800-33000-400/230

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S-TR800-33,Rev.02

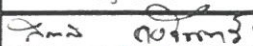


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### TECHNICAL DATA FOR 800 kVA, 33000-400 V. Dyn11

| 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         | 800                                         |               |                                                                                       |
| 6        | Number of phase                                |                                | -           | 3                                           |               |                                                                                       |
| 7        | Rated frequency                                |                                | Hz          | 50                                          |               |                                                                                       |
| 8        | Rated high voltage                             |                                | V           | 33000                                       |               |                                                                                       |
| 9        | Rated low voltage                              |                                | V           | 400                                         |               |                                                                                       |
| 10       | Conection symbol                               |                                | -           | Dyn11                                       |               |                                                                                       |
| 11       | Rated high current                             |                                | A           | 14.00                                       |               |                                                                                       |
| 12       | Rated low current                              |                                | A           | 1154.70                                     |               |                                                                                       |
| 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 × 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)       | ≤ 56                                        |               |                                                                                       |
| 24       | No-load current & Tolerance                    |                                | % & %       | 2.42 % & +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           | 11000                                       |               |                                                                                       |
| 28       | Efficiency at 75°C                             | : Full load unity power factor | %           | 98.45                                       |               |                                                                                       |
|          |                                                | : Full load 0.8 power factor   | %           | 98.07                                       |               |                                                                                       |
|          |                                                | : 3/4 load unity power factor  | %           | 98.72                                       |               |                                                                                       |
|          |                                                | : 3/4 load 0.8 power factor    | %           | 98.40                                       |               |                                                                                       |
|          |                                                | : 1/2 load unity power factor  | %           | 98.92                                       |               |                                                                                       |
|          |                                                | : 1/2 load 0.8 power factor    | %           | 98.66                                       |               |                                                                                       |
| 29       | Voltage regulation at                          | : Unity power factor           | %           | 1.55                                        |               |                                                                                       |
|          |                                                | : 0.8 power factor             | %           | 1.21                                        |               |                                                                                       |
| 30       | Winding                                        |                                |             | 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    | 170                                         | 30            |                                                                                       |
|          | Power-frequency test voltage, 1 min            |                                | kV, r.m.s   | 70                                          | 10            |                                                                                       |
| 31       | Core                                           |                                |             | Layer winding                               | Layer winding |                                                                                       |
|          | Core silicon steel grade                       |                                | -           | Cold rolled grain oriented electrical steel |               |                                                                                       |
| Rev      |                                                | Date                           | Prepared by | Checked by                                  | Approved by   | Signature                                                                             |
| 02       |                                                | 7/8/2563                       | วรกานต์     | กิตติ                                       | กิตติ         |  |
| SPEC NO. |                                                | S-TR800-33000-400/230          |             |                                             |               | Page 2/4                                                                              |

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## SPECIFICATION OF OIL IMMERSED TRANSFORMER

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### TECHNICAL DATA FOR 800 kVA, 33000-400 V. Dyn11

| No. | Description                                                | Unit                 | Guaranteed Value              |             |
|-----|------------------------------------------------------------|----------------------|-------------------------------|-------------|
| 32  | Transformer oil<br>Type of oil<br>Oil dielectric breakdown | -<br>-<br>kV         | Mineral oil (None PCB)<br>≥55 |             |
| 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             | 170                           | 30          |
|     | Low-frequency dry 1-minute test voltage                    | kV, r.m.s.           | 70                            | 10          |
|     | Low-frequency wet 10 second test voltage                   | kV, r.m.s.           | 70                            | 10          |
|     | Protection class                                           | -                    | 30NF                          | 1N          |
|     | Color of glazing                                           | -                    | Brown                         | Brown       |
| 34  | Stud thread size (Dia)                                     | mm.                  | 12                            | 42          |
|     | <b>Terminal connectors</b>                                 |                      | HV.Terminal                   | LV.Terminal |
|     | Diameter range                                             | mm.                  | Clamp (7.5-12.6)              | PAD 42 mm.  |
| 35  | Number of circuit                                          | -                    | 1(35.95 mm <sup>2</sup> )     | 4           |
|     | <b>Pressure relief value</b>                               |                      |                               |             |
|     | Operating pressure                                         | kg / cm <sup>2</sup> | 0.45                          |             |
| 36  | Flow rate at 1.03 Kg/cm <sup>2</sup>                       | cc / sec             | 165200                        |             |
|     | 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

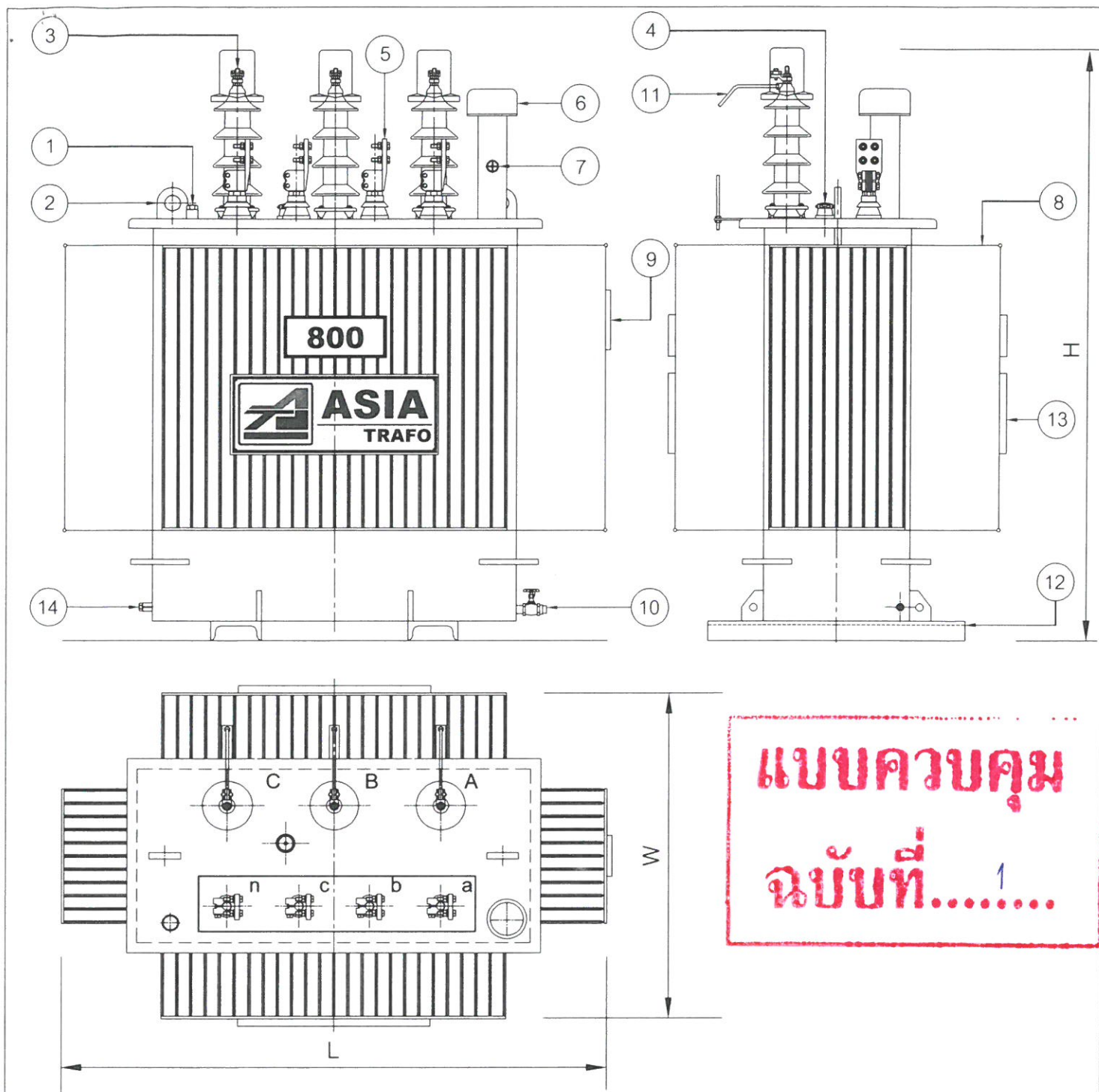
- Measurement of voltage ratio and check of phase displacement
- Insulation resistance test
- Measurement of winding resistance
- Separated source voltage withstand test
- Induce over voltage withstand test
- Measurement of no-load loss and exciting current
- Measurement of short circuit impedance and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

■ with

☐ without

| Rev      | Date                  | Prepared by | Checked by | Approved by | Signature |
|----------|-----------------------|-------------|------------|-------------|-----------|
| 02       | 7/8/2563              | วรกานต์     | กิตติ      | กิตติ       | กิตติ     |
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PRELIMINARY DRAWING : This drawing is for estimate only, showing approximate dimensions. It should not be referred to as the final drawing.

| 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   |

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ASIA TRAF0 CO.,LTD.

Project :

Title :

OUTLINE DRAWING  
OIL IMMERSED TRANSFORMER

800 kVA 3Ph 50Hz 33000 - 400/230 V.

| Dimension in millimeters       |      |                    | Weight | Oil    |
|--------------------------------|------|--------------------|--------|--------|
| H                              | L    | W                  | kgs    | Litres |
| 1860                           | 1910 | 1040               | 2690   | 710    |
| SPEC NO. S-TR800-33000-400/230 |      |                    |        |        |
| Signature                      |      |                    | Date   |        |
| Drawn                          | By   | <i>[Signature]</i> | 7/8/63 |        |
| Checked                        | By   | <i>[Signature]</i> | 7/8/63 |        |
| Approved                       | By   | <i>[Signature]</i> | 7/8/63 |        |