

Oil-Immersed Distribution Transformer

6 - 11 kV · 30 - 2500 kVA · IEC 60076

Standard · Low-Loss · Ultra-Low-Loss Designs

S11 / S13 / S20 Series



Oil-Immersed
Distribution Transformer

6 - 11 kV · 30 - 2500 kVA · ONAN · IEC 60076

Three-phase oil-immersed distribution transformers for utility networks, industrial plants, commercial buildings and renewable-energy projects. One platform, three guaranteed loss levels — standard, low-loss and ultra-low-loss — verified by routine test on every unit to IEC 60076.

■ UTILITY GRIDS ■ INDUSTRY ■ BUILDINGS ■ SOLAR & WIND



Fig. Sealed corrugated-tank transformer

Ratings at a Glance

Standards	IEC 60076 · GB/T 1094 · GB 20052
Rated HV / LV	6 / 6.3 / 10 / 10.5 / 11 kV / 0.4 kV
Frequency	50 Hz (60 Hz on request)
Vector group	Dyn11 / Yyn0 / Yzn11
Tapping (off-circuit)	±5% or ±2×2.5% · OLTC on request
Insulation level	LI 75 AC 35 (HV) / AC 5 (LV)
Cooling / Tank	ONAN · sealed or conservator
Service conditions	≤1000 m · -25 °C to +40 °C

Construction & Materials

- Hermetically sealed corrugated tank minimises moisture ingress and reduces maintenance requirements throughout service life
- C4 / C5 anti-corrosion coating for coastal and outdoor installations

Core	CRGO silicon steel
Windings	Copper standard · aluminium on request
Insulation	Class A (105 °C) paper / pressboard
Dielectric fluid	Mineral oil IEC 60296 · natural ester option

20+

YEARS OF EXPERIENCE

30+

PATENTS HELD

20+

COUNTRIES SERVED

100%

ROUTINE TESTED

Low-Loss Performance — S13 Series

Guaranteed maximum loss values at 75 °C · complies with GB 20052 Level 2 · IEC / utility-specific loss requirements on request

Capacity kVA	P ₀ W	P _k W · 75 °C	u _k %	I ₀ %	Weight kg	L × W × H mm
30	80	630	4.0	1.2	345	1175×685×925
50	100	910	4.0	1.2	430	1190×700×985
63	110	1090	4.0	1.0	500	1210×710×1015
80	130	1310	4.0	1.0	570	1240×730×1080
100	150	1580	4.0	0.8	590	1255×730×1095
125	170	1890	4.0	0.8	675	1300×740×1255
160	200	2310	4.0	0.7	755	1330×760×1275
200	240	2730	4.0	0.7	870	1360×770×1300
250	290	3200	4.0	0.7	1035	1390×800×1340
315	340	3830	4.0	0.6	1200	1440×820×1375
400	410	4520	4.0	0.6	1390	1470×830×1415
500	480	5410	4.0	0.6	1590	1545×950×1445
630	570	6200	4.5	0.6	1950	1650×1000×1565
800	700	7500	4.5	0.6	2375	1975×1060×1690
1000	830	10300	4.5	0.5	2685	2160×1240×1725
1250	970	12000	4.5	0.5	3110	2200×1260×1820
1600	1170	14500	4.5	0.5	3800	2260×1320×1890
2000	1380	18300	4.5	0.4	5005	2540×1290×2225
2500	1630	21200	5.0	0.4	6310	2625×1360×2395

1. Losses are guaranteed maximum values, verified by routine test; tolerances per IEC 60076-1 (total +10%, individual +15%).
2. Load loss stated for Dyn11 at 75 °C; Yyn0 values for ratings ≤500 kVA on request.
3. Weights and dimensions are approximate; final values confirmed by drawing after order.

Type Designation

EXAMPLE

12345

S 13 - M - 1000 / 10

①

Three-phase (D = single-phase)

②

Loss level: 11 · 13 · 20

③

Hermetically sealed

④

Rated capacity [kVA]

⑤

Rated HV [kV]

TYPICAL SPECIFICATION 1000 kVA · 11 / 0.4 kV · Dyn11 · ONAN · ±2×2.5% · 50 Hz

Loss levels & full documentation

All ratings are available in three guaranteed loss levels: **Standard** (S11), **Low-loss** (tabulated left, S13) and **Ultra-low-loss** (S20). An amorphous-core SH series is available for projects requiring exceptionally low no-load losses. **Losses can be designed to customer-specified P₀ / P_k values** or quoted against EN 50464-1 classes. Datasheets, GTP and type-test reports on request.

Process Quality

- Active part vacuum-dried before assembly to secure insulation performance and long service life
- Oil filling under vacuum minimises residual gas and moisture in the insulation system
- Precision core shearing and positioned lamination keep no-load loss and noise at guaranteed levels

Test

Every unit passes the full IEC 60076 routine test programme before dispatch — see the test table on page 07. Routine test certificates are supplied with every delivery.

Fig. 1 — External Fittings, Sealed Corrugated-Tank Transformer

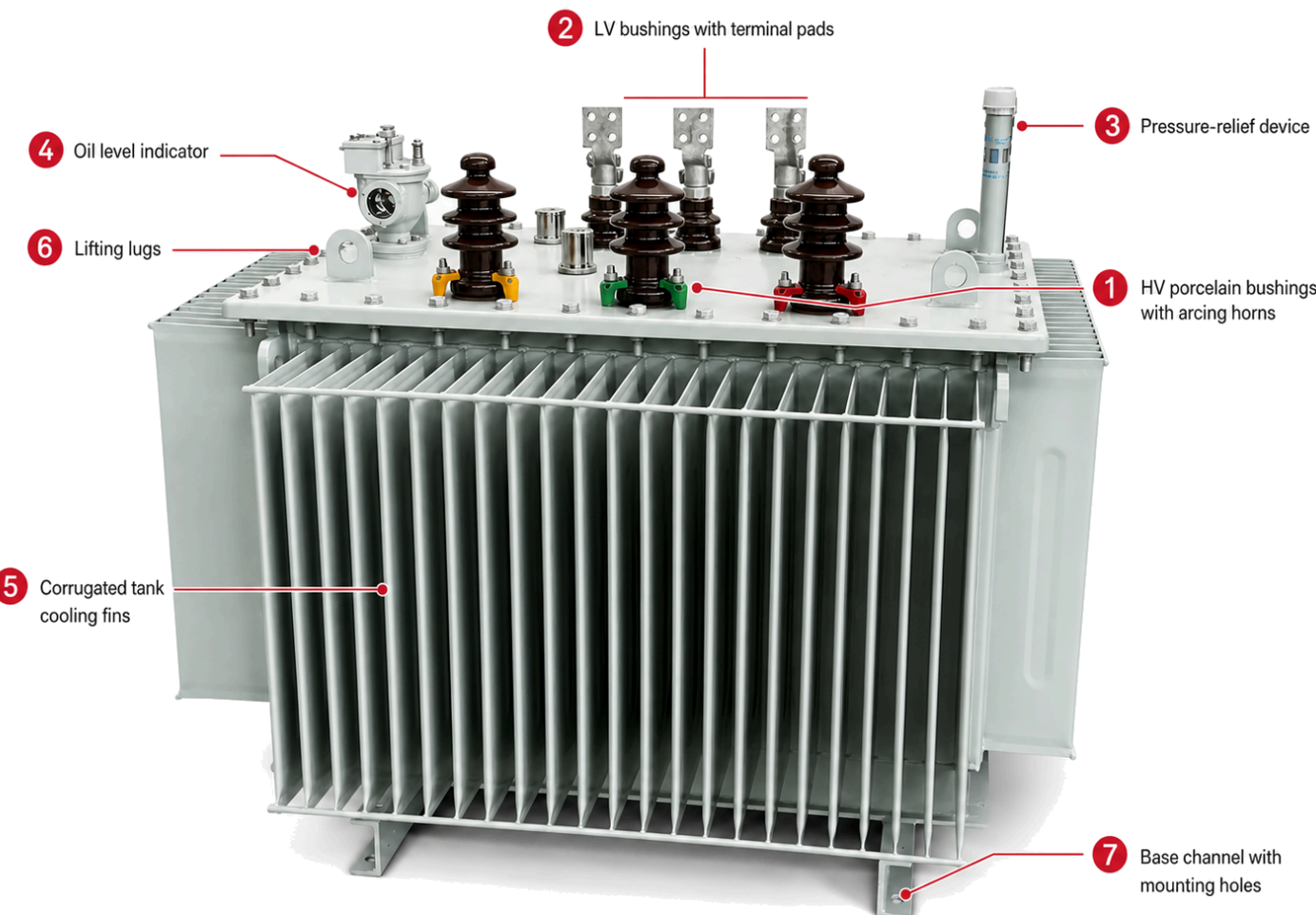
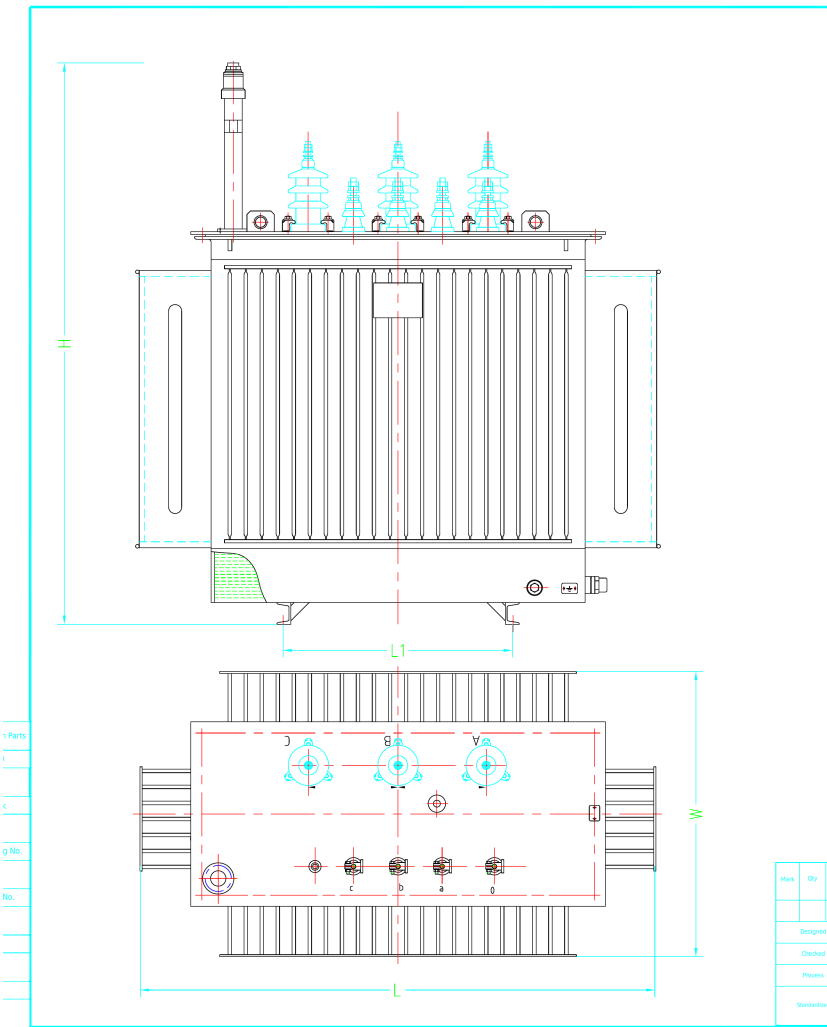


Fig. 2 — Outline Drawing, Sealed Corrugated-Tank Type



Mounting

Rated Capacity kVA	Track Gauge mm
30 – 125	400
160 – 315	550
400 – 630	660
800 – 2000	820
2500	1070

* Mounting: direct foundation or rails via base channels; rollers optional. Overall dimensions per rating are listed in the parameter table (p. 03); certified outline drawings with fixing-hole positions and terminal details are issued for approval after order.

Configuration notes

Off-circuit tap changer and thermometer pocket are fitted on the tank cover; exact arrangement varies with rating and customer specification. Optional: OLTC, gas relay (conservator type), dial thermometer with alarm contacts, plug-in elbow bushings, lockable HV/LV terminal covers, pole-mounting brackets. Final arrangement is confirmed by the outline drawing after order.

TESTS & CERTIFICATION



Test Programme per IEC 60076

Routine tests performed on 100% of units before dispatch; type and special tests per project requirement

Test	Standard	Routine	Type	Special
Measurement of winding resistance	IEC 60076-1	✓		
Voltage ratio and vector group check	IEC 60076-1	✓		
Short-circuit impedance and load loss	IEC 60076-1	✓		
No-load loss and no-load current	IEC 60076-1	✓		
Separate-source AC withstand voltage	IEC 60076-3	✓		
Induced AC withstand voltage	IEC 60076-3	✓		
Tank tightness test	IEC 60076-1	✓		
Temperature-rise test	IEC 60076-2		✓	
Lightning impulse test	IEC 60076-3		✓	
Determination of sound level	IEC 60076-10			✓
Ability to withstand short circuit	IEC 60076-5			✓
Measurement of partial discharges	IEC 60076-3			✓

* Routine test certificates are supplied with every delivery. Type-test and special-test reports are available on request.

Type test coverage

Type tests are held for representative units across the range at **CNAS-accredited** third-party laboratories; guaranteed values in the parameter tables remain the contractual basis. Reports are provided to qualified buyers under offer or contract.

Certification

Certified scope covers design, production, sales and after-sales service



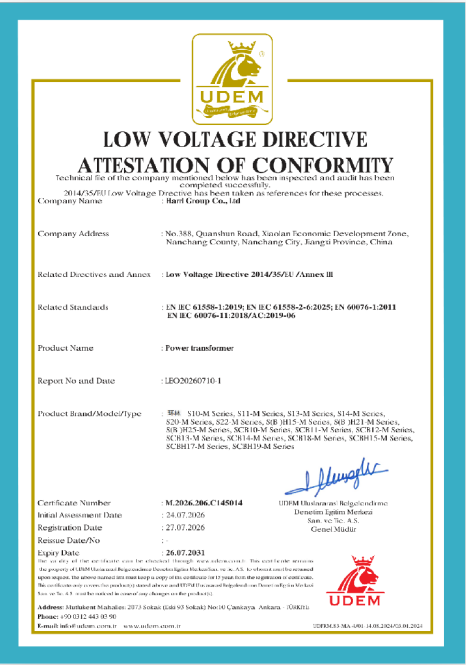
ISO 9001 — QUALITY



ISO 14001 — ENVIRONMENT



ISO 45001 — HEALTH & SAFETY



CE — LOW VOLTAGE DIRECTIVE

Available Options

- On-load tap changer (OLTC) for voltage regulation under load
- Natural-ester (biodegradable) or synthetic-ester dielectric fluid
- Amorphous-core SH-series for lowest no-load losses
- Dial thermometer with alarm / trip contacts; gas relay for conservator type
- Plug-in elbow bushings; lockable HV / LV terminal enclosures
- C5 coating, high-altitude or low-temperature designs for special sites

Handling & Installation

- Lift by the four lifting lugs only; keep the unit upright during transport and handling
- Install on a level foundation or rails; ensure free air circulation around the tank for ONAN cooling
- Indoor rooms: provide ventilation openings sized for transformer losses; keep clearances per applicable code
- Sealed type requires no oil maintenance; check oil level indicator and tightness after arrival on site
- Pole-mounting arrangements available for selected ratings; consult HARRL for pole-loading and mounting details

Ordering Information

Providing the following information helps us prepare an accurate quotation quickly

1	Rated capacity and quantity	e.g. 630 kVA × 4
2	HV / LV voltage and frequency	e.g. 11 / 0.4 kV · 50 Hz
3	Vector group	e.g. Dyn11
4	Tapping range and tap changer type	e.g. ±2×2.5% off-circuit
5	Loss level or specified P ₀ / P _k limits	e.g. Low-loss (S13)
6	Tank type and dielectric fluid	e.g. sealed · mineral oil
7	Fittings and protection devices	standard or per fittings list, p. 05
8	Service conditions if beyond standard	altitude >1000 m · ambient >40 °C
9	Standards and certification requirements	e.g. IEC · utility spec · GTP forms

Why HARRL

- In-house manufacturing and testing
 - Custom engineering — losses, fluids, fittings to spec
- IEC 60076 routine testing on every unit
 - Export support — GTP, drawings, test reports provided

Request a quotation

sales@harrlgroup.com · Tel / WhatsApp +86 183 7998 3771
Datasheets, GTP and type-test reports available on request.

harrlgroup.com

© Jiangxi HARRL Group Co., Ltd. All rights reserved.

Product specifications and designs are subject to change without prior notice due to continuous product development and technical improvements. Actual products may vary from those shown in this brochure.



Web: harrlgroup.com

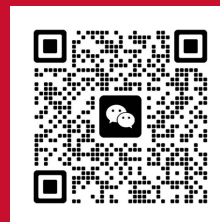
Email: sales@harrlgroup.com

Tel / WhatsApp: +86 183 7998 3771

Address: No. 388 Quanshun Road, Nanchang County,
Nanchang, Jiangxi, China



Scan for WhatsApp



Scan for WeChat