

1 – 20 MVA

Power Transformers

Power transformers from 1 MVA to 20 MVA in the 33/11 kV class — ONAN, ONAF, ester-filled (KNAN) or dry type (AN), with CRGO or amorphous core, Dyn11 or the vector group your system needs, with on-load or off-circuit tap changing, built to IS 2026 and IEC 60076.

RANGE

1 – 20 MVA

CLASS

33/11 kV

COOLING

ONAN / ONAF / KNAN / AN



Power transformer under assembly

Power-class capability, in-house.

The power transformer line closed the last gap in the chain. Between distribution and power class we now cover 16 kVA right through to 20 MVA — a span very few regional manufacturers hold on a single site.

The standard substation build is 33/11 kV, Dyn11, ONAN, with an off-circuit tap changer at +5% to –10%. Where the network needs voltage regulation under load we fit an on-load tap changer at +5% to –15%, and where the load profile justifies forced cooling we supply ONAF with a rated output at each cooling stage.

7–8 units / month

Fully active and operational power-class output.

1 – 20 MVA

33/11 kV substation and heavy industrial ratings.

ONAN · ONAF · KNAN · AN

Rated output published at each cooling stage.

SUBSTATION

Distribution substations

33/11 kV substation duty across utility networks.

INDUSTRY

Heavy industrial plant

Process plant, rolling mills and large manufacturing loads.

INFRASTRUCTURE

Industrial parks

Bulk supply into planned industrial and warehousing estates.

RENEWABLES

Generation evacuation

Step-up duty at solar and wind plants — see our solar transformer page.

Fields marked "On enquiry" are issued against a specific enquiry. Full specification, reference tables and fittings: aggarwalglobal.com/products/power-transformers.html

GENERAL

Rated power	1 MVA to 20 MVA
Typical ratings	1 · 1.6 · 2 · 2.5 · 3.15 · 5 · 6.3 · 8 · 10 · 12.5 · 16 · 20 MVA
Voltage class	33 / 11 kV; highest system voltage 36 kV
Phases	Three-phase
Type	Oil-immersed, outdoor, core type — plain or corrugated tank; dry type to order
Frequency	50 Hz standard; 60 Hz for export
Cooling	ONAN or ONAF; KNAN / KNAF with natural ester fluid; AN / AF for dry type — rated output stated at each stage
Applicable standards	IS 2026 (Parts 1–5), IS 3639, IEC 60076 series

ELECTRICAL

Vector group	Dyn11 standard; YNd11, YNyn0, Dd0 and others to order
Impedance	Per rating — see the utility reference table below; tolerance $\pm 10\%$
Tap changer	Off-circuit +5% to -10% in 2.5% steps (7 positions), or on-load +5% to -15% in 1.25% steps (17 positions)
Neutral earthing	Solidly earthed; other arrangements to order
Insulation level (BIL)	170 kVp at 33 kV; 75 kVp at 11 kV
Temperature rise	45 K winding / 40 K top oil over 50 °C ambient, or 55 K / 50 K where the specification allows
Short-circuit withstand	Per IS 2026 (Part 5) — 2 seconds at the specified fault level
Guaranteed losses	As per technical specification — no-load and load losses guaranteed per rating against the purchaser's schedule

STANDARDS

IS 1180 (Part 1):2014	Outdoor oil-immersed distribution transformers up to 2500 kVA, 33 kV — including the energy-efficiency levels
IS 2026 (Parts 1–5)	Power transformers — general, temperature rise, insulation levels, terminal markings, short-circuit withstand
IEC 60076 series	International power transformer standard — the export equivalent
IS 3024	Cold-rolled grain-oriented (CRGO) electrical steel sheet and strip
IS 335:2018	Insulating mineral oil for transformers and switchgear
IS 3639:1966	Fittings and accessories for power transformers
IS 2099 / IS 7421	HV and LV porcelain bushings
IS 3637	Gas-and-oil-operated (Buchholz) relays

ROUTINE TESTS ON EVERY UNIT

- Lightning impulse with chopped wave, all three phases HV and LV — IS 2026 (Part 3)
- Temperature-rise test on the extreme minus tap — IS 2026 (Part 2)
- Thermal and dynamic short-circuit withstand — IS 2026 (Part 5)
- Noise level measurement — IS 2026 (Part 10)
- Post-short-circuit reactance change limited to 2%
- Frequency response analysis (FRA) as a special test



ENQUIRIES

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Delivery as per the client's requirement, confirmed with the quotation. Ex Factory or FOB for export.