



Oil-Immersed

## S20-M NX2 Grade-2 Efficiency Oil-Immersed Transformer

The S20-M series fully-sealed oil-immersed power transformer offers low loss, low noise and high efficiency for good energy savings and reduced pollution. Compared with ordinary oil-immersed transformers it dispenses with the conservator: oil-volume changes are automatically compensated by the elasticity of the corrugated-fin tank, isolating the oil from air to prevent and slow oil deterioration and insulation ageing — enhancing reliability with maintenance-free normal operation.

### MODEL DESIGNATION

S 20 - M - □/□

|   |              |     |                                           |
|---|--------------|-----|-------------------------------------------|
| S | three-phase  | 20  | performance-level series                  |
| M | fully sealed | □/□ | rated capacity (kVA) / voltage class (kV) |

### TECHNICAL SPECIFICATIONS

|                         |                                            |
|-------------------------|--------------------------------------------|
| Rated voltage           | 6 / 6.3 / 10 kV                            |
| Rated capacity          | 30 – 2500 kVA                              |
| LV voltage              | 0.4 kV                                     |
| Connection              | Yyn0 / Dyn11                               |
| Tap range               | ±5% or ±2×2.5%                             |
| No-load loss            | 70 – 1440 W                                |
| Load loss               | 0.48 – 14.84 kW                            |
| No-load current         | 1.5% – 0.4%                                |
| Short-circuit impedance | 4.0% / 4.5% / 5.0%                         |
| Efficiency              | National Energy-Efficiency Grade 2         |
| Standards               | GB 1094 / GB 20052 / GB/T 6451 / IEC 60076 |

### KEY FEATURES

- Core stacked from imported high-quality cold-rolled silicon steel and bound — greatly cuts no-load loss and no-load current, and lowers noise
- Dyn11 connection reduces harmonics and improves supply quality
- Measured noise level below the national standard
- Oxygen-free copper windings: LV ≤ 500 kVA double-layer cylindrical, ≥ 630 kVA double / four-helix or copper-foil; HV multi-layer cylindrical
- Corrugated-fin fully-sealed tank — no conservator, long life, no core-lifting, maintenance-free

## NORMAL OPERATING ENVIRONMENT

- ▶ Altitude not exceeding 1000 m (special environments noted separately)
- ▶ Outdoor minimum temperature  $-25^{\circ}\text{C}$
- ▶ Ambient temperature not higher than  $+40^{\circ}\text{C}$
- ▶ Transformers for special operating conditions available on request

## RATINGS &amp; LOSSES

S20-M NX2 Grade-2 energy-efficiency oil-immersed transformer (GB 20052 Grade 2) — HV 6/6.3/10 kV, LV 0.4 kV, Dyn11 / Yyn0. Load loss at Dyn11 connection. Per GB 1094 / GB 20052.

| Capacity (kVA) | No-load loss (kW) | Load loss (kW) | No-load current (%) | Impedance Uk (%) |
|----------------|-------------------|----------------|---------------------|------------------|
| 30             | 0.07              | 0.505          | 1.5                 | 4                |
| 50             | 0.09              | 0.73           | 1.3                 | 4                |
| 63             | 0.1               | 0.87           | 1.2                 | 4                |
| 80             | 0.115             | 1.05           | 1.2                 | 4                |
| 100            | 0.135             | 1.265          | 1.1                 | 4                |
| 125            | 0.15              | 1.51           | 1.1                 | 4                |
| 160            | 0.18              | 1.85           | 1                   | 4                |
| 200            | 0.215             | 2.185          | 1                   | 4                |
| 250            | 0.26              | 2.56           | 0.9                 | 4                |
| 315            | 0.305             | 3.065          | 0.9                 | 4                |
| 400            | 0.37              | 3.615          | 0.8                 | 4                |
| 500            | 0.43              | 4.33           | 0.8                 | 4                |
| 630            | 0.51              | 4.96           | 0.6                 | 4.5              |
| 800            | 0.63              | 6              | 0.6                 | 4.5              |
| 1000           | 0.745             | 8.24           | 0.6                 | 4.5              |
| 1250           | 0.87              | 9.6            | 0.5                 | 4.5              |
| 1600           | 1.05              | 11.6           | 0.5                 | 4.5              |
| 2000           | 1.225             | 14.64          | 0.4                 | 5                |
| 2500           | 1.44              | 14.84          | 0.4                 | 5                |