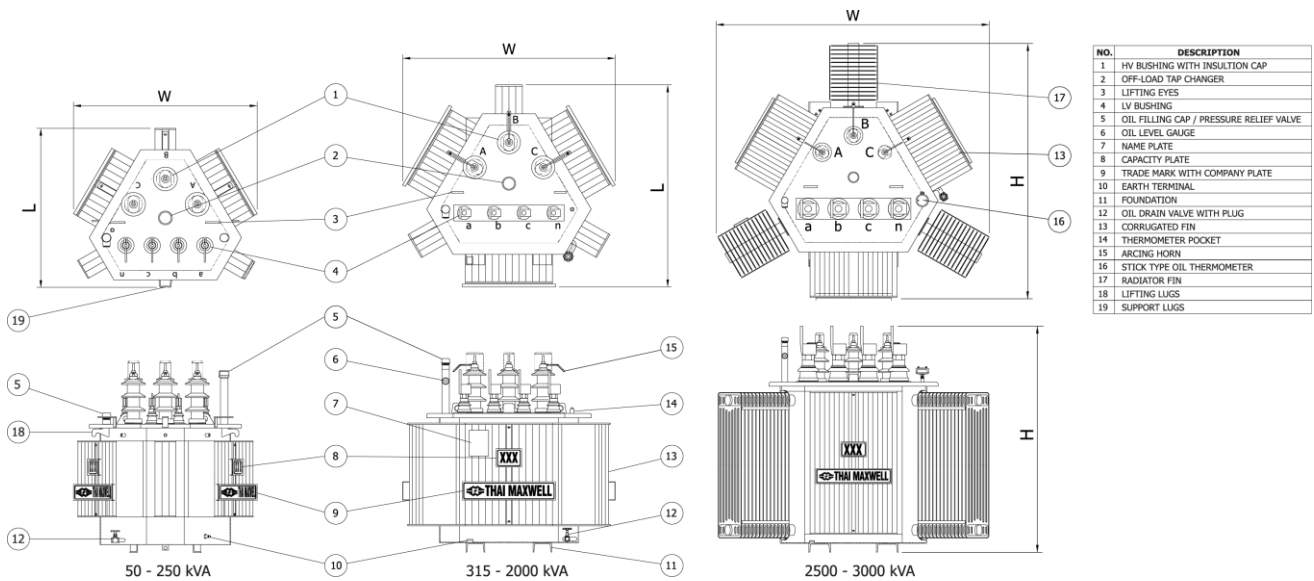


TECHNICAL DATA OF STANDARD 3D DISTRIBUTION THREE PHASE TRANSFORMER



Rated primary voltage : 22kV

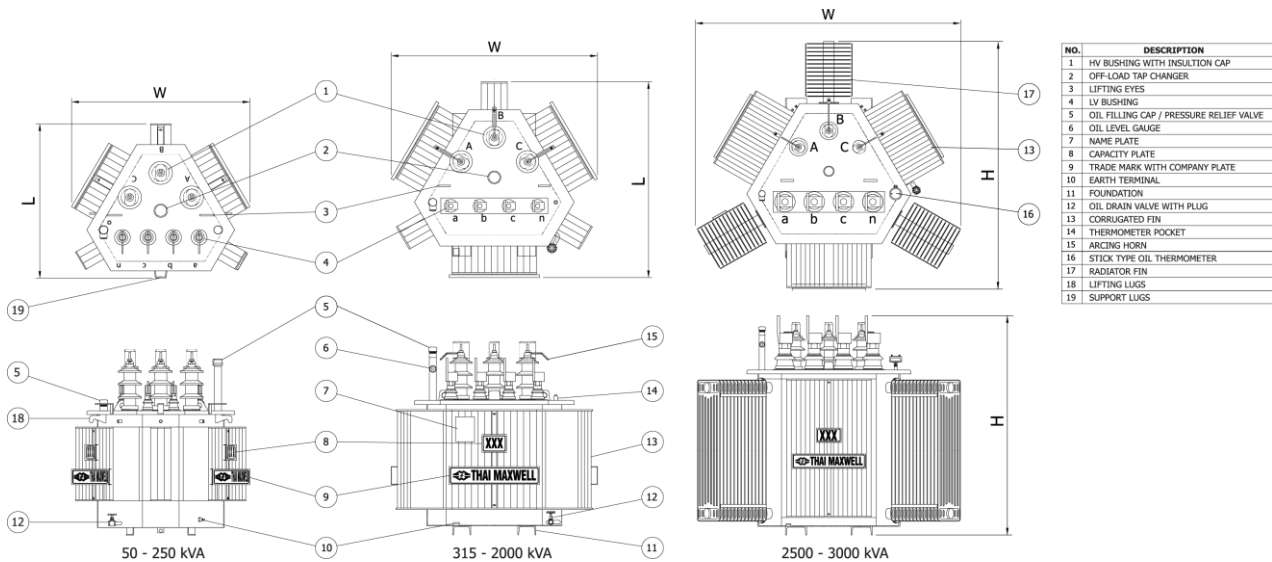
| CAPACITY | NO-LOAD LOSSES | LOAD LOSSES AT 75 °C | TOTAL LOSSES AT 75 °C | IMPEDANCE AT 75 °C | EFFICIENCY (P.F.=1) | | VOLTAGE REGULATION AT FULL LOAD (P.F.=1) | NOISE LEVEL dB (A) : 0.3 m | OUTLINE DIMENSION Approx.(mm.) | | | OIL QTY. (lt) | TOTAL WEIGHT Approx. (kg) |
|----------|----------------|----------------------|-----------------------|--------------------|---------------------|---------------|--|----------------------------|--------------------------------|------|------|---------------|---------------------------|
| | | | | | ½ Load (%) | Full Load (%) | | | W | L | H | | |
| (kVA) | (Watt) | (Watt) | (Watt) | (%) | | | (%) | | | | | | |
| 50 | 110 | 875 | 985 | 4.0 | 98.70 | 98.07 | 1.81 | 48 | 1055 | 850 | 1120 | 115 | 480 |
| 100 | 180 | 1450 | 1630 | 4.0 | 98.93 | 98.40 | 1.52 | 51 | 1100 | 910 | 1190 | 155 | 660 |
| 160 | 260 | 2000 | 2260 | 4.0 | 99.06 | 98.61 | 1.32 | 55 | 1135 | 960 | 1240 | 195 | 825 |
| 250 | 360 | 2750 | 3110 | 4.0 | 99.17 | 98.77 | 1.17 | 55 | 1170 | 1260 | 1300 | 245 | 1055 |
| 315 | 800 | 3900 | 4700 | 4.0 | 98.89 | 98.53 | 1.31 | 56 | 1270 | 1180 | 1220 | 235 | 1040 |
| 400 | 960 | 4600 | 5560 | 4.0 | 98.96 | 98.63 | 1.22 | 56 | 1325 | 1255 | 1250 | 280 | 1250 |
| 500 | 1150 | 5300 | 6450 | 4.0 | 99.02 | 98.73 | 1.13 | 56 | 1340 | 1275 | 1285 | 305 | 1325 |
| 630 | 1200 | 6500 | 7700 | 4.0 | 99.11 | 98.79 | 1.11 | 57 | 1370 | 1290 | 1370 | 350 | 1575 |
| 800 | 1250 | 9500 | 10750 | 6.0 | 99.10 | 98.67 | 1.36 | 58 | 1575 | 1540 | 1440 | 450 | 1985 |
| 1000 | 1500 | 11500 | 13000 | 6.0 | 99.13 | 98.72 | 1.32 | 58 | 1710 | 1690 | 1475 | 500 | 2310 |
| 1250 | 1650 | 13000 | 14650 | 6.0 | 99.22 | 98.84 | 1.21 | 60 | 1830 | 1840 | 1550 | 615 | 2820 |
| 1500 | 2050 | 15000 | 17050 | 6.0 | 99.23 | 98.88 | 1.18 | 60 | 1810 | 1830 | 1535 | 685 | 3160 |
| 1600 | 2350 | 19000 | 21350 | 6.0 | 99.12 | 98.68 | 1.36 | 61 | 1810 | 1815 | 1580 | 700 | 3300 |
| 2000 | 2600 | 20000 | 22600 | 6.0 | 99.25 | 98.88 | 1.18 | 61 | 1940 | 1975 | 1690 | 940 | 3990 |
| 2500 | 3000 | 25500 | 28500 | 7.0 | 99.26 | 98.87 | 1.26 | 62 | 2260 | 2160 | 1795 | 1030 | 4750 |
| 3000 | 3800 | 33000 | 36800 | 7.0 | 99.20 | 98.79 | 1.34 | 63 | 2620 | 2370 | 1900 | 1185 | 5620 |

Note :

1. The transformer is designed to operate under the following conditions
 - Altitude : Up to 1000 m above sea level
 - Ambient air temperature : 50 °C maximum for 50 to 250 kVA and 40°C maximum for 315 to 3000 kVA
2. Limits of temperature rise (top oil) : not exceeding 50 K for 50 to 250 kVA and 60 K for 315 to 3000 kVA
 - (winding) : not exceeding 55 K for 50 to 250 kVA and 60 K for 315 to 3000 kVA
3. Insulation class : A(105 °C)
4. Connection symbol : Dyn 11
5. Reference standard : IEC 60076
6. Special vector group and other primary voltage available upon request

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TECHNICAL DATA OF STANDARD 3D DISTRIBUTION THREE PHASE TRANSFORMER



Rated primary voltage : 33kV

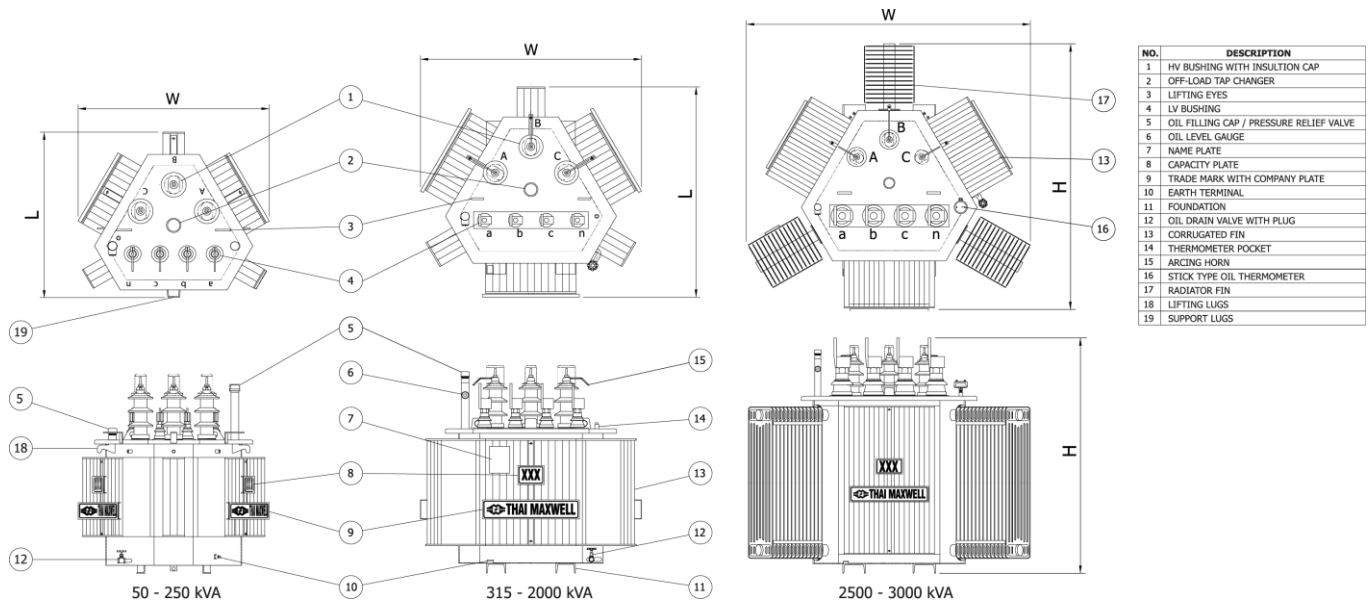
| CAPACITY | NO-LOAD LOSSES | LOAD LOSSES AT 75 °C | TOTAL LOSSES AT 75 °C | IMPEDANCE AT 75 °C | EFFICIENCY (P.F.=1) | | VOLTAGE REGULATION AT FULL LOAD (P.F.=1) | NOISE LEVEL dB (A) : 0.3 m | OUTLINE DIMENSION Approx.(mm.) | | | OIL QTY. (lt) | TOTAL WEIGHT Approx. (kg) |
|----------|----------------|----------------------|-----------------------|--------------------|---------------------|---------------|--|----------------------------|--------------------------------|------|------|---------------|---------------------------|
| | | | | | ½ Load (%) | Full Load (%) | | | W | L | H | | |
| (kVA) | (Watt) | (Watt) | (Watt) | (%) | | | (%) | | | | | | |
| 50 | 170 | 875 | 1045 | 4.0 | 98.47 | 97.95 | 1.81 | 48 | 1075 | 870 | 1200 | 125 | 470 |
| 100 | 260 | 1450 | 1710 | 4.0 | 98.77 | 98.32 | 1.52 | 51 | 1130 | 935 | 1275 | 175 | 650 |
| 160 | 370 | 2000 | 2370 | 4.0 | 98.92 | 98.54 | 1.32 | 55 | 1160 | 970 | 1400 | 230 | 900 |
| 250 | 520 | 2750 | 3270 | 4.0 | 99.04 | 98.71 | 1.17 | 55 | 1180 | 1035 | 1410 | 275 | 1100 |
| 315 | 850 | 3900 | 4750 | 4.0 | 98.85 | 98.51 | 1.31 | 56 | 1330 | 1245 | 1390 | 290 | 1160 |
| 400 | 1000 | 4600 | 5600 | 4.0 | 98.94 | 98.62 | 1.22 | 56 | 1375 | 1300 | 1410 | 340 | 1350 |
| 500 | 1200 | 5500 | 6700 | 4.0 | 98.98 | 98.68 | 1.17 | 56 | 1380 | 1320 | 1485 | 380 | 1560 |
| 630 | 1400 | 6500 | 7900 | 4.0 | 99.05 | 98.76 | 1.11 | 57 | 1515 | 1470 | 1530 | 450 | 1870 |
| 800 | 1450 | 10500 | 11950 | 6.0 | 98.99 | 98.53 | 1.48 | 58 | 1675 | 1660 | 1575 | 520 | 2120 |
| 1000 | 1650 | 12500 | 14150 | 6.0 | 99.05 | 98.60 | 1.42 | 58 | 1755 | 1755 | 1600 | 570 | 2460 |
| 1250 | 1900 | 14500 | 16400 | 6.0 | 99.12 | 98.70 | 1.33 | 60 | 1775 | 1780 | 1700 | 750 | 3090 |
| 1500 | 2100 | 18000 | 20100 | 6.0 | 99.13 | 98.68 | 1.37 | 60 | 1840 | 1870 | 1695 | 780 | 3230 |
| 1600 | 2400 | 19000 | 21400 | 6.0 | 99.11 | 98.68 | 1.36 | 61 | 1910 | 1950 | 1730 | 785 | 4255 |
| 2000 | 2700 | 22500 | 25200 | 6.0 | 99.17 | 98.76 | 1.30 | 61 | 1935 | 1985 | 1830 | 1000 | 4255 |
| 2500 | 3150 | 25500 | 28650 | 7.0 | 99.24 | 98.87 | 1.26 | 62 | 2250 | 2160 | 1940 | 1180 | 5415 |
| 3000 | 3900 | 33000 | 36900 | 7.0 | 99.20 | 98.78 | 1.34 | 63 | 2355 | 2260 | 2045 | 1545 | 6780 |

Note :

1. The transformer is designed to operate under the following conditions
 - Altitude : Up to 1000 m above sea level
 - Ambient air temperature : 50 °C maximum for 50 to 250 kVA and 40°C maximum for 315 to 3000 kVA
2. Limits of temperature rise
 - (top oil) : not exceeding 50 K for 50 to 250 kVA and 60 K for 315 to 3000 kVA
 - (winding) : not exceeding 55 K for 50 to 250 kVA and 60 K for 315 to 3000 kVA
3. Insulation class : A(105 °C)
4. Connection symbol : Dyn 11
5. Reference standard : IEC 60076
6. Special vector group and other primary voltage available upon request

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TECHNICAL DATA OF STANDARD 3D DISTRIBUTION THREE PHASE TRANSFORMER



Rated primary voltage : 24kV

| CAPACITY | NO-LOAD LOSSES | LOAD LOSSES AT 75 °C | TOTAL LOSSES AT 75 °C | IMPEDANCE AT 75 °C | EFFICIENCY (P.F.=1) | | VOLTAGE REGULATION AT FULL LOAD (P.F.=1) | NOISE LEVEL dB (A) : 0.3 m | OUTLINE DIMENSION Approx.(mm.) | | | OIL QTY. | TOTAL WEIGHT Approx. |
|----------|----------------|----------------------|-----------------------|--------------------|---------------------|---------------|--|----------------------------|--------------------------------|------|------|----------|----------------------|
| | | | | | ½ Load (%) | Full Load (%) | | | W | L | H | | |
| (kVA) | (Watt) | (Watt) | (Watt) | (%) | | | (%) | | | | | (lt) | (kg) |
| 50 | 210 | 1050 | 1260 | 4.0 | 98.15 | 97.54 | 2.16 | 48 | 1075 | 855 | 1170 | 80 | 355 |
| 100 | 340 | 1750 | 2090 | 5.0 | 98.47 | 97.95 | 1.86 | 51 | 1060 | 885 | 1080 | 120 | 505 |
| 160 | 480 | 2350 | 2830 | 6.0 | 98.68 | 98.26 | 1.64 | 55 | 1110 | 920 | 1180 | 160 | 680 |
| 250 | 670 | 3250 | 3920 | 7.0 | 98.83 | 98.46 | 1.54 | 55 | 1140 | 970 | 1350 | 210 | 920 |
| 315 | 800 | 3900 | 4700 | 4.0 | 98.89 | 98.53 | 1.31 | 56 | 1270 | 1180 | 1220 | 235 | 1060 |
| 400 | 960 | 4600 | 5560 | 4.0 | 98.96 | 98.63 | 1.22 | 56 | 1325 | 1255 | 1250 | 280 | 1240 |
| 500 | 1050 | 5300 | 6350 | 4.0 | 99.06 | 98.75 | 1.13 | 56 | 1340 | 1275 | 1285 | 305 | 1320 |
| 630 | 1200 | 6300 | 7500 | 4.0 | 99.13 | 98.82 | 1.08 | 57 | 1370 | 1290 | 1370 | 345 | 1590 |
| 800 | 1250 | 9500 | 10750 | 6.0 | 99.10 | 98.67 | 1.36 | 58 | 1575 | 1540 | 1440 | 450 | 1980 |
| 1000 | 1500 | 11500 | 13000 | 6.0 | 99.13 | 98.72 | 1.32 | 58 | 1745 | 1730 | 1475 | 500 | 2310 |
| 1250 | 1650 | 13000 | 14650 | 6.0 | 99.22 | 98.84 | 1.21 | 60 | 1830 | 1840 | 1545 | 615 | 2815 |
| 1500 | 2050 | 15000 | 17050 | 6.0 | 99.23 | 98.88 | 1.18 | 60 | 1825 | 1840 | 1545 | 720 | 3220 |
| 1600 | 2350 | 19000 | 21350 | 6.0 | 99.12 | 98.68 | 1.36 | 61 | 1910 | 1945 | 1545 | 740 | 3380 |
| 2000 | 2600 | 20000 | 22600 | 6.0 | 99.25 | 98.88 | 1.18 | 61 | 1940 | 1980 | 1700 | 935 | 4145 |
| 2500 | 3000 | 25500 | 28500 | 7.0 | 99.26 | 98.87 | 1.26 | 62 | 2260 | 2160 | 1795 | 1030 | 5000 |
| 3000 | 3800 | 33000 | 36800 | 7.0 | 99.20 | 98.79 | 1.34 | 63 | 2620 | 2370 | 1900 | 1185 | 5620 |

Note :

1. The transformer is designed to operate under the following conditions
 - Altitude : Up to 1000 m above sea level
 - Ambient air temperature : 40 °C maximum
2. Limits of temperature rise
 - (top oil) : not exceeding 60 °C
 - (winding) : not exceeding 65 °C
3. Insulation class : A(105 °C)
4. Connection symbol : Dyn 11
5. Reference standard : IEC 60076
6. Special vector group and other primary voltage available upon request

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