

Power plant

Marine

Stand-by

UPS

Ratings book

Industrial applications

Motors & alternators - as individual as you.



B.E.M

Bayerische Elektrische Maschinen GmbH

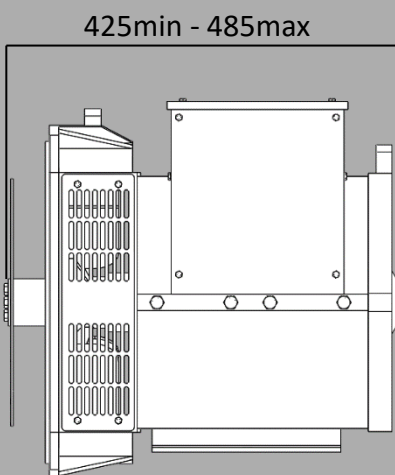
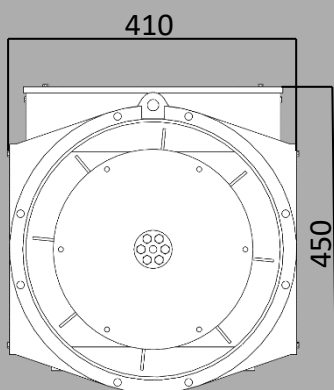


L01



DIMENSIONS

*Drawings represent standard design
All dimensions in millimetres (mm)*



| Specifications | |
|---------------------------|--------------|
| Voltage Range [V] | 400 - 480 |
| Poles | 4 |
| Coil and insulation | Wire wound |
| AVR | Analogue |
| Voltage sensing | 2-Phase |
| Bearing Arrangement | Single |
| SAE Adaptors | 5, 4, 3 |
| Terminals | 12 |
| Material Insulation Class | H |
| Excitation Power Supply | Self excited |
| Protection | IP23 |

| Optional Features | |
|------------------------|-----------------------------|
| Excitation system | Auxiliary winding |
| Output configurations | 1 Phase Reconnection |
| Current transformers | 3 pcs |
| Bearing arrangement | Double bearing |
| Environment protection | Anti-condensation Heater |

| Designed for | |
|---------------------------|---|
| Stand-by | ● |
| Telecommunications | ● |
| Construction | ● |
| Critical Protection & UPS | ● |
| Combined Heat & Power | ● |
| Continuous Power | ● |

| Prime Mover | |
|---------------|---|
| Diesel Engine | ● |
| Gas Engine | ● |

Low Voltage
5,2 - 46,9 kVA

| Model | Core length | Power at $\cos \varphi=0.8$ [kVA/kW] | | | Voltage [kV] | Frequency [Hz] | Rotating speed [rpm] |
|------------|-------------|---|---------------------|-----------------|-----------------|-------------------|-------------------------|
| | | Temperature rise/ Running Mode at 40 °C | | | | | |
| | | 125 K/Continuous | 105 K/Continuous | 80 K/Continuous | | | |
| L01-4-Pole | A6 | 8.1/6.5 | 7.3/5.9 | 6.4/5.2 | 0,4 | 50 | 1500 |
| | B6 | 11.0/8.8 | 10.0/8.0 | 8.8/7.0 | 0,4 | 50 | 1500 |
| | C6 | 13.5/10.8 | 12.2/9.8 | 10.8/8.6 | 0,4 | 50 | 1500 |
| | D6 | 16.0/12.8 | 14.5/11.6 | 12.8/10.2 | 0,4 | 50 | 1500 |
| | E8 | 22.5/18.0 | 20.4/16.3 | 18.0/14.4 | 0,4 | 50 | 1500 |
| | F8 | 27.5/22.0 | 25.0/20 | 22.0/17.6 | 0,4 | 50 | 1500 |
| | G8 | 31.3/25.0 | 28.4/22.7 | 25.0/20.0 | 0,4 | 50 | 1500 |
| | H8 | 37.5/30.0 | 34.1/27.3 | 30.0/24.0 | 0,4 | 50 | 1500 |
| | A6 | 10.2/8.2 | 9.2/7.4 | 8.1/6.5 | 0,48 | 60 | 1800 |
| | B6 | 13.8/11.0 | 12.5/10.0 | 11.0/8.8 | 0,48 | 60 | 1800 |
| | C6 | 16.9/13.5 | 15.3/12.2 | 13.5/10.8 | 0,48 | 60 | 1800 |
| | D6 | 20.0/16.0 | 18.2/14.5 | 16.0/12.8 | 0,48 | 60 | 1800 |
| | E8 | 28.8/23.0 | 26.2/20.9 | 23.0/18.4 | 0,48 | 60 | 1800 |
| | F8 | 34.4/27.5 | 31.3/25.0 | 27.5/22.0 | 0,48 | 60 | 1800 |
| | G8 | 37.5/30.0 | 34.1/27.3 | 30.0/24.0 | 0,48 | 60 | 1800 |
| | H8 | 46.9/37.5 | 42.6/34.1 | 37.5/30.0 | 0,48 | 60 | 1800 |

Low Voltage

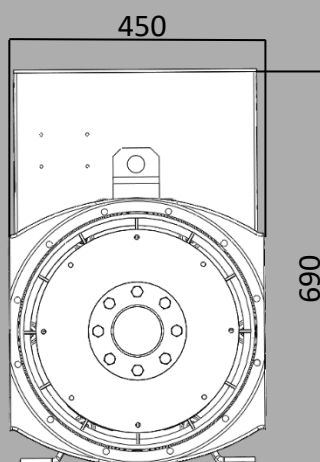
5,2 – 46,9 kVA

1) All products are designed for 50Hz and 60Hz.

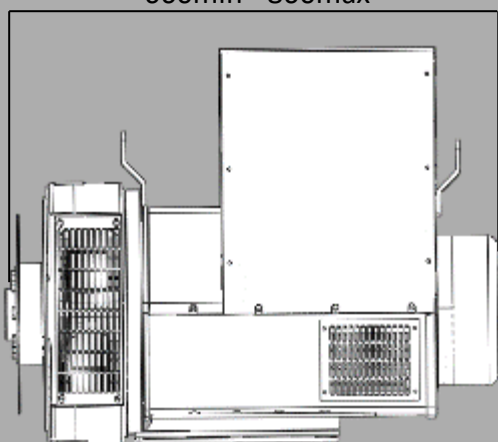


DIMENSIONS

Drawings represent standard design
All dimensions in millimetres (mm)



660min - 860max



L02



| Specifications | |
|--------------------------------|-----------------------------|
| Voltage Range [V] | 400 - 480 |
| Poles | 4 |
| Coil and insulation | Wire wound |
| AVR | Analogue |
| Voltage sensing | 2-Phase |
| Bearing Arrangement | Single |
| SAE Adaptors | 4, 3, 2, 1 |
| Terminals | 12 |
| Material Insulation Class | H |
| Excitation Power Supply | Self excited |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |
| Optional Features | |
| Excitation system | PMG |
| Output configurations | 1 Phase Reconnection |
| Current transformers | 3 pcs |
| Bearing arrangement | Double bearing |
| Environment protection | Anti-condensation Heater |
| Designed for | |
| Stand-by | ● |
| Marine | ● |
| Telecommunications | ● |
| Construction | ● |
| Critical Protection & UPS | ● |
| Combined Heat & Power | ● |
| Continuous Power | ● |
| Prime Mover | |
| Diesel Engine | ● |
| Gas Engine | ● |

26 - 97 kVA

Low Voltage

| Model | Core length | Power at $\cos \varphi=0.8$ [kVA/kW] | | | Voltage [kV] | Frequency [Hz] | Rotating speed [rpm] |
|------------|-------------|---|---------------------|-----------------|-----------------|-------------------|-------------------------|
| | | Temperature rise/ Running Mode at 40 °C | | | | | |
| | | 125 K/Continuous | 105 K/Continuous | 80 K/Continuous | | | |
| L02-4-Pole | A2 | 42.5/34.0 | 37.4/29.9 | 33.1/26.5 | 0,4 | 50 | 1500 |
| | B2 | 50.0/40.0 | 44.0/35.2 | 39.0/31.2 | 0,4 | 50 | 1500 |
| | C1 | 60.0/48.0 | 52.8/42.2 | 46.8/37.4 | 0,4 | 50 | 1500 |
| | D2 | 72.5/58.0 | 63.8/51.0 | 56.5/45.2 | 0,4 | 50 | 1500 |
| | F1 | 85.0/68.0 | 74.8/59.8 | 66.3/53.0 | 0,4 | 50 | 1500 |
| | A2 | 52.5/42.0 | 46.2/36.9 | 40.9/32.7 | 0,48 | 60 | 1800 |
| | B2 | 62.5/50.0 | 55.0/44.0 | 48.7/39.0 | 0,48 | 60 | 1800 |
| | C1 | 70.0/56.0 | 61.6/49.2 | 54.6/43.6 | 0,48 | 60 | 1800 |
| | D2 | 87.5/70.0 | 77.0/61.6 | 68.2/54.6 | 0,48 | 60 | 1800 |
| | F1 | 97.5/78.0 | 85.8/68.6 | 76.0/60.8 | 0,48 | 60 | 1800 |

1) All products are designed for 50Hz and 60Hz.

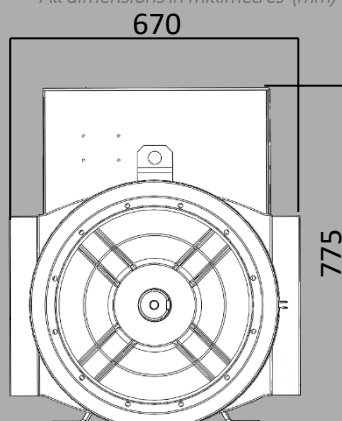


L03

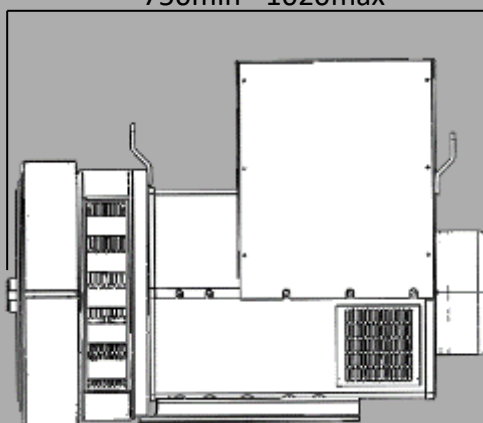


DIMENSIONS

Drawings represent standard design
All dimensions in millimetres (mm)



750min - 1020max



Specifications

| | |
|--------------------------------|------------------------|
| Voltage Range [V] | 400 - 480 |
| Poles | 4 |
| Coil and insulation | Wire wound |
| AVR | Analogue |
| Voltage sensing | 2-Phase |
| Bearing Arrangement | Single |
| SAE Adaptors | 3, 2, 1 |
| Terminals | 12 |
| Material Insulation Class | H |
| Excitation Power Supply | Self excited |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |

Optional Features

| | |
|------------------------|-------------------------------------|
| Excitation system | PMG |
| Ingress Protection | IP23 Air Filters / IP44 Air Filters |
| Current transformers | 3 pcs |
| Bearing arrangement | Double bearing |
| Environment protection | Anti-condensation Heater |

Designed for

| | |
|---------------------------|---|
| Stand-by | ● |
| Marine | ● |
| Telecommunications | ● |
| Construction | ● |
| Critical Protection & UPS | ● |
| Combined Heat & Power | ● |
| Continuous Power | ● |

Prime Mover

| | |
|---------------|---|
| Diesel Engine | ● |
| Gas Engine | ● |

62 - 300 kVA

Low Voltage

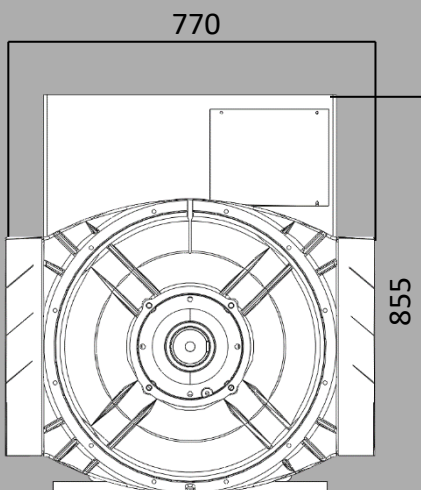
| Model | Core length | Power at $\cos \varphi=0.8$ [kVA/kW] | | | Voltage [kV] | Frequency [Hz] | Rotating speed [rpm] |
|------------|-------------|---|------------------|-----------------|-----------------|-------------------|-------------------------|
| | | Temperature rise/ Running Mode at 40 °C | | | | | |
| | | 125 K/Continuous | 105 K/Continuous | 80 K/Continuous | | | |
| L03-4-Pole | B2 | 100.0/80.0 | 84.0/67,2 | 73.6/58,9 | 0,4 | 50 | 1500 |
| | C2 | 120.0/96.0 | 100/80.0 | 87.6/70.1 | 0,4 | 50 | 1500 |
| | D1 | 140.0/112.0 | 124.6/99.6 | 109.2/87.3 | 0,4 | 50 | 1500 |
| | E2 | 160.0/128.0 | 142.4/113.9 | 124.8/99.8 | 0,4 | 50 | 1500 |
| | F1 | 180.0/144.0 | 160.2/128.1 | 140.4/112.3 | 0,4 | 50 | 1500 |
| | F2 | 200.0/160.0 | 178.0/142.4 | 156.0/124.8 | 0,4 | 50 | 1500 |
| | G2 | 250.0/200.0 | 222.5/178.0 | 195.0/156.0 | 0,4 | 50 | 1500 |
| | B2 | 118.0/94.0 | 105.0/83.6 | 92.0/73.3 | 0,48 | 60 | 1800 |
| | C2 | 137.5/110.0 | 125/100 | 109.5/87.6 | 0,48 | 60 | 1800 |
| | D1 | 168.0/134.0 | 143.8/115 | 126.0/100.8 | 0,48 | 60 | 1800 |
| | E2 | 190.0/152.0 | 169.1/135.2 | 148.2/118.5 | 0,48 | 60 | 1800 |
| | F1 | 213.0/170.0 | 189.5/151.3 | 166.1/132.6 | 0,48 | 60 | 1800 |
| | F2 | 245.0/196.0 | 218.0/174.4 | 191.1/152.8 | 0,48 | 60 | 1800 |
| | G2 | 300.0/240.0 | 267.0/213.6 | 234.0/187.2 | 0,48 | 60 | 1800 |

1) All products are designed for 50Hz and 60Hz.

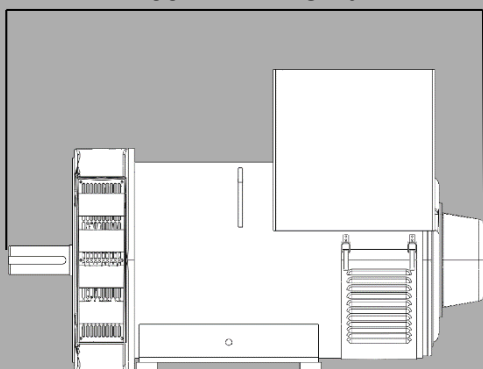


DIMENSIONS

Drawings represent standard design
All dimensions in millimetres (mm)



1100min - 1415max



L04



| Specifications | |
|--------------------------------|---|
| Voltage Range [V] | 400 - 690 |
| Poles | 4 |
| Coil and insulation | Wire Wound |
| AVR | Analogue/ Digital |
| Voltage sensing | 3-Phase |
| Bearing Arrangement | Single/Double |
| SAE Adaptors | 3, 2, 1, 1/2, 0 |
| Terminals | 6 |
| Material Insulation Class | H |
| Excitation Power Supply | Auxiliary Winding / PMG |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |
| Optional Features | |
| Bearing Arrangement | Sleeve/Antifriction Bearing |
| Ingress Protection | IP23 Air Filters / IP44 Air Filters |
| Shaft Currents Protection | Rotor Earthing Brush / Insulated bearings |
| Environment protection | Anti-condensation Heaters |
| Designed for | |
| Power Plant | ● |
| Grid Code Compatible | ● |
| Marine Propulsion | ● |
| Oil & Gas | ● |
| Combined Heat & Power | ● |
| Continuous Power & Standby | ● |
| Prime Mover | |
| Diesel Engine | ● |
| Gas Engine | ● |
| Gas Turbine | ● |
| Steam Turbine | ● |

158 - 480 kVA

Low Voltage

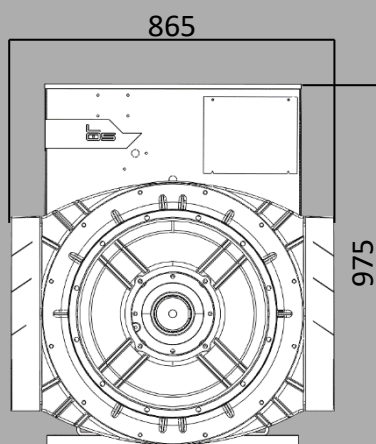
| Model | Core length | Power at $\cos \varphi=0.8$ [kVA/kW] | | | Voltage [kV] | Frequency [Hz] | Rotating speed [rpm] |
|------------|-------------|---|---------------------|-----------------|-----------------|-------------------|-------------------------|
| | | Temperature rise/ Running Mode at 40 °C | | | | | |
| | | 125 K/Continuous | 105 K/Continuous | 80 K/Continuous | | | |
| L04-4-Pole | E1 | 250.0/200.0 | 225.0/180.0 | 197.5/158.0 | 0,4 | 50 | 1500 |
| | F1 | 300.0/240.0 | 281.7/225.0 | 247.2/197.5 | 0,4 | 50 | 1500 |
| | G1 | 350.0/280.0 | 315.0/252.0 | 276.5/221.2 | 0,4 | 50 | 1500 |
| | H1 | 400.0/320.0 | 360.0/288.0 | 316.0/252.8 | 0,4 | 50 | 1500 |
| | E1 | 300.0/240.0 | 270.0/216.0 | 237.0/189.6 | 0,48 | 60 | 1800 |
| | F1 | 360.0/288.0 | 337.5/270.0 | 296.2/237.0 | 0,48 | 60 | 1800 |
| | G1 | 420.0/336.0 | 378.0/302.4 | 331.8/265.4 | 0,48 | 60 | 1800 |
| | H1 | 480.0/384.0 | 432.0/345.6 | 379.2/303.3 | 0,48 | 60 | 1800 |

1) All products are designed for 50Hz and 60Hz.

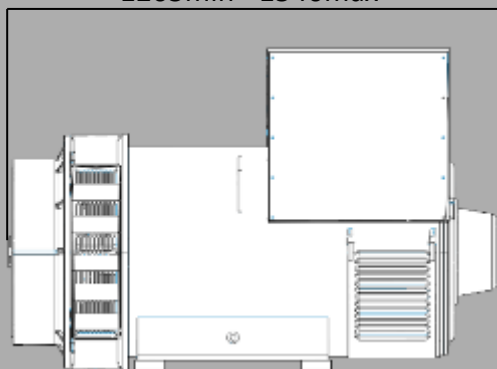


DIMENSIONS

Drawings represent standard design
All dimensions in millimetres (mm)



1265min - 1540max



L05



| Specifications | |
|--------------------------------|---|
| Voltage Range [V] | 400 - 690 |
| Poles | 4 |
| Coil and insulation | Wire Wound |
| AVR | Analogue /Digital |
| Voltage sensing | 3-Phase |
| Bearing Arrangement | Single/Double |
| SAE Adaptors | 1, 1/2, 0, 00 |
| Terminals | 6 |
| Material Insulation Class | H |
| Excitation Power Supply | PMG |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |
| Optional Features | |
| Bearing Arrangement | Sleeve/Antifriction Bearing |
| Ingress Protection | IP23 Air Filters / IP44 Air Filters |
| Shaft Currents Protection | Rotor Earthing Brush / Insulated bearings |
| Environment protection | Anti-condensation Heaters |
| Designed for | |
| Power Plant | ● |
| Grid Code Compatible | ● |
| Marine Propulsion | ● |
| Oil & Gas | ● |
| Combined Heat & Power | ● |
| Continuous Power & Standby | ● |
| Prime Mover | |
| Diesel Engine | ● |
| Gas Engine | ● |

284 - 855 kVA

Low Voltage

| Model | Core length | Power at $\cos \varphi=0.8$ [kVA/kW] | | | Voltage [kV] | Frequency [Hz] | Rotating speed [rpm] |
|------------|-------------|---|---------------------|-----------------|-----------------|-------------------|-------------------------|
| | | Temperature rise/ Running Mode at 40 °C | | | | | |
| | | 125 K/Continuous | 105 K/Continuous | 80 K/Continuous | | | |
| L05-4-Pole | F2 | 500.0/400.0 | 445.0/356.0 | 390.2/312.2 | 0,4 | 50 | 1500 |
| | G1 | 550.0/440.0 | 495.0/396.0 | 434.5/347.6 | 0,4 | 50 | 1500 |
| | H1 | 610.0/488.0 | 562.5/450.0 | 493.7/395.0 | 0,4 | 50 | 1500 |
| | H2 | 670.0/536.0 | 620.0/496.0 | 543.8/435.0 | 0,4 | 50 | 1500 |
| | F2 | 550.0/440.0 | 495.0/396.0 | 434.5/347.6 | 0,48 | 60 | 1800 |
| | G1 | 594.0/475.0 | 534.6/427.5 | 469.2/375.2 | 0,48 | 60 | 1800 |
| | H1 | 713.0/570.0 | 650.0/520.0 | 570.0/456.0 | 0,48 | 60 | 1800 |
| | H2 | 775.0/620.0 | 719.0/575.0 | 630.3/504.2 | 0,48 | 60 | 1800 |

1) All products are designed for 50Hz and 60Hz.

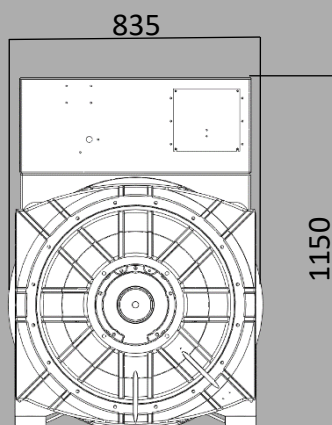


L06

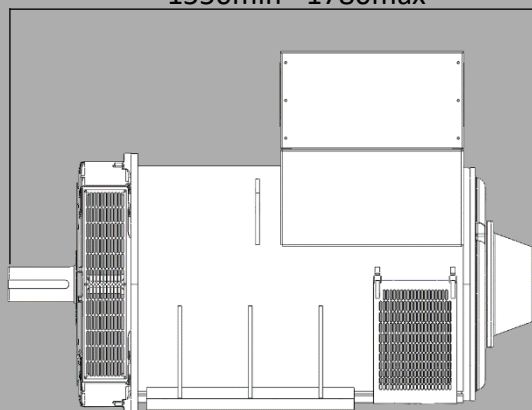


DIMENSIONS

*Drawings represent standard design
All dimensions in millimetres (mm)*



1550min - 1780max



Specifications

| | |
|--------------------------------|------------------------|
| Voltage Range [V] | 400 - 690 |
| Poles | 4 and 6 |
| Coil and insulation | Wire Wound |
| AVR | Digital |
| Voltage sensing | 3-Phase |
| Bearing Arrangement | Single/Double |
| SAE Adaptors | 1, 1/2, 0, 00 |
| Terminals | 6 |
| Material Insulation Class | H |
| Excitation Power Supply | PMG |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |

Optional Features

| | |
|---------------------------|---|
| Bearing Arrangement | Sleeve/ Antifriction Bearing |
| Ingress Protection | IP23 Air Filters / IP44 Air Filters |
| Shaft Currents Protection | Rotor Earthing Brush/ Insulated bearings |
| Environment protection | Anti-condensation Heaters |

Designed for

| | |
|----------------------------|---|
| Power Plant | ● |
| Grid Code Compatible | ● |
| Marine Propulsion | ● |
| Oil & Gas | ● |
| Combined Heat & Power | ● |
| Continuous Power & Standby | ● |

Prime Mover

| | |
|---------------|---|
| Diesel Engine | ● |
| Gas Engine | ● |
| Gas Turbine | ● |
| Steam Turbine | ● |

300 - 1450kVA

Low Voltage

| Model | Core length | Power at $\cos \varphi=0.8$ [kVA/kW] | | | | Voltage [kV] | Frequency [Hz] | Rotating speed [rpm] |
|------------|-------------|---|---------------|------------------|------------------|-----------------|-------------------|----------------------------|
| | | Temperature rise/ Running Mode at 40 °C | | | | | | |
| | | 150 K/Standby @ 27° C | 150 K/Standby | 125 K/Continuous | 105 K/Continuous | | | |
| L06-4-Pole | G1 | 966/772 | 937/749 | 910/728 | 828/662 | 0,4 | 50 | 1500 |
| | G2 | 1060/848 | 1030/824 | 1000/800 | 910/728 | 0,4 | 50 | 1500 |
| | H2 | 1197/858 | 1164/931 | 1130/904 | 1028/822 | 0,4 | 50 | 1500 |
| | I1 | 1325/1060 | 1288/1030 | 1250/1000 | 1137/910 | 0,4 | 50 | 1500 |
| | G1 | 1096/876 | 1065/852 | 1034/827 | 941/752 | 0,48 | 60 | 1800 |
| | G2 | 1213/971 | 1179/943 | 1145/916 | 1042/833 | 0,48 | 60 | 1800 |
| | H2 | 1350/1080 | 1312/1050 | 1274/1019 | 1159/927 | 0,48 | 60 | 1800 |
| | I1 | 1469/1175 | 1427/1142 | 1386/1109 | 1261/1009 | 0,48 | 60 | 1800 |
| | G1 | 925/740 | 899/719 | 873/698 | 794/635 | 0,69 | 50 | 1500 |
| | G2 | 1028/822 | 999/799 | 970/776 | 882/706 | 0,69 | 50 | 1500 |
| | H2 | 1137/909 | 1105/884 | 1073/858 | 976/781 | 0,69 | 50 | 1500 |
| | I1 | 1298/1039 | 1261/1009 | 1225/980 | 1114/891 | 0,69 | 50 | 1500 |
| L06-6-pole | G1 | 300/240 | 291/233 | 280/224 | 260/208 | 0,4 | 50 | 1000 |
| | G2 | 407/326 | 395/316 | 380/304 | 350/280 | 0,4 | 50 | 1000 |
| | H2 | 482/386 | 468/374 | 450/360 | 420/336 | 0,4 | 50 | 1000 |
| | I1 | 610/488 | 593/474 | 570/456 | 525/420 | 0,4 | 50 | 1000 |
| | G1 | 375/300 | 364/291 | 350/280 | 325/260 | 0,48 | 60 | 1200 |
| | G2 | 508/406 | 494/395 | 475/380 | 438/350 | 0,48 | 60 | 1200 |
| | H2 | 602/482 | 586/469 | 563/450 | 525/420 | 0,48 | 60 | 1200 |
| | I1 | 763/610 | 742/594 | 713/570 | 656/525 | 0,48 | 60 | 1200 |
| | G1 | 325/260 | 364/291 | 350/280 | 375/300 | 0,60 | 60 | 1200 |
| | G2 | 508/406 | 494/395 | 475/380 | 438/350 | 0,60 | 60 | 1200 |
| | H2 | 602/482 | 586/469 | 563/450 | 525/420 | 0,60 | 60 | 1200 |
| | I1 | 763/610 | 742/594 | 713/570 | 656/525 | 0,60 | 60 | 1200 |

1) All products are designed for 50Hz and 60Hz.

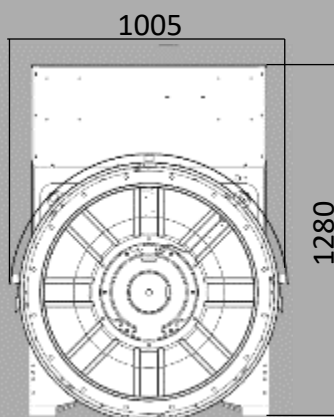


L07

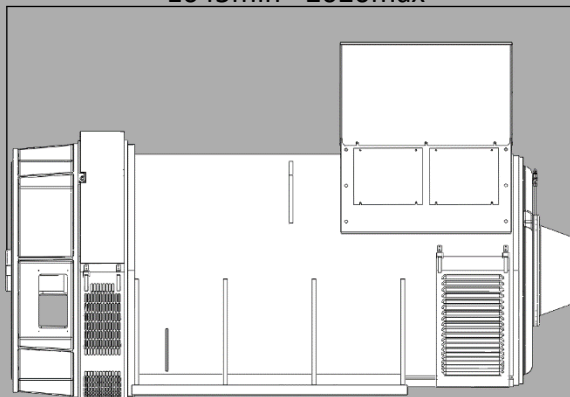


DIMENSIONS

Drawings represent standard design
All dimensions in millimetres (mm)



1645min - 2020max



Specifications

| | |
|--------------------------------|------------------------|
| Voltage Range [V] | 400 - 690 |
| Poles | 4 and 6 |
| Coil and insulation | Wire Wound |
| AVR | Digital |
| Voltage sensing | 3-Phase |
| Bearing Arrangement | Single/Double |
| SAE Adaptors | 0, 00 |
| Terminals | 6 |
| Material Insulation Class | H |
| Excitation Power Supply | PMG |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |

Optional Features

| | |
|---------------------------|---|
| Bearing Arrangement | Sleeve/ Antifriction Bearing |
| Ingress Protection | IP23 Air Filters / IP44 Air Filters / IP44 Water-cooler |
| Shaft Currents Protection | Rotor Earthing Brush/ Insulated bearings |
| Environment protection | Anti-condensation Heaters |

Designed for

| | |
|----------------------------|---|
| Power Plant | ● |
| Grid Code Compatible | ● |
| Marine Propulsion | ● |
| Oil & Gas | ● |
| Combined Heat & Power | ● |
| Continuous Power & Standby | ● |

Prime Mover

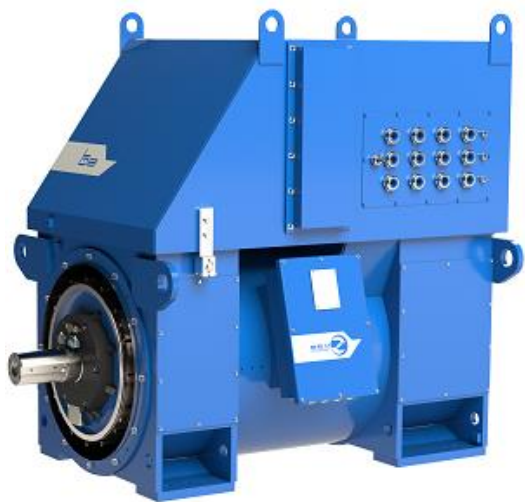
| | |
|---------------|---|
| Diesel Engine | ● |
| Gas Engine | ● |
| Gas Turbine | ● |
| Steam Turbine | ● |

750 - 2950kVA

Low Voltage

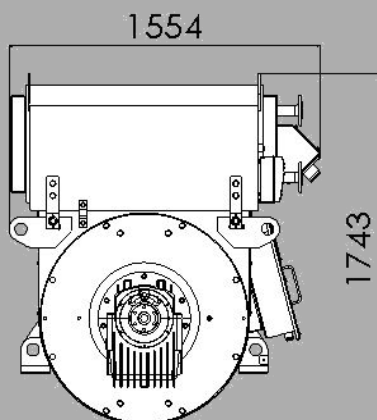
| Model | Core length | Power at $\cos \varphi=0.8$ [kVA/kW] | | | | Voltage [kV] | Frequency [Hz] | Rotating speed [rpm] |
|------------|-------------|---|---------------|------------------|------------------|-----------------|-------------------|----------------------------|
| | | Temperature rise/ Running Mode at 40 °C | | | | | | |
| | | 167 K/Standby @ 27° C | 150 K/Standby | 125 K/Continuous | 105 K/Continuous | | | |
| L07-4-Pole | G2 | 1500/1200 | 1460/1168 | 1400/1120 | 1305/1044 | 0,4 | 50 | 1500 |
| | H2 | 1660/1328 | 1615/1292 | 1550/1240 | 1445/1156 | 0,4 | 50 | 1500 |
| | I1 | 1770/1416 | 1720/1376 | 1650/1320 | 1540/1232 | 0,4 | 50 | 1500 |
| | J1 | 2035/1628 | 1980/1584 | 1900/1520 | 1770/1416 | 0,4 | 50 | 1500 |
| | J2 | 2250/1800 | 2170/1736 | 2080/1664 | 1935/1548 | 0,4 | 50 | 1500 |
| | K1 | 2360/1888 | 2295/1836 | 2200/1760 | 2050/1640 | 0,4 | 50 | 1500 |
| | G2 | 1810/1448 | 1760/1408 | 1690/1352 | 1575/1260 | 0,48 | 60 | 1800 |
| | H2 | 2025/1620 | 1970/1576 | 1890/1512 | 1760/1408 | 0,48 | 60 | 1800 |
| | I1 | 2160/1728 | 2100/1680 | 2015/1612 | 1875/1500 | 0,48 | 60 | 1800 |
| | J1 | 2465/1972 | 2395/1916 | 2300/1840 | 2140/1712 | 0,48 | 60 | 1800 |
| | J2 | 2785/2228 | 2705/2164 | 2600/2080 | 2420/1936 | 0,48 | 60 | 1800 |
| | K1 | 2945/2356 | 2860/2288 | 2750/2200 | 2560/2048 | 0,48 | 60 | 1800 |
| | G2 | 1500/1200 | 1460/1168 | 1400/1120 | 1305/1044 | 0,69 | 50 | 1500 |
| | H2 | 1620/1296 | 1575/1260 | 1510/1208 | 1405/1124 | 0,69 | 50 | 1500 |
| | I1 | 1770/1416 | 1720/1376 | 1650/1320 | 1535/1228 | 0,69 | 50 | 1500 |
| | J1 | 1895/1516 | 1845/1476 | 1770/1416 | 1645/1316 | 0,69 | 50 | 1500 |
| J2 | 2230/1784 | 2170/1736 | 2080/1664 | 1935/1548 | 0,69 | 50 | 1500 | |
| K1 | 2295/1836 | 2200/1760 | 2150/1720 | 2000/1600 | 0,69 | 50 | 1500 | |
| L07-6-pole | G2 | 750/600 | 730/584 | 700/560 | 650/520 | 0,4 | 50 | 1000 |
| | I1 | 985/788 | 960/768 | 920/736 | 850/680 | 0,4 | 50 | 1000 |
| | J2 | 1390/1112 | 1355/1084 | 1300/1040 | 1200/960 | 0,4 | 50 | 1000 |
| | G2 | 940/752 | 910/728 | 875/700 | 815/652 | 0,48 | 60 | 1200 |
| | I1 | 1230/984 | 1200/960 | 1150/920 | 1065/852 | 0,48 | 60 | 1200 |
| | J2 | 1815/1452 | 1760/1408 | 1695/1356 | 1565/1252 | 0,48 | 60 | 1200 |
| | G2 | 940/752 | 910/728 | 875/700 | 815/652 | 0,60 | 60 | 1200 |
| | I1 | 1230/984 | 1200/960 | 1150/920 | 1065/852 | 0,60 | 60 | 1200 |
| | J2 | 1740/1392 | 1690/1352 | 1625/1300 | 1500/1200 | 0,60 | 60 | 1200 |

1) All products are designed for 50Hz and 60Hz.

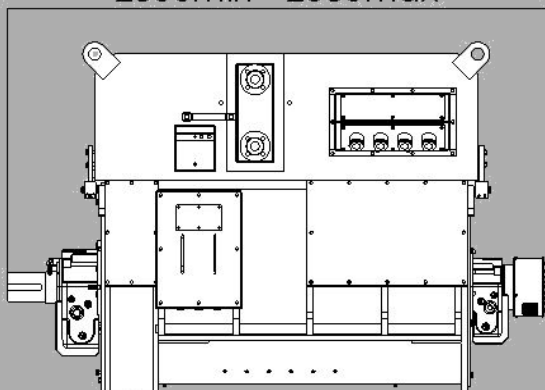


DIMENSIONS

*Drawings represent standard design
All dimensions in millimetres (mm)*



2500min - 2850max



L08



| Specifications | |
|--------------------------------|---------------------------------|
| Voltage Range [V] | 400 - 690 |
| Poles | 4, 6, 8, 10 |
| Coil and insulation | Bar Wound |
| AVR | Digital |
| Voltage sensing | 3-Phase |
| Bearing Arrangement | Single/Double |
| SAE Adaptors | 1, 0, 00 |
| Terminals | 6 |
| Material Insulation Class | H |
| Excitation Power Supply | Auxiliary Winding / PMG |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |
| Optional Features | |
| Bearing Arrangement | Sleeve/Antifriction Bearing |
| Ingress Protection | IP23 Air Filters |
| Ingress Protection | IP44 / 54 / 55 |
| Cooling Options | Totally enclosed CACA / CACW |
| Environment protection | Anti-condensation Heaters |
| Designed for | |
| Power Plant | ● |
| Grid Code Compatible | ● |
| Marine Propulsion | ● |
| Oil & Gas | ● |
| Combined Heat & Power | ● |
| Continuous Power & Standby | ● |
| Prime Mover | |
| Diesel Engine | ● |
| Gas Engine | ● |
| Gas Turbine | ● |
| Steam Turbine | ● |

700 - 3400kVA

Low Voltage

| Model | Core length | Power at $\cos \varphi=0.8$ [kVA/kW] | | | Voltage [kV] | Frequency [Hz] | Rotating speed [rpm] |
|-------------|-------------|---|---------------------|-----------------|-----------------|-------------------|-------------------------|
| | | Temperature rise/ Running Mode at 40 °C | | | | | |
| | | 125 K/Continuous | 105 K/Continuous | 80 K/Continuous | | | |
| L08-4-Pole | I2 | 2060/1648 | 1875/1500 | 1648/1318 | 0,4 | 50 | 1500 |
| | L1 | 2840/2272 | 2584/2068 | 2272/1818 | 0,4 | 50 | 1500 |
| | I2 | 2470/1976 | 2250/1800 | 1976/1580 | 0,48 | 60 | 1800 |
| | L1 | 3400/2720 | 3100/2480 | 2720/2176 | 0,48 | 60 | 1800 |
| | I1 | 2020/1616 | 1838/1471 | 1616/1293 | 0,69 | 50/60 | 1500/1800 |
| | L1 | 2990/2392 | 2721/2177 | 2392/1914 | 0,69 | 50/60 | 1500/1800 |
| L08-6-pole | H2 | 1500/1200 | 1365/1092 | 1200/960 | 0,4 | 50 | 1000 |
| | K1 | 1900/1520 | 1730/1390 | 1520/1220 | 0,4 | 50 | 1000 |
| | H2 | 1800/1440 | 1638/1310 | 1440/1152 | 0,48 | 60 | 1200 |
| | K1 | 2290/1833 | 2085/1667 | 1833/1467 | 0,48 | 60 | 1200 |
| | H2 | 1240/992 | 1128/903 | 992/794 | 0,69 | 50/60 | 1000/1200 |
| | K1 | 1910/1528 | 1738/1390 | 1528/1222 | 0,69 | 50/60 | 1000/1200 |
| L08-8-pole | H1 | 900/720 | 819/655 | 720/576 | 0,4 | 50 | 750 |
| | J2 | 1350/1080 | 1229/983 | 1080/864 | 0,4 | 50 | 750 |
| | H1 | 1240/993 | 1129/904 | 993/792 | 0,48 | 60 | 900 |
| | J2 | 1780/1424 | 1620/1296 | 1424/1139 | 0,48 | 60 | 900 |
| | H1 | 900/720 | 819/655 | 720/576 | 0,69 | 50/60 | 750/900 |
| | K2 | 1430/1144 | 1301/1041 | 1144/915 | 0,69 | 50/60 | 750/900 |
| L08-10-pole | H1 | 670/536 | 610/488 | 536/429 | 0,4 | 50 | 600 |
| | J2 | 1110/888 | 1010/808 | 888/710 | 0,4 | 50 | 600 |
| | H1 | 800/640 | 728/582 | 640/512 | 0,48 | 60 | 720 |
| | K2 | 1330/1064 | 1210/968 | 1064/851 | 0,48 | 60 | 720 |
| | H1 | 720/576 | 655/524 | 576/461 | 0,69 | 50/60 | 600/720 |
| | K2 | 1110/888 | 1010/808 | 888/710 | 0,69 | 50/60 | 600/720 |

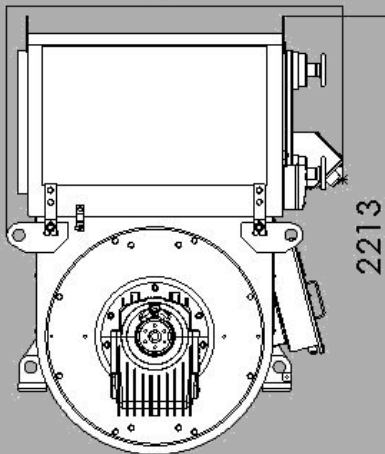
1) All products are designed for 50Hz and 60Hz.



DIMENSIONS

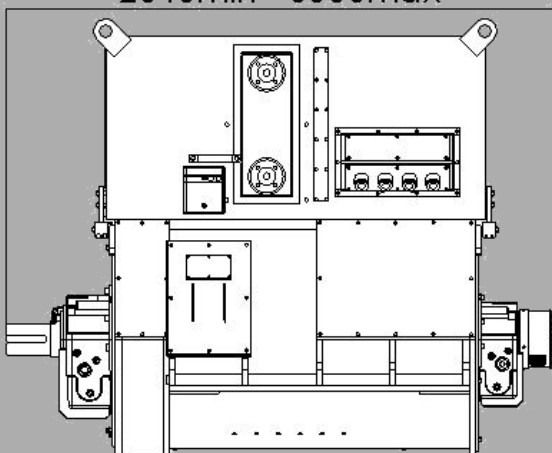
Drawings represent standard design
All dimensions in millimetres (mm)

1689



2213

2540min - 3000max



L09



| Specifications | |
|--------------------------------|---------------------------------|
| Voltage Range [V] | 400 - 690 |
| Poles | 4, 6, 8, 10 |
| Coil and insulation | Bar Wound |
| AVR | Digital |
| Voltage sensing | 3-Phase |
| Bearing Arrangement | Single/Double |
| SAE Adaptors | 1, 0, 00 |
| Terminals | 6 |
| Material Insulation Class | H |
| Excitation Power Supply | Auxiliary Winding / PMG |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |
| Optional Features | |
| Bearing Arrangement | Sleeve/Antifriction Bearing |
| Ingress Protection | IP23 Air Filters |
| Ingress Protection | IP44 / 54 / 55 |
| Cooling Options | Totally enclosed CACW / CACA |
| Environment protection | Anti-condensation Heaters |
| Designed for | |
| Power Plant | ● |
| Grid Code Compatible | ● |
| Marine Propulsion | ● |
| Oil & Gas | ● |
| Combined Heat & Power | ● |
| Continuous Power & Standby | ● |
| Prime Mover | |
| Diesel Engine | ● |
| Gas Engine | ● |
| Gas Turbine | ● |
| Steam Turbine | ● |

1300-4700kVA

Low Voltage

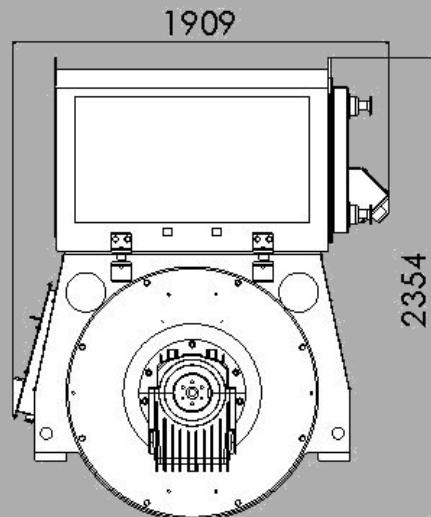
| Model | Core length | Power at $\cos \varphi=0.8$ [kVA/kW] | | | Voltage [kV] | Frequency [Hz] | Rotating speed [rpm] |
|-------------|-------------|---|------------------|-----------------|-----------------|-------------------|-------------------------|
| | | Temperature rise/ Running Mode at 40 °C | | | | | |
| | | 125 K/Continuous | 105 K/Continuous | 80 K/Continuous | | | |
| L09-4-Pole | K1 | 3450/2760 | 3410/2512 | 2760/2208 | 0,4 | 50 | 1500 |
| | K1 | 4140/3312 | 3767/3014 | 3312/2650 | 0,48 | 60 | 1800 |
| | K1 | 3510/2808 | 3194/2555 | 2808/2246 | 0,69 | 50/60 | 1500/1800 |
| | M1 | 4700/3760 | 4277/3422 | 3760/3008 | 0,69 | 50/60 | 1500/1800 |
| L09-6-pole | H2 | 2240/1792 | 2038/1631 | 1792/1434 | 0,4 | 50 | 1000 |
| | K2 | 3050/2440 | 2776/2220 | 2440/1952 | 0,4 | 50 | 1000 |
| | H2 | 2688/2150 | 2446/1957 | 2150/1720 | 0,48 | 60 | 1200 |
| | K2 | 3660/2928 | 3331/2664 | 2928/2342 | 0,48 | 60 | 1200 |
| | I1 | 2050/1640 | 1866/1492 | 1640/1312 | 0,69 | 50/60 | 1000/1200 |
| | L1 | 3200/2560 | 2912/2330 | 2560/2048 | 0,69 | 50/60 | 1000/1200 |
| L09-8-pole | I1 | 1650/1320 | 1502/1201 | 1320/1056 | 0,4 | 50 | 750 |
| | L1 | 2530/2024 | 2302/1842 | 2024/1619 | 0,4 | 50 | 750 |
| | I1 | 2080/1664 | 1893/1514 | 1664/1331 | 0,48 | 60 | 900 |
| | L1 | 3190/2552 | 2903/2322 | 2552/2042 | 0,48 | 60 | 900 |
| | J1 | 1930/1544 | 1756/1405 | 1544/1235 | 0,69 | 50/60 | 750/900 |
| | L2 | 2530/2024 | 2302/1842 | 2024/1619 | 0,69 | 50/60 | 750/900 |
| L09-10-pole | H2 | 1220/976 | 1110/888 | 976/781 | 0,4 | 50 | 600 |
| | L1 | 1830/1464 | 1665/1332 | 1464/1171 | 0,4 | 50 | 600 |
| | H2 | 1464/1171 | 1332/1066 | 1171/937 | 0,48 | 60 | 720 |
| | L1 | 2196/1757 | 1998/1599 | 1757/1405 | 0,48 | 60 | 720 |
| | H2 | 1220/976 | 1110/888 | 976/781 | 0,69 | 50/60 | 600/720 |
| | L2 | 2000/1600 | 1820/1456 | 1600/1280 | 0,69 | 50/60 | 600/720 |

1) All products are designed for 50Hz and 60Hz.

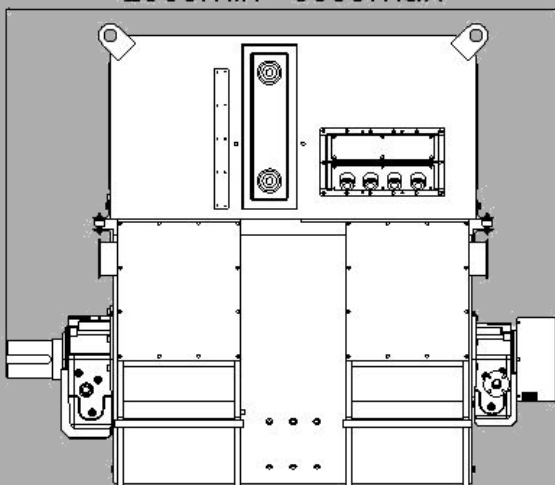


DIMENSIONS

Drawings represent standard design
All dimensions in millimetres (mm)



2800min - 3350max



L10



| Specifications | |
|--------------------------------|---------------------------------|
| Voltage Range [V] | 400 - 690 |
| Poles | 4, 6, 8, 10 |
| Coil and insulation | Bar Wound |
| AVR | Digital |
| Voltage sensing | 3-Phase |
| Bearing Arrangement | Single/Double |
| SAE Adaptors | 1, 0, 00 |
| Terminals | 6 |
| Material Insulation Class | H |
| Excitation Power Supply | Auxiliary Winding / PMG |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |
| Optional Features | |
| Bearing Arrangement | Sleeve/Antifriction Bearing |
| Ingress Protection | IP23 Air Filters |
| Ingress Protection | IP44 / 54 / 55 |
| Cooling Options | Totally enclosed CACA / CACW |
| Environment protection | Anti-condensation Heaters |
| Designed for | |
| Power Plant | ● |
| Grid Code Compatible | ● |
| Marine Propulsion | ● |
| Oil & Gas | ● |
| Combined Heat & Power | ● |
| Continuous Power & Standby | ● |
| Prime Mover | |
| Diesel Engine | ● |
| Gas Engine | ● |
| Gas Turbine | ● |
| Steam Turbine | ● |

2100-6000kVA

Low Voltage

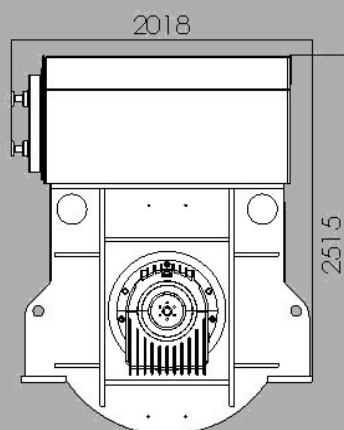
| Model | Core length | Power at $\cos \phi=0.8$ [kVA/kW] | | | Voltage | Frequency | Rotating speed |
|-------------|-------------|---|------------------|-----------------|---------|-----------|----------------|
| | | Temperature rise/ Running Mode at 40 °C | | | [kV] | [Hz] | [rpm] |
| | | 125 K/Continuous | 105 K/Continuous | 80 K/Continuous | | | |
| L10-4-Pole | K1 | 4000/3200 | 3720/2976 | 3280/2624 | 0,4 | 50 | 1500 |
| | K1 | 4800/3840 | 4464/3571 | 3936/3149 | 0,48 | 60 | 1800 |
| L10-6-pole | J1 | 3400/2720 | 3162/2530 | 2788/2230 | 0,4 | 50 | 1000 |
| | M2 | 4950/3960 | 4604/3683 | 4059/3247 | 0,4 | 50 | 1000 |
| | J1 | 4080/3264 | 3794/3036 | 3346/2676 | 0,48 | 60 | 1200 |
| | M2 | 5940/4752 | 5524/4419 | 4871/3897 | 0,48 | 60 | 1200 |
| | J2 | 3500/2800 | 3255/2604 | 2870/2296 | 0,69 | 50/60 | 1000/1200 |
| | N1 | 5000/4000 | 4650/3720 | 4100/3280 | 0,69 | 50/60 | 1000/1200 |
| | J2 | 2900/2320 | 2697/2158 | 2378/1902 | 0,4 | 50 | 750 |
| L10-8-pole | M2 | 4030/3223 | 3748/2998 | 3305/2644 | 0,4 | 50 | 750 |
| | J2 | 3480/2784 | 3236/2589 | 2854/2283 | 0,48 | 60 | 900 |
| | M2 | 4836/3869 | 4497/3598 | 3966/3172 | 0,48 | 60 | 900 |
| | K2 | 2700/2160 | 2511/2009 | 2214/1771 | 0,69 | 50/60 | 750/900 |
| | N1 | 3800/3040 | 3534/2827 | 3116/2493 | 0,69 | 50/60 | 750/900 |
| | K1 | 2150/1720 | 2000/1600 | 1763/1410 | 0,4 | 50 | 600 |
| | N2 | 3120/2496 | 2902/2321 | 2558/2047 | 0,4 | 50 | 600 |
| L10-10-pole | K1 | 2580/2064 | 2399/1920 | 2116/1692 | 0,48 | 60 | 720 |
| | N2 | 3744/2995 | 3482/2786 | 3070/2456 | 0,48 | 60 | 720 |
| | J2 | 2080/1664 | 1934/1548 | 1706/1364 | 0,69 | 50/60 | 600/720 |
| | O1 | 3250/2600 | 3023/2418 | 2665/2132 | 0,69 | 50/60 | 600/720 |

1) All products are designed for 50Hz and 60Hz.

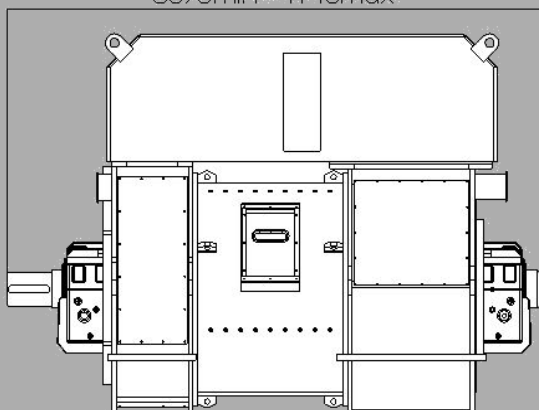


DIMENSIONS

*Drawings represent standard design
All dimensions in millimetres (mm)*



3595min - 4145max



L11



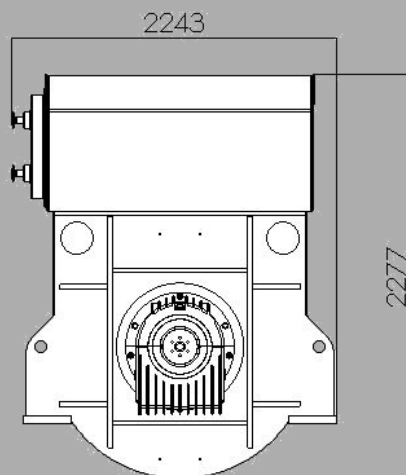
| Specifications | |
|--------------------------------|---------------------------------|
| Voltage Range [V] | 400 - 690 |
| Poles | 8, 10 |
| Coil and insulation | Bar Wound |
| AVR | Digital |
| Voltage sensing | 3-Phase |
| Bearing Arrangement | Single/Double |
| SAE Adaptors | 1, 0, 00 |
| Terminals | 6 |
| Material Insulation Class | H |
| Excitation Power Supply | Auxiliary Winding / PMG |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |
| Optional Features | |
| Bearing Arrangement | Sleeve/Antifriction Bearing |
| Ingress Protection | IP23 Air Filters |
| Ingress Protection | IP44 / 54 / 55 |
| Cooling Options | Totally enclosed CACA / CACW |
| Environment protection | Anti-condensation Heaters |
| Designed for | |
| Power Plant | ● |
| Grid Code Compatible | ● |
| Marine Propulsion | ● |
| Oil & Gas | ● |
| Combined Heat & Power | ● |
| Continuous Power & Standby | ● |
| Prime Mover | |
| Diesel Engine | ● |
| Gas Engine | ● |
| Gas Turbine | ● |
| Steam Turbine | ● |

2500-9000kVA
Low Voltage

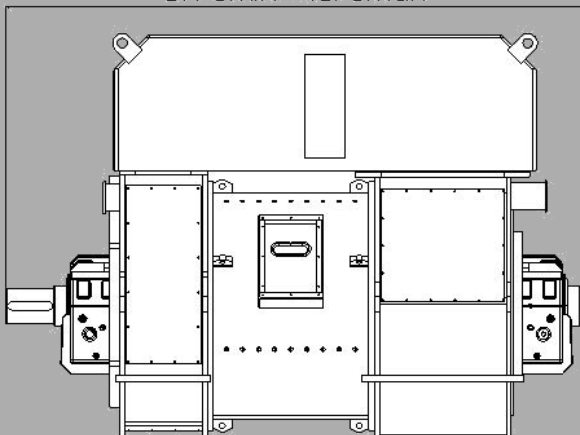


DIMENSIONS

Drawings represent standard design
All dimensions in millimetres (mm)



3976min - 4376max



L12



| Specifications | |
|--------------------------------|---------------------------------|
| Voltage Range [V] | 400 - 690 |
| Poles | 8, 10 |
| Coil and insulation | Bar Wound |
| AVR | Digital |
| Voltage sensing | 3-Phase |
| Bearing Arrangement | Single/Double |
| SAE Adaptors | 1, 0, 00 |
| Terminals | 6 |
| Material Insulation Class | H |
| Excitation Power Supply | Auxiliary Winding / PMG |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |
| Optional Features | |
| Bearing Arrangement | Sleeve/Antifriction Bearing |
| Ingress Protection | IP23 Air Filters |
| Ingress Protection | IP44 / 54 / 55 |
| Cooling Options | Totally enclosed CACA / CACW |
| Environment protection | Anti-condensation Heaters |
| Designed for | |
| Power Plant | • |
| Grid Code Compatible | • |
| Marine Propulsion | • |
| Oil & Gas | • |
| Combined Heat & Power | • |
| Continuous Power & Standby | • |
| Prime Mover | |
| Diesel Engine | • |
| Gas Engine | • |
| Gas Turbine | • |
| Steam Turbine | • |

5000-9000kVA

Low Voltage

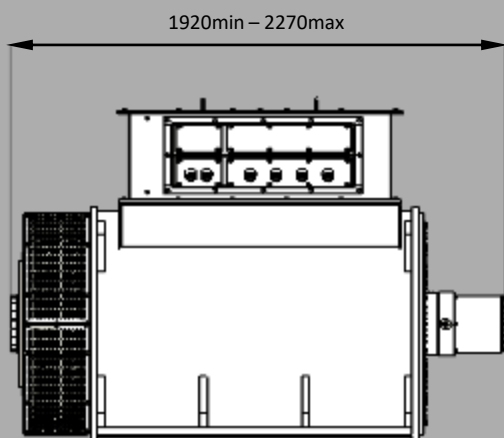
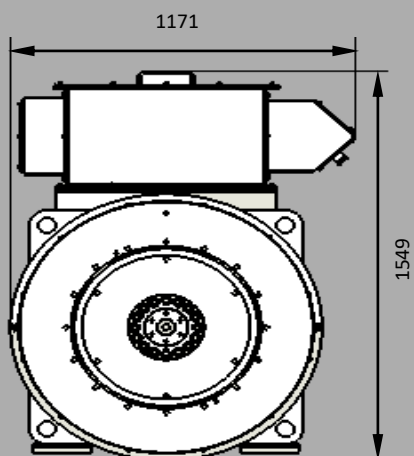


H20



DIMENSIONS

*Drawings represent standard design
All dimensions in millimetres (mm)*



| Specifications | |
|--------------------------------|---------------------------------|
| Voltage Range [V] | 3,300 – 13,800 |
| Poles | 4 - 6 |
| Coil and insulation | Bar Wound |
| AVR | Digital |
| Voltage sensing | 3-Phase |
| Bearing Arrangement | Single/Double |
| SAE Adaptors | 1, 0, 00 |
| Terminals | 6 |
| Material Insulation Class | F |
| Excitation Power Supply | Auxiliary Winding / PMG |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |
| Optional Features | |
| Bearing Arrangement | Sleeve/Antifriction Bearing |
| Ingress Protection | IP23 Air Filters |
| Ingress Protection | IP44 / 54 / 55 / 56 |
| Cooling Options | Totally enclosed CACA / CACW |
| Environment protection | Anti-condensation Heaters |
| Designed for | |
| Power Plant | ● |
| Grid Code Compatible | ● |
| Marine Propulsion | |
| Oil & Gas | ● |
| Combined Heat & Power | ● |
| Continuous Power & Standby | ● |
| Prime Mover | |
| Diesel Engine | ● |
| Gas Engine | ● |
| Gas Turbine | ● |
| Steam Turbine | ● |

High Voltage
750 – 2 000 kVA

| Model | Core length | Power at $\cos \varphi=0.8$ [kVA/kW] | | Voltage [kV] | Frequency ¹⁾ [Hz] | Rotating speed [rpm] |
|------------|-------------|--|-----------------|-----------------|---------------------------------|-------------------------|
| | | Temperature rise/Running Mode at 40 °C | | | | |
| | | 105 K/Continuous | 80 K/Continuous | | | |
| H20-4-pole | H1 | 1250/1000 | 1100/880 | 6.3/6.6 | 50 | 1500 |
| | I1 | 1500/1200 | 1320/1056 | 6.3/6.6 | 50 | 1500 |
| | J1 | 1750/1400 | 1540/1232 | 6.3/6.6 | 50 | 1500 |
| | J2 | 2000/1600 | 1760/1408 | 6.3/6.6 | 50 | 1500 |
| | H1 | 1000/800 | 880/704 | 10,5/11 | 50 | 1500 |
| | I1 | 1250/1000 | 1100/880 | 10,5/11 | 50 | 1500 |
| | J1 | 1500/1200 | 1320/1056 | 10,5/11 | 50 | 1500 |
| | J2 | 1750/1400 | 1540/1232 | 10,5/11 | 50 | 1500 |
| | H1 | 1250/1000 | 1100/880 | 6.3/6.6 | 60 | 1800 |
| | I1 | 1500/1200 | 1320/1056 | 6.3/6.6 | 60 | 1800 |
| | J1 | 1750/1400 | 1540/1232 | 6.3/6.6 | 60 | 1800 |
| | J2 | 2000/1600 | 1760/1408 | 6.3/6.6 | 60 | 1800 |
| | H1 | 1000/800 | 880/704 | 13,8 | 60 | 1800 |
| | I1 | 1250/1000 | 1100/880 | 13,8 | 60 | 1800 |
| | J1 | 1500/1200 | 1320/1056 | 13,8 | 60 | 1800 |
| | J2 | 1750/1400 | 1540/1232 | 13,8 | 60 | 1800 |
| H20-6pole | H2 | 1000/800 | 880/704 | 6.3/6.6 | 50 | 1000 |
| | I2 | 1250/1000 | 1100/880 | 6.3/6.6 | 50 | 1000 |
| | J2 | 1500/1200 | 1320/1056 | 6.3/6.6 | 50 | 1000 |
| | H2 | 750/600 | 660/528 | 10,5/11 | 50 | 1000 |
| | I2 | 1000/800 | 880/704 | 10,5/11 | 50 | 1000 |
| | J2 | 1250/1000 | 1100/880 | 10,5/11 | 50 | 1000 |
| | H2 | 1000/800 | 880/704 | 6.3/6.6 | 60 | 1200 |
| | I2 | 1250/1000 | 1100/880 | 6.3/6.6 | 60 | 1200 |
| | J2 | 1500/1200 | 1320/1056 | 6.3/6.6 | 60 | 1200 |
| | H2 | 750/600 | 660/528 | 13,8 | 60 | 1200 |
| | I2 | 1000/800 | 880/704 | 13,8 | 60 | 1200 |
| | J2 | 1250/1000 | 1100/880 | 13,8 | 60 | 1200 |

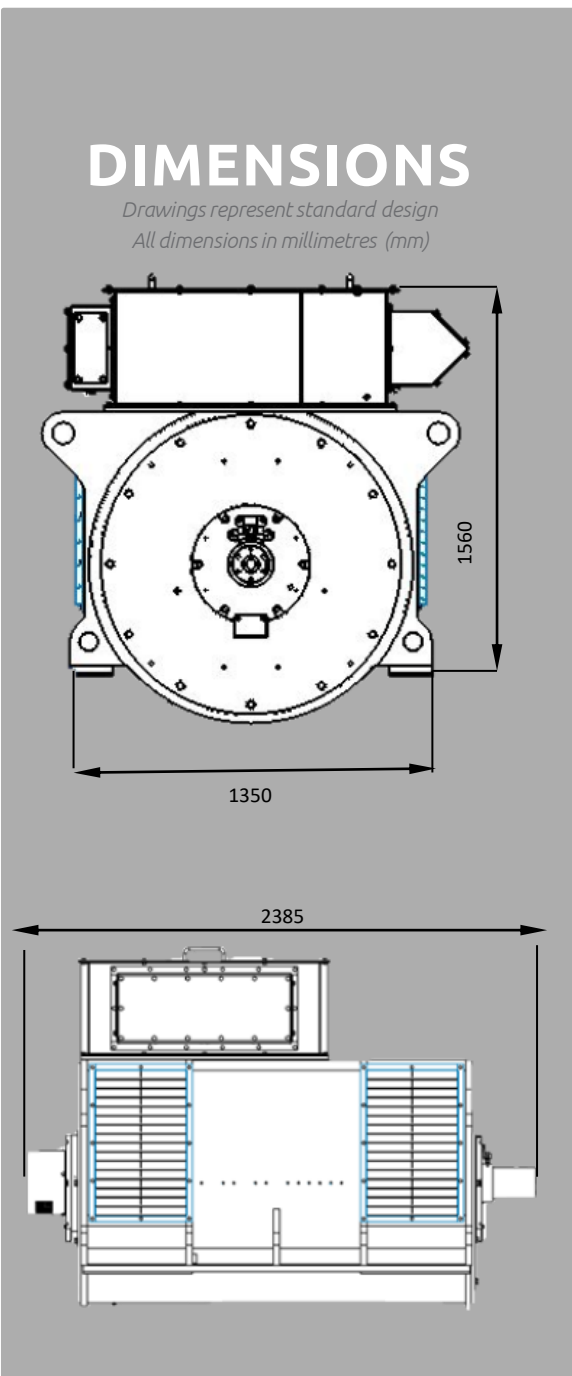
1) All products are designed for 50Hz and 60Hz.

High Voltage

750-2000kVA



H30



| Specifications | |
|--------------------------------|------------------------------------|
| Voltage Range [V] | 3,300 – 13,800 |
| Poles | 4, 6, 8, 10 |
| Coil and insulation | Bar Wound |
| AVR | Digital |
| Voltage sensing | 3-Phase |
| Bearing Arrangement | Single/Double |
| SAE Adaptors | 1, 0, 00 |
| Terminals | 6 |
| Material Insulation Class | F |
| Excitation Power Supply | Auxiliary Winding / PMG |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |
| Optional Features | |
| Bearing Arrangement | Sleeve/Antifriction Bearing |
| Ingress Protection | IP23 Air Filters IP44 / 54 / 55 |
| Ingress Protection | Totally enclosed |
| Cooling Options | CACA / CACW |
| Environment protection | Anti-condensation Heaters |
| Designed for | |
| Power Plant | ● |
| Grid Code Compatible | ● |
| Marine Propulsion | |
| Oil & Gas | ● |
| Combined Heat & Power | ● |
| Continuous Power & Standby | ● |
| Prime Mover | |
| Diesel Engine | ● |
| Gas Engine | ● |
| Gas Turbine | ● |
| Steam Turbine | ● |

High Voltage
625 – 3 750 kVA

| Model | Core length | Power at cos φ=0.8 [kVA/kW] | | Voltage [kV] | Frequency [Hz] | Rotating speed [rpm] |
|-------------|-------------|--|-----------------|--------------|----------------|----------------------|
| | | Temperature rise running Mode at 40 °C | | | | |
| | | 105 K/Continuous | 80 K/Continuous | | | |
| H30-4-Pole | H2 | 2250/1800 | 1980/1584 | 6.3/6.6 | 50 | 1500 |
| | J1 | 3000/2400 | 2640/2112 | 6.3/6.6 | 50 | 1500 |
| | K1 | 3500/2800 | 3080/2464 | 6.3/6.6 | 50 | 1500 |
| | K2 | 3750/3000 | 3300/2640 | 6.3/6.6 | 50 | 1500 |
| | H2 | 2000/1600 | 1760/1408 | 10.5/11 | 50 | 1500 |
| | I2 | 2500/2000 | 2200/1760 | 10.5/11 | 50 | 1500 |
| | J2 | 3000/2400 | 2640/2112 | 10.5/11 | 50 | 1500 |
| | K2 | 3500/2800 | 3080/2464 | 10.5/11 | 50 | 1500 |
| | H2 | 2250/1800 | 1980/1584 | 6.3/6.6 | 60 | 1800 |
| | I2 | 2750/2200 | 2420/1936 | 6.3/6.6 | 60 | 1800 |
| | J1 | 3000/2400 | 2640/2112 | 6.3/6.6 | 60 | 1800 |
| | K2 | 3750/3000 | 3300/2640 | 6.3/6.6 | 60 | 1800 |
| | H2 | 2000/1600 | 1760/1408 | 13.8 | 60 | 1800 |
| | I2 | 2500/2000 | 2200/1760 | 13.8 | 60 | 1800 |
| | J2 | 3000/2400 | 2640/2112 | 13.8 | 60 | 1800 |
| | K2 | 3500/2800 | 3080/2464 | 13.8 | 60 | 1800 |
| H30-6-pole | H2 | 1750/1400 | 1540/1232 | 6.3/6.6 | 50 | 1000 |
| | J2 | 2250/1800 | 1980/1584 | 6.3/6.6 | 50 | 1000 |
| | K2 | 2500/2000 | 2200/1760 | 6.3/6.6 | 50 | 1000 |
| | H2 | 1500/1200 | 1320/1056 | 10.5/11 | 50 | 1000 |
| | J2 | 2000/1600 | 1760/1408 | 10.5/11 | 50 | 1000 |
| | K2 | 2250/1800 | 1980/1584 | 10.5/11 | 50 | 1000 |
| | H2 | 1750/1400 | 1540/1232 | 6.3/6.6 | 60 | 1200 |
| | J2 | 2250/1800 | 1980/1584 | 6.3/6.6 | 60 | 1200 |
| | K2 | 2500/2000 | 2200/1760 | 6.3/6.6 | 60 | 1200 |
| | H2 | 1500/1200 | 1320/1056 | 13.8 | 60 | 1200 |
| | J2 | 2000/1600 | 1760/1408 | 13.8 | 60 | 1200 |
| | K2 | 2250/1800 | 1980/1584 | 13.8 | 60 | 1200 |
| H30-8-pole | H1 | 1000/800 | 880/704 | 6.3/6.6 | 50 | 750 |
| | I2 | 1500/1200 | 1320/1056 | 6.3/6.6 | 50 | 750 |
| | J2 | 1750/1400 | 1540/1232 | 6.3/6.6 | 50 | 750 |
| | H1 | 750/600 | 660/528 | 10.5/11 | 50 | 750 |
| | I2 | 1250/1000 | 1100/880 | 10.5/11 | 50 | 750 |
| | J2 | 1500/1200 | 1320/1056 | 10.5/11 | 50 | 750 |
| | H1 | 1000/800 | 880/704 | 6.3/6.6 | 60 | 900 |
| | I2 | 1500/1200 | 1320/1056 | 6.3/6.6 | 60 | 900 |
| | J2 | 1750/1400 | 1540/1232 | 6.3/6.6 | 60 | 900 |
| | H1 | 750/600 | 660/528 | 13.8 | 60 | 900 |
| | I2 | 1250/1000 | 1100/880 | 13.8 | 60 | 900 |
| | J2 | 1500/1200 | 1320/1056 | 13.8 | 60 | 900 |
| H30-10-pole | H2 | 875/700 | 770/616 | 6.3/6.6 | 50 | 600 |
| | I2 | 1250/1000 | 1100/880 | 6.3/6.6 | 50 | 600 |
| | L2 | 1750/1400 | 1540/1232 | 6.3/6.6 | 50 | 600 |
| | H2 | 625/500 | 550/440 | 10.5/11 | 50 | 600 |
| | I2 | 875/700 | 770/616 | 10.5/11 | 50 | 600 |
| | L2 | 1500/1200 | 1320/1056 | 10.5/11 | 50 | 600 |
| | H2 | 875/700 | 770/616 | 6.3/6.6 | 60 | 720 |
| | I2 | 1250/1000 | 1100/880 | 6.3/6.6 | 60 | 720 |
| | L2 | 1750/1400 | 1540/1232 | 6.3/6.6 | 60 | 720 |
| | H2 | 625/500 | 550/440 | 13.8 | 60 | 720 |
| | L2 | 1500/1200 | 1320/1056 | 13.8 | 60 | 720 |

1) All products are designed for 50Hz and 60Hz.

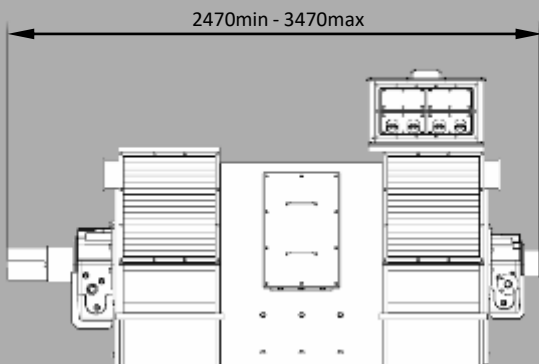
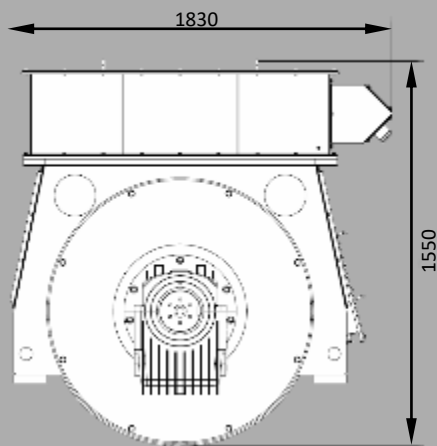
High Voltage

625 – 3 750 kVA



DIMENSIONS

*Drawings represent standard design
All dimensions in millimetres (mm)*



H40



| Specifications | |
|--------------------------------|------------------------|
| Voltage Range [V] | 3,300-13,800 |
| Poles | 4, 6, 8, 10 |
| Coil and insulation | Bar Wound / GVPI |
| AVR | Digital |
| Voltage sensing | 3-Phase |
| Bearing Arrangement | Double |
| SAE Adaptors | 0, 00 |
| Terminals | 6 |
| Material Insulation Class | F |
| Excitation Power Supply | Auxiliary Winding |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |

| Optional Features | |
|------------------------|------------------------------------|
| Bearing Arrangement | Sleeve Bearings |
| Ingress Protection | IP23 Air Filters |
| Ingress Protection | IP44 / 54 / 55 Totally enclosed |
| Cooling Options | CACA / CACW |
| Environment protection | Anti-condensation Heaters |

| Designed for | |
|----------------------------|---|
| Power Plant | ● |
| Grid Code Compatible | ● |
| Marine Propulsion | |
| Oil & Gas | ● |
| Combined Heat & Power | ● |
| Continuous Power & Standby | ● |

| Prime Mover | |
|---------------|---|
| Diesel Engine | ● |
| Gas Engine | ● |
| Gas Turbine | ● |
| Steam Turbine | ● |

High Voltage
1 750 – 4 750 kVA

| Model | Core length | Power at $\cos \varphi=0.8$ [kVA/kW] | | Voltage | Frequency ¹⁾ | Rotating speed |
|-------------|-------------|--|-----------------|---------|-------------------------|----------------|
| | | Temperature rise/Running Mode at 40 °C | | | | |
| | | 105 K/Continuous | 80 K/Continuous | | | |
| H40-4-Pole | K1 | 4000/3200 | 3520/2816 | 6.3/6.6 | 50 | 1500 |
| | L1 | 4500/3600 | 3960/3168 | 6.3/6.6 | 50 | 1500 |
| | L2 | 4750/3800 | 4180/3344 | 6.3/6.6 | 50 | 1500 |
| | K1 | 3750/3000 | 3300/2640 | 10,5/11 | 50 | 1500 |
| | L2 | 4500/3600 | 3960/3168 | 10,5/11 | 50 | 1500 |
| | K1 | 4000/3200 | 3520/2816 | 6.3/6.6 | 60 | 1800 |
| | L1 | 4500/3600 | 3960/3168 | 6.3/6.6 | 60 | 1800 |
| | L2 | 4750/3800 | 4180/3344 | 6.3/6.6 | 60 | 1800 |
| | K1 | 3750/3000 | 3300/2640 | 13,8 | 60 | 1800 |
| | L2 | 4500/3600 | 3960/3168 | 13,8 | 60 | 1800 |
| H40-6-pole | I2 | 2750/2200 | 2420/1936 | 6.3/6.6 | 50 | 1000 |
| | K2 | 3250/2600 | 2860/2288 | 6.3/6.6 | 50 | 1000 |
| | K2 | 3500/2800 | 3080/2464 | 6.3/6.6 | 50 | 1000 |
| | I2 | 2500/2000 | 2200/1760 | 10,5/11 | 50 | 1000 |
| | K2 | 3250/2600 | 2860/2288 | 10,5/11 | 50 | 1000 |
| | I2 | 2750/2200 | 2420/1936 | 6.3/6.6 | 60 | 1200 |
| | K2 | 3250/2600 | 2860/2288 | 6.3/6.6 | 60 | 1200 |
| | K2 | 3500/2800 | 3080/2464 | 6.3/6.6 | 60 | 1200 |
| | I2 | 2500/2000 | 2200/1760 | 13,8 | 60 | 1200 |
| | K2 | 3250/2600 | 2860/2288 | 13,8 | 60 | 1200 |
| H40-8-pole | I2 | 2000/1600 | 1760/1408 | 6.3/6.6 | 50 | 750 |
| | K2 | 2500/2000 | 2200/1760 | 6.3/6.6 | 50 | 750 |
| | I2 | 1750/1400 | 1540/1232 | 10,5/11 | 50 | 750 |
| | K2 | 2250/1800 | 1980/1584 | 10,5/11 | 50 | 750 |
| | I2 | 2000/1600 | 1760/1408 | 6.3/6.6 | 60 | 900 |
| | K2 | 2500/2000 | 2200/1760 | 6.3/6.6 | 60 | 900 |
| | I2 | 1750/1400 | 1540/1232 | 13,8 | 60 | 900 |
| | K2 | 2250/1800 | 1980/1584 | 13,8 | 60 | 900 |
| H40-10-pole | J2 | 2000/1600 | 1760/1408 | 6.3/6.6 | 50 | 600 |
| | M1 | 2750/2200 | 2420/1936 | 6.3/6.6 | 50 | 600 |
| | J2 | 1750/1400 | 1540/1232 | 10,5/11 | 50 | 600 |
| | M1 | 2500/2000 | 2200/1760 | 10,5/11 | 50 | 600 |
| | J2 | 2000/1600 | 1760/1408 | 13,8 | 60 | 720 |
| | M1 | 2750/2200 | 2420/1936 | 13,8 | 60 | 720 |
| | J2 | 1750/1400 | 1540/1232 | 13,8 | 60 | 720 |
| | M1 | 2500/2000 | 2200/1760 | 13,8 | 60 | 720 |

1) All products are designed for 50Hz and 60Hz.



H50



Specifications

| | |
|--------------------------------|-------------------------|
| Voltage Range [V] | 3,300 – 13,800 |
| Poles | 4, 6, 8, 10 |
| Coil and insulation | Bar Wound / GVPI |
| AVR | Digital |
| Voltage sensing | 3-Phase |
| Bearing Arrangement | Single/Double |
| SAE Adaptors | 0, 00 |
| Terminals | 6 |
| Material Insulation Class | F |
| Excitation System Supply | Auxiliary Winding / PMG |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |

Optional Features

| | |
|------------------------|---------------------------------|
| Bearing Arrangement | Sleeve/Antifriction Bearing |
| Ingress Protection | IP23 Air Filters |
| Ingress Protection | IP44 / 54 / 55 Totally enclosed |
| Cooling Options | CACA / CACW |
| Environment protection | Anti-condensation Heaters |

Designed for

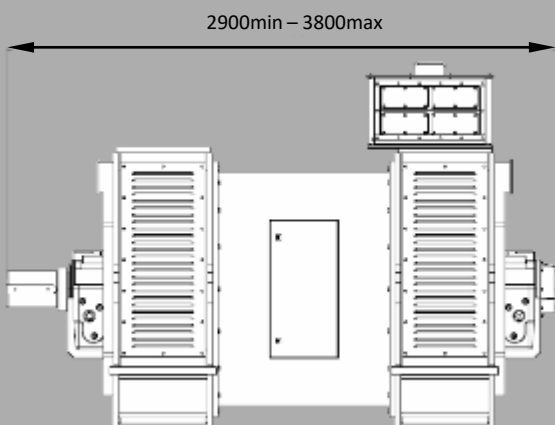
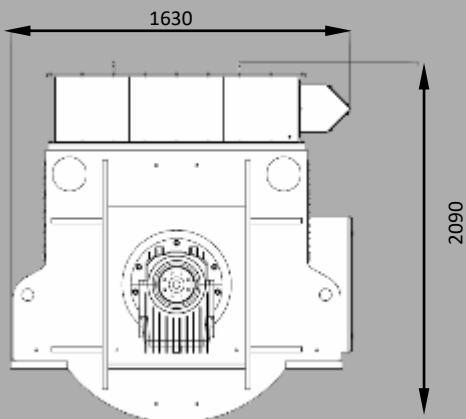
| | |
|----------------------------|---|
| Power Plant | ● |
| Grid Code Compatible | ● |
| Marine Propulsion | ● |
| Oil & Gas | ● |
| Combined Heat & Power | ● |
| Continuous Power & Standby | ● |

Prime Mover

| | |
|---------------|---|
| Diesel Engine | ● |
| Gas Engine | ● |
| Gas Turbine | ● |
| Steam Turbine | ● |

DIMENSIONS

Drawings represent standard design
All dimensions in millimetres (mm)



2 750 – 7 125 kVA

High Voltage

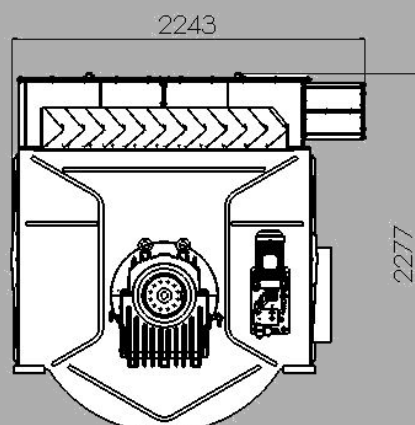
| Model | Core length | Power at $\cos \phi=0.8$ [kVA/kW] | | Voltage [kV] | Frequency [Hz] | Rotating speed [rpm] |
|-------------|-------------|--|-----------------|-----------------|-------------------|-------------------------|
| | | Temperature rise/ Running Mode at 40 °C | | | | |
| | | 105 K/Continuous | 80 K/Continuous | | | |
| H50-4-Pole | K1 | 5000/4000 | 4400/3520 | 6.3/6.6 | 50 | 1500 |
| | L1 | 6000/4800 | 5280/4224 | 6.3/6.6 | 50 | 1500 |
| | L2 | 6250/5000 | 5500/4400 | 6.3/6.6 | 50 | 1500 |
| | N2 | 7125/5700 | 6270/5016 | 6.3/6.6 | 50 | 1500 |
| | K1 | 4750/3800 | 4180/3344 | 10,5/11 | 50 | 1500 |
| | L2 | 6000/4800 | 5280/4224 | 10,5/11 | 50 | 1500 |
| | N2 | 6875/5500 | 6050/4840 | 10,5/11 | 50 | 1500 |
| | K1 | 5000/4000 | 4400/3520 | 6.3/6.6 | 60 | 1800 |
| | L1 | 6000/4800 | 5280/4224 | 6.3/6.6 | 60 | 1800 |
| | N2 | 7125/5700 | 6270/5016 | 6.3/6.6 | 60 | 1800 |
| | K1 | 4750/3800 | 4180/3344 | 13,8 | 60 | 1800 |
| | L2 | 6000/4800 | 5280/4224 | 13,8 | 60 | 1800 |
| N2 | 6875/5500 | 6050/4840 | 13,8 | 60 | 1800 | |
| H50-6-pole | K1 | 3750/3000 | 3300/2640 | 6.3/6.6 | 50 | 1000 |
| | N1 | 5625/4500 | 4950/3960 | 6.3/6.6 | 50 | 1000 |
| | K1 | 3500/2800 | 3080/2464 | 10,5/11 | 50 | 1000 |
| | N1 | 5000/4000 | 4400/3520 | 10,5/11 | 50 | 1000 |
| | K1 | 3750/3000 | 3300/2640 | 6.3/6.6 | 60 | 1200 |
| | M1 | 5000/4000 | 4400/3520 | 6.3/6.6 | 60 | 1200 |
| | N1 | 5625/4500 | 4950/3960 | 6.3/6.6 | 60 | 1200 |
| | K1 | 3500/2800 | 3080/2464 | 13,8 | 60 | 1200 |
| | M1 | 4375/3500 | 3850/3080 | 13,8 | 60 | 1200 |
| N1 | 5000/4000 | 4400/3520 | 13,8 | 60 | 1200 | |
| H50-8-pole | K1 | 2750/2200 | 2420/1936 | 6.3/6.6 | 50 | 750 |
| | N1 | 4250/3400 | 3740/2992 | 6.3/6.6 | 50 | 750 |
| | O1 | 4750/3800 | 4180/3344 | 6.3/6.6 | 50 | 750 |
| | K1 | 2500/2000 | 2200/1760 | 10,5/11 | 50 | 750 |
| | N1 | 3750/3000 | 3300/2640 | 10,5/11 | 50 | 750 |
| | O1 | 4250/3400 | 3740/2992 | 10,5/11 | 50 | 750 |
| | K1 | 2750/2200 | 2420/1936 | 6.3/6.6 | 60 | 900 |
| | O1 | 4750/3800 | 4180/3344 | 6.3/6.6 | 60 | 900 |
| | K1 | 2500/2000 | 2200/1760 | 13,8 | 60 | 900 |
| | N1 | 3750/3000 | 3300/2640 | 13,8 | 60 | 900 |
| O1 | 4250/3400 | 3740/2992 | 13,8 | 60 | 900 | |
| H50-10-pole | K1 | 3000/2400 | 2460/2112 | 6.3/6.6 | 50 | 600 |
| | M2 | 3750/3000 | 3300/2640 | 6.3/6.6 | 50 | 600 |
| | K1 | 2750/2200 | 2420/1936 | 10,5/11 | 50 | 600 |
| | M2 | 3500/2800 | 3080/2464 | 10,5/11 | 50 | 600 |
| | K1 | 3000/2400 | 2460/2112 | 6.3/6.6 | 60 | 720 |
| | M2 | 3750/3000 | 3300/2640 | 6.3/6.6 | 60 | 720 |
| | K1 | 2750/2200 | 2420/1936 | 13,8 | 60 | 720 |
| | M2 | 3500/2800 | 3080/2464 | 13,8 | 60 | 720 |

1) All products are designed for 50Hz and 60Hz.

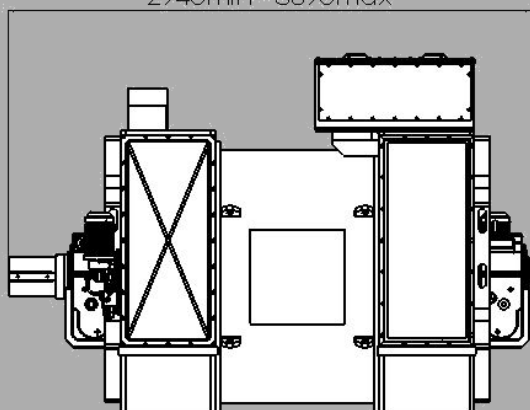


DIMENSIONS

Drawings represent standard design
All dimensions in millimetres (mm)



2940min - 3690max



H60



Specifications

| | |
|--------------------------------|-------------------------|
| Voltage Range [V] | 3,300 – 13,800 |
| Poles | 4, 6, 8, 10 |
| Coil and insulation | Bar Wound / GVPI |
| AVR | Digital |
| Voltage sensing | 3-Phase |
| Bearing Arrangement | Single/Double |
| SAE Adaptors | 0, 00 |
| Terminals | 6 |
| Material Insulation Class | F |
| Excitation System Supply | Auxiliary Winding / PMG |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |

Optional Features

| | |
|------------------------|------------------------------------|
| Bearing Arrangement | Sleeve/Antifriction Bearing |
| Ingress Protection | IP23 Air Filters |
| Ingress Protection | IP44 / 54 / 55 Totally enclosed |
| Cooling Options | CACA / CACW |
| Environment protection | Anti-condensation Heaters |

Designed for

| | |
|----------------------------|---|
| Power Plant | • |
| Grid Code Compatible | • |
| Marine Propulsion | • |
| Oil & Gas | • |
| Combined Heat & Power | • |
| Continuous Power & Standby | • |

Prime Mover

| | |
|---------------|---|
| Diesel Engine | • |
| Gas Engine | • |
| Gas Turbine | • |
| Steam Turbine | • |

2700-9400

High Voltage

| Model | Core length | Power at $\cos \phi=0.8$ [kVA/kW] | | Voltage | Frequency | Rotating speed |
|-------------|-------------|---|-----------------|---------|-----------|----------------|
| | | Temperature rise/ Running Mode at 40 °C | | [kV] | [Hz] | [rpm] |
| | | 105 K/Continuous | 80 K/Continuous | | | |
| H60-4-Pole | M1 | 7200/5760 | 6335/5070 | 6.3/6.6 | 50 | 1500 |
| | N2 | 8400/6720 | 7390/5910 | 6.3/6.6 | 50 | 1500 |
| | P1 | 9400/7520 | 8270/6610 | 6.3/6.6 | 50 | 1500 |
| | M1 | 7000/5600 | 6150/4920 | 10,5/11 | 50 | 1500 |
| | N2 | 8300/6640 | 7300/5840 | 10,5/11 | 50 | 1500 |
| | P1 | 9300/7440 | 8180/6540 | 10,5/11 | 50 | 1500 |
| | M1 | 8500/6800 | 7480/5980 | 6.3/6.6 | 60 | 1800 |
| | M2 | 9100/7280 | 8000/6400 | 6.3/6.6 | 60 | 1800 |
| | K2 | 6400/5120 | 5630/4500 | 13,8 | 60 | 1800 |
| | M2 | 8500/6800 | 7480/5980 | 13,8 | 60 | 1800 |
| H60-6-pole | K2 | 5600/4480 | 4930/3945 | 6,3/6,6 | 50 | 1000 |
| | Q1 | 8500/6800 | 7480/5985 | 6.3/6.6 | 50 | 1000 |
| | K2 | 5500/4400 | 4840/3870 | 10,5/11 | 50 | 1000 |
| | Q1 | 8500/6800 | 7480/5980 | 10,5/11 | 50 | 1000 |
| H60-8-pole | L2 | 5100/4080 | 4490/3590 | 6.3/6.6 | 50 | 750 |
| | N2 | 6400/5120 | 5630/4500 | 6.3/6.6 | 50 | 750 |
| | O1 | 6600/5280 | 5810/4650 | 6.3/6.6 | 50 | 750 |
| | K2 | 4650/3720 | 4090/3270 | 10,5/11 | 50 | 750 |
| | M2 | 5600/4480 | 4930/3940 | 10,5/11 | 50 | 750 |
| | O1 | 6700/5360 | 5900/4720 | 10,5/11 | 50 | 750 |
| | L2 | 6200/4960 | 5450/4360 | 6.3/6.6 | 60 | 900 |
| | N2 | 7500/6000 | 6600/5280 | 6.3/6.6 | 60 | 900 |
| | K2 | 5200/4160 | 4570/3660 | 13,8 | 60 | 900 |
| | N2 | 7000/5600 | 6160/4930 | 13,8 | 60 | 900 |
| H60-10-pole | J2 | 3550/2840 | 3120/2500 | 6.3/6.6 | 50 | 600 |
| | P2 | 5900/4720 | 5190/4150 | 6.3/6.6 | 50 | 600 |
| | K2 | 3700/2960 | 3250/2600 | 10,5/11 | 50 | 600 |
| | P2 | 5500/4400 | 4840/3870 | 10,5/11 | 50 | 600 |
| | J2 | 4100/3280 | 3600/2880 | 6.3/6.6 | 60 | 720 |
| | P2 | 7000/5600 | 6160/4930 | 6.3/6.6 | 60 | 720 |
| | J2 | 2690/2150 | 2360/1890 | 13,8 | 60 | 720 |
| | P2 | 4550/3640 | 4000/3200 | 13,8 | 60 | 720 |

1) All products are designed for 50Hz and 60Hz.

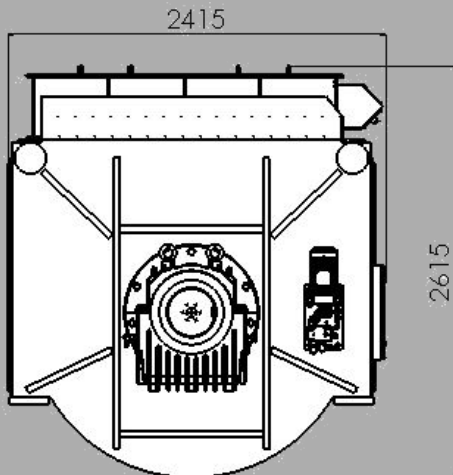


H70

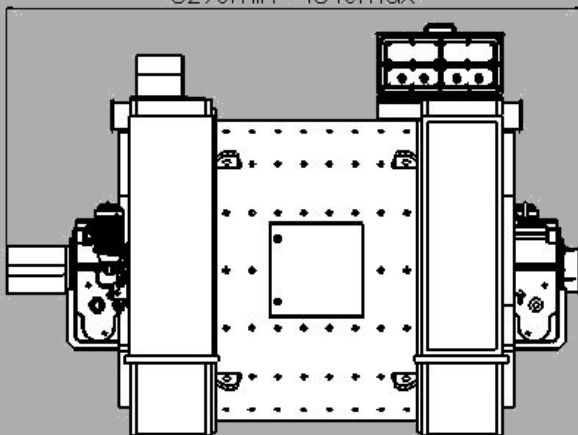


DIMENSIONS

*Drawings represent standard design
All dimensions in millimetres (mm)*



3290min - 4340max



Specifications

| | |
|--------------------------------|-------------------------|
| Voltage Range [V] | 3,300 – 13,800 |
| Poles | 6, 8, 10 |
| Coil and insulation | Bar Wound / GVPI |
| AVR | Digital |
| Voltage sensing | 3-Phase |
| Bearing Arrangement | Single/Double |
| SAE Adaptors | 0, 00 |
| Terminals | 6 |
| Material Insulation Class | F |
| Excitation System Supply | Auxiliary Winding / PMG |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |

Optional Features

| | |
|------------------------|---------------------------------|
| Bearing Arrangement | Sleeve/Antifriction Bearing |
| Ingress Protection | IP23 Air Filters |
| Ingress Protection | IP44 / 54 / 55 Totally enclosed |
| Cooling Options | CACA / CACW |
| Environment protection | Anti-condensation Heaters |

Designed for

| | |
|----------------------------|---|
| Power Plant | • |
| Grid Code Compatible | • |
| Marine Propulsion | • |
| Oil & Gas | • |
| Combined Heat & Power | • |
| Continuous Power & Standby | • |

Prime Mover

| | |
|---------------|---|
| Diesel Engine | • |
| Gas Engine | • |
| Gas Turbine | • |
| Steam Turbine | • |

High Voltage
5000 – 22000 kVA

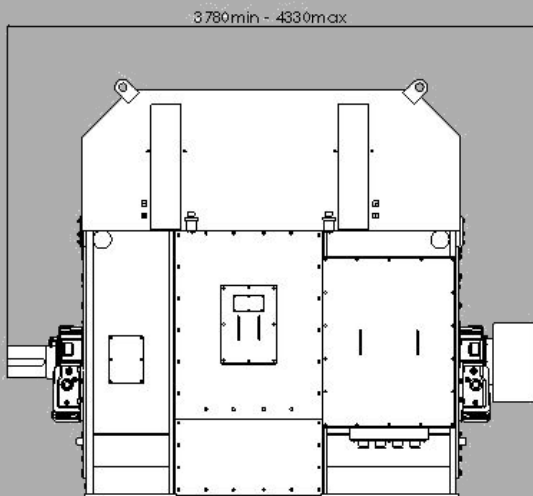
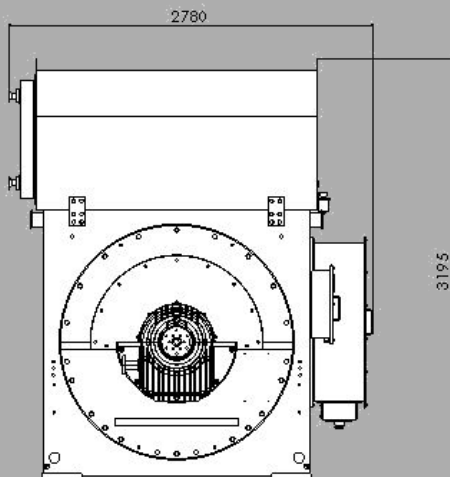


H80



DIMENSIONS

*Drawings represent standard design
All dimensions in millimetres (mm)*



Specifications

| | |
|--------------------------------|-------------------------|
| Voltage Range [V] | 3,300 – 13,800 |
| Poles | 4 |
| Coil and insulation | Bar Wound / GVPI |
| AVR | Digital |
| Voltage sensing | 3-Phase |
| Bearing Arrangement | Single/Double |
| SAE Adaptors | 0, 00 |
| Terminals | 6 |
| Material Insulation Class | F |
| Excitation System Supply | Auxiliary Winding / PMG |
| Protection | IP23 |
| Temperature monitoring | Winding RTDs |
| Connection with other machines | Paralleling capability |

Optional Features

| | |
|------------------------|---------------------------------|
| Bearing Arrangement | Sleeve/Antifriction Bearing |
| Ingress Protection | IP23 Air Filters |
| Ingress Protection | IP44 / 54 / 55 Totally enclosed |
| Cooling Options | CACA / CACW |
| Environment protection | Anti-condensation Heaters |

Designed for

| | |
|----------------------------|---|
| Power Plant | ● |
| Grid Code Compatible | ● |
| Marine Propulsion | ● |
| Oil & Gas | ● |
| Combined Heat & Power | ● |
| Continuous Power & Standby | ● |

Prime Mover

| | |
|---------------|---|
| Diesel Engine | ● |
| Gas Engine | ● |
| Gas Turbine | ● |
| Steam Turbine | ● |

9000-20000kVA

High Voltage



Alternator selection: Rated load vs Type load (de-rating factors)

To select the right alternator, the following conditions should be taken into consideration:

(1) Environment conditions

- Derating and uprating for allowable temperature rise compared to allowable temperature rise acc. IEC 60034 or other classification
- Derating regarding altitude above sea level
- Derating due to air inlet filters
- Derating due to non-standard rated voltages
- Derating due to extended voltage zone

(2) Divergent operation modes

- Derating for power factor range 0.7 to 1.0
- Derating due to converter load
- Uprating for Stand by mode
- Unbalanced load
- Voltage rise due to load switch off
- Wide voltage range
- Wide frequency range
- Stator pitch requirements

For divergent operation de-rating factors, please contact **applications engineering.*



Alternator selection: Rated load vs Type load (de-rating factors)

➤ Ambient temperature

- If the ambient (alternator air inlet temperature) exceeds 40 °C then the alternator output rating must be reduced using the following tables.

| Utilisation | Class H | Class F | Class B |
|----------------|--------------------|--------------------|--------------------|
| Temperature °C | Multiplying Factor | Multiplying Factor | Multiplying Factor |
| 45 | 0.968 | 0.963 | 0.955 |
| 50 | 0.935 | 0.925 | 0.910 |
| 55 | 0.903 | 0.888 | 0.865 |
| 60 | 0.870 | 0.850 | 0.820 |

**For ambient temperatures above 60 °C please consult applications engineering.*

➤ Altitude

- All ratings are based on altitude up to 1000 meters above sea level. If the altitude exceeds 1000m then the alternator output ratings must be de-rated using the following table.

| Altitude above sea level in meters | Multiplying Factor |
|------------------------------------|--------------------|
| 1500 | 0.95 |
| 2000 | 0.9 |
| 2500 | 0.85 |
| 3000 | 0.8 |

**For ambient temperatures above 60 °C please consult applications engineering.*