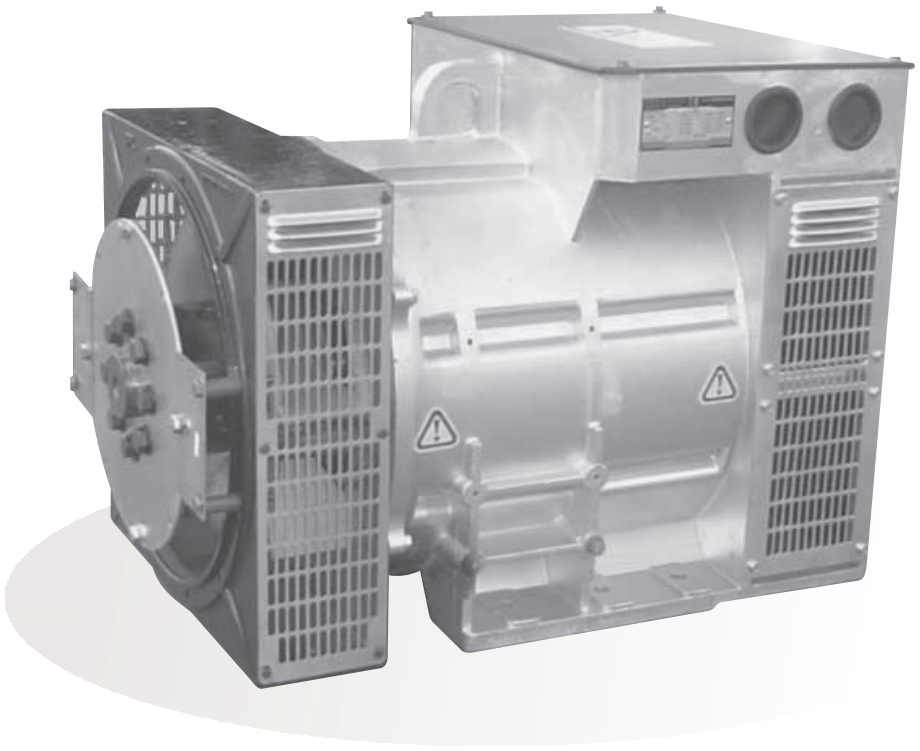
# AC Generators



**5 kVA to 625 kVA**
**From 132 to 355 Frame**

# AC Generators

Crompton Greaves AC Generators are state-of-the-art, self-excited, self-regulated and dependable source of power.

A modern integrated manufacturing facility for rotating machines, ISO 9001 certified by BVQI UK, with structured TQM and 6 SIGMA implementation and SAP/R3 enabled, also houses dedicated plant for AC Generators deploying superior techniques and processes in each specialized field of design, material specifications and procurement, CNC machining, assembly, testing & packing.... with stringent quality standards predominating throughout.

These generators incorporate advanced European Technology and are designed for optimum performance using high-end software solutions. With well-qualified engineers and technocrats, backed by a strong R & D Team, Crompton Greaves have fully harnessed long experience in design and software to offer a range of innovative, reliable and efficient AC Generators.

**SPECIFICATIONS AND OPTIONAL FEATURES :**

| Specifications | Standard | Optional |
|---|---|---|
| Rated Voltage | 415 V - 3 PH &<br>230 V - 1 PH | 380, 400 - 3 Ph & 220 V - 1 Ph (Only for 160 & 200 Frame ratings i.e. 15-100 kVA)<br>(For other ratings in consultation with Works) |
| Terminals | 6 Leads | 12 lead reconnectable only for 160 & 200 Frame Brushless alternators i.e. 15 to 100 kVA. |
| Voltage Regulation | ± 1% (Brushless)<br>± 5% (Slipring) | Nil |
| Speed | 1500 RPM | 1800 RPM in consultation with Works |
| Direction of rotation | CW from drive end | Nil |
| Phase Sequence | UVW | Nil |
| Overspeed | 1.2 times normal speed for 2 min. | Nil |
| Insulation Class | Class 'H' with Class 'H' Temperature rise | For Temperature rise restrictions to other class of insulation, refer to works |
| Type of Mounting | B3 & B2 | For availability of different SAE Housings & Coupling Disc refer Table below. |
| Degree of Protection | IP23 | Nil |
| Duty Rating | Continuous (S1) | Nil |
| Short circuit withstand capability | 3 Times FLC for 3 Sec | Nil |
| 10% Overload | 1 Hour in 6 Hours | Nil |
| Parallel Operation Provision | >45 kVA | < 45 kVA |
| Harmonic Distortion Factor at NL L-L | Three Phase < 3%<br>Single Phase < 5% | Nil |
| Max Unbalanced Load | Max 25% | Nil |
| TVD (AT FL 0.8 PF) | 15-20% | Please refer for better TVD |
| TVR (AT FL 0.8 PF) | 18-20% | Please refer for better TVR |

**SPECIAL FEATURES**

- Ease of maintenance with integrated components and outboard Exciter/Rotating Rectifier.
- A reliable long life with superior class 'H' insulation.
- Higher motor starting capability.
- Compact, light and sturdy die cast aluminum stator for frames upto 250, offer superior finish.
- Specially designed compact slipring and brush assembly.
- High thyristor load withstand capability for Cell-Phone and Telecom applications.
- Short circuit withstand capability.
- Wide range of coupling discs / adaptor for single bearing construction suitable for wide range of Engine makers.

**APPLICATIONS**

- Industries
- Telecom, Cell-Phone Towers
- Defense
- Agriculture
- Marine.
- Hotels, Hospitals, Commercial & Residential Complexes, Petrol pumps
- Construction sites, Stone Crushers & hot Mixing plants.
- Trailer mounted mobile sets for rental markets

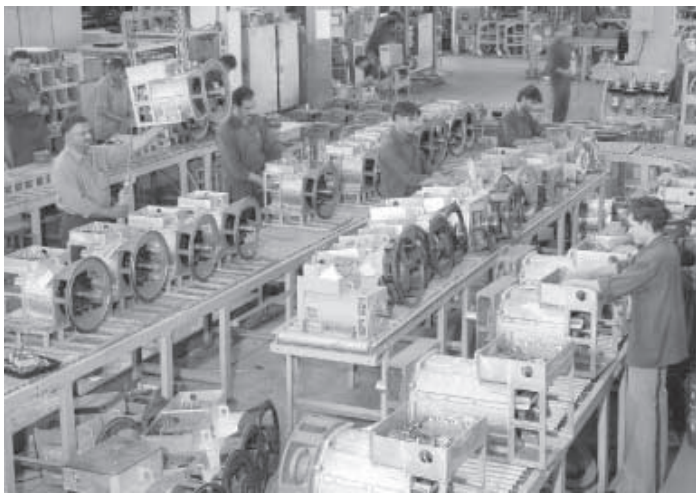
**RANGE :**

**Brushless AC Generators :**

- 5 kVA to 625 kVA, in 3 phase, 415 V, 50 Hz, 0.8 pf (lag) Single or double bearing.
- 5 kVA to 40 kVA in single phase, 230 V, 50 Hz, 0.8 pf (lag) Single & double bearing

**Slip-Ring AC Generators :**

- 5 kVA to 82.5 kVA, in 3 phase, 415 V, 50 Hz, 0.8 pf (lag) Single or double bearing.
- 5 kVA to 20 kVA in single phase, 230 V, 50 Hz, 0.8 pf (lag) Single & double bearing
- 2 Pole Alternators (both Slipring and Brushless) are available on request.



### OPERATING IN DIFFERENT ENVIRONMENTS

- For use of the AC Generator at altitudes higher than 1000 m. above the sea level, it is necessary to derate by a factor of 4% for every 500 m above 1000 m
- If the ambient temperature exceeds 40 deg. C, the derating factor to be incorporated is 4% for every 5 deg. C of increase.

### STANDARDS COMPLIANCE

- IEC : 34
- BS : 5000 (Part 99)
- EN : 50081
- IS : 4722 & 13364 (Part I & II) with CE mark for brushless designs.

### MECHANICAL FEATURES

- Aluminium frame die - cast stator upto 250 and steel stator for higher frames.
- Sturdy cast iron endshields fixed on to the stator frame by high tensile screws.
- High quality steel shafts are amply designed to take care of overload and short circuit stressed conditions.
- Sturdy, dynamically balanced rotors are designed for withstanding the runaway engine speed and are with continuous damper cage for high performance under arduous conditions of parallel operations.
- Aluminum fans for effective cooling extends the winding life.
- Screens or louvered covers on all openings for safety.
- Easy mount SAE adaptors are offered with single bearing AC Generators to simplify coupling with popular engines.

### AUTOMATIC VOLTAGE REGULATOR (AVR)

| Model | Frame |
|---|---|
| SR 7/3 | 132 & 160 Frame |
| SR 7/6 | 200 & 250 Frame |
| UVR 7 | 250L & Above |
| SR 7/5 | For Slipring (on request) |

- Under Speed Protection with LED indicator.
- Over Excitation Protection with LED indicator
- 2 Phase sensing with Senseless LED Indicator
- Designed for Thyristor load without additional filter circuits.
- Moulded construction for protection against shocks, vibrations and adverse atmospheric conditions.
- Parallel operation facility for SR 7/6 and UVR 7.

### UNDER SPEED PROTECTION (with AVR)

Protects both the AC Generator and V/f sensitive loads. The AVR has provision for setting the frequency below which voltage dropping occurs linear to speed. This feature also enables the prime mover to recover the speed faster during motor starting

### WINDING AND INSULATION SYSTEM

The armature coils of the stator main winding are made from dual coated, class 'H' copper wires, Single/Double Layer concentric fractional pitched winding offers simplicity, reduced overhangs, neat look while reducing voltage distortion and superior capability to cope with non-linear loads. The auxiliary winding in stator provides power to the AVR, improving the motor starting capability of the AC Generator.

The insulation system is class 'H'. All wound components are impregnated in an unsaturated polyester resin of 200 class temperature. The impregnation provides much needed rigidity and protection against the harsh environment, typical for the AC Generators applications

### RADIO INTERFERENCE

The AC Generators are having negligible Radio Frequency Interference and meets in general the limits permitted by VDE 0875 (N)

### WAVE FORMS

A.C. Generators are designed to give an excellent output wave-form. The total harmonic content of line-to-line voltage wave-form on no load is less than 5% as per the limits specified by IEC/IS Standards.

### OVERLOADS

A.C. Generators are capable of delivering an overload of 10% for one hour after every six hours of running.

### MOTOR STARTING DUTY

Each kVA of AC Generator is capable of starting 1 HP of Induction Motor with use of auxiliary winding except for Submersible Pump & Lift Duty applications. (Upto 200 frame slipring type only)

### VIBRATION AND NOISE

CNC machining with close tolerances and repeat Accuracy for uniform air - gap and rotor dynamic balancing for low vibrations ensure efficient, smooth and silent performance.

### TERMINATION

- Integral Terminal Box is provided for higher reliability.
- Top Terminal Box with side cable entry ensures wiring flexibility.
- Spacious terminal box accommodates all types, including aluminum cables

### STANDARD SAE HOUSING & COUPLING DISC COMBINATION :

| Frame | SAE5 | SAE4 | SAE3 | SAE2 | SAE1 | SAE1/2 | SAE0 |
|---|---|---|---|---|---|---|---|
| 132 | ● | ● | ● | ● | | | |
| 160 | ● | ● | ● | ● | | | |
| 200 | | ● | ● | ● | ● | | |
| 250 | | | ● | ● | ● | | |
| 315 | | | ● | ● | ● | ● | |
| 355 | | | | | ● | ● | ● |
| C.Disc | 6.5", 7.5" | 6.5", 7.5" | 10", 11.5" | 10", 11.5" | 11.5", 14" | 11.5", 14" | 14", 18" |

## PERFORMANCE

| Slipring AC Generators - Voltage Reg. ± 5% | | | |
|---|---|---|---|
| kVA | Frame (G2S/ G1S) | % Efficiency | |
| | | FL | 3/4 FL |
| 3 PH, 415V, 50 Hz, 4 Pole, 1500 RPM, 0.8 pf | | | |
| 5 | 132MR | 80.8 | 81.6 |
| 6.5 | 132MR | 81 | 82 |
| 7.5 | 132MA | 82.5 | 83.5 |
| 10 | 132MC | 83.8 | 84.5 |
| 12.5 | 132MD | 84 | 85 |
| 15 | 160S1B | 85 | 86 |
| 20 | 160SC | 85 | 85.5 |
| 25 | 160M2A | 86 | 86.6 |
| 30 | 160M2R | 87 | 87.5 |
| 32.5 | 160M2R | 87.5 | 88 |
| 35 | 200SE | 88 | 88.4 |
| 40 | 200SE | 88 | 89 |
| 45 | 200SB | 89 | 89.5 |
| 50 | 200SB | 88.1 | 89.2 |
| 55 | 200SB | 89 | 89.5 |
| 63 | 200SD | 89.2 | 90.1 |
| 75 | 200MB | 90.9 | 92 |
| 82.5 | 200MD | 90.3 | 91.2 |

| Slipring AC Generators - Voltage Reg. ± 5% | | | |
|---|---|---|---|
| 1 Phase, 230V, 50 Hz, 4 Pole, 1500RPM, 0.8pf | | | |
| 5 | 132MA | 76 | 78 |
| 6 | 132MC | 78 | 79 |
| 7.5 | 132MD | 79 | 80 |
| 10 | 160S1B | 80 | 82.3 |
| 12.5 | 160SC | 79.5 | 80.5 |
| 15 | 160M2A | 80 | 81 |
| 20 | 200SE | 81.5 | 82 |

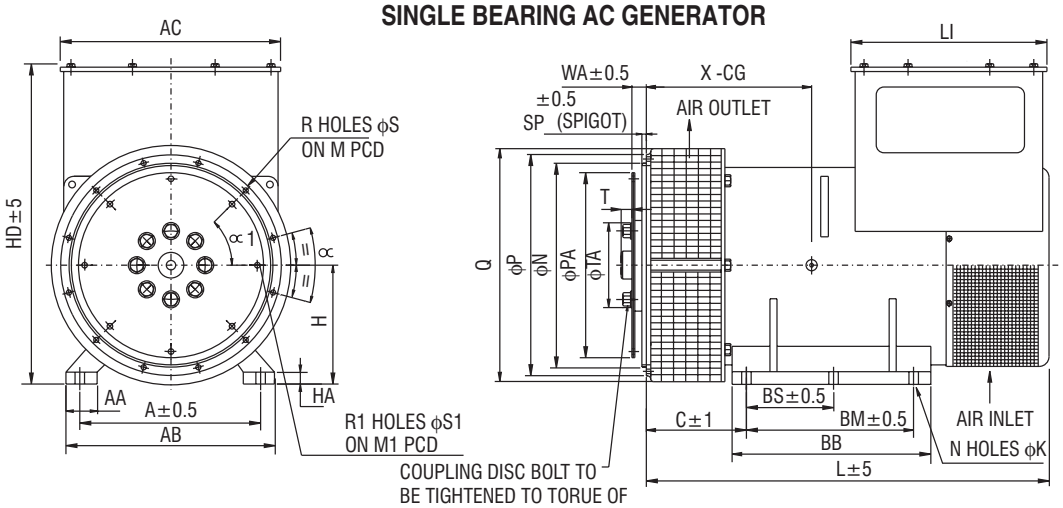
| Brushless AC Generators - Voltage Reg. ± 1% | | | |
|---|---|---|---|
| 1 Phase, 230V, 50 Hz, 4 Pole,1500 RPM, 0.8pf | | | |
| 5 | 132MA | 74.5 | 75.2 |
| 7.5 | 132MD | 76.5 | 77 |
| 10 | 160S1B | 78 | 78.5 |
| 12.5 | 160SB | 79.5 | 80.5 |
| 15 | 160SC | 80 | 81 |
| 20 | 160M2R | 81 | 81.5 |
| 25 | 200SF | 82 | 82.5 |
| 30 | 200SB | 82.5 | 83.2 |
| 35 | 200SC | 85.5 | 86.2 |
| 40 | 200SD | 86 | 86.7 |

| Brushless AC Generators - Voltage Reg. ± 1% | | | |
|---|---|---|---|
| kVA | Frame (G2R/ G1R) | % Efficiency | |
| | | FL | 3/4 FL |
| 3 PH, 415V, 50 Hz, 4 Pole, 1500 RPM, 0.8 pf | | | |
| 5 | 132MR | 80.4 | 81.3 |
| 7.5 | 132MA | 82.5 | 83 |
| 10 | 132MC | 83.8 | 84.5 |
| 12.5 | 160S1A | 81 | 81.2 |
| 15 | 160S1B | 83.5 | 84.5 |
| 20 | 160SB | 85.5 | 86.1 |
| 25 | 160SC | 86.9 | 87.5 |
| 30 | 160M2A | 88.5 | 89 |
| 32.5 | 160M2R | 88.2 | 88.9 |
| 35 | 200SE | 87.9 | 88.4 |
| 40 | 200SE | 88.1 | 88.8 |
| 45 | 200SA | 89 | 89.7 |
| 50 | 200SB | 88.5 | 89.2 |
| 55 | 200SB | 89.5 | 90.2 |
| 63 | 200SC | 90.6 | 90.9 |
| 75 | 200MB | 90.9 | 92 |
| 82.5 | 200MD | 90.5 | 91.2 |
| 90 | 200MDX | 91.5 | 92 |
| 100 | 250SB | 90.8 | 91.2 |
| 110 | 250SD | 92.5 | 93 |
| 125 | 250SD | 92.3 | 92.8 |
| 140 | 250MA | 92.3 | 92.8 |
| 150 | 250MB | 92.3 | 92.9 |
| 160 | 250MB | 92.5 | 93 |
| 180 | 250LB | 92.9 | 93.6 |
| 200 | 250LD | 93.1 | 93.7 |
| 225 | 315SE | 93.3 | 93.8 |
| 250 | 315SE | 93.2 | 93.9 |
| 275 | 315SA | 93.4 | 93.2 |
| 285 | 315SA | 93.6 | 93.7 |
| 300 | 315SB | 94.1 | 93.8 |
| 320 | 315SB | 94 | 94.1 |
| 350 | 315MB | 94 | 93.8 |
| 380 | 315MB | 94.2 | 94.1 |
| 400 | 355SB | 94.4 | 94.6 |
| 437.5 | 355SB | 94.1 | 94.7 |
| 475 | 335SC | 94.2 | 94.9 |
| 500 | 355SE | 94.4 | 95 |
| 550 | 355ME | 94.6 | 95.1 |
| 625 | 355MA | 94.9 | 95.4 |

Note: 1. The efficiency figures are subject to the tolerance as per IS: 13364 (Part II & I).

2. Continuous development of products entitles us to change specification details without notice.

## REPRESENTATIVE OUT-LINE DIMENSION DRAWING FOR SINGLE BEARING AC GENERATOR




G1R:-BRUSHLESS TYPE SINGLE BRG. ALTERNATOR
G1S:-SLIPRING TYPE SINGLE BRG. ALTERNATOR

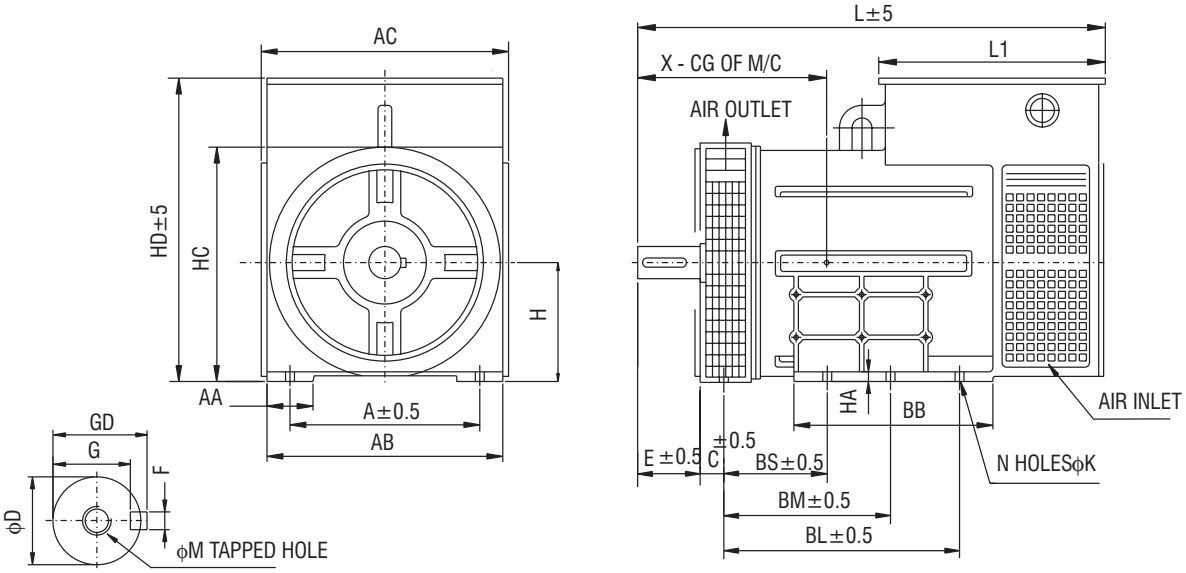
DIMENSIONS in Milimeters

| FRAME | M/C WT.(Kg) | | A | AA | AB | AC | BB | BS | BM | C | SP | T | TA | H | HA | HD | | N | ϕK | L | | L1 | X |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | G1R | G1S | | | | | | | | | | | | | | G1R | G1S | | | G1R | G1S | | |
| 132 MR | 70 | 70 | 206 | 56 | 256 | 272 | 122 | - | 56 | 380 | 5 | 12 | 165 | 132.0 | 12 | 365 | | 4 | 12 | 550 | 520 | 296 | 284 |
| 132 MA | 77 | 77 | | | | | | | | | | | | 131.5 | | | | | | | | | 299 |
| 132 MC | 86 | 86 | | | | | | | | | | | | | | | | | | | | | 322 |
| 132 MD | 94 | 94 | | | | | | | | | | | | | | | | | | | | | 339 |
| 160 S1A | 112 | -- | 254/279 | 60 | 340 | 297 | 335 | 40 | 70 | 145 | 5 | 17 | 62 | 160.0 | 16 | 385 | 430 | 6 | 15 | 462 | | 262 | 175 |
| 160 S1B | 122 | 122 | | | | | | | | | | | | 159.5 | | | | | | | | | 190 |
| 160 S2C | 132 | -- | | | | | 350 | | | | | | | | | | -- | | | 507 | | | 200 |
| 160 SB | 131 | -- | 270 | 70 | 340 | 350 | 196 | 30 | 95 | 263 | 5 | 17 | 52 | 160.0 | 16 | 418 | | 6 | 15 | 548 | | 300 | 190 |
| 160 SC | 141 | 132 | | | | | | | | | | | | 159.0 | | | | | | | | | 200 |
| 160 MC | 132 | -- | | | | | 225 | 95 | -- | | | | | | | | | 4 | | 567 | | | 225 |
| 160 M2A | 154 | 145 | | | | | 277 | 110 | -- | | | | | | | | | | | 617 | | | 270 |
| 160 M2R | 164 | -- | | | | | | | | | | | | | | | | | | | | | 280 |
| 200 SE | 162 | 152 | 340 | 75 | 410 | 424 | 220 | -- | 120/125 | 238 | 5 | 17 | 62 | 200.0 | 20 | 510 | | 4 | 19 | 590 | | 350 | 200 |
| 200 SF | 169 | -- | | | | | | | | | | | | 199.5 | | | | | | | | | 205 |
| 200 SA | 213 | -- | | | | | 225 | | | 363 | | 12 | 165 | | | | | | | 716 | | | 280 |
| 200 SB | 232 | 219 | | | | | | | | | | | | | | | | | | | | | 300 |
| 200 SC | 246 | -- | | | | | | | | | | | | | | | | | | | | | 315 |
| 200 SD | 260 | 247 | | | | | | | | | | | | | | | | | | | | | 330 |
| 200 MB | 296 | -- | | | | | 325 | 110 | 230/235 | 353 | | | | | | | | 6 | | 816 | | | 345 |
| 200 MD | 335 | 322 | | | | | | | | | | | | | | | | | | | | | 370 |
| 250 SB | 350 | -- | 420 | 90 | 510 | 530 | 305 | 116 | 216 | SAE 2,3=308 | 6 | 18 | 165 | 250.0 | 20 | 625 | | 6 | 19 | 750 | | 376 | 315 |
| 250 SD | 411 | | | | | | | | | SAE 1=322.2 | | | | 249.5 | | | | | | | | | 330 |
| 250 MA | 441 | | | | | | | | | SAE 2,3=378 | | | | | | | | | | 820 | | | 370 |
| 250 MB | 480 | | | | | | | | | SAE 1=392.2 | | | | | | | | | | | | | 400 |
| 250 LB | 506 | | | | | | | | | SAE 2,3=458 | | | | | | | | | | 900 | | | 415 |
| 250 LD | 550 | | | | | | | | | SAE 1=472.2 | | | | | | | | | | | | | 435 |
| 315 SE | 719 | -- | 508 | 75 | 570 | 640 | 525 | 228.5 | 457 | 242 | 6 | 21 | 237 | 315.00 | 20 | 850 | | 6 | 28 | 975 | | 415 | 380 |
| 315 SA | 853 | | | | | | | | | | | | | 314.50 | | | | | | 1080 | | | 460 |
| 315 SB | 953 | | | | | | | | | | | | | | | | | | | | | | 480 |
| 315 MB | 1029 | | | | | | | | | | | | | | | | | | | 1180 | | | 520 |
| 355 SB | 1114 | -- | 610 | 75 | 670 | 685 | 570 | 250 | 500 | 297 | 6 | 21 | 237 | 355.0 | 20 | 940 | | 6 | 28 | 1135 | | 560 | 445 |
| 355 SC | 1287 | | | | | | | | | | | | | 354.5 | | | | | | 1240 | | | 570 |
| 355 SE | 1353 | | | | | | | | | | | | | | | | | | | | | | 590 |
| 355 ME | 1587 | | | | | | | | | | | | | | | | | | | 1340 | | | 580 |
| 355 MA | 1607 | | | | | | | | | | | | | | | | | | | | | | 620 |

| SAE No | FLANGE | | | | | | | | COUPLING DISC SAE |
|---|---|---|---|---|---|---|---|---|---|
| | ϕ N | ϕ P | M | Q | | R | ϕ S | ∝ | |
| | | | | 315 | 355 | | | | |
| 5 | 314.3 | 356 | 333.4 | - | - | 8 | 11 | 45° | 6.5"-7.5" |
| 4 | 362 | 405 | 381.0 | - | - | 12 | 11 | 30° | 6.5"-7.5"-10" |
| 3 | 409.6 | 450 | 428.6 | - | - | 12 | 11 | 30° | 10"-11.5" |
| 2 | 447.7 | 490 | 466.7 | 620 | - | 12 | 11 | 30° | 10-11.5" |
| 1 | 511.18 | 553 | 530.4 | 620 | 708 | 12 | 12.5 | 30° | 11.5"-14" |
| 1/2 | 584.1 | 648 | 619.0 | 680 | 715 | 12 | 14 | 30° | 14"-18" |
| 0 | 647.7 | 712 | 679.5 | - | 715 | 12* | 14 | 22.5° | 14"-18" |

| SAE No | COUPLING DISC | | | | | |
|---|---|---|---|---|---|---|
| | ϕ PA | M1 | R1 | ϕ S1 | ∝1 | WA |
| 6 1/2" | 215.9 | 200.0 | 6 | 9 | 60° | 30.2 |
| 7 1/2" | 241.3 | 222.3 | 8 | 9 | 45° | 30.2 |
| 10" | 314.32 | 295.3 | 8 | 11 | 45° | 53.8 |
| 11 1/2" | 352.42 | 333.4 | 8 | 11 | 45° | 39.6 |
| 14" | 466.72 | 438.2 | 8 | 13.5 | 45° | 25.4 |
| 18" | 571.4 | 543.0 | 6 | 16.7 | 60° | 15.87 |

## REPRESENTATIVE OUT-LINE DIMENSION DRAWING FOR DOUBLE BEARING AC GENERATOR




G2R:-BRUSHLESS TYPE DOUBLE BRG. ALTERNATOR
G2S:-SLIPRING TYPE DOUBLE BRG. ALTERNATOR

DIMENSIONS in Milimeters

| FRAME | M/C WT.(Kg) | | A | AA | AB | AC | BB | BS | BM | BL | C | ϕD | E | F | G | GD | H | HA | HC | HD | | N | ϕK | L | | L1 | ϕM | X |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | G2R | G2S | | | | | | | | | | | | | | | | | | G2R | G2S | | | G2R | G2S | | | |
| 132 MR | 70 | 70 | 206 | 56 | 256 | 272 | 122 | 316 | 372 | -- | 45 | ϕ38.018 ϕ38.002 | 80 | 10 | 33.0 32.8 | 41.0 40.8 | 132.0 131.5 | 12 | 260 | 365 | | 6 | 12 | 611 | 581 | 296 | M12 | 284 |
| 132 MA | 77 | 77 | | | | | | | | | | | | | | | | | | | | | | | | | | 299 |
| 132 MC | 86 | 86 | | | | | | | | | | | | | | | | | | | | | | | | | | 322 |
| 132 MD | 94 | 94 | | | | | | | | | | | | | | | | | | | | | | | | | | 339 |
| 160 S1A | 112 | -- | 254 | 60 | 340 | 297 | 335 | 79 | 119 | 149 | 66 | ϕ48.018 ϕ48.002 | 110 | 14 | 42.5 42.3 | 51.5 51.3 | 160.0 159.5 | 16 | 323 | 385 | 430 | 8 | 15 | 570 | | 262 | M16 | 335 |
| 160 S1B | 122 | 122 | 279 | | | | | | | | | | | | | | | | | | | | | | | | | 350 |
| 160 SB | 131 | -- | 270 | 70 | 340 | 350 | 196 | 197 | 227 | 292 | 66 | ϕ48.018 ϕ48.002 | 110 | 14 | 42.5 42.3 | 51.5 51.3 | 160.0 159.5 | 16 | 323 | 418 | | 8 | 15 | 658 | | 300 | M16 | 350 |
| 160 SC | 141 | 132 | | | | | | | | | | | | | | | | | | | | | | | | | | 360 |
| 160 MC | 152 | -- | | | | | 225 | | 292 | -- | | | | | | | | | | | | 6 | | 677 | | | | 380 |
| 160 M2A | 154 | 145 | | | | | 277 | | 307 | -- | | | | | | | | | | | | | | 727 | | | | 380 |
| 160 M2R | 164 | -- | | | | | | | | | | | | | | | | | | | | | | | | | | 390 |
| 200 SE | 162 | 152 | 340 | 75 | 410 | 424 | 220 | 155 | 275 | - | 57 | ϕ60.030 ϕ60.011 | 140 | 18 | 53.0 52.8 | 64.0 63.8 | 200.0 199.5 | 20 | 403 | 510 | | 6 | 19 | 705 | | 350 | M20 | 335 |
| 200 SF | 169 | -- | | | | | | | 280 | | | | | | | | | | | | | | | | | | | 340 |
| 200 SA | 213 | -- | | | | | 225 | 280 | 400 | - | | | | | | | | | | | | | | 830 | | | | 400 |
| 200 SB | 232 | 219 | | | | | | | 405 | | | | | | | | | | | | | | | | | | | 420 |
| 200 SC | 246 | -- | | | | | | | | | | | | | | | | | | | | | | | | | | 435 |
| 200 SD | 260 | 247 | | | | | | | | | | | | | | | | | | | | | | | | | | 450 |
| 200 MB | 296 | -- | | | | | 325 | 270 | 380 | 500 | | | | | | | | | | | | 8 | | 930 | | | | 495 |
| 200 MD | 335 | 322 | | | | | | | | 505 | | | | | | | | | | | | | | | | | | 520 |
| 250 SB | 350 | -- | 420 | 90 | 510 | 530 | 305 | 225 | 341 | 441 | 66 | ϕ70.030 ϕ70.011 | 140 | 20 | 62.5 62.3 | 74.5 74.3 | 250.0 249.5 | 20 | 510 | 625 | | 8 | 19 | 885 | | 376 | M20 | 425 |
| 250 SD | 411 | | | | | | | | | | | | | | | | | | | | | | | | | | | 450 |
| 250 MA | 441 | | | | | | | 295 | 411 | 511 | | | | | | | | | | | | | | 955 | | | | 465 |
| 250 MB | 480 | | | | | | | | | | | | | | | | | | | | | | | | | | | 520 |
| 250 LB | 506 | | | | | | | 375 | 491 | 591 | | | | | | | | | | | | | | 1035 | | | | 535 |
| 250 LD | 550 | | | | | | | | | | | | | | | | | | | | | | | | | | | 555 |
| 315 SE | 719 | -- | 508 | 75 | 570 | 640 | 525 | 228.5 | 457 | - | 216 | ϕ80.030 ϕ80.011 | 170 | 22 | 71.0 70.8 | 85.0 84.7 | 315.00 314.50 | 20 | 620 | 850 | | 6 | 28 | 1150 | | 415 | M20 | 380 |
| 315 SA | 853 | | | | | | | | | | | | | | | | | | | | | | | 1220 | | | | 460 |
| 315 SB | 953 | | | | | | | | | | | | | | | | | | | | | | | | | | | 480 |
| 315 MB | 1029 | | | | | | | | | | | | | | | | | | | | | | | 1320 | | | | 520 |
| 355 SB | 1114 | -- | 610 | 75 | 670 | 685 | 570 | 250 | 500 | - | 254 | ϕ95.035 ϕ95.013 | 170 | 25 | 86.0 85.8 | 100 99.8 | 355.00 354.50 | 20 | 706 | 940 | | 6 | 28 | 1255 | | 560 | M24 | 555 |
| 355 SC | 1287 | | | | | | | | | | | | | | | | | | | | | | | 1360 | | | | 660 |
| 355 SE | 1353 | | | | | | | | | | | | | | | | | | | | | | | | | | | 690 |
| 355 ME | 1587 | | | | | | | | | | | | | | | | | | | | | | | 1460 | | | | 710 |
| 355 MA | 1607 | | | | | | | | | | | | | | | | | | | | | | | | | | | 750 |

# High Speed Brushless Alternators (5 kVA - 30 kVA)

**Rating Chart :**

2 Pole, 3000 RPM Brushless Alternator

Voltage Regulation ±1%, IP21/23, B3 Mounting, 40 Deg. C Amb.

**Brushless Alternator : 1 Phase, 230V**

| kVA | FRAME SIZE | EFFICIENCY | |
|---|---|---|---|
| | | 75% | 100% |
| 5.0 | G2R 132MR/2 | 73.3 | 72.3 |
| 6.0 | G2R 132MA/2 | 76.2 | 75.1 |
| 7.5 | G2R 132MC/2 | 78.1 | 77.2 |
| 10.0 | G2R 160S1A/2 | 79.0 | 78.3 |
| 12.5 | G2R 160SB/2 | 79.1 | 78.5 |
| 15.0 | G2R 160SC/2 | 79.8 | 79.3 |

**Rating Chart :**

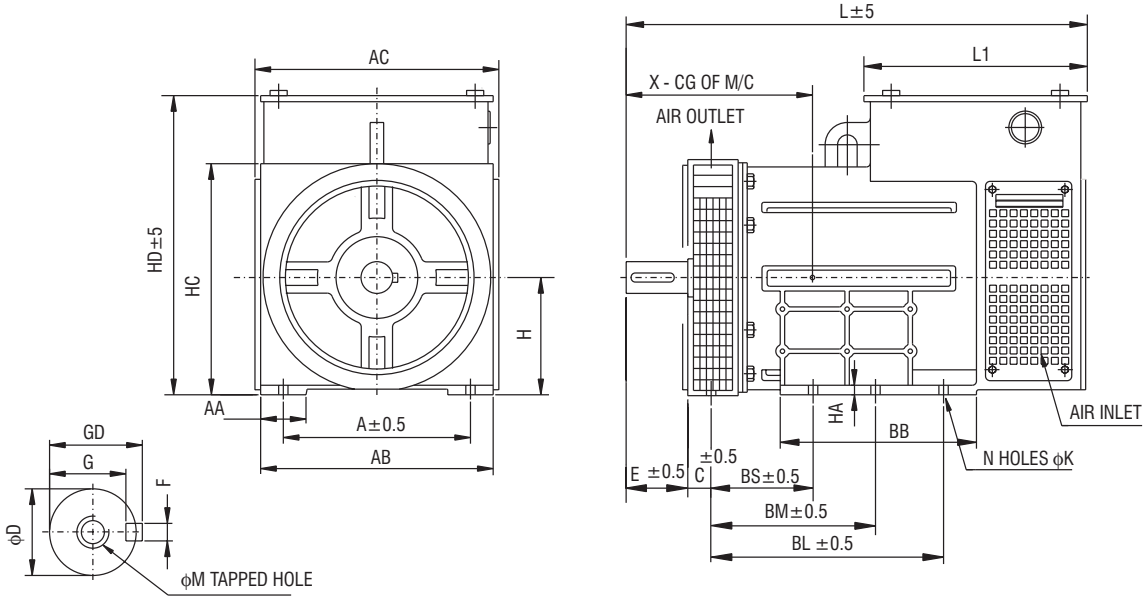
2 Pole, 3000 RPM Brushless Alternator

Voltage Regulation ±2.5%, IP21/23, B3 Mounting, 40 Deg. C Amb.

**Brushless Alternator : 3 Phase, 415V**

| kVA | FRAME SIZE | EFFICIENCY | |
|---|---|---|---|
| | | 75% | 100% |
| 5.0 | G2R 132MR/2 | 76.0 | 75.6 |
| 7.5 | G2R 132MA/2 | 79.2 | 78.1 |
| 10.0 | G2R 132MC/2 | 80.2 | 81.9 |
| 12.5 | G2R 132MD/2 | 82.2 | 81.8 |
| 15.0 | G2R 160S1A/2 | 84.5 | 84.0 |
| 20.0 | G2R 160SB/2 | 85.8 | 85.2 |
| 25.0 | G2R 160SC/2 | 87.2 | 86.5 |
| 30.0 | G2R 160M2A/2 | 87.4 | 86.8 |

## REPRESENTATIVE OUT-LINE DIMENSION DRAWING FOR DOUBLE BEARING AC GENERATOR ( 2 POLE, BRUSHLESS)




DIMENSIONS in Milimeters

| FRAME | WT. (KG) | A | AA | AB | AC | BB | BS | BM | BL | C | ϕD | E | F | G | GD | H | HA | HC | HD | N | ϕK | L | L1 | ϕM | X |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 132 MR | 70 | 206 | 56 | 256 | 272 | 122 | 316 | 372 | -- | 45 | ϕ38.018 ϕ38.002 | 80 | 10 | 33.0 | 41.0 | 132.0 | 12 | 260 | 365 | 6 | 12 | 611 | 296 | M12 | 284 |
| 132 MA | 77 | | | | | | | | | | | | | 32.8 | 40.8 | 131.5 | | | | | | | | | 299 |
| 132 MC | 86 | | | | | | | | | | | | | | | | | | | | | | | | 322 |
| 132 MD | 94 | | | | | | | | | | | | | | | | | | | | | | | | 339 |
| 160 S1A | 112 | 254 / 279 | 60 | 340 | 297 | 335 | 79 | 119 | 149 | 66 | ϕ48.018 ϕ48.002 | 110 | 14 | 42.5 | 51.5 | 160.0 | 16 | 323 | 385 | 8 | 15 | 570 | 260 | M16 | 335 |
| 160 SB | 131 | 270 | 70 | 340 | 350 | 196 | 197 | 227 | 292 | 66 | ϕ48.018 ϕ48.002 | 110 | 14 | 42.5 | 51.5 | 160.0 | 16 | 323 | 418 | 8 | 15 | 658 | 300 | M16 | 350 |
| 160 SC | 141 | | | | | | | | | | | | | 42.3 | 51.3 | 159.5 | | | | | | | | | 360 |
| 160 M2A | 154 | | | | | 277 | | 307 | | | | | | | | | | | | 6 | | 727 | | | 380 |

NOTE :- Option in Single Bearing Alternator

| FRAME | FLANGE SAE NO. | DISC SAE NO. |
|---|---|---|
| 132/160/160S1 | 2 | 10" - 11.5" |
| | 3 | |
| | 4 | 6.5" - 7.5" |
| | 5 | |

Note : Continuous development of products entitles us to change specification details without notice.