

HB4 BRUSHLESS 4 POLE ALTERNATORS

| | |
|-------------------------------|----------------------------------|
| INSULATION CLASS | H |
| LEADS | 12 |
| EXCITATION SYSTEM | Brushless |
| VOLTAGE REGULATOR TYPE | AVR BL1 |
| VOLTAGE REGULATION ACCURACY | [*] ± 1 % |
| SHORT CIRCUIT CURRENT | > 350 % I _n |
| TOTAL HARMONIC CONTENT | [**] < 2,5 % |
| TELEPHONE HARMONIC FACTOR | [**] < 3 % |
| ELECTROMAGNETIC COMPATIBILITY | EN 5501 EN 5008-1, EN 50082-2 |
| UNDERSPEED PROTECTION | AVAILABLE ON STANDARD VERSION |
| PROTECTION DEGREE | IP 21 |

[*] With load from 0 to 100%, speed variation from -2 % to +5 %, power factor 0,8 and balanced load

RANGE TECHNICAL INFORMATION

50 HZ

14.0 KVA - 30.0 KVA @ 1500 RPM

60 HZ

16.8 KVA - 36.0 KVA @ 1800 RPM

BY

GETEC

Standards:
IEC 34.1, IEC 34.5, IEC 34.22, EN 55011, EN 50081-1, EN 50082-2

Patent:
The HB4 series uses a Sinor patented system for the stator locking in the housing.

Protection degree:
Standard is IP21; higher protection degree can be supplied on request.

Bearings:
Bearings are dimensioned for heavy duty

Transient features:
Transient voltage drop for rated step load at 0.8 power factor is less than 8%.

Single phase operation:
The HB4 series can be connected for single phase use.

[**] Line to line, at no load or at full linear and balanced rated load.

| | | RATINGS | | | | | | | | | | Efficiency | | | |
|---------|-------------|-------------------|------|-------|-------|-------------------|-------|-------|------|------------------|-------|-----------------|----------|------|------|
| | | S1 40/05 °C cl. F | | | | S1 40/25 °C cl. H | | | | Stand by 27/63°C | | S1 40/25 °C 4/4 | | | |
| 50 Hz | 1500 rpm | 3 ph. | | 1 ph. | 3 ph. | | 1 ph. | 3 ph. | | 1 ph. | 3 ph. | | | | |
| | Voltage Y | 380 | 400 | 415 | 400 | 380 | 400 | 415 | 400 | 380 | 400 | 415 | 400 | 400 | |
| | Voltage YY | 190 | 200 | 208 | 200 | 190 | 200 | 208 | 200 | 190 | 200 | 208 | 200 | 200 | |
| | Voltage | 220 | 230 | 240 | 230 | 220 | 230 | 240 | 230 | 220 | 230 | 240 | 230 | 230 | |
| | Voltage | 110 | 115 | 120 | 115 | 110 | 115 | 120 | 115 | 110 | 115 | 120 | 115 | 115 | |
| Type | Code | kVA | | | | kVA | | | | kVA | | cos φ= 0,8 | cos φ= 1 | | |
| HB4 SAR | 86315125.X5 | 12,9 | 12,9 | 12,9 | 7,7 | 14,0 | 14,0 | 14,0 | 8,4 | 15,0 | 15,0 | 15,0 | 9,0 | 84,0 | 84,8 |
| HB4 SBR | 86315145.X5 | 15,2 | 15,2 | 15,2 | 9,1 | 16,5 | 16,5 | 16,5 | 9,9 | 17,7 | 17,7 | 17,7 | 10,6 | 84,4 | 85,2 |
| HB4 CAR | 86315180.X5 | 18,4 | 18,4 | 18,4 | 11,0 | 20,0 | 20,0 | 20,0 | 12,0 | 21,4 | 21,4 | 21,4 | 12,8 | 84,8 | 85,6 |
| HB4 MAR | 86315225.X5 | 23,0 | 23,0 | 23,0 | 13,8 | 25,0 | 25,0 | 25,0 | 15,0 | 26,8 | 26,8 | 26,8 | 16,1 | 85,0 | 85,9 |
| HB4 LAR | 86315275.X5 | 27,6 | 27,6 | 26,1 | 16,6 | 30,0 | 30,0 | 28,5 | 18,0 | 32,1 | 32,1 | 30,5 | 19,3 | 85,3 | 86,2 |
| 60 Hz | 1800 rpm | 3 ph. | | 1 ph. | 3 ph. | | 1 ph. | 3 ph. | | 1 ph. | 3 ph. | | | | |
| | Voltage Y | 416 | 440 | 480 | 480 | 416 | 440 | 480 | 480 | 416 | 440 | 480 | 480 | 480 | |
| | Voltage YY | 208 | 220 | 240 | 240 | 208 | 220 | 240 | 240 | 208 | 220 | 240 | 240 | 240 | |
| | Voltage | 240 | 254 | 277 | 277 | 240 | 254 | 277 | 277 | 240 | 254 | 277 | 277 | 277 | |
| | Voltage | 120 | 127 | 138 | 138 | 120 | 127 | 138 | 138 | 120 | 127 | 138 | 138 | 127 | |
| Type | Code | kVA | | | | kVA | | | | kVA | | cos φ= 0,8 | cos φ= 1 | | |
| HB4 SAR | 86315125.X5 | 14,4 | 15,0 | 15,5 | 9,3 | 15,6 | 16,3 | 16,8 | 10,1 | 16,7 | 17,4 | 18,0 | 10,8 | 84,8 | 85,7 |
| HB4 SBR | 86315145.X5 | 16,9 | 17,7 | 18,2 | 10,9 | 18,4 | 19,2 | 19,8 | 11,9 | 19,7 | 20,6 | 21,2 | 12,7 | 85,2 | 86,1 |
| HB4 CAR | 86315180.X5 | 20,5 | 21,4 | 22,1 | 13,2 | 22,3 | 23,3 | 24,0 | 14,4 | 23,9 | 24,9 | 25,7 | 15,4 | 85,6 | 86,5 |
| HB4 MAR | 86315225.X5 | 25,7 | 26,8 | 27,6 | 16,6 | 27,9 | 29,1 | 30,0 | 18,0 | 29,9 | 31,1 | 32,1 | 19,3 | 85,9 | 86,7 |
| HB4 LAR | 86315275.X5 | 30,8 | 32,1 | 33,1 | 19,9 | 33,5 | 34,9 | 36,0 | 21,6 | 35,8 | 37,4 | 38,5 | 23,1 | 86,2 | 87,0 |



HB4-02

OPERATING CONDITIONS

The ratings given in the above table are referred to the following conditions:
Ambient temperature 40° C
Altitude below 1000 m a.s.l.
Power factor 0.8
Symmetrical non deforming load
Stand-by ratings are based on ambient temperature max 27° C, for continuous supply of loads for any utility power failure; no overloads are allowed.

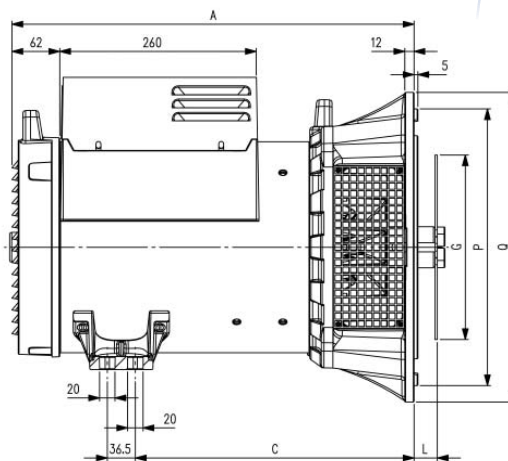
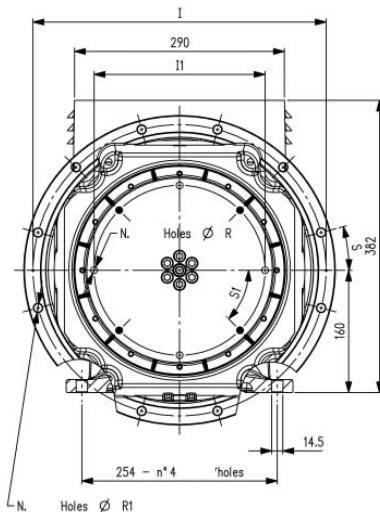
CORRECTION FACTORS

| | | | | | |
|--------------|--------|--------|--------|--------|--------|
| Amb. Temp. | 25 °C | 40 °C | 45 °C | 50 °C | 55 °C |
| | 1,045 | 1,0 | 0,96 | 0,92 | 0,88 |
| Altitude | 1000 M | 1500 M | 2000 M | 2500 M | 3000 M |
| | 1,00 | 0,96 | 0,93 | 0,90 | 0,86 |
| Power Factor | 1,0 | 0,8 | 0,7 | 0,6 | 0,5 |
| | 1,00 | 1,00 | 0,93 | 0,88 | 0,84 |

GETEC INC. 624 Harris Road, Ferndale New York 12734, USA Phone 1 845 292 0800

OVERALL DIMENSIONS

SINGLE BEARING

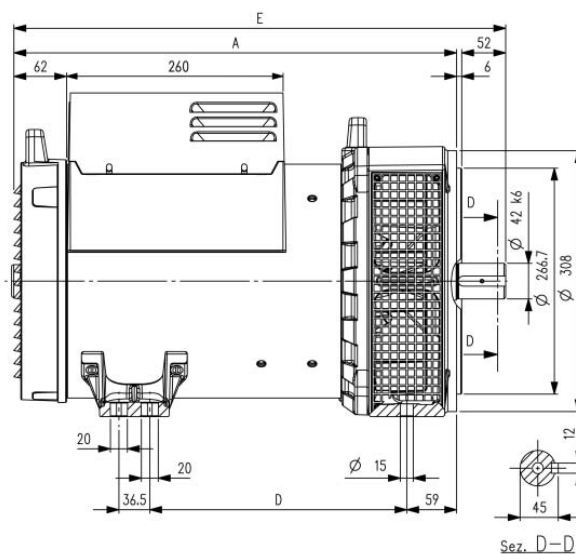
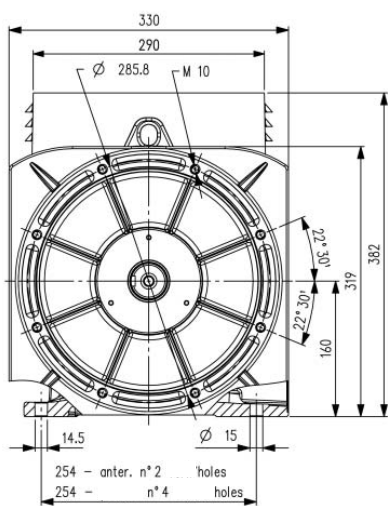


| DRIVE PLATE | SAE HOUSING | | | L | G | I | HOLES | R | S1 |
|-------------|-------------|---|---|------|-------|-------|-------|----|-----|
| | 5 | 4 | 3 | | | | | | |
| 6,5 | | | | 30,2 | 215,9 | 200,0 | 6 | 9 | 60° |
| 7,5 | | | | 30,2 | 241,3 | 222,2 | 8 | 9 | 45° |
| 8,0 | | | | 62,0 | 263,5 | 244,5 | 6 | 11 | 60° |
| 10,0 | | | | 53,8 | 314,3 | 295,3 | 8 | 11 | 45° |
| 11,5 | | | | 39,6 | 352,4 | 333,4 | 8 | 11 | 45° |

| TYPE | A | C | J [kgm²] | Weight [kg] |
|---------|-----|-----|----------|-------------|
| HB4 SAR | 523 | 363 | 0,113 | 91 |
| HB4 SBR | 523 | 363 | 0,123 | 97 |
| HB4 CAR | 563 | 403 | 0,140 | 116 |
| HB4 MAR | 603 | 443 | 0,162 | 131 |
| HB4 LAR | 653 | 493 | 0,186 | 150 |

| | | | |
|-------|---------|-------|-------|
| P | 314,3 | 362,0 | 409,6 |
| Q | 358,0 | 405,0 | 452,0 |
| I | 333,4 | 381,0 | 428,6 |
| R1 | 11 | 11 | 11 |
| S | 22° 30' | 15° | 15° |
| HOLES | 8 | 12 | 12 |

TWO BEARING



| TYPE | A | D | E | J [kgm²] | Weight [kg] |
|---------|-----|-----|-----|----------|-------------|
| HB4 SAR | 523 | 304 | 581 | 0,113 | 90 |
| HB4 SBR | 523 | 304 | 581 | 0,123 | 96 |
| HB4 CAR | 563 | 344 | 621 | 0,140 | 115 |

| TYPE | A | D | E | J [kgm²] | Weight [kg] |
|---------|-----|-----|-----|----------|-------------|
| HB4 MAR | 603 | 384 | 661 | 0,162 | 130 |
| HB4 LAR | 653 | 434 | 711 | 0,186 | 149 |