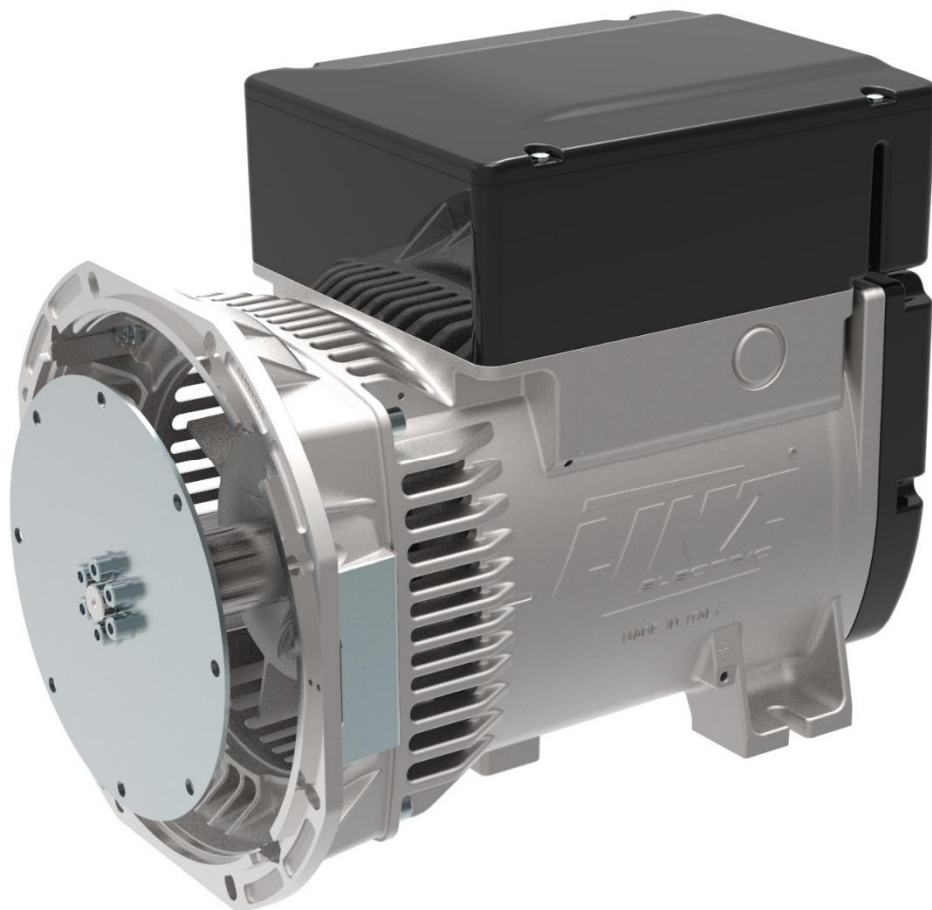


TECHNICAL DATA SHEET



**ALTERNATOR E1C13S C/4**

*Single-Phase brushless synchronous alternator with capacitor - 4 poles*

## E1C13S C/4

### COMMON DATA

|                      |                     |  |             |
|----------------------|---------------------|--|-------------|
| Rated Power at 50Hz  | kVA                 | 8,0  |             |
| Rated Power at 60Hz  | kVA                 | 9,75   |             |
| Rated Power Factor   |                     | 1,0  |             |
| Nominal Temperature  | °C                  | 40   |             |
| Control System       |                     | self-excited   |             |
| Execution            |                     | brushless  |             |
| Regulation Type      |                     | Capacitor  |             |
| Insulation Class     |                     | H  |             |
| Protection           |                     | IP21   |             |
| Maximum Over speed   | rpm                 | 2250   |             |
| Overload             |                     | 110% of rated power for one hour in a cycle of 6 hours |             |
| Air Flow Requirement | m <sup>3</sup> /min | 5,1 at 50Hz  | 6,1 at 60Hz |
| R.F.I. Suppression   |                     | Standard EN55011                                       |             |

### REGULATION DATA

|                         |                                    |  |  |
|-------------------------|------------------------------------|--|--|
| Capacitor               | Capacitor with Aluminum Technology |  |  |
| Voltage Regulation      | ±5%                                |  |  |
| Sustained Short Circuit | > 250% of rated current            |  |  |

### WINDING DATA

|                           |                                     |              |  |
|---------------------------|-------------------------------------|--------------|--|
| Stator Winding            | Single layer with auxiliary winding |              |  |
| Rotor Winding             | with damping cage                   |              |  |
| Number of Leads of Stator | 4                                   |              |  |
| Stator Winding Resistance | Ω                                   | 0,41 at 20°C |  |
| Rotor Winding Resistance  | Ω                                   | 1,04 at 20°C |  |
| THD at full load          | <5,5%                               |              |  |
| THD at no load            | <5,0%                               |              |  |

### STANDARD

|            |                             |
|------------|-----------------------------|
| References | EN60034-1 ISO8528-3 EN55011 |
|------------|-----------------------------|

### ON REQUEST

UL 1446, Systems of Insulating Materials - General CSA-C22.2 No. 0, Appendix B, General Requirements - Canadian Electrical Code, Part I

CAN/CSA - C22.2 No. 100-14 (R2009) Motors and Generators, UL1004-1 2nd ed. Rotating Electrical Machines - General Requirements, UL1004-4 2nd ed. Electric Generators

## E1C13S C/4

### ELECTRICAL DATA

| Frequency                              |    | 50Hz - 1500rpm | 60Hz - 1800rpm |
|--|----|----------------|----------------|
| Voltage Series Star                    | V  | <b>115/230</b> | <b>110/220</b> |
| Rated Power in Class H<br>(125°C/40°C) | kW | 8,0            | 9,75           |
| Rated Power in Class F<br>(105°C/40°C) | kW | 7,3            | 8,8            |
| Rated Power Standby<br>(150°C/40°C)    | kW | 8,8            | 10,5           |
| Rated Power Standby<br>(163°C/27°C)    | kW | 9,2            | 11,0           |

### EFFICIENCY IN CL. H

|     |       |       |
|-----|-------|-------|
| 4/4 | 79,0% | 80,0% |
| 3/4 | 80,0% | 80,5% |
| 2/4 | 74,0% | 74,6% |
| 1/4 | 70,0% | 71,0% |

### MECHANICAL DATA

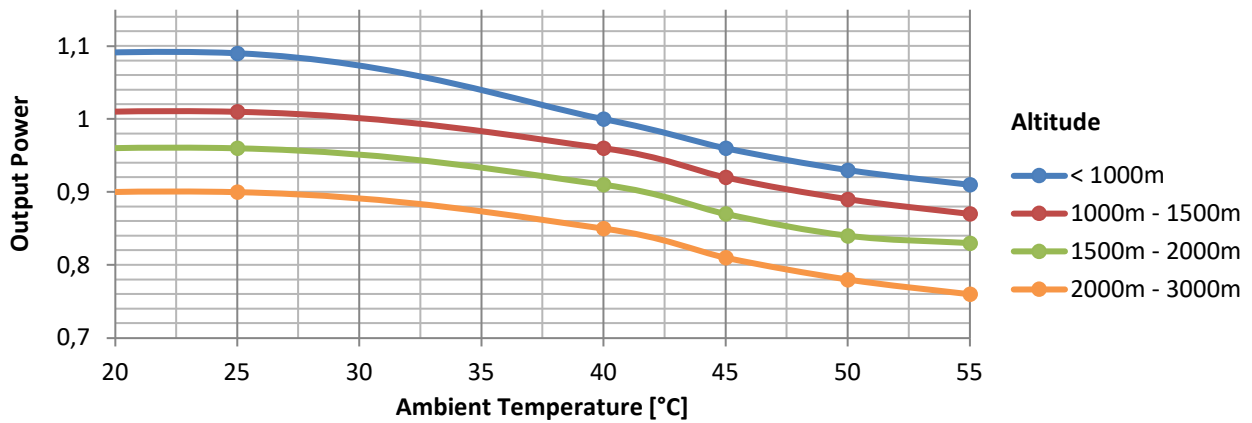
|                                 |           |            |
|---------------------------------|-----------|------------|
| Bearing non drive end           |           | 6305-2Z-C3 |
| Bearing drive end (B3/B14 form) |           | 6208-2Z-C3 |
| Weight of generator             | in B2     | kg 64,1    |
|                                 | in B3/B14 | kg 60,0    |
|                                 | in B3/B9  | kg 57,1    |

# E1C13S C/4

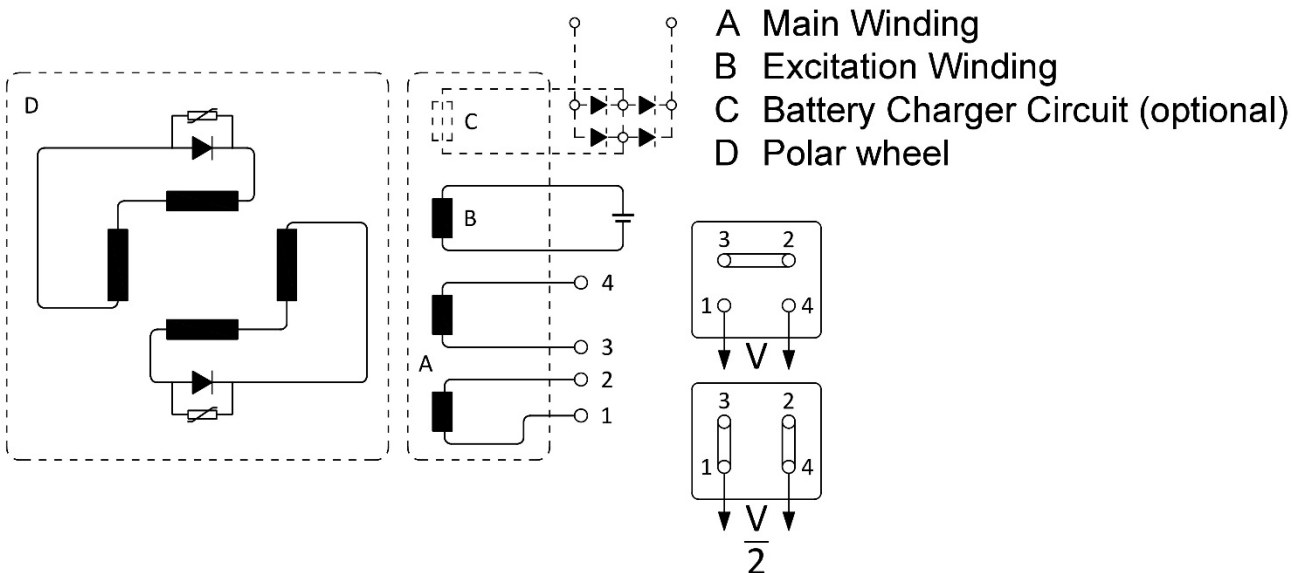
## MOMENT OF INERZIA

|        |                   |       |
|--------|-------------------|-------|
| B3/B9  | kg·m <sup>2</sup> | 0,055 |
| B2     | kg·m <sup>2</sup> | 0,055 |
| B3/B14 | kg·m <sup>2</sup> | 0,055 |

## DERATING CURVES

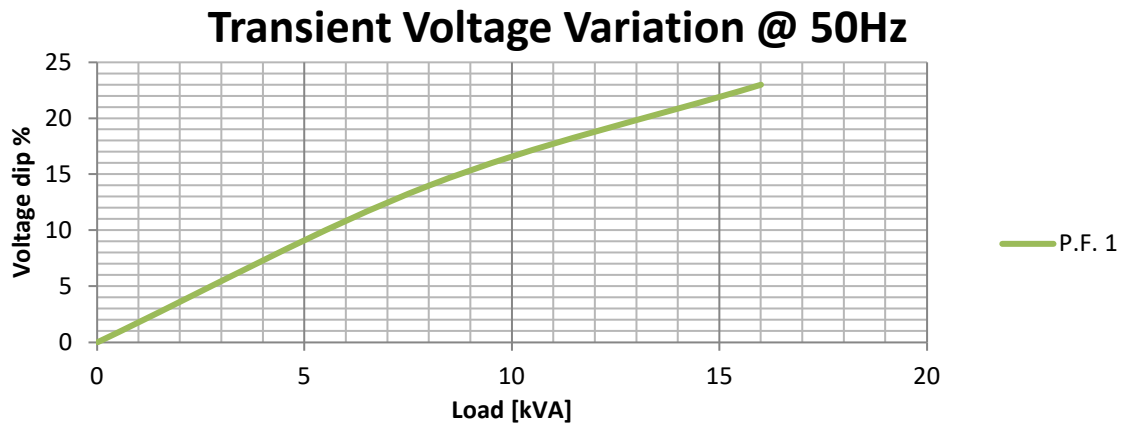


## WIRING DIAGRAM

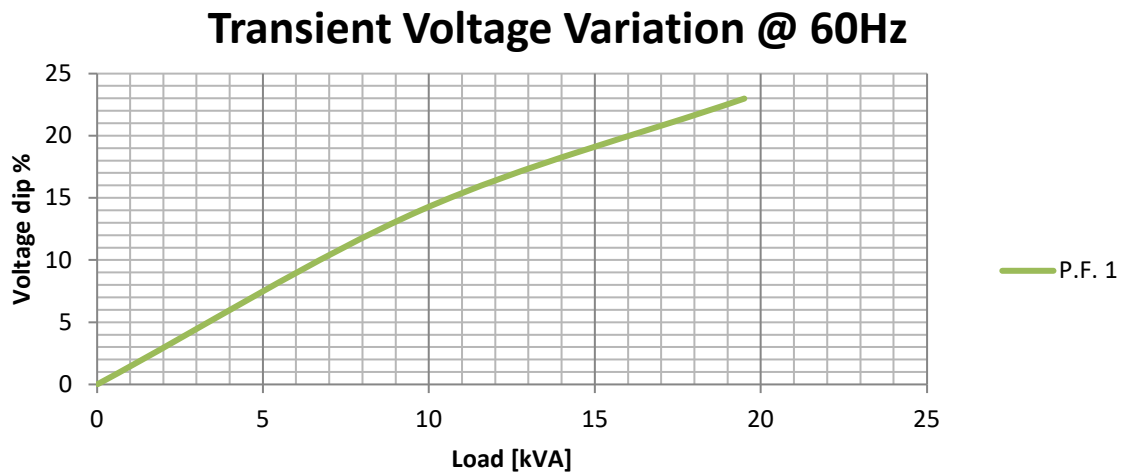


## E1C13S C/4

### TRANSIENT VOLTAGE VARIATION 50Hz



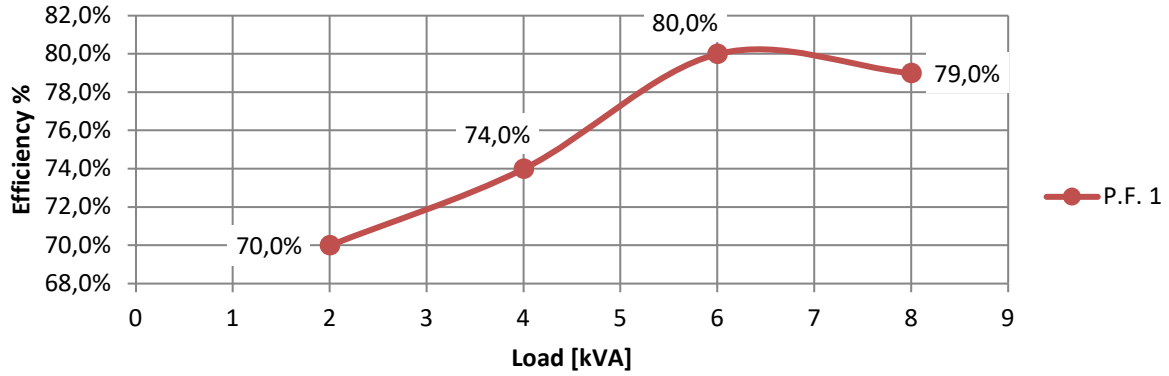
### TRANSIENT VOLTAGE VARIATION 60Hz



# E1C13S C/4

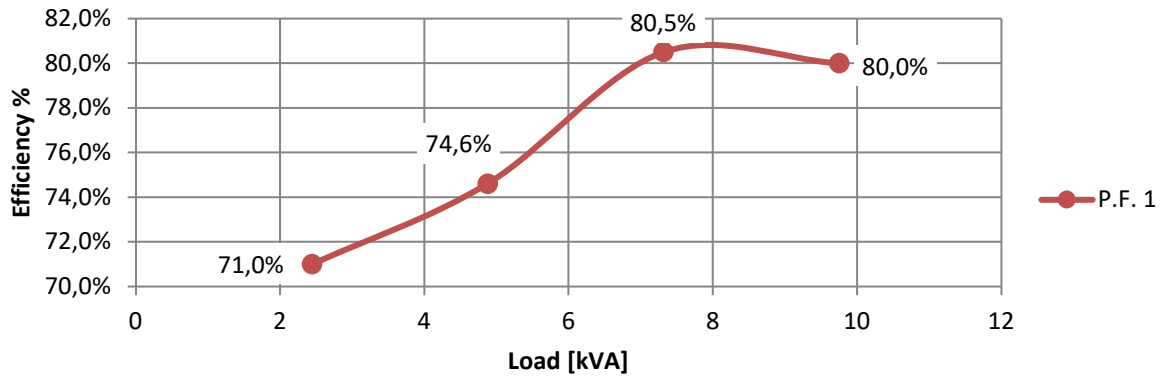
## EFFICIENCY 50Hz

### Efficiency Curves @ 50Hz



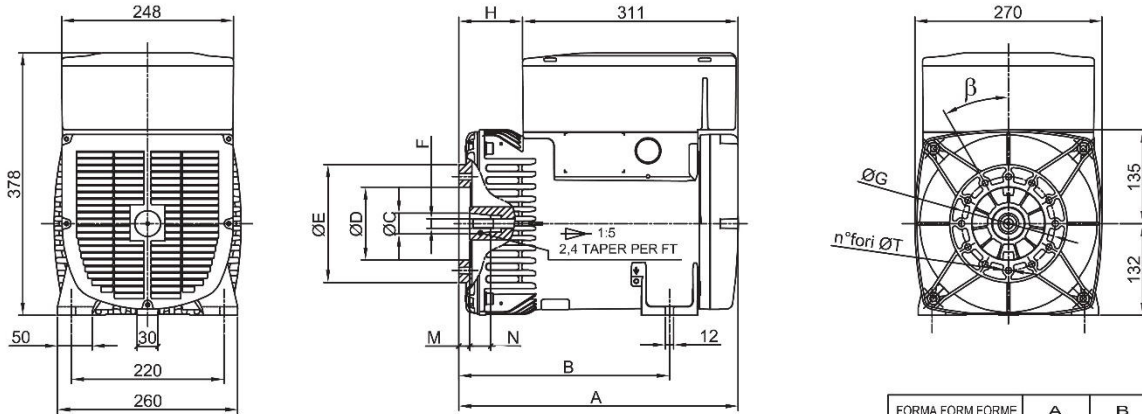
## EFFICIENCY 60Hz

### Efficiency Curves @ 60Hz



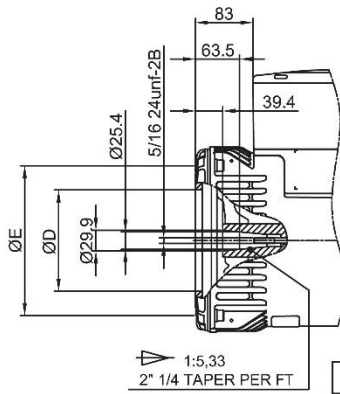
# E1C13S C/4

FORMA FORM FORME B3/B9

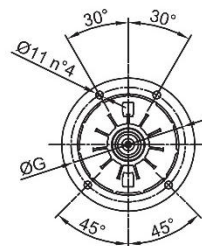


| FORMA FORM FORME | ØC  | ØD   | ØE   | F       | ØG   | H  | M  | N  | n° fori | ØT  | β       |
|------------------|-----|------|------|---------|------|----|----|----|---------|-----|---------|
| cono Ø30         | Ø30 | Ø105 | Ø170 | M14x1.5 | Ø135 | 92 | 16 | 30 | 12      | Ø9  | 30°     |
| cono Ø38         | Ø38 | Ø125 | Ø185 | M18x1.5 | Ø150 | 83 | 5  | 30 | 4       | Ø11 | β/2 45° |

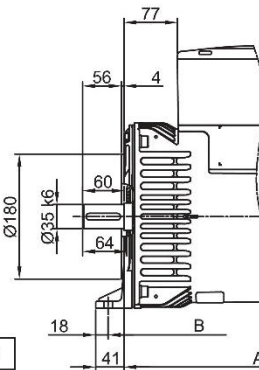
| FORMA FORM FORME | A   | B   |
|------------------|-----|-----|
| B3B9 cono Ø30    | 403 | 304 |
| B3B9 c.Ø38-J609b | 394 | 295 |
| B3/B14           | 388 | 312 |
| MD35 - LOMB. STD | 436 | 337 |



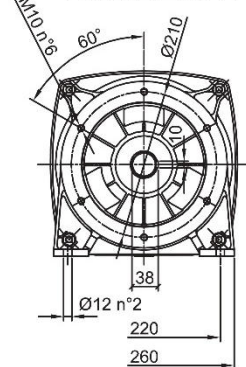
FORMA FORM FORME J609b



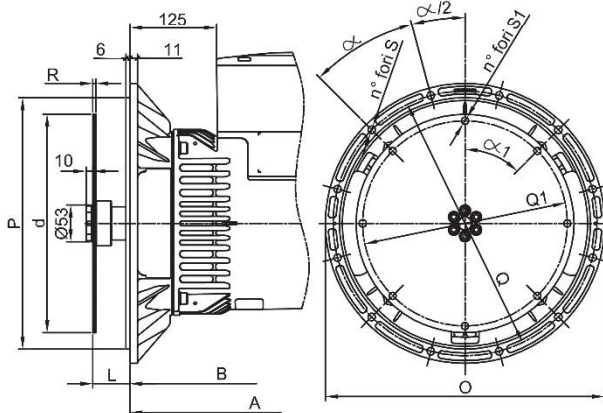
| FORMA FORM FORME | ØD     | ØE   | ØG      |
|------------------|--------|------|---------|
| J609b            | Ø146   | Ø192 | Ø165    |
|                  | Ø163.6 | Ø216 | Ø196.85 |
|                  | Ø177.8 |      |         |



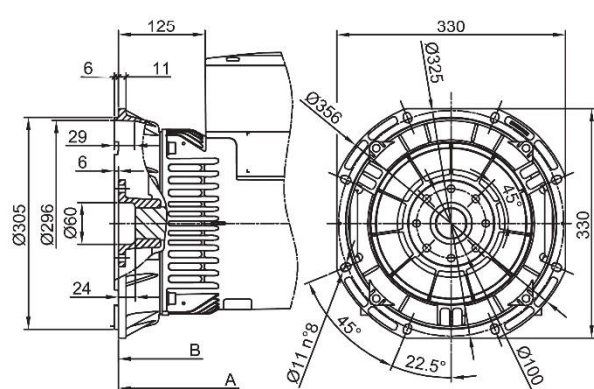
FORMA FORM FORME B3/B14



FORMA FORM FORME MD35



FORMA FORM FORME LOMBARDINI STD



| SAE N. | FLANGIE - BRIDE - FLANGE |       |       |         |     |
|--------|--------------------------|-------|-------|---------|-----|
|        | O                        | P     | Q     | n. fori | S   |
| 5      | 356                      | 314.3 | 333.4 | 8       | 45° |
| 4      | 403                      | 362   | 381   | 12      | 30  |
| 3      | 451                      | 409.6 | 428.6 | 12      | 30  |

| SAE N. | GIUNTI A DISCO - DISC COUPLING - ACC. DISQUE |        |        |         |      |     |     |
|--------|--|--------|--------|---------|------|-----|-----|
|        | L  | d      | Q1     | n. fori | S1   | α1  | R   |
| 6 1/2  | 30.2   | 215.9  | 200    | 6       | 9    | 60° | 3   |
| 7 1/2  | 30.2   | 241.3  | 222.25 | 8       | 9    | 45° |     |
| 8      | 62   | 263.52 | 244.47 | 6       | 10.5 | 60  |     |
| 10     | 53.8   | 314.32 | 295.27 | 8       | 10.5 | 45° | 4.5 |
| 11 1/2 | 39.6   | 352.42 | 333.37 | 8       | 10.5 | 45° |     |