



## SELECT YOUR MOTOR SUPPLY...

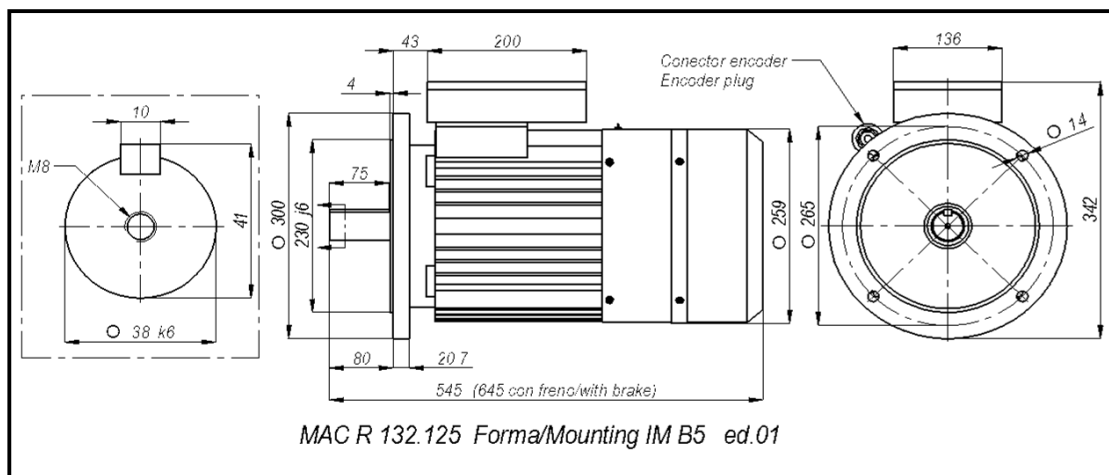
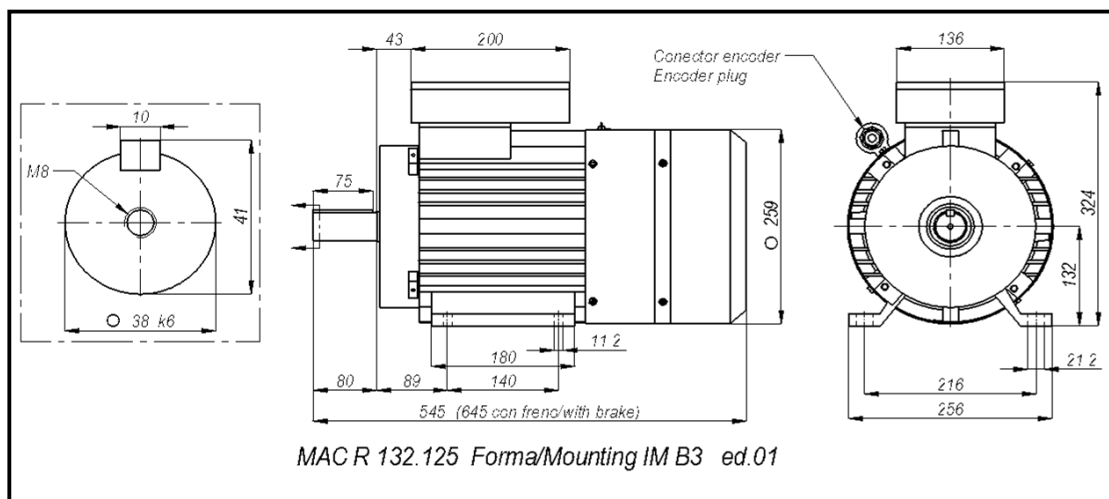
**230V  
Three Phase  
50Hz  
Delta  
Δ**

**400V  
Three Phase  
50Hz  
Star  
Y**

**400V  
Three Phase  
87Hz  
Delta  
Δ**

|                                                                 |                   |                                          |  |                              |                                                    |                                                                          |                          |
|-----------------------------------------------------------------|-------------------|------------------------------------------|--|------------------------------|----------------------------------------------------|--------------------------------------------------------------------------|--------------------------|
| <b>Ventilador / Fan</b>                                         |                   | Rodamientos<br>Bearings                  |  | Delantero<br>Drive End       | 6208 ZZ                                            | Trasero<br>Non Drive End                                                 | 6208 ZZ                  |
| Tensión / Voltage                                               | 1ph 230 V         | Momento de inercia<br>Rotor Inertia      |  | J = 0,0260 Kg m <sup>2</sup> |                                                    | Peso Motor<br>Motor Weight                                               | 49 Kg                    |
| Frec. / Frequency                                               | 50 Hz 60 Hz       | Protección<br>Protection Degree          |  | IP 54                        | Construcción<br>Mounting                           | IM B3 / B5                                                               | Refrigeración<br>Cooling |
| Corriente / Current                                             | 0,36 A 0,45 A     | Nivel de ruido<br>Noise Level            |  | < 70 dB                      | Velocidad máxima mecánica<br>Max. Mechanical Speed |                                                                          |                          |
| Condens. / Capacitor                                            | 2 uF / 450 V      | Equilibrado grado<br>Balancing degree    |  | A                            | Ambiente<br>Ambient                                |                                                                          |                          |
| Velocidad / Speed                                               | 2300 rpm 2300 rpm | Aislamiento Clase<br>Insulation Class    |  | F                            | PTC 140 °C                                         |                                                                          |                          |
| Caudal / Air flow                                               | 570 m3/h 570 m3/h | Protección Térmica<br>Thermal Protection |  |                              | < 40 °C < 1000 m                                   |                                                                          |                          |
| <b>Freno de Bloqueo (opcional)<br/>Holding Brake (optional)</b> |                   | 70 Nm                                    |  | 400V 50Hz / 460V 60Hz        |                                                    | 0,50 A                                                                   |                          |
| Tensión de Base del Motor<br>Motor Base Voltage                 |                   | Vb                                       |  | 230 V                        |                                                    | Tensión Máxima de Salida del Convertidor<br>Inverter max. Output Voltage |                          |
|                                                                 |                   |                                          |  |                              |                                                    | Vc                                                                       |                          |
|                                                                 |                   |                                          |  |                              |                                                    | 230 V                                                                    |                          |

| Servicio / Service S1  |      |      |     |      |    |                                                     | Servicio / Service S6 - 40% |      |     |      |    |                                                     |                                              |
|------------------------|------|------|-----|------|----|-----------------------------------------------------|-----------------------------|------|-----|------|----|-----------------------------------------------------|----------------------------------------------|
| Conexión<br>Connection | Nm   | A    | KW  | rpm  | Hz | Velocidad a Pot.Cte<br>Const. Power Speed.<br>(rpm) | Nm                          | A    | KW  | rpm  | Hz | Velocidad a Pot.Cte<br>Const. Power Speed.<br>(rpm) | Corriente en vacío<br>No Load Current<br>(A) |
| Y                      | 36.0 | 11.3 | 3.1 | 820  | 29 | 1270                                                | 53.3                        | 15.8 | 4.6 | 820  | 29 | 930                                                 | 5.0                                          |
| D                      | 36.0 | 19.6 | 5.5 | 1460 | 50 | 2260                                                | 53.3                        | 27.4 | 8.1 | 1460 | 51 | 1670                                                | 8.7                                          |



|            |            |            |
|------------|------------|------------|
| Elabora:   | Revisa:    | Aprueba:   |
| 18/11/2011 | 18/11/2011 | 18/11/2011 |



|                     | Servicio / Service S1 |      |     |      |    |                                                     | Servicio / Service S6 - 40% |    |     |      |    |                                                     |                                              |
|---------------------|-----------------------|------|-----|------|----|-----------------------------------------------------|-----------------------------|----|-----|------|----|-----------------------------------------------------|----------------------------------------------|
| Bobinado<br>Winding | Nm                    | A    | KW  | rpm  | Hz | Velocidad a Pot.Cte<br>Const. Power Speed.<br>(rpm) | Nm                          | A  | KW  | rpm  | Hz | Velocidad a Pot.Cte<br>Const. Power Speed.<br>(rpm) | Corriente en vacio<br>No Load Current<br>(A) |
| D                   | 36.0                  | 19.6 | 5.5 | 1460 | 50 | 2260                                                | 53                          | 27 | 8.1 | 1460 | 51 | 1670                                                | 8.7                                          |

**Curva de Par / Torque Diagram**

The diagram plots Torque (Nm) on the Y-axis (0.0 to 60.0) against RPM on the X-axis (0 to 3500). It shows the torque limits for two services: Service S6 (thin black line) and Service S1 (thick black line). Both services have a constant torque limit up to 1500 RPM, after which the torque decreases. Service S6 has a higher torque limit than Service S1. The legend also indicates 'Carga / Load' for Nm 1 (blue) and Nm 2 (red), but no data is plotted for these.

| RPM  | Límite Servicio S6 Limit for Service S6 (Nm) | Límite Servicio S1 Limit for Service S1 (Nm) |
|------|----------------------------------------------|----------------------------------------------|
| 0    | 53.0                                         | 36.0                                         |
| 1500 | 53.0                                         | 36.0                                         |
| 1750 | 46.0                                         | 32.0                                         |
| 2000 | 32.0                                         | 26.0                                         |
| 2500 | 18.0                                         | 18.0                                         |
| 3000 | 12.0                                         | 12.0                                         |

The diagram is a line graph titled "Curva de Potencia / Power Diagram". The vertical axis is labeled "kW" and ranges from 0.00 to 9.00 in increments of 1.00. The horizontal axis is labeled "rpm" and ranges from 0 to 3500 in increments of 500. There are four data series plotted:

- Límite Servicio S6 Limit for Service S6:** A thin black line that starts at (0,0), rises linearly to (1500, 8.2), remains constant at 8.2 kW until approximately 1650 rpm, then decreases to about 6.5 kW at 2250 rpm, and continues to decrease to approximately 3.8 kW at 3000 rpm.
- Límite Servicio S1 Limit for Service S1:** A thick black line that starts at (0,0), rises linearly to (1500, 5.5), remains constant at 5.5 kW until approximately 2250 rpm, then decreases to approximately 3.8 kW at 3000 rpm.
- Carga / Load KW 1:** A blue line that is not visible on the graph, likely representing a load that is zero or negligible.
- Carga / Load KW 2:** A red line that is not visible on the graph, likely representing a load that is zero or negligible.

The graph shows that the power limit for Service S6 is higher than for Service S1, and both limits are reached at 1500 rpm. The power limit for Service S6 is constant at 8.2 kW between 1500 rpm and 1650 rpm, while the power limit for Service S1 is constant at 5.5 kW between 1500 rpm and 2250 rpm.



# **MOTOR MAC R 132.125**

**Parámetros motor / Motor parameters**

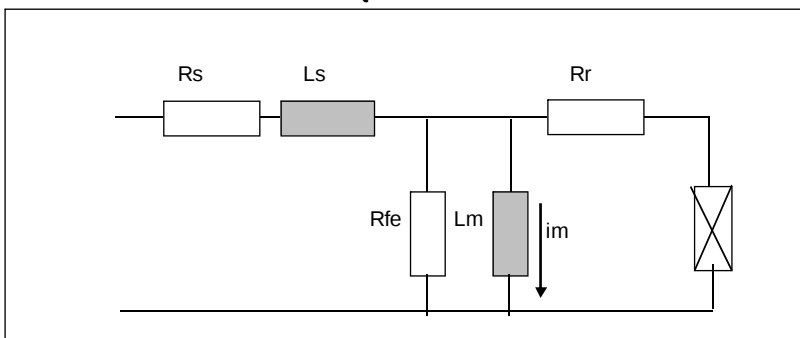
Fecha - Date 18-11-11

## **PLACA DE CARACTERÍSTICAS / NAMEPLATE DATA**

|             | R132.125<br>Y | R132.125<br>D |
|-------------|---------------|---------------|
| Nm          | 36            | 36            |
| rpm         | 820           | 1460          |
| KW          | 3.1           | 5.5           |
| V           | 230           | 230           |
| A           | 11.3          | 19.6          |
| Hz          | 28.8          | 50.0          |
| Cos fi      | 0.80          | 0.80          |
| Rend / eff. | 0.86          | 0.89          |
| J (Kg m2)   | 0.02600       | 0.02600       |

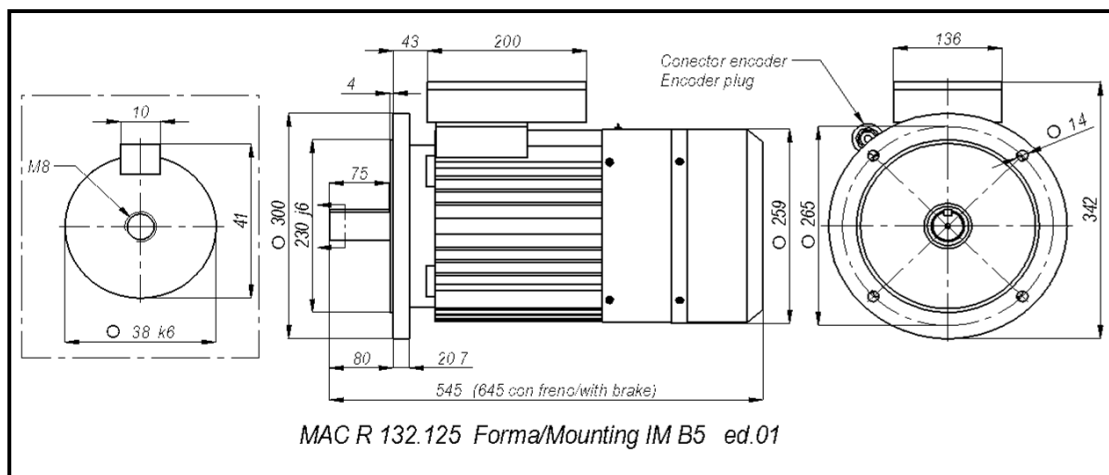
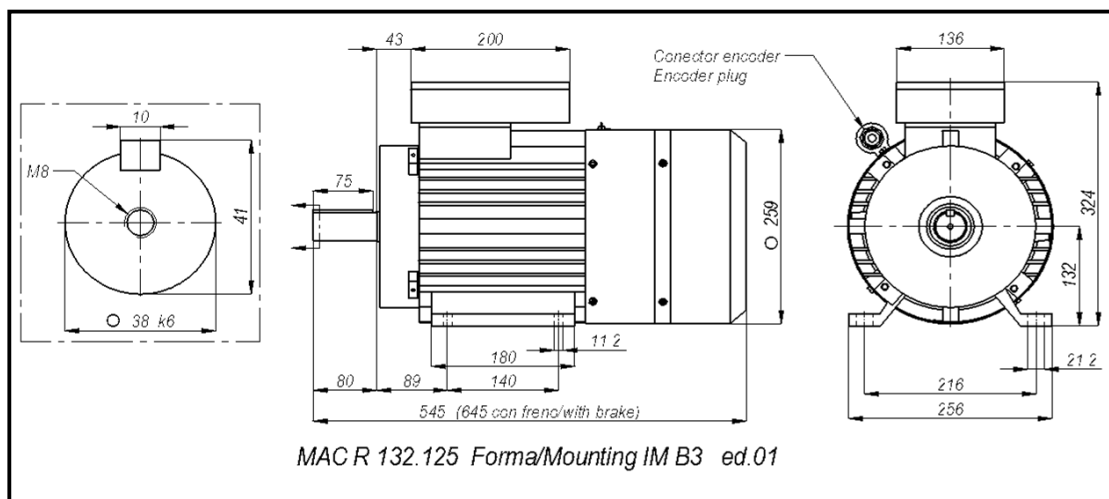
## **ESQUEMA EQUIVALENTE POR FASE EN ESTRELLA / PHASE STAR EQUIVALENT SCHEMA**

|             | R132.125<br>Y | R132.125<br>D |
|-------------|---------------|---------------|
| Rs (Ohm)    | 0.80          | 0.27          |
| Rr (Ohm)    | 0.62          | 0.21          |
| Rfe (Ohm)   | 320           | 107           |
| Ls (mH)     | 7.8           | 2.6           |
| Lm (mH)     | 132           | 44            |
| Ts (ms)     | 175           | 175           |
| Tr (ms)     | 213           | 213           |
| Im (A/fase) | 5.0           | 8.7           |

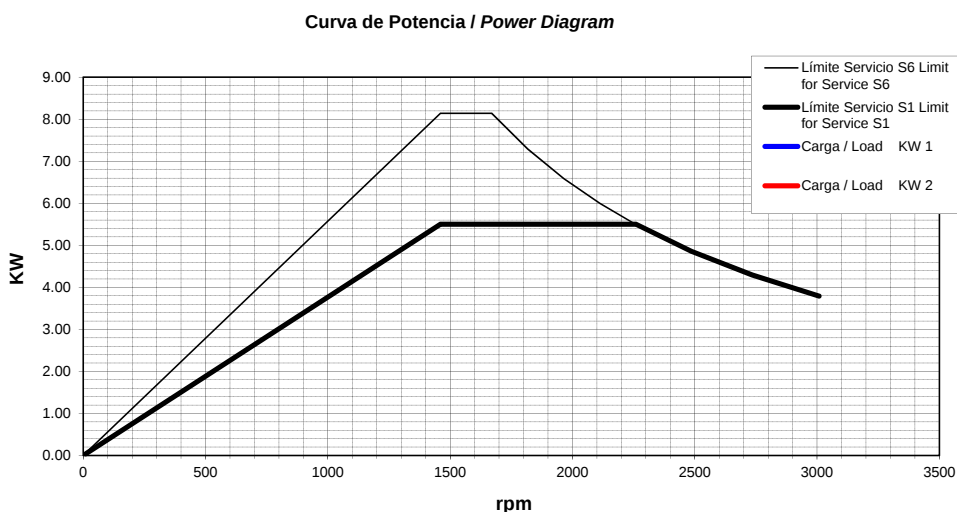
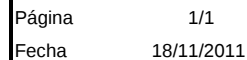


|                                                                 |  |                      |                                |                                              |                               |  |         |  |                                 |                                              |                                      |  |            |  |  |                                                                                 |  |  |            |       |                                                           |                            |                       |  |                     |          |  |  |         |  |  |                               |  |  |
|-----------------------------------------------------------------|--|----------------------|--------------------------------|----------------------------------------------|-------------------------------|--|---------|--|---------------------------------|----------------------------------------------|--------------------------------------|--|------------|--|--|---------------------------------------------------------------------------------|--|--|------------|-------|-----------------------------------------------------------|----------------------------|-----------------------|--|---------------------|----------|--|--|---------|--|--|-------------------------------|--|--|
| <b>Ventilador / Fan</b>                                         |  |                      | Rodamientos<br><i>Bearings</i> |                                              | Delantero<br><i>Drive End</i> |  | 6208 ZZ |  | Trasero<br><i>Non Drive End</i> |                                              | 6208 ZZ                              |  |            |  |  |                                                                                 |  |  |            |       |                                                           |                            |                       |  |                     |          |  |  |         |  |  |                               |  |  |
| Tensión / <i>Voltage</i>                                        |  | 1ph 230 V            |                                | Momento de inercia<br><i>Rotor Inertia</i>   |                               |  |         |  | J = 0,0260 Kg m <sup>2</sup>    |                                              | Peso Motor<br><i>Motor Weight</i>    |  | 49 Kg      |  |  |                                                                                 |  |  |            |       |                                                           |                            |                       |  |                     |          |  |  |         |  |  |                               |  |  |
| Frec. / <i>Frequency</i>                                        |  | 50 Hz    60 Hz       |                                | Protección<br><i>Protection Degree</i>       |                               |  | IP 54   |  |                                 | Construcción<br><i>Mounting</i>              |                                      |  | IM B3 / B5 |  |  | Refrigeración<br><i>Cooling</i>                                                 |  |  | IC416      |       |                                                           |                            |                       |  |                     |          |  |  |         |  |  |                               |  |  |
| Condens. / <i>Capacitor</i>                                     |  | 2 uF / 450 V         |                                | Velocidad / <i>Speed</i>                     |                               |  |         |  | 2300 rpm    2300 rpm            |                                              | Nivel de ruido<br><i>Noise Level</i> |  |            |  |  | < 70 dB                                                                         |  |  |            |       | Velocidad máxima mecánica<br><i>Max. Mechanical Speed</i> |                            |                       |  |                     | 5000 rpm |  |  |         |  |  |                               |  |  |
| Caudal / <i>Air flow</i>                                        |  | 570 m3/h    570 m3/h |                                | Equilibrado grado<br><i>Balancing degree</i> |                               |  | A       |  |                                 | Aislamiento Clase<br><i>Insulation Class</i> |                                      |  | F          |  |  | Protección Térmica<br><i>Thermal Protection</i>                                 |  |  | PTC 140 °C |       |                                                           | Ambiente<br><i>Ambient</i> |                       |  | < 40 °C    < 1000 m |          |  |  |         |  |  |                               |  |  |
| <b>Freno de Bloqueo (opcional)<br/>Holding Brake (optional)</b> |  |                      |                                |                                              |                               |  |         |  |                                 |                                              |                                      |  |            |  |  |                                                                                 |  |  |            | 70 Nm |                                                           |                            | 400V 50Hz / 460V 60Hz |  |                     | 0,50 A   |  |  | 10,8 Kg |  |  | J = 0,00302 Kg m <sup>2</sup> |  |  |
| Tensión de Base del Motor<br><i>Motor Base Voltage</i>          |  |                      |                                |                                              |                               |  |         |  |                                 | Vb                                           |                                      |  | 400 V      |  |  | Tensión Máxima de Salida del Convertidor<br><i>Inverter max. Output Voltage</i> |  |  |            |       |                                                           |                            |                       |  |                     | Vc       |  |  | 400 V   |  |  |                               |  |  |

|                        | Servicio / Service S1 |      |     |      |    |                                                     | Servicio / Service S6 - 40% |      |      |      |    |                                                     |                                              |
|------------------------|-----------------------|------|-----|------|----|-----------------------------------------------------|-----------------------------|------|------|------|----|-----------------------------------------------------|----------------------------------------------|
| Conexión<br>Connection | Nm                    | A    | KW  | rpm  | Hz | Velocidad a Pot.Cte<br>Const. Power Speed.<br>(rpm) | Nm                          | A    | KW   | rpm  | Hz | Velocidad a Pot.Cte<br>Const. Power Speed.<br>(rpm) | Corriente en vacío<br>No Load Current<br>(A) |
| Y                      | 36.0                  | 11.3 | 5.5 | 1460 | 50 | 2260                                                | 53.3                        | 15.8 | 8.1  | 1460 | 51 | 1670                                                | 5.0                                          |
| D                      | 36.0                  | 19.6 | 9.7 | 2570 | 87 | 3980                                                | 53.3                        | 27.4 | 14.3 | 2570 | 88 | 2940                                                | 8.7                                          |



|            |            |            |
|------------|------------|------------|
| Elabora:   | Revisa:    | Aprueba:   |
| 18/11/2011 | 18/11/2011 | 18/11/2011 |





# **MOTOR MAC R 132.125**

**Parámetros motor / Motor parameters**

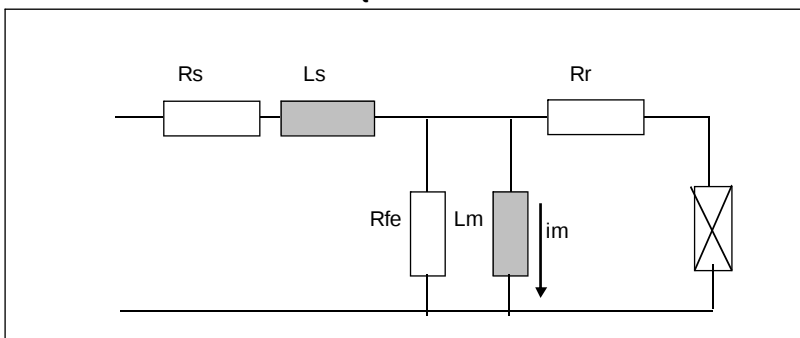
Fecha - Date 18-11-11

## **PLACA DE CARACTERÍSTICAS / NAMEPLATE DATA**

|             | R132.125<br>Y | R132.125<br>D |
|-------------|---------------|---------------|
| Nm          | 36            | 36            |
| rpm         | 1460          | 2570          |
| KW          | 5.5           | 9.7           |
| V           | 400           | 400           |
| A           | 11.3          | 19.6          |
| Hz          | 50.0          | 87.0          |
| Cos fi      | 0.80          | 0.80          |
| Rend / eff. | 0.88          | 0.90          |
| J (Kg m2)   | 0.02600       | 0.02600       |

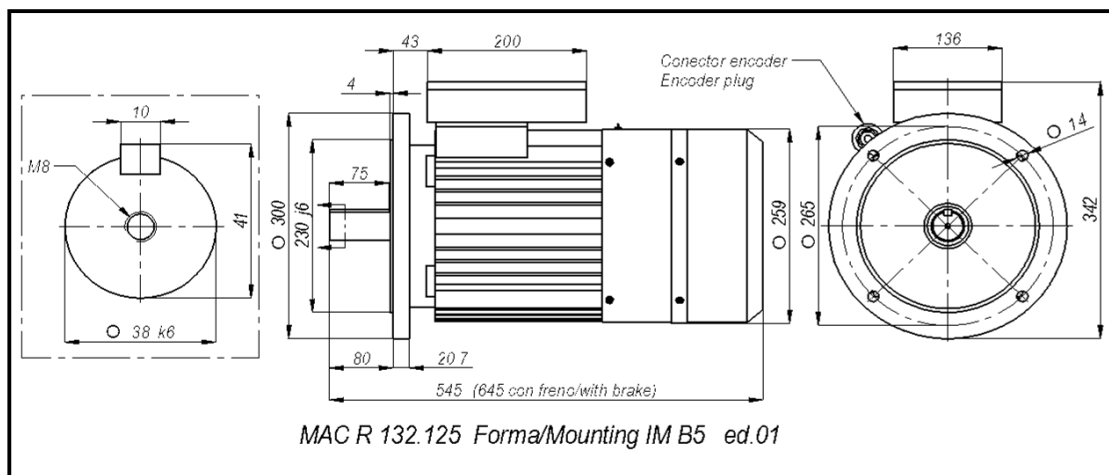
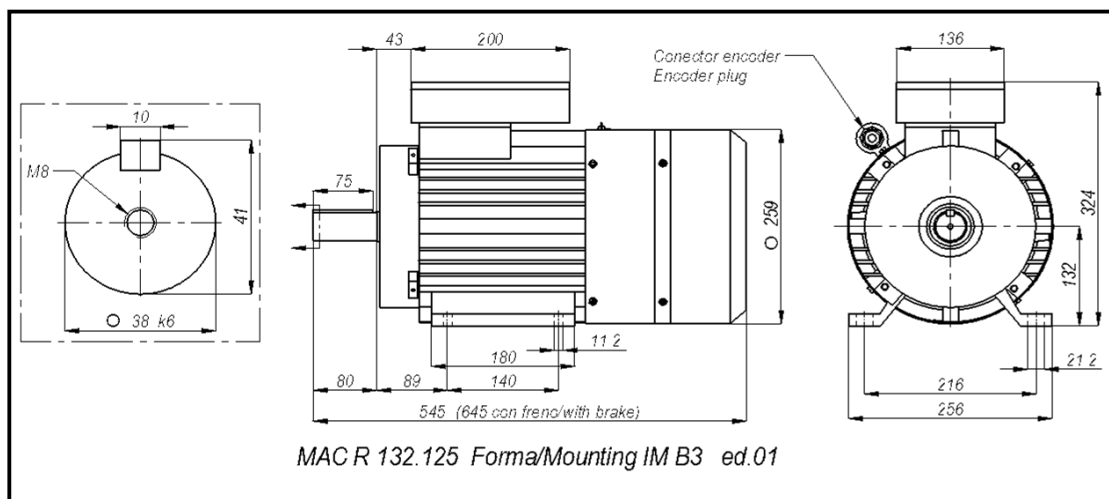
## **ESQUEMA EQUIVALENTE POR FASE EN ESTRELLA / PHASE STAR EQUIVALENT SCHEMA**

|             | R132.125<br>Y | R132.125<br>D |
|-------------|---------------|---------------|
| Rs (Ohm)    | 0.80          | 0.27          |
| Rr (Ohm)    | 0.62          | 0.21          |
| Rfe (Ohm)   | 320           | 107           |
| Ls (mH)     | 7.8           | 2.6           |
| Lm (mH)     | 132           | 44            |
| Ts (ms)     | 175           | 175           |
| Tr (ms)     | 213           | 213           |
| Im (A/fase) | 5.0           | 8.7           |



|                                                                 |                   |                                          |                       |                                                                          |                                                    |                               |                          |
|-----------------------------------------------------------------|-------------------|------------------------------------------|-----------------------|--------------------------------------------------------------------------|----------------------------------------------------|-------------------------------|--------------------------|
| <b>Ventilador / Fan</b>                                         |                   | Rodamientos<br>Bearings                  |                       | Delantero<br>Drive End                                                   | 6208 ZZ                                            | Trasero<br>Non Drive End      | 6208 ZZ                  |
| Tensión / Voltage                                               | 1ph 230 V         | Momento de inercia<br>Rotor Inertia      |                       | J = 0,0260 Kg m <sup>2</sup>                                             |                                                    | Peso Motor<br>Motor Weight    | 49 Kg                    |
| Frec. / Frequency                                               | 50 Hz 60 Hz       | Protección<br>Protection Degree          |                       | IP 54                                                                    | Construcción<br>Mounting                           | IM B3 / B5                    | Refrigeración<br>Cooling |
| Corriente / Current                                             | 0,36 A 0,45 A     | Nivel de ruido<br>Noise Level            |                       | < 70 dB                                                                  | Velocidad máxima mecánica<br>Max. Mechanical Speed |                               |                          |
| Condens. / Capacitor                                            | 2 uF / 450 V      | Equilibrado grado<br>Balancing degree    |                       | A                                                                        | Ambiente<br>Ambient                                |                               |                          |
| Velocidad / Speed                                               | 2300 rpm 2300 rpm | Aislamiento Clase<br>Insulation Class    |                       | F                                                                        | PTC 140 °C                                         |                               |                          |
| Caudal / Air flow                                               | 570 m3/h 570 m3/h | Protección Térmica<br>Thermal Protection |                       |                                                                          | < 40 °C < 1000 m                                   |                               |                          |
| <b>Freno de Bloqueo (opcional)<br/>Holding Brake (optional)</b> |                   | 70 Nm                                    | 400V 50Hz / 460V 60Hz | 0,50 A                                                                   | 10,8 Kg                                            | J = 0,00302 Kg m <sup>2</sup> |                          |
| Tensión de Base del Motor<br>Motor Base Voltage                 |                   | Vb                                       | 400 V                 | Tensión Máxima de Salida del Convertidor<br>Inverter max. Output Voltage |                                                    | Vc                            | 400 V                    |

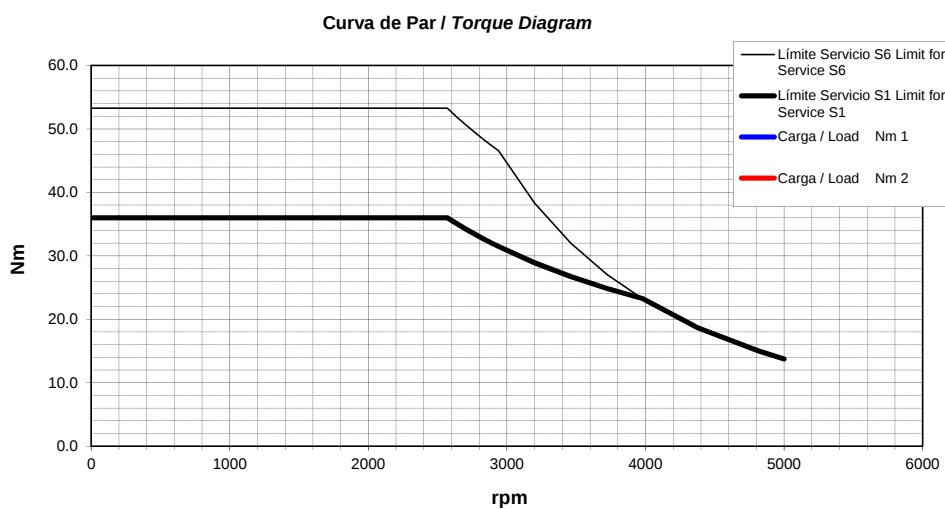
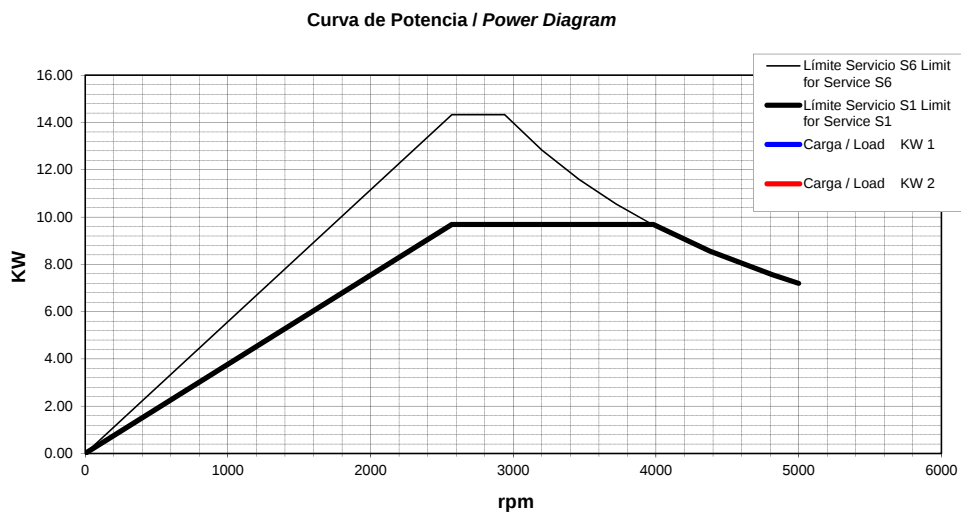
|                        | Servicio / Service S1 |      |     |      |    |                                                     | Servicio / Service S6 - 40% |      |      |      |    |                                                     |                                              |
|------------------------|-----------------------|------|-----|------|----|-----------------------------------------------------|-----------------------------|------|------|------|----|-----------------------------------------------------|----------------------------------------------|
| Conexión<br>Connection | Nm                    | A    | KW  | rpm  | Hz | Velocidad a Pot.Cte<br>Const. Power Speed.<br>(rpm) | Nm                          | A    | KW   | rpm  | Hz | Velocidad a Pot.Cte<br>Const. Power Speed.<br>(rpm) | Corriente en vacío<br>No Load Current<br>(A) |
| Y                      | 36.0                  | 11.3 | 5.5 | 1460 | 50 | 2260                                                | 53.3                        | 15.8 | 8.1  | 1460 | 51 | 1670                                                | 5.0                                          |
| D                      | 36.0                  | 19.6 | 9.7 | 2570 | 87 | 3980                                                | 53.3                        | 27.4 | 14.3 | 2570 | 88 | 2940                                                | 8.7                                          |



|            |            |            |
|------------|------------|------------|
| Elabora:   | Revisa:    | Aprueba:   |
| 18/11/2011 | 18/11/2011 | 18/11/2011 |

|                                                        |              |                                                                                 |              |
|--------------------------------------------------------|--------------|---------------------------------------------------------------------------------|--------------|
| Tensión de Base del Motor<br><i>Motor Base Voltage</i> | <b>400 V</b> | Tensión Máxima de Salida del Convertidor<br><i>Inverter max. Output Voltage</i> | <b>400 V</b> |
|--------------------------------------------------------|--------------|---------------------------------------------------------------------------------|--------------|

|                     | Servicio / Service S1 |      |     |      |    |                                                     | Servicio / Service S6 - 40% |    |      |      |    |                                                     |                                              |
|---------------------|-----------------------|------|-----|------|----|-----------------------------------------------------|-----------------------------|----|------|------|----|-----------------------------------------------------|----------------------------------------------|
| Bobinado<br>Winding | Nm                    | A    | KW  | rpm  | Hz | Velocidad a Pot.Cte<br>Const. Power Speed.<br>(rpm) | Nm                          | A  | KW   | rpm  | Hz | Velocidad a Pot.Cte<br>Const. Power Speed.<br>(rpm) | Corriente en vacio<br>No Load Current<br>(A) |
| D                   | 36.0                  | 19.6 | 9.7 | 2570 | 87 | 3980                                                | 53                          | 27 | 14.3 | 2570 | 88 | 2940                                                | 8.7                                          |

[illegible][illegible]



## MOTOR MAC R 132.125

Parámetros motor / Motor parameters

Fecha - Date 18-11-11

### PLACA DE CARACTERÍSTICAS / NAMEPLATE DATA

|                        | R132.125<br>Y | R132.125<br>D |
|------------------------|---------------|---------------|
| Nm                     | 36            | 36            |
| rpm                    | 1460          | 2570          |
| KW                     | 5.5           | 9.7           |
| V                      | 400           | 400           |
| A                      | 11.3          | 19.6          |
| Hz                     | 50.0          | 87.0          |
| Cos fi                 | 0.80          | 0.80          |
| Rend / eff.            | 0.88          | 0.90          |
| J (Kg m <sup>2</sup> ) | 0.02600       | 0.02600       |

### ESQUEMA EQUIVALENTE POR FASE EN ESTRELLA / PHASE STAR EQUIVALENT SCHEMA

|             | R132.125<br>Y | R132.125<br>D |
|-------------|---------------|---------------|
| Rs (Ohm)    | 0.80          | 0.27          |
| Rr (Ohm)    | 0.62          | 0.21          |
| Rfe (Ohm)   | 320           | 107           |
| Ls (mH)     | 7.8           | 2.6           |
| Lm (mH)     | 132           | 44            |
| Ts (ms)     | 175           | 175           |
| Tr (ms)     | 213           | 213           |
| Im (A/fase) | 5.0           | 8.7           |

