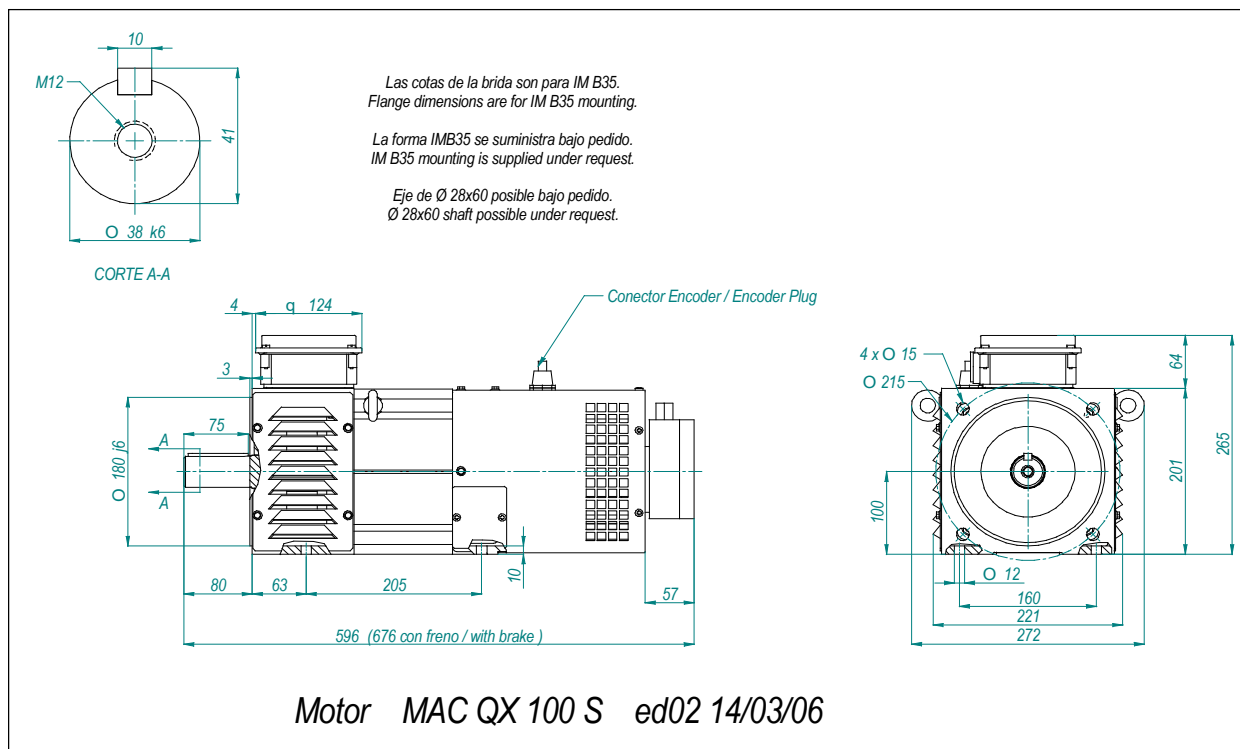


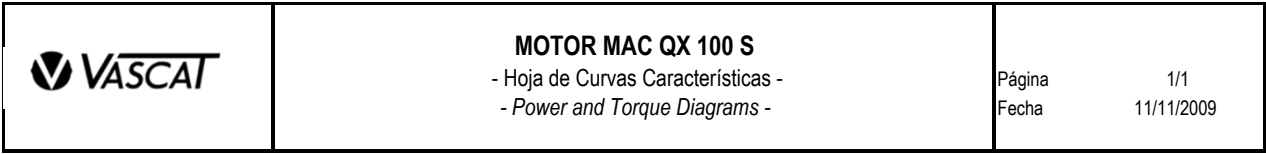
|                                                                                   |                                                                                    |  |         |            |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--|---------|------------|
|  | <b>MOTOR MAC QX 100 S</b><br>- Hoja de Datos Técnicos -<br>- Technical Datasheet - |  | Código  | DT-QX100S  |
|                                                                                   |                                                                                    |  | Edición | 03         |
|                                                                                   |                                                                                    |  | Página  | 1/1        |
|                                                                                   |                                                                                    |  | Fecha   | 11/11/2009 |

|                                                                        |  |                                |  |                                            |  |                                                                                 |  |                                              |  |            |  |                                                           |  |                                              |  |                                 |  |                                                 |  |  |  |            |  |                            |  |                     |  |
|------------------------------------------------------------------------|--|--------------------------------|--|--------------------------------------------|--|---------------------------------------------------------------------------------|--|----------------------------------------------|--|------------|--|-----------------------------------------------------------|--|----------------------------------------------|--|---------------------------------|--|-------------------------------------------------|--|--|--|------------|--|----------------------------|--|---------------------|--|
| <b>Ventilador / Fan</b>                                                |  | Rodamientos<br><i>Bearings</i> |  | Delantero<br><i>Drive End</i>              |  | 6308 ZZ C3                                                                      |  | Trasero<br><i>Non Drive End</i>              |  | 6207 ZZ C3 |  |                                                           |  |                                              |  |                                 |  |                                                 |  |  |  |            |  |                            |  |                     |  |
| Tensión / <i>Voltage</i>                                               |  | 1ph 230 V                      |  | Momento de inercia<br><i>Rotor Inertia</i> |  |                                                                                 |  | J = 0,011 Kg m <sup>2</sup>                  |  |            |  | Peso Motor<br><i>Motor Weight</i>                         |  | 45 Kg                                        |  |                                 |  |                                                 |  |  |  |            |  |                            |  |                     |  |
| Frec. / <i>Frequency</i>                                               |  | 50 Hz    60 Hz                 |  | Protección<br><i>Protection Degree</i>     |  | IP 23                                                                           |  | Construcción<br><i>Mounting</i>              |  |            |  | IM B3 / B35                                               |  |                                              |  | Refrigeración<br><i>Cooling</i> |  | IC 06                                           |  |  |  |            |  |                            |  |                     |  |
| Condens. / <i>Capacitor</i>                                            |  | 2 uF / 450 V                   |  | Nivel de ruido<br><i>Noise Level</i>       |  |                                                                                 |  | < 70 dB                                      |  |            |  | Velocidad máxima mecánica<br><i>Max. Mechanical Speed</i> |  |                                              |  | 7500 rpm                        |  |                                                 |  |  |  |            |  |                            |  |                     |  |
| Velocidad / <i>Speed</i>                                               |  | 2300 rpm    2300 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/><i>Holding Brake (optional)</i></b> |  |                                |  | 60 Nm                                      |  | 24 Vdc                                                                          |  | 2.1 A                                        |  | 50 W       |  | 5.6 Kg                                                    |  | J = 0.00063 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% |    |      |      |     |                                                     |                                              |
|----------------------------|----|------|------|------|-----|-----------------------------------------------------|-----------------------------|----|------|------|-----|-----------------------------------------------------|----------------------------------------------|
| Bobinado<br><i>Winding</i> | 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) |
| 111                        | 35 | 7.6  | 2.7  | 740  | 27  | 1730                                                | 51                          | 10 | 4.0  | 740  | 28  | 1290                                                | 4.3                                          |
| 211                        | 35 | 9.8  | 3.9  | 1070 | 38  | 2510                                                | 51                          | 13 | 5.7  | 1070 | 39  | 1870                                                | 5.4                                          |
| 112                        | 35 | 12.7 | 5.2  | 1430 | 50  | 3360                                                | 51                          | 17 | 7.6  | 1430 | 51  | 2510                                                | 7.2                                          |
| 121                        | 35 | 14.5 | 6.1  | 1670 | 58  | 3920                                                | 51                          | 19 | 8.9  | 1670 | 59  | 2930                                                | 8.3                                          |
| 212                        | 35 | 16.6 | 7.2  | 1970 | 68  | 4620                                                | 51                          | 22 | 10.5 | 1970 | 69  | 3450                                                | 9.4                                          |
| 221                        | 35 | 19.2 | 8.4  | 2300 | 79  | 5400                                                | 51                          | 26 | 12.3 | 2300 | 80  | 4030                                                | 10.7                                         |
| 122                        | 35 | 24.7 | 11.2 | 3050 | 104 | 7160                                                | 51                          | 33 | 16.3 | 3050 | 105 | 5340                                                | 13.8                                         |
| 222                        | 35 | 33.1 | 15.0 | 4100 | 139 | 7500                                                | 51                          | 44 | 21.9 | 4100 | 140 | 7170                                                | 18.7                                         |



|            |            |            |
|------------|------------|------------|
| Elabora:   | Revisa:    | Aprueba:   |
| 11/11/2009 | 11/11/2009 | 11/11/2009 |



|                                                                                 |                                                                                                                                            |                                        |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
|  | <p align="center"><b>MOTOR MAC QX 100 S</b></p> <p align="center">- Hoja de Curvas Características -<br/>- Power and Torque Diagrams -</p> | <p>Página 1/1<br/>Fecha 11/11/2009</p> |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|

|                                                                                 |                                                                                                                                            |                                        |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
|  | <p align="center"><b>MOTOR MAC QX 100 S</b></p> <p align="center">- Hoja de Curvas Características -<br/>- Power and Torque Diagrams -</p> | <p>Página 1/1<br/>Fecha 11/11/2009</p> |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|

|                                                                                 |                                                                                                                                            |                                        |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
|  | <p align="center"><b>MOTOR MAC QX 100 S</b></p> <p align="center">- Hoja de Curvas Características -<br/>- Power and Torque Diagrams -</p> | <p>Página 1/1<br/>Fecha 11/11/2009</p> |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|

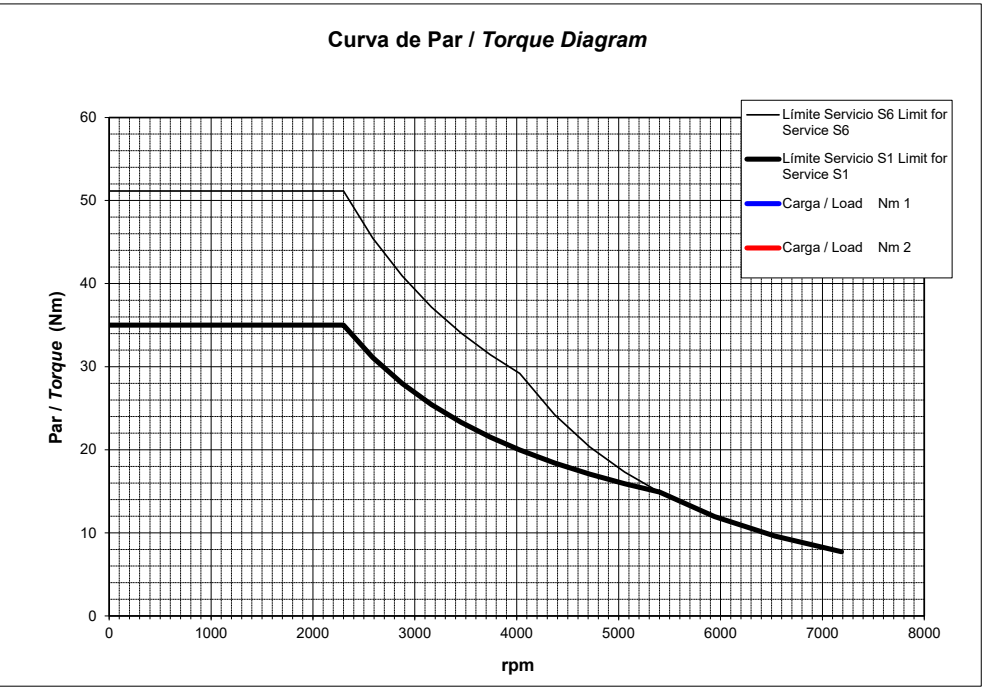
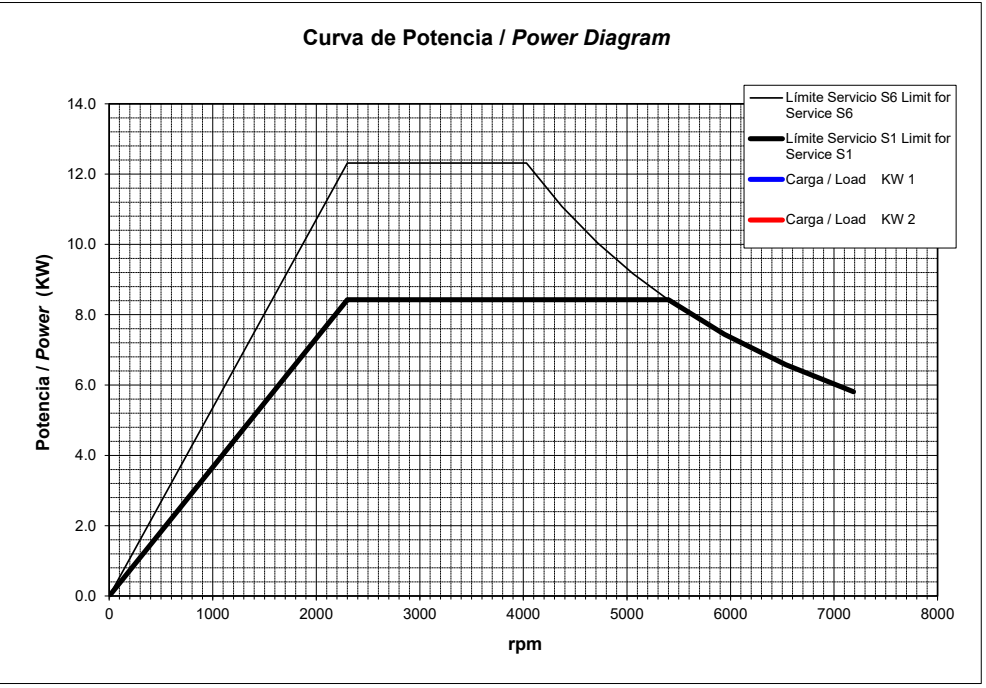
|                                                        |              |
|--------------------------------------------------------|--------------|
| Tensión de Base del Motor<br><i>Motor Base Voltage</i> | <b>400 V</b> |
|--------------------------------------------------------|--------------|

|                                                        |              |
|--------------------------------------------------------|--------------|
| 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> |
|---------------------------------------------------------------------------------|--------------|

|                                                                                 |              |
|---------------------------------------------------------------------------------|--------------|
| 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 vacío<br>No Load Current<br>(A) |
| 221                 | 35                    | 19.2 | 8.4 | 2300 | 79 | 5400                                                | 51                          | 25.6 | 12.3 | 2300 | 80 | 4030                                                | 10.7                                         |

[illegible][illegible]



# MOTOR MAC QX 100 S

Parámetros motor / Motor parameters

Fecha - Date

11-11-09

## PLACA DE CARACTERÍSTICAS / NAMEPLATE DATA

|             | QX 100 S<br>Bob. 111 | QX 100 S<br>Bob. 211 | QX 100 S<br>Bob. 112 | QX 100 S<br>Bob. 121 | QX 100 S<br>Bob. 212 | QX 100 S<br>Bob. 221 | QX 100 S<br>Bob. 122 | QX 100 S<br>Bob. 222 |
|-------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Nm          | 35                   | 35                   | 35                   | 35                   | 35                   | 35                   | 35                   | 35                   |
| rpm         | 740                  | 1070                 | 1430                 | 1670                 | 1970                 | 2300                 | 3050                 | 4100                 |
| KW          | 2.7                  | 3.9                  | 5.2                  | 6.1                  | 7.2                  | 8.4                  | 11.2                 | 15.0                 |
| V           | 400                  | 400                  | 400                  | 400                  | 400                  | 400                  | 400                  | 400                  |
| A           | 7.6                  | 9.8                  | 12.7                 | 14.5                 | 16.6                 | 19.2                 | 24.7                 | 33.1                 |
| Hz          | 27.0                 | 38.0                 | 50.0                 | 58.0                 | 68.0                 | 79.0                 | 104.0                | 139.0                |
| Cos fi      | 0.79                 | 0.78                 | 0.77                 | 0.77                 | 0.77                 | 0.77                 | 0.77                 | 0.77                 |
| Rend / eff. | 0.65                 | 0.73                 | 0.78                 | 0.81                 | 0.82                 | 0.84                 | 0.86                 | 0.88                 |
| J (Kg m2)   | 0.0095               | 0.0095               | 0.0095               | 0.0095               | 0.0095               | 0.0095               | 0.0095               | 0.0095               |

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

|             | QX 100 S<br>Bob. 111 | QX 100 S<br>Bob. 211 | QX 100 S<br>Bob. 112 | QX 100 S<br>Bob. 121 | QX 100 S<br>Bob. 212 | QX 100 S<br>Bob. 221 | QX 100 S<br>Bob. 122 | QX 100 S<br>Bob. 222 |
|-------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Rs (mOhm)   | 3370.11              | 1876.18              | 1123.37              | 842.53               | 625.39               | 469.05               | 280.84               | 156.35               |
| Rr (mOhm)   | 2767.57              | 1556.76              | 922.52               | 691.89               | 518.92               | 389.19               | 230.63               | 129.73               |
| Rfe (Ohm)   | 1092.01              | 1092.01              | 567.72               | 468.52               | 383.75               | 468.52               | 211.97               | 135.00               |
| Ls (mH)     | 16.07                | 9.04                 | 5.36                 | 4.02                 | 3.01                 | 2.26                 | 1.34                 | 0.75                 |
| Lr (mH)     | 23.03                | 12.35                | 7.20                 | 5.34                 | 4.01                 | 2.98                 | 1.76                 | 0.98                 |
| Lm (mH)     | 277.40               | 158.12               | 93.60                | 70.27                | 52.12                | 39.53                | 23.44                | 13.25                |
| Ts (s)      | 0.09                 | 0.09                 | 0.09                 | 0.09                 | 0.09                 | 0.09                 | 0.09                 | 0.09                 |
| Tr (s)      | 0.11                 | 0.11                 | 0.11                 | 0.11                 | 0.11                 | 0.11                 | 0.11                 | 0.11                 |
| Kt          | 462.44               | 346.83               | 266.99               | 231.22               | 200.24               | 173.41               | 133.49               | 100.12               |
| Im (A/fase) | 4.3                  | 5.4                  | 7.2                  | 8.3                  | 9.4                  | 10.7                 | 13.8                 | 18.7                 |

