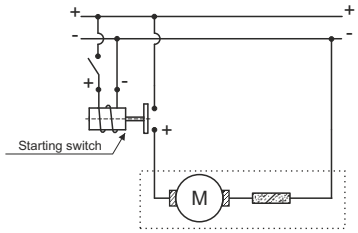
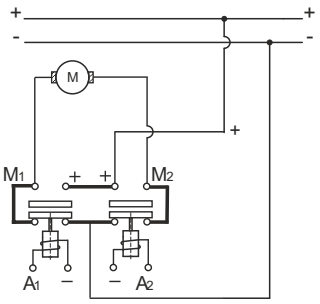
## DC MOTOR CHOICE AND ELECTRIC CONNECTION SCHEME

**Electric connection scheme**

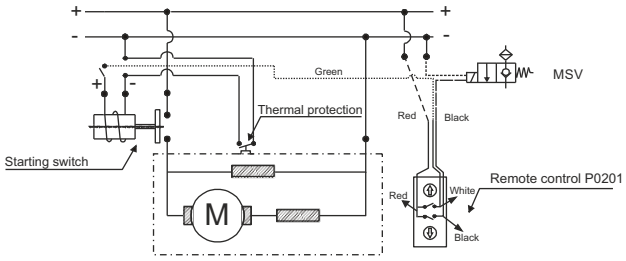
M47SC000* e M47ZC000*



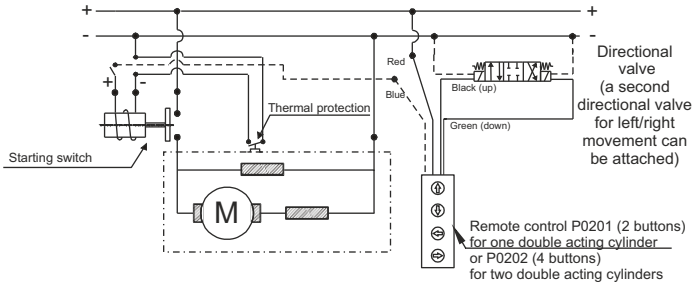

M47NB000*




Single acting cylinder




Double acting cylinder

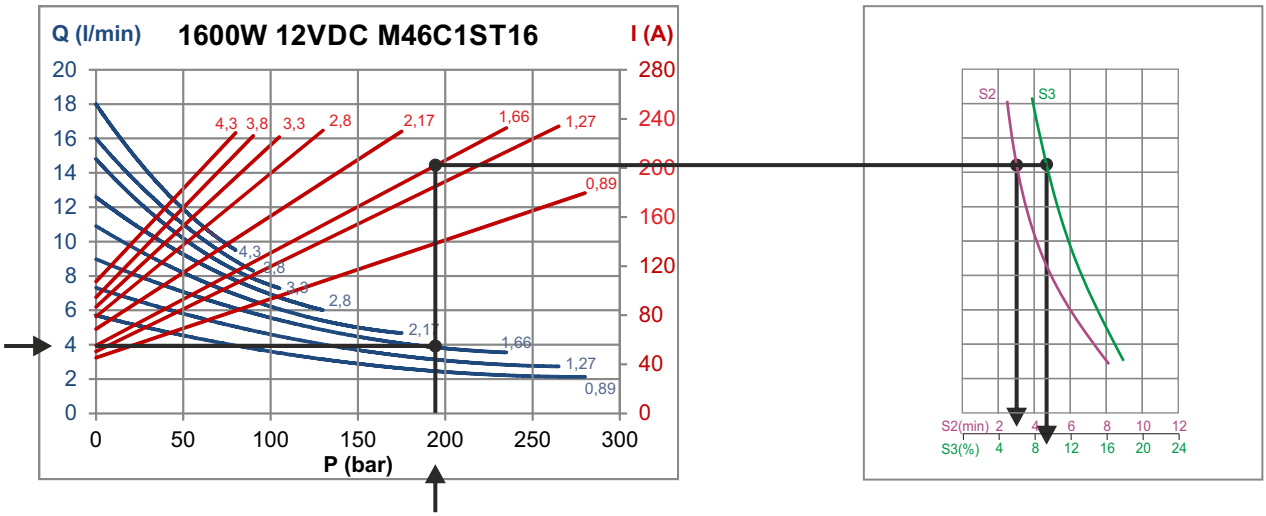



**DC motors choice**

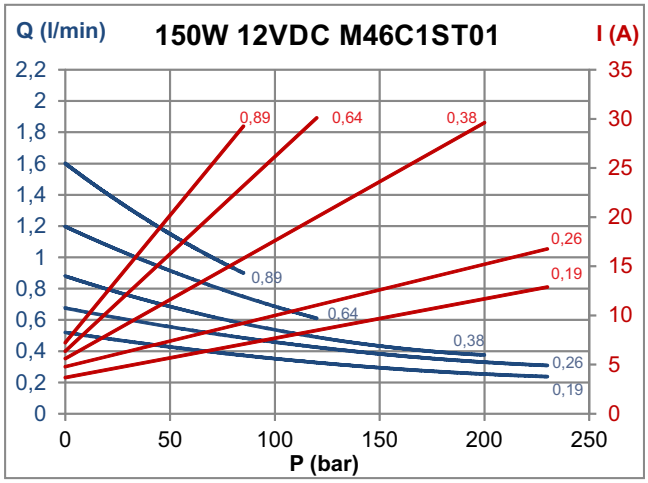
Once required pressure, flow and available voltage (12 or 24V DC) are known, you can select the motor checking on each diagram shown later in this catalogue if a pump displacement is available at the intersection of pressure and flow values. On the relevant "I" curve you obtain the absorbed current. When the intersection point is not exactly on a pump curve, choose the closest smaller pump. On the right hand diagram, from the current value, you can easily obtain the maximum allowed S2 time (min) and S3 (%) values. S2 gives the allowable motor continuous running time in minutes, S3 gives the allowable running time in % of the total cycle. If the obtained S2 and S3 values are not sufficient for the required duty cycle, choose a higher power or heavier duty motor and repeat the calculation on the new motor curves.

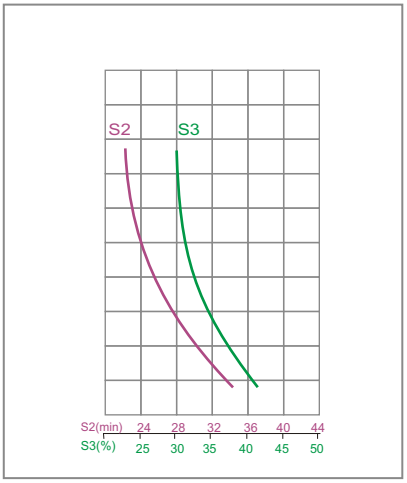
**Example:**

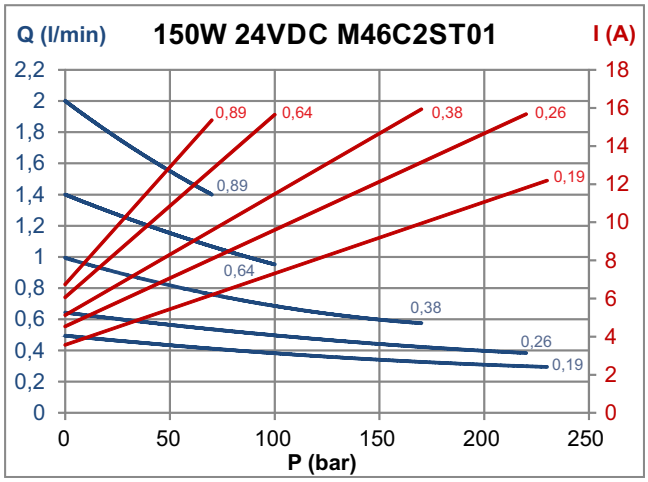
For our application we have following data:
flow = 4 l/min, max pressure = 195 bar, but the duty cycle is not clearly defined.
- We check on 1,6 Kw 12V DC motor diagram and see the 1,66 cc pump is suitable.
- We choose from curves a 1,66 $cm^3$/rev pump. On the corresponding "I" curve we read 200 A absorbed current at 195 bar.
- Transferring these conditions to the S2 / S3 diagram we read that the DC motor can work for maximum 3 min (S2) and that S3 is about 9% of the total cycle, i.e. after 3 min working, the motor should cool down for at least 30 min.
- The total cycle time is calculated by adding the working time and the idle time (9% working time plus 91% idle time), in this case 33 min. If this duty cycle is not adequate for our application, we must choose a higher power or higher duty DC motor and check the relevant diagram again.

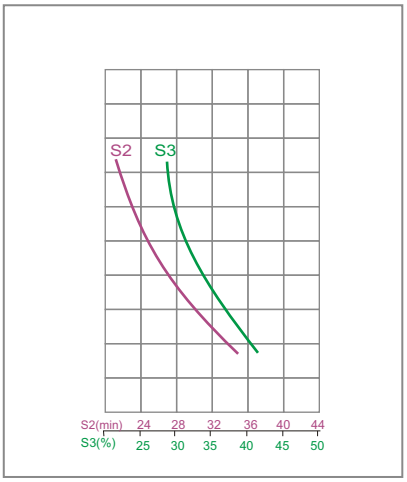


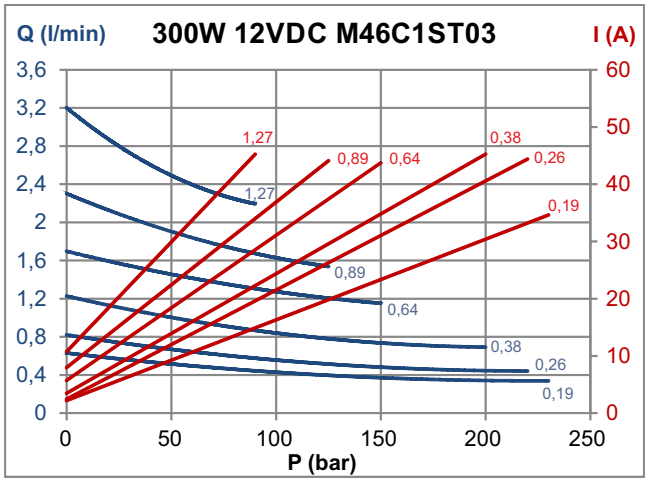
## DC MOTORS Ø80 DIAGRAMS

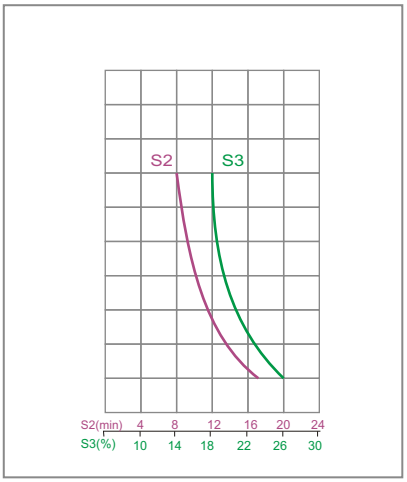


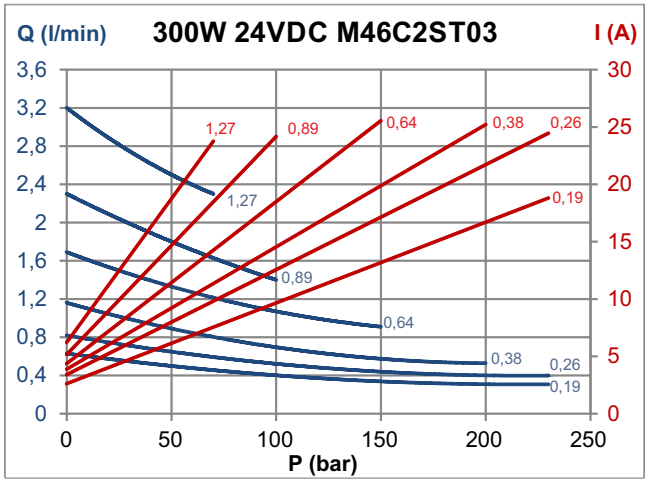



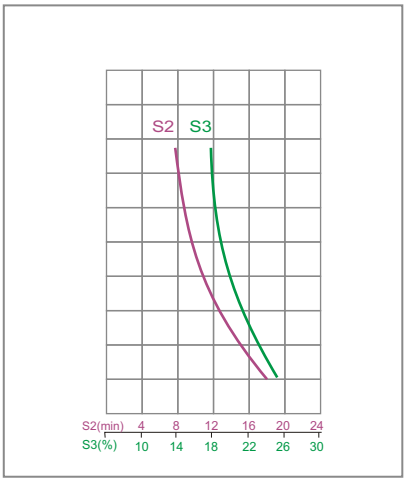



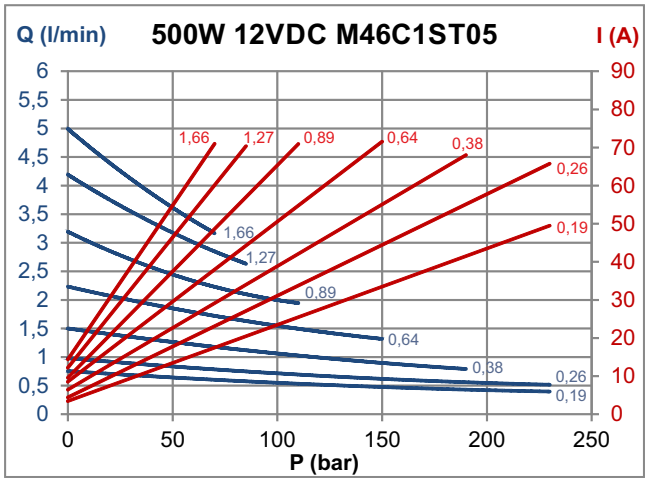

Tests made with rectified current supplied at nominal motor voltage (measured at the motor connection terminals) and oil ISO VG46 at 40°C

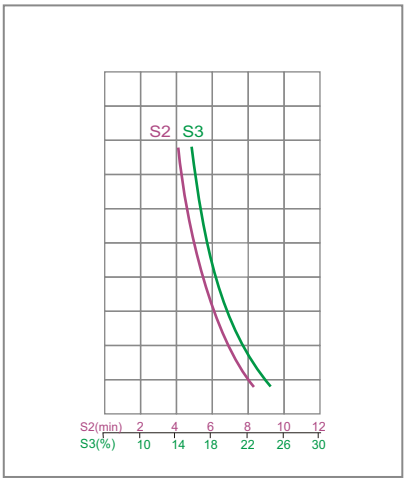
# SECTION A

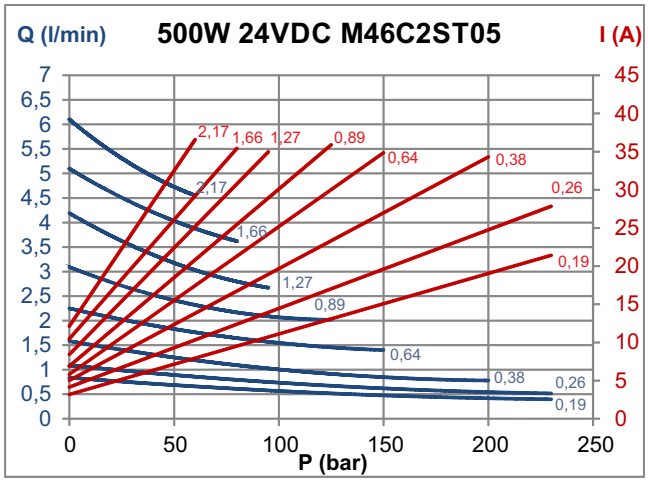
## DC MOTORS Ø80 DIAGRAMS

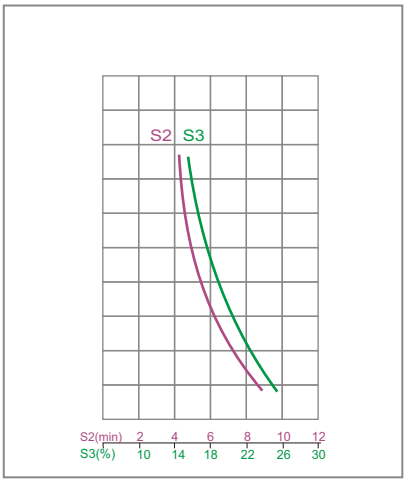


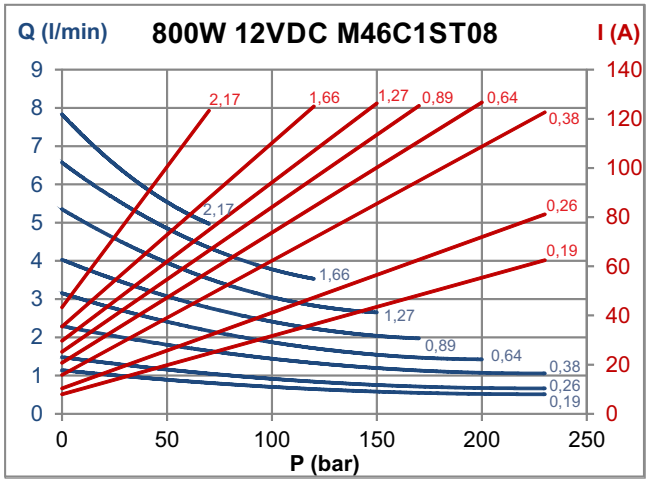



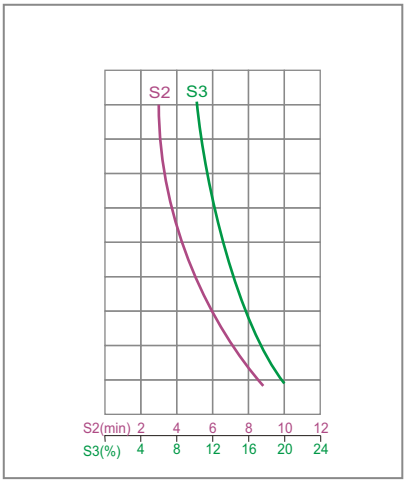



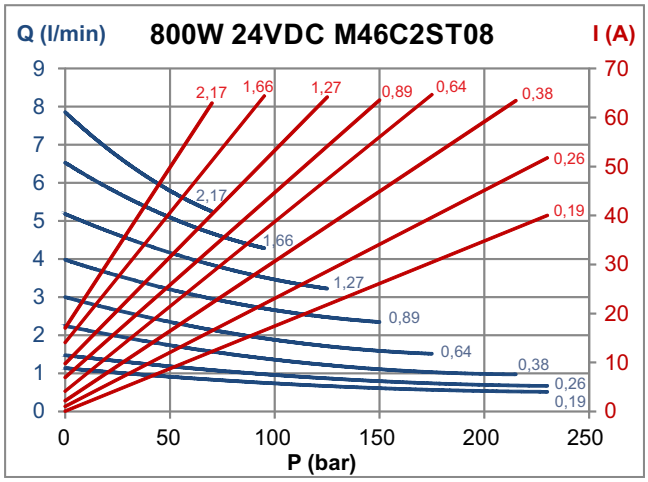



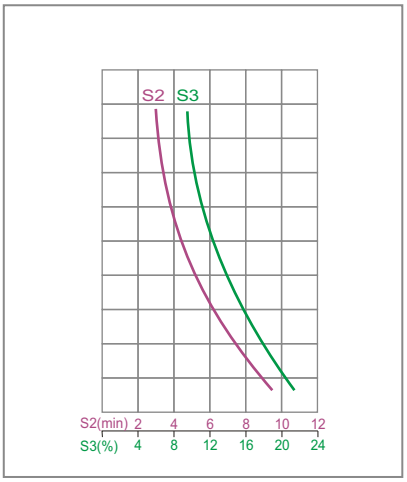

Tests made with rectified current supplied at nominal motor voltage (measured at the motor connection terminals) and oil ISO VG46 at 40°C

## DC MOTORS Ø80 DIAGRAMS



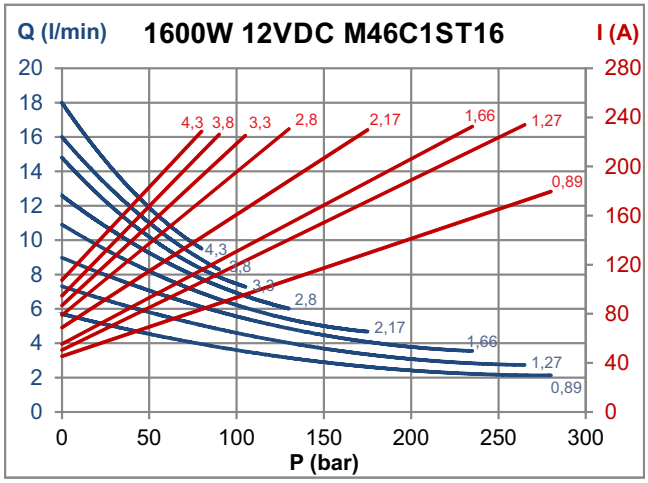



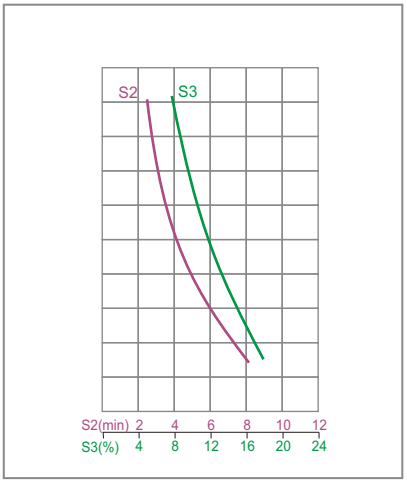



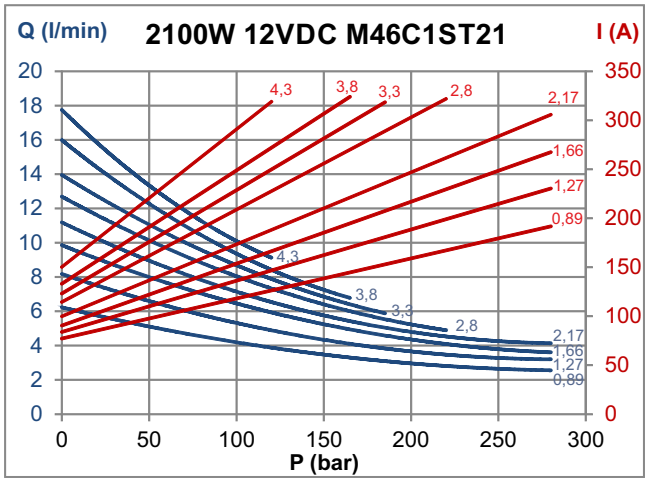

Tests made with rectified current supplied at nominal motor voltage (measured at the motor connection terminals) and oil ISO VG46 at 40°C

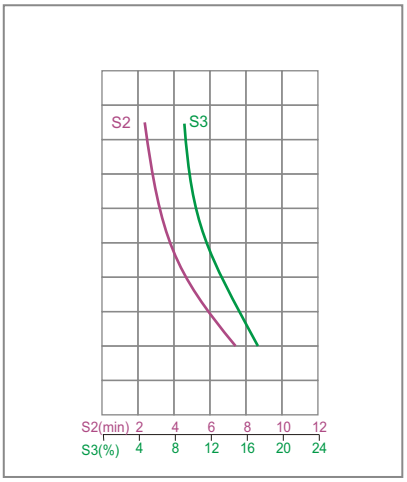
# SECTION A

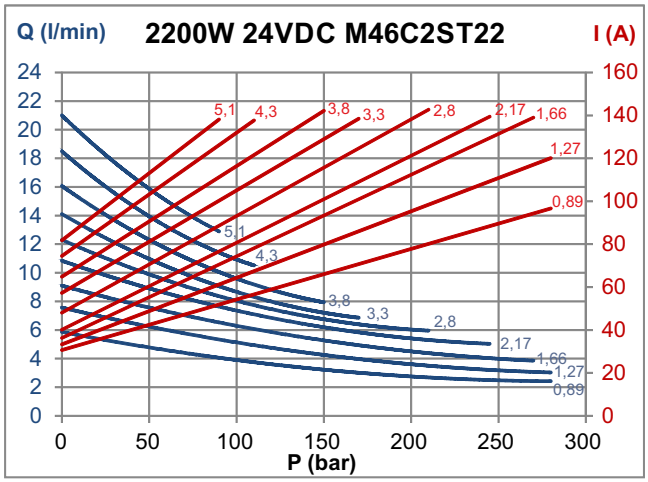
## DC MOTORS Ø114 DIAGRAMS

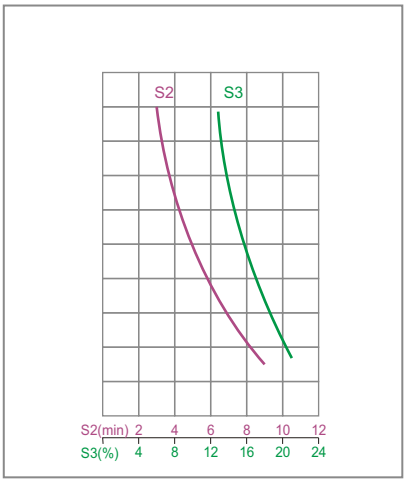


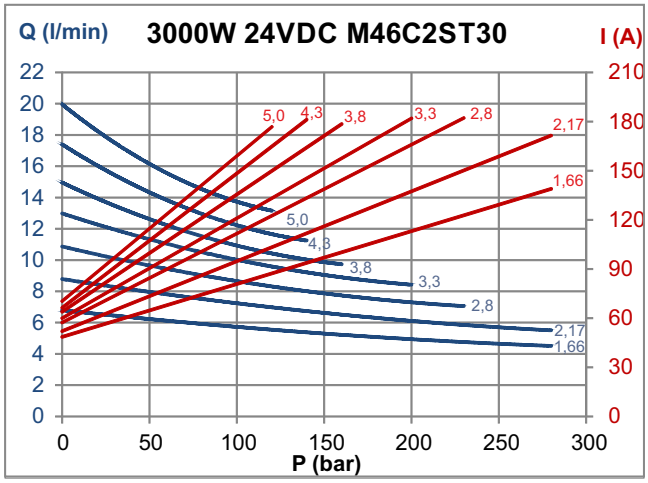



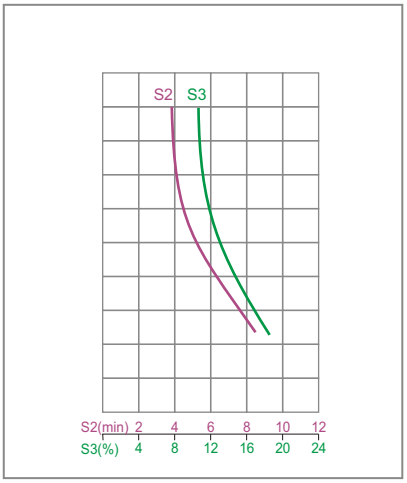



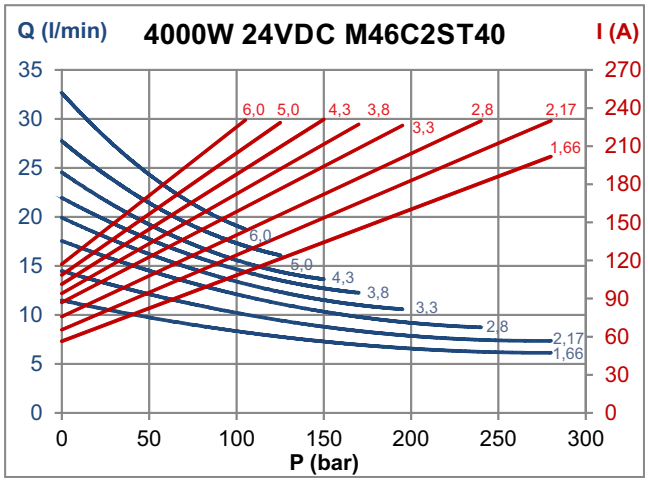



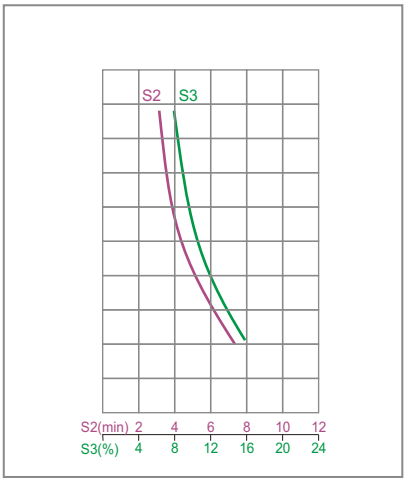

Tests made with rectified current supplied at nominal motor voltage (measured at the motor connection terminals) and oil ISO VG46 at 40°C

## DC MOTORS Ø125 DIAGRAMS



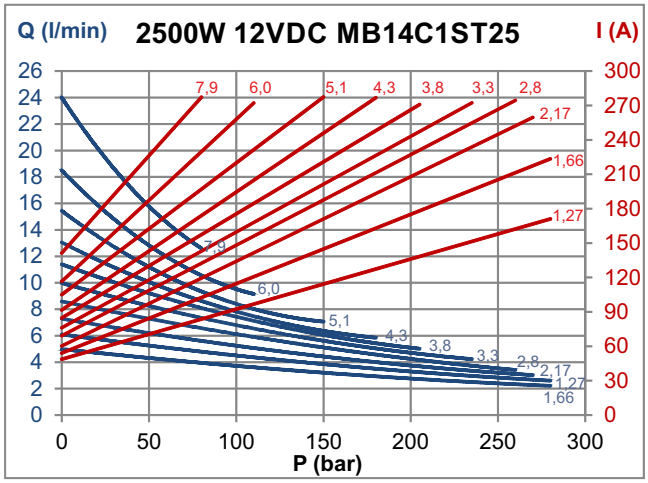



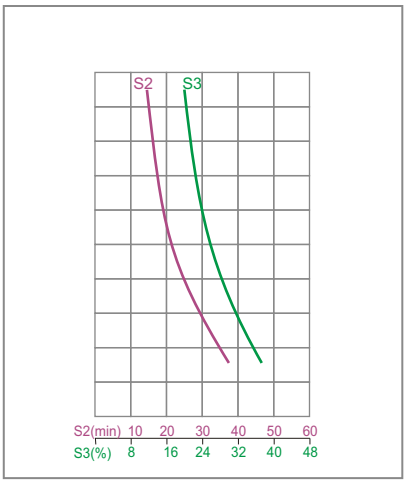



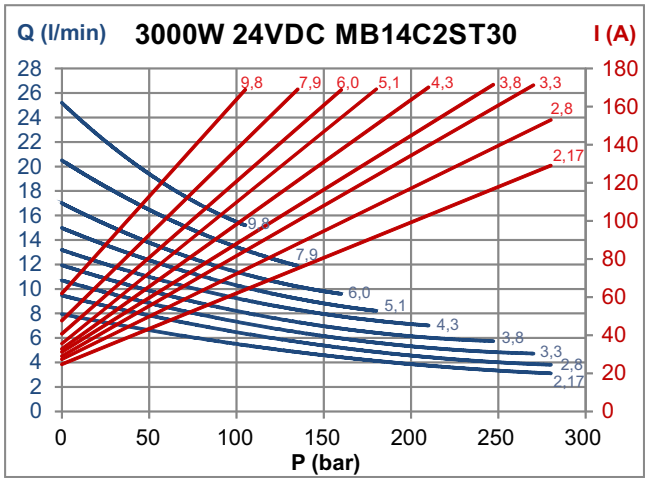



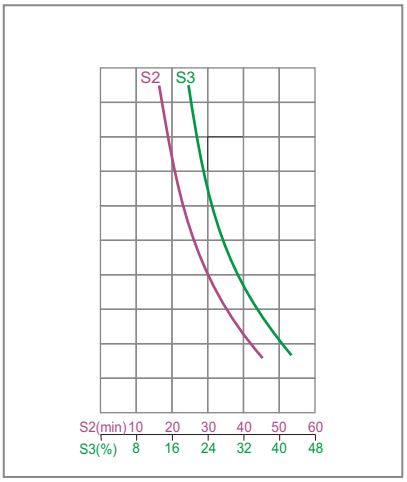

Tests made with rectified current supplied at nominal motor voltage (measured at the motor connection terminals) and oil ISO VG46 at 40°C

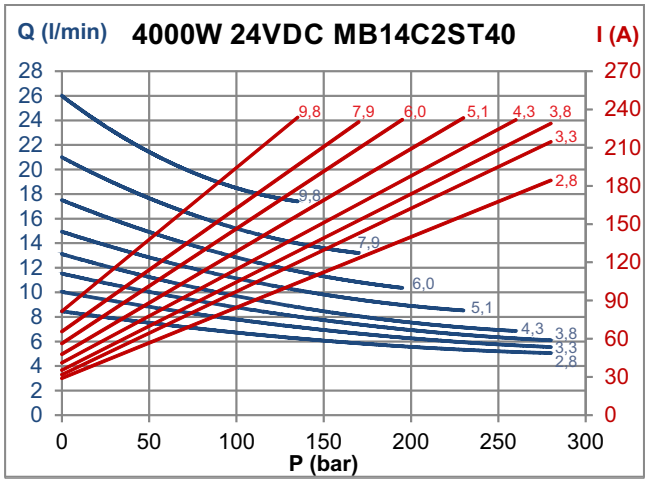
## DC MOTORS Ø151 DIAGRAMS

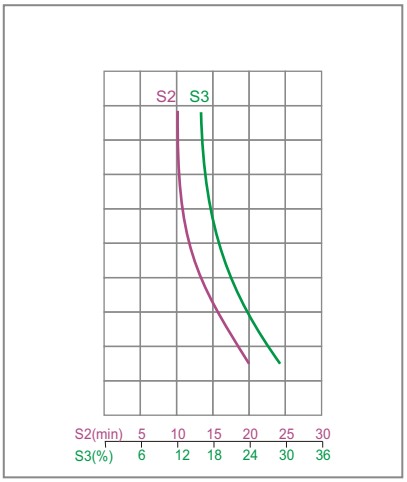



Tests made with rectified current supplied at nominal motor voltage (measured at the motor connection terminals) and oil ISO VG46 at 40°C