



OSWALD asynchronous servomotors series QD are particularly suitable when heavy demands are required with respect to high speed range, dynamics, running smoothness and operational reliability. OSWALD 4-pole QD motors in the power range from 1 kW to 150 kW have quadratic frames and are characterized by a high power density with a small space requirement. They are supplied in IP 54 to IP 65 enclosures as well as in all relevant mountings (B3, B5, V1, etc.). The standard version of the totally enclosed motor is cooled by an external axial blower. A high degree of reliability and low maintenance requirements result from the use of prelubricated bearings as well as stable housing and bearing plates. The attachment of an incremental encoder or a resolver is designed, allowing field oriented speed control with a frequency converter. Motors without encoders can also be operated excellently through the use of a frequency converter control. The QD series is the result of many years of experience with frequency controlled 3-phase squirrel cage motors. During development special attention was given to low-noise, low-dispersion design for high acceleration and breakdown torque, low rotor moment of inertia and high maximum speed with minimum of vibration.

## Features

- Wide range of field weakening
- High maximum speed
- Compact, robust, high force density
- Maintenance-free or low maintenance
- Low inertia, dynamical
- Long life
- Made in Germany

## Technical Specifications

- Torque at S1 duty class: 10-600 Nm
- Power: 1-150 kW
- Speed: up to 20,000 rpm
- Cooling: external surface
- Protection class: IP54-IP65

## Typical Applications

The motors of the QD-series are best suited for machine tools, car drives, theatre scene drives, packaging and textile machines, extruding and printing machines, wire drawing mills, etc...

## Design

The motors are designed in accordance with relevant standards and regulations. The electrical design is in accordance with DIN EN 60034/VDE 0530 Part 1 and thus with the European Standard EN 60034-1, basing on IEC 34-1. The attachment dimensions comply with DIN standards 42672/42676 and DIN 42948/42677 and thus IEC Publication 72. An exception to this is the distance between the feet fastening holes and the arrangement of the shaft dimensions as well as partially the arrangement of the flange dimensions to the IEC sizes. Please refer to the specification sheets in this respect. The tolerances of the shaft ends and the fastening flanges are within tolerance class N according to DIN 42955. Reduced tolerances are possible, the attachment dimensions can be adapted to suit customer requirements.

## Power

The power ratings in the adjacent tables are valid for motors with external blowers at a nominal speed of 1500 rpm and 2100 rpm. The motors can be controlled up to the specified nominal speed  $n_N$  at a constant torque and up to the speed  $n_F$  at constant power. The power is reduced at speeds above  $n_F$ . Rating  $P_N$  is specified for continuous operation S1 and rating  $PS_3$  for



intermittent operation S3-40% with the corresponding torques and currents. In case of a design for a nominal speed of 2100 rpm, there is both a higher power plateau as well as a higher speed in the extended speed range. This, of course, calls for a corresponding rise in the converter power. If desired, other transition speeds, instead of 1500 rpm or 2100 rpm and other speed ranges can be offered. Voltage deviating from AC 400 V is also possible.

## Cooling

The external ventilation system provides for effective cooling over the entire speed range. This cooling can also be provided by another external cooling system. The cooling air temperature must not exceed 40°C, the max. set-up altitude is 1000 m above sea level. If effective cooling with an external ventilation system is not possible or is obstructed, the power should be reduced. This especially applies to the self-cooled version. Please refer to the following conversion list for non-ventilated motors. The standard flow direction is from the B side to the A side. An axial blower is generally used. Alternatively external radial blowers at one side are also available.

## Noise Level

The noise level of the QD motors in this list is significantly below the levels allowed by EN 60034-9, a mean value at a distance of 1 m from the machine. If necessary, detailed measuring reports can be furnished.

Contact us to adapt the electrical and mechanical design to your specific requirements.

## TAC Rockford Product Line

Machine Tool Gauges, Tool Changer Alignment, Runout Test Arbors, Workholding Systems, Tool Holders, Adapters and Extensions, Tool Holder Blanks, Machine Tool Accessories, Coolant Tubes and Gauges, Heat Shrink Systems, Rapid Prototyping

### Tool Holders



### Gauges



### Accessories



### Rapid Prototyping

