Optimized processes through dynamics, power, and compact design

CMS 50/63/71 standard electric cylinders
CMSM 63 modular electric cylinders
Precise, powerful, and fast: Electric cylinders of the CMS series

Applications with linear movement place high demands on the travel profile. Conventional solutions with pneumatic or hydraulic cylinders quickly reach their performance and system limits. Combining electric cylinders with the inverters from SEW-EURODRIVE results in intelligent drive systems that offer a high degree of flexibility and positioning accuracy as well as new options in programming, power control and diagnostic functions. These translate into new and reliable concepts that can be integrated into a variety of production processes.

The electric cylinders of the CMS series are precise, powerful and fast. Combined with drive electronics from SEW-EURODRIVE, you get an economical and energy-efficient drive solution that ensures the necessary process safety during plant operation and can be easily integrated into existing automation systems, such as folding machines and robotic systems. This offers numerous advantages for process engineering and packaging, material handling, the print and plastics industry as well as wood processing:

- Reduction of energy costs by eliminating the need to store energy
- Careful treatment of mechanical components through controlled acceleration
- Lower maintenance and cleaning effort (no leaking)
- Detection and control of force, velocity, acceleration and position with one drive component
- Automatic diagnostic options
- Intelligent drive system for greater flexibility in automation processes
- Quick startup: Setting parameters instead of programming by using application modules (= preprogrammed control programs), such as bus positioning.
Overview of benefits:
- Five times the power increase of a pneumatic cylinder
- Constant power setting
- Setting of different travel profiles possible
- Noise reduction through controlled acceleration
- Reference travel possible without use of initiators (by current measurement)
- Simple integration in automation processes by connection to all commercial bus systems: PROFIBUS, INTERBUS, INTERBUS LWL, DeviceNet, CAN, CANopen, PROFINET, EtherCAT® und EtherNet

Design variants:
- Different spindle pitches for linear velocities (up to 0.5 m/s)
- Resolver or absolute encoder
- 24 V brake optional
- Either with planetary roller screw drive or ball screw drive
- Numerous mounting options (between bolt/flange)
- Cardan joint
- Option for automatic regreasing during operation

Can be used wherever high demands are placed on the travel profile and more than two positions need to be travelled to, e.g. in process engineering and packaging, in material handling, in the print and plastics industry as well as in wood processing.

Overview of features:
- Integrated ball screw
- Smooth, hard-chrome-plated piston rod for special requirements at certain ambient conditions, such as humidity or dust
- Integrated locking element for lifting rod (torque arm)

- Also available as brake servomotor with 24 V holding brake
- Resolver feedback or optional with absolute encoder
- Optional 24 V forced cooling fan
- Various installation options
# Technical data

## Electrical data

<table>
<thead>
<tr>
<th>Type</th>
<th>CMS50S</th>
<th>CMS50M</th>
<th>CMS63S</th>
<th>CMS63M</th>
<th>CMS71L</th>
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</thead>
<tbody>
<tr>
<td>Max. torque (Nm)</td>
<td>5.2</td>
<td>5.2(^\text{a})</td>
<td>11.1</td>
<td>11.1(^\text{a})</td>
<td>31.4</td>
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<tr>
<td>Standstill torque (Nm)</td>
<td>1.3</td>
<td>2.4</td>
<td>2.9</td>
<td>5.3</td>
<td>9.5</td>
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## Mechanical data

<table>
<thead>
<tr>
<th>Type</th>
<th>KGT(^\text{b})</th>
<th>KGT(^\text{b})</th>
<th>KGT(^\text{b})</th>
<th>PGT(^\text{b})</th>
<th>KGT(^\text{b})</th>
<th>PGT(^\text{b})</th>
<th>KGT(^\text{b})</th>
<th>PGT(^\text{b})</th>
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</thead>
<tbody>
<tr>
<td>Rated speed (nN)</td>
<td>3,000 rpm</td>
<td>3,000 rpm</td>
<td>3,000 rpm</td>
<td>3,000 rpm</td>
<td>3,000 rpm</td>
<td>3,000 rpm</td>
<td>2,000 rpm</td>
<td>2,000 rpm</td>
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<tr>
<td>Spindle pitch (mm)</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>10</td>
<td>6</td>
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<tr>
<td>Spindle diameter (mm)</td>
<td>15</td>
<td>15</td>
<td>25</td>
<td>20</td>
<td>25</td>
<td>20</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Max. continuous feed force (^\text{a}) (N)</td>
<td>1,300</td>
<td>2,200</td>
<td>2,400</td>
<td>2,800</td>
<td>4,100</td>
<td>5,200</td>
<td>3,600</td>
<td>6,700</td>
</tr>
<tr>
<td>Peak feed force (^\text{a}) (N)</td>
<td>5,300</td>
<td>5,300</td>
<td>10,000</td>
<td>10,000</td>
<td>10,000</td>
<td>10,000</td>
<td>17,000</td>
<td>20,000</td>
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<tr>
<td>Nominal stroke (mm)</td>
<td>70</td>
<td>150</td>
<td>300</td>
<td>70</td>
<td>150</td>
<td>300</td>
<td>100/200/400/600</td>
<td>100/200/400/600</td>
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<tr>
<td>Max. velocity (mm/s)</td>
<td>375</td>
<td>210</td>
<td>375</td>
<td>210</td>
<td>375</td>
<td>450</td>
<td>375</td>
<td>450</td>
</tr>
</tbody>
</table>

\(^\text{a}\) Ball screw drive  \(^\text{b}\) Planetary roller screw  
\(^\text{a}\) Depending on average travel speed  \(^\text{a}\) Maximum permitted torque  
\(^\text{a}\) In case of tensile loads
CMS63 electric cylinder (standard)

Overview of features:
- Integrated ball screw and planetary roller screw
- Smooth, hard-chrome-plated piston rod for special requirements at certain ambient conditions, such as humidity or dust
- Integrated locking element for lifting rod (torque arm)
- Also available as brake servomotor with 24 V holding brake
- Resolver feedback or with absolute encoder
- Optional 24 V forced cooling fan
- Food grade lubricant as an option
- Integrated water cooling
- Various installation options
- Oil bath lubrication
- Higher thermal utilization
- Homogenous heating
- Maintenance-free thanks to lifetime lubrication

Technical data:
- Nominal stroke [mm]: 100/200/400/600
- Max. permitted input torque [Nm]: 11.1
- Max. permitted input speed [rpm]: 4,500
- Peak feed force [N]: 10,000
- Spindle pitch [mm]: 6

New: CMSM63 electric cylinder (modular)

Overview of features:
- Separate modular unit (linear gear unit) with the proven oil bath lubrication of the standard CMS63
- Can be combined with the standard servomotors from SEW-EURODRIVE (CMP63 S/M/L) via adapters

Technical data:
- Nominal stroke [mm]: 100/200/400/600
- Max. permitted input torque [Nm]: 11.1
- Max. permitted input speed [rpm]: 4,500
- Peak feed force [N]: 10,000
- Spindle pitch [mm]: 6

CMSM63 – modular, ball screw (KGT)

Adapter (ACA) for CMP63 with key
Adapter (ACH) for CMP63 with smooth shaft end
Identical adapters, only the coupling part on the motor is adapted
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