Milling spindles / V line
Allround talent for machining technology
The KESSLER milling spindles have a modular design.

Configure your own milling spindle model by specifying the installation position, motor, speed, bearing, lubrication and sensor system – the perfect customized solution for your individual branch and application needs.

KESSLER offers more: As an internationally successful company with extensive and highly specialized expertise, we provide comprehensive advice about the design and manufacture of individual components and project management of complex system solutions. The very latest technology and analytical processes are used to test our components under realistic conditions, so that our products help your business to maintain flexibility and its competitive edge.

Our in-house development division is supported by extensive calculation and analysis skills and covers everything from direct drive technology to the construction of all-in-one systems. Furthermore, optimized production and assembly lines provide the framework for stable processes and the superior quality of our products.

End-to-end precision from the components to the on-site service

Founded in 1923 by Franz Kessler, the company has developed to become the leading supplier of motor spindles as well as directly driven 2-axis heads and rotary tilt tables for the machine tool industry. KESSLER is proud to list many major companies from the mechanical engineering sector amongst its long-standing customers.

With the expertise of more than 95 years, KESSLER is continuously developing and optimising its products. The KESSLER product range serves a wide range of sectors, processes and applications. Close cooperation with our customers remains our key focus. The extensive product range, from high tech spindles, 2-axis heads, rotary and rotary tilt tables to motors and direct drive systems, enables KESSLER to implement customised solutions with speed and flexibility.

As your service partner, service is our matter of trust and reliability. KESSLER has an established global network of technology and service centres.
Masterpieces

KESSLER provides tailor-made spindle technology to suit your needs: Individual, flexible, modular and suitable for all areas of application

**HC line**
- Heavy cutting
- Aerospace titanium machining
- Machining of large-scale parts

**PC line**
- High speed
- High power
- High accuracy

**H line**
- Horizontal installation
- Very short acceleration and braking times

**MT line**
- Very short construction
- Used in tilting heads, turning and milling operations

**V line**
- Vertical installation
- Tilting
- Allrounder

Spindle fitting Ø (mm)

<table>
<thead>
<tr>
<th>Open cooling housing</th>
<th>170</th>
<th>170</th>
<th>200</th>
<th>230</th>
<th>270</th>
<th>325</th>
<th>395</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closed with steel sleeve</td>
<td>180</td>
<td>210</td>
<td>240</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closed with solid housing</td>
<td>200</td>
<td>230</td>
<td>240</td>
<td>310</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Availability on request

The V line is all about:
- Vertical machining
- Suitable for tilting operation
- Processing of different materials
- Machining of workpieces with varying geometries
- Use in small and large-scale production
- Short duration until reaching the stable Tool Centre Point (TCP)
- Optional clamps for turning operations
- Optional measuring of the axial shaft displacement
## Our V* line* variants

<table>
<thead>
<tr>
<th>Model</th>
<th>V100</th>
<th>V200</th>
<th>V400</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum speed (rpm)</td>
<td>24,000</td>
<td>16,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Spindle fitting Ø (mm)</td>
<td>202</td>
<td>230</td>
<td>270</td>
</tr>
<tr>
<td>Tool interface</td>
<td>HSK 63 BBT 40/SK 40 Capto C6</td>
<td>HSK 100 SK 50/BBT 50 Capto C8</td>
<td>HSK 100 SK 50/BBT 50 Capto C8</td>
</tr>
</tbody>
</table>

Impress with:
- high flexibility
- optional shaft clamping
- tilting operation optional
Advantages

All advantages of the modular system at a glance

- **Robust**  
  Designed for high load forces in the machining process

- **Bearing preload**  
  Dynamically adaptable to the machining process

- **High degree of operational safety thanks to LEDs**  
  Due to optimal illumination of the tool intervention

- **High flexibility**  
  Various tool interfaces available

- **High availability**  
  With the KESSLER tool clamping system

- **Reduction of TCO (Total Costs of Ownership)**  
  Due to the rapid change of the rotor exchange group (KESSLER QCC)
Advantages

- Hydraulic clamping for turning operations available
- Various bearing lubrication systems available
- Hydraulic, pneumatic or electrical release unit available
- The most suitable COOLMOTION® motor for your individual needs: with very high torque, very high speed or high-compact design
- High power density, due to very compact design and light weight
- Analogue or digital tool clamping status monitoring available on request
- Process reliability due to extensive sensory system
- High flexibility: KESSLER rotary union for media: lubrication, dry operation, compressed air, MQL capability
- The most suitable COOLMOTION® motor for your individual needs: with very high torque, very high speed or high-compact design

HIGH QUALITY
MADE IN GERMANY
Milling spindle / V100

- Spindle fitting: Ø 202 mm
- **KESSLER COOLMOTION® motor**
- Rotary union: Internal coolant supply with high volume flow
- Cooling: Open cooling housing
- Bearing lubrication: Grease / re-greasing / oil-air

Choose the most suitable COOLMOTION® motor from the list of preferred motors

<table>
<thead>
<tr>
<th>Model</th>
<th>Max. speed (rpm)</th>
<th>S1 Torque (Nm)</th>
<th>S1 Power (kW)</th>
<th>S6 / 40 % Torque (Nm)</th>
<th>S6 / 40 % Power (kW)</th>
<th>S6 / 25 % Torque (Nm)</th>
<th>S6 / 25 % Power (kW)</th>
<th>S6 max. Torque (Nm)</th>
<th>S6 max. Power (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V100-S24</td>
<td>24,000</td>
<td>90</td>
<td>50</td>
<td>110</td>
<td>50</td>
<td>130</td>
<td>50</td>
<td>160</td>
<td>50</td>
</tr>
<tr>
<td>V100-A15</td>
<td>15,000</td>
<td>130</td>
<td>30</td>
<td>201**</td>
<td>46</td>
<td>217</td>
<td>50</td>
<td>217</td>
<td>50</td>
</tr>
<tr>
<td>V100-A20</td>
<td>20,000</td>
<td>87</td>
<td>25</td>
<td>135**</td>
<td>40</td>
<td>150</td>
<td>44</td>
<td>203</td>
<td>60</td>
</tr>
<tr>
<td>V100-A14</td>
<td>14,000</td>
<td>80</td>
<td>15</td>
<td>112</td>
<td>21</td>
<td>129</td>
<td>24.5</td>
<td>141</td>
<td>27</td>
</tr>
</tbody>
</table>

*Availability on request
**S6 40 % / 25 % DC: 2 min.
Milling spindle / V200

- Spindle fitting: Ø 230 mm
- KESSLER COOLMOTION® motor
- Rotary union: Internal coolant supply with high volume flow
- Cooling: Open cooling housing
- Bearing lubrication: Grease / re-greasing / oil-air

Choose the most suitable COOLMOTION® motor from the list of preferred motors

<table>
<thead>
<tr>
<th>Model</th>
<th>Max. speed (rpm)</th>
<th>Torque (Nm)</th>
<th>Power (kW)</th>
<th>Torque (Nm)</th>
<th>Power (kW)</th>
<th>Torque (Nm)</th>
<th>Power (kW)</th>
<th>Torque (Nm)</th>
<th>Power (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V200-S16</td>
<td>16,000</td>
<td>185</td>
<td>52</td>
<td>205</td>
<td>52</td>
<td>235</td>
<td>52</td>
<td>260</td>
<td>52</td>
</tr>
<tr>
<td>V200-S12</td>
<td>12,000</td>
<td>235</td>
<td>54</td>
<td>265</td>
<td>54</td>
<td>305</td>
<td>54</td>
<td>335</td>
<td>54</td>
</tr>
<tr>
<td>V200-A14</td>
<td>14,000</td>
<td>180</td>
<td>30</td>
<td>260</td>
<td>43</td>
<td>300</td>
<td>50</td>
<td>300</td>
<td>50</td>
</tr>
</tbody>
</table>

*Availability on request

*High speed*

*High torque*

*Entry level*
Milling spindle / V400

- **Spindle fitting:** Ø 270 mm
- **KESSLER COOLMOTION® motor**
- **Rotary union:** Internal coolant supply with high volume flow
- **Cooling:** Open cooling housing
- **Bearing lubrication:** Grease / re-greasing / oil-air

Choose the most suitable COOLMOTION® motor from the list of preferred motors

<table>
<thead>
<tr>
<th>Model</th>
<th>S1</th>
<th>S6 / 40 %</th>
<th>S6 / 25 %</th>
<th>S6 max.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max. speed (rpm)</td>
<td>Torque (Nm)</td>
<td>Power (kW)</td>
<td>Torque (Nm)</td>
</tr>
<tr>
<td>V400-A15</td>
<td>15,000</td>
<td>300</td>
<td>48</td>
<td>445</td>
</tr>
<tr>
<td>V400-A10</td>
<td>10,000</td>
<td>400</td>
<td>50</td>
<td>560</td>
</tr>
<tr>
<td>V400-A15</td>
<td>15,000</td>
<td>220</td>
<td>35</td>
<td>305</td>
</tr>
</tbody>
</table>
Modular extensions available

+ Choose the most suitable KESSLER COOLMOTION® motor for your needs
+ KESSLER rotary union
  - Coolant
  - Dry operation
  - Compressed air
  - MQL capability
+ Sensor monitoring system
  - Interface control (IFC)
  - Vibration sensor
  - Analogue sensor
  - Eddy current sensor detects axial shaft displacement
  - Clamping status monitoring
  - Clamping monitoring
  - Leakage monitoring
  - Temperature sensor PT100
+ Hydraulic clamping
+ Bearing preload variable
+ Bearing lubrication
  Grease / re-greasing / oil-air
+ Closed cooling jacket
+ Clamping spring package is designed for 5 million tool changes
+ Holding-function for collet chuck variable
+ 2-channel rotary union

Accessories

+ Oil-air lubrication unit
+ Re-greasing unit
+ Direct lubrication on demand
Keeping up with the beat of the spindle

The KESSLER diaLOG intelligent system for data processing and condition monitoring is our solution for a connected industry.

**KESSLER diaLOG**

All advantages at a glance

- Condition monitoring by detecting limit value exceedances
- Improved operational reliability in customer processes (Process performance, operation time)
- Reduces TCO (Total Costs of Ownership)
- Reduces unscheduled downtimes
- Reduces machine downtime

**SENSORS**

- Integrated electrical current, temperature and vibration sensors determine the current, frequency, temperature conditions and vibration acceleration.

**diaLOG**

- An intelligent digital network system (KESSLER diaLOG) analyses and evaluates process data.
- Detects and stores limit value exceedances
- Interface with the network infrastructure

**TCP/IP**

- The system is equipped with a TCP/IP interface for data transfer. This system transmits diaLOG data either continuously or on request to the diaLOG App or client application.

**KESSLER SPINDLE TECHNOLOGY**

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Predefined limit values are continuously monitored and logged by the system. The diaLOG App has been developed for evaluating the diaLOG data.

- Its functions are planned to include preventive maintenance and continuous data collection.
- Correction factors from the motor spindle will be communicated to the user and warning messages will be automatically transmitted to the process control system.
- KESSLER diaLOG incorporated in the product contributes to full process visualisation.
- Can be used throughout the product range with additional options for other areas.

Available on request
Quick Connect Cartridge (QCC)

1. DISASSEMBLY OF THE CARTRIDGE FROM THE MOTOR SPINDLE

2. ASSEMBLY OF THE NEW CARTRIDGE

3. RESTARTING OF OPERATION

Fast replacement of rotor shaft, front/rear bearing and power drawbar on-site

Reduces TCO (Total Costs of Ownership)

Reduces machine downtime

No electrician needed

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