



### Features of Hydrostatic Lathe Spindles

- Very low friction will heat the spindle only slightly. Nearly all motor power gets to the workpiece.
- Heat that is generated is moved immediately out of the spindle area with the oil and cooled in the chiller.
- No vibration from roller bearings for extremely smooth operation.
- Excellent damping of vibration during grinding process, resulting in superior surface finish and workpiece accuracy. In addition, grinding wheels will stay sharp longer.
- Very high axial and radial stiffness, allowing required dimensions to be reached faster and more precisely. Excellent roundness of grinding diameters.
- High load capacity.
- Speed and stiffness are independent and full load turning from 0 to maximum speed is possible.
- Wear-free because there is no contact between moving parts when in operation.
- No loss of accuracy, even under full load at maximum speed.
- Less sensitive to chips and other debris because the bearings are cleaned continuously with hydrostatic oil.
- Gap is sealed with a compressor air lock which keeps the oil in the spindle and keeps machining coolant and chips out.
- The spindle is supplied with a properly sized hydraulic power unit with chiller. The system is designed to protect the internal bearings should electrical power fail.
- The spindle can be driven by belt, direct drive, or as a motor spindle.
- Static and dynamic bearing forces from the cutting force or unbalance of the workpiece can be detected by measuring the pocket pressure.
- The hydrostatic lathe spindle is especially well suited to horizontal or vertical turning machines or for mill/turning machines.
- The hydrostatic spindle can be adapted to specific machining force and torque requirements.

### Technical Data of the Main Spindle, Size A8

| Features                        |             |
|---------------------------------|-------------|
| Working speed range             | 0-4000 rpm  |
| Friction power at 4000 rpm      | 1.24 kW     |
| Max. pump power                 | 0.6 kW      |
| Pump pressure                   | 63 bar      |
| Max. oil flow                   | 12 l/min    |
| Max. heating of oil at 4000 rpm | 8° C        |
| Spindle head                    | DIN55026 A8 |
|                                 | 80 mm       |

  

|                   | radial front  | radial rear   | axial front        |
|-------------------|---------------|---------------|--------------------|
| Bearing diameter  | 120 mm        | 110 mm        | 125/160 mm         |
| Number of pockets | 4             | 4             | 2                  |
| Loadability       | Fr = 10000 N  | Fr = 8000 N   | Fa = +3750/-2400 N |
| Load reserve      | >100%         | 100%          | 100%               |
| Stiffness         | Cr > 900 N/μm | Cr > 800 N/μm | Ca > 800 N/μm      |

Higher speed, load, and other sizes are available.