Self contained servo drive CLSP
Technical data sheet

Advantages
+ High energy efficiency
+ Automatic load-dependent change-over of the hydraulic transmission
+ Significantly reduced electric connection power
+ No power pack
+ Overload safety
The servo drive CLSP is a hydraulic linear drive from the Voith product family of self-contained drives. Characteristics for self-contained Voith servo drives are the high energy efficiency, overload safety and nearly wear-free operation. The CLSP drive additionally has an automatic load-dependent change-over of the hydraulic transmission. As a result, the electric connection power is significantly reduced with the result that the size of the motor and the inverter are smaller.

The main components of the CLSP are a servo motor, a 4Q internal gear pump and a directly coupled hydraulic cylinder. No hydraulic unit or oil tank is required for the operation of the self-contained drive. All hydraulic components are integrated into the CLSP servo drive.

The drive is suitable for force control and position control. The sensors used provide the basis for a complete integration in automated production plants.

### Technical data
- Ambient temperature: -5°C to +40°C
- Mounting position: any
- Working force: up to 300 kN; higher forces on request
- Stroke length: 50, 100, 200 mm
- Linear feedback system (option): absolute encoder
- Positioning accuracy: 0.01 mm, typical
- Pressure control accuracy: 0.5% FS (full scale), typical
- Repeatability: 0.01 mm, typical
- Protection class: IP54 / IP64
- Control: position and/or force control
- Service interval: 3 years or 20,000 operating hours

### Scope of delivery
- **Basic version:**
  - Complete drive unit
  - Motor, pump, cylinder, compensation tank, pressure switch
  - Oil filling with high performance fluid PF-700
  - Drift protection (not a safety component)
- **Options:**
  - Servo converter with interface cards
  - Line filter, mains line choke, brake resistor
  - Motor cable, encoder cable
  - Parameterization software
  - Start-up on-site
  - Filling and flushing station
  - Fan

### Applications
- Bending machines
- Cutting machines
- Forming machines
- Presses
- Special machines
- General replacement of spindle drives with servo motor
- Material handling
- Testing machines and laboratory applications
- Food industry
## Product characteristics

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| Servo drive with hydraulic power transmission | The drive is wear-resistant and absolutely overload-safe | + Your drive components and moving parts have a long lifetime  
+ After an overload occurs, your machine or equipment can be quickly and easily restarted |
| Servo drive with hydraulic power transmission | The drive has only a few electrical interfaces | + This keeps your startup effort and costs low  
+ No staff with knowledge of hydraulics is required |
| Closed-loop hydraulic system with no directional control valves or servo valves | The integrated hydraulic system is a stand-alone system (self-contained) | + You save the procurement and maintenance costs required for an external hydraulic power pack with all of its piping and tubing  
+ The linear drive is easy and cost-effective to install in machines and equipment |
| Cylinder with automatic gear shifting and automatic recognition of the load | The drive requires small volume flows and correspondingly small pumps and servomotors as well as converters | + The installed electrical power and the installation costs are low |
| Cylinder with automatic gear shifting and automatic recognition of the load | The drive is very fast | + The productivity of the plant is very high |
| The hydraulic cylinder is controlled with a servo pump whose flow rate is matched to the cylinder surfaces | Simple and compact design with no classic valve and control technology | + The linear drive requires up to 50% less energy, reducing your operational costs  
+ The costs for commissioning, training and maintenance are low |
| The hydraulic cylinder is controlled with a servo pump whose flow rate is matched to the cylinder surfaces | Hydraulic system throttle losses are kept to a minimum | + The drive is energy-efficient and has low cooling requirements |
| Standardized linear drive with very few components and modular design | • This keeps planning costs associated with system integration low  
• A large number of designs and sizes are available | + This reduces development times and development costs associated with your machinery or equipment |
Performance fluid PF-700 for servo drive CLSP

Performance fluid PF-700 was developed especially for all power transmission systems with special requirements on tribology, temperature, oxidation and shearing stability. The result is a very high application period at minimum degradation.

- Very low frictional losses, therefore significantly enhanced efficiency of power transmission
- Energy saving
- High viscosity index
- Outstanding wear protection characteristics
- Compatible with commonly used sealing materials

For the servo drive CLSP, exclusive use of PF-700 is mandatory.

Further data:
25000864510-TED-EN- and 25000864610-DSH-EN-.