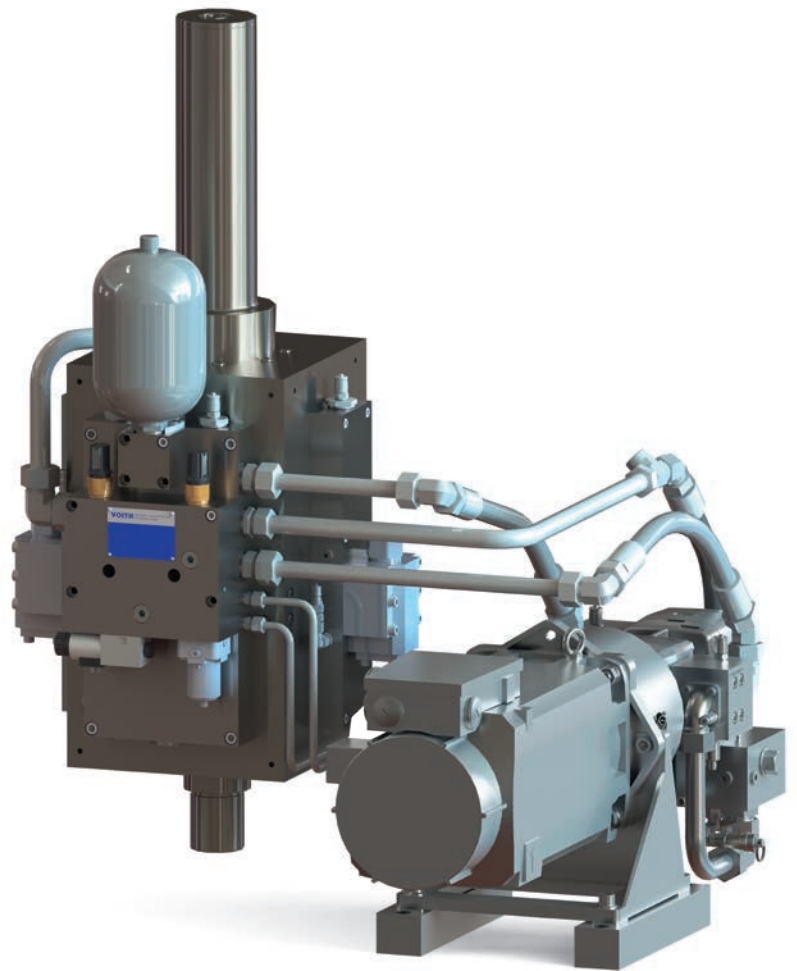


Self contained press drive PDSC

Technical data sheet



Advantages

- + High dynamics
- + Very high energy efficiency
- + Low installed electric power
- + Force and position control
- + No power pack
- + Very simple and quick start up
- + Plug and play

The PDSC (Press Drive Self Contained) is a hydraulic linear drive that is characterized by a high power density and high dynamics. Characteristic for the PDSC servo drive are the very high energy efficiency, the automatic gear shifting and the almost wear-free operation. The drive is suitable for force control and position control.

The main components of the PDSC are a servo motor, an internal gear pump and a directly coupled hydraulic cylinder. The design is self contained and compact. There is no hydraulic unit or oil tank required for operation and all of the hydraulic components are integrated into the servo drive PDSC.

The servopump is tuned to the area ratio of the cylinder. The speed and the direction of movement are controlled without directional or throttle valves. The cylinder is equipped with modules for automatic gear shifting and automatic recognition of the load. The transmission is switched over automatically and is controlled by the mechanical load. The almost wear-free operation allows a long service life and long maintenance intervals. The drive is overload-proof due to the hydraulic circuitry.

Servopump



Performance fluid PF-700

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

Technical data

Ambient temperature	-5°C to +40°C
Mounting position	any
Force	up to 5 000 kN
Stroke length	up to 500 mm
Position measuring 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
Maintenance 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
 - Pressure transducer
 - Servo converter with safety relay and interface cards
 - Line filter, mains line choke, brake resistor
 - Motor cable, encoder cable
 - Parameterization software
 - Start-up on-site

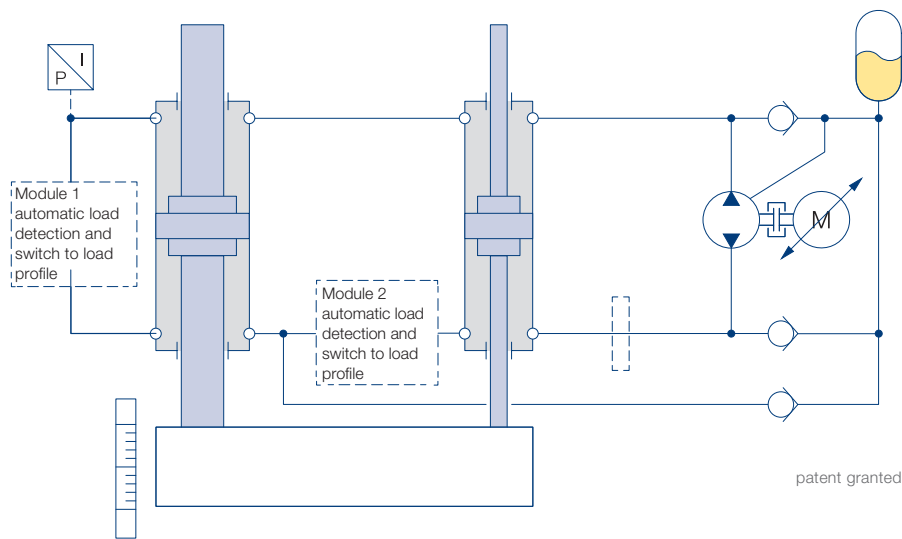
Applications

- Presses
- Calibrating machines
- Forming machines
- Bending machines
- Cutting machines
- Special machines

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

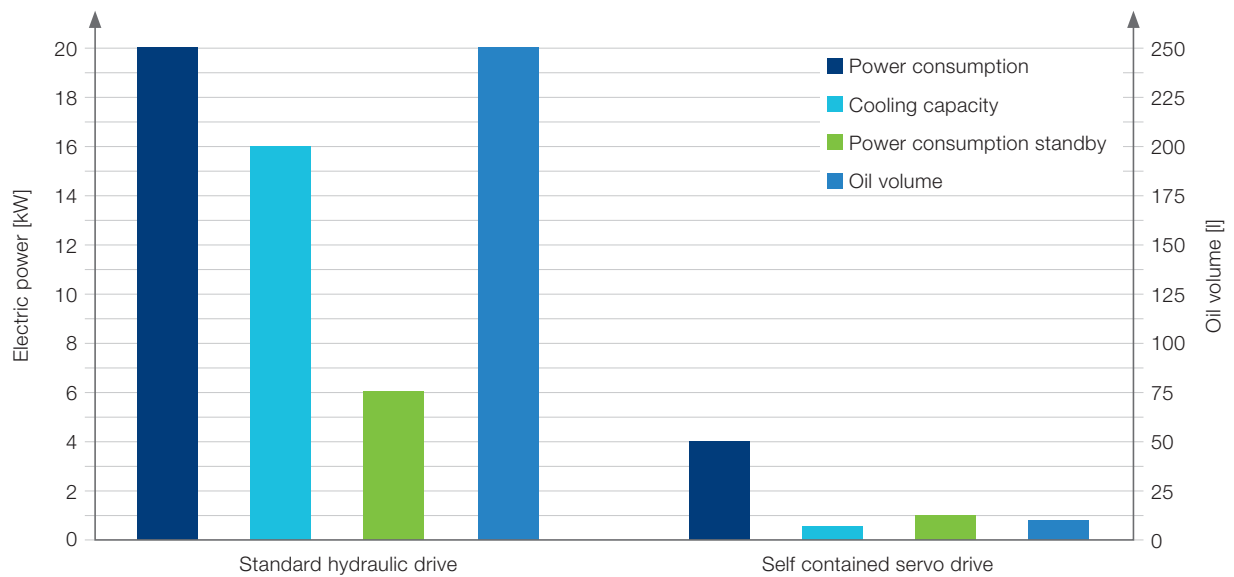
Further data: 25000864510-TED-EN- and 25000864610-DSH-EN-.

System circuit



The control by servo pumps and the load-controlled automatic transmission switch through the modules 1 and 2 enable a minimum necessary volume flow and thus the use of small internal gear pumps and servomotors as well as smaller servo converters. In addition to the resulting dynamics advantages, this means less space is required and the budget is relieved.

Energy



Technical data of the compared drives

- Punching force 100 t
- Speed 140 mm/s
- Positioning accuracy 0.01mm

Product characteristics

Characteristics	Advantages	Benefits
Servo drive with hydraulic power transmission	The drive is wear-resistant and absolutely overload-safe	<ul style="list-style-type: none"> + Your drive components and moving parts have a long lifetime + After an overload occurs, your machine or equipment can be quickly and easily restarted
	The drive has only a few electrical interfaces	<ul style="list-style-type: none"> + 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)	<ul style="list-style-type: none"> + 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
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
	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	<ul style="list-style-type: none"> • Simple and compact design with no classic valve and control technology • Hydraulic system throttle losses are kept to a minimum 	<ul style="list-style-type: none"> + The drive is energy-efficient and has low cooling requirements, reducing your operational costs + The costs for commissioning, training, and maintenance are low
	Standardized linear drive with very few components and modular design	<ul style="list-style-type: none"> • This keeps planning costs associated with system integration low • A large number of designs and sizes are available

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