

Short description

# Axial piston pump DPVO



The Liebherr DPVO 550 axial piston pumps are designed as swashplates for open circuits. They were developed for mining applications. Thanks to their robust and reliable design, they are also highly suitable for industrial plant and maritime applications.

All these variable displacement pumps are available in nominal size 550 as a single pump with impeller, or as a double pump without an impeller. The nominal pressure of the units is 5,511 psi (380 bar) and the maximum pressure is 6,092 psi (420 bar) absolute.

The DPVO 550 models stand out with their wide swivel angle of 20° and high pressure capacity. The pumps offer 100% through-drive capability, and can be combined with hyperbolic power control with pressure control and pressure cut-off. With the impeller, higher speed and higher displacement are possible as well.

**Valid for:**

DPVO 550 / DPVO 550i

**Features:**

D series  
Open circuit

**Control types:**

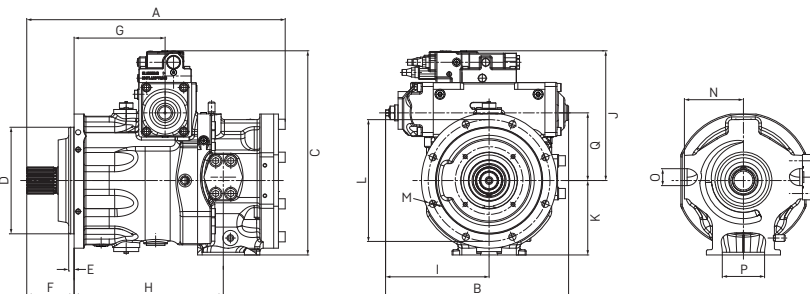
Additional control types upon request

**Pressure range:**

Nominal pressure  $p_N = 5,511$  psi (380 bar)  
Maximum pressure  $p_{max} = 6,092$  psi (420 bar)

**LIEBHERR**

# Axial piston pump DPVO



**DPVO** variable displacement, open circuit, nominal pressure 5,511 psi (380 bar), maximum pressure 6,092 psi (420 bar)

Nominal size		550	
Displacement volume	$V_{g \max}$	inch <sup>3</sup> (cm <sup>3</sup> )	33.56 (550)
Max. speed	at $V_{g \max}$ , $n_{\max}$	rpm	1,450
Volume flow	at $n_{\max}$ , $Q_{v \max}$	US.liq.gal/min (l/min)	211 (797)
Drive power	$\Delta p = 5,511 \text{ psi (380 bar)}$ , $P_{\max}$	hp (kW)	677 (505)
Drive torque	$\Delta p = 5,511 \text{ psi (380 bar)}$ , $T_{\max}$	lbf-ft (Nm)	2,453 (3,326)
Max. torque of through-drive		lbf-ft (Nm)	2,453 (3,326)
Available controls	LR-SD-DA		

## Technical data

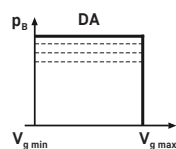
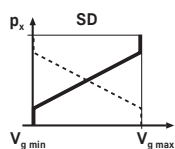
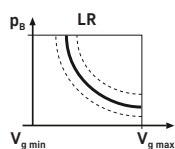
Product dimensions [inch (mm)]		550	
Total length overall	A	30.08 (764)	
Total width of the pump	B	21.30 (541)	
Total height of the pump	C	23.76 (603.5)	
Centering diameter	D	12.40 (315)	
Length, centering diameter	E	0.63 (16)	
Length from the flange to the end of the shaft	F	5.51 (140)	
Length from flange to the centre axis of the control	G	10.59 (269)	
Length from flange to the centre of the high-pressure channel	H	17.36 (441)	
Width from centre axis to control housing	I	12.05 (306)	
Height from the centre axis to top edge of control	J	15.10 (383.5)	
Height from the centre of the pump to the suction flange	K	8.66 (220)	
Pitch circle of the fastening holes	L	14.17 (360)	
Diameter of the fastening holes	M	0.83 (21)	
Distance from centre axis to the high-pressure flange	N	7.87 (200)	
Diameter of the working line, SAE	O	1.97 (50)	
Diameter of the suction line, SAE	P	4.92 (125)	
Distance from centre axis to the regulation axis	Q	7.87 (200)	

**Control** - Other control function combinations possible upon request.

Hyperbolic performance regulation

Steering-pressure proportional hydraulic regulation (positive or negative characteristic)

Pressure control or pressure cut-off



# Type code

<b>DPV</b>	<b>0</b>	<b>550</b>	<b>/</b>			<b>1</b>				<b>A</b>				<b>0</b>	
1.	2.	3.		4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.

## 1. Pump type

D series / pump / variable displacement																<b>DPV</b>
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## 2. Type of circuit

Open																<b>0</b>
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## 3. Nominal size

																<b>550</b>
																■

## 4. Residual displacement from hydraulic pump

15 % of $V_{g\max}$ , not adjustable, enter value in $\text{inch}^3/\text{rev}$ ( $\text{cm}^3/\text{rev}$ ) (enter "not adjustable" in the order text)																■
0 or 15 % of $V_{g\max}$ hydraulically adjustable, enter value in $\text{inch}^3/\text{rev}$ ( $\text{cm}^3/\text{rev}$ ) (enter "not adjustable" in the order text)																■

## 5. Control

Electro-proportional regulation (rising characteristic) / pressure cut-off																<input type="checkbox"/>	<b>EL1/DA</b>
Power control / load sensing																<input type="checkbox"/>	<b>LR/LS</b>
Power control / steering-pressure proportional / pressure cut-off																<input checked="" type="checkbox"/>	<b>LR/SD/DA</b>
Electro-proportional regulation (rising characteristic) / load sensing																<input type="checkbox"/>	<b>EL1/LS</b>
Pressure control or pressure cut-off																<input type="checkbox"/>	<b>DA</b>
Total performance regulation / steering-pressure proportional regulation																<input type="checkbox"/>	<b>SL/SD</b>
Load sensing / pressure cut-off																<input type="checkbox"/>	<b>LS/DA</b>

## 6. Design

																■	<b>1</b>
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## 7. Direction of rotation (viewed towards the drive shaft)

Right																<input type="checkbox"/>	<b>R</b>
Left																<input checked="" type="checkbox"/>	<b>L</b>

## 8. Mounting flange

Diesel engine flange SAE 1 (SAE J617a)																<input type="checkbox"/>	<b>11</b>
Diesel engine flange SAE 2 (SAE J617a)																<input type="checkbox"/>	<b>12</b>
DIN / ISO 3019-2																<input checked="" type="checkbox"/>	<b>31...</b>
Special flange																<input type="checkbox"/>	<b>51...</b>

## 9. Shaft end

Splined shaft DIN 5480																<input checked="" type="checkbox"/>	<b>1</b>
Splined shaft ANSI B92.1a																<input type="checkbox"/>	<b>2</b>

## 10. Connections

ISO 6162-2 / SAE J518-2, high-pressure connection 6000 psi																<input checked="" type="checkbox"/>	<b>A</b>
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## 11. Add-on parts

Without add-on parts																<input type="checkbox"/>	<b>0</b>
With impeller																<input checked="" type="checkbox"/>	<b>I</b>

## 12. Gear pump

Without gear pump																<input checked="" type="checkbox"/>	<b>00</b>
With gear pump, $V_g = XX \text{ inch}^3$ ( $\text{cm}^3$ ) enter value in $\text{inch}^3/\text{rev}$ ( $\text{cm}^3/\text{rev}$ )																<input type="checkbox"/>	

## 13. Through drive

Ready for through-drive, with cover closed																<input checked="" type="checkbox"/>	<b>K02G</b>
ANSI B 92.1a-1976, 1 in 15T 16/32 DP, SAE-B, 2-hole																<input checked="" type="checkbox"/>	<b>B21D</b>
ISO 3019-2	DIN 5480 involute gear hub profile	8-hole	Open hole													<input checked="" type="checkbox"/>	<b>U32D</b>
Special diameter	DIN 5480 involute gear hub profile	Special design	Open hole													<input checked="" type="checkbox"/>	<b>K33D</b>

## 14. Valve

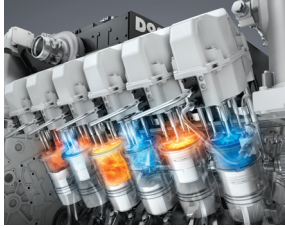
Without valve																<input checked="" type="checkbox"/>	<b>0</b>
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## 15. Sensors

Without sensor																<input checked="" type="checkbox"/>	<b>0</b>
With angle sensor																<input checked="" type="checkbox"/>	<b>W</b>
With pressure sensor																<input type="checkbox"/>	<b>P</b>

■ Available    □ On request    - Not available

# Components



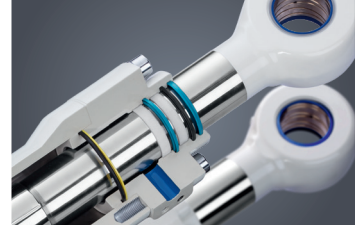
Diesel engines



Injection systems



Axial piston hydraulics



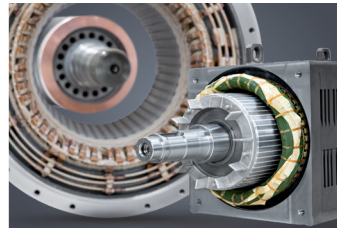
Hydraulic cylinders



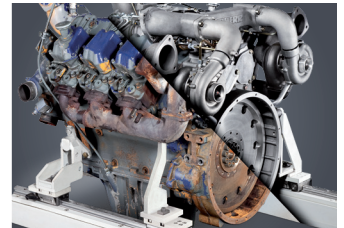
Large diameter bearings



Gearboxes and rope winches



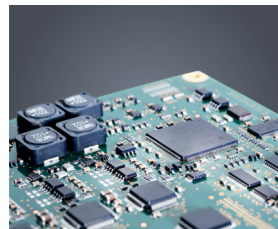
Electrical machines



Preparation of components



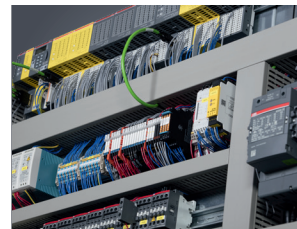
Human-machine interfaces and gateways



Control electronics and sensors



Power electronics



Switchgear



Software

From A to Z, the components division of the Liebherr Group offers a broad range of solutions for mechanical, hydraulic, electric and electronic drive and control technology. The efficient components and systems are produced at a total of ten production sites around the world to the highest standards of quality. Central contacts for all product lines are available to customers at Liebherr Component Technologies AG and our regional sales branches.

Liebherr is your partner for joint success: from product idea to development, manufacture and commissioning, right through to customer service solutions, such as preparation of components.

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