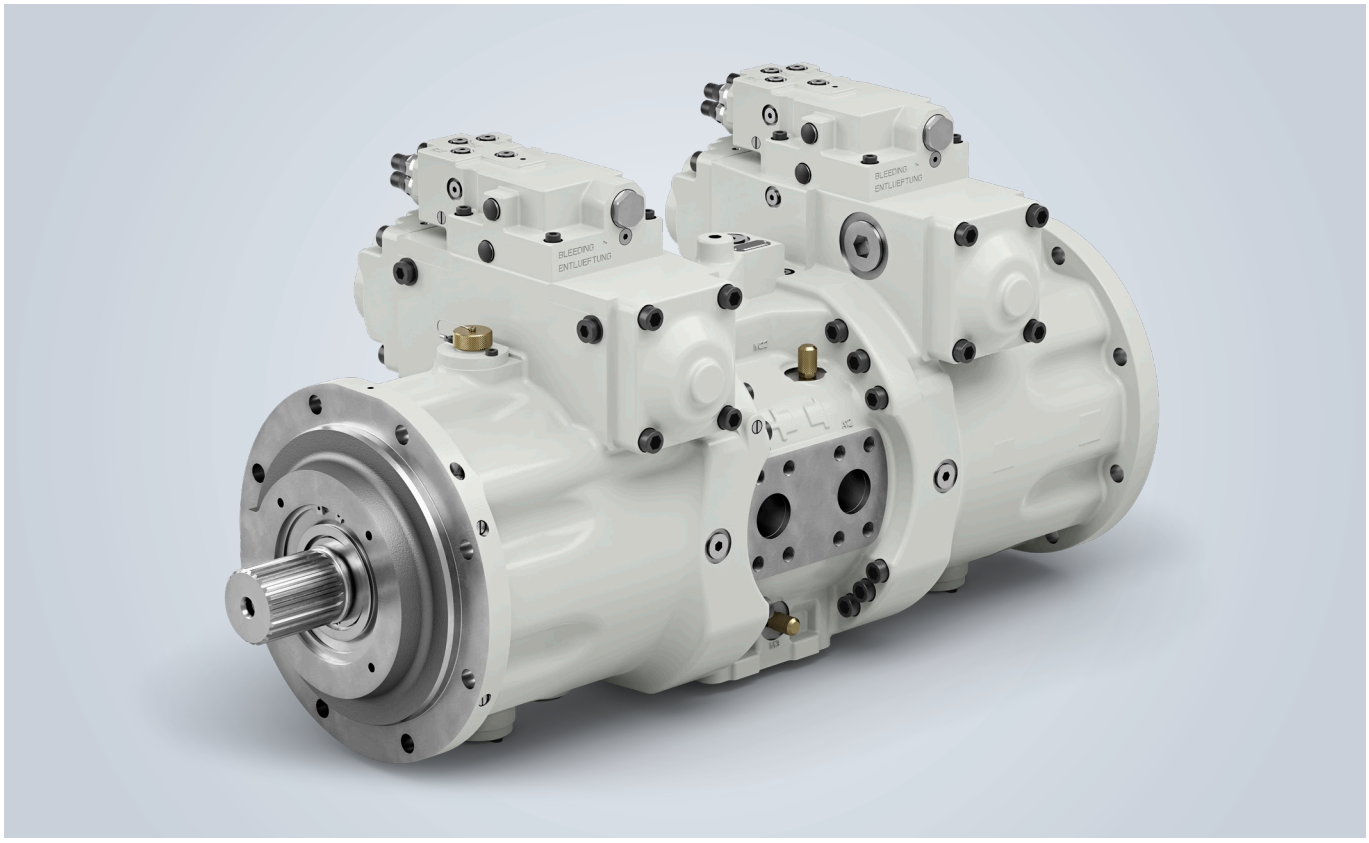
Short description

Axial piston pump DPVD



The Liebherr DPVD 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 as a double pump [2 x 33.56 inch³ (550 cm³)] without an impeller, or as a single pump [33.56 inch³ (550 cm³)] with 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 DPVD 550 stands out with its wide swivel angle of 20° and high pressure capacity. The pumps can be combined with hyperbolic power control with pressure control and pressure cut-off. The model is configured as a double pump with a back to back arrangement. Connecting the hydraulic line is greatly simplified by a shared suction port.

Valid for:
DPVD 550 involute gear hub profile

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)

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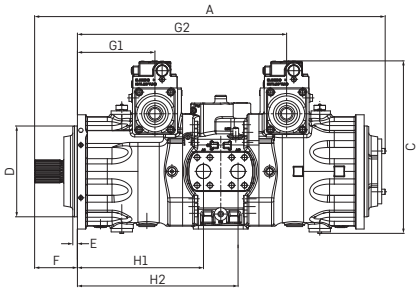
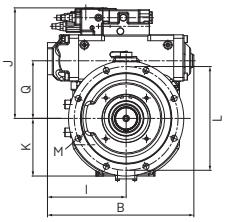
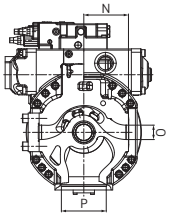






DPVD variable displacement, open circuit, nominal pressure 5,511 psi (380 bar), maximum pressure 6,092 psi (420 bar) (all specifications per driving gear)

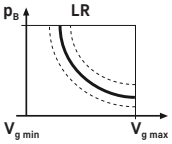
Nominal size			**550**
Displacement volume	$V_{g\,max}$	$inch^3$ (cm^3)	33.56 (550)
Max. speed	at $V_{g\,max}$, n_{max}	rpm	1,450
Volume flow	at n_{max}, $q_{v\,max}$	US.liq.gal/min (l/min)	211 (798)
Drive power	Δp = 5,511 psi (380 bar), P_{max}	hp (kW)	677 (505)
Drive torque	Δp = 5,511 psi (380 bar), T_{max}	lbf·ft (Nm)	2,456 (3,330)
Available controls	LR-SD-DA		

Technical data

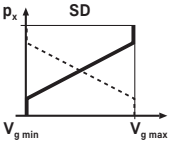
Product dimensions [inch (mm)]		**550**
Total length overall	A	47.89 (1,216.5)
Total width of the pump	B	20.00 (508)
Total height of the pump	C	23.56 (598.5)
Centering diameter	D	12.40 (315)
Length, centering diameter	E	0.63 (16)
Length from the flange to the end of the shaft	F	5.85 (148.5)
Length from flange to the centre axis of control 1	G1	10.59 (269)
Length from flange to the centre axis of control 2	G2	28.58 (726)
Length from flange to the centre of high-pressure channel 1	H1	17.22 (437.5)
Length from flange to the centre of high-pressure channel 2	H2	21.95 (557.5)
Width from centre axis to control housing	I	10.75 (273)
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	7.87 (200)
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	6.10 (155)
Diameter of the working line, SAE	O	1.97 (50)
Diameter of the suction line, SAE	P	6.13 (155.7)
Distance from centre axis to the regulation axis	Q	7.87 (200)

Control – Other control function combinations possible upon request.

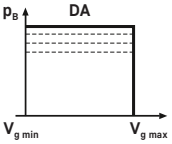
Hyperbolic performance regulation



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



Pressure control or pressure cut-off



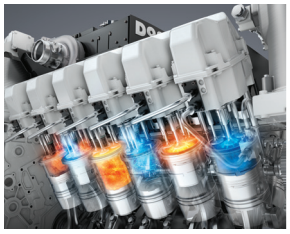
Type code

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

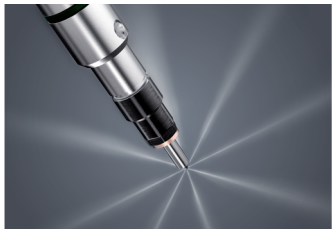
1. Pump type					
D series / pump / variable displacement / double					**DPVD**
2. Type of circuit					
Open					**0**
3. Nominal size					
				550	
				■	
4. Residual displacement from hydraulic pump					
15 % of $V_{g\,max}$, not adjustable, enter value in inch³/rev (cm³/rev) (enter "not adjustable" in the order text)				■	
0 or 15 % of $V_{g\,max}$, hydraulically adjustable, enter value in inch³/rev (cm³/rev) (enter "not adjustable" in the order text)				□	
5. Control					
Electro-proportional regulation (rising characteristic) / pressure cut-off				□	**EL1 / DA**
Power control / load sensing				□	**LR / LS**
Power control / steering-pressure proportional / pressure cut-off				■	**LR / SD / DA**
Electro-proportional regulation (rising characteristic) / load sensing				□	**EL1 / LS**
Pressure control or pressure cut-off				□	**DA**
Total performance regulation / steering-pressure proportional regulation				□	**SL / SD**
Load sensing / pressure cut-off				□	**LS / DA**
6. Design					
				■	**1**
7. Direction of rotation (viewed towards the drive shaft)					
Right				□	**R**
Left				■	**L**
8. Mounting flange					
Diesel engine flange SAE 1 (SAE J617a)				□	**11**
Diesel engine flange SAE 2 (SAE J617a)				□	**12**
DIN / ISO 3019-2				■	**31...**
Special flange				□	**51...**
9. Shaft end					
Splined shaft DIN 5480				■	**1**
Splined shaft ANSI B92.1a				□	**2**
10. Connections					
ISO 6162-2 / SAE J518-2, high-pressure connection 6000 psi				■	**A**
11. Add-on parts					
Without add-on parts				■	**0**
With charge pump (impeller)				□	**I**
12. Gear pump					
Without gear pump				■	**00**
With gear pump, V_g = XX inch³ (cm³) enter value in inch³/rev (cm³/rev)				□	
13. Through drive					
No through drive				■	**0000**
SAE B	2-hole		Open hole	□	**B11D**
SAE B	2-hole		Closed hole	□	**B11G**
SAE B-B	2-hole		Open hole	□	**B21D**
SAE B-B	2-hole		Closed hole	□	**B21G**
14. Valve					
Without valve				■	**0**
15. Sensors					
Without sensor				■	**0**
With angle sensor				■	**W**
With pressure sensor				□	**P**

■ Available □ On request – Not available

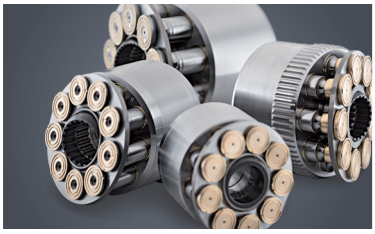
Components



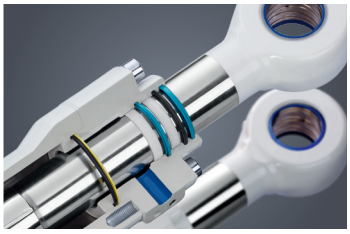
Diesel engines



Injection systems



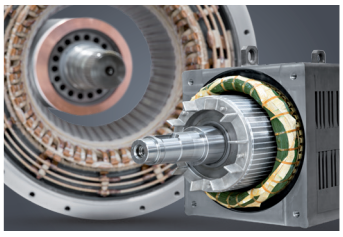
Axial piston hydraulics



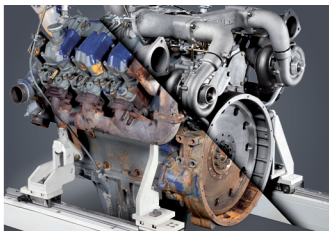
Hydraulic cylinders

Large diameter bearings

Gearboxes and rope winches

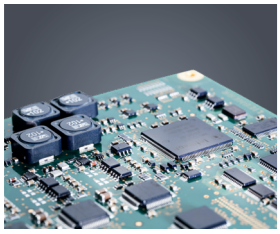


Electrical machines



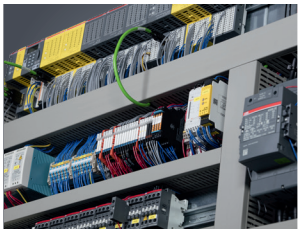
Preparation of components

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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