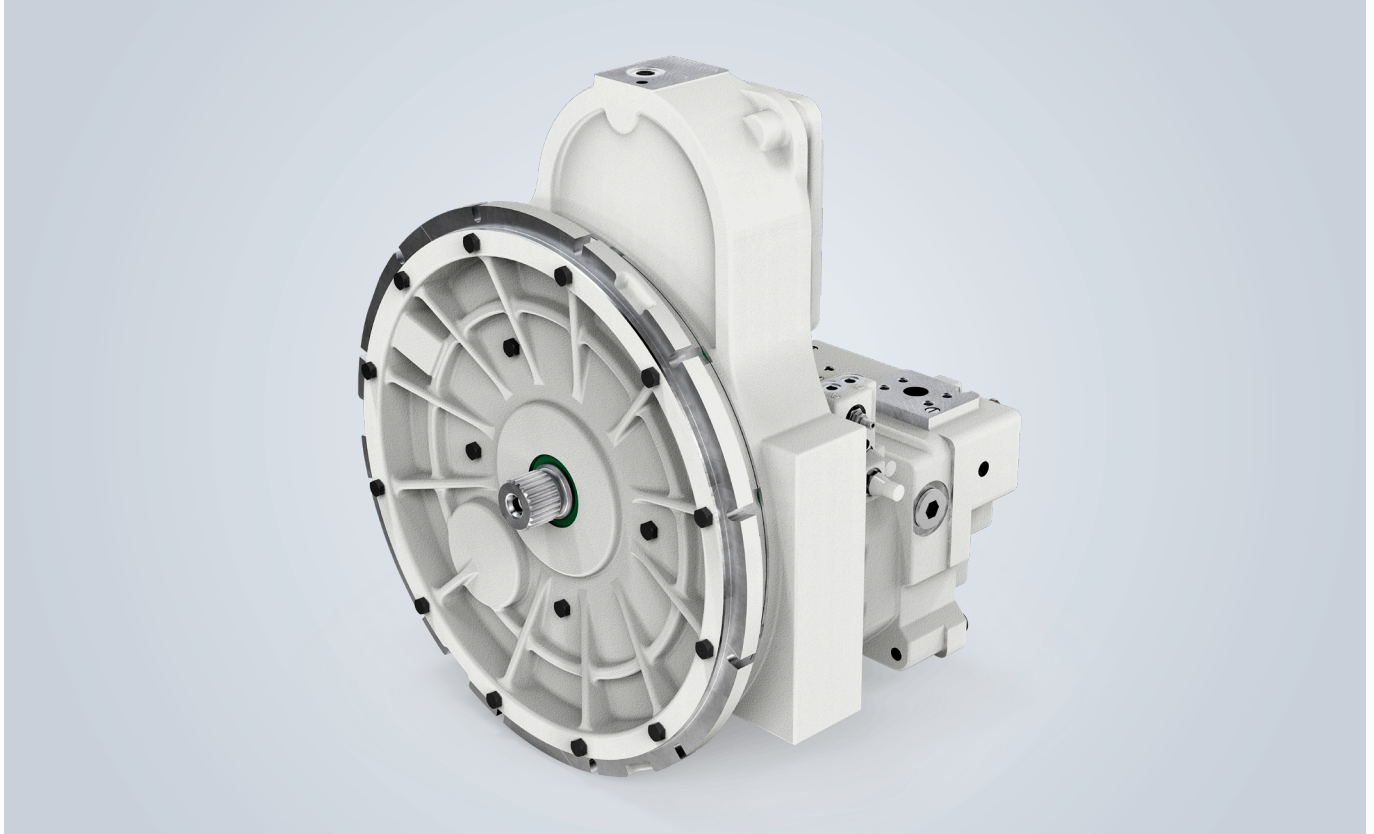


Short description

Axial piston pump DPVP



The Liebherr axial piston pumps in the DPVP series are designed as swashplates as a parallel pump for open circuits. These variable displacement parallel pumps are available in nominal sizes ranging from 6.59 to 10.07 inch³ (108 to 165 cm³). The nominal pressure of the units is 5,802 psi (400 bar) and the maximum pressure is 6,527 psi (450 bar) absolute.

Special features of the DPVP:

Liebherr pumps in the DPVP series are specially designed for excavator applications. An integrated spur gearbox allows downspeeding to reduce exhaust emissions. In nominal sizes 108 and 165, the pump can be equipped with an impeller. This achieves a higher self-suction speed and a higher displacement.

The inverse drive with a swivel angle of 22° is very efficient and has a very high power density.

The DPVP series is available with many common controls.

Valid for:

DPVP 108 / DPVP 108i
DPVP 165 / DPVP 165i

Features:

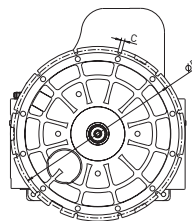
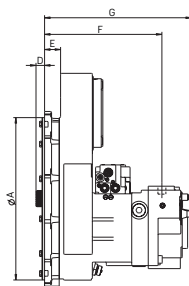
Axial piston pump (parallel)
D series
Open circuit

Pressure range:

Nominal pressure p_N = 5,802 psi (400 bar)
Maximum pressure p_{max} = 6,527 psi (450 bar)

LIEBHERR

Axial piston pump DPVP



DPVP variable displacement, open circuit, nominal pressure 5,802 psi (400 bar), maximum pressure 6,527 psi (450 bar) (all specifications per driving gear)

Nominal size			108	108 impeller	108	165	165 impeller
Displacement volume	$V_{g \max}$	inch ³ (cm ³)	6.57 (107.7)	6.57 (107.7)	6.57 (107.7)	10.24 (167.8)	10.24 (167.8)
Max. speed	at $V_{g \max} \cdot n_{\max}$	rpm	2,300	2,800	2,300	2,100	2,300
Volume flow	at $n_{\max} \cdot Q_{v \max}$	US.liq.gal/min (l/min)	66 (248)	80 (302)	66 (248)	93 (352)	115 (436)
Drive power	$\Delta p = 5,802 \text{ psi (400 bar)}$, P_{\max}	hp (kW)	221 (165)	270 (201)	221 (165)	315 (235)	390 (291)
Drive torque	$\Delta p = 5,802 \text{ psi (400 bar)}$, T_{\max}	lbf-ft (Nm)	506 (686)	506 (686)	506 (686)	788 (1,068)	788 (1,068)
Available controls	LR-LS, LR-SD-DA, EL-LS, LS-DA						

Technical data

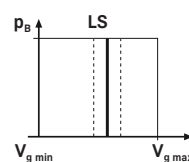
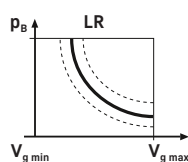
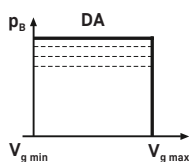
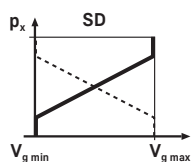
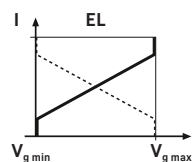
Product dimensions [inch (mm)]*			108 (SAE-1)	108 (SAE-1)	108 (SAE-2)	165	165 impeller
Splined shaft profile	DIN 5480 involute gear hub profile		W50 x 2 x 24	W50 x 2 x 24	W50 x 2 x 24	W70 x 3 x 22	W70 x 3 x 22
Centering diameter	A		20.13 (511.18)	20.13 (511.18)	17.63 (447.7)	20.13 (511.18)	20.13 (511.18)
Connection diameter, screws	B		20.87 (530.2)	20.87 (530.2)	18.37 (466.7)	20.87 (530.2)	20.87 (530.2)
Fastening holes	C		0.43 (11)	0.43 (11)	0.43 (11)	0.43 (11)	0.43 (11)
Splined shaft length	D		1.06 (27)	1.06 (27)	2.89 (73.4)	1.99 (50.5)	1.99 (50.5)
Shaft collar / mounting flange	E		1.81 (46)	1.81 (46)	0	1.04 (26.5)	1.04 (26.5)
Connection length, SAE flanges	F		14.54 (369.4)	14.78 (375.4)	12.72 (323)	16.65 (423)	16.65 (423)
Total length	G		18.19 (462)	20.84 (529.4)	16.38 (416)	20.39 (517.9)	23.85 (605.9)
Pressure connection	SAE J518 (6,000 psi)		1"	1"	1"	1 1/4"	1 1/4"
Suction port	SAE J518 (500 psi)		3"	2.5" (2x)	3"	4"	3" (2x/pump)
Leakage oil connection			M33 x 2	M33 x 2	M33 x 2	M33 x 2	M33 x 2

* The dimensions can vary depending on the configuration and additional equipment (installation drawing available upon request).

Note: The DPVP pumps can be used in 1-circuit or 2-circuit systems. An integrated 1.46 inch³ (24 cm³) gear pump for control oil is standard on output II; other configurations upon request. Direction of rotation for output III: right for the SAE-1 variant and left for the SAE-2 variant. Through-drives possible on output I and/or output II. Different gear transmission ratios are possible. Additional specification data upon request.

Control - Other control function combinations possible upon request.

Electro-proportional regulation (positive or negative characteristic) Steering-pressure proportional hydraulic regulation (positive or negative characteristic) Pressure control or pressure cut-off Hyperbolic performance regulation Load sensing



Type code

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

1. Pump type

D series / pump / variable displacement / parallel pump DPVP

2. Type of circuit

Open 0

3. Nominal size (per driving gear)

	108	165	
	■	■	

4. Residual displacement from hydraulic pump (per driving gear), other values upon request

0-15 % of $V_{g\max}$, enter value in inch^3/rev (cm^3/rev) ■

5. Control (other controls upon request)

Electro-proportional regulation / pressure cut-off	<input type="checkbox"/>	<input type="checkbox"/>	EL/DA
Hyperbolic performance regulation / load sensing	■	■	LR/LS
Hyperbolic performance regulation / steering-pressure proportional hydraulic regulation / pressure cut-off	■	■	LR/SD/DA
Electro-proportional regulation / load sensing	■	■	EL/LS
Fan drive control	<input type="checkbox"/>	<input type="checkbox"/>	LU
Total performance regulation / steering-pressure proportional hydraulic regulation	<input type="checkbox"/>	<input type="checkbox"/>	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 (other mounting flanges upon request)

Diesel engine flange SAE 1 (SAE J617a)	■	■	11
Diesel engine flange SAE 2 (SAE J617a)	■	-	12

9. Shaft end

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

10. Connections

ISO 6162-2 / SAE J518-2, high-pressure connection 6,000 psi ■ ■ A

11. Add-on parts

No add-on parts	■	■	0
Impeller	■	■	I
External pumps	<input type="checkbox"/>	<input type="checkbox"/>	F

12. Gear pump

Without gear pump	<input type="checkbox"/>	<input type="checkbox"/>	00
With gear pump, $V_g = XX \text{ inch}^3 (\text{cm}^3)$ enter value in inch^3/rev (cm^3/rev)	■	■	24

13. Through-drive (side P1 and / or P2)

No through drive	■	■	0
SAE A	<input type="checkbox"/>	<input type="checkbox"/>	A
SAE B	■	■	B
SAE C	<input type="checkbox"/>	<input type="checkbox"/>	C
SAE D	<input type="checkbox"/>	<input type="checkbox"/>	D

14. Valve

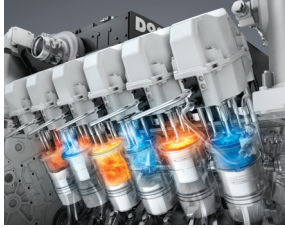
Without valve ■ ■ 0

15. Sensors

Without sensor	■	■	0
With angle sensor	<input type="checkbox"/>	<input type="checkbox"/>	W
With pressure sensor	<input type="checkbox"/>	<input type="checkbox"/>	P
With speed sensor	<input type="checkbox"/>	<input type="checkbox"/>	D

■ Available On request - Not available

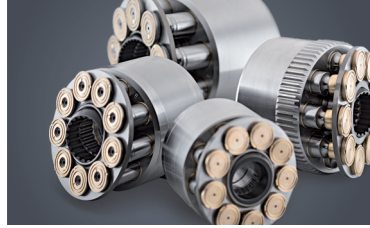
Components



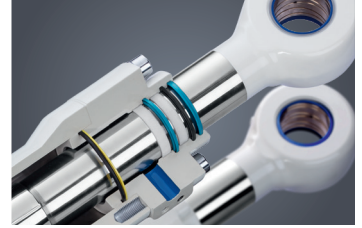
Diesel engines



Injection systems



Axial piston hydraulics



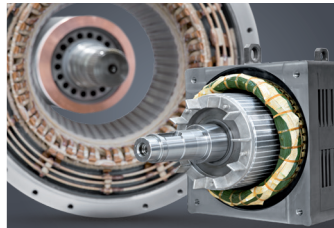
Hydraulic cylinders



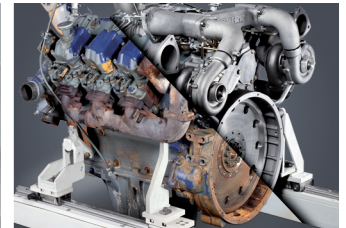
Large diameter bearings



Gearboxes and rope winches



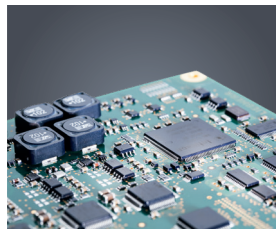
Electrical machines



Preparation of components



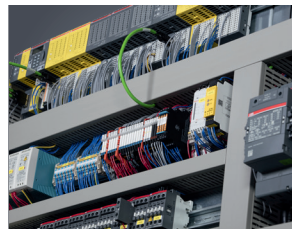
Human-machine interfaces and gateways



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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