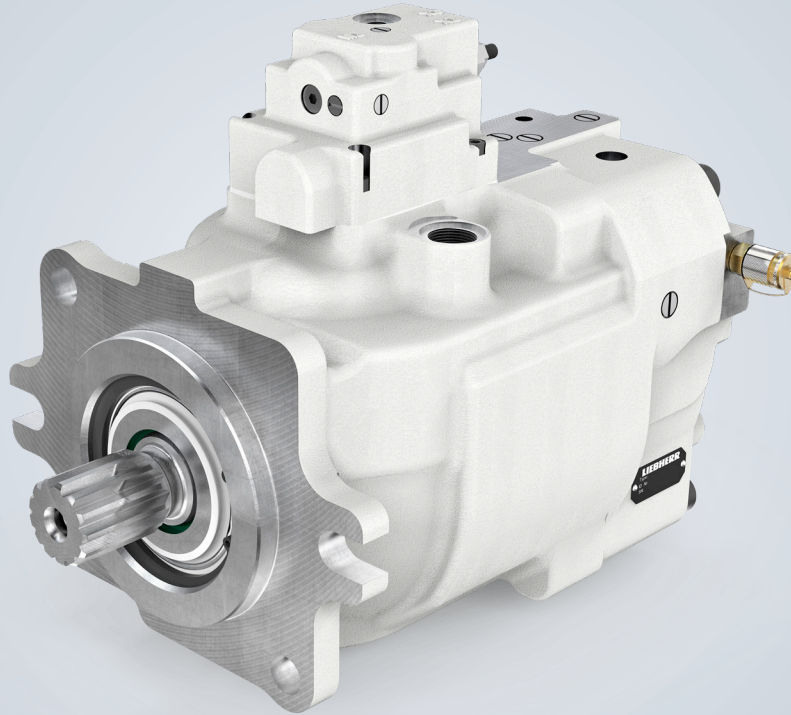


Short description

Axial piston pump DPVO



The Liebherr axial piston pumps in the DPVO series are designed as swashplates for open circuits.

These variable displacement pumps are available in nominal sizes ranging from 108 to 215. The nominal pressure of the units is 5,802 psi (400 bar) and the maximum pressure is 6,527 psi (450 bar) absolute.

These pumps for open circuits with inverted piston design were specially developed for high pressure applications.

They stand out with a 22° swivel angle and high pressure capacity, as well as 100 percent through-drive capability. They can be combined with all common controls.

In nominal sizes 165 and 215, the variable displacement pump is also available with impeller. This achieves a higher self-suction speed and a higher displacement.

Valid for:

DPVO 108 involute gear hub profile
DPVO 140 involute gear hub profile
DPVO 165 / DPVO 165i
DPVO 215 / DPVO 215i

Features:

D series
Open circuit

Control types:

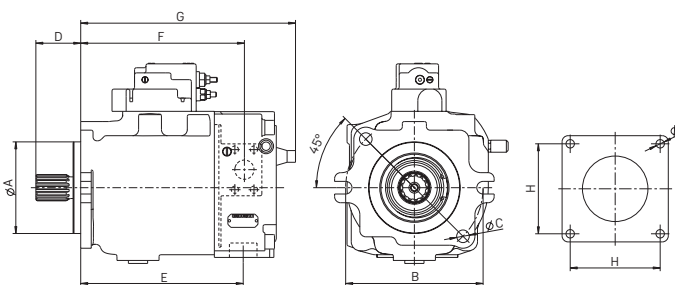
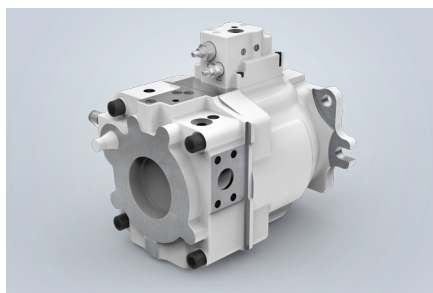
Various control types can be selected

Pressure range:

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

LIEBHERR

Axial piston pump DPVO



DPVO variable displacement, open circuit, nominal pressure 5,802 psi (400 bar), maximum pressure 6,527 psi (450 bar)

Nominal size			108	140	165	165 impeller	215	215 impeller
Displacement volume	$V_{g \max}$	inch ³ (cm ³)	6.57 (107.7)	8.56 (140.2)	10.24 (167.8)	10.24 (167.8)	13.21 (216.5)	13.22 (216.6)
Max. speed*	at $V_{g \max}$, n_{\max}	rpm	2,100	2,100	2,100	2,300	2,000	2,600
Volume flow	at n_{\max} , $q_{v \max}$	US.liq.gal/min (l/min)	60 (226)	78 (294)	93 (352)	102 (386)	114 (433)	149 (563)
Drive power	$\Delta p = 5,802 \text{ psi (400 bar)}$, P_{\max}	hp (kW)	202 (151)	263 (196)	315 (235)	345 (257)	388 (289)	503 (375)
Drive torque	$\Delta p = 5,802 \text{ psi (400 bar)}$, T_{\max}	lbf-ft (Nm)	505 (685)	658 (892)	787 (1,067)	787 (1,067)	1,016 (1,378)	1,016 (1,378)
Max. torque of through-drive		lbf-ft (Nm)	933 (1,265)	1,350 (1,830)	1,438 (1,950)	811 (1,100)	1,335 (1,810)	1,623 (2,200)
Available controls			LU, EL-DA, EL-LS, LR-LS, LR-SD-DA, LS-DA					

Technical data

Product dimensions [inch (mm)]**		108	140	165	165 impeller	215	215 impeller
Splined shaft profile	DIN 5480 involute gear hub profile	W40 x 2 x 18	W45 x 2 x 21	W45 x 2 x 21	W45 x 2 x 21	W50 x 2 x 24	W50 x 2 x 24
Centering diameter	A	6.00 (152.4)	6.00 (152.4)	6.00 (152.4)	6.00 (152.4)	6.50 (165.1)	6.50 (165.1)
Connection diameter, screws	B	9.00 (228.6)	9.00 (228.6)	9.00 (228.6)	9.00 (228.6)	-	-
Fastening holes	C	M16	M16	M16	M16	-	-
Splined shaft length	D	2.36 (60)	2.60 (66)	2.51 (63.7)	2.51 (63.7)	2.56 (65)	2.56 (65)
Connection length, SAE, suction side	E	9.17 (233)	10.12 (257)	10.64 (270.3)	12.12 (307.8)	12.40 (315)	13.19 (335)
Connection length, SAE, pressure side	F	9.37 (238)	10.12 (257)	10.64 (270.3)	10.72 (272.3)	12.24 (311)	12.56 (319)
Total length	G	12.72 (323)	13.54 (344)	14.07 (357.3)	14.38 (365.3)	15.94 (405)	15.67 (398)
Connection spacing	H	-	-	-	-	8.84 (224.5)	8.84 (224.5)
Fastening holes	I	-	-	-	-	M20	M20
Pressure connection	SAE J518 (6,000 psi)	1"	1 1/4"	1 1/4"	1 1/4"	1 1/2"	1 1/2"
Suction port	SAE J518 (500 psi)	2 1/2"	3"	3"	3"	3 1/2"	3 1/2"
Leakage oil connection	ISO 9974-1	M26 x 1.5	M26 x 1.5	M26 x 1.5	M26 x 1.5	M33 x 2	M33 x 2

* For nominal sizes 108 and 140, a high speed version is available, with max. speed at $V_{g \max} = 2,300$ rpm. Values upon request.

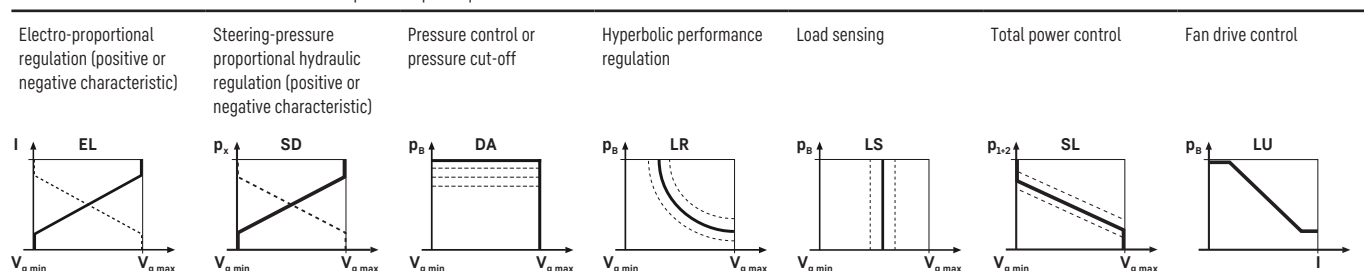
** The dimensions can vary depending on the configuration and additional equipment (installation drawing available upon request).

Note:

Different mounting flanges are possible (SAE J617a, SAE J744, DIN/ISO 3019-2).

Integrated gear pump for control oil. Through-drive possible for pumps up to the same size.

Control - Other control function combinations possible upon request.



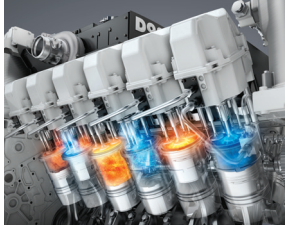
Type code

DPV	0	/	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					DPV
2. Type of circuit					
Open					0
3. Nominal size					
	108	140	165	215	
	■	■	■	■	
4. Residual displacement from hydraulic pump (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	■	■	■	■	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	■	□	■	□	LU
Total performance regulation / steering-pressure proportional hydraulic regulation	□	□	□	■	SL/SD
Load sensing / pressure cut-off	■	■	■	■	LS/DA
Pressure cut-off	■	□	■	□	DA
Hyperbolic performance regulation	□	□	□	□	LR
6. Design					
	■	■	■	■	1
7. Direction of rotation (viewed towards the drive shaft)					
Right, without impeller	■	■	■	■	R
Left, without impeller	■	□	■	■	L
Right, with impeller	□	□	□	■	R
Left, with impeller	□	□	■	■	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
Diesel engine flange SAE 3 (SAE J617a)	□	□	□	□	13
Diesel engine flange SAE 4 (SAE J617a)	■	■	■	-	14
SAE D (SAE J744)	■	■	■	-	24
SAE E (SAE J744)	-	-	-	■	25
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 6,000 psi					A
11. Add-on parts					
Without add-on parts					0
Impeller					I
12. Gear pump					
Without gear pump					00
With gear pump, $V_g = XX$ inch ³ (cm ³) enter value in inch ³ /rev (cm ³ /rev)					24
13. Through drive					
No through drive					0...
SAE A					A...
SAE B					B...
SAE C					C...
SAE D					D...
SAE E					E...
Special flange with through-drive					B...
14. Valve					
Without valve					0
15. Sensors					
Without sensor					0
With angle sensor					W

■ Available □ On request - Not available

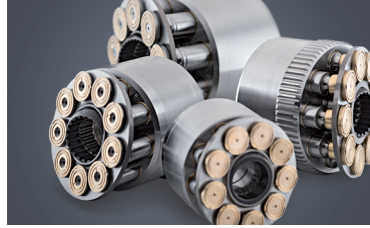
Components



Diesel engines



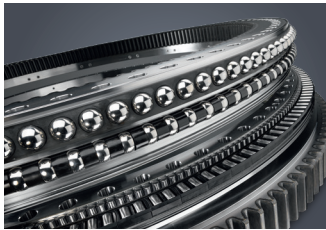
Injection systems



Axial piston hydraulics



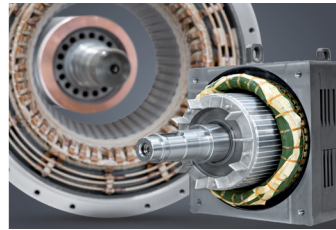
Hydraulic cylinders



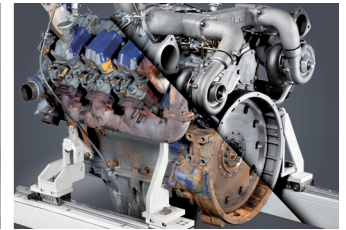
Large diameter bearings



Gearboxes and rope winches



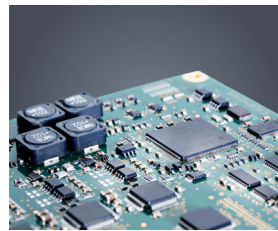
Electrical machines



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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