

Short description

# Axial piston pump DPVG



The Liebherr axial piston pumps in the DPVG series are designed as swashplates for closed circuits. The variable displacement pumps are available in nominal sizes ranging from 085 to 280. The nominal pressure of the units is 6,527 psi (450 bar) and the maximum pressure is 7,252 psi (500 bar) absolute.

Thanks to a hydrostatic swashplate design, this variable displacement pump stands out with its high reliability and long service life, even under the toughest of conditions.

The hydrostatic swashplate mount is available for the nominal sizes 085, 140, and 280.

The inverse drive with a swivel angle of 22° is very efficient and has a very high power density. The DPVG is available with the common controls.

A through-drive is possible, as is the configuration of two DPVG pumps to form a multi-circuit pump in a tandem layout.

**Valid for:**

DPVG 085  
DPVG 108  
DPVG 140  
DPVG 165  
DPVG 280

**Features:**

D series  
Closed circuit

**Control types:**

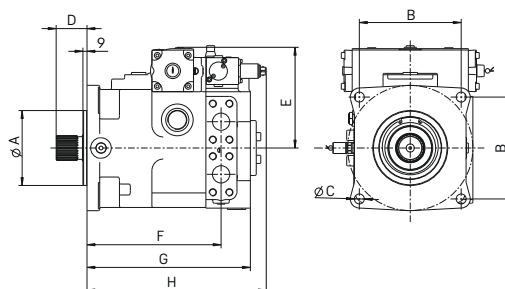
Various control types can be selected

**Pressure range:**

Nominal pressure  $p_N = 6,527$  psi (450 bar)  
Maximum pressure  $p_{max} = 7,252$  psi (500 bar)

**LIEBHERR**

# Axial piston pump DPVG



**DPVG** variable displacement, closed circuit, nominal pressure 6,527 psi (450 bar), maximum pressure 7,252 psi (500 bar)

Nominal size			085	108	140	165	280
Displacement volume	$V_{g\ max}$	inch <sup>3</sup> (cm <sup>3</sup> )	5.39 (88.4)	6.57 (107.7)	8.56 (140.2)	10.24 (167.8)	17.29 (283.4)
Max. speed	at $V_{g\ max}, n_{max}$	rpm	3,300	3,000	2,850	2,700	2,500
Volume flow	at $n_{max}, Q_{v\ max}$	US.liq.gal/min (l/min)	77 (291)	85 (323)	106 (400)	120 (453)	187 (709)
Drive power	$\Delta p = 6,237\ psi\ (430\ bar), P_{max}$	hp (kW)	280 (209)	311 (232)	385 (287)	436 (325)	681 (508)
Drive torque	$\Delta p = 6,237\ psi\ (430\ bar), T_{max}$	lbf-ft (Nm)	445 (604)	544 (737)	707 (959)	847 (1,149)	1,431 (1,940)
Available controls	EL, EL-DA, ELS-DA, TCE, TCH, ELS, DS, DS-DA, SD, SD-DA, DZH-M-DA						

## Technical data

Product dimensions [inch (mm)]*			085	108	140	165	280
Splined shaft profile	DIN 5480		W35 x 2 x 16	W45 x 2 x 21**	W40 x 2 x 18**	W45 x 2 x 21	W55 x 2 x 26
Centering diameter	A, e8 tolerance fit		6.30 (160)	6.00 (152.4)	6.00 (152.4)	7.87 (200)	6.50 (165.1)
Connection diameter, screws	B		5.57 (141.4)	6.36 (161.6)	6.36 (161.6)	6.96 (176.8)	8.84 (224.5)
Fastening holes	C		0.67 (17)	0.83 (21)	0.87 (22)	0.83 (21)	0.87 (22)
Splined shaft length	D		1.97 (50)	2.17 (55)	2.17 (55)	2.36 (60)	2.68 (68)
Height regulation	E		6.22 (158)	7.48 (190)	7.28 (185)	8.07 (205)	8.88 (225.5)
Connection length, SAE, pressure	F		9.04 (229.5)	8.78 (223)	10.26 (260.5)	10.63 (270)	11.63 (295.5)
Length with/without integrated feed pump	G		10.93 / 13.74 (277.5 / 349)	10.95 / 12.42 (268 / 315.5)	12.30 / 14.47 (312.5 / 367.5)	12.68 / 15.00 (322 / 381)	14.17 / - (360 / -)
Total length	H		13.74 (349)	13.01 (330.5)	14.35 (364.5)	14.11 (358.5)	15.55 (395)
Pressure connections	SAE J518 (6,000 psi)		1"	1"	1 1/4"	1 1/4"	1 1/2"
Leakage oil connections	ISO 9974-1		M26 x 1.5	M33 x 2	M42 x 2	M42 x 2	M42 x 2

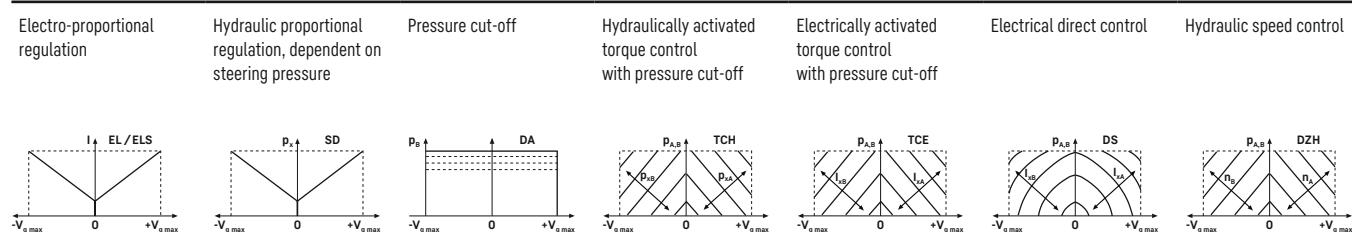
\* The dimensions can vary depending on the configuration and additional equipment (installation drawing available upon request).

\*\* Further splined shaft dimensions are available on the data sheet.

## Note:

Different mounting flanges are possible (SAE J617a, SAE J744, DIN / ISO 3019-2). With/without integrated feed pump, and an integrated pressure limiting valve for the feed is possible. Through-drive possible for pumps up to the same size.

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

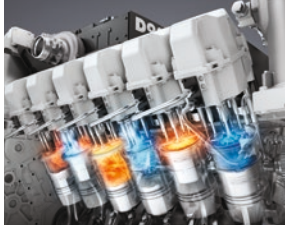


# Type code

DPV	G	/	000	1	A	0									
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	
<b>1. Pump type</b>															
D series / pump / variable displacement														DPV	
<b>2. Type of circuit</b>															
Closed														G	
<b>3. Nominal size</b>															
										085	108	140	165	280	
										■	■	■	■	■	
<b>4. Residual displacement from hydraulic pump</b> (other values upon request)															
$V_{g\ min} = 0\ \text{inch}^3\ (\text{cm}^3)$										■	■	■	■	■	000
<b>5. Control</b> (other controls are available on the data sheet)															
Electro-proportional regulation / pressure cut-off										■	■	■	■	■	EL-DA
Electro-proportional regulation										■	■	□	■	■	EL
Hydraulic proportional regulation, dependent on steering pressure										□	■	■	■	■	SD
Hydraulic proportional regulation, dependent on steering pressure / pressure cut-off										□	□	■	■	■	SD-DA
Hydraulically activated torque control with pressure cut-off (hydraulic torque control)										-	□	□	■	■	TCH
Hydraulically activated torque control with pressure cut-off (electric torque control with safety valve)										-	□	□	■	■	TCE
Electrical proportional regulation, with safety valve / pressure cut-off										■	■	■	■	■	ELS-DA
Electrical direct control										□	□	□	□	□	DS
Electrical direct control, pressure cut-off										■	□	■	□	□	DS-DA
Electrical proportional regulation, with safety valve										□	■	■	■	■	ELS
Hydraulic speed control, mechanical stroke limitation, pressure cut-off										□	□	□	■	■	DZH-M-DA
<b>6. Design</b>															
										■	■	■	■	■	1
<b>7. Direction of rotation</b> (viewed towards the drive shaft)															
Right										□	■	■	■	■	R
Left										■	■	■	■	■	L
<b>8. Mounting flange</b> (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 C (SAE J744)										□	-	-	-	-	23
SAE D (SAE J744)										-	■	■	□	□	24
SAE E (SAE J744)										-	-	-	■	■	25
DIN / ISO 3019-2										■	■	□	■	■	31 ...
<b>9. Shaft end</b> (further splined shaft dimensions are available on the data sheet)															
Splined shaft DIN 5480										■	■	■	■	■	1
Splined shaft ANSI B92.1a										■	■	■	-	■	2
<b>10. Connections</b>															
ISO 6162-2 / SAE J518-2, high-pressure connection 6,000 psi										■	■	■	■	■	A
<b>11. Add-on parts</b>															
Without add-on parts										■	■	■	■	■	0
<b>12. Gear pump</b>															
Without gear pump										□	■	■	■	■	00
With gear pump, $V_g = 1.46\ \text{inch}^3\ (24\ \text{cm}^3)$ without filter and cold-start valve										■	□	□	-	-	24
With gear pump, $V_g = 1.83\ \text{inch}^3\ (30\ \text{cm}^3)$ without filter and cold-start valve										□	■	■	-	-	30
With gear pump, $V_g = 2.44\ \text{inch}^3\ (40\ \text{cm}^3)$ without filter and cold-start valve										-	■	■	□	-	40
With gear pump, $V_g = 3.05\ \text{inch}^3\ (50\ \text{cm}^3)$ without filter and cold-start valve										-	-	-	■	■	50
<b>13. Through-drive</b> (further through-drives are available on the data sheet)															
No through drive										■	■	■	■	■	0000
SAE A										-	□	□	□	■	A...
SAE B										■	■	■	■	■	B...
SAE C										□	■	■	■	■	C...
SAE D										-	■	□	■	■	D...
SAE E										-	□	□	□	■	E...
<b>14. Valve</b>															
High-pressure relief valve with feed function										■	■	■	■	■	NS-DB
High-pressure relief valve with feed function and feed pressure valve										■	■	■	■	■	NS-DB-DS
<b>15. Sensors</b>															
Without sensor										■	■	■	■	■	0
With angle sensor										□	■	■	■	■	W

■ Available □ On request - Not available

# Components



Diesel engines



Injection systems



Axial piston hydraulics



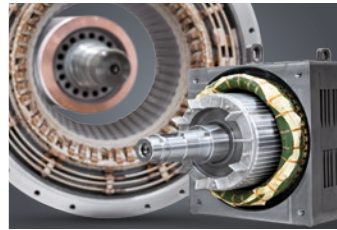
Hydraulic cylinders



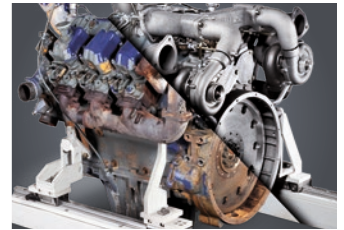
Large diameter bearings



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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