

Short description

Axial piston motor DMVA



The Liebherr axial piston motors in the DMVA series are designed as swashplates for open and closed circuits and were specially developed for use in mobile machinery in harsh environments.

The inverse drive with a swivel angle of 22° is very efficient and has a very high power density, making it ideal for applications that require a variable displacement to hydraulic motor.

The variable displacement flange motors are available in nominal sizes ranging from 108 to 370. The nominal pressure of the units is 6,527 psi (450 bar) and the maximum pressure is 7,252 psi (500 bar) absolute.

The through-drive capability can be used for mounting a brake or tandem units (axial piston multi-circuit motor).

The DMVA series is available with the most common controls. Speed sensor or preparation for speed sensor available on request.

Valid for:

DMVA 108 involute gear hub profile
DMVA 165 involute gear hub profile
DMVA 215 involute gear hub profile
DMVA 370 involute gear hub profile

Features:

D series
Open and closed circuit

Control types:

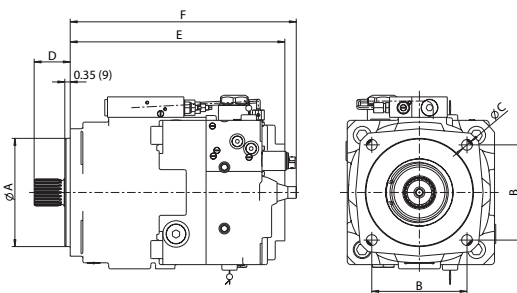
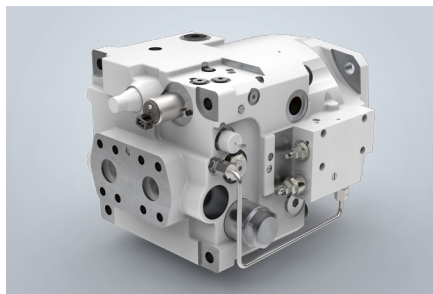
Various control types can be selected

Pressure range:

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

LIEBHERR

Axial piston motor DMVA



DMVA variable displacement, open and closed circuits, nominal pressure 6,527 psi (450 bar), maximum pressure 7,252 psi (500 bar)

Nominal size		108	165	215	370	
Displacement to hydraulic motor	$V_{g \max}$	inch ³ (cm ³)	6.57 (107.7)	10.24 (167.8)	13.21 (216.5)	22.65 (371.2)
Max. speed	at $V_{g \max}$ and $\Delta p = 6,237$ psi (430 bar), n_{\max}	rpm	3,350	3,000	2,700	2,400
Max. speed	at $V_g / V_{g \max} = 0.04$ (0.65) and $\Delta p = 2,901$ psi (200 bar), n_{\max}	rpm	5,125	4,590	4,100	3,000
Displacement flow to hydraulic motor	at n_{\max} , $q_{v \max}$	US.liq.gal/min (l/min)	95 (361)	133 (503)	154 (584)	235 (891)
Output power	$\Delta p = 6,237$ psi (430 bar), P_{\max}	hp (kW)	347 (259)	484 (361)	562 (419)	856 (638)
Output torque	$\Delta p = 6,237$ psi (430 bar), T_{\max}	lbf-ft (Nm)	544 (737)	847 (1,149)	1,092 (1,481)	1,872 (2,538)
Available controls		EL, EL-DA, SD, SD-DA, HD				

Technical data

Product dimensions [inch (mm)]*		108	165	215	370
Splined shaft profile	DIN 5480 involute gear hub profile	W40 x 2 x 18	W45 x 2 x 21	W50 x 2 x 24	W60 x 2 x 28
Centering diameter	A, h8 tolerance fit	6.30 (160)	7.09 (180)	7.87 (200)	9.84 (250)
Connection spacing, screws	B	5.57 (141.4)	6.24 (158.4)	6.96 (176.7)	13.86 x 4.72 (352 x 120)
Fastening holes	C	0.71 (18)	0.71 (18)	0.87 (22)	1.02 (26)
Splined shaft length	D	2.13 (54)	2.36/2.68 (60/68)	2.56 (65)	3.07 (78)
Connection length, SAE, pressure	E	12.17 (309)	14.06 (357)	-	-
Total length	F	13.27 (337)	14.80 (376)	17.60 (447)	17.07 (433.5)
Pressure connections	SAE J518 (6,000 psi)	1"	1 1/4"	1 1/4"	1 1/2"
Leakage oil connection	ISO 9974-1	M26 x 1.5	M26 x 1.5	M33 x 2	M33 x 2

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

Note:

Through-drive possible.

Attachment of a brake valve is possible. The pressure connections can be on the rear or the side of the connecting plate.

Control - Other control function combinations possible upon request.

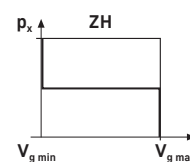
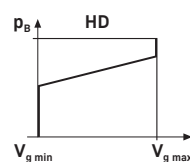
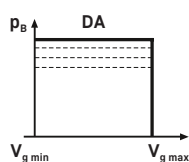
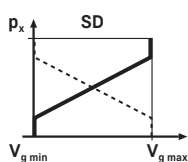
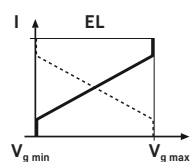
Electrical regulation with proportional magnet (positive or negative characteristic)

Hydraulic regulation, dependent on steering pressure (positive or negative characteristic)

Pressure cut-off

Hydraulic regulation, dependent on high pressure

Hydraulic regulation, two-position hydraulically operated



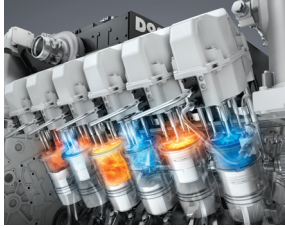
Type code

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

1. Motor type					
D series/motor/variable displacement/flange-mounted					DMVA
2. Type of circuit					
Open					0
Closed					G
3. Nominal size					
					108
					165
					215
					370
4. Residual displacement to hydraulic motor (other values upon request)					
0 - 4.03 inch ³ (0 - 66 cm ³)					Enter value in inch ³ /rev (cm ³ /rev)
5. Control					
Hydraulic regulation, dependent on high pressure					HD
Hydraulic regulation, dependent on steering pressure/pressure cut-off					SD/DA
Electrical regulation with proportional magnet					EL
Hydraulic regulation, two position hydraulically operated					ZH
Electrical regulation with proportional magnet/pressure cut-off					EL/DA
Hydro-proportional (negative characteristic)					SD
6. Design					
					1
7. Direction of rotation (viewed towards the drive shaft)					
Alternating					W
8. Mounting flange (other mounting flanges upon request)					
SAE D (SAE J744)					24
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 6,000 psi					A
11. Accessories					
Without add-on parts					0
12. Through drive					
No through drive					0
Special through-drive					K
13. Valve					
Without valve					0
High-pressure relief valve					OH
Hydraulically adjustable high-pressure limit					OX
Flushing, closed circuit					SO
Flushing, open circuit					MO
Flushing, open circuit with high-pressure limitation					MH
High-pressure limitation with brake valve					BH
14. Sensors					
Without sensor					0
With speed sensor					D
With angle sensor					W

■ Available □ On request - Not available

Components



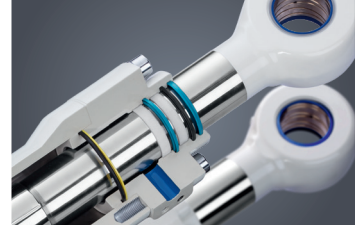
Diesel engines



Injection systems



Axial piston hydraulics



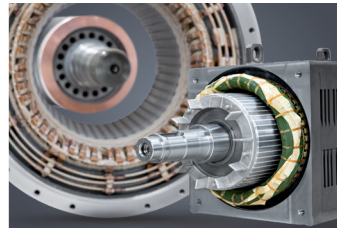
Hydraulic cylinders



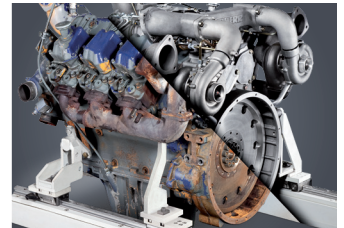
Large diameter bearings



Gearboxes and rope winches



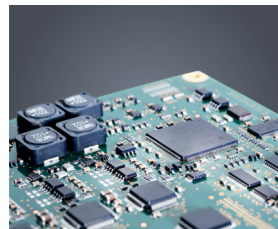
Electrical machines



Preparation of components



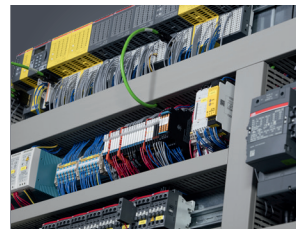
Human-machine interfaces and gateways



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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