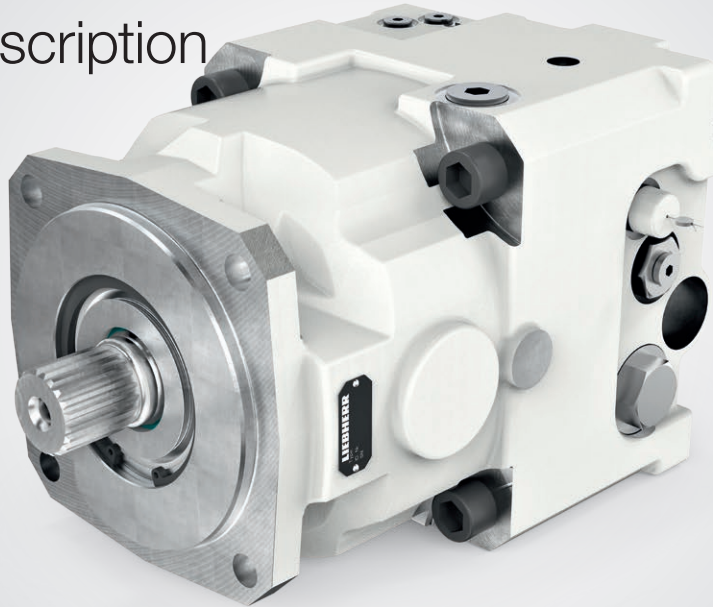


# Variable Flange Motors DMVA

## Short Description



The Liebherr axial piston motor DMVA series is developed for the open and closed circuit in swash plate design. The variable flange motors are available in nominal sizes ranging from 108 to 370 cm<sup>3</sup>. The nominal pressure is 450 bar and maximum pressure 500 bar. For size 370, the nominal pressure is 400 bar and maximum pressure 450 bar.

### Special Features of the DMVA:

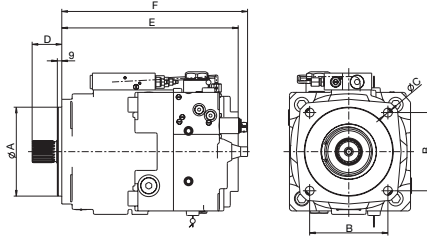
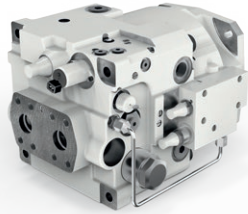
The optional through drive can be used for mounting a brake or tandem motor. Thanks to the inverted piston design with 22° swivel angle, high efficiency and power density are obtained. The DMVA series is available with the most common controls. Speed sensor or preparation for speed sensor are available on request.

# Technical Data



## Series D: DMVA motor (variable displacement)

NG108, NG165 and NG215: Closed circuit – nominal pressure: 450 bar / maximum pressure: 500 bar  
 NG370: Open and closed circuit – nominal pressure: 400 bar / maximum pressure: 450 bar



### DMVA

variable displacement, open and closed circuit, nominal pressure 450 bar, maximum pressure 500 bar

Nominal size		108	165	215	370
Displacement	$V_{g \max}$ [cm <sup>3</sup> ]	107.7	167.8	216.5	371.2
Max. speed	at $V_{g \max}$ and $\Delta p=430$ bar, $n_{\max}$ [rpm]	3,350	3,000	2,700	2,400
Max. speed	at $V_g/V_{g \max}=0.65$ and $\Delta p=200$ bar, $n_{\max}$ [rpm]	5,125	4,590	4,130	3,670
Flow	at $n_{\max}$ , $q_{v \max}$ [l/min]	361	503	585	888
Output power	$\Delta p = 430$ bar, $P_{\max}$ * [kW]	259	361	419	534
Output torque	$\Delta p = 430$ bar, $T_{\max}$ * [Nm]	737	1.149	1,481	2,127
Available controls		EL, EL/DA, SD, SD/DA, ZH, HD			

\* For nominal size 370,  $\Delta p = 380$  bar

### Technical Data

Product dimensions (mm)*		108	165	215	370
Splined shaft profile	DIN 5480 tol. 9g	W40x2x18	W45x2x21	W50x2x24	W60x2x28
Centering diameter	A fit h8	160	180	200	250
Screw connection pitch	B	141.4	158.4	176.7	352x120
Fastening bores	C	17	18	22	26
Splined shaft length	D	54	60	65	78
SAE connection length, pressure	E	309	357	-	-
Overall length	F	345	376	435	433.5
Pressure ports	SAE J518 (6,000 psi)	1"	1 1/4"	1 1/4"	1 1/2"
Oil leakage port	ISO 9974-1	M26x1,5	M26x1,5	M33x2	M33x2

\* Dimensions may vary according to configuration and additional equipment (installation drawing on request).

### Note:

A brake valve can be attached.

The pressure ports can be at the rear or side on the connecting plate.

### Control / regulation Other control function combinations available on request.

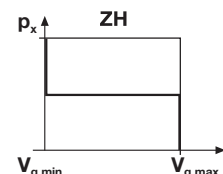
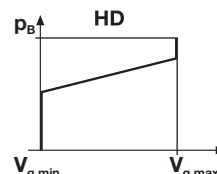
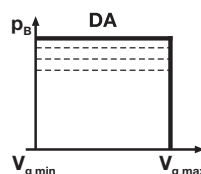
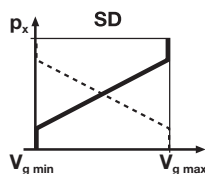
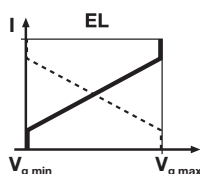
Electrical adjustment with proportional magnet (positive or negative characteristic curve)

Hydraulic adjustment, depending on control pressure (positive or negative characteristic curve)

Pressure cut-off

Hydraulic adjustment, high-pressure related

Hydraulic two-point control



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# Type code for DMVA motors

DMVA 0 /

## Motor type

Variable displacement motor, series D

DMVA

## Circuit type

Open

0

Closed

G

## Nominal size (per rotating group)

108 165 215 370

## Minimum displacement (Other values on request)

0 - 66 cm<sup>3</sup>

• - ○ ○ ○ 000 - 066

41.2 - 151.9 cm<sup>3</sup>

- • ○ ○ ○ 041.2 - 151.9

270 cm<sup>3</sup> (non-adjustable)

- - - ○ ○ 270

100 cm<sup>3</sup> (adjustable)

- - ○ ○ ○ 000 - 100

## Control / regulation

Hydraulic adjustment, high-pressure related

• • - - HD

Hydraulic adjustment depending on control pressure / pressure cut-off

• • ○ • SD / DA

Electrical adjustment with proportional magnet

• • • • EL

Hydraulic two point control

○ ○ - ○ ZH

Electrical adjustment with proportional magnet / pressure cut-off

• • • ○ EL / DA

Oversteering

○ • ○ ○ UE

Preparation for electro-hydraulic control

○ ○ ○ - EHC0

Integrated electro-hydraulic control

○ ○ ○ - EHC1

## Design

1

## Direction of rotation (looking at input shaft)

Right

- - - R

Left

- - - L

Alternating

• • • W

## Mounting flange (Other mounting flanges on request)

DIN / ISO 3019-2

• • • ○ 31...

Non-standard flange

○ ○ - • 51...

## Shaft end

Splined shaft DIN 5480

• • • • 1

Splined shaft SAE J744

○ ○ ○ ○ 2

## Connections

High-pressure ports: SAE (6,000 PSI)

• • • • A

Oil leakage and control pressure ports: metric (DIN 3852)

High-pressure ports: SAE (3,000 PSI)

○ ○ ○ ○ B

Oil leakage and control pressure ports: metric (DIN 3852)

All ports: metric thread

- - - C

## Additional equipment

No attachment

• • • • 0

## Through-drive

Without through-drive

• • • ○ 0

Non-standard through-drive

○ ○ ○ • K

## Valve / Sensor

Without

• ○ ○ ○ 0

High pressure limiting valve

• • • • OH

Hydraulically adjustable high pressure relief valve

○ ○ ○ ○ OX

Flushing for closed circuit

○ • • • SO

Flushing for closed circuit with high pressure relief valve

○ ○ ○ ○ SH

Flushing for open circuit

○ ○ ○ ○ MO

Flushing for open circuit with high pressure relief valve

○ ○ ○ ○ MH

Resuction valve with high pressure relief valve

○ ○ ○ ○ NH

Resuction valve with hydraulically adjustable high pressure relief valve

○ ○ ○ ○ NX

Hydraulically adjustable high pressure relief valve with one-rotation-direction valve

○ ○ ○ ○ XL

High pressure relief valve with brake valve

• • • ○ BH

## Sensor technology

Without

• • • • 0

With speed sensor

○ • • • D

With swash plate angle sensor

○ ○ ○ ○ W

With pressure sensor

○ ○ ○ ○ P

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