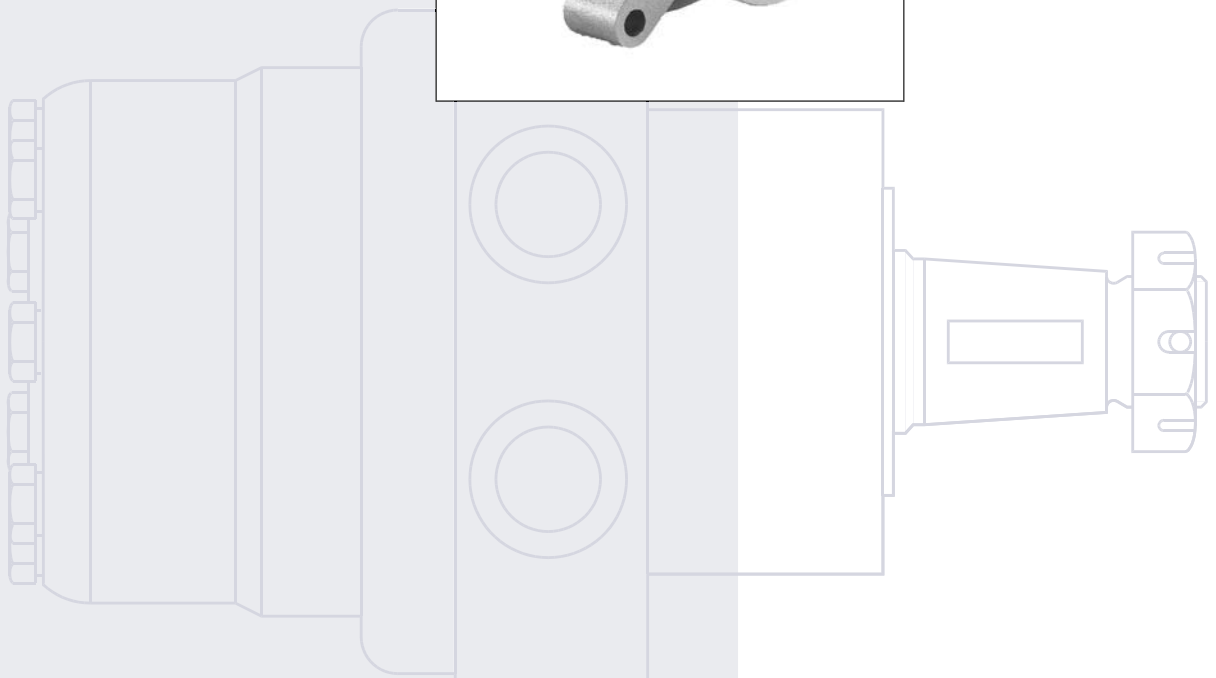




OMEW  
with brake nose

Orbital motors

Technical  
Information





with brake nose  
Technical Information  
Contents

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## OMEW with brake nose Technical Information Introduction

### INTRODUCTION

Sauer-Danfoss is now offering OMEW motors with new options that make them even more suitable as transmission motors in small vehicles.

The OMEW motor is designed for vehicles such as:

- Walk-behind mowers
- Ride on mowers
- Scissor lifts
- Sweepers
- Road rollers

The OMEW transmission motor is also suitable for a wide range of other applications that require a motor that is both compact and highly efficient. Characteristic features that distinguish the OMEW motor are:

- Compact design
- Low weight
- High total efficiency
- High starting torque
- Smooth low speed performance
- Large bearing capacity
- High pressure shaft seal
- No drain line
- Black paint standard
- Brake nose standard



with brake nose  
 Technical Information  
 Versions

VERSIONS

Mounting flange	Shaft	Port size	European version	US version	Clockwise shaft rotation (CW version) <sup>1)</sup>	Counter clockwise shaft rotation (CCW version) <sup>1)</sup>	Flange port version	Standard shaft seal	High pressure shaft seal	Drain connection	Check valve	Specials	Main type designation
Wheel	Tapered 1 1/4 in	7/8 - 14 UNF		○	○		○		○	No	No		OMEW
	Tapered 1 1/4 in	7/8 - 14 UNF		○		○	○		○	No	No		OMEW

1) Direction of rotation

In the application mainly involves operation in one direction, we therefore recommend a corresponding motor with either CW- or CCW-rotation.

High pressure seals

Since all OMEW motors are fitted with a high-pressure shaft seal, there is no need for a drain line.



OMEW with brake nose  
 Technical Information  
 Code Numbers

**CODE NUMBERS**

	CODE NUMBERS	DISPLACEMENT [cm <sup>3</sup> ]							Technical data – Page	Dimensions – Page	
		100	125	160	200	250	315	345			400
↓	151H	3080	3081	3082	3083	3084	3085	3086	3087	6	
	151H	3090	3091	3092	3093	3094	3095	3096	3097	6	

*Ordering*

Add the four digit prefix “151H” to the four digit numbers from the chart for complete code number.

Example:

151H3084 for an OMEW 250 with 1 1/4 in tapered shaft, port size 7/8 - 14 UNF and clockwise rotation (CW).

---

Note: Orders will not be accepted without the four digit prefix.

---



with brake nose  
 Technical Information  
 Technical data

**TECHNICAL DATA FOR OMEW WITH 1 1/4 IN TAPERED SHAFT**

Type	Motorsize		OMEW 100	OMEW 125	OMEW 160	OMEW 200	OMEW 250	OMEW 315	OMEW 345	OMEW 400
Geometric displacement	cm <sup>3</sup> in <sup>3</sup>		99.8 [6.11]	124.1 [7.60]	155.4 [9.51]	198.2 [12.13]	248.1 [15.18]	310.1 [18.98]	341.8 [20.86]	390.7 [23.83]
Max. Speed	min-1 (rpm)	cont.	600	475	375	300	240	190	175	150
		int. <sup>1)</sup>	750	695	470	375	300	240	220	190
Max. torque	Nm [lbf-in]	cont.	250 [2210]	320 [2830]	410 [3630]	400 [3540]	470 [4160]	550 [4868]	610 [5400]	700 [6195]
		int. <sup>1)</sup>	270 [2390]	340 [3010]	430 [3810]	570 [5045]	710 [6284]	850 [7523]	860 [7612]	870 [7700]
Max. output	kW [hp]	cont.	12 [16.1]	12 [16.1]	12 [16.1]	11 [14.75]	10 [13.41]	9 [12.07]	9 [12.07]	9 [12.07]
		int. <sup>1)</sup>	15 [20.1]	15 [20.1]	15 [20.1]	16 [21.5]	16 [21.5]	15 [20.1]	14 [18.8]	12 [16.1]
Max. pressure drop	bar [psi]	cont.	200 [2900]	200 [2900]	200 [2900]	150 [2175]	140 [2030]	130 [1885]	130 [1885]	130 [1885]
		int. <sup>1)</sup>	210 [3050]	210 [3050]	210 [3050]	210 [3045]	210 [3045]	200 [2900]	185 [2683]	160 [2320]
Max. oil flow		cont.	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]
		int. <sup>1)</sup>	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]
Max. starting pressure with unloaded shaft	bar [psi]		10 [145]	7 [100]	7 [100]	7 [100]	7 [100]	7 [100]	7 [100]	7 [100]
Min. starting torque	at max. press. drop Nm [lbf-in]	cont.	230 [2040]	290 [2570]	360 [3190]	330 [2920]	390 [3451]	460 [4071]	500 [4425]	580 [5133]
		int. <sup>1)</sup>	240 [2120]	300 [2660]	380 [3360]	470 [4160]	580 [5133]	700 [6195]	710 [6284]	710 [6284]
		peak <sup>2)</sup>								

Type			Max. inlet pressure	Max. return pressure
OMEW 100 - 400	bar [psi]	cont.	200 [2900]	200 [2900]
	bar [psi]	int. <sup>1)</sup>	210 [3050]	210 [3050]
	bar [psi]	peak <sup>2)</sup>	225 [3260]	225 [3260]

<sup>1)</sup> Intermittent operation: the permissible values may occur for max. 10% of every minute.

<sup>2)</sup> Peak load: the permissible values may occur for max. 1% of every minute.



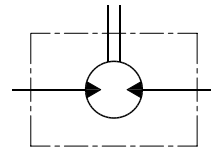
MEW with brake nose  
 Technical Information  
 Technical data

**MAX. PERMISSIBLE  
 SHAFT SEAL PRESSURE**

**OMEW with high pressure shaft seal**

*CW version (clockwise rotation)*

- 1) By clockwise rotation:  
 The shaft seal pressure equals the return pressure.
- 2) By counter clockwise rotation:  
 The shaft seal pressure equals the input pressure

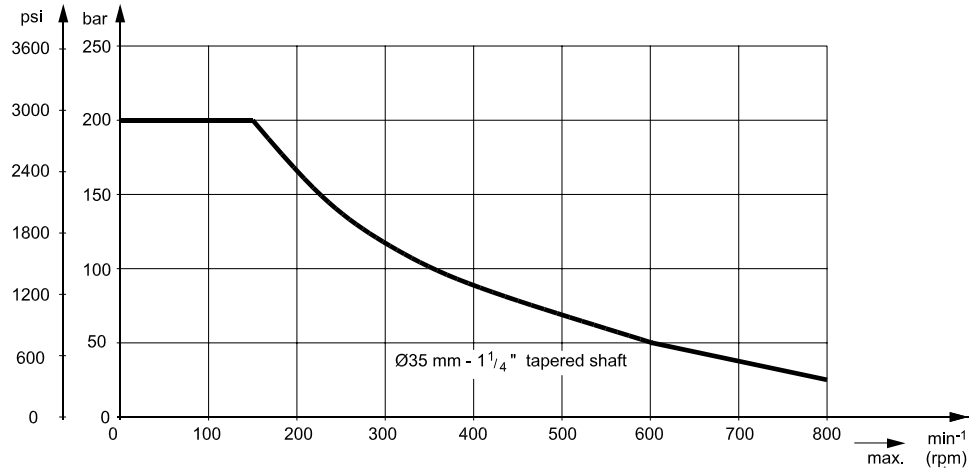


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*CCW version (counter clockwise rotation)*

- 1) By counter clockwise rotation:  
 The shaft seal pressure equals the return pressure.
- 2) By clockwise rotation:  
 The shaft seal pressure equals the input pressure

*Max. permissible shaft seal pressure*

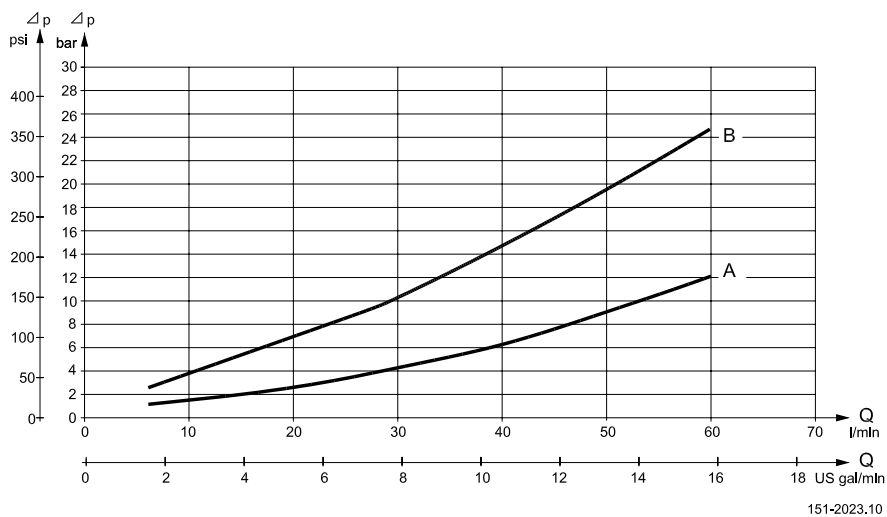


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with brake nose  
Technical Information  
Technical data

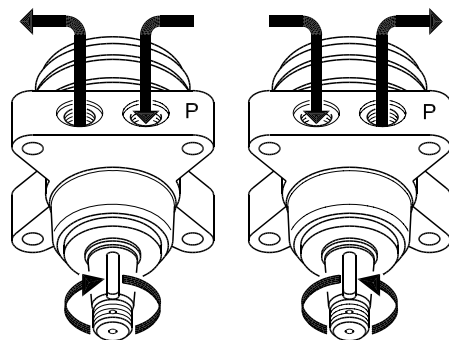
**PRESSURE DROP IN MOTOR**

A: OMEW 100 - 160  
B: OMEW 200 - 400

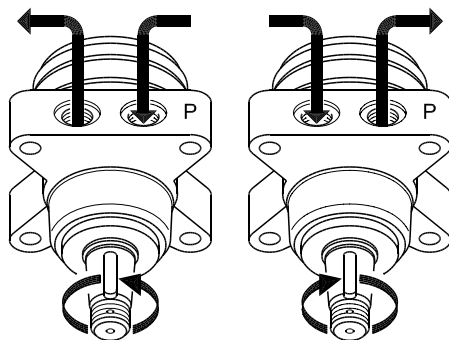


The curve applies to an unloaded motor shaft and an oil viscosity of 35 mm<sup>2</sup>/s [165 SUS]

**DIRECTION OF SHAFT ROTATION**



CW - motor



CCW - motor





OMEW with brake nose  
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**PERMISSIBLE SHAFT  
 LOADS FOR OMEW**

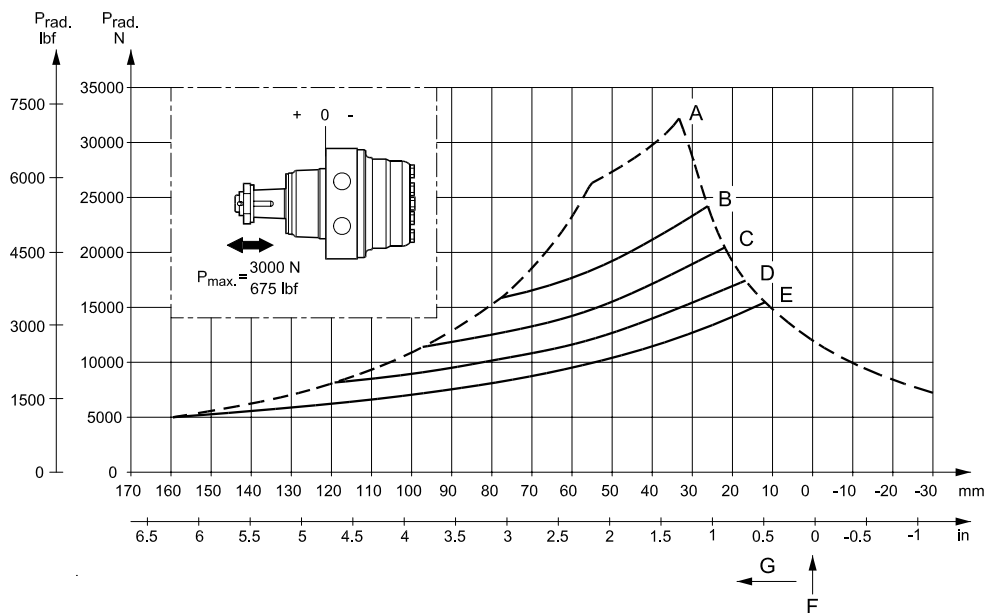
As the OMEW output shaft is embedded in needle bearings and the mounting flange is recessed it is possible to fit a wheel hub direct onto the shaft so that the radial load acts midway between the needle bearings.

Based upon the requested max. speed and the point of action of the radial load the permissible shaft load can be read from the curved shown below.

Curve A shows the max. radial load. If the radial load exceeds these values there is a potential risk of breakdown.

The other curves apply to a B10 bearing life of 2000 hours at the indicated speed when applying a hydraulic mineral oil with an adequate content of anti-wear additives.

The longevity can also be calculated by means of the "Bearing dimensions" instructions in the technical information »General« DKMH.PK.100.G3.02 520L0232.



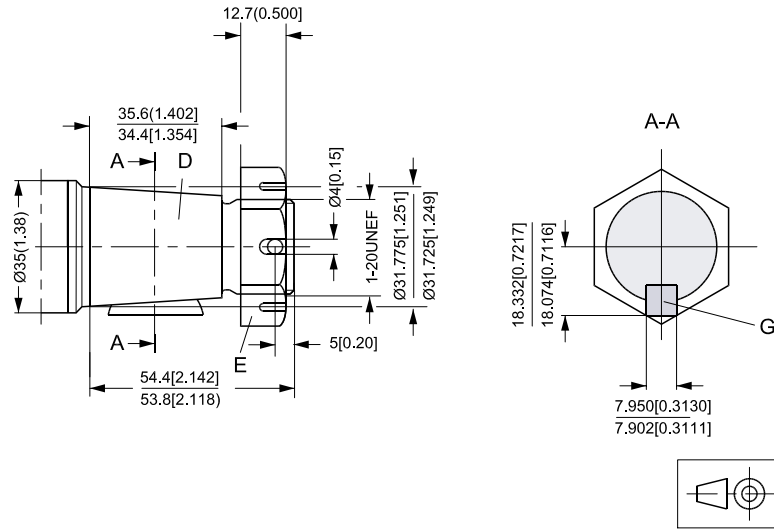
- A: Max. radial load
- B:  $n = 50 \text{ min}^{-1}$  (rpm)
- C:  $n = 100 \text{ min}^{-1}$  (rpm)
- D:  $n = 200 \text{ min}^{-1}$  (rpm)
- E:  $n = 400 \text{ min}^{-1}$  (rpm)
- F: Front flange
- G: Direction toward shaft

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**SHAFT VERSION**

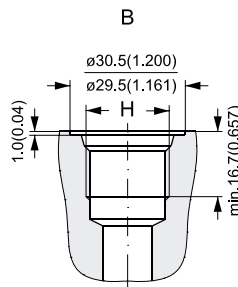
- Tapered shaft 1 1/4 in
- D: Cone 1:8
- SAE J501
- E: 1 - 20 UNEF
- Across flats 1 7/16
- Tightening torque:  
400 ± 10 Nm [3540 ± 85 lbf-in]
- G: Woodruff key  
5/16 × 1
- SAE J502 1a



151-2025.10

**PORT THREAD VERSION**

- B: UNF main ports
- H: 7/8 - 14 UNF
- O-ring boss port

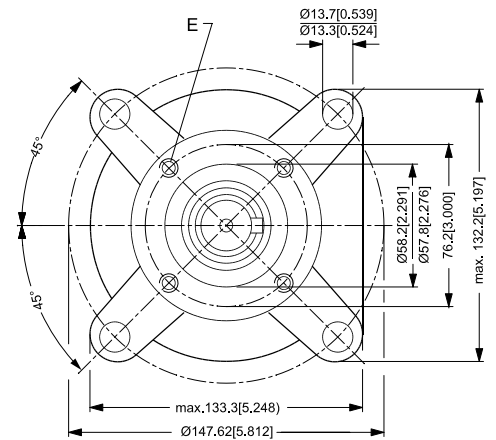
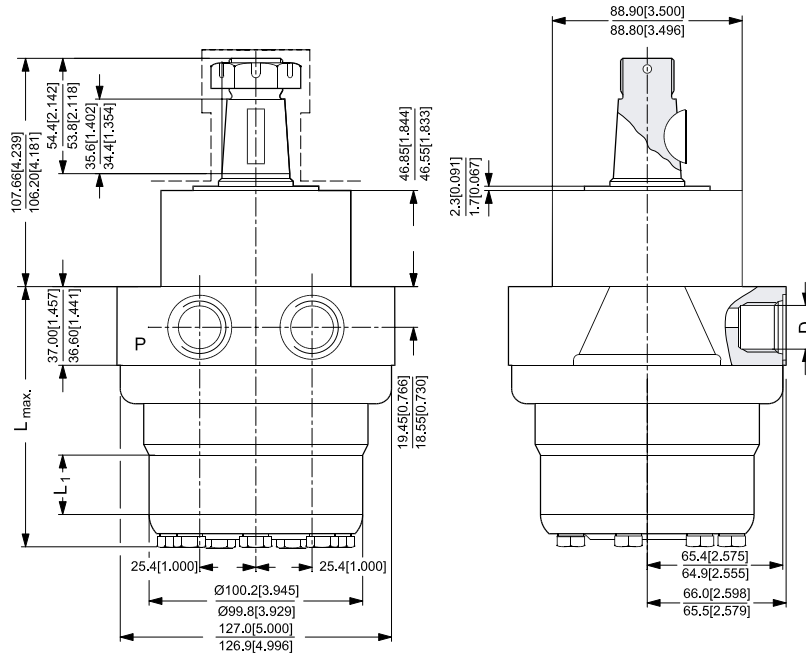


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MEW with brake nose  
 Technical Information  
 Dimensions and weights

**DIMENSIONS**



151-2022.10

**WEIGHT OF MOTORS**

Type	Weight kg [lb]		Length	
			L <sub>max</sub>	L <sub>1</sub>
OMEW 100	9.3	[20.5]	109.1 [4.30]	14.0 [0.55]
OMEW 125	9.5	[20.9]	112.5 [4.43]	17.4 [0.67]
OMEW 160	9.8	[21.6]	117.4 [4.62]	21.8 [0.86]
OMEW 200	10.3	[22.7]	122.9 [4.84]	27.8 [1.09]
OMEW 250	10.8	[23.8]	129.9 [5.11]	34.8 [1.37]
OMEW 315	11.3	[24.9]	138.6 [5.46]	43.5 [1.71]
OMEW 345	11.6	[25.6]	143.0 [5.63]	47.9 [1.89]
OMEW 400	12.0	[26.5]	149.9 [5.90]	54.3 [2.12]

D: 7/8 - 14 UNF, 16.7 [0.66] deep

E: Thread for external brake  
 4 x 5/16 - 18 UNC, min. 20 [0.79] deep

--- Not painted

Please note:

The stated dimension is without paint



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