BERARMA
oleodinamica

Motor-pump integrated units

GMP



Series Name	Displacement [cm³/r]	Flow rate at 1450rpm [l/min]	Max. Pressure [bar]
GMP-16	16	23	250
GMP-20	20	29	250
GMP-25	25	36	250
GMP-32	32	47	250

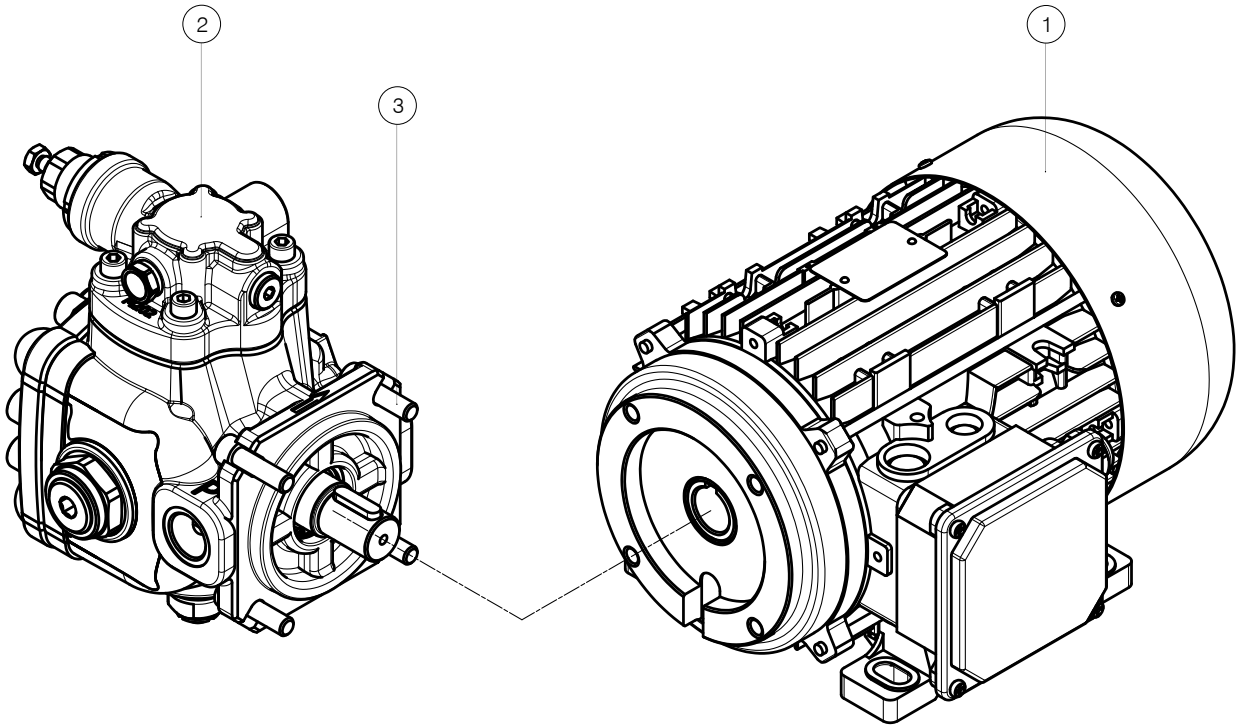
0555102260

General description

In its constant search for solutions that cut costs, dimensions and simplify the application of its products, Berarma has developed integrated motor-pump units, known as GMPs, with direct drive. The direct coupling system allows all parts between the pump and motor to be eliminated (couplings, bell-housing, supports etc.) and ensures perfect concentricity between the two shafts, avoiding dangerous misalignments which can cause abnormal wear.

GMPs are produced using Berarma size 05 and size 1 pumps (displacement up to 32 cm3/r and maximum working pressure up to 250 bar) and with asynchronous three-phase electric motors with special mounting flange (rated power 0.75 - 7.5 kW).

The GMP is easy and quick to install and can be mounted directly on the powerpack (anti-vibration mounts are recommended).



Definition of components

(1) Motor
(2) Pump
(3) Fixing screws

Pumps technical data

Pump type – Size	PLP 05	PHP 05	PLP 1	PHP 1
Geometric displacement according to ISO 3662 (cm^3/r)	16	16	20 ÷ 25 ÷ 32	20 ÷ 25 ÷ 32
Actual displacement (cm^3/r) Due to manufacturing tolerances, the value can vary by approx. ±3%	17	17	21 ÷ 26 ÷ 33	21 ÷ 26 ÷ 33
Maximum working pressure (bar) Pressure peak exceeding 30% of the maximum operating pressure must be eliminated by adopting the appropriate measures	120	250	100	250
Pressure setting range (bar)	**H**: 20 ÷ 120	**H**: 20 ÷ 250	**L**: 15 ÷ 50 **H**: 30 ÷ 100	**H**: 20 ÷ 250
Permitted maximum drain port pressure (bar)	1			
Inlet pressure (bar)	0.8 ÷ 1.5 absolute			
Speed range (rpm)	800 ÷ 1800			
Rotation direction	**R**: right (clockwise) viewed from shaft end			
Load on drive shaft	NO RADIAL OR AXIAL LOADS ALLOWED			
Hydraulic fluid for other fluids please contact Berarma technical sales service	HM according to ISO 6743-4 HLP according to DIN 51524-2			
	HEES according to ISO 15380 FPM-Viton seals ÷ Pmax 160bar			
	HFD according to ISO 12922 FPM-Viton seals ÷ Pmax 160bar			
	HFC according to ISO 12922 water <40% ÷ NBR seals ÷ Pmax 100bar ÷ Vmax 1000rpm ÷ Temp. <40°C			
Viscosity range (cSt, mm^2/s)	22 ÷ 68 at operating temperature			
Starting viscosity under full flow conditions (cSt, mm^2/s)	400 max.			
Viscosity index according to ISO 2909	100 min.			
Inlet fluid temperature range (°C)	+15 / +60 ÷ pay attention to viscosity range			
Maximum acceptable fluid contamination level	20/18/15 according to ISO 4406 CLASS 9 according to NAS 1638			
Recommended fluid contamination level for a longer pump working life	18/16/13 according to ISO 4406 CLASS 7 according to NAS 1638			
Moment of inertia (kgm^2)	0.00012	0.00019	0.0005	0.0005
Weight single pump (kg)	7.4	16.4	18.4	19.1
Note: For further information and/or pump and electric motor special operating conditions please refer to related Berarma catalogs or contact Berarma technical sales service				

Installation and start-up

For the installation and start-up of Berarma pumps please refer to related **Document USE AND MAINTENANCE MANUAL** available on our website.



Electric motors technical data

The electric motors described in this catalogue are built according to international standards.
Each dimension is calculated with reference to the tables in standard IEC 72-1.
The power output for each size at 1500 rpm has been established by UNEL/IEC documents, which define the values.

Asynchronous three-phase motors are closed, externally ventilated, with cage rotor and dynamically balanced.

Type	Power		Speed	Efficiency	Current	Power factor	Rated torque	Torque ratio	Starting ratio
	(kW)	(HP)	(rpm)	(%)	(A) 400V	FI	Cn (Nm)	Cs / Cn	As / An
MRE80a4	0.75	1	1430	82.5	1.76	0.76	5.01	3.12	6.14
MRE80b4	1.1	1.5	1420	84.1	2.33	0.82	7.4	3.55	6.17
MRE90La4	1.1	1.5	1430	84.2	2.45	0.77	7.36	4.16	7.46
MRE90Lb4	1.5	2	1430	85.3	3.48	0.74	10.08	4.34	7.42
MRE100a4	2.2	3	1440	86.7	4.99	0.75	14.65	3.37	7.75
MRE112a4	3	4	1440	87.7	6.33	0.79	19.95	3.96	8.78
MRE112b4	4	5.5	1440	88.6	8.15	0.8	26.06	3.6	7.8
MRE132La4	5.5	7.5	1460	90	11.3	0.79	36.1	4.07	8.45
MRE132Lb4	7.5	10	1450	90.4	14.9	0.81	49.3	3.86	8

The performance indicated refer to the following ambient conditions:

- Power supply frequency 50Hz
- Altitude below 1000m above sea level
- Ambient temperature +5°C / +40°C (Pn <0.6 kW)
- Ambient temperature -15°C / +40°C (Pn >0.6 kW)
- Relative humidity 30% / 95% without condensation

Mounting type	special B3 – B14 (IEC 34-7)
Rated voltage	230/400V ±10% a 50Hz 266/460V ±10% a 60Hz
Efficiency class	IE3
Insulation class	F (IEC 34-1)
Degree of protection	IP55 (EN 60529)
EC Mark	European community directives 2014/35/EU and 2014/30/EU
Duty service	S1 (IEC 34-1)
Ventilation	Bidirectional fan with radial blades made of plastic to resist at high temperatures Fan housing made of sheet metal
Frame, flanges and shields	Die-casting aluminium alloy Without coating
Terminal box position	Right viewed from electric motor shaft Left or top position only on request
Options	Thermal protection against overloads Protection against overcurrent CSA-C/US mark Different supply voltages and/or frequencies

Ordering code

Name	Displacement	Pump type	Pressure setting	Motor type
GMP	**32**	**PHP**	**H**	**MRE132La4**

Code	Size	Displacement cm^3/r
16	05	16
20	1	20
25	1	25
32	1	32

Code	Pressure compensator
PLP	Mechanical
PHP	Hydraulic

Code	Pressure setting (bar)
L	See page 3
H	

Code	Motor type
MRE…	See page 4

Ordering code examples:

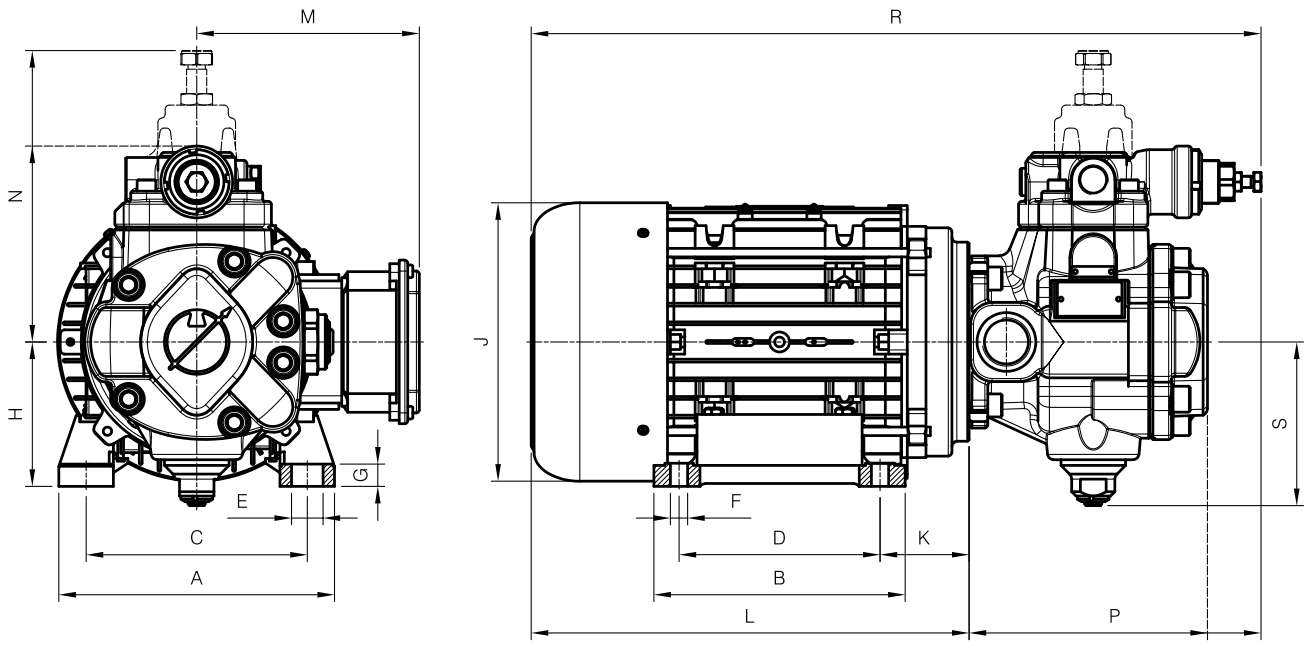
- GMP 16 PLP H MRE80a4
- GMP 16 PHP H MRE112b4
- GMP 20 PLP L MRE90La4
- GMP 25 PLP H MRE100a4
- GMP 32 PHP H MRE132La4

Warning
All Berarma pumps have been carefully checked during manufacture and subjected to testing cycles before shipment.
To achieve optimum performance, avoid problems and maintain the warranty, **Document USE AND MAINTENANCE MANUAL**, available on our website, must be strictly observed.

Notes
Before selection and/or use of any Berarma product, it is important that the purchaser carefully analyses all aspects of its application and reviews the information in the current Berarma technical sales documents. Due to the many different operating conditions and applications for Berarma products, the purchaser, through their own analysis and testing, is solely responsible for making the final selection of the products and assuring that all performance and safety requirements are met. Berarma S.r.l. accepts no responsibility for any editing mistakes in this catalogue. Berarma S.r.l. reserves the right to modify the products and data contained in this catalogue at any time and without prior notice.

BERARMA oleodinamica

Overall dimensions



Pump	Motor	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S
PLP 05	**MRE80**	154	125	125	100	17.5	9.5	11	80	156	52	237	141	164	107	344	82
PHP 05														131	145	382	98
PLP 05	**MRE90**	174	155	140	125	17.5	9.5	13	90	176	56	275	145	164	107	382	82
PHP 05														131	145	420	98
PLP 1														201	166	441	114
PHP 1														132	203	478	114
PLP 05	**MRE100**	192	175	160	140	21.2	11.2	15	100	194	62	304	157	164	107	411	82
PHP 05														131	145	449	98
PLP 1														201	166	470	114
PHP 1														132	203	507	114
PLP 05	**MRE112**	226	175	190	140	21.2	11.2	15	112	220	70	325	169	164	107	432	82
PHP 05														131	145	470	98
PLP 1														201	166	491	114
PHP 1														132	203	528	114
PLP 05	**MRE132**	260	218	216	178	21.2	11.2	17.5	132	256	88	410	195	164	107	517	82
PHP 05														131	145	555	98
PLP 1														201	166	576	114
PHP 1														132	203	613	114

Dimensions refer to single pump with single stage of pressure.
For overall dimensions of other types of pump, please refer to related technical catalog.