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PLM
High
Efficiency
Motors



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FACTS & BENEFITS

High efficiency motors for high efficiency pumps: Lowara presents the new range of PLM motors.

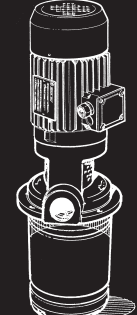
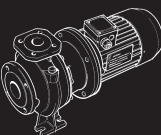
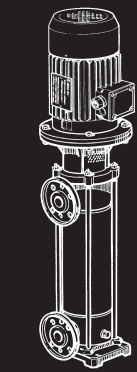
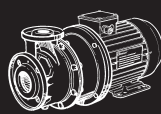
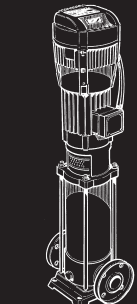
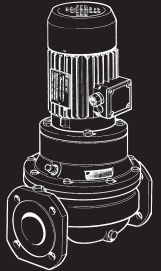
High efficiency means:

- Energy savings
- Respect of the environment
- Money savings
- Higher motor quality
- Higher motor reliability

A relevant part of electrical energy used in industry is consumed by electrical motor driven systems. There is a huge energy saving potential in the application of high efficiency motors, that can be furtherly increased by the use of variable frequency drives.

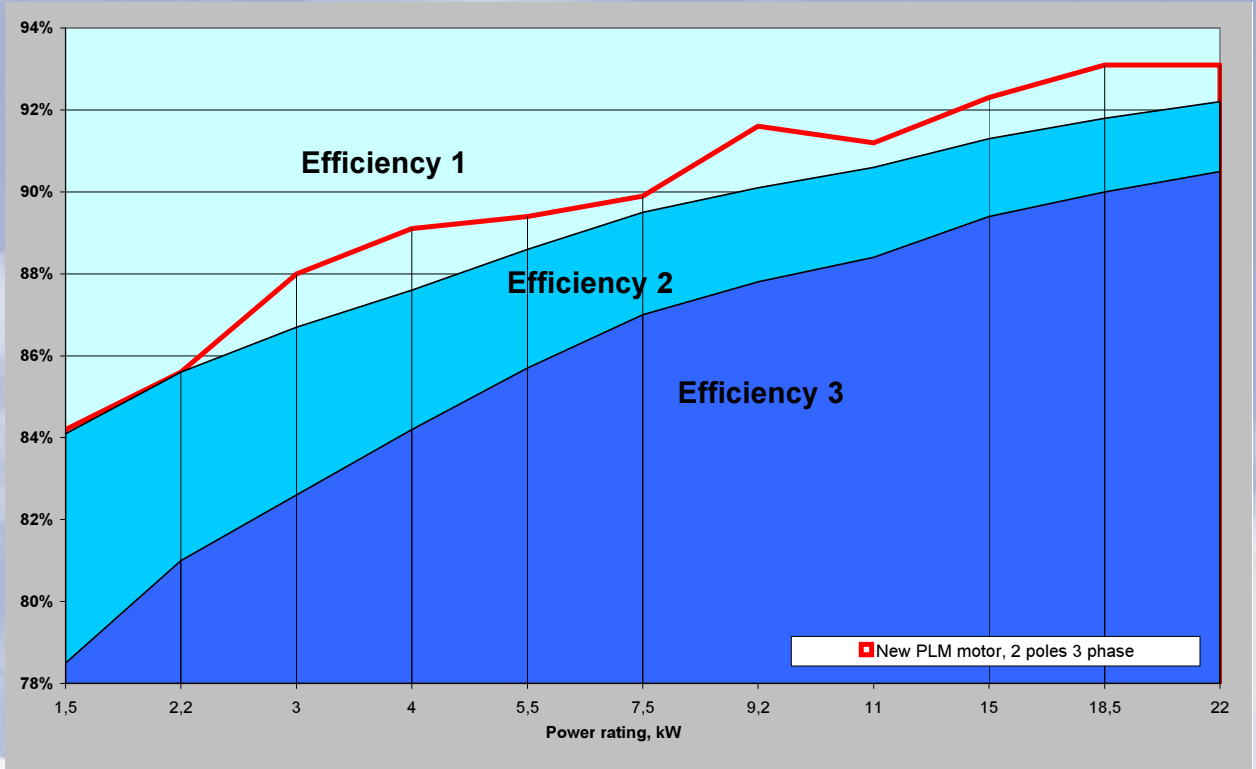


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EFFICIENCY



Lowara PLM motors have efficiency values that fall within the range normally referred to as efficiency class 1.

High efficiency leads to savings in energy consumption, therefore money savings for any electrical driven pump.

Energy saving calculation example:

$$\text{kWh reduction per year} = (\text{hrs} \times 365) \times P \times L \times (1/\eta_{\text{std}} - 1/\eta_{\text{hi}})$$

hrs	= Operating hours [hours/day]	: 12
P	= Motor power [kW]	: 15 (2 poles motor)
L	= Load coefficient [%]	: 90
hstd	= Standard motor efficiency [%]	: 89.7
η _{hi}	= New PLM motor efficiency [%]	: 92.3

kWh reduction per year =
 $(12 \times 365) \times 15 \times 0.9 \times (1/0.897 - 1/0.923) = 1857 \text{ kWh saved in 1 year}$
 be furtherly increased by the use of variable frequency drives.





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MOTOR RANGE

IEC SIZE	POLES	PHASE	kW	FREQUENCY	NOTES
90	2	1	1.5	50	
			1.5	60	
		2.2	50		
		2.2	60		
	3	1.5	50/60	Only for FHF-CEF-COF	
		2.2	50/60	Only for FHF-CEF-COF	
4	3	3	50/60		
		1.1	50/60		
100	2	3	3	50/60	
			4	50/60	
	4	3	2.2	50/60	
			3	50/60	
112	2	3	4	50/60	
			5.5	50/60	
132	2	3	4	50/60	
			5.5	50/60	Replaces MEC112-7.5 kW
			7.5	50/60	
			9.2	50/60	
	4	3	11	50/60	
			5.5	50/60	
160	2	3	7.5	50/60	
			11	50/60	
			15	50/60	
			18.5	50/60	
	4	3	22	50/60	
			11	50/60	NEW-replaces MEC132-9.2 kW
			15	50/60	NEW SIZE



The new PLM motor range impacts on, for the mentioned power sizes, on the following Lowara pump families:

- SV, vertical multistage stainless steel pumps;
- SVI, immergible vertical multistage stainless steel pumps;
- FH, end suction pumps;
- SH, end suction stainless steel pumps;
- FC-FCT, inline pumps with single or twin motor;
- SHO, open impeller end suction pumps in stainless steel;
- CEA-CA, stainless steel close coupled pumps with single or twin impeller;
- CO, stainless steel close coupled pumps with open impeller;
- TDB-TDV, vertical multistage pumps



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GENERAL PRODUCT DESCRIPTION

Lowara PLM high efficiency motors.

- Efficiency values fall within the range normally referred to as efficiency class 1
- Short-circuit squirrel-cage motor (TEFC), enclosed construction with external ventilation
- IP55 protection
- Class F insulation
- Standard voltage
- Cable gland with standard passage dimensions according to EN50262 (metric thread)
- IEC sizes from MEC 90 to MEC 160
- Single and three phase
- 50 & 60 Hz versions (single phase), dual frequency construction (three-phase)
- 2 and 4 poles construction
- Powers up to 22 kW for 2 poles versions
- Powers up to 15 kW for 4 poles versions

HIGHLIGHTS:

- High efficiency design;
- Metal terminal box;
- Reduced motor heating;
- Reduced noise.

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Headquarters

LOWARA S.r.l.
Via Dott. Lombardi, 14
36075 Montebelluna Maggiore
Vicenza - Italy
Tel. (+39) 0444 707111
Fax (+39) 0444 492166
e-mail: lowara.mkt@itt.com - <http://www.lowara.com>

"RESIDENTIAL AND COMMERCIAL WATER GROUP - EMEA" SALES NETWORK

ITALY

MILANO 20090 Cusago - Viale Europa, 30
Tel. (+39) 02 90394188
Fax (+39) 0444 707176
e-mail: lowara.milano@itt.com

BOLOGNA 40132 - Via Marco Emilio Lepido, 178
Tel. (+39) 051 6415666
Fax (+39) 0444 707178
e-mail: lowara.bologna@itt.com

VICENZA 36061 Bassano del Grappa - Via Pigafetta, 6
Tel. (+39) 0424 566776 (R.A. 3 Linee)
Fax (+39) 0424 566773
e-mail: lowara.bassano@itt.com

PADOVA 35020 Albignasego - Via A. Volta, 56 - Zona Mandriola
Tel. (+39) 049 8801110
Fax (+39) 049 8801408
e-mail: lowara.bassano@itt.com

ROMA 00173 Via Frascineto, 8
Tel. (+39) 06 7235890 (2 linee)
Fax (+39) 0444 707180
e-mail: lowara.roma@itt.com

CAGLIARI 09122 - Via Dolcetta, 3
Tel. (+39) 070 287762 - 292192
Fax (+39) 0444 707179
e-mail: lowara.cagliari@itt.com

CATANIA 95027 S. Gregorio - Via XX Settembre, 75
Tel. (+39) 095 7123226 - 7123987
Fax (+39) 095 498902
e-mail: lowara.catania@itt.com



EUROPE

Pumpenfabrik ERNST VOGEL GmbH
A-2000 STOCKERAU
Ernst Vogel-Straße 2
Tel. (+43) 02266 604 - Fax (+43) 02266 65311
e-mail: vogelpumpen.info@itt.com - <http://www.vogel-pumpen.com>

LOWARA DEUTSCHLAND GMBH
Biebigheimer Straße 12
D-63762 Großostheim
Tel. (+49) 0 60 26 9 43 - 0 - Fax (+49) 0 60 26 9 43 - 2 10
e-mail: lowarade.info@itt.com - <http://www.lowara.de>

LOWARA FRANCE S.A.S.
BP 57311
37073 Tours Cedex 2
Tel. (+33) 02 47 88 17 17 - Fax (+33) 02 47 88 17 00
e-mail: lowarafr.info@itt.com - <http://www.lowara.fr>

LOWARA FRANCE SAS Agence Sud
Z.I. La Sipièrre - BP 23
13730 Saint Victoret - F
Tel. (+33) 04 42 10 02 30 - Fax (+33) 04 42 10 43 75
<http://www.lowara.fr>

LOWARA NEDERLAND B.V.
Zandweistraat 22
4181 CG Waardenburg
Tel. (+31) 0418 655060 - Fax (+31) 0418 655061
e-mail: lowaranl.info@itt.com - <http://www.lowara.nl>

ITT PORTUGAL, Unipessoal, Lda.
Praçeta da Castanheira, 38
4475-019 Barca
Tel. (+351) 22 9478550 - Fax (+351) 22 9478570
e-mail: lowarapt.info@itt.com - <http://www.lowara.pt>

ITT PORTUGAL, Unipessoal, Lda. Delegação
Quinta da Fonte - Edifício D. Pedro I
2770-071 Paço de Arcos
Tel. (+351) 21 0001628 - Fax (+351) 21 0001675

LOWARA UK LTD.
Millwey Rise, Industrial Estate
Axminster - Devon EX13 5HU UK
Tel. (+44) 01297 630200 - Fax (+44) 01297 630270
e-mail: lowaraukenquiries@itt.com - <http://www.lowara.co.uk>

LOWARA IRELAND LTD.
59, Broomhill Drive - Tallaght Industrial Estate
Tallaght - DUBLIN 24
Tel. (+353) 01 4520266 - Fax (+353) 01 4520725
e-mail: lowara.ireland@itt.com - <http://www.lowara.ie>

LOWARA VOGEL POLSKA Sp. z o.o.
PL 57-100 Strzelin
ul. Kazimierza Wielkiego 5
Tel. (+48) 071 769 3900 - Fax (+48) 071 769 3909
e-mail: info.lowarapl@itt.com - <http://www.lowara-vogel.pl>

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