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# Datasheet VM620-18W0134

Art.-No: VM620-18W0134-AC30048-0110

## VM600M - Expert eMotors

Asynchronous electric motors and generators for mobile applications perfectly matched to the VP600 inverter product line.

### VM600M Features

- maximum lifetime and easy maintenance
- high efficiency especially at partial load
- No losses in idle operation
- No generated voltage in idle operation
- No unwanted braking torque in case of error

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Product overview	
Article no.	VM620M-18W0134-AC30048-0110
Finishing	black, RAL9005
Description	"DirectDrive" VECTOPOWER motor for mobile applications, optimized to 1:1 speed of the cardan shaft; Optimized for DC voltage of 670V and 400V.
Motor topology	Asynchronous
Size	
Weight	360 kg
Diameter shaft	65 mm
Length shaft	110 mm
Total length	873 mm
Length	763 mm
External diameter	400 mm
Technical data	
Continuous torque $M_n$	372 Nm   600 Nm
Nominal speed $n_N$	3760 rpm   1950 rpm
Max. speed $n_{max}^{4)}$	4800 1/min
Nominal current UVW, per phase	215 A <sub>rms</sub>
Rated power <sup>3)</sup>	146 kW
Terminal voltage (AC)	460 V
Cos Phi	0.85
Torque constant	2.8 Nm/A <sub>rms</sub>
Peak current UVW, per phase	450 A <sub>rms</sub>
Max. overload for 10 sec <sup>2)</sup>	1340 Nm
Max. overload for 1 min <sup>2)</sup>	1340 Nm
Max. overload for 3 min <sup>2)</sup>	1050 Nm
Max. overload for 10 min <sup>2)</sup>	710 Nm
Efficiency at continuous load (up to)	93 %
Efficiency at 50% load (up to)	94 %
Number of pole pairs	2
Rotor moment of inertia	0.454 kgm <sup>2</sup>
Electrical wiring	Delta connection
Heating	155°C, class of insulation H according to DIN60034-1
Rotary encoder	<ul style="list-style-type: none"> <li>Resolver</li> </ul>
Encoder manufacturer name	Yingshuang
Encoder manufacturer type	YS J132XU9733
Shaft design	cylindrical without shaft key
Temperature sensors	PT100, NTC

Technical data	
Technical notes	<p>1) -</p> <p>2) Max. torque at: &lt; 2000 rpm, 670VDC, 15l/min coolant flow rate at 35°C and 25°C ambient</p> <p>3) Rated power valid for 30 min.</p> <p>4) dependent on available DC-voltage</p>

Cooling	
Liquid cooling	yes
Cooling medium	Water / glycol (50:50)
Cooling water connection (screw thread)	G 3/4
Min. coolant throughput	20 l / min
Max. coolant pressure	2 bar
Min. coolant pressure	0.5 bar
Max. coolant temperature without derating	35 °C
Max. coolant temperature with derating	65 °C

Approval marks	
Approval marks	<p>Federal Office for Motor Traffic (KBA)</p> <p>E1 85R-003796</p> <p>in combination with</p> <p>VP600-18W160-61.1.22.14.00 (E1 10R-058087)</p>

Properties	
Plug type	Amphenol PowerLok 301

Environment	
Max. ambient temperature in operation	75 °C
Min. ambient temperature in operation	-25 °C
Protection class according to EN 60529	IP65

Pin settings	
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## ENC

Properties	
Plug type	A DF A 015
Plug design	17 pol., type "E"

pin-no.	operation	type	I/O
1	P+	male	
2	P-	male	
3	A+	male	
4	A-	male	
5	B+	male	
6	B-	male	
7	N.C.	N.C.	
8	N.C.	N.C.	
9	N.C.	N.C.	
10	N.C.	N.C.	
11	N.C.	N.C.	
12	Interlock	male	
13	Interlock	male	
14	PT100	male	
15	PT100 GND	male	
16	PTC	male	
17	PTC GND	male	

Attachments

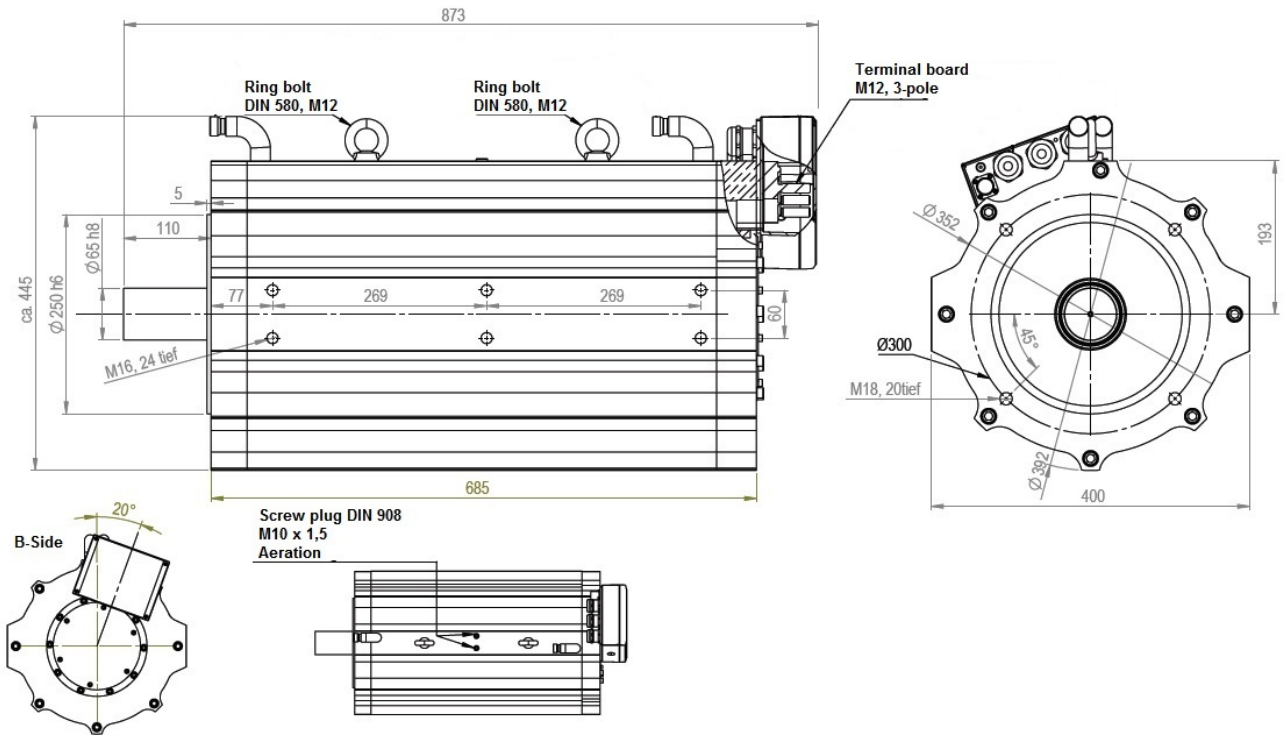


Illustration: Dimensions

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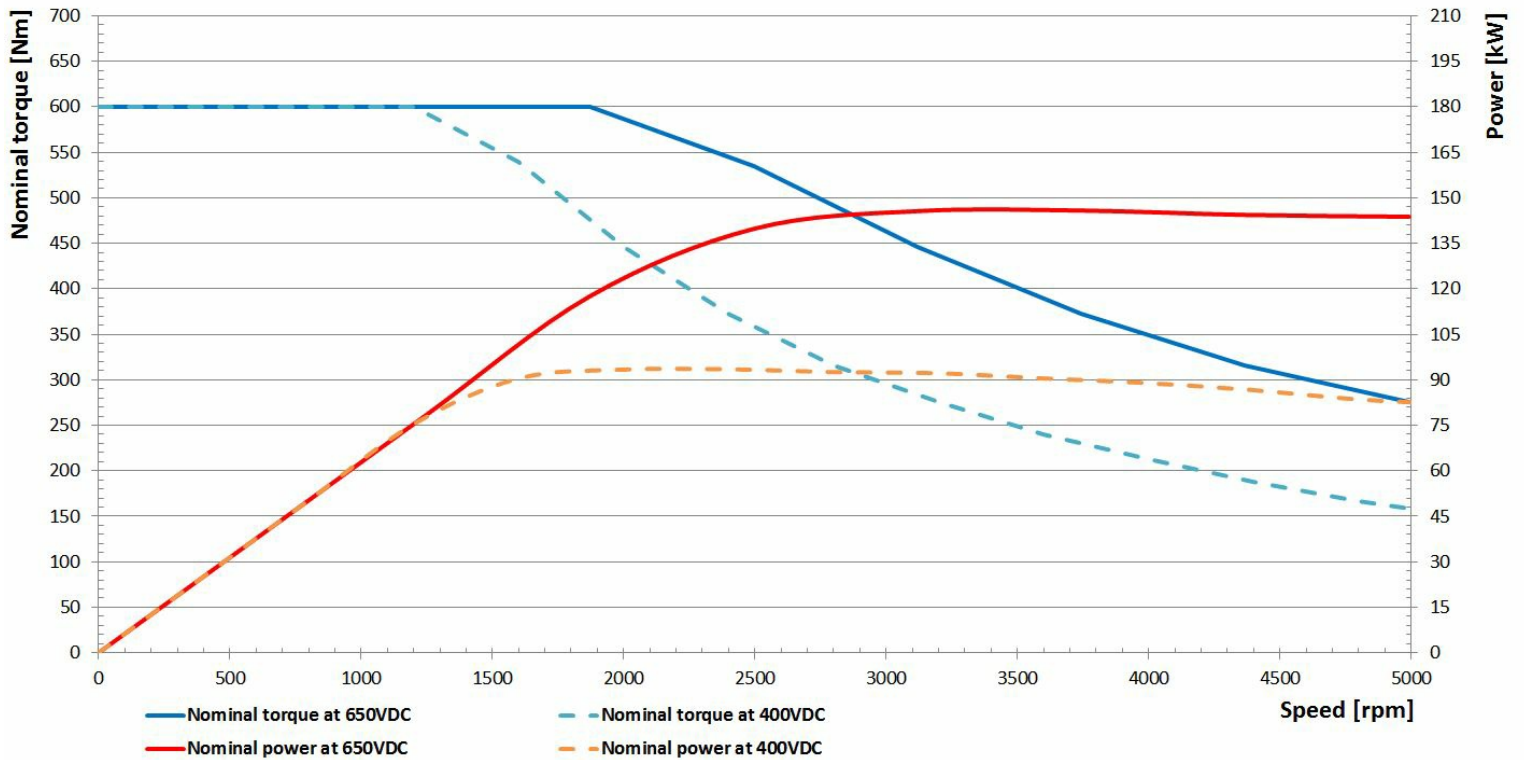


Illustration: S1 torque and power curve

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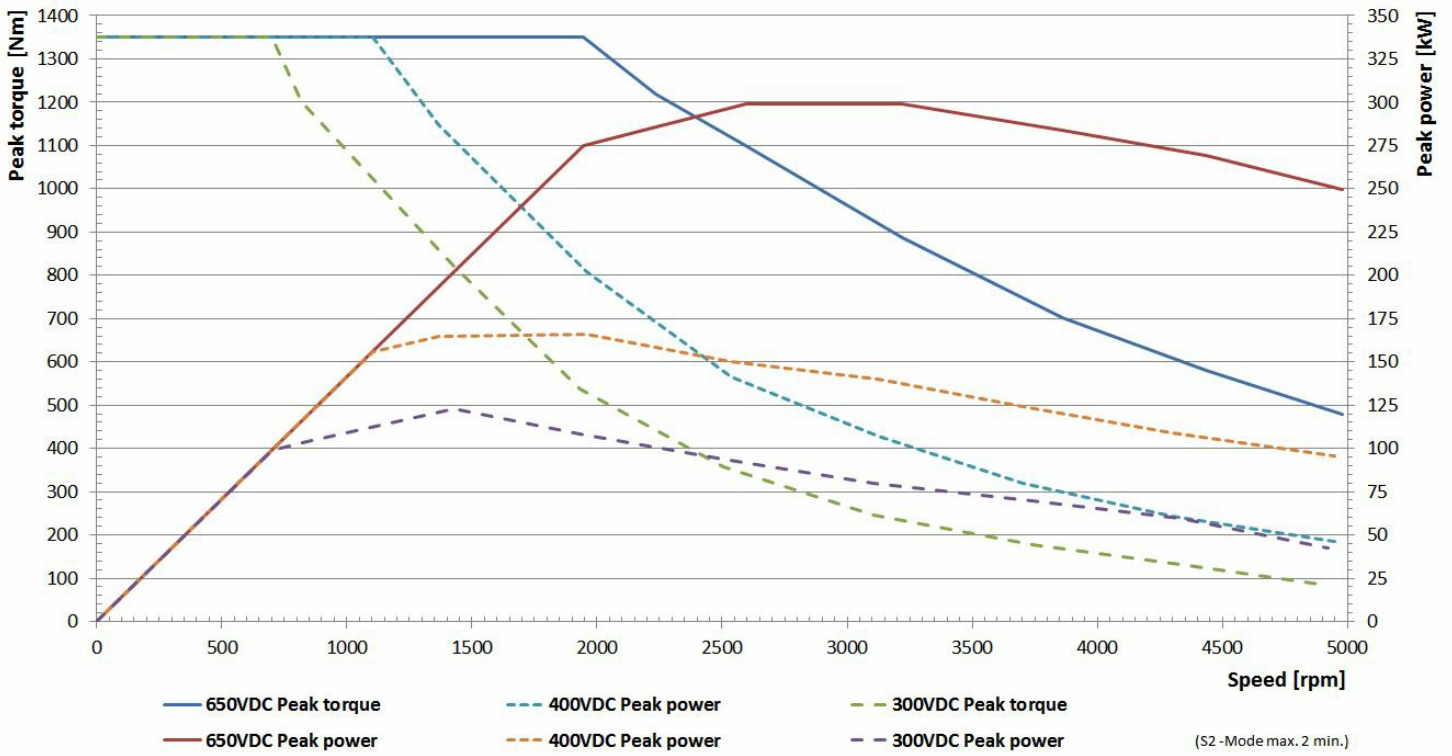


Illustration: S2 torque and power curve

VM620-18W0134-AC30048 -- Pressure drop

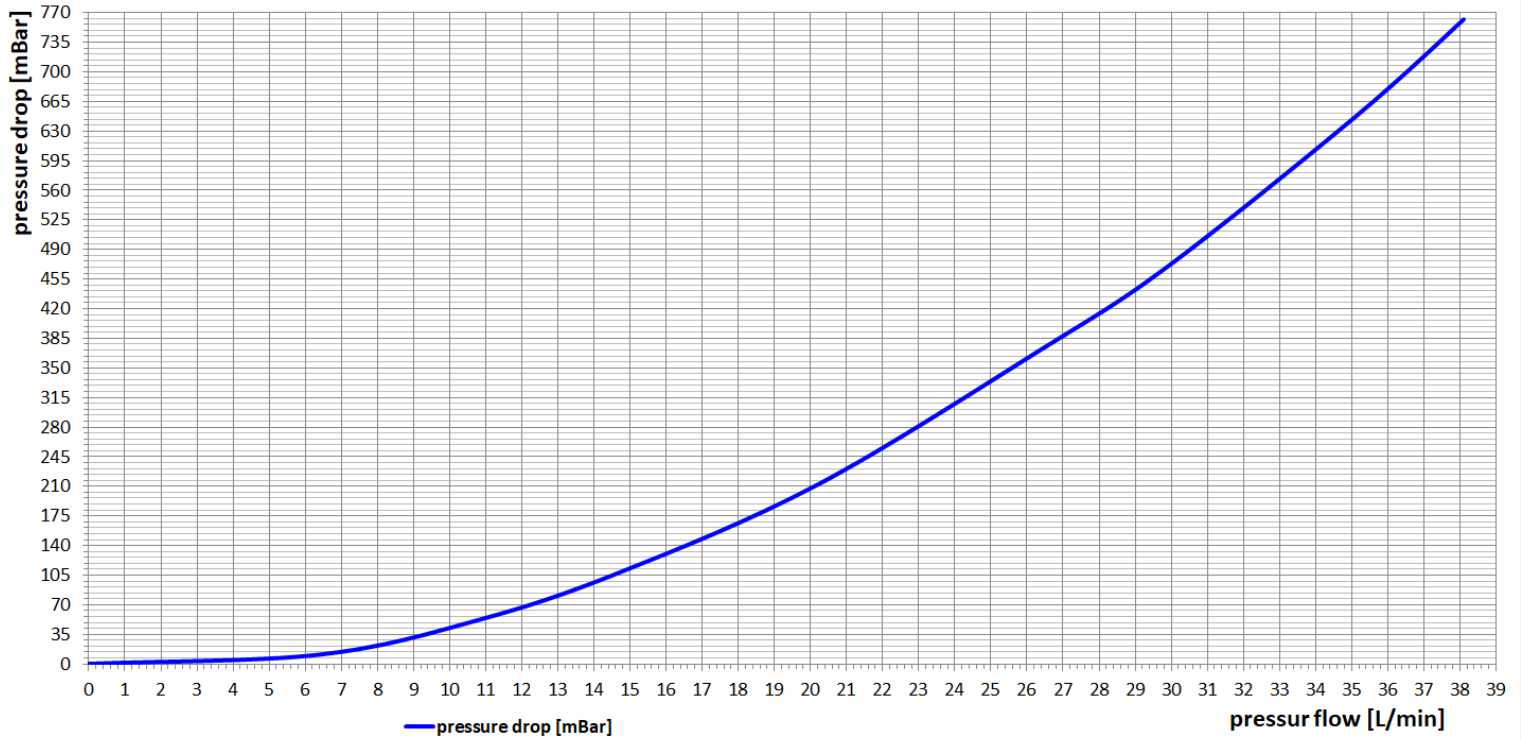


Illustration: pressure loss vs coolant flow

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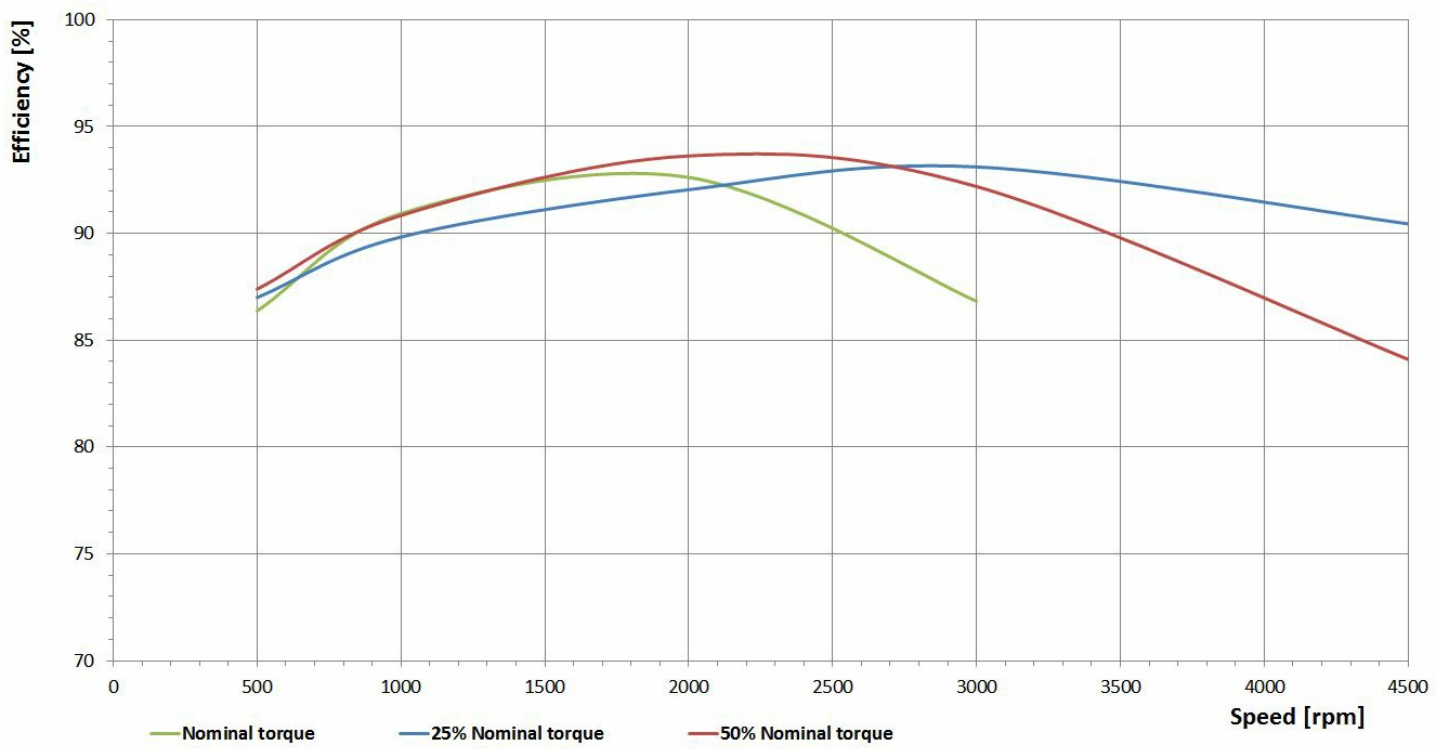


Illustration: Efficiency curves