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# Datasheet VM616-18W0044

Art.-No: VM616-18W0044-AC20060-0110

## Market evaluation

### 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.	VM6 16-18W0044-AC20060-0110
Motor topology	Asynchronous motor
Size	
Weight	105 kg
Diameter shaft	38 mm
Length shaft	66.5 mm
Total length	545.5 mm
Length	479 mm
External diameter	305 mm
Technical data	
Noiminal torque <sup>1)</sup>	179 Nm
Rated speed	2510 1/min
Nominal current UVW, per phase	155 A <sub>rms</sub>
Rated power <sup>3)</sup>	47 kW
Terminal voltage (AC)	270 V
Torque constant	1.15 Nm/A <sub>rms</sub>
Peak current UVW, per phase	320 A <sub>rms</sub>
Max. overload for 10 sec <sup>2)</sup>	440 Nm
Max. overload for 1 min <sup>2)</sup>	430 Nm
Max. overload for 10 min <sup>2)</sup>	202 Nm
Efficiency at continuous load (up to)	93 %
Number of pole pairs	2
Electrical wiring	Star connection
Rotary encoder	<ul style="list-style-type: none"> <li>● Resolver</li> </ul>
Shaft design	Cylindrical without feather key
Temperature sensors	Triplets PTC 1k, PT100
Technical notes	<p><sup>1)</sup> Rated torque at: 2510 rpm, 400VDC, 15l/min coolant flow rate at 35°C and 25°C ambient</p> <p><sup>2)</sup> Max. torque at: &lt; 2100 rpm, 400VDC, 15l/min coolant flow rate at 35°C and 25°C ambient</p> <p><sup>3)</sup> Rated power valid for 30 min.</p>
Cooling	
Liquid cooling	yes
Cooling medium	Water/glycol (50:50)
Cooling water connection (screw thread)	3/4"
Min. coolant pressure	0.5 bar

## Cooling

Max. coolant temperature without derating	35 °C
Max. coolant temperature with derating	65 °C

## Environment

Max. ambient temperature in operation	65 °C
Min. ambient temperature in operation	-25 °C
Protection class according to EN 60529	IP65

## Pin settings

## 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

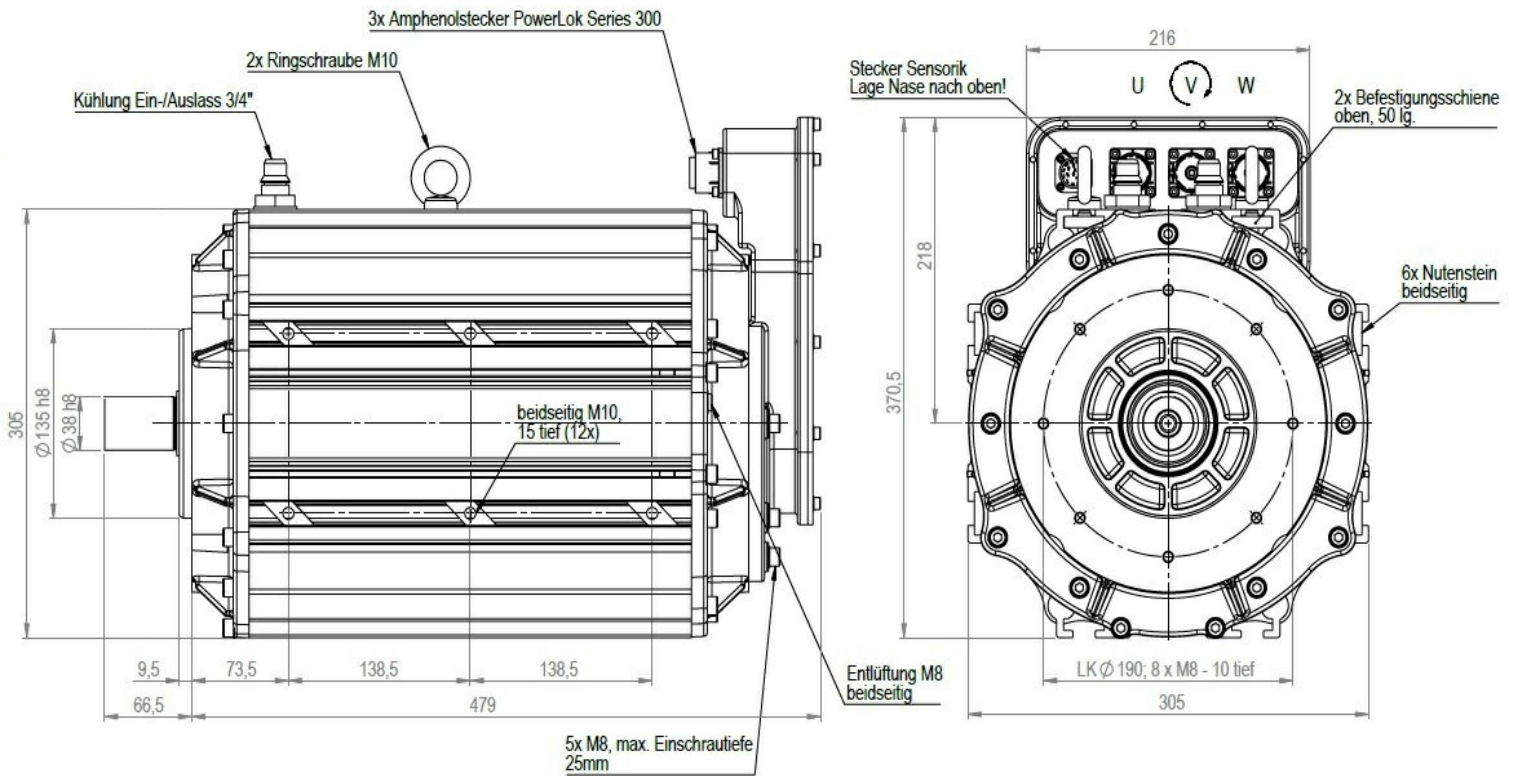


Illustration: Dimensions

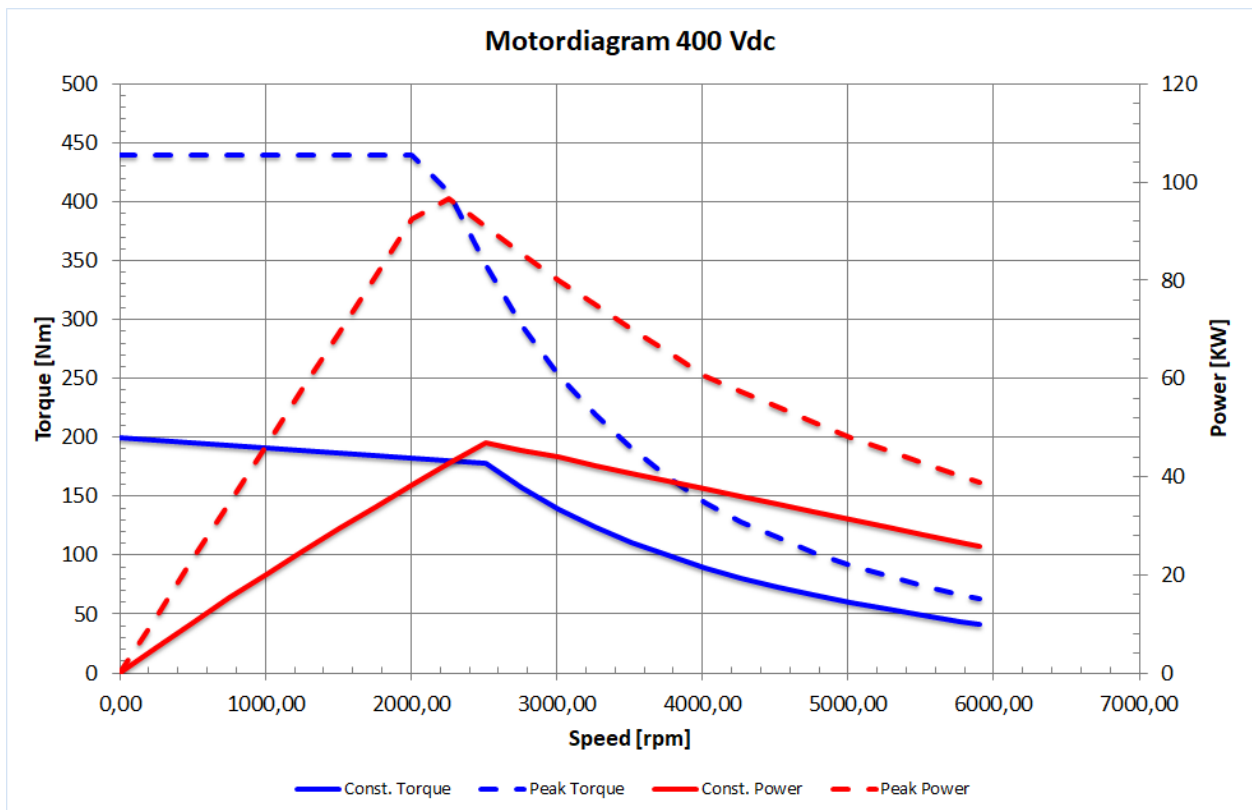


Illustration: S1 torque and power curve

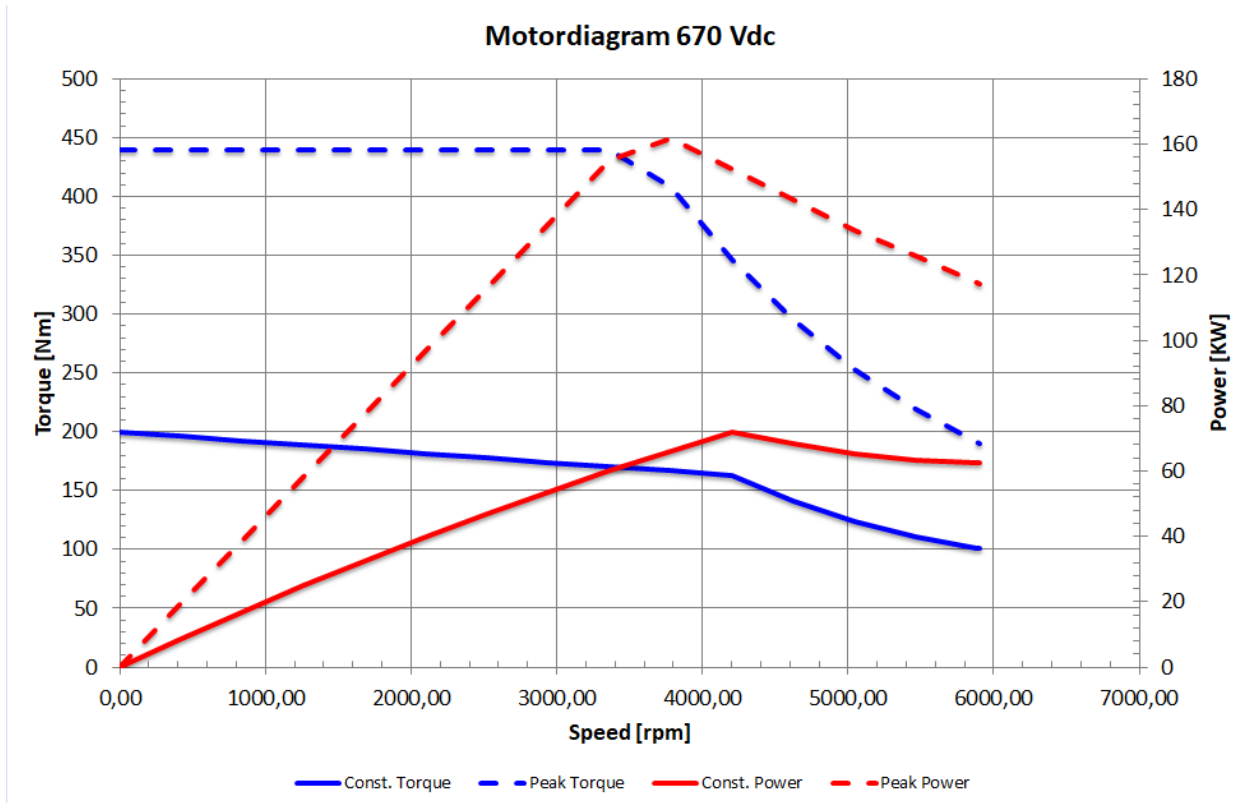


Illustration: S2 torque and power curve