

# NOVA 30-50-B10 P50 WK

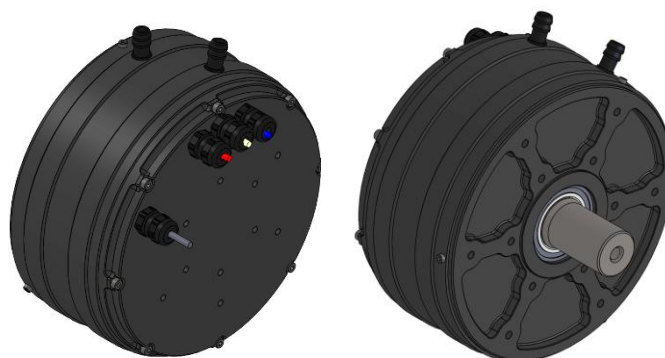
Inrunner BLDC motor with closed housing

## Overview

The NOVA 30 Water-Cooled ("WK") is from our family of super rugged inrunner BLDC motors and has been designed for a wide range of mission critical applications.

## Features

- Super robust housing for applications in the harshest environments
- Best power-to-weight-to-robustness ratio in its class
- Wear-free position and temperature sensors included in standard



## Specifications

Part number	02-043.050.01-000-099	
Peak output power	30	kW
Peak torque (max. 5s) <sup>(1)</sup>	80	Nm
Max. speed	5,000	rpm
Voltage range	100-350	V
Speed constant (kV)	15	rpm/V
Diameter (ex. water inlet)	197	mm
Length	96	mm
Weight	6,250	g
Phase cable length	100	mm
Sensor cable length	400	mm
Recommended phase cable extension	6	mm <sup>2</sup>
	10	AWG
Protection class	IP53	
Mounting	Front	
Direction of rotation	Both	
Cooling	Water cooled	
Ambient temperature range	-20 to +60 °C	
Max. temperature of stator (as measured by sensor)	+100 °C	
Position sensor types	Hall effect sensor with UVW-commutation signals	
Temperature sensor	NTC 47 kΩ	
Number of poles	50	
Number of windings	10	
Phase resistance <sup>(2)</sup>	85	mΩ
Phase inductance <sup>(2)</sup>	182	μH
Recommendations for water cooling	Flow of 7 liters-per-minute at max. 40°C inlet temp.; coolant pressure shall not exceed 2 bar/ 29 PSI.	

### Notes:

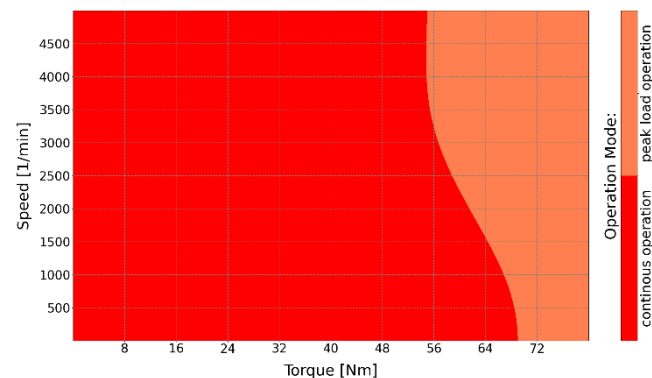
<sup>(1)</sup> Peak torque with sensor-guided ESC. If using sensorless ESC, peak torque may be 10-20% lower.

<sup>(2)</sup> Phase-to-phase value

## Complementary Products

- Plettenberg gold connectors: GC6-00 / GC6-90

## Heatmap



Note: Assuming water temperature of 40°C and 7 l/min flow.

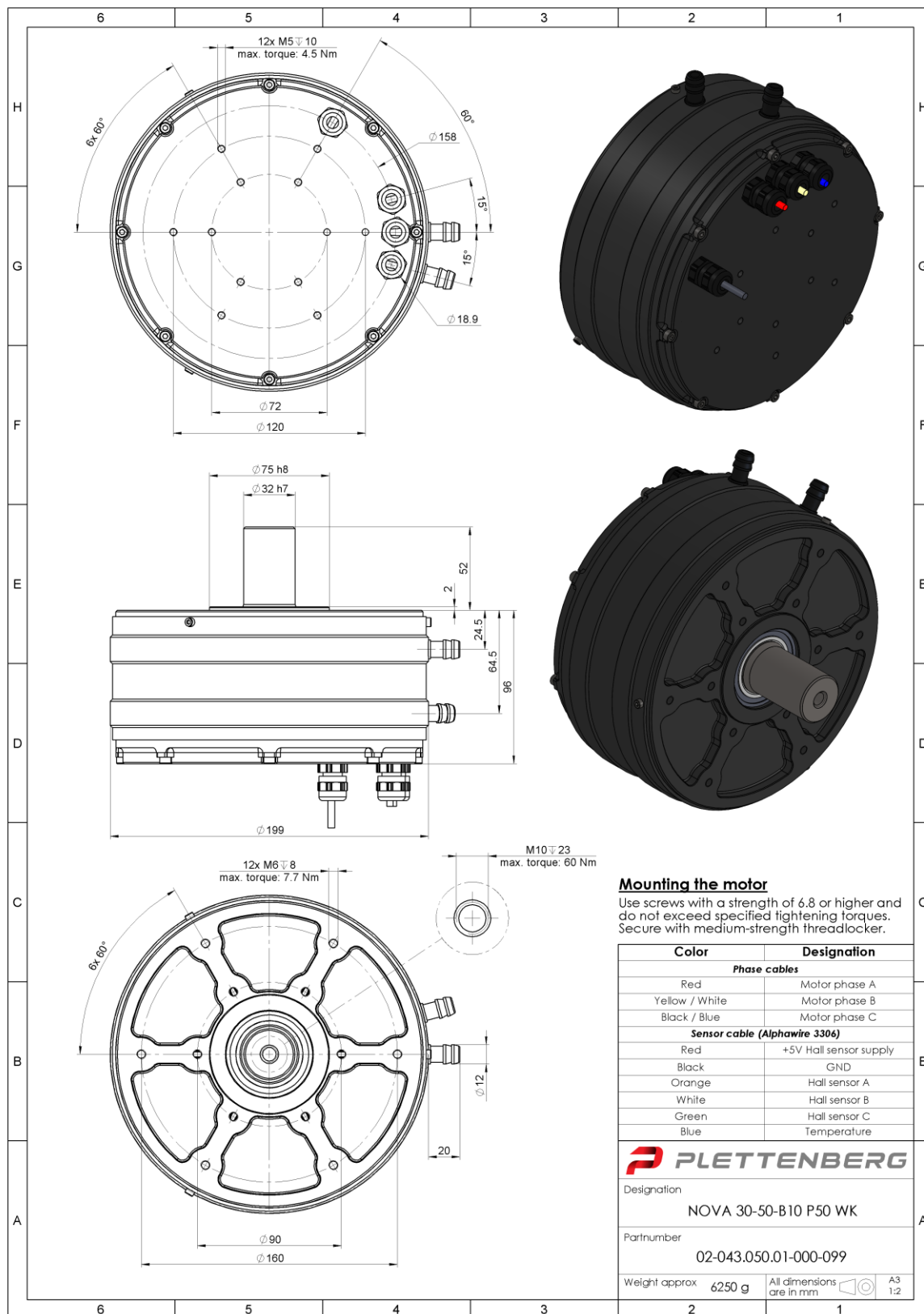
## Options & Customization

- Custom winding/kV versions
- MIL-STD 810H or RTCA DO160 qualification
- MTBF/S report
- IP67 protection class
- Aerospace or MIL-DTL-38999 connectors
- Mechanical customization
- High/low temperature versions
- High RPM versions



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