

## NOVA Series

# NOVA 30-50-B4 P50 WK

Inrunner BLDC motor with closed housing

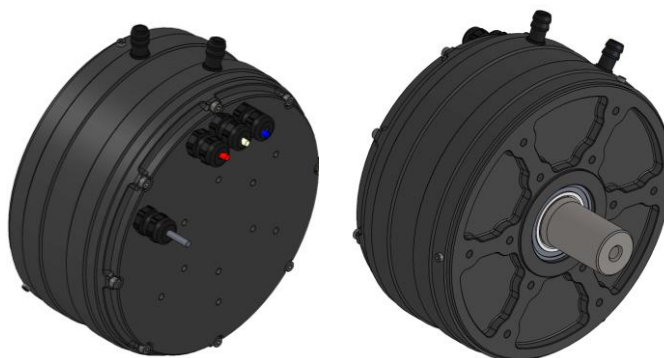


### Overview

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



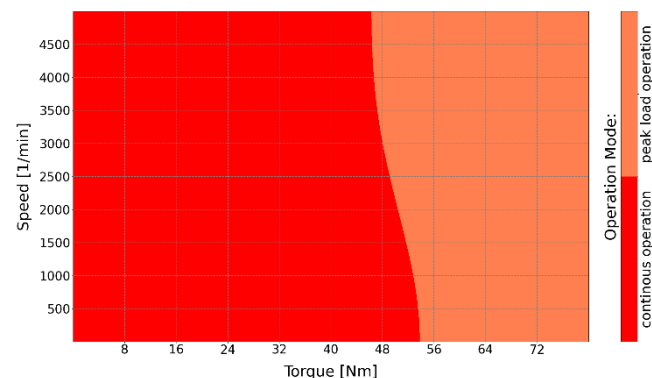
### Specifications

|  |  |                 |
|--|--|-----------------|
| Part number  | 02-043.050.01-000-098  |                 |
| Peak output power                                  | 30   | kW              |
| Peak torque (max. 5s) <sup>(1)</sup>               | 80   | Nm              |
| Max. speed   | 5,000  | rpm             |
| Voltage range                                      | 30-120   | V               |
| Speed constant (kV)                                | 37   | 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                  | 16   | mm <sup>2</sup> |
|  | 5  | 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                                 | 4  |                 |
| Phase resistance <sup>(2)</sup>                    | 15   | mΩ              |
| Phase inductance <sup>(2)</sup>                    | 31   | 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. |                 |

### 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

#### Notes:

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

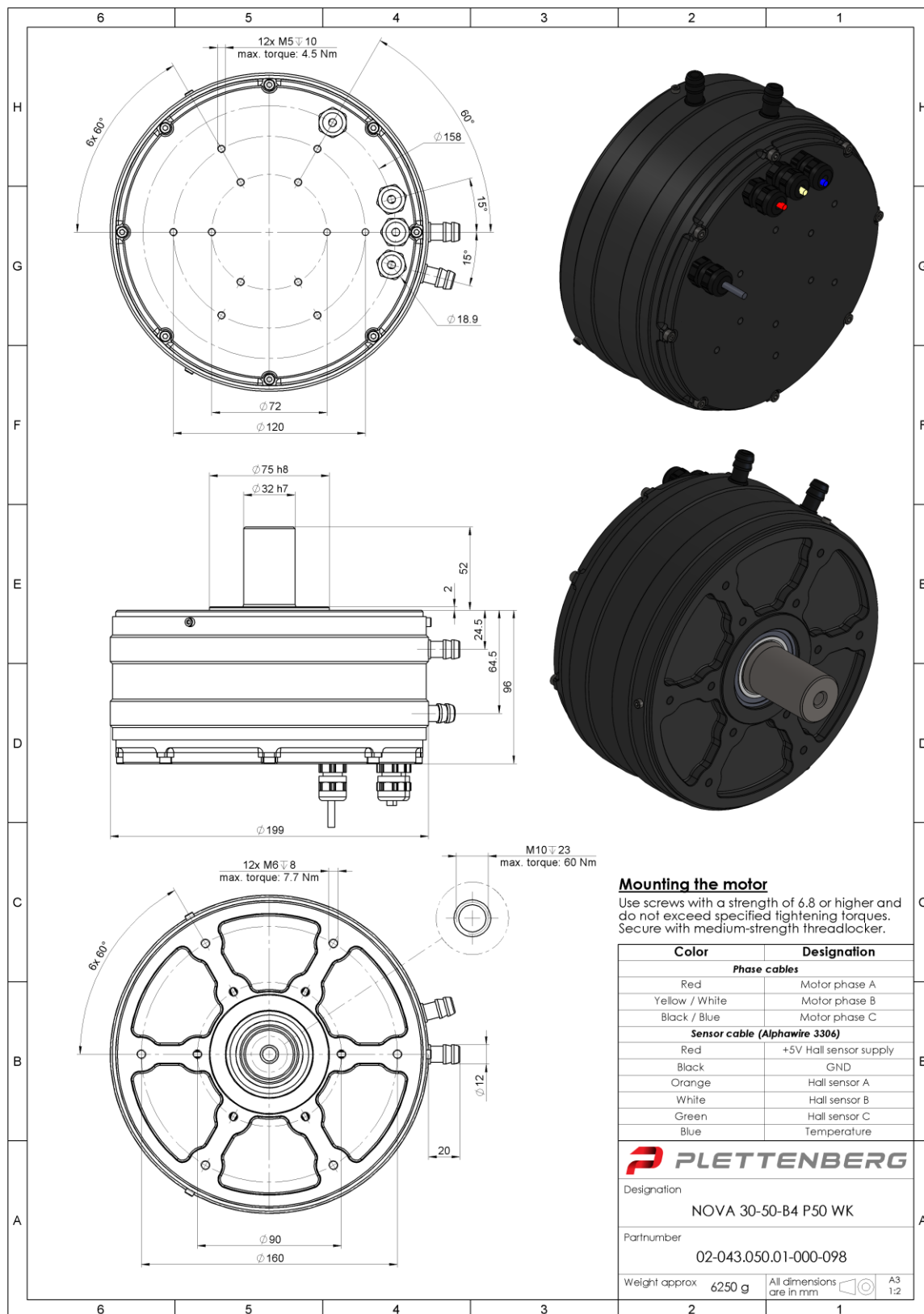
<sup>(2)</sup> Phase-to-phase value

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