

**RADIAL LOAD CAPACITY (Kgs) - NO AXIAL LOAD - FOR L10 LIFE OF 10,000 HOURS**

**Radial Load Capacity at the End of the Shaft (Kgs)**

2500 RPM	1750 RPM	1150 RPM	850 RPM
220	250	290	320

**AXIAL THRUST CAPACITY (Kgs) - NO RADIAL LOAD - FOR L10 LIFE OF 10,000 HOURS**

**Horizontal Mounting Load Capacity at the End of the Shaft (Kgs)**

2500 RPM	1750 RPM	1150 RPM	850 RPM
180	210	240	260

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REV	ECN	BY	REVISION DESCRIPTION	CHKR	DATE
PREPARED BY		DATE	DESIGN ENGINEER	DATE	
VS		1/6/2006			
TITLE					
ES, ELEC, HPK-B1310C-MA42AA					
Allen-Bradley			PART NO.		
			L13M5171ESE		
			A SIZE	SHEET	1 OF 4

Notes: Print or enlarge waveforms for improved clarity.  
For additional specifications see L13M5171ESM.

Specifications:

1. Motor type: 4 pole, 3 phase, asynchronous, ventilated
2. Base speed: 1470 RPM.
3. Maximum speed: 3000 RPM.
4. Continuous stall torque: 155 Nm (1372 lb-in) max at 155C winding temperature in a 40C
5. Peak stall torque: 325 Nm (2876 lb-in) max.
6. Continuous output rating: 23.8 kW ( hp) max at 1465 RPM.      Continuous current @ 1470 RPM 64.9 Amps 0 to peak max.(46 Amps.RMS)
7. Operating voltage: 460 VAC RMS Ref. (Not for direct connection to AC line).
8. Continuous stall current: 64.9 Amps 0 to peak max.(46 Amps.RMS)
9. Magnetizing current: 19.6 Amps. RMS ref.
10. Peak stall current: 144 Amps 0 to peak max.( 102 Amps. RMS)
11. Insulation class: 180 (H).
12. Housing temperature: 125C max.
13. Winding resistance: .232 Nom. Ohms, phase to phase at 20C to 30C.
14. Winding inductance: 8.9 mH, phase to phase Ref.
15. Dielectric rating of motor power connections (U,V,W), and thermostat connections (TS+, TS-) to ground: 2350 VAC RMS 50/60 Hz for 1 second.
16. Rotor inertia: .111 kg-m<sup>2</sup> Ref.
17. Rotor balancing: Quality grade G-6.3.
18. Product weight: 166 kg (366 lb) Ref.
19. Operating ambient temperature: 0C to 40C (32F to 104F).
20. Storage ambient temperature: -30C to 70C (-22F to 158F).
21. Relative humidity: 5% to 95% non-condensing.
22. Liquid / dust protection: IP54 with blower installed.
23. Shock: 10 g peak max, 6 msec duration (18 occurrences tested).
24. Vibration: 2.5 g peak max, 30 to 2000 Hz.
25. Shaft material: Steel, grade 1040/1045.
26. Paint: Black. Shaft, key (if provided), flange mounting surface, and connectors are not painted.

Equivalent circuit parameters

- X1: .446 Ohms/phs Ref at 20C to 30C.  
X1: .54 Ohms/phs Ref at 20C to 30C.  
Xm : 11.8 Ohms/phs Ref at 20C to 30C  
R1: .116 Ohms/phs Ref at 20C to 30C  
R2: .0843 Ohms/phs Ref at 20C to 30C

Notes: "Ref" denotes untoleranced specifications, provided for reference only.  
Speed, torque and current specifications are for motor operation with Allen Bradley drives.

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Feedback Specifications:

Electrical Hardware:

1. SIN, COS waveform output: 1024 sinusoids/rev.
2. SIN, COS waveform amplitude: 0.9 to 1.1 Volts peak to peak.
3. SIN -, COS - voltage offset with respect to power input common: 2.2 to 2.8 VDC.
4. +5VDC voltage input: 4.5 to 12.0 VDC.
5. +5VDC current input: 125 mA DC max continuous, 1.0 A DC max inrush.
6. TS+, TS- thermostat operating voltage: 250 Volts max.
7. TS+, TS- thermostat operating current: 1.6/2.5 Amps max at 0.6/1.0 power factor.

Serial Communication:

1. DATA+, DATA- signal type, rate: RS 485, 9600 baud, asynchronous.
2. Communication hierarchy: Encoder is slave, communication is externally initiated.
3. Single turn absolute position value range: 0 to 32,767 steps (12 bit).
4. Multi-turn absolute shaft revolution value range: 0 to 32,767 revolutions (12bit).
5. Absolute position data: Binary, value increases with CW shaft rotation viewing motor mounting face.
6. Data (byte) format: Start bit, 8 data bits, parity bit, stop bit.
7. Memory storage capacity: 128 bytes, EEPROM.
8. Encoder temperature data: Binary value of encoder temperature in degrees C.

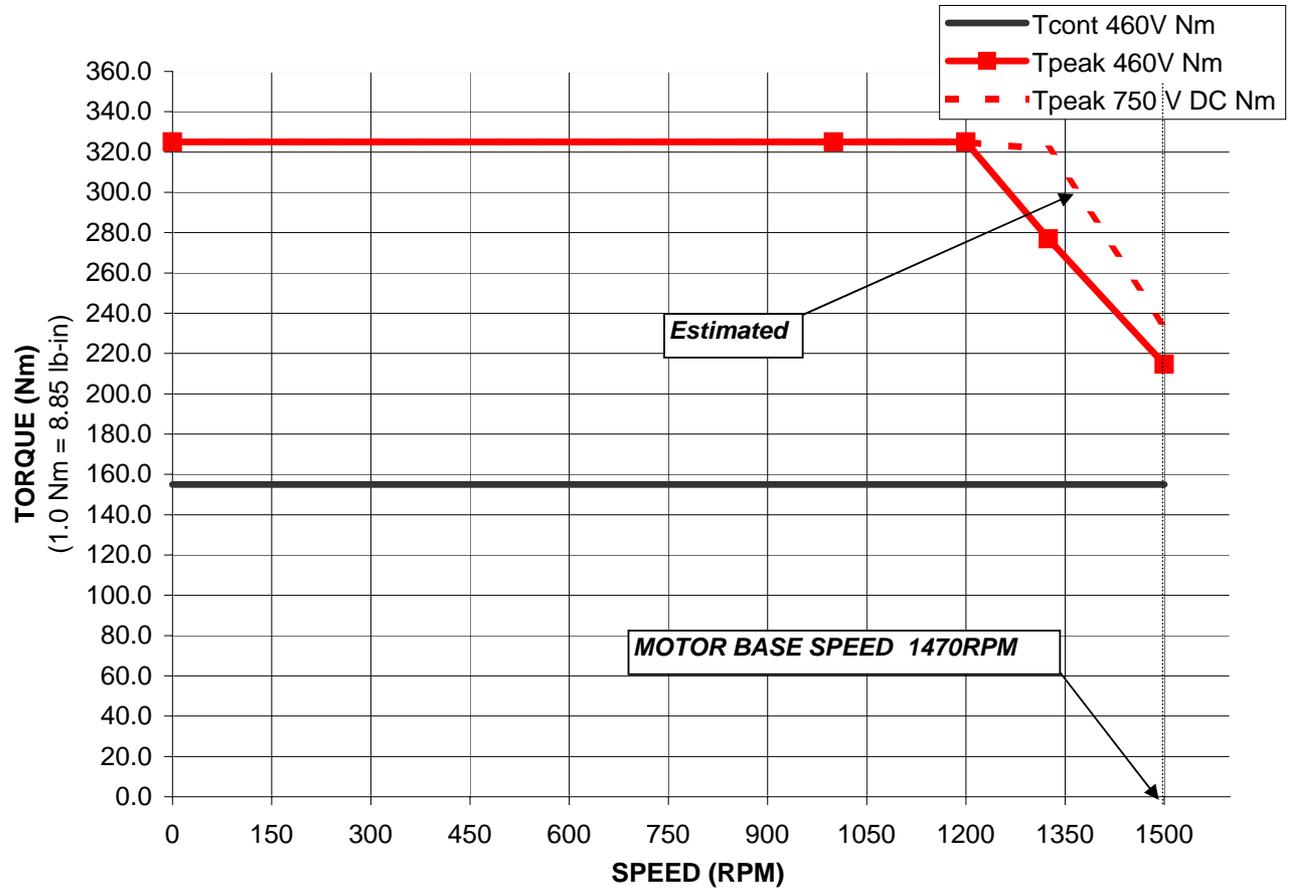
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SPEED RPM	TORQUE		
	Tcont 460V	Tpeak 460V	Tpeak 750 V DC
	Nm	Nm	Nm
0	155.0	325.0	325.0
1000	155.0	325.0	325.0
1200	155.0	325.0	325.0
1325	155.0	276.8	321.3
1500	155.0	214.7	234.5

SPEED RPM	TORQUE		
	Tcont 460V	Tpeak 460V	Tpeak 750 V DC
	lb-in	lb-in	lb-in
0	1372.0	2876	2876
1000	1372.0	2876	2876
1200	1372.0	2876	2876
1325	1372.0	2450	2876
1500	1372.0	1900	2075

**HPK-B1310C-MA42AA Performance with 2099-BM08  
at 460 VAC and 750 V DC Drive Input, 40C Motor Ambient**



Note: Nm torque values shown are converted from tested lb-in data.

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