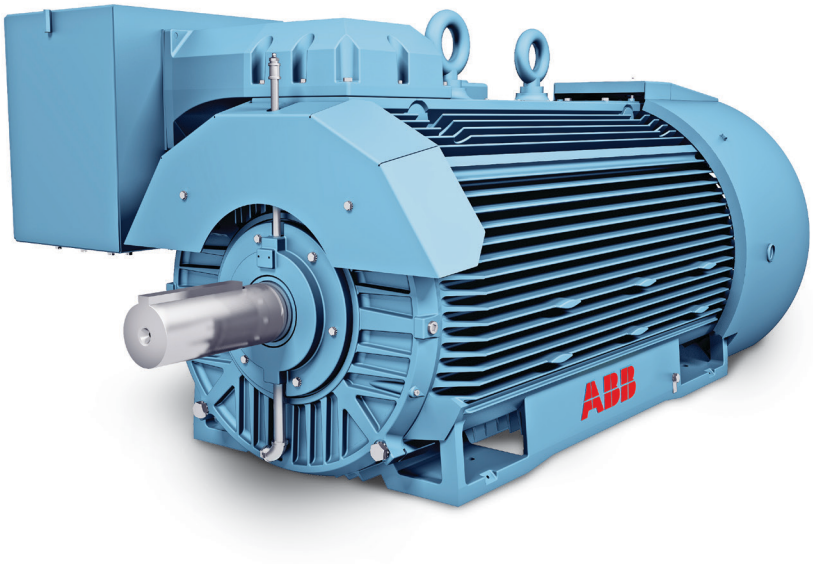
PRODUCT NOTE

General purpose above NEMA motors

Available from stock



Buying low and medium voltage motors has never been easier. ABB's N-series general purpose motors combine cost-efficient standardized designs and short lead times with safety, productivity, energy efficiency and reliability.

Easy to buy
General purpose above NEMA motors fit most applications where a highly customized motor is not needed. Totally enclosed fan cooled motors, type NXR, are available from stock or with short lead times.

Motor modifications to fit application requirements
Available direct from the factory in Kings Mountain, North Carolina, NXR motors have 39 modifications to allow motors to be fitted to specific application requirements. Modifications include bearing type change-outs to upgrading to IP55 ingress protection rating. These modifications allow you to tailor the N-series motors to fit your applications without ordering a highly customized engineered motor.

Main specifications	
Rated horsepower:	250 Hp to 1000 Hp
Frame sizes:	5008 to 5810
Number of poles:	2 to 8 pole
Voltages:	460, 2300/4000
Frequency:	60 Hz (50 Hz re-ratable)
Service factor:	DOL: 1.15, VSD: 1.00
Insulation class:	F
Cooling:	Fan cooled
Protection:	IP54
Enclosure:	Totally enclosed fan cooled (TEFC)
Mounting:	Horizontal
Bearings:	Ball and roller (convertible)
Standards:	Above NEMA

Suitable for variable speed drive use

By controlling the motor with a variable speed drive, you can optimize the motor's performance, minimize energy consumption and control your process more accurately. With more and more VSDs being used it is always an advantage to have a motor that is capable of being adapted to a VSD later. This gives you more flexibility with configuring your processes in the future.

Key features and benefits

- High efficiency for energy savings
- 3.5 PU surge capability
- Suitable for use on a VSD 2:1 CT / 10:1 VT (most ratings)
- CSA approved
- Class I Division 2 Group C and D approved
- Cast iron frame and end brackets
- Space heaters
- 100 Ohm platinum winding RTDs
- Class F insulation
- Insulated ODE bearing
- F1 terminal box mounting
- Provisions for bearing RTDs
- "LR" shafts have roller bearings and are belted duty
- "L" shafts have ball bearings and are convertible to roller bearings
- "S" shafts have ball bearing for coupled duty
- The paint is a specially formulated modified epoxy coating with UV protection
- Performance data, drawings and other information is readily available
- In-stock or short lead times

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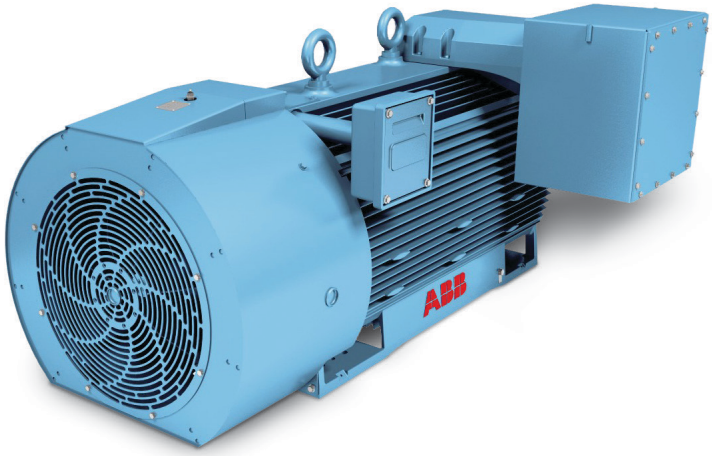
01 The design of the outer cooling ribs is optimized to maximize the cooling surface area.



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General purpose above NEMA motor, type NXR, three phase, totally enclosed, foot mounted

Hp	RPM	NEMA frame	Encl.	Catalog no.	List price	Mult. sym.	C dim.	Aprx. weight (lb.)	Full load efficiency	Voltage	Full load amps	Notes
460 volts												
250	1200	5008	TEFC	**N50256LR-4**	42,456	LG	63.48	4600	95.8	460	293	1,5
	900	5010	TEFC	**N50258LR-4**	48,885	LG	70.48	5400	95.1	460	335	1,5
300	1200	5010	TEFC	**N50306LR-4**	43,807	LG	70.48	5115	95.8	460	357	1,5
	900	5012	TEFC	**N50308LR-4**	52,637	LG	78.48	5925	95.2	460	428	1,5
350	1200	5010	TEFC	**N50356LR-4**	47,809	LG	70.48	5265	95.8	460	409	1,5
	900	5012	TEFC	**N50358LR-4**	57,180	LG	78.48	6000	95.0	460	496	1,5
400	1200	5010	TEFC	**N50406LR-4**	51,850	LG	70.48	5415	95.8	460	478	1,5
	900	5012	TEFC	**N50408LR-4**	62,629	LG	78.48	6250	95.2	460	578	1,5
450	3600	5010	TEFC	**N50452S-4**	47,287	LG	83.57	4932	95.8	460	521	1
	1800	5010	TEFC	**N50454L-4**	50,038	LG	70.48	5543	96.3	460	527	1
	1200	5012	TEFC	**N50456LR-4**	55,864	LG	78.48	6065	95.8	460	528	1,5
	900	5012	TEFC	**N50458LR-4**	68,996	LG	78.48	6500	95.0	460	627	1,5
500	3600	5010	TEFC	**N50502S-4**	51,219	LG	83.57	5088	95.8	460	566	1
	1800	5010	TEFC	**N50504L-4**	54,842	LG	70.48	5675	95.9	460	588	1
	1200	5012	TEFC	**N50506LR-4**	59,489	LG	78.48	6215	95.8	460	588	1,5
	900	5012	TEFC	**N50508LR-4**	78,229	LG	78.48	6600	95.0	460	672	1,5,7
600	3600	5010	TEFC	**N50602S-4**	55,600	LG	83.57	5400	95.8	460	691	1
	1800	5012	TEFC	**N50604L-4**	58,737	LG	78.48	6007	95.4	460	752	1
	1200	5012	TEFC	**N50606LR-4**	65,181	LG	78.48	6365	95.4	460	714	1,5
	900	5810	TEFC	**N58608L-4**	86,749	LG	89.55	7600	96.0	460	743	1
700	3600	5010	TEFC	**N50702S-4**	58,605	LG	83.57	5800	95.8	460	767	1
	1800	5012	TEFC	**N50704L-4**	63,319	LG	78.48	6072	95.4	460	874	1
	1200	5012	TEFC	**N50706LR-4**	73,593	LG	78.48	6365	95.8	460	835	1,5,7
	900	5810	TEFC	**N58708L-4**	96,334	LG	89.55	7850	95.9	460	873	1
800	3600	5810	TEFC	**N58802S-4**	62,254	LG	100.32	7100	96.3	460	839	1
	1800	5012	TEFC	**N50804L-4**	68,644	LG	78.48	6420	95.4	460	1014	1
	1200	5810	TEFC	**N58806L-4**	80,127	LG	89.55	7280	96.2	460	907	1
900	3600	5810	TEFC	**N58902S-4**	69,709	LG	100.32	7900	96.5	460	939	1
	1800	5012	TEFC	**N50904L-4**	73,687	LG	95.57	6250	95.8	460	1050	1,7
	1200	5810	TEFC	**N58906L-4**	86,749	LG	89.55	7600	96.2	460	907	1
1000	1800	5810	TEFC	**N581004L-4**	79,294	LG	107.01	7250	96.6	460	1042	1
	1200	5810	TEFC	**N581006L-4**	97,829	LG	89.55	8500	96.3	460	1155	1,7

Notes:

1 Class F insulated motor with 1.15 service factor or higher that operates within Class “B” temperature limits at rated horsepower.

5 Belted duty only, roller bearing.

7 Copper bar rotor

To convert to a severe duty motor (Formerly CP and ECP models) add Winding Corrosion Protection and IP55 modifications
IP55 Mod M27B and Corrosion Protection - M26C

Check with your distributor or Product Specialist for the latest product information as prices and features may have changed from the time when this was printed.

General purpose above NEMA motor, type NXR, three phase, totally enclosed, foot mounted

Hp	RPM	NEMA frame	Encl.	Catalog no.	List price	Mult. sym.	C dim.	Aprx. weight (lb.)	Full load efficiency	Voltage	Full load amps	Notes
2300/4000 Volts												
250	1200	5008	TEFC	**N50256LR-2340**	44,692	LG	63.48	5070	94.5	2300/4000	61/31.5	1,5
	900	5010	TEFC	**N50258LR-2340**	51,458	LG	70.48	5420	94.5	2300/4000	65.4/37.6	1,5
300	1200	5010	TEFC	**N50306LR-2340**	46,112	LG	70.48	5250	95.0	2300/4000	71.7/41.2	1,5
	900	5012	TEFC	**N50308LR-2340**	58,486	LG	78.48	5985	94.5	2300/4000	78.1/44.9	1,5
350	3600	5010	TEFC	**N50352S-2340**	46,611	LG	83.57	4812	94.5	2300/4000	80.9/46.5	1
	1800	5008	TEFC	**N50354L-2340**	46,860	LG	63.48	4940	94.7	2300/4000	83.7/48.1	1
	1200	5010	TEFC	**N50356LR-2340**	52,593	LG	70.48	5400	95	2300/4000	83.7/48.1	1,5
	900	5012	TEFC	**N50358LR-2340**	67,271	LG	78.48	6250	94.5	2300/4000	92.7/53.3	1,5
400	3600	5010	TEFC	**N50402S-2340**	51,347	LG	83.57	4959	95	2300/4000	92.6/53.2	1
	1800	5010	TEFC	**N50404L-2340**	50,848	LG	70.48	5400	95	2300/4000	96.3/55.4	1
	1200	5012	TEFC	**N50406LR-2340**	59,059	LG	78.48	6050	95	2300/4000	95.7/55.0	1,5
	900	5012	TEFC	**N50408LR-2340**	77,060	LG	78.48	6460	94.5	2300/4000	103/59	1,5
450	3600	5010	TEFC	**N50452S-2340**	60,569	LG	83.57	5106	95	2300/4000	103/59	1
	1800	5010	TEFC	**N50454L-2340**	55,334	LG	70.48	5523	94.9	2300/4000	108/62.1	1
	1200	5012	TEFC	**N50456LR-2340**	66,052	LG	78.48	6200	95	2300/4000	107/61.5	1,5
	900	5012	TEFC	**N50458LR-2340**	83,705	LG	78.48	6530	94.8	2300/4000	116.8/67.3	1,5
500	3600	5010	TEFC	**N50502S-2340**	66,052	LG	83.57	5253	95	2300/4000	113/64.8	1
	1800	5012	TEFC	**N50504L-2340**	63,560	LG	78.48	5655	95.4	2300/4000	119/68.5	1
	1200	5012	TEFC	**N50506LR-2340**	74,399	LG	78.48	6350	95	2300/4000	118/68	1,5
	900	5012	TEFC	**N50508LR-2340**	94,129	LG	78.48	6600	95	2300/4000	125/72	1,5,7
600	3600	5010	TEFC	**N50602S-2340**	72,284	LG	83.57	5400	95.4	2300/4000	138/79.2	1
	1800	5012	TEFC	**N50604L-2340**	72,904	LG	78.48	5787	95	2300/4000	145/83.3	1
	1200	5012	TEFC	**N50606LR-2340**	83,500	LG	78.48	6450	95	2300/4000	141/81.1	1,5,7
	900	5810	TEFC	**N58608L-2340**	106,680	LG	89.55	7600	95.1	2300/4000	87	1
700	3600	5810	TEFC	**N58702S-2340**	79,716	LG	100.32	7100	95.9	2300/4000	86	1
	1800	5012	TEFC	**N50704L-2340**	80,359	LG	78.48	6052	95.4	2300/4000	168/96.5	1
	1200	5810	TEFC	**N58706L-2340**	95,479	LG	89.55	7700	95.5	2300/4000	94	1
	900	5810	TEFC	**N58708L-2340**	120,539	LG	89.55	8600	95.4	2300/4000	108	1,7
800	3600	5810	TEFC	**N58802S-2340**	84,619	LG	100.32	7500	96.0	2300/4000	98	1
	1800	5012	TEFC	**N50804L-2340**	88,879	LG	78.48	6400	95.4	2300/4000	185/107	1,7
	1200	5810	TEFC	**N58806L-2340**	109,538	LG	89.55	8500	95.7	2300/4000	107	1,7
900	3600	5810	TEFC	**N58902S-2340**	91,009	LG	100.32	7900	96.2	2300/4000	109	1
	1800	5810	TEFC	**N58904L-2340**	98,464	LG	107.01	7135	95.8	2300/4000	115	1
1000	1800	5810	TEFC	**N581004L-2340**	108,049	LG	107.01	7500	96.0	2300/4000	127	1

Notes:

1 Class F insulated motor with 1.15 service factor or higher that operates within Class “B” temperature limits at rated horsepower.

5 Belted duty only, roller bearing.

7 Copper bar rotor

Check with your distributor or Product Specialist for the latest product information as prices and features may have changed from the time when this was printed.

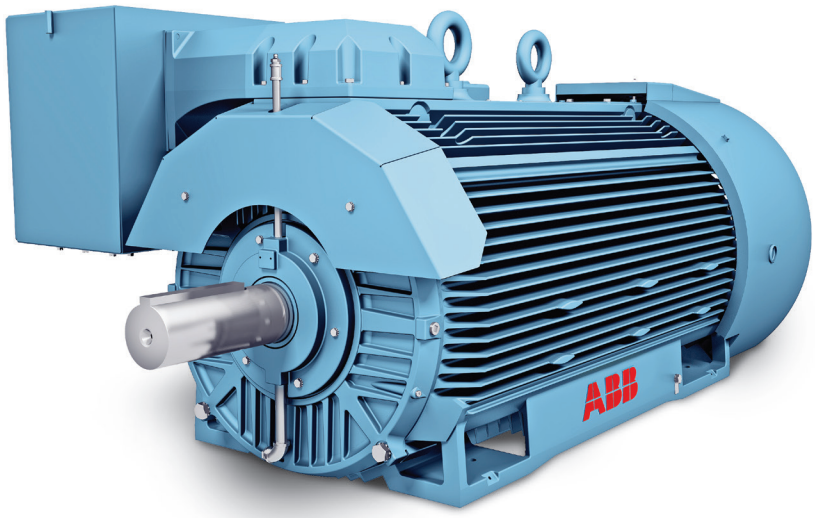
Modifications available for NXR products

	List price
M1 Balance	$2,342
M2B Ball to Roller Conversion	$2,435
M2D Bearing Temperature Detector (100 Ohm)	$2,222
M2F Insulated Bearing	$1,305
M2G Conversion Roller to Ball	$1,995
M7B Drains Choose requirement	$427
M12B Inpro-Seal (DE)	$1,508
M12D Inpro-Seal (ODE)	$1,508
M13F-2 NEMA F2 Mounting	$414
M13F3 TOP MOUNT	$2,976
M13M Low Noise Fan Cover	$2,245
M14A Open Crate NXR5000	$1,634
M14A Open Crate NXR5800	$1,743
M14B Totally Enclosed Crate NXR5000	$7,323
M14B Totally Enclosed Crate NXR5800	$7,979
M15H CSA Ordinary Location Nameplate	$400
M15I Non-CSA Nameplate	$400
M17 Charcoal Gray Motor Paint	$1,359
M17 Industrial Gray Motor Paint	$1,359
M17 Black Motor Paint	$1,359

	List price
M17 Blue Motor Paint	$1,359
M17 Industrial Red Motor Paint	$1,359
M17 White Motor Paint	$1,359
M17 Traffic Yellow Motor Paint	$1,359
M20 Stainless Steel Hardware	$3,410
M26A Protection from Tropical Environment	$1,609
M26C Corrosion Treatment of Windings	$1,738
M27B Upgrade to IP55	$815
M31D Add Encoder	$2,614
M39C Shaft Ground Brush	$1,306
M39E Division 2 Ground Probe	$1,306
M41A Provision for Vibration Detection (1/4-28)	$3,076
M41B Vibration Switch "Robert Shaw"	$12,300
M41C Velocity Transducer 1 each end B/N 9200	$5,490
M41C Velocity Transducer 2 each end B/N 9200	$10,980
M41C Velocity Transducer 3 each end B/N 9200	$16,470
M41D Accelerometer 1 each end B/N 33040	$5,350
M41D Accelerometer 2 each end B/N 33040	$10,700
M41D Accelerometer 3 each end B/N 33040	$16,500

Notes:

To create a Severe Duty motor please apply the following modifications:
M26C - Corrosion treatment
M27B - Upgrade to IP55



Division 2 capabilities

The following list of motors are marked for Class I, Division 2, Group C and D for Sine Wave and Inverter Power.

Division 2 Temp Codes are provided in the standard format per the NEC Article 500 requirements. Equivalent Zone Temp Codes are provided in the "T=°C" format because NEC Article 505 does not allow all T Codes permitted by NEC 500. Inverter Temp Codes are provided in the "T=°C" format because they apply to both the Equivalent Zone (NEC 505) requirements and NEC 500 requirements. Please reference the following table for Temperature and Temp Code values.

Maximum surface temperature	US (NEC 500) CA (CEC Annex J)	US (NEC 505) CA (CEC Section 18)
450° C	T1	T1
300° C	T2	T2
280° C	T2A	-
260° C	T2B	-
230° C	T2C	-
215° C	T2D	-
200° C	T3	T3
180° C	T3A	-
165° C	T3B	-
160° C	T3C	-
135° C	T4	T4
120° C	T4A	-
100° C	T5	T5
85° C	T6	T6

Catalog number	Sine wave, 1.15 S.F.			Inverter power, 1.0 S.F.		
	Sine wave temp. code	Equivalent zone temp. code T = °C	Inverter temp code T = °C	V.T. speed range (Hz)*	C.T. speed range (Hz)*	CHP speed range (Hz)
N50256LR-2340	T2D	215° C	215° C	6-60	30-60	60-90
N50256LR-4	T3	200° C	200° C	6-60	30-60	60-90
N50258LR-2340	T3A	180° C	180° C	6-60	30-60	60-90
N50258LR-4	T3A	180° C	180° C	6-60	30-60	60-90
N50306LR-2340	T2B	260° C	260° C	6-60	30-60	60-90
N50306LR-4	T2D	215° C	215° C	6-60	30-60	60-90
N50308LR-2340	T3A	180° C	180° C	6-60	30-60	60-90
N50308LR-4	T3A	180° C	180° C	6-60	30-60	60-90
N50352S-2340	T3A	180° C	180° C	6-60	30-60	60-70
N50354L-2340	T2B	260° C	260° C	6-60	30-60	60-66
N50356LR-2340	T2C	230° C	230° C	6-60	30-60	60-90
N50356LR-4	T2C	230° C	230° C	6-60	30-60	60-90
N50358LR-2340	T3A	180° C	180° C	6-60	30-60	60-90
N50358LR-4	T3A	180° C	180° C	6-60	30-60	60-90
N50402S-2340	T3A	180° C	180° C	6-60	30-60	60-70
N50404L-2340	T3A	180° C	180° C	6-60	30-60	60-66
N50406LR-2340	T2B	260° C	260° C	6-60	30-60	60-90
N50406LR-4	T2D	215° C	215° C	6-60	30-60	60-90

Notes:
(1) Motor is not suitable for division II operation
(2) Overspeed capability not available
* Zero Hz = motor slip Hz

Division 2 capabilities

Catalog number	Sine wave, 1.15 S.F.		Inverter power, 1.0 S.F.			
	Sine wave temp. code	Equivalent zone temp. code T = °C	Inverter temp code T = °C	V.T. speed range (Hz)*	C.T. speed range (Hz)*	CHP speed range (Hz)
N50408LR-2340	T3	200° C	200° C	6-60	30-60	60-90
N50408LR-4	T3A	180° C	180° C	6-60	30-60	60-90
N50452S-2340	T3A	180° C	180° C	6-60	30-60	60-70
N50452S-4	T3A	180° C	180° C	6-60	30-60	60-70
N50454L-2340	T3	200° C	200° C	6-60	30-60	60-66
N50454L-4	T3	200° C	200° C	6-60	30-60	60-66
N50456LR-2340	T2C	230° C	230° C	6-60	30-60	60-90
N50456LR-4	T2B	260° C	260° C	6-60	30-60	60-90
N50458LR-2340	T3	200° C	200° C	6-60	30-60	60-90
N50458LR-4	T3A	180° C	180° C	6-60	30-60	60-90
N50502S-2340	T3	200° C	200° C	6-60	30-60	60-70
N50502S-4	T3	200° C	200° C	6-60	30-60	60-70
N50504L-2340	T3A	180° C	180° C	6-60	30-60	60-66
N50504L-4	T2C	230° C	230° C	6-60	30-60	60-66
N50506LR-2340	T2B	260° C	260° C	6-60	30-60	60-90
N50506LR-4	T2B	260° C	260° C	6-60	30-60	60-90
N50508LR-2340	T3	200° C	200° C	6-60	30-60	60-90
N50508LR-4	T3A	180° C	180° C	6-60	30-60	60-90
N50602S-2340	T3	200° C	200° C	6-60	30-60	60-70
N50602S-4	T3	200° C	200° C	6-60	30-60	60-70
N50604L-2340	T3	200° C	200° C	6-60	30-60	60-66
N50604L-4	T3	200° C	200° C	6-60	30-60	60-66
N50606LR-2340	T3	200° C	200° C	6-60	30-60	60-90
N50606LR-4	T2B	260° C	260° C	6-60	30-60	60-90
N50702S-4	T2D	215° C	215° C	6-60	30-60	60-70
N50704L-2340	T2D	215° C	215° C	6-60	30-60	60-66
N50704L-4	T3	200° C	200° C	6-60	30-60	60-66
N50706LR-4	T3	200° C	200° C	6-60	30-60	60-90
N50804L-2340	T3	200° C	200° C	6-60	30-60	60-66
N50804L-4	T3	200° C	200° C	6-60	30-60	60-66
N50904L-4	T3	200° C	200° C	6-60	30-60	60-66
N581004L-2340	T2B	260° C	260° C	6-60	30-60	60-66
N581004L-4	T2B	280° C	280° C	6-60	30-60	60-66
N581006L-4	T3A	180° C	180° C	6-60	30-60	60-90
N58608L-2340	T2B	260° C	260° C	6-60	30-60	60-90
N58608L-4	T3	200° C	200° C	6-60	30-60	60-90
N58702S-2340	T2A	280° C	280° C	6-60	30-60	(2)
N58706L-2340	T2B	260° C	260° C	6-60	30-60	60-90
N58708L-2340	T3C	160° C	160° C	6-60	30-60	60-90
N58708L-4	T2C	230° C	230° C	6-60	30-60	60-90
N58802S-2340	T2A	280° C	280° C	6-60	30-60	(2)
N58802S-4	T2A	280° C	280° C	6-60	30-60	(2)
N58806L-2340	T3A	180° C	180° C	6-60	30-60	60-90
N58806L-4	T2A	280° C	280° C	6-60	30-60	60-90
N58902S-2340	T2A	280° C	280° C	6-60	30-60	(2)
N58902S-4	T2A	280° C	280° C	6-60	30-60	(2)
N58904L-2340	T2B	260° C	260° C	6-60	30-60	60-66
N58906L-4	T2A	280° C	280° C	6-60	30-60	60-90

Notes:
(1) Motor is not suitable for division II operation
(2) Overspeed capability not available
* Zero Hz = motor slip Hz

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