

Large AC GPM Induction Motors

Stock Features:

- Suitable for use on a VFD 2:1 CT, 10:1 VT*
- Drive end slinger for IP54 protection
- Insulated opposite drive end bearing
- High efficiency
- Cast iron frame, end shields and inner caps
- 100 ohm platinum winding RTD's
- Provisions for bearing RTD's
- Space heaters
- Ground lug in the conduit box
- CSA approved
- "L" and "T" shafts are ball bearing and convertible to roller bearing
- "S" and "TS" shafts are ball bearing for coupled loads
- Belted duty "LR" shafts are roller bearing and convertible to ball bearing
- Paint - Specially formulated modified epoxy coating with UV protection

Our Job is to make yours easier...

Selecting and purchasing a Large AC motor doesn't have to be difficult, and now it's not! The GPM product family of Large AC induction motors have many popular ratings in stock and an extensive array of non-stock ratings ready for order on short lead time. Buying a Large AC motor has never been easier. Performance data, drawings, etc., are readily available to ensure the right motor is selected for your application. Common feature modifications are available on the entire product family to suit a wide variety of industrial needs.

Easy to Select, Easy to Buy, Easy to Install/Own

- All ratings pre-engineered
- Performance data, drawings, etc., readily available
- Optional feature sets available
- Local sales support when requested
- Available in-stock or short lead times
- User-friendly installation & operation manuals



Suitable for use on variable frequency drives*

Use of a VFD can greatly increase system efficiency in many centrifugal load applications. Indicators are that VFD use will increase in the coming years. All GPM motors are suitable for use on a VFD, including ABB's vast line of inverter drives.



Stock ratings available off the shelf!

GPM Induction Motors

Stock TEFC - Totally Enclosed Fan Cooled, Foot Mounted, 460 Volt, Three Phase, 350 - 800 Hp

Hp	kW	RPM	NEMA Frame	Catalog No.	List Price	Mult. Sym.	Amps		F.L. Torque Lb.-Ft.	Efficiency %			Power Factor%			Bearings		"C" Dim
							F.L.	L.R.		1/2	3/4	F.L.	1/2	3/4	F.L.	DE	ODE	
350	261	1200	5010	M50356L-4	\$37,732	LG	398	2492	1541	94.8	95.3	95.2	1.5	84.4	86.6	6324	6222	71.42
		1200	5010	M50356LR-4	39,036	LG	398	2492	1541	94.8	95.3	95.2	1.5	84.4	86.6	NU324	6222	71.42
400	298	3600	5010	M50402S-4	38,205	LG	428	2781	855	94.3	95.1	95.3	86.4	90.6	92	6313	6313	67.45
		1200	5010	M50406L-4	41,031	LG	454	2883	1761	95.2	95.7	95.5	77.5	84	86.3	6324	6222	71.42
		1200	5010	M50406LR-4	42,335	LG	454	2883	1761	95.2	95.7	95.5	77.5	84	86.3	NU324	6222	71.42
450	336	900	5012	M50408LR-4	60,807	LG	499	2841	2348	95.1	95.5	95.4	64.4	74.2	78.7	NU324	6222	79.44
		3600	5010	M50452S-4	44,401	LG	480	3160	661	94.6	95.3	95.4	86.4	90.7	92.1	6313	6313	67.45
		1800	5010	M50454L-4	40,856	LG	511	3048	1320	95.4	95.9	95.8	78.1	84.2	86.1	6322	6222	71.42
500	373	1200	5012	M50456L-4	46,810	LG	508	3302	1980	95.2	95.7	95.5	78.4	84.7	86.9	6324	6222	79.44
		1200	5012	M50456LR-4	48,114	LG	508	3302	1980	95.2	95.7	95.5	78.4	84.7	86.9	NU324	6222	79.44
		3600	5010	M50502S-4	45,207	LG	532	3572	734	95.1	95.7	95.7	85.3	90.4	91.9	6313	6313	67.45
600	447	1800	5010	M50504L-4	46,492	LG	569	3710	1466	95.2	95.9	96	76.1	83.1	85.7	6322	6222	71.42
		1200	5012	M50506L-4	53,039	LG	564	3653	2201	95.4	95.8	95.6	78.5	84.7	86.8	6324	6222	79.44
		1200	5012	M50506LR-4	54,343	LG	564	3653	2201	95.4	95.8	95.6	78.5	84.7	86.8	NU324	6222	79.44
700	552	900	5810	M58508LR-4	78,072	LG	637	3782	2930	94.7	95.5	95.6	61.1	71.8	76.9	NU326	6224	90.81
		3600	5010	M50602S-4	52,207	LG	644	4317	879	94.5	95.5	95.7	85.5	89.9	92.1	6313	6313	79.00
		1800	5012	M50604L-4	55,152	LG	678	4290	1759	95.6	96.2	96.2	77.6	84	86.1	6322	6222	79.44
800	597	1200	5012	M50606L-4	61,203	LG	667	4364	2637	95.4	95.9	95.9	79.6	85.8	87.8	6324	6222	79.44
		1200	5012	M50606LR-4	62,507	LG	667	4364	2637	95.4	95.9	95.9	79.6	85.8	87.8	NU324	6222	79.44
		3600	5810	M58702S-4	55,029	LG	767	5230	1026	94.8	95.6	95.8	80.6	87	89.2	6313	6313	95.59
900	597	1800	5012	M50704L-4	63,072	LG	792	5138	2052	95.7	96.3	96.3	76.8	83.5	95.9	6322	6222	79.42
		1200	5810	M58706L-4	67,797	LG	781	4423	3079	96.2	96.4	96.2	81.3	86	87.2	6326	6224	90.81
		1200	5810	M58706LR-4	69,101	LG	781	4423	3079	96.2	96.4	96.2	81.3	86	87.2	NU326	6224	90.81
1000	746	3600	5810	M58802S-4	69,833	LG	877	5553	1173	94.7	95.5	95.7	81.9	87.4	89.3	6313	6313	95.59
		1800	5012	M50804L-4	67,731	LG	911	6211	2344	96.1	96.6	96.6	74.6	82.2	85.1	6322	6222	90.97

Stock TEFC - Totally Enclosed Fan Cooled, Foot Mounted, 2300/4000 Volt, Three Phase, 250 - 1000 Hp

Hp	kW	RPM	NEMA Frame	Catalog No.	List Price	Mult. Sym.	Amps @ High V.		F.L. Torque Lb.-Ft.	Efficiency %			Power Factor%			Bearings		"C" Dim
							F.L.	L.R.		1/2	3/4	F.L.	1/2	3/4	F.L.	DE	ODE	
250	186	3600	449	EM44252TS-2340	\$33,234	LG	32.8	221.8	367	93.8	94.8	95.0	74	83	86	6313	6313	49.49
		1800	L449	EM44254T-2340	36,300	LG	32.4	237	735	94.6	95.1	94.6	79	85	88	6222	6318	60.21
		1200	5010	M50256LR-2340	41,964	LG	34	228.1	1100	93.7	94.6	95.3	74	82	85	NU324	6222	71.42
300	224	3600	L449	EM44302TS-2340	40,255	LG	38.7	538	441	94.3	95.2	95.3	77	85	87	6313	6313	56.48
		1800	L449	EM44304T-2340	36,979	LG	39.1	303.3	882	94.5	95.1	95.0	77	84	87	6222	6318	60.21
		1200	5010	M50306LR-2340	43,298	LG	40.3	274.6	1609	94.0	94.7	94.7	74	82	85	NU324	6222	71.42
350	261	3600	5010	EM50352S-2340	43,766	LG	45.2	317.6	514	93.6	94.7	95.0	81	87	89	6313	6313	67.45
		1800	5008	EM50354L-2340	44,000	LG	45.5	309.6	1026	94.0	94.9	95.0	72	80	84	6322	6222	71.42
		1200	5010	M50356LR-2340	49,383	LG	46.5	298.8	1769	94.4	94.9	94.8	75	83	86	NU324	6222	71.42
400	298	3600	5010	EM50402S-2340	48,213	LG	50.4	317.6	476	93.9	94.8	95.0	83	88	90	6313	6313	67.45
		1800	5010	EM50404L-2340	47,745	LG	52.4	315.6	1077	94.9	95.4	95.3	78	84	86	6322	6222	71.42
		1200	5012	EM50406LR-2340	54,064	LG	52.9	354.6	2240	94.7	95.2	95.0	76	83	86	NU324	6222	79.44
450	336	3600	5010	EM50452S-2340	56,872	LG	56.7	358.9	539	94.4	95.2	95.2	82	88	90	6313	6313	67.45
		1800	5010	EM50454L-2340	51,957	LG	58.8	351.9	1218	95.3	95.7	95.5	79	85	86	6322	6222	71.42
		1200	5012	EM50456LR-2340	62,021	LG	59.5	399.1	2456	94.8	95.3	95.1	75	83	86	NU324	6222	79.44
500	373	3600	5010	EM50502S-2340	62,021	LG	63	409.4	616	94.6	95.4	95.4	81	88	90	6313	6313	67.45
		1800	5012	EM50504L-2340	59,681	LG	65.2	400.1	1451	95.3	95.7	95.5	79	85	87	6322	6222	79.42
		1200	5012	EM50506LR-2340	70,915	LG	64.4	380.9	2373	94.8	95.4	95.3	80	86	88	NU324	6222	79.44
600	447	3600	5010	EM50602S-2340	67,872	LG	75.1	470.7	758	94.4	95.4	95.6	84	89	90	6313	6313	79.00
		1800	5012	EM50604L-2340	70,213	LG	77.8	484.5	1808	95.7	96.0	95.8	79	85	87	6322	6222	79.42
		1200	5810	EM58606LR-2340	78,404	LG	78.9	483.2	2384	95.2	95.7	95.7	77	83	86	NU326	6224	90.81
700	522	3600	5810	M58702S-2340	71,851	LG	89.4	535.1	883	94.1	95.0	95.2	81	87	89	6313	6313	95.59
		1800	5012	EM50704L-2340	77,234	LG	90.4	576.3	2068	95.9	96.3	96.1	79	85	87	6322	6222	79.42
800	597	3600	5810	EM58802S-2340	89,362	LG	102.9	702.8	1062	94.5	95.3	95.5	77	85	88	6313	6313	95.59
		1800	5012	EM50804L-2340	89,872	LG	102.2	631.4	2351	95.4	95.9	95.8	81	86	88	6322	6222	90.97
900	671	1800	5810	EM58904L-2340	94,553	LG	115.4	692.9	2637	95.9	96.3	96.2	80	85	86	6324	6224	90.81
1000	746	1800	5810	EM581004L-2340	108,596	LG	128.9	818.7	2930	95.8	96.2	96.1	78	85	87	6324	6224	102.27

*NOTES:

For use on vfd, it is highly recommended to insulate the drive end bearing and add a shaft grounding system in order to address concerns regarding shaft currents that may be imposed upon the motor by a vfd as defined in NEMA MG1, Part 31.4.4.3.

Motor is suitable for use on inverter only in conjunction with an isolation transformer or other Common Mode Voltage Elimination.

1.0 Service Factor when used on VFD

Large AC - GPM Mod-Express Options

Stock GPM motors can be modified using a Mod-Express program. Modifications are done in Kings Mountain, NC.

More information available in the Mod-Express section of the CA501.

Power and productivity
for a better world™



GPM Induction Motors

GPM Non-Stock Ratings

In addition to many popular ratings in stock, motors are available in pre-engineered designs ranging from 250 - 1000 HP, 2-8 pole, 460, 575, or 2300/4000 Volt, Three Phase, 60 Hz, Totally Enclosed Fan Cooled.

Non-Stock TEFC - 460V Designs

Poles	2		4		6		8	
60 Hz RPM	3600		1800		1200		900	
	Catalog #	List Price	Catalog #	List Price	Catalog #	List Price	Catalog #	List Price
250	M50252S-4	\$23,727	M50254S-4	\$23,543	M50256S-4	\$27,137	EM50258S-4	\$38,200
300	M50302S-4	28,765	M50304S-4	26,333	M50306S-4	30,779	M50308S-4	43,129
350	M50352S-4	31,281	M50354S-4	31,460	M50356S-4	35,123	M50358S-4	49,699
400			M50404S-4	34,010	M50406S-4	38,422	M50408S-4	56,894
450			M50454S-4	36,943	M50456S-4	44,201	M50458S-4	60,346
500			M50504S-4	42,579	M50506S-4	50,430	M58508S-4	74,159
600			M50604S-4	51,239	M50606S-4	58,594	M58608S-4	78,837
700			M50704S-4	59,159	M58706S-4	65,188		
800			M50804S-4	63,818	M58806S-4	73,046		
900			M50904S-4	69,190				

Non-Stock TEFC - 575V Designs

Poles	2		4		6		8	
60 Hz RPM	3600		1800		1200		900	
	Catalog #	List Price	Catalog #	List Price	Catalog #	List Price	Catalog #	List Price
250	M50252S-5	\$23,727	M50254S-5	\$23,543	M50256S-5	\$27,137	EM50258S-5	\$38,200
300	M50302S-5	28,765	M50304S-5	26,333	M50306S-5	30,779	M50308S-5	43,129
350	M50352S-5	31,281	M50354S-5	31,460	M50356S-5	35,123	M50358S-5	49,699
400	M50402S-5	34,292	M50404S-5	34,010	M50406S-5	38,422	M50408S-5	56,894
450	M50452S-5	40,488	M50454S-5	36,943	M50456S-5	44,201	M50458S-5	60,346
500	EM50502S-5	44,180	M50504S-5	42,579	M50506S-5	50,430	M58508S-5	74,159
600	M50602S-5	48,294	M50604S-5	51,239	M50606S-5	58,594	M58608S-5	78,837
700	M58702S-5	51,116	M50704S-5	59,159	M58706S-5	65,188		
800	M58802S-5	69,833	M50804S-5	63,818	M58806S-5	73,046		
900			M50904S-5	69,190				

Non-Stock TEFC - 2.3/4kV Designs

Poles	4		6		8	
60 Hz RPM	1800		1200		900	
	Catalog #	List Price	Catalog #	List Price	Catalog #	List Price
250	EM44254S-2340	\$36,300	M50256S-2340	\$41,964	EM50258S-2340	\$48,317
300	EM44304S-2340	36,979	M50306S-2340	43,298	EM50308S-2340	54,916
350	EM50354S-2340	44,000	M50356S-2340	49,383	EM50358S-2340	63,165
400	EM50404S-2340	47,745	EM50406S-2340	54,064	EM50408S-2340	72,357
450	EM50454S-2340	51,957	EM50456S-2340	62,021	EM58458S-2340	78,956
500	EM50504S-2340	59,681	EM50506S-2340	70,915	EM58508S-2340	88,384
600	EM50604S-2340	70,213	EM58606S-2340	78,404	EM58608S-2340	100,169
700	EM50704S-2340	77,234	EM58706S-2340	89,562		
800	EM50804S-2340	89,872				
900	EM58904S-2340	94,553				
1000	EM581004S-2340	108,596				

GPM Induction Motors

GPM Non-Stock Features and Options

In addition to many popular ratings in stock, motors are also available in pre-engineered designs ranging from 250 - 1000 Hp, 2-8 pole, 460, 575, or 2300/4000 Volt, Three Phase, 60 Hz, Totally Enclosed Fan Cooled. See page 3 for non-stock capabilities and ratings.

Standard Features:

- F1 Mounting
- IP54 Ingress Protection
- Class F insulation / Class B temperature rise
- Cast iron construction
- NEMA 4 main terminal box with ground lug
- Auxiliary terminal box with terminal strip
- Winding RTD's - 2 Per phase, 100 ohm, platinum 3 wire
- Provisions for bearing RTD's
- Grease lubricated ball bearings
- Insulated opposite drive end bearing
- Space Heaters 100-125V/200-240V to operate at 120/240V
- CSA approved
- Suitable for use on inverter 10:1 VT* and 2:1 CT*
- 1.15SF on Sine Wave and 1.0SF on VFD*
- Aluminum die-cast rotor construction or copper/copper alloy rotor construction
- Foot mounted with dowel holes and provisions for vertical jackscrews
- Dual drilled foot mounting
- Paint - Specially formulated modified epoxy coating with UV protection

GPM Non-Stock Optional Features

Feature	Description	Frame	List Price
Mounting	F2 swingarm mount	449T - 5810	\$ -
Bearing RTD's	Platinum, 100Ω @ 0°C, single element, 1 per bearing	449T - 5810	953
Balance	Precision balance (0.10 in/sec)	449T - 5810	236
Voltage Surge Protection Package	Lightning Arrestors, Bus Bars, Surge Capacitors, Oversized Conduit Box	449T	12,582
		5008 - 5810	16,014
IP55 Package	IP55(motor), SS Hardware, Internal Epoxy Coating, SS Breather/Drain	449T	1,327
		5008 - 5810	1,959
Belted Duty Package	Drive-End Cylindrical Roller Bearing and 4140 Shaft Steel	449T	2,097
		5008 - 5810	1,742
VFD Application Package	Insocoat Bearings & Shaft Ground Brush	449T	3,431
	Insulated Brackets & Shaft Ground Brush	5008 - 5810	2,365
Encoder	Dynapar HS-35 (1024 ppm) and stub shaft	449T - 5810	1,411
Suitable for Vibration Detection	Provisions for vibration detection, which includes pipe extension and aluminum block each end	449T - 5810	2,365

** Belted duty dimension drawings differ from base model designs in 449, 5000, & 5800 series frame sizes. For drawings please contact your local sales representative.

For more information:

www.abb.com

<http://new.abb.com/motors-generators>