

**PERFORMANCE DATA -
CHALLENGER SERIES**

CONFIDENTIAL
**Marathon Electric Motors
(India) Limited**
ROTATING MACHINES
INDUSTRIAL PRODUCTS UNIT

SPEC. NO. : C12R1ED660
PAGE : 1 OF 3
ISSUE : A
DATE : 14.12.2007



Amb. Temp. : 50°C *

BRAND	CODE	FRAME	POLE	VOLTS	C/S
CHALLENGER	12	D90S-D355LB	8	415	50

FRAME SIZE	D90S	D90L	D100LA	D100LB	D100LC	D112M	D132S	D160M	D160M	
OUTPUT (KW/HP)	0.37/ 0.5	0.55/ 0.75	0.75/ 1.0	1.1/1.5	1.1/1.5	1.5/2.0	2.2/3.0	3.7/5.0	5.5/7.5	
F.L.RPM	680	680	700	700	700	700	720	720	720	
F.L.AMPS	1.4	1.95	2.37	3.3	3.2	4.1	5.7	9.0	13.0	
EFFICIENCY (%)	100%	62	67	70	70	72	74	79	83	84
	75%	59	61	62	67	67	71	75	82	83
	50%	55	57	58	61	61	65	71	78	81
POWER FACTOR	100%	0.61	0.60	0.64	0.67	0.67	0.68	0.69	0.69	0.70
	75%	0.53	0.54	0.61	0.60	0.60	0.60	0.60	0.63	0.65
	50%	0.42	0.40	0.58	0.45	0.45	0.48	0.48	0.50	0.55
APPROX. NO LOAD CURRENT (AMPS)	1.1	1.4	1.4	2.2	-	2.9	4.0	6.8	10	
STARTING CURRENT (X FLC)	3.5	3.5	4.5	4.5	4.5	4.5	5.0	5.0	5.5	
STARTING TORQUE (X FLT)	1.8	1.9	1.8	1.7	1.7	1.9	1.8	1.9	2.0	
PULL OUT TORQUE (XFLT)	2.2	2.4	2.2	2.2	2.2	2.2	2.5	2.3	2.4	
SAFE STALL TIME -COLD/ HOT(sec.)	42/35	35/28	18/15	13/11	13/11	14/12	17/14	30/24	26/21	
ROTOR GD ² (Kg-m ²)	0.015	0.018	0.045	0.045	0.055	0.055	0.12	0.263	0.303	
APPROX. MOTOR WT. (KG)	23	25	37	37	41	42	65	135	137	

* Except for 55KW,75KW & 90KW ratings. These will be suitable for 45°C.

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SIGN. NAME DATE	M.MANDAL 14.12.2007	K.G.CHOUDHURY 14.12.2007	RAJIV RANJAN 14.12.2007				
	PREPARED BY	CHECKED BY	APPROVED BY				

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BRAND	CODE	FRAME	POLE	VOLTS	C/S
CHALLENGER	12	D90S-D355LB	8	415	50

FRAME SIZE		D160L	D180L	D200L	D225S	D225M	D250M	D280S	D280M
OUTPUT (KW/HP)		7.5/ 10.0	11.0/ 15.0	15.0/ 20.1	18.5/ 25.0	22.0/ 30.0	30.0/ 40.0	37.0/50	45.0/60
F.L.RPM		720	725	725	725	730	730	740	740
F.L.AMPS		17.0	24.4	32.5	40.0	46.5	61.8	71.7	87.2
EFFICIENCY (%)	100%	85	86	88	88	89	90	92	92
	75%	83	85	87	87	88	89.5	91.5	91
	50%	80	83	85	85	86	87	88	89
POWER FACTOR	100%	0.72	0.73	0.73	0.73	0.74	0.75	0.78	0.78
	75%	0.65	0.68	0.69	0.66	0.68	0.67	0.70	0.70
	50%	0.55	0.58	0.58	0.58	0.58	0.61	0.64	0.64
APPROX. NO LOAD CURRENT (AMPS)		10.8	19.0	17.2	22.0	24.0	30.0	45.0	50.0
STARTING CURRENT (X FLC)		5.5	5.0	5.0	5.0	5.5	6.0	6.0	6.0
STARTING TORQUE (X FLT)		1.9	2.0	1.8	2.2	2.2	2.0	2.0	2.1
PULL OUT TORQUE (XFLT)		2.4	2.4	2.3	2.5	2.6	2.5	2.5	2.5
SAFE STALL TIME -COLD/ HOT(sec.)		36/17	21/18	37/31	34/16	24/20	20/17	31/26	36/30
ROTOR GD ² (Kg-m ²)		0.384	0.647	0.954	1.127	2.819	3.431	4.811	5.891
APPROX. MOTOR WT. (KG)		140	208	277	315	377	437	716	728

* Except for 55KW,75KW & 90KW ratings. These will be suitable for 45°C.

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BRAND	CODE	FRAME	POLE	VOLTS	C/S
CHALLENGER	12	D90S-D355LB	8	415	50

FRAME SIZE	D315S	D315M	D315LA	D315LB	D355S	D355M
OUTPUT (KW/HP)	55.0/75	75.0/100	90.0/ 120	110.0/ 150	132.0/ 177	150.0/ 200.0
F.L.RPM	740	740	740	740	742	742
F.L.AMPS	107.4	146.5	167.6	204.2	237	276
EFFICIENCY (%)	100%	92.5	92.5	93.5	94	94.5
	75%	91.5	91.3	93	93.5	94
	50%	90	90	91	92	92
POWER FACTOR	100%	0.77	0.77	0.80	0.81	0.80
	75%	0.72	0.72	0.75	0.78	0.75
	50%	0.64	0.63	0.65	0.65	0.71
APPROX. NO LOAD CURRENT (AMPS)	58.4	70.0	80	105	120	135
STARTING CURRENT (X FLC)	6.0	6.0	6.0	6.0	6.0	6.0
STARTING TORQUE (X FLT)	2.0	2.0	2.0	2.0	2.0	2.0
PULL OUT TORQUE (XFLT)	2.5	2.4	2.4	2.4	2.5	2.5
SAFE STALL TIME -COLD/ HOT(sec.)	26/22	30/25	27/23	58/28	39/18	37/18
ROTOR GD ² (Kg-m ²)	8.388	9.653	18.90	22.80	30.0	34.2
APPROX. MOTOR WT. (KG)	1050	1095	1100	1150	1500	1650

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Amendment

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