

**PERFORMANCE DATA -
CHALLENGER SERIES**

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

SPEC. NO. : C12R1ED659
PAGE : 1 OF 3
ISSUE : A
DATE : 14.12.2007



Amb. Temp. : 50°C *

BRAND	CODE	FRAME	POLE	VOLTS	C/S
CHALLENGER	12	D80-D315M	6	415	50

FRAME SIZE	D80	D90S	D90L	D100L	D112M	D132S	D132M
OUTPUT (KW/HP)	0.55/ 0.75	0.75/1.0	1.1/1.5	1.5/2.0	2.2/3.0	3.7/5.0	5.5/7.5
F.L.RPM	905	910	910	920	925	950	950
F.L.AMPS	1.7	1.9	3.0	3.5	4.9	8.0	11.9
EFFICIENCY (%)	100%	68	72	74	76	79	83
	75%	63	70	72.5	74	79	82
	50%	60	67	70	73	77	79
POWER FACTOR	100%	0.66	0.75	0.68	0.79	0.80	0.77
	75%	0.62	0.69	0.64	0.75	0.75	0.71
	50%	0.50	0.53	0.53	0.62	0.65	0.60
APPROX. NO LOAD CURRENT (AMPS)	1.1	1.3	2.0	1.9	2.3	5.0	6.2
STARTING CURRENT (X FLC)	4.5	5.0	5.0	5.0	5.5	6.0	6.0
STARTING TORQUE (X FLT)	1.8	1.7	1.9	1.8	1.8	1.9	2.0
PULL OUT TORQUE (XFLT)	2.3	2.2	2.3	2.3	2.3	2.5	2.6
SAFE STALL TIME -COLD/ HOT(sec.)	23/18	20/16	20/16	18/15	12/9	16/13	16/13
ROTOR GD ² (Kg-m ²)	0.0069	0.0105	0.014	0.04	0.05	0.105	0.15
APPROX. MOTOR WT. (KG)	18	23	25	37	42	68	73

* Except for 75KW rating. This 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			
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BRAND	CODE	FRAME	POLE	VOLTS	C/S
CHALLENGER	12	D80-D315M	6	415	50

FRAME SIZE	D160M	D160L	D180L	D200L	D200L	D225M	D250M	D280S	D280M
OUTPUT (KW/HP)	7.5 / 10.0	11.0 / 15.0	15.0 / 20.0	18.5 / 25.0	22.0 / 30.0	30.0 / 40.0	37/50	45/60	55/75
F.L.RPM	960	960	965	975	975	980	980	980	980
F.L.AMPS	15.1	21.9	28.3	35.8	41.8	55.0	68.0	81.0	99.0
EFFICIENCY (%)	100%	86	87.5	89	89.5	90	91	92	93
	75%	85	86	88	88.5	89	90.5	91	92.5
	50%	82	83.5	85	86	86	88	88.5	89
POWER FACTOR	100%	0.80	0.79	0.83	0.81	0.82	0.83	0.83	0.83
	75%	0.74	0.72	0.78	0.76	0.78	0.80	0.80	0.79
	50%	0.64	0.61	0.66	0.68	0.70	0.69	0.72	0.70
APPROX. NO LOAD CURRENT (AMPS)	8.0	12.0	16.0	17.0	20.0	23.0	30	38	43
STARTING CURRENT (X FLC)	5.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
STARTING TORQUE (X FLT)	2.15	2.1	2.0	2.0	2.0	2.3	2.4	2.2	2.2
PULL OUT TORQUE (XFLT)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
SAFE STALL TIME -COLD/ HOT(sec.)	36/19	36/19	36/19	45/24	47/25	34/18	34/18	41/25	40/24
ROTOR GD ² (Kg-m ²)	0.263	0.299	0.647	0.954	1.105	2.819	3.431	4.811	5.891
APPROX. MOTOR WT. (KG)	135	140	208	277	290	377	437	716	718

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CHALLENGER	12	D80-D315M	6	415	50

FRAME SIZE		D315S	D315M1	D315M2	D315L	D355S	D355M	D355M	D355L	D355LX
OUTPUT (KW/HP)		75/100	90/120	110/150	132/177	160/214	180/241	200/268	250/335	280/375
F.L.RPM		985	985	985	987	990	990	990	990	990
F.L.AMPS		133.0	157.0	191.0	229.0	274.0	311.0	329	419	461
EFFICIENCY (%)	100%	93.5	94	94.5	94.5	94.5	94.6	96	95.5	96
	75%	92.5	93	94	94	94	94.2	95.5	95	95.5
	50%	90.5	91	91.5	91.5	92	92.5	94.5	93.5	94.5
POWER FACTOR	100%	0.84	0.85	0.85	0.85	0.86	0.85	0.88	0.87	0.88
	75%	0.82	0.83	0.81	0.81	0.82	0.82	0.86	0.84	0.83
	50%	0.72	0.76	0.74	0.73	0.74	0.74	0.77	0.77	0.77
APPROX. NO LOAD CURRENT (AMPS)		48	53	80	95	100	110	125	155	200
STARTING CURRENT (X FLC)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
STARTING TORQUE (X FLT)		1.8	1.8	1.8	2.0	1.8	1.7	1.7	1.5	1.5
PULL OUT TORQUE (XFLT)		2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.5	2.6
SAFE STALL TIME -COLD/ HOT(sec.)		57/30	53/33	53/33	53/33	39/28	39/29	39/29	39/29	39/29
ROTOR GD ² (Kg-m ²)		8.388	9.653	14.167	17.150	30.00	33.60	37.2	46.5	49.3
APPROX. MOTOR WT. (KG)		840	880	1230	1280	1500	1600	1800	1900	2000

* Except for 75KW rating. This will be suitable for 45°C.

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Amendment

Issue : A, Original Issue, Dt. 14.12.2007