



A Regal Beloit Company

**PERFORMANCE DATA -
CHALLENGER SERIES**

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

SPEC. NO. : C12R1ED657
PAGE : 1 OF 3
ISSUE : A
DATE : 04.12.2007

Amb. Temp. : 50°C *

BRAND	CODE	FRAME	POLE	VOLTS	C/S
CHALLENGER	12	D80-D315L	2	415	50

FRAME SIZE		D71	D71	D80	D80	D90S	D90L	D100L	D132S
OUTPUT (KW/HP)		0.37/ 0.50	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		2800	2800	2750	2750	2850	2830	2850	2850
F.L.AMPS		0.92	1.31	1.66	2.4	3.15	4.6	7.2	10.4
EFFICIENCY (%)	100%	68	71	73	74	78	78	81	85.7
	75%	65	69	73.5	75	73	74	78	82
	50%	55	65	73	74.5	68	72	74	79
% POWER FACTOR	100%	0.82	0.82	0.86	0.90	0.85	0.86	0.88	0.86
	75%	0.65	0.68	0.85	0.80	0.79	0.81	0.86	0.80
	50%	0.50	0.51	0.79	0.80	0.68	0.70	0.83	0.70
APPROX. NO LOAD CURRENT (AMPS)		0.5	-	0.6	0.75	1.6	2.2	2.5	4.2
STARTING CURRENT (X FLC)		4.9	4.9	5.0	5.5	6.0	6.0	6.0	6.0
STARTING TORQUE (X FLT)		2.2	2.2	2.1	2.2	2.0	2.1	2.0	2.1
PULL OUT TORQUE (XFLT)		2.3	2.4	2.4	2.5	2.5	2.6	2.6	2.6
SAFE STALL TIME -COLD/ HOT(sec.)		10/8	10/8	15/12	14/11	14/11	14/11	14/11	13/11
ROTOR GD ² (Kg-m ²)		0.0023	0.0023	0.0038	0.0063	0.0083	0.018	0.027	0.0534
APPROX. MOTOR WT. (KG)		13.4	13.4	18	23	25	36	42	64

* Except for 7.5KW, 75KW & 90KW ratings. These will be suitable for 45°C.

ISSUE DATE	A 14.12.07						
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	D80-D315L	2	415	50

FRAME SIZE	D132S	D160M	D160M	D160M	D160L	D180M	D200L	D200L	D225M
OUTPUT (KW/HP)	7.5/10	9.3/ 12.5	11.0/ 15.0	15.0/ 20.0	18.5/ 25.0	22.0/ 30.0	30.0/ 40.0	37.0/ 50.0	45.0/ 60.0
F.L.RPM	2850	2910	2900	2880	2920	2930	2940	2950	2955
F.L.AMPS	14.3	16.9	20.5	27.6	33.2	38.6	53.3	65	78.2
EFFICIENCY (%)	100%	86	86	86	87	89	90	90	91
	75%	83	84	85	86	88	89	88	89.5
	50%	80	83	83	84	86	87	86	86
POWER FACTOR	100%	0.85	0.89	0.87	0.87	0.87	0.88	0.87	0.87
	75%	0.79	0.86	0.84	0.86	0.85	0.86	0.84	0.83
	50%	0.72	0.82	0.76	0.80	0.78	0.74	0.76	0.74
APPROX. NO LOAD CURRENT (AMPS)	5.5	6.0	8.0	9.0	11.0	15.0	19.0	26.0	28.0
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)	2.3	1.9	1.9	1.9	2.0	1.8	1.8	1.8	1.8
PULL OUT TORQUE (XFLT)	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
SAFE STALL TIME -COLD/ HOT(sec.)	13/11	32/24	32/24	25/19	36/25	32/22	32/17	26/14	50/30
ROTOR GD ² (Kg-m ²)	0.0725	0.108	0.108	0.135	0.188	0.225	0.49	0.61	0.93
APPROX. MOTOR WT. (KG)	69	128	128	136	165	172	277	320	379

* Except for 7.5KW, 75KW & 90KW ratings. These will be suitable for 45°C.

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BRAND	CODE	FRAME	POLE	VOLTS	C/S
CHALLENGER	12	D80-D315L	2	415	50

FRAME SIZE	D250M	D280S	D280M	D315S	D315M1	D315M2	D315LA	D315LB	
OUTPUT (KW/HP)	55/75	75/100	90/120	110/150	132/175	160/214	180/240	200/268	
F.L.RPM	2955	2960	2965	2970	2975	2975	2975	2975	
F.L.AMPS	94	127	152	185	220	265	299	335	
EFFICIENCY (%)	100%	92	93	93	93	93.5	94	94.2	94.4
	75%	91	92	92	92	92.5	93	93.1	93.2
	50%	88	89	89	90	90	92	92	92
POWER FACTOR	100%	0.885	0.885	0.885	0.89	0.89	0.895	0.89	0.88
	75%	0.875	0.87	0.86	0.87	0.86	0.88	0.87	0.87
	50%	0.81	0.78	0.78	0.80	0.78	0.82	0.81	0.81
APPROX. NO LOAD CURRENT (AMPS)	34	47	52	59	76	80	95	110	
STARTING CURRENT (X FLC)	6.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	
STARTING TORQUE (X FLT)	1.8	1.8	1.8	1.6	1.7	1.6	1.6	1.6	
PULL OUT TORQUE (XFLT)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.8	
SAFE STALL TIME -COLD/ HOT(sec.)	41/28	24/18	21/16	58/44	46/35	46/35	44/32	33/24	
ROTOR GD ² (Kg-m ²)	1.11	2.07	2.35	4.1	4.6	7.7	8.9	8.9	
APPROX. MOTOR WT. (KG)	439	724	754	815	856	1190	1210	1210	

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Amendment

Issue : A, Original Issue, Dt. 14.12.07