

**PERFORMANCE DATA -  
SUPER EFFICIENT MOTORS**

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

SPEC. NO. : C12R1ED652

PAGE : 1 OF 3

ISSUE : B

DATE : 14.12.2007

BRAND	FRAME	POLE	VOLTS	C/S
<b>CHALLENGER<sup>++</sup></b>	SE90S-SE355M	6	415	50



**Amb. Temp. : 50°C**

FRAME SIZE	SE90S	SE90L	SE100L	SE112M	SE132S	SE132M	SE160M	
OUTPUT (KW/HP)	0.75/ 1.0	1.1/ 1.5	1.5/ 2.0	2.2/ 3.0	3.7/ 5.0	5.5/ 7.5	7.5/ 10.0	
F.L.RPM	915	915	925	925	955	955	965	
F.L.AMPS	1.8	2.7	3.2	4.5	7.6	11.0	14.6	
EFFICIENCY ( % )	100%*	74.6	77.3	79.6	82.2	85.1	86.8	88.5
	75%	74.6	77.3	79.6	82.2	84.0	86.0	88.1
	50%	70	72.5	74.0	75.0	78.0	80.0	83.0
POWER FACTOR	100%	0.77	0.74	0.82	0.82	0.80	0.80	0.81
	75%	0.74	0.68	0.77	0.80	0.76	0.76	0.76
	50%	0.62	0.57	0.65	0.70	0.66	0.66	0.66
APPROX. NO LOAD CURRENT (AMPS)	1.2	1.6	1.8	2.1	3.6	5.0	6.5	
STARTING CURRENT ( X FLC )	500	500	550	550	600	600	600	
STARTING TORQUE (X FLT)	170	180	200	200	180	180	220	
PULL OUT TORQUE (XFLT)	230	230	250	250	280	280	270	
SAFE STALL TIME -COLD/ HOT(sec.)	20/16	20/16	18/15	12/9	16/13	16/13	36/19	
ROTOR GD <sup>2</sup> (Kg-m <sup>2</sup> )	0.014	0.0168	0.050	0.058	0.150	0.168	0.299	
APPROX. MOTOR WT. (KG)	25	28	42	45	73	77	140	
TERMINAL BOX POSITION **	SIDE	SIDE	SIDE	SIDE	SIDE	SIDE	SIDE	

\* EFF.1 as per IS:12615-2004/CEMEP

\*\* TOP T.Box can also be provided, in case of motor with SIDE T.Box for frame 160 & above - if reqd.

ISSUE DATE	A 25.08.07	B 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	

Note :- 1) All figures are subject tolerance as per IS:325

2) Efficiency figures are without oil seal during testing.

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**Amb. Temp. : 50°C**

FRAME SIZE	SE160L	SE160L	SE180L	SE200L	SE200L	SE225M	SE250M	SE280S	
OUTPUT (KW/HP)	9.3 / 12.5	11.0 / 15.0	15.0 / 20.0	18.5 / 25.0	22.0 / 30.0	30.0 / 40.0	37/50	45/60	
F.L.RPM	965	965	970	975	975	980	985	990	
F.L.AMPS	17.7	20.8	27.6	33.9	40.1	54	65	79.3	
EFFICIENCY (%)	100%*	89.3	89.7	91.0	91.5	91.8	93.0	93.5	94.0
	75%	88.5	89	91.0	91.5	91.8	93.0	93.5	93.5
	50%	84.5	85	89.0	90.5	90.5	92.0	92.0	92.0
POWER FACTOR	100%	0.82	0.82	0.83	0.83	0.83	0.83	0.85	0.84
	75%	0.80	0.79	0.78	0.80	0.80	0.79	0.81	0.80
	50%	0.72	0.72	0.68	0.71	0.71	0.71	0.71	0.68
APPROX. NO LOAD CURRENT (AMPS)	7.0	9.0	13.0	14.0	15.5	23.0	28.0	35.0	
STARTING CURRENT ( X FLC )	600	600	600	600	600	600	600	600	
STARTING TORQUE (X FLT)	220	240	200	210	190	210	240	180	
PULL OUT TORQUE (XFLT)	270	280	270	260	245	260	300	270	
SAFE STALL TIME -COLD/ HOT(sec.)	36/19	36/19	47/25	47/25	45/24	34/18	41/25	53/33	
ROTOR GD <sup>2</sup> (Kg-m <sup>2</sup> )	0.346	0.378	1.105	1.205	1.205	3.431	4.811	8.388	
APPROX. MOTOR WT. (KG)	147	149	235	300	300	385	515	830	
TERMINAL BOX POSITION **	SIDE	SIDE	TOP	SIDE	SIDE	SIDE	TOP	SIDE	

\* EFF.1 as per IS:12615-2004/CEMEP

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SIGN. NAME	M.MANDAL		K.G.CHOUDHURY		RAJIV RANJAN	
DATE	14.12.2007		14.12.2007		14.12.2007	
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2) Efficiency figures are without oil seal during testing.

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**Amb. Temp. : 50°C**

FRAME SIZE	SE280M	SE315S	SE315MA	SE315MB	SE315LA	SE355S	
OUTPUT (KW/HP)	55/75	75/100	90/120	110/150	132/177	160/214	
F.L.RPM	990	990	988	985	990	990	
F.L.AMPS	95.5	130	156	190	227	272	
EFFICIENCY (%)	100%*	94.3	94.5	94.5	94.6	95.0	95.2
	75%	94.0	94.5	94.0	94.0	94.5	95.0
	50%	92.5	93.0	93.0	92.5	93.0	93.0
POWER FACTOR	100%	0.85	0.85	0.85	0.85	0.85	0.86
	75%	0.80	0.82	0.82	0.81	0.82	0.82
	50%	0.73	0.76	0.75	0.74	0.74	0.73
APPROX. NO LOAD CURRENT (AMPS)	38.0	50.0	58.0	80.0	85.0	100	
STARTING CURRENT ( X FLC )	600	600	600	600	600	600	
STARTING TORQUE (X FLT)	180	220	180	180	200	170	
PULL OUT TORQUE (XFLT)	270	270	240	250	240	250	
SAFE STALL TIME -COLD/ HOT(sec.)	53/33	53/33	53/33	53/33	53/33	39/29	
ROTOR GD <sup>2</sup> (Kg-m <sup>2</sup> )	9.659	11.93	14.167	14.167	17.89	33.6	
APPROX. MOTOR WT. (KG)	855	1050	1230	1230	1300	1600	
TERMINAL BOX POSITION **	SIDE	SIDE	SIDE	SIDE	SIDE	SIDE	

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Amendment

Issue : A, Original Issue, Dt. 25.08.07

Issue : B, Company's Name & signatory changed, Dt. 14.12.07