



# High Efficiency

**eff1**

## TEFC 3 Phase Squirrel Cage Induction Motors- Frame size 71 to 315L

Voltage : 415V+/-10%  
 Frequency : 50Hz+/-5%  
 Combined Variation : +/-10%

Ambient : 50°C(Upto & including 250 Frame)  
 : 45°C(280S/M Frame & above )  
 Duty : S1(Continuous)

Ins. Class : F  
 Temp. Rise : B  
 Protection : IP55

**Table-5** **3000 rpm ( 2-Pole)**

Rated Output		Frame size	Type Ref.	Operating Characteristics at Rated output									With DOL Starting		Pullout	Rotor GD <sup>2</sup>	Net Weight B3 Constr. Kg
				Speed	Current	Rated Torque	Power Factor			% Efficiency			Starting Current to Rated Current Ratio	Starting Torque to Rated Torque Ratio			
KW	HP	IEC	B3 Construction				RPM	Amps.	Kg.m	FL	3/4L	1/2L			FL	3/4FL	1/2FL
0.37	0.50	71	MH071233	2800	0.97	0.130	0.74	0.68	0.60	72.0	72.0	66.0	5.5	2.6	3.2	0.0019	7
0.55	0.75	71	MH071233	2805	1.29	0.190	0.79	0.72	0.58	75.0	75.0	72.0	5.0	2.7	3.0	0.0019	7
0.75	1.0	80	MH080213	2830	1.64	0.256	0.82	0.74	0.62	77.5	77.5	74.0	5.0	2.5	2.8	0.0037	10
1.1	1.5	80	MH080233	2840	2.25	0.377	0.82	0.75	0.63	82.8	82.8	78.0	5.9	2.7	3.1	0.0051	11
1.5	2.0	90S	MH09S243	2830	2.89	0.517	0.86	0.83	0.76	84.1	84.1	81.0	6.5	2.7	3.2	0.0091	18
2.2	3.0	90L	MH09L273	2830	4.20	0.752	0.86	0.83	0.76	85.6	85.6	83.6	6.5	3.3	3.2	0.0113	21
3.7	5.0	100L	MH10L233	2890	6.84	1.24	0.86	0.84	0.76	87.5	87.5	85.5	7.0	3.0	3.3	0.0212	26
5.5	7.5	132S	MH13S253	2935	9.70	1.83	0.89	0.85	0.77	88.6	88.6	84.0	7.0	2.5	3.0	0.0820	69
7.5	10.0	132S	MH13S293	2935	13.1	2.49	0.89	0.85	0.77	89.5	89.5	84.5	7.0	2.5	3.0	0.0980	77
9.3	12.5	160M	MH16M233	2930	16.2	3.09	0.89	0.85	0.76	90.0	90.0	86.0	7.0	2.4	2.9	0.1500	108
11	15.0	160M	MH16M253	2930	19.0	3.66	0.89	0.86	0.82	90.5	90.5	87.5	7.0	2.3	3.0	0.171	117
15	20.0	160M	MH16M263	2930	25.7	4.99	0.89	0.88	0.82	91.3	91.3	88.0	7.0	2.3	2.8	0.203	122
18.5	25.0	160L	MH16L293	2930	31.2	6.15	0.90	0.89	0.86	91.8	91.8	90.0	7.0	2.4	3.0	0.268	141
22	30.0	180M	MH18M233	2935	37.7	7.70	0.88	0.88	0.83	92.2	92.2	90.0	7.0	2.3	2.7	0.34	177
30	40.0	200L	MH20L253	2955	50.5	9.89	0.89	0.86	0.80	93.0	93.0	91.0	7.0	2.4	2.6	0.61	279
37	50.0	200L	MH20L253	2955	62.0	12.2	0.89	0.86	0.80	93.3	93.3	91.5	7.0	2.4	2.5	0.61	279
45	60.0	225M	MH22M253	2970	75.0	14.8	0.89	0.87	0.83	93.7	93.7	92.0	7.0	2.3	2.7	1.13	365
55	75.0	250M	MH25M233	2965	88.5	18.1	0.92	0.91	0.86	94.0	94.0	92.0	7.0	2.3	2.7	2.60	600
75	100	280S	MH28S233	2970	121	24.6	0.91	0.89	0.84	94.6	94.6	92.0	7.0	2.2	2.8	3.01	728
90	120	280M	MH28M253	2970	143	29.5	0.92	0.90	0.88	95.0	95.0	92.0	7.0	2.2	2.8	3.42	750
110	150	315S	MH31S233	2980	177	36.0	0.91	0.90	0.89	95.0	95.0	92.5	7.0	1.7	2.60	5.0	940
132	180	315M	MH31M253	2980	210	43.1	0.92	0.91	0.90	95.3	95.3	93.0	7.0	1.7	2.60	6.3	980
160	215	315L	MH31L273	2980	253	52.3	0.92	0.91	0.90	95.5	95.5	93.5	7.0	1.7	2.60	7.4	1370

Note : All motors confirm to Efficiency class eff 1 as per IS:12615-2004(Rev.1)  
 All performance values subject to IS tolerance as per IS:325.  
 Efficiency measurements are without seals.



# High Efficiency

**eff1**

## TEFC 3 Phase Squirrel Cage Induction Motors- Frame size 71 to 315L

Voltage : 415V+/-10%  
 Frequency : 50Hz+/-5%  
 Combined Variation : +/-10%

Ambient : 50°C(Upto & including 250 Frame)  
 : 45°C(280S/M Frame & above )  
 Duty : S1(Continuous)

Ins. Class : F  
 Temp. Rise : B  
 Protection : IP55

**Table-6** **1500 rpm ( 4-Pole)**

Rated Output		Frame size	Type Ref.	Operating Characteristics at Rated output									With DOL Starting		Pullout	Rotor GD <sup>2</sup>	Net Weight B3 Constr. Kg
				Speed	Current	Rated Torque	Power Factor			% Efficiency			Starting Current to Rated Current Ratio	Starting Torque to Rated Torque Ratio			
KW	HP	IEC	B3 Construction				RPM	Amps.	Kg.m	FL	3/4L	1/2L			FL	3/4FL	1/2FL
0.37	0.50	71	MH071433	1380	1.00	0.26	0.71	0.62	0.50	73.0	73.0	68.0	3.4	2.3	2.5	0.0033	7
0.55	0.75	80	MH080433	1420	1.33	0.377	0.74	0.64	0.50	78.0	78.0	70.0	5.0	3.0	3.2	0.0072	11
0.75	1.0	80	MH080453	1410	1.67	1.93	0.76	0.67	0.55	82.5	82.5	77.0	5.0	3.0	3.20	0.0082	12
1.1	1.5	90S	MH09S423	1430	2.35	0.75	0.77	0.70	0.57	83.8	83.8	80.0	5.0	2.4	2.8	0.015	15
1.5	2.0	90L	MH09L473	1430	3.19	1.02	0.77	0.70	0.57	85.0	85.0	81.0	5.5	2.7	3.0	0.019	19
2.2	3.0	100L	MH10L473	1435	4.30	1.49	0.82	0.74	0.60	86.4	86.4	84.0	6.0	2.6	3.0	0.028	26
3.7	5.0	112M	MH11M473	1445	7.10	2.49	0.82	0.78	0.63	88.3	88.3	86.0	6.5	2.8	3.2	0.066	46
5.5	7.5	132S	MH13S473	1455	10.1	3.68	0.85	0.80	0.71	89.5	89.5	88.0	7.0	2.6	3.0	0.134	72
7.5	10	132M	MH13M443	1455	13.4	5.02	0.86	0.83	0.76	90.3	90.3	89.0	7.0	2.6	3.2	0.171	84
9.3	12.5	160M	MH16M443	1460	17.0	6.20	0.84	0.82	0.73	90.5	90.5	88.0	6.5	2.5	2.8	0.191	110
11	15	160M	MH16M463	1460	19.7	7.34	0.85	0.83	0.76	91.5	91.5	89.5	7.0	2.7	2.9	0.229	115
15	20	160L	MH16L4B3	1465	26.6	9.97	0.85	0.83	0.76	92.2	92.2	91.0	7.0	2.7	2.9	0.460	167
18.5	25	180M	MH18M473	1470	32.8	12.25	0.85	0.82	0.76	92.4	92.4	91.0	7.0	2.7	2.9	0.54	178
22	30	180L	MH18L483	1470	38.8	14.60	0.85	0.80	0.72	92.8	92.8	92.0	7.0	2.6	3.0	0.61	200
30	40	200L	MH20L453	1470	52.0	19.88	0.86	0.85	0.80	93.2	93.2	91.0	7.0	2.6	2.6	0.93	280
37	50	225S	MH22S433	1470	63.0	24.50	0.87	0.85	0.77	93.6	93.6	91.6	7.0	2.6	2.6	1.60	366
45	60	225M	MH22M433	1470	75.8	29.82	0.88	0.86	0.78	93.9	93.9	91.9	7.0	2.6	2.6	1.85	390
55	75	250M	MH25M433	1480	93.5	36.20	0.87	0.85	0.78	94.2	94.2	92.8	7.0	2.5	2.6	3.06	550
75	100	280S	MH28S413	1480	122	49.40	0.88	0.86	0.80	94.7	94.7	93.0	7.0	2.2	2.5	5.00	686
90	120	280M	MH28M433	1480	146	59.20	0.90	0.87	0.81	95.0	95.0	93.2	7.0	2.2	2.5	6.00	703
110	150	315S	MH31S413	1485	183	72.10	0.88	0.85	0.79	95.2	95.2	93.2	6.0	2.2	2.5	8.70	898
132	175	315M	MH31M433	1486	216	86.50	0.89	0.86	0.80	95.5	95.5	94.0	6.0	2.2	2.5	10.20	970
160	215	315L	MH31L453	1487	261	104.8	0.89	0.87	0.84	95.8	95.5	94.2	6.5	2.2	2.5	12.20	1150

Note : All motors confirm to Efficiency class eff 1 as per IS:12615-2004(Rev.1)  
 All performance values subject to IS tolerance as per IS:325.  
 Efficiency measurements are without seals.



# High Efficiency



## TEFC 3 Phase Squirrel Cage Induction Motors- Frame size 80 to 315L

Voltage : 415V+/-10%  
 Frequency : 50Hz+/-5%  
 Combined Variation : +/-10%

Ambient : 50°C(Upto & including 250 Frame)  
 : 45°C(280S/M Frame & above )  
 Duty : S1(Continuous)

Ins. Class : F  
 Temp. Rise : B  
 Protection : IP55

Table-7

### 1000 rpm ( 6-Pole)

Rated Output		Frame size	Type Ref.	Operating Characteristics at Rated output									With DOL Starting		Pullout Torque to Rated Torque Ratio	Rotor GD <sup>2</sup> kgm <sup>2</sup>	Net Weight B3 Constr. Kg
KW	HP			IEC	B3 Construction	Speed RPM	Current Amps.	Rated Torque Kg.m	Power Factor			% Efficiency					
		FL	3/4L						1/2L	FL	3/4FL	1/2FL					
0.37	0.5	80	MH080613	910	1.05	0.396	0.70	0.60	0.48	70.0	70.0	68.0	3.0	2.1	2.3	0.0060	10
0.55	0.75	80	MH080633	915	1.50	0.59	0.71	0.62	0.48	72.0	72.0	68.0	4.0	2.2	2.5	0.0084	11
0.75	1.0	90S	MH09S633	925	1.93	0.79	0.72	0.61	0.50	75.0	75.0	72.0	4.0	2.0	2.5	0.0122	14
1.1	1.5	90L	MH09L653	930	2.75	1.15	0.72	0.61	0.50	77.3	77.3	73.0	4.0	2.3	2.6	0.0160	17
1.5	2.0	100L	MH10L633	935	3.70	1.56	0.71	0.60	0.52	79.6	79.6	75.0	4.5	2.0	2.5	0.025	22
2.2	3.0	112M	MH11M653	940	5.00	2.28	0.75	0.65	0.58	82.2	82.2	80.5	5.0	2.1	2.5	0.065	33
3.7	5.0	132S	MH13S633	950	8.00	3.80	0.76	0.68	0.51	85.1	85.1	82.0	5.5	2.0	2.5	0.130	62
5.5	7.5	132M	MH13M683	960	11.2	5.58	0.78	0.71	0.60	86.8	86.8	79.0	6.0	2.5	2.70	0.193	81
7.5	10	160M	MH16M633	960	14.7	7.61	0.80	0.74	0.64	88.5	88.5	86.5	5.4	2.0	2.5	0.276	102
9.3	12.5	160L	MH16L663	960	18.1	9.44	0.80	0.74	0.64	89.3	89.3	88.0	5.5	2.1	2.5	0.34	119
11	15	160L	MH16L673	965	21.3	11.10	0.80	0.77	0.70	89.7	89.7	88.0	6.0	2.0	2.5	0.40	129
15	20	180L	MH18L613	965	28.8	15.10	0.80	0.75	0.62	90.5	90.5	89.0	5.5	2.6	2.3	0.68	176
18.5	25	200L	MH20L613	975	34.0	18.50	0.83	0.78	0.70	91.3	91.3	89.0	6.0	2.6	2.3	1.00	234
22	30	200L	MH20L633	975	40.5	22.00	0.82	0.77	0.69	91.8	91.8	90.0	6.0	2.6	2.3	1.20	251
30	40	225M	MH22M643	975	52.5	30.00	0.86	0.84	0.80	92.6	92.6	90.0	7.0	2.5	2.2	2.45	355
37	50	250M	MH25M633	980	65.0	36.80	0.85	0.83	0.79	93.0	93.0	92.0	6.0	2.5	2.3	3.72	528
45	60	280S	MH28S613	980	79.0	44.70	0.85	0.83	0.73	93.4	93.4	92.0	6.0	2.4	2.4	5.11	592
55	75	280M	MH28M633	980	96.0	54.70	0.85	0.83	0.73	93.8	93.8	92.0	6.0	2.4	2.4	6.16	640
75	100	315S	MH31S613	985	130	74.10	0.85	0.82	0.75	94.6	94.6	93.5	6.5	2.4	2.5	10.70	830
90	120	315M	MH31M633	987	157	88.80	0.84	0.81	0.72	94.8	94.8	93.5	6.5	2.3	2.5	12.40	892
110	150	315M	MH31M653	988	189	108.4	0.85	0.82	0.73	95.0	95.0	94.0	6.5	2.3	2.5	15.50	1000
132	180	315L	MH31L673	988	227	130.0	0.85	0.82	0.73	95.2	95.2	94.0	6.5	2.3	2.5	18.00	1170
160	215	315L	MH31L693	988	275	158.0	0.85	0.82	0.73	95.2	95.2	94.0	6.5	2.3	2.5	24.00	1460

Note : All motors confirm to Efficiency class eff 1 as per IS:12615-2004(Rev.1)  
 All performance values subject to IS tolerance as per IS:325.  
 Efficiency measurements are without seals.



# High Efficiency

## TEFC 3 Phase Squirrel Cage Induction Motors- Frame size 90S to 315L

Voltage : 415V+/-10%  
Frequency : 50Hz+/-5%  
Combined Variation : +/-10%

Ambient : 50°C(Upto & including 250 Frame)  
: 45°C(280S/M Frame & above )  
Duty : S1(Continuous)

eff1

Ins. Class : F  
Temp. Rise : B  
Protection : IP55

**Table-8** **750 rpm ( 8-Pole)**

Rated Output		Frame size	Type Ref.	Operating Characteristics at Rated output									With DOL Starting		Pullout	Rotor GD <sup>2</sup>	Net Weight B3 Constr.
KW	HP			IEC	B3 Construction	Speed RPM	Current Amps.	Rated Torque Kg.m	Power Factor			% Efficiency					
		FL	3/4L						1/2L	FL	3/4FL	1/2FL	eff1				
0.37	0.5	90S	MH09S813	700	1.22	0.515	0.63	0.52	0.41	66.8	60.0	52.0	2.7	1.8	2.1	0.011	13
0.55	0.75	90L	MH09L853	690	1.71	0.776	0.63	0.53	0.43	71.1	67.0	62.0	2.9	2.0	2.4	0.014	14
0.75	1.0	100L	MH10L813	685	1.94	1.07	0.73	0.63	0.50	73.8	73.8	67.0	3.0	1.7	2.0	0.023	18
1.1	1.5	100L	MH10L833	690	2.83	1.55	0.71	0.62	0.48	76.2	76.2	73.0	3.3	1.9	2.3	0.027	22
1.5	2.0	112M	MH11M813	705	3.82	2.07	0.70	0.62	0.50	77.9	77.9	75.0	3.8	1.7	2.2	0.051	38
2.2	3.0	132S	MH13S813	710	5.35	3.02	0.71	0.60	0.46	80.5	80.5	78.0	3.7	1.6	2.2	0.099	57
3.7	5.0	160M	MH16M813	720	8.00	5.01	0.78	0.74	0.65	83.0	83.0	78.0	4.4	1.8	2.0	0.217	91
5.5	7.5	160M	MH16M833	720	11.5	7.44	0.78	0.74	0.65	85.1	85.1	82.0	4.8	1.9	2.2	0.299	106
7.5	10	160L	MH16L873	715	15.5	10.2	0.78	0.74	0.65	86.4	86.4	84.0	5.5	2.1	2.2	0.40	130
9.3	12.5	180M	MH18M813	720	18.8	12.6	0.79	0.74	0.64	87.3	87.3	85.0	5.0	2.1	2.2	0.62	153
11	15	180L	MH18L833	720	22.0	14.9	0.79	0.74	0.64	88.1	88.1	87.0	5.0	2.1	2.2	0.72	184
15	20	200L	MH20L833	720	28.6	20.3	0.82	0.79	0.71	89.0	89.0	88.0	6.0	2.5	2.3	1.32	287
18.5	25	225S	MH22S823	725	36.3	24.9	0.79	0.77	0.69	89.8	89.8	88.0	5.5	2.1	2.2	2.09	320
22	30	225M	MH22M833	725	43.0	29.6	0.79	0.77	0.69	90.2	90.2	88.0	5.5	2.1	2.2	2.41	331
30	40	250M	MH25M813	730	55.5	40	0.82	0.78	0.68	91.5	91.5	89.0	6.0	2.5	2.2	3.72	528
37	50	280S	MH28S823	730	71.0	49.4	0.79	0.75	0.65	92.0	92.0	90.0	5.5	2.2	2.2	5.83	628
45	60	280M	MH28M853	730	86.0	60	0.79	0.75	0.65	92.4	92.4	90.0	5.5	2.2	2.2	6.86	684
55	75	315S	MH31S813	740	105	72.4	0.78	0.73	0.64	93.0	92.5	90.5	5.5	2.1	2.4	10.70	830
75	100	315M	MH31M833	740	143	98.7	0.78	0.73	0.64	93.5	93.5	92.0	5.5	2.1	2.4	12.40	900
90	120	315M	MH31M853	740	171	118.5	0.78	0.73	0.64	94.0	94.0	93.0	5.5	2.1	2.4	15.50	1000
110	150	315L	MH31L873	740	208	145	0.78	0.73	0.64	94.3	94.0	92.5	5.5	2.1	2.4	18.00	1170
132	180	315L	MH31L893	740	248	174	0.78	0.73	0.64	94.8	94.7	94.0	5.5	2.1	2.4	21.50	1340

Note : All motors confirm to Efficiency class eff 1 as per IS:12615-2004(Rev.1)  
All performance values subject to IS tolerance as per IS:325.  
Efficiency measurements are without seals.