

TYPE TEST REPORT

Report No. : IE3-80M2-4 0.75KW 15042202

Product Type Name	IE3-80M2-4 Three Phase Asynchronous Motor			Ser.No.	
Rated Output	0.75 kW	Rated Voltage	415 V	Rated Current	1.75 A
Rated Speed	1430 r/min	Rated Frequency	50Hz	Insulation Class	F
Duty	S1	Protection Class	IP55	Connection	Y
Product Standard	IEC60034-1	Testing Standard	IEC60034-2-1	Production Date	
Test Item		Test Value		Test Result	
1. Stator resistance at 20°C	Ω	12.4109			
2. No load current	A	1.06			
3. No load current deviation	%	4.1			
4. No load input power	W	60.5			
5. Locked rotor current	A	10.56			
6. Locked current/Rated current		5.93			
7. Locked torque	N.m	12.41			
8. Locked torque/Rated torque		2.49			
9. Full load current	A	1.78			
10. Rated torque	N.m	4.98			
11. Max. torque	N.m	13.93			
12. Max. torque/Rated torque		2.80			
13. Full load speed ratio	r/min	1438.3			
14. Iron loss(at Rated voltage)	W	29.3			
15. Mechanical loss(at Rated speed)	W	9.3			
16. Stator winding loss	W	67.5			
17. Rotor winding loss	W	34.6			
18. Other loss	W	15.6			
19. Total loss	W	156.2			
20. Output power	W	750			

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Test Item		Test Value	Test Result
21. Input power	W	906.23	
22. Full load efficiency	%	82.76	
23. Full Load power factor		0.735	
24. Stator winding temp.rise	K	31.3	
25. Bearing temperature	℃		
26. Coolant temperature	℃	19.9	
27. Insulation resistance warmly to frame	MΩ		
28. High voltage test	V min	Pass	Passed
29. Vibration	mm/s		
30. Noise	dB(A)		
31. Rotation Direction		Right	Passed
32. H.V. impulse test between winding	V	Pass	Passed
33. Over speed test 2min 1.2n		No abnormal	Passed
34. Over Torque test 15s 2.2Tn		No abnormal	Passed
35. Over current test 2min 1.5In			
Testing Conclusion			
Remark			
Tested by		Checked by	
		Formed	

three-phase induction motor type test report

Amb Temp: 19.9°C

report NO.: IE3-80M2-4 0.75KW 15042202

test time:

Modle: IE3-80M2-4	Rated U: 415V	Rated η : 82.50%	InsClass: F
NO.:	Rated I: 1.75A	Cos ϕ : 0.75	Connect: Y
Rated f: 50Hz	Rated P: 0.75kW	Rated speed: 1430r/min	Poles: 4

Locked-rotor Test

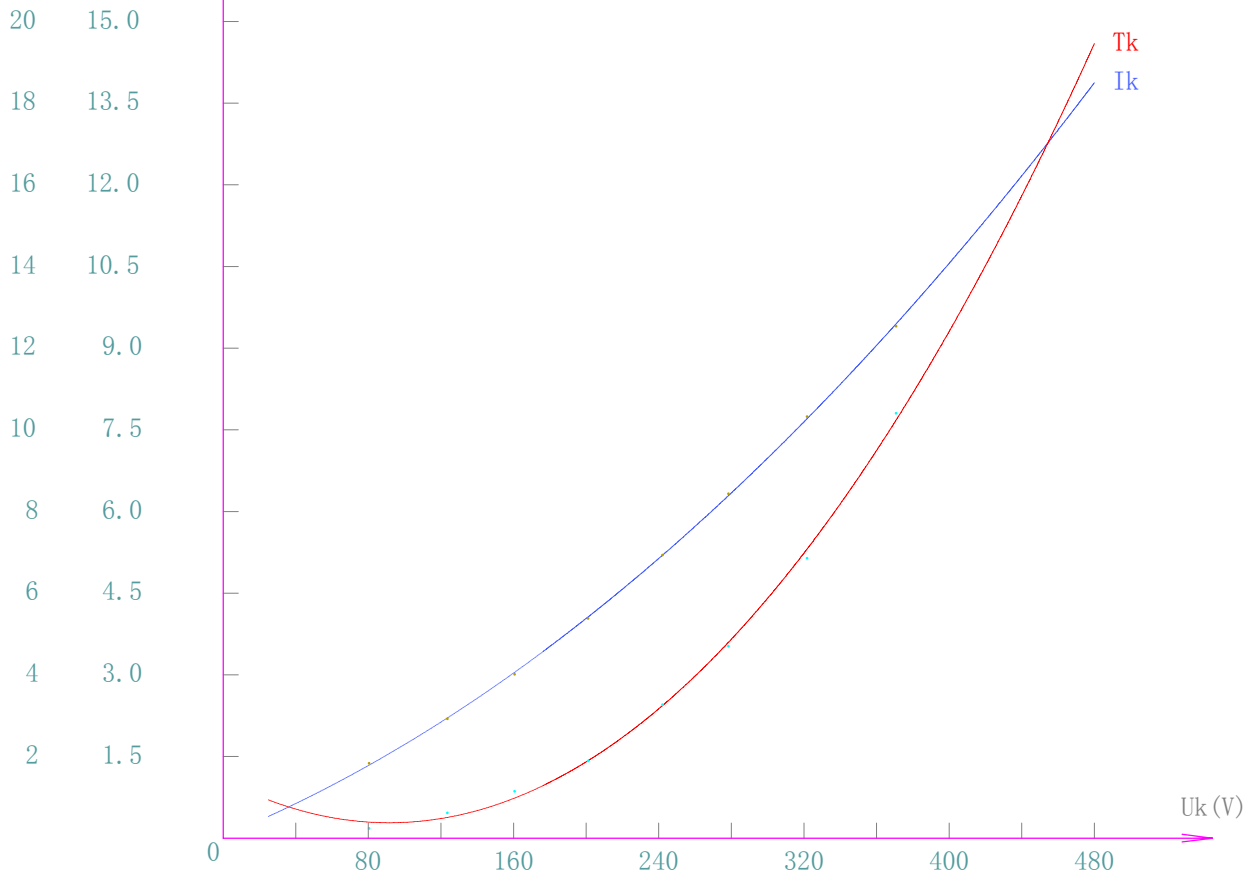
U (V)	I (A)	P1 (KW)	Tor (N. m)
370.7	9.41	3.4420	10.41
321.7	7.74	2.3360	6.86
278.4	6.33	1.5680	4.70
242.1	5.20	1.0740	3.27
201.0	4.04	0.6560	1.89
160.6	3.01	0.3700	1.15
123.5	2.19	0.1990	0.62
80.5	1.38	0.0780	0.24

Ik (A): 10.56	Ik/In: 5.93
Tk (N. m): 12.41	Tk/Tn: 2.49
Pk (kW): 3.83	

Tk
N. m

Ik
A

Locked-Rotor Characteristic Curve



test:

check:

three-phase induction motor type test report

Amb Temp: 19.9°C

report NO.: IE3-80M2-4 0.75KW 15042202

test time:

Modle: IE3-80M2-4	Rated U: 415V	Rated η : 82.50%	InsClass: F
NO.:	Rated I: 1.75A	$\cos \phi$: 0.75	Connect: Y
Rated f: 50Hz	Rated P: 0.75kW	Rated speed: 1430r/min	Poles: 4

Load Test

P1 (kW)	U (V)	I (A)	s (r/min)	Tor (N.m)	windingT(°C)
1.4380	400.9	2.59	1391.0	7.720	43.05
1.1700	402.8	2.16	1416.0	6.370	44.00
0.9120	401.6	1.79	1438.0	5.000	44.20
0.6600	401.4	1.47	1457.0	3.580	44.05
0.4670	401.6	1.27	1471.0	2.440	43.54
0.2560	401.9	1.11	1486.0	1.160	43.08
0.0820	407.7	1.10	1498.0	0.080	41.97
0.0630	403.2	1.07	0.0	0.000	40.29

P2 (kW)	Pcu (kW)	Pal (kW)	Ps (kW)	Ss (%)	η (%)	$\cos \phi$
1.1218	0.1436	0.0965	0.0375	7.63	78.01	0.798
0.9450	0.0999	0.0610	0.0256	5.86	80.77	0.775
0.7538	0.0686	0.0352	0.0158	4.32	82.66	0.731
0.5499	0.0459	0.0175	0.0081	3.00	83.31	0.648
0.3823	0.0342	0.0082	0.0038	2.03	81.85	0.531
0.1880	0.0265	0.0020	0.0009	0.98	73.45	0.330
0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.000
0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.000

r; 0.996

A: 0.623

B: 2.198

θ_s (°C): 56.3

150% rated power:

I (A): 2.60	P1 (kW): 1.4427	Ss (%): 7.30
Pcu (kW): 0.1729	Pal (kW): 0.0906	Ps (kW): 0.0377
η (%): 77.98	$\cos \phi$: 0.801	P2 (kW): 1.13

125% rated power:

I (A): 2.15	P1 (kW): 1.1603	Ss (%): 5.54
Pcu (kW): 0.1185	Pal (kW): 0.0561	Ps (kW): 0.0252
η (%): 80.80	$\cos \phi$: 0.778	P2 (kW): 0.94

100% rated power:

I (A): 1.78	P1 (kW): 0.9062	Ss (%): 4.11
Pcu (kW): 0.0811	Pal (kW): 0.0327	Ps (kW): 0.0156
η (%): 82.76	$\cos \phi$: 0.735	P2 (kW): 0.75

75% rated power:

I (A): 1.48	P1 (kW): 0.6747	Ss (%): 2.93
Pcu (kW): 0.0563	Pal (kW): 0.0173	Ps (kW): 0.0085
η (%): 83.37	$\cos \phi$: 0.657	P2 (kW): 0.56

50% rated power:

I (A): 1.26	P1 (kW): 0.4596	Ss (%): 1.90
Pcu (kW): 0.0407	Pal (kW): 0.0074	Ps (kW): 0.0037
η (%): 81.59	$\cos \phi$: 0.526	P2 (kW): 0.38

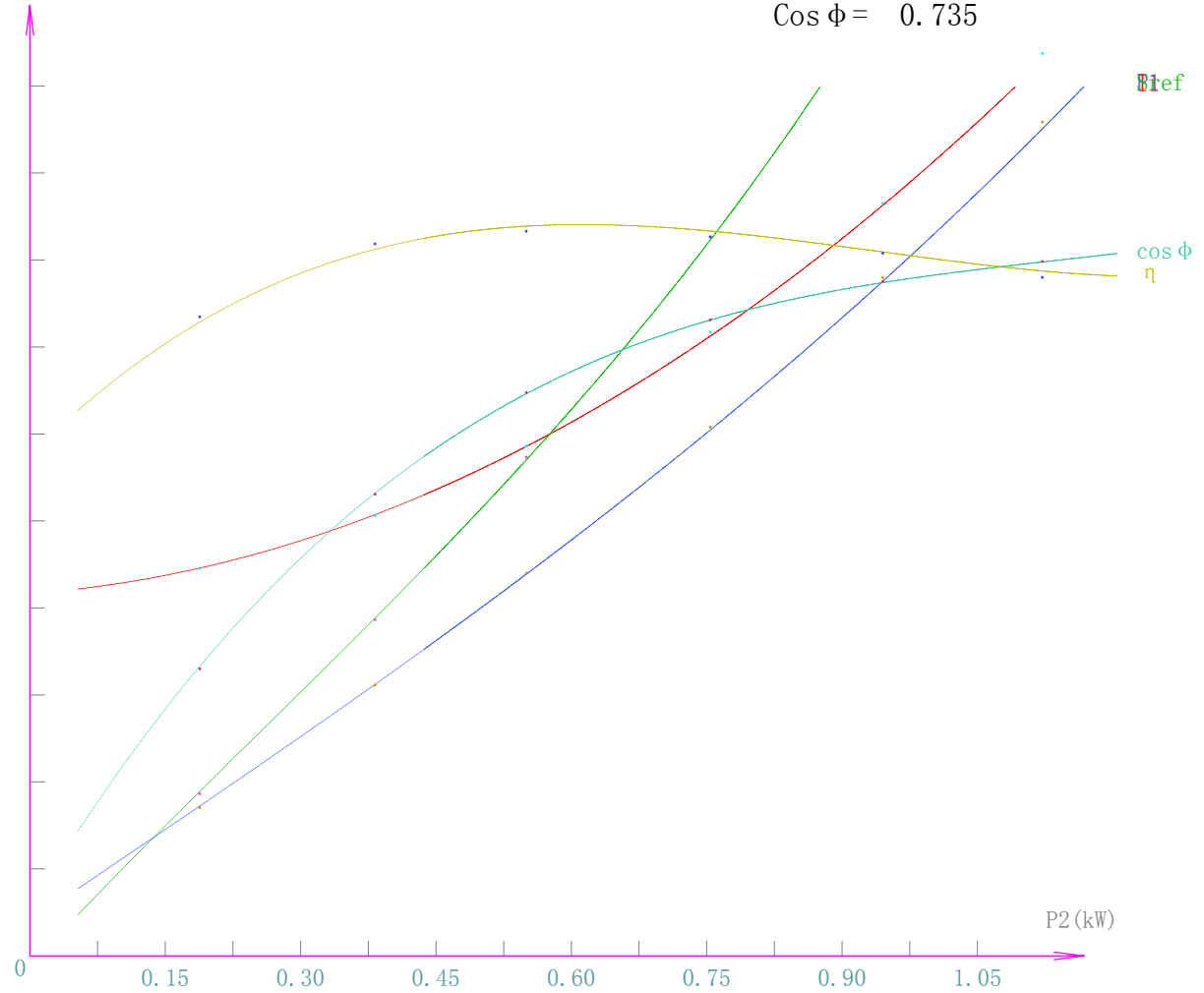
25% rated power:

I (A): 1.11	P1 (kW): 0.2552	Ss (%): 0.93
Pcu (kW): 0.0317	Pal (kW): 0.0018	Ps (kW): 0.0009
η (%): 73.48	$\cos \phi$: 0.331	P2 (kW): 0.19

Load Characteristic Curve

Report No. : IE3-80M-4 0.75KW 15042202 When P2 = 0.75 kW ,
 Model : IE3-80M-4 I1 = 1.78 A
 Rated Output: 0.75 kW P1 = 0.9062 kW
 Ser. No. : Sref = 4.11 %
 η = 82.76 %
 Cos φ = 0.735

cos φ	η	Sref	P1	I1
	%	%	kW	A
1.0	100	5.0	1.50	2.50
0.9	90	4.5	1.35	2.25
0.8	80	4.0	1.20	2.00
0.7	70	3.5	1.05	1.75
0.6	60	3.0	0.90	1.50
0.5	50	2.5	0.75	1.25
0.4	40	2.0	0.60	1.00
0.3	30	1.5	0.45	0.75
0.2	20	1.0	0.30	0.50
0.1	10	0.5	0.15	0.25



three-phase induction motor type test report

Amb Temp: 20.17°C report NO.: IE3-80M2-4 0.75KW 15042202 test time:

Modle: IE3-80M2-4	Rated U: 415V	Rated η : 82.50%	InsClass: F
NO.:	Rated I: 1.75A	Cos ϕ : 0.75	Connect: Y
Rated f: 50Hz	Rated P: 0.75kW	Rated speed: 1430r/min	Poles: 4

Resistance test

Rac (Ω): 12.4180 Rbc (Ω): 12.4550 Rab (Ω): 12.3890

Ravg (Ω): 12.4207 Shell Temp ($^{\circ}$ C): 20.2
 115 $^{\circ}$ C R (Ω): 17.0520 Amb Temp ($^{\circ}$ C): 19.94
 25 $^{\circ}$ C R (Ω): 12.6672

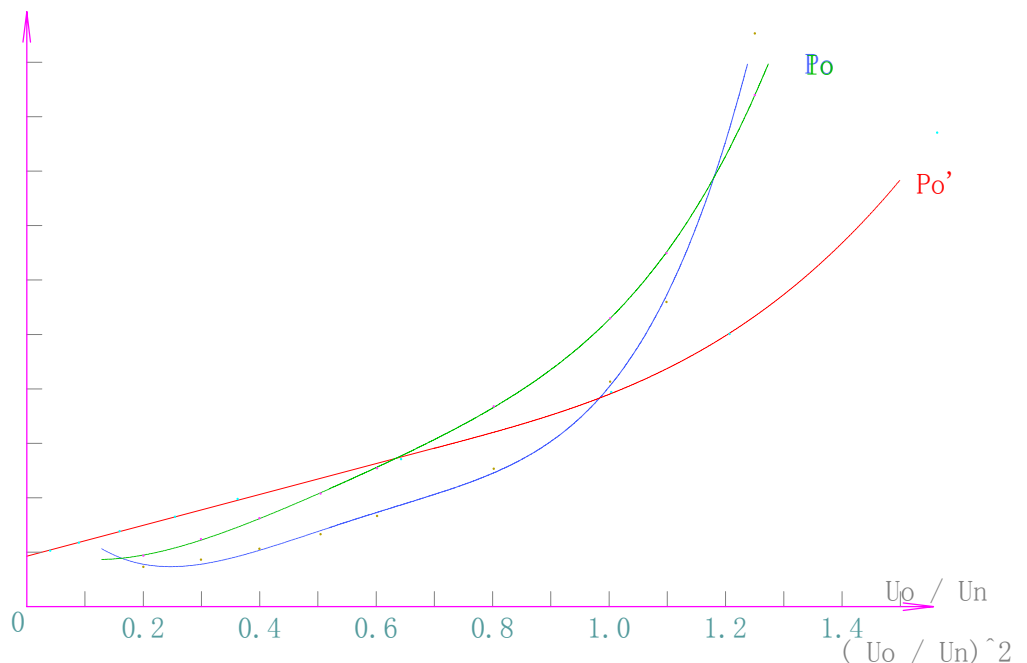
Noload test

U*	U (V)	I (A)	Po (kW)	Po' (kW)	Pcu (kW)	WindingT ($^{\circ}$ C)
1.25	500.1	1.88	0.1580	0.0871	0.0709	39.50
1.10	439.4	1.30	0.0840	0.0501	0.0339	39.73
1.00	400.7	1.06	0.0620	0.0394	0.0226	39.73
0.80	320.7	0.74	0.0380	0.0271	0.0109	39.73
0.60	240.7	0.51	0.0250	0.0198	0.0052	39.73
0.50	201.8	0.42	0.0200	0.0165	0.0035	39.55
0.40	159.7	0.33	0.0160	0.0139	0.0021	39.55
0.30	119.7	0.25	0.0130	0.0118	0.0012	38.85
0.20	80.2	0.19	0.0110	0.0103	0.0007	38.73

Thermal R (Ω): 13.4300 Shell Temp ($^{\circ}$ C): 34.0
 Io (A): 1.06 Io (kW): 0.0605
 Pm (kW): 0.0093 Pfe (kW): 0.0293

No Load Characteristic Curve

Io	Po	Po'
A	kW	kW
2.0	0.150	0.10
1.8	0.135	0.09
1.6	0.120	0.08
1.4	0.105	0.07
1.2	0.090	0.06
1.0	0.075	0.05
0.8	0.060	0.04
0.6	0.045	0.03
0.4	0.030	0.02
0.2	0.015	0.01



test:

check:

CERTIFICATE

of conformity with the following European Directive:

Registrier-Nr./Registered No.:
861631100024001

Electromagnetic Compatibility Directive 2014/30/EU

Reference of applicant	Date of application	File reference	Test report No.	Date of issue
-	08.10.2016	HZP1610001-01	TRHZP1610001-01/01	21.10.2016

It is to certify that the following product(s) comply/complies with the essential requirements (Annex I) of the above mentioned European Directive and the following standard(s):

Applicant: Guanglu Electrical Co., Ltd.
Shanshi Industrial Area, Daxi Town, Wenling City, Zhejiang, China

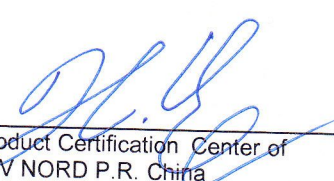
Manufacturer: Guanglu Electrical Co., Ltd.
Shanshi Industrial Area, Daxi Town, Wenling City, Zhejiang, China

Product: Three Phase Induction Motor

Model(s): IE3 series (Details refer to test report No.: TRHZP1610001-01/01)

Standard(s): EN 60034-1:2010

This Certificate of Conformity is based on the evaluation of samples of the product. It does not imply an assessment of the production and it does not permit the use of a mark of conformity or of a safety mark of the TÜV NORD CERT GmbH. The holder of this certificate may use this Certificate together with his EC-Declaration of Conformity.


Product Certification Center of
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390

Technical report No. TRHZP1610001-01/01
File-No.: HZP1610001-01



Technical report
No. TRHZP1610001/01
about the test of a technical equipment

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Applicant: Guanglu Electrical Co., Ltd.
Shanshi Industrial Area, Daxi Town, Wenling City, Zhejiang,
China

Order No.: QTHZP10001/16-01

This report contains 3 text pages

Evaluated: 21.10.2016 by: Yuan Chao

Technic certified: 21.10.2016 by: Carol Zheng



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Applicant:	Guanglu Electrical Co., Ltd. Shanshi Industrial Area, Daxi Town, Wenling City, Zhejiang, China
Manufacturer:	Guanglu Electrical Co., Ltd. Shanshi Industrial Area, Daxi Town, Wenling City, Zhejiang, China
Equipment under test:	Three Phase Induction Motor Model No.: IE3 series(Detailed refer to next page)
Ratings:	Rated Voltage: 400 V Rated Frequency: 50 Hz Rated Output Power: Refer to next page
Type of examination:	Conformity testing to EMC Directive
Test regulations:	EN 60034-1:2010
Test location:	TÜV NORD (Hangzhou) Co., Ltd. No.50, Jiu Huan Road, 5th floor, Jiang Gan District, Hangzhou, China
Test result:	The referenced units are in compliance with above requirements.
Remark:	<p>After a careful examination of the circuit diagram, mode of operation and physical characteristics of the approving three phase induction motors showing that these motors do not have any EMC active electronic components. These motors are squirrel cage induction motors (motor without brushes), where the emission are always so low that emission testing is not needed according to the requirement of clause 13.5.1 of EN 60034-1:2010.</p> <p>Therefore it is concluded that the emission levels of the above mentioned three phase induction motors are far below the limits of the relevant EMC standards and relevant emission tests can be omitted.</p>

Remark to be continued:

The approving three phase induction motors do not have any electronic control circuitry or EMC sensitive components. Motors not incorporating electronic circuits are not sensitive to electromagnetic emissions under normal service conditions and therefore no immunity tests are required according to the requirement of clause 13.2.1 of EN 60034-1:2010.

Model No. and parameters:

Model No.	Rated output power (kW)	Model No.	Rated output power (kW)	Model No.	Rated output power (kW)
IE3-80M1-2	0.75	IE3-80M2-4	0.75	IE3-90S-6	0.75
IE3-80M2-2	1.1	IE3-90S-4	1.1	IE3-90L-6	1.1
IE3-90S-2	1.5	IE3-90L-4	1.5	IE3-100L1-6	1.5
IE3-90L-2	2.2	IE3-100L1-4	2.2	IE3-112M-6	2.2
IE3-100L1-2	3	IE3-100L2-4	3	IE3-132S-6	3
IE3-112M-2	4	IE3-112M-4	4	IE3-132M1-6	4
IE3-132S1-2	5.5	IE3-132S-4	5.5	IE3-132M2-6	5.5
IE3-132S2-2	7.5	IE3-132M-4	7.5	IE3-160M-6	7.5
IE3-160M1-2	11	IE3-160M-4	11	IE3-160L-6	11
IE3-160M2-2	15	IE3-160L-4	15	IE3-180L-6	15
IE3-160L-2	18.5	IE3-180M-4	18.5	IE3-200L1-6	18.5
IE3-180M-2	22	IE3-180L-4	22	IE3-200L2-6	22
IE3-200L1-2	30	IE3-200L-4	30	IE3-225M-6	30
IE3-200L2-2	37	IE3-225S-4	37	IE3-250M-6	37
IE3-225M-2	45	IE3-225M-4	45	IE3-280S-6	45
IE3-250M-2	55	IE3-250M-4	55	IE3-280M-6	55
IE3-280S-2	75	IE3-280S-4	75	IE3-315S-6	75
IE3-280M-2	90	IE3-280M-4	90	IE3-315M-6	90
IE3-315S-2	110	IE3-315S-4	110	IE3-315L1-6	110
IE3-315M-2	132	IE3-315M-4	132	IE3-315L2-6	132
IE3-315L1-2	160	IE3-315L1-4	160	IE3-355M1-6	160
IE3-315L2-2	200	IE3-315L2-4	200	IE3-355M2-6	200
IE3-355M-2	250	IE3-355M-4	250	IE3-355L-6	250
IE3-355L-2	315	IE3-355L1-4	280	/	/
/	/	IE3-355L2-4	315	/	/
/	/	IE3-355L3-4	355	/	/