TYPE TEST REPORT

Report No.：IE3-200L1-2 30KW 15040802

Product Type Name	IE3-200L1-2 Three Phase Asynchronous Motor			Ser.No.	
Rated Output	30 kW	Rated Voltage	415 V	Rated Current	52.1 A
Rated Speed	2970 r/min	Rated Frequency	50Hz	Insulation Class	F
Duty	S1	Protection Class	IP55	Connection	△
Product Standard	IEC60034-1	Testing Standard	IEC60034-2-1	Production Date	

Test Item		Eligibility Value		Test Value	Test Result
		Standard	Tolerance		
1. Stator resistance at 20℃	Ω			0.0981	
2. No load current	A			15.44	
3. No load current deviation	%			1.2	
4. No load input power	W			1079.5	
5. Locked rotor current	A			449.09	
6. Locked current/Rated current				8.64	
7. Locked torque	N.m			277.94	
8. Locked torque/Rated torque				2.88	
9. Full load current	A			52.00	
10. Rated torque	N.m			96.60	
11. Max. torque	N.m			358.44	
12. Max. torque/Rated torque				3.71	
13. Full load speed ratio	r/min			2965.5	
14. Iron loss(at Rated voltage)	W			375.9	
15. Mechanical loss(at Rated speed)	W			666.1	
16. Stator winding loss	W			470.5	
17. Rotor winding loss	W			374.8	
18. Other loss	W			259.8	
19. Total loss	W			2147.3	
20. Output power	W			30000	

TYPE TEST REPORT

Report No.：IE3-200L1-2 30KW 15040802

Test Item		Eligibility Value		Test Value	Test Result
		Standard	Tolerance		
21. Input power	W			32147.25	
22. Full load efficiency	%			93.32	
23. Full Load power factor				0.892	
24. Stator winding temp.rise	K			42.6	
25. Bearing temperature	℃				
26. Coolant temperature	℃			17.2	
27. Insulation resistance warmly to frame	MΩ				
28. High voltage test	V min	1760		Pass	Passed
29. Vibration	mm/s				
30. Noise	dB(A)				
31. Rotation Direction		Clockwise		Right	Passed
32. H.V. inpulse test between winding	V	2600		Pass	Passed
33. Over speed test 2min 1.2n		No abnormal		No abnormal	Passed
34. Over Torque test 15s 2.2Tn		No abnormal		No abnormal	Passed
35. Over current test 2min 1.5In		No abnormal		No abnormal	Passed

Testing Conclusion						
Remark						
Tested by		Checked by		Formed		

three-phase induction motor type test report

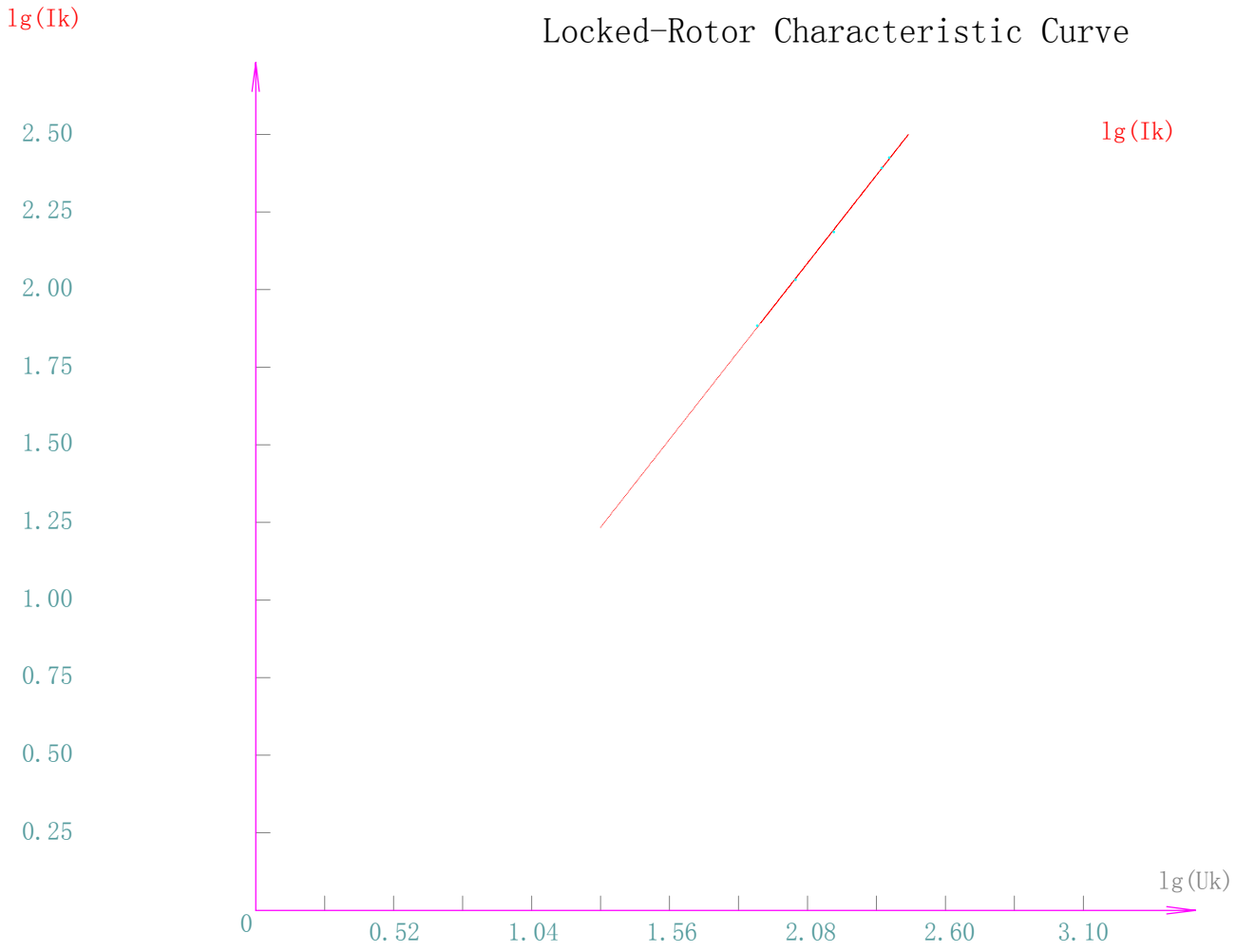
Amb Temp: 17.2℃ report NO.: IE3-200L1-2 30KW 15040802 test time:

Modle: IE3-200L1-2	Rated U: 415V	Rated η: 93.30%	InsClass: F
NO.:	Rated I: 52.1A	Cos Φ: 0.89	Connect: △
Rated f: 50Hz	Rated P: 30kW	Rated speed: 2970r/min	Poles: 2

Locked-rotor Test

U(V)	I(A)	P1(KW)	Tor(N.m)
245.7	266.53	43.3800	97.90
230.1	246.65	37.2900	85.10
151.8	153.42	14.7150	34.20
108.7	107.66	7.2940	16.90
78.0	76.61	3.7060	8.50

Ik (A): 449.09 Ik/In: 8.64
Tk(N.m): 277.94 Tk/Tn: 2.88
Pk(kW): 116.09



test: check:

three-phase induction motor type test report

Amb Temp: 17.2℃ report NO.: IE3-200L1-2 30KW 15040802 test time:

Modle: IE3-200L1-2 Rated U: 415V Rated η: 93.30% InsClass: F
NO.: Rated I: 52.1A Cos Φ: 0.89 Connect: △
Rated f: 50Hz Rated P: 30kW Rated speed: 2970r/min Poles: 2

Load Test

P1(kW)	U(V)	I(A)	s(r/min)	Tor (N.m)	windingT(℃)
50.0800	400.5	81.97	2943.0	147.400	53.08
41.3000	400.9	66.43	2954.0	121.500	54.51
33.5000	399.3	54.03	2964.0	97.300	55.91
25.2800	402.1	42.25	2974.0	72.600	55.64
17.4600	401.0	31.01	2982.0	48.300	55.20
9.5400	402.0	21.25	2991.0	24.100	54.60
1.4030	400.8	15.38	2999.0	0.400	53.14
1.2170	399.5	15.36	0.0	0.000	49.42

P2(kW)	Pcu(kW)	Pal(kW)	Ps(kW)	Ss(%)	η(%)	Cos Φ
46.2504	1.1729	0.9702	0.6445	2.00	92.35	0.881
38.4049	0.7705	0.6445	0.4381	1.61	92.99	0.895
31.2596	0.5096	0.4077	0.2812	1.25	93.31	0.897
23.5473	0.3117	0.2222	0.1568	0.90	93.15	0.859
16.0745	0.1679	0.1060	0.0696	0.63	92.06	0.811
8.3732	0.0788	0.0285	0.0175	0.31	87.77	0.645
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; 0.931 A: 0.030 B: 888.606 θs(℃): 67.6

150% rated power:
I(A): 79.34 P1(kW): 48.6637 Ss (%): 1.84
Pcu(kW): 1.2713 Pal(kW): 0.8655 Ps(kW): 0.6088
η(%): 92.47 Cos Φ: 0.885 P2(kW): 45.00

125% rated power:
I(A): 64.89 P1(kW): 40.3018 Ss (%): 1.48
Pcu(kW): 0.8504 Pal(kW): 0.5793 Ps(kW): 0.4152
η(%): 93.05 Cos Φ: 0.896 P2(kW): 37.50

100% rated power:
I(A): 52.00 P1(kW): 32.1473 Ss (%): 1.15
Pcu(kW): 0.5460 Pal(kW): 0.3586 Ps(kW): 0.2598
η(%): 93.32 Cos Φ: 0.892 P2(kW): 30.00

75% rated power:
I(A): 40.40 P1(kW): 24.1722 Ss (%): 0.84
Pcu(kW): 0.3296 Pal(kW): 0.1964 Ps(kW): 0.1416
η(%): 93.08 Cos Φ: 0.864 P2(kW): 22.50

50% rated power:
I(A): 29.84 P1(kW): 16.3488 Ss (%): 0.55
Pcu(kW): 0.1798 Pal(kW): 0.0862 Ps(kW): 0.0600
η(%): 91.75 Cos Φ: 0.791 P2(kW): 15.00

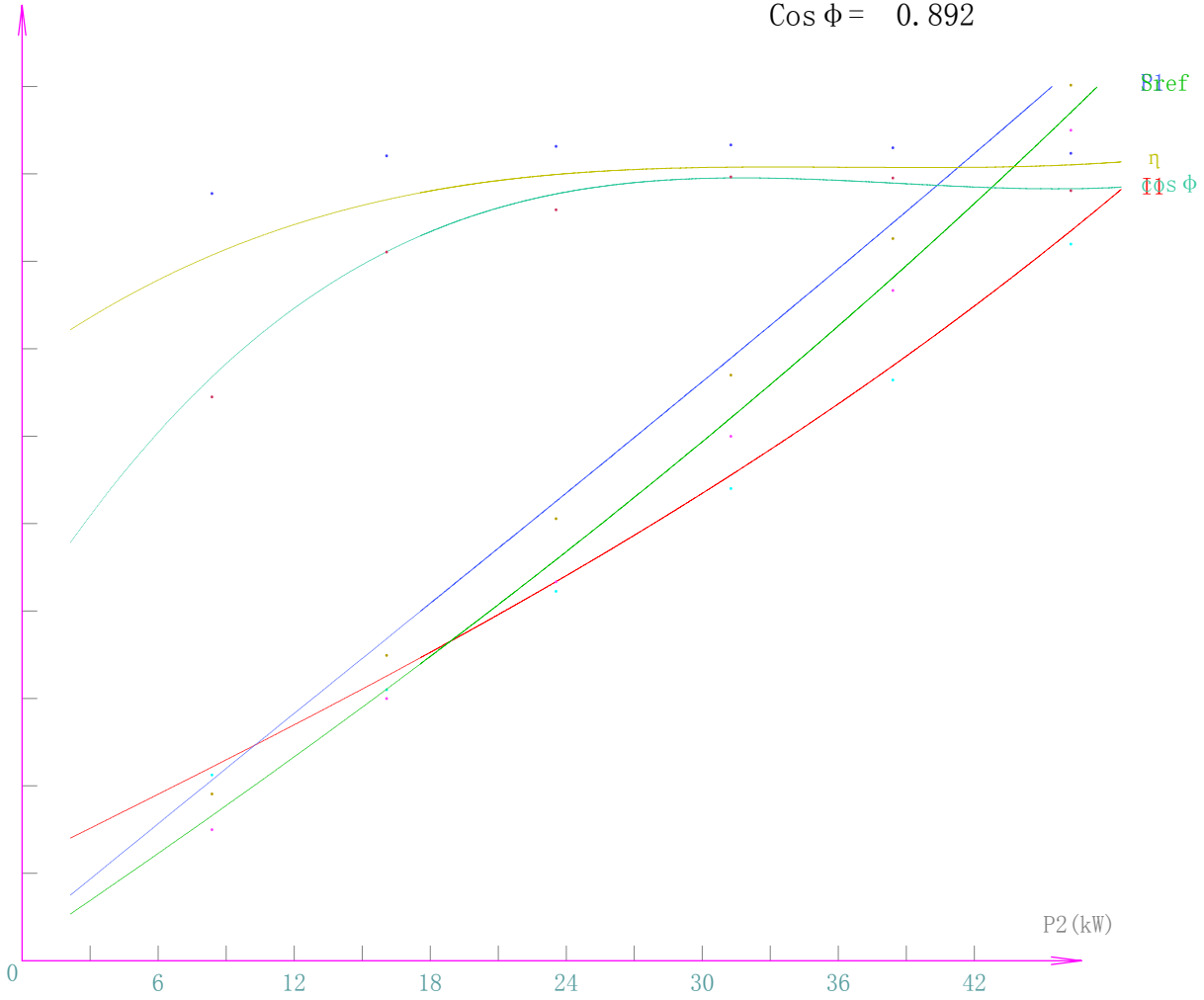
25% rated power:
I(A): 20.06 P1(kW): 8.6490 Ss (%): 0.27
Pcu(kW): 0.0813 Pal(kW): 0.0224 Ps(kW): 0.0140
η(%): 86.72 Cos Φ: 0.622 P2(kW): 7.50

Load Characteristic Curve

Report No. : IE3-200L1-2 30KW 15040802
Model : IE3-200L1-2
Rated Output: 30 kW
Ser.No. :

When P2 = 30 kW ,
I1 = 52.00 A
P1 = 32.1473 kW
Sref = 1.15 %
η = 93.32 %
Cos Φ = 0.892

cos Φ	η %	Sref %	P1 kW	I1 A
1.0	100	2.0	50	100
0.9	90	1.8	45	90
0.8	80	1.6	40	80
0.7	70	1.4	35	70
0.6	60	1.2	30	60
0.5	50	1.0	25	50
0.4	40	0.8	20	40
0.3	30	0.6	15	30
0.2	20	0.4	10	20
0.1	10	0.2	5	10



three-phase induction motor type test report

Amb Temp: 21.09℃ report NO.: IE3-200L1-2 30KW 15040802 test time:

Modle: IE3-200L1-2	Rated U: 415V	Rated η: 93.30%	InsClass: F
NO.:	Rated I: 52.1A	Cos Φ: 0.89	Connect: △
Rated f: 50Hz	Rated P: 30kW	Rated speed: 2970r/min	Poles: 2

Resistance test

Rac(Ω): 0.0972 Rbc(Ω): 0.0970 Rab(Ω): 0.0969

Ravg(Ω): 0.0970 Shell Temp(℃): 17.3
115℃ R (Ω): 0.1346 Amb Temp(℃): 17.24
25℃ R (Ω): 0.1000

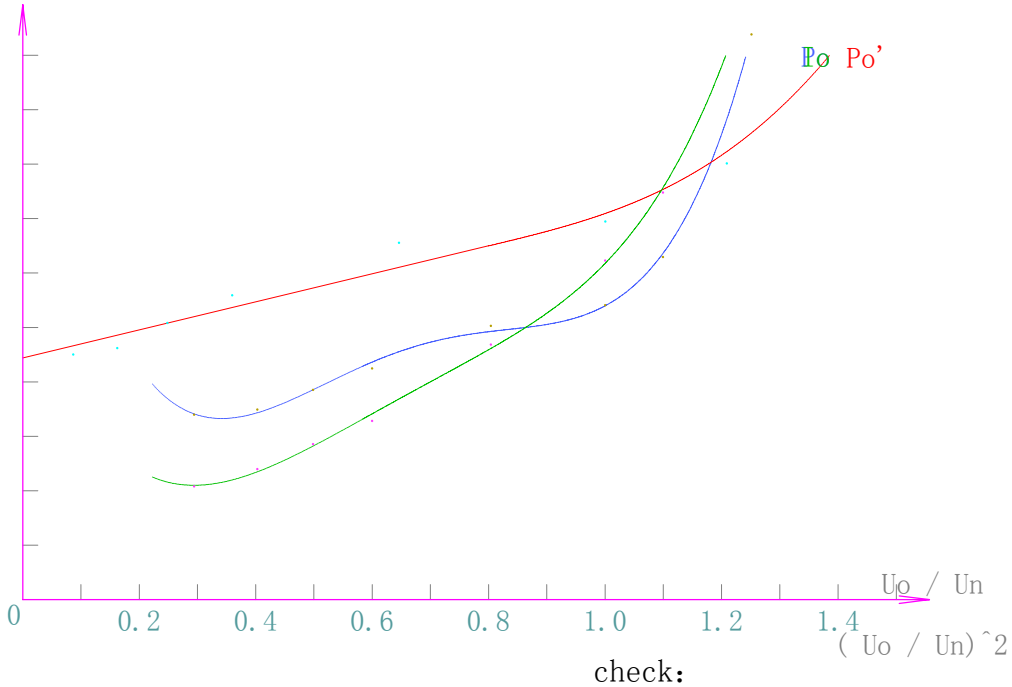
Noload test

U*	U (V)	I (A)	Po(kW)	Po'(kW)	Pcu(kW)	WindingT(℃)
1.25	500.5	28.49	2.0770	1.9449	0.1321	47.00
1.10	439.8	18.70	1.2590	1.2021	0.0569	47.05
1.00	400.1	15.58	1.0820	1.0425	0.0395	47.05
0.80	321.5	11.72	1.0060	0.9837	0.0223	46.85
0.60	239.9	8.21	0.8500	0.8390	0.0110	46.85
0.50	199.4	7.15	0.7710	0.7627	0.0083	46.77
0.40	161.1	6.00	0.6990	0.6931	0.0059	46.77
0.29	117.7	5.21	0.6800	0.6756	0.0044	46.60

Thermal R(Ω): 0.1090 Shell Temp(℃): 36.3
Io(A): 15.44 Io(kW): 1.0795
Pm(kW): 0.6661 Pfe(kW): 0.3759

No Load Characteristic Curve

Io A	Po kW	Po' kW
25.0	2.0	1.50
22.5	1.8	1.35
20.0	1.6	1.20
17.5	1.4	1.05
15.0	1.2	0.90
12.5	1.0	0.75
10.0	0.8	0.60
7.5	0.6	0.45
5.0	0.4	0.30
2.5	0.2	0.15



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
TÜV NORD P.R. China

TÜV NORD (Hangzhou) Co., Ltd.
Member of TUV NORD Group
Tel.: +86-571-85386989
Fax : +86-571-85386996
www.tuv-nord.com/cn
China

CE **The CE marking may be affixed on the product if all relevant and effective Directives are complied with.** CE

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P.R. China

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DL-HZPCERT@tuv-nord.com
www.tuv-nord.com/cn

Technical report

No. TRHZP1610001/01

about the test of a technical equipment

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

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:	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. 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.

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	/	/