

Cast Iron Frame Motors For Zone 21 Improved Efficiency EFF2

Standard Features:

- Three-phase, multivoltage, IP66, TEFC
- Output: 0.12 up to 250kW
- Frames: 63 up to 355M/L
- Voltage: 220-240/380-415V (up to 100L)
380-415/660V (from 112M and up)
- Class "F" insulation ($\Delta T=80K$)
- Continuous duty: S1
- Design N
- Ambient temperature: 40°C, at 1000 m.a.s.l.
- Squirrel cage rotor/Aluminium die cast
- Oil Seal (frames 63 up to 80)
- W3Seal (frames 90S up to 355M/L)
- Anti-condensation drain holes
- Temperature Classification: Zone 21-maximum guaranteed external surface temperature T125°C temperature limitation because of the presence of dust clouds (for material with ignition temperature above 125°C) and presence of dust layers (up to 5mm)
- Regreasing nipples from frame 225S/M and above
- Metric thread cable entries in terminal box
- Thermistors (1 per phase) 140°C
- Suitable for Inverter Duty applications
- Color: RAL 5010

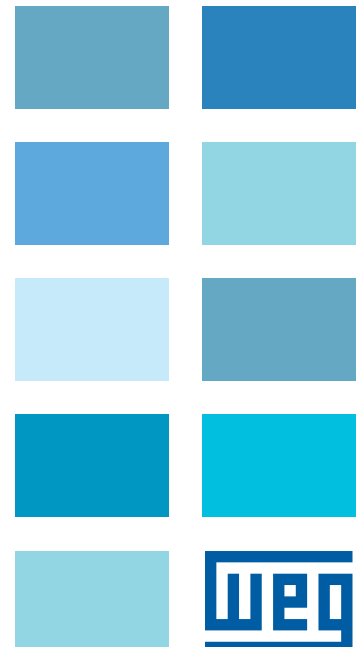
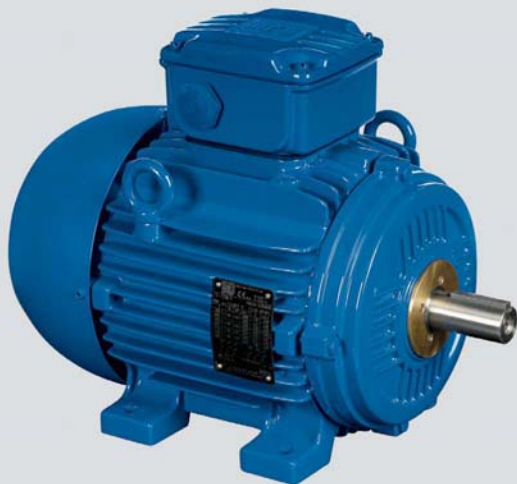
Options Available:

- Degree of Protection: IP65
 - Bearing seals:
 - Oil seal (frames 90S up to 355M/L)
 - Thermal protection:
 - Thermostats
 - RTD-PT 100
 - Space heaters
 - Design H
 - Class "H" insulation
 - Roller bearings for frame 160M and above
- More options available, on request*

Typical Applications:

These motors are designed to operate in areas that can release flammable dust or in atmospheres where explosions can occur due to a mixture of air and dust:

- Sugar refining plants
- Breweries
- Cement plants
- Textiles, pharmaceutical, chemical and agricultural process industries
- Other several duty applications



Features and Benefits

Fan Cover

Made of steel plate for frames 63 up to 132M and of cast iron for frames 160M and above. It offers a superior mechanical rigidity, corrosion-resistance and extended lifetime.

Bearings
WEG motors are fitted with the highest quality bearings selected from the best manufacturers in the world and designed to ensure long life of the motor even under heavy operating conditions.

Terminal Box

Made of cast iron made with plenty of internal space. The terminal box can be rotated in 90° intervals, having one or two threaded holes to connect the power supply cables. Power supply connection components are certified, then reducing short-circuit inside the terminal box. Designed in such a way that the energized components remain at a minimum safe distance from grounded components parts. In order to allow end users safety, the motors are designed with grounding lug inside and outside of the terminal box, with the inside grounding lugs duly connected from the factory. * Available as top or side mounted.

Winding

The wire is enameled with class H. Supplied with patented WISE (WEG Insulation System Evolution), which allows three times longer motor lifetime designed to work in environments with excess of moisture and suitable for VFD application. The winding is designed to obtain the smallest Joule losses and temperature rise.

Rotor

High pressure die cast rotor dynamically balanced, thus reducing vibrations. Built with premium electrical grade steel lamination to improve efficiency. Designed to meet performance and surface temperature standard requirements.

Shaft

WEG uses SAE/AISI 1040/45 steel as standard, which provides high mechanical strength, preventing bending under load and minimizes fatigue which extends lifetime. Specially designed to withstand torques caused during motor acceleration and deceleration. It's size is larger than the standard motor and, upon special design, motor can have second shaft end.

Fan

WEG has designed the fan and fan cover having in mind the lowest noise level. The efficient cooling ensures low motor temperature rise. This minimizes winding losses, thus increasing motor efficiency. The W21 line is supplied with anti-static polypropylene fans from 63 up to 315S/M frames and aluminium for 355M/L frame.. Alternatively, cast iron or aluminium fans can be supplied on request for all frames.

Frame

WEG motors are made of FC-200 high-grade cast iron. The frames are provided with fins aiming at improving the heat dissipation and adequately spaced to minimize air blockage due to build up of dirt. Motor designed to ensure that surface temperature is lower than ignition temperature of the gas that is present in the environment. Mechanical components are designed to withstand an explosion inside the motor without causing any risk to outside areas since there is no flame propagation through flame path. The motors can be mounted in any position, horizontal and vertical, withstanding the maximum axial and radial thrusts.

Endshields

Made of cast iron, they are provided with external fins for better temperature dissipation, thus increasing bearing life.

Stator

Built with premium electrical grade steel lamination to reduce electrical losses and operating temperature.

Seals

WEG Explosion Proof Motors are fitted with either Lip seal or Labyrinth Tachonite as standard (see standard features list) to provide the best possible protection.

W3Seal

Exclusive WEG sealing system (tachonite + v-ring + o-ring) guarantee maximum protection against the ingress of solid and liquid contaminating

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Output		IEC Frame	Full load torque C _n (Nm)	Locked rotor current I _r /I _n	Locked rotor torque T _r /T _n	Break-down torque T _b /T _n	Inertia J kgm ²	Allowable locked rotor time Hot/Cold (s)	Weight (kg)	Sound dB (A)	Rated speed (rpm)	400 V						Full load current I _n (A)
												% of full load						
												Efficiency η			Power Factor (Cos φ)			
kW	HP										50	75	100	50	75	100		
II Pole - 3000 rpm																		
0.12	0.16	63	0.41	5	2.8	3	0.000	25/55	7.7	52	2760	58	64.8	65.5	0.51	0.64	0.74	0.357
0.18	0.25	63	0.64	4.4	2.5	2.5	0.000	30/66	7.7	52	2730	63.5	68.5	69.5	0.62	0.76	0.81	0.462
0.25	0.33	63	0.85	4.5	2.5	2.5	0.000	18/40	8.2	52	2730	64	68.5	71.2	0.58	0.71	0.8	0.634
0.37	0.5	71	1.25	5.5	3	3.2	0.000	23/51	10.9	56	2810	69	73.8	74.5	0.63	0.77	0.85	0.843
0.55	0.75	71	1.89	5.7	2.7	2.7	0.000	16/35	11.6	56	2790	72.5	76.6	76.7	0.68	0.8	0.86	1.2
0.75	1	80	2.51	6.8	3.1	3.1	0.001	20/44	15.2	59	2795	76.5	80.5	80.5	0.73	0.82	0.86	1.56
1.1	1.5	80	3.74	7.8	3.4	3.4	0.001	15/33	16.4	59	2820	81	83	83.6	0.64	0.76	0.84	2.26
1.5	2	90S	4.91	7.3	2.8	2.8	0.002	14/31	20.2	62	2860	83.2	84.9	84.5	0.68	0.8	0.85	3.01
2.2	3	90L	7.35	8.4	3.7	3.5	0.003	9/20	22.5	62	2865	84	86	86.6	0.64	0.76	0.83	4.42
3	4	100L	9.7	8.9	3	3.1	0.007	12/26	32.2	67	2895	84.5	87	88.3	0.73	0.83	0.87	5.64
4	5.5	112M	13.32	8.2	2.7	3.4	0.008	17/37	42.7	64	2900	87	88.4	88.6	0.72	0.83	0.87	7.49
5.5	7.5	132S	17.95	8	2.7	3.2	0.021	19/42	61	67	2935	88.5	90	90.1	0.71	0.81	0.86	10.2
7.5	10	132S	24.01	8	2.5	2.9	0.024	13/29	66	67	2925	88.5	90.6	90.8	0.72	0.82	0.87	13.7
9.2	12.5	132M	29.91	8.5	2.8	3.1	0.028	11/24	74	67	2935	88.5	90.9	91	0.7	0.81	0.87	16.8
11	15	160M	35.72	8.5	2.8	3.3	0.053	14/31	117.9	70	2950	90	91.9	92.3	0.7	0.8	0.85	20.2
15	20	160M	47.7	8.2	2.4	3.3	0.059	12/26	130.5	70	2945	91	92	92.5	0.74	0.82	0.86	27.2
18.5	25	160L	59.63	8.8	2.5	3.2	0.068	10/22	135.2	70	2945	91.9	92.8	93.1	0.73	0.82	0.85	33.7
22	30	180M	71.43	8.6	2.7	3.3	0.119	14/31	193.7	70	2950	92.5	93.5	93.7	0.76	0.84	0.87	39
30	40	200L	94.92	7.4	2.7	2.8	0.206	31/68	248	74	2960	92.8	93.7	94	0.77	0.84	0.87	52.9
37	50	200L	118.65	7.6	2.7	2.7	0.224	25/55	260	74	2960	93.2	94	94.6	0.76	0.84	0.87	64.9
45	60	225S/M	141.9	8.5	2.4	2.9	0.448	18/40	414	82	2970	93.6	94.5	94.7	0.82	0.88	0.9	76.2
55	75	250S/M	177.67	8.9	2.6	3.4	0.502	15/33	460.8	82	2965	94	95	95	0.85	0.89	0.91	91.8
75	100	280S/M	236.1	7.7	2.2	2.9	1.271	51/112	740	83	2975	93.2	94.4	95.6	0.83	0.87	0.89	127
90	125	280S/M	295.12	8.2	2.2	2.8	1.412	42/92	780	83	2975	94.1	95.5	95.8	0.82	0.88	0.9	151
110	150	315S/M	354.15	8	2.3	2.8	1.506	38/84	830	83	2975	94.4	95.3	95.8	0.82	0.87	0.89	186
132	175	315S/M	413.17	7.8	2.2	2.7	1.742	32/70	900	83	2975	94.3	95.5	96	0.82	0.88	0.89	223
150	200	315S/M	472.99	7.9	2.2	2.7	2.118	31/68	1010	83	2970	95	95.8	96.2	0.84	0.89	0.9	250
160	220	315S/M	520.29	7.8	2.2	2.5	2.118	33/73	1010	83	2970	95	96	96.2	0.85	0.89	0.9	267
185	250	315S/M	590.25	8.2	2.4	2.8	2.118	28/62	1010	83	2975	95	95.9	96.2	0.8	0.86	0.88	315
200	270	355M/L	635.33	7.2	1.8	2.6	4.826	70/154	1490	81	2985	93.7	95.2	95.6	0.89	0.91	0.92	328
220	300	355M/L	705.93	8.5	2.2	3	5.171	65/143	1650	81	2985	95.2	96.1	96.4	0.85	0.9	0.92	358
250	340	355M/L	800.05	7.8	1.7	2.5	5.746	65/143	1750	81	2985	95.5	96.3	96.4	0.87	0.91	0.92	407
HIGH-OUTPUT DESIGN																		
75	100	250S/M	236.9	8.5	3	3.4	0.55609	10/22	490	82	2965	93	94.3	94.6	0.83	0.88	0.9	127
110	150	280S/M	354.15	8	2.3	2.8	1.50617	38/84	830	83	2975	94.4	95.3	95.8	0.82	0.87	0.89	186
IV Pole - 1500 rpm																		
0.12	0.16	63	0.79	4.2	2.4	2.5	0.00045	20/44	7	44	1415	45	54	58.5	0.46	0.56	0.67	0.442
0.18	0.25	63	1.25	4	2.2	2.5	0.00056	23/51	8.6	44	1400	53.8	59.5	62	0.52	0.63	0.72	0.582
0.25	0.33	71	1.64	5	3	3.1	0.00079	48/106	11.7	43	1410	68.5	71.5	73	0.5	0.61	0.7	0.706
0.37	0.5	71	2.52	4.4	2.7	2.8	0.00079	37/81	11.8	43	1395	68	72	73.5	0.48	0.6	0.7	1.04
0.55	0.75	80	3.68	6	2.6	2.8	0.00242	17/37	16.3	44	1430	69	73	75	0.56	0.69	0.78	1.36
0.75	1	80	4.96	5.5	2.4	2.6	0.00294	14/31	16.1	44	1415	73.5	76.2	76.2	0.62	0.74	0.83	1.71
1.1	1.5	90S	7.37	6.5	3	3	0.00504	13/29	21.7	49	1430	76	80	80.6	0.57	0.69	0.78	2.53
1.5	2	90L	9.89	6.2	2.7	2.7	0.00672	12/26	24.4	49	1420	80.3	82	81.7	0.64	0.77	0.83	3.19
2.2	3	100L	14.84	6.7	2.7	2.9	0.00842	14/31	30.2	53	1420	81	82.3	83	0.65	0.78	0.83	4.61
3	4	100L	19.93	6.5	2.7	2.7	0.00995	10/22	32.8	53	1410	83.6	85	84.7	0.68	0.79	0.86	5.94
4	5.5	112M	27.02	7.5	2.7	2.8	0.01875	12/26	46.7	56	1430	86	87.4	87.1	0.7	0.81	0.87	7.62
5.5	7.5	132S	35.96	8	2.4	3	0.04652	11/24	61.7	60	1465	85.4	87.7	88.5	0.68	0.79	0.85	10.6
7.5	10	132M	47.95	8	2.5	2.8	0.05427	8/18	64.7	60	1465	86.4	88.4	88.6	0.7	0.8	0.86	14.2
9.2	12.5	160M	60.34	6	2.2	2.4	0.06524	15/33	95	67	1455	86	87.7	88.8	0.69	0.79	0.84	17.8
11	15	160M	72.41	6	2.3	2.5	0.08029	16/35	107.8	67	1455	87.6	89.4	89.9	0.7	0.79	0.84	21
15	20	160L	96.55	6	2.3	2.4	0.10539	13/29	126.5	67	1455	89	90.4	90.6	0.69	0.79	0.84	28.4
18.5	25	180M	119.46	7	2.7	2.8	0.17939	18/40	183.2	64	1470	89.8	91.5	92.1	0.68	0.79	0.84	34.5
22	30	180L	143.35	7.5	2.8	2.8	0.21528	14/31	189.5	64	1470	91	92.2	92.4	0.67	0.78	0.83	41.4
30	40	200L	190.48	6.5	2.2	2.5	0.33095	17/37	247.5	69	1475	91.8	93	93	0.75	0.82	0.85	54.8
37	50	225S/M	237.3	7.2	2.3	2.7	0.62988	20/44	353	70	1480	91.2	92.2	92.8	0.76	0.85	0.88	65.4
45	60	225S/M	285.72	7	2.3	2.7	0.76985	16/35	382.2	70	1475	91	92.9	93.5	0.76	0.85	0.88	78.9
55	75	250S/M	357.15	7	2.3	2.6	0.97981	16/35	451.4	70	1475	93	93.5	93.7	0.78	0.86	0.89	95.2
75	100	280S/M	472.99	6.7	2.1	2.4	2.32858	44/97	735	76	1485	92.4	93.8	94.3	0.81	0.86	0.88	130
90	125	280S/M	591.24	7.1	2.4	2.5	2.56947	31/68	736.9	76	1485	92.3	93.9	94.2	0.8	0.86	0.88	157
110	150	315S/M	709.49	7.1	2.3	2.6	2.81036	27/59	866.1	77	1485	92.8	94.4	94.4	0.78	0.85	0.88	191
132	175	315S/M	827.74	7.3	2.5	2.6	3.77391	31/68	1010	77	1485	93.3	94.7	95.1	0.78	0.85	0.88	228
160	220	315S/M	1044.1	7	2.4	2.7	3.77391	22/48	1010	77	1480	93.3	95.1	95.5	0.75	0.83	0.87	278
200	270	315B	1277.08	6.8	1.9	2.9	4.0216	33/73	1240	79	1485	93.8	95	95	0.68	0.77	0.81	375
200	270	355M/L	1272.8	6.6	2.3	2.2	6.34151	44/97	1525	79	1490	94.8	95.2	95.4	0.78	0.85	0.87	348
250	340	315B	1613.61	6.2	1.8	2.6	5.1713	29/64	1330	79	1480	94.5	95.2	95.2	0.72	0.8	0.83	457
250	340	355M/L	1602.78	6.9	2.2	2.5	7.57882	36/79	1615	79	1490	94.3	95.2	95.8	0.8	0.86	0.88	428
HIGH OUTPUT DESIGN																		
75	100	250S/M	474.59	7.2	2.4	2.6	1.15478	12/26	510	70	1480	92.5	93.6	93.7	0.77	0.85	0.87	133
110	150	280S/M	709.49	7.1	2.3	2.6	2.81036	27/59	865	76	1485	92.8	94.4	94.4	0.78	0.85	0.88	191

Notes:

*Class "F" insulation with ΔT105K

Standard voltage, connection and frequency: 220-240V Δ 50Hz

380-415V Y 50Hz

380-415V Δ 50Hz

660-690V Y 50Hz

Cast Iron Frame Motors For Zone 21 - Improved Efficiency EFF2

Output		380 V								415 V							
		Rated speed (rpm)	% of full load						Full load current I _n (A)	Rated speed (rpm)	% of full load						Full load current I _n (A)
			Efficiency η			Power Factor (Cos φ)					Efficiency η			Power Factor (Cos φ)			
kW	HP	50	75	100	50	75	100	50	75	100	50	75	100	50	75	100	
II Pole - 3000 rpm																	
0,12	0,16	2730	60	66	67	0,56	0,69	0,79	0,344	2790	55	63	63	0,48	0,61	0,71	0,373
0,18	0,25	2700	65	69	69	0,66	0,79	0,83	0,478	2760	62	68	70	0,58	0,73	0,78	0,459
0,25	0,33	2700	65,5	69,5	70	0,62	0,75	0,83	0,654	2755	62,5	67,5	71,9	0,55	0,68	0,77	0,628
0,37	0,5	2790	70,5	73,8	74,3	0,68	0,8	0,88	0,86	2825	67,5	73,8	74,5	0,6	0,74	0,82	0,843
0,55	0,75	2760	73,5	76,7	76,5	0,73	0,82	0,88	1,24	2810	71,5	76,5	76,7	0,64	0,77	0,84	1,19
0,75	1	2770	77	80,5	79,8	0,76	0,85	0,88	1,62	2805	76	80,5	80,5	0,7	0,79	0,84	1,54
1,1	1,5	2800	82	83,2	82,8	0,69	0,8	0,86	2,35	2835	80	82,5	83,5	0,58	0,72	0,81	2,26
1,5	2	2845	83,6	84,8	84,3	0,73	0,83	0,87	3,11	2870	82,8	84,8	84,6	0,64	0,77	0,83	2,97
2,2	3	2855	84,5	86	86	0,69	0,8	0,86	4,52	2875	83,5	86	86,6	0,58	0,72	0,8	4,42
3	4	2890	85	86,7	87,5	0,77	0,85	0,88	5,92	2900	84	86,7	88	0,69	0,81	0,86	5,51
4	5,5	2890	87,5	88,3	88,3	0,77	0,85	0,89	7,73	2910	86,5	88,3	88,5	0,68	0,81	0,86	7,31
5,5	7,5	2930	89	90,3	90,2	0,75	0,83	0,87	10,6	2940	88	89,8	90	0,68	0,78	0,84	10,1
7,5	10	2920	89	90,5	90,6	0,75	0,84	0,88	14,3	2930	88	90,6	90,9	0,7	0,8	0,86	13,3
9,2	12,5	2930	89	91	91	0,76	0,85	0,89	17,3	2940	88	90,8	91	0,66	0,77	0,85	16,5
11	15	2945	90,5	92	92,2	0,74	0,83	0,87	20,8	2955	89,5	91,8	92,2	0,66	0,77	0,83	20
15	20	2940	91,5	92	92,4	0,78	0,85	0,87	28,4	2950	90,5	91,9	92,4	0,7	0,8	0,85	26,6
18,5	25	2940	92,1	92,8	93	0,76	0,84	0,87	34,7	2950	91,7	92,7	93	0,7	0,8	0,83	33,3
22	30	2945	92,8	93,5	93,5	0,79	0,86	0,89	40,2	2955	92,2	93,5	93,7	0,73	0,82	0,85	38,4
30	40	2955	93	93,7	93,8	0,81	0,86	0,88	55,2	2965	92,6	93,7	94,1	0,74	0,82	0,86	51,6
37	50	2955	93,4	94	94,4	0,8	0,86	0,88	67,7	2965	93	94	94,6	0,72	0,82	0,86	63,3
45	60	2965	93,9	94,5	94,5	0,84	0,89	0,91	79,5	2970	93,3	94,5	94,6	0,8	0,87	0,89	74,4
55	75	2960	94,2	94,7	94,7	0,87	0,9	0,92	95,9	2970	93,8	95	95	0,83	0,88	0,9	89,5
75	100	2970	93,4	94,4	95,4	0,85	0,88	0,9	133	2975	93	94,4	95,5	0,81	0,86	0,88	124
90	125	2975	94,3	95,5	95,8	0,84	0,89	0,9	159	2980	93,9	95,5	95,8	0,8	0,87	0,89	147
110	150	2970	94,6	95,4	95,7	0,84	0,88	0,9	194	2975	94,2	95,2	95,8	0,8	0,86	0,88	182
132	175	2970	94,5	95,5	96	0,84	0,89	0,9	232	2975	94,1	95,4	96	0,8	0,87	0,89	215
150	200	2970	95	95,8	96,1	0,86	0,9	0,91	261	2975	95	95,8	96,2	0,82	0,88	0,9	241
160	220	2965	95	95,9	96,1	0,86	0,9	0,91	278	2975	94,9	96	96,2	0,83	0,88	0,89	260
185	250	2970	95,2	95,9	96,2	0,82	0,89	0,89	328	2975	94,8	95,8	96,2	0,78	0,84	0,87	308
200	270	2980	93,9	95,2	95,5	0,9	0,92	0,92	346	2985	93,5	95,1	95,6	0,88	0,9	0,91	320
220	300	2985	95,5	96,2	96,4	0,87	0,91	0,92	377	2990	95	96	96,3	0,83	0,89	0,91	349
250	340	2980	95,5	96,3	96,4	0,89	0,92	0,93	424	2985	95,4	96,3	96,4	0,86	0,91	0,92	392
HIGH-OUTPUT DESIGN																	
75	100	2960	93,2	94,3	94,3	0,85	0,89	0,91	133	2965	92,8	94,3	94,6	0,81	0,87	0,9	123
110	150	2970	94,6	95,4	95,7	0,84	0,88	0,9	194	2975	94,2	95,2	95,8	0,8	0,86	0,88	182
IV Pole - 1500 rpm																	
0,12	0,16	1405	47	55	59	0,49	0,6	0,7	0,441	1425	42	52	58	0,43	0,52	0,63	0,45
0,18	0,25	1385	55,8	60,5	62,5	0,55	0,67	0,76	0,576	1410	51	57,5	61	0,48	0,59	0,69	0,59
0,25	0,33	1400	70	72	72,5	0,53	0,65	0,72	0,728	1420	67	71	73	0,47	0,58	0,68	0,70
0,37	0,5	1385	70	73	73,6	0,52	0,65	0,73	1,05	1405	65	71	73,2	0,44	0,56	0,67	1,05
0,55	0,75	1420	70	73,5	75	0,61	0,73	0,81	1,38	1440	67	72,5	74,6	0,53	0,66	0,75	1,37
0,75	1	1400	75	76,5	76	0,66	0,78	0,85	1,76	1430	72	76	76,2	0,59	0,71	0,81	1,69
1,1	1,5	1415	77,5	80,5	80,5	0,63	0,74	0,81	2,56	1435	74,5	79	80,3	0,53	0,64	0,74	2,58
1,5	2	1410	81,2	82,2	81	0,68	0,8	0,85	3,31	1430	79,3	81,5	81,8	0,61	0,74	0,81	3,15
2,2	3	1410	81,5	82	81,7	0,69	0,81	0,85	4,81	1430	80,5	82,3	83	0,61	0,75	0,81	4,55
3	4	1400	84	84,9	84,2	0,72	0,82	0,87	6,22	1420	83,2	85,1	84,9	0,65	0,77	0,84	5,85
4	5,5	1420	86,5	87,5	86,7	0,74	0,84	0,89	7,88	1440	85,2	87,2	86,7	0,67	0,78	0,84	7,64
5,5	7,5	1460	86,7	88,3	88,3	0,73	0,82	0,87	10,9	1470	84,2	87	88,4	0,64	0,75	0,83	10,4
7,5	10	1465	87	88,6	88,4	0,75	0,84	0,88	14,6	1470	85,6	88	88,6	0,65	0,77	0,83	14,2
9,2	12,5	1450	86,5	87,8	88,2	0,73	0,82	0,85	18,6	1460	85,5	87,4	88,8	0,64	0,76	0,82	17,6
11	15	1450	88,3	89,6	89,2	0,74	0,82	0,85	22	1460	86,8	89	89,8	0,65	0,76	0,82	20,8
15	20	1450	89,5	90,5	90,1	0,73	0,82	0,86	29,4	1460	88,4	90,3	90,6	0,67	0,78	0,83	27,8
18,5	25	1465	90,3	91,7	91,7	0,72	0,81	0,85	36,1	1470	89,3	91,3	92,1	0,65	0,76	0,82	34,1
22	30	1465	91,5	92,4	92,3	0,72	0,81	0,85	42,6	1475	90,5	92	92,5	0,63	0,75	0,81	40,8
30	40	1470	92,2	93	92,6	0,78	0,84	0,86	57,2	1480	91,5	93	93,2	0,72	0,8	0,84	53,3
37	50	1475	91,6	92,4	92,5	0,79	0,86	0,89	68,3	1480	90,8	92,1	92,9	0,72	0,83	0,87	63,7
45	60	1475	91,3	92,8	93,5	0,8	0,87	0,89	82,2	1480	91	92,9	93,5	0,72	0,83	0,87	77
55	75	1475	92,8	93,5	93,4	0,83	0,88	0,91	98,3	1480	92,5	93,4	93,6	0,77	0,85	0,89	91,9
75	100	1480	92,8	93,9	94,2	0,83	0,87	0,88	137	1485	92,2	93,8	94,3	0,8	0,85	0,87	127
90	125	1480	92,6	94,1	94,2	0,82	0,87	0,89	163	1485	92	93,9	94,2	0,78	0,85	0,88	151
110	150	1480	92,8	93,6	94,2	0,8	0,86	0,88	202	1485	92,8	94,4	94,5	0,76	0,83	0,87	186
132	175	1480	93,5	94,9	95,1	0,81	0,86	0,89	237	1485	93,3	94,7	95,1	0,76	0,84	0,87	222
160	220	1480	93	95	95,4	0,78	0,85	0,88	290	1485	94,2	95,1	95,5	0,73	0,82	0,86	271
200	270	1480	94,2	95,1	95	0,72	0,8	0,82	390	1485	93,4	94,8	95	0,64	0,74	0,8	366
200	270	1485	94,8	95	95,2	0,8	0,86	0,88	363	1490	94,5	95,1	95,3	0,76	0,84	0,86	339
250	340	1480	95	95,4	95,2	0,76	0,83	0,85	469	1485	94	95	95,1	0,67	0,77	0,81	452
250	340	1485	94,5	95,2	95,7	0,82	0,87	0,89	446	1490	94,1	95	95,7	0,77	0,85	0,87	418
HIGH OUTPUT DESIGN																	
75	100	1475	92,6	93,4	93,5	0,8	0,86	0,88	138	1480	92,6	93,7	93,6	0,74	0,84	0,87	128
110	150	1480	92,8	93,6	94,2	0,8	0,86	0,88	202	1485	92,8	94,4	94,5	0,76	0,83	0,87	186

Cast Iron Frame Motors For Zone 21 - Improved Efficiency EFF2

Output		IEC Frame	Full load torque C _n (Nm)	Locked rotor current I _r /I _n	Locked rotor torque T _r /T _n	Break-down torque T _b /T _n	Inertia J kgm ²	Allowable locked rotor time Hot/Cold (s)	Weight (kg)	Sound dB (A)	Rated speed (rpm)	400 V						Full load current I _n (A)
												% of full load						
												Efficiency η			Power Factor (Cos φ)			
kW	HP	50	75	100	50	75	100											
VI Pole - 1000 rpm																		
0.12	0.16	63	1.23	3.5	2.2	2.1	0.00067	41/90	8	43	910	42	50	54.5	0.46	0.55	0.65	0.489
0.18	0.25	71	1.94	3.3	2	2.2	0.00079	50/110	10.5	43	905	46	54	57	0.46	0.55	0.62	0.735
0.25	0.33	71	2.58	3.5	2.2	2.2	0.00096	43/95	11.5	43	900	53	60.5	64	0.4	0.5	0.57	0.989
0.37	0.5	80	3.78	4.5	2.5	2.5	0.00242	12/26	15.1	43	930	54	62.5	65	0.45	0.57	0.67	1.23
0.55	0.75	80	5.66	4.5	2.3	2.3	0.00311	10/22	16.8	43	930	60	65	67	0.5	0.63	0.73	1.62
0.75	1	90S	7.63	4.8	2.1	2.1	0.00504	16/35	21.1	45	920	70	72.6	72.4	0.54	0.67	0.76	1.97
1.1	1.5	90L	11.39	4.8	2.3	2.2	0.00672	14/31	24.2	45	925	71	75.2	75.2	0.5	0.64	0.75	2.82
1.5	2	100L	14.94	4.8	2.2	2.5	0.01121	18/40	29.3	44	940	74	77.3	77.5	0.53	0.66	0.74	3.78
2.2	3	112M	22.42	5	2.2	2.3	0.01682	14/31	37.4	48	940	77.5	80.5	80.1	0.53	0.66	0.74	5.36
3	4	132S	29.27	5.3	2	2.2	0.03489	20/44	55	52	960	80	82.7	82.5	0.58	0.7	0.77	6.82
4	5.5	132M	40.24	6	2.1	2.3	0.05039	18/40	65	52	960	83.6	85.5	85.8	0.59	0.7	0.77	8.74
5.5	7.5	132M	54.87	6.4	2.3	2.4	0.06202	14/31	74.1	52	960	84	85.8	85.8	0.54	0.66	0.74	12.5
7.5	10	160M	72.41	6.1	2.3	2.6	0.12209	17/37	107.5	56	970	87	88.2	88	0.62	0.74	0.81	15.2
9.2	12.5	160L	90.51	6.5	2.3	2.8	0.14364	12/26	115	56	970	86.5	88	87.6	0.61	0.74	0.81	18.7
11	15	160L	108.62	6.6	2.4	2.9	0.17595	13/29	133.6	56	970	87.2	88.3	88.3	0.62	0.75	0.82	21.9
15	20	180L	145.57	7.5	2.5	2.6	0.30338	9/20	176.3	56	965	89.1	90.1	89.8	0.8	0.88	0.91	26.5
18.5	25	200L	180.1	6	2.1	2.3	0.3767	15/33	226.2	58	975	89.7	90.7	90.2	0.74	0.82	0.86	34.4
22	30	200L	216.12	6	2.3	2.4	0.41258	14/31	238.5	58	975	89	90.9	91.3	0.7	0.79	0.84	41.4
30	40	225S/M	285.24	7.2	2.6	2.7	0.98842	20/44	366	61	985	90.5	91.8	91.8	0.77	0.84	0.87	54.2
37	50	250S/M	358.37	7.5	2.7	2.6	1.22377	18/40	433.8	61	980	90.2	92.4	92.5	0.77	0.85	0.87	66.4
45	60	280S/M	427.86	6.8	2.4	2.6	2.29824	24/53	606.3	66	985	90.5	92.3	92.6	0.68	0.78	0.83	84.5
55	75	280S/M	534.82	6.5	2.3	2.5	2.64298	23/51	657	66	985	91.6	93.2	93.5	0.71	0.82	0.85	100
75	100	315S/M	713.09	6.7	2.3	2.5	3.44737	20/44	775	69	985	91.6	93.5	93.7	0.71	0.81	0.85	136
90	125	315S/M	891.37	6.3	2.1	2.3	3.67719	18/40	818	69	985	92.5	94	93.9	0.71	0.81	0.85	163
110	150	315S/M	1069.64	6.4	2.3	2.4	5.28596	18/40	990	69	985	93.4	94.4	94.5	0.71	0.8	0.84	200
132	175	355M/L	1241.61	6.1	2	2.3	8.10159	90/198	1385	73	990	92.5	94.7	94.7	0.65	0.75	0.8	251
160	220	315B	1560.88	7	1.9	2.5	7.1	25/55	1350	69	990	93.5	94.9	94.9	0.68	0.78	0.82	297
160	220	355M/L	1560.88	6.2	1.9	2.1	9.53128	72/158	1484.8	73	990	93	95	95.3	0.67	0.77	0.82	295
200	270	315B	1915.63	6.6	2	2.6	8.6038	19/42	1419	69	990	94.8	95.2	95	0.71	0.8	0.84	362
200	270	355M/L	1915.63	6.3	2.1	2.3	12.39067	85/187	1700	73	990	93.5	94.5	94.8	0.7	0.78	0.81	376
250	340	355M/L	2400.15	6.1	2.2	2.2	14.77349	64/141	1830	73	995	94	95.1	95.6	0.7	0.79	0.82	460
HIGH OUTPUT DESIGN																		
45	60	250S/M	430.04	8	2.8	2.8	1.55324	18/40	490	61	980	91	92.3	92.6	0.76	0.84	0.87	79.7
75	100	280S/M	713.09	6.7	2.3	2.5	3.44737	20/44	775	66	985	91.6	93.5	93.7	0.71	0.81	0.85	136
VIII Pole - 750 rpm																		
0.12	0.16	71	2.5	1.64	1.9	2.1	0.00079	44/97	12.1	41	685	36	44.2	47.2	0.4	0.49	0.56	0.655
0.18	0.25	80	3.1	2.51	1.9	2.1	0.00242	16/35	13.7	42	700	40	49	54.2	0.43	0.53	0.62	0.773
0.25	0.33	80	3	3.41	1.8	1.8	0.00294	21/46	14.8	42	680	47.5	55	57	0.45	0.56	0.65	0.974
0.37	0.5	90S	3.5	5.05	2.1	2.1	0.00448	29/64	18	43	695	51	59	61	0.43	0.53	0.64	1.37
0.55	0.75	90L	3.5	7.63	2.1	2.1	0.00616	21/46	21.5	43	690	57	63	65	0.45	0.56	0.65	1.88
0.75	1	100L	4.2	9.96	2	2.1	0.00952	30/66	27.5	50	705	65	70	71	0.42	0.54	0.63	2.42
1.1	1.5	100L	4.1	15.05	1.7	2.1	0.01289	23/51	30.5	50	700	66	71.5	72.2	0.43	0.56	0.65	3.38
1.5	2	112M	4.6	19.79	2.5	2.7	0.0243	32/70	43	46	710	76.5	77.8	78	0.48	0.6	0.69	4.02
2.2	3	132S	6.2	29.47	2.4	2.7	0.07527	23/51	70	48	715	78.5	81.5	82.5	0.53	0.65	0.73	5.27
3	4	132M	5.8	39.57	2.4	2.7	0.08531	22/48	75	48	710	78	82.7	83.5	0.52	0.64	0.72	7.2
4	5.5	160M	5.2	52.92	2.2	2.7	0.12209	33/73	105	51	730	81.3	84.3	86	0.47	0.6	0.69	9.73
5.5	7.5	160M	5.2	72.16	2.3	2.7	0.14364	23/51	114	51	730	81.5	84.1	85.2	0.46	0.59	0.69	13.5
7.5	10	160L	4.9	96.88	2	2.5	0.16518	15/33	127	51	725	83.5	85.7	85.5	0.51	0.63	0.72	17.6
9.2	12.5	180M	6.7	120.27	2.2	2.9	0.23443	11/24	163	51	730	83	86	85.9	0.64	0.75	0.81	19.1
11	15	180L	6.8	145.32	2.3	2.5	0.2758	11/24	167.6	51	725	87	88.5	88.3	0.68	0.79	0.84	21.4
15	20	200L	4.6	192.44	2	2.1	0.3767	23/51	225.4	53	730	86.5	88.6	89	0.56	0.68	0.75	32.4
18.5	25	225S/M	6.9	240.55	2.1	2.8	0.84722	17/37	341	56	730	88.5	90.1	90	0.72	0.8	0.85	34.9
22	30	225S/M	7.5	288.66	2.2	2.7	0.98842	19/42	364.8	56	730	89	91	91	0.73	0.82	0.85	41.1
30	40	250S/M	7.9	384.87	2.3	2.9	1.22377	17/37	440	56	730	89.5	91.2	91.6	0.7	0.79	0.84	56.3
37	50	280S/M	6.5	474.59	1.9	2.3	2.29824	29/64	590	59	740	90.5	92.2	92.3	0.67	0.77	0.81	71.4
45	60	280S/M	6.5	569.51	2	2.4	2.64298	26/57	643	59	740	90.5	92.1	92.3	0.65	0.75	0.8	88
55	75	315S/M	6.5	711.89	1.9	2.2	3.10263	27/59	745	62	740	91.2	93.1	93	0.69	0.78	0.82	104
75	100	315S/M	6.6	949.18	1.9	2.2	4.36666	20/44	876	62	740	92	93.4	93.5	0.67	0.79	0.82	141
90	125	315S/M	6.8	1186.48	2.1	2.4	5.28596	23/51	970	62	740	92.5	93.8	94.2	0.7	0.78	0.83	166
110	150	355M/L	6.4	1423.78	1.5	2.2	11.9324	41/90	1390	70	740	92.5	94.1	94.5	0.63	0.74	0.8	210
132	175	315B	6.9	1661.07	1.9	2.6	7.765	20/44	1399	62	740	94	94.5	94.4	0.63	0.74	0.79	255
132	175	355M/L	6.5	1661.07	1.6	2.2	13.18845	47/103	1445	70	740	93	94.5	94.8	0.63	0.73	0.79	254
160	220	315B	7.3	2088.2	2.1	2.8	9.75	18/40	1534	62	740	93.1	94.7	94.7	0.6	0.72	0.77	317
160	220	355M/L	6.6	2088.2	1.6	2.2	16.32856	42/92	1620	70	740	93.3	94.7	94.7	0.64	0.75	0.8	305
200	270	355M/L	6.8	2562.8	1.6	2.1	19.46866	37/81	1830	70	740	93.3	94.6	95.2	0.6	0.72	0.79	384
HIGH OUTPUT DESIGN																		
55	75	280S/M	6.5	711.89	1.9	2.2	3.10263	27/59	745	59	740	91.2	93.1	93	0.69	0.78	0.82	104

Notes:
 *Class "F" insulation with ΔT105K
 Standard voltage, connection and frequency: 220-240V Δ 50Hz 380-415V Y 50Hz
 380-415V Y 50Hz
 380-415V Δ 50Hz 660-690V Y 50Hz
 The values shown are subject to change without prior notice. To obtain guaranteed values please access our website.

Cast Iron Frame Motors For Zone 21 - Improved Efficiency EFF2

Output		380 V								415 V							
		Rated speed (rpm)	% of full load						Full load current I _n (A)	Rated speed (rpm)	% of full load						Full load current I _n (A)
			Efficiency η			Power Factor (Cos φ)					Efficiency η			Power Factor (Cos φ)			
kW	HP	50	75	100	50	75	100	50	75	100	50	75	100	50	75	100	
VI Pole - 1000 rpm																	
0.12	0.16	900	45	52	55.5	0.49	0.58	0.68	0.483	915	39	48	53	0.43	0.52	0.62	0.508
0.18	0.25	895	49	55.5	57.5	0.49	0.59	0.65	0.732	910	43	52	56.5	0.44	0.52	0.59	0.751
0.25	0.33	890	56	63	65.3	0.44	0.55	0.61	0.954	905	50	58	62.5	0.37	0.46	0.54	1.03
0.37	0.5	920	56	64	66	0.49	0.62	0.72	1.18	935	52	61	64	0.42	0.54	0.64	1.26
0.55	0.75	920	62	65.8	68	0.54	0.67	0.77	1.6	935	58	64	66	0.47	0.59	0.68	1.7
0.75	1	910	71.5	72.8	71.5	0.58	0.71	0.79	2.02	930	68.5	72.4	72.4	0.5	0.64	0.73	1.97
1.1	1.5	915	72	75.5	74.8	0.55	0.69	0.78	2.86	935	70	75.2	75.2	0.46	0.61	0.72	2.83
1.5	2	930	75	77.5	77	0.58	0.7	0.76	3.89	950	73	77.3	77.6	0.5	0.63	0.71	3.79
2.2	3	930	79	80.8	79.7	0.58	0.7	0.76	5.52	950	76	80.3	80.5	0.5	0.63	0.72	5.28
3	4	955	81	83	82	0.61	0.72	0.79	7.04	965	79	82.5	82.6	0.53	0.66	0.74	6.83
4	5.5	955	84.5	85.7	85.4	0.61	0.72	0.79	9.01	965	82.6	85.3	85.9	0.56	0.67	0.75	8.64
5.5	7.5	955	85	86.1	85.6	0.58	0.7	0.77	12.7	965	83	85.5	86	0.5	0.62	0.71	12.5
7.5	10	965	87.5	88.4	87.5	0.66	0.78	0.83	15.7	970	86.5	88	88	0.58	0.71	0.79	15
9.2	12.5	970	87.5	88.2	87.5	0.65	0.76	0.82	19.5	975	85.5	87.8	87.5	0.56	0.71	0.79	18.5
11	15	970	88	88.5	88	0.67	0.78	0.84	22.6	975	86.5	88	88.3	0.58	0.72	0.8	21.7
15	20	960	89	90	89.5	0.82	0.89	0.91	28	970	89	90.5	90.5	0.78	0.87	0.9	25.6
18.5	25	970	90	90.5	89.8	0.76	0.84	0.87	36	980	89.3	90.5	90.5	0.72	0.8	0.84	33.9
22	30	970	89.6	91	91.2	0.74	0.82	0.85	43.1	980	88.4	90.7	91.3	0.66	0.76	0.82	40.9
30	40	980	91	91.8	91.6	0.8	0.86	0.88	56.5	985	90	91.8	92.2	0.73	0.81	0.86	52.6
37	50	980	90.5	92.5	92.4	0.8	0.86	0.88	69.1	985	89.5	92.4	92.6	0.73	0.82	0.86	64.6
45	60	985	91	92.3	92.6	0.72	0.81	0.85	86.9	990	90	92.3	92.7	0.64	0.76	0.82	82.4
55	75	985	92	93.2	93.4	0.74	0.84	0.87	103	990	91.2	93.2	93.6	0.68	0.8	0.84	97.3
75	100	985	92	93.5	93.5	0.74	0.82	0.86	142	990	91.2	93.5	93.8	0.69	0.8	0.84	132
90	125	985	92.8	93.9	93.6	0.74	0.83	0.86	170	990	92.2	93.9	93.9	0.69	0.79	0.84	159
110	150	985	93.6	94.3	94.3	0.74	0.82	0.85	208	985	93.2	94.5	94.6	0.69	0.79	0.83	195
132	175	990	93	94.7	94.5	0.7	0.8	0.82	259	995	92	94.7	94.7	0.6	0.7	0.77	252
160	220	990	94	94.9	94.7	0.72	0.81	0.84	306	990	93	94.9	94.9	0.64	0.75	0.8	293
160	220	990	93.5	95.2	95.2	0.73	0.8	0.84	304	990	92.5	94.9	95.4	0.63	0.74	0.8	292
200	270	990	95.1	95.3	94.9	0.75	0.82	0.85	377	990	94.4	95.1	95	0.67	0.78	0.83	353
200	270	990	94	94.7	94.8	0.74	0.81	0.83	386	990	93	94.3	94.8	0.66	0.75	0.79	372
250	340	995	94.3	95.2	95.5	0.74	0.81	0.83	479	995	93.7	95	95.8	0.67	0.77	0.81	448
HIGH OUTPUT DESIGN																	
45	60	980	91.5	92.3	92.5	0.79	0.86	0.88	83	985	90.5	92.3	92.7	0.73	0.82	0.86	77.6
75	100	985	92	93.5	93.5	0.74	0.82	0.86	142	990	91.2	93.5	93.8	0.69	0.8	0.84	132
VIII Pole - 750 rpm																	
0.12	0.16	675	40	48	50	0.44	0.52	0.6	0.608	695	32	40.5	45	0.37	0.47	0.53	0.7
0.18	0.25	690	43	52	54.5	0.45	0.56	0.65	0.772	710	37	46	53	0.41	0.5	0.59	0.801
0.25	0.33	670	50.5	56.5	56.5	0.48	0.59	0.69	0.974	690	45	53.5	56.5	0.42	0.53	0.61	1.01
0.37	0.5	685	54	61	62	0.46	0.56	0.67	1.35	700	48	57	60	0.4	0.5	0.6	1.43
0.55	0.75	680	59	64.5	65.5	0.48	0.59	0.69	1.85	700	55	61.5	64.5	0.41	0.52	0.61	1.94
0.75	1	695	67	71	70.5	0.46	0.58	0.66	2.45	710	63	69	70.5	0.38	0.5	0.6	2.47
1.1	1.5	690	68	72	72	0.47	0.6	0.68	3.41	710	64	70.5	72.2	0.4	0.52	0.62	3.42
1.5	2	700	77.5	78	77.7	0.52	0.63	0.7	4.19	715	74.5	77	78.1	0.46	0.58	0.66	4.05
2.2	3	710	79.5	81.8	82.1	0.56	0.68	0.75	5.43	720	77.5	81.2	82.6	0.5	0.62	0.71	5.22
3	4	705	79.5	83	83	0.54	0.66	0.74	7.42	715	76.5	82.4	83.5	0.5	0.62	0.7	7.14
4	5.5	725	82.6	84.8	85.9	0.51	0.64	0.72	9.83	730	80	83.7	86	0.44	0.57	0.66	9.8
5.5	7.5	725	82.5	84.7	85.2	0.5	0.63	0.72	13.6	730	80.5	83.5	85	0.42	0.55	0.66	13.6
7.5	10	720	84.5	86	85.3	0.54	0.66	0.74	18.1	730	82.5	85.5	85.5	0.48	0.6	0.7	17.4
9.2	12.5	725	84	86.1	85.5	0.69	0.79	0.84	19.5	730	82	85.9	85.9	0.59	0.72	0.79	18.9
11	15	720	87.5	88.3	87.8	0.71	0.81	0.85	22.4	730	86.5	88.6	88.5	0.65	0.77	0.83	20.8
15	20	725	87.5	88.9	88.9	0.61	0.72	0.77	33.3	730	85.5	88.3	88.9	0.5	0.64	0.72	32.6
18.5	25	730	88.8	90	89.8	0.75	0.83	0.86	36.4	735	88.2	90.3	90.2	0.68	0.78	0.84	34
22	30	730	89.4	90.9	90.5	0.76	0.84	0.86	42.9	735	88.6	91	91.2	0.71	0.8	0.84	40
30	40	730	90	91.3	91.3	0.73	0.81	0.85	58.7	735	89	91.1	91.8	0.66	0.77	0.83	54.8
37	50	735	91	92.2	92.1	0.7	0.79	0.82	74.4	740	90	92.2	92.4	0.64	0.75	0.79	70.5
45	60	735	91	92.2	92	0.7	0.77	0.82	90.6	740	90	92	92.3	0.6	0.72	0.78	87
55	75	735	91.6	93.2	92.8	0.72	0.8	0.83	108	740	90.7	93	93	0.65	0.76	0.8	103
75	100	735	92.4	93.3	93.3	0.7	0.8	0.83	147	740	91.6	93.4	93.4	0.64	0.78	0.81	138
90	125	735	92.9	93.9	94	0.73	0.81	0.84	173	740	92.1	93.7	94.2	0.67	0.75	0.81	164
110	150	740	93	94.2	94.5	0.66	0.77	0.82	216	745	92	94.1	94.5	0.6	0.71	0.78	208
132	175	740	94.6	94.8	94.3	0.68	0.77	0.81	263	745	93.4	94.2	94.4	0.59	0.71	0.77	253
132	175	740	93.5	94.6	94.8	0.66	0.75	0.81	261	745	92.5	94.4	94.8	0.6	0.71	0.77	252
160	220	740	93.6	94.9	94.6	0.66	0.75	0.79	325	745	92.5	94.7	94.7	0.56	0.68	0.75	313
160	220	740	93.8	94.8	94.8	0.68	0.77	0.81	317	745	92.8	94.7	94.7	0.6	0.72	0.79	298
200	270	740	93.8	94.8	95.1	0.65	0.75	0.81	394	745	92.8	94.4	95.2	0.56	0.69	0.77	380
HIGH OUTPUT DESIGN																	
55	75	735	91.6	93.2	92.8	0.72	0.8	0.83	108	740	90.7	93	93	0.65	0.76	0.8	103