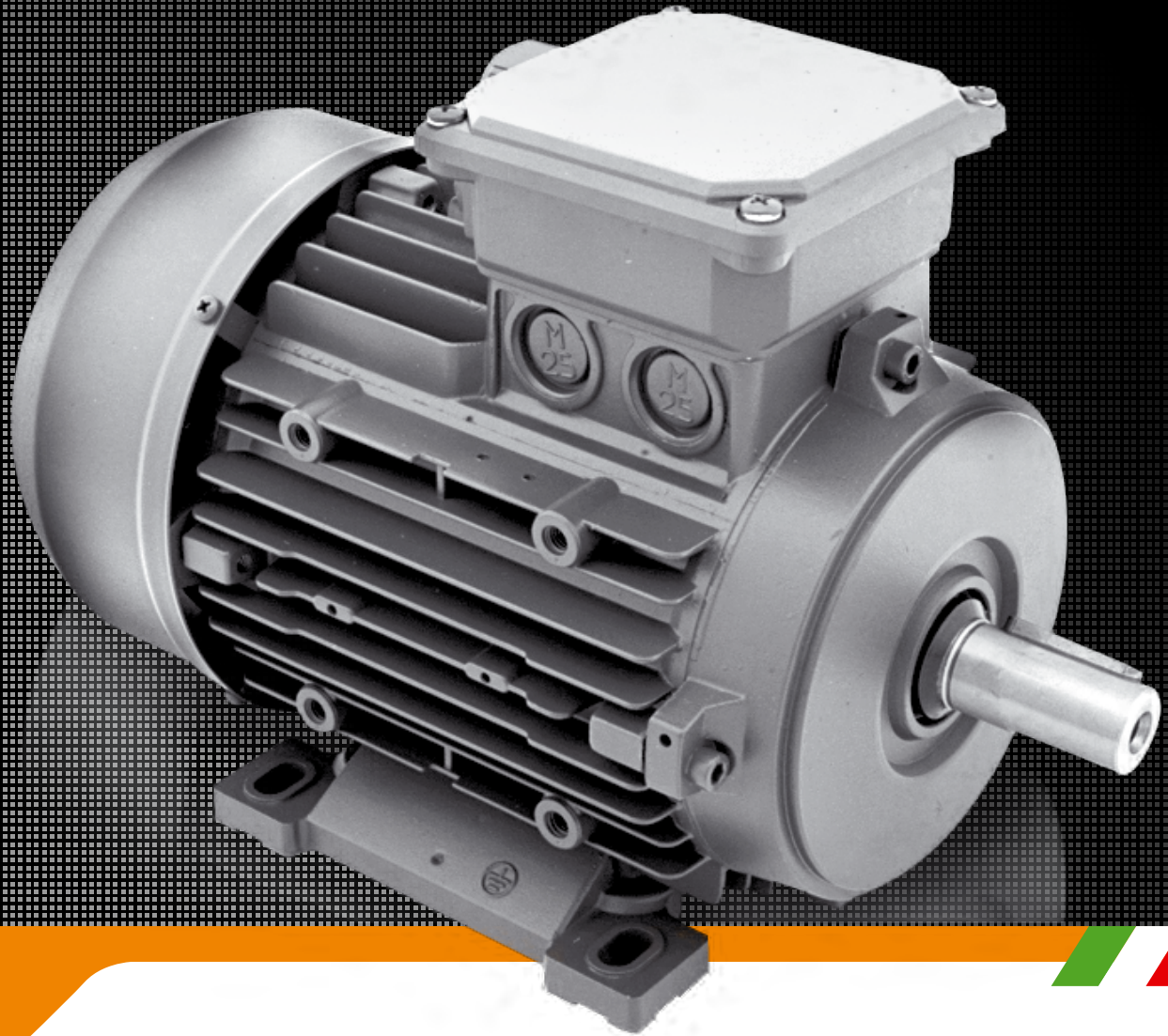




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# IE3 Motors

Technical Datasheets

EN



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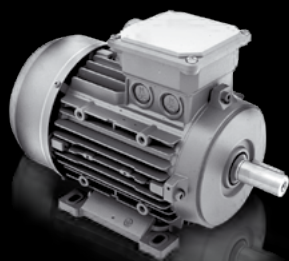
## A dynamic, strong and ambitious Group:

Orange1 Holding is an international renown Group, one of the most important European manufacturers of single-phase and three-phase asynchronous electric motors. It has an annual capacity of more than 1 million motors and 5 million electric stators with an annual turnover of approx 200 million euro and more than 1200 workers in 11 production facilities. The group, established in 1971 by Leone Donazzan, chaired today by his son Armando Donazzan, is strongly focused on technological innovation, performance and customization to meet individual clients requirements. As a group of 13 companies it has a powerful advantage: the strength in numbers.



# Motors- IE3

## Motors efficiency - IE3



The Orange1 Group is always attentive to energy saving with choices driven by the desire to preserve the environment that surrounds us and this is why the electric motors are also protagonists to reduce the emission of greenhouse gases. Thanks to a careful energy saving philosophy to protect the environment around us, Orange1 Holding produces electric motors in order to reduce the emission of greenhouse gases. The European Commission has drawn up the EC Regulations 640/2009 and EC 4/2014, laying down rules for the application of directive 2005/32 / EC on the specific ecodesign requirements for electric motors. The European regulations define the obligatory dates for using motors with IE3 efficiency level. From 1 January 2017 all motors with power from 0.75kW to 375kW must guarantee IE3 level. From 1 January 2017 all motors with power from 0.75kW to 375kW, combined with a variable speed drive (VSD), must guarantee the IE2 level. The IE3 and IE3 levels are established by law EN 60034-30-1; 2014 and the test method is established by law EN 60034-2-1; 2014.

Efficiency Level	IE3	IE3
Type and range	400V-50Hz HE80 ÷ 180	460V-60Hz HE80 ÷ 180 (at demand)
Reference standard	EN60034-30-1-2014	EN60034-30-1-2014
Reference standard: testing method	EN60034-2-1; 2007	EN60034-2-1; 2007

## Possible custom executions

This series of motors has been designed to be predisposed to follow the OEM requirements in their different configurations dictated by the needs of the application. Below some of these possible configurations:

- Motors with thermal protector
- Motors suitable for VFD
- Motors with transducer (encoder)
- Motors with VFD mounted (EiM range)
- Customised execution (shaft, flange, IP, aggressive environments)
- Thermal class H (high ambient temperature)
- Without fan (IC410/TENV) or forced ventilated (IC416/TEFV).

## Application sectors

Considering the efficiency level and the high flexibility of these motors, below we report some of the possible applications:

- Pumps, vacuum pumps
- Fans
- Textile machine
- Automatic machine
- Wood machine
- Food machine ( i.e: kneading)
- HVAC/R
- Compressors

CONFIGURATION	Protection	IP55
	Thermal class/Temperature rise	F/B
	Duty Time	S1
	Housing	Aluminium; removable feet
	Terminal box	Aluminium (two components); possibility to rotate
	Fan cover	Steel zinc-plated
	Coating	No painting

# Motors IE3 - Datasheet

According to EN 60034-30-1;2014



## 2 poles - 230/400V-400/690V 50Hz

Thermal class F; temperature rise class B

	Rated Power	Rated Voltage	Rated current	Rated speed	Rated Torque	Efficiency at ... load (%)			Power factor	Starting current/rated current	Starting torque/rated torque	Breakdown torque/rated torque	Weight
	kW	V	A	min <sup>-1</sup>	Nm	4/4	3/4	1/2	cos φ	Is/In	Ms / Mn	Mb/Mn	kg
HE 80 A2	0,75	400	1,59	2885	2,49	84,2	84,8	83,3	0,810	7,2	3,2	3,5	9,8
HE 80 B2	1,10	400	2,50	2870	3,70	83,1	83,9	82,7	0,770	7,4	3,8	3,6	11,9
HE 80 C2	1,50	400	3,42	2890	4,96	85,4	85,7	84,0	0,740	7,9	4,4	4,0	13,5
HE 90S A2	1,50	400	3,16	2885	5,00	84,8	85,4	84,1	0,790	7,9	3,6	3,7	13,5
HE 90L D2	2,20	400	4,84	2895	7,28	86,5	86,7	85,0	0,760	9,6	3,8	4,4	16,8
HE 100 A2	3,00	400	5,72	2885	9,95	87,9	88,9	88,5	0,860	8,8	4,0	3,8	18,3
HE 112 A2	4,00	400	7,65	2935	13,10	89,1	89,0	87,2	0,850	10,7	4,2	5,2	31,5
HE 112 C2	5,50	400	10,38	2915	18,02	89,2	88,6	86,8	0,860	9,2	3,1	4,5	36,5
HE 132S A2	5,50	400	10,58	2935	17,90	89,2	88,8	87,2	0,840	7,7	3,2	4,6	43,7
HE 132S B2	7,50	400	14,20	2935	24,41	90,1	89,7	88,5	0,850	7,9	2,8	3,7	46,2
HE 132M D2	9,20	400	16,71	2945	29,84	91,3	90,6	89,3	0,870	8,0	3,2	3,9	48,0
HE 132M E2	11,0	400	20,04	2945	35,67	91,2	91,7	91,4	0,870	8,0	3,0	3,7	56,5
HE 160M A2	11,0	400	20,35	2950	35,61	91,4	91,5	90,5	0,850	8,0	2,8	3,5	97,0
HE 160M B2	15,0	400	27,56	2950	48,56	92,0	91,4	90,1	0,850	10,3	4,4	4,3	100,0
HE 160L D2	18,5	400	33,59	2950	59,90	92,4	91,9	90,5	0,860	9,0	3,2	3,4	107,2
HE 160L E2	22,0	400	39,70	2955	71,11	92,7	92,1	91,2	0,860	8,0	3,3	3,5	112,0
HE 180M A2	22,0	400	37,63	2960	70,99	93,2	92,6	92,5	0,910	6,8	3,3	4,9	140,0
HE 180L D2	30,0	400	51,15	2960	96,80	93,4	93,1	92,3	0,910	6,1	3,0	4,3	170,0

# Motors IE3 - Datasheet

According to EN 60034-30-1;2014



## 4 poles - 230/400V - 400/690-50Hz

Thermal class F; temperature rise class B

	Rated Power	Rated Voltage	Rated current	Rated speed	Rated Torque	Efficiency at ... load (%)			Power factor	Starting current/rated current	Starting torque/rated torque	Breakdown torque/rated torque	Weight
	kW	V	A	min <sup>-1</sup>	Nm	4/4	3/4	1/2	COS φ	Is/In	Ms /Mn	Mb/Mn	kg
HE 80 A4	0,75	400	1,84	1445	4,96	83,0	82,7	79,5	0,710	6,0	3,0	3,4	9,8
HE 90S A4	1,10	400	2,61	1435	7,32	84,1	83,9	81,4	0,730	6,4	3,5	3,7	13,3
HE 90L D4	1,50	400	3,51	1430	10,02	85,3	85,1	82,6	0,730	6,0	3,0	3,3	17,5
HE 100 A4	2,20	400	4,49	1435	14,64	86,7	86,5	83,9	0,820	6,4	2,6	3,3	23,6
HE 112 A4	3,00	400	6,05	1455	19,70	87,7	88,2	87,4	0,820	7,7	2,7	3,4	32,5
HE 112 B4	4,00	400	8,25	1455	26,27	88,6	88,7	87,6	0,790	7,3	3,1	3,8	33,8
HE 132S A4	5,50	400	11,77	1455	36,77	89,6	89,9	88,8	0,750	7,4	3,5	3,5	50,0
HE 132M D4	7,50	400	15,03	1465	48,86	90,7	91,1	90,4	0,790	8,1	2,7	4,0	54,0
HE 160M B4	9,2	400	17,47	1475	59,57	91,2	91,5	90,9	0,830	8,1	3,6	3,8	70,0
HE 160L D4	11,0	400	20,78	1475	71,23	91,4	91,5	91,0	0,840	8,0	3,5	3,6	85,0
HE 160L E4	15,0	400	28,61	1475	97,13	92,1	92,1	91,6	0,820	7,8	3,5	3,3	130,0
HE 180M A4	18,5	400	33,91	1470	120,20	92,9	92,3	91,7	0,850	6,2	2,9	4,9	170,0
HE 180L D4	22,00	400	42,10	1472	142,72	93,1	93,5	93,1	0,810	8,7	3,9	3,5	177,0

## 6 poles - 230/400V - 400/690-50Hz

Thermal class F; temperature rise class B

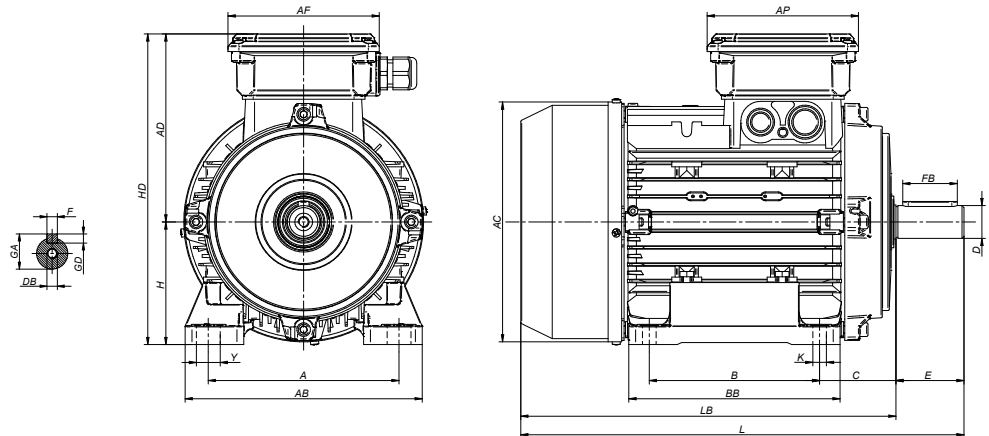
	Rated Power	Rated Voltage	Rated current	Rated speed	Rated Torque	Efficiency at ... load (%)			Power factor	Starting current/rated current	Starting torque/rated torque	Breakdown torque/rated torque	Weight
	kW	V	A	min <sup>-1</sup>	Nm	4/4	3/4	1/2	COS φ	Is/In	Ms /Mn	Mb/Mn	kg
HE 90L A6	0,75	400	1,96	945	7,58	79,1	78,8	76,0	0,700	5,7	3,1	3,7	16,7
HE 100 A6	1,10	400	2,70	950	11,06	81,0	80,8	78,4	0,730	5,9	2,7	3,6	21,0
HE 100 B6	1,50	400	3,42	945	15,16	83,1	82,9	80,5	0,760	5,9	2,6	3,4	25,3
HE 112 A6	2,20	400	4,77	960	21,89	85,0	84,8	82,2	0,780	6,2	1,9	3,2	32,3
HE 132S A6	3,00	400	6,32	965	29,69	85,7	86,2	85,4	0,800	6,6	1,8	3,2	44,0
HE 132M D6	4,00	400	8,18	965	39,59	86,8	86,9	85,8	0,810	6,9	1,8	3,3	53,2
HE 160M A6	5,5	400	11,57	975	53,88	88,3	88,6	87,5	0,780	7,6	2,6	3,9	90,0
HE 160L D6	7,5	400	15,11	970	73,85	89,1	89,4	88,8	0,810	7,9	2,8	4,0	97,0
HE 180M A6	11,0	400	22,36	975	107,76	90,3	90,4	89,9	0,790	4,6	2,7	3,9	150,0
HE 180L D6	15,0	400	29,15	975	146,94	91,2	91,3	90,8	0,820	4,9	2,8	4,0	170,0

# Motors IE3 - Dimension

According to EN 60034-30-1; 2014 - aluminium execution

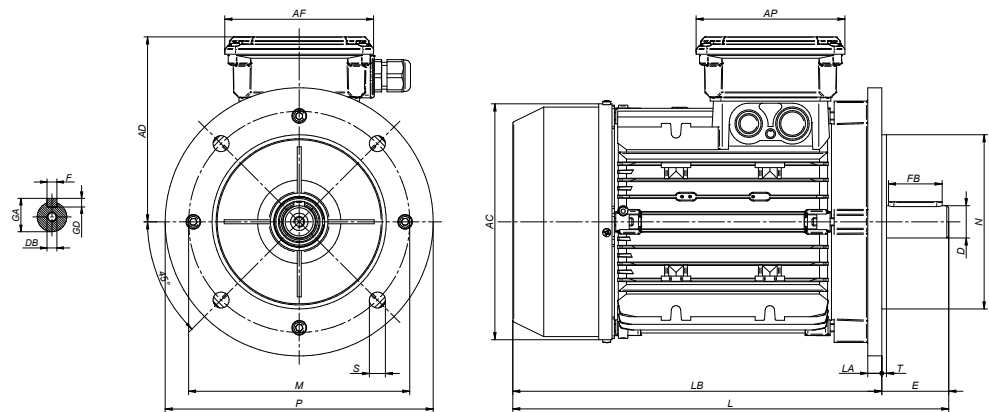


## B3



Size	A	AB	B	BB	C	D	E	H	HD	L	K	Y	AC	AD	AF	AP	F	FB	GA	GD	DB	LB
80	125	154	100	126	51	19	40	80	212	281	9,5	16,5	159	132	111	111	6	30	21,5	6	M6	241
90S	140	175	100	129	57	24	50	90	225	303	10	17,5	176	135	111	111	8	40	27	7	M8	253
90L	140	175	125	155	56	24	50	90	225	325	10	17,5	176	135	111	111	8	40	27	7	M8	275
100	156,5	192	140	175	63	28	60	100	246	380	12,5	22,5	194	146	111	111	8	50	31	7	M10	320
112M	190	223	140	176,5	70	28	60	112	270	398	12	22	220	158	111	111	8	50	31	7	M10	338
132S	216	260	140	180	89	38	80	132	328	460	12	28	264	196	133	133	10	70	41	8	M12	380
132M	216	260	178	218	89	38	80	132	328	500	12	28	264	196	133	133	10	70	41	8	M12	420
160M	254	318	210	260	108	42	110	160	403	610	15	30	317	243	185	185	12	90	45	8	M16	500
160L	254	318	254	304	108	42	110	160	403	650	15	30	317	243	185	185	12	90	45	8	M16	540
180M	279	345	241	291	121	48	110	180	440	720	13	38	352	260	185	185	14	90	51,5	9	M16	610
180L	279	345	279	330	121	48	110	180	440	720	13	38	352	260	185	185	14	90	51,5	9	M16	610

## B5



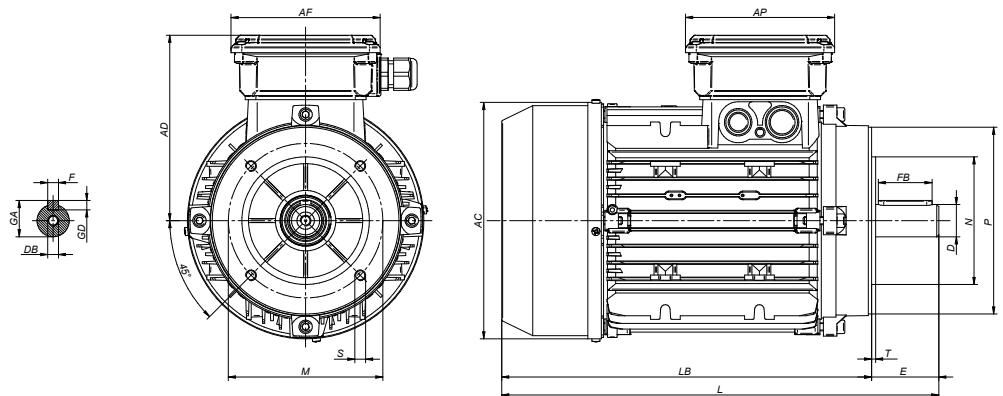
Size	A	AB	B	BB	C	D	E	H	HD	L	K	Y	AC	AD	AF	AP	F	FB	GA	GD	DB	LB	P-B5	N-B5	M-B5	T-B5	S-B5	LA-B5
80	125	154	100	126	51	19	40	80	212	281	9,5	16,5	159	132	111	111	6	30	21,5	6	M6	241	200	130	165	3	12	11,5
90S	140	175	100	129	57	24	50	90	225	303	10	17,5	176	135	111	111	8	40	27	7	M8	253	200	130	165	3,5	12	10,5
90L	140	175	125	155	56	24	50	90	225	325	10	17,5	176	135	111	111	8	40	27	7	M8	275	200	130	165	3	12	10,5
100	156,5	192	140	175	63	28	60	100	246	380	12,5	22,5	194	146	111	111	8	50	31	7	M10	320	250	180	215	4	14	15
112M	190	223	140	176,5	70	28	60	112	270	398	12	22	220	158	111	111	8	50	31	7	M10	338	250	180	215	4	14	11,5
132S	216	260	140	180	89	38	80	132	328	460	12	28	264	196	133	133	10	70	41	8	M12	380	300	230	265	4	14	14
132M	216	260	178	218	89	38	80	132	328	500	12	28	264	196	133	133	10	70	41	8	M12	420	300	230	265	4	14	14
160M	254	318	210	260	108	42	110	160	403	610	15	30	317	243	185	185	12	90	45	8	M16	500	350	250	300	5	18,5	15
160L	254	318	254	304	108	42	110	160	403	650	15	30	317	243	185	185	12	90	45	8	M16	540	350	250	300	5	18,5	15
180M	279	345	241	291	121	48	110	180	440	720	13	38	352	260	185	185	14	90	51,5	9	M16	610	350	250	300	5	18,5	19
180L	279	345	279	330	121	48	110	180	440	720	13	38	352	260	185	185	14	90	51,5	9	M16	610	350	250	300	5	18,5	19

# Motors IE3 - Dimension

According to EN 60034-30-1; 2014 - aluminium execution



## B14



Size	A	AB	B	BB	C	D	E	H	HD	L	K	Y	AC	AD	AF	AP	F	FB	GA	GD	DB	LB	P-B14	N-B14	M-B14	T-B14	S-B14
80	125	154	100	126	51	19	40	80	212	281	9,5	16,5	159	132	111	111	6	30	21,5	6	M6	241	122	80	100	3	M6
90S	140	175	100	129	57	24	50	90	225	303	10	17,5	176	135	111	111	8	40	27	7	M8	253	140	95	115	3	M8
90L	140	175	125	155	56	24	50	90	225	325	10	17,5	176	135	111	111	8	40	27	7	M8	275	140	95	115	3	M8
100	156,5	192	140	175	63	28	60	100	246	380	12,5	22,5	194	146	111	111	8	50	31	7	M10	320	160	110	130	3,5	M8
112M	190	223	140	176,5	70	28	60	112	270	398	12	22	220	158	111	111	8	50	31	7	M10	338	160	110	130	3,5	M8
132S	216	260	140	180	89	38	80	132	328	460	12	28	264	196	133	133	10	70	41	8	M12	380	200	130	165	3,5	M10
132M	216	260	178	218	89	38	80	132	328	500	12	28	264	196	133	133	10	70	41	8	M12	420	200	130	165	3,5	M10
160M	254	318	210	260	108	42	110	160	403	610	15	30	317	243	185	185	12	90	45	8	M16	500	250	180	215	4	M12
160L	254	318	254	304	108	42	110	160	403	650	15	30	317	243	185	185	12	90	45	8	M16	540	250	180	215	4	M12





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