Motors | Automation | Energy | Transmission & Distribution | Coatings

B&P Elektromotoren

WQuattro

Super Premium Efficiency Motor

- Meet IE4 efficiency levels
- Low CO_{2eq} emissions

European Market

WQuattro

The WQuattro line was developed for users who consider energy saving a priority. The WQuattro is an environmentally friendly motor which, due to its exceptional efficiency performance, demands less energy from the grid. This in turn translates into a low total cost of ownership and the reduction of CO_{2eq} emissions.

As a hybrid motor having a squirrel cage rotor fitted with high energy permanent magnets, the WQuattro is suitable for starting either direct on line or with a variable frequency drive.

When used with a variable frequency drive, the WQuattro may be operated with scalar control, making it ideal for variable torque applications such as pumps and fans.

Features

- Output: 0,37 up to 7,5 kW
- Frame: 80 up to 132M/L
- Insulation class: F (DT 80K)
- Voltage: 230/400, 400/690 or 525 V
- Polarity: 4 and 6 poles
- Colour: RAL 6021 (green)
- Squirrel cage rotor and high energy permanent magnets (NdFeB)
- Synchronous speed (operation)
- D.O.L. starting, as an induction motor
- Suitable for variable speed applications with scalar control
- W22 mechanical platform
- Meet IE4 efficiency levels

Benefits

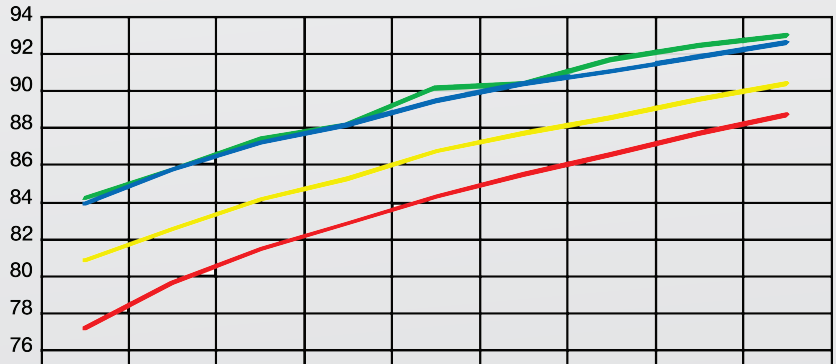
- Interchangeable with induction motors (same output x frame ratio)
- No need for sensors/encoder in applications with frequency inverters
- No need for special protection overload relays
- Low bearing temperature – extended life and less maintenance
- Easy speed synchronization - multiple motors may be fed by the same inverter

Higher efficiency in the same frame size

NEMA, IEC 60034-30-1:2014 and WEG Comparison

	NEMA	IEC 60034-30-1	WEG
Super Premium Efficiency	-	IE4	WQuattro (exceeds IE4)
Premium Efficiency	NEMA Premium	IE3	W22 Premium Efficiency
High Efficiency	EPAct	IE2	W22 High Efficiency

Efficiency - 4 poles - 50 Hz - IEC



Output Frame	0,55 kW 80	0,75 kW 80	1,1 kW 90	1,5 kW 90	2,2 kW 100	3 kW 100	4 kW 112	5,5 kW 132	7,5 kW 132
WQuattro	84,2	85,7	87,4	88,2	90,2	90,4	91,7	92,5	93
IEC IE4	83,9	85,7	87,2	88,2	89,5	90,4	91,1	91,9	92,6
IEC IE3	80,8	82,5	84,1	85,3	86,7	87,7	88,6	89,6	90,4
IEC IE2	77,1	79,6	81,4	82,8	84,3	85,5	86,6	87,7	88,7

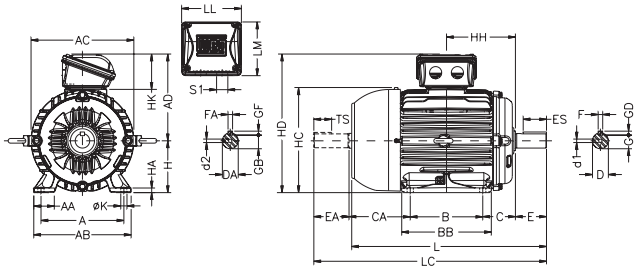
Efficiency values shown are according to IEC 60034-30-1.

Electrical features

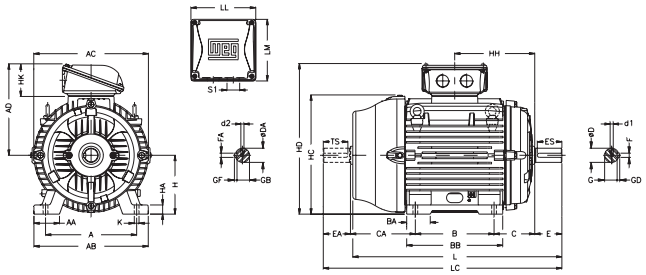
Output		Frame	Full Load Torque (Nm)	Locked Rotor Current Il/In	Locked Rotor Torque Tl/Tn	Breakdown Torque Tb/Tn	Inertia J (kgm²)	Maximum load inertia Jc (kgm²)	Weight (kg)	Rated speed (rpm)	Efficiency % of full load			Power Factor % of full load			Full load current In at 400 V (A)
kW	HP										50	75	100	50	75	100	
IV poles - 1500 rpm - 50 Hz																	
0,55	0,75	80	3,50	6,0	2,2	1,8	0,0022	0,0660	15,1	1500	80,4	83,6	84,2	0,61	0,77	0,85	1,11
0,75	1	80	4,78	6,1	2,4	2,3	0,0025	0,0750	15,5	1500	79,0	84,0	85,7	0,58	0,74	0,82	1,54
1,1	1,5	90L	7,01	7,0	3	2	0,0050	0,1500	23,0	1500	82,0	86,0	87,4	0,55	0,68	0,76	2,10
1,5	2	L90L	9,55	6,7	3,2	1,8	0,0058	0,1740	23,2	1500	83,5	86,8	88,2	0,53	0,66	0,74	3,32
2,2	3	100L	14,0	7,3	3,6	2,2	0,0080	0,2400	33,2	1500	86,0	89,0	90,2	0,67	0,80	0,87	4,05
3	4	L100L	19,1	6,6	3,5	1,9	0,0095	0,2850	33,8	1500	86,5	89,5	90,4	0,60	0,75	0,82	5,84
4	5,5	112M	25,5	6,3	3,1	2	0,0153	0,3510	41,8	1500	89,0	91,0	91,7	0,68	0,81	0,88	7,15
5,5	7,5	132S	35,0	8,2	3,8	2,5	0,0497	1,49	72,7	1500	89,0	92,0	92,5	0,76	0,88	0,93	9,23
7,5	10	132M/L	47,8	7,8	3,8	2,2	0,0606	1,82	87,6	1500	90,5	92,2	93,0	0,77	0,88	0,93	12,5
VI poles - 1000 rpm - 50 Hz																	
0,37	0,5	80	3,54	4,6	2,8	2,7	0,0024	0,0720	15,0	1000	66,6	75,5	79,6	0,37	0,53	0,66	1,02
0,55	0,75	80	5,26	4,3	2,7	2,2	0,0026	0,0780	16,0	1000	68,1	76,3	80,9	0,38	0,54	0,67	1,46
0,75	1	90S	7,17	5,2	2,5	1,6	0,0045	0,1350	22,0	1000	80,3	84,5	85,5	0,58	0,73	0,85	1,49
1,1	1,5	90L	10,5	5,2	2,8	1,7	0,0052	0,1560	24,0	1000	82,8	85,3	85,5	0,56	0,70	0,79	2,36
1,5	2	100L	14,3	5,1	3,2	2,4	0,0073	0,2430	30,0	1000	81,3	85,7	87,6	0,49	0,63	0,74	3,34
2,2	3	112M	21,0	5,0	2,3	1,7	0,0105	0,3150	39,0	1000	83,7	86,5	87,4	0,58	0,72	0,80	4,54
3	4	132S	28,7	5,7	3,5	2,2	0,0329	0,9870	55,0	1000	86,6	89,6	90,7	0,55	0,69	0,77	6,20
4	5,5	132M	38,2	5,5	3,5	2,1	0,0390	1,17	59,0	1000	87,4	90,1	91,0	0,53	0,67	0,76	7,83
5,5	7,5	132M/L	52,6	4,9	3,4	1,7	0,0436	1,31	63,0	1000	87,6	90,1	90,9	0,50	0,65	0,73	12,0
Optional Frames																	
4	5,5	132S	38,2	5,5	3,5	2,1	0,0390	1,17	59,0	1000	87,4	90,1	91,0	0,53	0,67	0,76	7,83
5,5	7,5	132S	52,6	4,9	3,4	1,7	0,0436	1,31	63,0	1000	87,6	90,1	90,9	0,50	0,65	0,73	12,0

Mechanical features

Frames 80 to 112



Frame 132



Frame	A	AA	AB	AC	AD	B	BA	BB	C	CA	DE Shaft D	E	ES	F	G	GD	NDE Shaft DA	EA	TS	FA	GB	GF
80	125	30,5	149	159	140	100		125,5	50	93	19j6	40	28	6	15,5	6	14j6	30	18	5	11	5
90S	140	36,5	164	179	157	100		131	56	104	24j6	50	36	8	20	7	16j6	40	28	5	13	5
90L	140	36,5	164	179	157	125		156	56	104	24j6	50	36	8	20	7	16j6	40	28	5	13	5
L90L	140	36,5	164	179	157	125	-	156	56	104	24j6	50	36	8	20	7	16j6	40	28	5	13	5
100L	160	40	188	199	167	140		173	63	118	28j6	60	45	8	24	7	22j6	50	36	6	18,5	6
L100L	160	40	188	199	167	140		173	63	118	28j6	60	45	8	24	7	22j6	50	36	6	18,5	6
112M	190	40,5	220	222	192	140		177	70	128	28j6	60	45	8	24	7	24j6	50	36	8	20	7
132S	216	35	248	272	220	140		187	89	150	38k6	80	63	10	33	8	28j6	60	45	8	24	7
132M	216	35	248	272	220	178	55	225	89	150	38k6	80	63	10	33	8	28j6	60	45	8	24	7
132M/L	216	35	248	272	220	178/203		250	89	150	38k6	80	63	10	33	8	28j6	60	45	8	24	7

Frame	H	HA	HC	HD	HH	HK	K	L	LC	LL	LM	S1	d1	d2	Bearings DE	NDE
80	80	8	163	222	100	59	10	277	313	108,5	99	2xM20x1,5	DM6	DM4	6204 ZZ	6203 ZZ
90S	90	9	182		106	67	10	304	350	115	104	2xM25x1,5	DM8	DM6	6205 ZZ	6204 ZZ
90L	90	9	182	249	118,5	67	10	329	375	115	104	2xM25x1,5	DM8	DM6	6205 ZZ	6204 ZZ
L90L	90	9	182		118,5	67	10	360	406	115	104	2xM25x1,5	DM8	DM6	6205 ZZ	6204 ZZ
100L	100	10	205	272	133	67	12	376	431	115	104	2xM25x1,5	DM10	DM8	6206 ZZ	6205 ZZ
L100L	100	10	205		133	67	12	420	475	115	104	2xM25x1,5	DM10	DM8	6206 ZZ	6205 ZZ
112M	112	10	235	315	140	80	12	394	448	140	133	2xM32x1,5	DM10	DM8	6207 ZZ	6206 ZZ
132S	132	16	266		159	80	12	452	519	140	133	2xM32x1,5	DM12	DM10	6308 ZZ	6207 ZZ
132M	132	16	266	354	178	80	12	489	557	140	133	2xM32x1,5	DM12	DM10	6308 ZZ	6207 ZZ
132M/L	132	16	266		190,5	80	12	515	582	140	133	2xM32x1,5	DM12	DM10	6308 ZZ	6207 ZZ

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