

PRODUCT NOTE

# IE5 Ultra-Premium Efficiency Motors

Made in India. Engineered for unmatched efficiency.



Introducing ABB's IE5 Efficiency Motors — Made in India, powered by advanced induction technology. Designed to the highest efficiency standards, these motors deliver maximum reliability, superior performance, and energy savings for the most demanding applications.



**Outstanding reliability for continuous operation**  
 ABB's robust IE5 motors are engineered to endure the harshest conditions, ensuring continuous operation and minimizing downtime. Constructed from high quality materials, these motors feature a rugged cast iron frame and ribbed end shields, which contribute to cooler running and extended service lives.



**Ultra-premium efficiency - Smarter Pay back**  
 Achieve up to **IE5 efficiency levels**, significantly reducing energy consumption and carbon emissions. IE5 motors have approximately 40% lower energy losses compared to IE3 motors, resulting in substantial savings in energy costs. This also results in attractive pay back periods.



**Tailored solutions for your unique needs**  
 ABB's IE5 motors are designed with a modular concept, allowing for easy customization to match specific application needs. With hundreds of options available, these motors can be tailored to meet diverse requirements. The modular construction enables the motors to be adapted to suit a broad spectrum of needs.

**The technology that one can count on**  
 ABB's IE5 Motors are based on magnet free, Induction technology that are currently being used in Industries, and are known for their reliability & Flexibility. These motors are suitable to operate any industrial applications. They can be run on DOL and do not necessarily need variable frequency drives for operation, making it convenient to adopt. When run with VFD these motors can contribute to additional energy savings.

Technical information	
Output	45 kW - 1000 kW; 2, 4 and 6 poles
Motor type	M3BP
Shaft heights	280-450
Efficiency class	IE5 as per IEC 60034-30-1
Voltage	230 - 690 V
Frequency	50/ 60 Hz
Supply	DOL and VSD
Mounting	B3, B5, B35
Protection	IP55 as standard

## Technical data

### M3BP Process Performance motor

IP55 - IC 411 - Insulation class F, Ambient 50 °C (Temp. rise class B, 70 °C), S1 Duty  
IE5 efficiency class according to IEC 60034-30-1, 2014,  
415V ± 10%, 50 ± 5% Hz, Combined Variation of 10%

#### 2 Pole, 3000 rev/min.

Output KW	Motor type	Product code	Speed r/min	Efficiency			Power factor 100%	Current		Torque (Nm)			Moment of inertia J=1/4GD <sup>2</sup> kgm <sup>2</sup>	Weight kg	Sound pressure level LPA (dB)	Pay back Period in Years w.r.t IE4
				FL 100%	FL 75%	FL 50%		I <sub>n</sub> , A	I <sub>s</sub> /I <sub>n</sub> %	T <sub>n</sub>	T <sub>s</sub> /T <sub>n</sub>	T <sub>max</sub> /T <sub>n</sub>				
75	M3BP 280SMB 2	3GBP281220-ADR	2986	96.5	96.2	95.3	0.86	125	9.7	240	3.1	4.2	0.82	725	90	1.2
90	M3BP 280SMC 2	3GBP281230-ADR	2982	96.6	96.6	96.2	0.86	150	8.4	288	2.6	3.5	0.82	725	90	1.2
110	M3BP 315SMB 2	3GBP311220-ADR	2985	96.8	96.7	96.2	0.86	184	7.7	352	1.8	3.1	1.22	940	90	1.2
132	M3BP 315SMC 2	3GBP311230-ADR	2983	96.9	97.0	96.6	0.89	213	7.8	423	2.1	3.0	1.44	1025	90	1.4
160	M3BP 315MLA 2	3GBP311410-ADR	2984	97.0	97.1	96.7	0.88	258	8.5	512	2.4	3.1	1.70	1190	90	1.3
200	M3BP 315MLB 2	3GBP311420-ADR	2984	97.2	97.4	97.1	0.89	321	8.0	640	2.8	3.2	1.89	1250	90	1.1
250	M3BP 315LKB 2	3GBP311820-ADR	2986	97.2	97.3	97.1	0.88	402	8.3	800	3.2	3.4	2.33	1540	90	1.2
315	M3BP 355SMC 2	3GBP351230-ADR	2987	97.2	97.1	96.7	0.86	520	7.8	1007	2.7	3.4	3.36	1750	90	1.0
355	M3BP 355MLA 2	3GBP351410-ADR	2985	97.2	97.2	96.9	0.88	577	8.7	1136	2.8	3.2	3.74	2000	90	1.0

#### 4 Pole, 1500 rev/min.

Output KW	Motor type	Product code	Speed r/min	Efficiency			Power factor 100%	Current		Torque (Nm)			Moment of inertia J=1/4GD <sup>2</sup> kgm <sup>2</sup>	Weight kg	Sound pressure level LPA (dB)	Pay back Period in Years w.r.t IE4
				FL 100%	FL 75%	FL 50%		I <sub>n</sub> , A	I <sub>s</sub> /I <sub>n</sub> %	T <sub>n</sub>	T <sub>s</sub> /T <sub>n</sub>	T <sub>max</sub> /T <sub>n</sub>				
75	M3BP 280SMC 4	3GBP282230-ADR	1490	96.7	96.7	96.3	0.80	134	9.0	481	3.9	3.9	1.40	725	85	1.3
90	M3BP 280MLD 4	3GBP282440-ADR	1489	96.9	97.1	96.9	0.83	155	8.4	577	4.0	3.5	1.93	910	85	1.1
110	M3BP 315SMC 4	3GBP312230-ADR	1491	97.0	97.0	96.6	0.84	188	8.4	704	3.1	3.6	2.52	1065	85	1.2
132	M3BP 315SMD 4	3GBP312240-ADR	1491	97.1	97.3	97.1	0.82	229	7.6	846	2.9	3.4	2.51	1065	85	1.2
160	M3BP 315MLC 4	3GBP312430-ADR	1490	97.2	97.4	97.3	0.85	269	8.0	1025	3.2	3.3	3.27	1270	85	1.4
200	M3BP 315LKC 4	3GBP312830-ADR	1494	97.4	97.4	96.9	0.83	345	9.6	1279	3.3	4.0	3.91	1600	85	1.1
250	M3BP 355SMC 4	3GBP352230-ADR	1494	97.4	97.3	96.7	0.81	438	8.7	1598	4.1	3.9	6.56	1820	85	1.1
315	M3BP 355SMD 4	3GBP352240-ADR	1492	97.4	97.5	97.3	0.82	545	7.5	2016	3.5	3.3	6.52	1820	85	1.0
355	M3BP 355MLA 4	3GBP352410-ADR	1493	97.4	97.3	96.8	0.83	607	8.7	2270	4.0	3.6	7.44	2140	85	1.0

#### 6 Pole, 1000 rev/min.

Output KW	Motor type	Product code	Speed r/min	Efficiency			Power factor 100%	Current		Torque (Nm)			Moment of inertia J=1/4GD <sup>2</sup> kgm <sup>2</sup>	Weight kg	Sound pressure level LPA (dB)	Pay back Period in Years w.r.t IE4
				FL 100%	FL 75%	FL 50%		I <sub>n</sub> , A	I <sub>s</sub> /I <sub>n</sub> %	T <sub>n</sub>	T <sub>s</sub> /T <sub>n</sub>	T <sub>max</sub> /T <sub>n</sub>				
45	M3BP 280SMB 6	3GBP283220-ADR	993	95.8	96.0	95.8	0.80	81	8.1	433	3.2	3.1	1.98	680	85	1.5
55	M3BP 280SMC 6	3GBP283230-ADR	992	96.0	96.3	96.2	0.81	98	7.9	529	3.2	3.0	2.25	725	85	1.5
75	M3BP 315SMC 6	3GBP313230-ADR	995	96.3	96.3	95.9	0.80	135	8.0	720	2.9	3.2	4.34	1000	85	1.3
90	M3BP 315SMD 6	3GBP313240-ADR	995	96.5	96.7	96.3	0.80	162	7.9	864	2.9	3.1	4.81	1050	85	1.4
110	M3BP 315MLC 6	3GBP313430-ADR	995	96.6	96.6	96.1	0.80	197	8.3	1056	3.2	3.2	6.21	1280	85	1.4
132	M3BP 315LKB 6	3GBP313820-ADR	995	96.8	96.9	96.6	0.78	242	7.6	1267	3.5	3.3	7.32	1560	85	1.4
160	M3BP 355SMB 6	3GBP353220-ADR	996	96.9	96.9	96.6	0.77	295	8.0	1534	3.0	3.3	9.29	1760	85	1.5
200	M3BP 355SMC 6	3GBP353230-ADR	996	97.0	97.1	96.8	0.78	366	7.4	1918	3.0	3.2	9.99	1830	85	2.4
250	M3BP 355MLB 6	3GBP353420-ADR	995	97.0	97.2	97.0	0.79	454	8.1	2399	3.1	3.1	11.90	2170	85	2.1

I<sub>n</sub> = Nominal or rated current

T<sub>n</sub> = Nominal or rated torque in Nm

T<sub>max</sub> = Maximum torque

I<sub>s</sub> = Starting current

T<sub>s</sub> = Starting torque

Note:

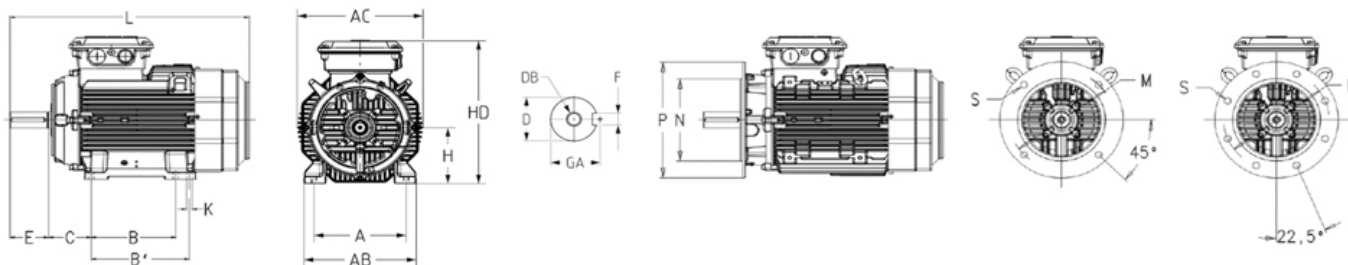
- All performance figures are subject to IEC tolerances.
- Max. load GD<sup>2</sup> has been calculated assuming load torque is proportional to square of speed.

Pay back : Considering continuous duty with 8760 hrs, Energy cost: 8INR/unit & Motor price as per LP & applicable discounts

For technical details of 400 & 450 frame, please contact nearest sales office

## Dimensions

### IE5 Process performance cast iron induction motors



Motor size	IM 1001, IM B3 and IM 3001, IM B5											IM 1001, IM B3					IM 3002, IM B5							
	D		DB poles		GA		F		E poles		L max	A	AB	AC	B	B1	C	HD	K	M	N	P	S	
	2	4-8	2	4-8	2	4-8	2	4-8	2	4-8	2	4-8												
280 SM_	65	75	M20	M20	69	79.5	18	20	140	140	1088	1088	457	530	577	368	419	190	762 <sup>1)</sup>	24	500	450	550	18
280 ML_	65	75	M20	M20	69	79.5	18	20	140	140	1190	1190	457	530	577	419	457	190	762 <sup>1)</sup>	24	500	450	550	18
315 SM_	65	80	M20	M20	69	85	18	22	140	170	1172	1202	508	590	654	406	457	216	852 <sup>2)</sup>	28	600	550	660	23
315 ML_	65	90	M20	M24	69	95	18	25	140	170	1283	1313	508	590	654	457	508	216	852 <sup>2)</sup>	28	600	550	660	23
315 LK_	65	90	M20	M24	69	95	18	25	140	170	1489	1519	508	590	660	508	560	216	852 <sup>2)</sup>	28	600	550	660	23
355 SM_	70	100	M20	M24	74.5	106	20	28	140	210	1409	1479	610	700	746	500	560	254	958 <sup>3)</sup>	35	740	680	800	23
355 ML_	70	100	M20	M24	74.5	106	20	28	140	210	1514	1584	610	700	746	560	630	254	958 <sup>3)</sup>	35	740	680	800	23
355 LK_	70	100	M20	M24	74.5	106	20	28	140	210	1764	1834	610	700	746	630	710	254	958 <sup>3)</sup>	35	740	680	800	23

1) Terminal box 210

2) Terminal box 370

3) Terminal box 750

#### Tolerances

A, B	± 0.8
C, CA	± 0.8
D	ISO k6 < Ø 50 mm
	ISO m6 > Ø 50 mm
F	ISO h9
H	+ 0 -1
N	ISO js6

The tables give the main dimensions in mm.



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**[new.abb.com/motors-generators/iec-low-voltage-motors/process-performance-motors/process-induction-motors](https://new.abb.com/motors-generators/iec-low-voltage-motors/process-performance-motors/process-induction-motors)**

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