

Energy-Saving High-Efficiency HVAC Solutions



EC Backward-curved Centrifugal Fan

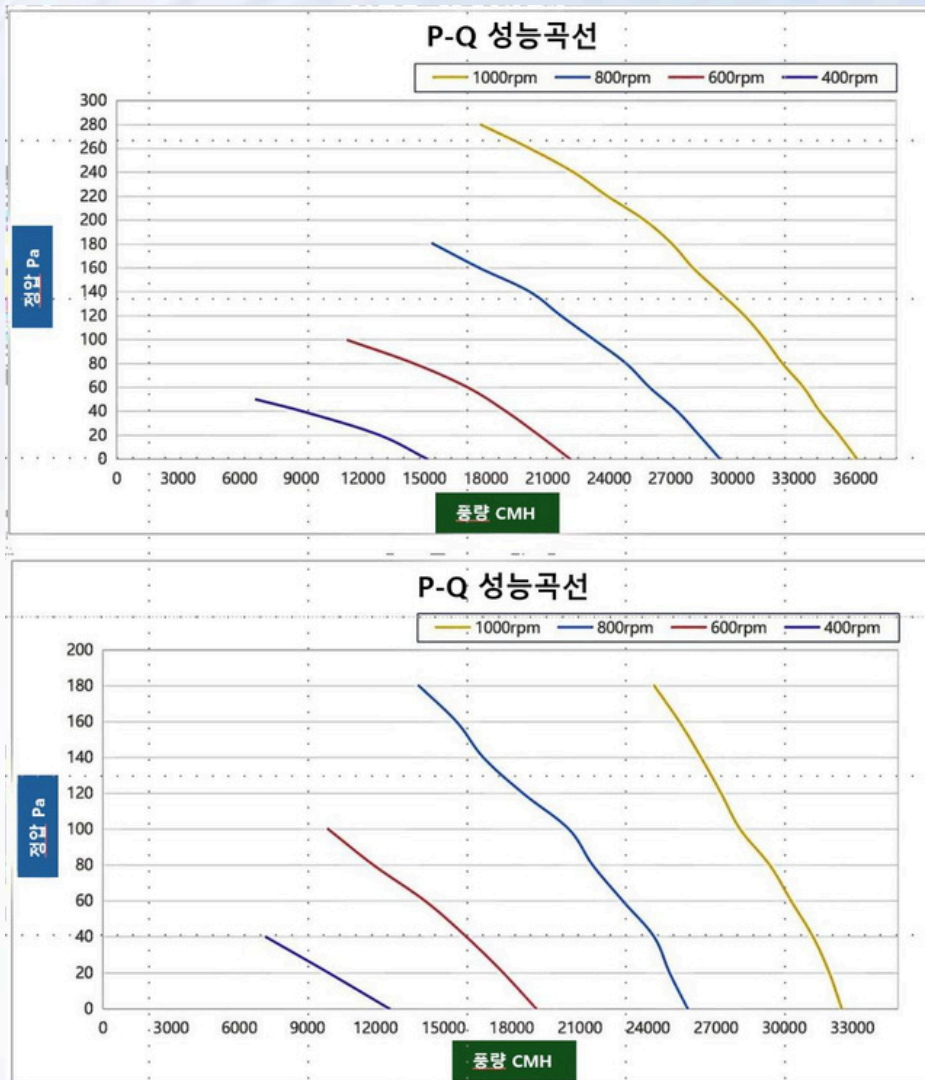
- Superior Efficiency and Energy Savings
- Distinctive Outer-Rotor Design
- Excellent Speed Regulation and Control Performance
- High Reliability and Long Service Life
- Intelligent Control Functions



	Model	Rated Voltage	Speed (rpm)	Max. Input Power(W)	Max. Airflow (m³/h)	Max. Static Pressure(Pa)	Speed Control
1	SMEC13A1	230VAC	5220	88	450	500	0-10V
2	SMEC17A1	230VAC	5030	166	880	800	0-10V
3	SMEC19A1	230VAC	4230	150	810	750	0-10V
4	SMEC19B1	230VAC	2900	65	600	420	0-10V
5	SMEC19C1	230VAC	3900	124	760	770	0-10V
6	SMEC19D1	230VAC	4450	186	870	955	0-10V
7	SMEC22A1	230VAC	3060	215	1455	650	0-10V
8	SMEC22B1	230VAC	2400	127	1070	445	0-10V
9	SMEC25A1	230VAC	3170	295	1505	800	0-10V
10	SMEC25B1	230VAC	3900	514	2030	1000	0-10V
11	SMEC28A1	230VAC	2220	195	1660	450	0-10V
12	SMEC28B1	230VAC	2600	507	2950	835	0-10V
13	SMEC28C1	230VAC	2250	337	2525	600	0-10V
14	SMEC31A1	380VAC	2710	1510	5935	1250	0-10V
15	SMEC32A1	230VAC	2150	355	2730	600	0-10V
16	SMEC32B1	230VAC	2600	655	3250	900	0-10V
17	SMEC35A1	230VAC	2055	645	3915	750	0-10V
18	SMEC40A1	380VAC	2060	1480	6700	900	0-10V
19	SMEC40B1	380VAC	2405	2700	7485	1400	0-10V/RS485
20	SMEC40C1	380VAC	2745	3585	8305	1800	0-10V/RS485
21	SMEC40D1	230VAC	1520	650	5215	590	0-10V
22	SMEC45B1	380VAC	2250	3950	13964	1700	0-10V/RS485
23	SMEC45C1	380VAC	2550	5400	15202	2000	0-10V/RS485
24	SMEC52A1	380VAC	2200	4260	12830	1500	0-10V/RS485
25	SMEC56A1	380VAC	1620	3660	15275	1100	0-10V/RS485
26	SMEC56C1	380VAC	1770	5570	20710	1600	0-10V/RS485
27	SMEC63A1	380VAC	1380	3850	20100	1000	0-10V/RS485
							0-10V/RS485

EC Axial Fan

- ◆ PMSM-Based Internal-Rotor Design
- ◆ High-Performance Aerodynamically Optimized Impeller
- ◆ High-Reliability Stator with Plastic Encapsulation
- ◆ Control Interface: 0-10 V / 4-20 mA / RS485
- ◆ Operating Temperature: -30 to 60 °C



Applications

Central HVAC systems, screw air compressors, cooling towers, refrigeration systems, mechanical equipment, electrical equipment, and building ventilation and heat-dissipation applications.

EC & AC Forward-Curved Fan

The forward-curved centrifugal fan is direct-driven by either a permanent-magnet brushless DC motor or an AC induction motor. It delivers high output with low power consumption, low noise, and stable operation. Standard functions include stepless 0–10 V speed control and soft start. Available sizes range from 7-5 to 12-12.

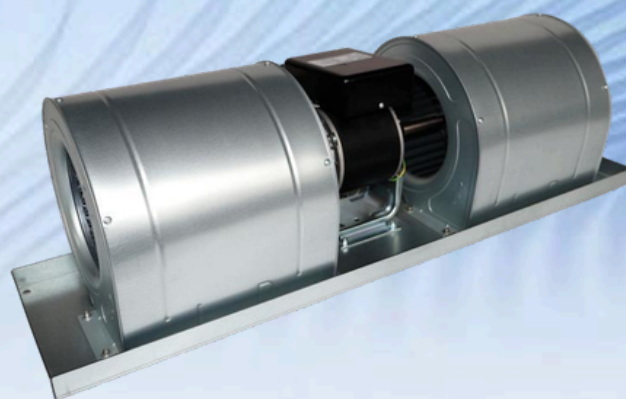


Model	Power/KW	Total Pressure/Pa	Airflow/m³/h
SMEC7-5	0.25	101-285	590-1550
SMEC7-5	0.35	110-300	610-1630
SMEC7-7	0.25	235-315	600-2200
SMEC7-7	0.35	235-315	615-2430
SMEC8-8	0.35	160-420	720-2600
SMEC8-8	0.55	180-420	720-2860
SMEC9-9	0.55	210-490	900-3400
SMEC9-9	0.65	215-500	910-3530
SMEC10-10	1.0	230-600	2550-4350
SMEC12-12	1.0	170-630	2200-5300



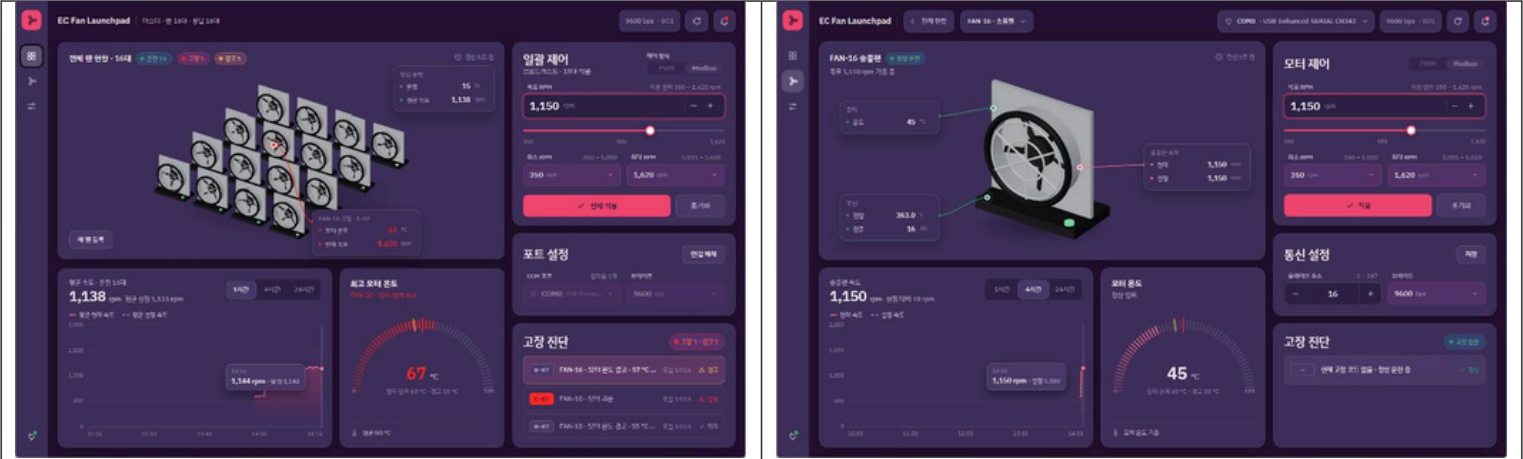
This centrifugal HVAC blower is a low-noise, compact fan with a rated airflow range of 1,000–20,000 m³/h and total pressure of 200–850 Pa. Its direct-drive external-rotor motor provides high efficiency, low noise, high airflow capacity, a small footprint, and a compact overall structure.

C & AC Fan C oil Ass embly



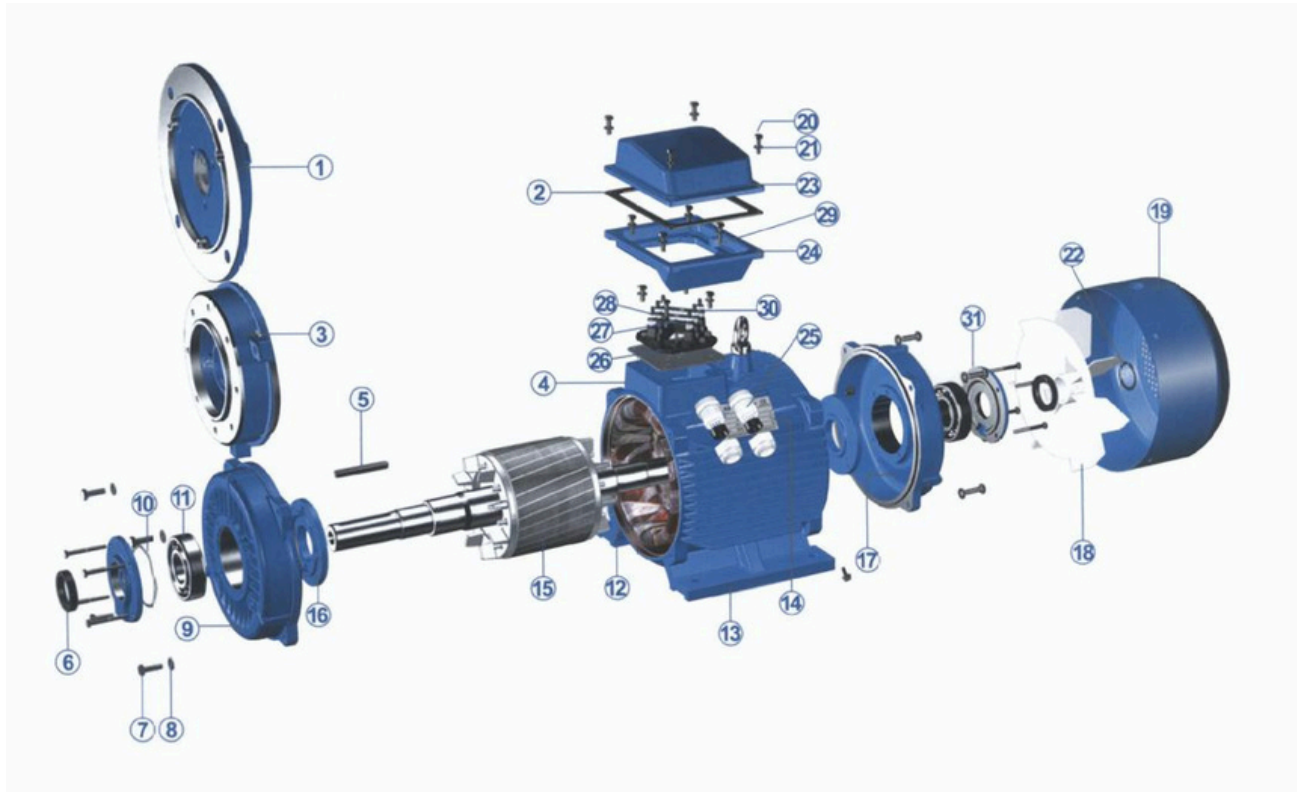
Model	Static Pressure (Pa)	Motor Model	Current (A)	Input Power (W)	Speed (rpm)	Noise (dB)	Control Method
200/FP34	12	BLDK-50W-8P 0.11		14	750	≤37	Three-speed/0-10V
	30	BLDK-50W-8P 0.14		19	895	≤40	Three-speed/0-10V
	50	BLDK-50W-8P 0.19		24	1035	≤42	Three-speed/0-10V
300/FP51	12	BLSK-50W-8P 0.14		28	725	≤39	Three-speed/0-10V
	30	BLSK-50W-8P 0.21		27	910	≤42	Three-speed/0-10V
	50	BLSK-50W-8P 0.26		34	1035	≤44	Three-speed/0-10V
400/FP68	12	BLSK-50W-8P 0.20		26	805	≤41	Three-speed/0-10V
	30	BLSK-50W-8P 0.24		37	935	≤44	Three-speed/0-10V
	50	BLSK-50W-8P 0.37		49	1080	≤46	Three-speed/0-10V
500/FP85	12	BLSK-50W-8P 0.28		36	850	≤43	Three-speed/0-10V
	30	BLSK-50W-8P 0.35		45	860	≤46	Three-speed/0-10V
	50	BLSK-50W-8P 0.46		61	1100	≤47	Three-speed/0-10V
600/FP102	12	BLSK-80W-8P 0.39		50	935	≤45	Three-speed/0-10V
	30	BLSK-80W-8P 0.48		64	1055	≤47	Three-speed/0-10V
	50	BLSK-80W-8P 0.60		80	1160	≤49	Three-speed/0-10V
800/FP136	12	BLSK-50W-8P 0.47		62	760	≤46	Three-speed/0-10V
	30	BLSK-50W-8P 0.62		84	810	≤48	Three-speed/0-10V
	50	BLSK-50W-8P 0.75		101	1120	≤50	Three-speed/0-10V
1000/FP170	12	BLSK-80W-8P 0.57		76	870	≤48	Three-speed/0-10V
	30	BLSK-80W-8P 0.68		94	980	≤50	Three-speed/0-10V
	50	BLSK-80W-8P 0.87		121	1110	≤52	Three-speed/0-10V
1200/FP204	12	BLSK-80W-8P 0.78		107	950	≤50	Three-speed/0-10V
	30	BLSK-80W-8P 0.93		131	1020	≤52	Three-speed/0-10V
	50	BLSK-80W-8P 1.13		160	1160	≤54	Three-speed/0-10V
1400/FP238	12	BLSK-80W-8P 1.04		139	1010	≤52	Three-speed/0-10V
	30	BLSK-80W-8P 1.20		166	1110	≤54	Three-speed/0-10V
	50	BLSK-80W-8P 1.43		207	1210	≤56	Three-speed/0-10V
BLD(S)K-200W-8P							Three-speed/0-10V

EC FAN Control & Monitoring System



IE4 PREMIUM EFFICIENCY THREE-PHASE ASYNCHRONOUS INDUCTION MOTOR

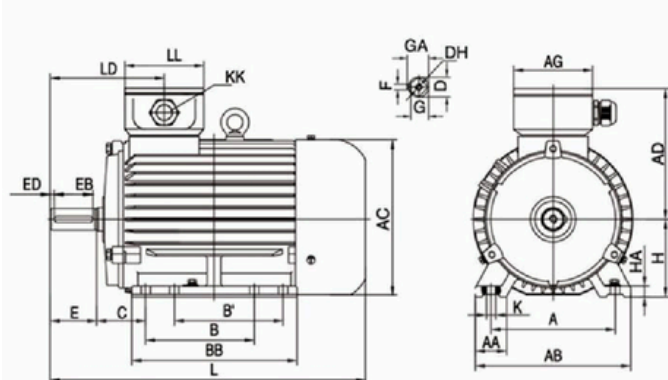
Exploded View



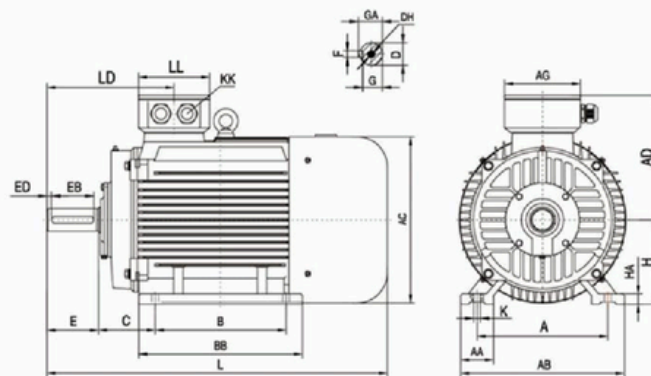
번호	명칭	번호	명칭
1	B5 Flange	17	Rear Endshield
2	Gasket	18	Fan
3	B14 Flange	19	Fan Cowl
4	Frame	20	Screw
5	Key	21	Spring Washer
6	Oil Seal	22	Fan Clamp
7	Bolt	23	Terminal Box Lid
8	Spring Washer	24	Terminal Box Base
9	Front Endshield	25	Cable Grand
10	Wave Form	26	Terminal Board
11	Bearing	27	Brass Lug
12	Stator	28	Brass Nut
13	Feet	29	Earth Mark
14	Nameplate	30	Brass Washer
15	Rotor	31	Outer Bearing Cap
16	Inner Bearing Cap		

Nominal efficiency limits(%)for 60 Hz IE4				
PN kW	Number of poles/synchronous speed			
	2/3600	4/1800	6/1200	8/900
0.12	66.0	70.0	68.0	64.0
0.18	70.0	74.0	72.0	68.0
0.25	74.0	77.0	75.5	72.0
0.37	77.0	81.5	78.5	75.5
0.55	80.0	84.0	82.5	77.0
0.75	82.5	85.5	84.0	78.5
1.1	85.5	87.5	88.5	81.5
1.5	86.5	88.5	89.5	85.5
2.2	88.5	91.0	90.2	87.5
3.7	89.5	91.0	90.2	88.5
5.5	90.2	92.4	91.7	88.5
7.5	91.7	92.4	92.4	91.0
11	92.4	93.6	93.0	91.0
15	92.4	94.1	93.0	91.7
18.5	93.0	94.5	94.1	91.7
22	93.0	94.5	94.1	93.0
30	93.6	95.0	95.0	93.0
37	94.1	95.4	95.0	93.6
45	94.5	95.4	95.4	93.6
55	94.5	95.8	95.4	94.5
75	95.0	96.2	95.8	94.5
90	95.4	96.2	95.8	95.0
110	95.4	96.2	96.2	95.0
150	95.8	96.5	96.2	95.4
185	96.2	96.5	96.2	95.4
220	96.2	96.8	96.5	95.4
250-1000	96.2	96.8	96.5	95.8

IM B3 H80-355

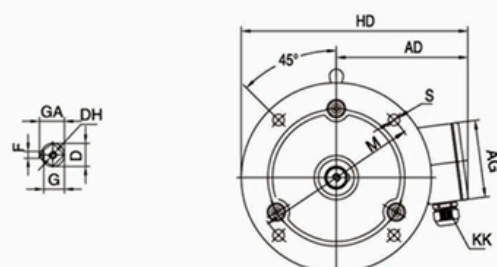
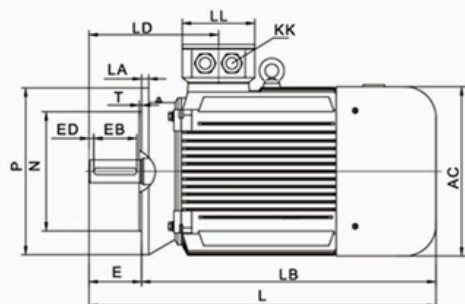
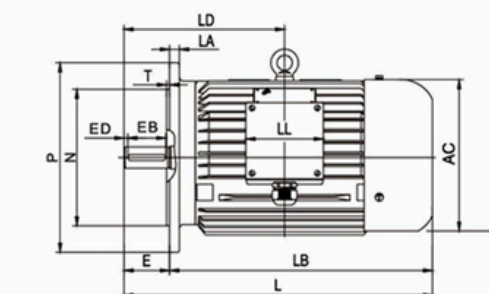


71-132

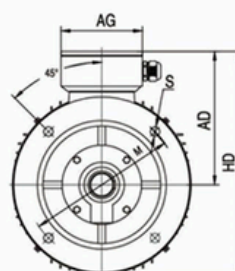


160-355

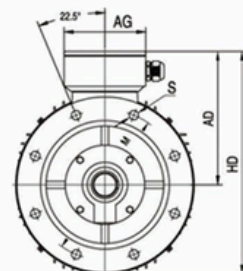
IM B5 H80-355



71-132

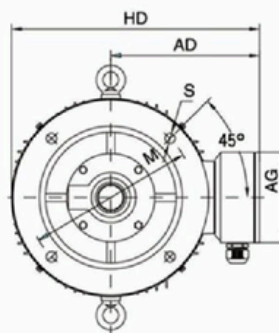
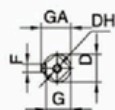
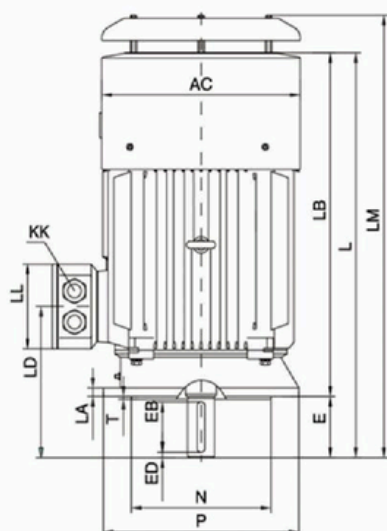


160-200

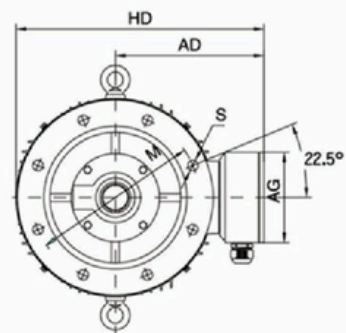


225-355

IM V1 H80-355



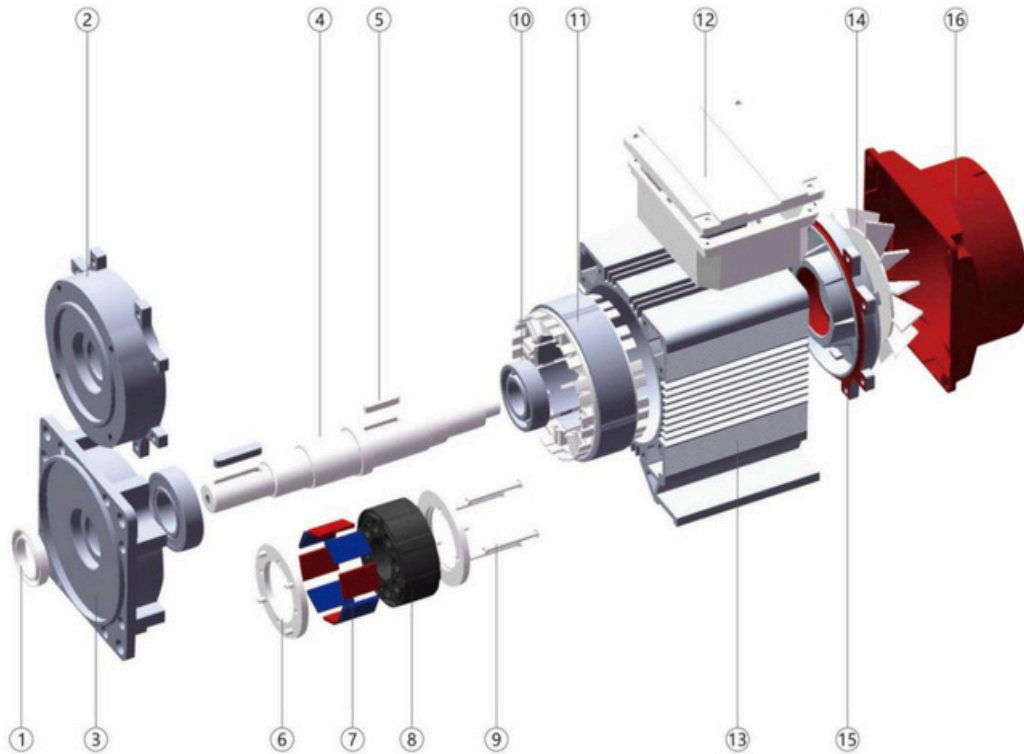
160-200



225-355

IE5 PERMANENT MAGNET SYNCHRONOUS MOTOR

제품 분해도 Exploded View



Number	Name	Number	Name
1	Skeleton oil seal 골격 오일씰	9	Stainless steel rivet 스테인리스 리벳
2	B14 front endshield B14 앞카바	10	Bearing 베어링링
3	B5 front endshield B5 앞카바	11	Stator iron core 고정자 철심
4	Shaft 모터축	12	Terminal box 리드박스
5	A type key a형 키	13	Frame 후레임
6	Rotor cover 로타 카바	14	Fan 팬
7	Permanent magnet 영구자석	15	Rear endshield 뒷카바
8	Rotor iron core 로타 철심	16	Fan cowl 팬 카바

Operating Condition

Ambient temperature: $-15^{\circ}\text{C} < 0 < 40^{\circ}\text{C}$

Altitude: Not exceeding 1000m

Rated voltage: 220V-480V

Rated Frequency: 0-200Hz

Protection class: IP55

Insulation class: H

Cooling method: IC411

Working mode: S1

The SMC PMSM Series Ultra-Premium Efficiency Motors are Totally Enclosed Fan-Cooled (TEFC) Permanent Magnet Synchronous Motors, engineered to deliver exceptionally high efficiency. The series is designed to achieve the Ultra-Premium Efficiency level as defined by the International Electrotechnical Commission (IEC).

The SMC PMSM Series is available in frame sizes ranging from 80 to 355. The rated output specifications, frame dimensions, and mounting dimensions comply with the requirements of IEC 60072-1 and IEC 60072-2, ensuring compatibility with internationally standardized motor dimensions and installation configurations.

SMC PMSM Series – Permanent Magnet Synchronous Motors

The **SMC PMSM Series Permanent Magnet Synchronous Motors** are a new generation of high-performance drive solutions designed for a wide range of industrial applications, featuring **high efficiency and high power density**.

The motors incorporate **high-performance rare-earth permanent magnets** and are designed for **variable-frequency drive (VFD) operation**. They provide a **wide speed-control range, fast and precise dynamic response, excellent speed stability, compact and lightweight construction, and a brushless design with minimal wear components**.

Key performance features include **high torque capability, stepless speed control, forward and reverse operation, high power factor, and superior energy efficiency**. Depending on the operating conditions, load profile, and the characteristics of the existing drive system, **energy savings of up to 50% can be achieved**.

Under suitable operating conditions, the energy-cost savings can provide a **payback period of approximately six months** for the motor investment. Compared with conventional induction motors, SMC PMSM motors are capable of maintaining **high efficiency and a high power factor over a wide load range**, making them particularly advantageous in applications subject to significant load fluctuations.

The SMC PMSM Series is therefore ideally suited for a broad range of energy-efficient industrial drive applications, including **high-efficiency blowers, pumps, booster systems, digitally automated equipment, textile machinery, industrial fans, air compressors, and other variable-speed industrial equipment**.

Efficiency level standards

Power [kW]	IEC Efficiency[%]			SMC MOTOR
	IE3 [%]	IE4 [%]	IE5 [%]	IE5 [%]
0.75	83.5	85.5	87.7	88.2
1.5	86.5	87.5	89.4	90.4
2.2	89.5	91	92.4	91.4
3.7	89.5	91	92.4	
5.5	91.7	92.4	93.5	93.4
7.5	91.7	92.4	93.5	94
11.	92.4	93.6	94.6	94.6
15.	93	94.1	95	95.1
18.5	93.6	94.5	95.3	95.3
22.	93.6	94.5	95.3	95.5
30.	94.1	95	95.8	95.9
37.	94.5	95.4	96.1	96.1
45.	95	95.4	96.1	96.3
55.	95.4	95.8	96.4	96.5
75.	95.4	96.2	96.8	96.7
90.	95.4	96.2	96.8	96.9
110.	95.8	96.2	96.8	97
132.	95.8	96.5	97	97.1
160.	96.2	96.5	97	97.2
200.	96.2	96.5	97	97.4
250.				97.4