

c **RU**® us CE

# AXIAL AIR GAP BRAKE MOTOR

A.G Brake Motor



**황해전기**  
H & H ELECTRIC

2023	4	수중펌프 Q마크 획득	Certified Q-Mark for submersible pump
2021	11	인천시 유망중소기업 인증	Incheon City Certification of Promising Small and Medium Enterprise
	7	여성기업 확인서 획득	Certified as a Women's Enterprise Confirmation by Ministry of SMEs and Startups
	4	KS B 6321 획득	Certified KS B 6321 (Korea Industrial Standard)
	3	CE인증획득-단일채널형 고힘물이송 수중펌프	Certified CE for submersible pump to single channel impeller
2019	11	창립 30주년	30th anniversary
	7	베트남 VIETWATER 2019 참가.	VIETWATER 2019 in Hanoi.
	7	단일채널형 고힘물 이송 오펜수 수중펌프 전기종 개발완료.	Development of Submersible Pump for Sewage and Wastewater Treatment with Single Channel Impeller has been completed. (All models)
2018	10	PEM 연료전지용 다목적 부품 공용화 기술과제 개발평가 완료.	Completing development evaluation for the publication of multipurpose part for PEM fuel cell.
2017	12	프리미엄효율 (IE3) 인증완료.	Premium Efficiency (IE3) Certificates. (Korea Energy Agency)
	12	고온형 블로워 개발완료.	Development completion of high temperature blower.
2016	10	인버터 일체형 링브로워 국내 최초 개발 완료.	Development completion of Ring Blower integral speed controller.
	8	가변형 터보 블로워 CE 인증 획득.	CE certificate - variable turbo blower.
2014	4	두바이 에너지, 환경기술 박람회 참가.	Water, Energy, Technology and Environment Exhibition. (Dubai, UAE)
2013	12	[연료전지용 소형고속 링브로워 상용 및 시리즈화 개발] 완료.	Completes of Develops for High speed Mini Regenerative blower models for market & series.
	6	도쿄 기계요소기술전 참가.	Mechanical Components & Materials Technology EXPO. (Tokyo, Japan)
2012	6	대한민국 산업기술 R&D 전시회 참가 (COEX)	Korea Industrial Technology R&D Fair. (COEX)
2011	9	한국기계전 (KOMAF) 참가 (KINTEX)	KOREA MACHINERY FAIR
	6	품목별 원산지인증 수출자 인증서 획득 - 한.EU FTA 원산지 인증서 (인천세관장)	The status of "Approved Exporter" for Korea-EU FTA supplier and exporter for origin declarations approves.
2010	12	서울 시장 표창장 수상. (GE 20 개회 환경 부문 공로)	Award-Great contributions to the G20 Seoul Summit and Seoul Odor-Removal Project by Mayor of Seoul.
	9	소형 고속 링브로워 (MINI HIGH SPEED BLOWER) 2차 모델 개발 완료.	Research and Development completes - Mini High Speed Side Channel Blower (2nd Model.)
2009	9	생산 기술 연구원 파트너 기업 선정. (생산 기술 연구원)	Recognition-Partner of Korea Institute of Industrial Technology.
	7	Mini High Speed Side Channel Blower (소형 고속 브로워) 개발 완료.	Research and Development completes - Mini High Speed Side Channel Blower.
2008	5	한국 과학 기술 연구원 (KIST) 기술 이전. (에어 포일 베어링)	Intellectual Properties and Technology Transfer from Korea institute of Science and Technology - Air Foil Bearing.
	4	하노버 산업 박람회 참가. (HANOVER MESSE)	Hanover Messe exhibition.
	3	한국 전기 연구원 (KERI) 기술 이전. (고속 동기 전동기)	Intellectual Properties and Technology Transfer from Korea Electro Technology Research Institute - High Speed PMSM (Permanent Magnet Synchronous Motor.)
2007	7	백만불 수출의 탑 달성.	Awarded-Over 1 million dollars of export.
	5	RoHS (유해물질 제한 지침) 인증 획득.	RoHS certification.
	4	하노버 산업 박람회 참가. (HANOVER MESSE)	Hanover Messe exhibition.
2006	10	R&D 전담부서 인증. (한국 산업 기술 진흥 협회)	Recognition of R&D Department by Korea Industrial Technology Association.
	4	하노버 산업 박람회 참가. (HANOVER MESSE)	Hanover Messe exhibition.
2005	11	상표권 등록. (제 0123639 호)	Certificate of Trademark Registration (#0123639)
2002	12	ISO 9001:2000 품질경영인증 획득.	ISO 9001:2000 certification-Quality Management System.
	9	시카고 공작 기계 전시회 참가. (IMTS 2002)	International Manufacturing Technology Show (IMTS 2002)
	6	남동 공단으로 공장 이전. (면적: 8,310m2)	Relocation to Nam Dong Industrial Complex. (area : 8,310m2)
1999	8	CUL (UL Grade) 인증 획득.	cUL ( UL Grade ) certification.
	3	CE 인증 획득 - 링브로워 .	CE certification-Side Channel Blowers.
	3	링브로워 전 기종 개발 완료.	Research and Development completion-All Hwang Hae Blower Models
1995	3	CE 인증 획득 - AG BRAKE MOTOR.	CE certification - Axial Air Gap Brake Motors.
1989	12	국내 최초 프레스 조정용 Axial Air Gap Brake Motor (브레이크 모터) 개발 완료 및 생산. - 국산화 성공 및 수입대체 완료.	Development of the first Axial Air Gap Brake Motor in Korea for press machines.
	11	황해전기 설립.	Hwang Hae Electric. has been established.

## Who is the customer?



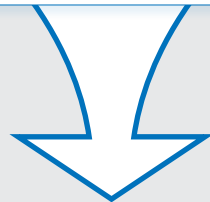
Press Machine



Damper Actuator



Gondola

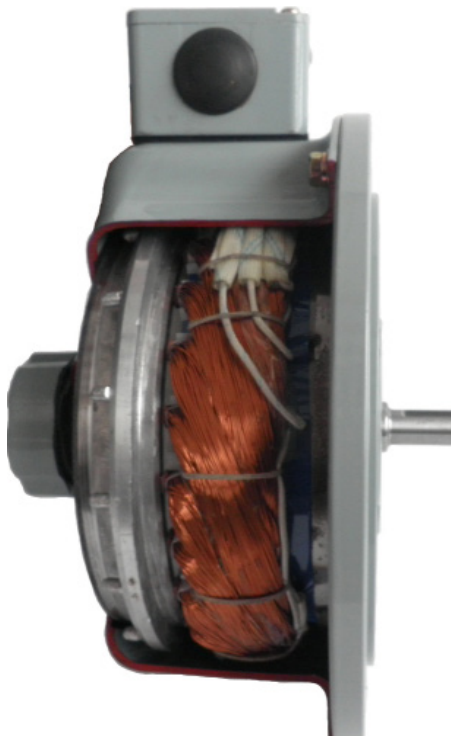


Character		Application
<p>Light weight and silm type Strong power with high torque. Long life with excellent insulation system. Position set with high braking torque above 350%</p>		<p>Press Slide Adjustment Hobbing tool. Automatic warehouse. Automatic parking lot Hoist. Conveyor machine Gondola</p>

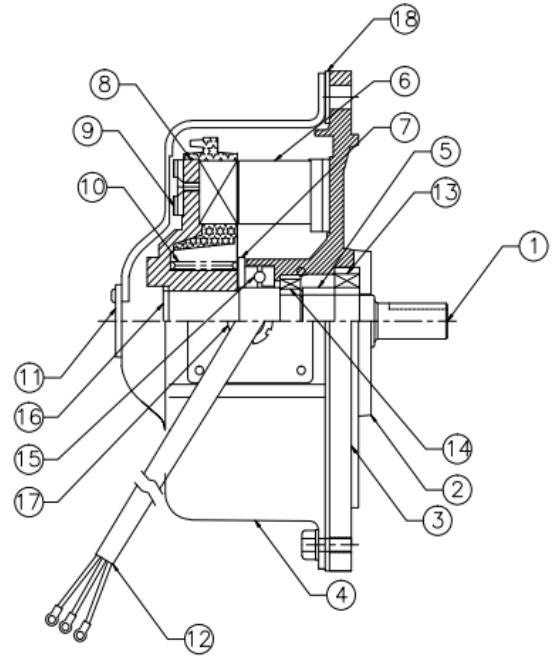
## General Information

Item	Detail	
Time Rating	5 minutes ~ Continuous	
Output Power	0.1kw ~ 3.7kw	
Insulation	B & F Class	
Construction & Protection	Construction	Protection
	TEFC	IP44, IP54
Available Voltage	200 ~ 460volt Single Voltage , Dual Voltage, Combination Voltage	
Frequency	50Hz , 60Hz , 50/60Hz	
Painting	Munsell No. 7.5BG 6/1.5	
Lining Material	Non- Asbestos	
Rotation	C.C.W( View of Drive End )	
Ambient Condition	Temperature	-20°C ~ +40°C
	Humidity	less than 80%
	Altitude	less than 1,000m
	Place	Non Corrosive , Non Explosive, Non Humidity, No Dust

## Structure & Name of Part



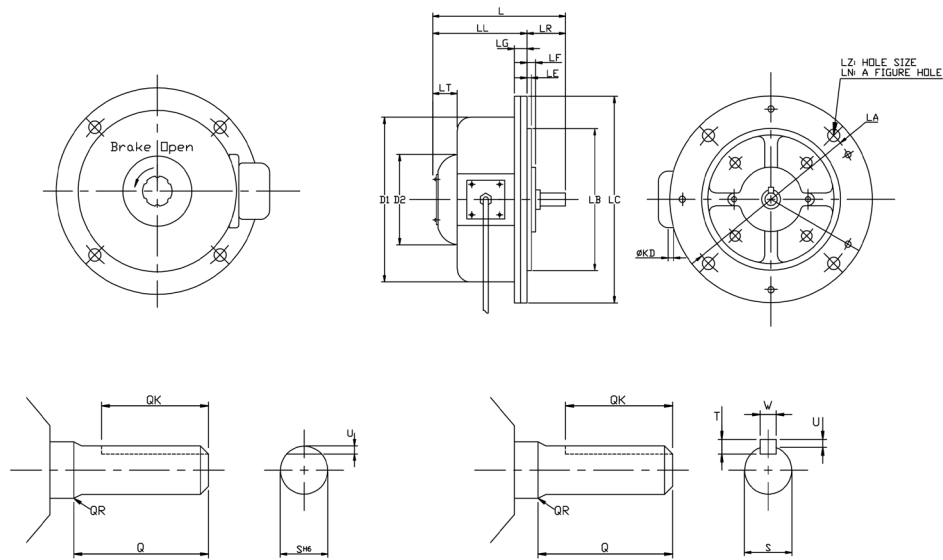
- ① Shaft
- ② Bearing Cover
- ③ Bracket
- ④ Cover
- ⑤ Bearing Ring
- ⑥ Stator
- ⑦ Washer
- ⑧ Rotor
- ⑨ Brake Spring
- ⑩ Brake Lining
- ⑪ Cap
- ⑫ Lead Cable
- ⑬ Bearing
- ⑭ Bearing
- ⑮ Bearing
- ⑯ Cap
- ⑰ Cable Gland
- ⑱ Gasket



## Standard Specification

Output Power	Pole	Brake Torque (kg.m)	Full Load RPM			Weight (kg)
			200V 50Hz	200V 60Hz	220V 60Hz	
0.1kw	4	0.14	1390	1730	1740	11
0.2kw	4	0.27	1430	1730	1740	13
0.4kw	4	0.54	1410	1700	1710	14
0.55kw	4	0.74	1410	1710	1720	16
0.75kw	4	1.02	1420	1720	1730	26
1.5kw	4	2.03	1380	1690	1700	33
2.2kw	4	2.98	1380	1690	1700	38
3.7kw	4	5.01	1380	1690	1700	43
5.5kw	4	7.44	1290	1640	1650	45

## Dimension



## Standard Type

(unit:mm)

POWER (KW)	POLE	MODEL NO	L	LA	LB (h7)	LC	LE	LF	LG	LL	LT	LZ	LN	LR	KL	KD	D <sub>1</sub>	D <sub>2</sub>	SHAFT							BEARING	RATING TIME(min)
																			Q	QK	QR	Sh6	T	U	W		
0.1	4	HAG-15F	151	165	130	180	3	6	11	120	40	7	4	31	127	21	150	62	23	18	0.5	11	-	1	-	6202ZZ 6002ZZ	Continuity
0.2	4	HAG-20F	175	215	180	236	3	6	13	137	40	10	4	38	158	22	194	62	30	25	2	14	5	3	5	6204ZZ 6004ZZ	Continuity
0.4	4	HAG-20D																									Continuity
0.55	4	HAG-20D <sub>1</sub>																									30Minutes
0.75	4	HAG-25D	223	265	230	300	4	5	18	166	50	15	4	57	175	27	235	62	50	35	2	24	7	4	7	6206ZZ 6006ZZ	Continuity
1.5	4	HAG-27D <sub>1</sub>	246	300	250	335	5	14	19	180	50	15	4	66	195	27	268	62	50	35	2	24	7	4	7	6207ZZ 6007ZZ	1Hour
2.2	4	HAG-27D <sub>2</sub>	246	300	250	335	5	14	19	180	50	15	4	66	195	27	268	62	50	35	2	28	7	4	7	6207ZZ 6007ZZ	30Minutes
3.7	4	HAG-27D <sub>3</sub>	256	300	250	335	5	14	19	180	50	15	4	76	195	27	268	62	60	45	2	28	7	4	7	6207ZZ 6007ZZ	15Minutes
5.5	4	HAG-30D	256	300	250	335	5	14	19	180	50	15	4	76	195	27	268	62	60	45	2	28	7	4	7	6207ZZ 6007ZZ	5Minutes

## Small Type

(unit:mm)

POWER (KW)	POLE	MODEL NO	L	LA	LB (h7)	LC	LE	LF	LG	LL	LT	LZ	LN	LR	KL	KD	D <sub>1</sub>	D <sub>2</sub>	SHAFT							BEARING	RATING TIME(min)
																			Q	QK	QR	Sh6	T	U	W		
0.2	4	HAG-15F <sub>1</sub>	151	165	130	180	3	6	11	120	40	7	4	31	127	21	150	62	23	18	0.5	14	5	3	3	6202ZZ 6002ZZ	5Minutes
0.4	4	HAG15F <sub>3</sub>	151	165	130	180	3	6	11	120	40	7	4	31	127	21	150	62	23	18	0.5	14	5	3	3	6202ZZ 6002ZZ	5Minutes
0.75	4	HAG-20F <sub>1</sub>	175	215	180	236	3	6	13	137	40	10	4	38	158	22	195	62	30	25	0.5	19	5	3	5	6204ZZ 6004ZZ	5Minutes
1.1	4	HAG-25F	223	265	230	300	4	5	18	166	50	15	4	57	175	27	235	62	50	35	2	24	7	4	7	6206ZZ 6006ZZ	30Minutes
1.5	4	HAG-25D <sub>1</sub>																									15Minutes
1.5	4	HAG-25D <sub>2</sub>	246	300	250	335	5	14	19	180	50	15	4	66	195	27	268	62	50	35	2	24	7	4	7	6206ZZ 6006ZZ	15Minutes
2.2	4	HAG-25D <sub>3</sub>	246	300	250	335	5	14	19	180	50	15	4	66	195	27	268	62	50	45	2	28	7	4	7	6206ZZ 6006ZZ	10Minutes



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