

## Smoke Extraction Motor

**WXF3 Series Premium efficiency Three Phase Asynchronous Motor for Metro and Tunnel Application**



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WXF3-2018-06

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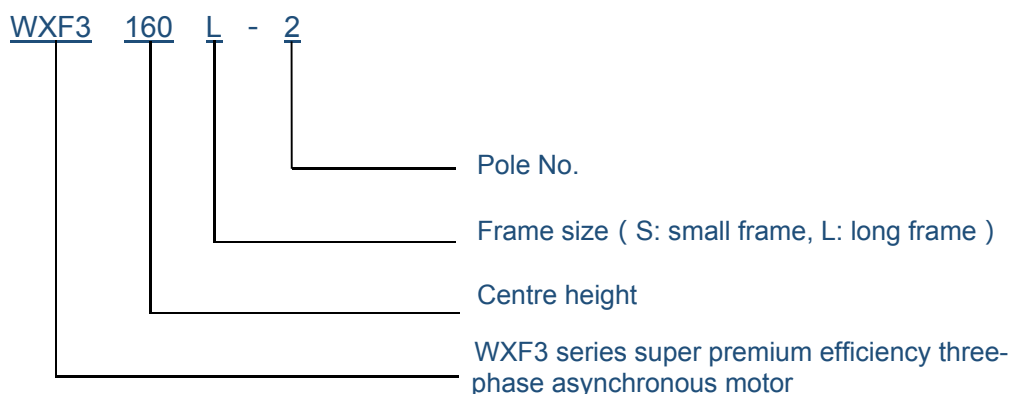
## General information

WXF3 series super premium efficiency three-phase asynchronous high temperature fire protection motor for metro and tunnel is the energy efficiency upgrade product by Wolong. The efficiency meets level 2 energy efficiency standard in GB 18613-2012 and meets the IEC60034-30 IE3 efficiency level. WXF3 series installation dimension are consistent with the IE2-DT series and conform to IEC standards and GB standards. Customers can switch quickly. WXF3 series of motors are compact, low loss, low vibration, safety and reliable, easy for maintenance and so on. They are applied to the fire protection system in metro and tunnel fields.

### 1. Applications

WXF3 series super premium efficiency three-phase asynchronous motor in normal conditions, motors can be used as driven fans, and S1 duty for long time work. When ambient temperature reaches a certain temperature, it can reliable running in 2H, meeting the requirements of national high temperature fire protection motor.

### 2. Nomenclature















### 3. Basic features

Frame size	H80-H355
Power output	0.75-315kW
Pole No.	2P/4P/6P
Main installation method	B3
Frame material	Gray cast iron
Voltage	220/380V ;380/660V
Frequency	50Hz
Insulation structure	F/H
Protection class	IP55
Sound press level (dBA)	

Vibration class	A
Cooling method	IC410

**4. Types of structure and mounting**

Type of structure	Frame with feet, End shield without flange					
Type of mounting	B3	B6	B7	B8	V5	V6
Sketch map						
Frame size	080-355	080-160				

Type of structure	Frame without feet, End shield with flange			Frame with feet, End shield with flange and hole		
Type of mounting	B5	V1	V3	B35	V15	V36
Sketch map						
Frame size	080-280	080-355	080-160	080-355	080-160	

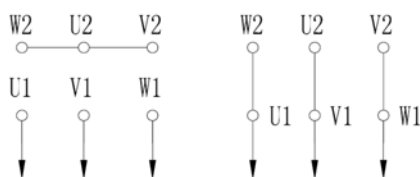
**5. Housing protection grade : IP55**

Protection level of the housing is mainly to prevent the human body from electric shock or close to the live part and rotating part in the shell. The anti solid external object enters and prevents the harmful effects caused by the water and oil, which is in accordance with the regulations of GB4942 and IEC34-5. The code and meaning of the form of protection are listed as follows

Code	Meaning	First place Number	Meaning	Second place	Meaning
IP	International protection form	2	Anti over than 12mm solid	1	Anti vertical dripping water
				3	Anti drenching water
		4	Anti over than 1mm solid	4	Splash proof
				5	Splash proof
5	Anti dust	6	Prevent waves		

**6. Connection way and rotation direction :**

Connection way : In 380V, 3kW and below, using “Y” connection , 4kW and above, using “Δ” connection



Y connection      Δ connection

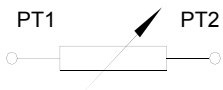
If the motor power supply voltage  $U_Y$  of Y shape connection. When using delta connection, the power supply voltage should meet the following basic requirements.  $U_{\Delta} = U_Y / 1.732$ , in  $\Delta$  connection rated current  $I_{\Delta} = 1.732 I_Y$ .

When the motor is connected according to the U V W phase sequence, the motor rotates clockwise from the driven end.

## Reference standards

GB	IEC Standard
GB 755 Rotary motor rating and performance	IEC 60034-1 Rotating electrical machines - Part 1: Rating and performance.
GB/T1032 Test method for three phase asynchronous motor	IEC 60034-2-1 Rotating electrical machines - Part 2-1: Standard methods for determining losses and efficiency from tests (excluding machines for traction vehicles).
GB/T 4942.1 Protection level (IP code) classification of rotary motor's overall structure	IEC 60034-5 Rotating electrical machines - Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) - classification.
GB/T 1993 Cooling method of rotating motor	IEC 60034-6 Rotating electrical machines - Part 6: Methods of cooling (IC code).
GB 1971 Line end mark and rotation direction of rotary motor	IEC 60034-8 Rotating electrical machines - Part 8: Terminal markings and direction of rotation.
GB 10069.3 Methods and limits of noise measurement for rotating motor - third parts of noise limits	IEC 60034-9 Rotating electrical machines - Part 9: Noise limits.
GB/T 13002 Thermal protection of rotary motor	IEC 60034-11-1 Rotating electrical machines - Part 11-1: Thermal protection.
GB/T 22210 Starting performance of single speed three phase cage induction motor	IEC 60034-12-2002 Rotating electrical machines - Part 12: Starting performance of single-speed three-phase cage induction motors
GB10068 Measurement, evaluation and limitation of mechanical vibration of motor with shaft height of 56mm and above	IEC 60034-14 Rotating electrical machines - Part 14: Mechanical vibration of certain machines - Limits of vibration.
GB18613-2012 Energy efficiency limits and energy efficiency grades for small and medium sized three phase asynchronous motors	IEC 60034-30-1 Rotating electrical machines - Part 30: Efficiency classes for single-speed three-phase cage induction motors.
GB/T 4772.1 Rotating motor size and power output level first parts: Frame size 56~400 and flange 55~1080	IEC 60072-1 Dimensions and output series for rotating electrical machines - Part 1: Frame numbers 56 to 400 and flange numbers 55 to 1080.

Thermal sensing element PTC

Name	PTC thermistor
Model	Thermistor
Purpose	Motor trip protection
Operating temperature and accuracy	140°C±5°C
Quantity	3 pieces 1 package
Setting position	1 piece of each phase, buried at highest temperature point of the winding driving end
Connect method	Three components are connected in series, and two are drawn out to the terminal box
Lead wire color and marking	Black match with black, PT1、PT2. If there are backup, PT3、PT4。
Wiring sketch diagram	<p style="text-align: center;">PTC for trip</p> 

Remark: PTC operating temperature can be customized according to customer requirements

Thermistor windings PT100

Name	PT100 thermistor
Model	Platinum thermal resistance sensor, three lead line
Purpose	Temperature display of motor winding and high temperature protection
Resistance and accuracy at 0 °C	100 ±0.12Ω ( B class )
Quantity	3 pieces 1 package
Setting position	1 piece of each phase, buried at highest temperature point of the winding driving end
Connect method	Three components are connected in series, and two are drawn out to the terminal box
Lead wire marking	<p>U—PU1、PU2、PU2; V—PV1、PV2、PV2; W—PW1、PW2、PW2</p> <p>If each phase of the winding has two components, the other component lead wire is marked as:</p>

	U—PU3、PU4、PU4; V—PV3、PV4、PV4; W—PW3、PW4、PW4
Wiring sketch diagram	<p>For example: Phase U PT100 for winding</p>

Thermistor PT100 for bearing

Name	PT100 thermistor
Model	Platinum thermal resistance sensor, three lead ling, metal shell package
Purpose	Bearing temperature display, high temperature protection.
Resistance and accuracy at 0 °C	100 ±0.12Ω (B class)
Quantity	One piece of each bearing end
Setting position	Buried inside the end cover, the sensor end must contact the outer ring of the bearing.
Connect method	Three lead wire of component are drawn out to the terminal box.
Lead wire marking	<p>(DE) —PD1、PD2、PD2; (NDE) —PN1、PN2、PN2</p> <p>If each end bearing uses two components, the lead wire of another component is marked as:</p> <p>(DE) —PD3、PD4、PD4; (NDE) —PN3、PN4、PN4</p>
Wiring sketch diagram	<p>For example: DE, NDE</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p><b>PT100 for DE bearing</b></p> </div> <div style="text-align: center;"> <p><b>PT100 for NDE bearing</b></p> </div> </div>

K or T type temperature measuring line can also be used according to the requirement.



**Selection and installation of moisture-proof heating belt**

Name	Space heater											
Model	Motor moisture-proof heating belt											
Purpose	To prevent condensation inside the motor, in case of low insulation resistance.											
Insulation material temperature resistance	≥250℃											
Rated voltage	AC single phase, Suitable to 220~240V											
Setting position	Ligation at the end of the drive winding of the motor											
Connect method	Two lead wire of component are drawn out to the terminal box.											
Lead wire marking	H1, H2											
Wiring sketch diagram	<p><b>Space heater</b></p>											
Rated power (W)	30	30	40	40	50	50	60	60	60	160	220	
FS No.	100	112	132	160	180	200	225	250	280	315	355	

Remark: FS315 adopt two 80W heating belt, FS355 adopt two 110W heating belt

## Electrical character

Motor rated power is under S1 working continuous operation. ( IEC60034-1 ) , The ambient temperature is between -15~+40 C, and the altitude is no more than 1000m.

The power supply voltage and frequency of the standard motor shall be in accordance with the class A voltage and frequency error requirements in GB755 (equivalent to IEC60034-1) standard. The allowable voltage deviation is + 5% and the frequency deviation is + 2%.

Remark: when there are special requirements for frequency and voltage, ambient temperature and altitude, please put forward when ordering.

The insulation grade of the motor can be customized according to customer requirements. Class F insulation grade corresponds to the normal temperature motor, and class H insulation grade corresponds to 280°C high temperature resistant motor in 2 hours running.

Electrical performance tolerance table

Serial number	Electrical performance	Tolerance
1	Efficiency $\eta$ $\leq 45\text{kW}$	-0.15 (1- $\eta$ )
	$> 45 \text{ kW}$	-0.10 (1- $\eta$ )
2	Power factor	- (1-cos $\varphi$ )/6, min-0.02,max-0.07
3	Locked rotor torque times	-15%~+25%
4	Max. rotor torque times	-10%
5	Locked current times	+20%
6	Slip ratio $< 1\text{kW}$	$\pm 30\%$
	$\geq 1\text{kW}$	$\pm 20\%$

Motor can withstand 1.5 times rated current at rated voltage and rated frequency for 2 minutes without damage. ( IEC60034 )

Motor protection mainly adopts two methods for the two key parts, bearing and winding:

Bearing protection it is mainly used in the environment that the bearing needs special protection. The high precision bearing thermometer PT100 with shielded line is adopted, which is specifically arranged in the bearing chamber of the driving and non driving ends. The bearing temperature is monitored in real time through PT100 to protect the bearing and the whole machine.

Winding protection, It can be divided into three different ways: overheating protection and real-time monitoring protection, and installation of moisture-proof heating belt protection. The overheating protection mainly adopts the PTC thermistor, which is buried in the end of the motor winding. When the winding

reaches the limit temperature (trip temperature), the circuit can be disconnected to realize the protection motor. The different temperature resistant motor can be configured with different PTC thermistors.

Another protection of the winding is the winding temperature measuring element PT100, which monitors the winding temperature in real time through the PT100 to achieve the purpose of protecting the whole machine through the protection winding. For winding PT100, customers can choose one for each phase, or two for each phase.

Some motors are in the extreme low temperature environment, or because the motor is often in the two state of running and stopping, the inside of the motor is easy to appear condensate. In addition, the motor runs in the damp and hot environment. In order to protect the winding of the motor, the damp proof can be configured to improve the operation of the motor in the two extremely environment. The voltage of the heating belt can be customized according to the requirements of customers.

## Mechanical character

### Motor housing

The motor adopts high strength grey cast iron HT200 and effectively prevents condensation water. The M8 dripping hole configuration is adopted from frame size H280-H355.

### Bearing life

The rated life of the bearing is calculated according to the ISO281 standard, but the maintenance condition of the bearing is closely related to the life of the bearing. The bearing should be maintained regularly and the oil should be replaced. If the bearing is not replaced in time, it will easily cause the motor to burn down. In the motor horizontal installation, without axial force under the normal 50Hz operation, the motor bearing design life should be satisfied: 2 pole motor at least 20000 hours, 4 pole, 6 pole motor at least 30000 hours.

### Lifespan of grease and the period of re lubrication

For the seal bearing, the life of the grease is the same as that of the bearing life. For the re lubricated bearing, regular oil replacement can be used to prolong the service life of the bearing. The oil of the normal temperature motor is Mobil N3 grease. 280 degree 2 hours high temperature motor grease is FH28KN, and frame size below H160 are free of maintenance.

### Standard bearing configuration

FS	Pole	DE	NDE		FS	Pole	DE	NDE
80	2~6	6204	6204		225	2	6312	6312
90	2~6	6205	6205		225	4~6	6313	6312

100	2~6	6206	6205	250	2	6313	6313
112	2~6	6206	6206	250	4~6	6314	6313
132	2~6	6208	6208	280	2	6314	6314
160	2~6	6309	6309	280	4~6	6317	6314
180	2~6	6310	6310	315	2	6317	6317
200	2~6	6312	6312	315	4~6	6319	6319
225	2	6312	6312	355	2	6319	6319
225	4~6	6313	6312	355	4~6	6322	6322

### Maximum radial force

Maximum radial force: maximum radial force  $F_0$  of the radial load (unit: N) is based on the following premise, that is, the load line (the center of the pulley) must be within the length of the free shaft (the length is  $X$ ), and the length  $X$  (mm) is the distance from the axle shoulder to the  $F$  force line. Therefore, the length  $X_{max}$  is the total length of the shaft extension, and the maximum radial force in the 50Hz case is shown in the following table.

Frame size	Radial force N					
	2P		4P		6P	
	X=0	X=max	X=0	X=max	X=0	X=max
H80	485	400	625	515	735	605
H90	725	605	920	775	10990	910
H100	1030	840	1310	1060	1550	1250
H112	1010	830	1270	1040	1520	1240
H132	1490	1180	1940	1530	2260	1780
H160	1540	1210	2040	1590	2330	1820
H180	2000	1550	2350	1950	2800	2250
H200	2550	2100	3350	2750	3900	3200
H225	3050	2550	3750	2950	4550	3600
H250	3650	2950	4400	3600	5350	4350
H280	3350	2800	8700	7200	10800	8900
H315	3950	3350	9900	8100	12100	9900

H355	4250	3750	10300	9000	13000	11000
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(Remark: When the load has larger radial force and axial force, and the shaft extends to non-standard long axis extension, its bearing life and option can be checked separately)

### Plate size and metal hose

Serial No.	Frame size	Outlet hole size	Plate size	Metal hose diameter
1	80	M20X1.5	76X76	15
2	90-100	M24X1.5	82X82	15
3	112-132	M30X2	90X90	20
4	160-180	M36X2	126X126	25
5	200-225	M48X2	160X160	32
6	250-280	M64X2	188X188	51
7	315	M76X2	240X240	64
8	355	M114X2	280X280	100

**Bearing selection**

Frame size	Pole	DE	NDE	Remark
H71	2~6	6204	6202	PAD
H80	2~6	6204	6204	
H90	2~6	6205	6205	
H100	2~6	6206	6206	
H112	2~6	6206	6206	
H132	2~6	6208	6208	
H160	2~6	6309	6309	
H180	2~6	6310	6310	
H200	2~6	6312	6312	
H225	2~6	6313	6313	PAD
H250	2~6	6314	6314	PAD
H280	2~6	6317	6317	PAD
H225	2	6312	6312	
H225	4~6	6313	6312	
H250	2	6313	6313	
H250	4~6	6314	6313	
H280	2	6314	6314	
H280	4~6	6317	6314	
H315	2	6317	6317	
H315	4~6	6319	6319	
H355	2	6319	6319	
H355	4~6	6322	6322	

## Technical Data

50Hz 2P

Model	Power	Rated current ( A )			RPM r/min	Efficiency ( % )			Power factor Cosφ			Locked torque/ Rated torque	Locked current/ Rated current	Max. torque/ Rated torque	Weight	Noise dB(A)	Torque (N.m)
	(kW)	I <sub>N</sub> 380V	I <sub>N</sub> 400V	I <sub>N</sub> 415V		50%	75%	100%	50%	75%	100%				( kg )		
WXF3-71M1-2	0.37	0.91	0.86	0.83	2800	75.8	76.5	76.4	0.72	0.77	0.81	2.2	6.1	2.3	15	62	1.26
WXF3-71M2-2	0.55	1.31	1.24	1.20	2800	77.8	78.6	78.4	0.73	0.79	0.82	2.2	6.1	2.3	15.5	62	1.88
WXF3-80M1-2	0.75	1.72	1.64	1.58	2860	79.3	81.1	80.7	0.73	0.79	0.82	2.3	7	2.3	17	62	2.5
WXF3-80M2-2	1.1	2.43	2.31	2.23	2880	79.6	82.5	82.7	0.73	0.76	0.83	2.2	7.3	2.3	18	62	3.65
WXF3-90S-2	1.5	3.22	3.06	2.95	2885	84.1	84.9	84.2	0.74	0.81	0.84	2.2	7.6	2.3	22.5	67	4.97
WXF3-90L-2	2.2	4.58	4.35	4.19	2870	85.8	86.5	85.9	0.74	0.82	0.85	2.2	7.6	2.3	25.5	67	7.32
WXF3-100L-2	3	6.02	5.71	5.51	2900	86.2	87.4	87.1	0.79	0.84	0.87	2.2	7.8	2.3	34	74	9.88
WXF3-112M-2	4	7.84	7.45	7.18	2900	88.7	89.2	88.1	0.78	0.85	0.88	2.2	8.3	2.3	40	77	13.2
WXF3-132S1-2	5.5	10.6	10.1	9.75	2920	88.9	89.6	89.2	0.78	0.85	0.88	2	8.3	2.3	57	79	18
WXF3-132S2-2	7.5	14.4	13.7	13.2	2905	89.9	90.6	90.1	0.79	0.85	0.88	2	7.9	2.3	64	79	24.7
WXF3-132L-2	9.2	17.5	16.7	16.1	2905	89.9	91	90.6	0.79	0.85	0.88	2	7.9	2.3	70	79	30.2
WXF3-160M1-	11	20.6	19.6	18.9	2940	89.9	91.1	91.2	0.78	0.86	0.89	2	8.1	2.3	110	81	35.7
WXF3-160M2-	15	27.9	26.5	25.5	2930	91.3	92.1	91.9	0.79	0.86	0.89	2	8.1	2.3	118	81	48.9
WXF3-160L-2	18.5	34.2	32.5	31.3	2930	92.2	92.7	92.4	0.81	0.87	0.89	2	8.2	2.3	132	81	60.3
WXF3-180M-2	22	40.5	38.5	37.1	2945	92.1	92.9	92.7	0.81	0.87	0.89	2	8.2	2.3	162	83	71.3
WXF3-200L1-2	30	54.9	52.1	50.3	2970	91.3	92.9	93.3	0.8	0.87	0.89	2	7.6	2.3	256	84	96.5
WXF3-200L2-2	37	67.4	64	61.7	2970	91.8	93.3	93.7	0.78	0.86	0.89	2	7.6	2.3	279	84	119
WXF3-225M-2	45	80.8	76.8	74	2970	92.4	94	94	0.83	0.88	0.9	2	7.7	2.3	314	86	145
WXF3-250M-2	55	98.5	93.5	90.2	2970	93	94.3	94.3	0.78	0.86	0.9	2	7.7	2.3	435	89	177
WXF3-280S-2	75	134	127	122	2980	93.5	94.7	94.7	0.83	0.87	0.9	1.8	7.1	2.3	571	91	241
WXF3-280M-2	90	160	152	146	2980	93.3	95	95	0.8	0.87	0.9	1.8	7.1	2.3	657	91	289
WXF3-315S-2	110	195	185	179	2985	93.8	95.2	95.2	0.86	0.89	0.9	1.8	7.1	2.3	1165	92	353
WXF3-315M-2	132	234	222	214	2985	94	95.4	95.4	0.84	0.87	0.9	1.8	7.1	2.3	1230	92	423
WXF3-315L1-2	160	279	265	256	2985	94.7	95.6	95.6	0.85	0.88	0.91	1.8	7.2	2.3	1345	92	513
WXF3-315L2-2	200	349	331	319	2985	95.2	95.8	95.8	0.87	0.89	0.91	1.8	7.2	2.2	1450	92	641
WXF3-355M-2	250	436	414	399	2990	95.4	95.8	95.8	0.88	0.89	0.91	1.6	7.2	2.2	1607	100	801
WXF3-355L-2	315	549	522	503	2990	95.3	95.8	95.8	0.88	0.89	0.91	1.6	7.2	2.2	1860	100	1009

50Hz 4P

Model	Power	Rated current ( A )			RPM	Efficiency ( % )			Power factor Cosφ			Locked torque/ Rated torque	Locked current/ Rated current	Max. torque/ Rated torque	Weight ( kg )	Noise dB(A)	Torque (N.m)
	(kW)	I <sub>N</sub> 380V	I <sub>N</sub> 400V	I <sub>N</sub> 415V	r/min	50%	75%	100%	50%	75%	100%						
WXF3-71M1-4	0.25	0.73	0.69	0.67	1400	69.7	70.6	70.5	0.57	0.67	0.74	2.1	5.5	2.2	14	55	1.71
WXF3-71M2-4	0.37	1.03	0.98	0.94	1400	71.9	72.8	72.8	0.57	0.68	0.75	2.1	5.5	2.2	14.5	55	2.52
WXF3-80M1-4	0.55	1.38	1.31	1.26	1425	77.9	80.8	80.8	0.57	0.68	0.75	2.3	6.6	2.3	14	56	3.69
WXF3-80M2-4	0.75	1.84	1.75	1.69	1425	79.6	82.4	82.5	0.57	0.69	0.75	2.3	6.6	2.3	15.5	56	5.03
WXF3-90S-4	1.1	2.61	2.48	2.39	1430	83.2	84.6	84.1	0.56	0.69	0.76	2.3	6.8	2.3	23	59	7.35
WXF3-90L-4	1.5	3.47	3.3	3.18	1425	84.7	85.8	85.3	0.58	0.7	0.77	2.3	7	2.3	26	59	10.1
WXF3-100L1-4	2.2	4.76	4.52	4.36	1445	84.8	86.8	86.7	0.64	0.75	0.81	2.3	7.6	2.3	35	64	14.5
WXF3-100L2-4	3	6.34	6.02	5.8	1420	85.7	87.7	87.7	0.65	0.76	0.82	2.3	7.6	2.3	41	64	20.2
WXF3-112M-4	4	8.37	7.95	7.66	1450	88.5	89.2	88.6	0.69	0.78	0.82	2.2	7.8	2.3	50	65	26.3
WXF3-132S-4	5.5	11.2	10.7	10.3	1460	89.3	90	89.6	0.67	0.77	0.83	2	7.9	2.3	70	71	36
WXF3-132M-4	7.5	15	14.3	13.7	1445	90.9	91.2	90.4	0.7	0.8	0.84	2	7.5	2.3	76.5	71	49.6
WXF3-160M-4	11	21.5	20.4	19.7	1470	90.7	91.6	91.4	0.7	0.8	0.85	2.2	7.7	2.3	121	73	71.5
WXF3-160L-4	15	28.8	27.3	26.3	1470	92	92.5	92.1	0.74	0.82	0.86	2.2	7.8	2.3	129	73	97.4
WXF3-180M-4	18.5	35.3	33.5	32.3	1475	92	92.8	92.6	0.71	0.81	0.86	2	7.8	2.3	173	76	120
WXF3-180L-4	22	41.8	39.7	38.3	1475	92.2	93	93	0.72	0.82	0.86	2	7.8	2.3	184	76	142
WXF3-200L-4	30	56.6	53.8	51.9	1475	92.7	93.6	93.6	0.76	0.83	0.86	2	7.3	2.3	270	76	194
WXF3-225S-4	37	69.6	66.1	63.7	1480	92.4	93.9	93.9	0.74	0.82	0.86	2	7.4	2.3	305	78	239
WXF3-225M-4	45	84.4	80.2	77.3	1480	92.8	94.2	94.2	0.75	0.82	0.86	2	7.4	2.3	335	78	290
WXF3-250M-4	55	103	97.6	94.1	1480	93	94.6	94.6	0.77	0.82	0.86	2.2	7.4	2.3	451	79	355
WXF3-280S-4	75	136	129	125	1485	93.3	95	95	0.78	0.85	0.88	2	6.9	2.3	598	80	484
WXF3-280M-4	90	163	155	129	1485	93.6	95.2	95.2	0.76	0.83	0.88	2	6.9	2.3	684	80	579
WXF3-315S-4	110	197	187	180	1490	93.6	95.4	95.4	0.82	0.86	0.89	2	7	2.2	1210	88	707
WXF3-315M-4	132	236	224	216	1490	94.8	95.6	95.6	0.82	0.87	0.89	2	7	2.2	1240	88	849
WXF3-315L1-4	160	285	271	261	1490	95.2	95.8	95.8	0.84	0.86	0.89	2	7.1	2.2	1390	88	1029
WXF3-315L2-4	200	352	334	322	1490	95.8	96	96	0.86	0.88	0.9	2	7.1	2.2	1440	88	1286
WXF3-355M-4	250	440	418	403	1495	95.6	96	96	0.85	0.88	0.9	2	7.1	2.2	1665	95	1597
WXF3-355L-4	315	554	526	507	1495	94.9	96	96	0.86	0.87	0.9	2	7.1	2.2	1815	95	2022

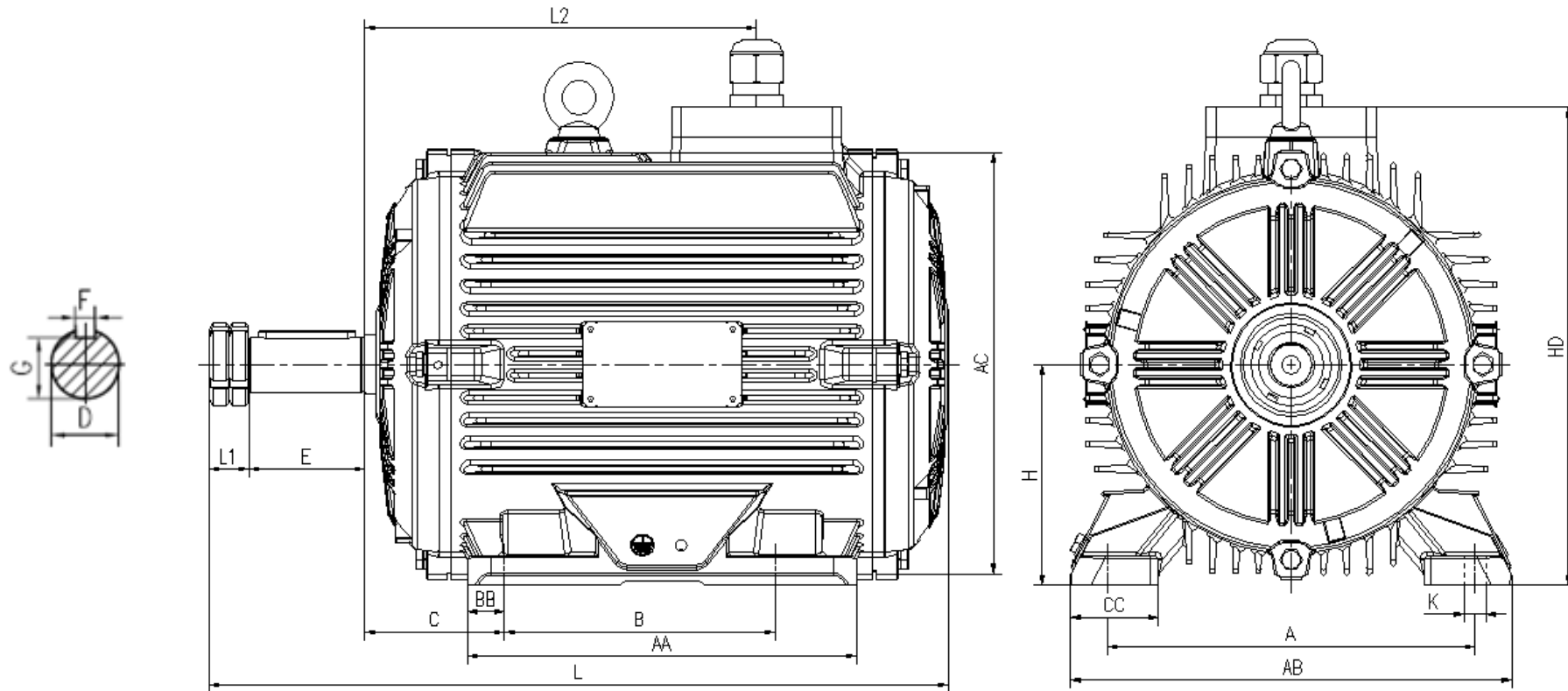


50Hz 6P

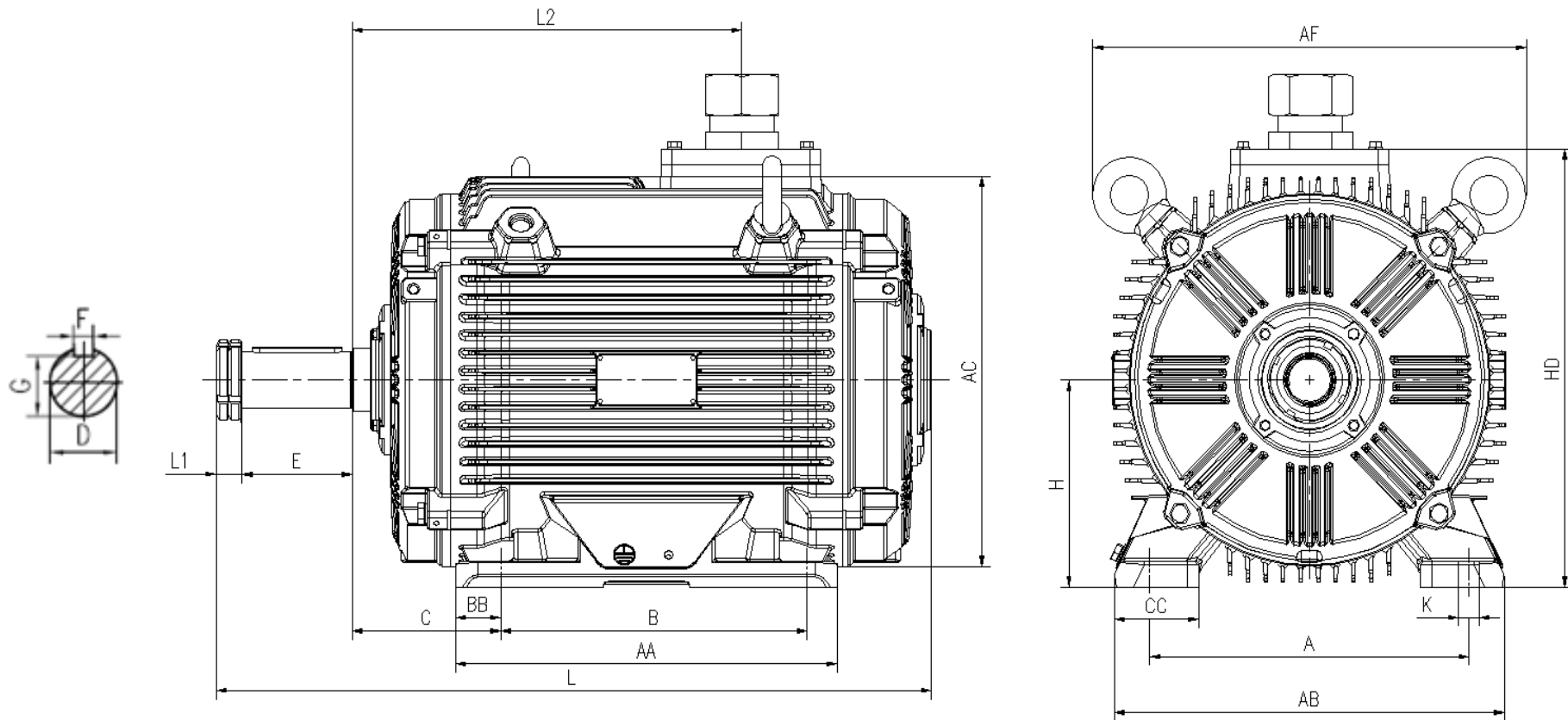
Model	Power	Rated current ( A )			RPM	Efficiency ( % )			Power factor Cosφ			Locked torque/ Rated torque	Locked current/ Rated current	Max. torque/ Rated torque	Weight	Noise	Torque
	(kW)	I <sub>N</sub> 380V	I <sub>N</sub> 400V	I <sub>N</sub> 415V	r/min	50%	75%	100%	50%	75%	100%				( kg )	dB(A)	(N.m)
WXF3-71M1-6	0.18	0.66	0.63	0.61	900	62.1	62.9	62.9	0.48	0.61	0.66	1.9	4.5	2	14	54	1.91
WXF3-71M2-6	0.25	0.84	0.8	0.77	900	65.8	66.8	66.7	0.49	0.61	0.68	1.9	4.5	2	14.5	54	2.65
WXF3-80M1-6	0.37	1.09	1.04	1	925	72.7	74.8	73.5	0.5	0.62	0.7	2	6	2.1	13	54	3.82
WXF3-80M2-6	0.55	1.5	1.43	1.38	925	77	78.6	77.2	0.53	0.65	0.72	2	6	2.1	15.5	54	5.68
WXF3-90S-6	0.75	2.03	1.93	1.86	940	77.5	79.3	78.9	0.51	0.64	0.71	2	6	2.1	24	57	7.62
WXF3-90L-6	1.1	2.83	2.69	2.59	945	81.1	82.1	81	0.55	0.67	0.73	2	6	2.1	27.5	57	11.1
WXF3-100L-6	1.5	3.78	3.6	3.47	960	81.5	83.2	82.5	0.57	0.68	0.73	2	6.5	2.1	37	61	14.9
WXF3-112M-6	2.2	5.36	5.09	4.91	950	82.6	84.5	84.3	0.56	0.67	0.74	2	6.6	2.1	46	65	22.1
WXF3-132S-6	3	7.2	6.84	6.59	960	82.4	86.4	85.6	0.57	0.68	0.74	2	6.8	2.1	57	69	29.8
WXF3-132M1-6	4	9.46	8.99	8.66	960	86.4	87.3	86.8	0.57	0.68	0.74	2	6.8	2.1	63	69	39.8
WXF3-132M2-6	5.5	12.7	12	11.6	965	87.3	88.2	88	0.58	0.69	0.75	2	7	2.1	78	69	54.4
WXF3-160M-6	7.5	16.2	15.4	14.8	970	88	89.2	89.1	0.63	0.74	0.79	2	7	2.1	116	73	73.8
WXF3-160L-6	11	23.1	22	21.2	970	89.3	90.4	90.3	0.64	0.75	0.8	2	7.2	2.1	142	73	108
WXF3-180L-6	15	30.9	29.3	28.2	975	90.5	91.4	91.2	0.69	0.78	0.81	2	7.3	2.1	181	73	147
WXF3-200L1-6	18.5	37.8	36	34.7	980	90.5	91.7	91.7	0.69	0.77	0.81	2	7.3	2.1	234	73	180
WXF3-200L2-6	22	44.8	42.5	41	980	91.2	92.2	92.2	0.68	0.77	0.81	2	7.4	2.1	254	73	214
WXF3-225M-6	30	59.1	56.2	54.1	980	91.8	92.9	92.9	0.78	0.81	0.83	2	6.9	2.1	328	74	292
WXF3-250M-6	37	71.7	68.1	65.7	985	92.6	93.3	93.3	0.72	0.8	0.84	2	7.1	2.1	416	76	361
WXF3-280S-6	45	85.8	81.6	78.6	985	92	93.7	93.7	0.78	0.82	0.85	2	7.3	2	543	78	439
WXF3-280M-6	55	103	98.1	94.6	985	92.6	94.1	94.1	0.76	0.83	0.86	2	7.3	2	635	78	536
WXF3-315S-6	75	143	136	131	990	94.3	94.6	94.6	0.77	0.8	0.84	2	6.6	2	1190	83	727
WXF3-315M-6	90	170	161	155	990	94.2	94.9	94.9	0.73	0.8	0.85	2	6.7	2	1320	83	873
WXF3-315L1-6	110	207	196	189	990	94.8	95.1	95.1	0.76	0.81	0.85	2	6.7	2	1430	83	1066
WXF3-315L2-6	132	244	232	224	990	94.9	95.4	95.4	0.77	0.83	0.86	2	6.8	2	1610	83	1280
WXF3-355M1-6	160	296	281	271	995	95.3	95.6	95.6	0.85	0.84	0.86	1.8	6.8	2	1710	85	1551
WXF3-355M2-6	200	365	346	334	995	94.6	95.8	95.8	0.81	0.84	0.87	1.8	6.8	2	1850	85	1939
WXF3-355L-6	250	456	433	417	995	95.2	95.8	95.8	0.82	0.85	0.86	1.8	6.8	2	2105	91	2424

## Dimension drawing

### B3 Motor installation and outline dimension (H80-H180)



**B3 Motor installation and outline dimension (H200-H355)**

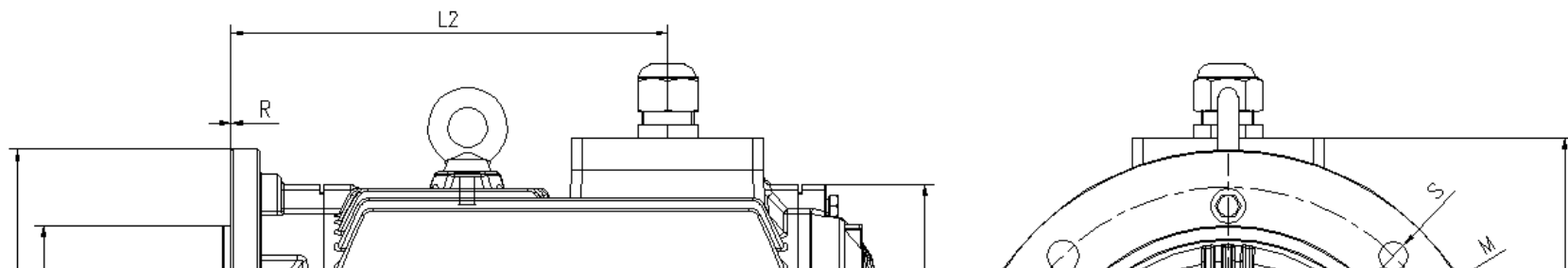


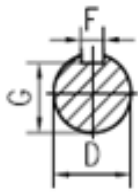
Frame size	Installation dimension (mm)									Outline dimension (mm)									
	A	B	C	D	E	F	G	H	K	AB	AC	AF	HD	AA	BB	CC	L1	L2	L
80M	125	100	50	19	40	6	15.5	80	10	163	163	--	190	14 6	15	32	20	142	275
90S	140	100	56	24	50	8	20	90	10	172	177	--	205	15 3	16.6	37	25	153	315
90L		125										--		17 5					
100L	160	140	63	28	60	8	24	100	12	200	208	--	230	19 8	18	45	25	207	375
112M	190	140	70	28	60	8	24	112	12	226	226	--	260	20 1	19	45	25	200	400
132S	216	140	89	38	80	10	33	132	12	262	244	--	280	18 4	21.5	56.5	25	218	397
132M		178										--		22 2					
160M	254	210	108	42	110	12	37	160	14.5	314	318	--	355	28 0	46	65	25	280	556
160L	254	254	108	42	110	12	37	160	14.5	314		--		32 4					
180M	279	241	121	48	110	14	42.5	180	14.5	355	360	--	395	29 7	26.5	68	25	322	622
180L	279	279	121	48	110	14	42.5	180	14.5	355		--		33 5					

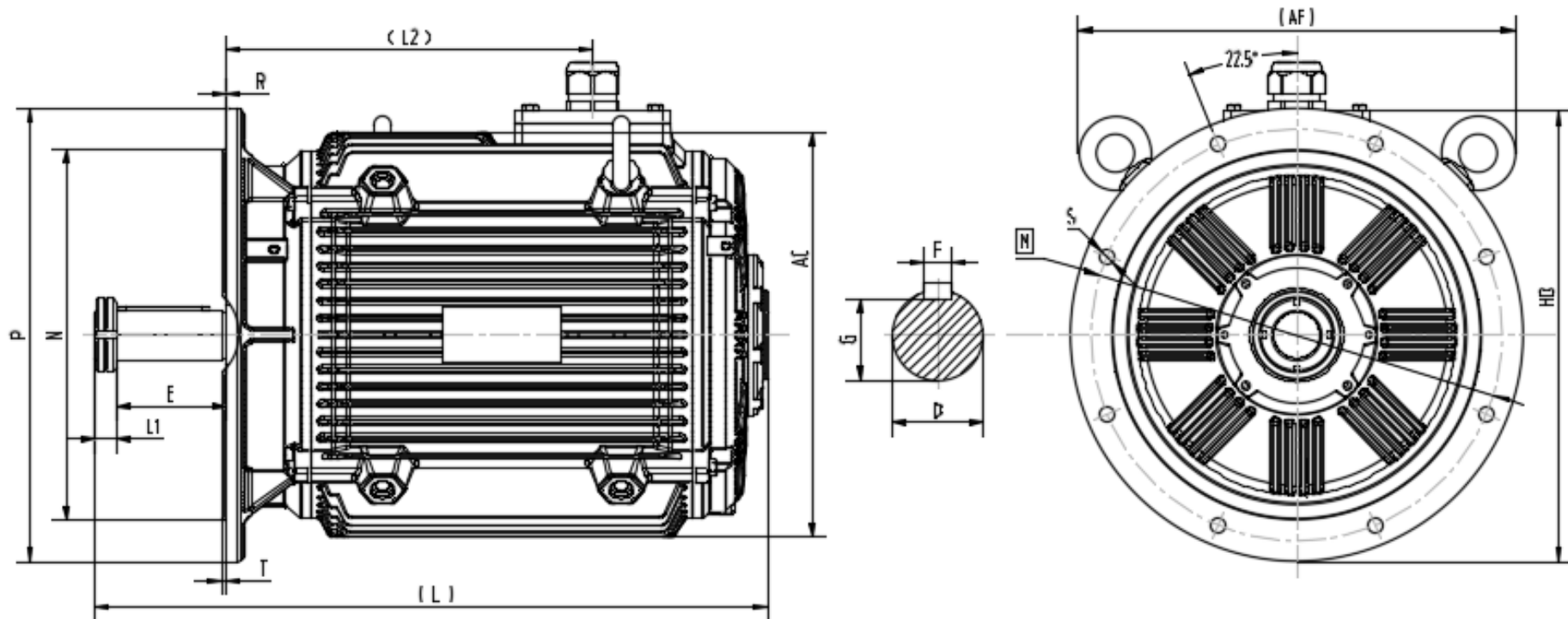
200L	318	305	133	55	110	16	49	200	18.5	388	396	432	415	380	30	84	30	380	725
225S	356	286	149	60	140	18	53	225	18.5	431	438	469	470	368	43	84	30	380	741
225M	356	311	149	2P:55	2P:110	2P:16	2P:49	225	18.5	431	438	469	470	368	30.5	84	30	405	736
				60	140	18	53					469		368					
250M	406	349	168	2P:60	140	18	2P:53	250	24	484	488	532	525	421	43	80	30	446	829
				65			58					532		421					
280S	457	368	190	2P:65	140	2P:18	2P:58	280	24	542	548	575	585	460	55	84	30	504	888
				75		20	67.5					575		460					
280M	457	419	190	2P:65	140	2P:18	2P:58	280	24	542	548	575	585	515	58.5	84	30	542	936
				75		20	67.5					575		515					
315S	508	448	216	2P:65	2P:140	2P:18	2P:58	315	28	628	631	672	675	536	44	115	30	611.5	1036
				80	170	22	71					672		536				44	
315M	508	457	216	2P:65	2P:140	2P:18	2P:58	315	28	628	631	672	675	640	46	115	30	711.5	1136

				80	170	22	71					672		640	46	115	35	711.5	1171
315L	508	558	216	2P:65	2P:140	2P:18	2P:58	315	28	628	631	672	675	640	46	115	30	711.5	1136
				80	170	22	71					672		640	46	115	35	711.5	1171
355M	610	560	378	2P:75	2P:140	2P:20	2P:67.5	355	28	740	710	763	800	700	41.5	146	35	798.5	1286
				95	170	25	86					763		700	41.5	146	40	798.5	1321
355L	610	630	308	2P:75	2P:140	2P:20	2P:67.5	355	28	740	710	763	800	865	39	146	35	968.5	1456
				95	170	25	86					763		865	39	146	40	968.5	1491

**B5 Motor installation and outline dimension(H80-H200)**

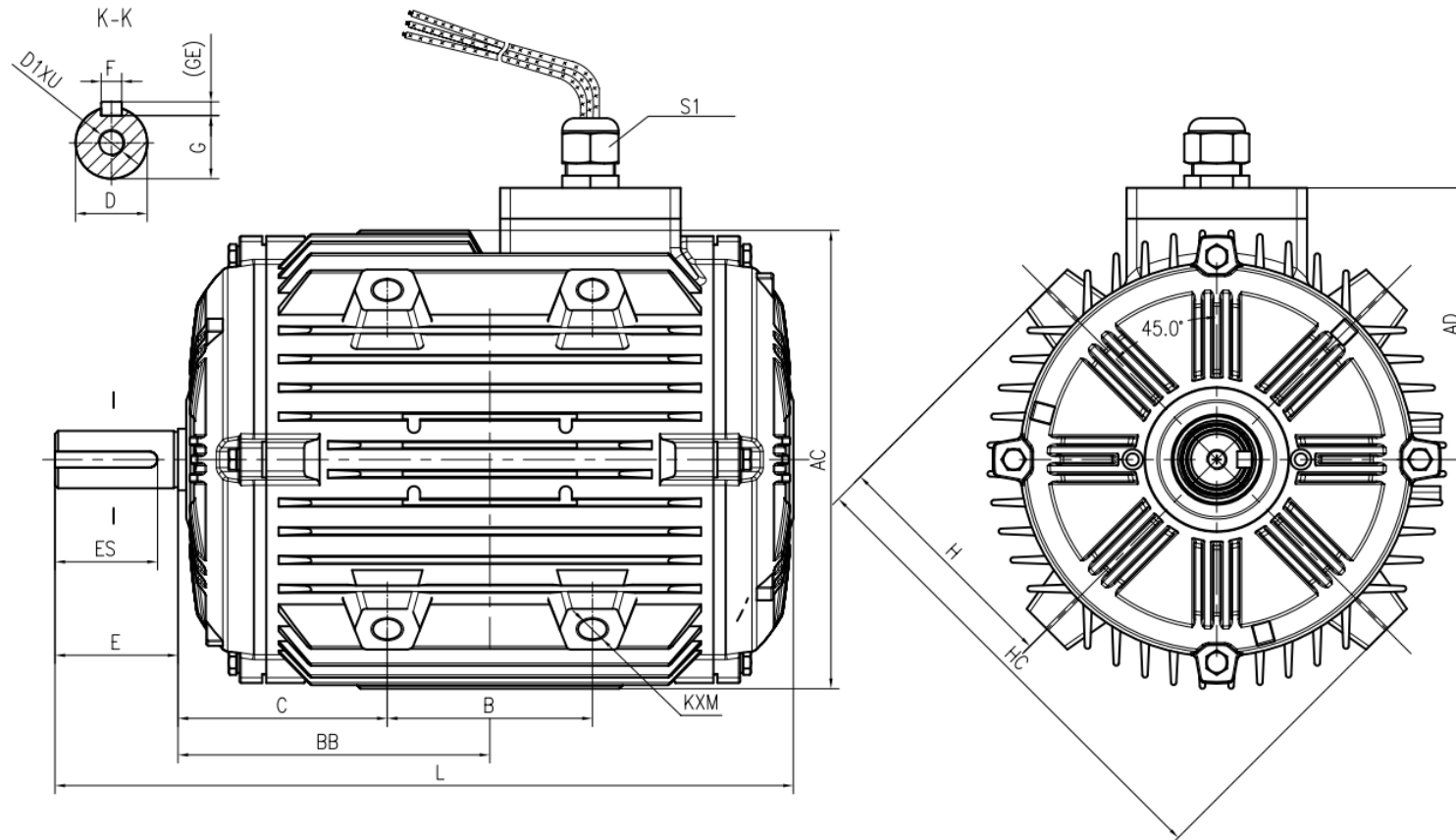




**B5 Motor installation and outline dimension(H225-H355)**



Frame size	Installation dimension (mm)										Outline dimension (mm)					
	D	E	F	G	M	N	P	S	T	R	AC	AF	L1	L2	L	
80M	19	40	6	15.5	165	130	200	4-12	3.5	0	±	163	--	20	142	275
90S	24	50	8	20	165	130	200	4-12	3.5	0	±	177	--	25	153	308
90L	24	50	8	20	165	130	200	4-12	3.5	0	±		--	25	175	330
100L	28	60	8	24	215	180	250	4-14.5	4	0	±	208	--	25	200	375
112M	28	60	8	24	215	180	250	4-14.5	4	0	±	226	--	25	200	400
132S	38	80	10	33	265	230	300	4-14.5	4	0	±	252	--	25	218	422
132M	38	80	10	33	265	230	300	4-14.5	4	0	±		--	25	256	460
160M	42	110	12	37	300	250	350	4-18.5	5	0	±	318	--	25	280	556
160L	42	110	12	37	300	250	350	4-18.5	5	0	±		--	25	320	600
180M	48	110	14	42.5	300	250	350	4-18.5	5	0	±	360	--	25	322	622
180L	48	110	14	42.5	300	250	350	4-18.5	5	0	±		--	25	360	660
200L	55	110	16	49	350	300	400	4-18.5	5	0	±	396	432	30	380	725
225S	60	140	18	53	400	350	450	8-18.5	5	0	±	438	469	30	380	741
225M	2P : 60	2P:110 140	2P : 16 18	2P : 49 53	400	350	450 450	8-18.5	5	0	± ±	438	469 469	30	405 405	736 766
	250M	2P : 65	140	18			2P : 53 58				500		450		550 550	8-18.5
280S	2P : 75	140		2P : 18 20	2P : 58 67.5	500	450	550 550	8-18.5	5	0	± ±	548	575 575	30 35	
	280M		2P : 75	140	2P : 18 20			2P : 58 67.5				500		450	550 550	8-18.5
315S	2P:65 80	2P:140 170	2P : 18 22	2P : 58 71	600	550	660 660	8-24	6	0	± ±	631	672 672	30 35	611.5 611.5	
	315M	2P:65 80	2P:140 170	2P : 18 22			2P : 58 71				600		550	660 660	8-24	6
315L	2P:65 80	2P:140 170	2P : 18 22	2P : 58 71	600	550	660 660	8-24	6	0	± ±	631	672 672	30 35		
	355M	2P:75 95	2P:140 170	2P : 20 25			2P : 67.5 86				740		680	800 800	8-24	6
355L		2P:75 95	2P:140 170	2P : 20 25	2P : 67.5 86	740	680	800 800	8-24	6		0		± ±		

**PAD Motor installation and shape size (H160-H355)**

Installation dimension and tolerance

C	D		E		F		G <sup>a</sup>		S1	ES	D1XU	
	Limit deviation	Basic di.	Limit deviation	Basic di.	Limit deviation	Basic di.	Limit deviation	Basic di.	Limit deviation	Basic di.	Basic di.	
±2		14	+0.008 -0.003	30	±0.26	5	0 -0.030	11	0 -0.1	M20x1.5	25	M5x12
		19		40		6		15.5		M20x1.5	32	M6x18
		24	+0.009 -0.004	50	±0.31	8	0 -0.036	20	0 -0.2	M20*1.5	40	M8*19
		28		60	±0.37			24		M25*1.5	50	M10*24
		38	80	10		33	70	M12*24				
		42	+0.018 +0.002	110	±0.43	12	37	M32x1.5		90	M16x36	
		48				14	42.5	90		M16*36		
		55	+0.030 +0.011	140	±0.5	16	49	M40x1.5		90	M20*42	
±3	60	140				±0.5	18	53		M50*1.5		110
	55	110	±0.43	16	49	90						
±4	60	+0.030 +0.011	140	±0.5	18	0 -0.043	53	0 -0.2	M63*1.5	140	2- M63*1.5	125
	65						58					
	75						67.5					
	65						58					
	75				20	67.5						

<sup>a</sup> If GE is  $\begin{pmatrix} +0.10 \\ 0 \end{pmatrix}$ , others  $\begin{pmatrix} +0.20 \\ 0 \end{pmatrix}$

## Order guide

1 ) Installation and power supply frequency is equal to ordinary motor, temperature resistance grades are +150 degrees C, +280 degrees two levels. The corresponding relationship between temperature resistance grade and insulation grade is in line with the following table.

Temperature resistance grade	+150°C/2 h	+280°C/2 h
Insulation grade	Class F	Class H

2 ) Bearing temperature measurement and winding temperature measurement can be customized according to customer requirements, generally 2+3PT100 or 2+6PT100 above H200.

3 ) When heating belt is ordered, the voltage should be indicated. Generally, the China domestic market we choose 220V. The oversea market we choose 230V, depending on the working conditions of the project.

4 ) Does the accessory terminal box need, if needed, whether the cavity of the terminal box needs to be customized and enlarged?

5) The lead wire length need to be specified according to the air distribution system requirement.

6) The connecting rod can be used with locking screws or metal joints and metal hoses.



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