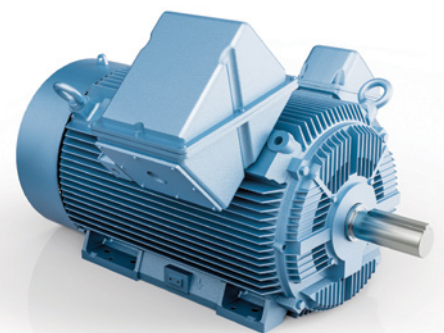
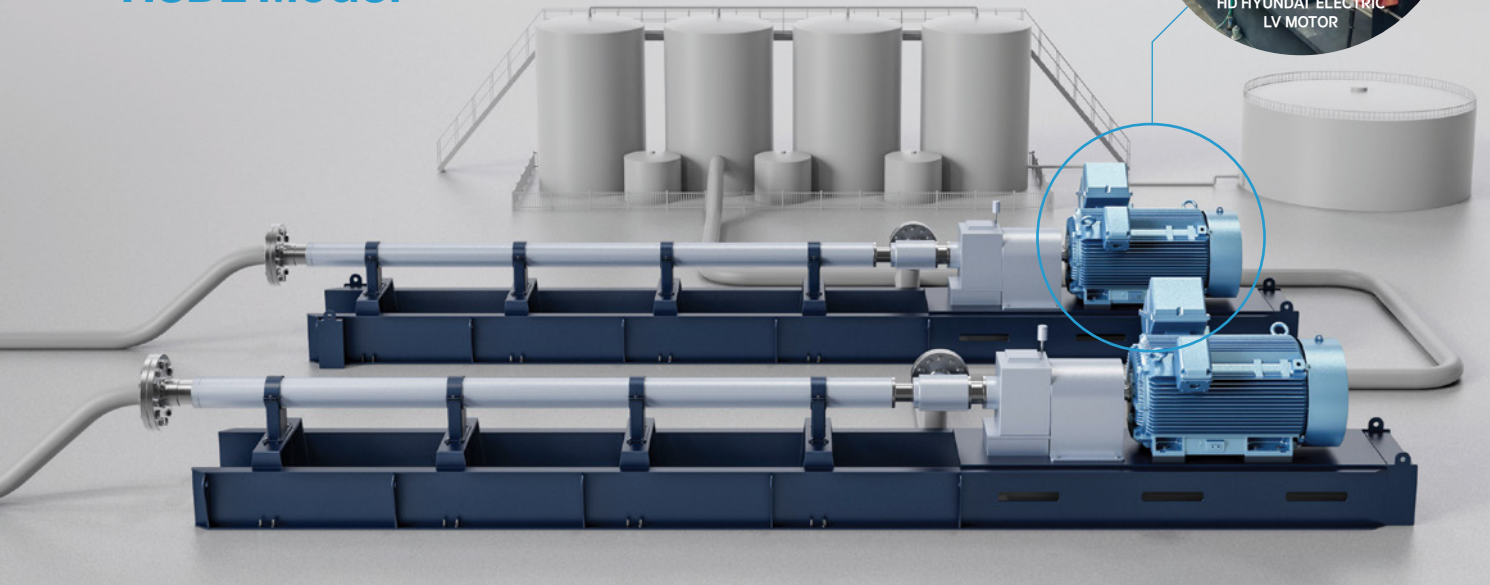




# Severe Duty Large HP Motor for H-Pump Application



# HD HYUNDAI ELECTRIC SEVERE DUTY LARGE MOTOR HSDE Model



H Pump (Horizontal Surface Pump) is a cutting-edge surface pumping system designed to provide efficient fluid transfer in upstream, midstream, and industrial applications. Its advanced design ensures superior performance, cost-effectiveness, and adaptability, making it a standout choice among modern pumping solutions. This system focuses on reducing operational costs, minimizing environmental risks, and maximizing system uptime. H Pump offers flexibility and stability to adapt to various flow rates and pressure conditions, achieved through modular design, advanced sealing technology, and precise vibration and temperature monitoring systems.

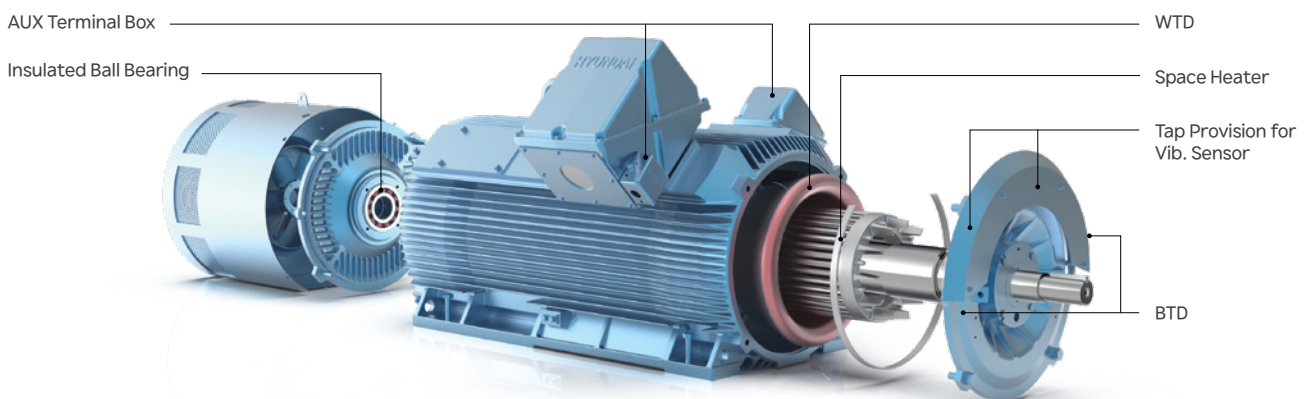
## Key Features of the H Pump

- 1. Cost Efficiency:
- 2. Operational Stability:
- 3. Environmental Friendliness:
- 4. Customizability

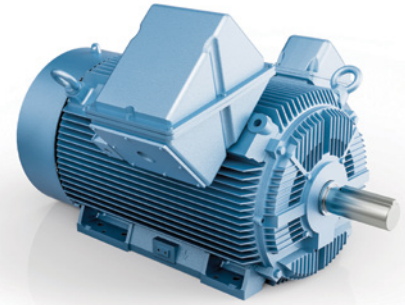
## Why HD Hyundai's HSDE Model?

HD Hyundai's HSDE Model is specifically designed to meet the key features of the H Pump. This low-voltage large motor supports the stable and efficient operation of H Pump systems and is equipped with the following features:

1. Insulation Class F, Temp. Rise B at 40°C Ambient Temp.	Ensures stability and durability, providing reliable performance even in high-temperature environments
2. Insulated Bearing on NDE Side	Protects bearings from electrical stress, ensuring long-term stability
3. WTD PT 100 Ohm: 2 EA/Phase	Provides precise winding temperature monitoring for thermal management and fault prevention
4. BTD PT 100 Ohm: 1 EA/Bearing	Monitors bearing temperature to prevent overheating and extend lifespan
5. Space Heater: 1 EA/Motor	Prevents condensation during downtime, protecting the motor interior and enhancing reliability
6. Auxiliary Terminal Box: 2 EA/Motor	Facilitates easy connection of auxiliary devices, offering flexibility and ease of maintenance
7. Tap Adaptor for Vibration Sensor	Allows easy installation of vibration sensors to ensure structural stability and prevent potential issues



# Severe Duty Large HP Motor HSDE Model Product Features



Frame	L449 - 5812	
HP	250 HP - 900 HP	
Speed (RPM)	3600, 1800, 1200	
Hz & Voltage (Dual Frequency Design)	60 Hz : 460 V or 575 V	
	50 Hz : 380 V, 400 V, 415 V at HP derating	
Design	NEMA Premium Efficiency & NEMA Design B Torque	
Insulation Class	F	
Temp. rise	Sine Wave Power	B at S.F 1.15 (** F-rise at 900 HP 3600 RPM)
	VFD Power	F at S.F 1.0
Mounting	Foot mount (B3)	Foot drilled hole(s) to accommodate mounting flexibility
	Flange with Foot (B35)	C-Face and D-Flange
Material	Frame	Cast iron frame with corrosion resistanced
	Rotor	Aluminum die casting or Centrifugal cast aluminum
	End-shield	Cast iron with corrosion resistanced
	Fan	Non-sparking conductive plastic fan
	Fan cover	Steel, Grease outlet through the Fan cover
Rotation	Bi-directional	Fr. L449-5812 at 1800 RPM & 1200 RPM
	Uni-directional	Fr. L449-5812 at 3600 RPM
Bearing	Drive end	Anti-friction bearing (Ball or Roller)
	Non-Drive end	★ Insulated ball bearing
	Protection	★ V-seal   Labyrinth (Fr. L449-5812 at 3600 RPM)
	Inner Bearing Cap	Applied
	Lubrication	Polyurea (Polyrex EM Grease)
Shaft	Material	★ AISI1045 (L449 at 3600RPM)   AISI4140 (Fr. L449 4P-5812)
	DE threaded hole	Applied
	DE Keyway	Opened keyway
	Shaft locking device	Frames with Roller bearing (To prevent Bearing brinelling)
Terminal box	Material	Cast Iron (Fr. L449-5011)   Fabricated Steel (Fr. 5812)
	Cable hole plug	Plastic
Lead cable	Number of lead wire(s)	6 Lead(s)
Accessories	W.T.D	★ PT 100 ohm (2 EA/ph.)
	B.T.D	★ PT 100 ohm (2 EA/Motor)
	Space Heater	★ 1 EA/Motor
	Auxiliary Terminal box	★ 2 EA/Motor
Tap provision	For Vib. Sensor	★ Applied
	For B.T.D	★ Applied
Certification	CSA	Class I, Division 2, Groups A, B, C & D
		Class II, Division 2, Groups F & G - (Fr. L449-5011)
		Premium Efficiency (CSA C-390)
	DOE	Department of Energy Efficiency Certification #CC0038A
	IEEE45	Marine Duty (ABS Product Type Approval up to 600 HP at Fr. L449-5011)
Name plate	Markings	CSA ,CC(DOE), CE, IEEE45(ABS)
	Material	Stainless Steel AISI304
Painting	Munsell 4.OPB5.4/5.5	
Warranty	3 Years Warranty from Date of shipment	

※ Note: Features marked with a star (★) are standard options included in the HSDE model.

# Severe Duty Large HP Motor HSDE Model Performance Specification

## Features

- Insulation Class F, Temperature rise B or F, 40 °C ambient
- Cast Iron construction, 460 V, Direct-on-line & Inverter duty
- WTD PT 100 Ohm 2 EA/Phase
- BTD PT 100 Ohm 1 EA/Bearing
- Heater 1 EA/Motor
- Auxiliary Terminal Box 2EA/Motor
- Tap provision for Vib. sensor (Except Vib. sensor)

## Catalog Number Suffix

- BB : Ball Bearing
- IB : Insulation Bearing on N-DE
- 2IB : Insulation Bearing on DE & N-DE
- BR : Bearing RTDs (1 EA/Bearing) with Aux. T/box
- SR : Stator RTDs (2 EA/Ph.) with Aux. T/box
- SH : Space Heater (1 EA/Motor) with Aux. T/box
- SP : Spare part (Spare cooling fan)
- LL : Long lead cable
- F : Temp. rise F (Standard Temp. rise B at Ambient temp. 40 °C)

Catalog Number	HP	Frame Number	RPM (Speed)	Volts (V)	FL EFF. (%)	FL PF	FL AMPS (A)	Locked Rotor AMPS (%)	Torque			Sound pressure Level dB(A)	Approx. Weight (LB.)
									Rated (LB.FT)	Locked Rotor %FLT	Break down %FLT		
HSDE250-12-L449T-IBBRSRSH	250	L449T	1185	460	95.8	0.84	296.3	680	1129.6	135	200	80	2890
HSDE300-36-L449TS-IBBRSRSHSP	300	L449TS	3570	460	95.8	0.90	327.5	700	444.0	130	225	87	2890
HSDE300-18-L449T-IBBRSRSH	300	L449T	1785	460	96.2	0.88	333.6	710	888.1	135	225	85	2890
HSDE300-12-L449T-IBBRSRSH	300	L449T	1185	460	95.8	0.84	350.9	675	1337.7	135	220	80	3320
HSDE350-36-L449TS-IBBRSRSHSP	350	L449TS	3570	460	95.8	0.90	378.5	700	513.1	130	225	87	3090
HSDE350-18-L449T-IBBRSRSH	350	L449T	1785	460	96.2	0.88	385.5	715	1026.2	135	225	85	3090
HSDE350-12-L449T-IBBRSRSH	350	L449T	1185	460	95.8	0.84	407.1	650	1551.7	120	200	80	3380
HSDE400-36-L449TS-IBBRSRSHSP	400	L449TS	3570	460	95.8	0.90	436.7	680	592.0	145	240	87	3820
HSDE400-18-L449T-IBBRSRSH	400	L449T	1785	460	96.2	0.88	444.8	710	1184.1	135	225	85	3620
HSDE400-12-L449T-IBBRSRSH-F	400	L449T	1185	460	95.8	0.84	467.9	650	1738.5	120	200	80	3380
HSDE400-12-5009-IBBRSRSH	400	5009	1185	460	95.8	0.84	467.9	680	1783.6	135	220	84	3970
HSDE450-36-5009S-IBBRSRSHSP	450	5009S	3570	460	95.8	0.90	487.7	725	661.1	130	230	87	3860
HSDE450-18-5009-IBBRSRSH	450	5009	1785	460	96.2	0.89	491.1	720	1322.2	135	230	85	3970
HSDE450-12-5009-IBBRSRSH	450	5009	1185	460	95.8	0.84	522.5	675	1991.7	135	220	84	4030
HSDE500-36-5010S-IBBRSRSHSP	500	5010S	3570	460	95.8	0.90	545.9	725	740.0	145	240	87	4800
HSDE500-18-5010-IBBRSRSH	500	5010	1785	460	96.2	0.89	549.7	720	1480.1	135	220	85	4820
HSDE500-12-5011-IBBRSRSH	500	5010	1185	460	95.8	0.84	584.9	675	2229.5	135	220	84	4850
HSDE600-18-5011-IBBRSRSH	600	5011	1785	460	96.2	0.89	659.7	720	1776.1	135	230	85	4940
HSDE600-36-5812S-IBBRSRSHSP	600	5812S	3570	460	95.8	0.89	662.4	670	888.1	150	250	89	6730
HSDE600-12-5812-IBBRSRSH-F	600	5812	1185	460	95.8	0.84	701.9	675	2675.4	135	220	85	6019
HSDE700-36-5812S-IBBRSRSHSP	700	5812S	3570	460	95.8	0.89	768.4	720	1030.1	150	250	89	6730
HSDE700-18-5812-IBBRSRSH	700	5812	1785	460	96.2	0.88	771.0	650	2052.4	120	220	87	7174
HSDE750-36-5812S-IBBRSRSHSP	750	5812S	3570	460	95.8	0.89	824.4	710	1105.1	150	250	89	6730
HSDE800-36-5812S-IBBRSRSHSP	800	5812S	3570	460	95.8	0.89	883.2	650	1184.1	130	240	89	6730
HSDE900-36-5812S-IBBRSRSHSP-F	900	5812S	3570	460	95.8	0.89	987.8	700	1324.2	150	250	89	7130
HSDE250-12-L449T-IBSH	250	L449T	1185	460	95.8	0.84	296.3	680	1129.6	135	200	80	2890
HSDE300-36-L449TS-IBSHSP	300	L449TS	3570	460	95.8	0.90	327.5	700	444.0	130	225	87	2890
HSDE300-18-L449T-IBSH	300	L449T	1785	460	96.2	0.88	333.6	710	888.1	135	225	85	2890
HSDE300-12-L449T-IBSH	300	L449T	1185	460	95.8	0.84	350.9	675	1337.7	135	220	80	3320
HSDE350-36-L449TS-IBSHSP	350	L449TS	3570	460	95.8	0.90	378.5	700	513.1	130	225	87	3090
HSDE350-18-L449T-IBSH	350	L449T	1785	460	96.2	0.88	385.5	715	1026.2	135	225	85	3090
HSDE350-12-L449T-IBSH	350	L449T	1185	460	95.8	0.84	407.1	650	1551.7	120	200	80	3380
HSDE400-36-L449TS-IBSHSP	400	L449TS	3570	460	95.8	0.90	436.7	680	592.0	145	240	87	3820
HSDE400-18-L449T-IBSH	400	L449T	1785	460	96.2	0.88	444.8	710	1184.1	135	225	85	3620
HSDE400-12-L449T-IBSH-F	400	L449T	1185	460	95.8	0.84	467.9	650	1738.5	120	200	80	3380
HSDE400-12-5009-IBSH	400	5009	1185	460	95.8	0.84	467.9	680	1783.6	135	220	84	3970
HSDE450-36-5009S-IBSHSP	450	5009S	3570	460	95.8	0.90	487.7	725	661.1	130	230	87	3860
HSDE450-18-5009-IBSH	450	5009	1785	460	96.2	0.89	491.1	720	1322.2	135	230	85	3970
HSDE450-12-5009-IBSH	450	5009	1185	460	95.8	0.84	522.5	675	1991.7	135	220	84	4030
HSDE500-36-5010S-IBSHSP	500	5010S	3570	460	95.8	0.90	545.9	725	740.0	145	240	87	4800
HSDE500-18-5010-IBSH	500	5010	1785	460	96.2	0.89	549.7	720	1480.1	135	220	85	4820
HSDE500-12-5011-IBSH	500	5010	1185	460	95.8	0.84	584.9	675	2229.5	135	220	84	4850
HSDE600-18-5011-IBSH	600	5011	1785	460	96.2	0.89	659.7	720	1776.1	135	230	85	4940
HSDE600-36-5812S-IBSHSP	600	5812S	3570	460	95.8	0.89	662.4	670	888.1	150	250	89	6730
HSDE600-12-5812-IBSH-F	600	5812	1185	460	95.8	0.84	701.9	675	2675.4	135	220	85	6019
HSDE700-36-5812S-IBSHSP	700	5812S	3570	460	95.8	0.89	768.4	720	1030.1	150	250	89	6730
HSDE700-18-5812-IBSH	700	5812	1785	460	96.2	0.88	771.0	650	2052.4	120	220	87	7174
HSDE750-36-5812S-IBSHSP	750	5812S	3570	460	95.8	0.89	824.4	710	1105.1	150	250	89	6730
HSDE800-36-5812S-IBSHSP	800	5812S	3570	460	95.8	0.89	883.2	650	1184.1	130	240	89	6730
HSDE900-36-5812S-IBSHSP-F	900	5812S	3570	460	95.8	0.89	987.8	700	1324.2	150	250	89	7130

※ For Electrical performances of 575 V Motor(s), please inquire with us, HD Hyundai Electric America.

※ Remarks :

1. Applicable to Each single of accessory (Ex. IB, SH, IBSH & etc.)
2. Standard temperature rise B for HSDE Model (Except 900 HP Motor)
3. Motor power(HP) for HSDE model : Up to 900 HP
4. C-face, D-flange options are applicable

# Severe Duty Large HP Motor HSDE Model Demensions - Foot mounted

## Features

- Cast-iron terminal box
  - Fully rotatable at 90 increments
- Fabricated steel terminal box (Fr. 5812)

## Foot Mounted

Frame Size	Mounting & Overall										AD (Approx.)	HD (Approx.)	C (Approx.)	Shaft & Keyway					Conduit Box AA	Fig.
	D	2E	J	A	G	2F1	2F2	B	BA	H				U	N-W	R	S	ES		
L449TS	11	18	3.58	22.05	1.18	25	(20)	30.7	7.5	0.81	40.8	34.37	55.89	2.375	4.75	2.021	0.625	3.03	4"	A
L449T-4P	11	18	3.58	22.05	1.18	25	(20)	30.7	7.5	0.81	40.8	34.37	55.18	3.375	8.5	2.88	0.875	6.93	4"	
L449T-6P	11	18	3.58	22.05	1.18	25	(20)	30.7	7.5	0.81	40.8	34.37	59.98	3.375	8.5	2.88	0.875	6.93	4"	
5008S	12.5	20	4.88	25.04	1.26	(28)	25	33.07	8.5	0.94	42.01	36.3	62.03	2.625	5.75	2.275	0.625	4	4"	
5008	12.5	20	4.88	25.04	1.26	(28)	25	33.07	8.5	0.94	42.01	36.3	67.96	3.875	11.625	3.309	1	10	4"	
5009S	12.5	20	4.88	25.04	1.26	28	(25)	33.07	8.5	0.94	42.01	36.3	62.03	2.625	5.75	2.275	0.625	4	4"	
5009	12.5	20	4.88	25.04	1.26	28	(25)	33.07	8.5	0.94	42.01	36.3	67.96	3.875	11.625	3.309	1	10	4"	
5010S	12.5	20	4.88	25.04	1.26	(36)	32	41	8.5	0.94	42.01	36.3	67.54	2.625	5.75	2.275	0.625	4	4"	
5010	12.5	20	4.88	25.04	1.26	(36)	32	41	8.5	0.94	42.01	36.3	70.84	3.875	11.625	3.309	1	10	4"	
5011S	12.5	20	4.88	25.04	1.26	36	(32)	41	8.5	0.94	42.01	36.3	67.54	2.625	5.75	2.275	0.625	4	4"	
5011	12.5	20	4.88	25.04	1.26	36	(32)	41	8.5	0.94	42.01	36.3	70.84	3.875	11.625	3.309	1	10	4"	
5812S-2P	14.5	23	5.85	29.53	1.97	45	40	51.77	10	1.18	51.87	40.4	82.04	2.875	6.75	2.45	0.75	6.55	4"	B
5812-4P	14.5	23	5.85	29.53	1.97	45	40	51.77	10	1.18	51.87	40.4	83.6	4.375	8.3	3.817	1	8.05	4"	
5812-6P	14.5	23	5.85	29.53	1.97	45	40	51.77	10	1.18	51.87	40.4	83.6	4.375	8.3	3.817	1	8.05	4"	

Fig. A  
L449 - 5011Fr.

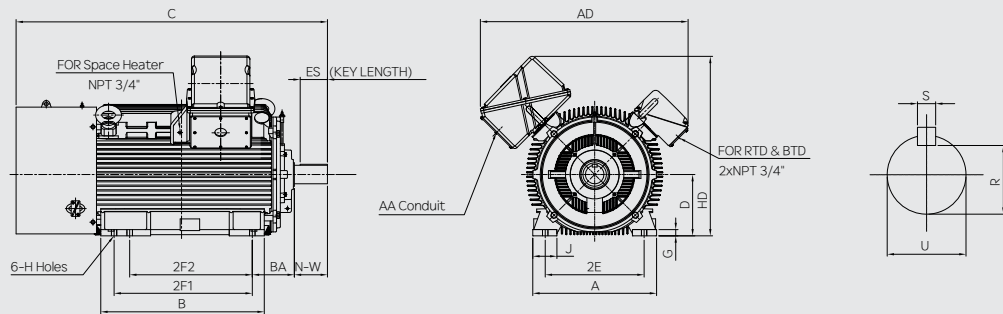
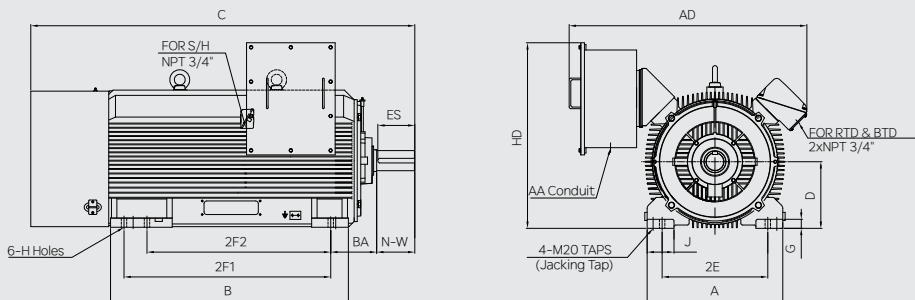


Fig. B  
5812Fr.



# Severe Duty Large HP Motor HSDE Model Demensions - C-face, Foot mounted

## Features

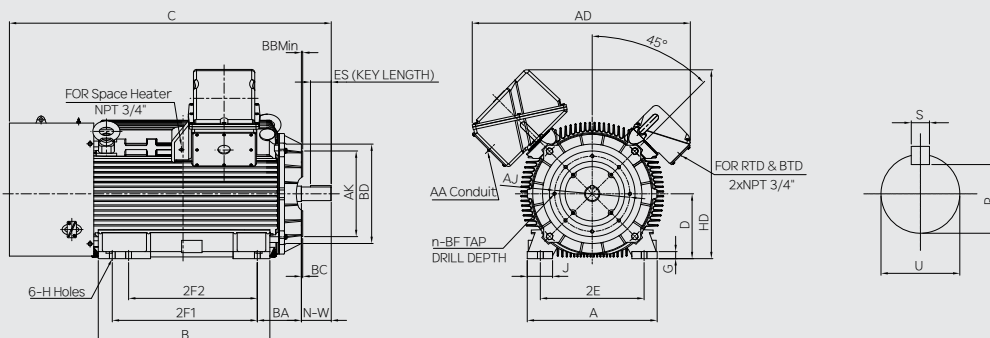
- Cast-iron terminal box
  - Fully rotatable at 90 increments
- Fabricated steel terminal box (Fr. 5812)

## C-Face, Foot Mounted

Frame Size	Mounting & Overall										AD (Approx.)	HD (Approx.)	C (Approx.)	Conduit Box AA	Fig.
	D	2E	J	A	G	2F1	2F2	B	BA	H					
L449TSC	11	18	3.58	22.05	1.18	25	(20)	30.7	7.5	0.81	40.8	34.37	55.89	4"	A
L449TC-4P	11	18	3.58	22.05	1.18	25	(20)	30.7	7.5	0.81	40.8	34.37	55.18	4"	
L449TC-6P	11	18	3.58	22.05	1.18	25	(20)	30.7	7.5	0.81	40.8	34.37	59.98	4"	
5008SC	12.5	20	4.88	25.04	1.26	(28)	25	33.07	8.5	0.94	42.01	36.3	62.03	4"	
5008C	12.5	20	4.88	25.04	1.26	(28)	25	33.07	8.5	0.94	42.01	36.3	67.96	4"	
5009SC	12.5	20	4.88	25.04	1.26	28	(25)	33.07	8.5	0.94	42.01	36.3	62.03	4"	
5009C	12.5	20	4.88	25.04	1.26	28	(25)	33.07	8.5	0.94	42.01	36.3	67.96	4"	
5010SC	12.5	20	4.88	25.04	1.26	(36)	32	41	8.5	0.94	42.01	36.3	67.54	4"	
5010C	12.5	20	4.88	25.04	1.26	(36)	32	41	8.5	0.94	42.01	36.3	70.84	4"	
5011SC	12.5	20	4.88	25.04	1.26	36	(32)	41	8.5	0.94	42.01	36.3	67.54	4"	
5011C	12.5	20	4.88	25.04	1.26	36	(32)	41	8.5	0.94	42.01	36.3	70.84	4"	

Frame Size	C-Face								Shaft & Keyway					Fig.
	AJ	AK	BB	BC	BD	BF	n	DEPTH	U	N-W	R	S	ES(Length)	
L449TSC	14	16	0.25	0.25	18	5/8-11	8	0.94	2.375	4.75	2.021	0.625	3.03	A
L449TC-4P	14	16	0.25	0.25	18	5/8-11	8	0.94	3.375	8.5	2.88	0.875	6.93	
L449TC-6P	14	16	0.25	0.25	18	5/8-11	8	0.94	3.375	8.5	2.88	0.875	6.93	
5008SC	14.5	16.5	0.25	0.25	19	5/8-11	8	0.94	2.625	5.75	2.275	0.625	4	
5008C	14.5	16.5	0.25	0.25	19	5/8-11	8	0.94	3.875	11.625	3.309	1	10	
5009SC	14.5	16.5	0.25	0.25	19	5/8-11	8	0.94	2.625	5.75	2.275	0.625	4	
5009C	14.5	16.5	0.25	0.25	19	5/8-11	8	0.94	3.875	11.625	3.309	1	10	
5010SC	14.5	16.5	0.25	0.25	19	5/8-11	8	0.94	2.625	5.75	2.275	0.625	4	
5010C	14.5	16.5	0.25	0.25	19	5/8-11	8	0.94	3.875	11.625	3.309	1	10	
5011SC	14.5	16.5	0.25	0.25	19	5/8-11	8	0.94	2.625	5.75	2.275	0.625	4	
5011C	14.5	16.5	0.25	0.25	19	5/8-11	8	0.94	3.875	11.625	3.309	1	10	

Fig. A  
L449 - 5011Fr.



---

## MEMO

---

# EMPORIUM ENERGY, C.A.

Primer Distribuidor Autorizado de HD Hyundai Electric en Venezuela

CONTÁCTENOS

---

**[www.emporiumve.com](http://www.emporiumve.com)**

**[ventas@emporiumve.com](mailto:ventas@emporiumve.com)**

Vía Polígono de Tiros, Centro Industrial Polígono,  
Galpón 6, Oficina 2 · Barcelona 6001  
Edo. Anzoátegui, Venezuela