



# VARIABLE FREQUENCY DRIVE

## LOW HARMONIC

PHASE CONVERTING | VOLTAGE DOUBLING, 230/460V OPTIONS  
NEMA 3R OUTDOOR ENCLOSURE | 5-150 HP



508A Panel Shop Customizable



Active Front End



Regenerative Power



Voltage Doubling Options



Available w/ Aux Power

### Full Feature VFD

- ▶ Advanced Motor Protection & PID Control
- ▶ V/f Control and Direct Torque Control
- ▶ Rated Temperature: -40 °C – 40 °C (-40 °F – 104 °F)
- ▶ Nominal Voltage: 230 V | 460 V
- ▶ Overload Capacity: 110% for 60 seconds
- ▶ Certified to UL 61800-5-1

### Enclosure

- ▶ Rugged All-Steel-Enclosure
- ▶ Open, NEMA 1, NEMA 3R (E,S,P)
- ▶ Leg Kits Available

### Intuitive User Interface

- ▶ Large Backlit Graphic Display
- ▶ Eight Button Keypad
- ▶ Intuitive Menus in Plain English
- ▶ Download and Load Parameters Seamlessly
- ▶ Internal Micro SD Port

### Flexible I/O

- ▶ Three Analog Inputs
- ▶ Four Digital Inputs
- ▶ Four Programmable Relays
- ▶ Modbus
- ▶ Ethernet
- ▶ BACnet

### Easy Setup Wizards

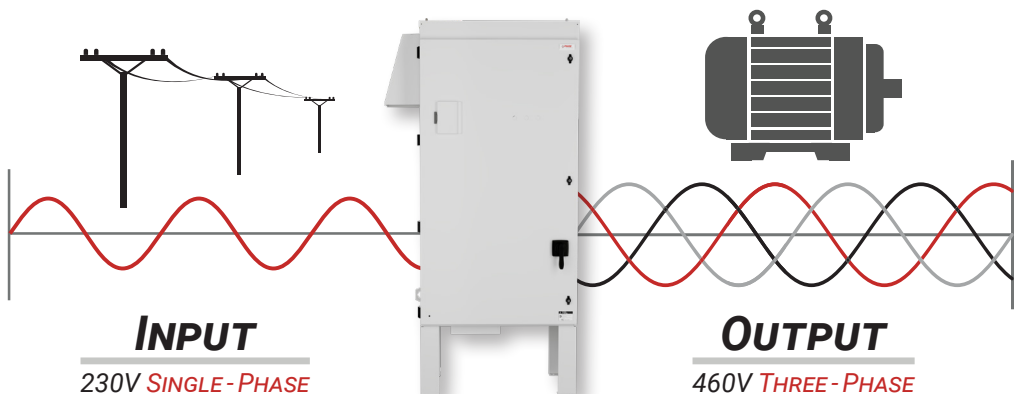
- ▶ Constant Pressure
- ▶ Flow Control
- ▶ Tank Level
- ▶ Pump Down
- ▶ Suction Pump
- ▶ HVAC

## UL 508A Panel Shop Options

	AUXPOWER™		Disconnect	Hand Controls			Run Indicators	Output Filters		Power Supply	Surge Protection		Leg Kit
	C	X	B	H	H1	H2	L3	O	OF	P11	S	S1	Z
	18A	32A	MCCB	HOA Switch & Speed Pot	HOA Switch Only	Speed Pot Only	Run & Fault Light	Sine Wave	dV/dt	120V (150VA)	Strikesorb	Protec	Pad Mount
230V	<b>ENTERPRISE (5-20 HP)</b>												
	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓
Voltage Doubling	<b>PERFORMANCE (10-20HP)</b>												
	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓
460V	<b>ENTERPRISE (5-25 HP)</b>												
	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓
	<b>SIGNATURE (30-50 HP)</b>												
	✗	✗	✓	✓	✓	✓	✓	✗	✓	✗	✓	✗	✓
460V	<b>PERFORMANCE (10-50 HP)</b>												
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓
	<b>ENTERPRISE (5-30 HP)</b>												
✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓
<b>SIGNATURE (40-100 HP)</b>													
✗	✗	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✗	✓
<b>PERFORMANCE (10-150 HP)</b>													
✓	✓	✓	✓	✓	✓	✓	✓	✓*	✓	✓	✓	✗	✓

\* Some models in this series have this Panel Shop Option while others do not. Please contact Phase Technologies for more information. Configure your drive with our online product builder by visiting [PhaseTechnologies.com](http://PhaseTechnologies.com) or scanning the QR code at the bottom of the page.

## Voltage Doubling Options



## Voltage Doubling: Cost Savings for Long Lead Applications

Eliminates the need for a transformer while minimizing motor lead wire size on 460 V systems running on a 230 V source. (1LHX, 3LHX, 1LH, 3LH)

## Aux Power: Power Your Pivot & Pump With A Single System

Phase Technologies has designed a cutting-edge VFD specifically for center pivot irrigation applications. This variable frequency drive (VFD) provides full-featured speed control of the main pump and the optionally integrated AuxPower™ independently performs phase conversion and powers the pivot and it's control system.

## Low Harmonic Active-Front-End Technology

Phase Technologies guarantees that the LH SERIES product line will meet the IEEE 519-2014 standard without additional harmonic filters as long as a minimum load of 50% is maintained as related to the max current rating of the system. If a system does not comply, Phase Technologies will either offer a suitable fix to the bring the panel into compliance or offer a full refund for the purchase price of the panel upon return.

## Power Factor Correcting

Power factor correction (PFC) is the process of improving the power factor of a system and allowing it to run more efficiently.

A low power factor indicates inefficient use of electrical power. More current is required to deliver the same amount of real power, leading to higher losses in the electrical distribution system.

Lowers Electricity Bills: Lowering the demand for reactive power will reduce utility charges.

## Regenerative

Any LH Series VFD captures a motor's kinetic energy on deceleration and converts it back into electrical energy, which is then pushed back on to the utility.



**MADE IN THE USA**



**7-DAY LEAD TIMES**

## Nomenclature

Input Type  
1 = Single Phase  
3 = Three Phase  
Low Harmonic VFD's Only

HP

Enclosure Type  
Blank = NEMA Type 1  
R = NEMA Type 3R

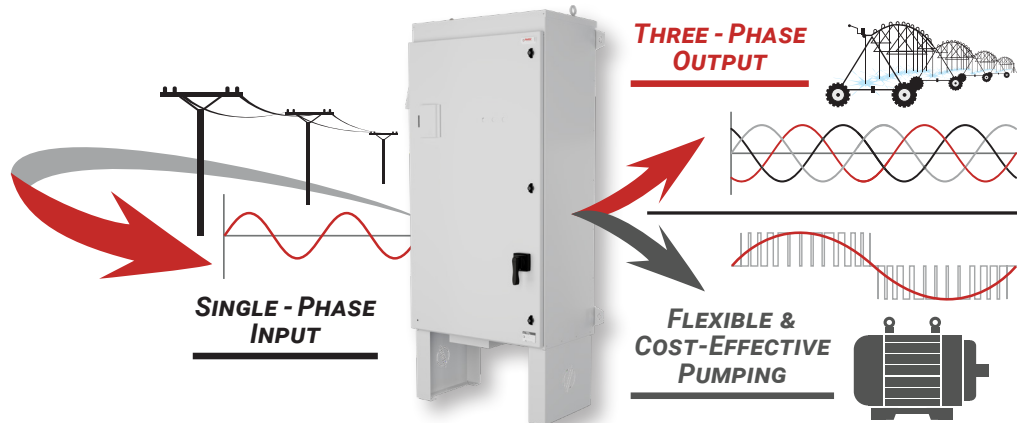
**1LHE225R**

Voltage  
0 = 208V - 230V  
2 = Voltage Doubling  
4 = 460V

VFD Series  
DXLL, DXL, DX, SD = Standard  
LHX, 1LH, 3LH = Low Harmonic  
ES, SD, 2XD = Aqua Phase

Enclosure Size  
E = Enterprise  
S = Signature  
Blank = Performance

## AUXPOWER™ Options



## Product Specifications

230V

Model / Part Number	HP	Rated Current (Input)	Rated Current (Output)	Panel Size
<b>ENTERPRISE</b>				
1LHE005	5	26 A	18 A	ENC3
1LHE007	7.5	37 A	25 A	ENC3
1LHE010	10	48 A	31 A	ENC3
1LHE015	15	72 A	46 A	ENC3
1LHE020	20	97 A	62 A	ENC3
<b>PERFORMANCE</b>				
1LH010	10	48 A	31 A	ENC5
1LH015	15	72 A	46 A	ENC5
1LH020	20	98 A	62 A	ENC5

Voltage Doubling

Model / Part Number	HP	Rated Current (Input)	Rated Current (Output)	Panel Size
<b>ENTERPRISE</b>				
1LHE205	5	26 A	9 A	ENC3
1LHE207	7.5	37 A	13 A	ENC3
1LHE210	10	48 A	18 A	ENC3
1LHE215	15	72 A	24 A	ENC3
1LHE220	20	97 A	31 A	ENC3
1LHE225	25	115 A	40 A	ENC3
<b>SIGNATURE</b>				
1LHS230	30	97 A	46 A	ENC5
1LHS240	40	139 A	61 A	ENC5
1LHS250	50	196 A	77 A	ENC6
<b>PERFORMANCE</b>				
1LH210	10	56 A	18 A	ENC5
1LH215	15	78 A	25 A	ENC5
1LH220	20	97 A	31 A	ENC5
1LH225	25	114 A	38 A	ENC5
1LH230	30	139 A	46 A	ENC6
1LH240	40	196 A	61 A	ENC6
1LH250	50	226 A	77 A	ENC7

460V

Model / Part Number	HP	Rated Current (Input)	Rated Current (Output)	Panel Size
<b>ENTERPRISE</b>				
1LHE405	5	13 A	9 A	ENC3
1LHE407	7.5	19 A	13 A	ENC3
1LHE410	10	26 A	18 A	ENC3
1LHE415	15	36 A	25 A	ENC3
1LHE420	20	48 A	31 A	ENC3
1LHE425	25	60 A	38 A	ENC3
1LHE430	30	72 A	46 A	ENC3
<b>SIGNATURE</b>				
1LHS440	40	98 A	61 A	ENC5
1LHS450	50	121 A	77 A	ENC5
1LHS460	60	143 A	91 A	ENC5
1LHS475	75	170 A	107 A	ENC5
1LHS4100	100	226 A	142 A	ENC6
<b>PERFORMANCE</b>				
1LH410	10	28 A	18 A	ENC5
1LH415	15	36 A	25 A	ENC5
1LH420	20	48 A	31 A	ENC5
1LH425	25	60 A	38 A	ENC5
1LH430	30	72 A	46 A	ENC5
1LH440	40	98 A	61 A	ENC6
1LH450	50	121 A	77 A	ENC6
1LH460	60	143 A	91 A	ENC6
1LH475	75	170 A	107 A	ENC6
1LH4100	100	226 A	142 A	ENC7
1LH4125	125	273 A	172 A	ENC7
1LH4150	150	314 A	198 A	ENC7