

SD SERIES

VARIABLE FREQUENCY DRIVE

Phase Converting



SD
SERIES

Phase Converting

- Quick & easy installation and setup

PERFECT PRESSURE™

- Setup constant pressure in minutes
- Large backlit graphic display with intuitive menus
- Messages in clear English

Industry Best Lead Times

- 3-10 Business Days

Sinewave Filter Integration

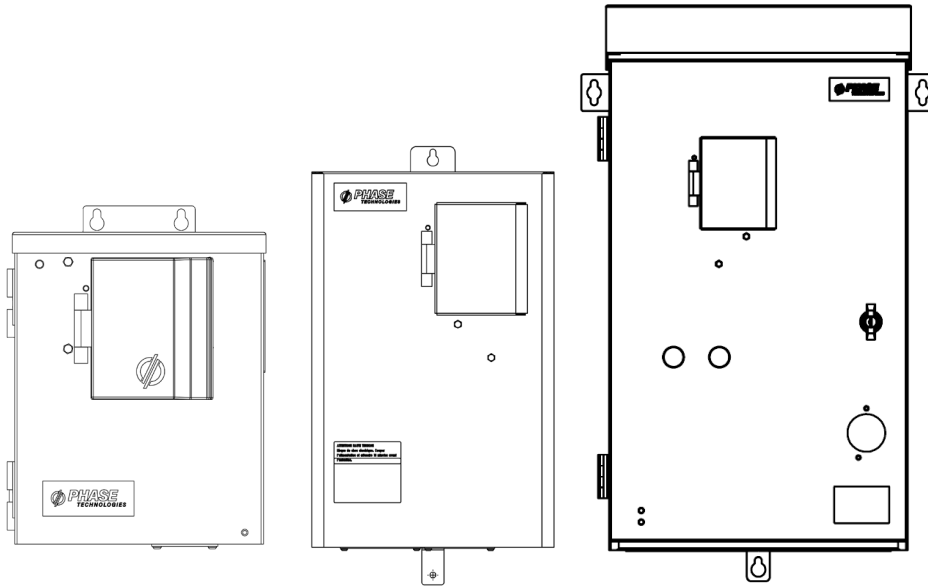
- Minimize excessive voltage spikes
- In-house manufacturing / installation

Superior Heat Rejection

- Maximizing component life and uptime

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- 2 HP to 15 HP
- 240 V & 480 V Models Available
- Phase Converting
- NEMA 3R Rated Outdoor Enclosures

Nomenclature

Model Series	Input / Output Voltage	Rated HP	Enclosure Rating	OPTIONAL UL508A Panel Shop Integrator	Addl. User Controls
SD SERIES	0 240V 240V Phase Converting	02 - 2 HP 03 - 3 HP 05 - 5 HP	R 3R Rated Outdoor Type Rain / Bug Proof	Choose Option	H - HOA Switch & Speed Pot H1 - HOA Switch Only H2 - Speed Pot Only

Nomenclature

SDE Enterprise Series

Example Part Number
SDE007R-S, SDE405R-OS

Optional
UL508A Panel Shop Integrated Options

Model Series	Input / Output Voltage	Rated HP	Enclosure Rating	Branch Circuit Protection	Output Filter	Surge Protection
SDE SERIES	0 240V 240V Phase Converting	07 - 7.5 HP 10 - 10 HP 15* - 15 HP	R 3R Rated Outdoor Type Rain / Bug Proof	B MCCB Service Disconnect	-- Not Available	S Strikesorb Surge Protection
	4 480V 480V Phase Converting	05 - 5 HP 07 - 7.5 HP 10 - 10 HP 15 - 15 HP			O Sinewave Filter	

Feature Set



Power Behind The Pump

AQUAPHASE™ feature set provides complete control capability for all pumping applications

Technical Specifications

Physical / Environmental	
Operating Temperature Range	-40 °C – 50 °C (-40 °F – 122 °F)
Storage Temperature Range	-40 °C – 57 °C (-40 °F – 135 °F)
Enclosure	NEMA Type 3R: Outdoor Rainproof
Altitude	Derate by 5 °C every 2000 ft over 5500 ft of elevation
Input Power	
Input Phase	1 phase
Input Voltage	240 V 480 V
Input Voltage Range	190 V – 275 V 440 V – 520 V
Input Frequency	60 Hz
Output Power	
Output Phase	3 phase
Nominal Output Voltage	240 V 480 V
Output Voltage Range	190 V - 275 V 440 V – 520 V
Output Frequency	5 Hz – 300 Hz
Horsepower	2 HP – 15 HP
Output Power	2 – 11 kW
Switching Frequency	2 kHz – 8 kHz
Output	V/f control
Integrated Output Filter	Optional Sinewave Filter on 480 V SDE models
Electrical	
Short Circuit Withstand Rating	25 kA RMS symmetrical amps (65 kA available upon request)
Efficiency	95%
Startup Ramp Time	1 – 120 s
Shutdown Ramp Time	1 – 120 s or Coast to Stop
Overload Capacity	120% for 60 s
Analog Inputs	
Quantity	(2) Programmable (1 on SD002 & SD003)
Current Reference	4 – 20 mA, (2) Inputs (1 on SD002 & SD003)
Voltage Reference	0 – 5 VDC, (1) Input
Terminal Block Size	26 - 12 AWG
Digital Inputs	
Quantity	(2) Programmable
Ratings	< 5 V, galvanically isolated
Terminal Block Size	26 - 12 AWG
Relay Outputs	
Quantity	(1) Programmable (None on SD002 & SD003)
Rating	Relay 1: 28 VDC, 10 A or 250 VAC, 10 A Relay 2: 30 VDC, 2 A or 125 VAC, 0.5 A
Terminal Block Size	26 - 12 AWG
Features	
Certification	ETL listed to UL 61800-5-1 and CSA C22.2 No. 274-17
User Interface	Push button membrane keypad with backlit graphic display
Available Feature Sets	AquaPhase™ (pump control)

Models

Part Number	HP	Rated Input Current	Rated Output Current 208 V 240 V	Dimensions (H x W x D)	Weight
SD- 208 V/240 V Input Single-Phase 240 V Output Three-Phase					
SD002R	2 HP	20 A	7 A 8 A	12 x 9 x 5 in.	7 lbs
SD003R	3 HP	30 A	8 A 10 A	12 x 9 x 5 in.	7 lbs
SD005R	5 HP	42 A	15 A 18 A	20 x 11 x 7 in.	15 lbs

Part Number	HP	Rated Input Current	Rated Output Current 208 V 240 V	Dimensions (H x W x D)	Weight
SDE- 208 V/240 V Input Single-Phase 240 V Output Three-Phase					
SDE007R	7.5 HP	58 A	23 A 27 A	31 x 19 x 19 in.	95 lbs
SDE010R	10 HP	69 A	28 A 33 A	31 x 19 x 19 in.	110 lbs
SDE015R	15 HP	92 A	40 A 46 A	31 x 19 x 19 in.	120 lbs

Part Number	HP	Rated Input Current	Rated Output Current 480 V	Dimensions (H x W x D)	Weight
SDE - ENTERPRISE - 480 V Input Single-Phase 480 V Output Three-Phase					
SDE405R	5 HP	30 A	10 A	31 x 19 x 19 in.	95 lbs
SDE407R	7.5 HP	37 A	13 A	31 x 19 x 19 in.	100 lbs
SDE410R	10 HP	42 A	18 A	36 x 21 x 18 in.	110 lbs
SDE415R	15 HP	56 A	25 A	36 x 21 x 18 in.	120 lbs

Optional Integrations & Accessories

Part Number	Description	Standard User Installation	Optional UL508A Panel Shop Installation <i>(Additional Fee Applies)</i>
Kits			
<i>*Below kits only available on SD models with MCCB Service Disconnect</i>			
*KIT E - H	HOA Switch & Speed Potentiometer	Yes	Yes
*KIT E - H1	HOA Switch Only	Yes	Yes
*KIT E - H2	Speed Potentiometer Only	Yes	Yes
*KIT E, S 240V 3P	Strikesorb Surge Protection, 240 V, Single-Phase	Yes	Yes
*KIT E, S 480V 3P	Strikesorb Surge Protection, 480 V, Single-Phase	Yes	Yes
*KIT E, S1 240V 3P	Protec Surge Protection	Yes	Yes
*KIT E, S1 480V 3P	Protec Surge Protection	Yes	Yes
Transducer			
S00150	0-150 psi Transducer with 15ft lead	Yes	No
S00150-25	0-150 psi Transducer with 25ft lead	Yes	No
S00150-50	0-150 psi Transducer with 50ft lead	Yes	No
S00150-100	0-150 psi Transducer with 100ft lead	Yes	No
Other Parts			
PSI SNUB	Pressure Snubber for Transducers	Yes	No
CVR0002	Keypad Locking Security Cover for SD SERIES models with MCCB Service Disconnect option added	Yes	No
CVR001	HOA Switch and Speed Pot Security Cover	Yes	No
LF0018	GPS Output Filter	Yes	No
Miscellaneous			
[Custom]	Run or Fault Indicator Light and 150VA Power Supply	No	Yes
[Custom]	Additional Run or Fault Indicator Light	No	Yes

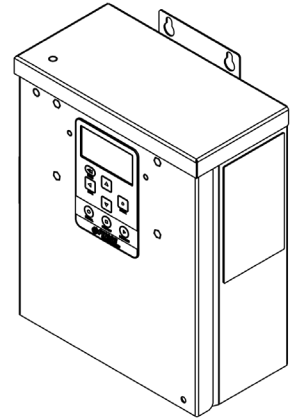
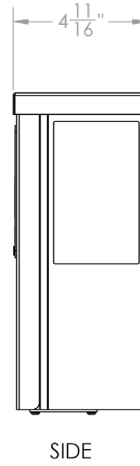
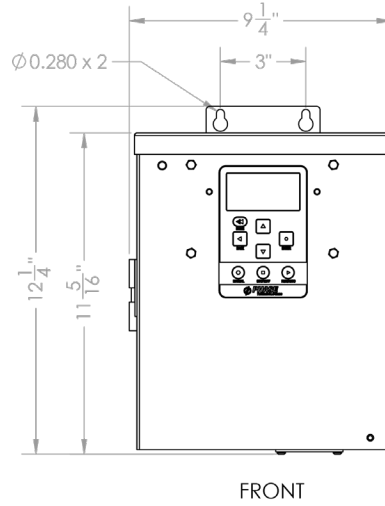
Recommended Fuse & Breaker Ratings

Model Number	Horsepower	VFD	
		Recommended Fuse Rating Class J	Recommended Circuit Breaker Rating
SD & SDE - 208 V/240 V Single-Phase 240 V Output Three-Phase			
SD002R	2 HP	25 A, 600 V	25 A
SD003R	3 HP	40 A, 600 V	40 A
SD005R	5 HP	55 A, 600 V	55 A
SDE007R	7.5 HP	80 A, 600 V	80 A
SDE010R	10 HP	100 A, 600 V	100 A
SDE015R	15 HP	120 A, 600 V	120 A
SDE - ENTERPRISE - 480 V Input Single-Phase 480 V Output Three-Phase			
SDE405R	5 HP	40 A, 600 V	40 A
SDE407R	7.5 HP	60 A, 600 V	60 A
SDE410R	10 HP	60 A, 600 V	60 A
SDE415R	15 HP	80 A, 600 V	80 A

Line Drawings

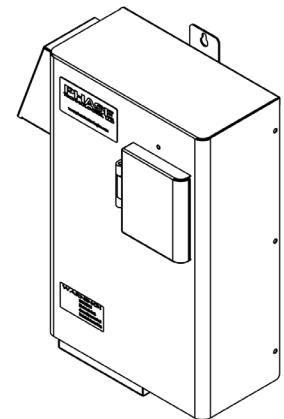
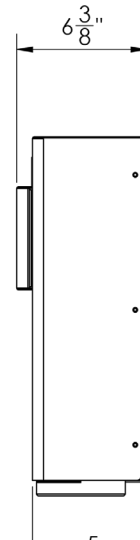
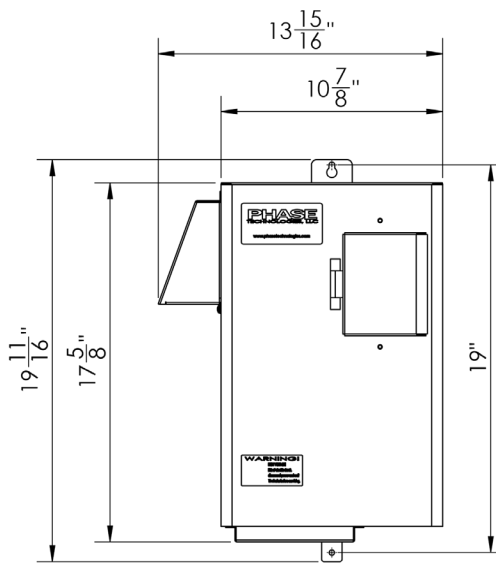
SD
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Model Number
SD002R
SD003R



SD
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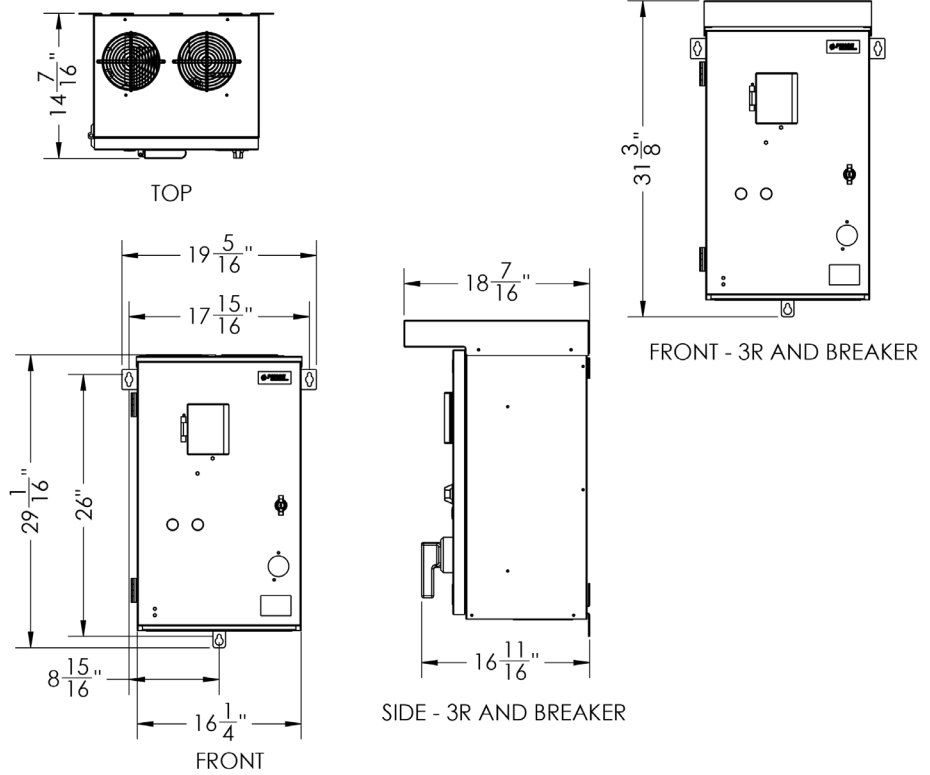
Model Number
SD005R



Line Drawings

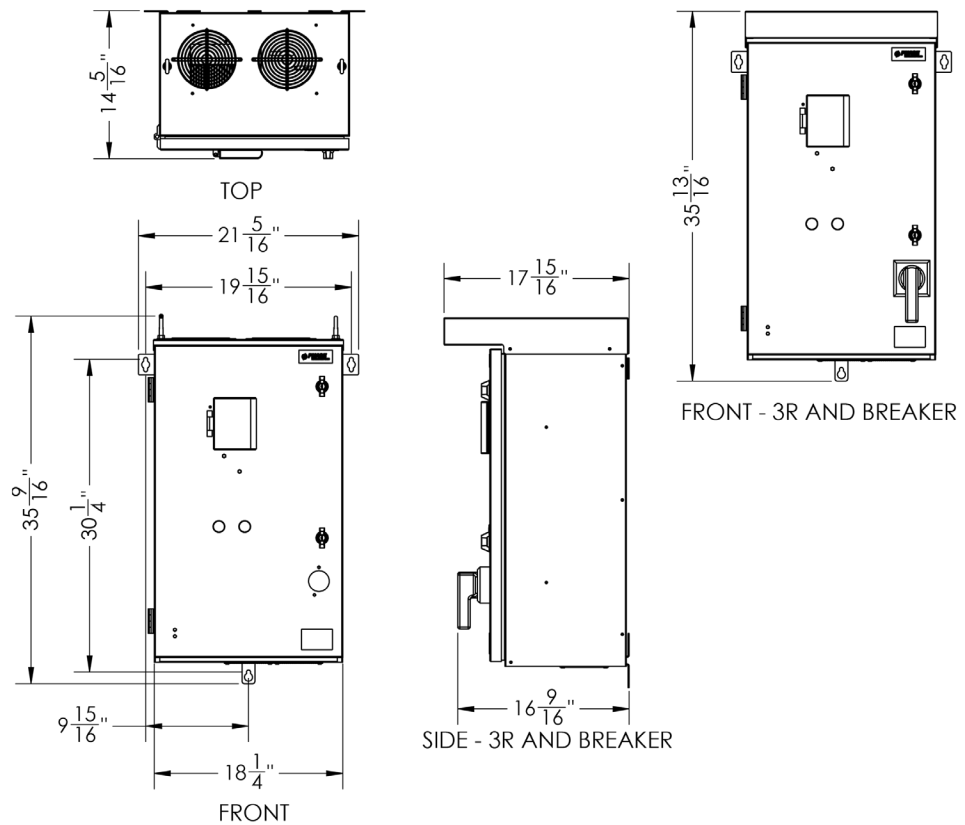
SDE
SERIES

Model Number
SDE007R
SDE010R
SDE015R
SDE405R
SDE407R



SDE
SERIES

Model Number
SDE410R
SDE415R



Wiring Diagram

SD
SERIES *Wiring Diagram*

