

# SubDrive

## CONSTANT PRESSURE CONTROLLERS

### SUBDRIVE AND MONODRIVE

Franklin Electric's SubDrive and MonoDrive constant pressure controllers provide constant pressure by continually adjusting the speed of the pump to match water demand. Instead of draining and filling a large tank, a SubDrive system pumps more or less water as you need it. Finally, you'll be able to run the dishwasher, do laundry, and water the lawn - all at the same time!





## DESCRIPTION

### BENEFITS

- Constant water pressure with a wide range of settings
- Single-phase input power
- FE Connect smartphone app for advanced settings and monitoring\*
- User-configurable motor frequency range\*
- Pressure transducer input with system pressure display\*
- Easy installation
- Soft-start feature prevents water hammer and increases motor life
- Works with small pressure tanks or existing larger tanks
- Advanced filtering to remove radio frequency interference
- UL and cUL listed
- Built-in diagnostics and protection (surge protection, short circuit, underload, overheat controller, undervoltage, broken-pipe detection\*, locked pump, user-configurable underload off-time\*, open circuit, optional moisture/wet-floor sensor protection)
- Supports surface pumping applications\*

\*Functionality for Connect models only

### APPLICATIONS

- Residential homes
- Restaurants
- Farms
- Schools
- Car washes
- Landscape irrigation systems

### SINGLE-PHASE SYSTEMS

MonoDrive and MonoDriveXT are designed to convert a conventional ½ hp to 2 hp pump system to a variable speed constant pressure system by simply replacing the 3-wire control box and pressure switch.

- Single-phase input, 3-wire motor control
- Easy, plug-and-play installation
- ½–2 hp (MonoDrive) and ½–3 hp (SubDrive50) performance
- Easily replaceable fan kit
- UL and cUL listed
- NEMA 3R and NEMA 4 enclosure options (indoor/outdoor)

### THREE-PHASE SYSTEMS

SubDrive15, SubDrive20, SubDrive30, SubDrive50, SubDrive75, SubDrive100, SubDrive150, and SubDrive300 are designed for three-phase motors to provide constant pressure with three-phase performance using single-phase input power.

- Single-phase input, three-phase motor control
- 1–5 hp performance
- Smooth running
- Easy, plug-and-play installation
- Easily replaceable fan kit
- High starting torque
- UL and cUL listed
- NEMA 3R and NEMA 4 enclosures (indoor/outdoor)
- Surface pumps (Connect models only)

### SUBDRIVE2W

SubDrive2W is designed to convert a conventional ½ hp, ¾ hp, and 1 hp pump system to a variable speed constant pressure system by simply replacing the pressure switch. Maximum pump output using the SD2W is similar to the performance achieved using a conventional pressure switch. Therefore, the pump selection criteria are the same as if a pressure switch were used. (Refer to the pump manufacturer’s literature for details of the pump selection procedure.)

- Single-phase input, 2-wire motor control
- Easy, plug-and-play retrofit installation
- ½, ¾, or 1 hp performance
- Easily replaceable fan and air filter kit
- NEMA 3R rated enclosure
- UL and cUL listed

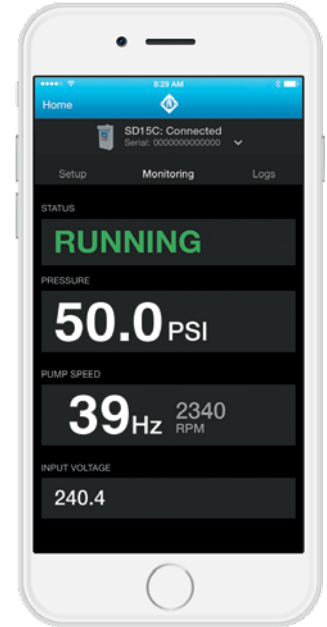
## FE CONNECT MOBILE APP

### SUBDRIVE/MONODRIVE CONNECT MODELS

Wi-Fi connectivity is included in the drive to enable a connection to be made between the drive and a single mobile device (smartphone and tablet). This connection can be used to monitor drive characteristics, adjust advanced settings, and view and email fault history and configuration changes.

### CONNECTING TO WI-FI

- Cycle power – Wi-Fi radio can only be connected within the first 15 minutes of power up.
- The FE Connect light will illuminate solid to indicate that a connection is available.
- Open the Wi-Fi connection settings on the mobile device you wish to use to connect to the drive.
- Select the “FECNCT\_XXXXX” hotspot (“XXXXX” is the end portion of the serial number of the drive being connected to).
- The FE Connect light on the drive will flash to indicate that a connection is being made. Only one (1) mobile device can be connected to a drive at any given time.
- After making a successful connection, launch the FE Connect App on your mobile device. The app can be downloaded from the Apple App Store or Google Play depending on the device being used.
- This connection will stay active until the connection is broken or device is out of range.
- Connection can be re-established for up to one hour following a disconnection.



### MONITORING

This page allows for real-time monitoring of the system, including:

- System Status
- System Pressure (requires pressure transducer)
- Output Current
- Input Voltage
- Motor Speed
- System Info (Drive Model, Hardware/Software Ver.)

### SETUP

The Setup page allows for the setup of additional features of the drive, including:

- Underload Off Time
- System Pressure Setpoint\*
- Duplex Alternator Function
- Auxiliary Input
- Moisture/Wet-Floor Sensor
- Cut-in Pressure Setpoint/Drawdown\*\*
- Drive Output\*
- Minimum/Maximum Frequency
- Aggressive Bump
- Motor Size\*
- Broken Pipe Detection
- Pump Size\*
- Bump Mode
- Steady Flow\*
- Underload Sensitivity\*
- Tank Size Mode
- Units (hp or kW)
- Motor Overload Current\*\*\*
- Prime Delay\*\*\*

\* In order to change and use app settings for the Drive Output, Motor Size, Pump Size, Underload Sensitivity, and Steady Flow, the FE Connect DIP switch (SW1, Position 1) on the drive must be on (up). Otherwise, the drive will default to the settings made via the DIP switches and Underload Sensitivity rotary knob on the drive itself.

\*\* Requires pressure transducer

\*\*\* Surface pumping applications

### LOGS

This page allows for viewing and emailing fault history and configuration changes with real date and time stamps.

- View drive power up time
- View motor run time
- View/email Fault History events
- View/email Configuration Changes

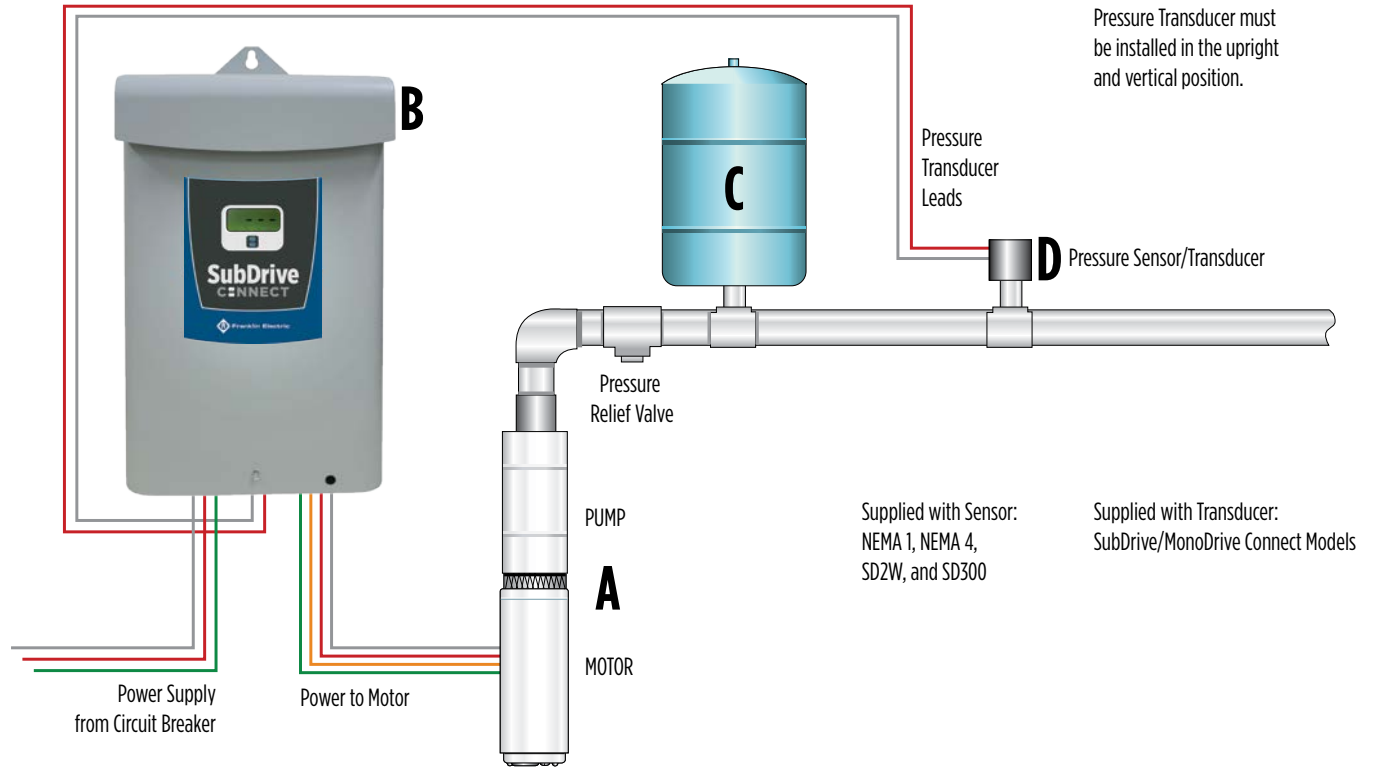


## ENCLOSURE OPTIONS

- **NEMA 3R:** The NEMA 3R enclosure is rated for indoor and outdoor use. It provides a degree of protection against falling rain and sleet.
- **NEMA 4:** The NEMA 4 weatherproof enclosure is designed for both indoor and outdoor use and offers robust protection against harsh environmental conditions.



## CONSTANT PRESSURE SYSTEM



## SPECIFICATIONS

Model No.	Indoor/Outdoor	MonoDrive (NEMA 3R)	MonoDrive (NEMA 4)
		Model 5870205003C	Model 5870203114
Input from Power Source	Voltage	208/230 VAC	190-260 VAC
	Phase In	Single-phase	Single-phase
	Frequency	60/50 Hz	60/50 Hz
	Current (max)	5.7 Amps (RMS) 1/2 hp, 0.37 kW system 8.7 Amps (RMS) 3/4 hp, 0.55 kW system 11 Amps (RMS) 1 hp, 0.75 kW system	5.7 Amps (RMS) 1/2 hp, 0.37 kW system 8.7 Amps (RMS) 3/4 hp, 0.55 kW system 11 Amps (RMS) 1 hp, 0.75 kW system
	Power Factor	~ 0.95	1.0 (constant)
	Power (idle)	4 Watts	35 Watts
	Power (max)	2500 Watts	1150 Watts (1/2 hp, 0.37 kW) system 1750 Watts (3/4 hp, 0.55 kW) system 2150 Watts (1 hp, 0.75 kW) system
	Wire Gauge Size(s)	Consult Federal, State, and Local codes for branch circuit installations	
Output to Motor	Voltage	Adjusts with Frequency	Adjusts with Frequency
	Phase Out	Single-phase (3-wire)	Single-phase (3-wire)
	Frequency Range	30-63 Hz	30-60 Hz
	Current (max)	Main Phase: 6 Amps (RMS) 1/2 hp, 0.37 kW system Main Phase: 8 Amps (RMS) 3/4 hp, 0.55 kW system Main Phase: 10.4 Amps (RMS) 1 hp, 0.75 kW system	Main Phase: 6 Amps (RMS) 1/2 hp, 0.37 kW system Main Phase: 8 Amps (RMS) 3/4 hp, 0.55 kW system Main Phase: 10.4 Amps (RMS) 1 hp, 0.75 kW system
	Wire Gauge Size(s)	#6 - #14 * ga.	#6 - #18 * ga.
Pressure Setting	Factory Preset	50 psi (3.4 bar)	50 psi (3.4 bar)
	Adjustment Range	25-80 psi (1.7 - 5.5 bar)	25-80 psi (1.7 - 5.5 bar)
Operating Conditions (A)	Temperature (at 230 VAC input)	-13 °F to 122 °F (-25 °C to 50 °C)	-13 °F to 125 °F (-25 °C to 50 °C)
	Relative Humidity	20-95%, non-condensing	0-100%, condensing
Controller Size (B) (approximate)	Outer Dimensions	9-3/4" x 16-3/4" x 5-1/4" (25 x 42.5 x 13 cm)	17-1/2" x 16-3/8" x 11-3/8" (44.45 x 41.59 x 28.89 cm)
	Weight	20 lbs (9 kg)	24.14 lbs (10.95 kg)
For Use With (C)	Pump (60 Hz)	0.5 hp (0.37 kW) pump with 214505-Series motor 0.75 hp (0.55 kW) pump with 214507-Series motor 1.0 hp (0.75 kW) pump with 214508-Series motor	0.5 hp (0.37 kW) pump with 214505-Series motor 0.75 hp (0.55 kW) pump with 214507-Series motor 1.0 hp (0.75 kW) pump with 214508-Series motor
	FE Motor	214505-Series (0.5 hp, 0.37 kW) single-phase, 3-wire 214507-Series (0.75 hp, 0.55 kW) single-phase, 3-wire 214508-Series (1.0 hp, 0.75 kW) single-phase, 3-wire	214505-Series (0.5 hp, 0.37 kW) single-phase, 3-wire 214507-Series (0.75 hp, 0.55 kW) single-phase, 3-wire (default) 214508-Series (1.0 hp, 0.75 kW) single-phase, 3-wire

NOTES: Refer to Franklin Electric's SubDrive/MonoDrive Installation Manual.

(A) Operating temperature is specified at full output power when installed as described in Controller Location Selection.

(B) Refer to detailed Mounting Dimensions.

(C) If a pump other than the default rating is used, refer to Drive Configuration.

\* Refer to detailed Circuit Breaker and Wire Sizing charts.



## SPECIFICATIONS

Model No.	Indoor/Outdoor	MonoDriveXT (NEMA 3R)	MonoDriveXT (NEMA 4)
		Model 5870205203C	Model 5870204114
Input from Power Source	Voltage	208/230 VAC	190-260 VAC
	Phase In	Single-phase	Single-phase
	Frequency	60/50 Hz	60/50 Hz
	Current (max)	13 Amps (RMS) 1.5 hp, 1.1 kW system 16 Amps (RMS) 2 hp, 1.5 kW system	13 Amps (RMS) 1.5 hp, 1.1 kW system 16 Amps (RMS) 2 hp, 1.5 kW system
	Power Factor	~ 0.95	1.0 (constant)
	Power (idle)	5 Watts	65 Watts
	Power (max)	4200 Watts	2500 Watts (1.5 hp, 1.1 kW) system 3100 Watts (2 hp, 1.5 kW) system
	Wire Gauge Size(s)	Consult Federal, State, and Local codes for branch circuit installations	
Output to Motor	Voltage	Adjusts with Frequency	Adjusts with Frequency
	Phase Out	Single-phase (3-wire)	Single-phase (3-wire)
	Frequency Range	30-63 Hz	30-60 Hz
	Current (max)	Main Phase: 11.5 Amps (RMS) 1.5 hp, 1.1 kW system Main Phase: 13.2 Amps (RMS) 2 hp, 1.5 kW system	Main Phase: 11.5 Amps (RMS) 1.5 hp, 1.1 kW system Main Phase: 13.2 Amps (RMS) 2 hp, 1.5 kW system
	Wire Gauge Size(s)	#6 - #14 * ga.	#6 - #18 * ga.
Pressure Setting	Factory Preset	50 psi (3.4 bar)	50 psi (3.4 bar)
	Adjustment Range	25-80 psi (1.7 and 5.5 bar)	25-80 psi (1.7 - 5.5 bar)
Operating Conditions (A)	Temperature (at 230 VAC input)	-13 °F to 122 °F (-25 °C to 50 °C)	-13 °F to 125 °F (-25 °C to 50 °C)
	Relative Humidity	20-95%, non-condensing	0-100%, condensing
Controller Size (B) (approximate)	Outer Dimensions	9-3/4" x 19-3/4" x 5-1/4" (25 x 50 x 13 cm)	17-1/2" x 16-3/8" x 11-3/8" (44.45 x 41.59 x 28.89 cm)
	Weight	26 lbs (11.8 kg)	28.32 lbs (12.84 kg)
For Use With (C)	Pump (60 Hz)	1.0 hp (0.75 kW) pump with 214508-Series motor 1.5 hp (1.1 kW) pump with 224300-Series motor 2.0 hp (1.5 kW) pump with 224301-Series motor	1.0 hp (0.75 kW) pump with 214508-Series motor 1.5 hp (1.1 kW) pump with 224300-Series motor 2.0 hp (1.5 kW) pump with 224301-Series motor
	FE Motor	214508-Series (1.0 hp, 0.75 kW) single-phase, 3-wire 224300-Series (1.5 hp, 1.1 kW) single-phase, 3-wire 224301-Series (2.0 hp, 1.5 kW) single-phase, 3-wire	214508-Series (1.0 hp, 0.75 kW) single-phase, 3-wire 224300-Series (1.5 hp, 1.1 kW) single-phase, 3-wire (default) 224301-Series (2.0 hp, 1.5 kW) single-phase, 3-wire

NOTES: Refer to Franklin Electric's SubDrive/MonoDrive Installation Manual.

(A) Operating temperature is specified at full output power when installed as described in Controller Location Selection.

(B) Refer to detailed Mounting Dimensions.

(C) If a pump other than the default rating is used, refer to Drive Configuration.

\* Refer to detailed Circuit Breaker and Wire Sizing charts.

## SPECIFICATIONS

Model No.	Indoor/Outdoor	SubDrive15 (NEMA 3R) (D)	SubDrive20 (NEMA 3R) (D)	
		Model 5870205103C	Model 5870205303C	
Input from Power Source	Voltage	208/230 VAC	208/230 VAC	
	Phase In	Single-phase	Single-phase	
	Frequency	60/50 Hz	60/50 Hz	
	Current (max)	12 Amps	19 Amps	
	Power Factor	~ 0.95	~ 0.95	
	Power (idle)	4 Watts	5 Watts	
	Power (max)	2500 Watts	4200 Watts	
	Wire Gauge Size(s)	Consult Federal, State, and Local codes for branch circuit installations		
Output to Motor	Voltage	Adjusts with Frequency		
	Phase Out	Single-phase (3-wire) OR Three-phase		
	Frequency Range	30-77 Hz (3/4 hp, 0.55 kW) pump		30-78 Hz (1hp, 0.75 kW) pump
		30-72 Hz (1 hp, 0.75 kW) pump		30-72 Hz (1.5 hp, 1.1 kW) pump
		30-60 Hz (1.5 hp, 1.1 kW) pump		30-60 Hz (2 hp, 1.5 kW) pump
30-63 Hz (Single-phase Motors)		30-63 Hz (Single-phase Motors)		
Current (max)	5.9 A / phase	8.1 A / phase		
Wire Gauge Size(s)	#6 - #14 * ga.			
Pressure Setting	Factory Preset	50 psi (3.4 bar)	50 psi (3.4 bar)	
	Adjustment Range	25-80 psi (1.7 - 5.5 bar)	25-80 psi (1.7 - 5.5 bar)	
Operating Conditions (A)	Temperature (at 230 VAC input)	-13 °F to 122 °F (-25 °C to 50 °C)		
	Relative Humidity (NEMA 3R)	20-95%, non-condensing		
Controller Size (B) (approximate)	Outer Dimensions	9-3/4" x 19-3/4" x 5-1/4" (25 x 50 x 13 cm)		
	Weight	26 lbs (11.8 kg)		
For Use With (C)	Pump (60 Hz)	0.5 hp (0.37 kW) pump with 214505-Series motor 0.75 hp (0.55 kW) pump with 214507-Series motor 1.0 hp (0.75 kW) pump with 214508-Series motor 0.75 hp (0.55 kW), 1.0 hp (0.75 kW), or 1.5 hp (1.1 kW) pump with 234514-Series motor	1.0 hp (0.75 kW) pump with 214508-Series motor 1.5 hp (1.1 kW) pump with 224300-Series motor 2.0 hp (1.5 kW) pump with 224301-Series motor 0.75 hp (0.55 kW), 1.0 hp (0.75 kW), or 1.5 hp (1.1 kW) pump with 234514-Series motor 1.0 hp (0.75 kW), 1.5 hp (1.1 kW), or 2.0 hp (1.5 kW) pump with 234315-Series motor	
	FE Motor	214505-Series (0.5 hp, 0.37 kW) single-phase, 3-wire 214507-Series (0.75 hp, 0.55 kW) single-phase, 3-wire 214508-Series (1.0 hp, 0.75 kW) single-phase, 3-wire 234514-Series (1.5 hp, 1.1 kW) three-phase	214508-Series (1.0 hp, 0.75 kW) single-phase, 3-wire 224300-Series (1.5 hp, 1.1 kW) single-phase, 3-wire 224301-Series (2.0 hp, 1.5 kW) single-phase, 3-wire 234514-Series (1.5 hp, 1.1 kW) three-phase 234315-Series (2.0 hp, 1.5 kW) three-phase	
	Surface Pumps	2.0-5.9 Amps, three-phase, 230 VAC three-phase		

NOTES: Refer to Franklin Electric's SubDrive/MonoDrive Installation Manual.

(A) Operating temperature is specified at full output power when installed as described in Controller Location Selection.

(B) Refer to detailed Mounting Dimensions.

(C) If a pump other than the default rating is used, refer to Drive Configuration.

(D) When operating a SubDrive as a MonoDrive, the MonoDrive NEMA 3R pump and motor specifications on Page 5 apply.

\* Refer to detailed Circuit Breaker and Wire Sizing charts.



## SPECIFICATIONS

Model No.	Indoor/Outdoor	SubDrive30 (NEMA 3R) (D)	SubDrive75 (NEMA 4)
		Model 5870205403C	Model 5870203384
Input from Power Source	Voltage	208/230 VAC	190-260 VAC
	Phase In	Single-phase	Single-phase
	Frequency	60/50 Hz	60/50 Hz
	Current (max)	23 Amps	11 Amps (RMS)
	Power Factor	~ 0.95	1.0 (constant)
	Power (idle)	5 Watts	35 Watts
	Power (max)	4200 Watts	2400 Watts
	Wire Gauge Size(s)	Consult Federal, State, and Local codes for branch circuit installations	
Output to Motor	Voltage	Adjusts with Frequency	Adjusts with Frequency
	Phase Out	Single-phase (3-wire) OR Three-phase	Three-Phase (3-wire)
	Frequency Range	30-78 Hz (1.5 hp, 1.1 kW) pump 30-70 Hz (2 hp, 1.5 kW) pump 30-60 Hz (3 hp, 2.2 kW) pump 30-63 Hz (Single-Phase Motors)	30-80 Hz (3/4 hp, 0.55 kW) pump 30-70 Hz (1 hp, 0.75 kW) pump 30-60 Hz (1.5 hp, 1.1 kW) pump
	Current (max)	10.9 A / phase	5.9 Amps (RMS, each phase)
	Wire Gauge Size(s)	#6 - #14 * ga.	#6 - #18 * ga.
Pressure Setting	Factory Preset	50 psi (3.4 bar)	50 psi (3.4 bar)
	Adjustment Range	25-80 psi (1.7 - 5.5 bar)	25-80 psi (1.7 and 5.5 bar)
Operating Conditions (A)	Temperature (at 230 VAC input)	-13 °F to 122 °F (-25 °C to 50 °C)	-13 °F to 125 °F (-25 °C to 50 °C)
	Relative Humidity	20-95%, non-condensing	0-100%, condensing
Controller Size (B) (approximate)	Outer Dimensions	9-3/4" x 19-3/4" x 5-1/4" (25 x 50 x 13 cm)	17-1/2" x 16-3/8" x 11-3/8" (44.45 x 41.59 x 28.89 cm)
	Weight	26 lbs (11.8 kg)	24.14 lbs (10.95 kg)
For Use With (C)	Pump (60 Hz)	1.0 hp (0.75 kW) pump with 214508-Series motor 1.5 hp (1.1 kW) pump with 224300-Series motor 2.0 hp (1.5 kW) pump with 224301-Series motor 0.75 hp (0.55 kW), 1.0 hp (0.75 kW), or 1.5 hp (1.1 kW) pump with 234514-Series motor 1.0 hp (0.75 kW), 1.5 hp (1.1 kW), or 2.0 hp (1.5 kW) pump with 234315-Series motor 1.5 hp (1.1 kW), 2.0 hp (1.5 kW), or 3.0 hp (2.2 kW) pump with 234316-Series motor	3/4 hp (0.55 kW) [default] 1 hp (0.75 kW) 1.5 hp (1.1 kW)
	FE Motor	214508-Series (1.0 hp, 0.75 kW) single-phase, 3-wire 224300-Series (1.5 hp, 1.1 kW) single-phase, 3-wire 224301-Series (2.0 hp, 1.5 kW) single-phase, 3-wire 234514-Series (1.5 hp, 1.1 kW) three-phase 234315-Series (2.0 hp, 1.5 kW) three-phase 234316-Series (3.0 hp, 2.2 kW) three-phase	234514-Series (1.5 hp, 1.1 kW)
	Surface Pumps	2.0-10.9 Amps, three-phase, 230 VAC three-phase	-

NOTES: Refer to Franklin Electric's SubDrive/MonoDrive Installation Manual.

(A) Operating temperature is specified at full output power when installed as described in Controller Location Selection.

(B) Refer to detailed Mounting Dimensions.

(C) If a pump other than the default rating is used, refer to Drive Configuration.

(D) When operating a SubDrive as a MonoDrive, the MonoDrive NEMA 3R pump and motor specifications on Page 5 apply.

\* Refer to detailed Circuit Breaker and Wire Sizing charts.



## SPECIFICATIONS

Model No.	Indoor/Outdoor	SubDrive100 (NEMA 4)	SubDrive150 (NEMA 4)
		Model 5870204104	Model 5870204154
Input from Power Source	Voltage	190-260 VAC	190-260 VAC
	Phase In	Single-phase	Single-phase
	Frequency	60/50 Hz	60/50 Hz
	Current (max)	19 Amps (RMS)	23 Amps (RMS)
	Power Factor	1.0 (constant)	1.0 (constant)
	Power (idle)	65 Watts	65 Watts
	Power (max)	3800 Watts	4600 Watts
	Wire Gauge Size(s)	Consult Federal, State, and Local codes for branch circuit installations	
Output to Motor	Voltage	Adjusts with Frequency	Adjusts with Frequency
	Phase Out	Three-phase (3-wire)	Three-phase (3-wire)
	Frequency Range	30-80 Hz (1 hp, 0.75 kW) pump	30-80 Hz (1.5 hp, 1.1 kW) pump
		30-70 Hz (1.5 hp, 1.1 kW) pump	30-70 Hz (2 hp, 1.5 kW) pump
		30-60 Hz (2 hp, 1.5 kW) pump	30-60 Hz (3 hp, 2.2 kW) pump
Current (max)	8.1 Amps (RMS, each phase)	10.9 Amps (RMS, each phase)	
Wire Gauge Size(s)	#6 - #18 * ga.	#6 - #18 * ga.	
Pressure Setting	Factory Preset	50 psi (3.4 bar)	50 psi (3.4 bar)
	Adjustment Range	25-80 psi (1.7 - 5.5 bar)	25-80 psi (1.7 - 5.5 bar)
Operating Conditions (A)	Temperature (at 230 VAC input)	-13 °F to 125 °F (-25 °C to 50 °C)	-13 °F to 125 °F (-25 °C to 50 °C)
	Relative Humidity	0-100%, condensing	0-100%, condensing
Controller Size (B) (approximate)	Outer Dimensions	17-1/2" x 16-3/8" x 11-3/8" (44.45 x 41.59 x 28.89 cm)	17-1/2" x 16-3/8" x 11-3/8" (44.45 x 41.59 x 28.89 cm)
	Weight	28.32 lbs (12.84 kg)	28.32 lbs (12.84 kg)
For Use With (C)	Pump (60 Hz)	1 hp (0.75 kW) [default]	1.5 hp (1.1 kW) [default]
		1.5 hp (1.1 kW)	2 hp (1.5 kW)
2 hp (1.5 kW)		3 hp (2.2 kW)	
FE Motor	234315-Series (2 hp, 1.5 kW)	234316-Series (3 hp, 2.2 kW)	

NOTES: Refer to Franklin Electric's SubDrive/MonoDrive Installation Manual.

(A) Operating temperature is specified at full output power when installed as described in Controller Location Selection.

(B) Refer to detailed Mounting Dimensions.

(C) If a pump other than the default rating is used, refer to Drive Configuration.

\*Refer to detailed Circuit Breaker and Wire Sizing charts.



## SPECIFICATIONS

Model No.	Indoor/Outdoor	SubDrive300 (NEMA 4)	SubDrive50 (NEMA 3R)
		Model 5870206300	5870205503C
Input from Power Source	Voltage	220-260 VAC	208/230 +/- 10% VAC
	Phase In	Single-phase	Single-phase
	Frequency	60/50 Hz	60/50Hz
	Current (max)	36 Amps (RMS)	36 A
	Power Factor	1.0 (constant)	~ 0.95
	Power (idle)	65 Watts	7 Watts
	Power (max)	7200 Watts	7200 Watts
	Wire Gauge Size(s)	Consult Federal, State, and Local codes for branch circuit installations	Consult Federal, State, and Local codes for branch circuit installations.
Output to Motor	Voltage	Adjusts with Frequency	Variable based on frequency
	Phase Out	Three-phase (3-wire)	Single-phase (3-wire) OR three-phase
	Frequency Range	30-80 Hz (3 hp, 2.2 kW) pump 30-70 Hz (5 hp, 3.7 kW) pump	30-78 Hz: 1/2-rated mismatched pump with three-phase motor 30-70 Hz: 2/3 or 3/4-rated mismatched pump with three-phase motor 30-60 Hz: Matched pump with three-phase motor 30-63 Hz: Matched pump with single-phase motor
	Current (max)	17.8 Amps (RMS, each phase)	17.8 (three-phase), 17.0 A (single-phase)
	Wire Gauge Size(s)	#2 - #18 * ga.	#6 - #12 * ga.
Pressure Setting	Factory preset	50 psi (3.4 bar)	50 psi (3.4 bar)
	Adjustment Range	25-80 psi (1.7 - 5.5 bar)	Analog Transducer: 5-95 PSI (0.3 - 6.6 bar) Pressure Sensor: 25-80 psi (1.7 - 5.5 bar)
Operating Conditions (A)	Temperature (at 230 VAC input)	-13 °F to 125 °F (-25 °C to 50 °C)	-13 °F to 122 °F (-25 °C to 50 °C)
	Relative Humidity	0-100%, condensing	20-95%, non-condensing
Controller Size (B) (approximate)	Outer Dimensions	19-7/8" x 17-1/2" x 14-1/4" (50.48 x 44.45 x 36.20 cm)	26 1/8" x 15 3/8" x 11 1/2" (66 x 39 x 29 cm)
	Weight	35.15 lbs (15.94 kg)	31 lbs (14.1 kg)
For Use With (C)	Pump (60 Hz)	3 hp (2.2 kW) [default] 5 hp (3.7 kW)	0.5 hp (0.37 kW) pump with 214505-Series motor 0.75 hp (0.55 kW) pump with 214507-Series motor 1.0 hp (0.75 kW) pump with 214508-Series motor 1.5 hp (1.1 kW) pump with 224300-Series motor 2.0 hp (1.5 kW) pump with 224301-Series motor 3.0 hp (2.2 kW) pump with 224302-Series motor 0.5 hp (0.37 kW), 0.75 hp (0.55 kW), or 1.0 hp (0.75 kW) pump with 234513-Series motor 0.75 hp (0.55 kW), 1.0 hp (0.75 kW), or 1.5 hp (1.1 kW) pump with 234514-Series motor 1.0 hp (0.75 kW), 1.5hp (1.1 kW), or 2.0 hp (1.5 kW) pump with 234315-Series motor 1.5 hp (1.1 kW), 2.0 hp (1.5 kW), or 3.0 hp (2.2 kW) pump with 234316-Series motor 3.0 hp (2.2 kW), or 5.0 hp (3.7 kW) pump with 234317-Series motor
	FE Motor	234317-Series (5 hp, 3.7 kW)	214505-Series (0.5 hp, 0.37 kW) single-phase, 3-wire 214507-Series (0.75 hp, 0.55 kW) single-phase, 3-wire 214508-Series (1.0 hp, 0.75 kW) single-phase, 3-wire 224300-Series (1.5 hp, 1.1 kW) single-phase, 3-wire 224301-Series (2.0 hp, 1.5 kW) single-phase, 3-wire 224302-Series (3.0 hp, 2.2 kW) single-phase, 3-wire 234513-Series (1.0 hp, 0.75 kW) three-phase 234514-Series (1.5 hp, 1.1 kW) three-phase 234315-Series (2.0 hp, 1.5 kW) three-phase 234316-Series (3.0 hp, 2.2 kW) three-phase 234317-Series (5.0 hp, 3.7 kW) three-phase
	Surface Pumps	-	2.0-17.8 Amps, three-phase, 230 VAC three-phase

NOTES: Refer to Franklin Electric's SubDrive/MonoDrive Installation Manual.

(A) Operating temperature is specified at full output power when installed as described in Controller Location Selection.

(B) Refer to detailed Mounting Dimensions.

(C) If a pump other than the default rating is used, refer to Drive Configuration.

\* Refer to detailed Circuit Breaker and Wire Sizing charts.

## SPECIFICATIONS

Model No.	Indoor/Outdoor	SubDrive2W (NEMA 3R)
		Model 5870203223
Input from Power Source	Voltage	207-260 VAC
	Phase In	Single-phase
	Frequency	60/50 Hz
	Current (max)	14 Amps (RMS) (For circuit breaker sizing)
	Power Factor	0.7 (approximate)
	Power (idle)	20 Watts
	Power (max)	1900 Watts
	Wire Gauge Size(s)	Consult Federal, State, and Local codes for branch circuit installations
Output to Motor	Voltage	Adjusts with Frequency
	Phase Out	Single-phase (2-wire)
	Frequency Range	30-60 Hz
	Current (max)	6 Amps (RMS) 1/2 hp, 0.37 kW system 8 Amps (RMS) 3/4 hp, 0.55 kW system 10.4 Amps (RMS) 1 hp, 0.75 kW system
	Wire Gauge Size(s)	#6 - #18 * ga.
Pressure Setting	Factory preset	50 psi (3.4 bar)
	Adjustment Range	25-80 psi (1.7 - 5.5 bar)
Operating Conditions (A)	Temperature (at 230 VAC input)	-13 °F to 125 °F (-25 °C to 50 °C)
	Relative Humidity	10-95%, non-condensing
Controller Size (B) (approximate)	Outer Dimensions	12-1/4" x 16-1/2" x 9" (31.1 x 41.9 x 22.9 cm)
	Weight	15.0 lbs (6.80 kg)
For Use With (C)	Pump (60 Hz)	1/2 hp pump/motor with 244505-Series 3/4 hp pump/motor with 244507-Series [default] 1 hp pump/motor with 244508-Series
	FE Motor	Not Available

NOTES: Refer to Franklin Electric's SubDrive/MonoDrive Installation Manual.

(A) Operating temperature is specified at full output power when installed as described in Controller Location Selection.

(B) Refer to detailed Mounting Dimensions.

(C) If a pump other than the default rating is used, refer to Drive Configuration.

\*Refer to detailed Circuit Breaker and Wire Sizing charts.



## ACCESSORIES

Accessories	Detail	Used With	Part No.
Air Screen Kit	Helps prevent insects from entering and damaging the internal components of the drive	SD2W	225835901
Air Screen Kit	Helps prevent insects from entering and damaging the internal components of the drive	SD15, SD20, SD30, MD, MDXT non-“C” models	226550901
Analog Pressure Transducer	4-20mA analog pressure transducer used with “C” models (includes 10 ft cable)	All “C” models - 100 PSI	226905902
			226905903
			226905904
Analog Pressure Transducer Cable Kit	Outdoor rated cable to connect analog pressure transducer to “C” drive models	All “C” models - 10 ft	226910901
		All “C” models - 25 ft	226910902
		All “C” models - 50 ft	226910903
		All “C” models - 100 ft	226910904
		All “C” models - 150 ft	226910905
		All “C” models - 200 ft	226910906
Duplex Alternator	Allows a water system to alternate between two parallel pumps controlled by separate SubDrives	All Models	5850012000
Duplex Alternator Cable Kit	Communication cable kit required to use the built-in Duplex Alternator function in “C” drive models	All “C” models - 10 ft	226895901
		All “C” models - 50 ft	226895902
		All “C” models - 100 ft	226895903
Enhanced Display Board Replacement Kit	Replacement board for drives that have a damaged display	All “C” models	226540912
Enhanced Pressure Input Board Replacement Kit	Replacement board for “C” drives that have experienced a surge on the Enhanced Pressure Input Board.	All “C” models	226540902
Filter (Input)	Filter used on the input side of drive to help eliminate interference	All models	225198901
Filter (Output)	Filter used on the output side of the drive to help eliminate interference	All models (excluding SD300)	225300901
Filter (System)	Filter used as a system filter on input/output of the drive to help eliminate interference	SD300	225650901
Filter (Surge Capacitors)	Capacitor used on the service panel to help eliminate power interference	All SubDrives/MonoDrives (excl. SD2W and SD300)	225199901
Heatsink Cover Kit	Assists in preventing insects from entering and blocking fan area	All NEMA 4 models (excluding SD300)	225805901
Lightning Arrestor	Single-phase (Input Power)	Single-phase (Input Power)	150814902
Low Voltage Kit	Used to make adjustments to the voltage of the SubDrive	SD300	225950901
Moisture Sensor Kit	External sensor device that shuts down the drive when water is detected.	All “C” models	226770901
NEMA 1 Fan Replacement Kit	Replacement fan (date code prior to 08L)	SD75 and MD	225635905
NEMA 1 Fan Replacement Kit	Replacement fan (date code 08L and after)	SD75 and MD	225635908
NEMA 1 Fan Replacement Kit	Replacement fan (with date code prior to 08K)	SD100, SD150, and MDXT	225635907
NEMA 1 Fan Replacement Kit	Replacement fan (with date code 08K and after)	SD100, SD150, and MDXT	225635909
NEMA 3R Fan Replacement Kit	Replacement fan (with date code prior to 08K)	SD75 and MD	225635907
NEMA 3R Fan Replacement Kit	Replacement fan	SD2W	225635910
NEMA 3R Fan Replacement Kit	Replacement fan	SD50	226545903
NEMA 3R Fan Replacement Kit	Replacement fan (with date code 14L and after)	SD15 and MD	226545901
NEMA 3R Fan Replacement Kit	Replacement fan (with date code 14L and after)	SD20, SD30, and MDXT	226545902
NEMA 4 External Cooling Fan Replacement Kit	Replacement External fan (with date code prior to 14L)	SD75 and MD	225635901
NEMA 4 External Cooling Fan Replacement Kit	Replacement External fan (with date code prior to 14L)	SD100, SD150, and MDXT	225635902
NEMA 4 External Cooling Fan Replacement Kit	Replacement External fan (include 2 fans)	SD300	225635903
NEMA 4 Internal Stirring Fan Replacement Kit	Replacement Internal Stirring fan (with date code prior to 14L)	SD75, SD100, SD150, SD300, MD, MDXT	225635904
NEMA 4 Auxiliary Relay Board	Offers Run-Indication Relay (for date codes 09J through 14K)	All NEMA 4 models (excluding SD300)	225755901
NEMA 4 Option Card	Offers Run-Indication Relay and Underload Extended Off-Time (date codes 09J–14K)	All NEMA 4 models (excluding SD300)	225880901
Pressure Sensor (High: 75-150 psi, NSF 61 rated)	Adjusts pressure in the water system from 75-150 psi (2-leaded cable)	All models	225970901
Pressure Sensor (Std.: 25-80 psi, NSF 61 rated)	Adjusts pressure in the water system from 25-80 psi (2-leaded cable)	All models	223995901
Pressure Sensor/Pressure Shut-Off Switch Kit	Kit includes pressure sensor (25-80 psi, NSF 61 rated), pressure shut-off switch (100 psi) and 10 foot cable (4-leaded cable)	SD300	225495901
Pressure Sensor Input Board Replacement	Replacement board for drives that have experienced a surge on the pressure sensor input (with date codes 14L and after)	All models	226540901
Sensor Cable Kit (Indoor)	100 feet of 22 AWG cable (2-leaded cable)	All models excluding SD2W and SD300	223995902
Sensor Cable Kit (Indoor)	100 feet of 22 AWG cable (4-leaded cable)	SD300	225495902
Sensor Cable Kit (outdoor)	100 feet of 22 AWG cable (2-leaded cable)	All models	226941901
Sensor Direct Burial Cable	Designed to run in an underground trench without conduit to surround it (4-leaded cable)	All models - 10 ft (3 m)	225800901
		All models - 30 ft (9 m)	225800902
		All models - 100 ft (30.5 m)	225800903
Tank Drawdown Kit	Allows the use of water stored in the tank during low flow demands	MDN3R, MDXTN3R, SD15, SD20, SD30, SD2W, and SD300	225770901
Tank Drawdown Kit	Allows use of tank-stored water during low-flow demands (date codes prior to 14L)	SD75N4, SD100N4, SD150N4, MDN4, and MDXTN4 (requires Auxiliary Relay Board or NEMA 4 Option Card)	225770901

\* NI = NEMA 1 (Indoors), N3R = NEMA 3R (Indoor/Outdoor), N4 = NEMA 4 (Outdoor)







