

# SUBDRIVE & MONODRIVE

## NEMA 4 VARIABLE FREQUENCY DRIVES

SubDrive75, SubDrive100, SubDrive150, and SubDrive300 controllers are designed for three phase motors to provide constant pressure with three-phase performance using single-phase input power. Designed within a NEMA 4 weatherproof enclosure, they offer rugged, watertight variable frequency drive solutions that meets water demand changes.

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.





# SUBDRIVE NEMA 4

## FEATURES

- Single-phase input, 3-phase motor control
- Easy, plug-and-play installation
- 1-1/2 – 5 hp performance
- Smooth running
- High starting torque
- NEMA 4 enclosure (indoor/outdoor) offers robust protection against harsh environmental conditions
- Constant water pressure with a wide range of settings (25 to 80 psi)
- 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
- Easily replaceable fan kit
- UL and cUL listed

## APPLICATIONS

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

## ORDERING INFORMATION

SubDrive Constant Pressure Controllers		
VFD	Enclosure Type	Model No.
SubDrive 75	SubDrive NEMA 4 Variable Frequency	5870203384
SubDrive 100		5870204104
SubDrive 150		5870204154
SubDrive 300		5870206300



# SUBDRIVE NEMA 4

## SPECIFICATIONS

Model No.	Indoor/Outdoor	SubDrive75 (NEMA 4)	SubDrive100 (NEMA 4)
		Model 5870203384	Model 5870204104
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)	19 Amps (RMS)
	Power Factor	1.0 (constant)	1.0 (constant)
	Power (idle)	65 Watts	65 Watts
	Power (max)	3800 Watts	3800 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	Adjusts with Frequency
	Phase Out	Three-phase (3-wire)	Three-phase (3-wire)
	Frequency Range	30-80 Hz (1 hp, 0.75 kW) pump 30-70 Hz (1.5 hp, 1.1 kW) pump 30-60 Hz (2 hp, 1.5 kW) pump	30-80 Hz (1 hp, 0.75 kW) pump 30-70 Hz (1.5 hp, 1.1 kW) pump 30-60 Hz (2 hp, 1.5 kW) pump
	Current (max)	8.1 Amps (RMS, each phase)	8.1 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)	3/4 hp (0.55 kW) [default] 1.0 hp (0.75 kW) 1.5 hp (1.1 kW)	1 hp (0.75 kW) [default] 1.5 hp (1.1 kW) 2 hp (1.5 kW)
	FE Motor	234514-Series (1.5 hp, 1.1 kW)	234315-Series (2 hp, 1.5 kW)

Model No.	Indoor/Outdoor	SubDrive150 (NEMA 4)	SubDrive300 (NEMA 4)
		Model 5870204154	Model 5870206300
Input from Power Source	Voltage	190-260 VAC	220-260 VAC
	Phase In	Single-phase	Single-phase
	Frequency	60/50 Hz	60/50 Hz
	Current (max)	23 Amps (RMS)	36 Amps (RMS)
	Power Factor	1.0 (constant)	1.0 (constant)
	Power (idle)	65 Watts	65 Watts
	Power (max)	4600 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	Adjusts with Frequency
	Phase Out	Three-phase (3-wire)	Three-phase (3-wire)
	Frequency Range	30-80 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	30-80 Hz (3 hp, 2.2 kW) pump 30-70 Hz (5 hp, 3.7 kW) pump
	Current (max)	10.9 Amps (RMS, each phase)	17.8 Amps (RMS, each phase)
	Wire Gauge Size(s)	#6 - #18* ga.	#2 - #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)	19-7/8" x 17-1/2" x 14-1/4" (50.48 x 44.45 x 36.20 cm)
	Weight	28.32 lbs (12.84 kg)	35.15 lbs (15.94 kg)
For Use With (C)	Pump (60 Hz)	1.5 hp (1.1 kW) [default] 2 hp (1.5 kW) 3 hp (2.2 kW)	3 hp (2.2 kW) [default] 5 hp (3.7 kW)
	FE Motor	234316-Series (3 hp, 2.2 kW)	234317-Series (5 hp, 3.7 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.





# MONODRIVE & MONODRIVE XT NEMA 4

## FEATURES

- Single-phase input, 3-wire motor control
- Easy, plug-and-play installation
- 1/2 – 2 hp performance
- Smooth running
- High starting torque
- NEMA 4 enclosure options (indoor/outdoor) offers robust protection against harsh environmental conditions
- Constant water pressure with a wide range of settings (25 to 80 psi)
- 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
- Easily replaceable fan kit
- UL and cUL listed

## APPLICATIONS

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

## ORDERING INFORMATION

MonoDrive Constant Pressure Controllers		
VFD	Enclosure Type	Model No.
MonoDrive	MonoDrive/MonoDriveXT	5870203114
MonoDriveXT	NEMA 4 Variable Frequency	5870204114



# MONODRIVE & MONODRIVE XT NEMA 4

## SPECIFICATIONS

Model No.	Indoor/Outdoor	MonoDrive (NEMA 4)	MonoDriveXT (NEMA 4)
		Model 5870203114	Model 5870204114
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)	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	13 Amps (RMS) 1.5 hp, 1.1 kW system 16 Amps (RMS) 2 hp, 1.5 kW system
	Power Factor	1.0 (constant)	1.0 (constant)
	Power (idle)	35 Watts	65 Watts
	Power (max)	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	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	30-60 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: 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 - #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	24.14 lbs (10.95 kg)	28.32 lbs (12.84 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	1.5 hp (1.1 kW) pump with 224300-Series motor 2.0 hp (1.5 kW) pump with 224301-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 (default) 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.



# NOTES

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