

SubDrive 20 / 100 - Pressure Controller

NEMA 3R NEMA 4

The SubDrive 20 is designed for three-phase motors to provide constant pressure with three-phase performance using single-phase input power. They have a high starting torque, easy to install, smooth running, just plug and play. Performance ranges from 3/4 hp to 5 hp. Indoor/outdoor NEMA 3R and NEMA 4 enclosure options. The fan kit is easily replaceable.

APPLICATIONS

SubDrive 20 constant pressure controller is designed for use in residential homes, schools, restaurants, car washes, farms, and landscape irrigation systems with a McDonald 1 HP pump end mounted to a 2 HP, 230 volt A.Y. McDonald three phase motor.

FEATURES

- Constant water pressure with a wide range of settings (0-100 pressure transducer)
- Single-phase input power
- FE Connect Smartphone app for advanced settings and monitoring (NEMA 3R only)
- User-configurable motor frequency range (NEMA 3R only)
- 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
 - Undervoltage
 - Open circuit
 - Overheated controller
 - Underload
 - Locked pump
 - Short circuit
 - Broken pipe detection (NEMA 3R only)



Pressure Master

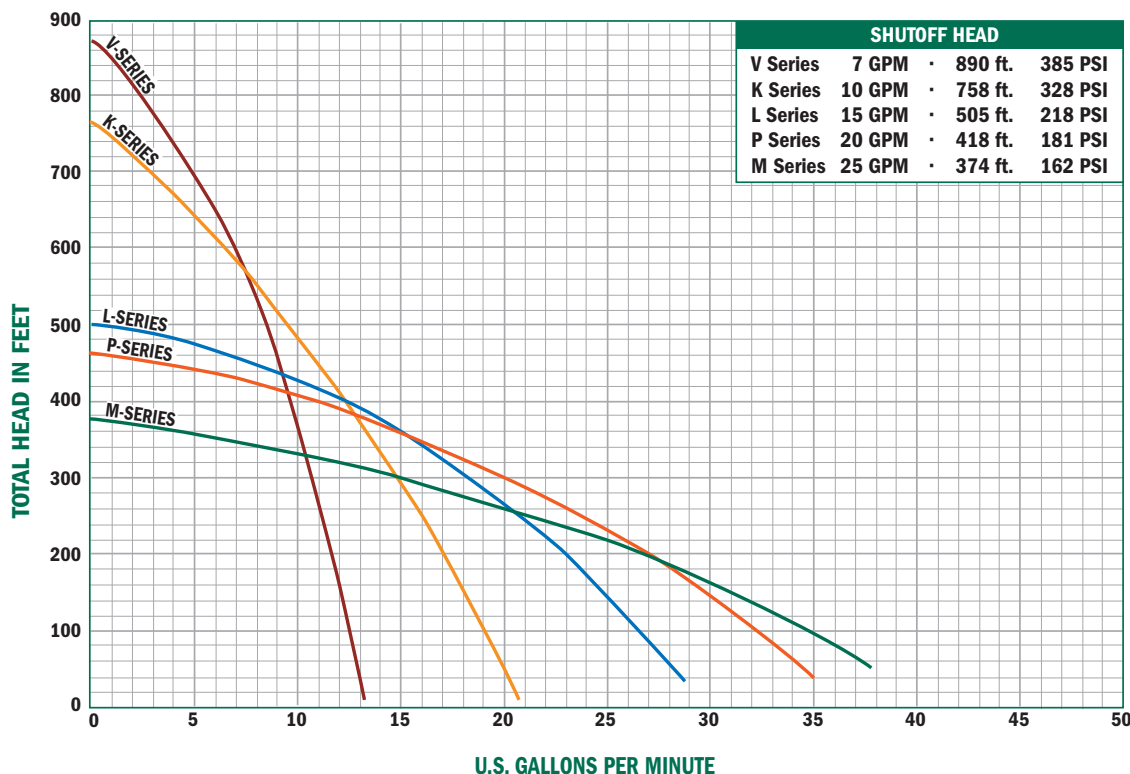
SubDrive20 (NEMA 3R) - Indoor/Outdoor					
Model No.		A.Y. Model # 6617-435 FE Model # 5870205303C	Pressure Setting	Factory Present	50 psi (3.4 bar)
Input from Power Source	Voltage	208/230 VAC	Adjustment Range		25-80 psi (1.7 - 5.5 bar)
	Phase In	Single-phase	Operating Conditions ⁽¹⁾	Temperature (at 230 VAC input)	-13°F to 125°F (-25°C to 50°C)
	Frequency	60/50 Hz	Controller Size ⁽²⁾ (approximate)	Relative Humidity	20-95%, condensing
	Current (max)	19 Amps		Outer Dimensions Weight	9 3/4" x 19 3/4" x 5 1/4" (25 x 50 x 13 cm) 26 lbs (11.8 kg)
	Power Factor	~0.95	For Use With ⁽³⁾	Pump (60 Hz)	1 hp submersible pumpend 1 1/2 hp submersible pumpend 2 hp submersible pumpend
	Power (idle)	5 Watts		A.Y. McDonald Motor	1 hp single-phase, three-wire 1 1/2 hp single-phase, three-wire 2 hp single-phase, three-wire 1 1/2 hp three-phase, three-wire 2 hp three-phase, three-wire
	Power (max)	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 (three-wire) OR Three-phase			
	Frequency Range	30-78 Hz (1 hp, 0.75 kW) pump 30-72 Hz (1 1/2 hp, 1.1 kW) pump 30-60 Hz (2 hp, 1.5 kW) pump 30-63 Hz (Single-phase Motors)			
	Current (max)	8.1 A / phase			
	Wire Gauge Size(s)	#6 - #14* ga.			

Controller Rating	Part No.	Model No.
NEMA 3R (Indoor/Outdoor)	6617-435	SubDrive 20
NEMA 4 (Outdoor)	6617-158	SubDrive 100

SubDrive 20 / 100 - 21000/23000 E-Z Pac Packages

NEMA 3R

NEMA 4



NOTE: Performance shown does not include friction loss in drop pipe (for flow rates above 25 GPM, larger drop pipe is recommended.)

No-Lead Brass - 21000 Series

E-Z PAC (N3R)

N1 - (NEMA 3R), 1 1/4" NPT Connection on All Series

Model No.	Series	GPM	Wt.
21100VCP1EZ	V	7	65
21100KCP1EZ	K	10	66
21100LCP1EZ	L	15	66
21100PCP1EZ	P	20	68
21100MCP1EZ	M	25	65

E-Z PAC (N4)

N4 - (NEMA 4), 1 1/4" NPT Connection on All Series

Model No.	Series	GPM	Wt.
21100VCP4EZ	V	7	81
21100KCP4EZ	K	10	76
21100LCP4EZ	L	15	78
21100PCP4EZ	P	20	78
21100MCP4EZ	M	25	76

Stainless Steel - 23000 Series

E-Z PAC (N3R)

N1 - (NEMA 3R), 1 1/4" NPT Connection on All Series

Model No.	Series	GPM	Wt.
23100VCP1EZ	V	7	68
23100KCP1EZ	K	10	64
23100LCP1EZ	L	15	63
23100PCP1EZ	P	20	64
23100MCP1EZ	M	25	62

E-Z PAC (N4)

N4 - (NEMA 4), 1 1/4" NPT Connection on All Series

Model No.	Series	GPM	Wt.
23100VCP4EZ	V	7	80
23100KCP4EZ	K	10	73
23100LCP4EZ	L	15	75
23100PCP4EZ	P	20	75
23100MCP4EZ	M	25	75

The SubDrive 20 is designed to be part of a system that includes three main components:

1

Subdrive 20 controller
(pressure sensor included)
NEMA 3R - Part No. 6617-435
NEMA 4 - Part No. 6617-158
SubDrive 100



2

A.Y. McDonald 2 HP, 230V
three phase motor
Part No. 3132-534



3

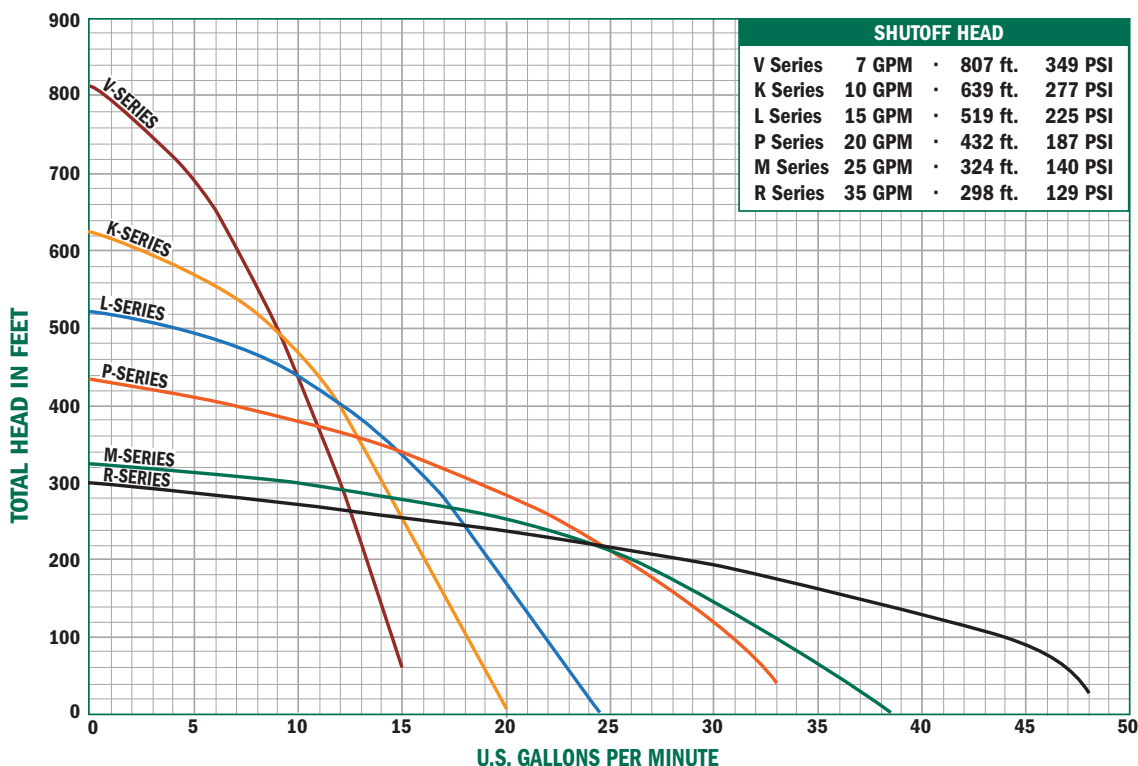
Appropriate pump end
Includes pump end 23100K
For example:
23100KCP1EZ



SubDrive 20 / 100 - 24000 E-Z Pac Packages

NEMA 3R

NEMA 4



NOTE: Performance shown does not include friction loss in drop pipe (for flow rates above 25 GPM, larger drop pipe is recommended.)

Stainless Steel - 24000 Series (7-25 GPM)

E-Z PAC (N3R)

N1 - (NEMA 3R), 1 1/4" NPT Connection on All Series

Model No.	Series	GPM	Wt.
24100VCP1EZ	V	7	68
24100KCP1EZ	K	10	64
24100LCP1EZ	L	15	63
24100PCP1EZ	P	20	64
24100MCP1EZ	M	25	57

E-Z PAC (N4)

N4 - (NEMA 4), 1 1/4" NPT Connection on All Series

Model No.	Series	GPM	Wt.
24100VCP4EZ	V	7	80
24100KCP4EZ	K	10	73
24100LCP4EZ	L	15	75
24100PCP4EZ	P	20	75
24100MCP4EZ	M	25	75

Stainless Steel - 24000 Series (35 GPM)

E-Z PAC (N3R)

N1 - (NEMA 3R), 1 1/4" NPT Connection on All Series

Model No.	Series	GPM	Wt.
24100RCP1EZ	R	35	61

E-Z PAC (N4)

N4 - (NEMA 4), 1 1/4" NPT Connection on All Series

Model No.	Series	GPM	Wt.
24100RCP4EZ	R	35	78

- 2" NPT connection on R Series

The SubDrive 20 is designed to be part of a system that includes three main components:

1

Subdrive 20 controller
(pressure sensor included)
NEMA 3R - Part No. 6617-435
NEMA 4 - Part No. 6617-158
SubDrive 100



2

A.Y. McDonald 2 HP, 230V
three phase motor
Part No. 3132-534



3

Appropriate pump end
Includes pump end 24100K
For example:
24100KCP1EZ

