SubDrive 50 / 300 - Pressure Controller

NEMA 3R NEMA 4

This controller provides constant water pressure using state of the art electronics to drive and enhance the performance of a standard submersible pump. The pressure in a well system is monitored and regulated by the pressure sensor to continually adjust the pump motor speed to meet water supply demands. It eliminates the pressure cycling associated with a conventional well system. SubDrive can deliver dependable constant pressure to provide water well owners with a premium water system.

APPLICATIONS

SubDrive 300 constant pressure controller is designed for use with a McDonald 3 HP pump end mounted to a 5 HP, 230 volt A.Y. McDonald three phase motor. Using single-phase input, this innovative variable speed controller can be used to provide constant pressure in applications with a wide range of flow demand including large homes, ground source heat pumps, and sprinkler systems. Also designed to handle high capacities, SubDrive 300 is perfect for larger applications where constant pressure is essential: commercial landscaping, small livestock operations, nurseries, even some rare residential applications.

FEATURES

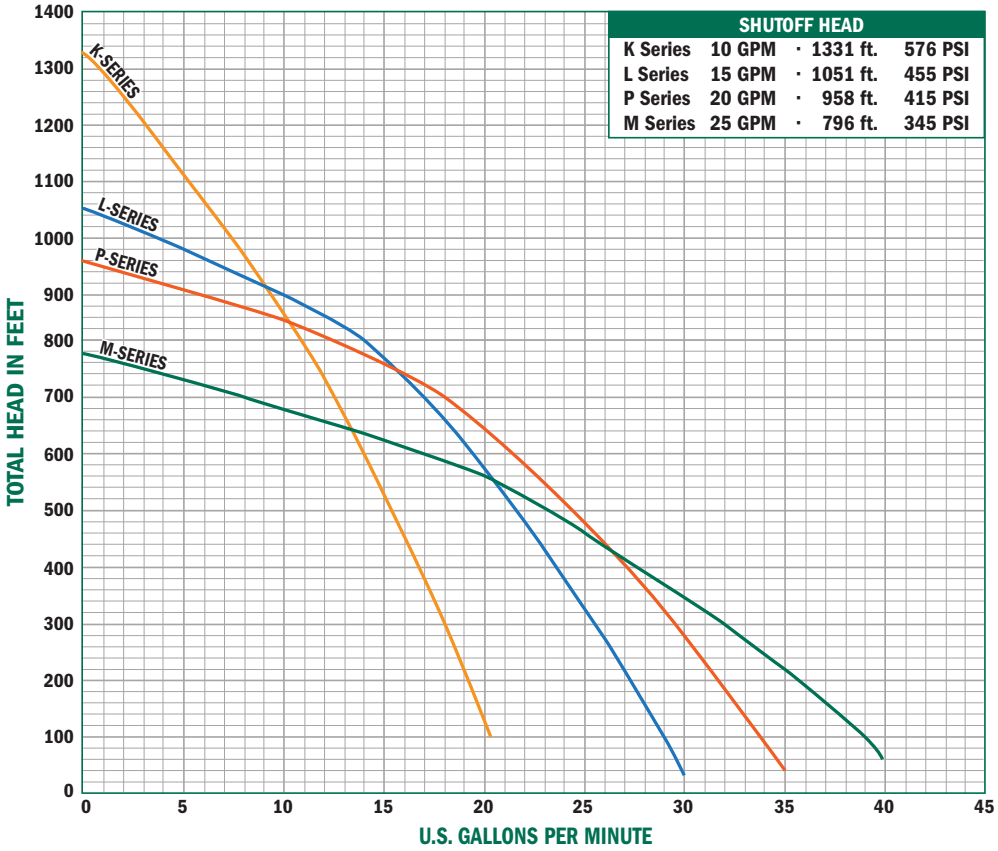
- Constant water pressure with a wide range of settings (0-100 pressure transducer)
- Works with a standard pump mounted to a three-phase A.Y. McDonald submersible motor
- NEMA 4 enclosure
- Smaller pressure tank or existing tank can be used
- Three-phase performance with single phase input
- Soft start means less stress and longer life on motor
- Smart Reset technology allows well recovery before restarting the pump
- Built in protection and diagnostics
  - Surge protection
  - Underload
  - Locked pump
  - Short circuit
  - Dry well conditions
  - Undervoltage
  - Open circuit
  - Overheated controller
  - Controllers are UL & cUL recognized for U.S.A. and Canada

SubDrive50 (NEMA 3R) - Indoor/Outdoor		
Model No.		A.Y. Model # 6617-437 FE Model # 5870205503C
Input from Power Source	Voltage	208/230 +/- 10% VAC
	Phase In	Single-phase
	Frequency	60/50 Hz
	Current (max)	36 Amps
	Power Factor	~0.95
	Power (idle)	7 Watts
	Power (max)	7200 Watts
	Wire Gauge Size(s)	Consult Federal, State, and Local codes for branch circuit installations
Output to Motor	Voltage	Variable based on Frequency
	Phase Out	Single-phase (three-wire) OR three-phase
	Frequency Range	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 (three-phase), 17.0 A (single-phase
	Wire Gauge Size(s)	#6 - #12* ga.
Pressure Setting	Factory Present	50 psi (3.4 bar)
	Adjustment Range	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)	-13ºF to 122ºF (-25ºC to 50ºC)
	Relative Humidity	20-95%, non-condensing
Controller Size[B] **(approximate)**	Outer Dimensions Weight	26 1/8" x 15 3/8" x 11 1/2" (66 x 39 x 29 cm) 31 lbs (14.1 kg)
For Use With[C]	Pump (60 Hz)	1/2 hp submersible pumpend 3/4 hp submersible pumpend 1 hp submersible pumpend 1 1/2 hp submersible pumpend 2 hp submersible pumpend 3 hp submersible pumpend
	A.Y. McDonald Motor	Single-phase, three-wire: 1/2, 3/4, 1, 1 1/2, 2, or 3 hp Three-phase: 1, 1 1/2, 2, 3, or 5 hp

Controller Rating	Part No.	Model No.
NEMA 3R (Indoor/Outdoor)	6617-437	SubDrive 50
NEMA 4 (Outdoor)	6617-153	SubDrive 300

SubDrive 50 / 300 - Pressure Controller

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 (N4)

1 1/4" NPT Connection on All Series

Model No.	Series	GPM	Volts	Wt.
21300K3CP	K	10	230V	109
21300L3CP	L	15	230V	111
21300P3CP	P	20	230V	112
21300M3CP	M	25	230V	106

E-Z PAC (N3R)

1 1/4" NPT Connection on All Series

Model No.	Series	GPM	Volts	Wt.
21300K3CP1EZ	K	10	230V	109
21300L3CP1EZ	L	15	230V	111
21300P3CP1EZ	P	20	230V	112
21300M3CP1EZ	M	25	230V	106

Stainless Steel - 23000 Series

E-Z PAC (N4)

1 1/4" NPT Connection on All Series

Model No.	Series	GPM	Volts	Wt.
23300K3CP	K	10	230V	109
23300L3CP	L	15	230V	108
23300P3CP	P	20	230V	108
23300M3CP	M	25	230V	102

E-Z PAC (N3R)

1 1/4" NPT Connection on All Series

Model No.	Series	GPM	Volts	Wt.
23300K3CP1EZ	K	10	230V	109
23300L3CP1EZ	L	15	230V	108
23300P3CP1EZ	P	20	230V	108
23300M3CP1EZ	M	25	230V	102

The SubDrive 300 is designed to be part of a system that includes three main components:

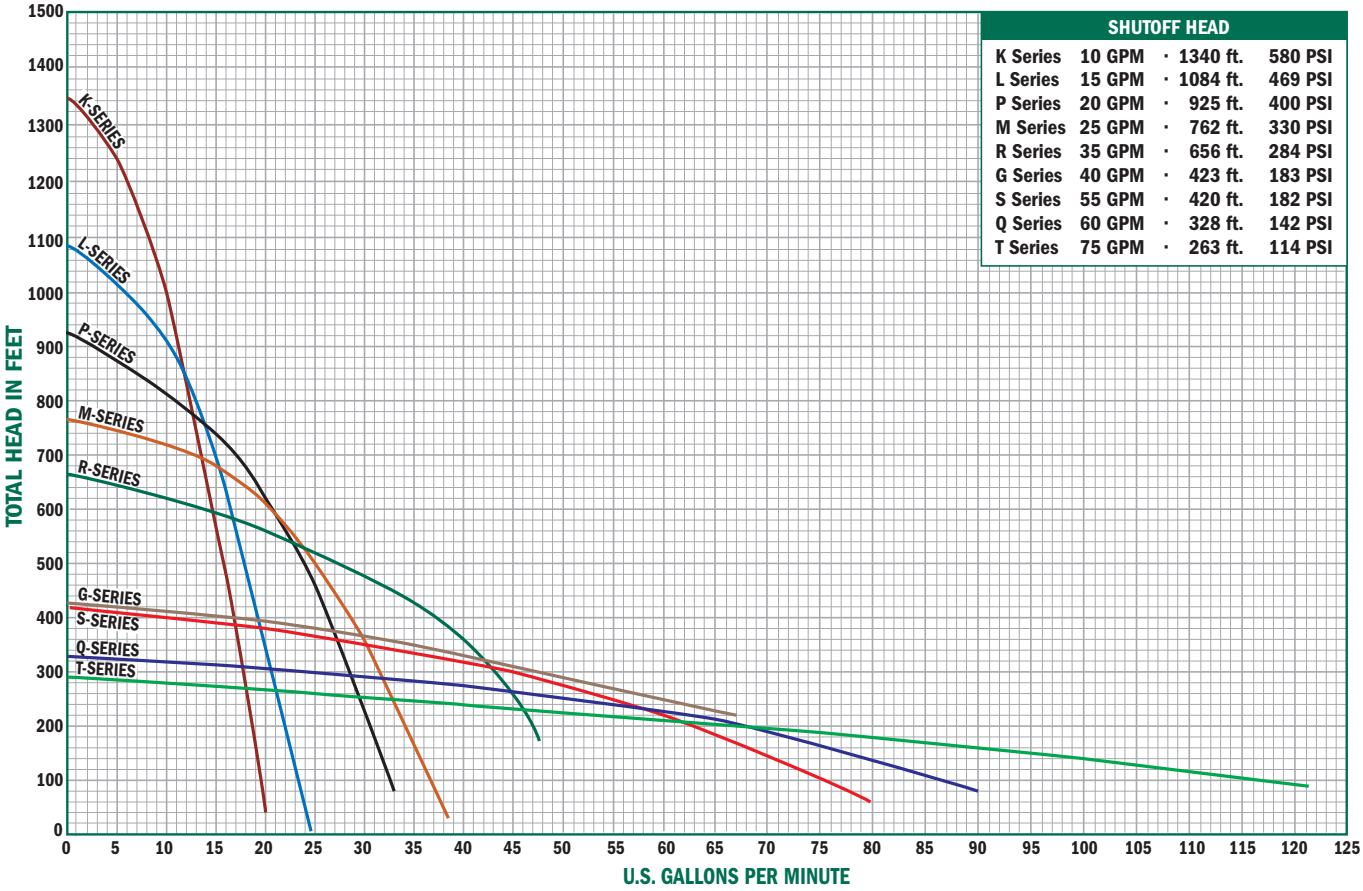
1 **Subdrive 300 controller (pressure sensor included)**
NEMA 3R - Part No. 6617-437
NEMA 4 - Part No. 6617-153

2 **A.Y. McDonald 5 HP, 230V three phase motor**
Part No. 3132-517

3 **Appropriate pump end**
Includes pump end 23300K
For example:
23300K3CP

SubDrive 50 / 300 - Pressure Controller

NEMA 3R NEMA 4



SHUTOFF HEAD			
K Series	10 GPM	1340 ft.	580 PSI
L Series	15 GPM	1084 ft.	469 PSI
P Series	20 GPM	925 ft.	400 PSI
M Series	25 GPM	762 ft.	330 PSI
R Series	35 GPM	656 ft.	284 PSI
G Series	40 GPM	423 ft.	183 PSI
S Series	55 GPM	420 ft.	182 PSI
Q Series	60 GPM	328 ft.	142 PSI
T Series	75 GPM	263 ft.	114 PSI

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 (35-60 GPM)

E-Z PAC (N4)

2" NPT Connection on All Series

Model No.	Series	GPM	Wt.
24300R3CP	R	35	101
24300G3CP	G	40	97
24300S3CP	S	55	102
24300Q3CP	Q	60	100
24300T3CP	T	80	102

E-Z PAC (N3R)

2" NPT Connection on All Series

Model No.	Series	GPM	Wt.
24300R3CP1EZ	R	35	101
24300G3CP1EZ	G	40	97
24300S3CP1EZ	S	55	102
24300Q3CP1EZ	Q	60	100
24300T3CP1EZ	T	80	102

The SubDrive 300 is designed to be part of a system that includes three main components:

1 **SubDrive 300 controller (pressure sensor included)**
NEMA 3R - Part No. 6617-437
NEMA 4 - Part No. 6617-153

2 **A.Y. McDonald 5 HP, 230V three phase motor**
Part No. 3132-517

3 **Appropriate pump end**
Includes pump end 24300K
For example:
24300K3CP