

## Coro-flo Pumps



### Problems:

“Wont run”, “Trips overload” or “Won’t pump”



## Description of Problem

1. Motor wont run
2. Motor runs for a short period of time and stops
3. Motor runs a while, but trips overload/breaker
4. Pump will runs, but does not “pump”

## Description of Problem

1. Pump wont run = Check electrical
  - Is voltage correct?
  - Is breaker tripped?
  - Is it wired correctly? (120/240V)

Confirm before proceeding to next steps

## Description of Problem

2. Motor runs for a short period of time and stops
3. Motor runs a while, but trips overload/breaker

Likely same problem, but need to clarify

- “Runs a few seconds and overloads”
- “Ran a while, then started overloading”

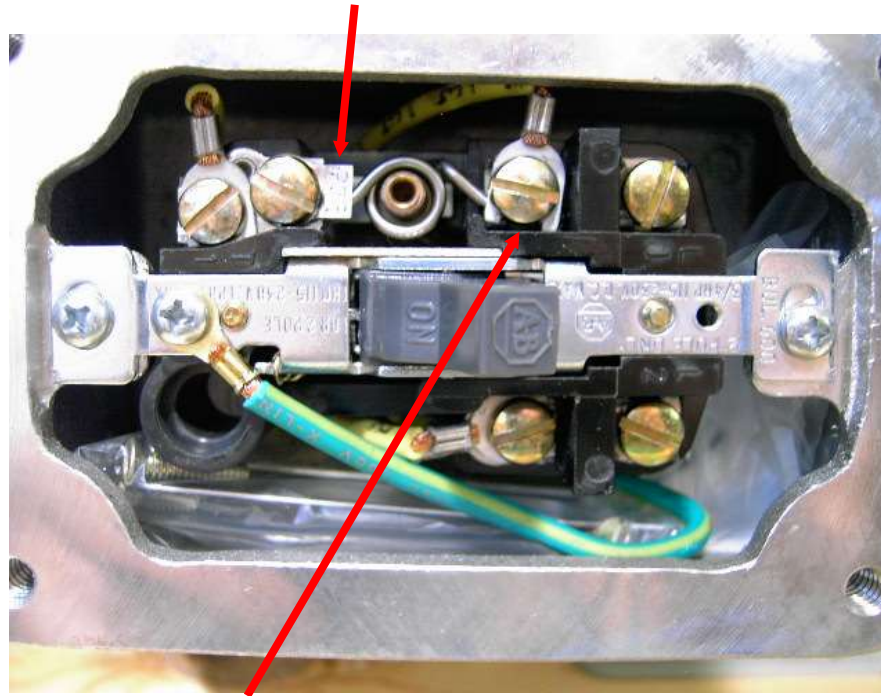
## Problem 2

### Runs for short time and stops

2. Runs short period (seconds)
  - If 120V check wiring (T1/T3)
  - Double check heater size if used
  - Check wiring for connections

Note “heater” number on tag. 3/4HP(C10) = P28, 1HP 1.5SF(C12/new C10) = P32,  
2HP(C13) = P36 or the “new” 2HP has no heater on the switch (SM-30/S-30)

**IT IS CRITICAL TO HAVE THE CORRECT HEATER**



On 115V the wire leads are on either side of the heater for C10-C13.  
If both wires are connected to one end it will trip over-loads. See  
wiring diagram for better understanding.

# Problem 3

## Runs a while, but trips overload

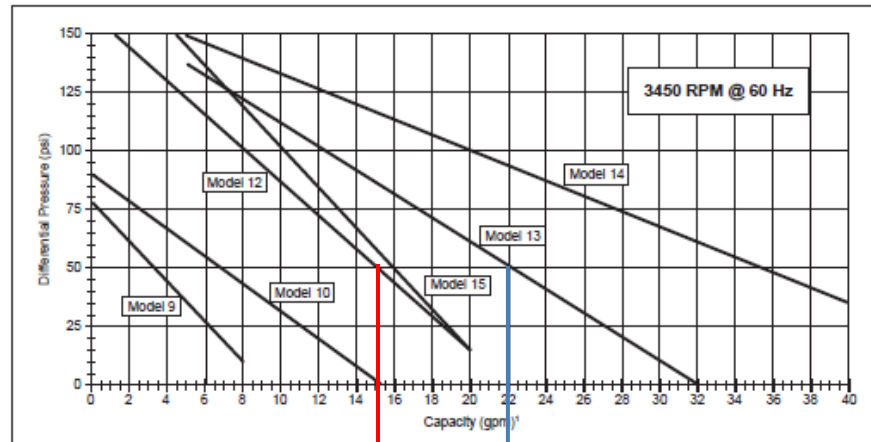
### 3. Runs a while

- What is the differential pressures?
- Does it exceed 50/60 PSID on Std. motor?
- What is wire size?
- Voltage loss?

## Performance/HP Curve

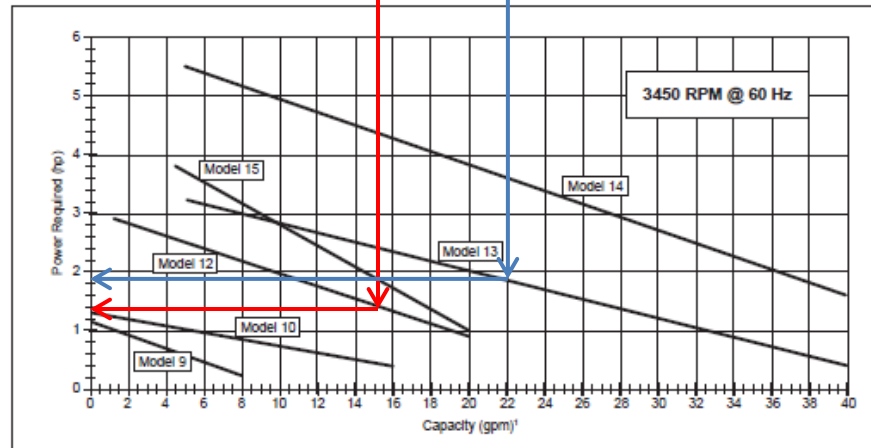
All F-, DS-, DL-Models

Flow vs. Differential Pressure



C12 @ 50-60 PSID  
= ~1.5HP

Flow vs. Power Required



C13 @ 50-60 PSID  
= ~2HP

Standard configured pump max is 50-60 PSID, the new C10 is the exception.

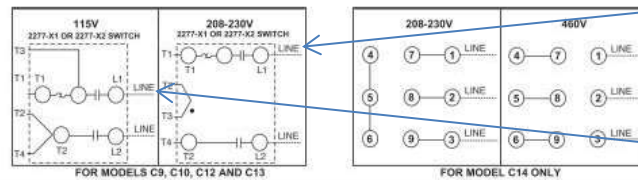
<sup>1</sup> The performance curves are based on aboveground LPG installations. Performance curves for underground LPG tanks will vary based on the specific installation. Consult factory.



## Wire Sizing Chart

Motor					(a) Recommended Wire Size, AWG		
Model	Hp	Motor Phase	Volts	Approximate Full Load Amperes	Length of Run in Feet		
					0-100	to 200	to 300
C9	3/4	1	115	9.0	12	8	6
C10			230	5.0	12	12	12
C12	1	1	115	16.0	8	6	4
			230	8.0	12	12	10
C13	2	1	115	20.0	8	4	2
			230	10.0	12	10	8
C14	3	3	230	8.0	12	12	12
			460	4.0	12	10	8
Pump must rotate in the direction shown on pump case. If not, switch any two of the three incoming 3 phase lines.							
FDS/SL	3/4	1	115	10.0	12	8	6
		3	230	5.0	12	12	12
			230	2.8	12	12	12
			460	1.4	12	12	12
FDS/SL	1	1	115	14.0	10	6	6
		3	230	7.0	12	12	12
			230	3.6	12	12	12
			460	1.8	12	12	12
FDS/SL	1-1/2	1	115	18.0	8	6	4
		3	230	9.0	12	12	10
			230	5.2	12	12	12
			460	2.6	12	12	12
FDS/SL	2	1	115	24.0	8	4	2
		3	230	12.0	12	10	8
			230	6.8	12	12	12
			460	3.4	12	12	12
FDS/SL	3	1	115	34.0	6	4	2
		3	230	17.0	12	8	8
			230	9.6	12	12	12
			460	4.8	12	12	12
FDS/SL	5	1	115	56.0	4	1	1/0
		3	230	28.0	10	6	4
			230	15.2	12	12	10
			460	7.6	12	12	12
FDS/SL	7-1/2	1	230	40.0	8	6	4
		3	230	22.0	10	10	8
			460	11.0	12	12	12
FDS/SL	10	3	230	28.0	8	6	4
			460	14.0	12	12	10
FDS/SL	15	3	230	42.0	6	4	4
			460	21.0	10	10	8

C12 = 115V @ 101ft ?  
6 Gauge wire needed



8 amp line

16 amp line

# Wire Sizing Chart

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			230	8.0	12	12	10
C13	2	1	115	20.0	8	4	2
			230	10.0	12	10	8
C14	3	3	230	8.0	12	12	12
			460	4.0	12	10	8

C12 = 115V @ 101ft ? = 6 Gauge wire needed

# Wire Sizing Chart

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			230	8.0	12	12	10
C13	2	1	115	20.0	8	4	2
			230	10.0	12	10	8
C14	3	3	230	8.0	12	12	12
			460	4.0	12	10	8

C12 with 1 HP = 115V up to 100ft ? = 8 Gauge wire needed

**NOTE:**

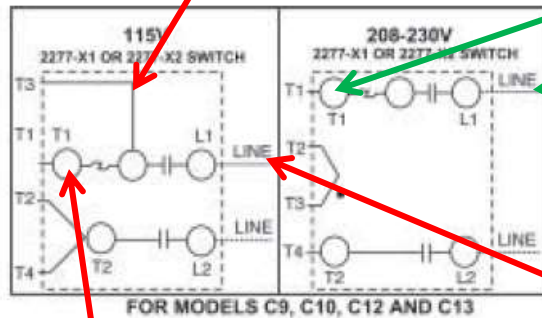
C12 with 2 HP = 115V up to 100ft ? = 8 Gauge wire needed

## Wiring 115V/230V on #2275 Switch

How has Corken used the same sized “heater” for two different amperages/voltages? (8Amp = 230V & 16Amp = 115V)

8 amp around heater

8 amp through heater



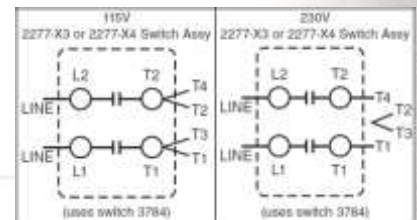
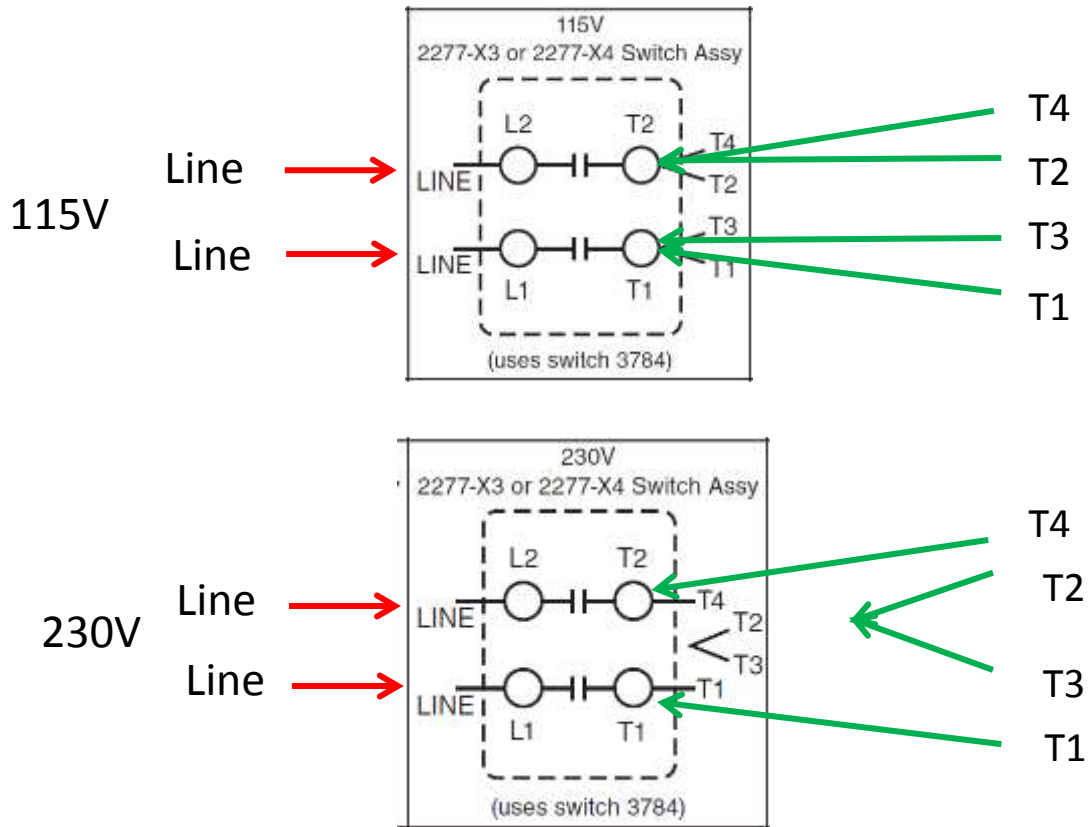
8 amp coming in  
230V line

8 amp through heater

16 amp coming in  
115V line

## Wiring 115V/230V on #3784 Switch

This switch has no overload/heater included with assembly



## Wire Size Comparisons



12 AWG.

10 AWG.

8 AWG.

6 AWG.

No. 2 Pencil

## S-20 with # 2275 switch and Heater (P32)



S-30 with # 3784 switch, no heater/overload





## Problem 4

Pump will run, but does not “pump”

### 4. Runs but doesn't pump

- Not likely electrical problem
- What is the differential pressures?
- Does the pressure exceed max capability?
- If not it is more likely a bypass setting or shimming problem.
- Refer to bypass setting and shimming guidelines

# LPG Maximum PSID

**Below is based on 60Hz, 3450 RPM**

C/F10 = 60-70 PSID to Vapor lock

C/F12 = 90-110 PSID to Vapor lock

C/F13 = 100+ PSID to Vapor lock\*

C/F14 = 100+ PSID to Vapor lock\*

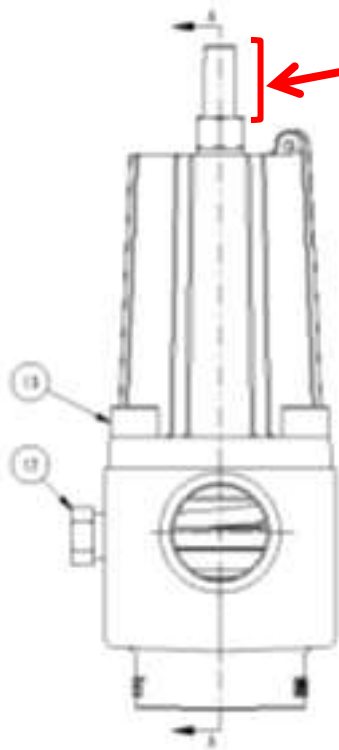
C/F15 = 100+ PSID to Vapor lock\*

F060 = 160 PSID to Vapor lock

F075 = 200+ PSID to Vapor lock

F150 = 200+ PSID to Vapor lock

\* Should not exceed 125 PSID to avoid shaft deflection



B166B-1BAU

Measure between top of  
locknut and top of stem

Estimated differential  
pressures based on height

- $15/16'' = 50$  PSID
- $13/16'' = 75$  PSID
- $3/4'' = 90$  PSID
- $11/16'' = 100$  PSID

Above estimated pressures are using a C12  
pump. A larger pump or restricted return  
line can change these pressures

## Low Voltage = Buck-Boost Transformer



If low voltage is a problem, a “Buck-Boost” transformer may be a solution. 200V to 220V or 208V to 229V in above shown unit. (Rated at 10 amps)

# CORKEN

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Compression & Pumping Solutions

## Thank you for your attention!



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