

Every electrical device needs to have some kind of fuse/circuit breaker, between the power supply and the motor starter. Whether the starter is a VFD or an across-the-line, direct, magnetic, push button starter. This fuse/circuit breaker needs to be 25% larger than the motor tag FLA.

Fan hp	Full Load Amps		
	208V	230V	460V
5	13	12	6
7.5	24	22	11
10	31	28	14
15	42	38	19
20	64	58	29

Each direct starter will have motor overload protection inside, which is set from the factory at 10% of the motor tag FLA.

Each VFD will be pre-programmed to the correct motor parameters.

Each motor will come with a motor “pigtail” already terminated in the peckerhead of the motor. The “pigtail” will have the end stripped back, and ferrules applied, with wire numbers T1, T2, T3 & Ground. The wires will be terminated in the direct starter in number order.

After wiring, bump the fan to check rotation. If the motor is rotating in the reverse direction, any two of the wires need to be reversed.

If the fan rotation is reversed with a VFD, then only these T1, T2, or T3 be changed. If you change the incoming wires, the motor will still be rotating in reverse.

VFD Wiring Instructions

If you purchased a VFD, DO NOT apply power until all VFD wiring has been double checked – any incorrect wiring can cause severe damage to the drive’s computer and will void any warranties.

MAIN POWER

- Connect the three incoming power wires to terminals L1, L2, & L3.
- Use the appropriate gauge wire for the horsepower rating of the motor.
 - Phase 1 to L1
 - Phase 2 to L2
 - Phase 3 to L3
 - Ground wire to drive’s chassis.
- Verify that the operating voltage of the motor matches the output voltage of the drive.

ELECTRICAL HOOK UP OF PTK to VFD

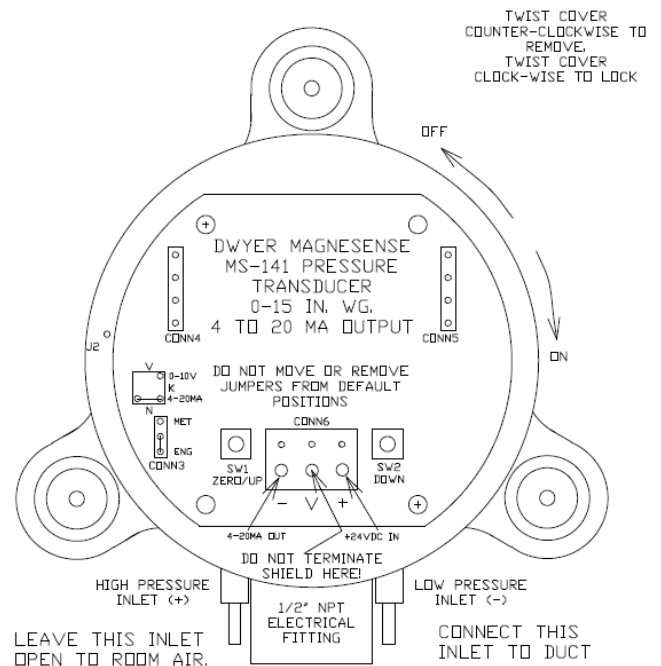
- Physically mount the pressure transducer in the vertical direction with pressure ports pointing down, to prevent dust and moisture from entering ports. See photo on last page of this document.
- Use three #8 x ½ long pan head sheet metal screws. **Do not over tighten.**
- Connect pressure transducer to motor drive using 2-conductor, 18 AWG shielded cable (ie, Belden 8760).
 - Terminal 12 (+24VDC) of drive to the + input of the pressure Transducer.
 - Terminal 4 of drive to the 4 to 20mA output of the transducer.
 - **Install a jumper wire between terminals 5 (AI2-) and 7 (I/O GND) on the VACON drive.**
- Press and hold SW1 “Zero/Up” for 5 seconds to zero and span pressure calibration.

PRESSURE TRANSDUCER KIT (4 to 20 mA)

- Drill a 5/8” hole in the duct halfway between fan inlet and first elbow.
- Install bulkhead fitting with sintered metal filter inside duct.
- Connect tubing from bulkhead fitting to right fitting on transducer.
- Leave the left fitting open to the room.
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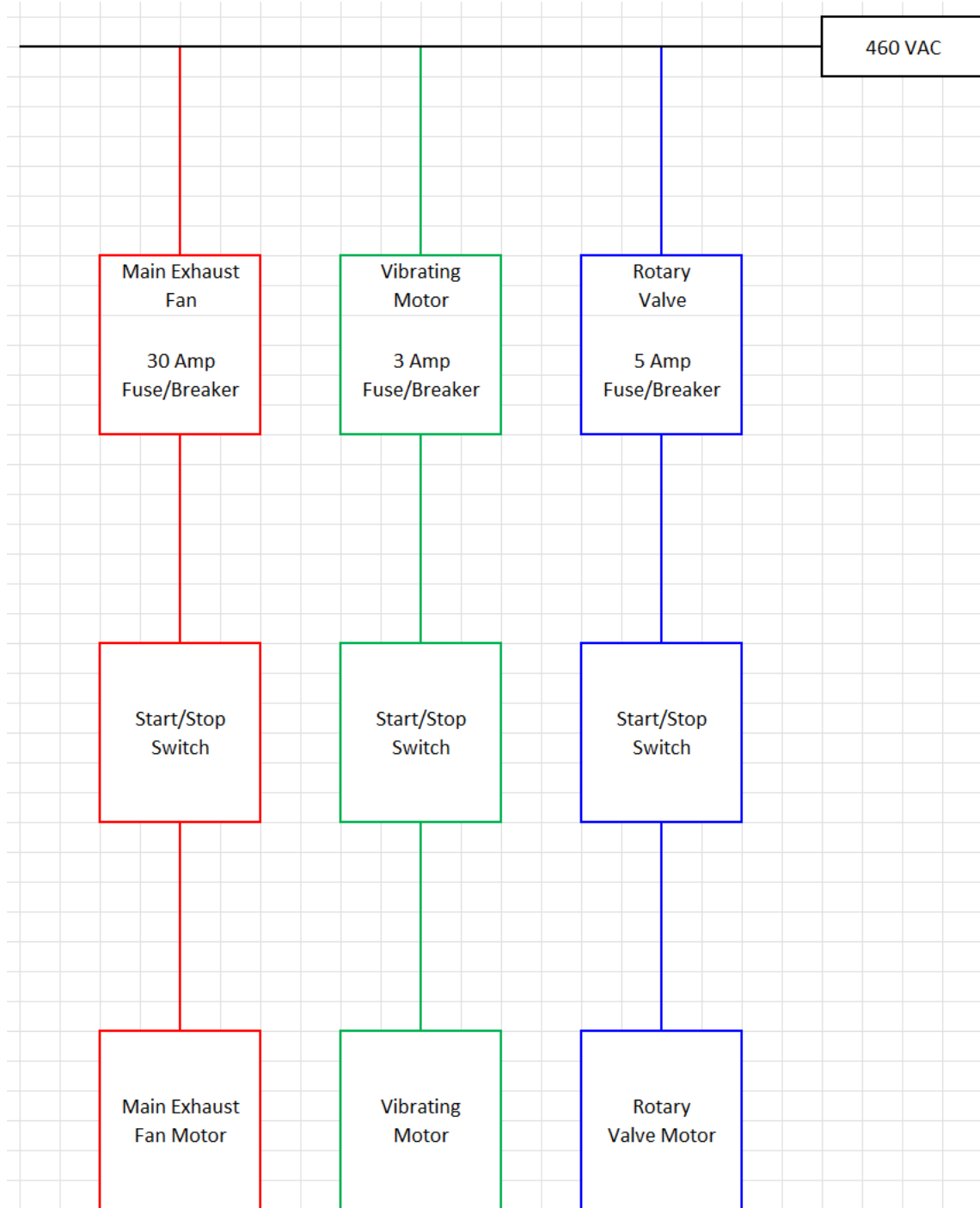
ONLINE INSTALLATION AND OPERATION MANUALS

- [VACON IOM](#)
- [Dwyer IOM](#)

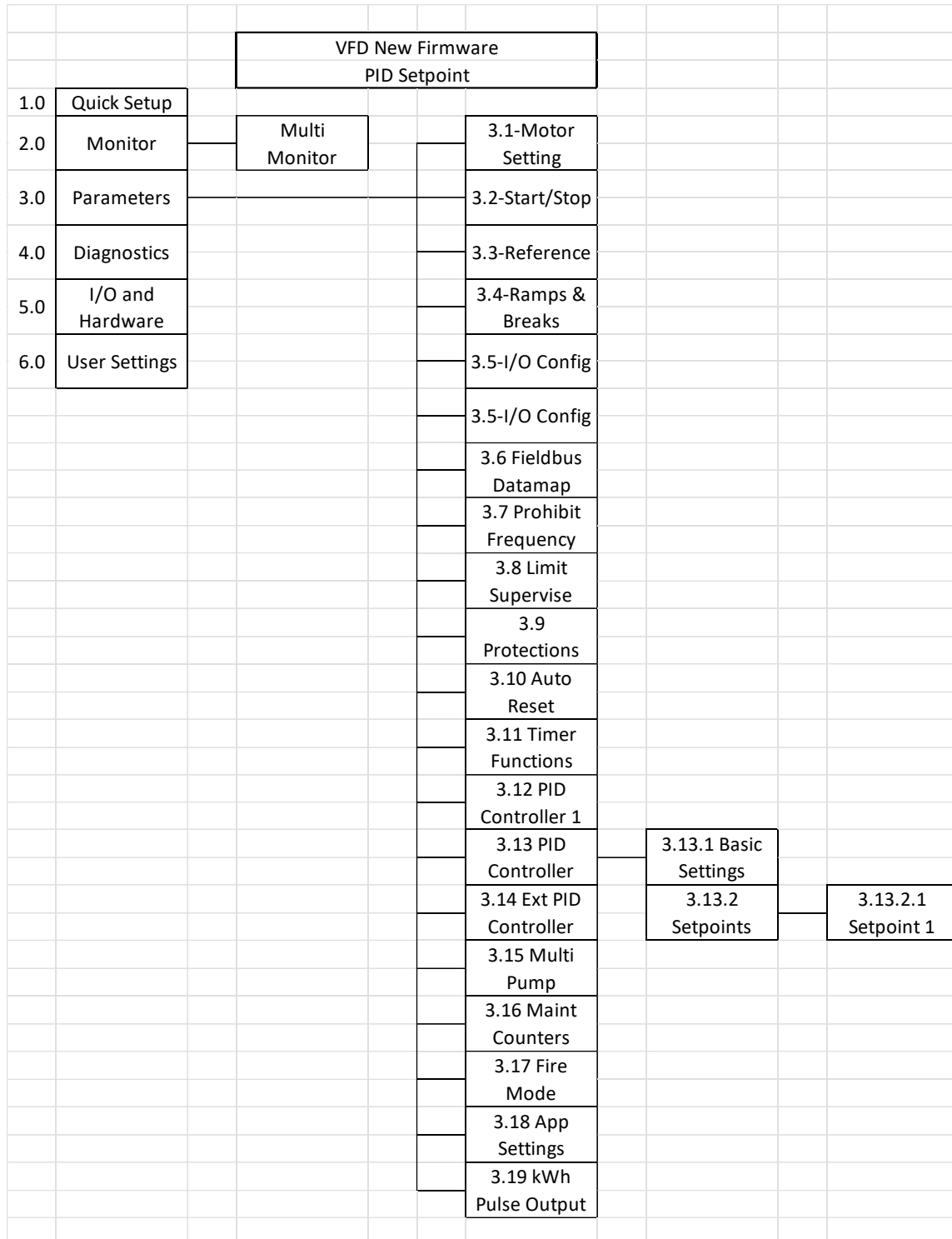


Wiring Diagram

All options shown – many jobs will only have the fan motor.



VACON VFD Setpoint 3.13.2.1



TYPICAL PTK INSTALLATION
Brass bulkhead fitting over duct-mounted PTK

