INSTALLATION AND OPERATING INSTRUCTIONS

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BY-PASS REGULATOR/FLOW SWITCH ASSEMBLY AND ADJUSTMENT

PURPOSE

To eliminate frequent dryer system cycling. This bulletin applies only to the adjustable type flow switch assembly. See figure 1 for visual identity. If this is not present order Assembly Part No. 2271M123.

GENERAL

The by-pass regulator/flow switch assembly connected to the manifold tank, monitors the unused (excess) flow of air automatically. When the 6-PAK multiple dryer systems deliver more air than required, the excess air is by-passed to atmosphere. The flow switch determines when an un-needed system is turned OFF. Since this can only occur when there is more than one (1) system operating, it is important that the flow switch be adjusted properly. The proper adjustment will prevent frequent ON/OFF cycling of additional dryer systems and preserve the life of compressors and associated components.

Required Tools: 6" adjustable wrench, standard screwdriver.

ADJUSTMENT PROCEDURE

1. Disconnect C.O. alarm plug(s) from dryer.
2. Locate the by-pass regulator/flow switch assembly behind the lower portion of the center, black gauge panel. Remove upper and lower screws to open this hinged panel.
3. Locate the flow switch adjustment screw on the by-pass flow switch. (Refer to Fig. 1 if necessary) The screw may be covered by a red plastic cap. (Remove Cap)
4. Turn the adjustment screw fully counterclockwise.
5. Loosen the locknut on the by-pass regulator. Manually turn on a standby system and adjust regulator to read a maximum of 40 PSIG on the tank pressure gauge. This adjustment will allow the excess air to by-pass without raising tank pressure above 40 PSIG. Once this setting is made, tighten the locknut.
6. Turn standby (excess) system OFF.
7. By raising or lowering **outlet pressure regulator** you can change the dryer output capacity on the flow meter located on the black panel. Make this adjustment to read between 7000 – 8000 SCFD. Only one (1) system should be operating.

   NOTE: For this procedure, outlet pressure will probably be higher or lower than you want in your cables. This is only momentary. If pressure is too high, loosen an external fitting from the dryer or on a distribution panel to create a leak. This will drop high outlet pressure and enable the adjustment for 7000 – 8000 SCFD flow at between 10 and 15 PSIG outlet pressure. The tank pressure gauge **must** remain above 20 PSIG. If one (1) dryer system cannot hold this output, check compressor inlet filters, they must be clean. Compressors may also require overhaul if the hour meter on dryer modules is near 6000 hrs. Also be certain there is no pressure reading on any module back pressure regulator gauges, except on the operating system which should read 42 – 44 PSIG. If non-operating module shows pressure, turn valve located below gauge slowly clockwise until pressure starts to drop. Replace gauge if it does not return to zero (0).

8. Turn each dryer on individually to make this compressor test for 7000 – 8000 SCFD. This is your assurance that each system is performing at a satisfactory level.

9. With one (1) dryer system on, take two (2) full turns clockwise on the by-pass flow switch.
10. Manually turn a second system on, the excess air will by-pass through the flow switch and shut the unneeded system OFF within three (3) minutes. If shutdown does not occur continue turning adjustment screw clockwise at ¼ turn intervals until there is a system shutdown.
11. With the **outlet pressure regulator** raise the capacity flow meter to read between 8000 – 9000 SCFD. One of the standby systems will turn on when the tank pressure drops below 20 PSIG. This system should remain ON. If system shutdown occurs, restart and adjust by-pass flow switch counterclockwise with ¼ turn intervals.

    Following these procedures, you will have a proper flow switch adjustment. At 8000 SCFD or less, an unneeded system turns OFF. For 8000 – 9000 SCFD or more, the additional system remains ON. Once this adjustment is complete it will also perform accurately for the cross over between 2 and 3 system operation.

12. Reset your operating pressure to the desired level.
13. Secure the hinged panel.
14. Clear any alarms you may have activated and reconnect the alarm plug(s).

PLEASE READ THE FOLLOWING INFORMATION

A. If you find that your normal operating flow shows the capacity flow meter at the transfer point of 8000 SCFD or 16000 SCFD, it may be possible to lower the outlet pressure slightly to prevent the needless operation of an additional system. This will preserve compressor and component life and provide standby system operation for backup.
B. When your air requirements are high enough to operate additional system(s) and your outlet pressure is at a minimum level, raise outlet pressure to utilize dryer capacity as it will simply be by-passed to atmosphere.

    EXAMPLE: Capacity flow meter is at 9000 SCFD with an outlet pressure of 9 – 10 PSIG. Two (2) **systems are running.**

    Raising the outlet pressure will raise output flow, thus providing additional plant protection without affecting normal air dryer operation.

    NOTE: Any questions concerning the content of this bulletin can be answered by TX Technical Service Department (973) 442-7500.