

TECHNICAL NOTE

STANDPIPE-PACTM - MAINTENANCE OF DESICCANT AIR DRYER

UNITED Fire Systems has noted frequent events of compressor pressure relief valves operating and compressor runtime being excessive. **By far, the most common cause of these symptoms is a clogged tube and screen assembly within the desiccant dryer.**

The tube and screen assembly can become clogged when:

- The desiccant is not replaced on a regular maintenance schedule.
- The desiccant is not replaced promptly when the color has changed from blue to pink and/or orange.
- Moisture accumulation in the dryer was allowed to freeze into an ice blockage.

The purpose of this Tech Note is to augment existing maintenance procedures by adding maintenance of the tube and screen assembly to the maintenance procedure.

Prior to conducting **STANDPIPE-PACTM** maintenance:

- Have Qty. (1) replacement Desiccant Package UFS P/N 21-100000-100 available.
- Have Qty. (1) replacement Tube and Screen Assembly UFS P/N 06-100002-002 available.
- Notify local personnel that signals will be heard / seen during maintenance.
- If dialer is connected to telephone line, notify receiving office that signals will be transmitted during maintenance.

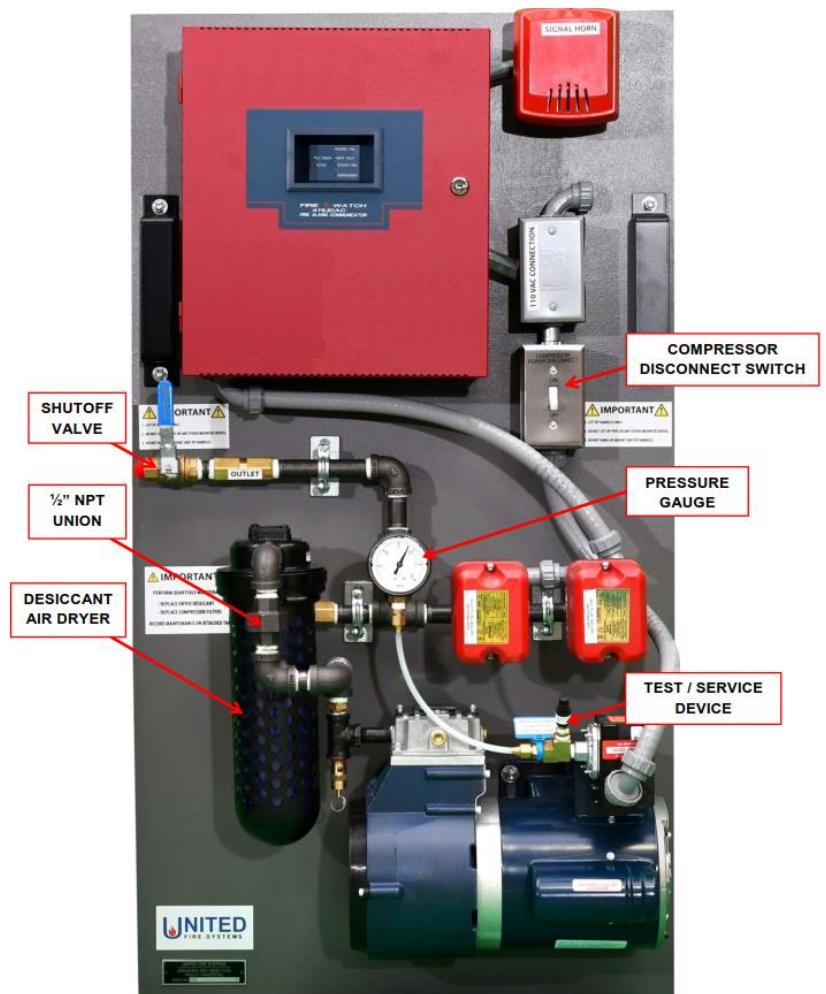


Figure A: Identification of STANDPIPE-PACTM components

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This literature is provided for informational purposes only. United Fire Protection Corporation assumes no responsibility for the product's suitability for a particular application. The product must be properly applied to perform as intended.

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STEP-BY-STEP GUIDE TO MAINTENANCE OF STANDPIPE-PACTM DESICCANT AIR DRYER



Figure 1

Step 1: (See Figure 1) Close lockable shutoff valve on outlet of STANDPIPE-PACTM



Figure 2

Step 2: (See Figure 2) Move compressor disconnect switch to the OFF position



Figure 3

Step 3: (See Figure 3) De-pressurize STANDPIPE-PACTM piping by operating Test / Service Device. Hold until pressure gauge indicates ZERO.

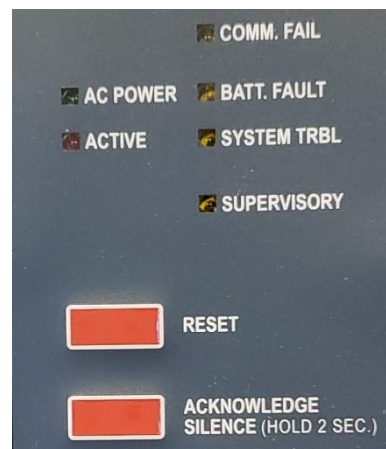


Figure 4

Step 4: (See Figure 4) Silence audible signal by opening door of control unit and operating Acknowledge-Silence button. Hold until audible signal is silent.

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STANDPIPE-PAC™ - MAINTENANCE OF DESICCANT AIR DRYER

STEP-BY-STEP GUIDE, CONTINUED



Although pressure gauge indicates ZERO, there may still be pressure upstream of desiccant air dryer if Tube and Screen Assembly is completely obstructed. This can result in personal injury and property damage. See **Step 5B**



Figure 5

Step 5A: (See Figure 5) Locate 1/2" NPT union between compressor and desiccant air dryer.

Step 5B: (See Figure 5) Slightly disengage 1/2" NPT union to allow any remaining pressure to escape the STANDPIPE-PAC™ system.



Figure 6

Step 6: (See Figure 6) Carefully re-engage 1/2" NPT union.

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STEP-BY-STEP GUIDE, CONTINUED



DO NOT turn connecting ring on desiccant air dryer unless pressure gauge indicates ZERO. Failure to do so can result in personal injury and property damage.



Connecting Ring Tab

Step 7: (See Figure 7) Locate desiccant air dryer on STANDPIPE-PACTM. Locate tab marked **PUSH** or **PRESS** on connecting ring holding aluminum bowl in place (tab orientation may not be immediately visible).

Figure 7

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STANDPIPE-PAC™ - MAINTENANCE OF DESICCANT AIR DRYER

STEP-BY-STEP GUIDE, CONTINUED



Figure 8

Step 8A: (See Figure 8) Depress tab marked **PUSH** or **PRESS** and turn connecting ring to release aluminum bowl and clear the polycarbonate liner

Step 8B: (See Figure 8) Carefully detach aluminum bowl and the polycarbonate liner from assembly. Set aside aluminum bowl and connecting ring.

Step 8C: (See Figure 8) Observe desiccant bead level. Remove and discard saturated desiccant beads in the polycarbonate liner.

Note:
Saturated desiccant is pink.
New desiccant is blue.



Figure 9

Step 9: (See Figure 9) Remove nut from bottom of the polycarbonate liner in order to release and remove the Tube and Screen Assembly.

Note: (See Step 10)

If the Tube and Screen Assembly is in good condition, retain nut to refasten Assembly to the polycarbonate.

If the Tube and Screen Assembly is in poor condition, discard old nut because a new nut is provided with the replacement Tube and Screen Assembly.

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STEP-BY-STEP GUIDE, CONTINUED

Step 10: (See Figures 10A, 10B, 10C) If the Tube and Screen assembly looks like...



Figure 10A

(See Figure 10A) The tube is unobstructed and the screen is clear of debris.

Then the Tube and Screen Assembly is in good condition.

Proceed to **Step 13**.



Figure 10B

(See Figure 10B) The tube has minor congestion and the screen has some debris.

Run the entire Tube and Screen Assembly under warm water to remove debris and/or ice accumulation.

Proceed to **Step 13**.

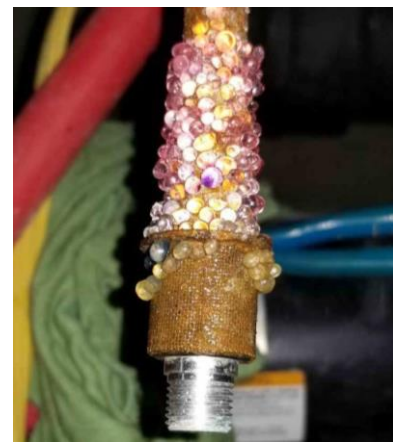


Figure 10C

(See Figure 10C) The tube is severely congested and screen is obstructed.

Then the Tube and Screen Assembly is in very poor condition and needs replacement.

Proceed to **Step 11**.

Step 11: Discard Tube and Screen Assembly.

Step 12: Obtain replacement Tube and Screen Assembly (UFS P/N: 06-100002-002).

TECHNICAL NOTE**STANDPIPE-PAC™ - MAINTENANCE OF DESICCANT AIR DRYER****STEP-BY-STEP GUIDE, CONTINUED**

Step 13: Clean and dry the inside of the polycarbonate liner.

Step 14: If the Tube and Screen Assembly is in good condition, re-insert this assembly into the polycarbonate liner. If the Tube and Screen Assembly is in poor condition, insert replacement Tube and Screen Assembly into the polycarbonate liner.



Figure 11

Step 15: (See Figure 11) Fasten old or replacement Tube and Screen Assembly to the polycarbonate using retained nut or nut provided with replacement Tube and Screen Assembly. Nut shall be wrench tight. See **Step 9**.



Figure 12

Step 16: (See Figure 12) Refill the polycarbonate liner with new desiccant beads (UFS P/N 21-100000-100) to approximately the same level as previously observed in **Step 8C**.

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STEP-BY-STEP GUIDE, CONTINUED



Figure 13

Step 17A: (See Figure 13) Re-insert the polycarbonate liner inside aluminum bowl and connecting ring.

Step 17B: (See Figure 13) Carefully align and insert desiccant bowl back into assembly until it is flush against dryer cap.

Step 17C: (See Figure 13) Depress tab marked **PUSH** or **PRESS**, and turn connecting ring until connection is re-established.

Step 17D: (See Figure 13) Release tab and ensure that aluminum bowl is secure.



Figure 14

Step 18: (See Figure 14) Move compressor disconnect switch to **ON**. Compressor should start and pressure gauge should begin to indicate.

Step 19: When pressure gauge reads approximately 18 PSIG, compressor should stop.



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STEP-BY-STEP GUIDE, CONTINUED

Step 20: Check for leaks at desiccant air dryer connecting ring and ½" NPT union.



Figure 15

Step 21: (See Figure 15) Open lockable shutoff valve on outlet of STANDPIPE-PAC™.

After the lockable shutoff valve on outlet of **STANDPIPE-PAC™** is opened, local personnel (and receiving office, if phone line is connected) needs to be notified that maintenance is complete.

When quarterly maintenance is complete, sign and date the Quarterly Maintenance Tag. Enter date when next quarterly maintenance is due. **STANDPIPE-PAC™** units require periodic maintenance to remain in good condition.

Finally, this procedure to address the clogged Tube and Screen Assembly will be added to existing and future manuals and checklists.

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