This manual describes operating practices and maintenance procedures applicable to Status Flow Series Pulsation Dampeners and Suction Stabilizers manufactured by Performance Pulsation Control, Inc. The information contained herein reflects recommendations based on industry best practices and recognized safety protocols. Use of the information and procedures contained in this manual is voluntary and is to be implemented at the sole discretion of the user. The user is at all times responsible for operating and maintaining pulsation dampeners in a manner that is safe, conforms to the owner’s established business practices, and is in conformance with applicable regulations.

**NOTE:** Please read all instructions carefully before proceeding with the installation, operation, and charging of this equipment. Contact Performance Pulsation Control for assistance or questions concerning the information in this manual.
MATERIALS NEEDED:
- General Hand Tools

**WARNING**
CHARGE ONLY WITH NITROGEN.
- The recommended pre-charge pressure is between 70% of the discharge operating pressure and the maximum charge pressure of the cartridge – whichever is less.
- Maximum charge pressure levels are found on the case label or on the pressure tag located at the top of the cartridge.
- Proper charging requires the use of a nitrogen bottle with a regulator set at the maximum charge pressure.

**CHARGING INSTRUCTIONS:**
1. Shut down pump and relieve line pressure using appropriate safety and fluid management procedures.
2. Open discharge bleeder valve (A).
3. Remove loading valve protection cap (B).
4. Remove dust cap from stabilizer loading valve port (C) and attach charging hose.
5. Loosen the 5/8" safety nut (D) with 3 full turns.
6. Using NITROGEN ONLY, charge the cartridge through loading valve (C) to the recommended charge pressure.
7. Re-tighten safety nut (D).
8. Remove charging hose and replace dust cap on charging port (C).
9. Replace the loading valve protection cap (B).
10. Use bleeder valve (A) as appropriate for system to fully evacuate air from vessel. Once purged, close bleeder valve (A).

**WARNING**
DO NOT EXCEED MAXIMUM CHARGING PRESSURE OF THE CARTRIDGE.
Failure to use a regulator to limit the nitrogen charge to the maximum allowable charge pressure could result in bursting or other damage to the cartridge and early failure.

**CAUTION**
DO NOT EXCEED MAXIMUM CHARGING PRESSURE OF THE CARTRIDGE.
Failure to use a regulator to limit the nitrogen charge to the maximum allowable charge pressure could result in bursting or other damage to the cartridge and early failure.

**NOTICE**
There may be fluid discharge from valve. Take appropriate steps to capture fluid if necessary.
MATERIALS NEEDED:
- General Hand Tools

CHARGING INSTRUCTIONS:
1. Close bleeder valve (E). Valve should remain closed during charging and operation.
2. Shut down pump and relieve line pressure from discharge side of pump using appropriate safety and fluid management procedures.
3. Open discharge bleeder valve (A).
4. Ensure that isolation valve (D) is open.
5. Remove dust cap from stabilizer loading valve port (B) and attach charging hose.
6. Loosen the 5/8” safety nut (D) with 3 full turns.
7. Using NITROGEN ONLY, charge the cartridge through loading valve (B) to the recommended charge pressure.
8. Re-tighten safety nut (C).

WARNING
CHARGE ONLY WITH NITROGEN.
- The recommended pre-charge pressure is between 70% of the discharge operating pressure and the maximum charge pressure of the cartridge – whichever is less.
- Maximum charge pressure levels are found on the case label or on the pressure tag located at the top of the cartridge.
- Proper charging requires the use of a nitrogen bottle with a regulator set at the maximum charge pressure.

CAUTION
DO NOT EXCEED MAXIMUM CHARGING PRESSURE OF THE CARTRIDGE.
Failure to use a regulator to limit the nitrogen charge to the maximum allowable charge pressure could result in bursting or other damage to the cartridge and early failure.

NOTICE
There may be fluid discharge from valve. Take appropriate steps to capture fluid if necessary.
MATERIALS NEEDED:
• General Hand Tools

CHARGING INSTRUCTIONS:
1. Shut down pump and relieve line pressure using appropriate safety and fluid management procedures.
2. Once pump discharge line pressure is relieved, close suction line valve and drain suction line.
3. Open stabilizer bleeder valve (A).
4. Remove loading valve protection cap (B).
5. Remove dust cap from stabilizer loading valve port (C) and attach charging hose.
6. Loosen the 5/8” safety nut (D) with 3 full turns.
7. Using NITROGEN ONLY, charge the cartridge through loading valve (C) to the recommended charge pressure.
8. Re-tighten safety nut (D).
9. Remove charging hose and replace dust cap on charging port (C).
10. Replace the loading valve protection cap (B).
11. Use bleeder valve (A) as appropriate for system to fully evacuate air from vessel. Once purged, close bleeder valve (A).

WARNING
CHARGE ONLY WITH NITROGEN.
• The recommended pre-charge pressure is between 70% of the discharge operating pressure and the maximum charge pressure of the cartridge – whichever is less.
• Maximum charge pressure levels are found on the case label or on the pressure tag located at the top of the cartridge.
• Proper charging requires the use of a nitrogen bottle with a regulator set at the maximum charge pressure.

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DO NOT EXCEED MAXIMUM CHARGING PRESSURE OF THE CARTRIDGE.
Failure to use a regulator to limit the nitrogen charge to the maximum allowable charge pressure could result in bursting or other damage to the cartridge and early failure.

NOTICE
There may be fluid discharge from valve. Take appropriate steps to capture fluid if necessary.
MATERIALS NEEDED:
- General Hand Tools

CHARGING INSTRUCTIONS:
1. Close bleeder valve (E). Valve should remain closed during charging and operation.

2. Shut down pump and relieve line pressure from discharge side of pump using appropriate safety and fluid management procedures.

3. Open stabilizer bleeder valve (A).

4. Ensure that isolation valve (D) is open.

5. Remove dust cap from stabilizer loading valve port (B) and attach charging hose.

6. Loosen the 5/8” safety nut (D) with 3 full turns.

7. Using NITROGEN ONLY, charge the cartridge through loading valve (B) to the recommended charge pressure.

8. Re-tighten safety nut (C).

9. Remove charging hose and replace dust cap on charging port (B).

10. Replace the loading valve protection cap (B).

11. Use bleeder valve (A) as appropriate for system to fully evacuate air from vessel. Once purged, close bleeder valve (A).

WARNING
CHARGE ONLY WITH NITROGEN.
• The recommended pre-charge pressure is between 70% of the discharge operating pressure and the maximum charge pressure of the cartridge – whichever is less.
• Maximum charge pressure levels are found on the case label or on the pressure tag located at the top of the cartridge.
• Proper charging requires the use of a nitrogen bottle with a regulator set at the maximum charge pressure.

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DO NOT EXCEED MAXIMUM CHARGING PRESSURE OF THE CARTRIDGE.
Failure to use a regulator to limit the nitrogen charge to the maximum allowable charge pressure could result in bursting or other damage to the cartridge and early failure.

NOTICE
There may be fluid discharge from valve. Take appropriate steps to capture fluid if necessary.
CARTRIDGE REPLACEMENT

MATERIALS NEEDED:
- General Hand Tools

CARTRIDGE REPLACEMENT

1. Shut down pump and bleed line pressure with bleeder valve on stabilizer.

2. Bleed pressure from bladder if it still has pressure.

3. Use a hammer to loosen wing nut.

4. Remove wing nut and expose cartridge top.

5. Lift cartridge from stabilizer case.

6. Take the new cartridge out of the box and check. Clean grooves if needed.

7. Ensure O-rings are installed in grooves on new cartridge. Place O-ring in grooves before installation.

8. Grease the O-ring and threads with a copperkote thread compound (Jet Lub or BestOLife).

9. Install the new cartridge. Be sure not to drop in unit as this can damage seals (O-rings).

10. Thread wing nut onto case until fully engaged into threaded area and secure cartridge down.

11. Use hammer to tighten wing nut onto case.

12. Recharge stabilizer to desired pressure rating and follow charging instructions.

13. Close the bleeder valve and begin pump startup process.
Appendix
EXAMPLE: SFT-SERIES

TOP RING MANUFACTURED FOR MAXIMUM THREAD ENGAGEMENT

MODEL CODE & SAFETY INFORMATION

TUBULAR SPECIFICATION ASTM A-106-B

EXTERNALLY PRIMED AND COATED WITH A POWDER BASED POLYESTER COATING

316 STAINLESS STEEL BLEEDER VALVE USES NEEDLE AND SEAT CONFIGURATION FOR POSITIVE SEAL AND LONG LIFE

ALL UNITS INTERNALLY COATED WITH CORVEL ECA 1660 TO A MINIMUM OF 10 MILLS GUARANTEED HOLIDAY-FREE

CONCENTRIC REDUCER SPECIFICATION SA-234 WPB

ANSI FLANGES SA-105

★ OPTIONAL CERTIFICATIONS AVAILABLE: [NB] [ASME] [CRN]
CARTRIDGE DESIGN FEATURES

- **2 ⅜” HEX NUT FOR SAFE AND EASY CARTRIDGE SERVICE**
- **316 STAINLESS STEEL BAND**
- **HAND-CRAFTED, MULTI-Ply FIBER-BELTED RUBBER: NITRILE, EPDM, HNBR (HSN), OR XRE – WITH OPTIONAL TFE ENCAPSULATION**
- **THREADS SOLID STEEL CONSTRUCTION**
- **THREADS ARE RATED FOR 3 TIMES WORKING PRESSURE**
- **2,4 OR 6 PLY LAYERS THAT ARE POLYESTER REINFORCED, VULCANIZED WITH SEPERATION TO INSURE SUPERIOR STRENGTH**
- **MAXIMIZED INNER DIAMETER PROMOTES INCREASED GAS VOLUME**
- **INVERTED BOTTOM PLUG FOR MAXIMUM GAS VOLUME**
- **END PLUG IS SEAL COATED FOR INTERNAL CORD PROTECTION**
EXAMPLE: SFT-14403-F-300

SFT CARTRIDGE CONNECTION TYPE:
(SFT) THREADED
(SFAT) ACME THREADED
(SFU) UNION
(SFV) GROOVED 4” & 6”
(SFVM) MAGNUM GROOVED 8”
(SFM) MAGNUM THREADED
(SFG) GROOVED 16”

1440 RATED OPERATING PRESSURE:
150
450
700
1440
2100
3000
3600
5000

3 OPENING SIZE: *DEPENDS ON THE SERIES*
1”
1.5”
2”
2.5”
3”
4”
6”
8”
10”
12”
14”

F MOUNTING TYPE:
(F) FLANGED RF
(T) NPT THREADED
(FFS) FLANGED FLOW THROUGH –TOP (STD)
(FFT) FLANGED FLOW THROUGH –BOTTOM
(FJ) FLANGED RTJ

300 CUBIC INCH GAS VOLUME OF STABILIZER INTERNAL CARTRIDGE:
50
100
300
600
900
1200
2400
4800

*For additional requirements, multiple non-displayed options are available.*
**CARTRIDGE NOMENCLATURE**

**EXAMPLE:**  SFT-246-N

**SFT**  CARTRIDGE CONNECTION TYPE:
- (SFT) THREADED
- (SFAT) ACME THREADED
- (SFU) UNION
- (SFV) GROOVED 4” & 6”
- (SFVM) MAGNUM GROOVED 8”
- (SFM) MAGNUM THREADED
- (SFG) GROOVED 16”

**24**  CARTRIDGE LENGTH:
- 9”
- 18”
- 24”
- 36”
- 48”

**6**  NUMBER OF PLYS:
- 2-PLY
- 4-PLY
- 6-PLY

**N**  TYPE OF MATERIAL:
- (N) NITRILE
- (NT) NITRILE / TFE ENCAPSULATED
- (NN) NITRILE / NICKEL PLATED
- (NTN) NITRILE / NICKEL PLATED / TFE ENCAPSULATED
- (E) EPDM
- (ET) EPDM / TFE ENCAPSULATED
- (EN) EPDM / NICKEL PLATED
- (ETN) EPDM / NICKEL PLATED / TFE ENCAPSULATED
- (X) XRE
- (XT) XRE / TFE ENCAPSULATED
- (XXN) XRE / NICKEL PLATED
- (XTN) XRE / NICKEL PLATED / TFE ENCAPSULATED
- (H) HNBR (HSN)
- (HT) HNBR / TFE ENCAPSULATED
- (HN) HNBR / NICKEL PLATED
- (HTN) HNBR / NICKEL PLATED / TFE ENCAPSULATED

*NITRILE IS THE STANDARD ELASTOMER ON ALL CARTRIDGES UNLESS SPECIFIED. FOR COMPATIBILITY OF ELASTOMERS, REFER TO PAGE 13, OR CONTACT THE FACTORY.*
### SFU SERIES
1. SFU Gasket
2. SFU Wing Nut
3. Dust Cap
4. Loading Valve
5. Bleeder Valve
6. Cartridge
7. Case

### MINI, SFV & SFVM SERIES
1. 4", 6", OR 8" SUCTION GASKET
2. 4", 6", OR 8" GROOVED COUPLING
3. Dust Cap
4. Loading Valve
5. Bleeder Valve
6. Cartridge
7. Case

### SFT SERIES
1. HPG-1 Gasket (Nitrile, HNBR, XRE OR EPDM)
2. Dust Cap
3. Loading Valve
4. Bleeder Valve
5. Cartridge
6. Case

### SFM SERIES
1. SFM Gasket (2 Required)
2. SFM Wing Nut
3. Dust Cap
4. Loading Valve
5. Bleeder Valve
6. Cartridge
7. Case
8. SFM Wing Nut Screw

### SFG SERIES
1. 16" Suction Gasket
2. 16" Grooved Coupling
3. Dust Cap
4. Loading Valve
5. Bleeder Valve
6. Cartridge
7. Case

### SFAT SERIES
1. SFAT Gasket
2. Dust Cap
3. Loading Valve
4. Bleeder Valve
5. Cartridge
6. Case
7. CARTRIDGE
## REPLACEMENT CARTRIDGES

<table>
<thead>
<tr>
<th>CARTRIDGE MODEL</th>
<th>PLY</th>
<th>GAS VOLUME</th>
<th>LENGTH</th>
<th>DIAMETER</th>
<th>WEIGHT</th>
<th>MAX CHARGE</th>
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<tbody>
<tr>
<td>SFU-182</td>
<td>2</td>
<td>100 CU.IN.</td>
<td>3”</td>
<td>18”</td>
<td>20 LBS</td>
<td>100 PSI</td>
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<td>SFU-186</td>
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<td>SFV-92</td>
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<td>17 LBS</td>
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<td>9”</td>
<td>18 LBS</td>
<td>100 PSI</td>
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<tr>
<td>SFV-313</td>
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<td>4”</td>
<td>24”</td>
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</tr>
<tr>
<td>SFV-244</td>
<td>4</td>
<td>300 CU.IN.</td>
<td>4”</td>
<td>24”</td>
<td>30 LBS</td>
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</tr>
<tr>
<td>SFV-482</td>
<td>2</td>
<td>600 CU.IN.</td>
<td>4”</td>
<td>48”</td>
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</tr>
<tr>
<td>SFV-484</td>
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<td>600 CU.IN.</td>
<td>4”</td>
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<td>30 LBS</td>
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<tr>
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<td>300 CU.IN.</td>
<td>4”</td>
<td>24”</td>
<td>25 LBS</td>
<td>100 PSI</td>
</tr>
<tr>
<td>SFT-244</td>
<td>4</td>
<td>300 CU.IN.</td>
<td>4”</td>
<td>24”</td>
<td>30 LBS</td>
<td>100 PSI</td>
</tr>
<tr>
<td>SFT-246</td>
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<td>24”</td>
<td>35 LBS</td>
<td>500 PSI</td>
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<tr>
<td>SFAT-246</td>
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<td>300 CU.IN.</td>
<td>4”</td>
<td>24”</td>
<td>45 LBS</td>
<td>500 PSI</td>
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<tr>
<td>SFT-482</td>
<td>2</td>
<td>400 CU.IN.</td>
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<td>48”</td>
<td>25 LBS</td>
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</tr>
<tr>
<td>SFT-484</td>
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<td>30 LBS</td>
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<tr>
<td>SFT-486</td>
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<tr>
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<tr>
<td>SFT-486-5</td>
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<td>SFVM-244</td>
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<td>24”</td>
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<tr>
<td>SFVM-364</td>
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<td>900 CU.IN.</td>
<td>6”</td>
<td>36”</td>
<td>60 LBS</td>
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<tr>
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<td>6”</td>
<td>48”</td>
<td>60 LBS</td>
<td>125 PSI</td>
</tr>
<tr>
<td>SFM-244</td>
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<td>600 CU.IN.</td>
<td>6”</td>
<td>24”</td>
<td>55 LBS</td>
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</tr>
<tr>
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<td>600 CU.IN.</td>
<td>6”</td>
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<td>55 LBS</td>
<td>300 PSI</td>
</tr>
<tr>
<td>SFM-364</td>
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<td>900 CU.IN.</td>
<td>6”</td>
<td>36”</td>
<td>60 LBS</td>
<td>125 PSI</td>
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<tr>
<td>SFM-366</td>
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<tr>
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<td>48”</td>
<td>210 LBS</td>
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