

DANIEL[®] SIMPLEX[®] ORIFICE PLATE HOLDER

2" - 8" CLASS 150-2500

**FOR API 14.3 SERVICE APPLICATIONS
PARTS LIST AND OPERATION INSTRUCTIONS**

**DANIEL MEASUREMENT AND CONTROL, INC.
AN EMERSON PROCESS MANAGEMENT COMPANY
HOUSTON, TEXAS**

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IMPORTANT INSTRUCTIONS

Daniel Measurement and Control, Inc. (Daniel) designs, manufactures and tests its products to meet many national and international standards. Because these instruments are sophisticated technical products, you must properly install, use and maintain them to ensure they continue to operate within their normal specifications. The following instructions must be adhered to and integrated into your safety program when installing, using and maintaining Daniel products.

- **Read all instructions prior to installing, operating and servicing the product.** If this instruction manual is not the correct manual, call 1-713-827-6314 (24-hour response number for both Service and Sales Support) and the requested manual will be provided. Save this instruction manual for future reference.
- If you do not understand any of the instructions, contact your Daniel representative for clarification.
- Follow all warnings, cautions and instructions marked on and supplied with the product.
- Inform and educate your personnel in the proper installation, operation and maintenance of the product.
- Install your equipment as specified in the installation instructions of the appropriate instruction manual and per applicable local and national codes. Connect all products to the proper electrical and pressure sources.
- To ensure proper performance, use qualified personnel to install, operate, update, program and maintain the product.
- When replacement parts are required, ensure that qualified people use replacement parts specified by the manufacturer. Unauthorized parts and procedures can affect the product's performance and place the safe operation of your process at risk. Look-alike substitutions may result in fire, electrical hazards or improper operation.
- Ensure that all equipment doors are closed and protective covers are in place, except when maintenance is being performed by qualified persons, to prevent personal injury.
- **ALWAYS READ AND FOLLOW THE DANIEL® SIMPLEX® ORIFICE PLATE HOLDER MANUAL AND ALL PRODUCT WARNINGS AND INSTRUCTIONS.**
- Use of this equipment for any purpose other than its intended purpose may result in property damage and/or serious personal injury or death.
- Before opening the flameproof enclosure in a flammable atmosphere, the electrical circuits must be interrupted.

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**DANIEL® SIMPLEX® ORIFICE PLATE HOLDER
2" - 8" CLASS 150-2500**

**FOR API 14.3 SERVICE APPLICATIONS
PARTS LIST AND OPERATION INSTRUCTIONS**

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HOUSTON, TEXAS, U.S.A.**

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WARRANTY

1. LIMITED WARRANTY: Subject to the limitations contained in Section 2 herein and except as otherwise expressly provided herein, Daniel Measurement and Control, Inc. ("Daniel") warrants that the firmware will execute the programming instructions provided by Daniel, and that the Goods manufactured or Services provided by Daniel will be free from defects in materials or workmanship under normal use and care until the expiration of the applicable warranty period. Goods are warranted for twelve (12) months from the date of initial installation or eighteen (18) months from the date of shipment by Daniel, whichever period expires first. Consumables and Services are warranted for a period of 90 days from the date of shipment or completion of the Services. Products purchased by Daniel from a third party for resale to Buyer ("Resale Products") shall carry only the warranty extended by the original manufacturer. Buyer agrees that Daniel has no liability for Resale Products beyond making a reasonable commercial effort to arrange for procurement and shipping of the Resale Products. If Buyer discovers any warranty defects and notifies Daniel thereof in writing during the applicable warranty period, Daniel shall, at its option, promptly correct any errors that are found by Daniel in the firmware or Services, or repair or replace F.O.B. point of manufacture that portion of the Goods or firmware found by Daniel to be defective, or refund the purchase price of the defective portion of the Goods/Services. All replacements or repairs necessitated by inadequate maintenance, normal wear and usage, unsuitable power sources, unsuitable environmental conditions, accident, misuse, improper installation, modification, repair, storage or handling, or any other cause not the fault of Daniel are not covered by this limited warranty, and shall be at Buyer's expense. Daniel shall not be obligated to pay any costs or charges incurred by Buyer or any other party except as may be agreed upon in writing in advance by an authorized Daniel representative. All costs of dismantling, reinstallation and freight and the time and expenses of Daniel's personnel for site travel and diagnosis under this warranty clause shall be borne by Buyer unless accepted in writing by Daniel. Goods repaired and parts replaced during the warranty period shall be in warranty for the remainder of the original warranty period or ninety (90) days, whichever is longer. This limited warranty is the only warranty made by Daniel and can be amended only in a writing signed by an authorized representative of Daniel. Except as otherwise expressly provided in the Agreement, THERE ARE NO REPRESENTATIONS OR WARRANTIES OF ANY KIND, EXPRESSED OR IMPLIED, AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, OR ANY OTHER MATTER WITH RESPECT TO ANY OF THE GOODS OR SERVICES. **Buyer acknowledges and agrees that corrosion or erosion of materials is not covered by this warranty.**

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1.0 INTRODUCTION

1.1 Principle of Operation

The Daniel® Simplex® Orifice Plate Holder (the “Simplex®”) is a device that houses, and accurately positions, an orifice plate for measuring flow within a pipe or tube. When placed in the Simplex®, an orifice plate will produce a differential pressure by abruptly constricting the fluid flowing through it. The differential pressure is measured across the plate through taps precisely located on the Simplex®.

The Simplex® single chamber design allows for the inspection and the replacement of orifice plates without removing the Simplex from the flow line. Use of the Simplex® eliminates the effort required to remove and inspect an orifice plate housed in conventional orifice flange installations.

Daniel designs and manufactures all Simplex® units to AGA 2000 recommendations. Daniel designed and manufactured the Simplex® in strict accordance with all applicable ANSI, ASME, ASTM and ISO 5167 specifications.

Products bearing the “CE” mark are designed and manufactured in compliance with the European Union Pressure Equipment Directive (PED) 97/23/EC.

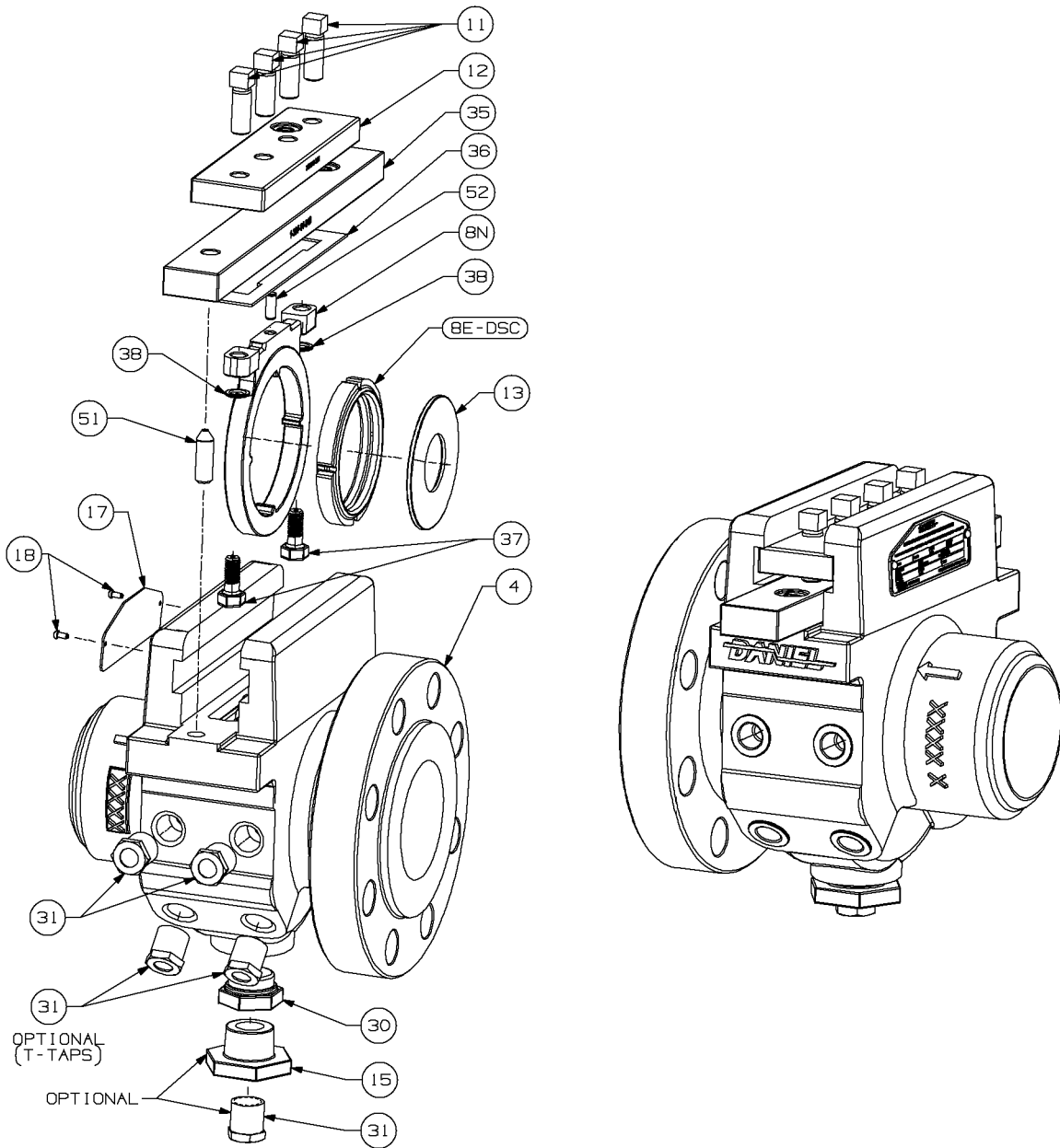


Figure 1. Exploded and Assembled View

1.2 Parts and Materials List

ITEM NO.	DESCRIPTION	MATERIAL / DESCRIPTION	QTY.
4	Body	Cast Carbon Steel-A216 WCB (Class 150-2500)	1
8N	Plate Carrier	Type 316 Stainless Steel	1
8E-DSC 8TSC 8MSC*	Orifice Plate Sealing Unit	DSC - Synthetic Rubber (Class 150-600) TSC - PTFE (Class 900-2500) MSC - Type 316 Stainless Steel	1
8NSC-14.3	Sealing Bar/Orifice Plate Carrier Assembly		1
11	Clamping Bar Screw	11- Heat Treated Alloy Steel (Class 150-900) 11XP - Heat Treated Alloy Steel (Class 1500-2500)	Table 1.3
12 (12HP)	Clamping Bar	12 - C.R.S (Chemically Treated)(Class 150-900) 12HP - C.R.S (Chemically Treated)(Class 1500-2500)	1 1
13	Orifice Plate	Type 304 or 316 Stainless Steel	1
15	Reducer (Optional)	1" X 1 / 2" N.P.T. - C.R.S.	1
17	Nameplate		1
18	Nameplate Fastener		2
30	Drain Plug	1 / 2" N.P.T. - C.R.S	1
31	Meter Tap Plug	1 / 2" N.P.T. - C.R.S	2 (4) ¹
31P	Thread Protectors	1 / 2" Polymer Plugs	
35 (35HP)	Sealing Bar	35 - C.R.S (Chemically Treated)(Class 150-900) 35HP - C.R.S (Chemically Treated)(Class 1500-2500)	1
52	Sealing Bar/Plate Carrier Dowel Pin	C.R.S	1
36 (36 9CF)	Sealing Bar Gasket	36 - Composite (Class 150-900) 36 9CF - Synthetic Composition (Class 1500-2500)	1
37	Plate Carrier Screw	Stainless Steel	2
38	Plate Carrier Washer	Stainless Steel	2
51	Sealing Bar/Body Dowel Pin	Type 316 Stainless Steel	1

*Indicates parts interchangeable C.R.S. - cold rolled steel N.P.T. - pipe thread

¹Quantity is four for telemetering tap option

1.3 Clamping Bar Screw (11) Quantity

LINE SIZE	ANSI CLASS			
	150, 300, 600	900	1500	2500
2"	4	4	8	8
3"	4	4	10	10
4"	5	6	12	12
6"	6	6	14	14
8"	8	8	14	26

2.0 INSTALLATION

2.1 Preliminary Steps

It is the responsibility of the end user to ensure that all requirements are met on installations built to comply with the European Union Pressure Equipment Directive (PED) 97/23/EC.

It is the responsibility of the end user to clean the fitting and all piping components of foreign matter such as welding debris, scale, oil, grease, and dirt before assembling the fitting into the line.

If the end user expects that the Simplex® will encounter severe conditions (conditions where there is likely to be an accumulation of sediment for any cause), then Daniel recommends the removal of the **Drain Plug** (30) at the bottom of the Simplex® and the installation of a blow down valve in its place. (See Section 3.0, Maintenance section for instructions concerning severe service conditions).

Daniel recommends that the end user record the Simplex® **Nameplate** (17) data for future reference prior to installation. **Nameplate** (17) data contains information that is useful if you find a need to correspond with a Daniel representative.

It is the responsibility of the end user to install the Simplex® in a well designed piping system. Below are some, but not all, factors to consider when installing the Simplex® into a piping system:

- Internal/external pressure
- Ambient and operational temperatures
- Static pressure and mass of contents in operating and test conditions
- Traffic, wind and earth loading
- Reaction forces and moments which result from supports, attachments, piping, etc.
- Corrosion, erosion, fatigue, etc.
- Decomposition of unstable fluids
- Possible damage from external fire

2.2 Simplex® Installation



SERIOUS PERSONAL INJURY OR DEATH

The Simplex® is a device that contains fluid at elevated pressure.

Failure to follow the instructions in this manual can result in serious injury or death.

The Simplex® is just one important part of an orifice metering system. The two main components of any orifice metering system are the orifice plate holder (the Simplex®) and the meter tube.

Simplex® users have the option when placing their order to have the factory or a fabricator mount the Simplex® to a meter tube or order the Simplex® alone. For information regarding assembly of an orifice metering system, the end user should refer to an orifice metering code (for example, AGA-3).

1. Remove all foreign matter from the meter tube interior and the bore piping section of the Simplex® prior to installation.

In order to protect the surface finish of both the orifice fitting and the meter tube bore, a light spray of rust inhibitor will aid in reducing the amount of corrosion during shipment or storage of the meter tube assembly.

2. Install the proper end flange gaskets, if required, and tighten all bolting to the appropriate torque, per end user specifications.
3. Use end user approved welding connection procedures for joining components of the orifice metering system.
4. Install the **Sealing Bar Gasket (36)**, **Sealing Bar (35)**, and **Clamping Bar (12)** onto the **Body (4)**.
5. Tighten and secure all **Clamping Bar Screws (11)** to the torque values provided in Section 5.2 of this manual.

6. Leak test the orifice metering system (containing the Simplex®) after the meter tube is in place, all connections are made, and any holes plugged (see Section 2.3).
7. Pressure test the orifice metering system containing the meter tube and the Simplex® using an end user approved test procedure. Assembly personnel must remove the **Orifice Plate** (13) from the Simplex® during this test (see Section 4.1).

**SERIOUS PERSONAL INJURY OR DEATH**

The correct positioning and installation of the Sealing Bar Gasket (36), Sealing Bar (35), and Clamping Bar (12) are essential to provide a pressure barrier between the line pressure and atmospheric pressure.

Failure to install the **Sealing Bar Gasket (36), Sealing Bar (35), and Clamping Bar (12)** according to the instructions provided in the manual can result in serious injury or death.

2.3 Fitting Leak Test



SERIOUS PERSONAL INJURY OR DEATH

The Simplex® is a device that contains fluid at elevated pressure.

Failure to follow the instructions in this manual can result in serious injury or death.

Perform a leak test after installing the Simplex® and securing the **Clamping Bar** (12).

1. Install a pressure gauge (calibrated to a recognized standard) on the orifice metering system in a location where the gauge will detect the pressure inside the Simplex®. The orifice metering system assembly and/or test personnel must choose a pressure gauge rated for the maximum operating pressure of the system (the Simplex® and the adjacent piping) determined by the end user.
2. Slowly pressurize the orifice metering system at a rate of 1 psig per second (0.15 bars per second) and then stop the pressurization when the pressure inside the plate holder reaches 20 psig (1.4 bar). Hold the system at this pressure for five minutes.



SERIOUS PERSONAL INJURY OR DEATH

The correct positioning and installation of the Sealing Bar Gasket (36), Sealing Bar (35), and Clamping Bar (12) are essential to provide a pressure barrier between the line pressure and atmospheric pressure.

Failure to install the **Sealing Bar Gasket** (36), **Sealing Bar** (35), and **Clamping Bar** (12) according to the instructions provided in the manual can result in serious injury or death.

3. During this five-minute hold, test personnel should apply a leak detection solution over all connections and joint areas throughout the entire orifice metering system (including the **Sealing Bar Gasket** (36) and all threaded connections on the Simplex®. No leakage should be visibly, or audibly, detected during this five-minute hold period.
4. If a leak is detected, mark the leak area and reduce the pressure inside the orifice metering system to 0 psig (0 bar). If a leak is detected at a fastener or connector, then tighten that fastener or connector and repeat the entire leak test again.
5. If several attempts to stop a leak fail, call Daniel Customer Service for assistance.

**SERIOUS PERSONAL INJURY OR DEATH****Correct all leaks prior to operation.**

Failure to stop any size leak may lead to serious injury or death.

6. Once the 20 psig (1.4 bar) leak test is complete, and no leaks are detected, then slowly raise the pressure inside the orifice metering system at a rate of 10 psig per second (0.70 bars per second) and then stop the pressurization when the pressure inside the Simplex® reaches the maximum operating pressure of the system (the Simplex® and the adjacent piping) determined by the end user. Hold the system at that pressure for ten minutes.

During this ten-minute hold, orifice metering system assembly and/or test personnel shall apply a leak detection solution over all connections and joint areas throughout the entire orifice metering system (including the **Sealing Bar Gasket** (36) and all threaded connections on the Simplex®). No leakage should be visibly, or audibly, detected during this ten-minute hold period.

NOTE: On installations which are required to comply with the European Union Pressure Equipment Directive (PED) 97/23/EC, the installation must be tested to at least 1.43 times the maximum allowable operating pressure (MAOP) of the lowest rated component in the system as determined by the end user.

7. If a leak is detected, mark the leak area and reduce the pressure inside the orifice metering system to 0 psig (0 bar). If a leak is detected at a fastener or connector, then tighten that fastener or connector and repeat the entire leak test again.
8. If several attempts to stop a leak fail, call Daniel Customer Service for assistance.
9. Slowly release the pressure from the orifice metering system until the pressure gauge reads zero (0) psig.
10. The Simplex[®], with the orifice metering system, is now ready for orifice plate installation, final pressurization, and operation.

3.0 MAINTENANCE



SERIOUS PERSONAL INJURY OR DEATH

The Simplex® is a device that contains fluid at elevated pressure.

Failure to follow the instructions in this manual can result in serious injury or death.

3.1 Normal Operating Conditions

Under normal measurement conditions, maintenance personnel should inspect the Simplex®, as well as the meter tube, at intervals established by the end user.

It is the responsibility of the end user to perform inspections at appropriate intervals during the life of their system.

1. An external inspection of the Simplex® and metering system shall include a visual assessment of the entire system for vandalism, or other inadvertent damage.
2. Tighten fastener and connector components, if necessary.
3. Natural corrosion and erosion of the orifice metering system internal features require that maintenance personnel perform an inspection of the orifice system's bore diameter to ensure compliance with a metering code (for example, AGA-3).

3.2 Severe Operating Conditions

Under severe conditions where there is likely to be an accumulation of sediment for any cause, installation personnel should install a blow down valve in place of the **Drain Plug** (30) at the bottom of the Simplex®.

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4.0 OPERATING INSTRUCTIONS

The Simplex® design allows an operator to install or remove the **Orifice Plate** (13) with a minimum amount of metering system shut-down time.

The Simplex® **Plate Carrier** (8N) is just one piece in a sub-assembly. That sub-assembly, referred to as the Plate Carrier Sub-Assembly, (“PC Sub-Assembly”) contains the following parts:

Plate Carrier Sub-Assembly

QUANTITY	DESCRIPTION AND ITEM NUMBER
1	Plate Carrier (8N)
1	Sealing Bar (35)
2	Plate Carrier Screws (37)
2	Plate Carrier Washers (38)
1	Sealing Bar Plate Carrier Dowel Pin (52)
1	Orifice Plate Sealing Unit (8E - DSC) or (8TSC) or (8MSC)
1	Orifice Plate (13)

A maintenance person can remove the entire PC Sub-Assembly from the **Body** (4).

To change or inspect, an orifice plate or orifice plate seal, simply push on the **Orifice Plate** (13) and **Orifice Plate Sealing Unit** (8E - DSC) or (8TSC) or (8MSC) until it pops out of the PC Sub-Assembly.

By removing the **Orifice Plate Sealing Unit** (8E - DSC) or (8TSC) or (8MSC) from the **Orifice Plate** (13), a maintenance person may then closely inspect both parts for signs of damage or wear.

4.1 PLATE REMOVAL

Conditions:

- The Simplex® is operating at working pressure.
- The **Orifice Plate** (13) is located in flow stream.

Procedure:

1. Isolate the orifice metering system supporting the Simplex® and release the working pressure until the entire system reaches atmospheric (ambient) pressure.

⚠ DANGER

SERIOUS PERSONAL INJURY OR DEATH

Release pressurized fluid to a safe area.

Failure to direct the released pressurized fluids during the discharge may result in the release fluid causing contamination and/or the accumulation of volatile gas mixtures. Volatile gas mixtures are explosive and/or toxic and may lead to serious injury or death.

⚠ DANGER

SERIOUS PERSONAL INJURY OR DEATH

The Simplex® is a device that contains fluid at elevated pressure.

Failure to follow the instructions in this manual can result in serious injury or death.

2. Loosen each **Clamping Bar Screw** (11) two turns when the system reaches atmospheric (ambient) pressure. Do not remove the **Clamping Bar** (12).

3. Lightly tap the **Sealing Bar** (35) to break the seal generated between the **Sealing Bar Gasket** (36) and the **Body** (4).
4. Once the seal is broken, slide the **Clamping Bar** (12) out from the **Body** (4).
5. Lift the entire PC Sub-Assembly out from the **Body** (4). Note: Tapping the **Sealing Bar** (35) will loosen the PC Sub-Assembly from the **Body** (4).
6. Remove the **Sealing Bar Gasket** (36) from the Simplex®.
7. Remove the **Orifice Plate** (13) and **Orifice Plate Sealing Unit** (8E - DSC) or (8TSC) or (8MSC) from the PC Sub-Assembly .
8. Remove the **Orifice Plate Sealing Unit** (8E - DSC) or (8TSC) or (8MSC) from the **Orifice Plate** (13).

4.2 PLATE INSERTION



SERIOUS PERSONAL INJURY OR DEATH

The Simplex® is a device that contains fluid at elevated pressure.

Failure to follow the instructions in this manual can result in serious injury or death.

Conditions:

- The Simplex® is at atmospheric (ambient) pressure.
- The Simplex® is in the orifice metering system.
- The PC Sub-Assembly, **Clamping Bar** (12), with **Clamping Bar Screws** (11), are removed from the **Body** (4).

Procedure:

1. Install a new **Sealing Bar Gasket** (36) onto the PC Sub-Assembly. Do not reinstall any gasket once it has been compressed.
2. Install a new **Orifice Plate Sealing Unit** (8E - DSC) or (8TSC) or (8MSC) onto the **Orifice Plate** (13).
3. Install the **Orifice Plate** (13) and new **Orifice Plate Sealing Unit** (8E - DSC) or (8TSC) or (8MSC) into the PC Sub-Assembly taking into account the flow direction of the metering system. This can be done using the **Sealing Bar/Body Dowel Pin** (51) located in the **Body** (4) as a reference.

NOTICE

Failure to install the **Orifice Plate** (13) and **Orifice Plate Sealing Unit** (8E - DSC) or (8TSC) or (8MSC) in a position properly oriented with the direction of flow will result in measurement error and a possible loss of revenue.

4. Lower the PC Sub-Assembly into the **Body** (4) aligning the **Sealing Bar** (35) with the **Sealing Bar/Body Dowel Pin** (51) located in the **Body** (4).
5. Continue to lower the PC Sub-Assembly using the **Sealing Bar/Body Dowel Pin** (51) as a guide until it contacts the **Body** (4).
6. Install the **Clamping Bar** (12).
7. Tighten each **Clamping Bar Screw** (11) to the torque recommended in Section 5.2 of this manual.

8. The Simplex® is now ready for final pressurization and operation.



SERIOUS PERSONAL INJURY OR DEATH

The correct positioning and installation of the Sealing Bar Gasket (36), Sealing Bar (35), and Clamping Bar (12) are essential to provide a pressure barrier between the line pressure and atmospheric pressure.

Failure to install the **Sealing Bar Gasket (36), Sealing Bar (35), and Clamping Bar (12)** according to the instructions provided in the manual can result in serious injury or death.

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5.0 SUPPLEMENTAL INFORMATION**5.1 Recommended Spare Parts for One-Year Operation**

ITEM NO.	MATERIAL/DESCRIPTION	QUANTITY
8E-DSC	Orifice Plate Sealing Unit (Elastomer)	5
8TSC	Orifice Plate Sealing Unit (PTFE)	1
8MSC	Orifice Plate Sealing Unit (Metallic)	1
36	Sealing Bar Gasket	5
36 9CF	Sealing Bar Gasket	5
37	Plate Carrier Screw	2
38	Plate Carrier Washer	2

5.2 Clamping Bar Screw Torque Table**SIMPLEX® CLAMPING BAR SCREW TORQUE FT-LBS**

SIZE	CLASS	NO. OF SCREWS	SCREW SIZE	TORQUE
2"	150	4	½"-13	40
	300	4	½"-13	45
	600	4	½"-13	50
	900	4	½"-13	70
	1500	8	5/8"-11	80
	2500	10	5/8"-11	135
3"	150	4	½"-13	50
	300	4	½"-13	55
	600	4	½"-13	65
	900	4	½"-13	75
	1500	10	5/8"-11	80
	2500	10	5/8"-11	135
4"	150	5	½"-13	45
	300	5	½"-13	50
	600	5	½"-13	55
	900	5	½"-13	70
	1500	12	5/8"-11	80
	2500	12	5/8"-11	130
6"	150	6	½"-13	40
	300	6	½"-13	45
	600	6	½"-13	60
	900	6	½"-13	75
	1500	14	5/8"-11	85
	2500	14	5/8"-11	140
8"	150	7	½"-13	40
	300	7	½"-13	50
	600	7	½"-13	60
	900	7	½"-13	80
	1500	16	5/8"-11	90

DANIEL MEASUREMENT AND CONTROL, INC.
RETURN POLICY FOR WARRANTY
AND NON-WARRANTY MATERIAL

Use the following procedure for returning equipment to the Daniel factory in the United States.

Step 1 Obtaining a RMA Number

A Return Material Authorization (RMA) number must be obtained prior to returning any equipment for any reason.

To obtain a RMA number, call the Customer Service Department at 713-827-5033 between 8:00 a.m. and 5:00 p.m. (Central Standard Time), Monday through Friday, except holidays or email daniel.support@emersonprocess.com.

NOTICE

No product returns will be accepted without a RMA number and will be returned at the customer's expense.

For warranty consideration, the product must be returned to Daniel within twelve (12) months of the date of original shipment or within eighteen (18) months of the date of original shipment of the product to destinations outside the United States. The Purchaser must prepay any shipping charges.

In addition, the Purchaser is responsible for insuring any product shipped for return, and assumes the risk of loss of the product during shipment.

- The following information is required at the time the RMA is issued:
 - Customer name
 - Contact name
 - Billing address
 - Contact Phone # and email address
 - Daniel SO #, PO #, or Invoice #
 - Item(s) to be returned
 - Reason for return
 - End user and final destination address
 - Consignee's complete name, address, contact name and phone number

- A RMA number is required for each original order. (Example: Two fittings purchased on two separate orders now being returned require two RMA numbers.)

For product returns from locations outside the United States, Daniel Customer Service personnel will provide additional shipping requirements.

Step 2 Cleaning and Decontamination

Prior to shipment, thoroughly clean and decontaminate all equipment removing all foreign substances. This includes all substances used for cleaning the equipment. The cleaning and decontamination requirement applies to any part exposed to process fluids or cleaning substances.

Shipping equipment that has not been decontaminated may be in violation of U.S. Department of Transportation (DOT) regulations. For your reference, the requirements for packaging and labeling hazardous substances are listed in DOT regulations 49 CFR 172, 178, and 179.

If you suspect that a part has been contaminated, the part must be completely drained and flushed to remove contaminants.



MAY CAUSE DEATH OR SERIOUS INJURY TO PERSONNEL

Contents may be under pressure or materials may be hazardous

Follow appropriate handling instructions for accessing pressurized equipment. Avoid contact with hazardous materials or contaminated units and parts. Failure to do so may result in death or serious injury.

Decontamination/Cleaning Statement

A blank Decontamination/Cleaning Statement is provided on the “Returned Material Authorization Repair Form for Used Equipment”.

- A Decontamination/Cleaning Statement is required for each returned part.
- Fully complete each form and include a signature. If the decontamination statement is incomplete, the customer may be charged for decontamination and cleaning.

If the equipment has been exposed to a known hazardous substance with any characteristic that can be identified in the Code of Federal Regulations, 40 CFR 261.20 through 261.24, the chemical abstracts number and hazardous waste number/hazard code must be stated in the space provided on the form.

Two (2) copies of each Decontamination/Cleaning Statement must be provided:

- One (1) copy must be attached to the outside of the package.
- One (1) copy must be included inside the package.

Step 3 Material Safety Data Sheets (MSDS)

Provide a Material Safety Data Sheet (MSDS) with the returned equipment for each substance that has come in contact with the equipment being returned, including substances used for decontamination and cleaning.

A MSDS sheet is required by law to be available to people exposed to specific hazardous substances, with one exception: if the equipment has only been exposed to food-grade substances or potable water, or other substances for which an MSDS is not applicable, the Decontamination/Cleaning Statement form alone is acceptable.

Two (2) copies of each MSDS must be provided:

- One (1) copy must be attached to the outside of the package.
- One (1) copy must be provided inside the package.

Step 4 Packaging

Shipping a Device With Possible Contamination

To meet DOT requirements for identifying hazardous substances, ship only one device per package.

Shipping a Device Without Any Potential Contamination

Devices being returned may be shipped together in one package, if there is no potential of foreign substance contamination.

Step 5 Shipping

Before returning used equipment:

- Mark each package clearly with a RMA number.
- Include a Decontamination/Cleaning Statement inside the package.
- Attach a duplicate Decontamination/Cleaning statement to the outside of the package.
- Include a MSDS for each substance that has come in contact with the equipment inside the package.
- Attach a duplicate MSDS to the outside of the package.

NOTICE

No product returns will be accepted without a RMA number and will be returned at the customer's expense.

For warranty consideration, the product must be returned to Daniel within twelve (12) months of the date of original shipment or within eighteen (18) months of the date of original shipment of the product to destinations outside the United States. The Purchaser must prepay any shipping charges.

Ship all * mechanical equipment to the following address:

Daniel Measurement and Control, Inc.
Attn: Service Dept.
5650 Brittmoore Rd.
Houston, TX 77041
Ref: RMA# _____

*Mechanical equipment includes: Orifice Fittings, Parts, Plates, Seal Rings, Turbine Meters, Control Valves, Provers, Strainers, Meter Tubes, Ultrasonic Meters, Flow Conditioners, etc.

Ship all * electronic equipment to the following address:

Daniel Measurement and Control, Inc.
Attn: Service Dept.
11100 Brittmoore Park Drive
Houston, TX 77041
Ref: RMA# _____

*Electronic equipment includes: Gas Chromatographs, Petrocount Presets, Danload Preset, Ultrasonic Meter Electronics (CPU boards, transducers, etc.), 2403 Totalizer, MRT 97 Indicator, Preamps, Pick Up Coils, Prover Interface Boards, and the following Flow Computer Models: 2230, 2239, 2270, 2460, 2470, S100, 2100, and 3000.

Daniel Measurement and Control, Inc.

Returned Material Authorization

Repair Form for Used Equipment Including Decontamination/Cleaning Statement

1. Return Material Authorization (RMA) Number _____
2. Equipment to be returned:
 Model Number _____ Serial Number _____
3. Reason for return: _____

Decontamination/Cleaning Fluids Process

A. List each substance in which the equipment was exposed. Attach additional documents if necessary.

Common Name	CAS# if available	Used for Hazardous Waste (20 CFR 261)	EPA Waste Code if used for hazardous waste
		[] Yes [] No	
		[] Yes [] No	
		[] Yes [] No	
		[] Yes [] No	
		[] Yes [] No	

B. Circle any hazards and/or process fluid types that apply:

Infectious	Radioactive	Explosive	Pyrophoric	Poison Gas
Cyanides	Sulfides	Corrosive	Oxidizer	Flammable Poison
Carcinogen	Peroxide	Reactive-Air	Reactive-Water	Reactive-Other (list)
Other hazard category (list):				

C. Describe decontamination/cleaning process. Include MSDS description for substances used in decontamination and cleaning processes. Attach additional documents if necessary.

Shipping Requirements

Failure to comply with this procedure will result in the shipment being refused.

4. Write the RMA number on the shipping package.
5. Inside the package include one copy of this document and all required Material Safety Data Sheets (MSDS)
6. Outside of the package attach one copy of this document and all required Material Safety Data Sheets (MSDS).

THIS EQUIPMENT, BEING RETURNED "FOR REPAIR," HAS BEEN COMPLETELY DECONTAMINATED AND CLEANED. ALL FOREIGN SUBSTANCES HAVE BEEN DOCUMENTED ABOVE AND MSDS SHEETS ARE ATTACHED.

By:

(Signature)

(Print name)

Title:

Date:

Company:

Phone:

Fax:

The sales and service offices of Daniel Measurement and Control are located throughout the United States and in major countries overseas.

Please contact Daniel Measurement Services at 11100 Brittmoore Park Drive, Houston, Texas 77041, or phone (713) 827-6314 for the location of the sales or service office nearest you.

Daniel Measurement Services offers both on-call and contract maintenance service designed to provide single-source responsibility for all Daniel products.

Daniel Measurement and Control, Inc., and Daniel Measurement Services, Inc. Divisions of Emerson Process Management reserves the right to make changes to any of its products or services at any time without prior notification in order to improve that product or service and to supply the best product or service possible.
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