

**Leak Test Certification – Alpha NRF Docking System  
ALPHA FLANGE TEST**

System Description: ALPHA NRF ASSEMBLY  
System date of manufacture 8-18-11 Alpha Serial Number: 20677/11

**Test set up and Procedure**

Materials

1. Ammonia 30% concentration: JT Baker Part Number JT9733
2. Ammonia sensitive cloth: La Calhene, P/N LAC-12502
3. Pressure gage: Dwyer #2010C, 0-10 in-H<sub>2</sub>O – Calibrated by ICC on 12/14/2010

Test Fixture Description

The test fixture consists of a Stainless Steel base (Isolator) plate onto which the alpha NRF flange is installed. Attached to the base plate is a polycarbonate enclosure, the enclosure permits creating a sealed environment around the sterile side of the assembly.

Connected to the enclosure is a pressure gage capable of measuring up to 10 inches of H<sub>2</sub>O (2500 Pa). Also connected to the enclosure is a needle valve that is manually adjusted during the test to obtain the desired pressure level inside the chamber.

System Preparation

1. The Alpha NRF assembly must be installed onto the appropriate test fixture.
2. See the enclosed figures.

Test configurations

The system is tested in one configuration.

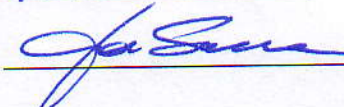
Figures 1 and 2 show the first configuration, with the beta flange not connected and the alpha door closed.

**System Certification**

Date: 8-18-11

Location: MISSION VIEJO

Print: JOE SACCA

Signature: 

Test procedure – Configuration #1

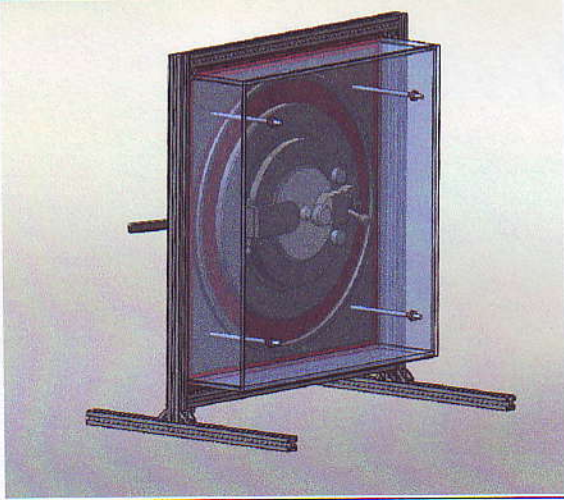
1. Remove the test box from the fixture to gain access to the inside.
2. Place a cup filled with approximately 20ml of ammonia inside the test box, install the test box and tighten in place to create a seal.
3. Using the flow metering valve, allow enough ammonia vapor to escape from the chamber until an internal pressure of 1 In-H<sub>2</sub>O (250 pa) is achieved.
4. Place the ammonia sensitive cloth over the following areas of the assembly:
  - o The joints of the NRF flange, all around its circumference.
  - o The clamping ring joint, all around its circumference.
  - o The joint between the Alpha NRF flange and the Alpha flange.
  - o The joint between the alpha flange and the alpha door.

Allow a minimum of 5 seconds per location. Watch for blue/green discoloration of the cloth at each location.

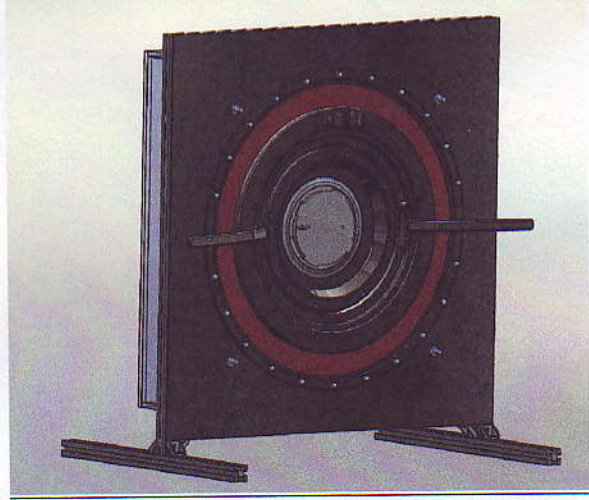
5. Record findings for each general location of the joints in the table below

Test results summary table – Configuration #1			
Location description	Pass/Fail	Tested by	Date tested
Alpha NRF joint	PASS	JS/GM	8-18-11
Clamping ring joint	PASS	JS/GM	8-18-11
Alpha NRF to Alpha Flange joint	PASS	JS/GM	8-18-11
Alpha flange to alpha door	PASS	JS/GM	8-18-11

Comments:



**Figure 1: Configuration #1**  
Leak test enclosure viewed from sterile side with the alpha door closed



**Figure 2: Configuration #1**  
Leak test set up for testing alpha NRF seal and alpha port seal

**Leak Test Certification – Alpha NRF Docking System  
ALPHA FLANGE TEST**

System Description: ALPHA NRF ASSEMBLY

System date of manufacture 8/19/11 Alpha Serial Number: 20020/11

**Test set up and Procedure**

Materials

1. Ammonia 30% concentration: JT Baker Part Number JT9733
2. Ammonia sensitive cloth: La Calhene, P/N LAC-12502
3. Pressure gage: Dwyer #2010C, 0-10 in-H<sub>2</sub>O – Calibrated by ICC on 12/14/2010

Test Fixture Description

The test fixture consists of a Stainless Steel base (Isolator) plate onto which the alpha NRF flange is installed. Attached to the base plate is a polycarbonate enclosure, the enclosure permits creating a sealed environment around the sterile side of the assembly.

Connected to the enclosure is a pressure gage capable of measuring up to 10 inches of H<sub>2</sub>O (2500 Pa). Also connected to the enclosure is a needle valve that is manually adjusted during the test to obtain the desired pressure level inside the chamber.

System Preparation

1. The Alpha NRF assembly must be installed onto the appropriate test fixture.
2. See the enclosed figures.

Test configurations

The system is tested in one configuration.

Figures 1 and 2 show the first configuration, with the beta flange not connected and the alpha door closed.

**System Certification**

Date: 8/19/11

Location: MISSION VIEJO

Print: JOE SACCA

Signature: 

Test procedure – Configuration #1

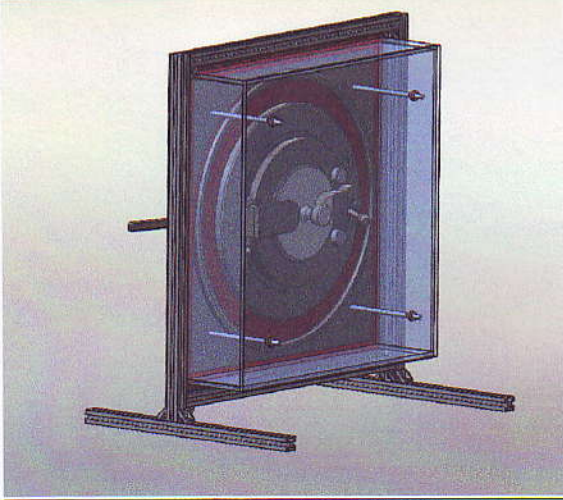
1. Remove the test box from the fixture to gain access to the inside.
2. Place a cup filled with approximately 20ml of ammonia inside the test box, install the test box and tighten in place to create a seal.
3. Using the flow metering valve, allow enough ammonia vapor to escape from the chamber until an internal pressure of 1 In-H<sub>2</sub>O (250 pa) is achieved.
4. Place the ammonia sensitive cloth over the following areas of the assembly:
  - o The joints of the NRF flange, all around its circumference.
  - o The clamping ring joint, all around its circumference.
  - o The joint between the Alpha NRF flange and the Alpha flange.
  - o The joint between the alpha flange and the alpha door.

Allow a minimum of 5 seconds per location. Watch for blue/green discoloration of the cloth at each location.

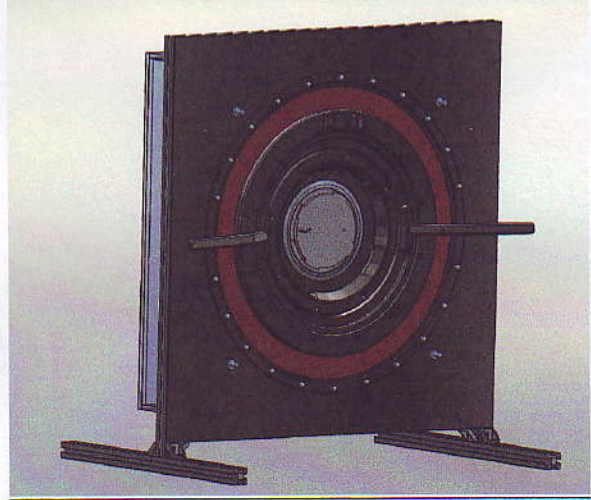
5. Record findings for each general location of the joints in the table below

Test results summary table – Configuration #1			
Location description	Pass/Fail	Tested by	Date tested
Alpha NRF joint	PASS	J.S / GM	8/19/11
Clamping ring joint	PASS	J.S / GM	8/19/11
Alpha NRF to Alpha Flange joint	PASS	J.S / GM	8/19/11
Alpha flange to alpha door	PASS	J.S / GM	8/19/11

Comments:



**Figure 1: Configuration #1**  
Leak test enclosure viewed from sterile side with the alpha door closed



**Figure 2: Configuration #1**  
Leak test set up for testing alpha NRF seal and alpha port seal

**Leak Test Certification – Alpha NRF Docking System  
ALPHA FLANGE TEST**

System Description: ALPHA NRF ASSEMBLY

System date of manufacture 8/19/11 Alpha Serial Number: 20002/10

**Test set up and Procedure**

Materials

1. Ammonia 30% concentration: JT Baker Part Number JT9733
2. Ammonia sensitive cloth: La Calhene, P/N LAC-12502
3. Pressure gage: Dwyer #2010C, 0-10 in-H<sub>2</sub>O – Calibrated by ICC on 12/14/2010

Test Fixture Description

The test fixture consists of a Stainless Steel base (Isolator) plate onto which the alpha NRF flange is installed. Attached to the base plate is a polycarbonate enclosure, the enclosure permits creating a sealed environment around the sterile side of the assembly.

Connected to the enclosure is a pressure gage capable of measuring up to 10 inches of H<sub>2</sub>O (2500 Pa). Also connected to the enclosure is a needle valve that is manually adjusted during the test to obtain the desired pressure level inside the chamber.

System Preparation

1. The Alpha NRF assembly must be installed onto the appropriate test fixture.
2. See the enclosed figures.

Test configurations

The system is tested in one configuration.

Figures 1 and 2 show the first configuration, with the beta flange not connected and the alpha door closed.

**System Certification**

Date: 8/19/11

Location: MISSION VIEJO

Print: JOE SACCA

Signature: *Joe Sacca*

Test procedure – Configuration #1

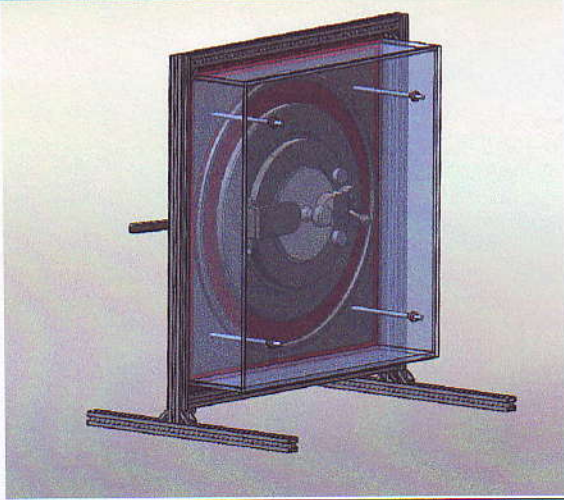
1. Remove the test box from the fixture to gain access to the inside.
2. Place a cup filled with approximately 20ml of ammonia inside the test box, install the test box and tighten in place to create a seal.
3. Using the flow metering valve, allow enough ammonia vapor to escape from the chamber until an internal pressure of 1 In-H<sub>2</sub>O (250 pa) is achieved.
4. Place the ammonia sensitive cloth over the following areas of the assembly:
  - o The joints of the NRF flange, all around its circumference.
  - o The clamping ring joint, all around its circumference.
  - o The joint between the Alpha NRF flange and the Alpha flange.
  - o The joint between the alpha flange and the alpha door.

Allow a minimum of 5 seconds per location. Watch for blue/green discoloration of the cloth at each location.

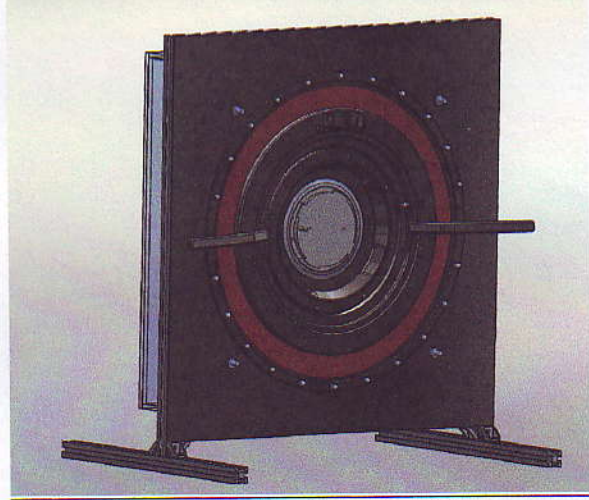
5. Record findings for each general location of the joints in the table below

Test results summary table – Configuration #1			
Location description	Pass/Fail	Tested by	Date tested
Alpha NRF joint	PASS	q/s/GM	8/19/14
Clamping ring joint	PASS	q/s/GM	8/19/11
Alpha NRF to Alpha Flange joint	PASS	q/s/GM	8/19/14
Alpha flange to alpha door	PASS	q/s/GM	8/19/11

Comments:



**Figure 1: Configuration #1**  
Leak test enclosure viewed from sterile side with the alpha door closed



**Figure 2: Configuration #1**  
Leak test set up for testing alpha NRF seal and alpha port seal

**Leak Test Certification – Alpha NRF Docking System  
ALPHA FLANGE TEST**

System Description: ALPHA NRF ASSEMBLY  
System date of manufacture 8/22/11 Alpha Serial Number: 20009/10

**Test set up and Procedure**

Materials

1. Ammonia 30% concentration: JT Baker Part Number JT9733
2. Ammonia sensitive cloth: La Calhene, P/N LAC-12502
3. Pressure gage: Dwyer #2010C, 0-10 in-H<sub>2</sub>O – Calibrated by ICC on 12/14/2010

Test Fixture Description

The test fixture consists of a Stainless Steel base (Isolator) plate onto which the alpha NRF flange is installed. Attached to the base plate is a polycarbonate enclosure, the enclosure permits creating a sealed environment around the sterile side of the assembly.

Connected to the enclosure is a pressure gage capable of measuring up to 10 inches of H<sub>2</sub>O (2500 Pa). Also connected to the enclosure is a needle valve that is manually adjusted during the test to obtain the desired pressure level inside the chamber.

System Preparation

1. The Alpha NRF assembly must be installed onto the appropriate test fixture.
2. See the enclosed figures.

Test configurations

The system is tested in one configuration.

Figures 1 and 2 show the first configuration, with the beta flange not connected and the alpha door closed.

**System Certification**

Date: 8/22/11 Location: MISSION VIEJO  
Print: JOE SACCA Signature: [Signature]

Test procedure – Configuration #1

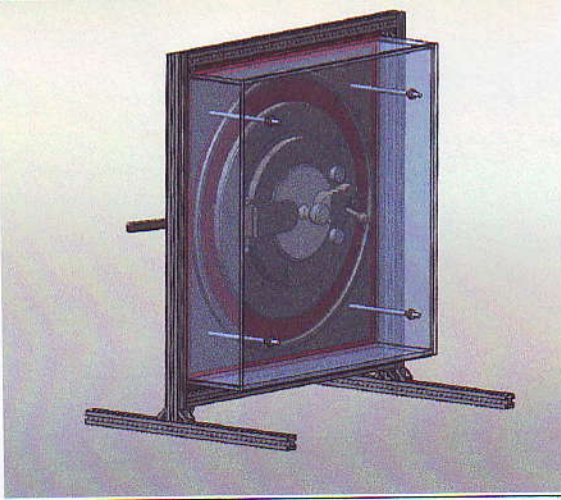
1. Remove the test box from the fixture to gain access to the inside.
2. Place a cup filled with approximately 20ml of ammonia inside the test box, install the test box and tighten in place to create a seal.
3. Using the flow metering valve, allow enough ammonia vapor to escape from the chamber until an internal pressure of 1 In-H<sub>2</sub>O (250 pa) is achieved.
4. Place the ammonia sensitive cloth over the following areas of the assembly:
  - o The joints of the NRF flange, all around its circumference.
  - o The clamping ring joint, all around its circumference.
  - o The joint between the Alpha NRF flange and the Alpha flange.
  - o The joint between the alpha flange and the alpha door.

Allow a minimum of 5 seconds per location. Watch for blue/green discoloration of the cloth at each location.

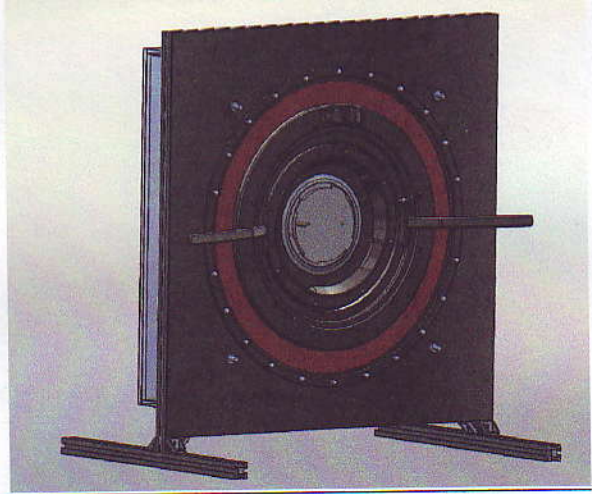
5. Record findings for each general location of the joints in the table below

Test results summary table – Configuration #1			
Location description	Pass/Fail	Tested by	Date tested
Alpha NRF joint	PASS	d.s/GM	8/22/11
Clamping ring joint	PASS	d.s/GM	8/22/11
Alpha NRF to Alpha Flange joint	PASS	d.s/GM	8/22/11
Alpha flange to alpha door	PASS	d.s/GM	8/22/11

Comments:



**Figure 1: Configuration #1**  
Leak test enclosure viewed from sterile side with the alpha door closed



**Figure 2: Configuration #1**  
Leak test set up for testing alpha NRF seal and alpha port seal



**Leak Test Certification – Alpha NRF Docking System  
ALPHA/BETA FLANGE TEST**

System Description: BETA FLANGE DOCKED TO ALPHA NRF

System date of manufacture 8-18-11 Alpha Serial Number: 20677/11

Beta Serial Number: 10716/11

**Test set up and Procedure**

Materials

1. Ammonia 30% concentration: JT Baker Part Number JT9733
2. Ammonia sensitive cloth: La Calhene, P/N LAC-12502
3. Pressure gage: Dwyer #2010C, 0-10 in-H<sub>2</sub>O – Calibrated by ICC on 12/14/2010

Test Fixture Description

The test fixture consists of a Stainless Steel base (Isolator) plate onto which the alpha NRF flange is installed. Attached to the base plate is a polycarbonate enclosure, the enclosure permits creating a sealed environment around the sterile side of the assembly.

Connected to the enclosure is a pressure gage capable of measuring up to 10 inches of H<sub>2</sub>O (2500 Pa). Also connected to the enclosure is a needle valve that is manually adjusted during the test to obtain the desired pressure level inside the chamber.

System Preparation

1. The Alpha NRF assembly must be installed onto the appropriate test fixture.
2. Beta Flange to be attached to Alpha Flange.
3. See the enclosed figures.

Test configurations

The system is tested in one configuration. The Alpha Flange which the Beta Flange is attached to has been previously tested for leaks; see accompanying Leak Test Certification for the matching Alpha Flange for passing test results.

Figures 1 and 2 show the configuration, with the beta flange connected and the alpha/beta door slightly opened.

**System Certification**

Date: 8/18/11

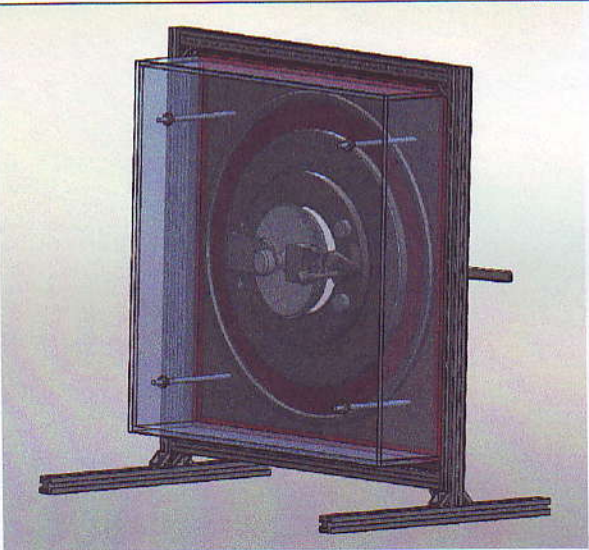
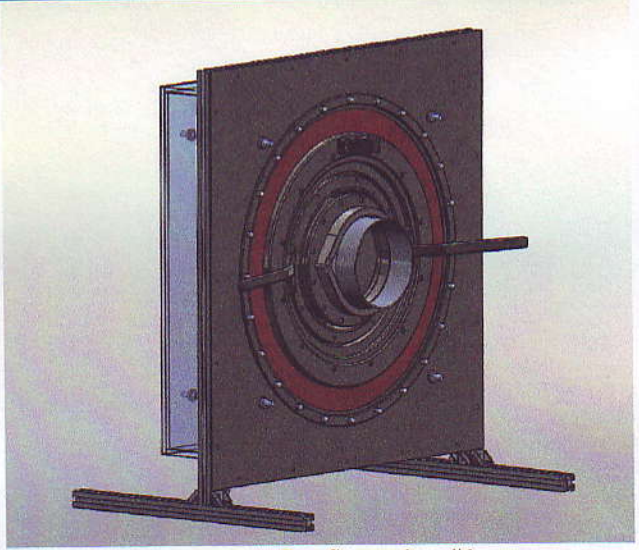
Location: MISSION VIEJO

Print: JOE SACCA

Signature: [Signature]

Test procedure – Configuration #2

1. Dock the beta flange with sealed canister adapter attached
2. Remove the test box from the fixture to gain access to the inside.
3. Open the alpha/beta door slightly
4. Place a cup filled with approximately 20ml of ammonia inside the fixture, install the rear wall and tighten in place to create a seal.
5. Using the flow metering valve, allow enough ammonia vapor to escape from the chamber until an internal pressure of 1 In-H<sub>2</sub>O (250 pa) is achieved.
6. Place the ammonia sensitive cloth over the following areas of the assembly:
  - o The joints between the alpha and the beta seal
 Allow a minimum of 5 seconds per location. Watch for blue/green discoloration of the cloth at each location.
7. Record findings for each general location of the joints in the table below

<b>Test results summary table – Configuration #2</b>			
Location description	Pass/Fail	Tested by	Date tested
Alpha/Beta joint	<i>PASS</i>	<i>JS/GM</i>	<i>8/18/11</i>
Comments:			
			
<p><b>Figure 1: Configuration #1</b> Leak test set up for testing alpha/beta seal connection – beta door is open</p>		<p><b>Figure 2: Configuration #1</b> Leak test set up for testing alpha/beta seal Canister connection opening closed with standard 6 inch cap (not shown)</p>	

**Leak Test Certification – Alpha NRF Docking System  
ALPHA/BETA FLANGE TEST**

System Description: BETA FLANGE DOCKED TO ALPHA NRF  
System date of manufacture 8/18/11 Alpha Serial Number: 20677/11  
Beta Serial Number: 10723/11

**Test set up and Procedure**

Materials

1. Ammonia 30% concentration: JT Baker Part Number JT9733
2. Ammonia sensitive cloth: La Calhene, P/N LAC-12502
3. Pressure gage: Dwyer #2010C, 0-10 in-H<sub>2</sub>O – Calibrated by ICC on 12/14/2010

Test Fixture Description

The test fixture consists of a Stainless Steel base (Isolator) plate onto which the alpha NRF flange is installed. Attached to the base plate is a polycarbonate enclosure, the enclosure permits creating a sealed environment around the sterile side of the assembly.  
Connected to the enclosure is a pressure gage capable of measuring up to 10 inches of H<sub>2</sub>O (2500 Pa). Also connected to the enclosure is a needle valve that is manually adjusted during the test to obtain the desired pressure level inside the chamber.

System Preparation

1. The Alpha NRF assembly must be installed onto the appropriate test fixture.
2. Beta Flange to be attached to Alpha Flange.
3. See the enclosed figures.

Test configurations

The system is tested in one configuration. The Alpha Flange which the Beta Flange is attached to has been previously tested for leaks; see accompanying Leak Test Certification for the matching Alpha Flange for passing test results.

Figures 1 and 2 show the configuration, with the beta flange connected and the alpha/beta door slightly opened.

**System Certification**

Date: 8/18/11 Location: MISSION VIEJO  
Print: JOE SACCA Signature: Joe Sacca

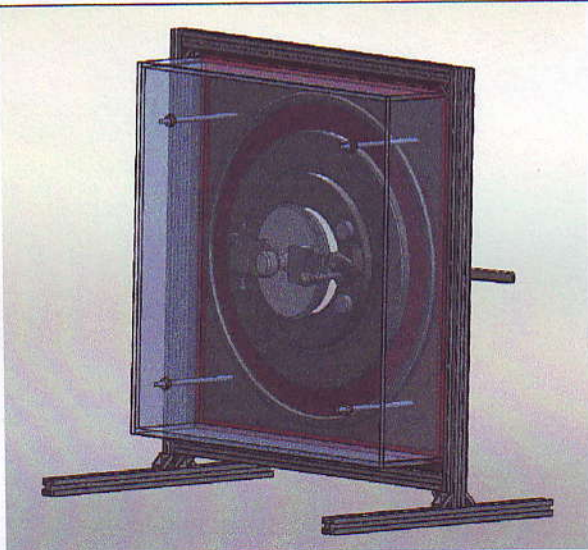
Test procedure – Configuration #2

1. Dock the beta flange with sealed canister adapter attached
2. Remove the test box from the fixture to gain access to the inside.
3. Open the alpha/beta door slightly
4. Place a cup filled with approximately 20ml of ammonia inside the fixture, install the rear wall and tighten in place to create a seal.
5. Using the flow metering valve, allow enough ammonia vapor to escape from the chamber until an internal pressure of 1 In-H<sub>2</sub>O (250 pa) is achieved.
6. Place the ammonia sensitive cloth over the following areas of the assembly:
  - o The joints between the alpha and the beta seal
 Allow a minimum of 5 seconds per location. Watch for blue/green discoloration of the cloth at each location.
7. Record findings for each general location of the joints in the table below

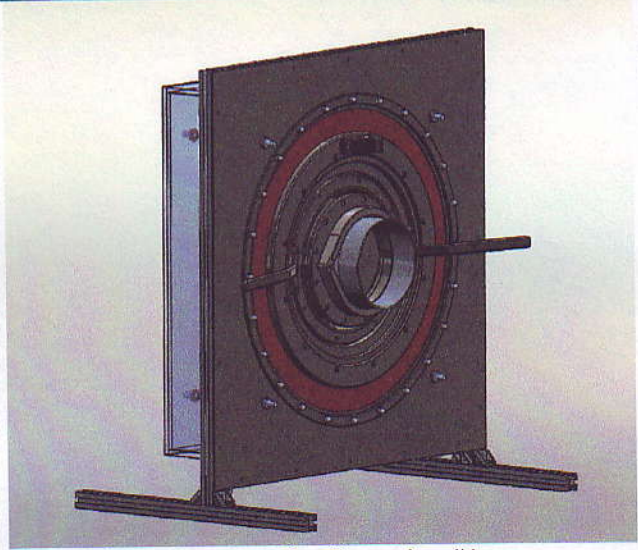
**Test results summary table – Configuration #2**

Location description	Pass/Fail	Tested by	Date tested
Alpha/Beta joint	PASS	J.S/GM	8/18/11

Comments:



**Figure 1: Configuration #1**  
Leak test set up for testing alpha/beta seal connection – beta door is open



**Figure 2: Configuration #1**  
Leak test set up for testing alpha/beta seal Canister connection opening closed with standard 6 inch cap (not shown)

**Leak Test Certification – Alpha NRF Docking System  
ALPHA/BETA FLANGE TEST**

System Description: BETA FLANGE DOCKED TO ALPHA NRF  
System date of manufacture 8/18/11 Alpha Serial Number: 20677/11  
Beta Serial Number: 10248/11

**Test set up and Procedure**

Materials

1. Ammonia 30% concentration: JT Baker Part Number JT9733
2. Ammonia sensitive cloth: La Calhene, P/N LAC-12502
3. Pressure gage: Dwyer #2010C, 0-10 in-H<sub>2</sub>O – Calibrated by ICC on 12/14/2010

Test Fixture Description

The test fixture consists of a Stainless Steel base (Isolator) plate onto which the alpha NRF flange is installed. Attached to the base plate is a polycarbonate enclosure, the enclosure permits creating a sealed environment around the sterile side of the assembly.

Connected to the enclosure is a pressure gage capable of measuring up to 10 inches of H<sub>2</sub>O (2500 Pa). Also connected to the enclosure is a needle valve that is manually adjusted during the test to obtain the desired pressure level inside the chamber.

System Preparation

1. The Alpha NRF assembly must be installed onto the appropriate test fixture.
2. Beta Flange to be attached to Alpha Flange.
3. See the enclosed figures.

Test configurations

The system is tested in one configuration. The Alpha Flange which the Beta Flange is attached to has been previously tested for leaks; see accompanying Leak Test Certification for the matching Alpha Flange for passing test results.

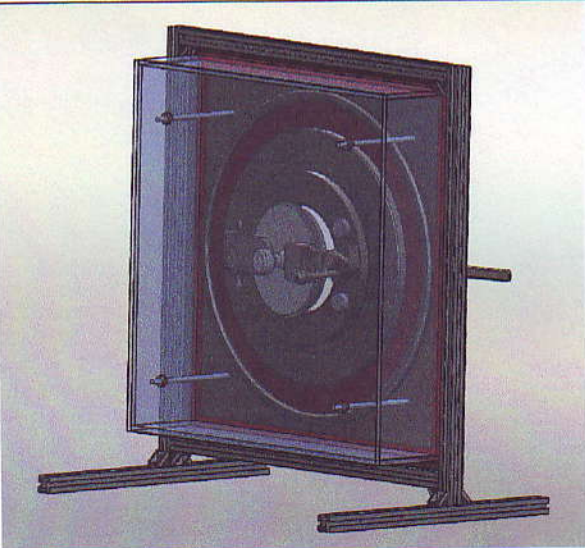
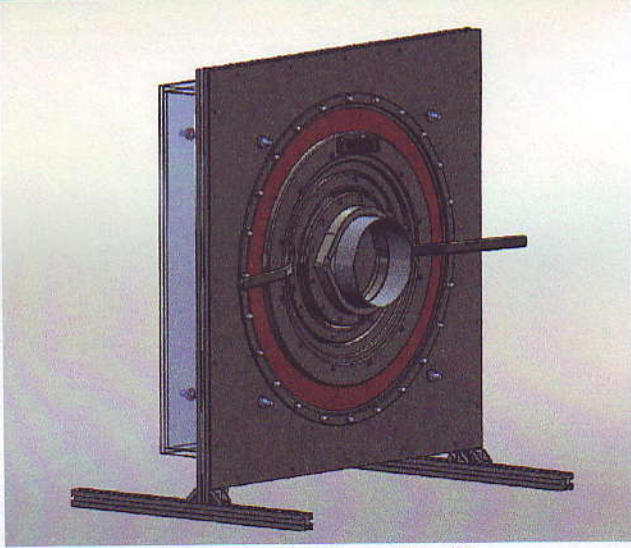
Figures 1 and 2 show the configuration, with the beta flange connected and the alpha/beta door slightly opened.

**System Certification**

Date: 8/18/11 Location: MISSION VIEJO  
Print: JOE SACCA Signature: Joe Sacca

Test procedure – Configuration #2

1. Dock the beta flange with sealed canister adapter attached
2. Remove the test box from the fixture to gain access to the inside.
3. Open the alpha/beta door slightly
4. Place a cup filled with approximately 20ml of ammonia inside the fixture, install the rear wall and tighten in place to create a seal.
5. Using the flow metering valve, allow enough ammonia vapor to escape from the chamber until an internal pressure of 1 In-H<sub>2</sub>O (250 pa) is achieved.
6. Place the ammonia sensitive cloth over the following areas of the assembly:
  - o The joints between the alpha and the beta seal
 Allow a minimum of 5 seconds per location. Watch for blue/green discoloration of the cloth at each location.
7. Record findings for each general location of the joints in the table below

Test results summary table – Configuration #2			
Location description	Pass/Fail	Tested by	Date tested
Alpha/Beta joint	PASS	JS/GM	8/18/11
Comments:			
 <p><b>Figure 1: Configuration #1</b> Leak test set up for testing alpha/beta seal connection – beta door is open</p>		 <p><b>Figure 2: Configuration #1</b> Leak test set up for testing alpha/beta seal Canister connection opening closed with standard 6 inch cap (not shown)</p>	

**Leak Test Certification – Alpha NRF Docking System  
ALPHA/BETA FLANGE TEST**

System Description: BETA FLANGE DOCKED TO ALPHA NRF  
System date of manufacture 8/18/11 Alpha Serial Number: 20677/11  
Beta Serial Number: 10258/11

**Test set up and Procedure**

Materials

1. Ammonia 30% concentration: JT Baker Part Number JT9733
2. Ammonia sensitive cloth: La Calhene, P/N LAC-12502
3. Pressure gage: Dwyer #2010C, 0-10 in-H<sub>2</sub>O – Calibrated by ICC on 12/14/2010

Test Fixture Description

The test fixture consists of a Stainless Steel base (Isolator) plate onto which the alpha NRF flange is installed. Attached to the base plate is a polycarbonate enclosure, the enclosure permits creating a sealed environment around the sterile side of the assembly.

Connected to the enclosure is a pressure gage capable of measuring up to 10 inches of H<sub>2</sub>O (2500 Pa). Also connected to the enclosure is a needle valve that is manually adjusted during the test to obtain the desired pressure level inside the chamber.

System Preparation

1. The Alpha NRF assembly must be installed onto the appropriate test fixture.
2. Beta Flange to be attached to Alpha Flange.
3. See the enclosed figures.

Test configurations

The system is tested in one configuration. The Alpha Flange which the Beta Flange is attached to has been previously tested for leaks; see accompanying Leak Test Certification for the matching Alpha Flange for passing test results.

Figures 1 and 2 show the configuration, with the beta flange connected and the alpha/beta door slightly opened.

**System Certification**

Date: 8/18/11

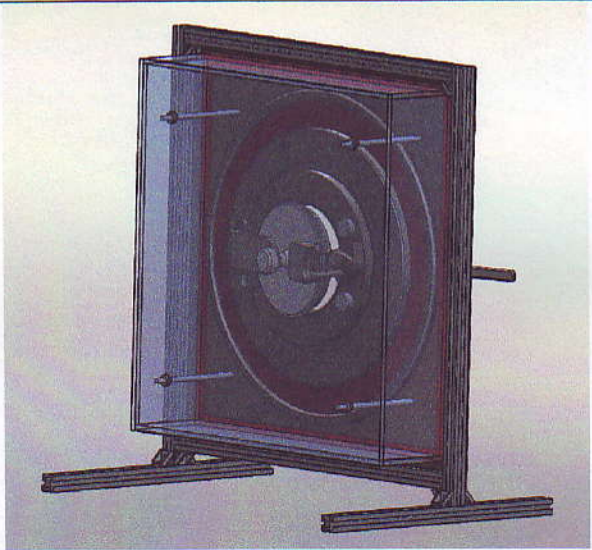
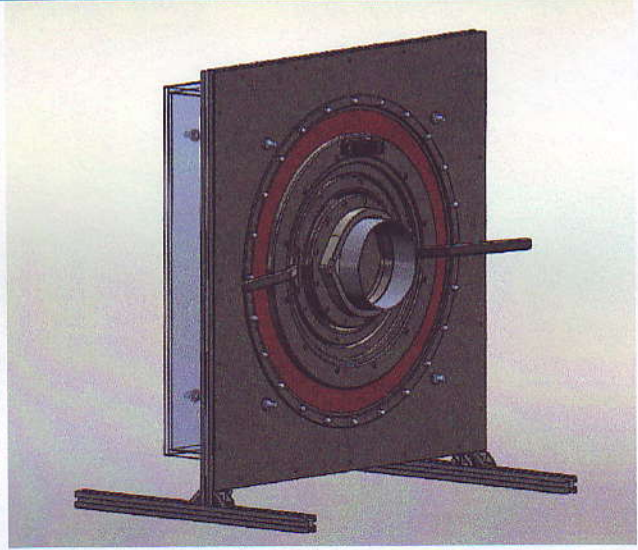
Location: MISSION VIEJO

Print: JOE SACCA

Signature: [Signature]

Test procedure – Configuration #2

1. Dock the beta flange with sealed canister adapter attached
2. Remove the test box from the fixture to gain access to the inside.
3. Open the alpha/beta door slightly
4. Place a cup filled with approximately 20ml of ammonia inside the fixture, install the rear wall and tighten in place to create a seal.
5. Using the flow metering valve, allow enough ammonia vapor to escape from the chamber until an internal pressure of 1 In-H<sub>2</sub>O (250 pa) is achieved.
6. Place the ammonia sensitive cloth over the following areas of the assembly:
  - o The joints between the alpha and the beta seal
 Allow a minimum of 5 seconds per location. Watch for blue/green discoloration of the cloth at each location.
7. Record findings for each general location of the joints in the table below

<b>Test results summary table – Configuration #2</b>			
Location description	Pass/Fail	Tested by	Date tested
Alpha/Beta joint	<i>PASS</i>	<i>J/S / GM</i>	<i>8/18/11</i>
Comments:			
			
<p><b>Figure 1: Configuration #1</b> Leak test set up for testing alpha/beta seal connection – beta door is open</p>		<p><b>Figure 2: Configuration #1</b> Leak test set up for testing alpha/beta seal Canister connection opening closed with standard 6 inch cap (not shown)</p>	



**Leak Test Certification – Alpha NRF Docking System  
ALPHA/BETA FLANGE TEST**

System Description: BETA FLANGE DOCKED TO ALPHA NRF  
System date of manufacture 8/18/11 Alpha Serial Number: 20677/11  
Beta Serial Number: 10695/11

**Test set up and Procedure**

Materials

1. Ammonia 30% concentration: JT Baker Part Number JT9733
2. Ammonia sensitive cloth: La Calhene, P/N LAC-12502
3. Pressure gage: Dwyer #2010C, 0-10 in-H<sub>2</sub>O – Calibrated by ICC on 12/14/2010

Test Fixture Description

The test fixture consists of a Stainless Steel base (Isolator) plate onto which the alpha NRF flange is installed. Attached to the base plate is a polycarbonate enclosure, the enclosure permits creating a sealed environment around the sterile side of the assembly.

Connected to the enclosure is a pressure gage capable of measuring up to 10 inches of H<sub>2</sub>O (2500 Pa). Also connected to the enclosure is a needle valve that is manually adjusted during the test to obtain the desired pressure level inside the chamber.

System Preparation

1. The Alpha NRF assembly must be installed onto the appropriate test fixture.
2. Beta Flange to be attached to Alpha Flange.
3. See the enclosed figures.

Test configurations

The system is tested in one configuration. The Alpha Flange which the Beta Flange is attached to has been previously tested for leaks; see accompanying Leak Test Certification for the matching Alpha Flange for passing test results.

Figures 1 and 2 show the configuration, with the beta flange connected and the alpha/beta door slightly opened.

**System Certification**

Date: 8/18/11

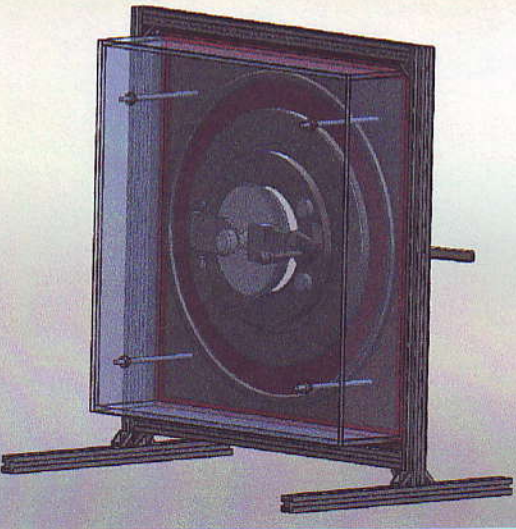
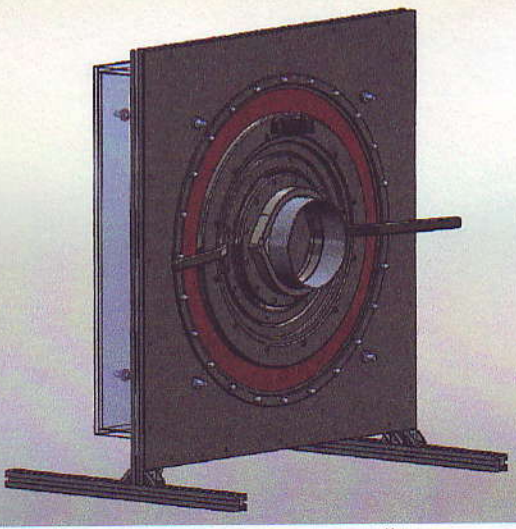
Location: MISSION VIEJO

Print: JOE SACCA

Signature: Joe Sacca

Test procedure – Configuration #2

1. Dock the beta flange with sealed canister adapter attached
2. Remove the test box from the fixture to gain access to the inside.
3. Open the alpha/beta door slightly
4. Place a cup filled with approximately 20ml of ammonia inside the fixture, install the rear wall and tighten in place to create a seal.
5. Using the flow metering valve, allow enough ammonia vapor to escape from the chamber until an internal pressure of 1 In-H<sub>2</sub>O (250 pa) is achieved.
6. Place the ammonia sensitive cloth over the following areas of the assembly:
  - o The joints between the alpha and the beta seal
 Allow a minimum of 5 seconds per location. Watch for blue/green discoloration of the cloth at each location.
7. Record findings for each general location of the joints in the table below

<b>Test results summary table – Configuration #2</b>			
Location description	Pass/Fail	Tested by	Date tested
Alpha/Beta joint	<i>PASS</i>	<i>J.S./GM</i>	<i>8/18/11</i>
Comments:			
			
<p><b>Figure 1: Configuration #1</b> Leak test set up for testing alpha/beta seal connection – beta door is open</p>	<p><b>Figure 2: Configuration #1</b> Leak test set up for testing alpha/beta seal Canister connection opening closed with standard 6 inch cap (not shown)</p>		

**Leak Test Certification – Alpha NRF Docking System  
ALPHA/BETA FLANGE TEST**

System Description: BETA FLANGE DOCKED TO ALPHA NRF  
System date of manufacture 8/18/11 Alpha Serial Number: 20677/11  
Beta Serial Number: 10700/11

**Test set up and Procedure**

Materials

1. Ammonia 30% concentration: JT Baker Part Number JT9733
2. Ammonia sensitive cloth: La Calhene, P/N LAC-12502
3. Pressure gage: Dwyer #2010C, 0-10 in-H<sub>2</sub>O – Calibrated by ICC on 12/14/2010

Test Fixture Description

The test fixture consists of a Stainless Steel base (Isolator) plate onto which the alpha NRF flange is installed. Attached to the base plate is a polycarbonate enclosure, the enclosure permits creating a sealed environment around the sterile side of the assembly.

Connected to the enclosure is a pressure gage capable of measuring up to 10 inches of H<sub>2</sub>O (2500 Pa). Also connected to the enclosure is a needle valve that is manually adjusted during the test to obtain the desired pressure level inside the chamber.

System Preparation

1. The Alpha NRF assembly must be installed onto the appropriate test fixture.
2. Beta Flange to be attached to Alpha Flange.
3. See the enclosed figures.

Test configurations

The system is tested in one configuration. The Alpha Flange which the Beta Flange is attached to has been previously tested for leaks; see accompanying Leak Test Certification for the matching Alpha Flange for passing test results.

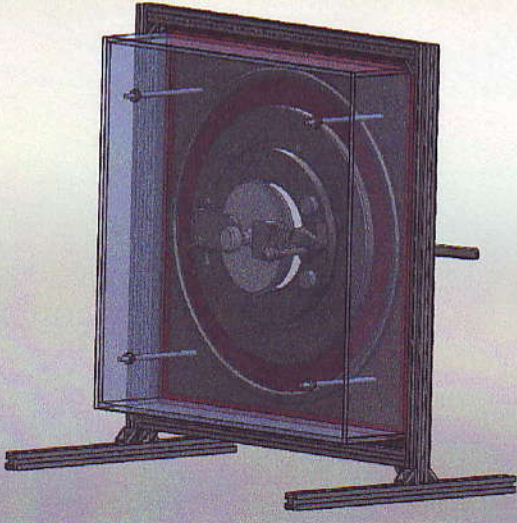
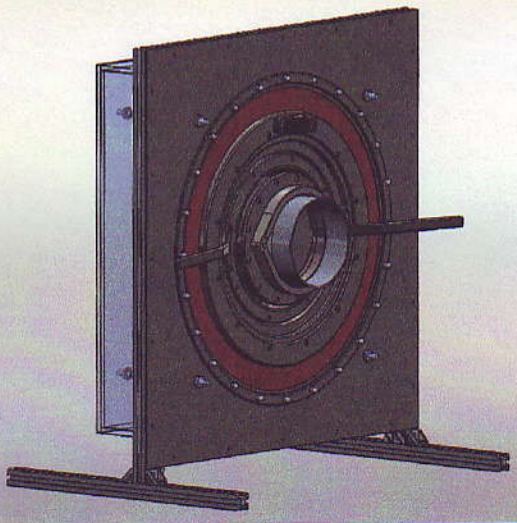
Figures 1 and 2 show the configuration, with the beta flange connected and the alpha/beta door slightly opened.

**System Certification**

Date: 8/18/11 Location: MISSION VIEJO  
Print: JOE SACCA Signature: Joe Sacca

Test procedure – Configuration #2

1. Dock the beta flange with sealed canister adapter attached
2. Remove the test box from the fixture to gain access to the inside.
3. Open the alpha/beta door slightly
4. Place a cup filled with approximately 20ml of ammonia inside the fixture, install the rear wall and tighten in place to create a seal.
5. Using the flow metering valve, allow enough ammonia vapor to escape from the chamber until an internal pressure of 1 In-H<sub>2</sub>O (250 pa) is achieved.
6. Place the ammonia sensitive cloth over the following areas of the assembly:
  - o The joints between the alpha and the beta seal
 Allow a minimum of 5 seconds per location. Watch for blue/green discoloration of the cloth at each location.
7. Record findings for each general location of the joints in the table below

<b>Test results summary table – Configuration #2</b>			
Location description	Pass/Fail	Tested by	Date tested
Alpha/Beta joint	<i>PASS</i>	<i>J.S./GM</i>	<i>8/18/14</i>
Comments:			
			
<p><b>Figure 1: Configuration #1</b> Leak test set up for testing alpha/beta seal connection – beta door is open</p>	<p><b>Figure 2: Configuration #1</b> Leak test set up for testing alpha/beta seal Canister connection opening closed with standard 6 inch cap (not shown)</p>		