



## MUNI-1-2FL-304 SPECIFICATIONS SINGLE TRAIN - TWO STAGES

### Stage 1 Prefilter

*A Particle Distribution Analysis is needed to determine application suitability*

#### **MUNI-1-2FL-304 Municipal Hurricane® Filtration System as Follows:**

- **NSF-61** listed, certified for public drinking water
- Built to **ASME** design standards
- Filter housing includes built in **cyclone separator** to separate dense solids prior to cartridge element giving you **two filters in one**
- Patented **Up-Flow Technology** prevents accumulation of air inside filter housing **eliminating** the need for air vents while keeping the filter operating at **100%**
- **304 stainless** steel housing and internals, **Electropolished** inside and out for extended filter housing life *(316 stainless steel and coated options available)*
- Recommended flow rate **100 GPM** per housing *(150 gpm max for **prefiltration only** utilizing Harmsco Premium Series cartridges 5u and above)*
- Each filter housing accepts **(1) HC/170** series cartridge
- Total **surface area** per housing **170 sq. ft.** *(based on Harmsco Premium Series pleated)*
- **Extensive** choice of cartridge micron ratings and medias
- Inlet & Outlet connections - **2" Flanges** ANSI/ASME B16.5 Class 150
- **Two (2) 316 SS NSF 61 ¾" FNPT** Drain Valves
- **Two (2) 316 SS NSF 61** Inlet and outlet pressure gauges, 0-150 PSIG
- **¼" FNPT** lid vent
- Filter housing weighs **150 lbs.**
- **Lift Davit** swing bolt closure system with **EPDM** O-ring seal
- Pressure rated to **150 PSIG**
- Temperature rated to **250° F** *(housing only)*

#### **HC/170-5 Hurricane High Performance Filter Cartridges as Follows:**

- **NSF-61 listed** certified for public drinking water
- Nominally rated at **5 microns**
- Pleated Polyester-Plus® filter media for **high flow rates** and **lower initial pressure drop**
- **Cleanable and reusable** *(5 micron and above in most applications - CANNOT CLEAN HC/170-LT2)*
- Each cartridge contains **170 square feet** of pleated media providing exceptional surface area, **higher loading capacity** for **longer filter life** and **increased particulate removal**
- End cap, center tube and media are **thermally bonded** as one integral component for **added strength**
- **Pliable PVC end caps** with sealing surface built in
- Center tubes of ABS or PVC
- Temperature rating of **140° F** *(temperature limits may vary based on time under load, pressure differential and process fluids chemical composition)*



## **Stage 2 Final Filter**

*A Particle Distribution Analysis is needed to determine application suitability*

### **MUNI-1-2FL-304 Municipal Hurricane® Filtration System as Follows:**

- **NSF-61** listed, certified for public drinking water
- Built to **ASME** design standards
- Filter housing includes built in **cyclone separator** to separate dense solids prior to cartridge element giving you **two filters in one**
- Patented **Up-Flow Technology** prevents accumulation of air inside filter housing **eliminating** the need for air vents while keeping the filter operating at **100%**
- **304 stainless** steel housing and internals, **Electropolished** inside and out for extended filter housing life *(316 stainless steel and coated options available)*
- Flow rates up to **100 GPM (Per LT2 Guidelines)**
- Each filter housing accepts **(1) HC/170-LT2** cartridge *(CANNOT CLEAN HC/170-LT2)*
- Total **surface area** per housing **120 sq. ft.** *(based on Harmsco Premium Series pleated)*
- **Extensive** choice of cartridge micron ratings and medias
- Inlet & Outlet connections - **2" Flanges** ANSI/ASME B16.5 Class 150
- **Two (2) 316 SS NSF 61 ¾" FNPT** Drain Valves
- **Two (2) 316 SS NSF 61** Inlet and outlet pressure gauges, 0-150 PSIG
- **¼" FNPT** lid vent
- Filter housing weighs **150 lbs.**
- **Lift Davit** swing bolt closure system with **EPDM** O-ring seal
- Pressure rated to **150 PSIG**
- Temperature rated to **250° F** *(housing only)*

### **HC/170-LT2 Hurricane Absolute Rated Filter Cartridge as Follows:**

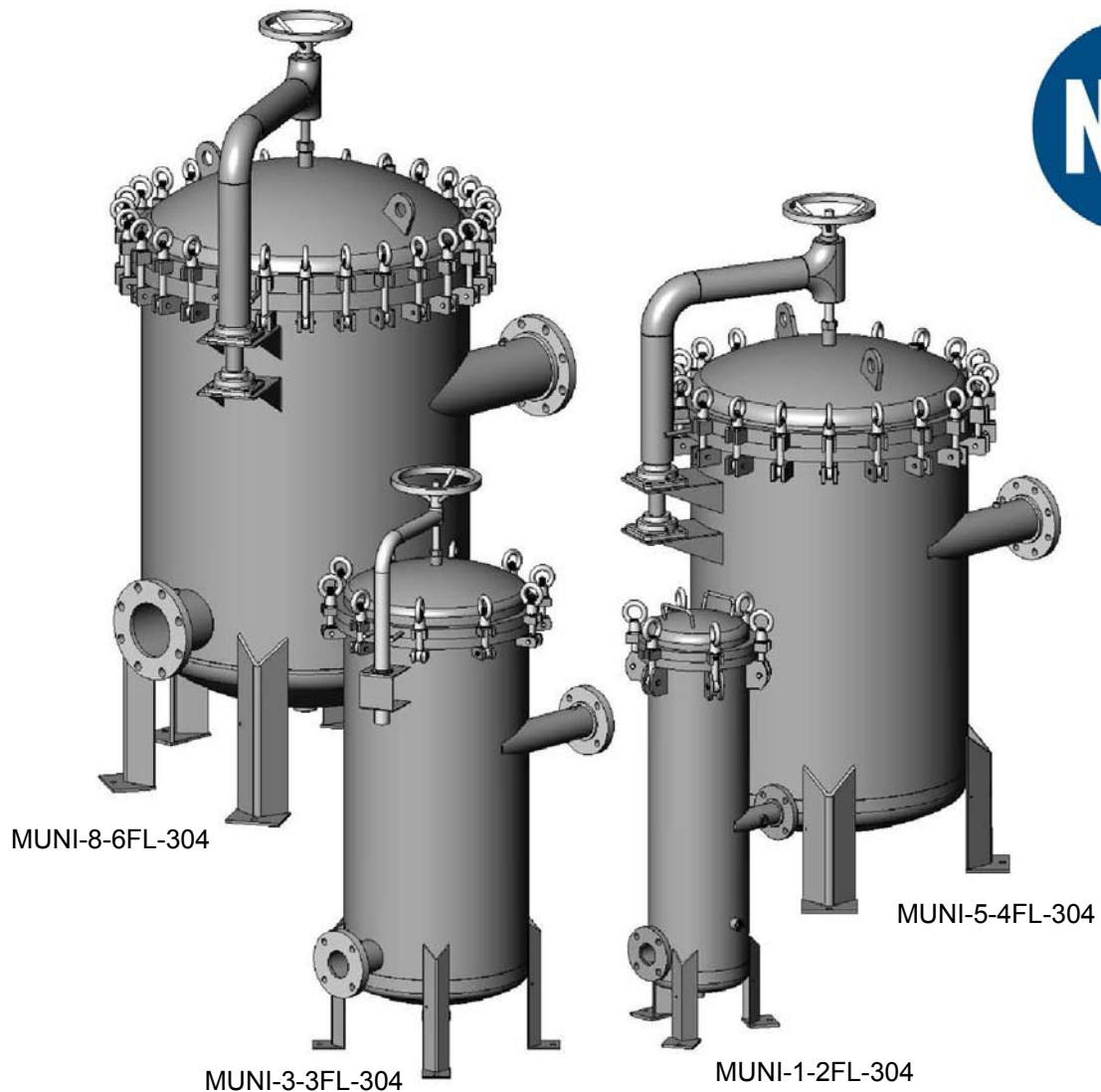
- Cartridge filter is **NSF-61 Listed**, certified for public drinking water with Independent lab validation to **LT2** Drinking Water Standards
- Substantially Reduces: Cryptosporidium, Giardia cysts, Harmful organisms, Sediment, Silt, and Turbidity
- Flow rates up to **100 GPM** per cartridge *(maximum based on LT2 guidelines)*
- Each cartridge contains **120 square feet of pleated media** providing exceptional surface area, higher loading capacity for longer filter life and increased particulate removal
- Filter media: FDA borosilicate Microfiberglass with acrylic binder, support media – spun bonded polyester laminated on both upstream and downstream sides.
- End cap, center tube and media are thermally bonded as one integral component for added strength
- Pliable PVC end caps with sealing surface built in
- Center tubes of rigid perforated PVC or molded polypropylene
- Temperature rating of 140° F (temperature limits may vary based on time under load, pressure differential and process fluids chemical composition)
- Cartridge length – 30-3/4", cartridge O.D – 7-3/4" and cartridge I.D 3"
- Packaged one (1) per box



# Filtration Systems

Models: MUNI-1-2FL-304, MUNI-3-3FL-304  
MUNI-5-4FL-304, & MUNI-8-6FL-304

## INSTALLATION AND OPERATION MANUAL



**Harmsco® Filtration Products**  
*With Patented Up-Flow and Tangential/Rotational Flow  
Filtration Technology*

[www.harmsco.com](http://www.harmsco.com)  
(561) 848-9628

# HARMSCO® Municipal Filtration Systems

## INTRODUCTION

The Harmsco® Municipal Filtration System is a water filtration device that utilizes the Harmsco® Hurricane® HC/170 size cartridge filter in various quantities from one per housing (MUNI-1-2FL-304) to 8 per housing (MUNI-8-6FL-304).

The Hurricane® HC/170 cartridges are available in many micron ratings, styles and materials of construction. To meet the EPA LT2 requirement Part Number HC/170-LT2 cartridge is required. Consult the Harmsco® Product Catalog ([www.harmsco.com](http://www.harmsco.com)) or a Sales Representative for more details.

All of the Harmsco® Municipal Filtration System housings; **MUNI-1-2FL-304, MUNI-3-3FL-304, MUNI-5-4FL-304 & MUNI-8-6FL-304** are equipped with pipe flanges on both the inlet and the outlet, & cartridge lifting handle(s) (part # 362-L). All models are NSF Certified per Standard 61 when used with Genuine Harmsco® Hurricane® HC/170 cartridges.

The Harmsco® Municipal Hurricane® Swing Bolt Water Filter is designed as a strong economical filter that continuously improves the water quality with minimal maintenance.

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# **HARMSCO® Municipal Filtration Systems**

## **INSTALLATION & OPERATION MANUAL**

### **Safety Precautions:**

**Before using and installing this product or its components please read this entire manual. Failure to do so could result in serious personal injury or damage to the equipment and assembled components.**

**This product and all of its components MUST NOT be installed or used in any manner other than that which is specified in this manual.**

### **! WARNINGS !**

- 1. Seek qualified assistance for installation. Piping shall conform to all applicable State and Local codes and be independently supported.**
- 2. Do not install the unit where a temperature of 32° F or lower can occur. Damage caused by freezing shall void all warranties.**
- 3. The unit shall be properly bonded in accordance with all applicable State and Local codes. A grounding lug is provided.**
- 4. After unit is installed, flush (through outlet) to drain for 10 minutes at recommended flow rates prior to use.**
- 5. Always isolate unit and relieve pressure before servicing.**
- 6. Utilizes Genuine Harmsco® Hurricane® HC/170 filter cartridges, available in many micron ratings and styles.**

**The use of any filter cartridges other than Genuine Harmsco® Hurricane® filter cartridges will void certifications by NSF International.**

This product is manufactured under one or more of the following patents: U.S. NO. 4,187,179; 3,720,322; CANADA NO. 977,693; GT. BRIT. NO. 1,372,014; W. GERMANY NO. 2,261,817; FRANCE NO. 7,246,864; EUROPEAN NO. 0,191,844. Other patents pending.

**Notice:** The information contained in this publication is considered accurate and is intended to be used as a guide. This information is subject to change without notification. Contact Harmsco® Filtration Products for the latest and most up to date specifications. Harmsco® Filtration Products does not assume any liability for the accuracy and completeness of the data in this publication.

# HARMSCO® Municipal Filtration Systems

## REQUIREMENTS

- Only qualified personnel are to perform the installation.
- Flush unit (through outlet) to drain for 10 minutes at recommended flow rates prior to use.
- Install shut off valves on both the inlet and the outlet to isolate unit while servicing.

## RECOMMENDATIONS

- Attach drains with supplied ball valves to reduce service time.
- Include a by-pass with shut off valves between the inlet and outlet. See installation Block Diagram on page 7.
- Install supplied pressure gauges into the gauge ports provided.
- Install plug or appropriate valve into the vent port provided.
- Lubricate Swing Bolt Assemblies (all models) & Davit Assemblies (MUNI-3-3FL-304, MUNI-5-4FL-304, MUNI-8-6FL-304) using Food Grade grease with PTFE and NSF rated H1 only.
- Replace cartridge(s) when certain conditions exist.  
For example:
  1. Differential pressure is greater than 30 psi.
  2. Quality of water is unacceptable.
  3. Flow rate has diminished.
  4. Every 6 months
- **Spare Parts:**
  1. Sufficient supply of replacement cartridges.  
Note: Harmsco® Hurricane® HC/170-LT2
  2. Housing O-ring Seal:

Model #	Part #		
	EPDM (std)	BunaN	Viton
MUNI-1-2FL-304	361-E	361-B	361-V
MUNI-3-3FL-304	363-E	363-B	363-V
MUNI-5-4FL-304	365-E	365-B	365-V
MUNI-8-6FL-304	368-E	368-B	368-V

3. Additional: Cartridge Lifting Handle(s), Part #362-L



# HARMSCO® Municipal Filtration Systems

## INSTALLATION/SET-UP

The following instructions & diagrams show the Harmsco® Municipal Filtration System housing with typical plumbing hook-up requirements. All steps of the installation are to be performed by qualified personnel.

1. Always adhere to state and local plumbing codes and requirements for design and installation.
2. Mount and secure housing using the holes at the base of the legs - see Installation Diagrams, pages 8-11.  
Models MUNI-5-4FL-304 & MUNI-8-6FL-304 have two lifting lugs welded onto the lid for positioning of the housing. Swing bolts must be engaged and the housing must be empty prior to using the lifting lugs.
3. Bond the filter housing utilizing the grounding lug on the leg.  
**- must be performed by a qualified electrician.**
4. Install incoming water supply with shut off valve to flange marked "Inlet".
5. Install return line with shut off valve to flange marked "Outlet".
6. Install supplied ball valves in drain lines into the FPT couplings located at the bottom center and side of housing.
7. Install supplied pressure gauges into the gauge ports.
8. Install air relief valve into the vent port.
9. Refer to Specifications, Installation Block Diagram & Installation Diagrams for more details, pages 6-11.

### Notes:

- Shut-off valves shall be installed on inlet and outlet to isolate the filter when servicing.
- To protect against electrolysis, all filters shall be bonded.  
**Failure to properly bond the filter will void all warranties.**
- NSF STD 61 listed drain valves and pressure gauges are provided.
- Use gaskets, sealants and/or expansion/vibration coupling materials appropriate for the application.
- Flush unit (through outlet) to drain for 10 minutes at recommended flow rates prior to use.
- For cartridge replacement, see pgs. 12 - 18.
- For models MUNI-3-3FL-304, MUNI-5-4FL-304 & MUNI-8-6FL-304, make sure sufficient space is available to rotate lid away from housing allowing access to all cartridges.

# HARMSCO® Municipal Filtration Systems

## SPECIFICATIONS

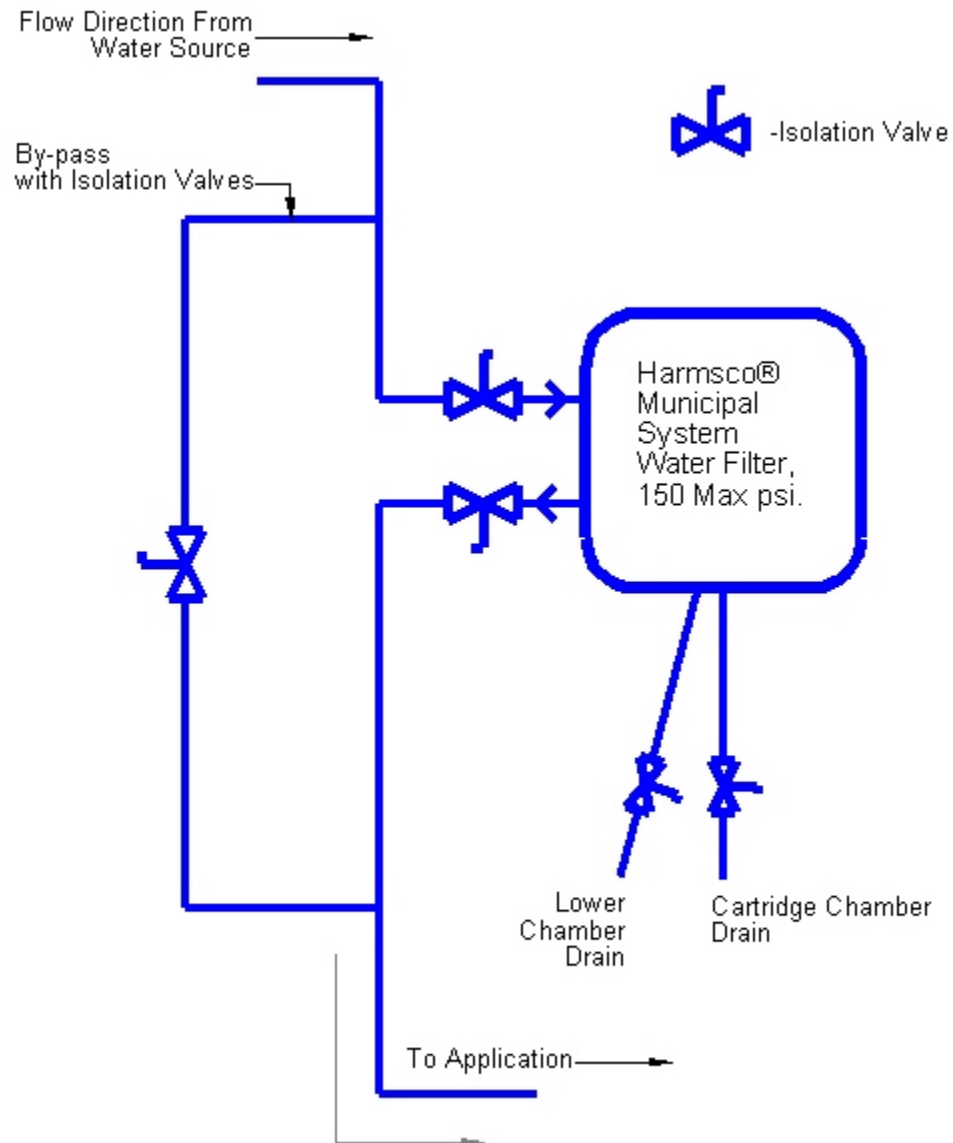
	MUNI-1-2FL-304	MUNI-3-3FL-304	MUNI-5-4FL-304	MUNI-8-6FL-304
Cartridge Quantity <sup>1</sup>	1	3	5	8
Maximum Flow Rate gal/m <sup>2</sup>	100	300	500	800
Pressure Rating, P.S.I.G. Max.	150	150	150	150
Height, inches	48"	64"	74"	84"
Service Height, inches	77"	98-1/2"	98-1/2"	104-1/2"
Housing Diameter	11"	20"	30"	35-3/8"
Inlet/Outlet <sup>3</sup>	2" Flange	3" Flange	4" Flange	6" Flange
Height of Inlet, inches	23-5/8"	35-1/4"	38"	44-1/4"
Height of Outlet, inches	9 3/4	12"	14-1/8"	20-1/2"
Drain (Qty 2, Female)	3/4" NPT	1-1/2" NPT	1-1/2" NPT	1-1/2" NPT
Weight, Dry	150 lbs.	420 lbs.	1,100 lbs.	1,600 lbs.
Weight, Wet	284 lbs.	929 lbs.	2,284 lbs.	3,535 lbs.
Floor Contact Area	.188 ft <sup>2</sup>	.292 ft <sup>2</sup>	.776 ft <sup>2</sup>	1.164 ft <sup>2</sup>
Floor Load (approx.) <sup>3,4</sup>	1,515 lbs/ft <sup>2</sup>	3,200 lbs/ft <sup>2</sup>	3,000 lbs/ft <sup>2</sup>	3,100 lbs/ft <sup>2</sup>
Floor Space <sup>5</sup>	1.6 ft <sup>2</sup>	4.5 ft <sup>2</sup>	8.5 ft <sup>2</sup>	14.0 ft <sup>2</sup>
Bonding:	Housing shall be bonded in accordance with all applicable codes. A grounding lug is provided on the leg.			
Housing Material:	Stainless Steel Construction. All wetted metallic components are ASTM A-240			
Finish:	Electro-polish			
O-ring Material:	EPDM is standard. Buna-N & Viton are available			
Temperature Rating:	Up to 140°F, Note: Higher temperatures are possible, check cartridge specifications and contact a Harmsco® sales engineer.			

### Notes:

- Utilizes Genuine Harmsco® Hurricane®
  - The use of cartridges other than Genuine Harmsco® Hurricane® HC/170 filter cartridges will void certifications by NSF International.
- HC/170-LT2 Cartridge Flow Rate
  - Higher flow rates can be realized for pre-filtration applications.  
Contact your Harmsco Municipal Customer Service Representative for further information.
- Piping shall conform to all applicable codes and be independently supported
- If floor strength is suspect, use appropriate measures to adequately distribute load.
- Does not include Cover/Davit swing position for models MUNI-3-3FL-304, MUNI-5-4FL-304 & MUNI-8-6FL-304.  
See Installation Diagrams, pages 8-11.

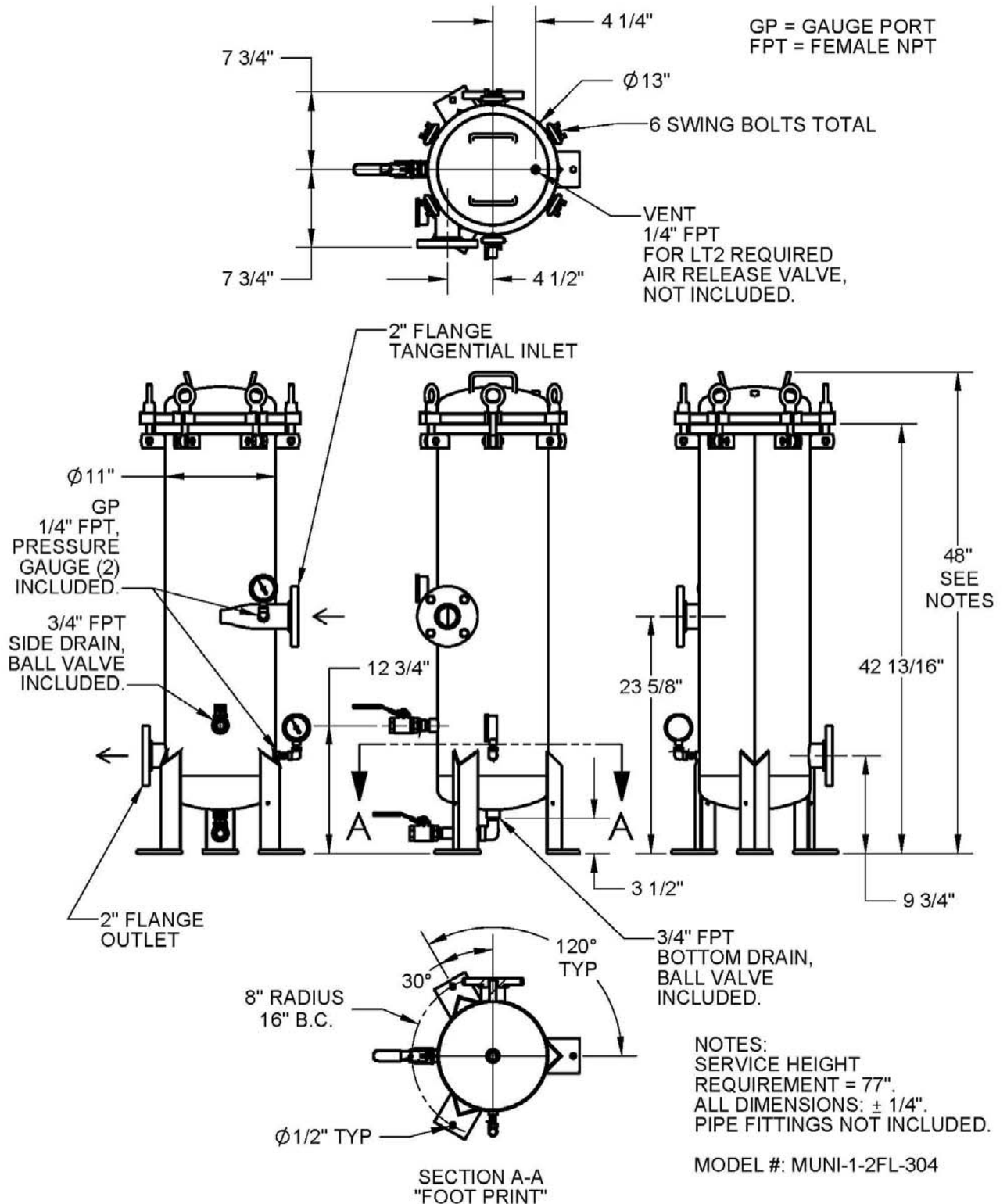
# HARMSCO® Municipal Filtration Systems

## Installation Block Diagram



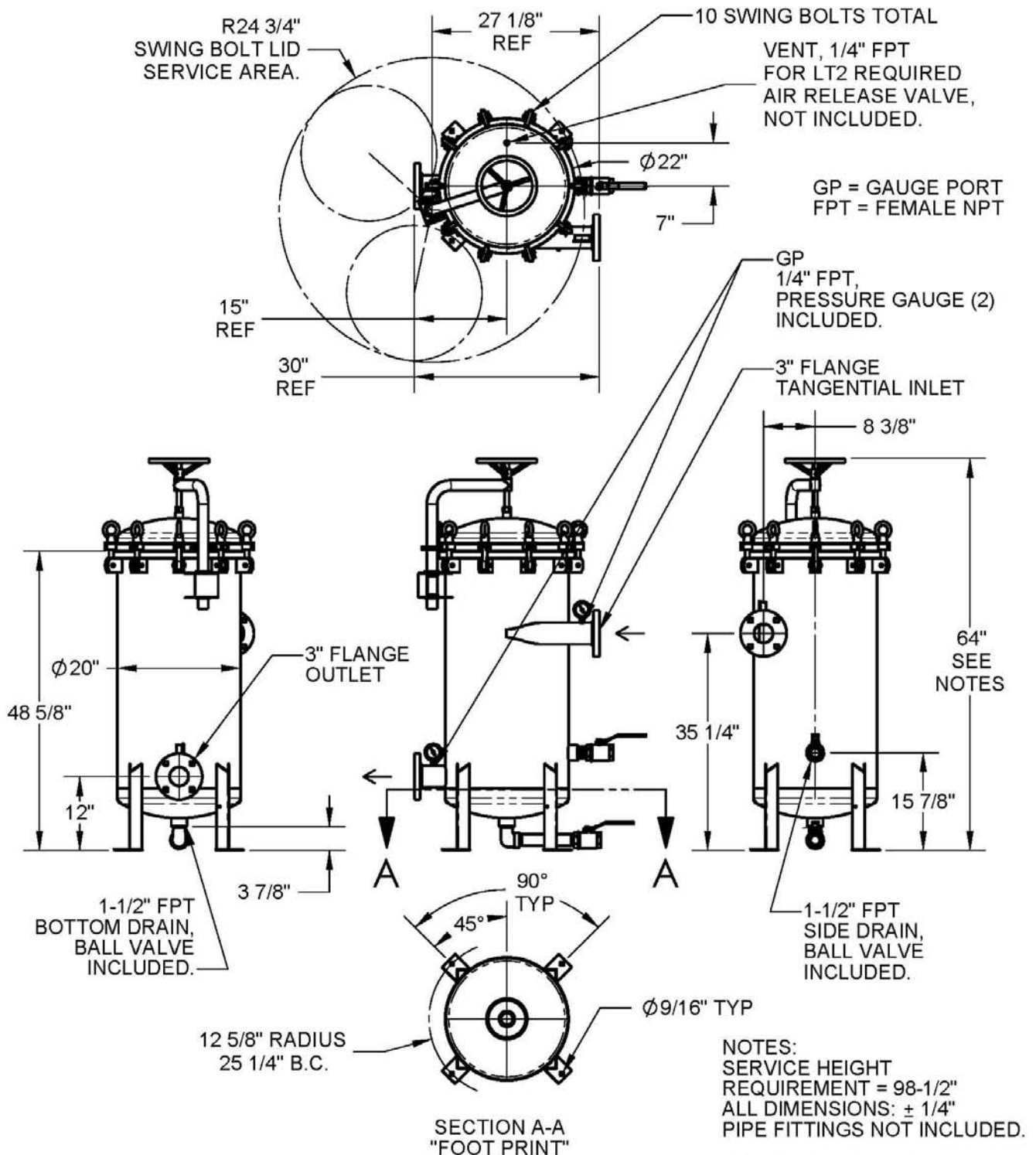
# HARMSCO® Municipal Filtration Systems

## Installation Diagram Model MUNI-1-2FL-304



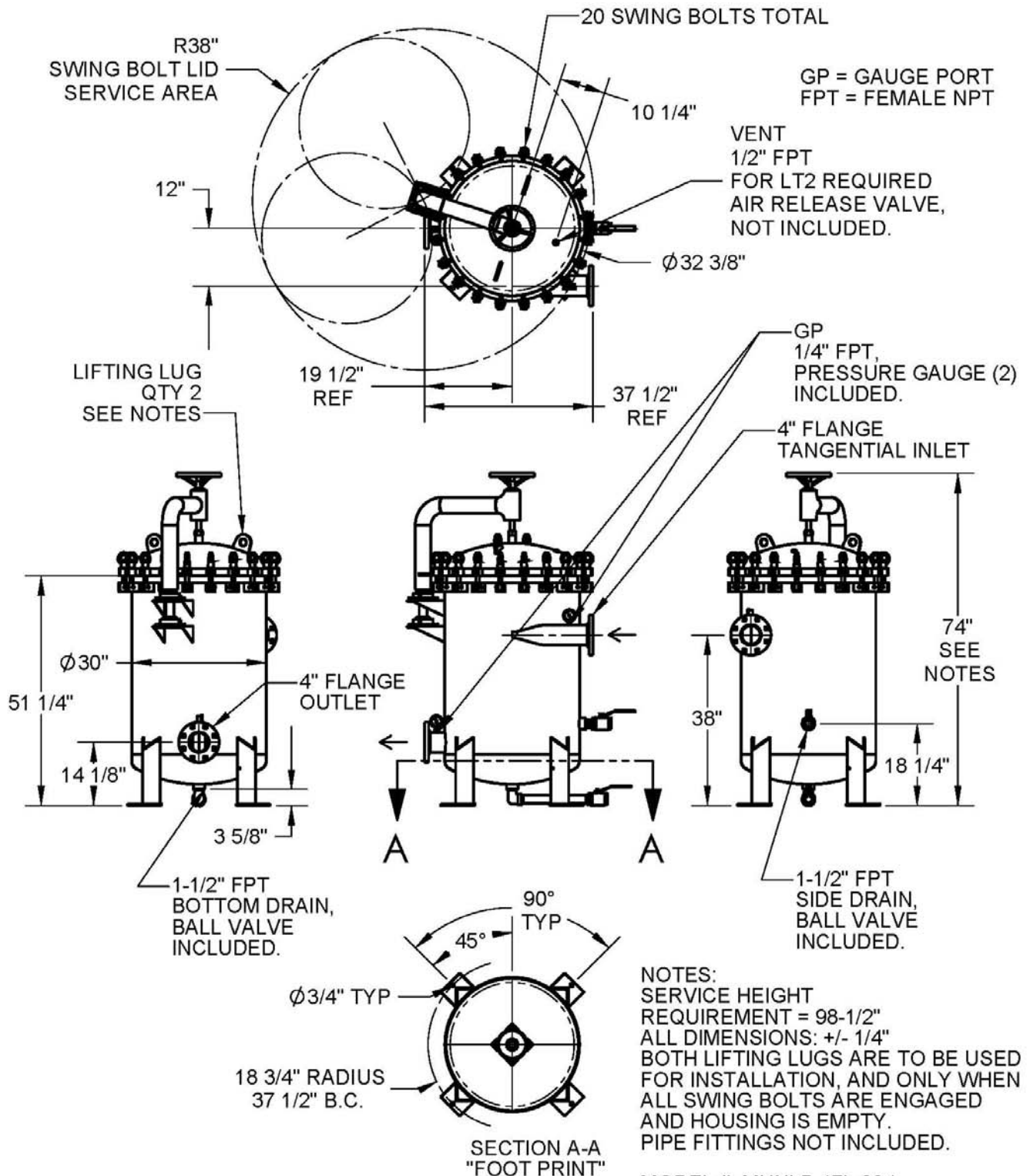
# HARMSCO® Municipal Filtration Systems

## Installation Diagram Model MUNI-3-3FL-304



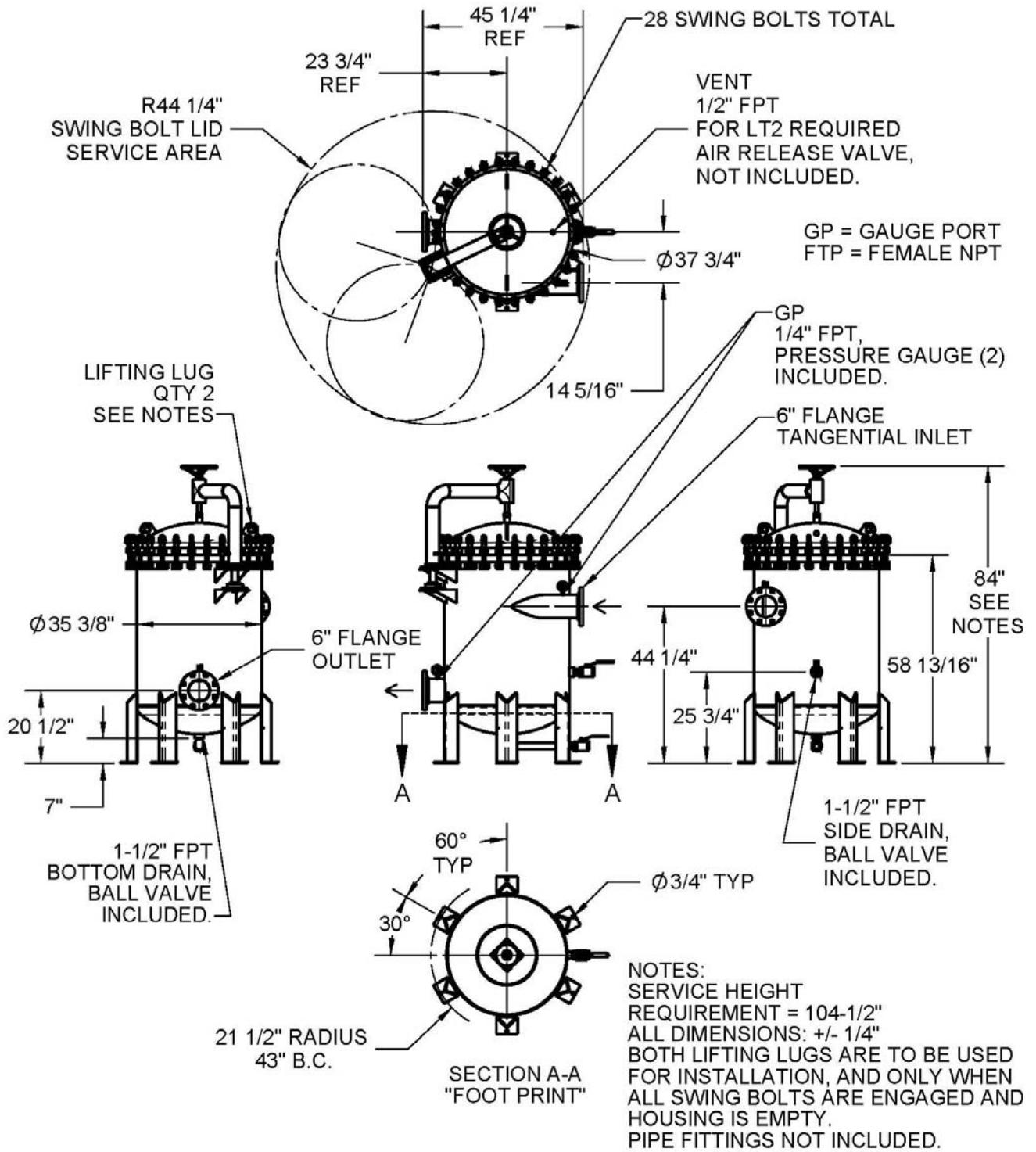
# HARMSCO® Municipal Filtration Systems

## Installation Diagram Model MUNI-5-4FL-304



# HARMSCO® Municipal Filtration Systems

## Installation Diagram Model MUNI-8-6FL-304

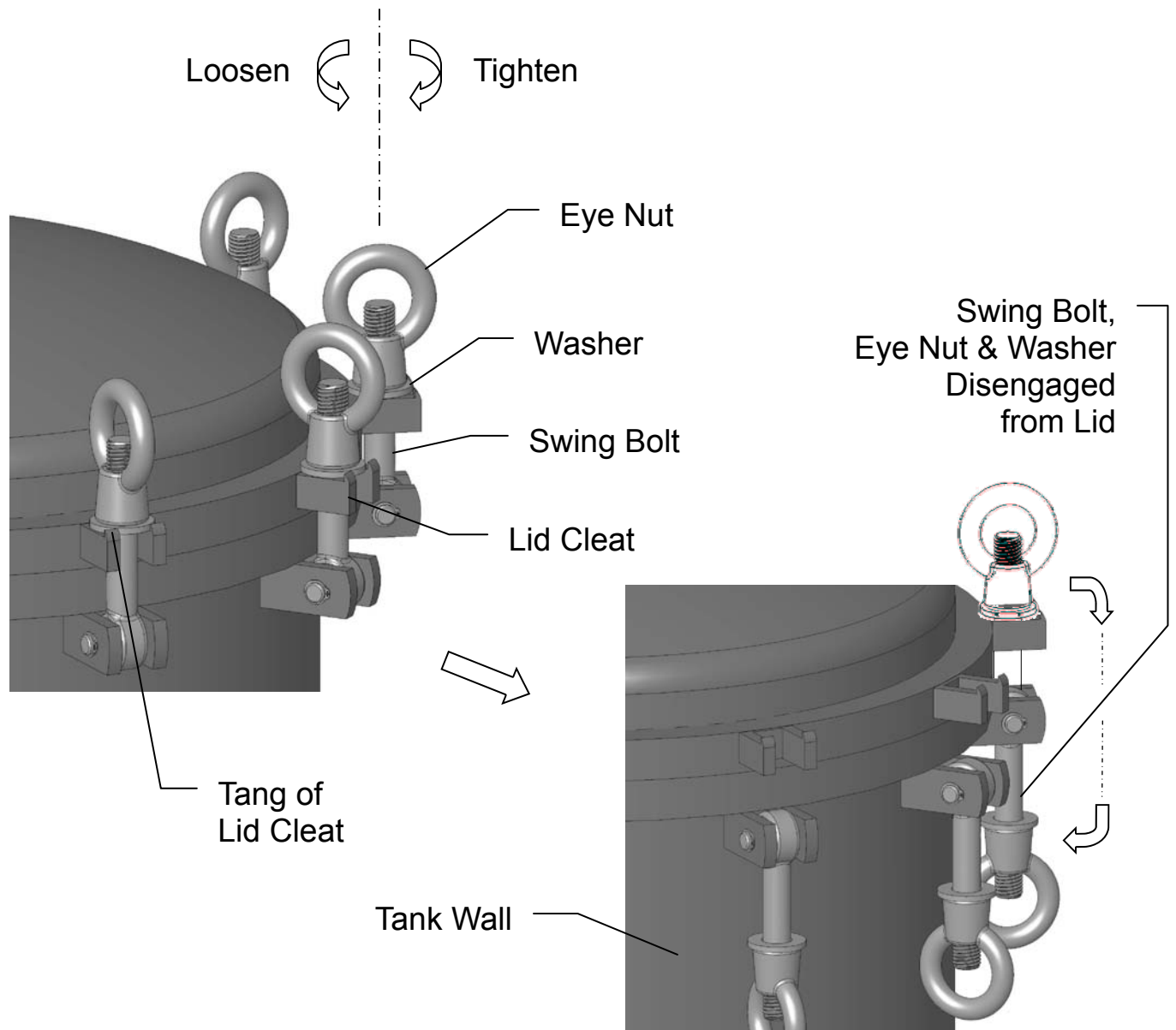


MODEL #: MUNI-8-6FL-304

# HARMSCO® Municipal Filtration Systems

## CARTRIDGE REPLACEMENT

1. Isolate unit from all water sources (close I/O lines) and relieve pressure to housing by first opening the housing's "Bottom Drain" and let drain completely. See Installation Diagrams (pgs. 8-11). This will protect the cartridges (installed) from experiencing a reverse flow that could cause damage.
2. Open Side Drain and let housing drain completely.
3. Loosen all Eye Nuts of Swing Bolts by 1/2 turn increments counter-clockwise to gradually step down load applied to swing bolts. Repeat process as needed.
4. Fully loosen Eye Nuts but do not remove from Swing Bolt. Lift Washer above Tangs in Lid Cleats and allow Swing Bolt to rotate downward along the side of the housing's Tank Wall.



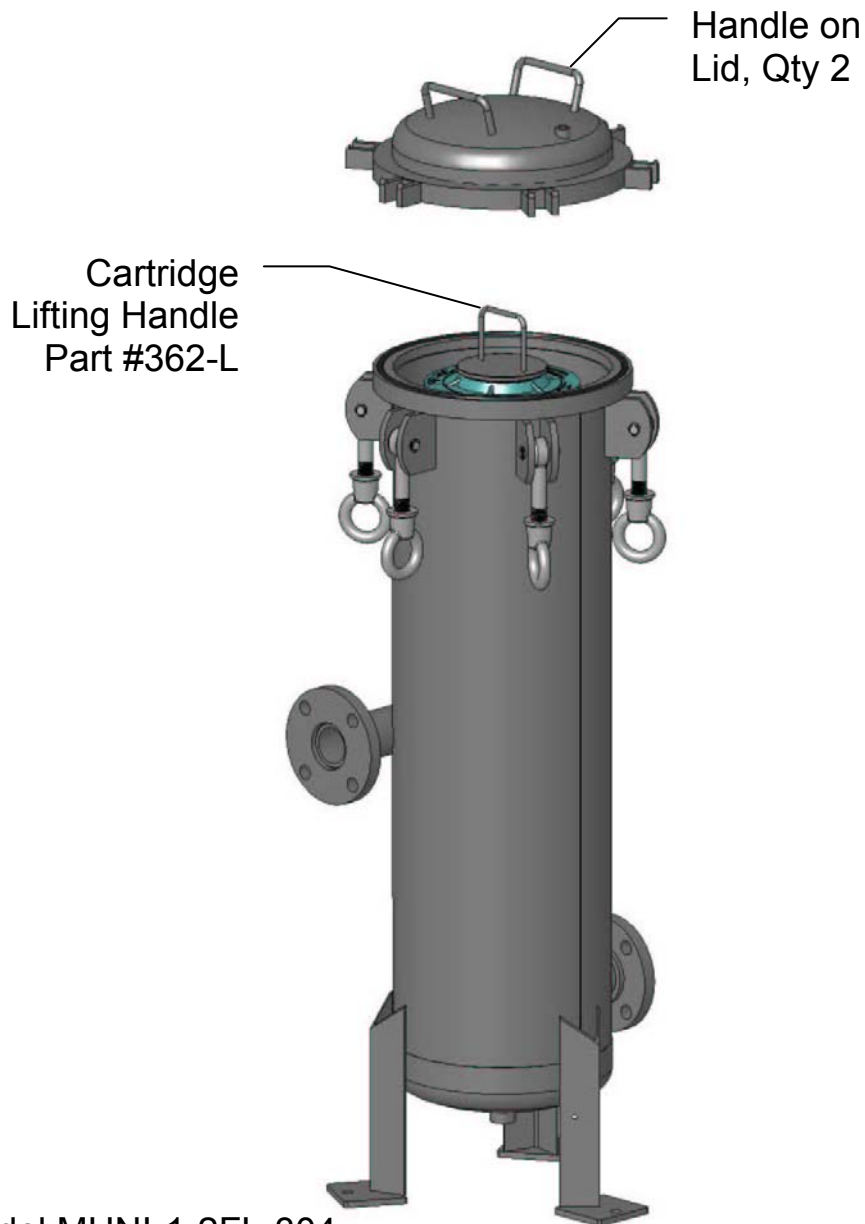
# HARMSCO® Municipal Filtration Systems

## CARTRIDGE REPLACEMENT cont.

5. When all of the Swing Bolt hardware is disengaged, the Lid can be removed.

5 a. For Model MUNI-1-2FL-304 the Handles on the Lid are used to raise and re-move the Lid.

Note: The Lid must be raised sufficiently to clear the Cartridge Lifting Handle prior to removal.



Model MUNI-1-2FL-304

# HARMSCO® Municipal Filtration Systems

## CARTRIDGE REPLACEMENT cont.

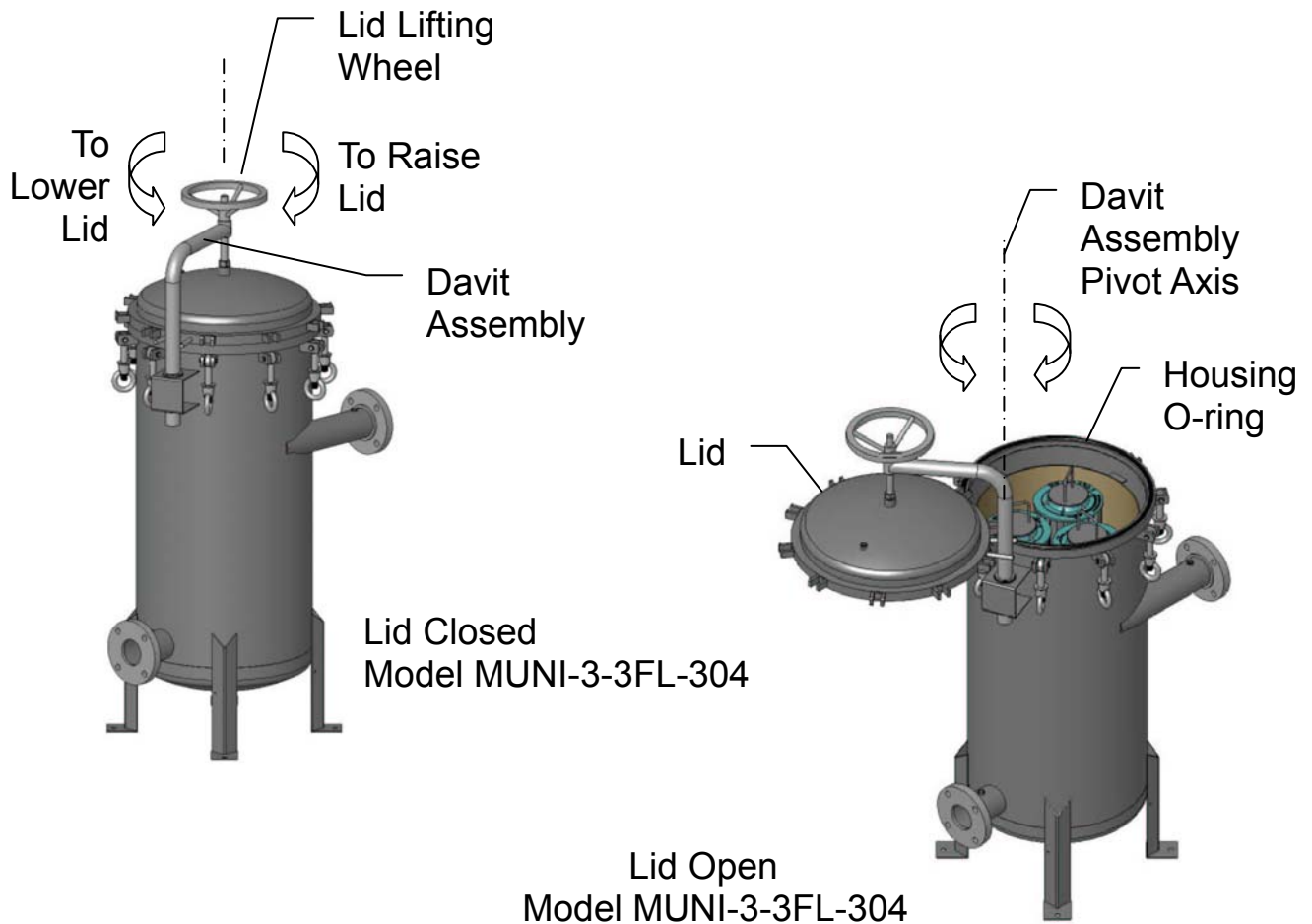
5 b. Models MUNI-3-3FL-304, MUNI-5-4FL-304 & MUNI-8-6FL-304 all have a Davit Assembly and Lid Lifting Wheel to raise and lower the Lid.

To raise Lid, turn Lid Lifting Wheel clockwise. To lower Lid, turn Wheel counter-clockwise.

Note: Housing O-ring may stick to Lid. To prevent this, it is suggested to raise the Lid about 1/8" inch and move the Lid/Davit Assembly slightly sideways to free the O-ring from Lid while keeping the O-ring in its housing channel.

Continue raising Lid approximately 1" to clear housing. Swing Lid and Davit Assembly until cartridge compartment is fully exposed.

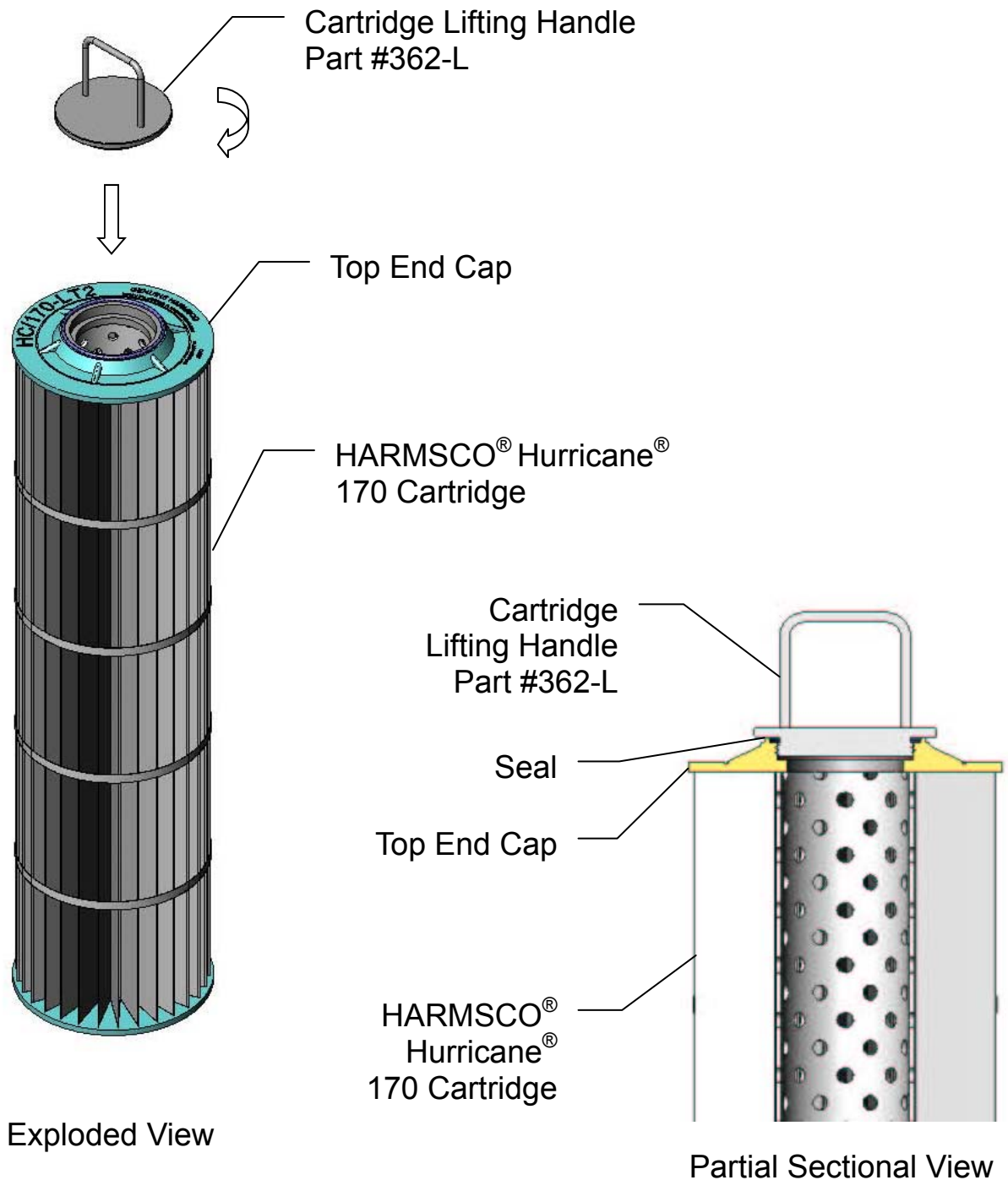
**Caution:** The Lid should be secured when servicing.



# HARMSCO® Municipal Filtration Systems

## CARTRIDGE REPLACEMENT cont.

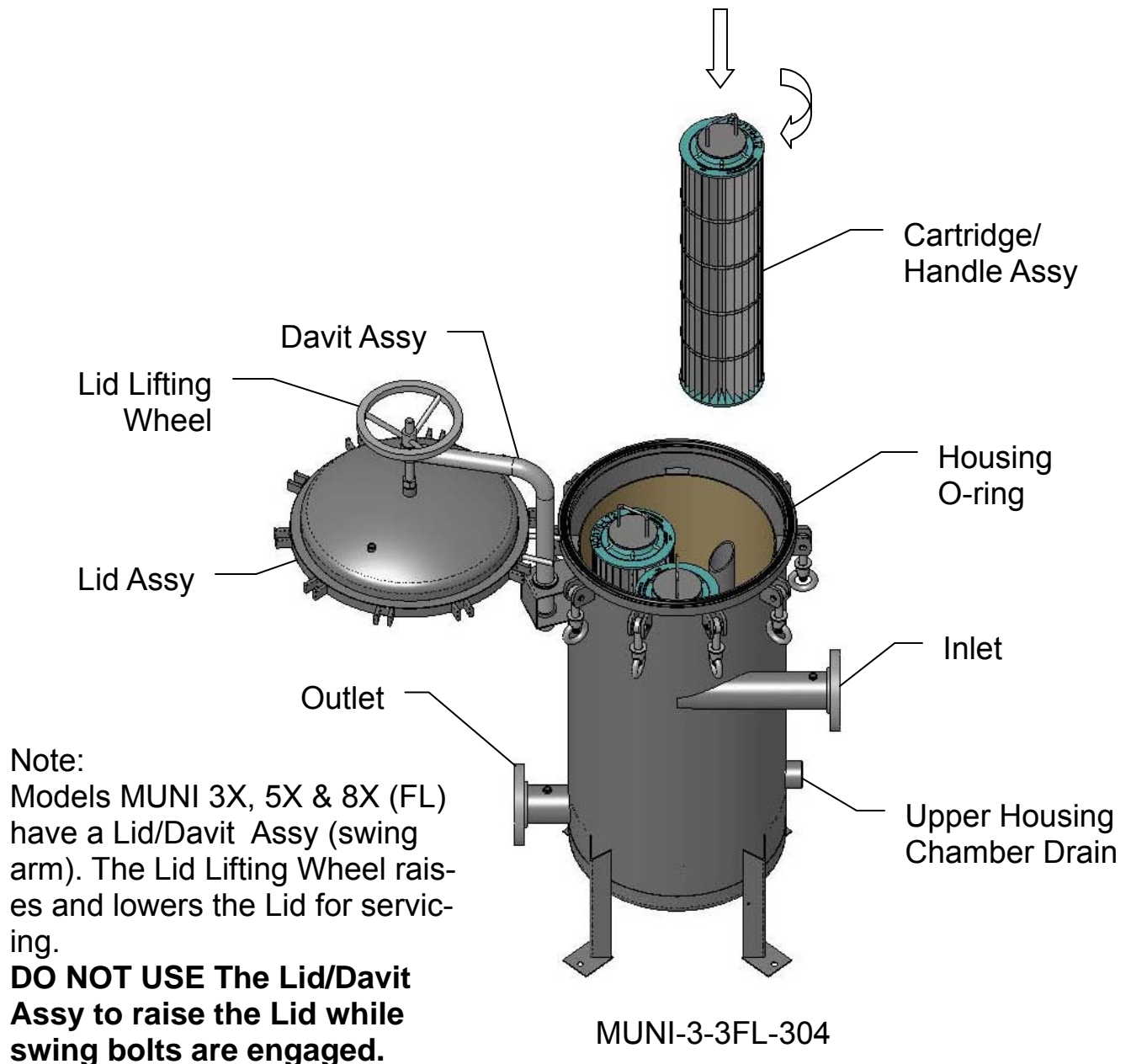
6. Install Cartridge Handle(s), part #362-L, to Cartridge(s). Tighten securely to seal with Top End Cap to prevent by-passing of the Cartridge.



# HARMSCO® Municipal Filtration Systems

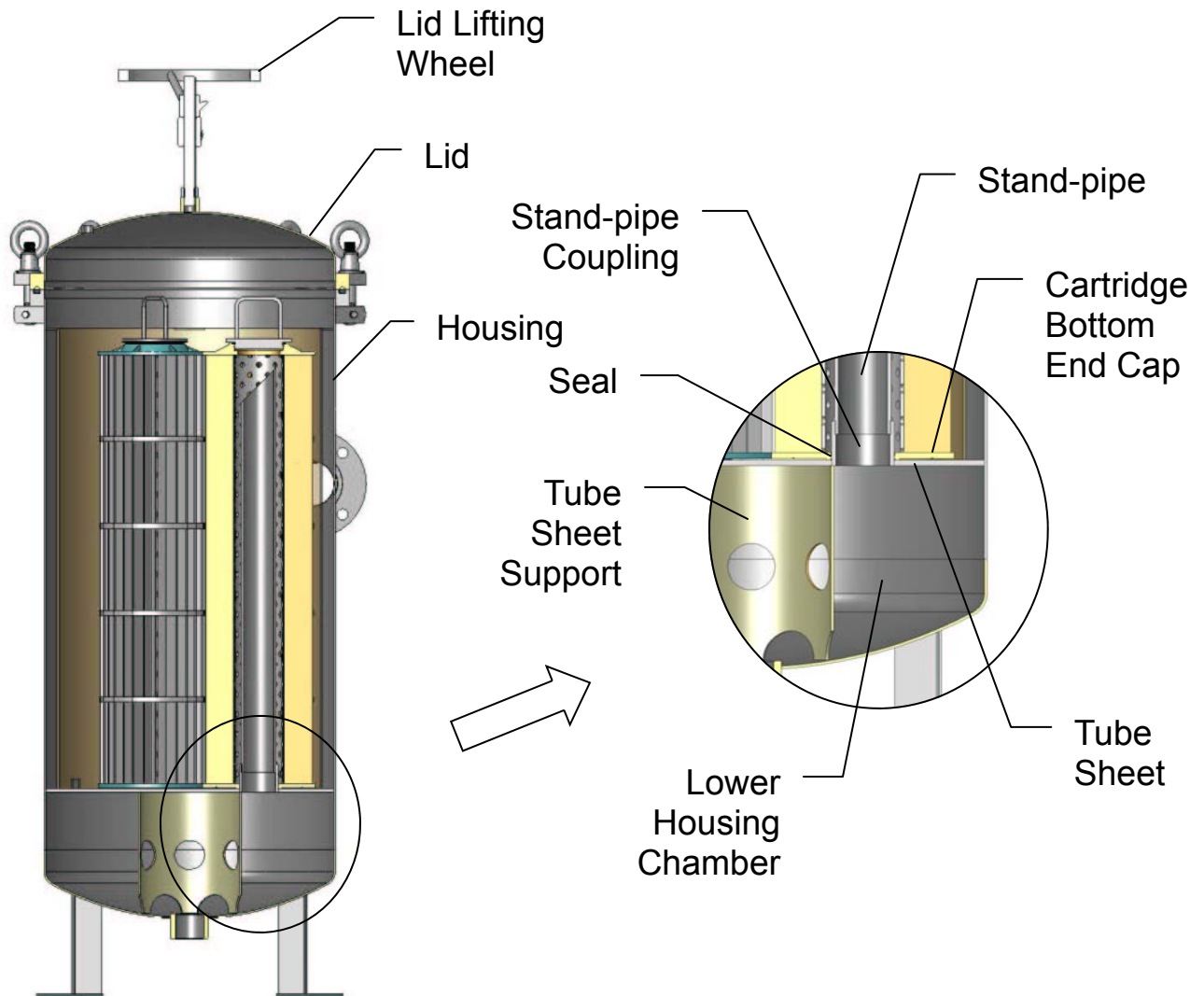
## CARTRIDGE REPLACEMENT cont.

7. With swing bolts disengaged and lid removed, install Cartridge/Handle assembly(s) onto Stand-pipe(s). Position Cartridge/Handle assembly downward until Cartridge's Bottom End Cap contacts the housing's Tube Sheet. The Cartridge's Bottom End Cap will seal with the Stand-pipe Coupling to prevent by-passing. A clockwise rotating motion will help to position the Cartridge while engaging the Stand-pipe Coupling. Confirm all Cartridge/Handle assemblies are fully installed with all Cartridge Bottom End Caps contacting the housing's Tube Sheet, see illustrations on page 17.



# HARMSCO® Municipal Filtration Systems

## CARTRIDGE REPLACEMENT cont.



Section View  
Model MUNI-3-3FL-304

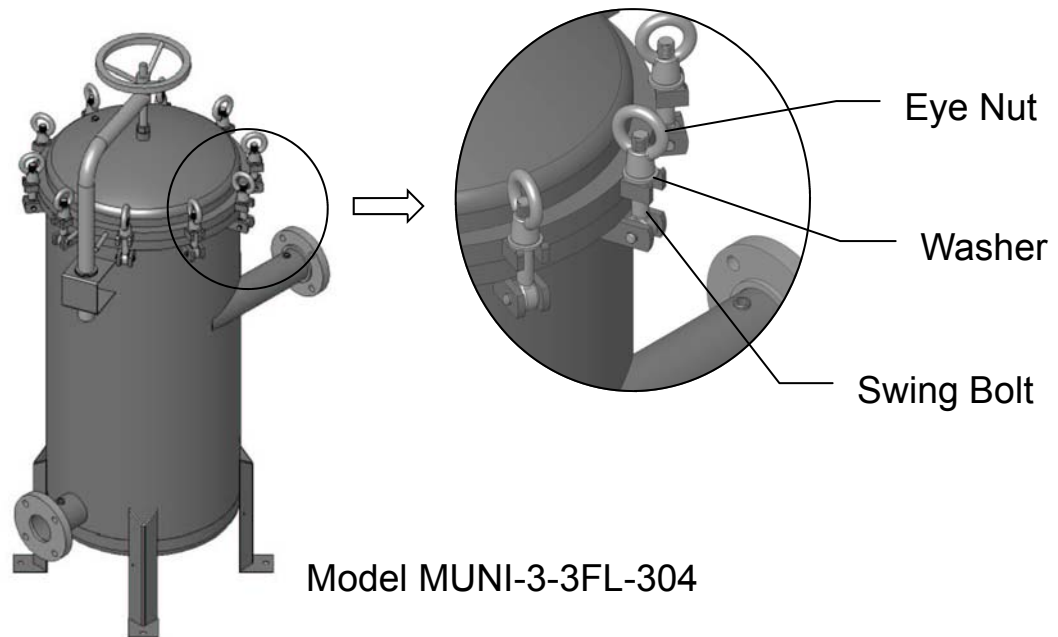
8. Inspect Housing O-ring and make sure that it is free from cracks and debris.
9. Clean Housing and Lid O-ring mating surfaces.
10. Place Housing O-ring into channel of Housing.
11. Return Lid to closure position and maintain alignment of Lid on Housing.  
Lower lid onto Housing O-ring. Make sure O-ring stays in the channel of the Housing. Do not allow tilting or cocking of Lid on the O-ring.

**Note: The Lid/Davit Assembly is NOT to be carrying any load from the Lid at this time.**

# HARMSCO® Municipal Filtration Systems

## CARTRIDGE REPLACEMENT cont.

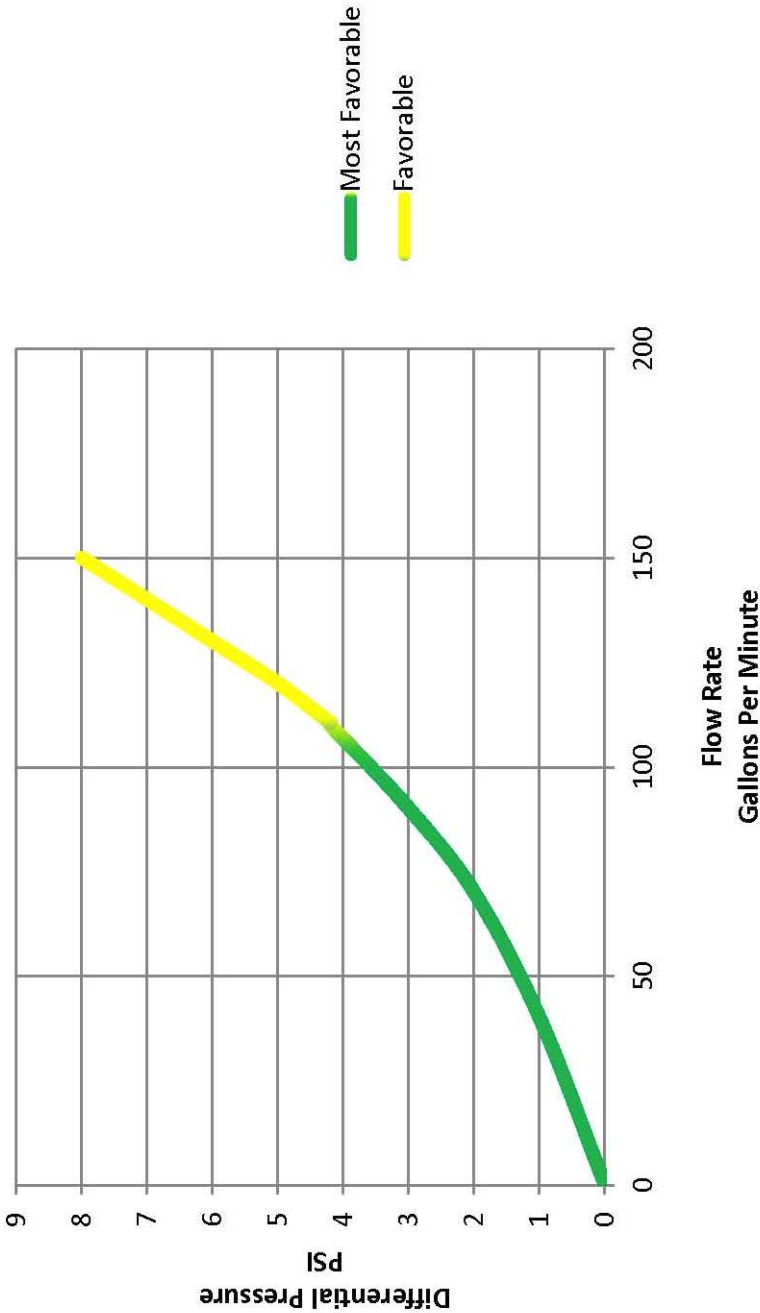
12. Return all Swing Bolts, Eye Nuts, & Washers to their closure position.
13. Tighten all Eye Nuts by hand in a “star/criss-cross” pattern several times until all Eye Nuts are uniformly tight. Make sure Lid position and alignment to Housing is maintained.



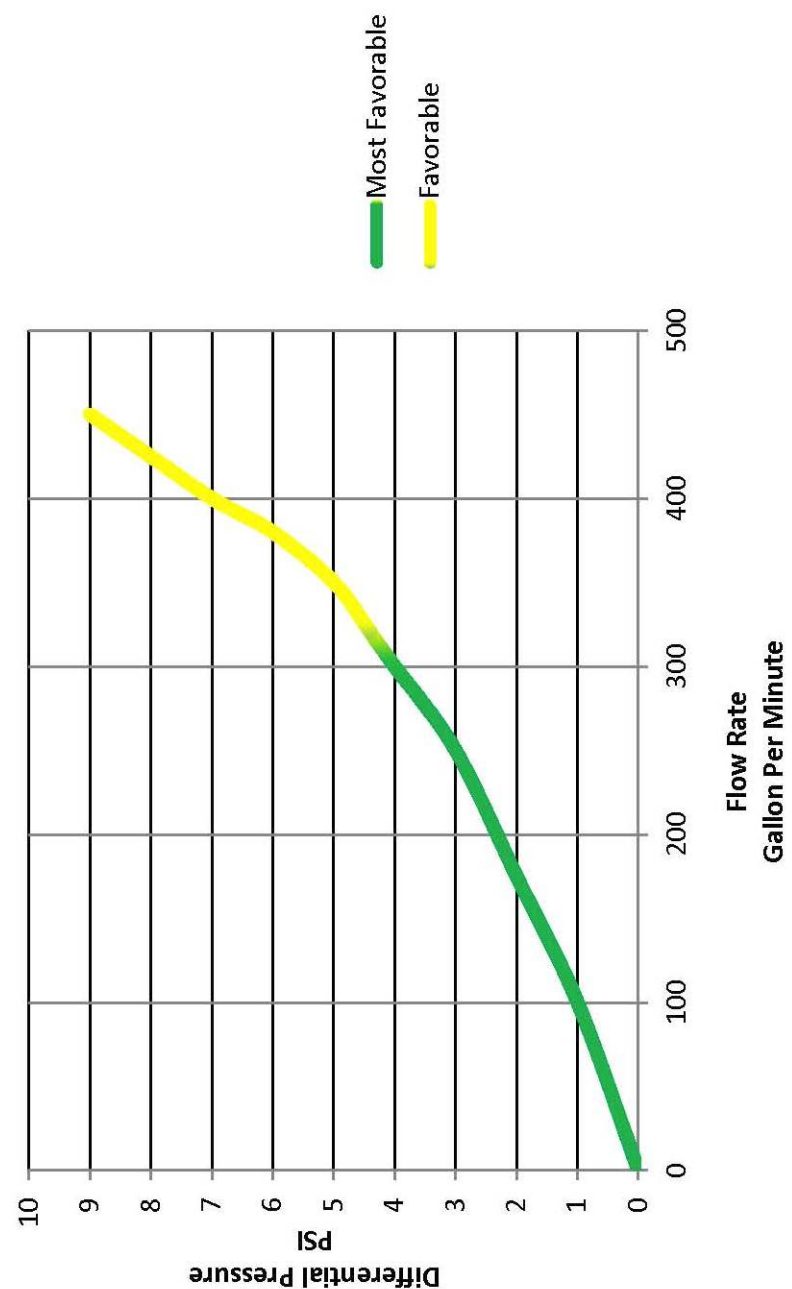
14. Start the flow of water by first opening the inlet valve and allow the housing to completely fill, then, open the outlet valve.
15. Flush unit at recommended flow rate for 10 minutes prior to use. Inspect closure for any leaks. If a leak is observed, **Isolate and Remove Pressure in Housing**, then repeat steps 8 through 15.

The Harmsco® Municipal Filtration System is now operational.

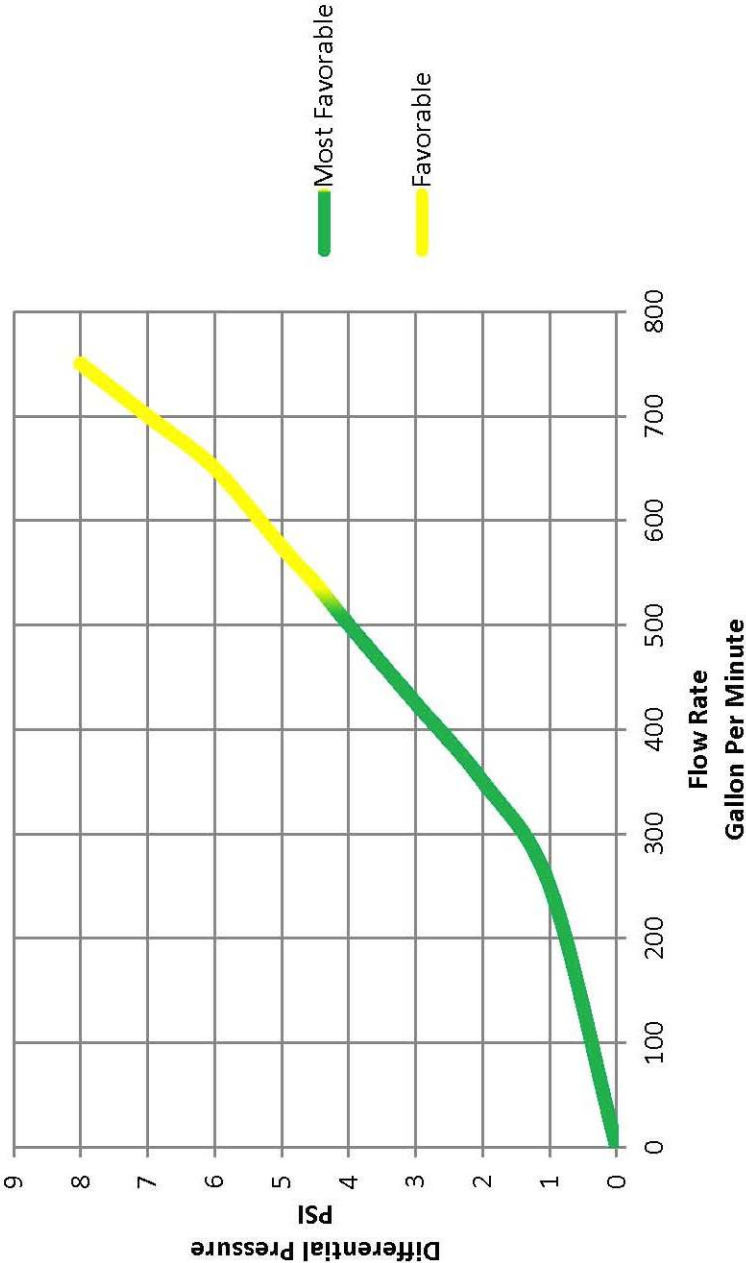
**Pressure Drop vs. Flow Rate Curve**  
**Harmsco® MUNI-1-2FL-304**  
**Hurricane® HC/170-LT2 Cartridge**  
**Qty 1; with clean water.**



**Pressure Drop vs. Flow Rate Curve**  
**Harmsco® MUNI-3-3FL-304**  
**Hurricane® HC/170-LT2 Cartridges**  
**Qty 3; with clean water.**

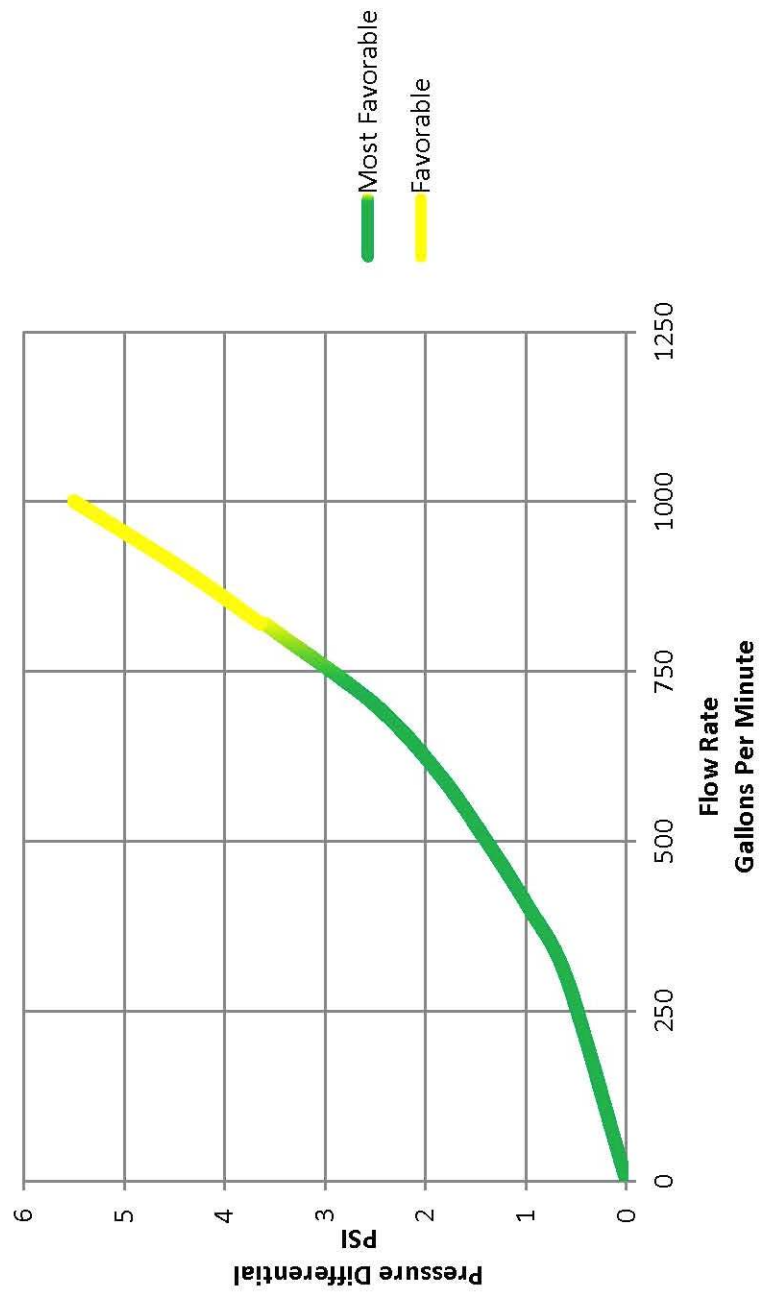


**Pressure Drop vs. Flow Rate Curve**  
**Harmsco® MUNI 5 X 4FL-304**  
**Hurricane® HC/170-LT2 Cartridges**  
**Qty 5; with clean water.**



# Pressure Drop vs. Flow Rate Curve

Harmsco® MUNI 8 X 6FL-304  
Hurricane® HC/170-LT2 Cartridges  
Qty 8; with clean water.



# HARMSCO® Municipal Filtration Systems

## Cartridge Replacement Instructions (Quick Reference):

For Filter Housings With Swing Bolt Closure.

**\*\* NOTICE \*\***

**THE FOLLOWING INSTRUCTIONS MUST BE READ AND FOLLOWED PRIOR TO USE.**

1. **Always Isolate And Remove Pressure From Housing Before Servicing.** Housing is to be shut off and drained of fluid by first opening the lower drain.
2. Open filter housing by turning Eye Nuts counter-clockwise, disengaging Swing Bolts, and removing Lid. Take out used cartridge(s) and remove cartridge lifting handle(s).
3. Remove new cartridge(s) from packaging and make sure center cores are clear of all obstructions, dessicants and shipping materials.
4. Install cartridge lifting handle(s) into cartridge(s).
5. Insert Cartridge(s) into housing and onto Stand-pipe(s), cartridge(s) is(are) to contact Tube Sheet of housing.
6. Position housing O-ring seal in groove of housing.
7. Position Lid onto housing and properly align on O-ring before applying Swing Bolts. Do not allow tilting or cocking of Lid on the O-ring.
8. Close filter housing by tightening Eye Nuts clockwise by hand. Use a "star/ criss-cross" pattern several times to tighten all of the Eye Nuts uniformly tight.
9. Open inlet valve and allow fluid to fill housing.
10. Open outlet valve.
11. Flush unit (through outlet) to drain for 10 minutes at recommended flow rates prior to use.

**Should a leak appear at the housing O-ring, isolate and relieve pressure and repeat steps 6 through 11. Always isolate and remove pressure from housing before servicing any part of filter.**

**This product is manufactured under one or more of the following patents: U.S. NO. 4,187,179; 3,720,322; CANADA NO. 977,693; GT. BRIT. NO. 1,372,014; W. GERMANY NO. 2,261,817; FRANCE NO. 7,246,864; EUROPEAN NO. 0,191,844, Other patents pending.**

## **Harmsco® Filtration Products**

*With Patented Up-Flow Filtration Technology*

**www.harmsco.com**

**(561) 848-9628**

# *Harmsco® Filtration Products Limited Warranty*

1. Harmsco® warrants its line of Water Filters to be free of defects in material and workmanship for a period of one year from the date of installation.
2. This warranty does not cover any equipment purchased for use in applications in which the product is not suited. It is the responsibility of the buyer to determine if a product is suitable for a particular application.
3. **THIS WARRANTY EXCLUDES THE FOLLOWING:**
  - A. Any fresh water unit installed for salt water use.
  - B. Damage caused by improper installation, operation or care.
  - C. Chemical attack.
  - D. Modification or alteration by other than Harmsco® employees.
  - E. Rubber type parts and normal wear items, i.e. "O" rings, rim gaskets.
  - F. Any costs of labor or expenses expended in the removal and/or installation of a unit, or any surrounding device.
  - G. Damage caused by galvanic or electrolytic attack.
  - H. Altering or removing the Harmsco® information label.
  - I. Any unit not grounded.
4. Service under this warranty is to be provided by the dealer who sold the unit to the user. If the dealer is unable to provide warranty service, contact:  
Harmsco Filtration Products, P.O. Box 14066  
North Palm Beach, Florida, 33408, U.S.A.  
Phone: (561) 848-9628 • Fax: (561) 845-2474

A Returned Goods Authorization (RGA) number must be received from the above office and placed on all shipments to and correspondence with Harmsco® Filtration Products. Please be prepared with the following information: 1. Model number and serial number. 2. Date of installation. 3. Name of installer. 4. Nature of problem. 5. Your address and

## **\*\*NOTICE\*\***

Some of the information contained in this publication has been obtained from outside sources and is considered accurate. Temperature ratings, flow rates and chemical resistance can be affected by a number of unknown factors. For this reason, we do not assume any liability for the accuracy or completeness of the data in this publication. End users should perform their own tests to determine suitability for each application.



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Toll Free: (800) 327-3248  
Fax: (561) 845-2474  
Local: (561) 848-9628  
E-mail: [sales@harmsco.com](mailto:sales@harmsco.com)



**Harmsco® Filtration Products**

P.O. Box 14066, North Palm Beach, Florida 33408



THE STATE  
of **ALASKA**  
GOVERNOR SEAN PARNELL

Department of Environmental  
Conservation

DIVISION OF ENVIRONMENTAL HEALTH  
Drinking Water Program

610 University Avenue  
Fairbanks, Alaska 99709-3643  
Main: 907.451.2108  
Toll free: 800.770.2137  
Fax: 907.451.2188

**File Number: 900.07.056**

March 29, 2013

Ms. Cyndi Benson  
Harmsco Filtration Products  
P.O. Box 14066  
North Palm Beach, FL 33408

**Re: Harmsco® HC/170-LT2 Cartridge Filter  
HUR 1X170FL and MUNI-1-2FL-304 Housings  
Alternate Filtration Technology Approval**

Dear Ms. Benson:

The State of Alaska Division of Environmental Health, Drinking Water Program has approved the HC/170-LT2 cartridge filter contained in a HUR 1X170FL housing (also known as MUNI-1-2-FL-304) as an alternate filtration technology. The system is assigned the treatment credits specified in Table 1 and is subject to the maximum operating parameters specified in Table 2. This approval is based on the testing reported by PACE Analytical Services and IBR Laboratories (August 30, 2011). The challenge testing was conducted in accordance with the requirements of the Surface Water Treatment Rule (SWTR), following the ANSI/NSF Standard 53 protocol, and in conformance with the Long Term 2 SWTR. This approval also considered the Texas Commission on Environmental Quality approval issued on August 25, 2012 and information provided by the State of Washington Office of Drinking Water (WSDOH) on their technology review.

It is our understanding that since the challenge testing was conducted, Harmsco® developed a separate municipal products division. The HUR 1X170FL housing was modified to include ANSI/NSF Standard 61 listed ball valves and pressure gauges and as such is now known as MUNI-1-2-FL-304.

**APPROVAL CONDITIONS**

This approval is subject to the following conditions:

- Approval of engineering plans in accordance with State of Alaska drinking water regulations 18 AAC 80.205 is required to install this filtration technology in a public water system.
- Approval is valid for the HC/170-LT2 cartridge in the single element HUR 1X170FL or MUNI-1-2-FL-304 housing only.

- Approval is only valid for the cartridges and housings manufactured in the West Palm Beach, Florida facility.
- Approval is only valid as long as the cartridge filter and housing continue to be certified under ANSI/NSF Standard 61.

## FILTRATION CREDITS AND OPERATING PARAMETERS SUMMARY

Table 1

Pathogen	Filtration Credit
<i>Giardia</i>	2.5-log
<i>Cryptosporidium</i>	2.0-log
Viruses	0.0-log

Table 2

Maximum Operating Parameters	
Flow Rate	100 gpm
Differential Pressure	30 psi
Influent Turbidity	1 NTU

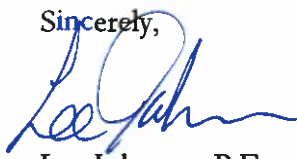
## DISCLAIMERS AND ADMINISTRATIVE APPEALS PROCESS

The Department reserves the right to void this approval if changes are made to the filter housing, cartridge filter element, or manufacturing process that could affect the filtration effectiveness. Any of these changes may require the filtration system to be challenge tested before approval reinstatement.

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 - 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the acting Division Director, Elaine Busse Floyd, 555 Cordova St., Anchorage, AK 99501, within 15 days of receipt of this decision. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, Larry Hartig, 410 Willoughby Ave., Suite 303, Juneau, AK 99801, within 30 days of this decision. If a hearing is not requested within 30 days, the right to appeal is waived. More information on the Department's administrative appeals process can be found at <http://www.dec.state.ak.us/commish/ReviewGuidance.htm>.

If you have any questions, you may contact me at [lee.johnson@alaska.gov](mailto:lee.johnson@alaska.gov) or 907-451-2179.

Sincerely,



Lee Johnson, P.E.  
Engineer II