



Western Water Constructors, Inc.
Submittal Cover

Job no. 16-05



CONTRACT NAME: Manteca WQCF Digester Improvements
SPEC SECTION: 11381 Digester Accessories
SUBMITTAL TITLE: 6 Quart Manual Drip Trap - O&M
FILE NAME: 129-R0_11381-02_6 Quart Manual Drip Trap-OM
SUB #: 129
REV #: 0
CODE: 11381-02
DATE: 7/18/2017

WWC REVIEW/COMMENTS: [X] NO EXCEPTIONS [] EXCEPTIONS / DEVIATIONS AS NOTED

Product originally submitted under submittal #048.

The complete Preliminary O&M with the reports will be submitted once the equipment ships.

REVIEWED BY: ST

SIGNED: [Signature]

WWC HAS REVIEWED THIS SUBMITTAL FOR CONFORMANCE WITH THE PROJECT PLANS & SPECIFICATIONS.

OWNER REVIEW:

Table with columns: ITEM, DESCRIPTION, REVIEW STATUS (A, B, C, D, E). Rows include Equipment Summary Form, Data Sheet, Instruction Manual, Drawing, and an empty row.

LEGEND: A = No Exceptions Taken, B = Make Correction Noted, C = Correct & Resubmit, D = Rejected, E = Accepted for Record

OWNER COMMENTS:

REVIEWER'S NAME: _____

REVIEWER'S SIGNATURE: _____

DATE: _____

Section 2.04.A

(97100-6302)

6 Quart Manual Drip Trap

-Equipment Summary Form

- Data Sheet

-Instruction Manual

-Test Report

- Drawing



BIOGAS
SHAND & JURS

an *L&J TECHNOLOGIES* company

EQUIPMENT SUMMARY FORM

1. EQUIPMENT ITEM 6 Quart Manual Drip Trap
2. MANUFACTURER L&J Technologies
3. EQUIPMENT IDENTIFICATION NUMBER(S) 97100-6302
(maps equipment number)
4. LOCATION OF EQUIPMENT _____
5. WEIGHT OF INDIVIDUAL COMPONENTS (OVER 100 POUNDS) 15 lbs. (Approx.)

6. NAMEPLATE DATA - Horsepower _____
Amperage _____
Voltage _____
Service Factor (S.F.) _____
Speed _____
ENC Type _____
Capacity 6 Quart
Other _____
7. MANUFACTURER'S LOCAL REPRESENTATIVE
Name Misco Water
Address 27101 Burbank, Suite B, Foothill Ranch, CA, 92610
Telephone Number 949-458-5555
8. MAINTENANCE REQUIREMENTS Visual inspection annually, replace soft goods every 5 years.

9. LUBRICANT LIST N/A

10. SPARE PARTS (recommendations) Shaft o-ring(SP76-QL), o-ring (stem)(SP76D-E), wear pad(9710-10170), cover gasket(9711-10270)

11. COMMENTS _____

97100 Manual Drip Trap

The S&J 97100 Manual Drip Trap provides for the continuous, safe removal of condensate from low points in low pressure gas piping systems. Removing condensed liquid protects the piping and equipment from corrosion and “water hammer” damage.

The unit collects liquid until the ported rotating disc valve is manually opened. The valve seals the gas port prior to opening the drain port allowing for removal of condensate without gas escaping. The 97100 also can be provided with an optional air inlet and / or insulation jacket.

Available in either 3 or 6 quart sizes and with 1” NPT inlets and outlets, the S&J 97100 adapts to any condensation or drainage collection requirement. Its aluminum and stainless steel components withstand the severest of process environments. High and low pressure rated units allow for use in any low area of the digester gas system.

An optional timer controlled electronic actuator is available which will automatically drain the trap at a given time interval. The electronics for the timer are available in an explosion proof enclosure. Please see the 97100E for more information on the electrically actuated drip trap.



Features

- Positive Gas Shut-off While Draining
- Operated Manually
- 5 PSI ~~or 25 PSI~~ Pressures Available
- ~~3 or 6~~ Quart Capacities
- Internal Parts and Hardware Stainless Steel - Standard
- Air Inlet ~~and Insulation Jackets~~ available

97100 Manual Drip Trap



Specifications:

Available Sizes/Capacity

3 Quart, 6 Quart

Inlet/Outlet Connections

1" NPT

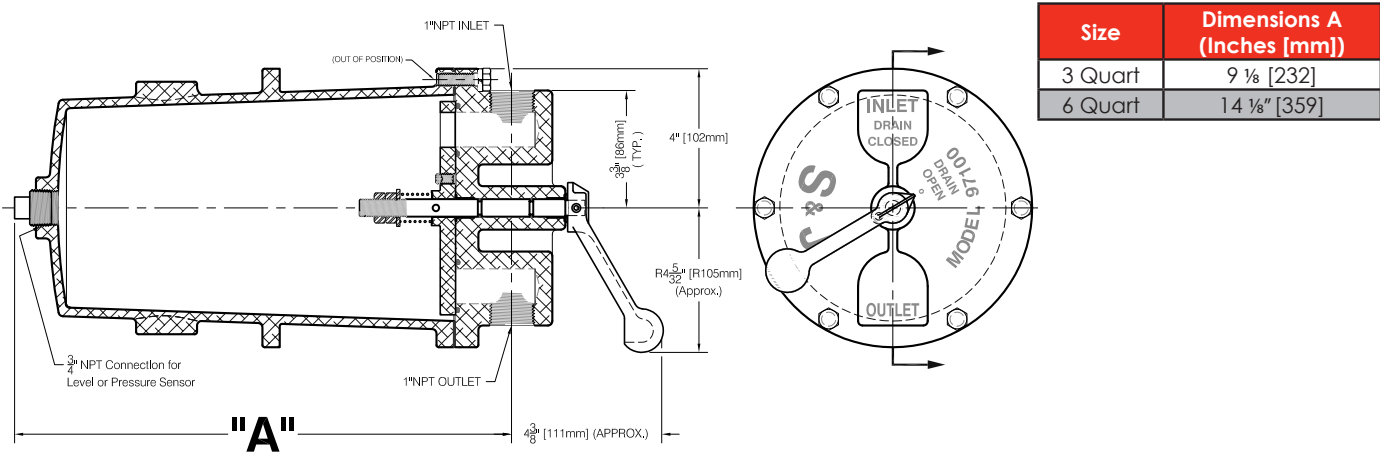
Materials of Construction

Aluminum handle, Stainless Steel Internals & Hardware
Aluminum, ~~304 Stainless Steel~~, ~~316 Stainless Steel~~
Body and Cover ~~Options~~
Buna-N ~~or Neoprene~~ Softgoods

Maximum Working Pressure

5 ~~or 25~~ PSIG

Dimensions:



All designs subject to change. Certified dimensions and specifications available upon request.

97100 Ordering Guide

Model Number Selection

The model number will have a base number **97100** followed by 4 digit numbers. These digits will represent 4 sets of option tables.

97100 - AB - CD

Table A - Capacity/MAWP

Option A	Capacity	MAWP
3	3 Quart	5 PSIG
6	6 Quart	
4	3 Quart	25 PSIG
7	6 Quart	

Table C - Softgoods

Option C	Softgoods
0	Buna-N
1	Neoprene

Table B - Body Material

Option B	Material
2	Aluminum
3	Aluminum w/ Anodized Disc/Cover
4	Aluminum w/ Anodized Disc/Cover/Body
5	304 Stainless Steel
6	316 Stainless Steel

Table D - Options

Option D	Options
0	None
1	Insulation Jacket
2	Air Inlet
3	Air Inlet with Insulation Jacket



SAFETY INFORMATION

Before proceeding, any addendum along with the instruction manual must be fully read and understood. Periodically throughout this manual, the words Danger, Warning, Caution and Note may occur. These are reminders to be especially careful. See the description below for more details on what each word denotes.

⚠ DANGER

Indicates an imminently hazardous situation which, if not avoided, "will" result in death or serious injury. This word is limited to the most extreme situations.

⚠ WARNING

Indicates a potentially hazardous situation which, if not avoided, "could" result in death or serious injury.

⚠ CAUTION

Indicates a potentially hazardous situation which, if not avoided, "may" result in minor or moderate injury, or damage to the instrument being worked on.

! **Note:** Is meant to add some measure of help or give useful information to the person working on the instrument.

⚠ WARNING

It is important to take the following precautions before you inspect or perform maintenance on the equipment.

1. Personnel installing or performing maintenance must be competent and utilize approved equipment and clothing normally used to work with the process media where the equipment is installed.
2. The piping must be at atmospheric pressure conditions and free of hazardous vapors.
3. Installation of the equipment must be done by personnel trained in all aspects of piping and mechanical assembly techniques.
4. Never exceed the pressure rating of the drip trap.

Description

The Shand & Jurs 97100 Manual Drip Trap provides for the safe removal of condensate from low points in low pressure gas piping systems. The hand operated version collects liquid until the ported rotating disc valve is manually opened. The valve seals the gas port prior to opening the drain port allowing for removal of condensate without gas escaping.



FIGURE 1 - 3Qt & 6Qt Drip Traps

Received

This product is the property of the purchaser when it leaves our plant. Claims for damage must be made promptly with the transportation company if the shipment is received in damaged condition. Notify the agent of the transportation company at once and preserve the carton, packing material, and all contents as received.

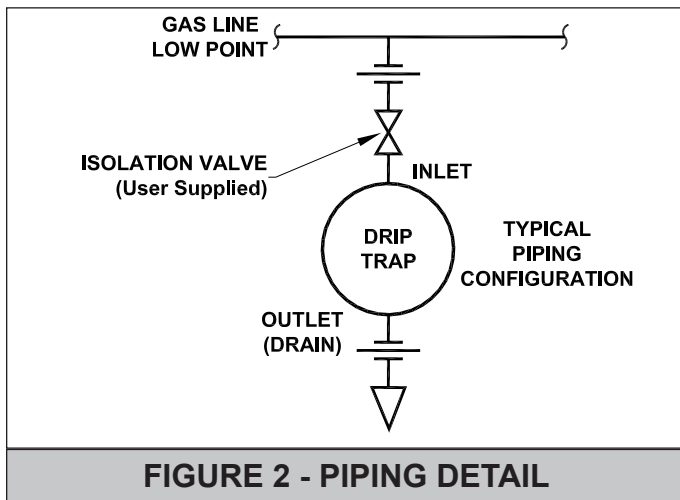
The Shand & Jurs method of packing these goods has been proven effective by many years of experience. The transportation company has contracted to deliver this material to you in as good of a condition as they received it from us.

Unpack and inspect the equipment for damage upon receipt. Compare description on the identification plate against packing slip to make sure specifications are correct. After inspection, repack the unit carefully in the same manner as originally received. The unit should remain in the original shipping carton until it is ready to mount.

Installation

(Refer to Figure 2 & 3)

The Model 97100 Manual Drip Trap is provided with a 1" NPT outlet and inlet. Connect the inlet side of the trap to the bottom connection of a sediment trap or tee it on a low point in the piping system. An isolation ball valve and union installed on the inlet piping is recommended for maintenance purposes. The outlet port should be installed with a union and piped away to an appropriate location.



Operation

The handle will point to the open port. The handle (arrow side) when pointing to the inlet (drain closed) will fill the drip trap. Rotate the handle clockwise (60 degrees) and the inlet will close and the outlet will open (drain open).

Inspection/Maintenance

Recommended minimum once a year:

- 1) Visual examination of leakage of liquid or air bypassing the seals.
- 2) Isolate process pressure. Remove reservoir and clean. Lubricate o-ring surfaces.

In general, the o-rings are the only items that need replacement every 5 years. Replace other items as required.

Replacement of Spare Parts

Disconnect and remove the drip trap from its installation before replacing the o-rings.

Item 1 and 2: The shaft o-rings (Item 1) and turn disc o-rings (Item 2) are replaced by removing the six screws holding the cover on and removing the cover assembly. Next, remove the pin holding the handle to the shaft. Remove the handle and pull the shaft out at the spring end.

⚠ CAUTION

There are three (3) wear pads (Item 5) on the turn disc. Make sure they do not fall out during disassembly. The wear pads level the turn disc. These pads are adjustable via 3 set screws, but should not need replacement or adjusting. Their purpose is to create an equal space between the turn disc and the cover (approx. .030).

Apply lubricant (Item 6) generously on all o-rings and shaft. Replace the shaft o-rings (Item 1) and turn disc o-rings (Item 2). Apply lubricant (Item 6) to the o-ring seal surfaces on the turn disc.

Reassemble in reverse order, tightening both the locking nut and adjusting nut to the end of the shaft. Test o-rings using air or water at the recommended test pressure of 5 or 25 PSIG on the inlet port.

Item 3: If the nylon bearings (Item 3) are worn, replace them at this time.

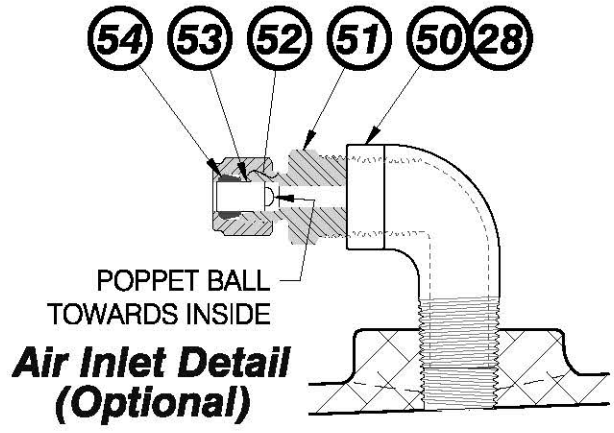
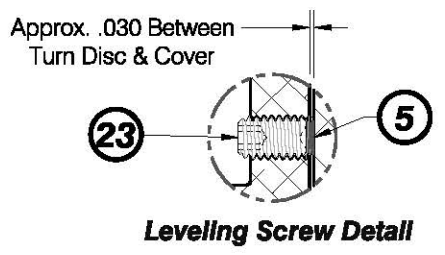
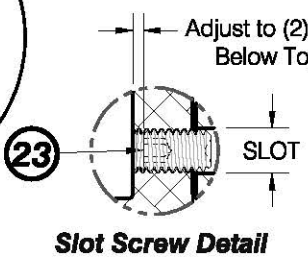
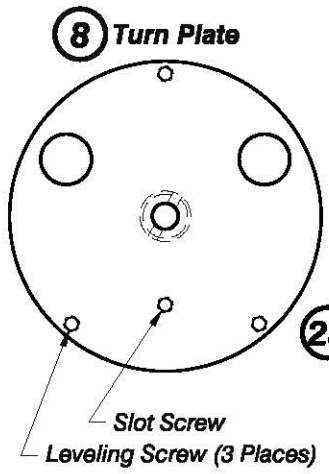
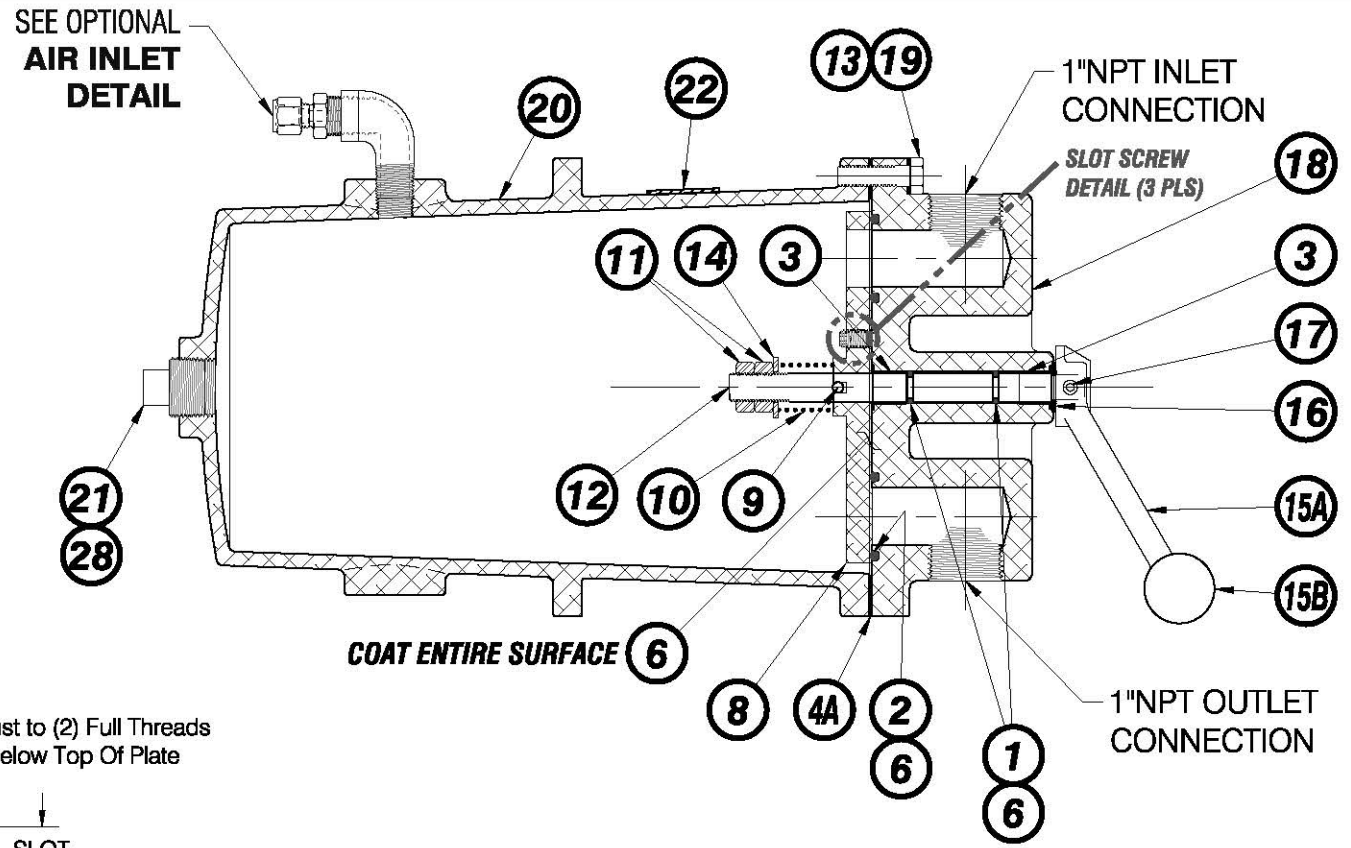
Item 4: Replace the cover gasket (Item 4A) at this time.

Troubleshooting

1. Drip trap is leaking at rotation shaft.
 - Inspect rotation shaft for signs of wear. Replace shaft if wear is present.
 - If no wear is present on the shaft replace the shaft o-rings.
2. Drip trap is leaking between cover and body.
 - Inspect gasket seal. Replace if wear or deterioration is found.
 - Inspect gasket seal surface on cover and the body. If deterioration is found clean up with crocus cloth. If crocus cloth will not clean up deterioration replace bad part.
3. Drip trap is leaking at outlet when drip trap is closed or opened.
 - Inspect turn disc o-rings. Replace if wear or deterioration is found.
 - Inspect o-ring seal surfaces on the turn disc. If deterioration is found clean up with crocus cloth. If crocus cloth will not clean up deterioration replace bad part.
 - Inspect compression spring between ported disc and rotation shaft nuts. If spring is broken or very weak replace it.
4. Drip trap will not rotate between open and closed position
 - If drip trap cannot be rotated by hand it must be completely dismantled and inspected for wear, deterioration, or foreign objects, which prevent rotation.
5. Drip trap is leaking at air inlet.
 - Check fittings for tightness or replace poppet valve.

FIGURE 3

97100 Drip Trap Assembly Diagram



Refer to page 4 for Item Descriptions.

Spare Parts

Order part through the nearest Shand & Jurs office, representative, distributor, or direct from the factory. When ordering replacement parts, be sure to use the complete equipment model number, description of the part being ordered, and it's related part number.

Item

<u>No.</u>	<u>Description (Qty)</u>	<u>Part No. (Material)</u>
1	O-Ring (2)	SP76-QL (BUNA-N) SP519N-QL (Neoprene)
2	O-Ring (2)	SP76D-E (BUNA-N) SP519NT-E (Neoprene)
3	Bearing (2)	202-12 (Nylon)
4A	Cover Gasket (1)	9711-10270 (BUNA-N) 9711-10271 (Neoprene)
5	Wear Pads (3)	9710-10170 (Glass filled PTFE)
6	Lubricant	SP988-A



Note: Item 4A was item 4 (O-ring) prior to Sept. 2013. Item 4 O-ring (1): 544011 (Buna-N), SP519N-PJ (Neoprene).

Item Number	Description (Quantity)
1	Shaft O-Ring (2)
2	Turn Disc O-Ring (2)
3	Bearing (2)
4A	Cover Gasket (1) - See Note
5	Wear Pads (3)
6	Lubricant
8	Turn Plate
9	Spirol Pin
10	Compression Spring
11	Hex Jam Nut (2)
12	Turn Plate Shaft 1/4" Hole
13	Split Lockwasher (6)
14	Plain Washer
15A	Handle Head
15B	Handle Knob
16	Plain Washer
17	Set Screw Cone (2)
18	Cover
19	Hex Cap (6)
20	Body
21	Pipe Plug
22	Nameplate
23	Set Screw (4)
28	PTFE Pipe Sealant
*50	Street Elbow
*51	Elbow Tubing Fitting
*52	Blue Loctite
*53	Poppet Valve
*54	Tube Sleeve

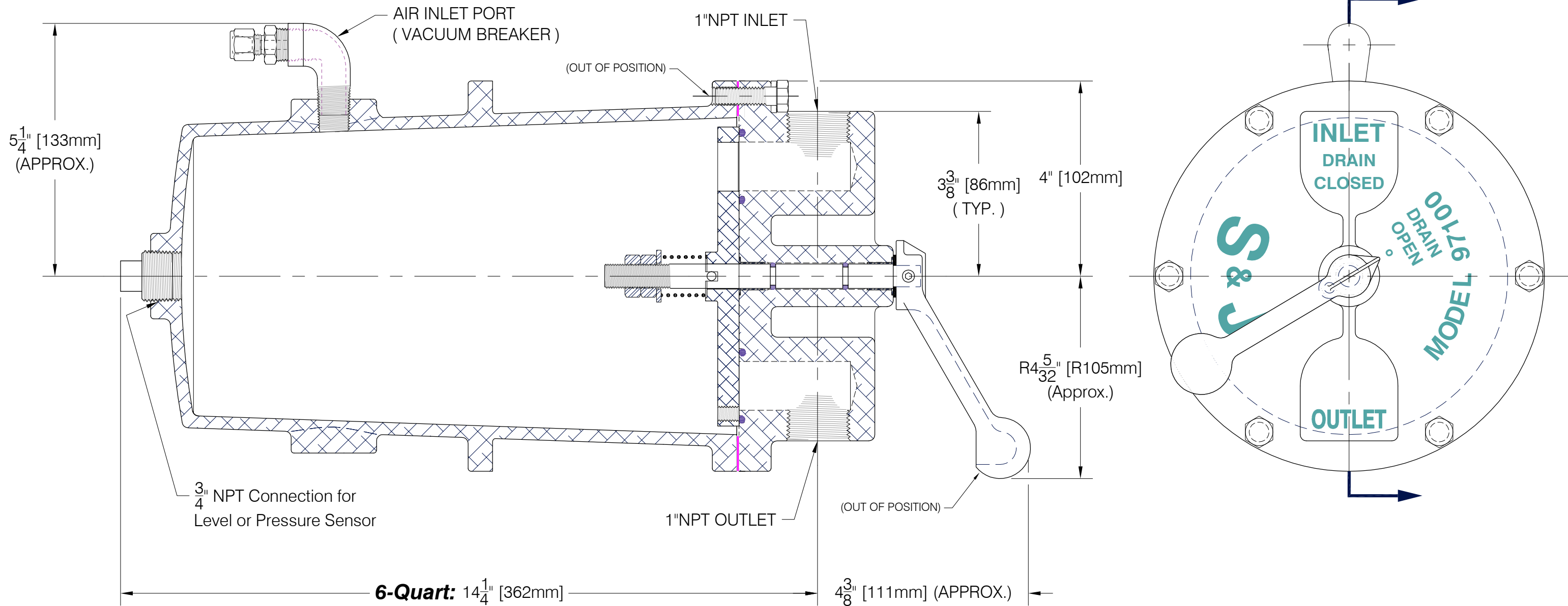
* Optional Items



**QUALITY ASSURANCE TEST
REPORTS WILL BE PROVIDED AT
THE TIME OF SHIPMENT**

9710-00031-TJ2290

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PROJECT: **16-05 WW QC Facility Digester Improvements**
 CUSTOMER: **Western Water Constructors, Inc.**
 CUSTOMER P.O. NO: **1605-03**
 DESCRIPTION: **Manual Drip Trap**
 MODEL NO: **97100-6302**
 SPECIFICATION: **11381 Section 2.04.A**
 S&J SALES ORDER NO: **TJ2290** DATE: **Apr 12, 2017**

APPROVED NOT APPR.-RESUB. PER COMMENT
 APPROVED w/CHANGES DATE: _____
 CUST. SIGNATURE: _____

Capacity : 6 Quart Reservoir
 Maximum Pressure: 5 PSIG
 Quantity: 4

Cust. Tag No('s): TBD

97100 Manual Drip Trap

Part Description	Material
Body:	B26-356 Low Copper Cast Aluminum
Cover:	B26-356 Low Copper Cast Aluminum, Anodized
Disc:	Low Copper Aluminum 6061 Alloy, Anodized
Internals:	Stainless Steel
Handle:	Aluminum
Shaft & Hardware:	Stainless Steel
O-Rings/ Gasket:	Buna-N

B	Revised Gasket	6555	RCO	Sept. 17 13	RJD
A	Release	45	GP	Aug 31 11	RJD
REV	DESCRIPTION	ECO	BY	DATE	APRV

SHAND & JUR'S
 an **L&J TECHNOLOGIES** Company
 HILLSIDE, ILLINOIS USA

97100 Manual Drip Trap
6 Qt Dim's w/Vacuum Breaker

APRV/CHKD/DATE/DRWN	GP	Type: Dim's	Size: B: 17 x 11
	Aug 31 11	Scale: None	Designed: Seth
	GP	T:\SO#\TXXXXX\TJ2290\9710-00031-TJ2290.DWG	
	RJD	9710-00031-TJ2290	