



Please refer to the Lancer web site ([www.lancercorp.com](http://www.lancercorp.com)) for information relating to Lancer Installation and Service Manuals, Instruction Sheets, Technical Bulletins, Service Bulletins, etc.

# INSTALLATION AND SERVICE MANUAL

## FOR

# PURE LINK WATER SYSTEMS

## LANCER SERIES 1300

### SPECIFICATIONS

#### DIMENSIONS

WIDTH	18 3/4 Inches	(47.63 cm)
DEPTH	4 5/8 Inches	(11.75 cm)
HEIGHT (with Boost Pump and Transformer)	29 Inches	(73.66 cm)

#### WEIGHT

Shipping (with Boost and Delivery Pump, Transformer, and two Modules)	33.60 pounds	(15.24 kg)
Gross Operating (with Boost and Delivery Pump, Transformer, and two Modules)	60.60 pounds	(24.79 kg)

#### ELECTRICAL REQUIREMENTS (Only when Booster Pump is included)

100V/50-60Hz	1.2 Amps
115V/60Hz	0.8 Amps
230V/50-60Hz	0.4 Amps

#### WATER REQUIREMENTS

Potable Water Supply

#### STORAGE CAPACITY

Storage Unit	4.00 Gallons	(15.14 Liters)
One (1) Membrane Unit	4.00 Gallons	(15.14 Liters)
Two (2) Membrane Unit	4.00 Gallons	(15.14 Liters)

#### PRODUCTION RATE, WITH BOOST PUMP (@ 60psi, 77°F INLET)\*

One (1) Membrane Unit	170.85 GPD*	(646.7 LPD)
Two (2) Membrane Unit	269 GPD	(1018.3 LPD)

\*Gallons per Day

(Continued on inside cover page)



System Tested and Certified by NSF International against NSF/ANSI 58 for the reduction of Barium, Hexavalent Chromium, Radium 226/228, TDS, and Cysts.

***This Manual supersedes the Installation and Service Manual 28-0461/02, dated 04/23/03***



6655 LANCER BLVD. • SAN ANTONIO, TEXAS 78219 USA • (210) 310-7000

FAX SALES • USA-CANADA – 210-310-7250

Warranty / Technical Support - Field • 800-729-1500

Customer Service • Domestic / International – 800-729-1500

"Lancer" is the registered trademark of Lancer • Copyright — 2003 by Lancer, all rights reserved.

DATE: 06/17/03  
P.N. 28-0461/03

(Continued from cover page)

**WORKING PRESSURE**

Minimum	30 psi (206.8 KPa)
Maximum	120 psi (827.4 KPa)
Maximum inlet pressure (with boost pump)	80 psi (551.6 KPa)

**OPERATING TEMPERATURE**

Minimum	40°F (4.4°C)
Maximum	113°F (45°C)

**FLOW RESTRICTOR RATIO (REJECT PRODUCT)**

One (1) Membrane Unit	3:1
Two (2) Membrane Unit	2:1

Efficiency rating, as verified by testing in accordance with NSF/ANSI 58:

One Membrane	16.96%
Two Membrane	18.46%

Efficiency rating means the percentage of the influent water to the system that is available to the user as reverse osmosis treated water under operating conditions that approximate typical daily usage.

**NOTES:**

*This system conforms to NSF/ANSI 58 for the specific performance claims as verified and substantiated by test data.*

*\*Testing was performed under standard laboratory conditions - actual performance may vary.*

PERFORMANCE DATA		
This system has been tested according to NSF/ANSI 58 for reduction of the substances listed below. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system, as specified in NSF/ANSI 58.		
Substance	Influent Challenge concentration mg/L	Maximum Permissible Product Water Concentration mg/L
Barium	10.0 ± 10%	2.0
Chromium (hexavalent)	0.3 ± 10%	0.1
Radium 226/228	25 pCi/L ± 10%	5 pCi/L
Total Dissolved Solids (TDS)	750 ± 40 mg/L	187

Substance	Influent Challenge Concentration	Reduction Requirement
Cyst	Minimum 50,000/ml	99.95%

## TABLE OF CONTENTS

<b>SPECIFICATIONS</b> .....	<b>Cover</b>
<b>PERFORMANCE DATA</b> .....	<b>i</b>
<b>TABLE OF CONTENTS</b> .....	<b>ii</b>
<b>1. INSTALLATION</b> .....	<b>1</b>
1.1 RECEIVING.....	1
1.2 UNPACKING.....	1
1.3 SELECTING INSTALLATION LOCATION.....	1
1.4 FILTERING THE WATER SUPPLY.....	2
1.5 CONNECTING UNIT TO DRAIN.....	2
1.6 INSTALLING OVERFLOW.....	2
1.7 CONNECTING UNIT TO POINT OF USE (POU).....	2
1.8 CONNECTING UNIT TO WATER SUPPLY.....	3
1.9 TURNING WATER ON.....	3
1.10 CONNECTING UNIT TO ELECTRIC POWER SUPPLY (IF EQUIPPED WITH POWER SUPPLY).....	3
1.11 BOOST PUMP BYPASS PRESSURE SETTING (IF SO EQUIPPED).....	3
1.12 SANITIZING AND PURGING SYSTEM UPON INSTALLATION.....	4
<b>2. INSTALLATIONS</b> .....	<b>5</b>
2.1 TYPES OF EQUIPMENT TO BE CONNECTED.....	5
2.2 INSTALLATION OF A FOUR (4) GALLON STORAGE UNIT TO SYSTEM (PN 85-1330).....	5
2.3 INSTALLATION OF OPTIONAL EQUIPMENT.....	5
<b>3. CLEANING AND MAINTENANCE</b> .....	<b>6</b>
3.1 FILTER REPLACEMENT.....	7
3.2 WATER QUALITY.....	7
<b>4. MEMBRANE REPLACEMENT INSTRUCTIONS</b> .....	<b>7</b>
<b>5. REPLACING THE STORAGE BAG</b> .....	<b>8</b>
5.1 PURE LINK SYSTEM WITH 4 GALLON STORAGE BAG.....	8
5.2 PURE LINK SYSTEM WITH 38.5 GALLON STORAGE BAG.....	8
<b>6. TROUBLESHOOTING</b> .....	<b>8</b>
6.1 UNIT IS NOT MAKING WATER.....	8
6.2 BOOSTER PUMP IS NOT RUNNING.....	8
6.3 PRODUCTION RATE OF PURE WATER SEEMS TO BE SLOWING DOWN.....	8
6.4 NO WATER OR VERY LITTLE WATER FLOWING TO DRAIN.....	8
6.5 SYSTEM CANNOT KEEP UP TO HOST UNIT, ICE MAKER, COFFEE MAKER, ETC.....	9
6.6 BOOSTER PUMP WILL NOT SHUT OFF ONCE THE BAG IS FULL OR WATER FLOWS OUT OF OVER FLOW DEVICE AT TOP OF UNIT.....	9
6.7 SYSTEM CHATTER PRIOR TO SHUT OFF.....	9
<b>TUBE CONNECTIONS</b> .....	<b>10</b>
<b>7. ILLUSTRATIONS, PARTS LISTINGS, AND WIRING DIAGRAMS</b> .....	<b>11</b>
7.1 LANCER PURE LINK REVERSE OSMOSIS (RO) SYSTEM.....	11-12
7.2 LANCER PRE-FILTER KIT, TWIN-PAC, 5 MICRON (10" AND 20") (OPTIONAL EQUIPMENT).....	13
7.3 LANCER PURE LINK DELIVERY PUMP KIT, PN 82-3202 (OPTIONAL EQUIPMENT).....	13
7.4 LANCER PURE LINK DELIVERY PUMP, PN 86-0139 (OPTIONAL EQUIPMENT).....	14
7.5 LANCER PURE LINK DELIVERY PUMP, PN 86-0132 (OPTIONAL EQUIPMENT).....	14
<b>TEST EQUIPMENT (AVAILABLE THROUGH LANCER CUSTOMER SERVICE)</b> .....	<b>15</b>
<b>LANCER PURE LINK WATER UNITS</b> .....	<b>16</b>
<b>CERTIFICATE OF WARRANTY</b> .....	<b>17</b>

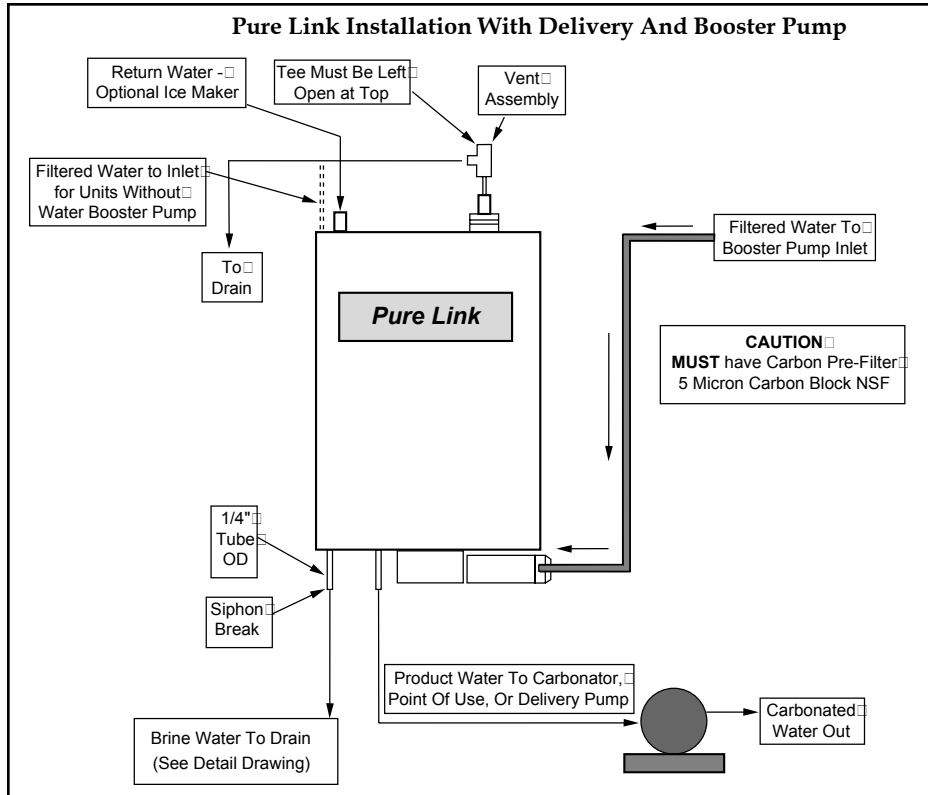
# 1. INSTALLATION

## 1.1 RECEIVING

- A. Each unit is completely tested and thoroughly inspected before shipment. At the time of shipment, the carrier accepts the unit and any claim for damage(s) must be made with the carrier. Upon receiving units from the delivering carrier, carefully inspect carton for visible indication(s) of damage. If damage exists, have carrier note same on bill of lading and file a claim with the carrier.

## 1.2 UNPACKING

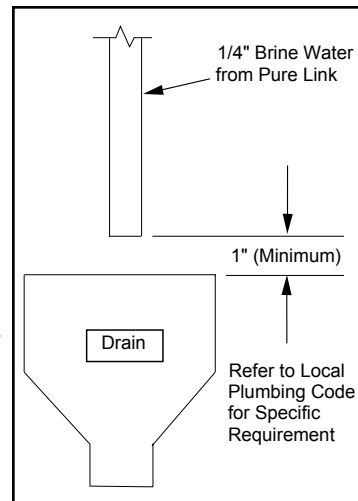
- A. Remove the unit from carton.
- B. Remove inner carton pads and plastic bag.
- C. Remove Installation Kit of Loose parts.
- D. Inspect for concealed damage(s); if evident, notify delivering carrier and file claim against same.



Installation Diagram  
Figure 1

## 1.3 SELECTING INSTALLATION LOCATION (SEE FIGURE 1)

- A. The Pure Link unit is designed to attach to a vertical wall that must be capable of supporting a minimum weight of 61 pounds (27.7 kg). Select a location that is close to a drain, a municipal water supply, and an electrical outlet (if required). If the unit does not have a delivery pump, it should be mounted high enough on the wall to allow gravity feed to the point of use. **NOTE:** Lancer recommends installation height seven (7) feet (top of unit) for gravity feed units. A minimum height of seven (7) feet is required for use with the optional 38.5 Gallon Pure Storage unit. If the building does not have a pre-filter and a carbon filter on the incoming water supply to the unit, then allow enough space to mount a dedicated pre-filter and a carbon filter.
- B. Mount unit to wall in desired location. Ensure that unit is properly secured based on operating weight.



Air Gap  
Figure 1a

## 1.4 FILTERING THE WATER SUPPLY

*The Pure Link System is intended for use with potable water only. Excessive levels of chlorine, bacteria, iron, turbidity, and/or hardness may affect the RO membranes or other components and may require additional pre-filtration of the incoming water supply.*

- A. Water supplied to the Pure Link unit **must first** pass through a maximum 5 micron pre-filter and **then through** a maximum 5 micron carbon block filter. The pre-filter removes suspended solids and protects the carbon block filter from premature failure. The carbon block filter removes chlorine and some organic compounds from the incoming water supply which can damage the module.\* *The building must have an adequate filtering system if a dedicated filter system is not provided to the Pure Link unit.* A Block Carbon pre-filter is required; otherwise, granular carbon filters will release salt and carbon fines that will cause the booster pump to fail and not build pressure.

\* *Not performance tested or certified by NSF.*

### **CAUTION**

FAILURE TO PROPERLY MAINTAIN AND CHANGE FILTER CARTRIDGES IN A TIMELY MANNER WILL CAUSE THE PURE LINK UNIT TO REDUCE PRODUCTION AND/OR FAIL TO OPERATE.

- B. In the event the building is not equipped with these filters, then a suitable pre-filter and a carbon block filter **must** be installed and maintained at proper intervals. *For selection of the proper filtration system, refer to your Lancer Catalog or contact Lancer Customer Service.*

## 1.5 CONNECTING UNIT TO DRAIN

The module drain is located on the bottom left hand side of the unit, marked "DRAIN". Install the siphon break (included in the Installation Kit) to the "Drain port" of the unit (see Figure 2). Using 1/4" OD tubing, connect the siphon break to the nearest suitable drain. Follow local plumbing codes for air gap requirements (see Figure 1a).

## 1.6 INSTALLING OVERFLOW

- A. The only time any water will vent from the overflow is if there is a failure of the shut off valve to operate correctly and the unit continues to produce water and overfills the storage bag causing the overflow valve to vent water.
- B. Insert six (6) inch length of 1/4" tubing (supplied with the Install Kit) into the overflow valve on top right of unit (at location marked "VENT"). Install the supplied 1/4" tee to tubing, as shown in Figure 3.

### **CAUTION**

FAILURE TO PROPERLY INSTALL THE OVERFLOW ASSEMBLY OR PLUMB IT TO THE DRAIN COULD RESULT IN WATER DAMAGE.

- C. Plumb the overflow valve to drain (see Figure 3). Make sure that the top of the tee is open to prevent siphoning of water from the storage bag or backflow into the storage bag.

## 1.7 CONNECTING UNIT TO POINT OF USE (POU)

### **NOTE:**

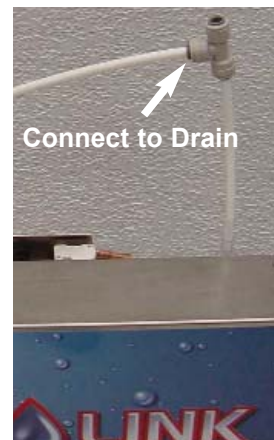
*For selection of the proper filtration system, refer to your Lancer Catalog or contact Lancer Customer Service.*

The Pure Link unit has a connection on the bottom of the unit (marked "Product Water Out") which is the gravity feed port. For gravity feed applications, connect 3/8" OD tubing to port and to the POU.

- A. For Pressure Applications, connect 3/8" OD tubing to appropriate Remote Delivery Pump.
- B. Ensure that the Delivery pump is properly sized to meet the demand of the Point(s) of Use (POU). Refer to Delivery Pump installation instructions for proper installation.



**Siphon Break  
Installation  
Figure 2**



**Overflow Assembly  
Installation  
Figure 3**

- C. For High Volume Applications, connect to optional storage unit.
- D. When used with the optional 38.5 Gallon Pure Storage unit, the Delivery Pump must be installed below the tank level to ensure proper operation..

### **1.8 CONNECTING UNIT TO WATER SUPPLY**

- A. The water inlet connection for units without a water boost pump is on the top left hand side of the unit. Connect to filtered water source using 3/8" OD tubing.
- B. The water connection port, for units equipped with a water boost pump, is the inlet port on the pump (see Figure 1). Connection can be accomplished using 3/8" OD tubing. As an alternative, the Installation Kit contains an adaptor with a 3/8" barbed fitting. This allows the use of 3/8" ID beverage tubing as the inlet water tube.
- C. **Use cold water supply ONLY.**

#### **CAUTION**

THE UNIT COVER MUST BE PROPERLY INSTALLED ON UNIT DURING OPERATION WITH ALL FIVE (5) SCREWS IN PLACE. FAILURE TO PROPERLY SECURE COVER TO UNIT WILL RESULT IN FAILURE OF THE UNIT TO SHUT OFF AND/OR BOOST PUMP WILL OPERATE CONTINUOUSLY IN BY-PASS.

### **1.9 TURNING WATER ON**

Turn water on to unit and check for leaks. Membrane will begin to produce water to fill storage bag. The time required to fill the bag is dependent upon the Pure Link model. Water production can be verified by observing flow rate to drain. If equipped with internal delivery pump, disconnect 3 pin pump connector from power supply. Follow Sanitizing Instructions in Section 1.12. Allow unit to fill with water, then reconnect delivery pump.

### **1.10 CONNECTING UNIT TO ELECTRIC POWER SUPPLY (IF EQUIPPED WITH POWER SUPPLY)**

#### **WARNING**

**THIS UNIT MUST BE PROPERLY ELECTRICALLY GROUNDED TO AVOID POSSIBLE FATAL ELECTRICAL SHOCK OR SERIOUS INJURY TO THE OPERATOR. THE POWER CORD IS PROVIDED WITH A THREE PRONG GROUNDED PLUG. IF A THREE HOLE GROUNDED ELECTRICAL OUTLET IS NOT AVAILABLE, USE AN APPROVED METHOD TO GROUND THE UNIT.**

**DO NOT USE EXTENSION CORDS WITH THIS UNIT. DO NOT "GANG" TOGETHER WITH OTHER ELECTRICAL DEVICES ON THE SAME OUTLET.**

Plug unit power cord into transformer control box and into the proper electrical outlet. The water boost pump will begin to operate. Product water will begin to fill the product water storage bag. The boost pump will shut off when the storage bag is full.

### **1.11 Boost Pump Bypass Pressure Setting (if so equipped)**

- A. Install pressure gauge (0-160 psi) on outlet side of boost pump (PN 86-0112). Connect feed water line from Pure Link unit to other side of gauge.
- B. Turn on water supply.
- C. Connect unit to electrical supply.
- D. With boost pump operating, insert 1/16" hex key into bypass adjustment screw on pump head. Turn clockwise to increase bypass setting, or turn counterclockwise to decrease bypass setting. Set to 110 psi.
- E. Disconnect electrical supply.
- F. Turn off water supply.
- G. Remove gauge and reconnect feed water line from Pure Link to boost pump outlet.
- H. Turn on water supply and connect unit to electrical supply. Check for pump operation and leaks.

#### **NOTE:**

Pressure Test Gauge is available through Lancer Customer Service.

## 1.12 SANITIZING AND PURGING SYSTEM UPON INSTALLATION

*These instructions apply to all Pure-Link Models.*

### **IMPORTANT:**

*When connecting to steamers, dough proofers, and ice makers, the equipment **must** be cleaned, descaled, and sanitized in accordance with the manufacturer's instructions - **prior to the operation of Pure Link unit(s).***

- A. This equipment must be sanitized according to the manufacturer's instructions at the time of installation. The operator of this equipment must provide continuous maintenance as required by this manual and/or state and local health department guidelines to ensure proper operation and sanitation requirements are maintained.

### **NOTE:**

The cleaning and sanitizing procedures provided herein pertain to the Lancer equipment identified by this manual. If other equipment is being cleaned, follow the guidelines established by the manufacturer for that equipment.

1. Cleaning and sanitizing should be accomplished only by trained personnel. Sanitary gloves are to be used during cleaning and sanitizing operations. Applicable safety precautions must be observed. Instruction warnings on the product being used must be followed.

- B. Membrane Flushing

### **NOTE:**

The membrane is packaged with a preservative to extend shelf life; follow flushing instructions prior to sanitizing and connecting to point of use.

1. Connect "Product Water" and "Drain" ports at bottom of unit to drain.
2. Turn on water supply and plug in power supply, if applicable.
3. Flush membrane product water and brine water to drain for 20 minutes.
4. Disconnect power supply and turn off water.
5. Connect "Product Water" port to point of use.
6. Proceed to Sanitizing instructions.

- C. Recommended Preparation of Sanitizing Solutions

1. The Installation Kit includes a one (1) ounce (28.4 grams) Packet of Kay-5® Sanitizer for sanitizing at start-up. This solution should be prepared in accordance with the manufacturer's written recommendations and safety guidelines. Follow manufacturer's guidelines on the packet label to provide a solution of five (5) parts per million (ppm) available chlorine with the four (4) gallon storage capacity of the Pure Link unit [0.08 ounce (2.5 grams) or approximately 1/2 teaspoon per Pure Link unit].
2. An equivalent sanitizer may be substituted as long as it is prepared in accordance with the manufacturer's written instructions and safety guidelines, and provides five (5) ppm available chlorine when diluted with the four (4) gallon storage capacity.

- D. Sanitizing

1. Turn on water supply to unit (see Section 1.9) and plug unit into electrical supply, if applicable. If unit is equipped with internal delivery pump, disconnect 3 pin pump connector from power supply.
2. Allow Pure Link to fill to about the top of the bag shelf. Water should be visible through third sight "window" from bottom.
3. Remove cap fitting from "Return Water" port (top left of unit), next to inlet. ***Retain cap fitting for reinstallation.***
4. Insert sanitizer into storage bag through "Return Water" fitting using funnel supplied in the Installation Kit (see Figure 4).



**Figure 4**

5. Replace cap fitting on "Return Water" port, ensuring it is fully seated.
6. Allow unit to fill and shut off. (Boost pump will stop operating and water flow to drain will stop. The backflush feature is indicated by a slow drip.)
7. Discard sanitizing solution to drain.
8. Allow unit to fill and shut off.
9. Discard rinse solution to drain.
10. Repeat rinse procedure (Steps 8 and 9) two (2) times.
11. Allow unit to fill and shut off. Unit is now ready for Point of Use.
12. If applicable, reconnect 3 pin pump connector to power supply.

## 2. INSTALLATIONS

### 2.1 TYPES OF EQUIPMENT TO BE CONNECTED

- FBD
- Espresso Machine
- Ice Machine
- Coffee Machine
- Carbonator
- Steamer
- Ice Tea (if installed)
- Proofer

#### A. FBD and Carbonator Method

Gravity feed or remote pump system from Product Out port at the bottom of the Pure Link unit.

#### B. Coffee, Espresso, and Ice Tea Method

Use remote delivery pump kit. (Refer to Lancer Catalog or contact Lancer Customer Service.)

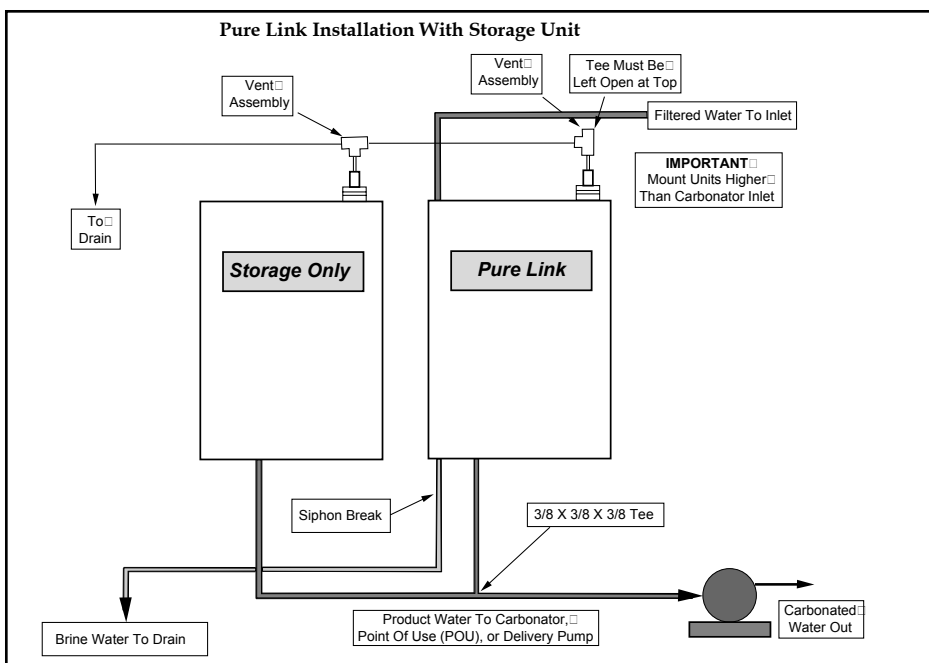


Figure 5

### 2.2 INSTALLATION OF A FOUR (4) GALLON STORAGE UNIT TO SYSTEM (PN 85-1330)

- A. Receive and unpack storage unit (see Sections 1.1 and 1.2).
- B. Mount to wall adjacent to the Pure Link Reverse Osmosis (RO) System and **at same height**. The storage unit **must be** installed at the same height of the Pure Link RO system to ensure proper filling and shutoff of both units.
- C. Connect to Pure Link RO System and into system as shown in Figure 5.

### 2.3. INSTALLATION OF OPTIONAL EQUIPMENT

- A. Installation of a two unit system with two storage units (see Figure 6).
- B. Installation of an integrated delivery system (see Figure 7).

### 3. CLEANING AND MAINTENANCE

**NOTE:**

*The Reverse Osmosis System contains a replaceable treatment component critical for effective reduction of dissolved solids. The product water shall be tested periodically to verify that the system is performing properly.*

TDS Sampling Kits and/or meters are available through Lancer Customer Service.

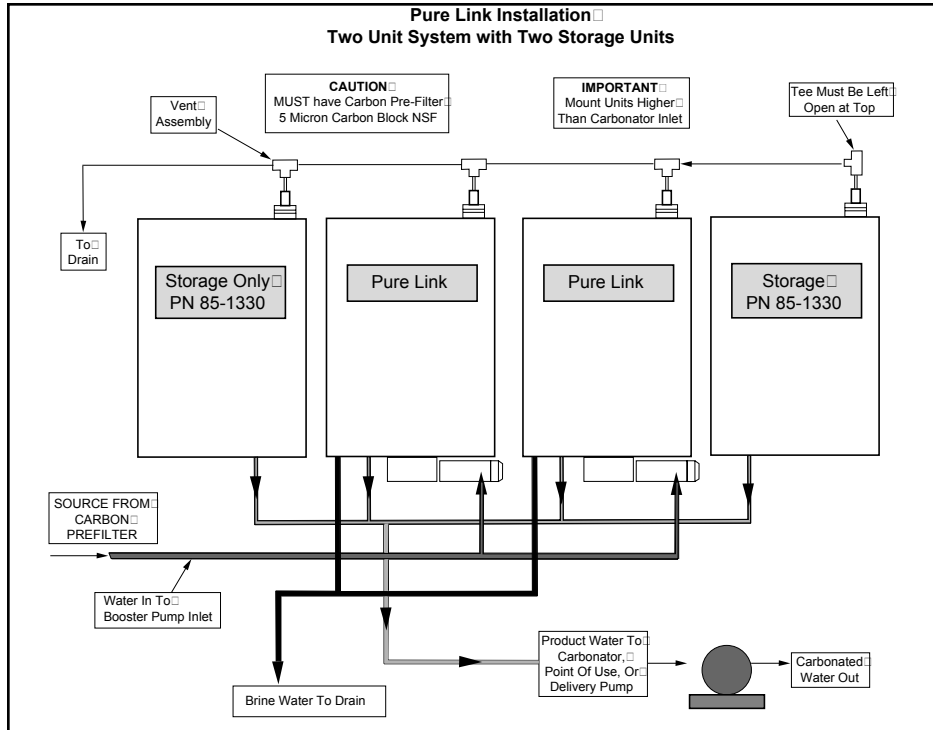


Figure 6

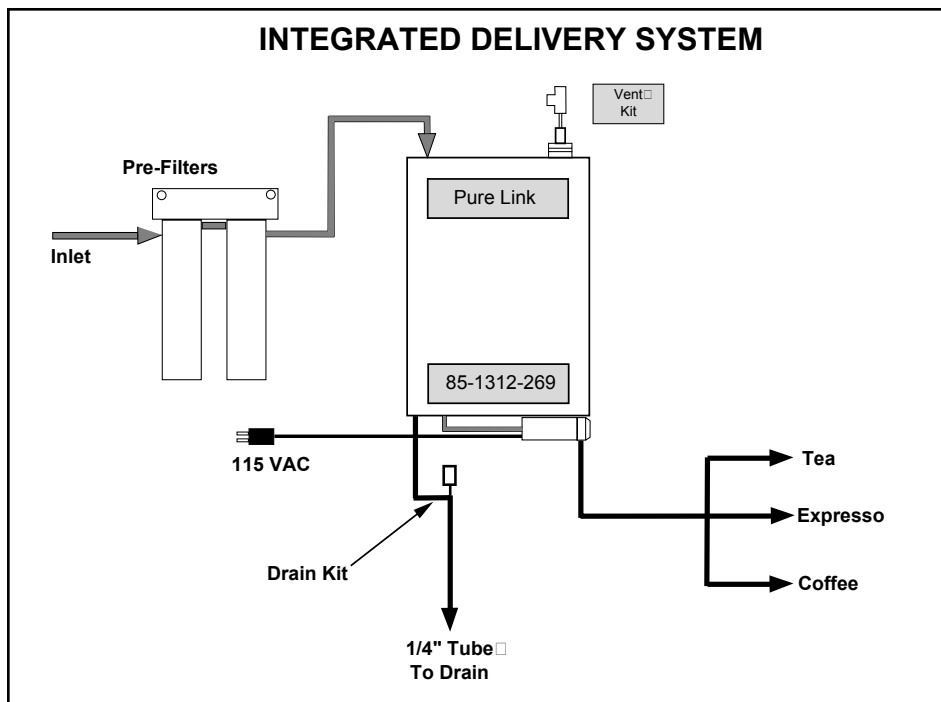


Figure 7

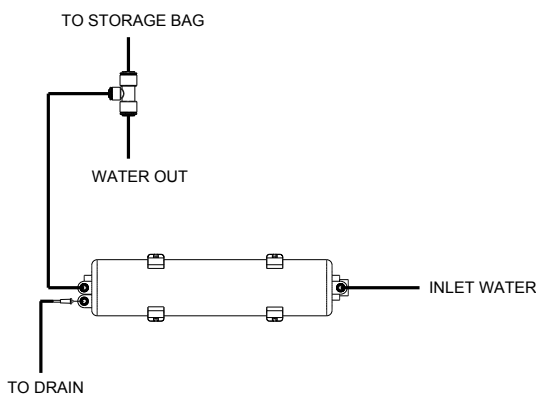
### 3.1 FILTER REPLACEMENT

Periodic replacement of the sediment pre-filter and carbon block filter should be accomplished in accordance with the manufacturer's instructions. Replacement of pre-filter and carbon block cartridges should be scheduled as necessary with regard to filter size, feed water quality, and water volume usage. Regular scheduled maintenance of the pre-filter is required to prevent premature failure of Pure Link system components.

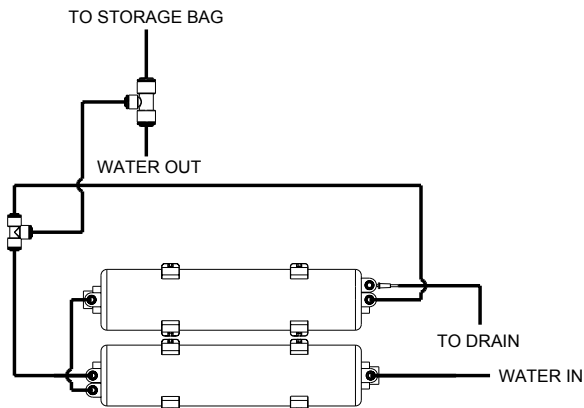
### 3.2 WATER QUALITY

Periodic water quality testing of the Product Water is recommended every six (6) months at a minimum. When TDS reduction of system is less than 80% compared to untreated feed water, Lancer recommends replacement of the Membrane Module(s). Sanitizing procedures should be followed when necessary to reduce bacteria growth. See Section 1.12 of this Manual.

## 4. MEMBRANE REPLACEMENT INSTRUCTIONS



**Single Membrane - Plumbing Diagram**  
**Figure 8**



**Double Membrane - Plumbing Diagram**  
**Figure 9**

- 4.1 Disconnect electrical supply to Pure Link unit, if applicable.
- 4.2 Turn off water supply.
- 4.3 Drain water from storage bag.
- 4.4 Remove the five screws that secure the enclosure cover and remove cover (save screws for reinstallation).
- 4.5 Remove 1/4" tubing from membrane module(s) by holding down color coded collet on membrane port while pulling on tubing. Take care to note tube placement for reinstallation of replacement membrane module(s).

#### **NOTE:**

Blue collet is feed water inlet, White collet is product water out, Red collet is brine water to drain. Ensure that Flow Restrictor is properly seated in brine tube before insertion into red collet of replacement membrane module. Flow Restrictor for single membrane unit is white, double membrane unit is gray.

- 4.6 Remove membrane module(s) from mounting clips by firmly pulling out one end and then the other.
- 4.7 Install replacement membrane modules by firmly pressing into one mounting clip and then the other.
- 4.8 Reinstall 1/4" tubing to appropriate membrane ports. See Figures 8 and 9 for plumbing diagrams. Ensure tubing is fully seated into fittings.
- 4.9 Turn on water supply and connect electrical supply, if applicable.
- 4.10 Check for leaks, and tighten connections if necessary.
- 4.11 Replace cover and secure with screws retained from Step 4.4 above. *Do not allow bag to fill above top of bag shelf before cover is in place.*

**4.12** Follow Membrane Flushing procedures as outlined in Section 1.12, this manual.

**4.13** Lancer recommends replacing the storage bag when membrane module(s) are replaced.

## 5. REPLACING THE STORAGE BAG

### 5.1 PURE LINK SYSTEM WITH 4 GALLON STORAGE BAG (LANCER PN 82-3012)

- A. With cover off of unit, locate the three (3) bag connectors, two (2) at the top of the bag and one (1) at the bottom, mounted inside the bag shelf.
- B. The translucent bag fitting adapter is affixed to the wall plate using a plastic horseshoe clip, this does not need to be removed for this operation.
- C. Remove bag by disconnecting the tan bag connectors from the translucent fitting adapters, this is accomplished by pulling the tan bag connector down and away from the back mounting plate. Repeat for the other two connectors.
- D. Install new bag being careful to fully insert the connectors into the fitting adapters. There should be no clearance around the circumference of the fitting interface.
- E. Proceed to Sanitizing Instructions, Section 1.12.

### 5.2 PURE LINK STORAGE SYSTEM WITH 38.5 GALLON STORAGE BAG

If unit installation is also equipped with 38.5 Gallon Storage Bag(s), refer to Lancer Installation and Service manual 28-0530/01, Pure Water Storage System, Lancer Series 1300.

## 6. TROUBLE SHOOTING

<b>TROUBLE</b>	<b>CAUSE</b>	<b>REMEDY</b>
<b>6.1</b> Unit is not making water.	<ul style="list-style-type: none"> <li>A. Water valve is not turned on.</li> <li>B. Plugged Pre-filters.</li> <li>C. Electrical not connected.</li> <li>D. Membrane is clogged.</li> <li>E. Shut-off Lever stuck in closed position.</li> </ul>	<ul style="list-style-type: none"> <li>A. Turn on feed water to unit.</li> <li>B. Replace pre-filters.</li> <li>C. Plug into AC outlet.</li> <li>D. Verify water production by observing flow rate to drain. Replace membranes, if necessary.</li> <li>E. Ensure shut-off lever is loose; no obstruction on top of unit.</li> </ul>
<b>6.2</b> Booster pump is not running.	<ul style="list-style-type: none"> <li>A. Unit not plugged in.</li> <li>B. Transformer has failed.</li> <li>C. Loose connections.</li> <li>D. Not plugged into transformer.</li> <li>E. The reservoir is full and the pump is operating properly.</li> </ul>	<ul style="list-style-type: none"> <li>A. Plug into AC outlet. Plug cord into transformer box.</li> <li>B. Check electrical connections with voltage meter. If necessary, replace transformer.</li> <li>C. Check all terminal connections.</li> <li>D. Plug pump lead into transformer.</li> <li>E. Drain water from the bottom port and check for booster pump to engage.</li> </ul>
<b>6.3</b> Production Rate of Pure water seems to slow down.	<ul style="list-style-type: none"> <li>A. Pre-filters are clogged. Membranes have scaled.</li> </ul>	<ul style="list-style-type: none"> <li>A. Check for pressure drop by installing gauges at inlet and outlet of pre-filters. There should be only a slight pressure drop after each location. Replace filter cartridges or membrane(s) as necessary.</li> </ul>
<b>6.4</b> No water, or very little water flowing to drain.	<ul style="list-style-type: none"> <li>A. Flow restrictor blocked.</li> <li>B. Pre-Filters are clogged.</li> </ul>	<ul style="list-style-type: none"> <li>A. Remove cover and remove drain tube from membrane drain outlet port (outside center port at the dual port end of the membrane housing). Clean or remove blockage.</li> <li>B. Replace filter cartridges as necessary.</li> </ul>

<b><u>TROUBLE</u></b>	<b><u>CAUSE</u></b>	<b><u>REMEDY</u></b>
<b>6.5</b> System cannot keep up to host unit, ice maker, coffee maker, etc.	<p>A. Host machine has malfunction, or continuous leak.</p> <p>B. Pure Link production rate is too low.</p> <p>C. Membranes are scaled.</p> <p>D. Pre-Filters are clogged.</p>	<p>A. Contact your authorized service technician to fix the host equipment.</p> <p>B. 1. Add booster pump to increase line pressure and production output. 2. Increase Pure Link production by adding another membrane. 3. If it is already a dual membrane unit; add one (1) or more systems, until the desired daily water usage is matched.</p> <p>C. Replace membrane(s) as necessary.</p> <p>D. Replace filter cartridges as necessary.</p>
<b>6.6</b> Booster pump will not shut off once the bag is full or water flows out of over flow device at top of unit.	<p>A. Shut off lever may be obstructed.</p> <p>B. Shut off lever is out of adjustment.</p>	<p>A. Locate the pump switch at the top of the unit. Ensure there is nothing obstructing the function of the shut off lever.</p> <p>B. Locate the shut off lever at the top of the unit. Using care, slightly bend the lever toward front of unit on right hand side, by hand.</p>
<b>6.7</b> System chatter prior to shut off.	<p>A. Shut off lever is out of adjustment.</p>	<p>A. Locate the shut off lever at the top of the unit. Using care, slightly bend the lever toward front of unit on right hand side, by hand.</p>

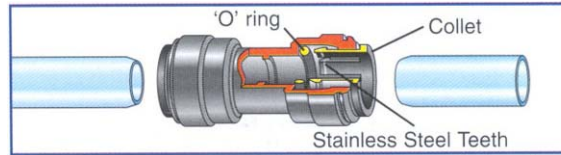
***NOTES***

## TUBE CONNECTIONS

### *How to make a connection*

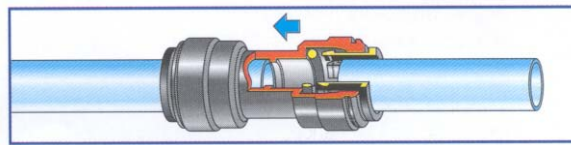
To make a connection, the tube is simply pushed in by hand. The uniquely patented John Guest collet locking system then holds the tube firmly in place without deforming it or restricting flow.

#### 1. Cut Tube Square



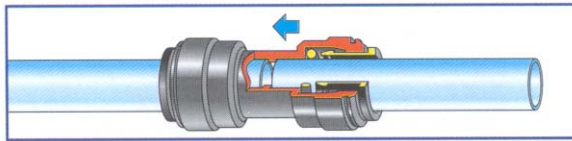
Cut the tube square. It is essential that the outside diameter be free of score marks and that burrs and sharp edges be removed before inserting into fitting. For soft thin walled plastic tubing, we recommend the use of a tube insert.

#### 2. Insert Tube



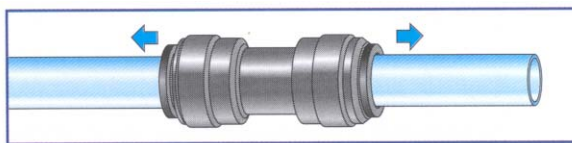
Fitting grips before it seals. Ensure tube is pushed into the tube stop.

#### 3. Push up to Tube stop



Push the tube into the fitting, to the tube stop. The collet (gripper) has stainless steel teeth which hold the tube firmly in position while the O-Ring provides a permanent leak proof seal.

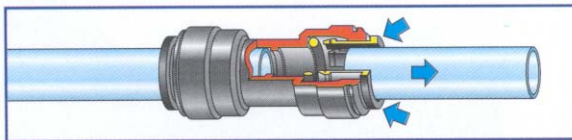
#### 4. Pull to check secure



Pull on the tube to check that it is secure. It is a good practice to test the system prior to leaving site and/or before use.

### *Disconnecting*

#### Push in collet and remove tube

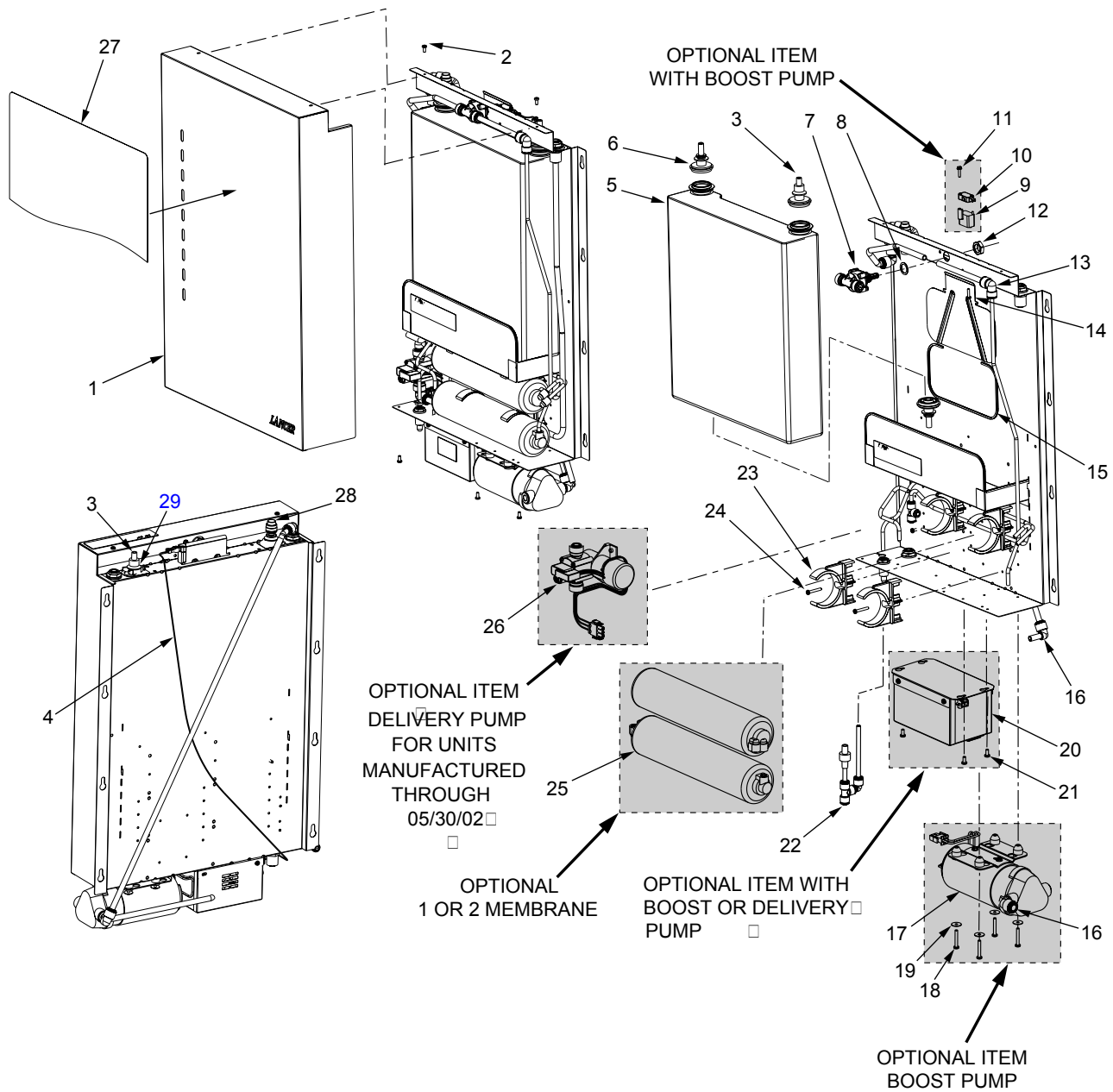


To disconnect, ensure the system is depressurized before removing the tube. Push in collet squarely against face of fitting. With the collet held in this position, the tube can be removed. The fitting can then be re-used.

**NOTE:** Lancer uses only genuine John Guest fittings in manufacturing the Pure Link system and associated components.

# 7. ILLUSTRATIONS, PARTS LISTINGS, AND WIRING DIAGRAMS

## 7.1 LANCER PURE LINK, REVERSE OSMOSIS SYSTEM



## 7.1 LANCER PURE LINK, REVERSE OSMOSIS SYSTEM (CONTINUED)

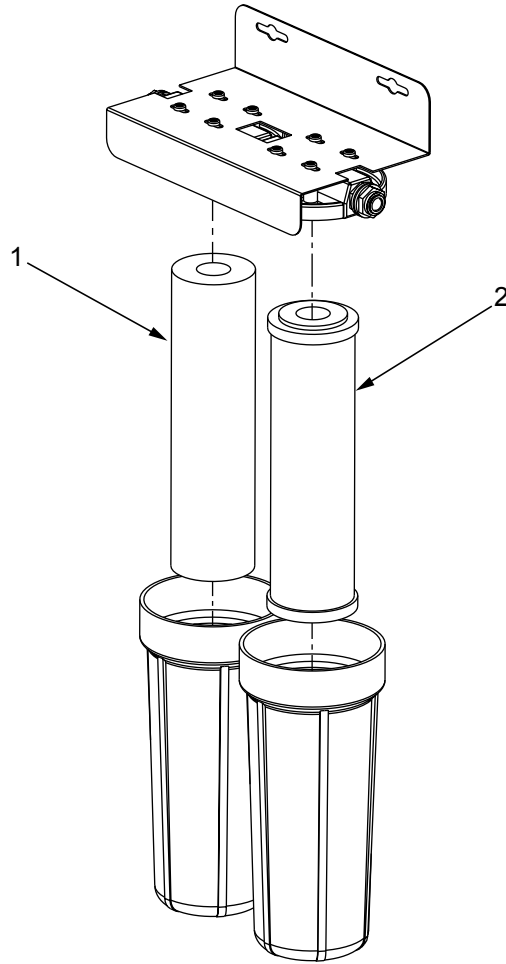
ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION		
	1	30-8164/01		29	05-1915	Cover, Enclosure	Clip, Retaining, Bag
	2	04-0477		--	08-0415	Screw, 8 - 32 x 0.375, PH	Tubing, LLDPE, JG, 3/8
	3	82-3402		--	21-0752	Vent, Sub-Assy, Lancer Pure Link	Power Cord, IEC (USA, Mexico)
	4	52-2522		--	21-0767	Wiring Harness, Pump	Power Cord, IEC SJT (Australia)
	5	82-3012		--	21-0768	Bag Assy, 4 Gallon	Power Cord, IEC SJT (UK, Ireland)
	6	82-3010		--	21-0769	Spout, Sub Assy, Pure Link	Power Cord, IEC SJT (France, Austria, Germany, Spain)
	7	17-0579		--	21-0770	Valve, Shut-Off, Mechanical, 3/8"	Power Cord, IEC (Italy, Chile)
	8	66-1038		--	21-0771	Spacer, Valve, Shut-Off	Power Cord, IEC (Israel)
	9	04-1241		--	21-0849	Nut, Jam, Nylon, 5/8 - 20	Power Cord, IEC (Japan)
	--	82-3276		R	--	Kit, Boost Pump Switch, LPL (Includes Items 9, 10, and 11)	Kit, Install (Units manufactured through 05/19/03)
	10	12-0423		R	--	Switch, Miniature, 250VAC, 15	Kit, Install (Units manufactured after 05/19/03)
	11	04-0268				Screw, 6 - 19 x 0.625LG, PLSTI, HH	
	12	05-1921				Block, Mounting, Booster Pump	
	13	01-2469				Fitting, Reducer Elbow, 3/8 x 1/4	
	14	30-8161				Lever, Arm, Shut-Off	
R	15	66-1023				Trim, Lever, Shut-Off	
	16	01-2084				Elbow, Plug-In, 3/8 x 3/8, JG	
	17	86-0112				Pump, Booster, 24V, 0.9 GPM	
	18	04-0481				Screw, 8 - 32 x 1.125, PH	
	19	04-1328				Washer, #8, 0.172 x 0.625 x 0.030	
	20	52-2540				Control Box Assy, Transformer, 115V	
	--	52-2575				Control Box Assy, Transformer, 100V	
	--	52-2576				Control Box Assy, Transformer, 230V	
	21	04-0477				Screw, 8 - 32 x 0.375, PH	
	22	82-3209				Kit, Drain, Siphon Break, includes:	
	--	01-2100				Fitting, Tee, 1/4"	
	--	01-2077				Fitting, Elbow, Plug-In, 1/4 x 1/4	
	--	17-0588				Valve, Check, Vent	
	--	08-0414				Tubing, LLDPE, JG, 1/4"	
	23	05-1944				Clip, Membrane	
	24	04-0481				Screw, 8 - 32 x 1.125, PH	
	25	81-0534				Membrane, Water, 150 GPD-OMN	
	26	86-0106				Pump, Water, 0.7 GPM, 24VDC, 30P (For units manufactured through 05/30/02)	
	27	06-2591				Decal, Front, Pure Link	
	28	01-2479				Fitting, End Stop, 3/8 JG	

R in margin indicates change or revision

**NOTE:** Lancer uses only genuine John Guest fittings in manufacturing the Pure Link system and associated components.

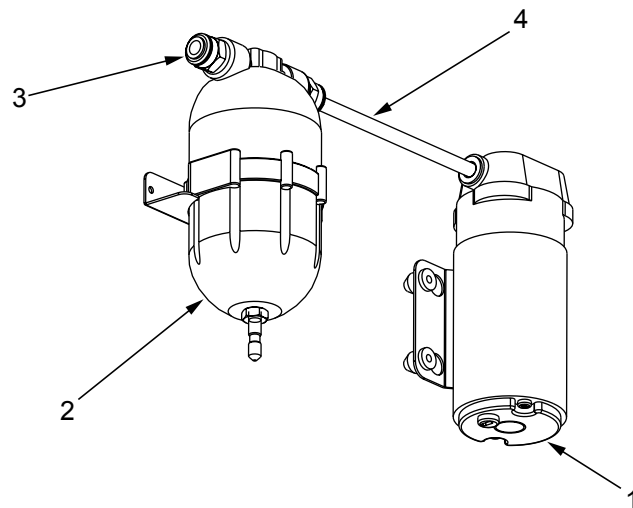
## 7.2 LANCER PRE-FILTER KIT, TWIN-PAC, 5 MICRON (10" AND 20") (OPTIONAL EQUIPMENT)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
--	82-3021	10" Sump Kit, Twin-Pac, 5 Micron
--	82-3078	20" Sump Kit, Twin-Pac, 5 Micron
1	82-3074	10" Pre-filter Cartridge, 5 Micron
--	82-3081	20" Pre-filter Cartridge, 5 Micron
2	82-3075	10" Carbon Block Cartridge, 5 Micron
--	82-3082	20" Carbon Block Cartridge, 5 Micron



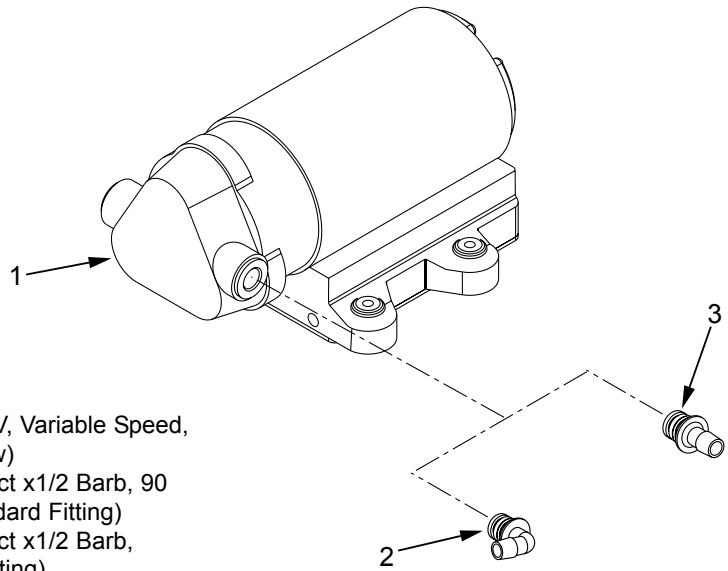
## 7.3 LANCER PURE LINK DELIVERY PUMP KIT, PN 82-3202 (OPTIONAL EQUIPMENT)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	86-0123	Pump, Delivery, 1.5 GPM, 115V
2	87-0018	Accumulator, 24 Oz, Shurflo
3	01-2295	Fitting, Male Connector, 3/8 JG x 1/2 MNPT
4	08-0415	Tubing, LLDPE, JG, 3/8



Also see Lancer Instruction Sheet, 28-0515, on the Lancer web site ([www.lancercorp.com](http://www.lancercorp.com)).

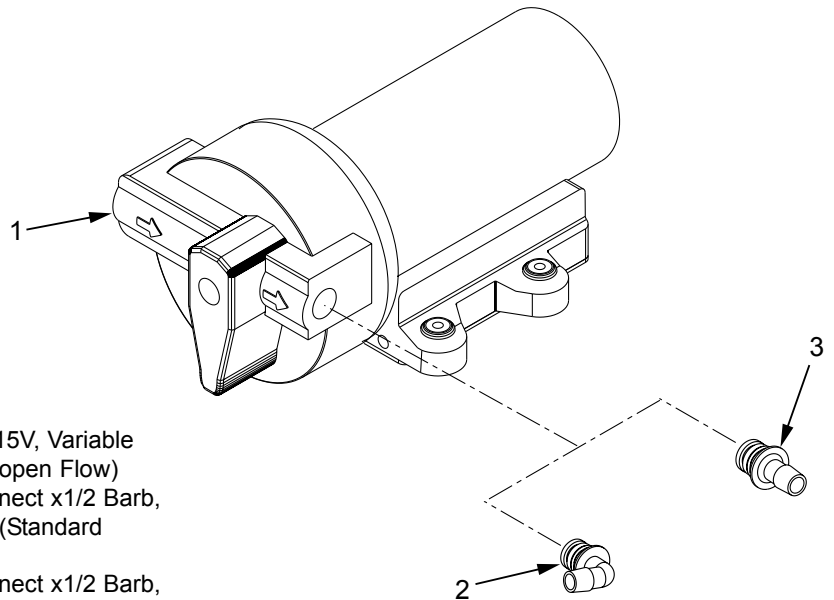
#### 7.4 LANCER PURE LINK DELIVERY PUMP, PN 86-0139 (OPTIONAL EQUIPMENT)



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	86-0139	Pump, Delivery, 115V, Variable Speed, 1.2 GPM (Open Flow)
R 2	01-2393	Fitting, Quick Connect x1/2 Barb, 90 Degree Elbow (Standard Fitting)
R 3	01-2392	Fitting, Quick Connect x1/2 Barb, Straight (Optional Fitting)

R in margin indicates change or revision

#### 7.5 LANCER PURE LINK DELIVERY PUMP, PN 86-0132 (OPTIONAL EQUIPMENT)



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	86-0132	Pump, Delivery, 115V, Variable Speed, 4.5 GPM (open Flow)
R 2	01-2393	Fitting, Quick Connect x1/2 Barb, 90 Degree Elbow (Standard Fitting)
R 3	01-2392	Fitting, Quick Connect x1/2 Barb, Straight (Optional Fitting)

R in margin indicates change or revision

**TEST EQUIPMENT (AVAILABLE THROUGH LANCER CUSTOMER SERVICE)**



**TDS Meter, PN 82-3060  
10 PPM Resolution**



**TDS Meter, PN 81-0581  
1 PPM Resolution**



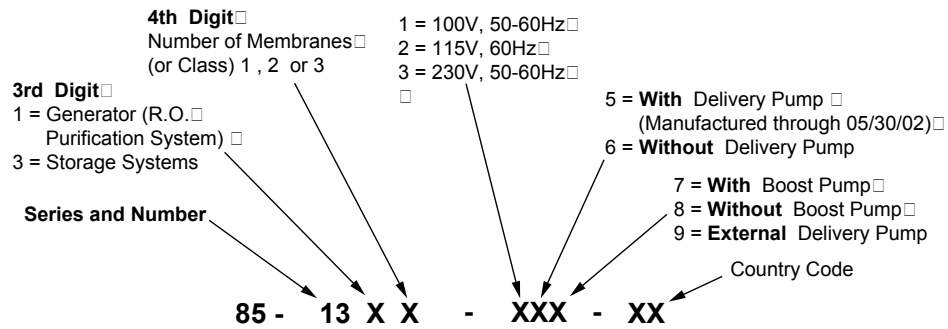
**pH Meter, PN 81-0582**



**Water Quality Test Kit, PN 82-3328  
Tests for pH, Alkalinity, Chlorine, and Hardness**

## LANCER Pure Link Water Units

### *An Explanation of LANCER's Pure Link Part Numbering System*



## LANCER Pure Link Water Generator Units

<u>Part Number</u>	<u>Description</u>
<b>85-1311</b>	LPL, Generator, Class 1, No Pumps
85-1311-167	LPL, Generator, Class 1, 100V, 50-60Hz, With Boost Pump
85-1311-267	LPL, Generator, Class 1, 115V, 60Hz, With Boost Pump
85-1311-367	LPL, Generator, Class 1, 230V, 50/60Hz, With Boost Pump
85-1311-158*	LPL, Generator, Class 1, 100V, 50/60Hz, With Delivery Pump*
85-1311-258*	LPL, Generator, Class 1, 115V, 60Hz, With Delivery Pump*
85-1311-358*	LPL, Generator, Class 1, 230V, 50/60Hz, With Delivery Pump*
85-1311-157*	LPL, Generator, Class 1, 100V, 50/60Hz, With Delivery and Boost Pump*
85-1311-257*	LPL, Generator, Class 1, 115V, 60Hz, With Delivery and Boost Pump*
85-1311-357*	LPL, Generator, Class 1, 230V, 50/60Hz, With Delivery and Boost Pump*
<b>85-1312</b>	LPL, Generator, Class 2, No Pumps
85-1312-167	LPL, Generator, Class 2, 100V, 50-60Hz, With Boost Pump
85-1312-267	LPL, Generator, Class 2, 115V, 60Hz, With Boost Pump
85-1312-367	LPL, Generator, Class 2, 230V, 50/60Hz, With Boost Pump
85-1312-158*	LPL, Generator, Class 2, 100V, 50/60Hz, With Delivery Pump*
85-1312-258*	LPL, Generator, Class 2, 115V, 60Hz, With Delivery Pump*
85-1312-358*	LPL, Generator, Class 2, 230V, 50/60Hz, With Delivery Pump*
85-1312-157*	LPL, Generator, Class 2, 100V, 50/60Hz, With Delivery and Boost Pump*
85-1312-257*	LPL, Generator, Class 2, 115V, 60Hz, With Delivery and Boost Pump*
85-1312-357*	LPL, Generator, Class 2, 230V, 50/60Hz, With Delivery and Boost Pump*
85-1312-269	LPL, Generator, Class 2, 115V, 60Hz, With External Delivery Pump

\* This item no longer manufactured after 05/30/02

## LANCER Pure Link Water Storage Units

<u>Part Number</u>	<u>Description</u>
<b>85-1330</b>	LPL, Storage Unit, 4 Gallon, No Pumps
<b>85-1330-40</b>	LPL, Storage Unit, 38.5 Gallon, No Pumps

## ***PARTS AND EQUIPMENT LIMITED WARRANTY***

**LANCER®** warrants new replacement parts, equipment, and hermetically sealed refrigeration systems (HSRS) to be free from defects in material and workmanship under normal use and service. The duration of the warranty for these different items is shown below. **LANCER®**'s obligation, hereunder, shall be limited to repairing or replacing any part, or part of said equipment or system which our examination discloses to be defective and which has not been subjected to any accident, negligence, alteration, abuse or misuse, and additionally in the case of refrigeration and/or electrical systems, not subjected to high, low or fluctuating electrical voltage. **LANCER®**'s obligation does not provide for service calls from factory representatives or from any other agency and shall not include reimbursement for labor charges incident to removal of any parts or the reinstallation of the same. **LANCER®** will accept parts, equipment, and refrigeration systems freight prepaid by sender. **LANCER®** will assume freight charges within the continental United States, or to a port of export within the continental United States for international shipments. **LANCER®** will not be responsible for international freight, customs fees or duties at country of destination. In the event **LANCER®** establishes sales and service organizations outside the continental limits of the United States, the point of shipment of repaired or replaced parts or equipment may, at **LANCER®** option, be made from that location, with freight charges assumed to the point of export from the country in which a sales and service organization is established.

### **Warranty Periods**

#### **Parts:**

Ninety (90) days from date of original shipment from a **LANCER®** facility or from an authorized Lancer Distributor.

#### **Equipment:**

One (1) year from date of original shipment from a **LANCER®** facility or from an authorized Lancer Distributor.

#### **Hermetically Sealed Refrigeration System:**

For the following components of the HSRS, i.e., the compressor, condenser, evaporator, coldpack, capillary tubes, and drier, five (5) years from date of original shipment from a **LANCER®** facility or from an authorized Lancer Distributor.

All other parts of the HSRS, one (1) year from date of original shipment from a **LANCER®** facility or from an authorized Lancer Distributor.

EXCEPT AS SPECIFICALLY SET FORTH HEREIN, **LANCER®** MAKES NO EXPRESS WARRANTIES AS TO ANY MATTER WHATSOEVER AND HEREBY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE. IN NO EVENT SHALL **LANCER®** BE LIABLE OR OBLIGATED TO CUSTOMER OR TO ANY THIRD PARTY FOR INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES, REGARDLESS OF THE THEORY OF LIABILITY, ARISING OUT OF, OR IN ANY MANNER RELATED TO **LANCER®** PARTS, EQUIPMENT, OR HSRS, OR ANY DELAY WITH RESPECT TO ITS DELIVERY.



***LANCER***

REV: 01/16/01  
P.N.: 38-0508/03