BERG
Chilling Systems Inc.

INSTALLATION, OPERATION
&
MAINTENANCE MANUAL.

BERG BT-96XX COOLING TOWERS

Model:
BT-96XX-XX

Serial Number: W02984A-DD1-0715

For 24 hour service inquiries, please call
(416) 755-2226

BERG COOLING TOWERS
OPERATION & MAINTENANCE MANUAL

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WARRANTY

Berg Chilling Systems Inc. (“Berg”) warrants that the Products it manufactures shall conform to the specifications as provided in the quotation and will be free from defects in workmanship and material when used under conditions we recommend. Berg’s obligation under this warranty is to the original purchaser only and is limited to repair or replace or otherwise make good, any part of equipment of our manufacture, which within one year after the date of shipment to a destination within Canada or continental United States of America (“the Territory”), and upon our examination, shall disclose to our satisfaction to have been defective. (If the equipment is located outside “the Territory”, a parts warranty only, ex works our factory, shall apply for one year from the date of shipping per paragraph 6 of our Standard Terms and Conditions of Sale.) Berg neither assures, nor authorizes any other persons to assume for us, any liability in connection with the sale of our equipment except under the conditions of this warranty. This is an implied warranty of merchantability and or fitness for a particular purpose; all other implied warranties and any liabilities not based upon contract are hereby disclaimed and excluded by this warranty.

The warranty does not cover any field (on site) labour charges during overtime hours (5:00pm to 8:00am or during weekends and holidays) nor dies it cover charges, labour or otherwise, associated with travel and accommodation, adjustments and maintenance, or work done outside of Canada and continental USA. Any cost differential for overtime labour charges will be the responsibility of the Buyer.

This warranty is voided and shall not apply to any apparatus, which in our opinion, has been subject to misuse, negligence, or pressures in excess of limits recommended by Berg, or which have been repaired or altered outside Berg’s factory or which have the serial number(s) removed or defaced. This warranty does not cover refrigerant gas or any labour associated with its evacuation or replacement nor does it cover any apparatus damaged from freezing of water or heat transfer fluid.

Replacement of defective material will be ex works our factory. Berg is not responsible for any sales, use, excise, duty or any other applicable taxes associated with the replacement of parts or labour under this warranty. This warranty is only effective with all the terms and conditions of this quote being met, and it is understood that time is of the essence in this agreement. This Warranty is not transferable.

In accordance with paragraph 7 of our Standard Terms and Conditions of Sale, under no circumstances shall Berg Chilling Systems Inc. be liable for loss of prospective or speculative profits, or special, indirect, incidental, or consequential damages.

All warranty service must be authorised by Berg prior to any work being performed and have a Berg Purchase Order issued. All defective parts become the property of Berg and must be returned, transportation prepaid, as advised by Berg. Warranty Claim Forms, found in the owner’s manual, must accompany all warranty claims or parts returns or this warranty shall not apply.

The replacement of component parts not of our manufacture will be limited to the warranty of the manufacturers of such parts. Berg shall transfer to the Buyer whatever transferable warranties and indemnities Berg receives from the manufacturers of any sub-components of the Products, if any, including any transferable warranties. This warranty is a part of the Standard Terms and Conditions of Sale of Berg Chilling Systems Inc.

1.0.0 INTRODUCTION

Your BERG CHILLING SYSTEMS INC. COOLING TOWER has been engineered and carefully assembled using only the highest quality raw materials and components to provide trouble-free service with a minimum of maintenance. It is covered by a limited 5 Year Warranty* on all parts and labor.

> ⚠WARNING. Adjustment of any internal components, fan blades, external controls, or valves by unqualified personnel is done at the severe risk of permanent damage to the cooling tower unit. Improper adjustments may result in a loss of efficiency and/or capacity, and, most importantly, the warranty agreement becomes null and void.

It is highly recommended that this manual be carefully reviewed by the proper personnel prior to the installation or operation of the cooling tower.

2.0.0 Uncrating and Damage Assessment

Remove the packaging material and examine the cooling tower for any signs of shipping damage. It is advisable to pay particular attention to the basin, making sure that there are no signs of cracks or any other penetrating damage.

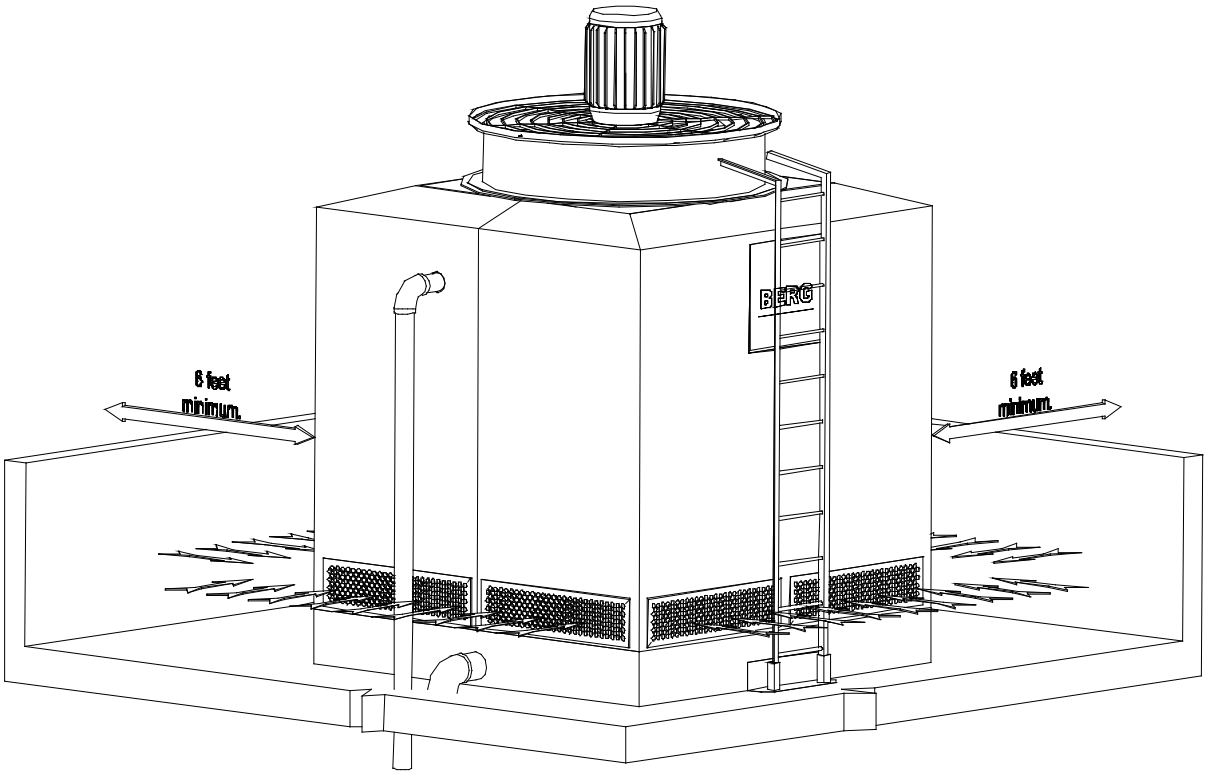
> ⚠ The ***consignee*** is responsible for making claims to the transportation agent.

Any and all damage should be reported to the local Berg representative upon discovery.

> ⚠ WARNING. Lifting of the Cooling Tower should only carried out by trained personnel using an overhead crane. When lifting, four chains must be properly connected to the four lifting Lugs provided on the steel base. These chains must be separated using 'Spreader Bars' to avoid damaging the tower during lifting and installation.

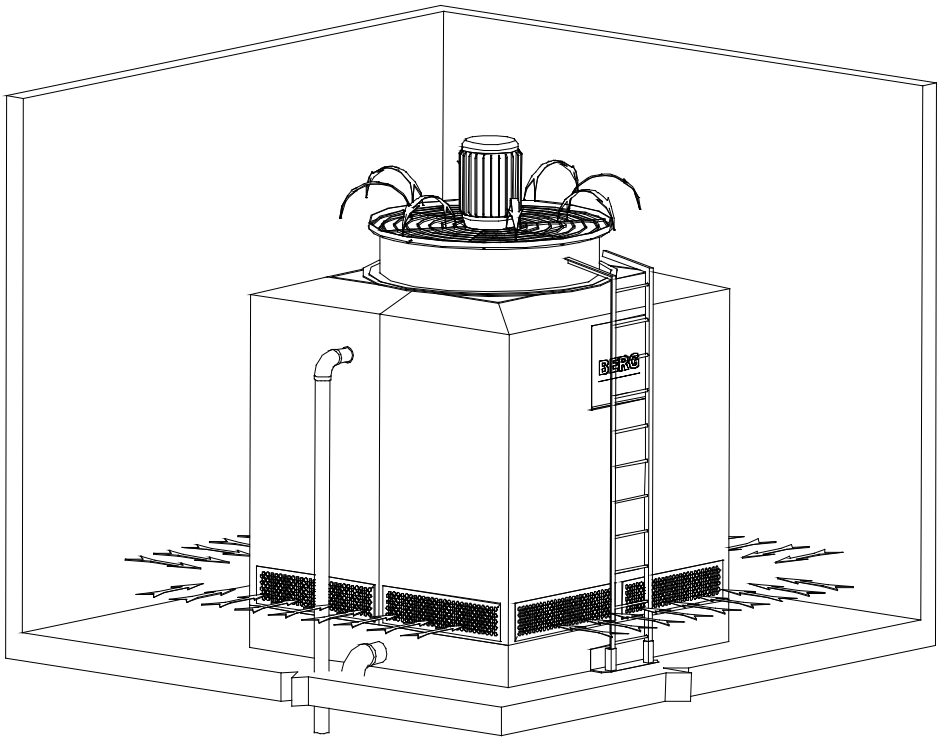
3.0.0 Cooling Tower Location

The cooling tower must be located outdoors. The most convenient location is usually up on the roof. In cases where the rooftop location is not an acceptable option, BERG can provide pre-fabricated cooling tower stands ready for on-site field erection. These tower stands may require a special reinforced concrete footing so please contact your local Berg representative for additional information.



To prevent potential blockage through the air intake louvers, the cooling tower should be kept a ***minimum of 6 ft*** away from any obstruction.

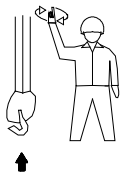
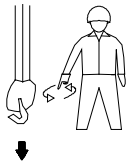
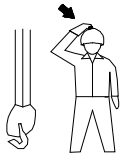
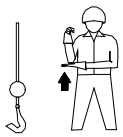
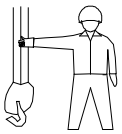
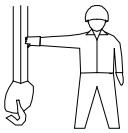
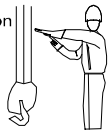
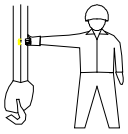
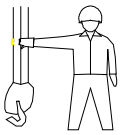
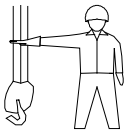
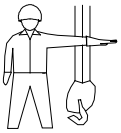
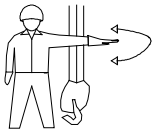
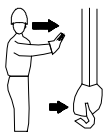
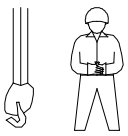
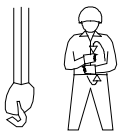
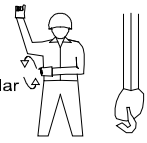
To prevent re-circulation, the cooling tower should be kept a ***minimum of 6 ft*** away from any wall or other cooling tower and there should be no obstruction or roof present over the air discharge as this too results in re-circulation.



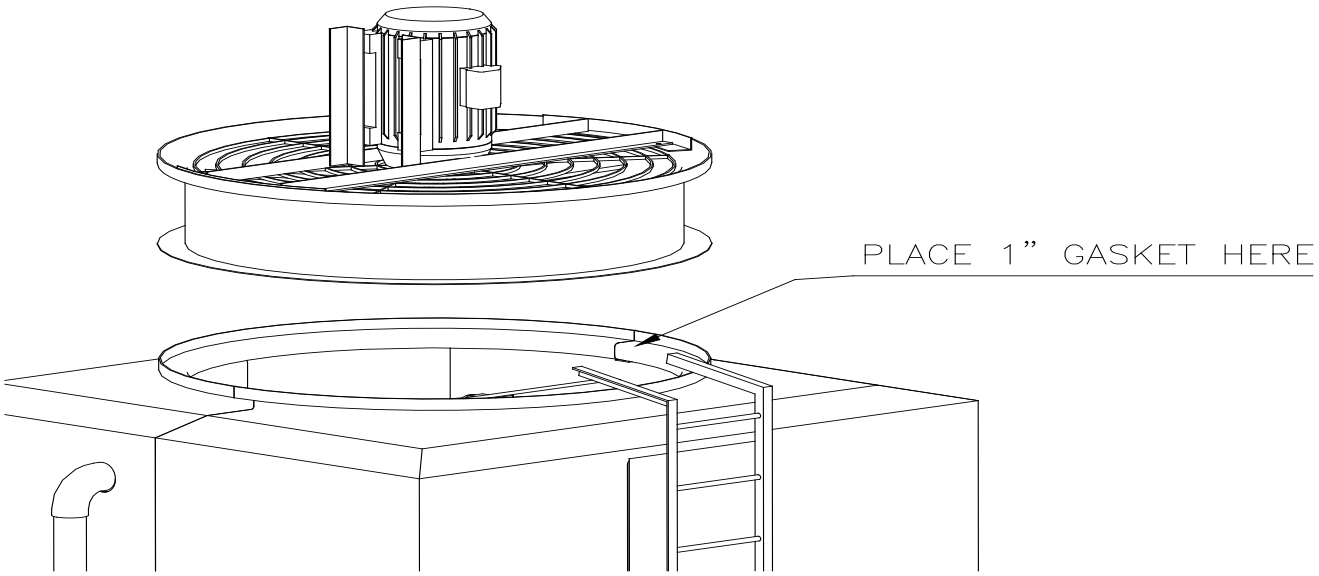
In cases where a remote indoor tank is to be used, the cooling tower must be elevated to a height above the indoor tank level. This allows the cooling tower to drain through the return line by gravity to the indoor tank.

Locating the cooling tower in an accessible area is recommended as it makes maintenance and inspections more permissive in addition to making the installation easier.

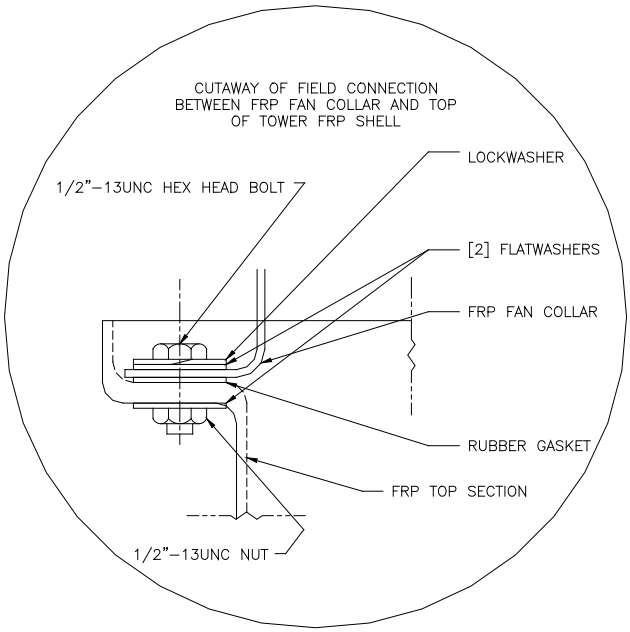
4.0.0 Cooling Tower Installation : Standard Hoist Signals.

HOIST: With forearm vertical, forefinger pointing up, move hand in small horizontal circle 	LOWER: With arm extended downward, forefinger pointing down, move hand in small horizontal circles 
USE MAIN HOIST: Tap fist on head; then use regular signals 	USE WHIP LINE (AUXILIARY HOIST): Tap elbow with one hand; then use regular signals 
RAISE BOOM: Arm extended, fingers closed, thumb pointing upward 	LOWER BOOM: Arm extended, fingers closed, thumb pointing downward 
MOVE SLOWLY: Use one hand to give any motion signal and place other hand motionless in front of hand giving the motion signal. (Hoist slowly shown as example.) 	RAISE BOOM AND LOWER LOAD: With arm extended, thumb pointing up, flex fingers in and out as long as load movement is desired 
LOWER BOOM AND RAISE LOAD: With arm extended, thumb pointing down, flex fingers in and out as long as load movement is desired 	SWING: Arm extended, point with finger in direction of swing of boom 
STOP: Arm extended, palm down, hold position rigidly 	EMERGENCY STOP: Arm extended, palm down, move hand rapidly right and left 
TRAVEL: Arm extended forward, hand open and slightly raised, make pushing motion in direction of travel 	DOG EVERYTHING: Clasp hands in front of body 
TRAVEL (BOTH TRACKS): Both fists in front of body, making a circular motion about each other indicating direction of travel-forward or backward (For crawler cranes only) 	TRAVEL (ONE TRACK): Lock track on side indicated by raised fist. Travel opposite track in direction indicated by circular motion of other fist, rotated vertically in front of body. (For crawler cranes only) 

Use the 1" white gasket included to line the region around the top of the cooling tower. Make sure that none of the holes are covered by the gasket.



The fan motor assembly is shipped separately from the rest of the cooling tower. The required bolts and washers are included with the fan motor assembly and these are to be used for installation. Please read the FAN MOTOR INSTALLATION AND MAINTENANCE INSTRUCTIONS at the end of this manual before installing the fan motor.



Only use the fasteners supplied with the unit.

Using the fasteners supplied, secure the fan motor assembly to the rest of the cooling tower before locating the cooling tower onto a rooftop or support structure. Align the stickers with the letters A, B, and C prior to fastening to ensure that mounting points are lined up.

Do not use excessive torque on the fasteners.

It is highly recommended that the joint area between the cooling tower and the fan motor assembly be filled with silicone.

The cooling tower is to be lifted using the lifting lugs present in each top corner. ***When lifting, use these lifting lugs only***.

1 Each lifting lug is rated for a maximum vertical load of 2,400 lb.

2 Check that the basin is empty of water before lifting the cooling tower.

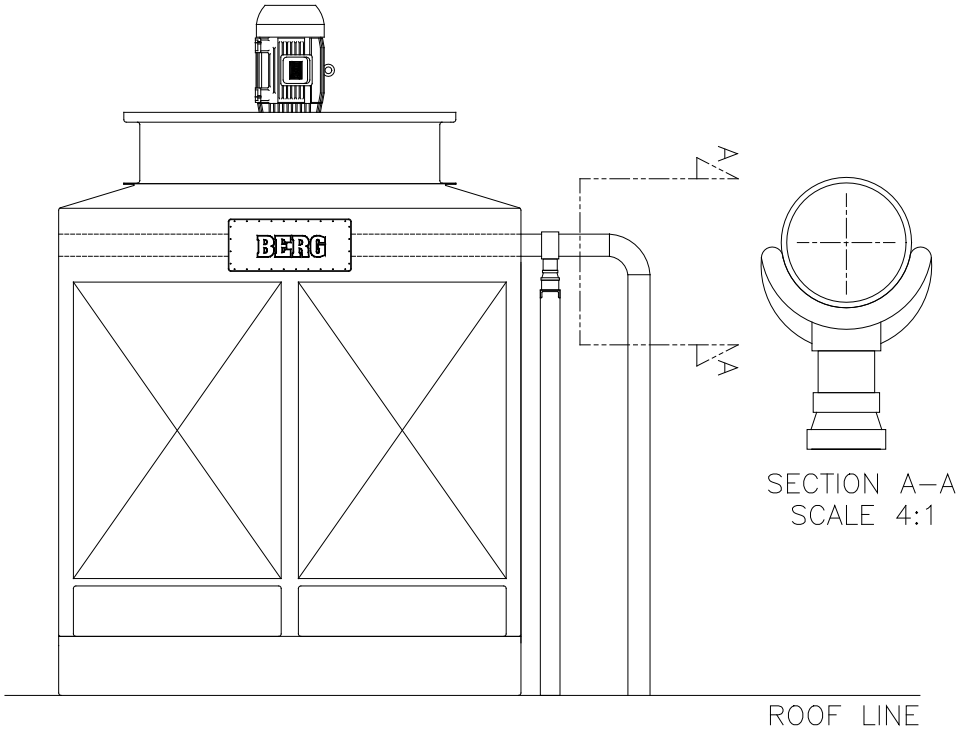
A substantial foundation is required to support the operating weight (cooling tower dry weight of cooling tower and weight of the water) of the cooling tower.

It is highly recommended that an experienced contractor be enlisted to provide an adequate supporting structure.
Berg Chilling Systems Inc. accepts no responsibility for the feasibility of mounting the cooling tower onto the roof.

It is the customers responsibility to ensure that the roof is sufficiently reinforced to handle the addition of the aforementioned operating weight.

It is recommended that the cooling tower be placed onto sleepers. 6" x 6" pieces of pressure-treated lumber or equivalent is recommended.

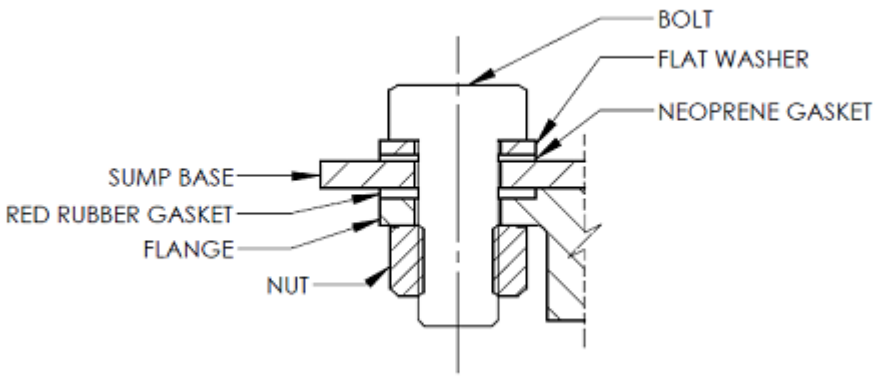
Ensure that line voltage agrees with electrical nameplate. Line voltage should be within □10 % limitations. The electrical power should be supplied through a fused disconnect and in accordance with local electrical codes.



Use a pipe hanger to support the first fitting from the cooling tower (See diagram above). This will assist in minimizing vibration and reduce the stress on the FPT connection from the cooling tower inlet.

In order to maximize the cooling tower efficiency, the unit must be in a level position. This ensures equal water distribution through the fill/wet deck and optimum basin capacity.

At the connection point between the sump base and the flange it is recommended that neoprene gaskets (provided by others unless specified) be used when mounting bolts are being permanently fastened, as seen below.



5.0.0 System Start-Up

5.1.0 The Basin should be cleaned of debris, sediment, and any other refuse that has collected in the cooling tower during the shipping and installation stages.

5.2.0 The basin should be flushed with clean water. Before the water is discharged, make a final inspection of the basin for leaks.

5.3.0 Check the lubrication of the fan motors. If the cooling tower has not been operated in more than one year, it is likely that the fan motor bearings will need to be re-lubricated.

5.4.0 Inspect the fill/wet deck area for any obvious damage. Check the level and verify that the fill/wet deck is tightly packed.

5.5.0 Check the spray nozzles.

> ⚠ ***Do not adjust the spray header location or remove the spray nozzles***.

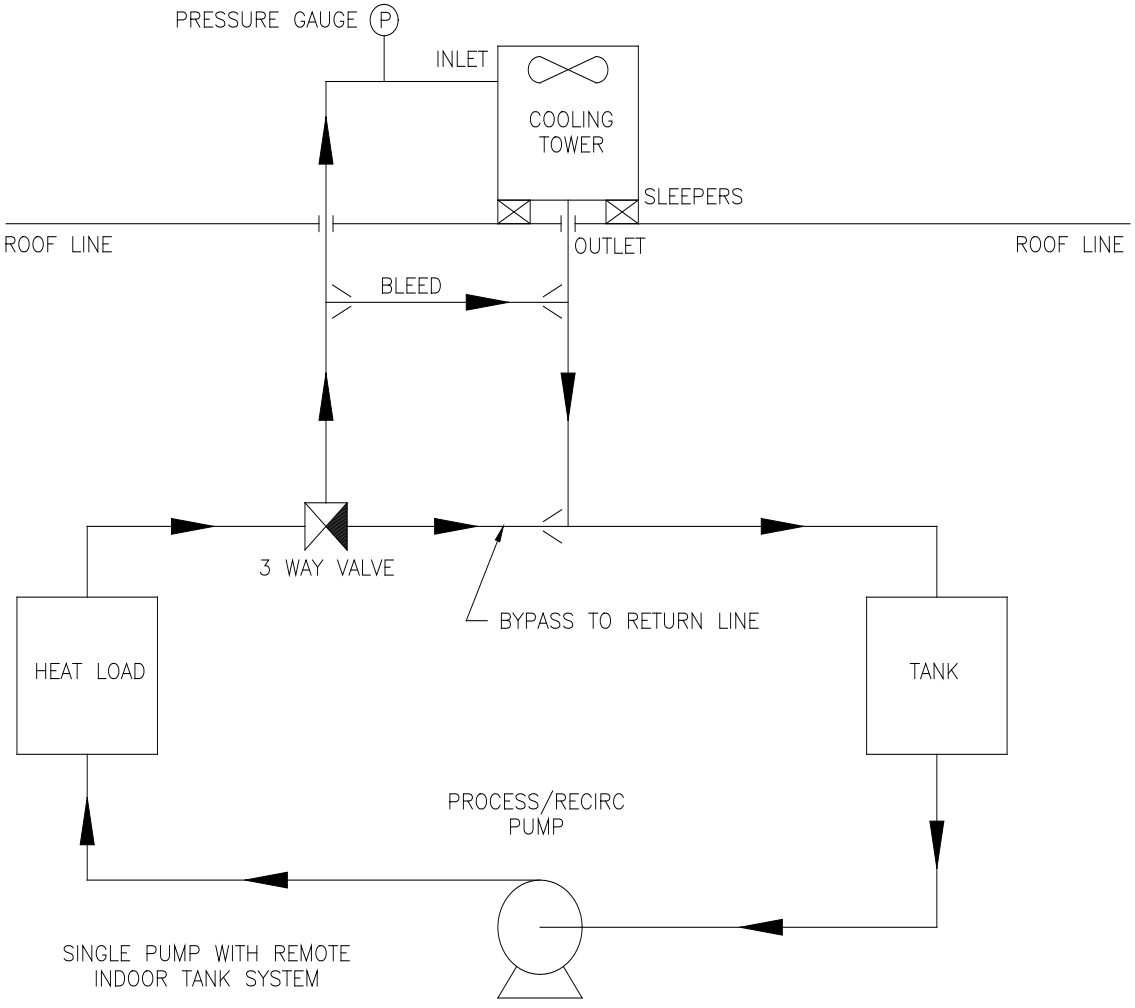
5.6.0 Jog the fan motor contactor and check fan rotation. Make sure that rotation is in a clockwise direction. Also, check the voltage to the contactor to ensure that it matches with the fan motor nameplate.

6.0.0 System with Remote Indoor Tank Operation

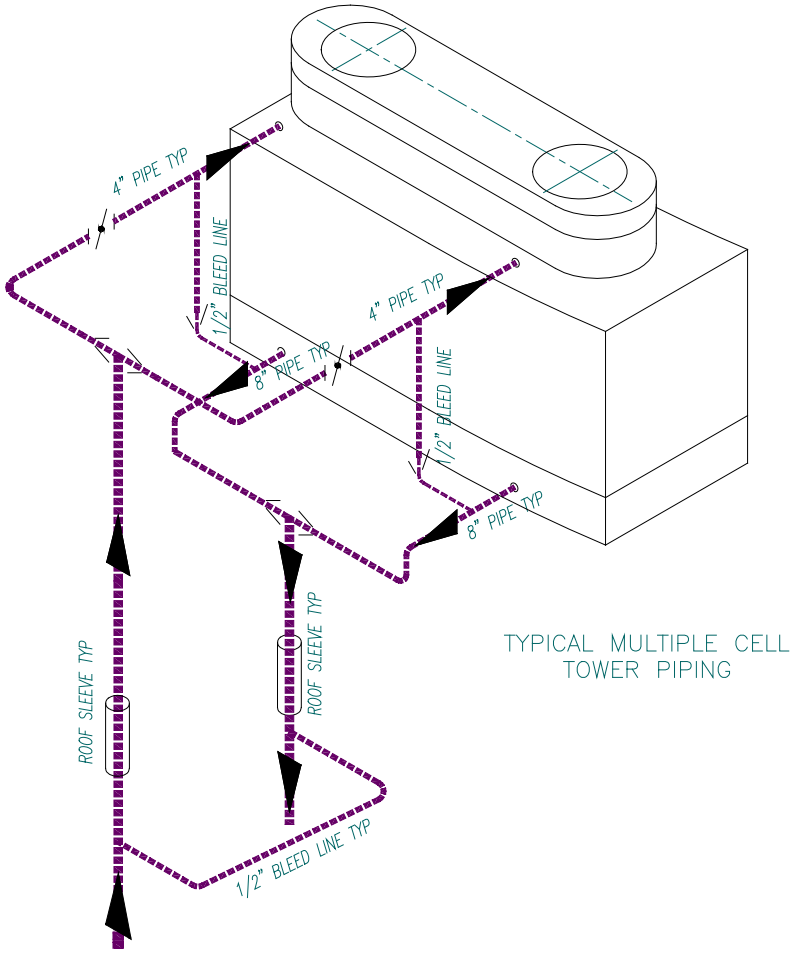
6.1.0 No water is to be left in outdoor lines. Cold weather conditions will quickly freeze any standing water which may result in burst pipes.

6.2.0 The cooling tower must be elevated to a height above the indoor tank level. This allows the cooling tower to drain through the return line by gravity back to the indoor tank.

6.3.0 Typically, a bleed-off line (1/2" nominal diameter) is installed indoors, between the cooling tower inlet piping (4" supply line) and the cooling tower outlet piping (8" return line) so that all external piping can be emptied during a system shutdown period. See drawing below for further details.



6.4.0 In a multiple cooling tower system, there will be multiple cooling tower supply lines. In this case, it is very important to provide independent bleed-off lines for each circuit. Separate bleed-off lines instead of a common bleed-off line will eliminate the possibility of feeding water from an operating circuit to a non-operating circuit. See diagram below for further details.



6.5.0 In a single-pump systems with a remote indoor tank, it is recommended that a three-way valve be installed in the cooling tower supply line. This allows bypass of the cooling tower in times of low load.

> ⚠ ***The three-way valve cannot be of the modulating type.***

7.0.0 Cold Weather Operation

7.1.0 In regions where the ambient temperature drops ***below*** the freezing point for water, cold weather operation of the cooling tower has certain requirements to be met.

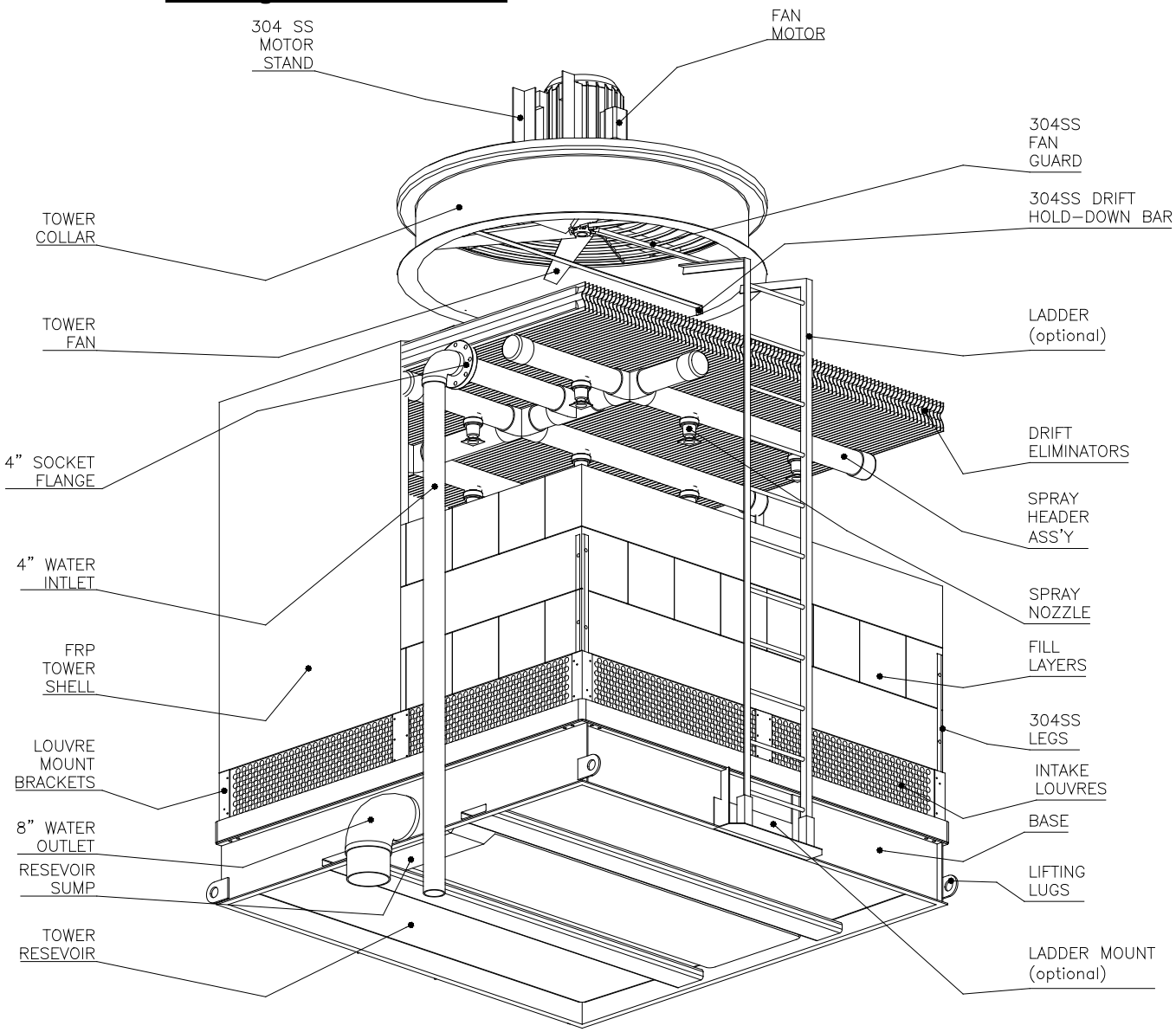
7.1.1 A basin heater or equivalent to provide protection against the water freezing in the cooling tower basin during shutdown situations in cold weather conditions.

7.2.0 All outdoor piping leading to and from the cooling tower should be wrapped with heat tracing cable and insulated to prevent freezing cold weather conditions.

7.3.0 Capacity can be controlled by means of fan cycling. However, cycling increases the fan motor temperature which over a period which can reduce the life of the fan motor, so caution must be exercised.

7.4.0 The cooling tower should be checked on a regular basis, with emphasis on areas where there is stagnant water or low water levels may appear.

8.0.0 Cooling Tower Internals



8.1.0 Fibreglass Shell and Basin

Construction of the shell and basin is of chipped glass-resin spray up. The glass reinforcement used is commercial grade type E glass fibre with an iophthalioc polyester-coupling agent. The outer layer is a 15/20 mil. thick gel coat compound with UV (Ultraviolet) inhibitors.

8.2.0 Fill/Wet Deck

Berg cooling tower fill is manufactured from rigid PVC (Polyvinyl Chloride) developed especially for counter flow cooling tower applications where the continuous operating water temperature is to be 130 ^{o}F or less.

8.3.0 Internal Support Structures

All internal cooling tower support structures, fan motor bracket, fasteners, and hardware are constructed from 304 stainless steel.

8.4.0 Air Inlet Louvers

Berg air inlet louvers are manufactured from rigid PVC especially formulated for UV resistance, low maintenance, with a 45^{o} inward slant towards the cooling tower basin to prevent water loss.

8.5.0 Fan Motor

All motors are TEFC (Totally Enclosed Fan Cooled) NEMA design B (IP55), class F insulation, 900 RPM, 80 ^{o}C temperature rise with a 1.15 service factor. See Motor Section at end of manual for further details.

8.6.0 Axial Fan

All fans are propeller type, 60" diameter, 900 RPM, high efficiency, quiet design, with a clockwise-only direction.

8.7.0 Drift Eliminator

Berg cooling tower drift eliminator are manufactured from rigid PVC developed especially for counter flow cooling tower applications with a low pressure drop, high droplet trapping design.

8.8.0 Water Distribution

Berg cooling tower nozzles are non-clogging, vertical down, square spray, with no moving parts.

8.9.0 Lifting Lugs

Each lifting lug has an internal eye diameter of 1" with a rated maximum vertical capacity of 2,400 lb. per lug.

9.0.0 Maintenance

9.1.0 The cooling tower should be checked regularly. See Figure 9.1 below for a recommended maintenance schedule.

9.2.0 Before any maintenance is performed on the cooling tower, make sure that all power to cooling tower components is disconnected and locked out.

9.3.0 A water treatment program to stop biological contamination and the creation of conditions conducive to the development of legionnella bacteria is strongly urged with any cooling tower system. Also, a water bleed-off and full flow filter system are recommended to control dissolved solids and turbidity in the system

9.4.0 If a chemical treatment system is being used, check operation of water treatment in the cooling tower system, operation of automatic chemical treatment unit, and operation of both the bleed-off and bleed-back lines on a regular basis.

> ***Please contact the local Berg Chilling Systems Inc. representative before any chemical treatment package is installed to ensure compatibility. Failure to do so can cause internal erosion and FRP degradation, which will in turn result in a severely damaged and unsafe cooling tower.***

9.5.0 Water conditions should be checked periodically. The water should be clean as possible since dirty water can cause excessive pump seal wear.

9.6.0 All fasteners should be checked for tightness and re-tightened where applicable with care taken not to over-torque the fasteners. This is a natural function of the FRP settling after installation and transportation.

9.7.0 Fan motor bearings should be checked for noise and lubrication. Use only good quality lithium base or lithium complex grease with a base oil viscosity of 100 - 140 c St @ 40 ^{o}C, consistency NLGI grade 2 or 3 and a continuous temperature range of -30 ^{o}C to 130 ^{o}C. See motor specifications at the end of the manual for further details.

9.8.0 All external pipe hangers should be checked regularly for the proper tension and that they are still securely tied down.

9.9.0 Spray nozzles should be checked periodically to ensure that the spray remains at original full shape and that the flow rate through each nozzle is approximately the same. A blown out nozzle can quickly result in the destructive erosion of the fill/wet deck.

9.10.0 The air inlet louvers and the air outlet discharge should both be checked periodically to make sure there are no obstructions or blockages. Blockages create regions of high air velocity and this results in inefficient cooling tower performance.

Figure 9.1 : Maintenance Schedule

Service	Startup	Month	6 Month	Annual	Other
General inspection	X			X	
Inspect UV external coating	X			X	
Clean debris from basin	X			X	
Flush basin w/ clean water	X			X	
Re-tighten all fasteners	X	X			
Inspect fill/wet deck	X	X			
Check air inlet louvers	X	X			
Check bleed-off rate	X	X			
Check water quality	X	X			
Check vibration levels	X	X			
Check noise levels	X	X			
Check water conditions	X	X			
Check water treatment	X	X			
Check motor voltage & current	X		X		
Check air outlet discharge	X		X		
Check for bushing slippage	X		X		
Inspect pipe hangers	X		X		
Check fan rotation	X				
Inspect spray nozzles		X			
Lubricate fan motor bearings	As per WEG Manual				

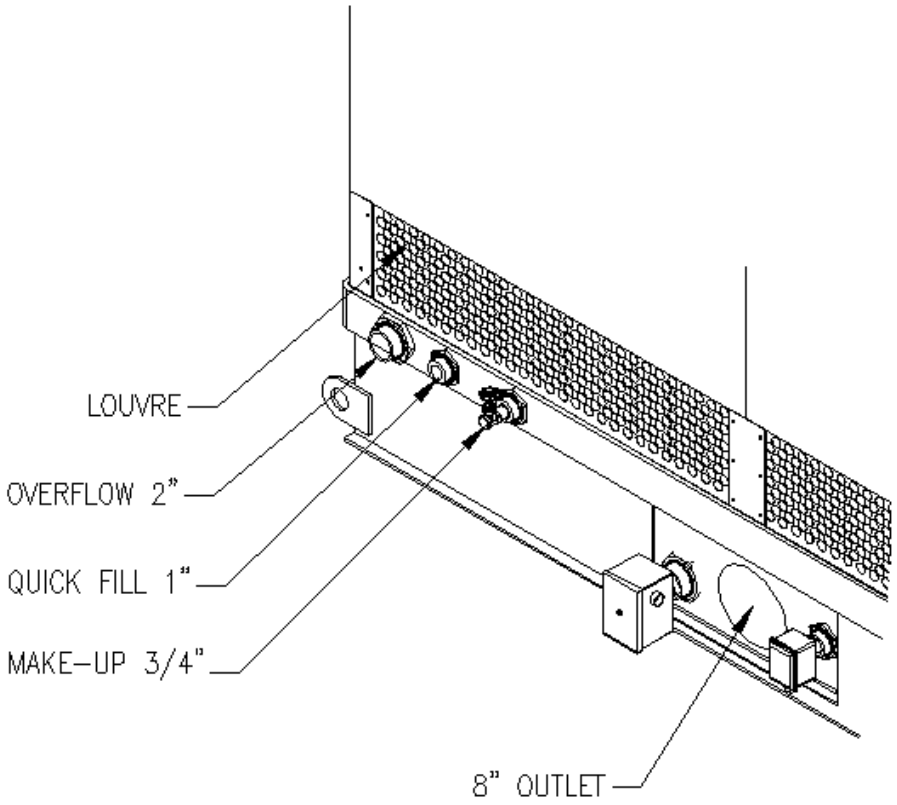
Recommended Spare Parts

Item Description	Suggested Quantity
Spray nozzle, type 1-D	4
Fan motor	1
Fan blade	1
Split taper bushing	1
Make-up water valve (option)	1
Basin heater (option)	1
Low level switch (option)	1

Note : These are only suggested parts and quantities. These items are stocked at the Berg Chilling Systems Inc. manufacturing facility. For pricing and availability, contact the local Berg Chilling Systems Inc. representative.

10.0.0 Air Conditioning Connections (Option)

10.1.0 The air conditioning connections consist of a 2" overflow, a 1" quick fill and a ¾" make-up valve assembly. This option will be factory mounted, no field assembly is required.

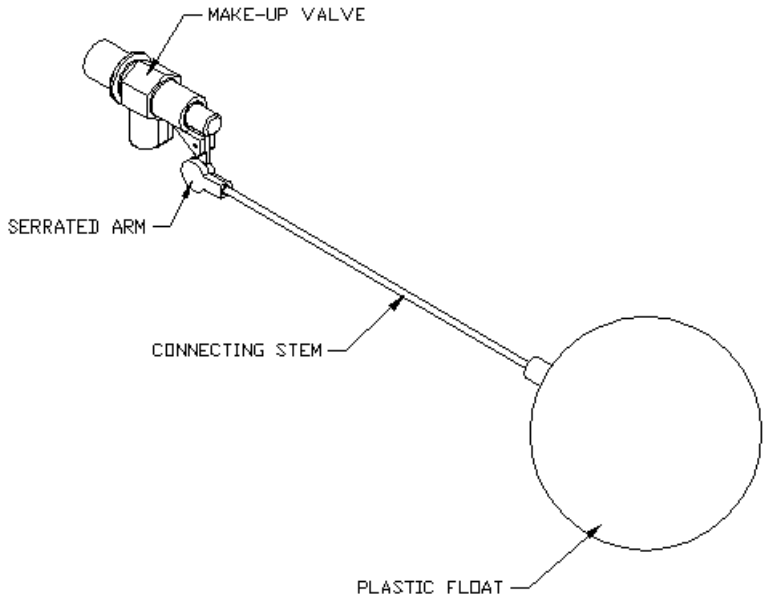


A/C CONNECTIONS LOCATION

10.2.0 This option allows the system to use cooling tower basin as a water reservoir. This is only recommended for warm climate process cooling or summer air conditioning condenser water applications. For cold weather operation, please follow section 7 (p.17) very carefully. Failure to do so may result in burst outdoor pipes and cracked tower basin.

10.3.0 The make-up valve assembly is a float operated mechanical device which maintains the water level in the tower basin. It is located inside the basin. It can be accessed by removing the intake louvre directly above the valve assembly.

10.4.0 The make-up valve assembly consists of a bronze make-up valve connected to a serrated arm assembly and is actuated by a 6" diameter plastic float. The float is connected to the serrated arm via a bronze stem. The operating water level in the basin can be adjusted by rotating the serrated arm upwards or downwards.



MAKE-UP VALVE ASSEMBLY

10.5.0 Before setting the basin water level, remove any packing material from the plastic float and examine for any signs of shipping damage.

10.6.0 To set the initial basin water level, adjust the serrated arm so that the make-up valve is completely closed when water level is approximately ¾" below the overflow connection. The operating water level should be set at approximately 1" above the 8" basin outlet.

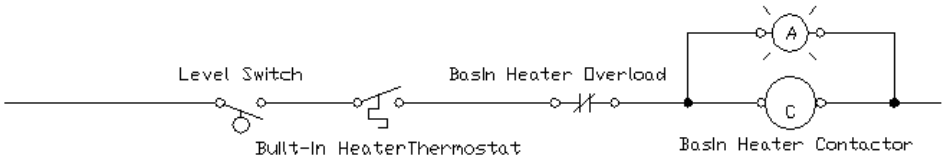
10.7.0 The make-up valve assembly should be inspected monthly and adjusted as necessary. The valve itself should be inspected annually and the valve seal replaced if necessary.

11.6.0 Basin Heater (Option)

11.1.0 This option includes a 12KW pipe thread horizontal immersion heater and a liquid level float switch. The heater and the float switch will be shipped loose and field assembly is required.

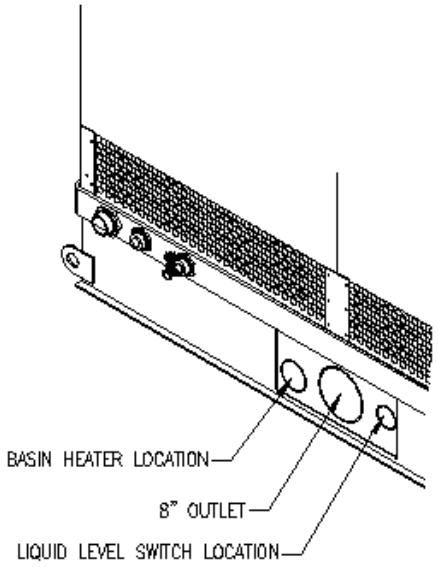
11.2.0 The basin heater has a 2" NPT brass connection fitting and has copper heating elements. It has a NEMA 4 terminal box with a built in 0-100°F pilot duty thermostat.

11.3.0 The liquid level float switch is a mechanical device used to monitor the water level above the heating elements. It has a NEMA 3R raintight enclosure and a 1" NPT pipe connector. If the water level falls to within 1" above the heating elements, the switch will shut down the heater to prevent hazardous overheat which would result in heater burn out.



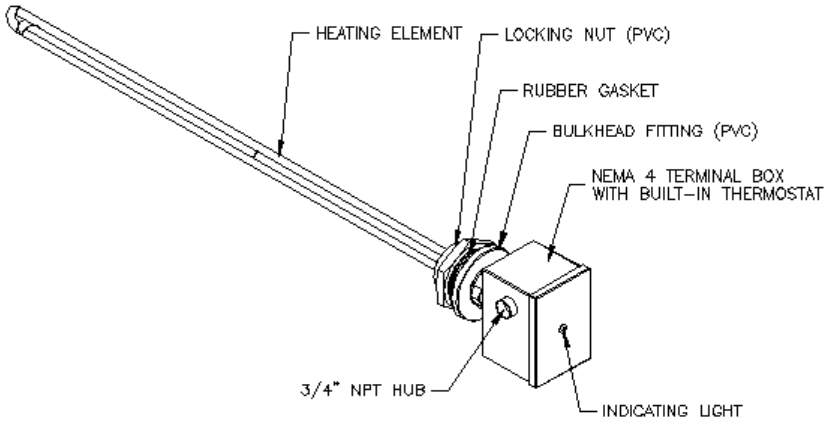
TYPICAL WIRING DIAGRAM

11.4.0 To facilitate the field mounting of the basin heater and the liquid level float switch, holes were drilled by factory before shipping.

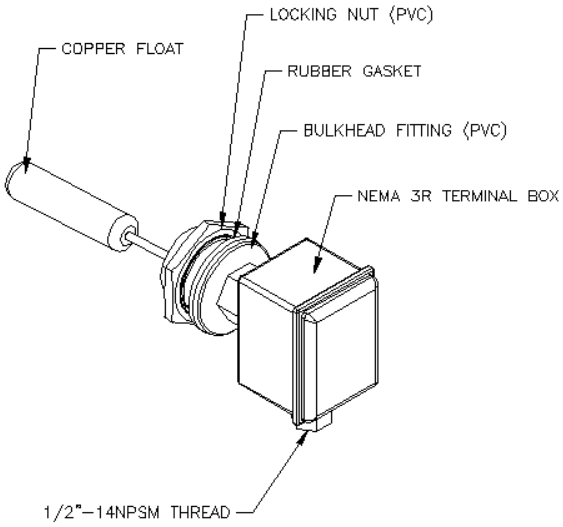


HOLES LOCATION

11.5.0 First remove the two louvers located directly above the water outlet. Then remove the lock nut and rubber gasket from the heater and liquid level switch assembly. Insert the heater and the level switch into the pre-drilled holes from the front. Replace the gasket and lock nut from inside the basin. Tighten the lock nut against the bulkhead fitting and ensure that no leaks are evident.

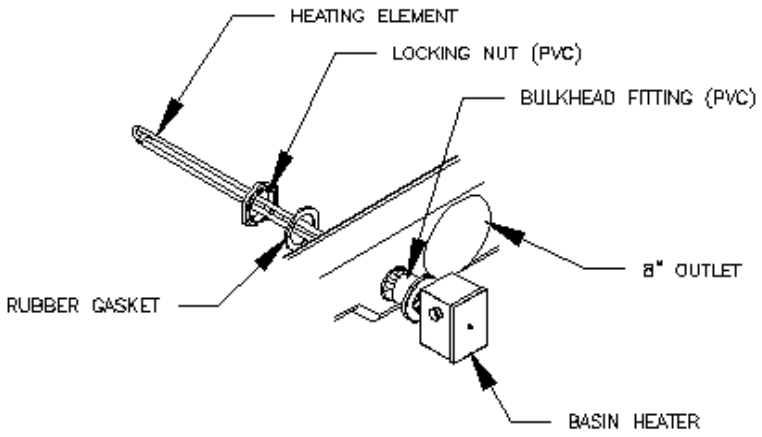


BASIN HEATER



LIQUID LEVEL FLOAT SWITCH

11.6.0 Field installation details



BASIN HEATER INSTALLATION DETAILS

11.7.0 Care should be taken not to nick or damage the thread when lifting or moving the basin heater and the liquid level switch. Do not lift heater just by the heating elements. Exercise care when installing the heater and the liquid level float switch so as not to damage heating elements or the float.

11.8.0 Check all electrical connections, including field and factory made, for tightness at least once a year. Keep heating elements clean. Do not allow sludge to build on elements. Check the liquid level float switch to insure it is functioning properly.

Limited Warranty

Berg Chilling Systems Inc. (“Berg”) warrants to Buyer that upon delivery to Buyer the Products purchased hereunder shall conform to the applicable Seller’s specifications as provided in the quotation. Except as are contained herein, Berg makes no warranties, conditions, guarantees or representations relating to the Products, express or implied, statutory or otherwise. The Seller warrants all Products it manufactures to be free from defects in workmanship and material when used under conditions recommended by us. The Seller’s obligation under the warranty is limited to repair or replace or otherwise make good, at our factory, any parts which, within one year after date of shipment of equipment of our manufacture to the original purchaser, after being returned to us with transportation prepaid, and upon our examination, shall disclose to our satisfaction to have been defective. The Seller neither assures, nor authorizes any other persons to assume for us, any liability in connection with the sales of our equipment except under the conditions of this warranty. The warranty does not cover any field (on site) labour charges for replacement of parts, adjustment, repairs, or any other work done. This warranty shall not apply to any Product or apparatus which in our opinion has been subject to misuse, negligence, or pressures in excess of limits recommended by us, or which have been repaired or altered outside Berg’s factory or which have had the serial number(s) removed or defaced. This warranty does not cover refrigerant gas, nor does it cover any apparatus damaged from freezing of water or heat transfer fluid. Replacement or repair of defective material will be EX WORKS our factory, and will assume any used portion of this warranty. All defective parts become the property of Berg and must be returned within fifteen (15) days of the replacement date, transportation prepaid, as advised by Berg, to become eligible for replacement under this warranty. Warranty Claim Forms, found in the Product Owner’s Manual, must accompany all warranty claims and parts returns or this warranty shall not apply. Berg is not responsible for any sales, use, excise, duty or any other applicable taxes associated with the replacement of parts under this warranty. This warranty is only effective with all the terms and conditions of the Product quote being met, and it is understood that time is of the essence in this agreement. Repair or replacement of products not of our manufacture will be limited to the warranty of the manufacturers of such products. Seller shall transfer to Buyer whatever transferable warranties and indemnities Seller receives from the manufacturers of any subcomponents of the Products, if any, including any transferable warranties and indemnities in respect of patent infringement. See the Product Service Labour Policies in your Product Owner’s Manual for possible extensions to this Warranty.

This is an expressed warranty of merchantability and or fitness for a particular purpose; all other implied warranties and any liabilities not based upon contract are hereby disclaimed and excluded by this warranty.

In accordance with Section 7 of our Standard Terms and Conditions of Sale, under no circumstances shall Berg Chilling Systems Inc. be liable for loss of prospective or speculative profits, or special, indirect, incidental, or consequential damages.

This warranty is a part of the Standard Terms and Conditions of Sale of Berg Chilling Systems Inc.

Service Labour Policy

Berg's Service Labour Policy extends the One (1) Year Limited Warranty to include labour on a limited basis, to the original purchaser only (see the Limited Labour Allowance Schedule in your Product Owner's Manual for allowable service hours). Berg will provide a Service Technician or reimburse the Buyer in accordance with this Policy, to diagnose the problem, repair or replace or otherwise make good, any part of equipment of our manufacture, which within one year after the date of shipment to a destination within Canada or continental United States of America ("the Territory"), and upon our examination, shall disclose to our satisfaction to have been defective. If the Product or equipment is located outside "the Territory", our limited warranty only, ex works our factory, shall apply for one year from the date of shipping (see Standard Terms and Conditions of Sale). Berg neither assures, nor authorizes any other persons to assume for us, any liability in connection with the sale of our equipment except under the conditions of this Policy. This Service Labour Policy does not apply to Temperature Control Units (TCU's).

The Service Labour Policy does not cover any field (on site) labour charges during overtime hours (5:00pm to 8:00am or during weekends and holidays) nor does it cover charges, labour or otherwise, associated with travel and accommodation, adjustments and maintenance, or work done outside of Canada and continental USA. Any cost differential for overtime labour charges will be the responsibility of the Buyer. Service Labour rates applied to the Limited Labour Allowance Schedule, will be the mean rate, as determined by Berg, of the equipment destination service area.

This Policy is voided and shall not apply if in our opinion, the Product has been subject to misuse, negligence, or pressures in excess of limits recommended by Berg, or which have been repaired or altered outside Berg's factory or authorization or which have had the serial number(s) removed or defaced. This Policy does not cover refrigerant gas or any labour associated with its evacuation or replacement nor does it cover any Product or apparatus maintenance or any apparatus damaged from freezing of water or heat transfer fluid. Any work determined to be associated with the above will be the responsibility of the Buyer.

Berg is not responsible for any sales, use, excise, duty or any other applicable taxes associated with the replacement of parts or labour under this Policy. This Policy is only effective with all the terms and conditions of our quote being met, and it is understood that time is of the essence in this agreement. This Policy is not transferable.

All Service Policy Labour must be authorized by Berg prior to any work being performed and must have a Berg Purchase Order issued specifically for the work. Warranty and Service Labour Claim Forms, found in the Product Owner's Manual, must accompany all Service and Warranty claims and parts returns or this Policy shall not apply. All defective parts become the property of Berg and must be returned within fifteen (15) days of the failure, transportation prepaid, as advised by Berg, to become eligible for replacement under this policy.

Products not of our manufacture do not qualify for this Service Labour Policy, and will be limited to the warranty of the manufacturers of such Products.

This Policy is a part of the Standard Terms and Conditions of Sale of Berg Chilling Systems Inc.

Warranty Claim Procedure

Labour warranty, will only be allowed in those situations where defects have occurred as a direct result of factory workmanship or defects in materials.

Claim Procedures:

- Consult the Factory immediately of any problems you are having with your equipment. Phone 416-755-2221 or fax 416-755-6022.

- If required Berg will supply contact information for the local authorized Berg Service Contractor in your area; or if you wish you can use your own contractor, provided he is licensed and qualified as required by local governing authorities and it is agreed upon by Berg.

- After the contractor has arrived on site and determined the cause of the problem; the contractor must consult with the factory before proceeding with any repairs.

- Once you have had your equipment repaired, complete the “Warranty Claim Form.” All claims must be submitted on the *Warranty Claim Form*” found in the owners manual.

- A signed service report from the Contractor detailing all work performed and an invoice copy must accompany the “Warranty Claim Form.”

- Claims must be faxed to “Berg Service Department” @ 416-755-6022 no later than 15 days after the failure has occurred.

- Claims in excess of the ”Limited Labour Allowance Schedule” may not be processed.

- Berg reserves the right to adjust and/or refuse any claims that appear excessive or fails to meet the Claims Procedure.

- No claims will be processed if defective parts are not returned to Berg prepaid.

Use the “Limited Labour Allowance Schedule”[found in the owners manual] as a guide to calculate the amount Berg will reimburse for required repairs on equipment found to be defective. The schedule shows the maximum man-hours, which will be reimbursed at the normal hourly rate of $54.00/Hr.

Berg will not pay for:

- Labour at overtime or premium rates
- Labour in excess of the “Limited Labour Schedule”
- Service charges, mileage, travel expenses of any kind
- Miscellaneous materials
- Freight
- Taxes or any special fees

LIMITED LABOUR ALLOWANCE SCHEDULE

DESCRIPTION OF FAILED COMPONENT	SIZE IN HP	MAX. ALLOWANCE MAN HOURS	
		REPAIR	REPLACE
Compressor	3-10 HP 15-25 HP 30-40 HP Over 40 HP	1 2 2 4	4 6 8 10
Leaks	All	2	2
Electrical Wiring, Controls, Microprocessors	All	1	2
Refrigerant Valves or Components	All	1	2
Motors	1-10 10 and Up	1 2	2 1/2 4
Pumps	All	2	3

MAX. ALLOWABLE MAN HOURS

Diagnostic	1
Miscellaneous	1

Service Labour Claim Procedures

Using the “Limited Labour Allowance Schedule” [above] as a guide to calculate the amount Berg will reimburse for required repairs to equipment found to be defective.
This schedule shows the maximum man-hours, which will be reimbursed at the normal hourly rate of $54.00/Hr.

Labour warranty, will only be allowed in those situations where defects have occurred as a direct result of factory workmanship or materials.

Claim Procedures:

All claims must be submitted on Berg’s “ *Warranty Claim Form*.”
Claim forms are found in the equipment owners manual or can be supplied upon request.

If a contractor is used to make the repairs, a signed service report and a company invoice must accompany the “Warranty Claim Form.”

Claims must be faxed to “Berg Service Department” @ 416-755-6022 no later than 15 days after the failure has occurred.

Claims in excess of the “Limited Labour Allowance Schedule” will not be processed.

Caution

Damages or failures associated with the following conditions are not covered by warranty.

- Shipping damage
- Improper installation
- Lack of proper maintenance
- Foreign debris found in the piping, tower fill or spray nozzles
- Improper or lack of water treatment
- Unauthorized adjustments or changes to the tower electrical control system
- Unauthorized adjustments or tampering of valves or mechanical control devices
- Improper water flow adjustment over the cooling tower fill
- Frozen or associated freeze-up damage to the tower and/or components
- Water leaks associated with improper use or installation
- Operating the equipment outside of its intended design or use
- Improper temperature control settings
- Running cooling tower fan with water pump off
- Improper fan motor rotation

Warranty Claim Form

Fax to: Berg Service Dept. 416-755-6022	Claim #:	Date:

Claim Submitted By: _____
Company: _____
Address: _____
_____

Phone #: _____
Fax #: _____

Job Name: _____
Address: _____
_____
_____

Phone #: _____
Fax #: _____

Berg Model #: _____ Voltage: _____ Serial #: _____

Date of Failure:		Date of Original Start-Up:	

Details of Failure

Describe the nature of the failure.	Part Number(s) [if applicable]	Quantity	Cost for Repairs

Requesting:
Repair _____
Replace _____
Reimbursement _____
Other _____

Total:	

To qualify for Limited Labour Warranty, you must include a signed service report and a copy of the contractor's invoice.
Attached: Yes: No:

Do not write below this line.

Date Form Received: _____

Warranty Claim Form Being Handled By: _____

Note: All defective parts must be returned prepaid and within 15 days of the failure date.
No credit will be issued if the defective parts are not returned prepaid and within the specified time allowed.