Armstrong Nanobubble Generator Installation Details Form (IDF)

Armstrong's review and acceptance of the information on this IDF:

1. Approves the order for processing which triggers an e-mail confirmation.
2. Indicates that AHWG supports you by endorsing the application.
3. Initiates the warranty.
4. Delivers a complete, AHWG-supported performance guarantee to the final user of the product.
5. Drives the relevant point of specification, influence, point of installation and point of order financial allocation if appropriate.

Section 1 – Ordering Processing/Tracking Detail

In order to enter POs and guarantee delivery dates, a technically accurate and complete IDF is required.
Complete this page and email with the purchase order to hotwater@armstronginternational.com.

Point of Order / Sold To: _____ *(eg: ABC Mechanical)*

City: _____ State: _____ Rep Firm: _____

Point of Installation: _____ *(eg: Heinz Ketchup)*

City: _____ State: _____ Rep Firm: _____

Point of Specification: _____ *(eg: DEF Consulting Engineers)*

City: _____ State: _____ Rep Firm: _____

Other Influence: _____ *(eg: Source of Recommendation)*

Outside Salesperson: _____

Email: _____ Phone: _____

NOTE: Outside Salesperson name and contact information must be completed to qualify for any sales promotions (e.g. gift card promotion)

Section 2 - Application Type

Select only one application type and market sector:

Application type: ☐ Domestic hot water return ☐ Domestic cold water - super saturator ☐ Cooling tower

Market sector: ☐ Institutional ☐ Industrial

ANG Information:

ANG Part Number (i.e. D191462): _____ ANG Model: _____ ANG Size: _____

System Flow Performance:

System flow rate: _____ GPM ANG Flow Rate: _____ GPM Anticipated Pressure Drop: _____ PSIG

Section 3 - Application-Specific Information

Complete only the section that corresponds to the selected application type in Section 2.

A. Domestic Hot Water Return

Recirculation pipe size: _____

Recirculation flow rate: _____ GPM

Heat Source: ☐ Steam ☐ Gas-Fired ☐ Heat Pump ☐ Other: _____

Continued on next page

Armstrong International – Hot Water Group
Armstrong Hot Water Group, 221 Armstrong Blvd., Three Rivers, MI 49093
Phone: (269) 279-3602
armstronginternational.com

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Armstrong Nanobubble Generator
Installation Details Form (IDF)

Integrated into packaged solution: ☐ Yes ☐ No If yes, provide Armstrong Sales Special number: _____

B. Domestic Cold Water - Super Saturator

Main cold water pipe size: _____

Incoming cold water demands: Average demand: _____ GPM Peak demand: _____ GPM

Water usage (gallons per day): _____ gallons per day

Operating pressure: _____ PSI

Resting period: _____ hours
NOTE: A minimum low-demand resting period of four hours is recommended for proper operation.

Tank size: _____ gallons
NOTE: Standard is 120 gallons for ≤ 3" service; consult factory for other configurations.

C. Cooling Tower System

1. Type of Piping Installation Method (select only one):

☐ a. Bypass between supply and return of existing/new pumps (recommended)

Differential pressure generated by condenser's water pumps: _____ PSIG

% of flow through ANG bypass loop: _____ GPM *Typically 10-40%, 10% minimum*

ANG flow rate: _____ GPM

Anticipated Nanobubble Generator pressure drop: _____ PSIG

☐ b. Side-stream between pumps and chiller on primary condenser line

% of flow through ANG side-stream loop: _____ GPM

ANG flow rate: _____ GPM

Anticipated system pressure drop: _____ PSIG

☐ c. Primary/secondary configuration for own pump

Secondary flow rate: _____ GPM

☐ d. Basin recirculation

Recirculation flow rate: _____ GPM

Existing pump: ☐ Yes ☐ No

☐ e. Bypass from condenser water back to sump

Pipe size: _____

2. Pump Characteristics (complete for any pump used in the above selection)

Condenser (system pump) (required): HP: _____ Head: _____ Voltage: _____ Hz: _____ Amps: _____

Secondary pump (optional based on piping): HP: _____ Head: _____ Voltage: _____ Hz: _____ Amps: _____

Continued on next page

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3. Piping Information

Condenser water line size: _____ Bypass Pipe Size (if applicable): _____

4. Primary Condenser Water System Flow

Primary condenser water system flow:

☐ Constant Flow rate: _____ GPM

☐ Variable Caution - Consult Factory

Section 4 - Performance and Verification

Required for ALL applications

Minimum Flow and Pressure Drop Verification

Has it been verified that the pump will overcome the minimum 5 PSIG pressure drop introduced by the ANG?

☐ Verified using pump curve or manufacturer performance data
☐ Verified using flow meter or by observation
☐ Not verified (assume pump is sufficient and operating properly)

Refer to Page 5 of the Nanobubble Generator IOM for minimum flow and pressure drop requirements.

Supporting Documentation (Optional)

☐ Pump curve ☐ Flow curve ☐ Other: _____

Section 5 - Sales Promotion Request

To qualify for sales promotions, the outside salesperson information in Section 1 of this IDF MUST be completed.

Is this IDF being used for an ANG Sales Promotion? ☐ Yes ☐ No

If yes, specify the promotion: _____

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