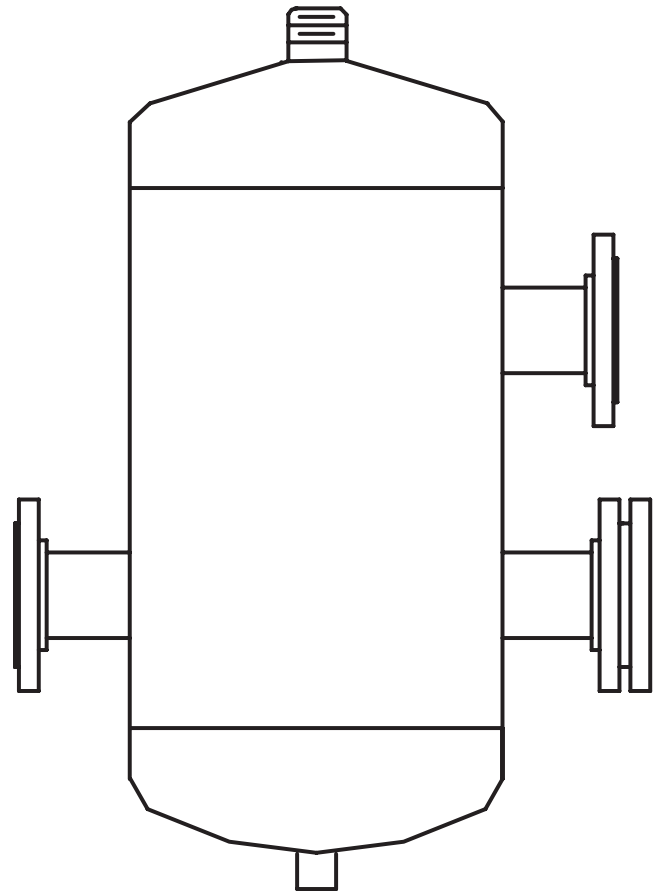




**AURORA<sup>®</sup>**



# 1050 SERIES **VORTEX AIR SEPARATOR**

## **INSTRUCTION, INSTALLATION, MAINTENANCE AND REPAIR MANUAL**

NOTE! To the installer: Please make sure you provide this manual to the owner of the equipment or to the responsible party who maintains the system.

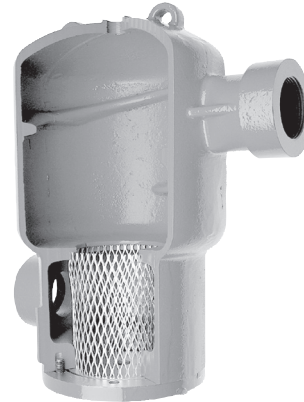
**VESSEL DESCRIPTION:**

Aurora 1050 Series Vortex Air Separators eliminate air quickly and efficiently from heating/cooling systems. Water enters and exits through unique “tangential” connections which promote a low velocity swirling effect in the center of the unit. Centrifugal force moves the water to the outer edges of the unit and a vortex is formed. Entrained air migrates to the eye of the vortex (lower pressure point) and is evacuated at the top of the separator. The water exits the unit near the bottom of the unit, bubble free, protecting the system against the noise, corrosion and damage associated with entrained air.

**CONSTRUCTION DETAILS:**

<b>Materials of Construction</b>	
<b>2", 2.5" &amp; 3" – Cast Iron</b>	
Shell	Cast Iron
Strainer	Stainless Steel Mesh (¼" x ¾")
Gasket	Non-Asbestos
<b>4 to 6" – Cast Iron, 8" to 12" – Fabricated C. Steel</b>	
Shell	Cast Iron (4" to 6") – Fabricated Steel (8" to 12")
Strainer	Steel Mesh (¼" x ¾")
Gasket	Non-Asbestos
<b>14" to 24" – Fabricated C. Steel</b>	
Shell	Fabricated Steel
Strainer	Steel Mesh (¼" x ¾")
Gasket	Non-Asbestos
<b>Technical Data</b>	
<b>2", 2.5" &amp; 3" – Cast Iron</b>	
Max. Working Temp.	350°F (176°C)
Max. Working Pressure	160 psi (1105 kPa)
Connection Type	Threaded NPT
<b>4 to 6" – Cast Iron, 8" to 12" – Fabricated C. Steel</b>	
Max. Working Temp.	375°F (190°C)
Max. Working Pressure	4" to 6" Models – 160 psi (1103 kPa) 8" to 12" Models – 165 psi (1140 kPa)
Connection Type	150# Flanged ANSI (RFSO)
<b>14" to 24" – Fabricated C. Steel</b>	
Max. Working Temp.	450°F (232°C)
Max. Working Pressure	125 psi (865 kPa)
Connection Type	150# Flanged ANSI (RFSO)

**Sizes: 2", 2.5" & 3" –  
 Cast Iron**



**STEPS & PROCEDURE:**

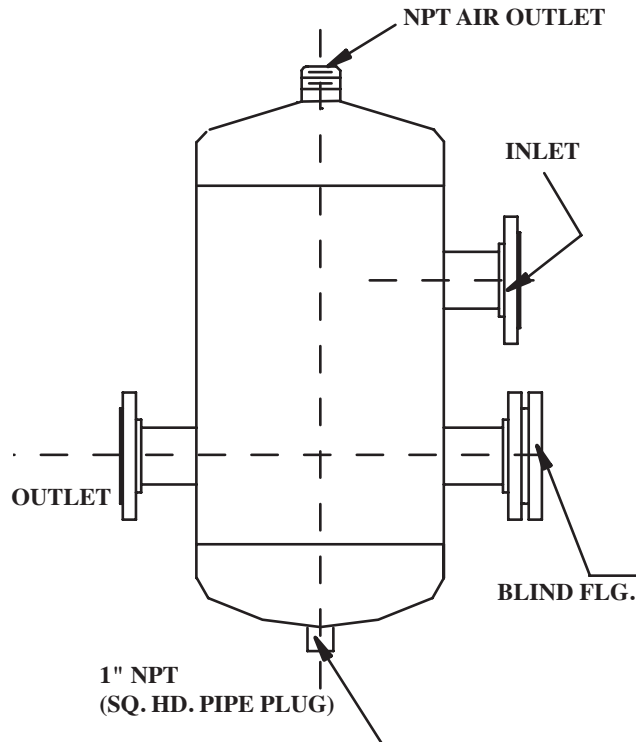
- Visually inspect the air separator for damage, which may occur during transit.
- A manual drain can be added to help facilitate purging sediment from the air separator.
- 1050 Series have a strainer that must be removed and cleaned after 24 hours of operation.

<b>Distance Required to Remove Strainer</b>	
<b>Size</b>	<b>Distance (mm)</b>
2.0	7.0" (178)
2.5	8.0" (203)
3.0	8.0" (203)
4.0	16" (406)
5.0	19" (483)
6.0	22" (558)
8.0	26" (660)
10.0	29" (737)
12.0	36" (914)
14.0	46" (1168)
16.0	60" (1524)
18.0	67" (1701)
20.0	72" (1829)
22.0	80" (2032)
24.0	85" (2159)

**CALIFORNIA PROPOSITION 65 WARNING:**

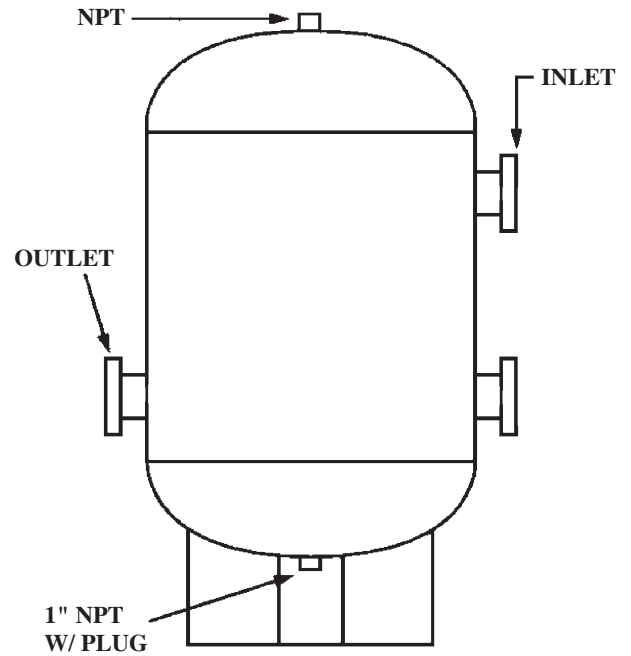
**▲ WARNING** This product and related accessories contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Sizes: 4" to 6" – Cast Iron,  
 8" to 12" – Fabricated C. Steel**



Distance Required to Remove Strainer	
Size	Distance in. (mm)
1050-4	16 (406)
1050-5	19 (483)
1050-6	22 (558)
1050-8	26 (660)
1050-10	29 (737)
1050-12	36 (914)

**Sizes: 14" to 24" –  
 Fabricated C. Steel**



Distance Required to Remove Strainer	
Size	Distance in. (mm)
1050-14	46 (1168)
1050-16	60 (1524)
1050-18	67 (1701)
1050-20	72 (1829)
1050-22	80 (2032)
1050-24	85 (2159)

## WARRANTY

Seller warrants equipment (and its component parts) of its own manufacture against defects in materials and workmanship under normal use and service for one (1) year from the date of installation or start-up, or for eighteen (18) months after the date of shipment, whichever occurs first. Seller does not warrant accessories or components that are not manufactured by Seller; however, to the extent possible, Seller agrees to assign to Buyer its rights under the original manufacturer's warranty, without recourse to Seller. Buyer must give Seller notice in writing of any alleged defect covered by this warranty (together with all identifying details, including the serial number, the type of equipment, and the date of purchase) within thirty (30) days of the discovery of such defect during the warranty period. No claim made more than 30 days after the expiration of the warranty period shall be valid. Guarantees of performance and warranties are based on the use of original equipment manufactured (OEM) replacement parts. Seller assumes no responsibility or liability if alterations, non-authorized design modifications and/or non-OEM replacement parts are incorporated. If requested by Seller, any equipment (or its component parts) must be promptly returned to Seller prior to any attempted repair, or sent to an authorized service station designated by Seller, and Buyer shall prepay all shipping expenses. Seller shall not be liable for any loss or damage to goods in transit, nor will any warranty claim be valid unless the returned goods are received intact and undamaged as a result of shipment. Repaired or replaced material returned to customer will be shipped F.O.B., Seller's factory. Seller will not give Buyer credit for parts or equipment returned to Seller, and will not accept delivery of any such parts or equipment, unless Buyer has obtained Seller's approval in writing. The warranty extends to repaired or replaced parts of Seller's manufacture for ninety (90) days or for the remainder of the original warranty period applicable to the equipment or parts being repaired or replaced, whichever is greater. This warranty applies to the repaired or replaced part and is not extended to the product or any other component of the product being repaired. Repair parts of its own manufacture sold after the original warranty period are warranted for a period of one (1) year from shipment against defects in materials and workmanship under normal use and service. This warranty applies to the replacement part only and is not extended to the product or any other component of the product being repaired. Seller may substitute new equipment or improve part(s) of any equipment judged defective without further liability. All repairs or services performed by Seller, which are not covered by this warranty, will be charged in accordance with Seller's standard prices then in effect.

THIS WARRANTY IS THE SOLE WARRANTY OF SELLER AND SELLER HEREBY EXPRESSLY DISCLAIMS AND BUYER WAIVES ALL OTHER WARRANTIES EXPRESSED, IMPLIED IN LAW OR IMPLIED IN FACT, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Seller's sole obligation under this warranty shall be, at its option, to repair or replace any equipment (or its component parts) which has a defect covered by this warranty, or to refund the purchase price of such equipment or part. Under the terms of this warranty, Seller shall not be liable for (a) consequential, collateral, special or liquidated losses or damages; (b) equipment conditions caused by normal wear and tear, abnormal conditions of use, accident, neglect, or misuse of said equipment; (c) the expense of, and loss or damage caused by, repairs or alterations made by anyone other than the Seller; (d) damage caused by abrasive materials, chemicals, scale deposits, corrosion, lightning, improper voltage, mishandling, or other similar conditions; (e) any loss, damage, or expense relating to or resulting from installation, removal or reinstallation of equipment; (f) any labor costs or charges incurred in repairing or replacing defective equipment or parts, including the cost of reinstalling parts that are repaired or replaced by Seller; (g) any expense of shipment of equipment or repaired or replacement parts; or (h) any other loss, damage or expense of any nature.

The above warranty shall not apply to any equipment which may be separately covered by any alternate or special warranties.

**PERFORMANCE:** In the absence of Certified Pump Performance Tests, equipment performance is not warranted or guaranteed. Performance curves and other information submitted to Buyer are approximate and no warranty or guarantee shall be deemed to arise as a result of such submittal. All testing shall be done in accordance with Seller's standard policy under Hydraulic Institute procedures.

**LIABILITY LIMITATIONS:** Under no circumstances shall the Seller have any liability under the Order or otherwise for liquidated damages or for collateral, consequential or special damages or for loss of profits, or for actual losses or for loss of production or progress of construction, regardless of the cause of such damages or losses. In any event, Seller's aggregate total liability under the Order or otherwise shall not exceed the contract price.

**ACTS OF GOD:** Seller shall in no event be liable for delays in delivery of the equipment or other failures to perform caused by fires, acts of God, strikes, labor difficulties, acts of governmental or military authorities, delays in transportation or procuring materials, or causes of any kind beyond Seller's control.

**COMPLIANCE WITH LAW:** Seller agrees to comply with all United States laws and regulations applicable to the manufacturing of the subject equipment. Such compliance shall include: The Fair Labor Standards Acts of 1938, as amended; Equal Employment Opportunity clauses of Executive Order 11246, as amended; Occupational Safety and Health Act of 1970 and the standards promulgated thereunder, if applicable. Since compliance with the various Federal, State, and Local laws and regulations concerning occupational health and safety, pollution or local codes are affected by the use, installation and operation of the equipment and other matters over which Seller has no control, Seller assumes no responsibility for compliance with those laws and regulations, whether by way of indemnity, warranty, or otherwise. It is incumbent upon the Buyer to specify equipment which complies with local codes and ordinances.



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