



Steam Hot Box



OWNER'S MANUAL: Steam Models

Model No. _____
Serial No. _____



Maximum Steam Pressure 200psi @ 386 degrees F

Designed, Patented and
Manufactured by:

BENKO PRODUCTS
ENGINEERED TO BE MORE

Benko Products Inc. · 5350 Evergreen Pkwy · Sheffield Village, Ohio · 44054
Phone (440) 934-2180 · Fax (440) 934-4052 · email: info@benkoproductions.com
www.benkoproductions.com

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INFORMATION

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WARRANTY

Benko Products Inc. warrants to customer that all new equipment is free from defect in workmanship and material as of time and place of delivery. Subject to the conditions herein, Benko will repair or replace, without charge, any parts proven to Benko Products' satisfaction to have been defective. Claims must be made within two years after date of shipment. Benko Products will not repair or replace any parts that become defective due to improper use or abuse.

Equipment and accessories not of Benko Products' manufacture are warranted only to the extent that they are warranted by the manufacturer, and only if the claimed defect arose during normal use, application and service. Equipment which has been altered or modified by anyone, without Benko Products' written authorization, is not warranted by Benko Products Inc.

EXCEPT AS STATED HEREIN, BENKO PRODUCTS INC., MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Buyer's exclusive remedy for claims arising hereunder shall be for damages. Benko Products Inc.'s alleged negligence for defective goods, irrespective of whether such defects are discoverable or latent, shall in no event exceed the cost to Benko Products Inc. of repairing, at Benko Products option, the defective or damaged goods. In no event, including in the case of a claim of negligence, shall Benko Products Inc. be liable for incidental or consequential damage.

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SECTION 1 - INTRODUCTION

1-1 GENERAL

This manual has been prepared for use in familiarizing personnel with the design, installation, operation, and maintenance of the Drum Warming Oven. Information presented herein should be given careful consideration to assure safe, optimum performance of this equipment.

1-2 RECEIVING/HANDLING

Prior to installation of the equipment, remove packaging material from the outside of the unit and carefully inspect for any damage that may have been caused by shipping. Remove the Hot Box accessories from the inside of box and inspect those for damage. Any claims for loss or damage that may have occurred in transit must be filed by the purchaser with the carrier.

1-3 SAFETY - STEAM OVENS

DO NOT EXCEED THE MAXIMUM STEAM PRESSURE RATING ON THE FRONT OF THIS MANUAL!!!

CAUTION: The Hot Box outer skin temperature may exceed 120 degrees Fahrenheit. Prolonged contact may result in bodily injury.

CAUTION: Do not stack Hot Boxes more than two (2) high.

CAUTION: When Hot Box ovens are used for heating materials that may generate hazardous vapors, venting or exhausting of the unit is required. Always open doors slowly and avoid breathing the air from inside the unit.

SECTION 2 - INSTALLATION OF UNIT

2-1 LEVELING INSTRUCTIONS

IMPORTANT: For best operation of the oven door latching mechanism and proper fit and sealing of the doors, the ovens should be installed on a flat solid surface.

1. If the floor in the desired installation location is not flat and level, then the oven corners must be shimmed to achieve a square front opening.
2. We recommend ¼" thick shim plates, at least 4"x 4" square, be used under the necessary corner to be raised. Use one shim at a time and test the doors. Keep stacking the shim plates until the doors close and seal.
3. It is best to first try to achieve a bubble level condition across the top of the oven in both directions - left to right and front to back. Once this has been achieved, then the doors should close properly.

In some cases this will not work and then the second method of squaring the oven opening to within 1/8 " is required:

1. First, before checking the oven front opening for square, it is important to shim the rear corners to achieve a bubble level condition on both sides of the oven roof from front to rear.
2. Once the oven is level front to back, then take diagonal measurements across the front opening of the oven. Measure from the lower right corner to the upper left corner of the oven and record this dimension. Then measure from the lower left corner to the upper right corner and record this dimension. We recommend that these 2 readings be within 1/8" of each other.
3. To achieve this 1/8" dimension, place a shim under the lower corner of the longest diagonal measurement. Place one shim at a time and then measure again.

In some cases, it is simply easiest to take a trial and error approach: raise one corner of the oven at a time and check the fit of the doors to see if they get better or worse. Alternate by adding or removing shims from each corner of the oven until good door closure is achieved.

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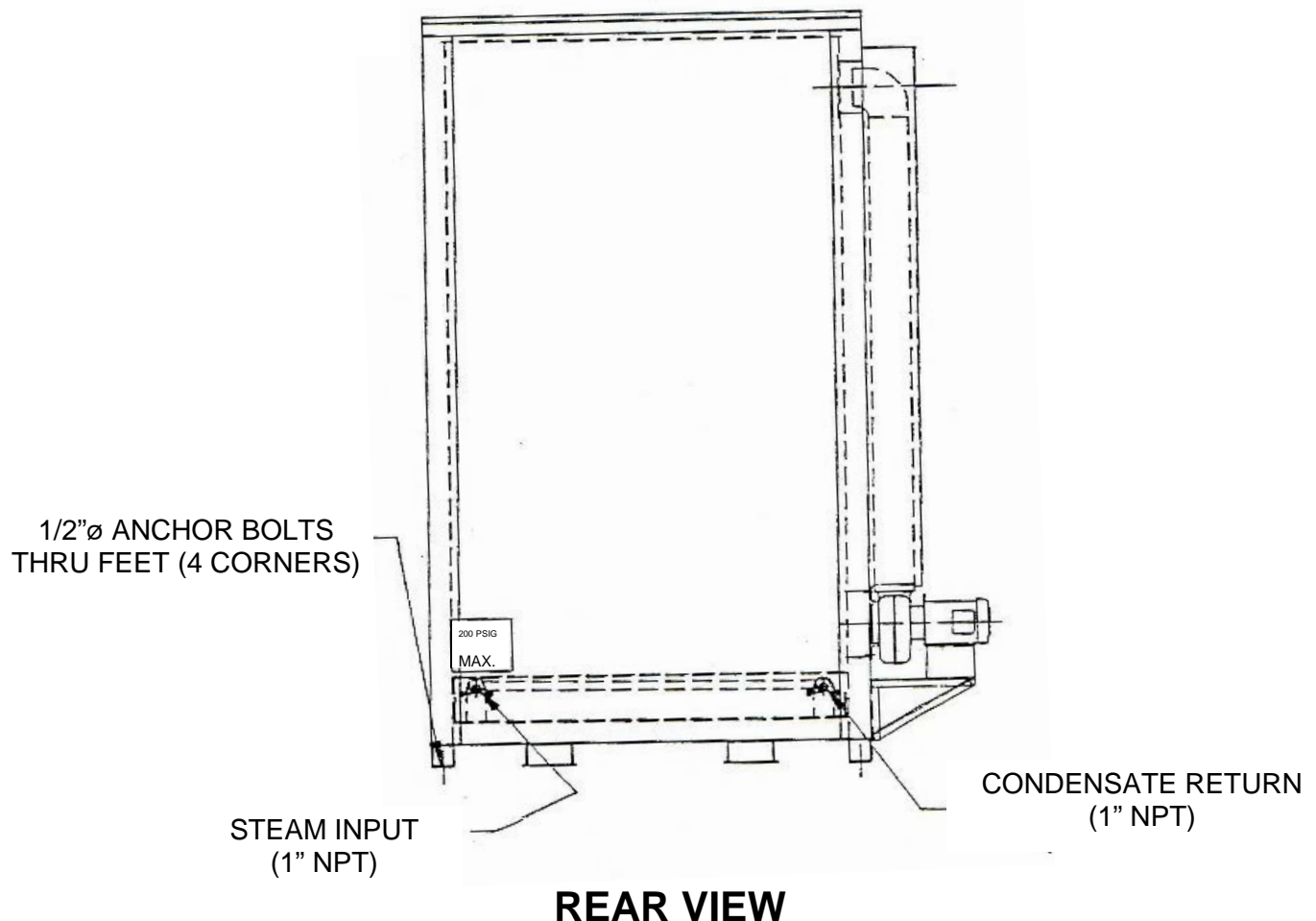
2-2 STEAM CONNECTIONS

Hook up the plant steam supply to the steam input side of the heat exchanger, this will be on the left side of the unit when facing the rear of the box.

CAUTION: DO NOT EXCEED THE MAXIMUM RATED STEAM PRESSURE OF 200 PSIG!!!

NOTE: Anchor bolts to secure drum warming oven are recommended when steam connections are to be rigidly piped.

Example of general Hot Box:



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SECTION 3 - STEAM ACCESSORY INSTALLATION

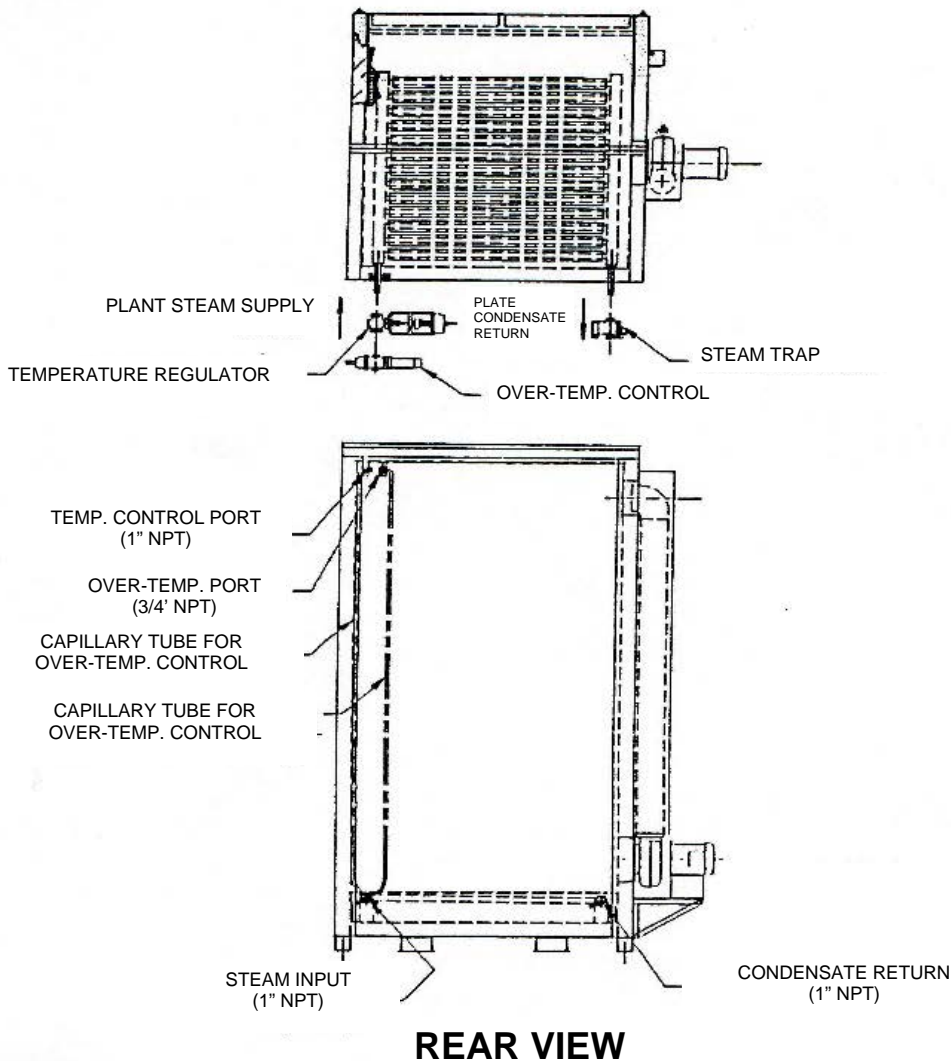
***FOR HOT BOXES WITH TEMPERATURE CONTROL AND STEAM TRAP**

3-1 TEMPERATURE CONTROL INSTALLATION

Locate the temperature control and install it on the steam input of the heat exchanger. Insert the temperature control probe into the 1" NPT port.

3-2 STEAM TRAP INSTALLATION

Locate the steam trap and install it on the condensate return of the heat exchanger.



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SECTION 3 - STEAM ACCESSORY INSTALLATION

***FOR HOT BOXES WITH TEMPERATURE CONTROL,
OVERTEMPERATURE PROTECTION AND STEAM TRAP**

3-1 TEMPERATURE CONTROL INSTALLATION

Locate the temperature control and install it on the steam supply side of the heat exchanger. Insert the temperature control probe into the 1" NPT port as shown.

3-2 OVER-TEMP. CONTROL INSTALLATION

Locate the over-temp. control unit and install it after the temp. control on the steam supply side of the heat exchanger (refer to drawing). Insert the over-temp. probe into the 3/4" NPT port as shown.

3-3 STEAM TRAP INSTALLATION

Locate the steam trap and install it on the condensate return side of the heat exchanger.

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TD-300

Thermodynamic Disc Steam Trap

DESCRIPTION

Incorporating a turbulence groove in the disc to reduce live steam loss the TD-300 is an all stainless steel thermodynamic disc steam trap with capacities up to 2900 lbs/hr.



APPLICATIONS

Industrial Process Equipment
 Steam Tracing
 HVAC Heating Equipment
 High-Pressure Drip Legs

- Removable 20 mesh screen
- All stainless steel
- Vertical or horizontal installation
- Discharges at steam temperature
- Optional blow down available
- 18 month warranty

Body	Stainless Casting ASTNA743 (CA40F)	PMO psi (bar)	300 (21)
Cap	Stainless Steel AISI 420	TMO ° F (° C)	425 (218)
Disc	Stainless Steel AISI 420	Min. Diff. Pressure psi (bar)	5 (0.34)
Strainer	Stainless Steel AISI 304	Min. Operating Pressure psi (bar)	5 (0.34)
Strainer Cap	Stainless Steel AISI 304		

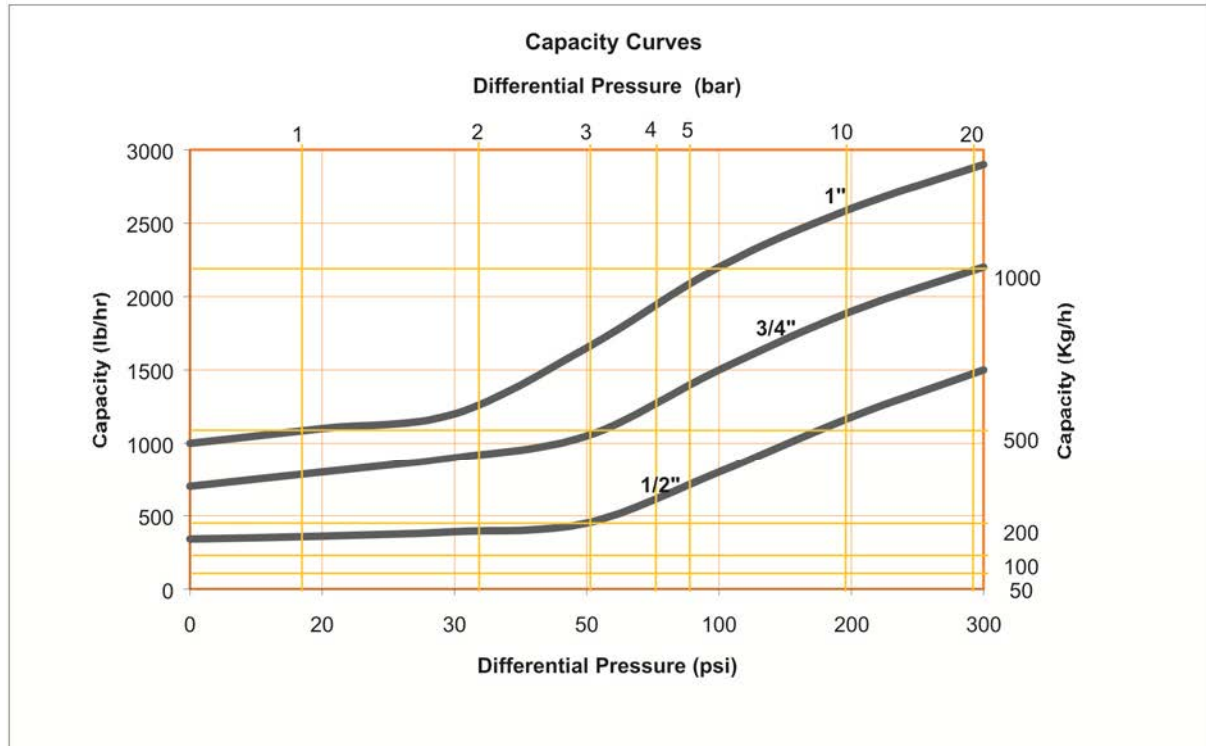
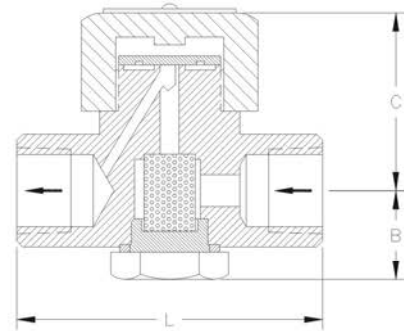
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TD-300 Thermodynamic Disc Steam Trap

Size NPT	1/2	3/4	1
L inches (mm)	3 (76)	3 (76)	3 (76)
B inches (mm)	7/8 (22)	1-1/8 (28)	1-1/8 (28)
C inches (mm)	1-5/8 (41)	2 (50)	2 (50)
Weight lbs (Kg)	1.6 (0.7)	2.4 (1.2)	2.6 (1.2)



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SECTION 4 - REPLACEMENT PARTS

SAHARA STEAM MODELS

PLEASE STATE MODEL AND SERIAL NUMBER ON FRONT OF MANUAL WHEN ORDERING REPLACEMENT PARTS.

DESCRIPTION

HEAT EXCHANGER

RIGHT DOOR W/ HINGES

LEFT DOOR W/ HINGES

DOOR GASKET

CAUTION AND PRESSURE RATING DECALS

THERMOMETER

GRATING

ARMSTRONG TEMP. CONTROLLER
(SPECIFY TEMP. RANGE)

STEAM TRAP

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