

# Contractor's Utility Requirements

## **TMB Baking Stoneheart Gas Deck Oven** Using Bassanina TUBIX Model with TMB Baking ETL/UL Approved Control & Burner Control System

### NATURAL GAS FIRED or PROPANE

#### - INSTALL INSTRUCTIONS -

This Manual is prepared for the use of licensed utility contractors. All gas, electrical, plumbing and venting connections should be made according to local codes.

This manual is not intended to be all encompassing. You should read, in its entirety, the installation procedure you wish to perform to determine if you have the necessary tools, instruments and skills required to perform the procedure. Procedures for which you do not have the necessary tools, instruments and skills should be performed by a trained and licensed technician.

# Utility Requirements

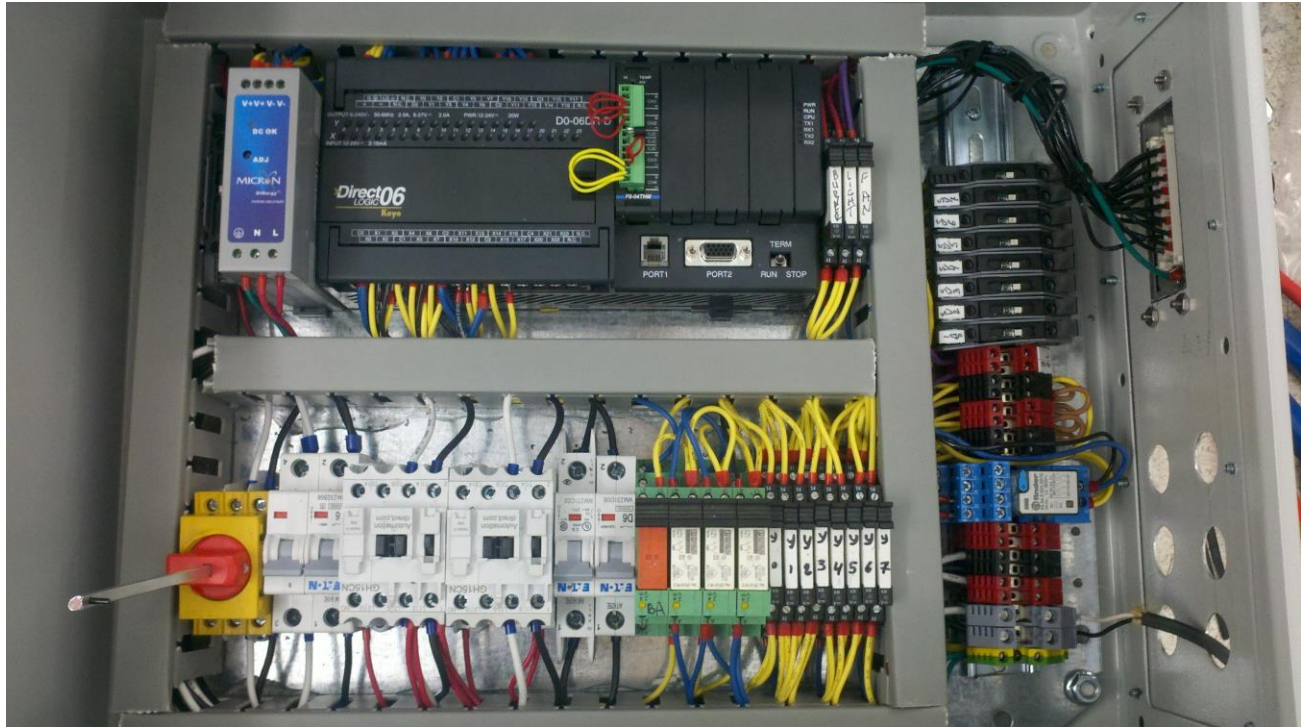
- Electric Power:** 110 Volt / 1 phase / 60 Hz / 20 amp / supply 4 wire including neutral and ground. See enclosed photo (Fig. 1) and spec sheet for details
- Natural Gas:** 350,000 BTU at 14" WC max, 7" WC min  
Flexible gas line is not recommended.
- Gas lines should be 3/4" inside diameter from top of oven to gas valve.
- Gas lines must have a shut off valve and union located in burner compartment for code compliance and ease of servicing the burner. See enclosed drawing (Fig. 2), picture (Fig. 3) and spec sheet.  
Gas line should have drip leg in gas line.
- Propane Gas:** 250,000 BTU at 14" WC max, 5" WC min
- Water:** 60 PSI at 4 GPM. Oven usage 2.5 GPH per bake. See enclosed photo (Fig. 4) and spec sheet.
- Drain:** 3/4" IPS drain connection in front of oven.
- Venting Requirements:** See spec sheet.
- Wall Clearance:** 0" Clearance fire code rating back and sides.
- Setting requirements Midco Burner:** Natural Gas  
**Model RE 4400 DS** Manifold Pressure: 3.5 WC  
Propane Gas: Orifice size: 0.219  
Manifold Pressure: 3.2 WC
- Draft Requirements:** 0.05 - 0.10 Negative pressure at site hole above burner.
- Exhaust Fan:** An exhaust fan can be installed above the roof line if required to increase draft. If installed, an automatic burner shutoff wired to the control panel must be installed. **Providing the specification for and installing this shut-off to the fan, along with wiring to the TMB Baking control panel is the responsibility of the local HVAC or mechanical engineer contractor.**

# TMB Baking Stoneheart/Bassanina TUBIX Oven Oven Dimensions

Model	Baking surface	Thermal power	Weight	Inside dimensions		Outside dimensions		Chambers height (from the floor)				Chamber height
	m <sup>2</sup>	kcal/h	kg	mm	mm	mm	mm	mm	mm	mm	mm	mm
<b>420</b> <b>4C/2D</b>	7,90	65000	8900	1600	1240	2870	1840	850	1100	1350	1600	200
<b>421</b> <b>4C/2D</b>	9,90	80000	9300	2000	1240	3270	1840	850	1100	1350	1600	200
<b>422</b> <b>4C/2D</b>	11,90	90000	9700	2400	1240	3670	1840	850	1100	1350	1600	200
<b>330</b> <b>3C/3D</b>	8,90	70000	8500	1600	1860	2870	2460	1000	1250	1500		200
<b>331</b> <b>3C/3D</b>	11,20	85000	8900	2000	1860	3270	2460	1000	1250	1500		200
<b>332</b> <b>3C/3D</b>	13,40	95000	9300	2400	1860	3670	2460	1000	1250	1500		200
<b>430</b> <b>4C/3D</b>	11,90	90000	9700	1600	1860	2870	2460	850	1100	1350	1600	200
<b>431</b> <b>4C/3D</b>	14,90	120000	10100	2000	1860	3270	2460	850	1100	1350	1600	200
<b>432</b> <b>4C/3D</b>	17,90	135000	10500	2400	1860	3670	2460	850	1100	1350	1600	200
<b>440</b> <b>4C/4D</b>	15,90	125000	10500	1600	2480	2870	3080	850	1100	1350	1600	200
<b>441</b> <b>4C/4D</b>	19,80	140000	10900	2000	2480	3270	3080	850	1100	1350	1600	200
<b>442</b> <b>4C/4D</b>	23,80	160000	11300	2400	2480	3670	3080	850	1100	1350	1600	200

# TMB Baking Stoneheart/Bassanina TUBIX Oven Electrical Connection

Fig. 1



The ETL/UL Approved Gas Burner Control System is PLC driven. The control panel is mounted on the top of the oven and requires a single-phase electrical connection. A wire is also typically run from the proving switch on the roof-mounted make-up air fan and steam exhaust fan, interlocking them for safety of the oven and bakery staff. (Required by code in most jurisdictions.)

The control has built-in safety features including an oven shut-down in the event of:

- High Temperature Limit Triggered
- Gas Burner Failure (redundant to UL-approved Midco Burner)
- Make-up Air Fan Failure (or not on) – Interlock with fan and control



# **TBM Baking Stoneheart/Bassanina TUBIX Oven Burner Connections**

See accompanying Midco Burner Manual

Note: High Pressure regulator used only when low pressure gas is not available in the building

Burner location – Under front panel of oven



Note that gas valve and union are both required under the cabinet for quick turnoff so that the burner can be easily serviced, repaired or replaced, if necessary.

## **TBM Baking Stoneheart/Bassanina TUBIX Oven WATER SUPPLY**

Cold water ½" copper pipe to water solenoid with shut off valve and union installed in burner compartment. Steam floor sink should be located in front or at back of oven.



Solenoid valves dose water in the amount set in the touch screen controls.

A water conditioning system, typically an RO System, is recommended for the water supply when water quality is poor or high in mineral content. Please consult with your local water conditioning company for this service.

## **TBM Baking Stoneheart/Bassanina TUBIX Oven VENTING INSTRUCTION**

All venting must comply with local codes.

The gas exhaust venting shall be 8" double wall with a Tee and 8" barometric damper. A 24" extension on the Tee is required to attach the barometric damper. See picture and spec sheet for detail.

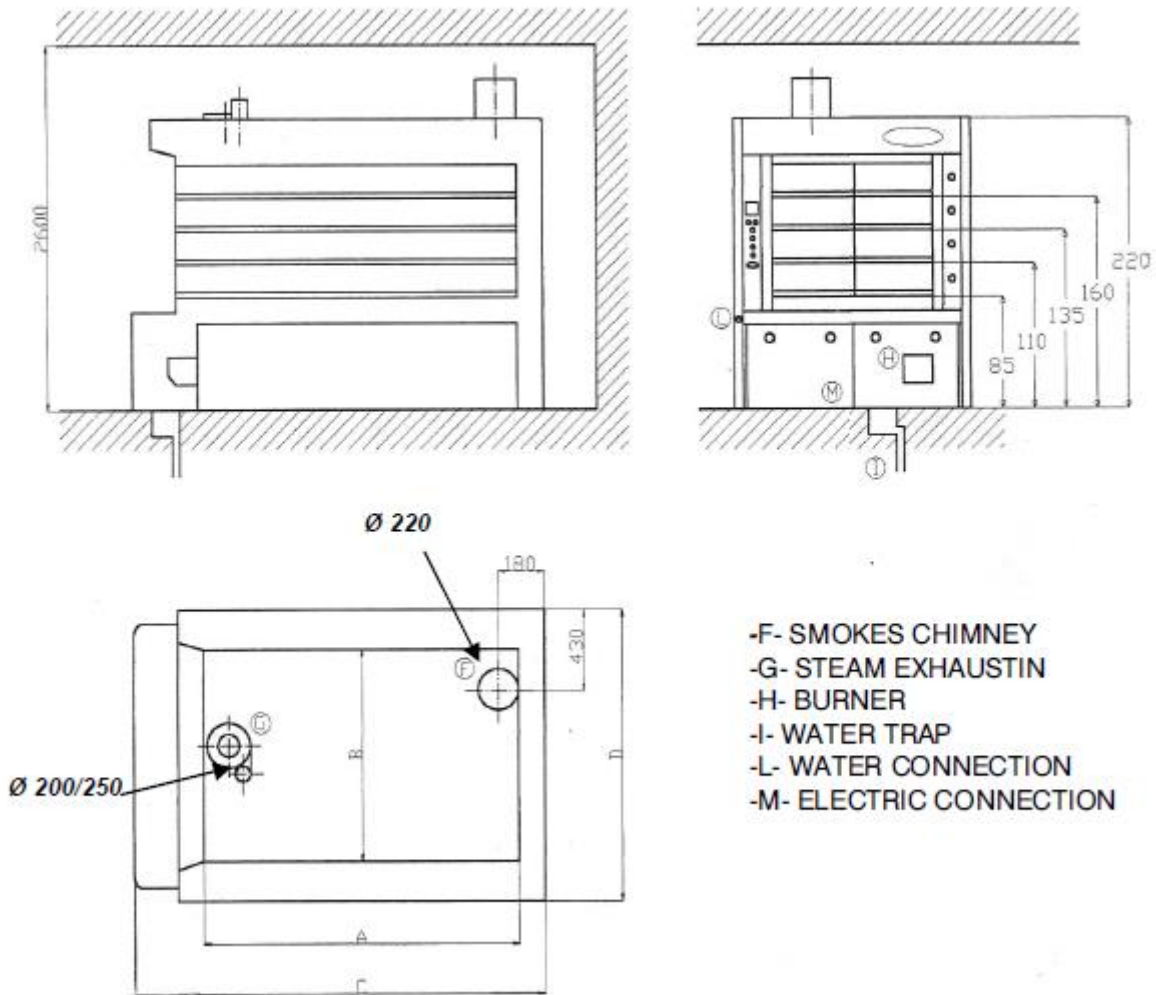
A straight pipe is recommended through the ceiling, but not required. No more than two 45° fittings can be used within a distance of 3 feet. An exhaust fan can be added above the roof, if required to increase draw.

Note: if any of these recommended configurations are not applicable in the building, a draft inducer needs to be calculated by the mechanical engineer to obtain, when the burner is off, a 0.01 - 0.04 WC negative pressure inside the combustion chamber still hot at site hole above burner. Make up air ON and exhaust fan ON, all windows and doors closed.

## **TBM Baking Stoneheart/Bassanina TUBIX Oven**

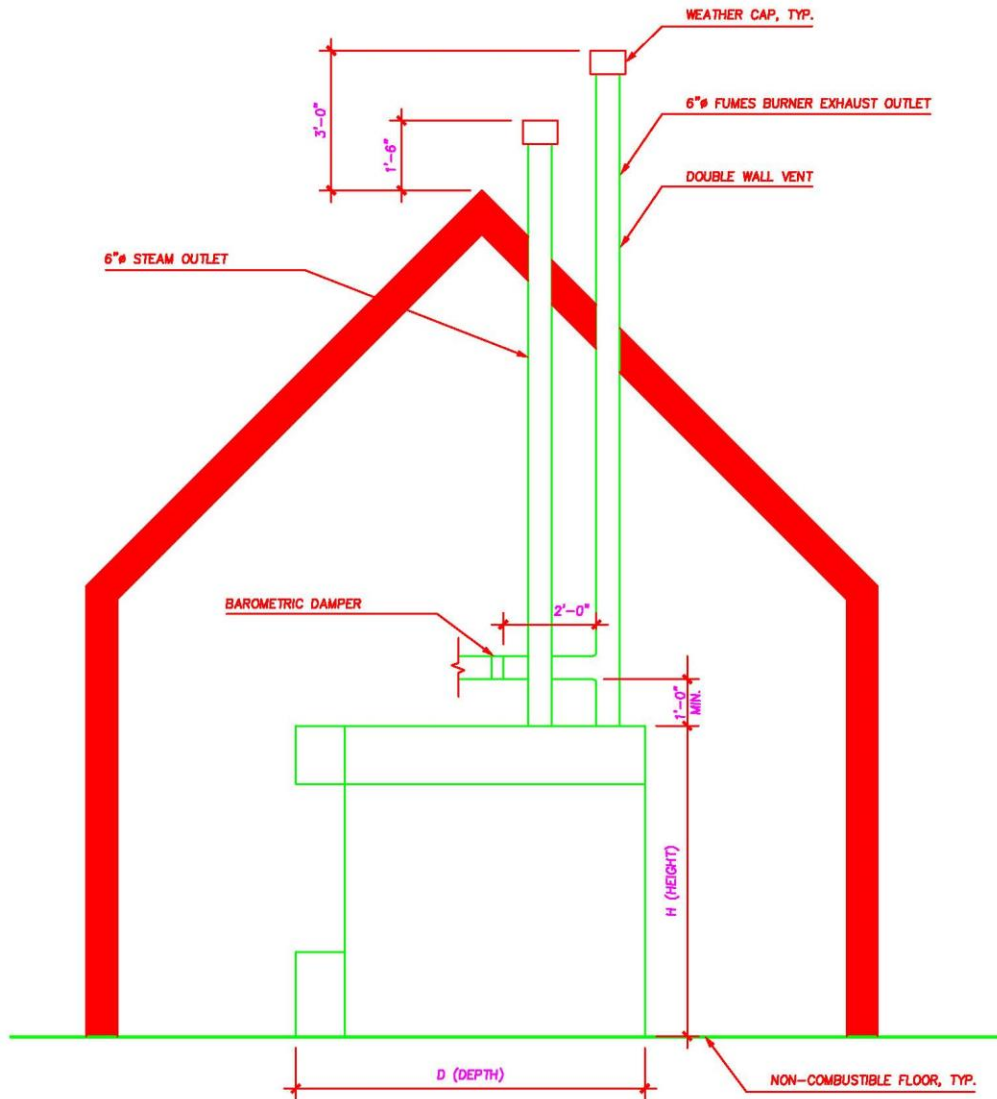
Locations of Gas and Steam Exhaust vents and utility connections.





## TBM Baking Stoneheart/Bassanina TUBIX Oven

Elevation view of exhaust lines for Zoom & TUBIX ovens



TMB BAKING - ZOOM OVEN (ELEVATION)  
N.T.S.  
2012.03.30

## TBM Baking Stoneheart/Bassanina TUBIX Oven Hood Steam & Damper Exhaust

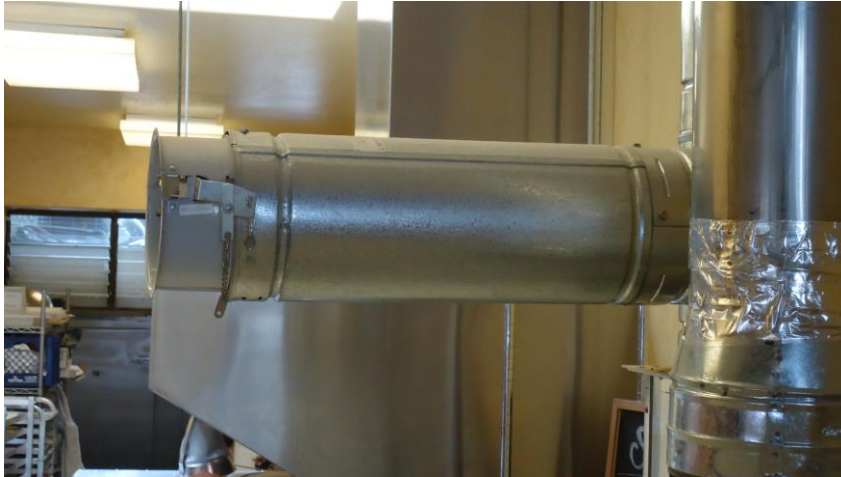
TMB Baking 527 DNA Way South San Francisco, CA 94080  
TEL: 650.589.5724 – FAX: 589.5729 [contact@tmbbaking.com](mailto:contact@tmbbaking.com) [www.tmbbaking.com](http://www.tmbbaking.com)

6" Diameter single wall. Galvanized is acceptable, but stainless steel recommended only for durability



TMB Baking now recommends that steam exhaust be roof mounted, and not on the top of the oven, for safety and sanitation. An 800cfm unit is typically recommended, though a mechanical engineer should make the final determination based on the length and/or number of turns in the run from the oven to the roof.

## **TBM Baking Stoneheart/Bassanina TUBIX Oven Venting Details**



Example of gas exhaust with barometric damper.  
(See schematics for alternative layouts.)

## **TBM Baking Stoneheart/Bassanina TUBIX Oven**

Photo showing touch screen control with manual override

Sub-control panel located on top left side of oven.



Photo: Iliana Berkowitz, owner As Kneaded Bakery, San Leandro, CA  
TMB Baking Stoneheart/Bassanina Tubix 420-D (1.6M deep x 1.2M wide, 2 doors) with tower loader