

60-DUO-NU-31i50 / 21

GEMINI/ W & P MODEL DUO-NU 3750/.21

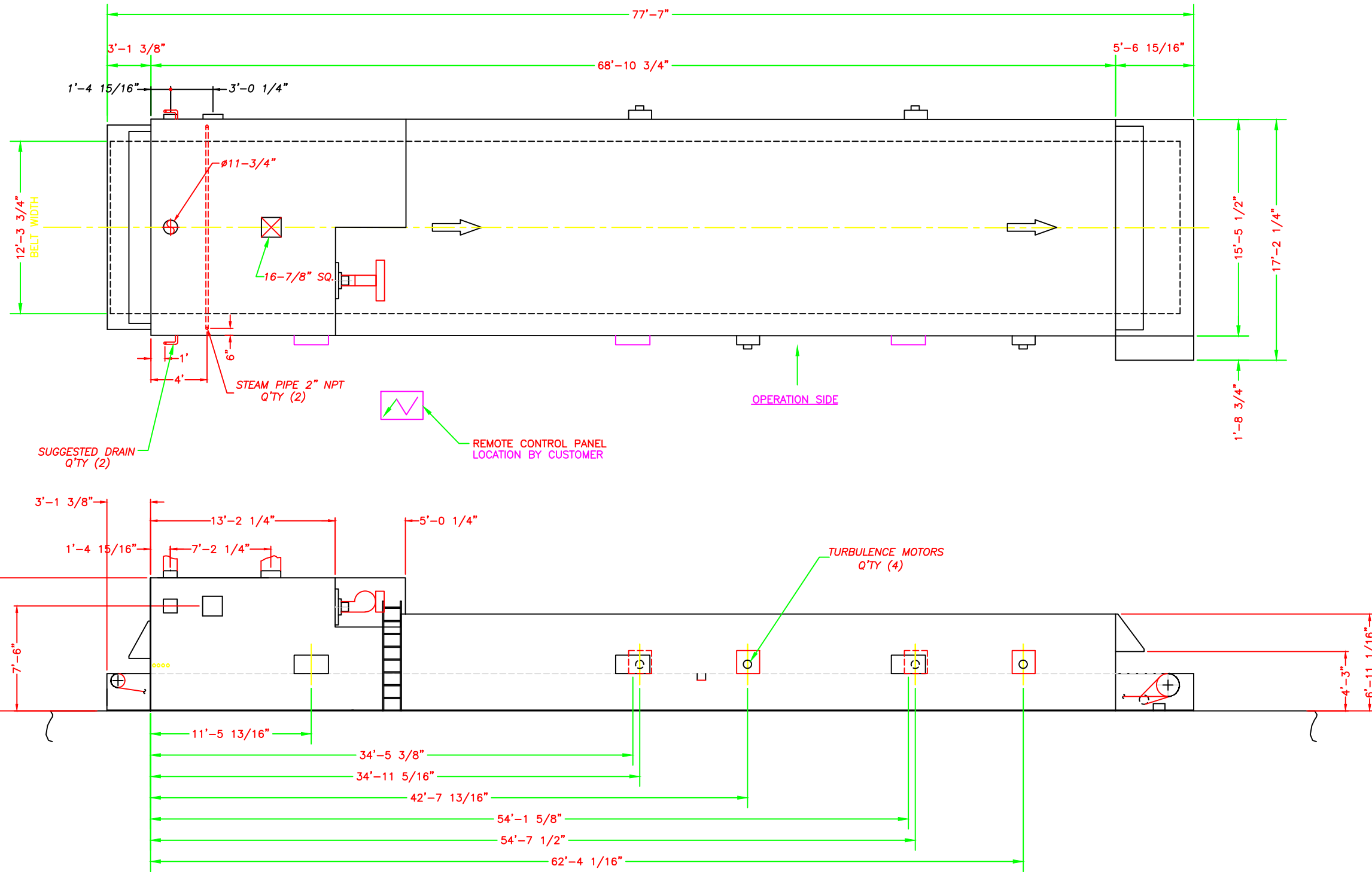
INDIRECT-FIRED CYCLOTHERM TUNNEL OVEN

- BAKING LENGTH, 21 METERS (69 FEET)
- BAKING WIDTH, 3.75 METERS (12.3 FEET)
- ONE (1) BURNER TOWER
- NATURAL GAS FIRED
- POWER FLAME TYPE C BURNER WITH A 6:1 TURN
- DOWN RATIO SUPPLIED STANDARD
- MESH BAND HEARTH
- MESH-STYLE BELT
- AC. INVERTER MESH BELT DRIVE WITH 1: 6 TOL RATIO
- PAINTED ENAMEL EXTERIOR COVERS
- BUILT-IN STAINLESS STEEL FRONT AND REAR HOODS
- HEATING FOR TOP AND BOTTOM IS ADJUSTABLE VIA MANUAL DAMPERS
- MULTI-ZONE TEMPERATURE CONTROL
- OVEN IS FITTED WITH THE CYCLOTHERM INDIRECT HEATING SYSTEM IN WHICH HEATING GASES ARE KEPT COMPLETELY SEPERATE FROM BAKING CHAMBER (PARTIAL VACUUM SYSTEM) AND DO NOT COME IN CONTACT WITH BAKING CHAMBER
- OVEN IS DIVIDED INTO INDIVIDUAL CONTROL ZONES WHICH CAN BE OPERATED WITH INDEPENDENT TOP AND BOTTOM HEAT
- TWO (2) STEAM- EVACUATION DAMPERS
- WIRE BAND IS RETURNED OVER A SOLID INSULATED STEEL SHELF WHICH ENSURES SMOOTH RUNNING (NO LATERAL DEVIATION OR OSCILLATION) AND ALSO PREVENTS EXCESSIVE BELT COOL DOWN
- BAND TENSIONS ENGINEERED ACCORDING TO LOAD ON WIRE BAND, I.E., ACCORDING TO PRODUCT TO BE BAKED
- TENSIONING IS MAINTAINED AUTOMATICALLY BY A COUNTER-BALANCE WEIGHT SYSTEM
- AUTOMATIC BELT TRACKING DEVICE IS LOCATED IN BELT RETURN AREA
- CRUMB DISCHARGE TRAYS ARE PLACED BELOW DISCHARGE BELT DRUM ANDI BELOW BELT TRACKING DEVICE FOR EASY CLEANING OF CRUMB DEPOSITS
- SOLID BASE WITH MINIMUM 12" OF INSULATION BETWEEN BAKERY FLOOR AND OVEN
- STANDARD UL LISTED PANEL AND COMPONENTS WHICH IS CENTRALLY LOCATED AT S I D E OF OVEN
- OVEN IS EQUIPPED WITH A DUOTHERM HEATING SYSTEM CONSISTING OF TWO (2) 18 FOOT TURBULENCE SECTIONS
- HEATING GASES I FOR TOP AND BOTTOM HEATING ARE LED INTO NUMEROUS I PIPES, DISTRIBUTED ACROSS THE WIDTH OF THE DUOTHERM RADIATORS

- THE ATMOSPHERE IN THE BAKING CHAMBER IS CIRCULATED IN A VERTICAL DIRECTION BY A REVERSIBLE FAN THROUGH THE SPACES BETWEEN THE PIPES
- BETTER HEAT TRANSMISSION ON A CONVECTIVE BASIS IS ACHIEVED BY THIS AIR FLOWING RAPIDLY PAST THE PRODUCT TO BE BAKED

CONTROL PANEL WITH ALLEN-BRADLEY "SLC 500"

- UL LISTED ,
- CONTROL PANEL IS CENTRALLY LOCATED AT SIDE OF OVEN
- INTERNAL WIRE DUCTING IS SUPPLIED FOR INSTALLATION OF INTERNAL WIRING
- CONTROL PANEL IS EQUIPPED WITH ALLEN-BRADLEY
- "SLC 500" CONTROLLER WITH FOLLOWING FEATURES:
- PLC WILL PERFORM THE FOLLOWING:
  - NON SAFETY RELATED OVEN CONTROL LOGIC
  - FUNCTIONS
  - INDICATOR LAMP CONTROL
  - PRESET SPEED SELECTION (8 SPEEDS) FOR BELT DRIVE SYSTEM
  - PRESET SPEED SELECT I ON (8 SPEEDS) AND DIRECTION SELECTION FOR EACH TURBULENCE ZONE
- PLC WILL "NOT" PERFORM THE FOLLOWING:
  - TEMPERATURE SELECTION AND CONTROL
  - INTERLOCKING OF MAIN FAN AND BURNER CONTROL SYSTEM
  - ANY FUNCTION WHICH REQUIRES ANALOG INPUT
  - OUTPUT TO/FROM THE PLC
- THE PLC WILL BE WIRED AND PROGRAMMED AS FOLLOWS:
  - A SINGLE PRODUCT SELECTOR SWITCH WILL SELECT UP TO 8 DIFFERENT BELT SPEED AND TURBULENCE FAN SPEED/DIRECTION COMBINATIONS. COMBINATIONS CAN BE PROGRAMMED FOR OPTIMUM OVEN PERFORMANCE FOR EACH PRODUCT.
  - ALL OPERATOR PANEL INDICATORS AND CONTROLS, WITH THE EXCEPTION OF THE TEMPERATURE CONTROLLER WILL BE MONITORED BY THE PLC. THE PLC WILL CONTROL THE OPERATION OF ALL INVERTERS, MOTOR CONTROLLERS. AND INDICATOR LAMPS.
  - ALL SAFETY RELATED INTERLOCKS AND LOCKOUT SYSTEMS WILL UTILIZE "HARD WIRED" CONTACTS AND DEVICES IN ORDER TO SHUT DOWN FAILED SYSTEMS AND PREVENTS UNSAFE OPERATION
- DRIVE AND OPERATING SIDE: RIGHT-HAND, VOLTAGE: 480V, 60 HZ, 3PH.



**OVEN BAKING MESH SPECIFICATIONS:**

- 125 26 13 18 USA type mesh designation
- 125 wires per 12" (304.8 mm) across oven
- Spirals 1.2 mm #18 wire (0.047")
- Cross rods D 2.5 mm #13 wire 0.098
- Pitch 18.5 mm (0.85")
- Weight 10.5 kg/m 2.15 Lbs. per sq. ft.
- SM steel wire
- Blank coppered
- Round wire belt S-edge

**GENERAL NOTES:**

- Combustion gas and steam exhausts - From the top.
- Baking time regulations - Electronic with digital indicator at control panel.
- Baking time regulation range - Infinite 8-48 min (1:8)
- Drive - 1, Power Flame model C2-G-20B, 3080 mbtuh
- Number of heating zones - 4
- Number of burners - 1
- Number of inspection doors - 3
- Wireband tensioning - Counter-balance weight design
- Band regulation - Automatic
- Operating side - Right hand (seen in production flow)

**CONNECTION VALUES:**

- Natural gas - 51 cfm max @4.5-14.5" WC
- Steam - 200 kg/h at 0.5 bar
- Electricity - 48 kVA

**POWER SUPPLY:**

- Drive - 3 Hp, AC variable
- Burner - 1.0 Hp, AC 3 phase
- Circulating blower - 30 Hp, AC 3 phase
- Turbulence Blowers - 4 @ 4 Hp AC 3 phase
- Voltage - 480v. - 3 phase - 60Hz

**COLOR:**

- RAL 7035 light grey

CONCEPTUAL DRAWING FOR SALES PURPOSES ONLY.

SDAN9401

REVISIONS			
No.	DATE	BY	NOTE
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DIMENSIONS ARE APPROXIMATE

**Gemini**

TITLE/PART NAME  
21 METER TUNNEL OVEN, 3750mm BELT  
DANSK BAKERY

SCALE 1/4"=1' DATE 7/1/94 DWL BY JY  
APPR. GP DWG. No./PART No. SDAN9401 SIZE D