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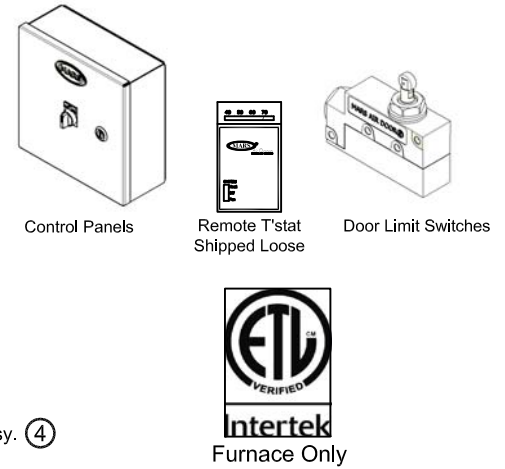
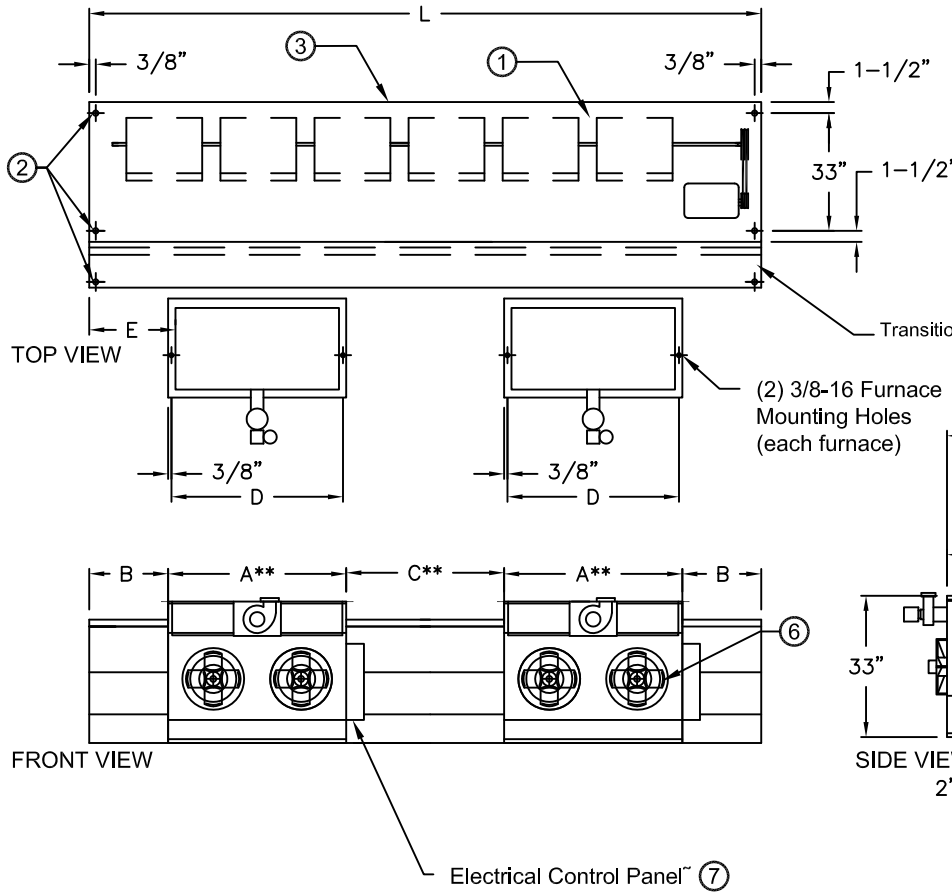
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PROJECT		OPTIONS/ITEMS	
TITLE			
COMMENTS		DATE 4/21/15	PAGE
		REV. NO	
MODEL NO. BD22 Series	DRAWING NO BD22IG-F	DRAWN BY TVN	CHECKED BY
		FILE NAME	

# Indirect Fired Gas Heated Drawing

## BD22 (Belt Driven 22) Series

### ⑧ Recommended Accessories



### Notes:

Note: MARS reserves the right to change specifications and product design without notice. Such revisions do not entitle the buyer to corresponding changes, improvements additions or replacements for previously purchased equipment.

\*Please see Furnace Submittal for Furnace Data and Dimension  
 Removal of Furnace may be required for servicing and trouble shooting.

\* Use corresponding letters in "Electrical Data" columns to complete the model numbers.

\*\* For 3 furnace models, please add an additional C and A dims

- The Air Curtain is designed to comply with the National Electric Code (NEC) and the Furnaces are ETL verified to be 83% efficient with 3/8 overhead mounting hardware for overhead mounting.
- 7/8" mounting holes (4) provided, (2) on each end of air curtain and 5/8" mounting holes (2) provided, (1) on each end of transition assembly.
- Cabinet has sufficient strength for fastening from overhead on both ends without intermediate support. Furnace must be mounted at least 2" away from the transition. Transition pieces are provided with pilot holes for easy field assembly and hardware is included.
- Factory assembled, powder coated Transition shipped loose for field installation. Units 10' and longer, use (2) transitions side by side.
- Unit is to be installed such that air flow is unobstructed. Air discharge nozzle containing adjustable air directional vanes with 40° sweep front to back.
- Furnaces with impellers have positive pressure, 20 gauge aluminized tubular heat exchanger with in-shot burner technology, power vented exhaust (horizontal or vertical), single stage gas valve, direct spark ignition and certified for Category I and III venting.
- Circuit protection as per NEC by others.
- Optional motor control panel and door limit switch are field installed and/or wired by others. The door limit switch is to be mounted such that the air curtain turns on as door begins to open. To prevent unit damage, the mounting brackets must be installed such that the bottom of the air curtain is not below the door header.

MODEL NUMBER	Overall Width (in) L	Furnace Width (in) A	End Space (In) B	Center Space (In) C	Mounting Distance (In) D	End Dim (in) E	Furnace Size (MBH)
BD2296-1I*-TS	107	32 3/4	10 3/8	20 3/4	30 5/8	11 3/4	2 @ 250
BD22120-1I*-TS	131	50 3/4	7 3/8	14 3/4	48 5/8	8 3/4	2 @ 400
BD22144-1I*-TS	155	50 3/4	13 3/8	26 3/4	48 5/8	14 3/4	2 @ 400
BD22168-1I*-TS	179	50 3/4	-	12 1/2	48 5/8	2 1/4	3 @ 400
BD22192-1I*-TS	203	50 3/4	8 11/24	16 11/12	48 5/8	9 5/6	3 @ 400

# BD22 (Belt Drive 22) Series

Indirect Gas Fired

Model Lengths 96" – 192"



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## Indirect Gas Fired Data Sheet

**Applications: Environmental Separation = Max Height 24' / Insect Control = Max Height 22'**

BD22 (WindGuard)	Mechanical Data							Lab Data		
	Model Number	Nozzle Length (in)	Length (in)	Depth (in)	Height (in)	Motor (hp)	Total Weight** (lbs)	Furnace Weight (lbs)	Max Velocity (fpm)	Max Volume (cfm)
	BD2296-1I*-TS	96	107	82 1/2	33	10	1198	2 @ 211	6000	16250
	BD22120-1I*-TS	120	131	82 1/2	33	15	1563	2 @ 335	6000	20300
	BD22144-1I*-TS	144	155	82 1/2	33	15	1680	2 @ 335	6000	24350
	BD22168-1I*-TS	168	179	82 1/2	33	20	2132	3 @ 335	6000	28400
	BD22192-1I*-TS	192	203	82 1/2	33	20	2249	3 @ 335	6000	32500

\* - Use corresponding letters in "Electrical Data" columns to complete the model numbers.

Note: Data above is for 60 Hz, 17% reduction in the performance data with 50 Hz.

\*\* - Total Weight includes air curtain, transition, and furnace weights

### Features:

#### Air Curtain and Transition

- ❖ 10 to 20 HP continuous duty premium efficiency industrial TEFC motors
- ❖ Air curtain is a self-contained one-piece heavy gauge corrosion proof paint lock metal design
- ❖ Top mounting holes provided (3/4")
- ❖ Cabinet has sufficient strength for fastening from overhead on both ends without intermediate support
- ❖ Adjustable air directional nozzle with 40° sweep front to back
- ❖ Transition is shipped fully assembled and fastened to unit (overhead support required)
- ❖ Standard color is Titanium Silver
- ❖ Rust preventative electrostatic polyurethane powder coating
- ❖ 12-month parts warranty
- ❖ Freight Not Included (FOB Factory)
- ❖ Proudly Made in the USA

#### Indirect Gas Fired Furnaces

- ❖ ETL verified to be 83% efficient
- ❖ In-shot burner technology
- ❖ Aluminized tubular heat exchanger (20 gauge)
- ❖ Positive pressure 120V impellers (separate 120V, 1Ø power required)
- ❖ Power vented exhaust
- ❖ Single stage gas valve
- ❖ Standard direct spark ignition
- ❖ Certified for Category I and III Venting
- ❖ Natural gas
- ❖ Factory test fired
- ❖ Overhead mounting hardware provided (2 per furnace)

### Mars Recommended Accessories (see submittals for additional details):

- ❖ Door limit switches
  - 99-125, Industrial surface-mounted door limit switch
- ❖ Controllers
  - MCPA-†U\*, Motor Control Panel, 120V control voltage († = # of Motors, \* = Voltage Code)
    - MCP-TD, Adjustable time delay, 1sec-100hr (panel required)
 Note: Dry contact provided in panel for monitoring motor. 24Vac signal provided from panel for controlling motor
  - ❖ IDF-2STG, Two-stage heat exchanger
  - ❖ IDF-SS, 409 stainless steel heat exchanger
  - ❖ IDF-MOD-RS, Room sensor for modulating gas valves (0-10VDC/4-20mA control voltage by others)

Indirect Fired Gas Data						
Model Number	# of Furnaces	Input MBH per Furnace	Total Output MBH	Temp Rise (°F)	Flue Size	Natural Gas (NPT) CONN
BD2296-1I*-TS	2	250	415	24	5" Rnd	1/2"
BD22120-1I*-TS	2	400	664	30	6" Rnd	3/4"
BD22144-1I*-TS	2	400	664	25	6" Rnd	3/4"
BD22168-1I*-TS	3	400	996	32	6" Rnd	3/4"
BD22192-1I*-TS	3	400	996	28	6" Rnd	3/4"

\* - Use corresponding letters in "Electrical Data" columns to complete the model numbers.

Electrical Data (FLA)	Unit Voltage (Voltage Code)			Furnace
	208/230v (G)	460v (H)	575v (I)	115V
BD2296-1I*-TS	28.0/26.0	14.0	10.3	16.0
BD22120-1I*-TS	42.0/40.0	20.0	15.6	27.0
BD22144-1I*-TS	42.0/40.0	20.0	15.6	27.0
BD22168-1I*-TS	55.0/51.0	25.5	20.2	40.5
BD22192-1I*-TS	55.0/51.0	25.5	20.2	40.5

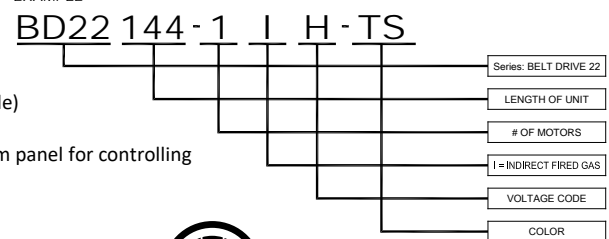
\* - Use corresponding letters in "Electrical Data" columns to complete the model numbers.

Alternate voltage codes with FLA (Full Load Amp) data:

380-415V/3Ø/50Hz (W) - 11.5A per motor (10HP), 15.5A per motor (15HP), 22.5A per motor (20HP)

Note: For ampacity, multiply FLA X 1.25

EXAMPLE



**Intertek**  
Furnace Only

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