WESTERN

HTDM 90+ OMEGA

- **91% & 95% EFFICIENT INDIRECT FIRED HEAT EXCHANGER**
- **UP TO 60:1 TURNDOWN**
- **HEAT ONLY & HEAT / COOL UNITS**

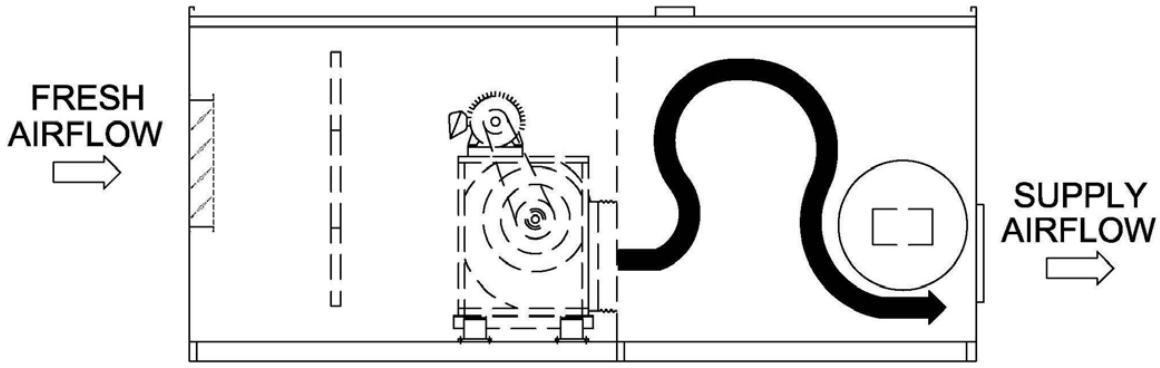
DESIGN FEATURES:

HEATING ONLY:

- DRUM & TUBE HEAT EXCHANGER
- 409 STAINLESS STEEL 14 GAUGE HEAT EXCHANGER MATERIAL
- PROPRIETARY TUBE PLACEMENT/ARRANGEMENT
- OMEGA AIR PATTERN
- INTERNAL TURBULATORS INCREASE HEAT TRANSFER

HEAT/COOL:

- HIGH EFFICIENT & DURABLE DIGITAL SCROLL D.X. COOLING WHICH ELIMINATE NEED FOR HOT-GAS BYPASS
- 10:1 TURNDOWN ON SINGLE STAGE COMPRESSORS AND 20:1 TURNDOWN FOR TANDEM COMPRESSOR
- VFD CONTROLLED CONDENSER FAN (NO FAN CYCLING)
- DIGITAL SUPERHEAT CONTROLLER
- ELECTRONIC EXPANSION VALVE



OMEGA DESIGN

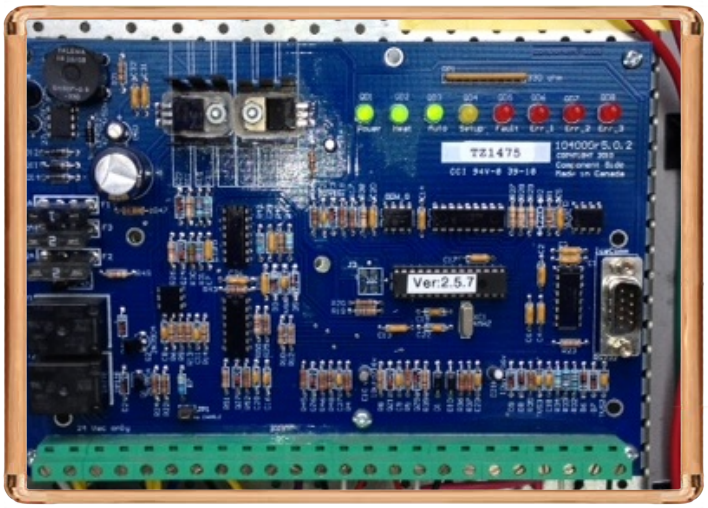
OMEGA HEAT EXCHANGER DESIGN PROVIDES A REVOLUTIONARY AIR PATTERNING OVER ALL CRITICALLY ESSENTIAL COMPONENTS OF THE HEAT EXCHANGER, PROVIDING CONTINUAL "SCRUBBING" OF THE HEAT EXCHANGER DRUM & TUBES WHICH ALLOWS FOR HIGHEST HEAT TRANSFER POSSIBLE. THE OMEGA FLOW OF THE SUPPLY AIR HAS BEEN SHOWN TO ELIMINATE "HOT SPOT" AREAS OF THE HEAT EXCHANGER, ENSURING LONG HEAT EXCHANGER LIFE AND MAXIMUM HEAT TRANSFER. DURABLE 14 GAUGE 409 STAINLESS STEEL CONSTRUCTION OF ENTIRE HEAT EXCHANGER PROVIDES THE BEST MALUABLE EXPANSION AND CONTRACTION PROPERTIES DURING COMBUSTION PROCESS, WITH HIGHEST POSSIBLE RESISTANCE TO CONDENSATE WHILE PROVIDING THE GREATEST CONDUCTIVITY OF HEAT TO SUPPLY AIR, ENSURING THE HIGHEST CAPACITIES AND EFFICIENCIES AVAILABLE.

THE REVOLUTIONARY ICECON III

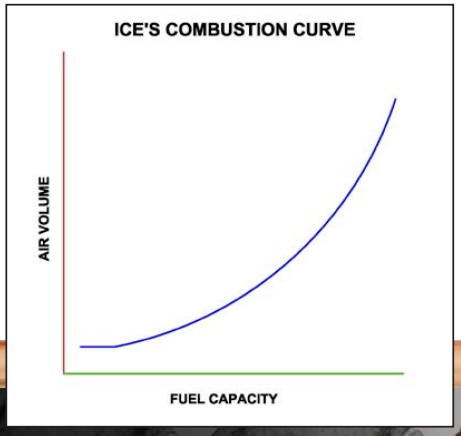
The ICECON III board capability allows ICE to create a near perfect combustion throughout the operating range of heat exchange for the past 20 years. Because of this advanced technology we have become very successful in producing efficient and high quality heat exchangers and burners.

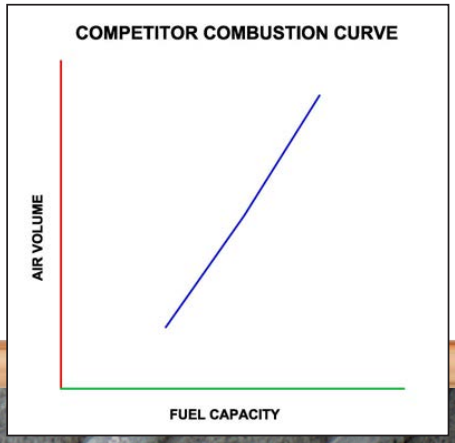
ICE CON III

- **Heat Modes: Factory set discharge temperature**
- **Remote Temperature selector (RTS)**
- **External modulation control**
- **Signal: 4-10mA, 0-10 VDC, compatible with Building Management Systems (BMS)**
- **Error signal indication:**
  - **High limit**
  - **Low limit**
  - **Air Proving**
  - **Flame Failure**
  - **Gas Valve**
- **Options:**
  - **Space Over-ride**
  - **Low Limit**
  - **System Pre-heat**
  - **Standby**
  - **Fan standby**



The way the ICECON III board works is by a set of 6 factory presets within the combustion curve, from these 6 points the board is precisely able to create infinite points with a microprocessor creating our combustion curve. These sets points can be programmed for different elevations to insure that high quality rate of perfect combustion. To acquire this near perfect combustion ICECON board sends signals to a Triac (solid state relay) which controls the rpm of combustion motor and a gas ball valve to optimum positions for combustion at any set point desired. The combustion fan information sent to the ICECON III via a tac sensor and the feedback of the gas valve position is also sent to the ICECON III for constant interlock of both variables. This technology produces quiet combustion and smooth modulation changes between low fire to high fire, which creates great efficiency, greater control and higher turndown rates. Our turndown ratios cannot be matched by competitors.





PERFORMANCE SPECIFICATIONS

MODEL	INPUT/OUTPUT MBH	AIR CAPACITY CFM	TEMPERATURE RISE (Deg-F)
HTDM 200 91% OMEGA	200/182	1532	110
		1685	100
		1872	90
		2106	80
		2407	70
		2809	60
		3370	50

MODEL	INPUT/OUTPUT MBH	AIR CAPACITY CFM	TEMPERATURE RISE (Deg-F)
HTDM 400 91% OMEGA	400/439.5	3064	110
		3370	100
		3745	90
		4213	80
		4815	70
		5617	60
		6741	50

MODEL	INPUT/OUTPUT MBH	AIR CAPACITY CFM	TEMPERATURE RISE (Deg-F)
HTDM 600 91% OMEGA	600/546	4596	110
		5056	100
		5617	90
		6319	80
		7222	70
		8426	60
		10111	50

MODEL	INPUT/OUTPUT MBH	AIR CAPACITY CFM	TEMPERATURE RISE (Deg-F)
HTDM 1000 91% OMEGA	1000/910	7660	110
		8426	100
		9362	90
		10532	80
		12037	70
		14043	60
		16852	50

MODEL	INPUT/OUTPUT MBH	AIR CAPACITY CFM	TEMPERATURE RISE (Deg-F)
HTDM 1500 91% OMEGA	1500/1365	11490	110
		12639	100
		14043	90
		15799	80
		18056	70
		21065	60
		25278	50

OPTIONAL 95% EFFICIENCY WITH ADDITION OF EXTERNAL FINS ON LAST PASS COMBUSTION TUBES

Custom options:

- **BMS integration of all major control manufacturers**
- **Incorporated JIC Wiring**
  - **L.O.N. Protocol/Distech**
  - **BAC-NET Protocol/Distech DTC Control**
  - **Allen Bradley PLC**
  - **Siemens PLC**

ICE Western's
DX Cooling Modulation

AC-Tech VFD

Programmable digital and analog I/O allowing drive to be configured for tasks such as multiple preset speeds, electronic braking and motor jogging

- Power range: 0.37 to 22 kW
- Wide speed range with up to 200% torque for highly dynamic motor response
- EPM plug-in memory chip & programmer to copy parameters
-

Tandem Digital Scroll

- Simple, variable modulation, for temperature control within 0.5 F
- Lower operating cost
- Reduced power consumption – up to 30% more efficient than using hot-gas bypass
- Longer cycle times to reduce wear and improve humidity control
- Available for commercial air-conditioning and refrigeration applications
- Available in configurations from 3-30HP

Superheat Controller EC3-X33

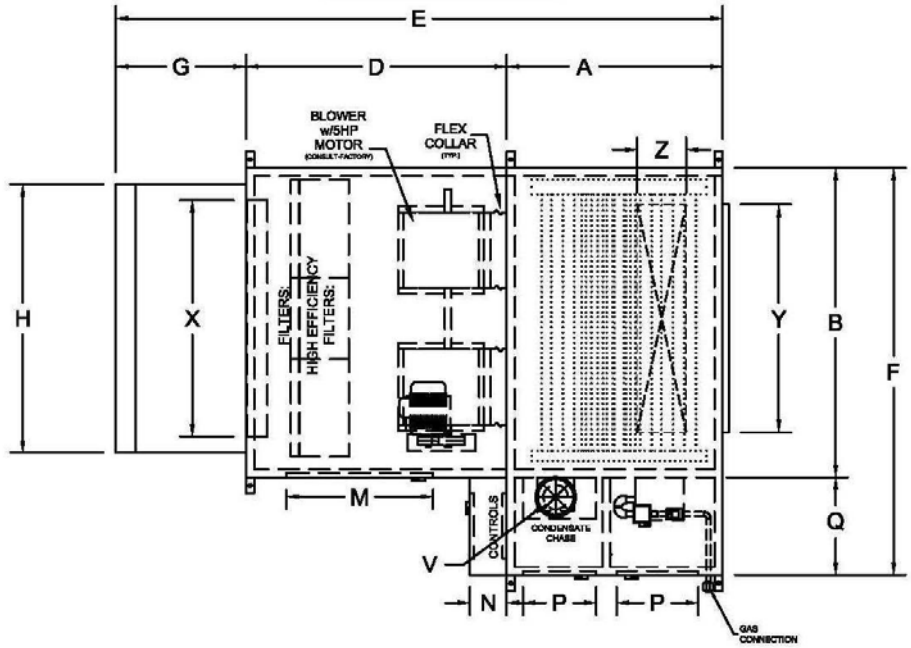
- Perform all control tasks and precisely regulates the superheat at the evaporator
- A complete system consisting of control valve, superheat controller, and temperature and pressure sensor, controls the superheat exactly to setpoint
- The MOP (Maximum Operating Pressure) function protects the compressor from dangerous overload conditions
- Positive shut-off function eliminates the use of an additional solenoid valve, and built in backup battery closes the valve after power loss.

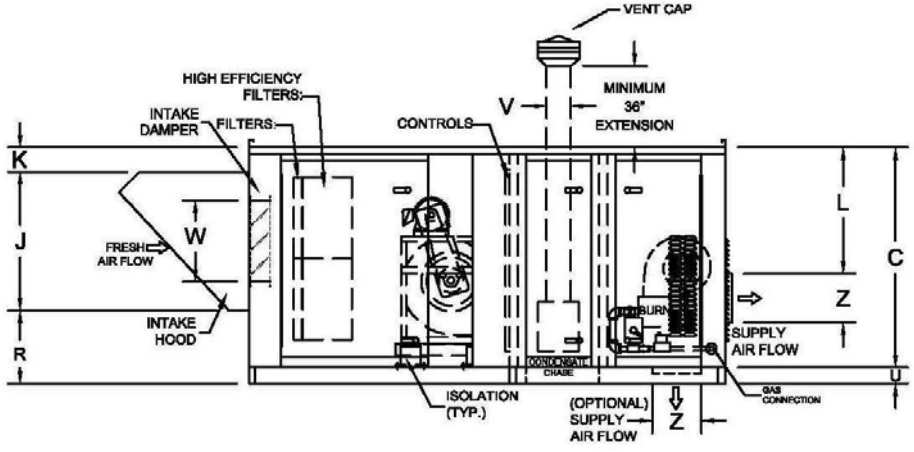
EX4 Electrical Control Valve

- Optimized for control of liquid or gaseous mass flow in refrigeration systems
- Energized directly from the electrical power and therefore operates independent from differential pressure ensuring accurate temp/humidity control

UNIT DIMENSIONS

TOP VIEW





SIDE VIEW

MODEL	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	U	V	W	X	Y	Z
HTDM 200	53	36	54	61	146	60	32	28	34	6	33	28	9	20	24	18	4	4	14	20	20	12
HTDM 400	53	60	54	61	146	84	32	50	34	6	33	30	9	20	24	18	4	4	14	42	36	12
HTDM 600	53	56	54	75	160	100	32	66	34	6	31	36	9	20	24	18	4	6	20	58	56	12
HTDM 1000	74	84	66	61	135	108	36	78	34	14	33	36	9	28	24	24	4	6	26	74	74	16
HTDM 1600	79	89	76	58	185	84	48	82	48	6	51	36	9	30	24	26	4	8	30	76	76	16

ICE WESTERN BELIEVES IN QUALITY AND SERVICE YOU DESERVE

QUALITY

ICE is committed in providing quality through every step of our operation. Every product undergoes testing and quality inspection to ensure a high quality product.

SERVICE

ICE provides qualified staff that can assist in start-up and service and troubleshooting.

PRICE

ICE offers competitive pricing in the HVAC industry, and we can match any units along with quality commitment as well as on time deliveries. Here at our company we take pride as a manufacturer of HVAC units.

CUSTOM UNITS

ICE provides custom built units to meet specifications as well as exceed customer expectations.

All models are approved according to the Standard for Gas Unit Heaters, Gas Packaged Heaters, Gas Utility Heaters, and Gas fired duct furnaces ANSI Z83.8/CSA 2.6 Issued 2013/04/01

All models are approved according to the Standard for Gas-Fired Appliances for Use at High Altitudes CGA 2.17 Issue: 1991/01/01

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