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# **IDF SERIES - DIRECT FIRED UNITS**



# **DESIGN FEATURES**

# **HEATING ONLY**

- 300to175,000CFM
- Easy Service Access
- Indoor and Outdoor Configuration
- 30:1Turndown
- High Efficiency Burner

# **HEAT/COOL**

- High Efficient & Durable Digital
  Scroll D.X. Cooling
- 10:1 Turndown on Single Stage Compressor and 20:1 Turndown for Tandem Compressors.
- VFD Controlled Condenser Fan (No Fan Cycling).



# **STANDARD FEATURES:**

# ASSURANCE

- ETL Listed.
- Factory wired, piped & test fired.
- CABINET
- Welded Structure or formed channel base frame.
- Lifting Lugs.
- Heavy gauge colorbond steel casing w/ rust-resistant gray enamel paint finish.

# **BLOWER/MOTOR**

- AMCA rated forward curve DWDI Centrifugal blower.
- ODP Motor, 1800 RPM.
- Drives designed for 150% motor BHP.

# **BURNER/MANIFOLD**

- 30:1 turndown ratio.
- SS mixing plates & aluminium gas manifold.
- Factory pre-piped.

# CONTROL ENCLOSURE

- Manual reset high limit.
- Circuit Breaker.

# WESTERN Optiobility at its fireser

Filters

# **KEY SPECIFICATIONS:**

100% MAKE-UP AIR AND 80/20 UNITS.

STAINLESS STEEL BURNER.

DX OR EVAPORATIVE COOLING SECTION OPTION. 30:1 TURNDOWN RATIO.

Direct Fired Burner

Blower

- Motor starter w/ overloads.

And many more...

Inlet Hood w/Birdscreen

Gas Manifold

# **OPTIONAL FEATURES:**

- **ROOF CURB** Prefabricated galvanized roof curb 16" or 24" high; full perimeter available on most units.
- **CONTROL PANELS**—NEMA4 or 12 custom, unit mounted or remote enclosures. Explosion proof panels.
- **COIL PLENUMS** Heating coils—steam, hot water, and glycol. Cooling coils—chilled water, DX Coil.

And many more...

For more info, please visit: www.icewestern.com

Motor mounted on adjustable base

Structural Channel Base

# **APPLICATIONS:**

**1.** Weldshops/buildings.

2. Food Industries.

**3.** Manufacturing Facilities.

4. Warehouse & Storage .



Intertek

# **Custom Wiring Options**

-CONTROLS SELECTED TO MEET END USER PROTOCOL -FACTORY INSTALLED -FACTORY PROGRAMMED -FACTORY TESTED

-FIELD COMMISIONING SERVICES AVAILABLE





ALLEN BRADLEY PLC



B.A.C. NET CONTROLS



#### LONWORKS CONTROLS

SEIMENSPLCWITHHMI

# ICE Western's DX Cooling Modulation



#### AC-Tech VFD

Programmabledigital andanalog I/O allowingdrive to be configured for tasks such as multiple preset speeds, electronicbraking and motorjogging

- 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



#### Superheat Controller EC3-X33

Performall control tasks and precisely regulates the superheat at the evaporator A complete system consisting of control

 A complete system consisting of control valve, superheatcontroller, and temperatureandpressuresensor, controls the superheat exactly to setpoint

The MOP(Maximum Operating Pressure)
 functionprotectsthecompressorfrom
 dangerous overload conditions

 Positiveshut-offfunctioneliminatesthe use of an additional solenoid valve, and built in backup battery closes the valve after power loss.

ICG



#### **Tandem Digital Scroll Compressors**

- Simple, variable modulation, for temperature control within 0.5 F
- Loweroperating cost
- Reduced power consumption up to 30% more
  efficient than using hot-gas by pass
- Longer cycle times to reduce wear and improve humidity control
- Availablefor commercialair-conditioning and refrigeration applications
- Available inconfigurations from 3-30HP



#### **EX4 Electrical Control Valve**

- Optimized for control of liquid or gaseous massflowin refrigeration systems
- Energizeddirectlyfromthe electrical powerandtherefore operates independentfromdifferentialpressure ensuringaccuratetemp/humiditycontrol

# **IDF Standard Features**

#### Assurance

- ANSI Z83.4:2015/02/01, ANSI Z83.25:2015, CSA 3.7:2015/02/01 & CSA 3.19:2015 Ed.2
- Factory wired, piped, and test fired

#### Cabinet

- Welded structural or formed channel base frame
- Lifting lugs
- Heavy gauge colorbond steel casing with rustresistant gray enamel paint finish
- One-inch thick 1.5# density neoprene-coated fiberglass. The insulation is glued and pinned
- Outdoor units complete with sloped roof

#### Blower/Motor

- rated forward curve DWDI centrifugal blower
- Polished steel shaft with rust inhibitor
- Maximum operating speed less than 75% of first critical speed
- Standard heavy-duty industrial bearings used on unit sizes BMA 120 and larger
- ODP motor, 1800 RPM, T frame, 1.15 service factor mounted on adjustable base
- Drives designed for 150% motor brake horsepower
- Adjustable V-belt drives used up to and including 5 HP; fixed drives on
- 7.5 HP and larger

### Electronically Commutated Motor (ECM)



-High efficiency fan -Provide even air distribution on units with filter & DX coil

#### Burner /Manifold

- Stainless steel mixing plates and aluminum gas manifold
- 30:1 turndown ratio
- Intermittent pilot assembly with spark igniter and ignition transformer
- Solid state flame monitoring system
- Adjustable profile plates
- Burner observation port
- Choice of temperature control systems
- Manifold pressure for natural gas 7-14" W.C. or 1-5 psig
- Manifold pressure for propane 11" W.C.
- Manifold includes: pilot regulator, gas valve and shutoff valve, safety shutoff valve, pressure regulator or combination modulating and pressure regulating valve, modulating gas valve, main test fire valve, manifold pressure taps.

#### Enclosure

- Electronic flame safeguard relay manual reset
- High and Low airflow pressure switches
- Manual reset high limit
- Factory wired control panel with numbered terminal strip
- Motor starter with overloads
- Control circuit transformer, 120 volt
- Control panel service switch
- Circuit breaker
- Terminal connections for exhaust interlock
- Nationally recognized components, service parts.

#### **Bypass Damper W/ Burner**



-Modulating profile dampers provide precise pressure control for industry leading volume turndown,up to 10%, depending on model. -Contact factory for specific min airflow.

# **IDF Optional Features**

**80/20 Mix Box** (Available in US only) allows the recirculation of air to occur. This will provide a cost effective way of space heating. Includes V-bank filter rack

#### Weatherhousing

Control and manifold enclosure

#### Inlet Hoods

Expanded metal screen inlet with optional 2" filters.

**Inlet Hood & Filter Rack** Combination Inlet hood with filter rack for 2" thick filters available.

#### **Filter Section**

V-bank filter section with side access suitable for complete with filter gauge and/or indicating light

#### Winter Filter Section

Located on the discharge side of burner.

#### Filters

2" thick permanent, pleated and throwaway filters; various efficiency bag filters and HEPA filters

#### Motorized Inlet & Discharge

**Damper**Parallelbladedamper witha two-positionspringreturnactuator and ends witch.

#### **Roof Curb**

Prefabricated galvanized roof curb 16" or 24" high; full perimeter available on most units.

2" filters.

Hinged access doors completely sealed with gasketing.

#### Blowers

Backward inclined, air foil, and plug fans

#### **DX Plenum**

Coil located in vertical or horizontal airflow complete with drain pan when applicable.

#### **Coil Plenums**

Heating coils- steam, hot water, and glycol cooling coils- chilled water, DX coil

#### **Evaporative Coolers**

Industrial and commercial

#### Hinged Access Doors

Door switches Special access door gasketing #310 ventlock fasteners

#### Mushroom Hood

Air velocity through the inlet ranges between approximately 450 and 550 feet per minute at maximum air capacities listed. Complete with internal screen for debris

#### Louvered Inlet

Manufactured by ICE and sized for a maximum velocity of 500 FPM to minimize potential for precipitation entering the unit

#### 4-Way Discharge Head

The adjustable 4-way discharge head provides 4 equal quantities of air in the conditioned space

#### Horizontal Discharge Head

180 deg. vertical and horizontal adjustment with 360 deg. of free rotation

#### Internal Vibration Isolation

Blower and motor isolated on separate frame with R.I.S. or spring c/w canvas connector

**External Vibration Isolation** Floor mounted or suspended Isolation

Service Platform Provides access to controls and gas train

#### Motors TEFC and high-efficiency, meeting EEE and CSA standards and 2-speed

**Disconnect Switch** Weatherproof enclosure; non-fused or fused

FM Gas Train Meets Factory Mutual (FM) requirements

**IRI Gas Train** Meets Industrial Risk Insurers requirements

#### High Gas Pressure Regulator

Required on natural gas with pressure in excess of 5 psig and LP applications in excess of 11 " W.C.

#### High/Low Gas Pressure Switches

Manual reset, gas pressure safety switches which lock out the burner in the event of gas pressure malfunction

#### ControlPanels

NEMA4 or 12 custom, unit mounted or remote enclosures. Explosion proof panels

#### Dual Volume

VFD to achieve lower volume(25-30% of max) on low speed with the modulating profile plates.

# **IDF Additional Options**

- -Auto low limit freeze protection control with bypass damper -Exhaust interlock relay -Proof of closure valve -Inlet air controller
- -Ultra violet flame supervision
- -Audible alarm
- -Firestat
- -
- -7 day programming timeclock Special coatings

- Purge timer
- Delay exhaust start
- 115 volt GFI service receptacle
- Marine service light with 100 watt bulb, guard, and lighted switch
- High density insulation
- 2" thick and 4" thick insulation
- Motor and bearings out of airstream
- Internal liners- 22 gauge solid or perforated

- JIC wiring
- Extended grease lines
- Belt guards
- Checker plate floor
- Walk-in service corridors
- Corrosion resistant two-step acrylic
- -finish
- Special coatings
- Special construction:
- aluminium, stainless steel, heavier gauges





### Allen Bradley CompactLogix PLC

Integrated motion over EtherNet/IP for maximized scalability.

Built In Energy Storage.

Supports upto 2 axes Kinematics for simple articulated robotics.

Open socket capability allows support for Modbus TCP .

Provides support for Device Level Ring(DLR) network technologies to help increase network resiliency.



### **Power Flex VFD**

Built in Ethernet/IP port, allows you to configure, control and easily manage drive data over EtherNet/IP networks

Premier integration into the Logix environment for simplified and enhanced configuration, programming, commissioning, diagnostics and maintenance.

Automatic Device Configuration-Logix controllers can detect a replaced drive and automatically download all configuration parameters without manual intervention to help reduce downtime.



### **Industrial Direct Drive Plenum Fan**

Efficiency- Plenum fans can be as efficient or more efficient than scroll type fans at specific operating points towards the bottom of the fan curve.

Saves Space- There are no transitions or diffuser within the Air Handling Unit.

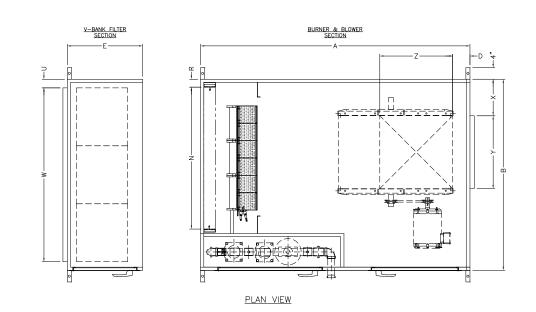
Fans are licensed to bear the AMCA certified ratings seal for both sound and air, and fan efficiency grade (FEG).

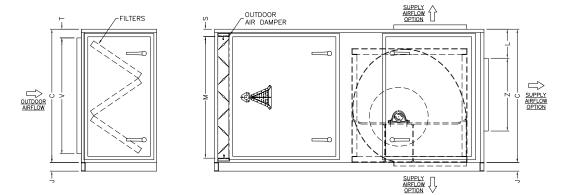
		BLOWER	Outlet	PLENUM FAN			Fan HP @	ESP in w.c			Input Capacity (MBH) vs Temp Rise (F)							
Model	SCFM	c/w BELT DRIVE MOTOR	Velocity FPM	c/w D.D. MOTOR	0.25	0.5	0.75	1	1.5	2	70	80	90	100	110	120	130	135
	1000	9/7	1529	280 Ø ECM	1/3**	1/3**	1/2**	1/2**	3/4**	3/4**	82	94	106	118	130	142	154	158
	1200	9/7	1835	315 Ø ECM	1/2	1/2	3/4	3/4	1	1**	99	113	127	141	155	169	183	190
	1400	9/7	2140	315 Ø ECM	0.5	0.5	0.75	0.75	1	1 1/2**	115	131	148	164	181	197	214	222
	1600	9/7	2447	355 Ø ECM	3/4	3/4	3/4	1	1	1 1/2**	131	150	169	188	207	226	245	254
IDF-109	1800	9/9	2143	355 Ø ECM	0.75	0.75	1	1	1	1 1/2**	148	169	190	211	232	253	274	285
	2000	9/9	2381	355 Ø ECM	1	1	1	1 1/2	1 1/2	2	164	188	211	235	258	282	305	317
	2200	9/9	2619	355 Ø ECM	1	1	1.5	1.5	1.5	2	181	207	232	258	284	310	336	349
	2400 2600	9/9 9/9	2857 3095	355 Ø ECM 355 Ø ECM	1 1/2 1.5	1 1/2 1.5	1 1/2 1.5	1.5 2	2 2	3 3	197 214	225 244	254 275	282 305	310 335	338 366	366 396	380 412
	2000	12/9	1764	355 Ø ECM	0.5	0.5	0.75	0.75		2*	164	188	2/3	235	258	282	390	317
	2000	12/9	2205	355 Ø ECM 355 Ø ECM	0.5 3/4	0.5	0.75	0.75	1 1/2* 2*	2* 3*	205	235	211 264	235	323	282	305 381	317
IDF-112	3000	12/12	2070	400 Ø ECM	1	1.5	1.5	2	2	3*	205	282	317	352	387	422	457	475
	3500	12/12	2415	400 Ø ECM	1 1/2	1 1/2	2	2	2	3	288	329	370	411	452	493	534	555
	4000	12/12	2760	400 Ø ECM	1.5	1.5	2	2	3	5	329	376	423	470	517	564	611	634
	3000	15/11	1850	400 Ø ECM	0.75	0.75	1	2*	2*	3*	247	282	317	352	387	422	457	475
	3500	15/11	2159	450 Ø ECM	3/4	1	1	1 1/2	2*	3*	288	329	370	411	452	493	534	555
	4000	15/11	2467	500 Ø ECM	1	1.5	1.5	2	2	5*	329	376	423	470	517	564	611	634
IDF-115	4500	15/15	2198	560 Ø ECM	1 1/2	2	2	2	3	5*	370	423	475	528	581	634	687	713
	5000	15/15	2442	560 Ø ECM	2	2	3	3	3	5	411	470	528	587	646	705	764	792
	5500	15/15	2686	630 Ø ECM	3	3	3	3	5	5	452	517	581	646	710	775	839	872
	6000 6500	15/15 15/15	2930 3175	630 Ø ECM 630 Ø ECM	3 3	3 5	3 5	5 5	5 5	5 7 1/2	493 534	563 610	634 687	704 763	775 840	845 916	916 993	951 1030
	5000	13/13		16.5" Ø ECM	1.5	1.5	2	2	3	5*		470	528	587			763	792
	5500	18/18	1746 1920	18.2" Ø ECM	1.5 1 1/2	2	2	2	3	5* 5*	411 452	470 517	528 581	587 646	646 710	704 775	839	792 872
	6000	18/18	2095	18.2" Ø ECM	2	3	3	3	5	5*	493	563	634	704	775	845	916	951
IDF-118	7000	18/18	2443	20.0" Ø ECM	3	3	3	5	5	7 1/2	575	657	740	822	904	986	1068	1109
	8000	18/18	2793	20.0" Ø ECM	3	5	5	5	5	7.5	657	751	845	935	1025	1115	1205	1268
	9000	18/18	3142	20.0" Ø ECM	5	5	5	7 1/2	7 1/2	10	740	845	951	1056	1162	1267	1373	1426
	10000	18/18	3491	20.0" Ø ECM	5	7.5	7.5	7.5	7.5	10	822	939	1056	1173	1290	1407	1524	1585
	7000	20/20	1598	20.0" Ø ECM	1.5	2	3	3	5	7.5	575	657	740	822	905	987	1070	1109
	8000	20/20	1826	20.0" Ø ECM	3	3	3	5	5	7.5	657	751	845	939	1033	1127	1221	1268
	9000	20/20	2055	22.2" Ø ECM	3	3	3	5	5	10*	740	845	951	1056	1162	1267	1373	1426
IDF-120	10000	20/20	2283	22.2" Ø ECM	3	5	5	5	7.5	10	822	939	1057	1174	1292	1409	1527	1585
	11000	20/20	2511	22.2" Ø ECM	5	5 7.5	5	7.5 7.5	7.5	10	904	1033	1162	1291	1420	1549	1678	1743
	12000 13000	20/20 20/20	2740 2969	24.5" Ø ECM 24.5" Ø ECM	5 7.5	7.5	7.5 7.5	7.5 10	7.5 10	10 15	986 1068	1127 1221	1268 1373	1409 1526	1550 1678	1691 1831	1832 1983	1902 2060
	14000	20/20	3197	24.5" Ø ECM	7.5	10	10	10	10	15	1150	1315	1479	1644	1808	1973	2137	2000
	10000	22/22	1961	24.5" Ø ECM	5	5	5	5	7.5	10*	822	939	1057	1174	1292	1409	1527	1585
	11000	22/22	2157	24.5" Ø ECM	5	5	7 1/2	7 1/2	7.5	10*	904	1033	1162	1291	1420	1549	1678	1743
	12000	22/22	2353	24.5" Ø ECM	5	5	7.5	7.5	10	10	986	1127	1268	1409	1550	1691	1832	1902
IDF-122	13000	22/22	2549	24.5" Ø ECM	7 1/2	7 1/2	10	10	10	15	1068	1221	1373	1526	1678	1831	1983	2060
IDF-122	14000	22/22	2745	27.0" Ø ECM	7.5	7.5	10	10	10	15	1150	1315	1479	1644	1808	1973	2137	2219
	15000	22/22	2941	27.0" Ø ECM	10	10	10	15	15	15	1233	1409	1585	1761	1937	2113	2289	2377
	16000	22/22	3137	27.0" Ø ECM	10	10	10	15	15	15	1315	1503	1690	1878	2065	2253	2440	2536
	17000	22/22	3333	27.0" Ø ECM	15	15	15	15	15	20	1397	1597	1796	1996	2195	2395	2594	2694
	14000	25/25	2028	27.0" Ø ECM	5	5	7.5	7.5	7.5	15*	1150	1315	1479	1644	1808	1973	2137	2219
	15000 16000	25/25 25/25	2173 2318	27.0" Ø ECM 27.0" Ø ECM	5 7.5	5 7.5	7 1/2	7 1/2 7.5	10 10	15* 15*	1233 1315	1409 1503	1585 1690	1761 1878	1937 2065	2113 2253	2289 2440	2377
	17000	25/25	2318	27.0" Ø ECM 27.0" Ø ECM	7.5 71/2	7.5 71/2	7.5 10	7.5 10	10	15*	1315	1503	1690	1878	2065	2253	2440 2594	2536 2694
IDF-125	18000	25/25	2403	30.0" Ø ODP	7.5	7.5	10	10	10	15	1357	1690	1902	2113	2325	2535	2394	2853
	19000	25/25	2753	30.0" Ø ODP	7 1/2	7 1/2	10	10	15	15	1561	1784	2007	2230	2453	2677	2900	3011
	20000	25/25	2898	30.0" Ø ODP	10	10	15	15	15	20	1643	1878	2113	2348	2583	2818	3053	3170
	22000	25/25	3187	30.0" Ø ODP	15	15	15	15	15	20	1808	2066	2324	2582	2840	3098	3356	3487



	20000	30/30	2132	33.0" Ø ODP	8	8	10	10	15	15	1643	1878	2113	2348	2583	2818	3053	3170
	22000	30/30	2346	33.0" Ø ODP	10	10	10	15	15	20	1808	2066	2324	2582	2840	3098	3356	3487
	24000	30/30	2559	33.0" Ø ODP	10	10	15	15	20	20	1972	2254	2536	2818	3100	3382	3664	3803
IDF-130	26000	30/30	2772	36.5" Ø ODP	15	15	15	15	20	20	2137	2442	2747	3052	3357	3662	3967	4120
	28000	30/30	2985	36.5" Ø ODP	15	15	20	20	20	25	2301	2630	2958	3287	3615	3944	4272	4437
	30000	30/30	3199	36.5" Ø ODP	15	20	20	20	20	25	2465	2817	3170	3522	3875	4227	4580	4754
	32000	30/30	3412	36.5" Ø ODP	15	20	20	20	25	30	2630	3005	3381	3756	4132	4508	4883	5071
	26000	33/33	2040	40.2" Ø ODP	10	15	15	15	15	20	2137	2442	2747	3052	3357	3662	3967	4120
	28000	33/33	2362	40.2" Ø ODP	15	15	15	15	20	25	2301	2630	2958	3287	3615	3944	4272	4437
	30000	33/33	2531	40.2" Ø ODP	15	15	15	20	20	25	2465	2817	3170	3522	3875	427	4580	4754
IDF-133	32000	33/33	2700	40.2" Ø ODP	15	15	20	20	20	25	2630	3005	3381	3756	4132	4508	4883	5071
	34000	33/33	2868	40.2" Ø ODP	20	20	20	20	20	30	2794	3193	3592	3991	4390	4789	5188	5388
	36000	33/33	3037	40.2" Ø ODP	20	20	25	25	30	30	2958	3381	3803	4226	4648	5071	5493	5705
	38000	33/33	3206	40.2" Ø ODP	20	25	25	30	30	40	3123	3569	4015	4461	4907	5353	5799	6022
	30000	36/36	2183	44.5" Ø ODP	15	15	15	15	20	25	2465	2817	3170	3522	3875	4227	4580	4754
	32500	36/36	2365	44.5" Ø ODP 44.5" Ø ODP	15	15	20	20	20	25	2403	3052	3434	3815	4197	4227	4380	5151
	35000	36/36	2505	44.5" Ø ODP 44.5" Ø ODP	20	20	20	20	25	30	2876	3287	3698	4109	4197	4378	5342	5753
IDF-136	37500	36/36	2730	44.5" Ø ODP 44.5" Ø ODP	20	20	20	20	30	30	3082	3522	3962	4109	4320	5282	5722	5943
IDF-136																		
	40000	36/36	2911	44.5" Ø ODP	25	25	25	30	30	40	3287	3757	4226	4696	5165	5635	6104	6339
	42500	36/36	3093	44.5" Ø ODP	25	30	30	30	35	40	3492	3991	4490	4989	4490	3991	3492	6735
	45000	36/36	3275	44.5" Ø ODP	30	30	40	40	40	40	3698	4226	4754	5282	5810	6338	6866	7131
	37500	38 BI	2711	44.5" Ø ODP	20	25	25	25	30	30	3082	3522	3962	4402	4842	5282	5722	5943
	40000	38 BI	2892	44.5" Ø ODP	25	25	30	30	30	40	3287	3757	4226	4696	5165	5635	6104	6339
IDF-138#	42500	38 BI	3073	49.0" Ø ODP	30	30	30	40	40	40	3492	3991	4490	4989	4490	3991	3492	6735
101 100	45000	38 BI	3254	49.0" Ø ODP	30	40	40	40	40	50	3698	4226	4754	5282	5810	6338	6866	7131
	47500	38 BI	3435	49.0" Ø ODP	40	40	40	40	50	50	3903	4461	5018	5576	6133	6691	7249	7528
	50000	38 BI	3615	49.0" Ø ODP	40	50	50	50	50	60	4109	4696	5283	5870	6457	7044	7631	7924
	47500	40 BI	2749	49.0" Ø ODP	30	30	30	40	40	40	3903	4461	5018	5576	6133	6691	7249	7528
	50000	40 BI	2894	49.0" Ø ODP	30	40	40	40	40	50	4109	4696	5283	5870	6457	7044	7631	7924
175 4 404	52500	40 BI	3038	49.0" Ø ODP	40	40	40	40	50	50	4314	4930	5547	6163	6779	7396	8012	8320
IDF-140#	55000	40 BI	3183	49.0" Ø ODP	40	40	50	50	50	60	4520	5165	5811	6457	7102	7748	8393	8716
	57500	40 BI	3328	49.0" Ø ODP	50	50	50	50	60	60	4725	5400	6075	6750	7425	8100	8775	9113
	60000	40 BI	3472	49.0" Ø ODP	50	50	50	60	60	60	4930	5635	6339	7043	7748	8452	9157	9509
	57500	45 BI	2806	49.0" Ø ODP	30	30	40	40	40	50	4725	5400	6075	6750	7425	8100	8775	9113
	60000	45 BI	2928	49.0" Ø ODP	40	40	40	40	50	50	4930	5635	6339	7043	7748	8452	9157	9509
	62500	45 BI	3050	54.2" Ø ODP	40	40	40	50	50	50	5136	5870	6603	7337	8071	8804	9538	9905
IDF-145#	65000	45 BI	3172	54.2" Ø ODP	40	40	50	50	50	60	5341	6104	6867	7630	8393	9156	9919	10301
	67500	45 BI	3294	54.2" Ø ODP	50	50	50	50	60	60	5547	6339	7132	7924	8716	9509	10301	10697
	70000	45 BI	3416	54.2" Ø ODP	50	50	50	60	60	75	5752	6574	7396	8218	9040	9862	10684	11093
	60000	48 BI	2141	54.2" Ø ODP	25	30	30	40	40	50	4930	5635	6339	7043	7748	8452	9157	9509
175 4 40%	65000	48 BI	2616	54.2" Ø ODP	30	40	40	40	50	50	5341	6104	6867	7630	8393	9156	9919	10301
IDF-148#	70000	48 BI	2817	54.2" Ø ODP	40	40	50	50	50	50	5752	6574	7396	8218	9040	9862	10684	11093
	75000	48 BI	3018	60.0" Ø ODP	50	50	50	50	60	75	6163	7043	7924	8804	9685	10565	11446	11886
	80000	48 BI	3219	60.0" Ø ODP	50	50	60	60	75	75	6574	7513	8452	9391	10330	11270	12209	12678
	65000	54 BI	2134	60.0" Ø ODP	30	30	30	40	40	50	5341	6104	6867	7630	8393	9156	9919	10301
	70000	54 BI	2298	60.0" Ø ODP	40	40	40	40	50	50	5752	6574	7396	8218	9040	9862	10684	11093
IDF-154#	75000	54 BI	2462	60.0" Ø ODP	40	40	40	40	50	60	6163	7043	7924	8804	9685	10565	11446	11886
	85000	54 BI	2791	66.0" Ø ODP	50	50	50	50	60	75	6985	7983	8980	9978	10976	11974	12972	13471
	90000	54 BI	2955	66.0" Ø ODP	60	60	60	60	75	75	7396	8452	9509	10565	11622	12678	13735	14263
	85000	60 BI	2281	66.0" Ø ODP	na	na	40	50	50	60	6985	7983	8980	9978	10976	11974	12972	13471
	95000	60 BI	2550	66.0" Ø ODP	40	40	50	60	60	75	7807	8922	10037	11152	12267	13382	14498	15055
IDF-160#	105000	60 BI	2818	73.0" Ø ODP	40	50	60	75	75	100	8628	9861	11093	12326	13559	14791	16024	16640
	115000	60 BI	3086	73.0" Ø ODP	75	75	75	100	100	100	9450	10800	12150	13500	14850	16200	17550	18225
	125000	60 BI	3355	73.0" Ø ODP	100	100	100	100	100	125	10272	11739	13207	14674	16141	17609	19076	19810
NOTES:		ize blower requ																
		Incline blower																ł
		Incline Blower-																l
			change without	notice														
			up to 3 in. w.c. E															
		nits available u		JI LIL														l
	iisted LP ul	nto available u	h 10 TTO L															







ELEVATION VIEW

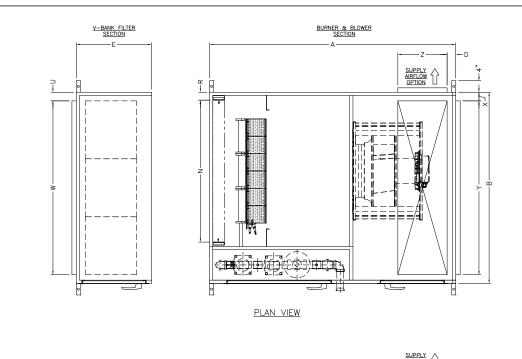
MODEL	A	В	С	D	E	J	м	N	R	S	Т	U	V	w	х	Y	Z
IDF-109	70	30	28	5	22	2	24	16 1/2	2 3/4	2 1/2	3	3	22	24	7 5/8	11 3/4	10 5/16
IDF-112	78	38	28	6	27	2	24	24 1/2	2 3/4	2 1/2	3	3	22	32	7 1/8	15 9/16	13 7/16
IDF-115	78	38	38	6	31	2	34	24 1/2	2 3/4	2 1/2	3	3	32	32	8 5/8	18 9/16	15 7/8
IDF-118	85	53	46	6	26	3	42	38	2 3/4	2 1/2	3	3	40	47	10 1/8	21 15/16	18 3/4
IDF-120	93	66	46	6	26	3	42	49	2 3/4	2 1/2	3	3	40	60	12 5/8	25 1/8	25 1/8
IDF-122	101	72	46	6	31	3	42	55	2 3/4	2 1/2	3	3	40	66	13	26 5/8	28 1/8
IDF-125	108	80	54	6	32	4	50	63	2 3/4	2 1/2	3	3	48	74	16	31 9/16	31 9/16
IDF-128	116	86	60	6 1/2	34	4	56	65	2 3/4	2 1/2	3	3	54	80	19	35 3/8	35 3/8
IDF-130	120	86	60	8 1/2	34	4	56	65	2 3/4	2 1/2	3	3	54	80	16 1/8	36 3/4	36 3/4
IDF-133	120	100	68	6 1/2	30	4	64	75	2 3/4	2 1/2	3	3	62	94	20 1/2	39 5/8	39 5/8
IDF-136	120	100	68	5	33	4	64	75	2 3/4	2 1/2	3	3	62	94	19	44 1/2	44 3/8
IDF-138	132	110	85		33	4	81	85	2 3/4	2 1/2	3	3	79	104	19 3/8	51 13/16	38 11/16
IDF-140	132	120	90		33	4	86	95	2 3/4	2 1/2	3	3	84	114	21 1/4	57 3/16	42 11/16
IDF-145	148	129	96		33	6	92	104	2 3/4	2 1/2	3	3	90	123	23 3/8	63 1/8	47 1/8
IDF-148	148	140	106		33	6	102	115	2 3/4	2 1/2	3	3	100	134	26 5/8	69 7/16	51 15/16
IDF-154	167	152	116	12	31	6	112	127	2 3/4	2 1/2	3	3	110	146	31 1/2	76 1/4	57 3/8
IDF-160	188	166	122	12	33	6	115	141	2 3/4	2 1/2	3	3	116	160	32 1/8	85	63 7/16

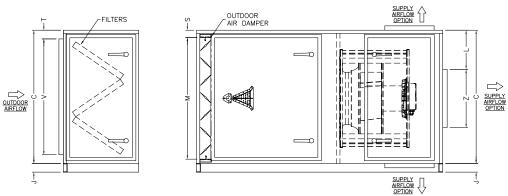
- NOTES: 1. DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES. 2. 1-1/2" INLET AND DISCHARGE FLANGES. 3. RIGHT HAND UNIT SHOWN, LEFT HAND UNIT AVAILABLE. 4. SERVICE ACCESS PANELS MUST NOT BE OBSTRUCTED. RECOMMENDED CLEARANCE SHALL BE 24 INCHES. 5. OUTDOOR UNITS ARE COMPLETE WITH A SLOPED ROOF, SLOPES AWAY FROM ACCESS DOOR SIDE.





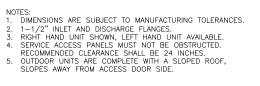






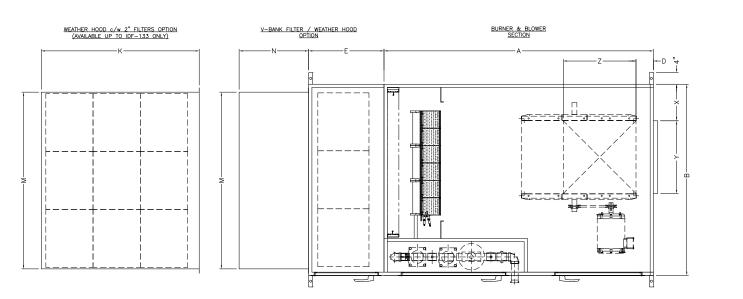
ELEVATION VIEW

MODEL	A	В	С	D	E	J	м	N	R	S	Т	U	V	w	X	Y	Z
IDF-109	70	30	28	3	22	2	24	16 1/2	2 3/4	2 1/2	3	3	22	24	3	24	9
IDF-112	70	38	28	3	27	2	24	24 1/2	2 3/4	2 1/2	3	3	22	32	3	32	9
IDF-115	78	38	38	3	31	2	34	24 1/2	2 3/4	2 1/2	3	3	32	32	3	36	13
IDF-118	78	53	46	3	26	3	42	38	2 3/4	2 1/2	3	3	40	47	3	47	15
IDF-120	85	66	46	3	26	3	42	49	2 3/4	2 1/2	3	3	40	60	3	60	17
IDF-122	101	72	46	3	31	3	42	55	2 3/4	2 1/2	3	3	40	66	3	66	19
IDF-125	108	80	54	3	32	4	50	63	2 3/4	2 1/2	3	3	48	74	3	74	22
IDF-128	116	86	60	4	34	4	56	65	2 3/4	2 1/2	3	3	54	80	4	78	26
IDF-130	120	86	60	4	34	4	56	65	2 3/4	2 1/2	3	3	54	80	4	78	29
IDF-133	120	100	68	4	30	4	64	75	2 3/4	2 1/2	3	3	62	94	4	92	28
IDF-136	120	100	68	4	33	4	64	75	2 3/4	2 1/2	3	3	62	94	4	92	34
IDF-138	132	110	85	4	33	4	81	85	2 3/4	2 1/2	3	3	79	104	4	102	30
IDF-140	132	120	90	4	33	4	86	95	2 3/4	2 1/2	3	3	84	114	4	112	30
IDF-145	148	129	96	4	33	6	92	104	2 3/4	2 1/2	3	3	90	123	4	121	42
IDF-148	148	140	106	4	33	6	102	115	2 3/4	2 1/2	3	3	100	134	4	132	36
IDF-154	160	152	116	4	31	6	112	127	2 3/4	2 1/2	3	3	110	146	4	144	42
IDF-160	188	166	122	4	33	6	115	141	2 3/4	2 1/2	3	3	116	160	4	158	54

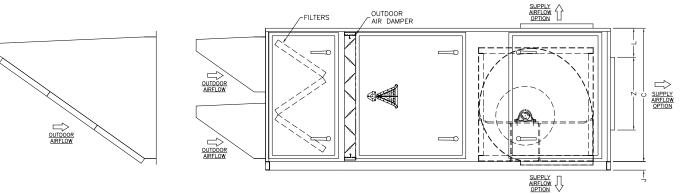




TITLE IDF SERIES DIRECT GAS—FIRED MAKEUP AIR UNITS INDOOR HORIZONTAL — SINGLE PLENUM FAN DRAWN: [CHECK: [DATE: ]REV DATE: ]DWG NO: ]REV: 2018JUN05 2018JUN05 IDF-110 KEW JC 1



PLAN VIEW



ELEVATION VIEW

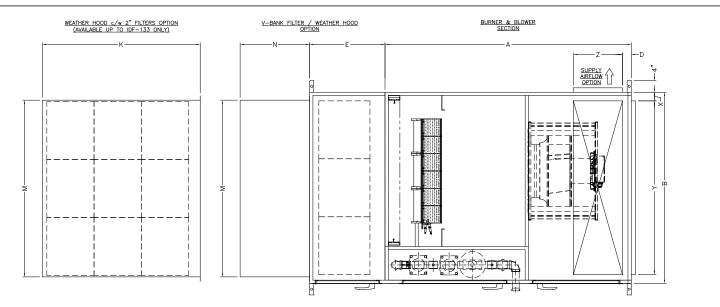
MODEL	А	В	С	D	E	J	к	М	N	х	Y	Z
IDF-109	70	30	28	5	22	2	30	25		7 5/8	11 3/4	10 5/16
IDF-112	78	38	28	6	27	2	40	33		7 1/8	15 9/16	13 7/16
IDF-115	78	38	38	6	31	2	46	37		8 5/8	18 9/16	15 7/8
IDF-118	85	53	46	6	26	3	54 1/2	48		10 1/8	21 15/16	18 3/4
IDF-120	93	66	46	6	26	3	54 1/2	61		12 5/8	25 1/8	25 1/8
IDF-122	101	72	46	6	31	3	72	67		13	26 5/8	28 1/8
IDF-125	108	80	54	6	32	4	68	77		16	31 9/16	31 9/16
IDF-128	116	86	60	6 1/2	34	4	50	83	50	19	35 3/8	35 3/8
IDF-130	120	86	60	8 1/2	34	4	52	83	52	16 1/8	36 3/4	36 3/4
IDF-133	120	100	68	6 1/2	30	4	60	97	60	20 1/2	39 5/8	39 5/8
IDF-136	120	100	68	5	33	4		97	60	19	44 1/2	44 3/8
IDF-138	132	110	85		33	4		107	56	19 3/8	51 13/16	38 11/16
IDF-140	132	120	90		33	4		117	64	21 1/4	57 3/16	42 11/16
IDF-145	148	129	96		33	6		126	70	23 3/8	63 1/8	47 1/8
IDF-148	148	140	106		33	6		137	70	26 5/8	69 7/16	51 15/16
IDF-154	167	152	116	12	31	6		149	70	31 1/2	76 1/4	57 3/8
IDF-160	188	166	122	12	33	6		163	90	32 1/8	85	63 7/16

NOTES: 1. DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES. 2. 1-1/2" INLET AND DISCHARGE FLANGES. 3. RIGHT HAND UNIT SHOWN, LEFT HAND UNIT AVAILABLE. 4. SERVICE ACCESS PANELS MUST NOT BE OBSTRUCTED. RECOMMENDED CLEARANCE SHALL BE 24 INCHES. 5. OUTDOOR UNITS ARE COMPLETE WITH A SLOPED ROOF, SLOPES AWAY FROM ACCESS DOOR SIDE.

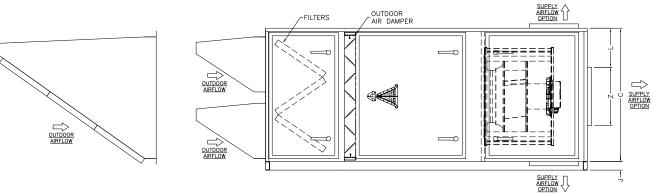


TITLE IDF SERIES DIRECT GAS-FIRED MAKEUP AIR UNITS OUTDOOR HORIZONTAL - SINGLE BLOWER DRAWN: CHECK: DATE: REV DATE: DWG NO: REV 12 2018/UN05 2018JUN05 IDF-105 REV: 1





PLAN VIEW



ELEVATION VIEW

								_				
MODEL	A	В	с	D	E	J	к	м	N	х	Y	Z
IDF-109	70	30	28	5	22	2	30	25		3	24	9
IDF-112	78	38	28	6	27	2	40	33		3	32	9
IDF-115	78	38	38	6	31	2	46	37		3	36	13
IDF-118	85	53	46	6	26	3	54 1/2	48		3	47	15
IDF-120	93	66	46	6	26	3	54 1/2	61		3	60	17
IDF-122	101	72	46	6	31	3	72	67		3	66	19
IDF-125	108	80	54	6	32	4	68	77		3	74	22
IDF-128	116	86	60	6 1/2	34	4	50	83	50	4	78	26
IDF-130	120	86	60	8 1/2	34	4	52	83	52	4	78	29
IDF-133	120	100	68	6 1/2	30	4	60	97	60	4	92	28
IDF-136	120	100	68	5	33	4		97	60	4	92	34
IDF-138	132	110	85		33	4		107	56	4	102	30
IDF-140	132	120	90		33	4		117	64	4	112	30
IDF-145	148	129	96		33	6		126	70	4	121	42
IDF-148	148	140	106		33	6		137	70	4	132	36
IDF-154	167	152	116	12	31	6		149	70	4	144	42
IDF-160	188	166	122	12	33	6		163	90	4	158	54

NOTES: 1. DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES. 2. 1-1/2" INLET AND DISCHARGE FLANGES. 3. RIGHT HAND UNIT SHOWN, LEFT HAND UNIT AVAILABLE. 4. SERVICE ACCESS PANELS MUST NOT BE OBSTRUCTED. RECOMMENDED CLEARANCE SHALL BE 24 INCHES. 5. OUTDOOR UNITS ARE COMPLETE WITH A SLOPED ROOF, SLOPES AWAY FROM ACCESS DOOR SIDE.



TITLE IDF SERIES DIRECT GAS—FIRED MAKEUP AIR UNITS OUTDOOR HORIZONTAL — SINGLE PLENUM FAN DRAWN: CHECK: DATE: REV DATE: DWG NO: REV 0.0018.IUN05 2018.JUN05 IDF-105 1 REV: 1



# STANDARD OPTION: BACNET MS/TP



#### Features:

The BACNet MS/TP enabled DDC controller provides communication with the Building Management System in order to remotely control and override setpoints, unit start/stop and monitor process variables such as temperature, humidity, alarms and more.

Terminals are provided in each unit for easy and smooth termination of twisted pair wires into the DDC controller network ports.

### DistechAllure EC Smart Sensor

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	*	*	
DISTE	S.H		

The Allure smart sensor provides remote control of the unit.

Its compact size combine with it's ability to be configured to suit end user's needs simplifies operation of the equipment.

A single CAT5e Ethernet cable is used to connect the smart space sensor to the DDC controller. No additional wiring required.

The Allure EC smart sensor comes with 4 sensing capabilities: Temperature, Humidity,CO2 and motion.

The built in LCD is configured to display unit alarms, space/ outside air temperatures, required set points, fan status, current mode of operation and more.

Setpoints can be easily adjusted via the keypad to satisfy occupants of the space.



# **OPTIONAL UPGRADE: DISTECH ECLYPSE CONTROLLER (ECY-303)**

The ECLYPSE Connected Equipment Controller is designed to satisfy the needs of a wide range of HVAC applications such as small and medium terminal applications. It integrates a control, automation and connectivity server, power supply, and I/O in one convenient package.Distech Eclypse controller supports BACNet IP communications and also supports Modbus to connect meters ,variable frequency drives etc.



#### Features:

- Fewer wire runs to a centralized switch are required, thereby achieving installation and cost reduction.
- A laptop can be connected to the second Ethernet port for direct programming, configuration and commissioning using ECgfxProgram or ENVYSION.
- Wi-Fi connection to the building's existing Wi-Fi network or to Hotspot.
- Both IP Wired and wireless connection
- Modem is optional

**Horyzon Touch screen Display:** The Horyzon display features a high resolution, color LCD touch screen designed for wall or panel mounting. They provide easy and intuitive access to the internal data of ECLYPSE series controllers. With Touch screen display system integrators can quickly access, view and configure operating parameters for troubleshooting.



ICE WESTERN SALES LTD. 9765 54 Street SE Calgary, AB T2C 5J6 Phone: (403) 252-5577 Fax: (403) 252-5556



### **IDF SERIES TYPICAL SPECIFICATIONS**

Supply an ICE Western direct fired (make-up air unit) (space heater) designed for (indoor) (outdoor) installation. The capacity and configuration shall be as detailed on the drawings. The unit shall be ETL- C-ETL certified and listed to be in compliance with the current ANSI Z83.4 & CSA 3.7 standards.

The line burner, gas train and controls are to be in accordance with (ANSI) (FM) (IRI) (FM and IRI) requirements.

The unit is to be completely factory test fired to verify proper operation. The unit capacity is to be validated with an instantaneous flow meter. A complete electrical circuit analysis is to be conducted and all systems operated and measured. A combustion analyzer is to be employed while unit is operating at full capacity to verify combustion emissions. Burner combustion must be clean and odorless and no aliphatic aldahydes are to be detectable. Combustion efficiency must limit the products of combustion to a maximum of 5 ppm carbon monoxide and 0.5 ppm nitrogen dioxide.

#### **UNIT CASING**

Unit construction is to be of industrial quality heavy gauge galvannealed steel. The unit design shall incorporate a full base pan supported by an integral welded structural steel channel base frame. Base frames are to be of industrial welded structural steel integrity, formed sheet metal bases are unacceptable. All structural steel base frames are to be treated with an industrial epoxy primer enriched with a rust inhibitor.

To ensure the casings are airtight and weatherproof, all panels are to be caulked during assembly. All casings are to be hand fitted and secured with gasketed self-tapping Tek screws. Roof casing are to feature three-break standing seam panel design. Roof casings are to be sloped on outdoor units to prevent standing water. Sloped roofs are to be ¼ in. per foot and feature full drain troughs.

Entire unit casing and accessories are to be insulated with mineral wool insulation with hard neoprene facing. (1 or 2 in. thick 1-1/2# or 2# density) insulation is to be secured with industrial glue and welded pin spots. Insulation is to be certified to fire and flamespread ratings as outlined by the ANSI code. Unit shall be complete with optional 22 gauge internal liner throughout the unit. The entire floor of the unit is to feature an industrial quality heavy gauge steel liner sandwiching the insulation.



Units are to be equipped with double walled access doors to all serviceable components. Access doors are to have full-length stainless steel piano hinges. High performance double wall access doors for HVAC air handling units. Prehung, insulated, door leaf with aluminum frame. Pressure injected with minimum 2.2 pounds per cubic foot of polyurethane foam. Polyurethane foam bonds with sheets to make a seamless, rigid panel with minimum insulating value of R6.5 per inch. Thermal door uses a high- density polyurethane thermal break. All outdoor unit access doors are to be equipped with stainless steel drain troughs, Austin Romtech handles and trim seal gaskets

Units are to be finished with an industrial grade chain stop alkyd enamel paint. The medium grey finish coat is to be a minimum of 3 mils thick and provide 100% coverage.

#### **BLOWER / MOTOR SECTION**

Unit(s) shall be supplied with AMCA rated centrifugal forward curve DWDI statically and dynamically balanced blower. The fan shall be mounted on a heavy duty machined and polished shaft. The shafts maximum operating speed is not to exceed 75% of its first critical speed. The bearings and motor shall be mounted in the airstream. The T-frame motor shall be mounted on a fully adjustable base. The bearings are to be industrial pillow block type supplied with extended grease lines. The blower is to be driven with an (adjustable) (fixed) 1.25 s.f. V-belt drive package concealed in a belt guard. Outdoor units shall have hinged door(s) to provide easy access to maintain and inspect motor, belts & bearings. Unit shall be complete with internal spring vibration isolation.

#### **BURNER SECTION**

Each unit shall be equipped with a wide range fully modulating, two stage combustion, direct gas-fired burner capable of 30:1 turndown. The burner shall have stainless steel combustion baffles, cast aluminum burner manifold, non-clogging gas ports, spark-ignited intermittent pilot and flame safeguard system. Burner combustion must be clean and odorless. Combustion efficiency must limit the products of combustion to a maximum of 5 ppm carbon monoxide and 0.5 ppm nitrogen dioxide. The burner profile is to be equipped with adjustable profile plates (and modulating profile plate bypass dampers). (The bypass dampers shall be elevated temperature aluminum construction c/w air-foil type blades). A heat treated glass observation port shall provide a full view of flame. Access door(s) are to be provided to allow easy maintenance and inspection for burner, ignitor and flame rod.

#### **DAMPERS & FILTER SECTION**

The intake dampers are to be galvanized steel (aluminum airfoil low leak) type (with seals). The intake dampers shall be equipped with 2-position (modulating) actuators. The bypass dampers shall be elevated temperature aluminum construction c/w air-foil low leak type blades. Outdoor units are equipped with a weather hood with metal filter racks, filters shall be 2" pleated throwaway type with minimum of 85% arrestance and 30% efficiency. Indoor units shall be equipped with a filter section, filter access shall be through a latched and gasketed access door. (Final filters shall be 4 or 12 inch high efficiency cartridge filters.)



#### **CONTROL/MANIFOLDCOMPARTMENT**

Unit control enclosure to have hinged access. Terminal strip and all wiring shall be numbered. The controls for the heater shall include:

Blower motor starter w/ambient compensated overloads and auxiliary contact(s). Primary to 120v control transformer BACNET DDC controller, smart space sensor Exhaust fan interlock terminals, reverse exhaust interlock 6,000 volt ignition transformer Control circuit breaker and service switch Manual reset temperature high limit Flame safeguard relay w/ LED status and flame rod Discharge temperature control sensor Differential air proving safety switch Automatic low temperature limit (optional)

All wiring external to control enclosure shall be run in conduit. The gas manifold shall include:

Main gas pressure regulator High gas pressure regulator (optional) Manual shutoff & test firing valve Main gas automatic shutoff valve Auxiliary main gas automatic shutoff valve Modulating control system Pilot pressure regulator Pilot pressure regulator Pilot automatic shutoff valve Pilot manual shutoff valve Pilot needle valve Multiple test ports

Outdoor units shall have hinged doors to provide easy access to maintain and inspect valves and controls.



# Projects we have delivered in most recent years



### Project : 3M Springfield Model :IDF-130 DX141-HGR

Specs : Outdoor Horizontal side discharge packaged DX Cooling,Hot Gas Reheat 27,525 cfm, 40 Hp High Eff motor 1994 MBH Input , 30:1 turndown on heating. 1691 MBH cooling capacity w/80:1 Trundown on cooling

714 MBH Hot Gas Reheat



# Project : KT Bakery Model :IDF-R-136

Specs : Outdoor Horizontal down discharge unit37,625 cfm, 50 Hp High Eff motor1660 MBH Input ,30:1 turndown on heating.Allen Bradley CompactLogix w/ Ethernet IP & HMI



Project :PCS Cory Model: IDF-118 Specs: Stainless Steel Unit 5,020 cfm, 7-14 Inlet Pressure 667 MBH Input, Rosta ESL Anti Vibration mount Allen Bradley CompactLogix w/Ethernet IP & HMI



#### ICE WESTERN'S PRODUCT RECOGNITION:

- IDF-P/H DIRECTFIRED PROCESS HEATER
- IDF—INDUSTRIALDIRECTGAS-FIRED UNITS.
- IDF80/20-INDUSTRIAL RECIRCULATING DIRECTEDFIRED
- HTDM—HIGH TURNDOWN INDIRECT-FIRED UNITS.
- MIT—INDIRECT GAS-FIRED UNITS.
- AC—AIRTURNOVER UNITS.
- INDUSTRIAL COOLING UNITS W/ INTEGRAL PACKAGEDDXCOOLING.
- HRHEATRECOVERYUNITS.
- EXPLOSIONPROOF & HAZARDOUS LOCATION
   HVACUNITS.
- INDIRECTFIRED MAKE-UPAIR UNITSW/ INTEGRAL PACKAGED DX COOLING.
- DIRECT FIRED MAKE-UP AIR UNITS W/INTE-GRAL PACKAGED DX COOLING.
- INDUSTRIAL SCRUBBERS/ADSORBERS.
- ICE MINI & MTI UNITS.
- INDUSTRIAL DESICCANT DEHUMIDIFIERS.
- CUSTOMAIR HANDLINGUNITS.

#### ANDMANYMORE...

# Credibility

# ICE Western was founded in 1991 as a custom division of ICE MFG LTD, Which has it's roots tracking back to 1950.

1950'S, The Company established a reputation for designing, manufacturing, and Installing natural gas conversion burners to replace oil and coal fired furnaces. 1961, ICE designed and built the first direct fired make-up air unit for the Canadian natural gas heating market.

Innovation continued with the addition of several indirect fired designs and have been building indirect fired units for over 40 years. Continual innovation provides our customers with the next generation of heaters and industrial heating/cooling equipment.

With years of proven direct fired heater and indirect fired experience behind us, we offer a comprehensive product line of direct & indirect fired equipment with

Integral packaged DX cooling. One size does not fit all, which is why we offer custom configurations for air-handling, heat recovery, and process units. Many new products are on our horizon to meet ever-increasing concern over energy costs, consumption and impact on our environment.

# Capability

Top management at ICE Western has over 30 years of HVAC and refrigeration experience which has led the way to many innovations.

ICE WESTERN has a manufacturing facility on 5 acre lot in Calgary, Alberta, Canada with over 100 employees and several distributors in North America. We have new Parts and Service area to provide support for our customers. ICE Western has been servicing North America for over 25 years. Our units can be found in commercial and industrial HVAC applications.

Our lead times for industrial cooling & heat recovery from 20 weeks to 12-14 weeks. A large, camera and fence secured yard with ample storage, allows ICE Western to operate as a staging facility to hold units for customers, which will be shipped at a later date.





# ICE WESTERN BELIEVES YOU DESERVE QUALITY AND SERVICE

### QUALITY

ICE Western is committed to providing quality through every step of the operation. Every product undergoes testing and quality inspection to ensure the highest standards are met. ICE Western employees take great pride as manufacturers of HVAC units.

### SERVICE

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

### PRICE

ICE Western offers some of the best pricing in the HVAC industry. ICE Western can match or surpass any competitor's unit capabilities and quality commitments as well as meet or beat their delivery times.

### **CUSTOM UNITS**

ICE Western provides custom built units to meet customer specifications and exceed customer expectations. No job is too big or too difficult.



Non-Recirculating Direct Gas-Fired Industrial Air Heaters [ANSI Z83.42015/02/01&CSA3.7Issued:2015/02/01]

Direct Gas-Fired Process Air Heaters [ANSIZ83.25:2015 & CSA 3.19:2015 Ed.2]



Workplace Safety Certificate of Recognition



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