BARD I-TEC™ Two Stage Heat Pumps 2.5 to 5 Ton Capacity
I30H - I60H Unit Models 208V - 460V Single and Three Phase 60hz

IH Series I-TEC™ Indoor Heat Pump

The Bard IH Series interior cooling and heating solution is an energy efficient self contained system. The IH is designed to offer maximum indoor temperature and humidity control. Installed on an interior wall surface, the IH Series provides cooling and heating at very low sound levels by using components designed for quiet operation. Exterior walls, ground areas, and roofs are free from heating and air conditioning equipment. Unit wall openings are covered with a architecturally friendly wall louver. These products are ideal for classrooms, offices, cafeterias, and light commercial applications.

IH Series Features:

- 2.5 to 5 ton cooling capacity uses energy efficient components including today's newest compressor designs. Heat is provided using the refrigeration system to save energy costs.
- Multi-speed Electronically commutated indoor motor (ECM) technology.
- Enclosed outdoor fan motor with ball bearing construction.
- Copper/Aluminum finned coils, and refrigerant system includes filter drier. Evaporator coil includes green fin coil protection.
- R-454B A2L Refrigerant that meets the global objectives outlined in the Montreal Protocol and the Kigali Amendment. A refrigerant detection system (RDS) is standard in all models.
- Factory installed ventilation options including economizers and energy recovery ventilators.
- Multiple cabinet finishes including vinyl coated steel.
- Coil coating options for additional corrosion protection.
- Optional factory installed electric heater options from 5kw up to 15kw.
- Optional Circuit breakers for 208/230V single and three phase units.
- Filter options up to MERV13.
- Indoor air quality options including UVC-LED and NPBI devices.
- Controls include short cycle protection and phase monitoring. Hi and low pressure switch refrigerant system protection standard.
- Optional hot gas reheat dehumidification is available for most models.

IH Series Compliance:

- Complies with efficiency requirements of ANSI/ASHRAE/IES 90.1-2019.
- Certified to ANSI/AHRI Standard 390-2021 for SPVU (Single Package Vertical Units).
- Intertek ETL Listed to Standard for Safety of Household and Similar Electrical Appliances ANSI/UL STD 60335-1 & ANSI/ UL STD 60335-2-40/CSA STD C22.2 No. 60335-1 & CSA STD C22.2 No. 60335-2-40 Fourth Edition.
- Commercial Product - Not intended for residential applications.
- Bard is an ISO 9001:2015 Certified Manufacturer.
- The AHRI Certified® mark indicates Bard Manufacturing Company participation in the AHRI Certification program. For verification of individual certified products, go to www.ahridirectory.org.

AHRI CERTIFIED® www.ahridirectory.org Globally Recognized. Industry Respected.

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MODEL #	I	36	H	F	-	A	0Z	X	P	X	X	X	E
DIGIT #	1	2,3	4	5	6	7	8,9	10	11	12	13	14	15

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1. Series - Two Stage Compressor	
I	Bard Interior Cooling and Heating Unit

2,3

2-3. Nominal Capacity			
30	2.5 Ton	48	4.0 Ton
36	3.0 Ton	60	5.0 Ton
42	3.5 Ton		

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4. Unit Type - Controls Location	
H	Heat Pump

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5. Revision	
F	Revision (R454B Refrigerant)

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6. Special Feature Placeholder	
-	Standard Unit
D	HGR Dehumidification

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7. Voltage		Ph.	Hz.
A	208/230VAC	1	60
B	208/230VAC	3	60
C	460VAC	3	60

8,9

8-9. Electric Heater Options	
00	0Kw with Lug Connections
0Z	0Kw with Breaker or Disconnect
05-15	5-15Kw Heat w/breaker or Disc.

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10. Ventilation Package Options	
B	Block Off Plate
M	CRV - 3 Speed Intake/Exhaust
N	CRV with Dry Bulb Economizer
Q	CRV w/Modulating Intake/Exhaust
R	ERV w/Modulating Intake/Exhaust
T	ERV with Economizer

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11. Filter and IAQ Options	
X	Standard 1" MERV2 Disposable Filter.
P	2" MERV8 Disposable Filter.
M	2" MERV11 Disposable Filter.
N	2" MERV13 Disposable Filter.
A	2" MERV13 Filter with UVC-LED Light.
B	2" MERV13 Filter with NPBI Device.
C	2" MERV8 Filter with NPBI Device.

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12. Cabinet Color and Finish	
X	Standard Beige Enamel Painted Steel.
1	White Enamel Painted Steel.
4	Gray Enamel Painted Steel.

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13. Cabinet Style	
X	Standard Cabinet. No Graphics
A	White Cabinet with Stacked Books Graphics

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14. Coil and Cabinet Coatings	
X	Standard Copper/Aluminum evap and cond coils.
1	Coated indoor evap coil, std outdoor cond. coil.
2	Coated outdoor cond coil, std indoor evap coil.
3	Coated indoor evap and outdoor cond coil.

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15. Unit Mounted Controls Options Standard: Hi/Lo Pressure and Ref. Leak (RDS) Sensor	
X	Standard Controls

INTERACTIVE TABLE OF CONTENTS (SELECT 0 ICON WITH CURSOR TO GO TO LOCATION, PICK TO RETURN)

1. Double wall construction, 20-ga. exterior skin, no visible fasteners.
2. Non fiberglass insulation.
3. Hinged, lockable, removable doors.
4. Removable sides and modularized construction for transporting through standard doors or in elevators allows installation on second and third floor. Suitable for any floor installations.
5. Units designed to be flush to a smooth interior wall and not require trim kits by use of adjustable wall sleeves; Trim Kits available where required.
6. Low sound levels are achieved by numerous system design innovations including special acoustical insulation.
7. Installation flexibility. Can be installed in corner applications with one side against a wall.

1. Supplemental electric heater packages available. Electric heat allows for comfortable operation during coil defrost mode and for heating during extremely low outdoor temperatures.
2. Pleated 2" filter installation with extra-large filter area for extended filter life between filter changes.
3. Evaporator coils constructed with hydrophilic fin stock. Wettable surface with low contact angle – no bead-up condensate, lower wet-coil air-side pressure drop, improved draining & reduce re-entrainment of moisture back into the air stream in continuous blower operating modes. Antimicrobial properties provide microbial resistance to fungicidal growth. Resistant to Mold and Mildew, ASTM D3273 – no growth. Seals fin surface against aluminum oxide formation.
4. Non-corrosive drain pans with no standing water.
5. Extra large full width control panel for easy access to all controls. Circuit Breakers on 230V models, and Toggle Disconnect on 460V models. 24VAC 75VA control transformer with circuit breaker. 24VAC low-voltage terminal strip for thermostat or DDC control. Electronic heat pump control board with diagnostics.
6. ECM indoor and outdoor motors. Indoor fan system provides a constant CFM up to .050" W.C. ESP. Enhanced indoor fan design reduces indoor sound levels. Outdoor fan system uses composite swept-wing blade design for quiet operation.
7. Readily accessible service ports located behind locking hinged doors.
8. 2-Stage scroll compressors with discharge muffler, double floating isolation mounting system, and sound muffling cover. High and Low Pressure switches with lockout circuit. Liquid line filter/drier. Heating and cooling thermostatic expansion valves.
9. Designed for over-the-window sill wall penetration and has 3" vertical adjustment for wall sleeve attachment. Unit ventilation section can be removed for easier multi-story installations. Multiple ventilation packages available.

/////// Unit Modes of Operation

Cooling Operation:
The Bard I-TEC Series products offer efficient two stage compressor cooling operation using R454B refrigerant. Scroll compressor technology delivers years of quiet, reliable operation.

Heating Operation:
The Bard I-TEC Series products offer efficient two stage heat pump heating and optional single or two stage heating operation using resistance heaters. Circuit breaker disconnect protection is standard in all 230V units equipped with electric heat.

Mechanical Dehumidification (Hot Gas Reheat) Operation:
Mechanical Dehumidification provides an energy efficient way to remove humidity from the indoor air stream without over cooling or overheating the indoor space.

Ventilation:
The I-TEC product provides the perfect platform to not only cool and heat an indoor area, but also provide a means of bringing outdoor air into the building. By including ventilation in the Wall-Mount, expensive costs associated with additional dedicated ventilation air systems can be avoided.

Filtration and Indoor Air Quality:
Providing the best air filtration solution is important to occupants inside a room or structure. Bard provides several filter options based on MERV filtration (up to MERV13). A long life UV-C light is also available to further enhance Indoor Air Quality (IAQ) levels.

Low Outdoor Temperature Cooling Operation:
A low ambient control (LAC) is installed in all I-TEC products to ensure cooling operation will be available even during low outdoor temperatures.

High Outdoor Temperature Cooling Operation:
The Bard I-TEC Series products are designed and tested to use efficient condenser coils with high airflow condenser fan systems. This lowers energy use and provides cooling during extremely warm outdoor weather conditions.

CAPACITY AND EFFICIENCY RATINGS

MODELS	I30H1	I36H1	I42H1	I48H1	I60H1
Cooling BTUH, Full Load Capacity, 95-80/67 EER ① Rated CFM	30,000 12.0 900	35,600 12.0 1150	41,000 11.8 1300	47,500 12.0 1500	55,500 11.0 1700
IPLV (Integrated Full & Part Load) ② 80-80/67	16.5	16.2	16.2	16.7	15.5
Heating BTUH, Full Load Capacity 47/43-70 COP ③ Rated CFM	26,600 3.6 900	33,600 3.7 1150	39,000 3.8 1300	46,000 3.6 1500	53,500 3.5 1700

① EER = Energy Efficiency Ratio - BTU/WATT efficiency
② IPLV = Integrated Part Load Value - BTU/WATT efficiency (combines full and part load performance)
③ COP = Coefficient of Performance - BTU/WATT efficiency

GENERAL UNIT REFRIGERANT AND MECHANICAL SPECIFICATIONS

UNIT MODEL	REFRIGERANT SYSTEM				INDOOR EVAPORATOR BLOWER			OUTDOOR CONDENSER FAN		
	CHARGE TYPE	STANDARD UNIT CHARGE RATE	DEHUMID-IFICATION UNIT CHARGE RATE	COMPRESSOR TYPE	INDOOR MOTOR -SPEEDS	INDOOR FAN	INDOOR CFM - RATED ESP	OUTDOOR MOTOR	OUTDOOR FAN	OUTDOOR FAN CFM
I30H	R454B	6.88 lbs.	7.06 lbs.	2-Stage Scroll	ECM - VAR	High Eff. Blower	900 - .15	ECM - VAR	20" S Wing Axial	1950
I36H	R454B	9.31 lbs.	9.38 lbs.	2-Stage Scroll	ECM - VAR	High Eff. Blower	1150 - .15	ECM - VAR	20" S Wing Axial	2300
I42H	R454B	9.00 lbs.	9.19 lbs.	2-Stage Scroll	ECM - VAR	High Eff. Blower	1300 - .20	ECM - VAR	20" S Wing Axial	2300
I48H	R454B	11.75 lbs.	11.94 lbs.	2-Stage Scroll	ECM - VAR	High Eff. Blower	1500 - .20	ECM - VAR	20" S Wing Axial	2600
I60H	R454B	11.44 lbs	11.94 lbs.	2-Stage Scroll	ECM - VAR	High Eff. Blower	1700 - .20	ECM - VAR	20" S Wing Axial	2600

GENERAL UNIT ELECTRICAL SPECIFICATIONS

MODELS	NOMINAL VOLTAGE VAC	PH	HZ	VOLTAGE RANGE VAC	RATED LOAD AMPS (RLA)	BRANCH CIRCUIT SELECTION CURRENT (BCSC)	LOCKED ROTOR AMPS (LRA)	INDOOR MOTOR VOLTAGE	INDOOR MOTOR AMPS	INDOOR MOTOR HP	OUTDOOR MOTOR VOLTAGE	OUTDOOR MOTOR AMPS	OUTDOOR MOTOR HP
I30HF-A	230/208V	1	60	197-253V	13.5/15.3	14.6	90	230V/208V	1.5/1.6	1/3	230V/208V	1.8/1.9	1/3
I30HF-B	230/208V	3	60	197-253V	9.2/10.4	9.9	82	230V/208V	1.5/1.6	1/3	230V/208V	1.8/1.9	1/3
I30HF-C	460V	3	60	414-506V	5.1	4.8	44.3	230V/208V	1.6	1/3	230V/208V	1.9	1/3
I36HF-A	230/208V	1	60	197-253V	14.5/16.6	14.6	90	230V/208V	.9/1.1	1/2	230V/208V	3/3.2	1/3
I36HF-B	230/208V	3	60	197-253V	9.9/11.3	9.9	85	230V/208V	.9/1.1	1/2	230V/208V	3/3.2	1/3
I36HF-C	460V	3	60	414-506V	5.5	4.8	44.3	230V/208V	1.1	1/2	230V/208V	3.2	1/3
I42HF-A	230/208V	1	60	197-253V	18/20.9	18.2	106	230V/208V	2.1/2.3	1/2	230V/208V	3.2/3.2	1/3
I42HF-B	230/208V	3	60	197-253V	11.4/13.2	11.5	114	230V/208V	2.1/2.3	1/2	230V/208V	3.2/3.2	1/3
I42HF-C	460V	3	60	414-506V	7.5	6.5	56	230V/208V	2.3	1/2	230V/208V	3.2	1/3
I48HF-A	230/208V	1	60	197-253V	20.2/22.6	18.3	138	230V/208V	2.9/3.2	1/2	230V/208V	3.3/3.4	1/2
I48HF-B	230/208V	3	60	197-253V	13.2/14.7	11.9	112	230V/208V	2.9/3.2	1/2	230V/208V	3.3/3.4	1/2
I48HF-C	460V	3	60	414-506V	8.4	6.8	61.8	230V/208V	3.2	1/2	230V/208V	3.4	1/2
I60HF-A	230/208V	1	60	197-253V	24.5/27.6	25.2	147.3	230V/208V	3.5/3.9	3/4	230V/208V	3.3/3.6	1/2
I60HF-B	230/208V	3	60	197-253V	13.5/15.1	13.8	150	230V/208V	3.5/3.9	3/4	230V/208V	3.3/3.6	1/2
I60HF-C	460V	3	60	414-506V	7.6	6.9	58	230V/208V	3.9	3/4	230V/208V	3.6	1/2

COOLING APPLICATION DATA AT RATED AIRFLOW - FULL LOAD COOLING

MODEL	RETURN AIR D.B. / W.B.	COOLING CAPACITY (BTUH)	ENTERING CONDENSER DRY BULB AIR TEMPERATURE										
			75°F 23.9°C	80°F 26.6°C	85°F 29.4°C	90°F 32.2°C	95°F 35°C	100°F 37.8°C	105°F 40.5°C	110°F 43.3°C	115°F 46.1°C	120°F 48.8°C	125°F 51.6°C
I30HF FULL LOAD COOLING 2ND STAGE	75/62°F	Total Cooling	35,100	32,300	30,000	28,000	26,100	24,700	23,500	22,500	21,800	21,300	21,000
		Sensible Cooling	26,700	25,100	23,700	22,400	21,400	20,600	19,900	19,500	19,200	18,900	19,000
	80/67°F	Total Cooling	37,400	35,200	33,300	31,600	30,000	28,800	27,700	26,800	26,200	25,800	25,600
		Sensible Cooling	25,900	24,600	23,400	22,400	21,600	20,900	20,400	20,100	19,900	19,800	20,000
	85/72°F	Total Cooling	44,600	41,200	38,300	35,700	33,400	31,500	29,900	28,500	27,600	26,800	26,400
		Sensible Cooling	26,600	25,000	23,500	22,300	21,200	20,300	19,500	18,900	18,400	17,900	17,700
I36HF FULL LOAD COOLING 2ND STAGE	75/62°F	Total Cooling	38,800	36,600	34,500	32,700	31,000	29,600	28,400	27,400	26,500	25,800	25,300
		Sensible Cooling	30,300	29,100	27,900	26,800	25,900	25,100	24,400	23,700	23,300	22,900	22,500
	80/67°F	Total Cooling	41,400	39,800	38,300	36,900	35,600	34,500	33,500	32,600	31,900	31,300	30,800
		Sensible Cooling	29,400	28,500	27,600	26,800	26,100	25,500	25,000	24,500	24,200	23,900	23,700
	85/72°F	Total Cooling	49,300	46,600	44,000	41,700	39,600	37,800	36,100	34,700	33,500	32,500	31,700
		Sensible Cooling	30,100	28,900	27,800	26,600	25,600	24,700	23,900	23,000	22,300	21,600	21,000
I42HF FULL LOAD COOLING 2ND STAGE	75/62°F	Total Cooling	45,000	42,200	39,800	37,600	35,700	34,200	32,800	31,700	30,800	30,100	
		Sensible Cooling	34,600	32,900	31,400	30,100	29,100	28,100	27,300	26,700	26,300	25,900	
	80/67°F	Total Cooling	48,000	46,000	44,200	42,500	41,000	39,800	38,700	37,800	37,100	36,500	
		Sensible Cooling	33,500	32,200	31,100	30,100	29,300	28,600	28,000	27,600	27,300	27,100	
	85/72°F	Total Cooling	57,200	53,800	50,800	48,000	45,600	43,600	41,700	40,200	39,000	37,900	
		Sensible Cooling	34,300	32,700	31,300	29,900	28,800	27,700	26,700	25,900	25,200	24,500	
I48HF FULL LOAD COOLING 2ND STAGE	75/62°F	Total Cooling	52,200	48,900	46,100	43,600	41,400	39,500	38,000	36,700	35,600	34,800	34,300
		Sensible Cooling	41,300	39,500	37,900	36,500	35,400	34,400	33,600	33,000	32,500	32,300	32,200
	80/67°F	Total Cooling	55,700	53,300	51,200	49,300	47,500	46,000	44,800	43,700	42,800	42,200	41,800
		Sensible Cooling	40,000	38,700	37,500	36,500	35,700	35,000	34,500	34,100	33,800	33,800	33,900
	85/72°F	Total Cooling	66,400	62,300	58,800	55,700	52,800	50,300	48,300	46,500	45,000	43,900	43,000
		Sensible Cooling	41,000	39,300	37,700	36,300	35,000	33,900	32,900	32,000	31,100	30,600	30,000
I60HF FULL LOAD COOLING 2ND STAGE	75/62°F	Total Cooling	61,900	57,800	54,200	51,100	48,300	46,000	44,100	42,500	41,200	40,300	
		Sensible Cooling	48,400	46,000	43,900	42,100	40,500	39,200	38,200	37,400	36,800	36,500	
	80/67°F	Total Cooling	66,100	63,000	60,200	57,800	55,500	53,600	52,000	50,700	49,600	48,800	
		Sensible Cooling	46,900	45,100	43,500	42,100	40,900	39,900	39,200	38,600	38,300	38,200	
	85/72°F	Total Cooling	78,700	73,700	69,100	65,300	61,700	58,600	56,100	53,900	52,100	50,700	
		Sensible Cooling	48,000	45,800	43,700	41,800	40,100	38,600	37,400	36,200	35,300	34,500	

COOLING APPLICATION DATA AT RATED AIRFLOW - PART LOAD COOLING

MODEL	RETURN AIR D.B. / W.B.	COOLING CAPACITY (BTUH)	ENTERING CONDENSER AIR TEMPERATURE										
			75°F 23.9°C	80°F 26.6°C	85°F 29.4°C	90°F 32.2°C	95°F 35°C	100°F 37.8°C	105°F 40.5°C	110°F 43.3°C	115°F 46.1°C	120°F 48.8°C	125°F 51.6°C
I30HF PART LOAD COOLING 1ST STAGE	75/62°F	Total Cooling	24,100	23,000	21,900	20,800	19,800	18,800	17,900	17,100	16,200	15,400	14,600
		Sensible Cooling	18,400	17,900	17,400	16,800	16,400	15,900	15,400	14,900	14,500	14,100	13,700
	80/67°F	Total Cooling	25,700	25,000	24,300	23,500	22,700	21,900	21,100	20,300	19,500	18,600	17,800
		Sensible Cooling	17,800	17,500	17,200	16,800	16,500	16,100	15,800	15,400	15,100	14,700	14,400
	85/72°F	Total Cooling	30,600	29,300	27,900	26,600	25,200	24,000	22,800	21,600	20,500	19,400	18,300
		Sensible Cooling	18,300	17,800	17,300	16,700	16,200	15,600	15,100	14,500	13,900	13,300	12,800
I36HF PART LOAD COOLING 1ST STAGE	75/62°F	Total Cooling	27,300	26,200	25,200	24,100	23,100	22,100	21,100	20,200	19,300	18,400	17,600
		Sensible Cooling	22,000	21,500	20,900	20,400	19,900	19,400	18,800	18,200	17,600	17,000	16,500
	80/67°F	Total Cooling	29,100	28,500	27,900	27,200	26,500	25,700	24,900	24,100	23,200	22,300	21,400
		Sensible Cooling	21,300	21,000	20,700	20,400	20,100	19,700	19,300	18,800	18,300	17,800	17,300
	85/72°F	Total Cooling	34,700	33,400	32,100	30,700	29,500	28,100	26,900	25,700	24,400	23,200	22,000
		Sensible Cooling	21,800	21,300	20,800	20,300	19,700	19,100	18,400	17,700	16,900	16,100	15,300
I42HF PART LOAD COOLING 1ST STAGE	75/62°F	Total Cooling	32,000	30,800	29,700	28,400	27,300	26,200	25,000	23,800	22,700	21,600	
		Sensible Cooling	24,800	24,300	23,800	23,200	22,600	21,900	21,300	20,600	19,900	19,100	
	80/67°F	Total Cooling	34,100	33,500	32,900	32,100	31,300	30,500	29,500	28,400	27,300	26,100	
		Sensible Cooling	24,000	23,800	23,500	23,200	22,800	22,300	21,800	21,300	20,700	20,000	
	85/72°F	Total Cooling	40,600	39,200	37,800	36,300	34,800	33,400	31,800	30,200	28,700	27,100	
		Sensible Cooling	24,600	24,200	23,600	23,100	22,400	21,600	20,800	20,000	19,100	18,100	
I48HF PART LOAD COOLING 1ST STAGE	75/62°F	Total Cooling	36,500	34,800	33,200	31,600	30,100	28,700	27,200	25,800	24,500	23,200	21,900
		Sensible Cooling	29,000	28,200	27,400	26,600	25,900	25,100	24,300	23,600	22,900	22,200	21,500
	80/67°F	Total Cooling	38,900	37,900	36,800	35,700	34,500	33,400	32,100	30,800	29,500	28,100	26,700
		Sensible Cooling	28,100	27,600	27,100	26,600	26,100	25,500	24,900	24,400	23,800	23,200	22,600
	85/72°F	Total Cooling	46,400	44,300	42,300	40,300	38,300	36,600	34,600	32,800	31,000	29,200	27,500
		Sensible Cooling	28,800	28,000	27,300	26,400	25,600	24,700	23,800	22,900	21,900	21,000	20,000
I60HF PART LOAD COOLING 1ST STAGE	75/62°F	Total Cooling	42,700	41,000	39,100	37,400	35,600	33,900	32,200	30,600	29,000	27,400	
		Sensible Cooling	33,500	32,700	31,800	31,000	30,100	29,300	28,500	27,600	26,700	25,800	
	80/67°F	Total Cooling	45,600	44,600	43,400	42,200	40,900	39,500	38,000	36,500	34,900	33,200	
		Sensible Cooling	32,500	32,000	31,500	31,000	30,400	29,800	29,200	28,500	27,800	27,000	
	85/72°F	Total Cooling	54,300	52,200	49,900	47,700	45,400	43,200	41,000	38,900	36,700	34,500	
		Sensible Cooling	33,300	32,500	31,700	30,800	29,800	28,900	27,900	26,700	25,600	24,400	

- Unit compressor cooling operation below 60°F (15.5°C) uses a Low Ambient Control (LAC).
- 1000 BTUH = .29307 kW.
- Outdoor air temperatures provided are an average of the condenser inlet air temperature.

HEATING APPLICATION DATA AT RATED AIRFLOW - FULL LOAD HEATING

MODEL	INDOOR D.B.	HEATING CAPACITY (BTUH)	OUTDOOR DRY BULB TEMPERATURE													
			0°F -17.7°C	5°F -15°C	10°F -12.2°C	15°F -9.4°C	20°F -6.6°C	25°F -3.8°C	30°F -1.1°C	35°F 1.6°C	40°F 4.4°C	45°F 7.2°C	50°F 10°C	55°F 12.7°C	60°F 15.5°C	65°F 18.3°C
I30HF	70°F 21.1°C	BTUH	13,600	14,800	16,100	17,400	18,800	20,200	21,600	23,000	24,500	26,000	27,600	29,200	30,800	32,400
		WATTS	1,760	1,800	1,840	1,870	1,910	1,940	1,980	2,010	2,040	2,070	2,090	2,120	2,150	2,170
		COP	2.3	2.4	2.6	2.7	2.9	3.1	3.2	3.4	3.5	3.7	3.9	4.0	4.2	4.4
I36HF		BTUH	11,900	14,500	17,000	19,500	21,900	24,200	26,500	28,600	30,800	32,800	34,800	36,800	38,600	40,400
		WATTS	2,060	2,130	2,200	2,260	2,310	2,360	2,410	2,450	2,480	2,510	2,540	2,560	2,570	2,580
		COP	1.7	2.0	2.3	2.5	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6
I42HF		BTUH	17,400	19,800	22,200	24,500	26,900	29,200	31,500	33,700	36,000	38,200	40,400	42,500	44,700	46,800
		WATTS	2,480	2,540	2,600	2,650	2,700	2,750	2,790	2,830	2,870	2,900	2,930	2,960	2,990	3,010
		COP	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.7	3.9	4.0	4.2	4.4	4.6
I48HF		BTUH	21,100	23,600	26,200	28,800	31,500	34,100	36,800	39,500	42,200	44,900	47,700	50,500	53,300	56,100
		WATTS	3,020	3,090	3,160	3,230	3,290	3,350	3,410	3,470	3,520	3,560	3,610	3,650	3,690	3,720
		COP	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.3	3.5	3.7	3.9	4.1	4.2	4.4
I60HF		BTUH	25,600	28,600	31,600	34,600	37,600	40,600	43,600	46,500	49,500	52,400	55,300	58,200	61,100	64,000
		WATTS	3,660	3,760	3,860	3,950	4,040	4,120	4,200	4,280	4,350	4,410	4,470	4,530	4,580	4,630
		COP	2.0	2.2	2.4	2.6	2.7	2.9	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1

HEATING APPLICATION DATA AT RATED AIRFLOW - PART LOAD HEATING

MODEL	INDOOR D.B.	HEATING CAPACITY (BTUH)	OUTDOOR DRY BULB TEMPERATURE													
			0°F	5°F -15°C	10°F	15°F -9.4°C	20°F -6.6°C	25°F -3.8°C	30°F -1.1°C	35°F 1.6°C	40°F 4.4°C	45°F 7.2°C	50°F 10°C	55°F 12.7°C	60°F 15.5°C	65°F 18.3°C
I30HF	70°F 21.1°C	BTUH	6800	8273	9730	11157	12555	13923	15262	16570	17849	19099	20318	21508	22669	23799
		WATTS	1465	1480	1494	1507	1519	1530	1541	1550	1559	1567	1575	1581	1587	1592
		COP	1.4	1.6	1.9	2.2	2.4	2.7	2.9	3.1	3.4	3.6	3.8	4.0	4.2	4.4
I36HF		BTUH	8800	10506	12219	13907	15569	17206	18817	20403	21963	23498	25007	26491	27949	29382
		WATTS	1794	1819	1842	1861	1877	1889	1899	1905	1908	1907	1903	1896	1886	1873
		COP	1.4	1.7	1.9	2.2	2.4	2.7	2.9	3.1	3.4	3.6	3.9	4.1	4.3	4.6
I42HF		BTUH	10500	12659	14792	16865	18876	20827	22717	24546	26314	28022	29668	31254	32779	34244
		WATTS	2099	2121	2141	2158	2173	2186	2196	2203	2209	2212	2212	2210	2206	2199
		COP	1.5	1.7	2.0	2.3	2.5	2.8	3.0	3.3	3.5	3.7	3.9	4.1	4.4	4.6
I48HF		BTUH	11100	13227	15347	17482	19632	21797	23976	26170	28379	30602	32840	35093	37360	39642
		WATTS	2462	2478	2495	2510	2524	2538	2550	2562	2573	2583	2592	2600	2608	2614
		COP	1	1.6	1.8	2.0	2.3	2.5	2.8	3.0	3.2	3.5	3.7	4.0	4.2	4.4
I60HF		BTUH	12400	15173	17946	20667	23339	25960	28530	31050	33520	35939	38307	40625	42893	45110
		WATTS	2910	2946	2981	3014	3046	3076	3104	3131	3156	3180	3202	3222	3241	3258
		COP	1.2	1.5	1.8	2.0	2.2	2.5	2.7	2.9	3.1	3.3	3.5	3.7	3.9	4.1

Notes:
- Performance data at rated CFM. Data includes defrost operation below 45°F (7.2°C) outdoor temperatures.
- Outdoor air temperatures provided are an average of the condenser inlet air temperature.
- Supplemental heaters are recommended for applications requiring heating below a 15°F (-9.4°C) outdoor temperature.
- 1000 BTUH = .29307 kW

UNIT SHIPPING WEIGHTS

MODELS	NO VENT	CRV	ERV
I30HF-A	816	908	943
I30HF-B	816	908	943
I30HF-C	851	943	978
I36HF-A	846	938	973
I36HF-B	846	938	973
I36HF-C	881	973	1008
I42HF-A	896	988	1023
I42HF-B	896	988	1023
I42HF-C	931	1023	1058
I48HF-A	884	976	1011
I48HF-B	884	976	1011
I48HF-C	919	1011	1046
I60HF-A	931	1023	1058
I60HF-B	931	1023	1058
I60HF-C	966	1058	1093

MODELS	NO VENT	CRV	ERV
I30HFDA	830	920	955
I30HFDB	830	920	955
I30HFDC	865	955	990
I36HFDA	858	950	985
I36HFDB	858	950	985
I36HFDC	893	985	1020
I42HFDA	908	1000	1035
I42HFDB	908	1000	1035
I42HFDC	943	1035	1070
I48HFDA	930	1022	1057
I48HFDB	930	1022	1057
I48HFDC	965	1057	1092
I60HFDA	943	1035	1070
I60HFDB	943	1035	1070
I60HFDC	978	1070	1105

Deduct 49# from all values for installed weight.

/////// INDOOR EC MOTOR BLOWER SPEEDS AND AIRFLOW PERFORMANCE CHART

Model	Rated ESP.	Max. ESP	Continuous CFM	Rated 2nd Stage CFM	Rated 1st Stage CFM	4-10 KW CFM	15-20 KW CFM
I30HF	0.15	0.50	500	900	650	700	1050
I36HF	0.15	0.50	600	1150	850	700	1050
I42HF	0.20	0.50	650	1300	950	700	1050
I48HF	0.20	0.50	725	1500	1050	700	1400
I60HF	0.20	0.50	850	1700	1200	700	1400

① Motor will deliver consistent CFM through voltage supply range with no deterioration up to 0.50 WC ESP.

Indoor airflow is measured in Cubic Feet per Minute (CFM) will remain constant using the EC indoor motor provided with the I-TEC product.

Continuous CFM Blower and Vent Only Speed: The I-TEC series uses this speed when **fan only (G) or ventilation operation (A)** is used. Listed CFM is provided up to 0.50" WC External Static Pressure (ESP). See airflow performance chart for CFM amount.

Rated 1st Stage CFM: The I-TEC series uses this speed during **Part Load Compressor Cooling (Y1) and Heating (B)**. Listed CFM is provided up to 0.50" WC External Static Pressure (ESP). See airflow performance chart for CFM amount.

Rated 2nd Stage CFM: The I-TEC series uses this speed during **Full Load Compressor Cooling (Y1, Y2) and Heating (B)**. Listed CFM is provided up to 0.50" WC External Static Pressure (ESP). See airflow performance chart for CFM amount.

4-10 Kw CFM: The I-TEC series uses this speed during **Standard Electric Heat (W2) Operation.** Listed CFM is provided up to 0.50" WC External Static Pressure (ESP). See airflow performance chart for CFM amount. Unit will operate at Rated 1st Stage CFM if used concurrently with heat pump operation.

15-20 Kw CFM: The I-TEC series uses this speed during **Emergency Electric Heat (W3) Operation.** Listed CFM is provided up to 0.50" WC External Static Pressure (ESP). See airflow performance chart for CFM amount. Unit will not operate 15-20 Kw electric heat (Emergency Heat) concurrently with heat pump compressor operation.

/////// INDOOR AIRFLOW STATIC

The airflow amount that passes through the unit is very important when considering cooling capacity and proper unit operation. Restriction of the amount of air passing through the unit is called external static pressure (ESP). As the amount of air passing through the unit is restricted, the ESP value increases. This will have a direct impact on how heating and cooling equipment performs when used in an application. It is important to have a professional HVAC contractor, distributor, or technician complete a duct static calculation if supply or return ducts are used with the IH series unit. Unit filter static must also be calculated into the total ESP value.

Supply Duct Static: Supply duct static will include duct work connected to the unit supply opening, supply registers, filtration installed in the supply duct, or any other device in the supply air stream that will restrict airflow. All ducts must be sealed to reduce duct air leakage, and flex duct work must not include restriction due to installation. Duct static must be calculated by a HVAC professional and include all factors of the duct design.

Return Duct Static: Return duct static will include duct work connected to the unit return opening, return registers, filtration installed in the return duct, or any other device in the return air stream that will restrict airflow. All ducts must be sealed to reduce duct air leakage, and flex duct work must not include restriction due to installation. Duct static must be calculated by a HVAC professional and include all factors of the duct design.

Unit Filter Static: The I-TEC series uses a unit filter installed before the indoor blower assembly that filters both indoor air from the room and outdoor air entering through the ventilation device. When additional filtration is required (higher MERV rating), additional static will need to be added to the total external static pressure (ESP). The following chart is to be used to estimate additional static pressure for a installed clean filter.

FILTER CODE	FILTER MERV RATING	FILTER STATIC INCHES WC.	FILTRATION LEVEL
C, P	**MERV 8**	.00" WC	Average Filtration, 2" Thickness Pleated Disposable Media.
M	**MERV 11**	.02" WC	Above Average Filtration, 2" Thickness Pleated Disposable Media.
N, A, B	**MERV 13**	.05" WC	High Filtration, 2" Thickness Pleated Disposable Media.

Calculating Total External Static Pressure: Supply duct static, return duct static, unit filter static, and any other source of additional static pressure are added together. Total external static pressure must not exceed 0.50" WC.

Total External Static Pressure Calculation:

Supply Duct Static + Return Duct Static + Filter Static + Additional External Static = Total External Static Pressure (ESP)

Non-Ducted Applications: Applications that do not include supply or return ducts inside the structure, use Bard supply duct-free plenums, and do not have additional sources of external static will typically reflect rated airflow amounts shown in the Indoor Airflow CFM chart.

ELECTRICAL SPECIFICATIONS: I30 TO I42 UNITS WITHOUT DEHUMIDIFICATION

UNIT MODEL	KW OPTION	RATED VOLTAGE AND PHASE (60HZ)	CONNECTION POINT	NO. OF FIELD CIRCUITS	SINGLE CIRCUIT		DUAL CIRCUIT			
					MINIMUM CIRCUIT AMPACITY (MCA)	MAX. OVER CURRENT PROTECTION (MOCP)	MCA		MOCP	
							CKT. A	CKT. B	CKT. A	CKT. B
I30HF-A	0Z	230/208-1	C BREAKER	1	24	30				
	05	230/208-1	C BREAKER	1	50	60				
	10	230/208-1	C BREAKER	1 or 2	76	80	24	52	30	60
I30HF-B	0Z	230/208-3	C BREAKER	1	19	25				
	06	230/208-3	C BREAKER	1	37	40				
	09	230/208-3	C BREAKER	1	46	50				
I30HF-C	0Z	460-3	DISCONNECT	1	9	15				
	06	460-3	DISCONNECT	1	18	20				
	09	460-3	DISCONNECT	1	23	25				
I36HF-A	0Z	230/208-1	C BREAKER	1	25	30				
	05	230/208-1	C BREAKER	1	51	60				
	10	230/208-1	C BREAKER	1 or 2	77	80	25	52	30	60
	15	230/208-1	C BREAKER	1 or 2	83	90	31	52	35	60
I36HF-B	0Z	230/208-3	C BREAKER	1	19	25				
	06	230/208-3	C BREAKER	1	37	40				
	09	230/208-3	C BREAKER	1	46	50				
	15	230/208-3	C BREAKER	1	50	50				
I36HF-C	0Z	460-3	DISCONNECT	1	10	15				
	06	460-3	DISCONNECT	1	19	20				
	09	460-3	DISCONNECT	1	23	25				
	15	460-3	DISCONNECT	1	25	25				
I42HF-A	0Z	230/208-1	C BREAKER	1	31	40				
	05	230/208-1	C BREAKER	1	57	60				
	10	230/208-1	C BREAKER	1 or 2	83	90	31	52	40	60
	15	230/208-1	C BREAKER	1 or 2	84	90	32	52	40	60
I42HF-B	0Z	230/208-3	C BREAKER	1	23	30				
	06	230/208-3	C BREAKER	1	41	45				
	09	230/208-3	C BREAKER	1	50	50				
	15	230/208-3	C BREAKER	1	51	60				
I42HF-C	0Z	460-3	DISCONNECT	1	12	15				
	06	460-3	DISCONNECT	1	21	25				
	09	460-3	DISCONNECT	1	26	30				
	15	460-3	DISCONNECT	1	26	30				

CAUTION: When more than one field power circuit is run through one conduit, the conductors must be de-rated. Pay special attention to Note 8 of Table 310 regarding Ampacity Adjustment Factors when more than three current carrying conductors are in a raceway.

IMPORTANT: While this electrical data is presented as a guide, it is important to electrically connect properly sized fuses and conductor wires in accordance with the National Electrical Code and all local codes. MOCP (Maximum Over-current Protection) value listed is the maximum value as per UL 60335 calculations for MOCP (branch-circuit conductor sizes in this chart are based on this MOCP). The actual factory installed Over-current Protective Device (Circuit Breaker) in this model may be lower than the maximum UL 60335 allowable MOCP value, but still above the UL 60335 minimum calculated value or Minimum Circuit Ampacity (MCA) listed. Refer to the National Electrical code (latest version), Article 310 for power conductor sizing. Review all wiring and safety information provided in the installation manual for the product.

ELECTRICAL SPECIFICATIONS: I48 TO I60 UNITS WITHOUT DEHUMIDIFICATION

UNIT MODEL	KW OPTION	RATED VOLTAGE AND PHASE (60HZ)	CONNECTION POINT	NO. OF FIELD CIRCUITS	SINGLE CIRCUIT		DUAL CIRCUIT			
					MINIMUM CIRCUIT AMPACITY (MCA)	MAX. OVER CURRENT PROTECTION (MOCP)	MCA		MOCP	
							CKT. A	CKT. B	CKT. A	CKT. B
I48HF-A	0Z	230/208-1	C BREAKER	1	32	40				
	05	230/208-1	C BREAKER	1	58	60				
	10	230/208-1	C BREAKER	1 or 2	84	90	32	52	40	60
	15	230/208-1	C BREAKER	1 or 2	85	90	33	52	40	60
I48HF-B	0Z	230/208-3	C BREAKER	1	24	30				
	06	230/208-3	C BREAKER	1	42	45				
	09	230/208-3	C BREAKER	1	51	60				
	15	230/208-3	C BREAKER	1	52	60				
I48HF-C	0Z	460-3	DISCONNECT	1	13	15				
	06	460-3	DISCONNECT	1	22	25				
	09	460-3	DISCONNECT	1	27	30				
	15	460-3	DISCONNECT	1	27	30				
I60HF-A	0Z	230/208-1	C BREAKER	1	42	50				
	05	230/208-1	C BREAKER	1 or 2	68	70	42	26	50	30
	10	230/208-1	C BREAKER	1 or 2	94	100	42	52	50	60
	15	230/208-1	C BREAKER	1 or 2	94	100	42	52	50	60
I60HF-B	0Z	230/208-3	C BREAKER	1	27	35				
	06	230/208-3	C BREAKER	1	45	45				
	09	230/208-3	C BREAKER	1	55	60				
	15	230/208-3	C BREAKER	1	55	60				
I60HF-C	0Z	460-3	DISCONNECT	1	14	20				
	06	460-3	DISCONNECT	1	23	25				
	09	460-3	DISCONNECT	1	27	30				
	15	460-3	DISCONNECT	1	27	30				

ELECTRICAL SPECIFICATIONS: I30 UNITS WITHOUT DEHUMIDIFICATION

UNIT MODEL	KW OPTION	RATED VOLTAGE AND PHASE (60HZ)	CONNECTION POINT	NO. OF FIELD CIRCUITS	SINGLE CIRCUIT		DUAL CIRCUIT			
					MINIMUM CIRCUIT AMPACITY (MCA)	MAX. OVER CURRENT PROTECTION (MOCP)	MCA		MOCP	
							CKT. A	CKT. B	CKT. A	CKT. B
I30HFDA	0Z	230/208-1	C BREAKER	1	25	30				
	05	230/208-1	C BREAKER	1	51	60				
	10	230/208-1	C BREAKER	1 or 2	77	80	25	52	30	60
I30HFDB	0Z	230/208-3	C BREAKER	1	19	25				
	06	230/208-3	C BREAKER	1	37	40				
	09	230/208-3	C BREAKER	1	46	50				
I30HFDC	0Z	460-3	DISCONNECT	1	10	15				
	06	460-3	DISCONNECT	1	19	20				
	09	460-3	DISCONNECT	1	23	25				

CAUTION: When more than one field power circuit is run through one conduit, the conductors must be de-rated. Pay special attention to Note 8 of Table 310 regarding Ampacity Adjustment Factors when more than three current carrying conductors are in a raceway.

IMPORTANT: While this electrical data is presented as a guide, it is important to electrically connect properly sized fuses and conductor wires in accordance with the National Electrical Code and all local codes. MOCP (Maximum Over-current Protection) value listed is the maximum value as per UL 60335 calculations for MOCP (branch-circuit conductor sizes in this chart are based on this MOCP). The actual factory installed Over-current Protective Device (Circuit Breaker) in this model may be lower than the maximum UL 60335 allowable MOCP value, but still above the UL 60335 minimum calculated value or Minimum Circuit Ampacity (MCA) listed. Refer to the National Electrical code (latest version), Article 310 for power conductor sizing. Review all wiring and safety information provided in the installation manual for the product.

ELECTRICAL SPECIFICATIONS: I36 TO I60 UNITS WITH DEHUMIDIFICATION

UNIT MODEL	KW OPTION	RATED VOLTAGE AND PHASE (60HZ)	CONNECTION POINT	NO. OF FIELD CIRCUITS	SINGLE CIRCUIT		DUAL CIRCUIT			
					MINIMUM CIRCUIT AMPACITY (MCA)	MAX. OVER CURRENT PROTECTION (MOCP)	MCA		MOCP	
							CKT. A	CKT. B	CKT. A	CKT. B
I36HFDA	0Z	230/208-1	C BREAKER	1	26	30				
	05	230/208-1	C BREAKER	1	52	60				
	10	230/208-1	C BREAKER	1 or 2	78	80	26	52	30	60
	15	230/208-1	C BREAKER	1 or 2	84	90	32	52	35	60
I36HFDB	0Z	230/208-3	C BREAKER	1	21	25				
	06	230/208-3	C BREAKER	1	39	40				
	09	230/208-3	C BREAKER	1	48	50				
	15	230/208-3	C BREAKER	1	51	60				
I36HFDC	0Z	460-3	DISCONNECT	1	10	15				
	06	460-3	DISCONNECT	1	19	20				
	09	460-3	DISCONNECT	1	24	25				
	15	460-3	DISCONNECT	1	26	30				
I42HFDA	0Z	230/208-1	C BREAKER	1	30	35				
	05	230/208-1	C BREAKER	1	56	60				
	10	230/208-1	C BREAKER	1 or 2	82	90	30	52	35	60
	15	230/208-1	C BREAKER	1 or 2	84	90	32	52	35	60
I42HFDB	0Z	230/208-3	C BREAKER	1	21	25				
	06	230/208-3	C BREAKER	1	39	40				
	09	230/208-3	C BREAKER	1	48	50				
	15	230/208-3	C BREAKER	1	51	60				
I42HFDC	0Z	460-3	DISCONNECT	1	12	15				
	06	460-3	DISCONNECT	1	21	25				
	09	460-3	DISCONNECT	1	25	25				
	15	460-3	DISCONNECT	1	26	30				
I48HFDA	0Z	230/208-1	C BREAKER	1	33	40				
	05	230/208-1	C BREAKER	1	59	60				
	10	230/208-1	C BREAKER	1 or 2	85	90	33	52	40	60
	15	230/208-1	C BREAKER	1 or 2	86	90	33	52	40	60
I48HFDB	0Z	230/208-3	C BREAKER	1	25	30				
	06	230/208-3	C BREAKER	1	43	45				
	09	230/208-3	C BREAKER	1	52	60				
	15	230/208-3	C BREAKER	1	53	60				
I48HFDC	0Z	460-3	DISCONNECT	1	14	15				
	06	460-3	DISCONNECT	1	23	25				
	09	460-3	DISCONNECT	1	27	30				
	15	460-3	DISCONNECT	1	27	30				
I60HFDA	0Z	230/208-1	C BREAKER	1	42	50				
	05	230/208-1	C BREAKER	1 or 2	68	70	42	26	50	30
	10	230/208-1	C BREAKER	1 or 2	94	100	42	52	50	60
	15	230/208-1	C BREAKER	1 or 2	94	100	42	52	50	60
I60HFDB	0Z	230/208-3	C BREAKER	1	27	35				
	06	230/208-3	C BREAKER	1	45	45				
	09	230/208-3	C BREAKER	1	54	60				
	15	230/208-3	C BREAKER	1	54	60				

SEE ELECTRICAL NOTES ON NEXT PAGE.

ELECTRICAL SPECIFICATIONS: I60 UNITS WITH DEHUMIDIFICATION (CONTINUED)

UNIT MODEL	KW OPTION	RATED VOLTAGE AND PHASE (60HZ)	CONNECTION POINT	NO. OF FIELD CIRCUITS	SINGLE CIRCUIT		DUAL CIRCUIT			
					MINIMUM CIRCUIT AMPACITY (MCA)	MAX. OVER CURRENT PROTECTION (MOCP)	MCA		MOCP	
							CKT. A	CKT. B	CKT. A	CKT. B
I60HFDC	0Z	460-3	DISCONNECT	1	14	20				
	06	460-3	DISCONNECT	1	23	25				
	09	460-3	DISCONNECT	1	27	30				
	15	460-3	DISCONNECT	1	27	30				

CAUTION: When more than one field power circuit is run through one conduit, the conductors must be de-rated. Pay special attention to Note 8 of Table 310 regarding Ampacity Adjustment Factors when more than three current carrying conductors are in a raceway.

IMPORTANT: While this electrical data is presented as a guide, it is important to electrically connect properly sized fuses and conductor wires in accordance with the National Electrical Code and all local codes. MOCP (Maximum Over-current Protection) value listed is the maximum value as per UL 60335 calculations for MOCP (branch-circuit conductor sizes in this chart are based on this MOCP). The actual factory installed Over-current Protective Device (Circuit Breaker) in this model may be lower than the maximum UL 60335 allowable MOCP value, but still above the UL 60335 minimum calculated value or Minimum Circuit Ampacity (MCA) listed. Refer to the National Electrical code (latest version), Article 310 for power conductor sizing. Review all wiring and safety information provided in the installation manual for the product.

ELECTRIC HEAT TABLE - REFER TO ELECTRICAL SPECIFICATIONS FOR AVAILABILITY BY UNIT MODEL

Electric Heat Nomenclature	Total KW and BTUH @ Field-Supplied Voltage										
	@ 230V (1)				@ 208V (1)				@ 460V		
	KW	1-PH Amps	3-PH Amps	BTUH	KW	1-PH Amps	3-PH Amps	BTUH	KW	3-PH Amps	BTUH
05	4.6	20.0		15,700	3.8	18.0		12,800	4.6	5.8	15,700
06	5.5		13.9	18,800	4.5		12.5	15,400	5.5	6.9	18,800
09	8.3		20.8	28,300	6.8		18.7	23,000	8.3	10.4	28,300
10	9.2	40.0		31,400	7.5	36.1		25,600			
15	13.8	60.0	34.6	47,100	11.3	54.1	31.2	38,400	13.8	17.3	47,100

NOTE: Not all KW's available in all models. See Minimum Circuit Ampacity and Maximum Overcurrent Protection table on following page.

VENTILATION OPTION SELECTION CHART

VENT CODE	DESCRIPTION	VENT OPERATION
B	Blank-Off Plate	No ventilation air provided to the indoor area.
M	Select Speed Commercial Room Ventilator	Powered ECM outdoor intake and exhaust fans. Intake fan has 3 selectable speeds to control indoor air being exhausted from the room. 3 fixed selectable speeds for intake and exhaust fan allow for basic room pressure adjustment. Vent is capable of up to 525 cfm outdoor air intake.
N	Commercial Room Ventilator with Economizer Functionality	Powered ECM outdoor intake and exhaust fans. Intake fan has 3 adjustable speeds to control outdoor air being brought into the room. Exhaust fan has 3 adjustable speeds to control room air being exhausted from the room. Vent includes adjustable outdoor dry bulb temperature. Vent is capable of up to 525 cfm outdoor air intake.
Q	Modulating Commercial Room Ventilator	Powered ECM outdoor intake and exhaust fans. Intake fan has a solid-state board with user adjustable 0-10V ventilation amount to control outdoor air being brought into the room. Exhaust fan has a solid-state board with user adjustable 0-10V ventilation amount to control outdoor air being exhausted from the room. Independent incremental speed adjustment for intake and exhaust fan control can be used to slightly adjust room pressure during test and balance procedures. Vent is capable of up to 525 cfm outdoor air intake.
R	Modulating Energy Recovery Ventilator	Powered ECM outdoor intake and exhaust fans with dual energy recovery wheels. Intake fan has a solid-state board with user adjusted 0-10V ventilation amount to control outdoor air being brought into the room. Exhaust fan has a solid-state board with user adjustable 0-10V ventilation amount to control outdoor air being exhausted from the room. Independent selectable speeds for intake and exhaust fan control can be used to slightly adjust room pressure during test and balance procedures. Duel energy recovery wheels provide pre-conditioned air to the indoor space to save on energy and provide a more comfortable indoor environment. Vent is capable of up to 450 cfm outdoor air intake.
T	Energy Recovery Ventilator with Economizer	Powered ECM outdoor intake and exhaust fans with dual energy recovery wheels. Intake fan has a solid-state board with user adjusted 0-10V ventilation amount to control outdoor air being brought into the room. Exhaust fan has a solid-state board with user adjustable 0-10V ventilation amount to control outdoor air being exhausted from the room. Independent selectable speeds for intake and exhaust fan control can be used to slightly adjust room pressure during test and balance procedures. Duel energy recovery wheels provide pre-conditioned air to the indoor space to save on energy and provide a more comfortable indoor environment. Economizer cycle provides free cooling operation when conditions are acceptable. BrightStat with LUA script (8403-083-001) or field supplied DDC controls system required for economizer operation.

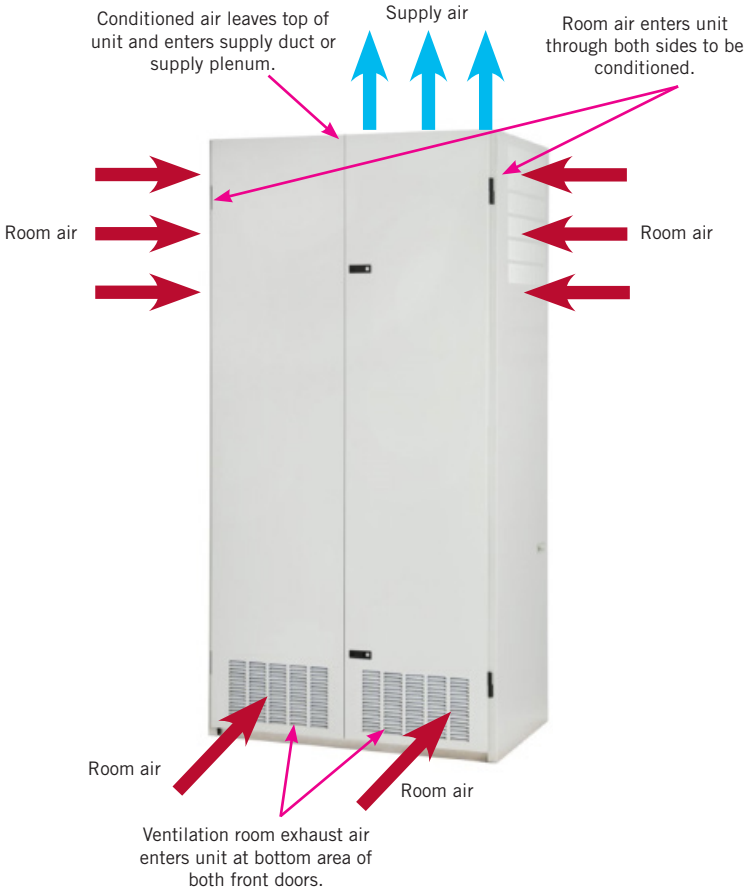
Blank-off plate

Energy Recovery Ventilator

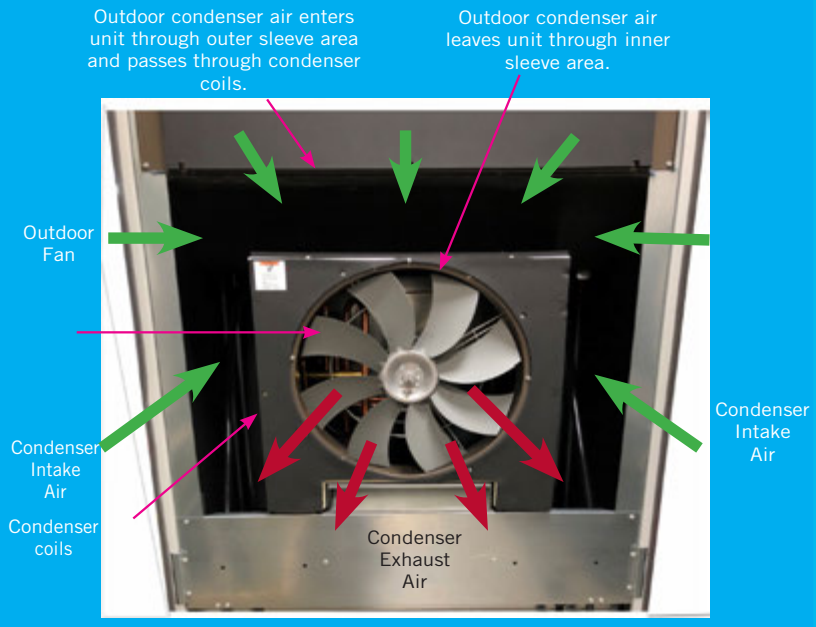
Commercial Room Ventilator

/////// UNIT AIRFLOW PATHS

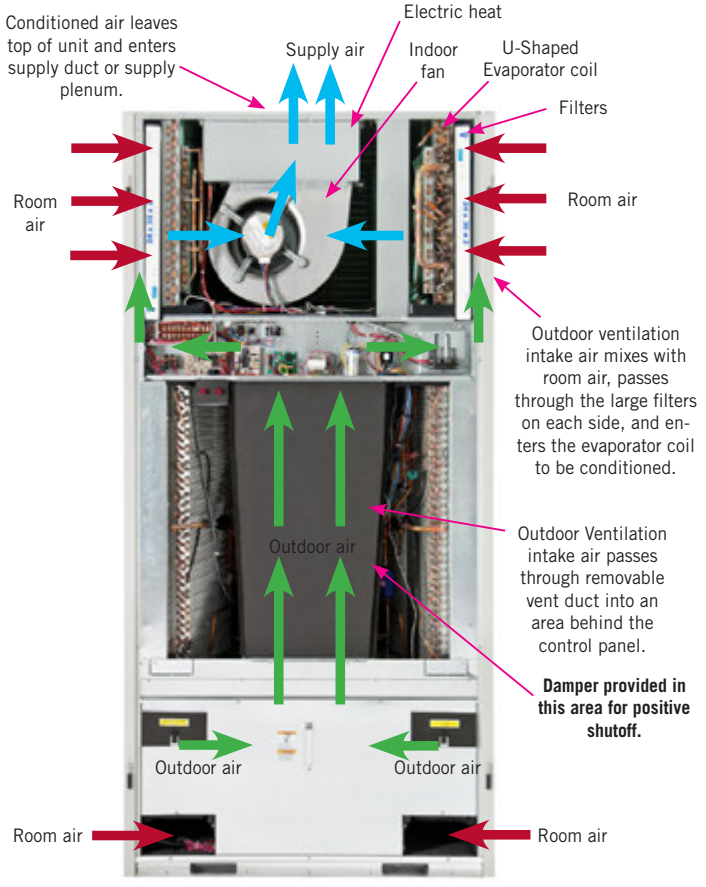
Airflow Path Inside Room



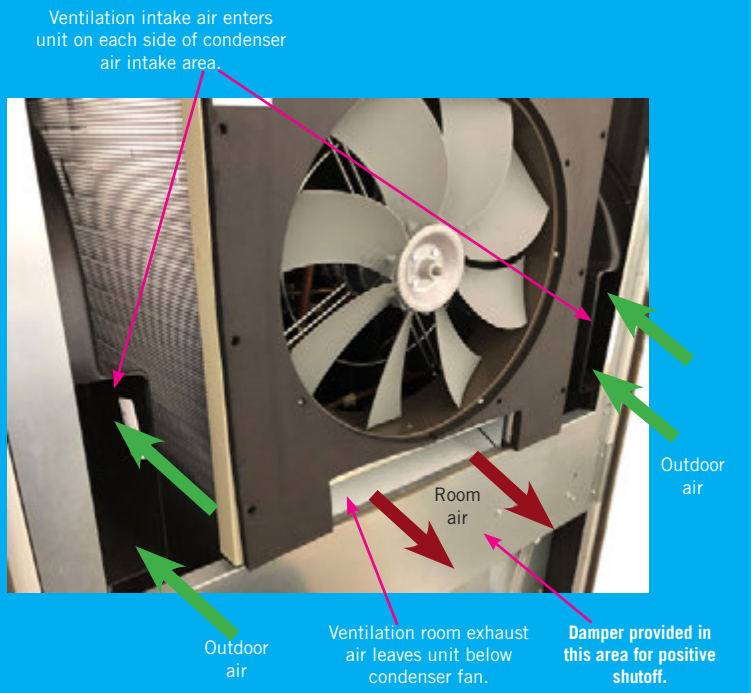
Condenser Airflow Path



Vent Airflow Path Inside Unit



Vent Airflow Path Outside Unit



UNIT FILTER OPTIONS

Unit filter options for the Bard interior solutions provide multiple solutions for air filtration and indoor air quality improvement. Filter options allow for both room air passing through the unit and outdoor air provided by ventilation options to be cleaned before entering the indoor environment. Various filter types are available between MERV2 and MERV13 ratings. It is important to review application requirements, state and local codes, and ASHRAE recommendations to provide a clean, safe indoor area for occupants or heat generating equipment. A routine filter maintenance program based on room conditions is important, and higher MERV rated filters will normally require frequent filter changes. Filter trays are built into the unit with low filter bypass.

"P" Filter Code Option – 2" Disposable MERV8 Filter
The 2" disposable pleated MERV8 filter is an optional feature on all models, and is normally used for moderate dust level areas where standard filtration is required. Media material is fiber based, provides high performance with an extended surface area that offers low-pressure drop. When maintenance is required, the filter is replaced. This option offers standard filtration, minimal air resistance, and average maintenance costs.

"M" Filter Code Option – 2" Disposable MERV11 Filter
The 2" disposable pleated MERV11 filter is an optional feature on all models, and is normally used for moderate to high filtration requirements. Media material is fiber based, provides high performance with an extended surface area that offers low-pressure drop. When maintenance is required, the filter is replaced. This option offers higher filtration, minimal air resistance, and average maintenance costs.

"N" Filter Code Option – 2" Disposable MERV13 Filter
The 2" disposable pleated MERV13 filter is an optional feature on all models, and is normally used for high filtration requirements. MERV13 filters are typically used where filtration of small particulates is required to offer a high level of indoor air quality. Often these filters are used in occupied areas including classrooms, gymnasiums, cafeterias, and other areas where filtration is at a high importance level. Media material is fiber based, provides high performance with an extended surface area that offers low-pressure drop. Filter replacement in 3-month or less intervals is recommended for the best filter and unit performance.

"A" Filter Code Option – 2" Disposable MERV13 Filter with UVC-LED Light
The 2" disposable pleated MERV13 filter is included with this option, and also a UVC-LED light used for disinfection. UVC-LED Light is a type of ultraviolet germicidal irradiation (UVGI) that disinfects the air through short wavelength ultraviolet light. See UVC-LED Light specifications for further details.

"B" Filter Code Option – 2" Disposable MERV13 Filter with NPBI Device.
The 2" disposable pleated MERV13 filter is included with this option, and also a Needlepoint Bipolar Ionization Device (NPBI).

"C" Filter Code Option – 2" Disposable MERV8 Filter with NPBI Device.
The 2" disposable pleated MERV8 filter is included with this option, and also a Needlepoint Bipolar Ionization Device (NPBI).

FILTER REPLACEMENT PART NUMBER CHART

UNIT MODEL	FILTER CODE	FILTER MERV RATING	NUMBER OF FILTERS USED	BARD PART NUMBER	FILTER SIZE	FILTRATION LEVEL
ALL UNITS	**C, P**	**MERV 8**	2	7004-050	24 x 30 x 2	Average Filtration, 2" Thickness Pleated Disposable Media.
	M	**MERV 11**	2	7004-051	24 x 30 x 2	Above Average Filtration, 2" Thickness Pleated Disposable Media.
	N, A, B	**MERV 13**	2	7004-053	24 x 30 x 2	High Filtration, 2" Thickness Pleated Disposable Media.

CABINET FINISHES, DOOR VINYL GRAPHICS AND CONSTRUCTION

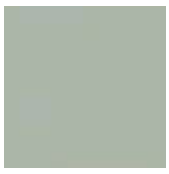
Unit cabinet finish options provide a way to have the Bard I-TEC blend in with existing building colors, provide additional corrosion protection, or reduce unit product weight. Unit construction is comprised of a 20 gauge cabinet with 16 gauge structural components. Cabinet components are insulated with a non-fiberglass formaldehyde free insulation that has a high "R" value, is easy to clean with a FSK foil backing, and resists delamination.

Painted Steel Finish
This cabinet option uses zinc coated steel panels that are cleaned, rinsed, sealed and dried before a polyurethane primer is applied. The cabinet paint coating is comprised of a baked on textured enamel. The resulting finish is designed to withstand over 1000 hours of salt spray tests per ASTM B117-03.

The following painted steel colors are available:
"X" Cabinet Finish Option – Beige
"1" Cabinet Finish Option – White
"4" Cabinet Finish Option – Gray

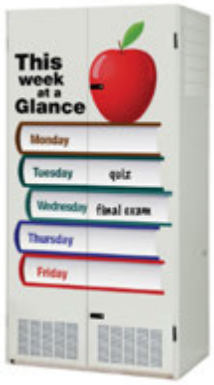

X–*Beige*

1–*White*


4–*Buckeye Gray*

Door Vinyl Graphics Options
Unit cabinet graphics options provide a way to enhance the appearance of the unit.

The following vinyl graphics are available:
"X" No Graphics Option
"A" Vinyl Graphics Option – Books



A–*Books*

/////// EVAPORATOR COIL AND CONDENSER COIL COATINGS RESISTANCE LIST

The Technicoat AA coil coating provides a robust corrosion protection solution designed for indoor evaporator and outdoor condenser coils. Both field and lab testing results show no deterioration in harsh environments including refineries, mining operations, paper/pulp processing plants, and wastewater treatment facilities. ASTM B-117 testing includes over 10,000 hours with over 3,000 hours of SWAAT test time.

Chemical resistance includes the following:

- Alkalines including Ammonaic solution, Potassium Hydroxide, Calcium Hydroxide, and Magnesium Hydroxide.
- Alcohols including Isopropanol, Butanol, Amyl Alcohol, Benzyl Alcohol, Diaceton Alcohol, Glycerine, Propanol, and Pentanol
- Aliphatic Hydrocarbons including White Spirit, Shellsol, Bitumen, Isopar G, and Paraffin.
- Amines including Triethanolamine, Aniline Sulphate, Hexamethylenetetraamine, Phenyldiamine, Triethylamine, and Methylamine.
- Inorganic Compounds including Hydrogen Carbonate, Hydrogen Sulfide, Nitrous Acid, Sulphuric Acid, and Selenic Acid.
- Aromatic Hydrocarbons including Xylene, Toluene, Asphalt, Anthracene, Benzapherene, Gumlac, Benzine, and Naphtha.
- Fuels and Oils including Diesel, Fuel Oil, Petrol, Super Petrol, Lubricating Oils, Kerosene, Spheric Oils, LPG, and Mineral Oil.
- Ethers including Enthric Oils, Vegetable Oils, Butane, Acetylene, and Methane.
- Halogenated Hydrocarbons including Amyl Acetate, Propyl Acetate, Ethyl Oxalate, Butyl Acetate, and Butyl Propionate.
- Softeners including Palatinol C, Chloraparaffine 5XX, Dioctylphosphate, Desavin, Mesamol, and Dibutylphosphate.
- Organic Compounds including Benzoic Acid, Lactic Acid, Phenols, Fatty Acids, Malic Acid, and Picric Acid.
- Salts and water solutions including Sodium, Potassium, Calcium, Aluminum, Ammonium, Barium, Copper, Lead, and Lithium.
- Many other agents including Phosphor, Zinc, Glucose Syrup, Sulfur, Urea, Menthol, Antimony, Hydrogen, Rubber, and Shellac.

Special Properties:

- Anti-Odor
- Hydrophilic / Hydrophobic
- Anti-Corrosive

EXPOSURE CONDITIONS INCLUDE: Food Processing & Storage, Airports, Office Buildings, Hotels, Schools, Warehouses, Water Treatment, Breweries, Paper Mills, Refineries, Power Plants, Meat Processing Industries, Automotive Industries and other locations near shorelines, salt water and coastal applications.

Contact your local Bard distributor or representative for a list of all chemicals and additional chemical resistance information.

/////// EVAPORATOR COIL AND CONDENSER COIL COATINGS

Unit condenser and evaporator coils are designed, manufactured, and tested by Bard. A rifled copper hairpin design provides enhanced unit performance when used with a stamped aluminum fin for excellent heat transfer. End plate design includes extruded collars for hairpin tube protection. All coils are pressure tested before use and leak tested after unit construction. A copper tube and aluminum fin design coil is easy to clean and maintain through the life of the unit.

"X" Code Option – Standard Evaporator and Condenser Coils

Standard products include a green protective coating applied to the aluminum fin stock used for the evaporator coil. The evaporator coil coating is hydrophilic (attracts water) and allows for proper condensate drainage along with mild corrosion protection. Resistance to corrosive agents include ammonia, sodium hydroxide, sodium chloride, acidic solutions and solvents. Condenser coil construction is a copper hairpin with aluminum fin design that is easy to clean and maintain.

Unit coating options are also available that offer additional corrosion protection to the unit cabinet. Applications where external or internal cabinet components will be exposed to extremely harsh environments require additional protection to copper, steel, and other materials.

"1" Code Option – Corrosion Resistance Coated Evaporator and Standard Condenser Coil

Option includes a Technicoat AA protective coating applied to the entire evaporator coil. This provides the best resistance to corrosive agents, and the coating process ensures the core of the aluminum fin pack is covered. Dehumidification units also include a coated hot gas reheat coil. Standard condenser coil construction is a copper hairpin with aluminum fin design that is easy to clean and maintain. This option provides the best indoor coil protection when harmful chemicals or agents may be present in the indoor air stream. The exterior and interior unit cabinet is not coated with this option.

"2" Code Option – Standard Evaporator and Corrosion Resistance Coated Condenser Coil

Option includes a green protective coating applied to the aluminum fin stock used for the evaporator coil. The evaporator coil coating is hydrophilic (attracts water) and allows for proper condensate drainage along with mild corrosion protection. Resistance to corrosive agents include ammonia, sodium hydroxide, sodium chloride, acidic solutions and solvents. A Technicoat AA protective coating is applied to the entire condenser coil. This provides the best resistance to corrosive agents, and the coating process ensures the core of the aluminum fin pack is covered. This option provides the best outdoor coil protection when harmful chemicals or agents may be present in the outdoor air stream. Also provides a level of protection when units are installed in applications near salt water. The exterior and interior unit cabinet is not coated with this option.

"3" Code Option – Corrosion Resistance Coated Evaporator and Corrosion Resistance Coated Condenser Coil

Option includes a Technicoat AA protective coating applied to the entire evaporator coil. This provides the best resistance to corrosive agents, and the coating process ensures the core of the aluminum fin pack is covered. Dehumidification units also include a coated hot gas reheat coil. A Technicoat AA protective coating is applied to the entire condenser coil. This provides the best coil resistance to corrosive agents, and the coating process ensures the core of the aluminum fin pack is covered. The exterior and interior unit cabinet is not coated with this option.

WALL SLEEVES (REQUIRED OPTION - SELECT ONE)

Sleeve Model #	Unit Compatibility	Sleeve Height x Width	Wall Flange	4" Wall Adapter	Wall Depth with 1" Louver	Wall Depth with 2" Louver	Wall Depth with 4" Louver	Wall Depth with 8" Louver	Installation Instructions
IWS-A	I30-I60	47.75 x 42.06	Out	No	5.5" - 8.5"	6.5" - 8.5"	NA	NA	2100-562
IWS-B	I30-I60	47.75 x 42.06	Out	No	8.0" to 13.5"	9.0" to 13.5"	NA	NA	2100-562
IWS-C	I30-I60	47.75 x 42.06	Out	No	13.0" - 23.5"	14.0" - 23.5"	NA	NA	2100-562
IWS-A23	I30-I42	46.65 x 36.18	Out	Yes	5.5" - 8.5"	6.5" - 8.5"	NA	NA	2100-686
IWS-B23	I30-I42	46.65 x 36.18	Out	Yes	8.0" to 13.5"	9.0" to 13.5"	NA	NA	2100-686
IWS-C23	I30-I42	46.65 x 36.18	Out	Yes	13.0" - 23.5"	14.0" - 23.5"	NA	NA	2100-686
IWSR-A23	I30-I42	46.65 x 36.18	In	Yes	5.5" - 8.5"	6.5" - 8.5"	NA	NA	2100-756
IWSR-B23	I30-I42	46.65 x 36.18	In	Yes	8.0" to 13.5"	9.0" to 13.5"	NA	NA	2100-756
IWSR-C23	I30-I42	46.65 x 36.18	In	Yes	13.0" - 23.5"	14.0" - 23.5"	NA	NA	2100-756
IWS-A8H	I30-I60	48.06 x 42.31	Out	No	NA	NA	8.0" - 12.0"	NA	2100-626
IWS-B8H	I30-I60	48.06 x 42.31	Out	No	NA	NA	12.0" - 20.0"	12.0" - 15.0"	2100-626
IWS-C8H	I30-I60	48.06 x 42.31	Out	No	NA	NA	NA	15.0" - 20.5"	2100-626

① Above table based on I-TEC unit being installed flush to inside of wall.
② 8" Depth Storm Louvers are field supplied

OUTDOOR LOUVER GRILLES (REQUIRED OPTION - SELECT ONE)

Louver Model #	** Louver Colors (See chart for details)	Louver Insert Depth	Louver Height x Width	Louver Flange	Blade Spacing	Blade Angle	Bird Screen	Specifications
ILS1-**	All Colors	1"	47.25" x 41.75"	2.18"	1"	45°	.5" Mesh	F1972
ILA2-**	All Colors	2"	47.25" x 41.75"	2.38"	1"	45°	.5" Mesh	F1971
ILST4-**	All Colors	3.68"	47.25" x 41.75"	2.68"	4"	MULTI	.5" Mesh	F1970
ISSG1-**	-10, -20, -30, -32	1"	46.19" 35.75"	2.18"	1"	45°	.5" Mesh	NA
ISSG2-**	-10, -20, -30, -32	2"	46.19" 35.75"	2.38"	1"	45°	.5" Mesh	NA
ISRG1-**	-10, -20, -30, -32	1"	43.22" x 32.75"	2.18"	1"	45°	.5" Mesh	NA
ISRG2-**	-10, -20, -30, -32	2"	43.22" x 32.75"	2.38"	1"	45°	.5" Mesh	NA

ADDITIONAL LOUVER COLORS AVAILABLE — APPLIES TO ILS, ILA AND ILST LOUVERS

-**Color Code	Material	Color	Finish	Louver Availability						
				ILS1	ILA2	ILST4	ISSG1	ISSG2	ISRG1	ISRG2
-10	Aluminum	Aluminum	Anodized	X	X	X	X	X	X	X
-20	Aluminum	Medium Bronze	Powder Coat	X	X	X				
-30	Aluminum	Dark Bronze	Powder Coat	X	X	X				
-12	Aluminum	Arctic White	Powder Coat	X	X	X				
-14	Aluminum	Storm White	Powder Coat	X	X	X				
-18	Aluminum	Milano Beige	Powder Coat	X	X	X				
-32	Aluminum	Jet Black	Powder Coat	X	X	X				
-36	Aluminum	Graphite Gray	Powder Coat	X	X	X				
-40	Aluminum	School Bus Yellow	Powder Coat	X	X	X				
-42	Aluminum	Florida Orange	Powder Coat	X	X	X				
-44	Aluminum	School House Red	Powder Coat	X	X	X				
-46	Aluminum	Chili Red	Powder Coat	X	X	X				
-50	Aluminum	Deep Sea Blue	Powder Coat	X	X	X				
-52	Aluminum	Bahama Blue	Powder Coat	X	X	X				
-54	Aluminum	Ivy Green	Powder Coat	X	X	X				
-56	Aluminum	Sage Green	Powder Coat	X	X	X				
-**	Aluminum	Custom	Powder Coat	Per job basis and extended lead time. Contact Bard sales representative for details.						

② Available Special Order and requires additional lead-time. Reference Form S3508 for additional details.
- Custom Finishes are quoted on a project-by-project basis and pricing is determined by quantity, finish option and size.
- Custom Finishes are ordered/shipped directly from the louver supplier.
- Purchaser of Custom Finishes assumes liability for quantity, finish match and size.
- Contact your Bard Sales Representative for custom louver contact information.

DUCT FREE PLENUM BOX OPTIONS

Plenum Model #	Plenum Finish	Plenum Height	Supply Grille Color	Supply Air Grille Style	Supply Grille Locations	Hot Water Heating Coil	Installation Instructions
IPBDF8-*	Painted (-X,-1,-4)	8”	Aluminum	4-Way Adjustable	Front and Sides	No	7960-650
IPBDF12-*	Painted (-X,-1,-4)	12”	Aluminum	4-Way Adjustable	Front and Sides	No	7960-650
IPBDF18-*	Painted (-X,-1,-4)	18”	Aluminum	4-Way Adjustable	Front and Sides	No	7960-650
IPBDFH12-*	Painted (-X,-1,-4)	12”	Black	Fixed Linear Pattern, Sides w/Shutoff Dampers	Front and Sides	No	7960-650
IPBDFH18-*	Painted (-X,-1,-4)	18”	Black	Fixed Linear Pattern, Sides w/Shutoff Dampers	Front and Sides	No	7960-650
IPBDF10HW-*	Painted (-X,-1,-4)	10”	Aluminum	4-Way Adjustable	Front and Sides	Yes	7960-651
IPBDF12HW-*	Painted (-X,-1,-4)	12”	Aluminum	4-Way Adjustable	Front and Sides	Yes	7960-651

DUCTED PLENUM BOX OPTIONS

Plenum Model #	Plenum Finish	Plenum Height	Duct Shape	Duct Size	Duct Location (Facing Unit Front)	Hot Water Heating Coil	Installation Instructions
IPBDFH16HWS1-*	Painted (-X,-1,-4)	16”	Rectangular	9.88” x 42”	Front	Yes	7960-651
IPB16R22HW-*	Painted (-X,-1,-4)	22”	Round	16” O.D.	Right Side	Yes	7960-651
IPB16L22HW-*	Painted (-X,-1,-4)	22”	Round	16” O.D.	Left Side	Yes	7960-651
IHWC	Unfinished Insulated Galvanized Steel	11”	Rectangular	9.88” x 29.88”	Top	Yes	7960-651

RISER PLATFORMS TO LIFT UNIT AND INCREASE SILL HEIGHT FOR WALL SLEEVE

Riser Model #	Riser Finish	Riser Height	Riser Construction	Sleeve to Floor Sill Height	Unit with Riser Height	Installation Instructions
IRP-3-*	Galvanized riser with painted trim (-X,-1,-4)	3”	Base platform with rails. Dimples and brackets locate unit on riser. Not stackable.	34” - 37”	97”	7960-645
IRP-6-*	Galvanized riser with painted trim (-X,-1,-4)	6”	Base platform with rails. Dimples and brackets locate unit on riser. Not stackable.	37” - 40”	100”	7960-645
IRP-9-*	Galvanized riser with painted trim (-X,-1,-4)	9”	Heavy supporting frame. Dimples and brackets locate unit on riser. Not stackable.	40” - 43”	103”	7960-715
IRP-11-*	Galvanized riser with painted trim (-X,-1,-4)	11”	Heavy supporting frame. Dimples and brackets locate unit on riser. Not stackable.	43” - 46”	105”	7960-715
IRP-14-*	Galvanized riser with painted trim (-X,-1,-4)	14”	Heavy supporting frame. Dimples and brackets locate unit on riser. Not stackable.	46” - 49”	108”	7960-715

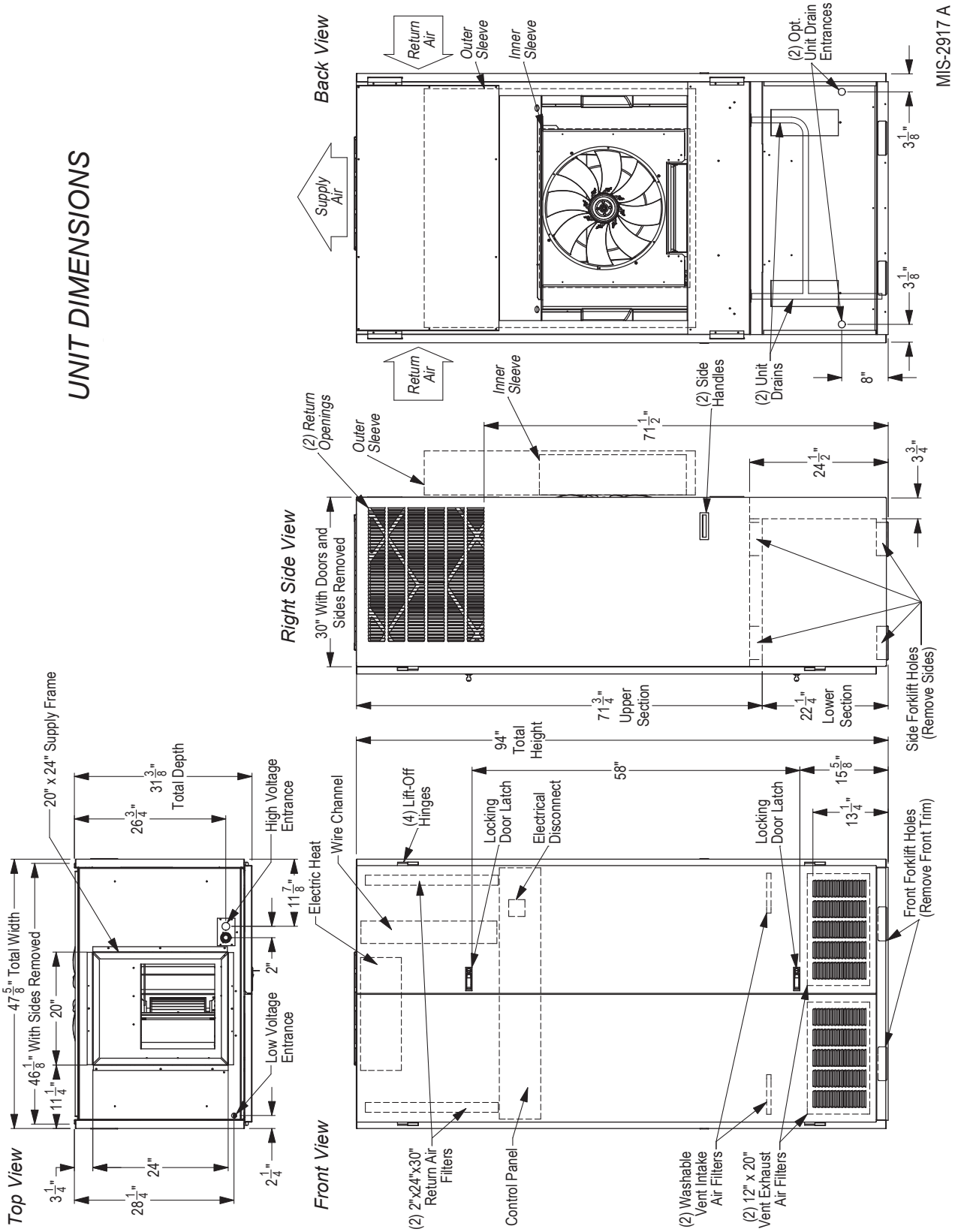
FINISH TRIM KITS FOR TOP AND SIDES OF UNIT

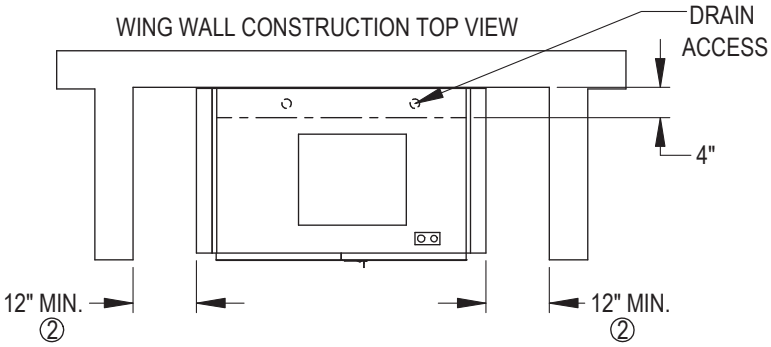
Trim Kit Model #	Kit Finish	Trim Install Location	Trim Height	Trim Depth	Installation Instructions
ICX28-*	Painted (-X,-1,-4)	Unit or Plenum Box Top to ceiling	Up to 28" for 10'-2" maximum ceiling height.	Front surface of unit to back of unit.	7960-655
IST4-*	Painted (-X,-1,-4)	Back of unit to indoor wall	Floor level to 12' maximum ceiling height.	4" to 4.3" between wall and unit side.	7960-678
IST6-*	Painted (-X,-1,-4)	Back of unit to indoor wall	Floor level to 12' maximum ceiling height.	6" to 6.3" between wall and unit side.	7960-678
IST8-*	Painted (-X,-1,-4)	Back of unit to indoor wall	Floor level to 12' maximum ceiling height.	8" to 8.3" between wall and unit side.	7960-678
IST10-*	Painted (-X,-1,-4)	Back of unit to indoor wall	Floor level to 12' maximum ceiling height.	10" to 10.3" between wall and unit side.	7960-678
IST14-*	Painted (-X,-1,-4)	Back of unit to indoor wall	Floor level to 12' maximum ceiling height.	14" to 14.3" between wall and unit side.	7960-678
IST4L-*	Painted (-X,-1,-4)	Back of unit to indoor wall	Floor level to 12'-10" maximum ceiling height.	4" to 4.3" between wall and unit side.	7960-678

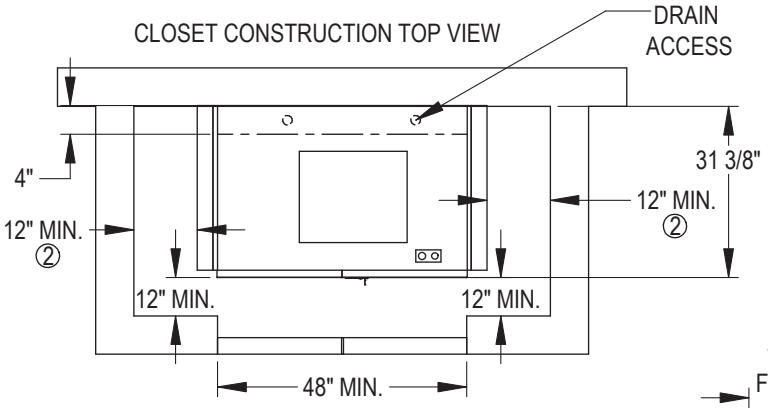
MISCELLANEOUS ACCESSORIES

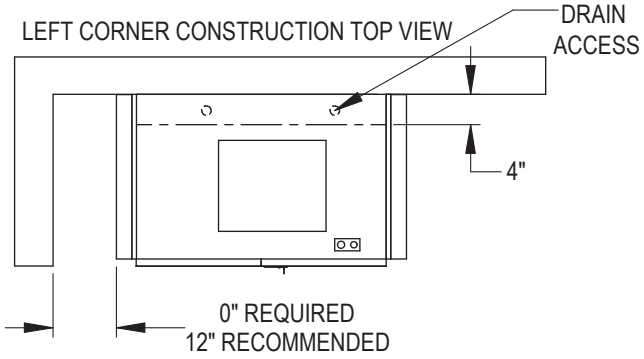
Model or Part #	Use	Description	Manual
ICURB740	Indoor wall curb	Raises outdoor condenser wall sleeve to a 40" sill height. Works with IWS-A, IWS-B, and IWS-C wall curbs. Requires drain.	2100-625
921-0041	Exhaust Sleeve	Exhaust sleeve assembly used for IWS-A wall sleeve. This may be used when installation requires a field fabricated outer intake sleeve.	NA
921-0042	Exhaust Sleeve	Exhaust sleeve assembly used for IWS-B wall sleeve. This may be used when installation requires a field fabricated outer intake sleeve.	NA
921-0043	Exhaust Sleeve	Exhaust sleeve assembly used for IWS-C wall sleeve. This may be used when installation requires a field fabricated outer intake sleeve.	NA
8620-344	UV Light Kit	Kit to add UV light to indoor air stream. Includes light, wires required, and installation instructions.	7960-913
IDMCK	Door mounted thermostat kit.	Kit to mount a thermostat to the right side door. Includes wire harness for easy disconnection when removing door and installation instructions.	7960-806
AHCK-2A	Anti-Huffing Locking Caps	Kit to install locking anti-huffing caps on the refrigerant line service ports. Service ports are located behind unit front doors.	7960-716
SK111	Hard Start Kit 230V-1PH	Hard start kit for 230 Volt Single Phase units. Kit includes start relay, start capacitor, wires, wiring diagram, and installation instructions.	7960-573
SK118	Hard Start Kit 230V-3PH	Hard start kit for 230 Volt Three Phase units. Kit includes start relay, start capacitor, wires, wiring diagram, and installation instructions.	7960-573
5650-035	Water Valve	ON/OFF water valve for use with hot water plenums. 3-Way 3/4" threaded connection with 24VAC/common input to operate valve.	NA
5650-040	Water Valve	Modulating proportional water valve for use with hot water plenums. 3-Way 3/4" threaded connection. Proportional 0-10 Vdc, 0-5 Vdc, 5-10 Vdc or 4-20 mA, Jumper Selectable. 24VAC supply voltage.	NA

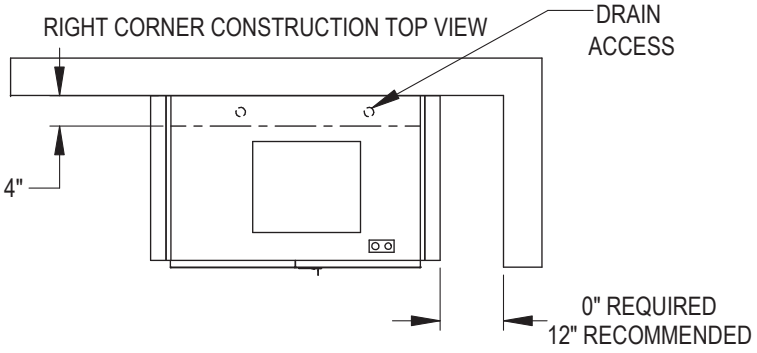
UNIT DIMENSIONS

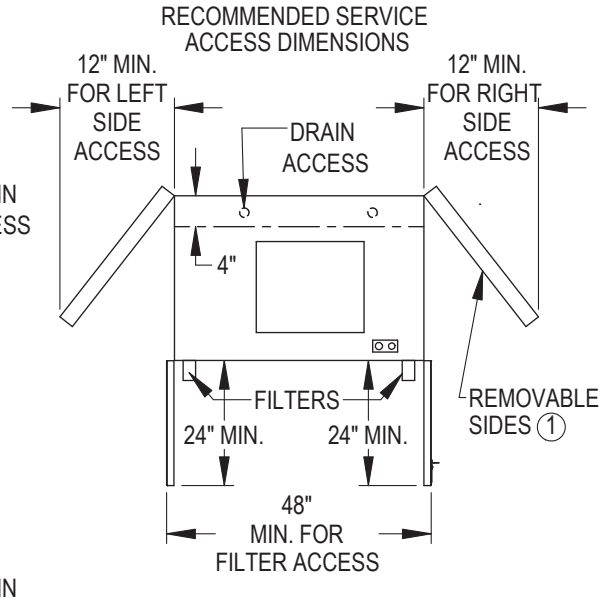












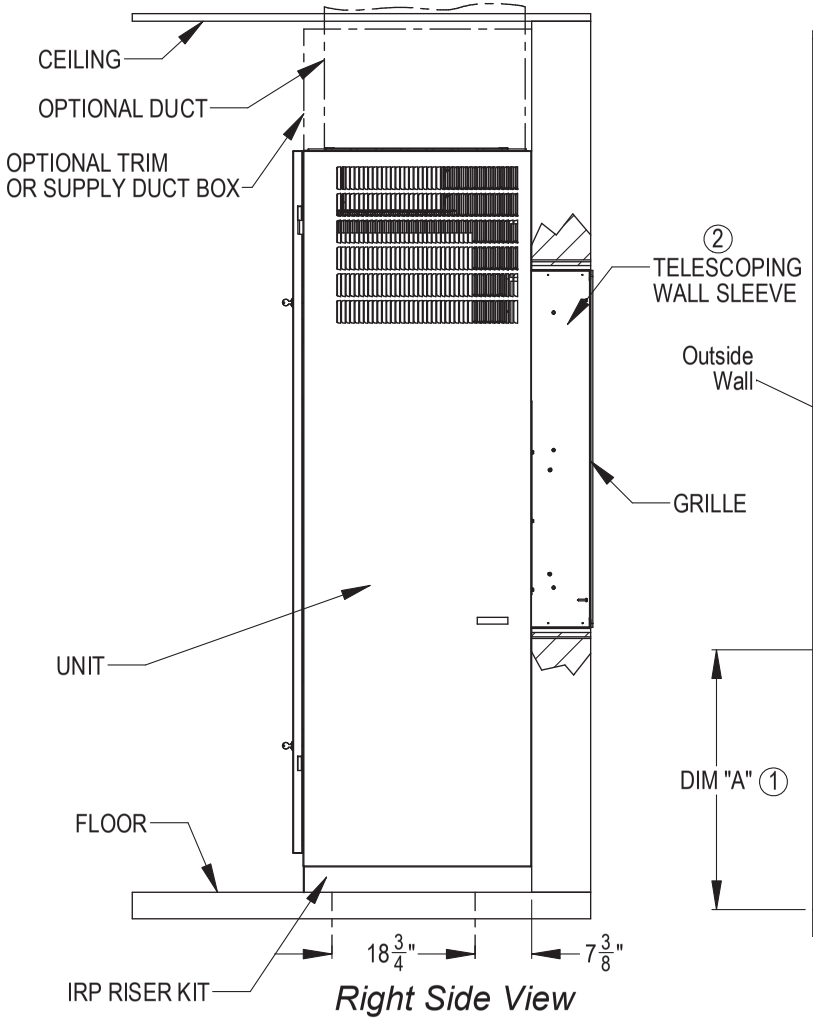
① ALL FILTER AND COMPONENT ACCESS IS FROM THE FRONT. COILS CAN BE CLEANED FROM THE FRONT, BUT SIDES ARE EASILY REMOVED FOR ENHANCED ACCESS.

② 12" MINIMUM DIMENSIONS ARE REQUIRED FOR UNIT OPERATION. IT IS STRONGLY RECOMMENDED TO USE 20" MINIMUM DISTANCES IF POSSIBLE FOR EASE OF UNIT SERVICEABILITY

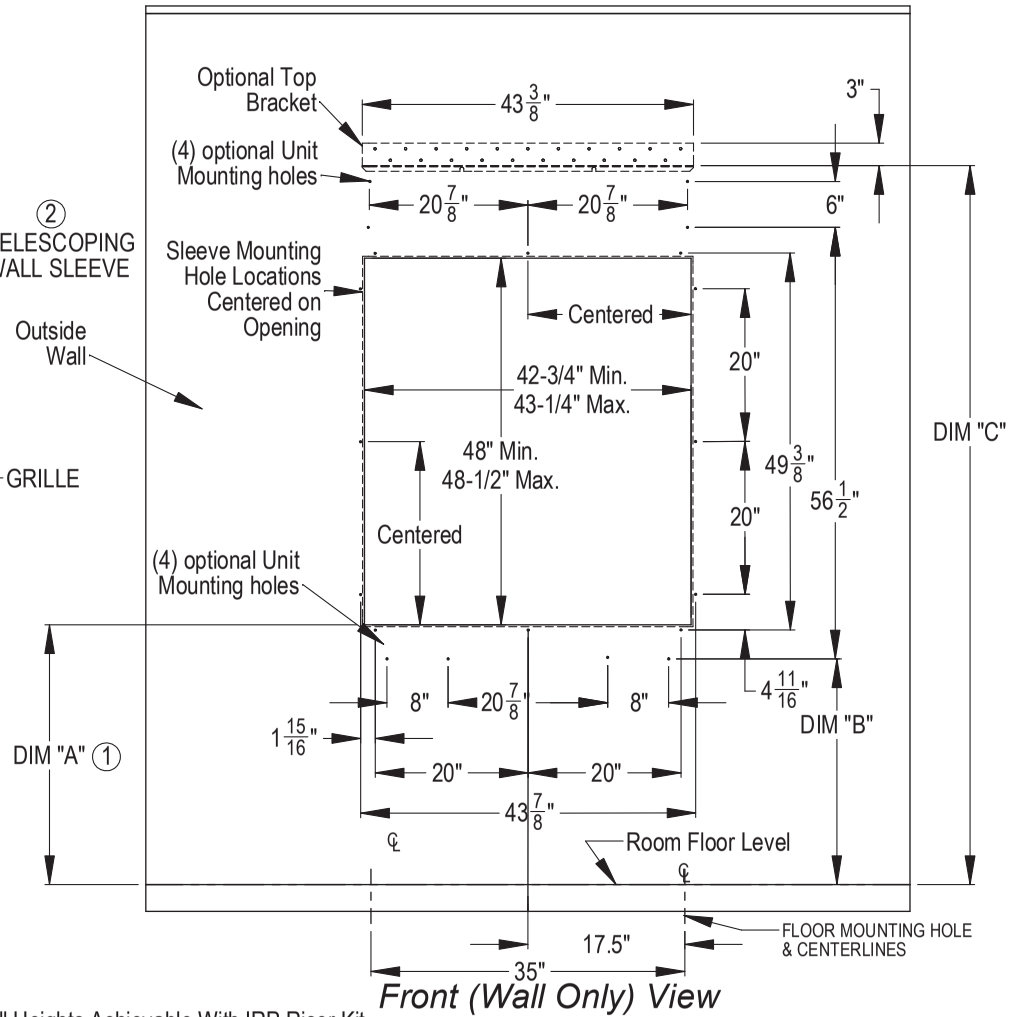
MIS-3273 A

IRP RISER KIT	DIM A	DIM B	DIM C
NONE	31"-34"	29 17/32"	94 1/8"
IRP-3 (3")	34"-37" MAX	32 17/32"	97 1/8"
IRP-6 (6")	37"-40" MAX	35 17/32"	100 1/8"
IRP-9 (9")	40"-43" MAX	38 1732"	103 1/8"
IRP-11 (11")	42"-44" MAX	40 17/32"	105 1/8"

Wall Section View



Right Side View



Front (Wall Only) View

① Higher Sill Heights Achievable With IRP Riser Kit.
② Separate telescoping sleeves available for different wall thicknesses.

MIS-3306 A

HOT WATER COIL PERFORMANCE

GPM	CFM									
	800	900	1000	1100	1200	1300	1400	1500	1600	1700
1.5	32,000	32,667	33,333	34,000	34,500	35,000	35,500	36,000	36,400	36,750
2	42,000	43,200	44,400	45,600	46,400	47,200	48,000	48,500	49,000	49,500
3	49,000	51,667	53,750	57,000	59,400	61,750	64,000	65,200	66,000	67,000
4	56,000	59,000	62,000	65,000	69,000	73,000	77,000	79,500	82,000	84,000
5	59,000	62,583	66,167	69,750	72,833	75,917	79,000	81,000	83,000	85,000
6	62,000	66,167	70,333	74,500	77,000	79,500	82,000	83,500	85,000	86,500
7	63,500	67,708	71,917	76,125	78,917	81,708	84,500	86,500	88,000	89,200
8	65,000	69,250	73,500	77,750	80,833	83,917	87,000	88,900	90,500	91,750
9	66,000	70,525	75,050	79,575	82,883	86,192	89,500	91,500	93,000	94,500
10	67,000	71,800	76,600	81,400	84,933	88,467	92,000	94,500	96,000	97,500

HOT WATER COIL CORRECTION FACTORS

Entering Air Temp (F)	Entering Water Temperature (F)										
	100	110	120	130	140	150	160	170	180	190	200
50	0.455	0.545	0.636	0.727	0.818	0.909	1.000	1.091	1.182	1.273	1.364
55	0.409	0.500	0.591	0.682	0.773	0.864	0.955	1.045	1.136	1.227	1.318
60	0.363	0.455	0.545	0.636	0.727	0.818	0.909	1.000	1.091	1.182	1.273
65	0.318	0.409	0.500	0.591	0.682	0.773	0.864	0.955	1.045	1.136	1.227
70	0.272	0.363	0.455	0.545	0.636	0.727	0.818	0.909	1.000	1.091	1.182
75	0.227	0.318	0.409	0.500	0.591	0.682	0.773	0.864	0.955	1.045	1.136
80	0.182	0.272	0.363	0.455	0.545	0.636	0.727	0.818	0.909	1.000	1.091

I30H-I60H INDOOR SOUND DATA AT 10 FEET

1. dBA @ 10 feet, Values recorded in Bard Manufacturing Company, Inc. Sound Lab Facility.
2. Actual field results may vary with classroom design and construction.
3. Integrated values calculated per ANSI/ASA S12.60-2009 / Part 2, Section 5.2.2.1, Table 2 Triple Mode Type 3 HVAC System Duty Cycles: Ventilation 58%, Part Load 25%, Full Load 17%
4. Integrated Sound Values are also applicable for use in learning spaces for CHPS and LEED Schools: EQ Prerequisite 3 - Minimum Acoustical Performance, OPTION 1. Using methods prescribed in ANSI S12.60, classrooms must achieve a maximum background noise level of 45 dBA.

Vent: ERV		IPBDFH-12 Duct Free 12" Plenum Box				Ducted			
Model	Operation	ERV Off	ERV @ 150	ERV @ 375	ERV @ 450	ERV Off	ERV @ 150	ERV @ 375	ERV @ 450
I30H	Integrated	33.7	34.0	39.3	40.0	33.6	34.0	39.0	40.1
I36H	Integrated	37.7	38.0	40.7	41.7	36.5	37.1	41.7	42.7
I42H	Integrated	38.6	40.7	41.3	41.9	39.4	39.3	41.8	42.4
I48H	Integrated	39.0	39.0	39.7	39.8	39.8	39.8	40.3	40.6
I60H	Integrated	41.4	41.3	41.6	41.6	41.3	41.3	41.8	41.9

/////// I30H-I60H INDOOR SOUND DATA AT 10 FEET (CONTINUED)

Vent: ERV		IPBDFH-12 Duct Free 12" Plenum Box				Ducted			
Model	Operation	ERV Off	ERV @ 150	ERV @ 375	ERV @ 450	ERV Off	ERV @ 150	ERV @ 375	ERV @ 450
I30H	Integrated	33.7	34.0	39.3	40.0	33.6	34.0	39.0	40.1
I36H	Integrated	37.7	38.0	40.7	41.7	36.5	37.1	41.7	42.7
I42H	Integrated	38.6	40.7	41.3	41.9	39.4	39.3	41.8	42.4
I48H	Integrated	39.0	39.0	39.7	39.8	39.8	39.8	40.3	40.6
I60H	Integrated	41.4	41.3	41.6	41.6	41.3	41.3	41.8	41.9

/////// FACTORY SETTING(S) SHADED IN BLUE

Vent: CRV		IPBDFH-12 Duct Free 12" Plenum Box					Ducted				
Model	Operation	CRV Off	CRV @ 300	CRV @ 375	CRV @ 450	CRV @ 525	CRV Off	CRV @ 300	CRV @ 375	CRV @ 450	CRV @ 525
I30H	Integrated	34.4	36.0	38.2	40.6	42.1	34.6	36.6	38.1	40.6	42.0
I36H	Integrated	37.0	38.5	40.3	42.4	43.9	37.2	40.2	39.2	42.2	44.0
I42H	Integrated	39.2	39.8	41.0	42.5	43.5	39.9	40.4	41.1	42.8	43.5
I48H	Integrated	40.2	40.7	41.5	43.0	44.2	41.0	40.7	42.2	43.4	44.1
I60H	Integrated	44.0	44.3	44.6	45.4	45.9	43.5	43.7	44.1	44.8	45.5

/////// OUTDOOR SOUND DATA AT 10 FEET

Model	I30H	I36H	I42H	I48H	I60H
	63.7	66.6	67.3	67.9	67.8

/////// CONTROLLER WIRING KITS

UNIT	THERMOSTAT KIT	DESCRIPTION
ALL MODELS	IDMCK	The kit provides a 15 pin male / female connector with wires. The kit also includes wire ties, grommets, bushings, and edge guards.

/////// CONTROLLER, THERMOSTAT, HUMIDISTAT AND CO2 VENTILATION CONTROL OPTIONS

Bard provides a wide variety of controllers for equipment cooling, thermostats, for equipment and comfort cooling, humidistats for dehumidification units, and CO2 sensors for ventilation control. Lockable thermostat covers are available for applications where security or supervisory control is desired.

THERMOSTAT	OPERATION	DESCRIPTION
8403-060	3 Heat/3 Cool	Programmable or Nonprogrammable, ventilation output, dehumidification operation
8403-090	2 Heat/2 Cool	Temp. Settings per Day 4, 2, 1, 0 Programs per Week 7, 5-2, 5-1-1 or Nonprogrammable
8403-092	2 Heat/2 Cool	Programmable or Nonprogrammable, ventilation output, Wi-Fi
8403-095	2 Heat/1 Cool	Temp. Settings per Day 4, 2, 1, 0 Programs per Week 7, 5-2, 5-1-1 or Nonprogrammable
8403-081	3 Heat/3 Cool	BrightStat Advanced Controller with Temperature, Humidity, BACnet, Modbus, and Motion.
8403-083	3 Heat/3 Cool	BrightStat Advanced Controller with Temperature, Humidity, BACnet and Modbus.
8403-083-001	3 Heat/3 Cool	8403-083 BrightStat with LUA script for ERV/Economizer Operation (T Vent Option).
8403-086	CO2 Card	Plug-in CO2 Card for the BrightStat.

HUMIDISTAT	OPERATION	DESCRIPTION
8403-047	Humidity %RH	Electronic with display, lockable keypad, humidity sensor calibration (Viconics)
8403-100	Humidity %RH	Electronic with display, lockable keypad, humidity sensor calibration (Honeywell)

CO2 CONTROL	OPERATION	DESCRIPTION
S8403-096	CO2 PPM	CO2 ventilation control with digital display. On/Off or modulating ventilation operation