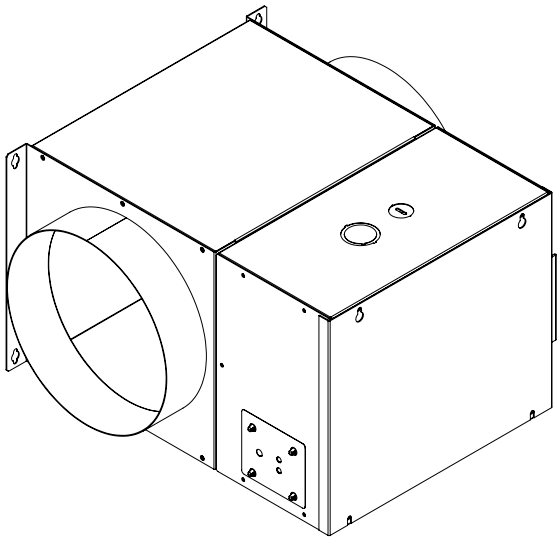
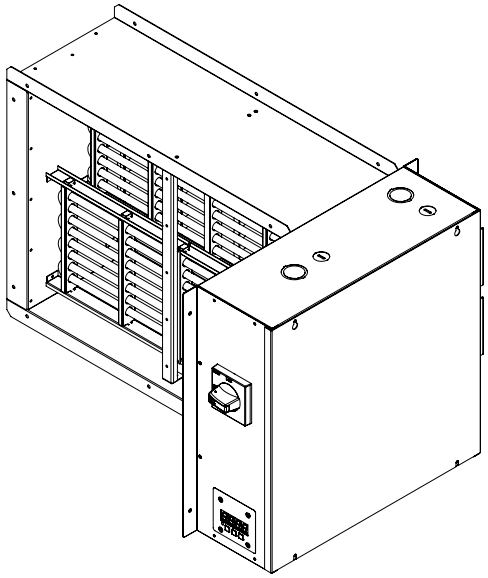
SPECIFICATIONS

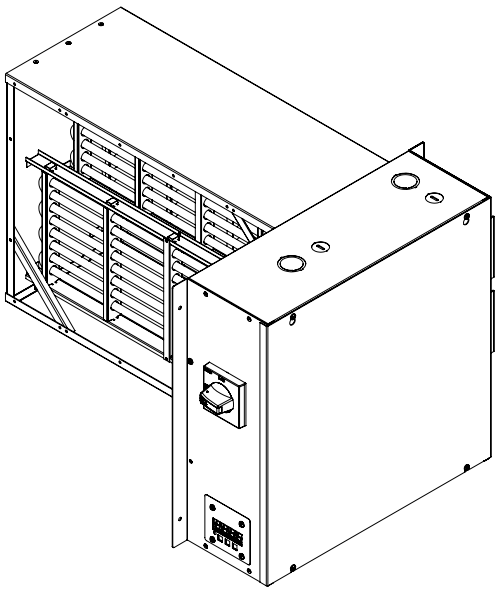
AS LISTED IN THE UL CERTIFICATION FOR THE UNITED STATES AND CANADA

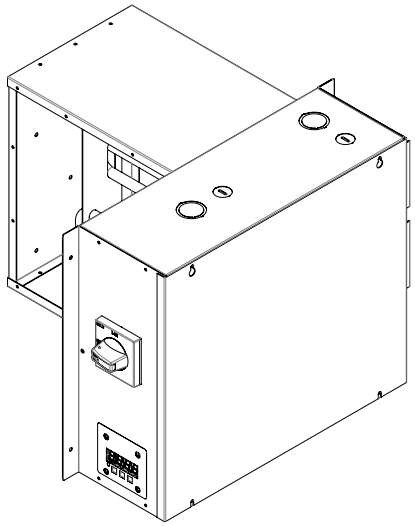
ODHx AND ODHxT SERIES (ODHR(T), ODHI(T) AND ODHF(T))

CUSTOM DUCT HEATERS









This unit complies with CSA and UL standards

PRODUCT NUMBER DESCRIPTION

ODH X (X) (X) (X) (X) (X) (X) (X) (X)

PRODUCT SERIES: **O**uellet **D**uct **H**eater

MODEL: FLANGE = F / INSERTION = I / ROUND = R

ELEMENTS: OPEN COIL (standard) = leave empty / TUBULAR (optional) = T

DUCT DIMENSION: 2 to 14 alphanumeric digits; Ex. #1: 16.5 x 19.25 (for a rectangular duct) - Ex. #2: 16.5 (for a round duct)

KILOWATTS: 2 to 8 alphanumeric digits; Ex.: 12 K (for 12 kW)

VOLTS: 4 alphanumeric digits; Ex.: 240 V

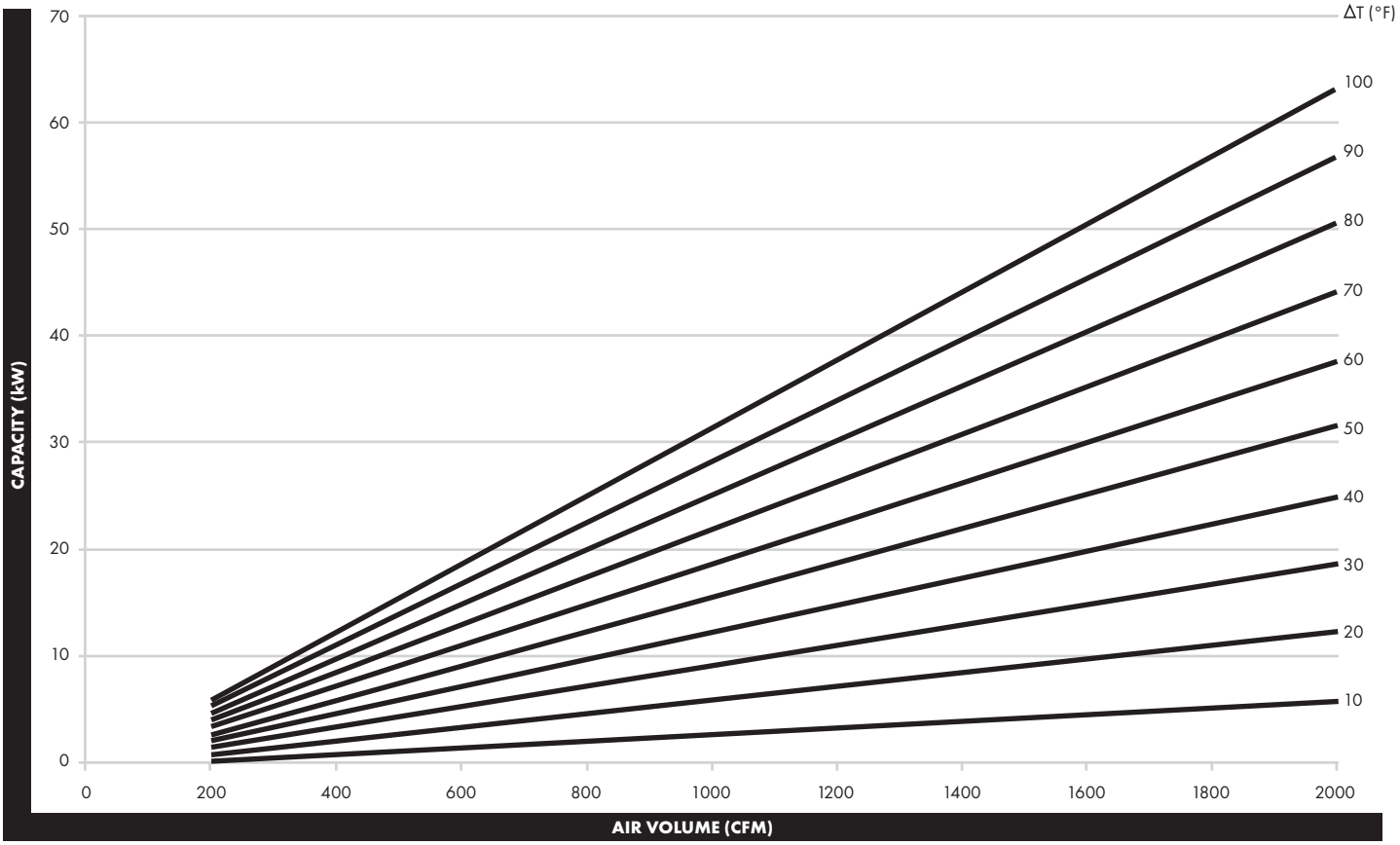
PHASE: 2 alphanumeric digits; Ex.: 1 P or 3 P

AVAILABLE CONTROLS

AVAILABLE OPTIONS

PRODUCT CAPACITY

PRODUCT CAPACITY ACCORDING TO AIR VOLUME AND TEMPERATURE RISE
Air temperature at the entrance of the duct heater should not exceed 27 °C (80 °F).

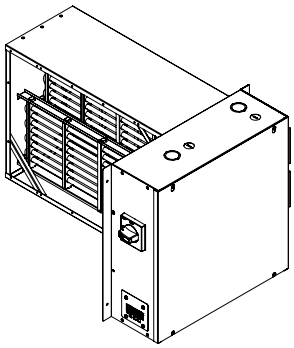


USEFUL FORMULAS

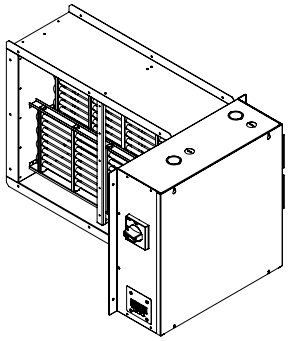
AIRFLOW	D = V x A
	D = AIRFLOW CFM (M^3/S)
	V = VELOCITY FPM (M/S)
	A = AREA, SQ.FT. (M^2)
TRANSFER OF HEAT	KW = (1.08 x ΔT (°F) x D (CFM) / 3412
IMPERIAL	Q (BTU/H) = 1.08 x D (CFM) x ΔT (°F)
METRIC	Q (W) = 1.23 x D (L/S) x ΔT (°C)
AMPERAGE	1 PHASE : L (AMPERES) = WATTAGE (W) / VOLTAGE (V)
	3 PHASES : L (AMPERES) = WATTAGE (W) / VOLTAGE (V) = x / 1.73
TEMPERATURE CONVERSION	°F = (°C x 1.8) + 32
	°C = (°F - 32) / 1.8
	ΔT (°F) = ΔT (°C) x 1.8
	ΔT (°C) = ΔT (°F) / 1.8
AIRFLOW CONVERSION	1 CFM = 0.47 L/S
	1 L/S = 2.12 CFM
	1 M^3/S = 1000 L/S
POWER CONVERSION	1 KW = 3412 BTU/H
	1 BTU/H = 0.0002928 KW

CONSTRUCTION AND STANDARD COMPONENTS

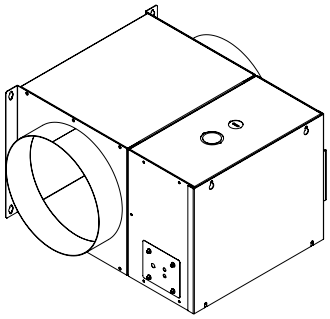
ODHI(T): INSERTION



ODHF(T): 1 IN. FLANGE



ODHR(T): ROUND COLLARS



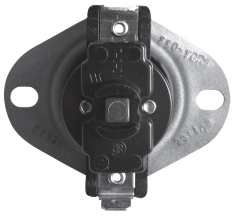
- Cabinet and heating body made of G90 galvanized steel of appropriate gauge, based on UL requirements (minimum of 20 GA)
- “Zero-inch” clearance from flammable materials
- Horizontal, vertical, upflow or downflow installation

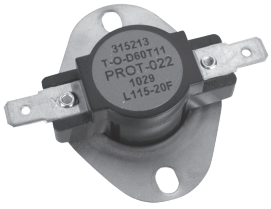
WIRING

- SEW 125 °C (257 °F) internal wiring
- TEW 105 °C (221 °F) internal wiring

THERMAL PROTECTION

- Automatic and manual thermal protection
- 100,000 cycles



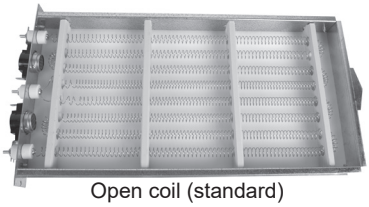


CONTROL TRANSFORMER

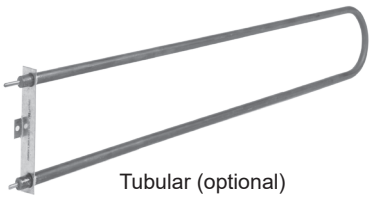
- 24 V secondary
- Class B insulation
- Class 2 40 VA and 96 VA (up to 480 V)

ELEMENTS

- Open Nickel-Chrome alloy coil 60/40, with ceramic base
- Tubular (Incoloy 800)



Open coil (standard)



Tubular (optional)

MAGNETIC CONTACTORS

- Total cut-off at all times

STATIC RELAY (SCR)

- Static relay for power modulation

HEATER DEACTIVATING INTERLOCK TERMINAL BLOCK

- The unit's elements can only be activated if contact is made between the two terminals. The customer can connect the desired protections between these terminals.

ELECTRONIC CONTROLS TABLE

FEATURE	DESCRIPTION	CONTROL CODE					
		TN	1ST	2ST	CIR-047	CIR-048	CIR-017/ CIR-011
CONTROL INPUT	BARE UNIT	•					
	24 V – 1 STAGE NON-MODULATING		•		•		
	24 V – 2 STAGE NON-MODULATING			•			
	24 V – PWM				•	•	
	0-10 V				•	•	•
	2-10 V (4-20MA)					•	
	24 V – 1 STAGE MODULATING (0-100% MODULATION WHEN USED WITH OPTIONAL TEMPERATURE SENSOR)					•	•
	24 V – 2 STAGE MODULATING (0-60-100%)						•
	24 V – 3 STAGE MODULATING (0-40-70-100%)						•
	SELF MODE					•	•
HEATING OUTPUT	SCR				•	•	•
	RELAY AND/OR CONTACTOR		•	•	•	2	4/8
CONTROL TRANSFORMER	CONTROL TRANSFORMER		•	•	•	•	•
FAN OUTPUT	FAN RELAY (OPTIONAL – OPTION R)		•	•			•
SUPPLY DUCT TEMPERATURE SENSOR	MEASURE THE AIR TEMPERATURE AT THE EXIT OF THE COIL (OPTIONAL – OPTION T)					•	•
ELECTRONIC AIR VELOCITY SENSOR	MEASURE THE AIR VELOCITY IN THE DUCT (OPTIONAL – OPTION P)				•	•	•
BUILT-IN TEMPERATURE LIMIT SENSOR	MEASURE THE AMBIENT AIR TEMPERATURE NEAR THE ELECTRIC COIL ELEMENTS (OPTIONAL – OPTION TT)				•	•	
AUTO DIAGNOSTIC	FAULT DISPLAY						•
USER INTERFACE	LEDS AND POTENTIOMETER					•	
	NUMERICAL DISPLAY AND BUTTONS						•
REMOTE CONTROL	DEPORTED PLENUM THERMOSTAT (OPTIONAL ACCESSORY)					•	

CONTROLS

TN CONTROL

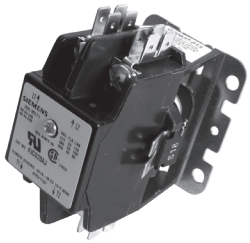
The duct heater is controlled by means of a terminal block.

Included: Terminal block connection, thermal protection with automatic reset, thermal protection with manual reset.

1ST CONTROL

The duct heater is controlled by means of a 24 Vac On/Off terminal block.

Included: 24 Vac control transformer, thermal protection with automatic reset, thermal protection with manual reset, relays or contactors.

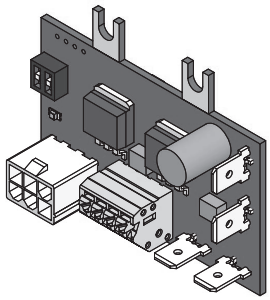


2ST CONTROL

The duct heater is controlled by means of a 24 Vac terminal block with two control terminals. By default, the two control stages are of equal power.

Included: 24 Vac control transformer, thermal protection with automatic reset, thermal protection with manual reset, relays or contactors.

CIR047 CONTROL



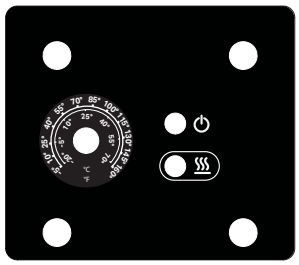
The CIR-047 electronic control has been designed to receive the heating coil configuration of 1 stage power. This control allows a low tension connection with a 0-10 V, 24 Vac (pwm) or 24 Vdc control. The power will modulate from 0 to 100%. This electronic control has only one output to control the elements.

Included: 24 Vac control transformer, thermal protection with automatic reset, thermal protection with manual reset and SCR relays.

P OPTION: Electronic air velocity sensor. Airflow detection: 100 fpm minimum

TT OPTION: Built-in temperature limit sensor. Maximum air temperature: 50 °C (122 °F).

CIR048 CONTROL



The duct heater is controlled by means of a 0-10 Vdc, 2-10 Vdc (4-20 mA), 24 Vac (pwm) or 24 Vdc signal. The user interface is equipped with indicator lights and a potentiometer to adjust the setpoint. This electronic control has 3 outputs to control the elements.

Included: 24 Vac control transformer, thermal protection with automatic reset, thermal protection with manual reset, relays, contactors and SCR relays.

SELF MODE

This control card allows a standalone operation when IN and R of terminal block are connected together whit a jumper (not supplied by Ouellet) and dip switch is configured at 24 Vac (pwm). When this mode is in function, the elements are activated and modulated without external control to reach and maintain the set point temperature.

T OPTION (recommended): Supply duct temperature sensor. The temperature sensor allows you to limit the temperature in the duct to a defined value between -20 °C and 70 °C (-4 °F and 158 °F).

P OPTION: Electronic air velocity sensor. Airflow detection: 100 fpm minimum.

TT OPTION: Built-in temperature limit sensor. Maximum air temperature: 50 °C (122 °F).

COMPATIBLE ACCESSORY

The CIR048 electronic control is compatible with the deported plenum thermostat D070.

CIR011/CIR017 CONTROL

The duct heater is controlled by means of 24 Vac (1 to 3 stages) or 0-10 Vdc, or will function autonomously, based on the mode selected. The user interface is equipped with a digital display and a setpoint adjustment button between -20 °C and 70 °C (-4 °F and 158 °F). The digital display indicates the state and function of the duct heater. The CIR011 control has 8 outputs and the CIR017 has 5 ouputs to control the elements.

Included: 24 Vac control transformer, thermal protection with automatic reset, thermal protection with manual reset, relays, contactors and SCR relays.

T OPTION (recommended): Supply duct temperature sensor. The temperature sensor allows you to limit the temperature in the duct to a defined value.

P OPTION: Electronic air velocity sensor. Airflow detection: 100 fpm minimum.

MODES

- W1 (1 stage – 24 Vac): Limits the setpoint temperature (to 0.5 °C [1 °F] of precision in the duct).
- W1-W2 (2 stages – 24 Vac): Limits the selected setpoint temperature (to 0.5 °C [1 °F] of precision in the duct). With a W1 signal, the unit will use at most 60% of its capacity. With a W2 signal, the unit will use 100% of its capacity.
- W1-W2-W3 (3 stages – 24 Vac): Limits the selected setpoint temperature (to 0.5 °C [1 °F] of precision in the duct). With a W1 signal, the unit will use at most 40% of its capacity. With a W2 signal, the unit will use at most 70% of its capacity. With a W3 signal, the unit will use at most 100% of its capacity.
- 0-10 V (0-10 Vdc signal): The unit adjusts the output power in proportion to the signal received (for example: 3.2 V = 32%). The digital display setpoint represents the temperature limit in the duct.
- SELF (self mode): Functions continuously in order to permanently limit the setpoint temperature in the duct.
- FAN “ON”: Output # 5 can be configured to be a fan outlet. It will operate when there is a demand for heating, and for a minute after the demand.

OPTIONS TABLE

Each option is described in detail on the following pages.

OPTIONS

OPTION	DESCRIPTION
D	TRANSFORMER NOT INCLUDED
E	REMOTE CONTROL BOX
F	VERTICAL INSTALLATION IN HORIZONTAL AIRFLOW
G	SAFETY MESH ON LEFT SIDE
H	SAFETY MESH ON RIGHT SIDE
I	MAIN BREAKERS
J	MAIN DISCONNECT SWITCH
K	MAIN LINE FUSES
L	LOAD FUSES
N	DIFFERENTIAL PRESSURE SWITCH
O	OEM
P	ELECTRONIC AIR VELOCITY SENSOR
R	FAN RELAY
S	HORIZONTAL INSTALLATION IN VERTICAL AIRFLOW
T	SUPPLY DUCT TEMPERATURE SENSOR

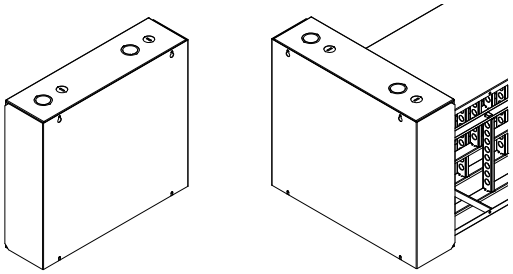
OPTIONS

OPTION	DESCRIPTION
V	SCR RATED FOR DOUBLE REQUIRED AMPERAGE
W	PILOT LIGHT
X	80/20 NICR GRADE A ELEMENT
Y	UNBALANCED THREE STAGE SYSTEM
CC	CONTROL BOX WITH RIGHT EXTENSION
GG	PERFORATED 1/2 IN. (12,7 MM) DIFFUSER GRILL
HH	NEMA 4 OR NEMA 4X CONTROL BOX (NEMA 12 INCLUDED)
II	CONTROL BOX EQUAL TO THE DUCT HEIGHT
JJ	DISCONNECT SWITCH WITH DOOR INTERLOCK
KK	CONTROL FUSE
LL	SCR RELAY ON EACH CIRCUIT
PP	HINGED DOOR
SS	STAINLESS STEEL ELEMENT HOUSING
TT	BUILT-IN TEMPERATURE LIMIT SENSOR
-#	UNIQUE IDENTIFICATION MODEL

OPTION D TRANSFORMER not included

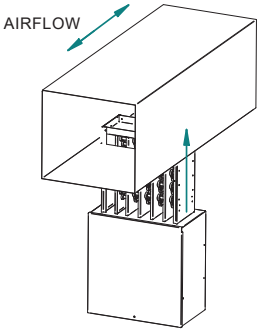
OPTION E REMOTE CONTROL BOX

The control box is detachable and independent of the heating body. The heating section, called the heating body, is equipped with a cabinet of minimum dimensions, with only the thermal protection and the elements inside. The power connection between the heating body and the control box is the customer's responsibility, and can be made using the terminals provided and labelled for that purpose.



OPTION F VERTICAL INSTALLATION IN HORIZONTAL AIRFLOW

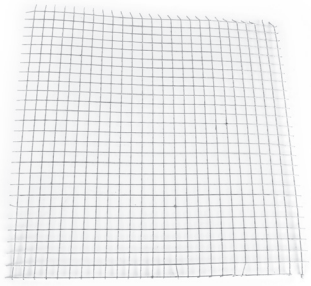
The heating body is inserted vertically into the duct. The control box can be fixed to the duct underside or on the top. By default the control box is fixed on the underside (as shown) unless otherwise specified.



OPTION G SAFETY MESH ON LEFT SIDE

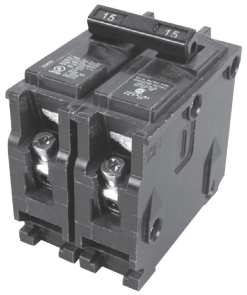
OPTION H SAFETY MESH ON RIGHT SIDE

The mesh (1/4 in. [6,35 mm], 23 G) can be installed on the left or right side of the heating body (depending on the option chosen), facing the control box enclosure.



OPTION I MAIN BREAKERS

The unit's main supply is protected by one or more breakers. They protect at 125% of rated current. The unit is subdivided into circuits of at most 40 rated amps to protect them, in accordance with UL requirements. This option is not recommended for a unit exceeding 240 V.

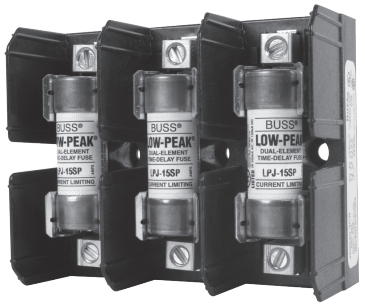


OPTION J MAIN DISCONNECT SWITCH

The unit is equipped with a lockable main disconnect switch.

OPTION K MAIN LINE FUSES

These fuses are installed directly on the main supply. They are J type and HRC certified. They protect at 125% of the rated current.

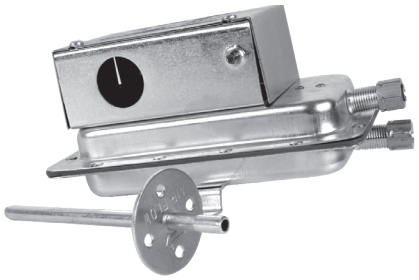


OPTION L LOAD FUSES

These fuses are installed on each of the power branches. They are J type and HRC certified. They protect each branch at 125% of the rated current. The unit is subdivided into branches of at most 48 rated amps, in accordance with UL requirements.

OPTION N DIFFERENTIAL PRESSURE SWITCH

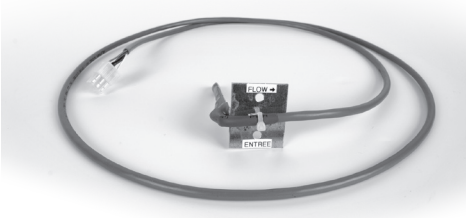
The minimum operating limit for this switch is 0.05 in. (0,127 mm) W.C. ± 0.02 in. (0,051 mm) W.C.



OPTION O O.E.M (Original Equipment Manufacturing)

OPTION P ELECTRONIC AIR VELOCITY SENSOR

This sensor, installed before the coil, measures air velocity. The coil elements do not heat if the air velocity is less than 100 fpm.

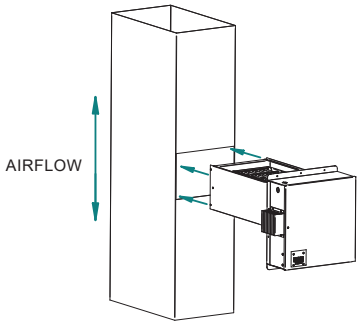


OPTION R FAN RELAY

This is an NO-NC change-over relay controlled either by an electronic card when present or by the first power circuit. This relay, by means of a terminal block, can be used to control another product, like a ventilation motor.

OPTION S HORIZONTAL INSTALLATION IN VERTICAL AIRFLOW

The duct is vertical and the unit is inserted through one of the faces as shown. The control box is off center downward unless otherwise specified.



OPTION T SUPPLY DUCT TEMPERATURE SENSOR

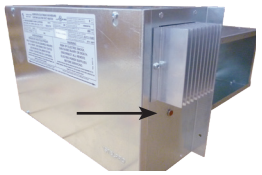
This sensor, installed in the duct after the coil, is coupled with an electronic control system, allowing the heating body power to be modulated so as to precisely reach and maintain the setpoint temperature. Depending on the control used (see the Controls section), the setpoint temperature can be adjusted from -20 °C to 70 °C (-4 °F to 158 °F).

OPTION V SCR AT DOUBLE THE REQUIRED AMPERAGE

This option is used when the SCR must support double the nominally required amperage.

OPTION W INDICATOR LIGHT

This option is used when a visual signal is required to detect the triggering of the unit's thermal protection.

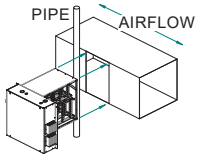


OPTION Y UNBALANCED THREE PHASE SYSTEM

This option is recommended when the unit is connected to a 3-phase 600 V current and is 1 kW and under. The unit is designed to unbalance the phases.

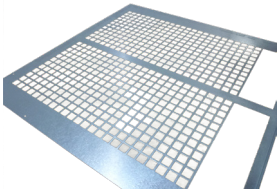
OPTION CC CONTROL BOX WITH RIGHT EXTENSION

This option is used when space is restricted to the left of the control box.



OPTION GG 1/2" PERFORATED GRILL

This grill is used upstream of the unit to diffuse air uniformly over the unit's heating elements.

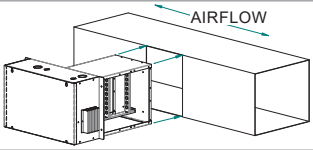


OPTION HH 4 OR 4X NEMA CONTROL BOX

This option is used when installation occurs outdoors and when greater humidity and dust protection is required.

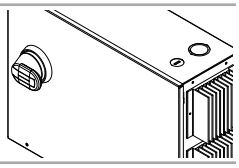
OPTION II CONTROL BOX EQUAL TO THE DUCT HEIGHT

This option is used when space is restricted at the top and the bottom of the ventilation duct.



OPTION JJ DISCONNECTOR WITH DOOR INTERLOCK

This option is used to keep the box from opening when the unit is powered. Hinged door included (PP option).



OPTION KK CONTROL FUSE

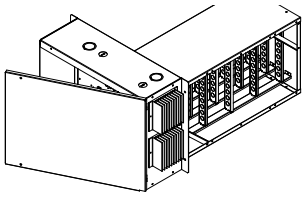
Control fuse, for protection against overcurrent, on the secondary of the 24 V class B transformer.

OPTION LL SCR RELAY ON EACH CIRCUIT

This option is used to maintain a greater level of heating precision. Also, the use of a SCR relay generates less noise than a standard relay.

OPTION PP HINGED DOOR

This option is used to hold the open door on the unit thus making maintenance call faster and easier. The hinge's design still allows the door to be removed if necessary. Note: Door opens from the left by default (hinge on the right side)



OPTION TT INTEGRATED ELECTRONIC AIR SENSOR

This sensor, built into the heating body, is comprised of a thermistor coupled with an electronic card that limits coil element overheating caused by a decrease in ventilation by modulating their heating time when the maximum ambient temperature near the elements has been reached. The maximum temperature is 50 °C (122 °F).

OPTION SS STAINLESS STEEL ELEMENT HOUSING

This option is used for a more humid environment.

MAXIMUM CAPACITIES TABLE

Maximum capacity by dimension (in kW)

ODHx

HEIGHT (IN.) \ LENGTH (IN.)	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60
4	2	4	5	7	8	9	11	12	14	15	17	18	19	21	22	24	25	26	28	29	31	32	34	35	36	38	39	41	42
6	4	6	8	10	12	14	17	19	21	23	25	27	29	31	34	36	38	40	42	44	46	48	51	53	55	57	59	61	63
8	5	8	11	14	17	19	22	25	28	31	34	36	39	42	45	48	51	53	56	59	62	65	68	70	73	76	79	82	85
10	7	10	14	17	21	24	28	31	35	38	42	46	49	53	56	60	63	67	70	74	77	81	85	88	92	95	99	102	106
12	8	12	17	21	25	29	34	38	42	46	51	55	59	63	68	72	76	80	85	89	93	97	102	106	110	114	119	123	127
14	9	14	19	24	29	34	39	44	49	54	59	64	69	74	79	84	89	94	99	104	109	114	119	123	128	133	138	143	148
16	11	17	22	28	34	39	45	51	56	62	68	73	79	85	90	96	102	107	113	119	124	130	136	141	147	153	158	164	170
18	12	19	25	31	38	44	51	57	63	70	76	82	89	95	102	108	114	121	127	133	140	146	153	159	165	172	178	184	191
20	14	21	28	35	42	49	56	63	70	77	85	92	99	106	113	120	127	134	141	148	155	162	170	177	184	191	198	205	212
22	15	23	31	38	46	54	62	70	77	85	93	101	109	116	124	132	140	148	155	163	171	179	187	194	202	210	218	225	233
24	17	25	34	42	51	59	68	76	85	93	102	110	119	127	136	144	153	161	170	178	187	195	204	212	221	229	238	246	255
26	18	27	36	46	55	64	73	82	92	101	110	119	128	138	147	156	165	174	184	193	202	211	221	230	239	248	257	267	276
28	19	29	39	49	59	69	79	89	99	109	119	128	138	148	158	168	178	188	198	208	218	228	238	247	257	267	277	287	297
30	21	31	42	53	63	74	85	95	106	116	127	138	148	159	170	180	191	201	212	223	233	244	255	265	276	286	297	308	318
32	22	34	45	56	68	79	90	102	113	124	136	147	158	170	181	192	204	215	226	238	249	260	272	283	294	306	317	328	340
34	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	289	301	313	325	337	349	361
36	25	38	51	63	76	89	102	114	127	140	153	165	178	191	204	216	229	242	255	267	280	293	306	318	331	344	357	369	382
38	26	40	53	67	80	94	107	121	134	148	161	174	188	201	215	228	242	255	269	282	296	309	323	336	349	363	376	390	403
40	28	42	56	70	85	99	113	127	141	155	170	184	198	212	226	240	255	269	283	297	311	325	340	354	368	382	396	410	425
42	29	44	59	74	89	104	119	133	148	163	178	193	208	223	238	252	267	282	297	312	327	342	357	371	386	401	416	431	446
44	31	46	62	77	93	109	124	140	155	171	187	202	218	233	249	264	280	296	311	327	342	358	374	389	405	420	436	451	467
46	32	48	65	81	97	114	130	146	162	179	195	211	228	244	260	276	293	309	325	342	358	374	391	407	423	439	456	472	488
48	34	51	68	85	102	119	136	153	170	187	204	221	238	255	272	289	306	323	340	357	374	391	408	425	442	459	476	493	510
50	35	53	70	88	106	123	141	159	177	194	212	230	247	265	283	301	318	336	354	371	389	407	425	442	460	478	495	513	531
52	36	55	73	92	110	128	147	165	184	202	221	239	257	276	294	313	331	349	368	386	405	423	442	460	478	497	515	534	552
54	38	57	76	95	114	133	153	172	191	210	229	248	267	286	306	325	344	363	382	401	420	439	459	478	497	516	535	554	573
56	39	59	79	99	119	138	158	178	198	218	238	257	277	297	317	337	357	376	396	416	436	456	476	495	515	535	555	575	595
58	41	61	82	102	123	143	164	184	205	225	246	267	287	308	328	349	369	390	410	431	451	472	493	513	534	554	575	595	616
60	42	63	85	106	127	148	170	191	212	233	255	276	297	318	340	361	382	403	425	446	467	488	510	531	552	573	595	616	637

Maximum density: 25.5 kW/sq.ft
Note: The values indicated in the table above are not limited to dimensions of 60 in. x 60 in.

ODHxT

HAUTEUR (PO) \ LENGTH (IN.)	8	10	12	14	16	18	20	22	24
8	5.8	7.2	8.7	10.1	11.6	13.0	14.4	15.9	17.3
10	7.2	9.0	10.8	12.6	14.4	16.3	18.1	19.9	21.7
12	8.7	10.8	13.0	15.2	17.3	19.5	21.7	23.8	26.0
14	10.1	12.6	15.2	17.7	20.2	22.8	25.3	27.8	30.3
16	11.6	14.4	17.3	20.2	23.1	26.0	28.9	31.8	34.7
18	13.0	16.3	19.5	22.8	26.0	29.3	32.5	35.8	39.0
20	14.4	18.1	21.7	25.3	28.9	32.5	36.1	39.7	43.3
22	15.9	19.9	23.8	27.8	31.8	35.8	39.7	43.7	47.7
24	17.3	21.7	26.0	30.3	34.7	39.0	43.3	47.7	52.0

Maximum density: 13 kW/sq.ft
Note: The values indicated in the table above are not limited to dimensions of 24 in. x 24 in.

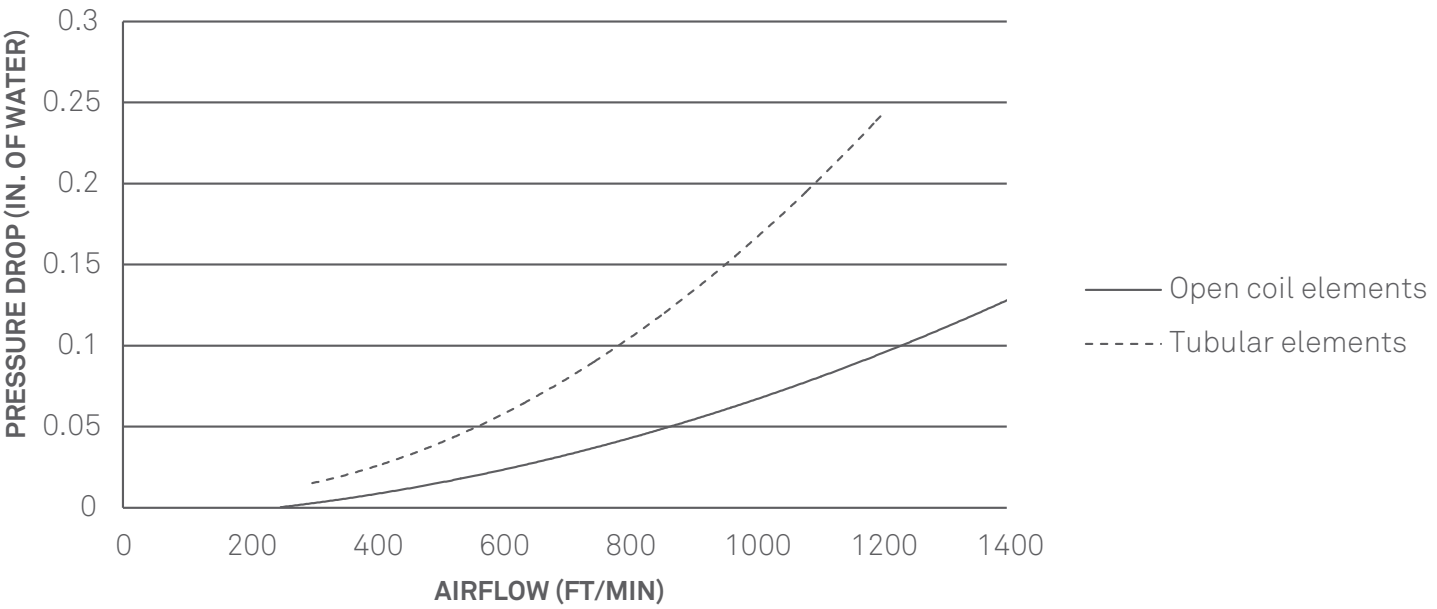
POWER CAPACITY TABLE

CAPACITY REQUIRED IN WATTS IN RELATION TO AIRFLOW AND TEMPERATURE RISE

AIRFLOW (CFM) \ TEMPERATURE RISE (DELTA) IN °F	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
100	161	323	484	645	806	968	1129	1290	1452	1613	1774	1935	2097	2258	2419
150	242	484	726	968	1210	1452	1694	1935	2177	2419	2661	2903	3145	3387	3629
200	323	645	968	1290	1613	1935	2258	2581	2903	3226	3548	3871	4194	4516	4839
250	403	806	1210	1613	2016	2419	2823	3226	3629	4032	4435	4839	5242	5645	6048
300	484	968	1452	1935	2419	2903	3387	3871	4355	4839	5323	5806	6290	6774	7258
350	565	1129	1694	2258	2823	3387	3952	4516	5081	5645	6210	6774	7339	7903	8468
400	645	1290	1935	2581	3226	3871	4516	5161	5806	6452	7097	7742	8387	9032	9677
450	726	1452	2177	2903	3629	4355	5081	5806	6532	7258	7984	8710	9435	10 161	10 887
500	806	1613	2419	3226	4032	4839	5645	6452	7258	8065	8871	9677	10 484	11 290	12 097
550	887	1774	2661	3548	4435	5323	6210	7097	7984	8871	9758	10 645	11 532	12 419	13 306
600	968	1935	2903	3871	4839	5806	6774	7742	8710	9677	10 645	11 613	12 581	13 548	14 516
650	1048	2097	3145	4194	5242	6290	7339	8387	9435	10 484	11 532	12 581	13 629	14 677	15 726
700	1129	2258	3387	4516	5645	6774	7903	9032	10 161	11 290	12 419	13 548	14 677	15 806	16 935
750	1210	2419	3629	4839	6048	7258	8468	9677	10 887	12 097	13 306	14 516	15 726	16 935	18 145
800	1290	2581	3871	5161	6452	7742	9032	10 323	11 613	12 903	14 194	15 484	16 774	18 065	19 355
850	1371	2742	4113	5484	6855	8226	9597	10 968	12 339	13 710	15 081	16 452	17 823	19 194	20 565
900	1452	2903	4355	5806	7258	8710	10 161	11 613	13 065	14 516	15 968	17 419	18 871	20 323	21 774
950	1532	3065	4597	6129	7661	9194	10 726	12 258	13 790	15 323	16 855	18 387	19 919	21 452	22 984
1000	1613	3226	4839	6452	8065	9677	11 290	12 903	14 516	16 129	17 742	19 355	20 968	22 581	24 194
1050	1694	3387	5081	6774	8468	10 161	11 855	13 548	15 242	16 935	18 629	20 323	22 016	23 710	25 403
1100	1774	3548	5323	7097	8871	10 645	12 419	14 194	15 968	17 742	19 516	21 290	23 065	24 839	26 613
1150	1855	3710	5565	7419	9274	11 129	12 984	14 839	16 694	18 548	20 403	22 258	24 113	25 968	27 823
1200	1935	3871	5806	7742	9677	11 613	13 548	15 484	17 419	19 355	21 290	23 226	25 161	27 097	29 032
1250	2016	4032	6048	8065	10 081	12 097	14 113	16 129	18 145	20 161	22 177	24 194	26 210	28 226	30 242
1300	2097	4194	6290	8387	10 484	12 581	14 677	16 774	18 871	20 968	23 065	25 161	27 258	29 355	31 452
1350	2177	4355	6532	8710	10 887	13 065	15 242	17 419	19 597	21 774	23 952	26 129	28 306	30 484	32 661
1400	2258	4516	6774	9032	11 290	13 548	15 806	18 065	20 323	22 581	24 839	27 097	29 355	31 613	33 871
1450	2339	4677	7016	9355	11 694	14 032	16 371	18 710	21 048	23 387	25 726	28 065	30 403	32 742	35 081
1500	2419	4839	7258	9677	12 097	14 516	16 935	19 355	21 774	24 194	26 613	29 032	31 452	33 871	36 290
1550	2500	5000	7500	10 000	12 500	15 000	17 500	20 000	22 500	25 000	27 500	30 000	32 500	35 000	37 500
1600	2581	5161	7742	10 323	12 903	15 484	18 065	20 645	23 226	25 806	28 387	30 968	33 548	36 129	38 710

Note: For all values that do not appear in this table, you may calculate them using the following formula:
WATTS = (flow in CFM) X (TEMP. delta °F) / 3.1

STATIC PRESSURE LOSS



MINIMUM AIRFLOW REQUIRED