



Weaver

CONSTRUCTION MANAGEMENT

3679 S Huron Street, Suite 404 Englewood, Colorado 80110
Phone: (303) 789-4111 FAX: (303) 789-4310

SUBMITTAL TRANSMITTAL

May 1, 2012

Submittal No: 15800-012

PROJECT: **Harold Thompson Regional WRF**
Birdsall Rd.
Fountain, CO 80817
Job No. 2908

ENGINEER: **GMS, Inc.**
611 No. Weber St., #300
Colorado Springs, CO 80903
719-475-2935 Roger Sams

OWNER: **Lower Fountain Metropolitan
Sewage Disposal District**
901 S. Santa Fe Ave.
Fountain, CO 80817
719-382-5303 James Heckman

CONTRACTOR: **Kuck Mechanical Contractors, LLC.**
395 West 67th Street
Loveland, CO 80593
970-461-3553 Melanie Peterson

SUBJECT: Electric Unit Heater (EUH-1) @ the P&D Building

SPEC SECTION: 15800 - Heating & Ventilating

PREVIOUS SUBMISSION DATES:

DEVIATIONS FROM SPEC: ___ YES X NO

CONTRACTOR'S STAMP: This submittal has been reviewed by Weaver Construction Management and, unless indicated otherwise, has been found to be in conformance with the intent of the contract documents.

Contractor's Stamp:

Engineer's Stamp:

Date: 5/1/12

Reviewed by: John Jacob

(x) Reviewed Without Comments

() Reviewed With Comments

ENGINEER'S

COMMENTS:



395 West 67th Street
P.O. Box 388
Loveland, CO 80539-0388
Phone: (970) 461-3553
Fax: (970) 461-3443

DATE: 05/01/12
SENT TO: Weaver General Contractors
Attn: John Jacob
JOB: Harold D. Thompson WRF (#01135)
9001 Birdsell Rd.
Fountain, CO 80817

SUBMITTAL NO.: 00018
SUBMITTAL DUE:
PACKAGE: n/a

VENDOR NAME: CFM
SUBJECT: P&D Bldg. - Electric Heater
SPECIFICATION #: 15800

REVIEW DETAILS:

Review #: 1	Received: 04/13/12	Priority: Normal
Desc: P&D Bldg. - Electric Heater	Sent: 05/01/12	Status: Open
Reviewer: John Jacob	Returned:	Sepias: 0
Weaver General Contractors	Forwarded:	Prints: 0

Sent for the following action(s):

- For Approval**

 For Distribution

 For Your Use/Files

 As Req'd per

Action Needed:

Sincerely,
Teesa Vassar

Kuck Mechanical Contractors
395 W. 67th St.
Loveland, CO 80538



CFM COMPANY

AIR CONDITIONING / HEATING / VENTILATING EQUIPMENT
413 D North US Highway 287 • Fort Collins, CO 80524
Phone: (970)-493-7293 • Fax: (970)-493-7297



SUBMITTAL DATA

DATE: March 16, 2012

CFM COMPANY ORDER NO: 27120-EL

TO: Kuck Mechanical
Attn: Tom Wasmer
395 West 67th Street
Loveland, CO 80539

PROJECT: Harold D Thompson Pumping & Disinfection Building

LOCATION: Fountain, CO

ARCHITECT:

ENGINEER: GMS, Inc.

SUBMITTAL DATA ON THE FOLLOWING EQUIPMENT

MANUFACTURER	EQUIPMENT	SPECIFICATION SECTION
Indeeco	Electric Heater	
Cerus	Magnetic Starter	15058
Greenheck	Sidewall Prop Fans	15800
Greenheck	Inline Centrifugal Fan	15800
Greenheck	Combination Louvers	15800
Greenheck	Stationary Louvers	15800

Equipment has not been released for production.

Thank you for doing business with CFM Company North, and if you have any questions or concerns, please feel free to contact me.

Eric Larsen

PLEASE RETURN ONE APPROVED SET OF THESE SUBMITTALS TO:
CFM COMPANY NORTH
413D North US Highway 287
Fort Collins, CO 80524



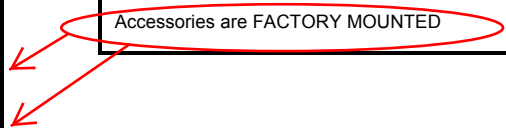
ELECTRIC HEATER PRODUCT SUBMITTAL

Specification:	
Job Name:	Harold Thompson Pumping and Disinfection
Location:	
Architect:	
Engineer:	
Contractor:	
Submitted by:	
Date:	

ELECTRIC HEATER SCHEDULE												
Item #	Heater Type	Qty.	Catalog Number	Tag	Watts (KW)	Volts	PH	Amps	Weight	Length	Color	Custom Option Code
1	Unit	1	240-U2075U	EUH-1	7.5	460	60	3	50	N/A	N/A	D,T

ACCESSORIES TO SHIP LOOSE				
Item No.	Qty.	Part Number	Description	Tag
1	1	D	Factory Mtd Disconnect	EUH-1
2	1	T	Factory Mtd Single Stage Thermostat	EUH-1

COMMENTS
Accessories are FACTORY MOUNTED



UHIR – UNIT HEATER SUBMITTAL



KW	Volts	Ph	Total Amps*	CFM	Approx. Air Temp Rise - °F (°C)	2-Stage Control	Std Control Voltage	Installed Weight lb (kg)	Max Air Throw - Ft (m)	Catalog Number (2)	<input type="checkbox"/>
3.3	208	1	16.2	350	27 (15)	1B	208	25 (11.34)	15 (4.57)	240-U1033C	<input type="checkbox"/>
	240	1	14.1	350	27 (15)	1B	240	25 (11.34)	15 (4.57)	240-U1033J	<input type="checkbox"/>
	277	1	12.2	350	27 (15)	1B	277	25 (11.34)	15 (4.57)	240-U1033N	<input type="checkbox"/>
3.7	480	3	4.7	350	27 (15)	1A	24	25 (11.34)	15 (4.57)	240-U1037U	<input type="checkbox"/>
3.8	208	3	10.9	350	27 (15)	1A	24	25 (11.34)	15 (4.57)	240-U1038D	<input type="checkbox"/>
	240	3	9.4	350	27 (15)	1A	24	25 (11.34)	15 (4.57)	240-U1038K	<input type="checkbox"/>
5	208	1	24.3	350	46 (26)	1B	208	25 (11.34)	15 (4.57)	240-U1050C	<input type="checkbox"/>
	240	1	21.1	350	46 (26)	1B	240	25 (11.34)	15 (4.57)	240-U1050J	<input type="checkbox"/>
	277	1	18.4	350	46 (26)	1B	277	25 (11.34)	15 (4.57)	240-U1050N	<input type="checkbox"/>
	208	3	14.2	350	46 (26)	1A	24	25 (11.34)	15 (4.57)	240-U1050D	<input type="checkbox"/>
	240	3	12.3	350	46 (26)	1A	24	25 (11.34)	15 (4.57)	240-U1050K	<input type="checkbox"/>
6.7	480	3	6.2	350	46 (26)	1A	24	25 (11.34)	15 (4.57)	240-U1050U	<input type="checkbox"/>
	208	1	32.9	650	37 (21)	1B	24	40 (18.14)	18 (5.49)	240-U2067C	<input type="checkbox"/>
	240	1	28.6	650	37 (21)	1B	24	40 (18.14)	18 (5.49)	240-U2067J	<input type="checkbox"/>
	277	1	24.8	650	37 (21)	1B	24	40 (18.14)	18 (5.49)	240-U2067N	<input type="checkbox"/>
7.5	208	1	36.76	650	37 (21)	1B	24	40 (18.14)	18 (5.49)	240-U2075C	<input type="checkbox"/>
	240	1	31.95	650	37 (21)	1B	24	40 (18.14)	18 (5.49)	240-U2075J	<input type="checkbox"/>
	208	3	21.5	650	37 (21)	1A	24	40 (18.14)	18 (5.49)	240-U2075D	<input type="checkbox"/>
	240	3	18.7	650	37 (21)	1A	24	40 (18.14)	18 (5.49)	240-U2075K	<input type="checkbox"/>
	480	3	9.4	650	37 (21)	1A	24	40 (18.14)	18 (5.49)	240-U2075U	<input checked="" type="checkbox"/>
9.9	208	1	48.3	650	49 (27)	1B	24	40 (18.14)	18 (5.49)	240-U2099C	<input type="checkbox"/>
	240	1	42.4	650	49 (27)	1B	24	40 (18.14)	18 (5.49)	240-U2100J	<input type="checkbox"/>
10	277	1	36.7	650	49 (27)	1B	24	40 (18.14)	18 (5.49)	240-U2100N	<input type="checkbox"/>
	208	3	28.5	650	49 (27)	1A	24	40 (18.14)	18 (5.49)	240-U2100D	<input type="checkbox"/>
	240	3	24.8	650	49 (27)	1A	24	40 (18.14)	18 (5.49)	240-U2100K	<input type="checkbox"/>
	480	3	12.4	650	49 (27)	1A	24	40 (18.14)	18 (5.49)	240-U2100U	<input type="checkbox"/>
13.2	277	1	48.4	1500	52 (29)	1B	24	55 (24.95)	41 (12.5)	240-U3132N	<input type="checkbox"/>
13.3	208	1	64.8	1500	52 (29)	Standard	24	55 (24.95)	41 (12.5)	240-U3133C-X	<input type="checkbox"/>
	240	1	56.3	1500	52 (29)	Standard	24	55 (24.95)	41 (12.5)	240-U3133J-X	<input type="checkbox"/>
15	208	3	42.5	1500	52 (29)	1B	24	55 (24.95)	41 (12.5)	240-U3150D	<input type="checkbox"/>
	240	3	36.9	1500	52 (29)	1B	24	55 (24.95)	41 (12.5)	240-U3150K	<input type="checkbox"/>
	480	3	18.4	1500	52 (29)	1B	24	55 (24.95)	41 (12.5)	240-U3150U	<input type="checkbox"/>
19.9	208	1	96.5	1500	60 (33)	Standard	24	55 (24.95)	41 (12.5)	240-U3199C-X (1)	<input type="checkbox"/>
	240	3	48.7	1500	60 (33)	1B	24	55 (24.95)	41 (12.5)	240-U3199K	<input type="checkbox"/>
20	240	1	84.2	1500	60 (33)	Standard	24	55 (24.95)	41 (12.5)	240-U3200J-X (1)	<input type="checkbox"/>
	277	1	72.9	1500	60 (33)	Standard	24	55 (24.95)	41 (12.5)	240-U3200N-X	<input type="checkbox"/>
	208	3	56.4	1500	60 (33)	Standard	24	55 (24.95)	41 (12.5)	240-U3200D-X	<input type="checkbox"/>
	480	3	24.5	1500	60 (33)	1B	24	55 (24.95)	41 (12.5)	240-U3200U	<input type="checkbox"/>
25	208	3	70.9	3100	49 (27)	Standard	24	155 (70.3)	62 (18.9)	240-U4250D-X	<input type="checkbox"/>
	240	3	61.6	3100	49 (27)	Standard	24	155 (70.3)	62 (18.9)	240-U4250K-X	<input type="checkbox"/>
	480	3	30.8	3100	49 (27)	1B	24	155 (70.3)	62 (18.9)	240-U4250U	<input type="checkbox"/>
33.3	208	3	93.9	3100	49 (27)	Standard	24	155 (70.3)	62 (18.9)	240-U4333D-X	<input type="checkbox"/>
	240	3	81.6	3100	49 (27)	Standard	24	155 (70.3)	62 (18.9)	240-U4333K-X	<input type="checkbox"/>
	480	3	40.8	3100	49 (27)	1B	24	155 (70.3)	62 (18.9)	240-U4333U	<input type="checkbox"/>
37.5	208	3	105.6	3100	61 (34)	Standard	24	155 (70.3)	62 (18.9)	240-U4375D-X	<input type="checkbox"/>
	240	3	91.7	3100	61 (34)	Standard	24	155 (70.3)	62 (18.9)	240-U4375K-X	<input type="checkbox"/>
	480	3	45.8	3100	61 (34)	1A	24	155 (70.3)	62 (18.9)	240-U4375U	<input type="checkbox"/>
49.8	208	3	139.7	3100	68 (38)	Standard	24	155 (70.3)	62 (18.9)	240-U4498D-X	<input type="checkbox"/>
50	240	3	121.8	3100	68 (38)	Standard	24	155 (70.3)	62 (18.9)	240-U4500K-X	<input type="checkbox"/>
	480	3	60.8	3100	68 (38)	Standard	24	155 (70.3)	62 (18.9)	240-U4500U-X	<input type="checkbox"/>

*Total Amps = Heating element amps and motor amps.

1. Disconnect switch unavailable on 240-U3199C-X and 240-U3200J-X

2. All standard heaters are supplied with 24V transformer and contactor except up to 5KW single phase units. Optional low voltage transformer and contactor are available for these heaters, see Factory Built-in Option 'R1'.

2-stage heaters can be field wired as single stage.

1A = Optional 2-stage control, unbalanced (option X)

1B = Optional 2-stage control, balanced (option X)

1C = 2-stage control provided as standard (option X)

If heater part number includes '-X' in table above, 2-stage control is provided standard. Do not add Option 'X' pricing.



Factory Built-In Options

Code	Description	<input type="checkbox"/>
Consult Factory	Custom KW - CONSULT FACTORY	<input type="checkbox"/>
D	Door Interlocking Power Disconnect Switch	<input checked="" type="checkbox"/>
F	Fusing under 48 Amps, not available on heaters 3 to 10KW	<input type="checkbox"/>
M	Manual Reset Cutout (In addition to automatic cutout) on heaters up to 10K	<input type="checkbox"/>
P (1)	"Heater On" Pilot Light	<input type="checkbox"/>
R1	Built-in 24V transformer and contactor for 3 to 5 KW, single phase heaters.	<input type="checkbox"/>
R2 (1) (2)	120V Transformer to replace 24V Transformer	<input type="checkbox"/>
S1	Summer Fan Switch	<input type="checkbox"/>
S2 (1)	Summer Fan Switch – Remote Pilot Duty	<input type="checkbox"/>
T	Built-On Thermostat - 1 - Stage	<input checked="" type="checkbox"/>
	Built-On Thermostat - 2 - Stage (Option 'X' required)	<input type="checkbox"/>
V1*	Anemostat (Cone) Diffuser	<input type="checkbox"/>
V2	Radial Diffuser	<input type="checkbox"/>
X (2)	2-Stage Control	<input type="checkbox"/>

*consult factor for lead times

- When specifying Option 'P' (pilot light) or Option 'S2' (remote fan switch) or Option 'R2' (120V Control with 3 KW to 5 KW single phase heaters, Option 'R1' must also be specified.
- Option 'R2' (120V control) and Option 'X' (2-stage control) cannot be combined on heaters rated up to 5 KW.

Field-Installed Mechanical Option Kits

Catalog Number	Description	<input type="checkbox"/>
1024149	Universal wall & ceiling mounting bracket up to 10 KW	<input checked="" type="checkbox"/>
1024150	Universal wall & ceiling mounting bracket over 10 KW up to 20 KW	<input type="checkbox"/>
1024151	Universal wall & ceiling mounting bracket over 20 KW	<input type="checkbox"/>
1024155*	Anemostat (Cone) Diffuser up to 5 KW	<input type="checkbox"/>
1024156*	Anemostat (Cone) Diffuser over 5 KW up to 20 KW	<input type="checkbox"/>
1024157*	Anemostat (Cone) Diffuser over 20 KW	<input type="checkbox"/>
1024152	Radial Diffuser up to 5 KW	<input type="checkbox"/>
1024153	Radial Diffuser over 5 KW up to up to 20KW	<input type="checkbox"/>
1024154	Radial Diffuser over 20 KW	<input type="checkbox"/>
1023941	Horizontal Dust Shield up to 10 KW	<input type="checkbox"/>
1024059	Horizontal Dust Shield over 10 KW up to 20KW	<input type="checkbox"/>
1024060	Horizontal Dust Shield over 20 KW	<input type="checkbox"/>

*consult factory for lead times

Field-Installed Options (shipped loose for field installation into heater)

Catalog Number	Description	<input type="checkbox"/>
1024162	Disconnect Switch, 600V, Three-Pole, 40 Amp	<input type="checkbox"/>
1024163	Disconnect Switch, 600V, Three-Pole, 80 Amp	<input type="checkbox"/>
1024164	Disconnect Switch, 600V, Three-Pole, 100 Amp	<input type="checkbox"/>
1024166	Built-in Thermostat – 1 - Stage	<input type="checkbox"/>
1024167	Built-in Thermostat – 2 - Stage (Option 'X' required)	<input type="checkbox"/>
1024168 (1)	Heater On Pilot Light (24V)	<input type="checkbox"/>
1024169 (1)	Heater On Pilot Light (120V)	<input type="checkbox"/>
1024170	Summer Fan Switch - Built-in up to 277V	<input type="checkbox"/>
1024171	Summer Fan Switch - Built On, 24V Control Motor over 277V	<input type="checkbox"/>
1024172 (1)	Summer Fan Switch - Remote, 24V Control	<input type="checkbox"/>

(1) When specifying these options with 3 KW to 5 KW single-phase heaters, Option 'R1' must also be specified.

(2) When specifying this option with any heater, option 'R2' must also be specified.

Finish / Color Options:

Code	Finish	Color		<input checked="" type="checkbox"/>
None	Polyester Powder Coat	Camel	Standard	<input checked="" type="checkbox"/>
A0		Grey	Custom	<input type="checkbox"/>
A1		Yellow	Custom	<input type="checkbox"/>
A2		Red	Custom	<input type="checkbox"/>
A3		White	Custom	<input type="checkbox"/>
A4	Blue	Custom	<input type="checkbox"/>	
A5	Galvanized Steel (unpainted)	—	Standard	<input type="checkbox"/>
A7	Polyester Powder Coat	Beige	Standard	<input type="checkbox"/>

Allow 6 - 8 weeks for heaters with custom colors, additional cost will apply.

INDEECO Supplied Remote Thermostats

KW	Catalog Number	Volts	Ph	1-Stage Line Voltage	<input type="checkbox"/>	1-Stage Low Voltage (b)	<input type="checkbox"/>	2-Stage Low Voltage (b)	<input type="checkbox"/>
3.3	240-U1033C	208	1	1007014	<input type="checkbox"/>	1006998 (a)	<input type="checkbox"/>	1007030 (a)	<input type="checkbox"/>
	240-U1033J	240	1	1007014	<input type="checkbox"/>	1006998 (a)	<input type="checkbox"/>	1007030 (a)	<input type="checkbox"/>
	240-U1033N	277	1	1007014	<input type="checkbox"/>	1006998 (a)	<input type="checkbox"/>	1007030 (a)	<input type="checkbox"/>
3.7	240-U1037U	480	3	NA	<input type="checkbox"/>	1006998	<input type="checkbox"/>	1007030	<input type="checkbox"/>
3.8	240-U1038D	208	3	NA	<input type="checkbox"/>	1006998	<input type="checkbox"/>	1007030	<input type="checkbox"/>
	240-U1038K	240	3	NA	<input type="checkbox"/>	1006998	<input type="checkbox"/>	1007030	<input type="checkbox"/>
5	240-U1050C	208	1	NA	<input type="checkbox"/>	1006998 (a)	<input type="checkbox"/>	1007030 (a)	<input type="checkbox"/>
	240-U1050J	240	1	1007014	<input type="checkbox"/>	1006998 (a)	<input type="checkbox"/>	1007030 (a)	<input type="checkbox"/>
	240-U1050N	277	1	1007014	<input type="checkbox"/>	1006998 (a)	<input type="checkbox"/>	1007030 (a)	<input type="checkbox"/>
All Other UHIR Heaters				NA		1006998	<input type="checkbox"/>	1007030	<input type="checkbox"/>

(a) Add option 'R1' for 24V control on these units.
 (b) Option 'R2' is unavailable with any INDEECO supplied remote low voltage thermostats.

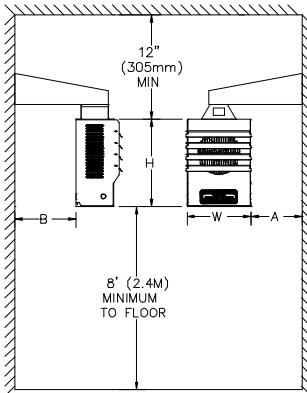


Fig. 1 Horizontal Wall Mounting

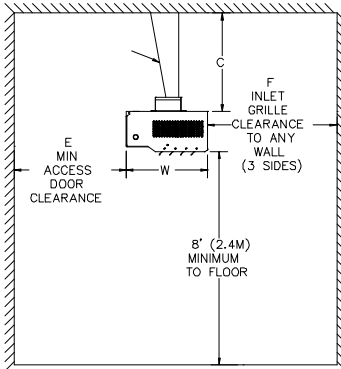


Fig. 4 Vertical Ceiling Mount with Mounting Arm

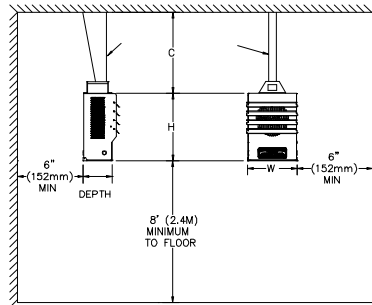


Fig. 2 Horizontal Ceiling Mount with Mounting Arm

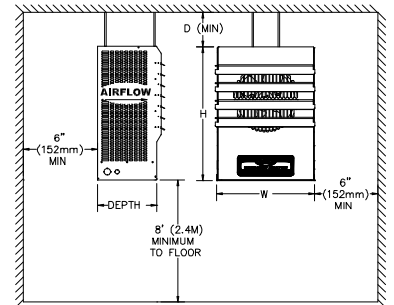


Fig. 3 Using Threaded Rod

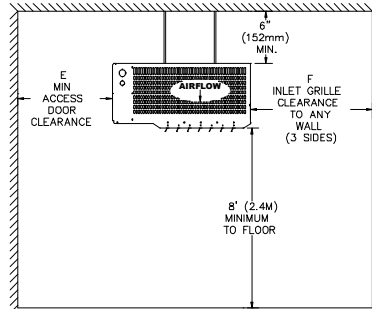


Fig. 5 Using Threaded Rod

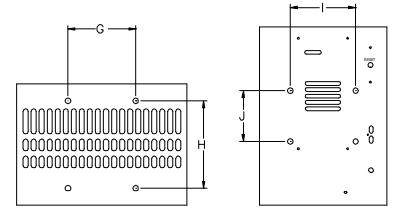
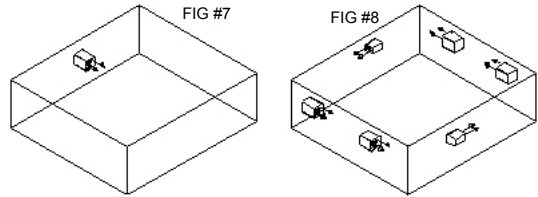


Fig. 6 3/8-16 Threaded Rod Attachment with Threaded Rod

Heater Dimensions

KW	W	H	Depth	X	Y	Z	A	B	VA	VB
up to 5	12.875	17.750	7.625	8	18	11.188	5	6.44	5	6.44
	(327mm)	(450mm)	(194mm)	(203mm)	(457mm)	(284mm)	(127mm)	(164mm)	(127mm)	(164mm)
5.1 to 10	16.875	24.250	7.625	6	18	9.313	5	6.44	5	6.44
	(429mm)	(616mm)	(194mm)	(152mm)	(457mm)	(237mm)	(127mm)	(164mm)	(127mm)	(164mm)
10.1 to 20	16.875	24.250	11.375	6	18	9.313	5	10.13	10.13	5
	(429mm)	(616mm)	(289mm)	(152mm)	(457mm)	(237mm)	(127mm)	(257mm)	(257mm)	(127mm)
20.1 to 50	26.937	35.500	15.625	9.281	13	14.937	7	12.92	12.92	7
	(684mm)	(902mm)	(397mm)	(236mm)	(330mm)	(380mm)	(178mm)	(328mm)	(328mm)	(178mm)

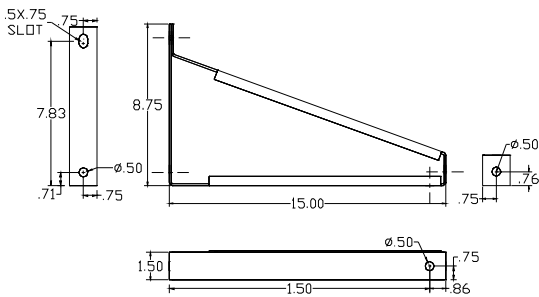
Small rooms may only require one unit heater (FIG #7) while other may require multiple unit heaters for proper perimeter circulation (FIG #8).



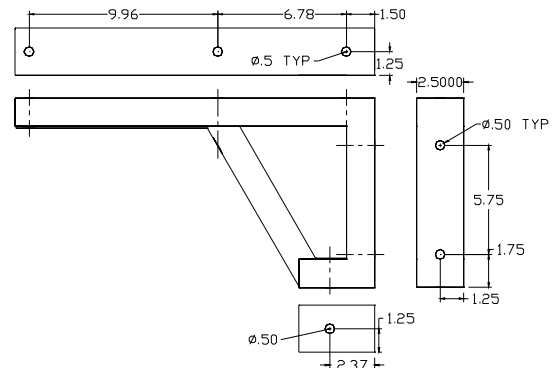
UHIR Vertical Mounting Air Pattern Table

Description	Used On	Max Mtg. Height ft (m)	A ft (m)	B ft (m)	Diffuser Pattern	
WITHOUT DIFFUSER For a straight downward air pattern, directional louvers can be removed in order to maximize airflow.	up to 5 KW	10 (3.0)	17 (5.2)	---		
	over 5 KW up to 10	15 (4.6)	28 (8.5)	---		
	over 10 KW up to 20	20 (6.1)	38 (11.6)	---		
	over 20 KW up to 50	25 (7.6)	68 (20.7)	---		
DIRECTIONAL LOUVERS (standard) Provides a directional (straight line) airflow which results in a rectangular air pattern. Louvers can be adjusted through a 35 degree range of motion.	up to 5 KW	10 (3.0)	22 (6.7)	12 (3.7)		
	over 5 KW up to 10	15 (4.6)	40 (12.2)	20 (6.1)		
	over 10 KW up to 20	20 (6.1)	53 (16.2)	27 (8.2)		
	over 20 KW up to 50	25 (7.6)	85 (25.9)	45 (13.7)		
ANEMOSTAT DIFFUSER Ideal for low mounting heights. Fabricated using 3 diverging hollow cones which disperse heat to the floor area at a minimum velocity for comfort.	up to 5 KW	9 (2.7)	17 (5.2)	---		
	over 5 KW up to 10	13 (4.0)	29 (8.8)	---		
	over 10 KW up to 20	17 (5.2)	40 (12.2)	---		
	over 20 KW up to 50	21 (6.4)	68 (20.7)	---		
RADIAL DIFFUSER Ideal for high ceiling mounting. Louvers can be adjusted to direct airflow straight down when fully open to 45 degrees in a radial pattern which increases floor coverage by approximately 20%.	OPEN	up to 5 KW	10 (3.0)	20 (6.1)	---	
		over 5 KW up to 10	15 (4.6)	30 (9.1)	---	
		over 10 KW up to 20	20 (6.1)	38 (11.6)	---	
		over 20 KW up to 50	25 (7.6)	65 (19.8)	---	
	45°	up to 5 KW	9 (2.7)	24 (7.3)	---	
		over 5 KW up to 10	11 (3.4)	36 (11.0)	---	
		over 10 KW up to 20	15 (4.5)	46 (14.0)	---	
		over 20 KW up to 50	18 (5.5)	78 (23.8)	---	

Wall Ceiling Mounting Hole Patterns



For Heaters 0-20 Kw



For Heaters 20.1 Kw & Up

Architect's and Engineer's Specifications

Check off options which you require. Standard built-in controls have already been checked off.

- 1) Electric Commercial Unit Heaters shall be manufactured by INDEECO, with controls built-in and factory pre-wired as shown below. Heater is to be a forced fan type, UL Listed, of the KW rating, voltage and phase specified in the schedule.
- 2) Finned tubular heating elements shall have steel type fins copper brazed to a 0.475" diameter steel sheath epoxy sealed for moisture resistance.
- 3) Provide the following standard built-in controls:
 - Automatic reset thermal cutout for primary over-temperature protection and a secondary manual reset cutout shall be provided on heaters 20 KW and above.
 - 24 VAC transformer and disconnecting magnetic contactor.*
 - Fan delay to eliminate cold drafts when fan starts up, and dissipate stored element heat before fan shuts down
 - Fan motor is permanently lubricated and thermally protected.
 - Built-in power fusing for heater loads over 48 amps.
- 4) Cabinet shall be heavy gauge steel protected from corrosion by either a galvanized coating or a durable baked on polyester powder coat finish.
- 5) Outlet grille shall have individually adjustable directional louvers, an Anemostat (cone) diffuser or radial diffuser. In addition, an outlet protective grille shall prevent debris from reaching the element compartment. Inlet grille shall comply with OSHA requirements for a fan blade guard.
- 6) Single point, line voltage connection for incoming power enables heater, fan and controls to be connected to the same branch circuit.

* Note: For single-phase heaters rated up to 5 KW no contactor and transformer are required when controlled by a load-carrying thermostat. Contactor and transformer are required when used with a remote fan switch, INDEECO supplied remote thermostat, 24 volt control and heater on pilot light.