

**SUBMITTAL SHEET
MUH SERIES
HORIZONTAL/VERTICAL
UNIT HEATERS**

MUH SERIES - HORIZONTAL/VERTICAL UNIT HEATERS

JOB NAME: _____

LOCATION: _____

ARCHITECT: _____

ENGINEER: _____

CONTRACTOR: _____

SUBMITTED BY: _____

DATE: _____

ITEM	QTY.	CATALOG NUMBER	TAG	WATTS	VOLTS	Ø	AMPS	GRILLE FINISH	CEILING MOUNT

ACCESSORIES
AND
CONTROLS

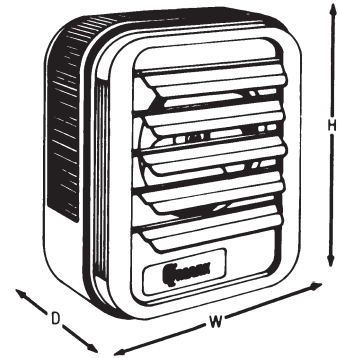
ITEM	QTY.	CAT. NO.	TAG	DESCRIPTION

SUBMITTED BY:	DATE	APPROVED BY:	DATE

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS*

- Unit mounts either horizontally or vertically. Totally versatile. For factories, warehouses, garages, stores, shipping rooms, power stations. Can be used for primary, supplementary, spot, or dual-system heating.
- Wide range of optional control kits are field installable, increasing the MUH adaptability to the specification market.
- Forced air unit heater with 10 power ratings; from 3KW to 50 KW heating output; 208, 240, 277 and 480V, 10,230 to 170,500 BTU/hr.
- 32 compatible models (no need to try to assemble a heating system from 70 or 80 models!)
- Heavy gauge die-formed steel housing. Two-toned, smartly styled with stainless steel louvers.
- Advanced pull-through air flow design draws air across heating element for more even air distribution and cooler element operation.
- Specially designed venturi outlet to meet that added throw as required in vertical position.
- Branch circuit fusing (when required).
- Completely enclosed fan motor.
- 1- or 3-phase wiring on 5 through 10 KW 208/240V and 15 KW 208V units (field interchangeable).
- Aluminum-finned, copper clad steel sheath heating element has longer useful life, because of cooler sheath temperature and faster heat dissipation.
- 24V control transformer standard on most models, providing a safer and more accurate means of temperature control. 3KW and 5KW, 208-277V, have line voltage controls as standard (24V control available on made-to-order basis).
- Automatic reset linear thermal cut-out, capillary type, provides protection over entire length of element areas (Manual reset protection available on made-to-order basis).

- 2-speed fan selector switch (25 to 50 KW models).
- Fan delay feature eliminates cold drafts. Element heats up before fan cuts in, then fan continues to distribute heat after element shuts off.
- Ruggedly built, yet lighter weight for easier installation. No piping flutes, valves, or traps.
- Individually adjustable discharge louvers to control air flow.
- Choice of optional diffusers for variety of air patterns, maximizing heat concentration and coverage in the vertical position.
- Meets all UL, NEC, and OSHA requirements.



DIMENSIONS

CAT. NO.	HEIGHT	WIDTH	DEPTH
MUH-03 & 05	16"	14"	7 1/2"
MUH-07 & 10	21 3/4"	19"	7 1/2"
MUH-15 & 20	21 3/4"	19"	12 3/4"
MUH-25 & 30	30"	26 5/8"	11 3/4"
MUH-40 & 50	30"	26 5/8"	17 1/8"

SELECTION CHART

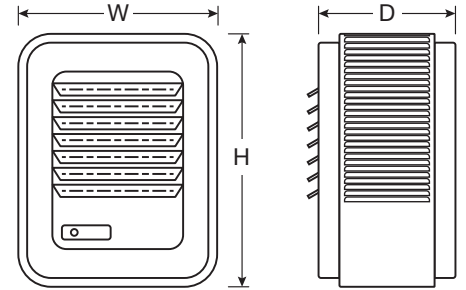
CAT. NO.	VOLTS	ELECTRICAL DATA				CONTROL VOLT (1)	2 STAGE ELEMENT CONTROL	AIR DELIVERY DATA			FAN MOTOR DATA			MAXIMUM EFFECTIVE MOUNTING HEIGHT		HORI. AIR THROW	WIRE SIZE	INSTALLED WEIGHT (LBS.) W/BRACK.
		PHASE	KW	BTU/HR. 000	AMPS (3)			CFM(2)	FPM(2)	ΔT(°F)	VOLTS	RPM(2)	HP	HORIZ.	VERT.			
MUH-03-81	208	1Ø	3.0	10.2	14.5	208	N/A	350	800	27°	208	1600	1/100	8	9	12	AWG 12	27
MUH-03-21	208/240	1Ø	2.2/3.0	7.5/10.2	11.0/12.5	208/240	N/A	350	800	27°	208/240	1600	1/100	8	9	12	AWG 12	27
MUH-03-71	277	1Ø	3.0	10.2	11.0	277	N/A	350	800	27°	277	1600	1/100	8	9	12	AWG 14	27
MUH-03-31	347	1Ø	3.0	10.2	8.6	24	N/A	350	800	27°	347	1600	1/100	8	9	12	AWG 14	27
MUH-03-41	480	3Ø	3.0	10.2	3.6	24	N/A	350	800	27°	480	1600	1/100	8	9	12	AWG 14	27
MUH-03-61	600	3Ø	3.0	10.2	2.9	24	N/A	350	800	27°	600	1600	1/100	8	9	12	AWG 14	27
MUH-05-81	208	1-3Ø	5.0	17.0	24.0	208	5A	350	800	45°	208	1600	1/100	8	9	12	AWG 10	27
MUH-05-21	208/240	1-3Ø	3.75/5.0	12.6/17.0	18.0/21.0	208/240	5A	350	800	45°	208/240	1600	1/100	8	9	12	AWG 10	27
MUH-05-71	277	1Ø	5.0	17.0	18.0	277	N/A	350	800	45°	277	1600	1/100	8	9	12	AWG 10	27
MUH-05-31	347	1Ø	5.0	17.0	14.4	24	N/A	350	800	45°	347	1600	1/100	8	9	12	AWG 10	27
MUH-05-41	480	3Ø	5.0	17.0	6.0	24	N/A	350	800	45°	480	1600	1/100	8	9	12	AWG 14	27
MUH-05-61	600	3Ø	5.0	17.0	4.8	24	N/A	350	800	45°	600	1600	1/100	8	9	12	AWG 10	27
MUH-07-8	208	1-3Ø	7.5	25.6	36.0	24	5B	650	970	37°	208	1600	1/30	9	14	18	AWG 6	38
MUH-07-2	208/240	1-3Ø	5.6/7.5	19.1/25.6	27.0/31.3	24	5B	650	970	37°	208/240	1600	1/30	9	14	18	AWG 8	38
MUH-07-7	277	1Ø	7.5	25.6	27.0	24	5B	650	970	37°	277	1600	1/30	9	14	18	AWG 8	38
MUH-07-3	347	1Ø	7.5	25.6	21.6	24	5B	650	970	37°	347	1600	1/30	9	14	18	AWG 14	38
MUH-07-4	480	3Ø	7.5	25.6	9.0	24	5B	650	970	37°	480	1600	1/30	9	14	18	AWG 14	38
MUH-07-6	600	3Ø	7.5	25.6	7.3	24	5B	650	970	37°	600	1600	1/30	9	14	18	AWG 14	38
MUH-10-8	208	1-3Ø	10.0	34.1	48.0	24	5B	650	970	49°	208	1600	1/30	9	14	18	AWG 4	38
MUH-10-2	208/240	1-3Ø	7.5/10.0	25.6/34.1	36.0/42.0	24	5B	650	970	49°	208/240	1600	1/30	9	14	18	AWG 6	38
MUH-10-7	277	1Ø	10.0	34.1	36.0	24	5B	650	970	49°	277	1600	1/30	9	14	18	AWG 6	38
MUH-10-3	347	1Ø	10.0	34.1	28.8	24	5B	650	970	49°	347	1600	1/30	9	14	18	AWG 14	38
MUH-10-4	480	3Ø	10.0	34.1	12.0	24	5B	650	970	49°	480	1600	1/30	9	14	18	AWG 14	38
MUH-10-6	600	3Ø	10.0	34.1	9.7	24	5B	650	970	49°	600	1600	1/30	9	14	18	AWG 14	38
MUH-15-8	208	1-3Ø	15.0	51.2	72.0	24	5A	910	1640	52°	208	1530	1/20	11	20	35	AWG 2	53
MUH-15-2	208/240	3Ø	11.2/15.0	38.2/51.2	31.3/36.1	24	5C	910	1640	52°	208/240	1530	1/20	11	20	35	AWG 6	53
MUH-15-4	480	3Ø	15.0	51.2	18.0	24	5C	910	1640	52°	480	1530	1/20	11	20	35	AWG 10	53
MUH-15-6	600	3Ø	15.0	51.2	14.5	24	5C	910	1640	52°	600	1530	1/20	11	20	35	AWG 12	53
MUH-20-8	208	3Ø	20.0	68.2	56.0	24	5A	1320	2060	48°	208	1500	1/10	12	23	41	AWG 4	60
MUH-20-2	208/240	3Ø	15.0/20.0	51.2/68.2	41.2/48.0	24	5C	1320	2060	48°	208/240	1500	1/10	12	23	41	AWG 4	60
MUH-20-4	480	3Ø	20.0	68.2	24.0	24	5C	1320	2060	48°	480	1500	1/10	12	23	41	AWG 10	60
MUH-20-6	600	3Ø	20.0	68.2	19.3	24	5C	1320	2060	48°	600	1500	1/10	12	23	41	AWG 12	60
MUH-25-2	208/240	3Ø	18.7/25.0	63.8/85.2	52.0/60.0	24	5A	2100/1800	2100/2030	38°/44°	208/240	1600/1375	1/4	13	23	50	AWG 3	93
MUH-25-4	480	3Ø	25.0	85.2	30.0	24	5C	2100/1800	2100/2030	38°/44°	480	1600/1375	1/4	13	23	50	AWG 8	93
MUH-25-6	600	3Ø	25.0	85.2	24.2	24	5C	2100/1800	2100/2030	38°/44°	600	1600/1375	1/4	13	23	50	AWG 10	93
MUH-30-8	208	3Ø	30.0	102.3	84.0	24	5A	2100/1800	2100/2030	45°/53°	208	1600/1375	1/4	12	20	50	AWG 1	93
MUH-30-2	208/240	3Ø	22.5/30.0	76.1/102.3	63.0/72.3	24	5A	2100/1800	2100/2030	45°/53°	208/240	1600/1375	1/4	12	20	50	AWG 2	93
MUH-30-4	480	3Ø	30.0	102.3	36.0	24	5C	2100/1800	2100/2030	45°/53°	480	1600/1375	1/4	12	20	50	AWG 6	93
MUH-30-6	600	3Ø	30.0	102.3	29.0	24	5C	2100/1800	2100/2030	45°/53°	600	1600/1375	1/4	12	20	50	AWG 8	93
MUH-40-2	208/240	3Ø	30.0/40.0	102.3/136.4	83.4/96.4	24	5A	3000/2600	3260/2900	42°/49°	208/240	1525/1420	1/2	15	28	60	AWG 1/0	114
MUH-40-4	480	3Ø	40.0	136.4	48.0	24	5A	3000/2600	3260/2900	42°/49°	480	1525/1420	1/2	15	28	60	AWG 4	114
MUH-40-6	600	3Ø	40.0	136.4	38.7	24	5A	3000/2600	3260/2900	42°/49°	600	1525/1420	1/2	15	28	60	AWG 6	114
MUH-50-8	208	3Ø	50.0	170.5	139.0	24	5A	3000/2600	3260/2900	53°/61°	208	1525/1420	1/2	15	25	60	AWG 4/0	114
MUH-50-2	208/240	3Ø	37.5/50.0	127.3/170.5	104.2/120.4	24	5A	3000/2600	3260/2900	53°/61°	208/240	1525/1420	1/2	15	25	60	AWG 3/0	114
MUH-50-4	480	3Ø	50.0	170.5	60.2	24	5A	3000/2600	3260/2900	53°/61°	480	1525/1420	1/2	15	25	60	AWG 4	114
MUH-50-6	600	3Ø	50.0	170.5	48.3	24	5A	3000/2600	3260/2900	53°/61°	600	1525/1420	1/2	15	25	60	AWG 3	114

Note:

1. All standard units are supplied with a low voltage control transformer and contactor (24V) except MUH-03 & 05, 208, 240 & 277 volt models. Low voltage control on these units are available on made to order. All units are also available on special order for 120 volt control; internal and transformer or external without transformer.
2. On dual voltage units; CFM, FPM, and RPM are shown at higher voltage.
3. On dual phase units, maximum amp draw is listed for respective voltage.
4. 25 thru 50 KW models have two speed motors and dual CFM ratings.
- 5A. Standard.
- 5B. Optional - made to order - amp load unbalanced on 3 Phase.
- 5C. Optional - made to order - amp load balanced on 3 Phase.

MUH SERIES UNIT HEATER

DIMENSIONS			
CATALOG NO.	HEIGHT (IN)	WIDTH (IN)	DEPTH (IN)
MUH03 & 05	16	14	7-1/2
MUH07 & 10	21-3/4	19	7-1/2
MUH15 & 20	21-3/4	19	12-3/4
MUH25 & 30	30	26-5/8	11-3/4
MUH40 & 50	30	26-5/8	17-1/8



OPTIONAL FIELD-INSTALLED CONTROLS				
CATALOG NO.	UPC	DESCRIPTION	ELECTRICAL RATING	COMPATIBLE WITH
UHMT1	6 85360 15241 7	Single Pole Internal Thermostat-Temp Range: 40°- 85°F	25A @ 120, 240VAC Res. 22A @ 277VAC Res.	All MUH Series Heaters (except MUH0521 3 PH, MUH0581 3 PH which use UHMT2)
UHMT2	6 85360 15242 4	Two Stage Internal Thermostat-Temp Range: 40°- 85°F	25A @ 120, 240VAC Res. 22A @ 277VAC Res. 125VA	MUH0521 3 PH, MUH0581 3 PH, MUH158, MUH208, MUH252, MUH302, MUH308, MUH402, MUH404, MUH406, MUH502, MUH504, MUH506, MUH508
MCFS	6 85360 04637 2	Internal Summer Fan Switch 250, 480, 600V.A.C. 1,2 OR 3 PH	Pilot Duty 6A, 600VAC Res. 2 HP	All MUH Series Heaters
MRFS1	6 85360 04708 9	Remote Summer Fan Switch (Line Voltage)	2 HP, 250-480VAC	All MUH Series Heaters
MRFS2	6 85360 04709 6	Remote Summer Fan Switch with Relay (24V Coil-Single Pole Normally Open)	6 AFL, 35 ALR, 250VAC, 60Hz 3 AFL, 18 ALR, 480VAC, 60Hz	All MUH Series Heaters (except MUH0321, MUH0371, MUH0381, MUH0521, MUH0571, MUH0581) Units unless optional control transformer is supplied
MHRT	6 85360 04694 5	Heat Recovery Thermostat with Relay (24V Coil-Single Pole Normally Open) Hi - 120°F, Low - 60°F	6 AFL, 35 ALR, 250VAC, 60Hz 3 AFL, 18 ALR, 480VAC, 60Hz	All MUH Series Heaters (except MUH0321, MUH0371, MUH0381, MUH0521, MUH0571, MUH0581) Units unless optional control transformer is supplied
MPDS25	6 85360 04703 4	Power Disconnect Switch (3-Pole)	30A @ 600VAC, Res.	MUH0321, MUH0341, MUH0371, MUH0381, MUH0521, MUH0541, MUH0571, MUH0581, MUH073, MUH074, MUH076, MUH104, MUH106, MUH154, MUH156, MUH204, MUH206
MPDS60	6 85360 04704 1	Power Disconnect Switch (3-Pole)	80A @ 600VAC, Res.	MUH072, MUH077, MUH078, MUH102, MUH103, MUH107, MUH108, MUH152, MUH202, MUH208, MUH252, MUH254, MUH256, MUH304, MUH306, MUH404, MUH406, MUH504, MUH506

NOTE: Any field installed options assembled in the factory require added surcharge. See price book for charges. MPDS60 disconnect switch is not suitable for field installation on 7.5kw and 10kw unit heaters.

DIFFUSER SELECTOR TABLES FOR VERTICAL MOUNTING					
CATALOG NO.	DESCRIPTION	CATALOG NO.	MAX. MOUNTING HEIGHT	(A) DIMENSION	DIFFUSER PATTERN AND AREA
NONE	WITHOUT DIFFUSER No diffuser needed where a straight downflow air pattern is required. For maximum air throw, remove louvers. Any of three diffusers can be added to basic heater.	MUH03 & MUH05	9	18 26	
NONE		MUH07 & MUH10	14	35 40	
NONE		MUH15	20	63 55	
NONE		MUH20	23	70 63	
NONE		MUH25	20		
NONE		MUH30	20		
MLDS	LOUVER DIFFUSER Permits directional (straight line) air flow as in air curtain application over doorways. Rectangular coverage, Louvers can be turned in either direction.	MUH03 & MUH05	9	25(A) 12(B)	
MLDM		MUH07 & MUH10	14	39(A) 19(B)	
MLDM		MUH15	18	50(A) 25(B)	
MLDM		MUH20	20	56(A) 28(B)	
MLDL		MUH25	23	72(A) 36(B)	
MLDL		MUH30	20		
MLDL		MUH40	24	88(A) 44(B)	
MLDL		MUH50	22	80(A) 40(B)	

MUH SERIES UNIT HEATER

OPTIONAL MOUNTING BRACKETS

CATALOG NO.	UPC	COMPATIBLE WITH	SHIP WT. (LBS)
B10	6 85360 15229 5	MUH03 - 10	8
B20	6 85360 15230 1	MUH15 & 20	10
B30	6 85360 15231 8	MUH25 & 30	13
B50	6 85360 15232 5	MUH40 & 50	15

OPTIONAL CEILING MOUNTING BRACKETS

CATALOG NO.	UPC	COMPATIBLE WITH	SHIP WT. (LBS)
CMB10	6 85360 15236 3	MUH03 - 10	3
CMB20	6 85360 15237 0	MUH15 & 20	4
CMB30	6 85360 15238 7	MUH25 & 30	5
CMB50	6 85360 15239 4	MUH40 & 50	6

OPTIONAL VERTICAL CEILING MOUNTING BRACKETS

CATALOG NO.	UPC	COMPATIBLE WITH	SHIP WT. (LBS)
VDMB5	6 85360 15245 5	MUH03 - 05	5
VDMB20	6 85360 15246 2	MUH07 - 20	7
VDMB50	6 85360 15247 9	MUH25 - 50	9

MOUNTING LIMITATIONS: Unit heaters should not be used in potentially explosive atmospheres. The finish is not intended for direct salt spray exposure in marine applications or the highly corrosive atmospheres of swimming pools, chemical storage bins, etc. Do not install unit heaters above recommended maximum mounting height. Obstructions must not block unit heater air inlet or discharge. Heaters must be mounted at least 7 ft. above the floor to prevent accidental contact with the heating element or fan blade which could cause injury.

FACTORY-INSTALLED OPTIONS FOR CONTROLS & ACCESSORIES

DESCRIPTION
MUH03 & 05 (208, 208/240, 277V Supply) 24 or 120V Control Transformer and Power Contactor 24 or 120V H.C. Power Contactor
MUH03 & 05 (480V Supply) & MUH07 thru MUH50 Optional 120V Control
2-Stage Control of Elements (See Note 5)
Manual Reset
Outlet Mesh (Bird Screen) For all MUH Heaters

NOTE: Any factory-installed options require added surcharge. See price book for charges or contact factory.

BRACKET SIZE

DIMENSION	3-20 kW (IN.)	25-50 kW (IN.)
A	7-1/4	9-7/16
B	9-1/2	14-3/8
C	7-1/4	12-1/8
D	11-5/16	2-1/16
E	2-1/4	3
L	20-1/2	28-15/16
M	9-15/16	14-15/16
N	3-1/4	4-1/2

