



*Industrial
Unit Heaters & Coils*

Certified Quality Control Program In Place

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INTRODUCTION



Since 1960 the **TURNBULL** name has been known to fabricate thermal transfer products to meet the demands of heavy industry. Handed down through 3 generations and being a family oriented company we

have always listened to our customers and addressed their problems as they were our own. Needless to say over 40 years we have helped our friends with many projects and installations, making life simpler.

Our product lines are designed and built using sch.40 to 80 seamless pipes and headers to

meet the demands of today's industrial environments. Factors such as installations, set-ups, corrosion, and steam pressures as high as 450 psig. have been taken into

consideration. All requirements are addressed in order to supply the end users with the ultimate solution for their needs.

Having a reputation for custom built products renders all applications regardless of their size and / or configuration to be standard.

For these reasons we have enough confidence in our products to supply a standard guarantee of 3 years on our steam coils and 6 years on unit heaters. In the industry we are the only company that builds a true non-freeze coil. *We are confident enough in this statement and our designs to back them with a 3 year guarantee against freezing. Speak to your representative for details.

“We believe we are the one stop shop for all your thermal transfer needs”.

*Traps must be installed and operate correctly.



TURNBULL

GENERAL

Construction & design

All aspects of **TURNBULL** unit heaters and coils are constructed to reflect the rigorous demands of today's industrial environment.

Cores in general are all steel construction. Our standard 1", SA-106 gr.B (.133" wall thick) seamless fin pipe along with our steel spiral wound fins assure a uniform expansion and contraction. Tack welding our (.024" thick) steel fins to the pipe guarantees the mechanical bond, this process assures a constant thermal transfer throughout the life of the coils or unit heaters. Our standard 6 fin per inch is more suitable for industrial applications and is resistant to blockage from dust and debris. This type of fin helps to maintain a constant airflow in turn giving many years of maintenance free service.

Our rigorous Quality Control program helps to assure that all of our steel products rated at 450 psig. have passed testing procedures at no less than 1,500 psig. hydrostatically. These high standards provide us with confidence in our products. For this reason you receive 3 to 6 year guarantee on all cores operating with steam.

An all welded construction protects against leaks due to cores with dissimilar metals that have been brazed or expanded. Our welded steel design has been very resistant over the past 40 years to thermal shock, freezing and water hammer.

**All equipment can be custom built to meet your design and material requirements.
Options of Sch. 80 cores & connections or our true non-freeze designs.**

Materials available with our product designs:

- Heavy-duty steel cores, steel fins
- Heavy-duty steel cores, extruded aluminum fins
- Heavy-duty stainless cores, steel fins
- Heavy-duty stainless cores, stainless fins
- Heavy-duty stainless cores, extruded aluminum fins



GENERAL

Construction & design

Other materials also available upon request:

Heavy-duty cu/ni cores (0.049" wall), extruded aluminum fin.
Light-duty copper cores, plate fin (Intended for commercial or residential use).

Cabinets:

All casings and cabinets for steam coils and unit heaters consist of a minimum #14ga. steel welded airtight construction. Also available in stainless steel.

Coatings:

All products fabricated by **TURNBULL** are supplied to the end user with the standard epoxy blue. Cabinets, casings and coil bodies including the fins are coated to assure the cores are corrosion resistant the option of hot dipped galvanizing or a phenolic coating is available.

Fan Blades:

All unit heaters are standard with heavy-duty fan blades. Steel, stainless steel and aluminum alloy blades are standard based on the model required for the application.

Motors:

All standard motors are heavy-duty industrial type, TEFC. Other types of motors available are Explosion Proof, Wash Down, complete Stainless Steel, and Pneumatic motors.





APPLICATIONS

Current types of customers using **TURNBULL** products and various applications:

Current customers:

Pulp and Paper Mills
Wood and Veneer Plants
Chemical Processing Plants
Textile Mills
Automotive Plants
Steel Mills

Oil Refineries
Sugar Mills
Food Processing Plants
Electric Generating Plants
Rubber Manufacturers

Heating applications using steam, oil, glycol and hot water:

Air Make Up Coils
Yankee Hood Dryer Coils
Boiler Air Pre-heater Coils
Dryer Kiln Coils
Veneer Dryer Coils
Pulp Dryer Coils
Textile Dryer Coils
Grain Dryer Coils
Starch Dryer Coils
Carpet Dryer Coils

Paint Booth Coils
Steam Condenser Coils
Unit Heaters (industrial type)
Unit Heaters (portable)
Door Heaters
Air Curtains
Tank Coils (heavy-duty)
Booster Coils
Space Heating Coils
Projection Heaters

Heating and cooling using liquid:

Air Handling Heating & Cooling Coils
Heavy-duty Generator Cooling Coils

Refrigeration Coils
Unit Heaters, Heating or Cooling



COIL SELECTIONS

New or replacement steam coils

Our heavy-duty, industrial, custom-built steam coils are designed and fabricated to meet your specifications and needs. Cores are available in steel and stainless steel along with our standard steel fins. The options of stainless steel or extruded aluminum fins are also available. Having experience in systems such as air handling, boiler intakes, and paper machines, regardless of your application it is considered standard at **TURNBULL**. Maximum pressure 450 psig.

The facts are, at **TURNBULL** all coils are considered standard. The confidence we have in our industrial grade steam coils is passed on to our customers with our standard 3 year guarantee. Below are a few things to take into consideration.

New coils:

When selecting a coil for an application it is very important to take into consideration all the requirements to assure the maximum life. Internal corrosion and erosion are two factors that should be addressed. We can custom build coils to eliminate any problems you may have had in the past. The option of a stainless core is available, however, it does not guarantee there will be no coil failures. If the coils are condensing steam too much, the condensate can turn into acid that is able to erode the stainless steel cores. The correct design can increase the life a great deal. Exterior corrosion can be addressed using our epoxy or phenolic coatings on the cores, fins and casings. These coatings have been proven to be very effective through the years, however, if required the option of stainless steel fins is available.

Replacement coils:

Replacement coils are very simple. Take into consideration any problems that you may have had in the past and address them. Our robust designs have proven to be ideal for today's industrial environments. If there have been problems in the past we can correct them with a minor design change and/or material selection.

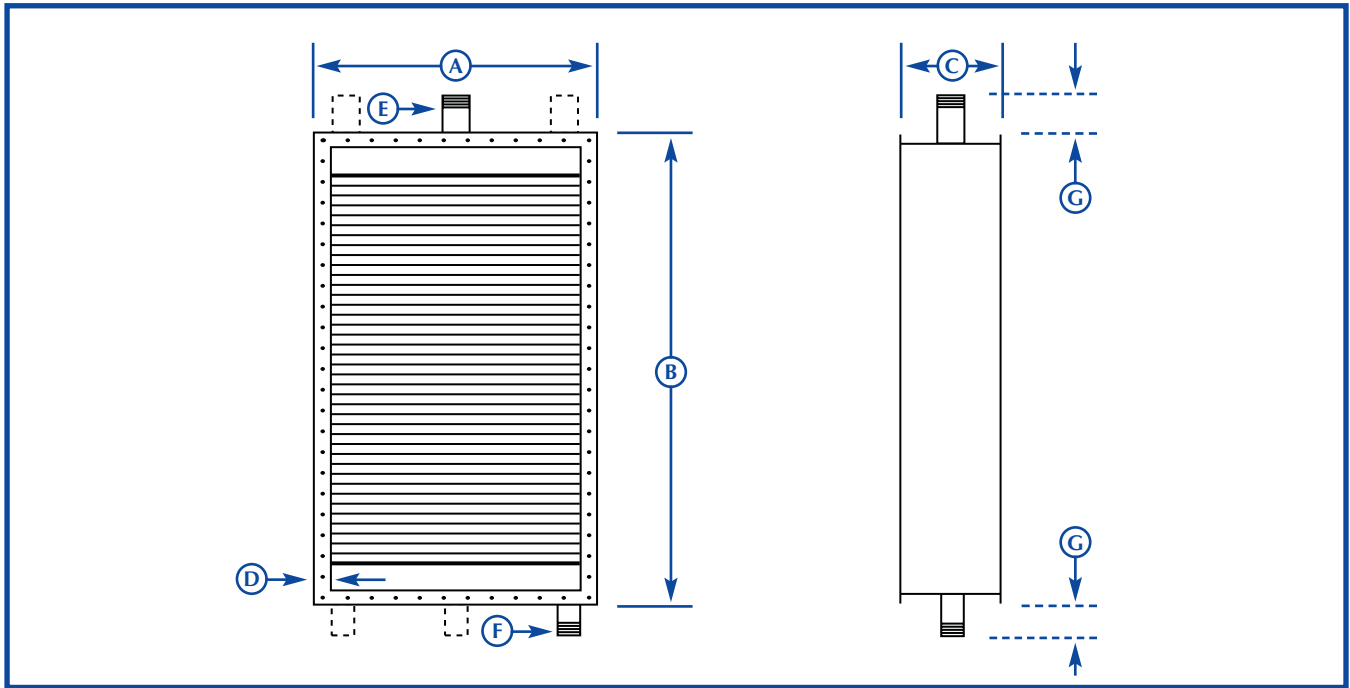
Our facility is also in the position to fabricate cooling coils to meet your needs. From heavy-duty electric motor coils designed for cooling armatures to light duty commercial coils.

We would be pleased to discuss any application you may have and perhaps visit your plant to evaluate your heating and ventilation system.



COIL REPLACEMENT

Standard or non-freeze design



Type of coil body that is to be replaced, (description of existing coil body).

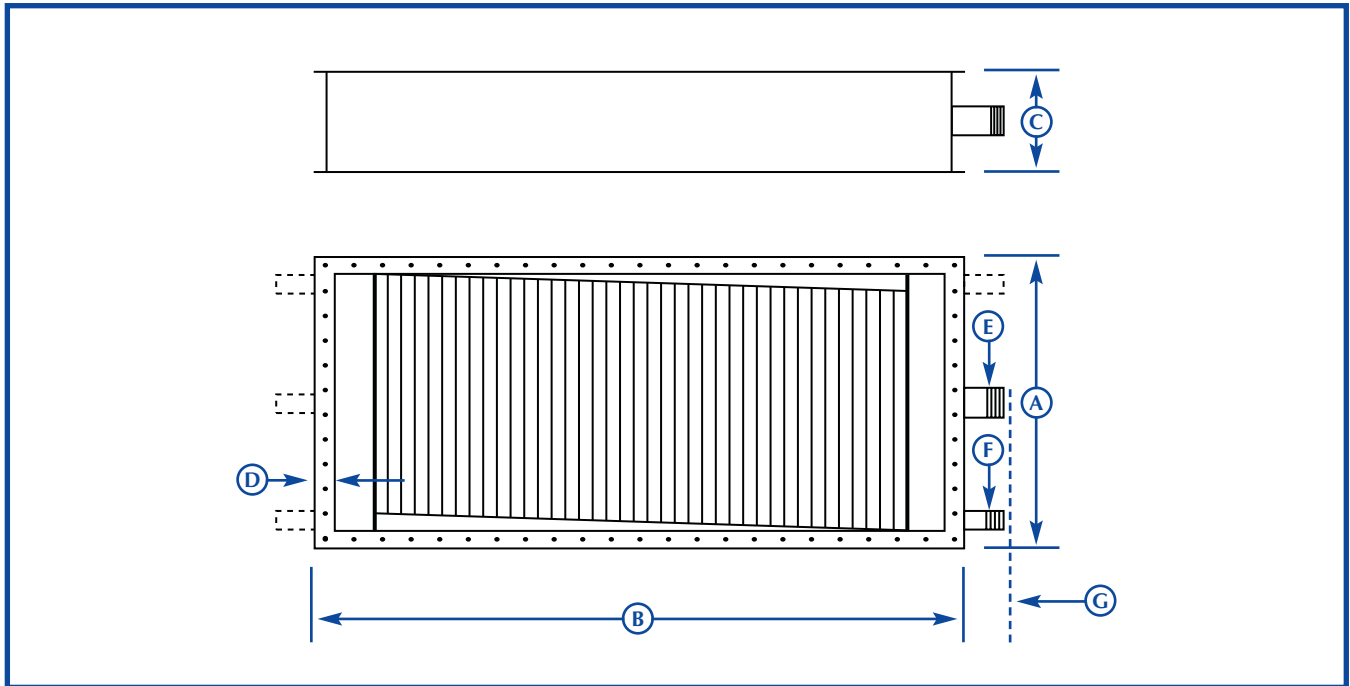
- 1 Number of rows deep. 1, 2, 3, etc...
- 2 Indicate tube or pipe, size & type of material.
- 3 Number of fins per inch & type of fin material.

- A Total width of coil.
- B Total length of coil.
- C Total depth of coil.
- D Width of flange & if required for installation the size and spacing of holes on the flange.
- E Size of supply connection.
- F Size of condensate connection.
- G Maximum length of connections, from edge of casing to end of thread.
- H Operating steam pressure PSIG.
- I Entering air temperature.
- J Final air temperature.
- K CFM. of air
- L Are there problems with the original coils.



COIL REPLACEMENT

Standard or non-freeze design



Type of coil body that is to be replaced, (description of existing coil body).

- 1 Number of rows deep. 1, 2, 3, etc...
 - 2 Indicate tube or pipe, size & type of material.
 - 3 Number of fins per inch & type of fin material.
- A Total width of coil.
B Total length of coil.
C Total depth of coil.
D Width of flange & if required for installation the size and spacing of holes on the flange.
E Size of supply connection.
F Size of condensate connection.
G Maximum length of connections, from edge of casing to end of thread.
H Operating steam pressure PSIG.
I Entering air temperature.
J Final air temperature.
K CFM. of air
L Are there problems with the original coils.



UNIT HEATERS

New & replacement applications

The facts:

The most common error our customers have made in the past is overlook the air projection and how their production, products and daily activities affect their environment.

Most select a unit heater based on steam pressure and BTU/hr. only. We have found that 50% of the existing units installed in North America to be correct in BTU. for the building in theory only.

For example: a building with a warehouse that has no air movement selecting a unit based on BTU. can work but there is no guarantee the air projection will be strong enough or hot enough to heat the floors. There are problems with installations of this type, if shipping doors are open for an extended length of time there will be moisture build up on the floors making conditions very dangerous for lifts. Another minor problem is the units will run for an extended amount of time.

Unit selection:

Please consider the following:

1- *Projection*

You must determine where you want the air. Take into consideration of the negative pressure from the ventilation system. When doors are opened the effects are the same as wind tunnel. You must select a projection adequate enough to combat the air penetrating your plant.

2- *Final air temperature*

Take into consideration your existing air temperature. For space heating in general, with a cold room, consider the temperature you want on the floor. If the temperature range in this room is from 40 °F. to 50 °F. keep in mind the air from the unit is going to blend with the existing air. If the unit's air temperature is not hot enough the end result will be cold air and the unit will run constantly.

3- *Shipping doors*

For plants that have high negative pressures we recommend units with a high final air temperature, If possible over 145 °F.. This temperature is considered very hot, but it will blend with the cold air being pulled into the plant. A high velocity nozzle is one option we offer to combat the cold and air penetration.

4- *Trains, trucks and cargo*

During the winter months vehicles are loaded and unloaded with cargo in mills. These vehicles and stock are the same as large blocks of ice. Units must be selected to fight the cold being introduced into your environment.

After selecting units with the information above, you will find the total BTU. to be higher than conventional calculations dictate, however, regardless of the results of the calculation the above selections must be considered to select the correct units for your application.

Contact us about your application, we would pleased to visit your plant and help provide you with a solution for your heating and ventilation needs.

UNIT HEATER PERFORMANCE

Model # PA-A-15 (Horizontal), PA-A-15-V (Vertical)

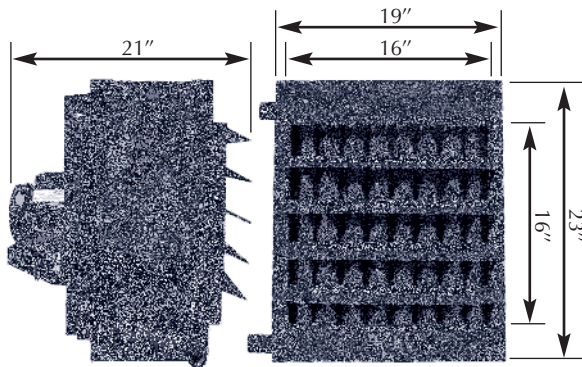


CFM 1,500

BTU/hr. & final air temperature with air @ 60 deg. F.
For performance at various inlet temperatures contact us with your specifications.

PSI.	HP.	RPM	CFM	BTU./HR	FINAL AIR	Max. Mounting Height		Air Projection	
						H	V	H	V
2	0.33	1,725	1,500	51,090	91	12	14	47	35
5	0.33	1,725	1,500	56,035	94	12	14	47	35
10	0.33	1,725	1,500	59,035	96	12	13	46	34
15	0.33	1,725	1,500	64,275	99	12	13	46	34
20	0.33	1,725	1,500	67,571	101	12	13	46	34
25	0.33	1,725	1,500	69,219	102	12	13	46	34
30	0.33	1,725	1,500	72,516	104	11	12	45	33
50	0.33	1,725	1,500	80,756	109	11	12	45	33
70	0.33	1,725	1,500	85,700	112	11	12	44	32
80	0.33	1,725	1,500	88,996	114	11	12	43	30
100	0.33	1,725	1,500	93,941	117	11	11	42	30
110	0.33	1,725	1,500	95,589	118	11	11	42	30
120	0.33	1,725	1,500	97,237	119	11	11	42	30
130	0.33	1,725	1,500	98,885	120	11	11	41	29
140	0.33	1,725	1,500	102,181	122	11	11	41	29
150	0.33	1,725	1,500	103,829	123	11	11	40	29
190	0.33	1,725	1,500	108,773	126	11	11	39	28
200	0.33	1,725	1,500	110,421	127	11	11	39	28

Available for pressures as high as 450 psig. @ 650° F.



Model #
PA-A-15 & PA-A-15-V
AVAILABLE FOR HOT WATER
APPLICATIONS & IN STAINLESS STEEL

Construction Data:

All Steel Unit

Model # PA-A-15

- PIPE:** 1" ID., Sch. 40, SA 106 grB (seamless)
- FIN:** Carbon steel, spiral tension wound @ 0.024" th. 6 FPI.
- HEADERS:** 1.5", SA 106 grB
- CONNECTIONS:** 1.5" NPT. supply & return
- CABINET:** # 14 ga. steel (minimum)
- MOTOR / FAN GUARD:** Heavy-duty steel
- LOUVERS:** # 14 ga. steel adjustable & removable
- HANGERS:** Heavy-duty external type, 0.625" hole
- PAINT:** Epoxy, complete unit including the core & fins
- MOTOR:** 1/3 hp., 115/230, 230/460, 575 V., 1725 rpm, TEFC.
- FAN BLADE:** aluminum
- TEST:** Hydrostatic @ 1500 psig.
- GUARANTEE:** 6 years rated @ 450 psig. steam max.

See page U23 for nozzles and accessories available
Dimensions are subject to change without notice

UNIT HEATER PERFORMANCE

Model # PA-B-15 (Horizontal), PA-B-15-V (Vertical)

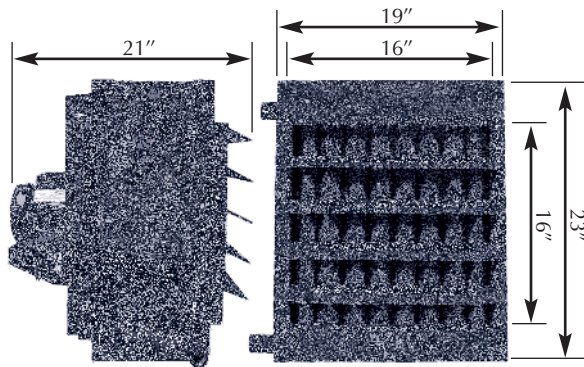


CFM 1,500

BTU/hr. & final air temperature with air @ 60 deg. F.
For performance at various inlet temperatures contact us with your specifications.

PSI.	HP.	RPM	CFM	BTU./HR	FINAL AIR	Max. Mounting Height		Air	Projection
						H	V	H	V
2	0.33	1,725	1,500	77,460	107	12	13	45	34
5	0.33	1,725	1,500	85,700	112	12	13	45	34
10	0.33	1,725	1,500	90,644	115	12	12	44	33
15	0.33	1,725	1,500	97,237	119	12	12	44	33
20	0.33	1,725	1,500	100,533	121	12	12	44	33
25	0.33	1,725	1,500	105,477	125	11	11	43	32
30	0.33	1,725	1,500	108,773	126	11	11	43	32
50	0.33	1,725	1,500	120,310	133	11	11	42	31
70	0.33	1,725	1,500	128,550	138	11	11	42	31
80	0.33	1,725	1,500	133,494	144	11	11	41	29
100	0.33	1,725	1,500	141,735	146	11	11	40	29
110	0.33	1,725	1,500	143,383	147	11	10	40	29
120	0.33	1,725	1,500	146,679	149	11	10	40	29
130	0.33	1,725	1,500	149,975	151	11	10	39	28
140	0.33	1,725	1,500	153,271	153	11	10	39	28
150	0.33	1,725	1,500	154,920	154	11	10	37	27
190	0.33	1,725	1,500	164,808	160	11	10	36	26
200	0.33	1,725	1,500	169,752	163	11	10	36	26

Available for pressures as high as 450 psig. @ 650° F.



Model #
PA-B-15 & PA-B-15-V
AVAILABLE FOR HOT WATER
APPLICATIONS & IN STAINLESS STEEL

Construction Data:

All Steel Unit

Model # PA-B-15

- PIPE:** 1" ID., Sch. 40, SA 106 grB (seamless)
- FIN:** Carbon steel, spiral tension wound @ 0.024" th. 6 FPI.
- HEADERS:** 1.5", SA 106 grB
- CONNECTIONS:** 1.5" NPT. supply & return
- CABINET:** # 14 ga. steel (minimum)
- MOTOR / FAN GUARD:** Heavy-duty steel
- LOUVERS:** # 14 ga. steel adjustable & removable
- HANGERS:** Heavy-duty external type, 0.625" hole
- PAINT:** Epoxy, complete unit including the core & fins
- MOTOR:** 1/3 hp., 115/230, 230/460, 575 V., 1725 rpm, TEFC.
- FAN BLADE:** aluminum
- TEST:** Hydrostatic @ 1500 psig.
- GUARANTEE:** 6 years rated @ 450 psig. steam max.

See page U23 for nozzles and accessories available
Dimensions are subject to change without notice

UNIT HEATER PERFORMANCE

Model # LI-A-22 (Horizontal), LI-A-22-V (Vertical)

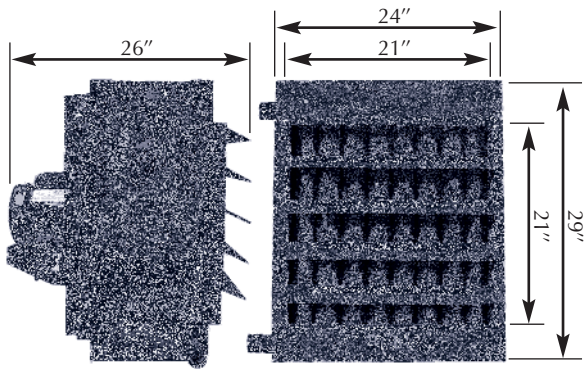


CFM 2,200

BTU/hr. & final air temperature with air @ 60 deg. F.
For performance at various inlet temperatures contact us with your specifications.

PSI.	HP.	RPM	CFM	BTU./HR	FINAL AIR	Max. Mounting Height		Air	Projection
						H	V	H	V
2	0.33	1,725	2,200	67,681	88	14	12	59	42
5	0.33	1,725	2,200	74,933	91	14	12	58	41
10	0.33	1,725	2,200	79,767	93	14	12	57	40
15	0.33	1,725	2,200	84,601	95	14	12	56	39
20	0.33	1,725	2,200	89,436	97	13	12	55	38
25	0.33	1,725	2,200	91,853	98	13	12	54	37
30	0.33	1,725	2,200	94,270	99	13	12	54	37
50	0.33	1,725	2,200	103,939	103	12	11	51	34
70	0.33	1,725	2,200	113,608	107	12	11	50	33
80	0.33	1,725	2,200	116,025	108	11	11	50	33
100	0.33	1,725	2,200	123,276	111	11	11	48	31
110	0.33	1,725	2,200	128,111	113	11	11	48	31
120	0.33	1,725	2,200	130,528	114	11	11	48	31
130	0.33	1,725	2,200	132,945	115	11	11	47	30
140	0.33	1,725	2,200	135,363	116	11	11	46	29
150	0.33	1,725	2,200	137,779	117	11	11	45	28
190	0.33	1,725	2,200	142,614	119	11	11	42	25
200	0.33	1,725	2,200	145,031	120	11	11	42	25

Available for pressures as high as 450 psig. @ 650° F.



Model #
LI-A-22 & LI-A-22-V
AVAILABLE FOR HOT WATER
APPLICATIONS & IN STAINLESS STEEL

Construction Data:

All Steel Unit

Model # LI-A-22

- PIPE:** 1" ID., Sch. 40, SA 106 grB (seamless)
- FIN:** Carbon steel, spiral tension wound @ 0.024" th. 6 FPI.
- HEADERS:** 1.5", SA 106 grB
- CONNECTIONS:** 1.5" NPT. supply & return
- CABINET:** # 14 ga. steel (minimum)
- MOTOR / FAN GUARD:** Heavy-duty steel
- LOUVERS:** # 14 ga. steel adjustable & removable
- HANGERS:** Heavy-duty external type, 0.625" hole
- PAINT:** Epoxy, complete unit including the core & fins
- MOTOR:** 1/3 hp., 115/230, 230/460, 575 V., 1725 rpm, TEFC.
- FAN BLADE:** aluminum
- TEST:** Hydrostatic @ 1500 psig.
- GUARANTEE:** 6 years rated @ 450 psig. steam max.

See page U23 for nozzles and accessories available
Dimensions are subject to change without notice

UNIT HEATER PERFORMANCE

Model # CL-A-30 (Horizontal), CL-A-30-V (Vertical)

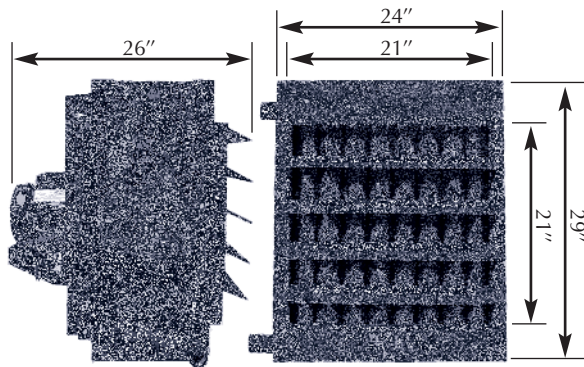


CFM 3,000

BTU/hr. & final air temperature with air @ 60 deg. F.
For performance at various inlet temperatures contact us with your specifications.

PSI.	HP.	RPM	CFM	BTU./HR	FINAL AIR	Max. Mounting Height		Air	Projection
						H	V	H	V
2	0.33	1,725	3,000	79,108	84	15	17	69	50
5	0.33	1,725	3,000	85,700	86	15	17	68	49
10	0.33	1,725	3,000	92,292	88	15	16	67	49
15	0.33	1,725	3,000	98,885	90	14	16	64	47
20	0.33	1,725	3,000	102,181	91	14	15	64	48
25	0.33	1,725	3,000	108,773	93	14	15	63	48
30	0.33	1,725	3,000	112,069	94	13	15	60	44
50	0.33	1,725	3,000	121,958	97	13	14	58	42
70	0.33	1,725	3,000	131,846	100	13	14	58	42
80	0.33	1,725	3,000	138,439	102	12	14	56	41
100	0.33	1,725	3,000	145,031	104	12	14	56	41
110	0.33	1,725	3,000	148,327	105	12	14	56	41
120	0.33	1,725	3,000	151,623	106	11	13	52	40
130	0.33	1,725	3,000	154,920	107	11	13	52	40
140	0.33	1,725	3,000	158,216	108	11	13	52	38
150	0.33	1,725	3,000	161,512	109	11	12	50	36
190	0.33	1,725	3,000	164,808	110	11	12	50	36
200	0.33	1,725	3,000	171,400	112	11	12	50	36

Available for pressures as high as 450 psig. @ 650° F.



Model #
CL-A-30 & CL-A-30-V
AVAILABLE FOR HOT WATER
APPLICATIONS & IN STAINLESS STEEL

Construction Data:

All Steel Unit

Model # CL-A-30

- PIPE:** 1" ID., Sch. 40, SA 106 grB (seamless)
- FIN:** Carbon steel, spiral tension wound @ 0.024" th. 6 FPI.
- HEADERS:** 1.5", SA 106 grB
- CONNECTIONS:** 1.5" NPT. supply & return
- CABINET:** # 14 ga. steel (minimum)
- MOTOR / FAN GUARD:** Heavy-duty steel
- LOUVERS:** # 14 ga. steel adjustable & removable
- HANGERS:** Heavy-duty external type, 0.625" hole
- PAINT:** Epoxy, complete unit including the core & fins
- MOTOR:** 1/3 hp., 115/230, 230/460, 575 V., 1725 rpm, TEFC.
- FAN BLADE:** aluminum
- TEST:** Hydrostatic @ 1500 psig.
- GUARANTEES:** 6 years rated @ 450 psig. steam max.

See page U23 for nozzles and accessories available
Dimensions are subject to change without notice

UNIT HEATER PERFORMANCE

Model # CL-B-29 (Horizontal), CL-B-29-V (Vertical)

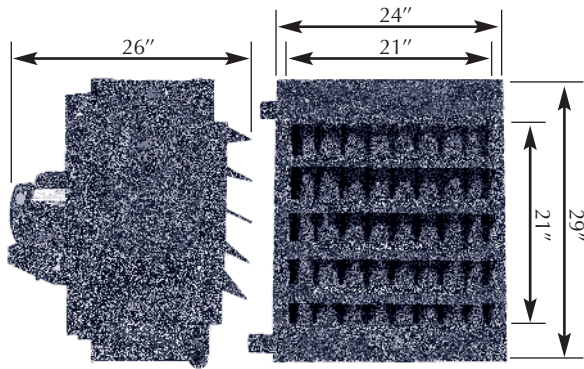


CFM 2,900

BTU/hr. & final air temperature with air @ 60 deg. F.
For performance at various inlet temperatures contact us with your specifications.

PSI.	HP.	RPM	CFM	BTU./HR	FINAL AIR	Max. Mounting Height		Air	Projection
						H	V	H	V
2	0.33	1,725	2,900	152,942	108	14	12	59	42
5	0.33	1,725	2,900	168,873	113	14	12	58	41
10	0.33	1,725	2,900	181,618	117	14	12	57	40
15	0.33	1,725	2,900	191,177	120	14	12	56	39
20	0.33	1,725	2,900	200,736	123	13	12	55	38
25	0.33	1,725	2,900	210,295	126	13	12	54	37
30	0.33	1,725	2,900	216,668	128	13	12	54	37
50	0.33	1,725	2,900	238,972	135	12	11	51	34
70	0.33	1,725	2,900	258,089	141	12	11	50	33
80	0.33	1,725	2,900	267,648	144	11	11	50	33
100	0.33	1,725	2,900	280,393	148	11	11	48	31
110	0.33	1,725	2,900	286,766	150	11	11	48	31
120	0.33	1,725	2,900	293,138	152	11	11	48	31
130	0.33	1,725	2,900	299,511	154	11	11	47	30
140	0.33	1,725	2,900	305,884	156	11	11	46	29
150	0.33	1,725	2,900	309,070	157	11	11	45	28
190	0.33	1,725	2,900	325,001	162	11	11	42	25
200	0.33	1,725	2,900	328,188	163	11	11	42	25

Available for pressures as high as 450 psig. @ 650° F.



Model #
CL-B-29 & CL-B-29-V
AVAILABLE FOR HOT WATER
APPLICATIONS & IN STAINLESS STEEL

Construction Data:

All Steel Unit

Model # CL-B-29

- PIPE:** 1" ID., Sch. 40, SA 106 grB (seamless)
- FIN:** Carbon steel, spiral tension wound @ 0.024" th. 6 FPI.
- HEADERS:** 1.5", SA 106 grB
- CONNECTIONS:** 1.5" NPT. supply & return
- CABINET:** # 14 ga. steel (minimum)
- MOTOR / FAN GUARD:** Heavy-duty steel
- LOUVERS:** # 14 ga. steel adjustable & removable
- HANGERS:** Heavy-duty external type, 0.625" hole
- PAINT:** Epoxy, complete unit including the core & fins
- MOTOR:** 1/3 hp., 115/230, 230/460, 575 V., 1725 rpm, TEFC.
- FAN BLADE:** aluminum
- TEST:** Hydrostatic @ 1500 psig.
- GUARANTEE:** 6 years rated @ 450 psig. steam max.

See page U23 for nozzles and accessories available
Dimensions are subject to change without notice

UNIT HEATER PERFORMANCE

Model # YV-A-44 (Horizontal), YV-A-44-V (Vertical)

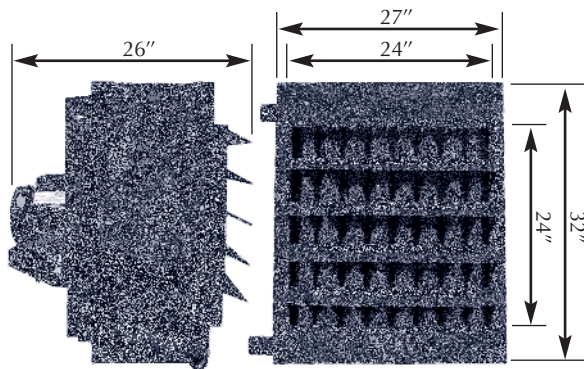


CFM 4,400

BTU/hr. & final air temperature with air @ 60 deg. F.
For performance at various inlet temperatures contact us with your specifications.

PSI.	HP.	RPM	CFM	BTU./HR	FINAL AIR	Max. Mounting Height		Air	Projection
						H	V	H	V
2	0.5	1,725	4,400	135,362	88	15	17	69	50
5	0.5	1,725	4,400	149,865	91	15	17	68	49
10	0.5	1,725	4,400	159,534	93	15	16	67	49
15	0.5	1,725	4,400	169,203	95	14	16	64	47
20	0.5	1,725	4,400	178,872	97	14	15	64	48
25	0.5	1,725	4,400	183,706	98	14	15	63	48
30	0.5	1,725	4,400	193,375	100	13	15	60	44
50	0.5	1,725	4,400	207,878	103	13	14	58	42
70	0.5	1,725	4,400	227,215	107	13	14	58	42
80	0.5	1,725	4,400	236,884	109	12	14	56	41
100	0.5	1,725	4,400	246,553	111	12	14	56	41
110	0.5	1,725	4,400	256,222	113	12	14	56	41
120	0.5	1,725	4,400	261,057	114	11	13	52	40
130	0.5	1,725	4,400	265,890	115	11	13	52	40
140	0.5	1,725	4,400	270,725	116	11	13	52	38
150	0.5	1,725	4,400	275,559	117	11	12	50	36
190	0.5	1,725	4,400	285,228	119	11	12	50	36
200	0.5	1,725	4,400	294,896	121	11	12	50	36

Available for pressures as high as 450 psig. @ 650° F.



Model #
YV-A-44 & YV-A-44-V
AVAILABLE FOR HOT WATER
APPLICATIONS & IN STAINLESS STEEL

Construction Data:

All Steel Unit

Model # YV-A-44

- PIPE:** 1" ID., Sch. 40, SA 106 grB (seamless)
- FIN:** Carbon steel, spiral tension wound @ 0.024" th. 6 FPI.
- HEADERS:** 1.5", SA 106 grB
- CONNECTIONS:** 1.5" NPT. supply & return
- CABINET:** # 14 ga. steel (minimum)
- MOTOR / FAN GUARD:** Heavy-duty steel
- LOUVERS:** # 14 ga. steel adjustable & removable
- HANGERS:** Heavy-duty external type, 0.625" hole
- PAINT:** Epoxy, complete unit including the core & fins
- MOTOR:** 1/2 hp., 115/230, 230/460, 575 V., 1725 rpm, TEFC.
- FAN BLADE:** aluminum
- TEST:** Hydrostatic @ 1500 psig.
- GUARANTEE:** 6 years rated @ 450 psig. steam max.

See page U23 for nozzles and accessories available
Dimensions are subject to change without notice

UNIT HEATER PERFORMANCE

Model # YV-B-42 (Horizontal), YV-B-42-V (Vertical)

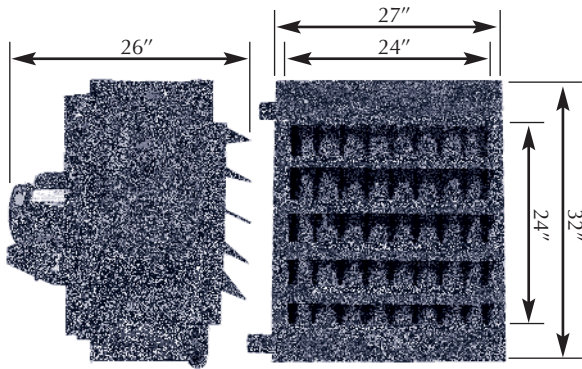


CFM 4,200

BTU/hr. & final air temperature with air @ 60 deg. F.
For performance at various inlet temperatures contact us with your specifications.

PSI.	HP.	RPM	CFM	BTU./HR	FINAL AIR	Max. Mounting Height		Air	Projection
						H	V	H	V
2	0.5	1,725	4,200	221,502	108	15	17	69	50
5	0.5	1,725	4,200	244,575	113	15	17	68	49
10	0.5	1,725	4,200	263,034	117	15	16	67	49
15	0.5	1,725	4,200	276,877	120	14	16	64	47
20	0.5	1,725	4,200	290,721	123	14	15	64	48
25	0.5	1,725	4,200	313,794	128	14	15	63	48
30	0.5	1,725	4,200	346,097	135	13	15	60	44
50	0.5	1,725	4,200	373,785	141	13	14	58	42
70	0.5	1,725	4,200	387,628	144	13	14	58	42
80	0.5	1,725	4,200	406,087	148	12	14	56	41
100	0.5	1,725	4,200	415,316	150	12	14	56	41
110	0.5	1,725	4,200	424,545	152	12	14	56	41
120	0.5	1,725	4,200	433,775	154	11	13	52	40
130	0.5	1,725	4,200	438,389	155	11	13	52	40
140	0.5	1,725	4,200	447,619	157	11	13	52	38
150	0.5	1,725	4,200	475,306	163	11	12	50	36
190	0.5	1,725	4,200	498,379	168	11	12	50	36
200	0.5	1,725	4,200	507,609	170	11	12	50	36

Available for pressures as high as 450 psig. @ 650° F.



Model #
YV-B-42 & YV-B-42-V
AVAILABLE FOR HOT WATER
APPLICATIONS & IN STAINLESS STEEL

Construction Data:

All Steel Unit

Model # YV-B-42

- PIPE:** 1" ID., Sch. 40, SA 106 grB (seamless)
- FIN:** Carbon steel, spiral tension wound @ 0.024" th. 6 FPI.
- HEADERS:** 1.5", SA 106 grB
- CONNECTIONS:** 1.5" NPT. supply & return
- CABINET:** # 14 ga. steel (minimum)
- MOTOR / FAN GUARD:** Heavy-duty steel
- LOUVERS:** # 14 ga. steel adjustable & removable
- HANGERS:** Heavy-duty external type, 0.625" hole
- PAINT:** Epoxy, complete unit including the core & fins
- MOTOR:** 1/2 hp., 115/230, 230/460, 575 V., 1725 rpm, TEFC.
- FAN BLADE:** aluminum
- TEST:** Hydrostatic @ 1500 psig.
- GUARANTEE:** 6 years rated @ 450 psig. steam max.

See page U23 for nozzles and accessories available
Dimensions are subject to change without notice

UNIT HEATER PERFORMANCE

Model # JE-A-66 (Horizontal), JE-A-66-V (Vertical)

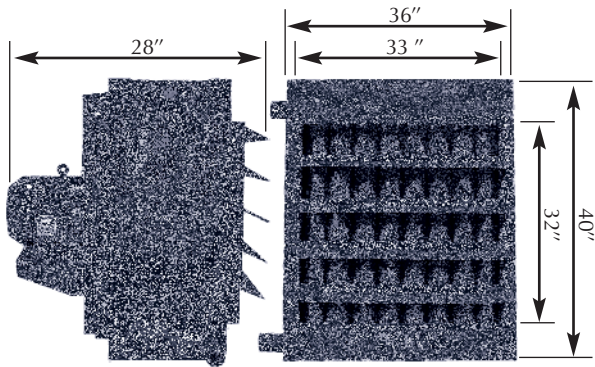


CFM 6,600

BTU/hr. & final air temperature with air @ 60 deg. F.
For performance at various inlet temperatures contact us with your specifications.

PSI.	HP.	RPM	CFM	BTU./HR	FINAL AIR	Max. Mounting Height		Air Projection	
						H	V	H	V
2	1	1,200	6,600	224,798	91	17	20	82	65
5	1	1,200	6,600	246,553	94	17	20	82	65
10	1	1,200	6,600	268,307	97	17	20	81	64
15	1	1,200	6,600	282,811	99	17	20	81	64
20	1	1,200	6,600	297,314	101	16	19	80	63
25	1	1,200	6,600	304,565	102	16	19	80	63
30	1	1,200	6,600	319,068	104	16	19	78	62
50	1	1,200	6,600	355,326	109	16	19	76	60
70	1	1,200	6,600	377,081	112	16	19	75	60
80	1	1,200	6,600	391,584	114	15	18	74	59
100	1	1,200	6,600	413,338	117	15	18	74	59
110	1	1,200	6,600	420,590	118	15	18	74	59
120	1	1,200	6,600	427,842	119	15	18	73	59
130	1	1,200	6,600	442,345	120	15	18	73	58
140	1	1,200	6,600	449,596	122	15	18	72	58
150	1	1,200	6,600	456,848	123	15	18	72	57
190	1	1,200	6,600	478,602	126	15	17	71	57
200	1	1,200	6,600	485,854	127	15	17	71	56

Available for pressures as high as 450 psig. @ 650° F.



Model #
JE-A-66 & JE-A-66-V
AVAILABLE FOR HOT WATER
APPLICATIONS & IN STAINLESS STEEL

Construction Data:

All Steel Unit

Model # JE-A-66

- PIPE:** 1" ID., Sch. 40, SA 106 grB (seamless)
- FIN:** Carbon steel, spiral tension wound @ 0.024" th. 6 FPI.
- HEADERS:** 1.5-2", SA 106 grB
- CONNECTIONS:** 1.5-2" NPT. supply & return
- CABINET:** # 14 ga. steel (minimum)
- MOTOR / FAN GUARD:** Heavy-duty steel
- LOUVERS:** # 14 ga. steel adjustable & removable
- HANGERS:** Heavy-duty external type, 0.625" hole
- PAINT:** Epoxy, complete unit including the core & fins
- MOTOR:** 1 hp., 115/230, 230/460, 575 V., 1200 rpm, TEFC.
- FAN BLADE:** steel
- TEST:** Hydrostatic @ 1500 psig.
- GUARANTEE:** 6 years rated @ 450 psig. steam max.

See page U23 for nozzles and accessories available
Dimensions are subject to change without notice

UNIT HEATER PERFORMANCE

Model # JE-B-62 (Horizontal), JE-B-62-V (Vertical)

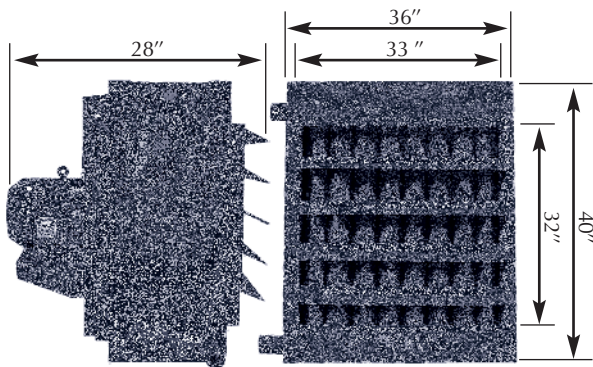


CFM 6,200

BTU/hr. & final air temperature with air @ 60 deg. F.
For performance at various inlet temperatures contact us with your specifications.

PSI.	HP.	RPM	CFM	BTU./HR	FINAL AIR	Max. Mounting Height		Air	Projection
						H	V	H	V
2	1	1,200	6,200	354,227	112	16	18	73	57
5	1	1,200	6,200	395,100	118	16	18	72	56
10	1	1,200	6,200	422,348	122	16	17	71	55
15	1	1,200	6,200	422,784	125	16	17	71	55
20	1	1,200	6,200	463,220	128	15	16	67	53
25	1	1,200	6,200	483,657	131	15	16	67	53
30	1	1,200	6,200	504,093	134	15	17	66	52
50	1	1,200	6,200	558,589	142	14	16	64	50
70	1	1,200	6,200	599,462	148	14	16	62	49
80	1	1,200	6,200	619,898	151	13	15	60	47
100	1	1,200	6,200	653,958	156	13	15	59	46
110	1	1,200	6,200	667,582	158	13	15	59	46
120	1	1,200	6,200	688,018	161	13	14	58	45
130	1	1,200	6,200	694,831	162	13	14	56	44
140	1	1,200	6,200	708,455	164	12	14	55	43
150	1	1,200	6,200	715,267	165	12	14	55	43
190	1	1,200	6,200	756,139	171	12	14	53	41
200	1	1,200	6,200	769,763	173	12	13	53	41

Available for pressures as high as 450 psig. @ 650° F.



Model #
JE-B-62 & JE-B-62-V
AVAILABLE FOR HOT WATER
APPLICATIONS & IN STAINLESS STEEL

Construction Data:

All Steel Unit

Model # JE-B-62

- PIPE:** 1" ID., Sch. 40, SA 106 grB (seamless)
- FIN:** Carbon steel, spiral tension wound @ 0.024" th. 6 FPI.
- HEADERS:** 1.5-2", SA 106 grB
- CONNECTIONS:** 1.5-2" NPT. supply & return
- CABINET:** # 14 ga. steel (minimum)
- MOTOR / FAN GUARD:** Heavy-duty steel
- LOUVERS:** # 14 ga. steel adjustable & removable
- HANGERS:** Heavy-duty external type, 0.625" hole
- PAINT:** Epoxy, complete unit including the core & fins
- MOTOR:** 1 hp., 115/230, 230/460, 575 V., 1200 rpm, TEFC.
- FAN BLADE:** steel
- TEST:** Hydrostatic @ 1500 psig.
- GUARANTEE:** 6 years rated @ 450 psig. steam max.

See page U23 for nozzles and accessories available
Dimensions are subject to change without notice

UNIT HEATER PERFORMANCE

Model # LU-A-100 (Horizontal), LU-A-100-V (Vertical)

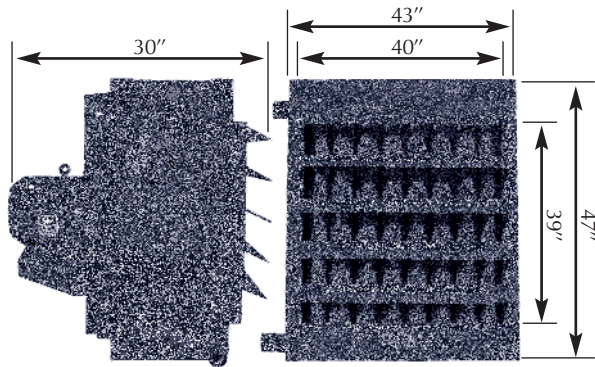


CFM 10,290

BTU/hr. & final air temperature with air @ 60 deg. F.
For performance at various inlet temperatures contact us with your specifications.

PSI.	HP.	RPM	CFM	BTU./HR	FINAL AIR	Max. Mounting Height		Air	Projection
						H	V	H	V
2	1.5	1,200	10,290	302,148	85	19	20	96	79
5	1.5	1,200	10,290	326,320	87	19	22	96	79
10	1.5	1,200	10,290	350,492	89	19	22	95	78
15	1.5	1,200	10,290	374,664	91	18	21	95	78
20	1.5	1,200	10,290	386,749	92	18	21	93	77
25	1.5	1,200	10,290	410,921	94	18	21	93	77
30	1.5	1,200	10,290	423,007	95	18	20	91	76
50	1.5	1,200	10,290	459,265	98	17	20	89	73
70	1.5	1,200	10,290	495,523	101	17	20	89	73
80	1.5	1,200	10,290	519,695	103	17	20	87	72
100	1.5	1,200	10,290	543,866	105	17	20	87	72
110	1.5	1,200	10,290	568,038	107	17	19	86	71
120	1.5	1,200	10,290	580,124	108	17	19	86	71
130	1.5	1,200	10,290	592,210	109	17	19	85	70
140	1.5	1,200	10,290	604,296	110	17	19	85	70
150	1.5	1,200	10,290	616,382	111	17	19	84	69
190	1.5	1,200	10,290	640,554	113	16	19	84	69
200	1.5	1,200	10,290	652,640	114	11	19	83	68

Available for pressures as high as 450 psig. @ 650° F.



Model #
LU-A-100 & LU-A-100-V
AVAILABLE FOR HOT WATER
APPLICATIONS & IN STAINLESS STEEL

Construction Data:

All Steel Unit

Model # LU-A-100

- PIPE:** 1" ID., Sch. 40, SA 106 grB (seamless)
- FIN:** Carbon steel, spiral tension wound @ 0.024" th. 6 FPI.
- HEADERS:** 1.5", SA 106 grB
- CONNECTIONS:** 1.5" NPT. supply & return
- CABINET:** # 14 ga. steel (minimum)
- MOTOR / FAN GUARD:** Heavy-duty steel
- LOUVERS:** # 14 ga. steel adjustable & removable
- HANGERS:** Heavy-duty external type, 0.625" hole
- PAINT:** Epoxy, complete unit including the core & fins
- MOTOR:** 1 1/2 hp., 115/230, 230/460, 575 V., 1200 rpm, TEFC.
- FAN BLADE:** steel
- TEST:** Hydrostatic @ 1500 psig.
- GUARANTEE:** 6 years rated @ 450 psig. steam max.

See page U23 for nozzles and accessories available
Dimensions are subject to change without notice

UNIT HEATER PERFORMANCE

Model # LU-B-100 (Horizontal), LU-B-100-V (Vertical)

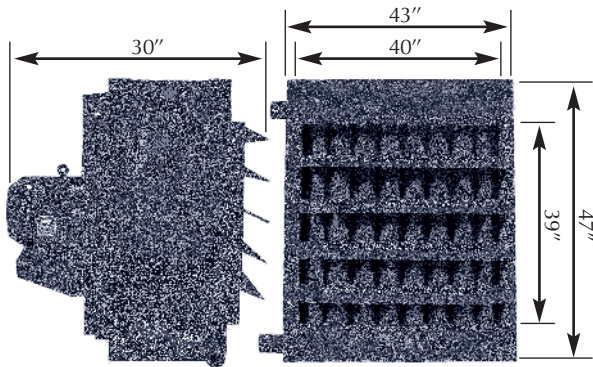


CFM 10,290

BTU/hr. & final air temperature with air @ 60 deg. F.
For performance at various inlet temperatures contact us with your specifications.

PSI.	HP.	RPM	CFM	BTU./HR	FINAL AIR	Max. Mounting Height		Air	Projection
						H	V	H	V
2	1.5	1,200	10,290	587,903	112	18	20	100	84
5	1.5	1,200	10,290	655,738	118	18	20	87	71
10	1.5	1,200	10,290	700,961	122	17	19	85	70
15	1.5	1,200	10,290	734,879	125	17	19	85	70
20	1.5	1,200	10,290	768,796	128	17	19	82	67
25	1.5	1,200	10,290	802,714	131	16	18	80	66
30	1.5	1,200	10,290	836,631	134	16	18	80	66
50	1.5	1,200	10,290	927,078	142	16	17	77	63
70	1.5	1,200	10,290	994,913	148	16	17	77	63
80	1.5	1,200	10,290	1,028,830	151	16	17	74	61
100	1.5	1,200	10,290	1,085,360	156	15	16	71	58
110	1.5	1,200	10,290	1,107,971	158	15	16	71	58
120	1.5	1,200	10,290	1,130,583	160	15	16	67	58
130	1.5	1,200	10,290	1,153,195	162	14	15	67	55
140	1.5	1,200	10,290	1,175,806	164	14	15	67	55
150	1.5	1,200	10,290	1,187,112	165	14	15	67	55
190	1.5	1,200	10,290	1,266,253	172	13	14	63	52
200	1.5	1,200	10,290	1,277,559	173	13	14	63	52

Available for pressures as high as 450 psig. @ 650° F.



Model #
LU-B-100 & LU-B-100-V
AVAILABLE FOR HOT WATER
APPLICATIONS & IN STAINLESS STEEL

Construction Data:

All Steel Unit

Model # LU-B-100

- PIPE:** 1" ID., Sch. 40, SA 106 grB (seamless)
- FIN:** Carbon steel, spiral tension wound @ 0.024" th. 6 FPI.
- HEADERS:** 1.5", SA 106 grB
- CONNECTIONS:** 1.5" NPT. supply & return
- CABINET:** # 14 ga. steel (minimum)
- MOTOR / FAN GUARD:** Heavy-duty steel
- LOUVERS:** # 14 ga. steel adjustable & removable
- HANGERS:** Heavy-duty external type, 0.625" hole
- PAINT:** Epoxy, complete unit including the core & fins
- MOTOR:** 1 1/2 hp., 115/230, 230/460, 575 V., 1200 rpm, TEFC.
- FAN BLADE:** steel
- TEST:** Hydrostatic @ 1500 psig.
- GUARANTEE:** 6 years rated @ 450 psig. steam max.

See page U23 for nozzles and accessories available
Dimensions are subject to change without notice

UNIT HEATER PERFORMANCE

Model # GI-C-100 (Horizontal), GI-C-100-V (Vertical)

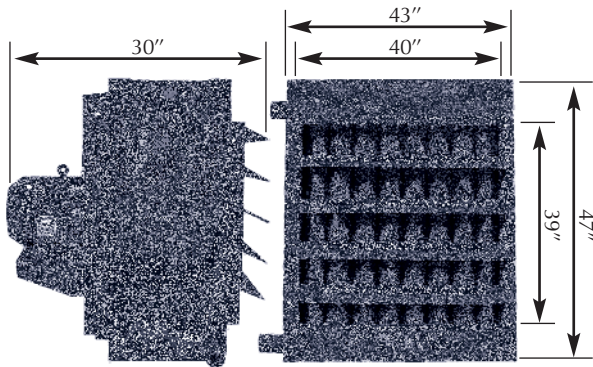


CFM 10,000

BTU/hr. & final air temperature with air @ 60 deg. F.
For performance at various inlet temperatures contact us with your specifications.

PSI.	HP.	RPM	CFM	BTU./HR	FINAL AIR	Max. Mounting Height		Air	Projection
						H	V	H	V
2	2	1,200	10,000	780,091	131	18	20	100	84
5	2	1,200	10,000	867,989	139	18	20	87	71
10	2	1,200	10,000	922,925	144	17	19	85	70
15	2	1,200	10,000	977,861	149	17	19	85	70
20	2	1,200	10,000	1,021,810	153	17	19	82	67
25	2	1,200	10,000	1,065,758	157	16	18	80	66
30	2	1,200	10,000	1,098,720	160	16	18	80	66
50	2	1,200	10,000	1,230,566	172	16	17	77	63
70	2	1,200	10,000	1,318,464	180	16	17	77	63
80	2	1,200	10,000	1,362,413	184	16	17	74	61
100	2	1,200	10,000	1,428,336	190	15	16	71	58
110	2	1,200	10,000	1,461,298	193	15	16	71	58
120	2	1,200	10,000	1,494,259	196	15	16	67	58
130	2	1,200	10,000	1,527,221	199	14	15	67	55
140	2	1,200	10,000	1,549,195	201	14	15	67	55
150	2	1,200	10,000	1,582,157	204	14	15	67	55
190	2	1,200	10,000	1,670,054	212	13	14	63	52
200	2	1,200	10,000	1,692,029	214	13	14	63	52

Available for pressures as high as 450 psig. @ 650° F.



Model #
GI-C-100 & GI-C-100-V
AVAILABLE FOR HOT WATER
APPLICATIONS & IN STAINLESS STEEL

Construction Data:

All Steel Unit

Model # GI-C-100

- PIPE:** 1" ID., Sch. 40, SA 106 grB (seamless)
- FIN:** Carbon steel, spiral tension wound @ 0.024" th. 6 FPI.
- HEADERS:** 1.5", SA 106 grB
- CONNECTIONS:** 1.5" NPT. supply & return
- CABINET:** # 14 ga. steel (minimum)
- MOTOR / FAN GUARD:** Heavy-duty steel
- LOUVERS:** # 14 ga. steel adjustable & removable
- HANGERS:** Heavy-duty external type, 0.625" hole
- PAINT:** Epoxy, complete unit including the core & fins
- MOTOR:** 2 hp., 115/230, 230/460, 575 V., 1200 rpm, TEFC.
- FAN BLADE:** steel
- TEST:** Hydrostatic @ 1500 psig.
- GUARANTEE:** 6 years rated @ 450 psig. steam max.

See page U23 for nozzles and accessories available
Dimensions are subject to change without notice

UNIT HEATER PERFORMANCE

Model # RA-B-130 (Horizontal), RA-B-130-V (Vertical)

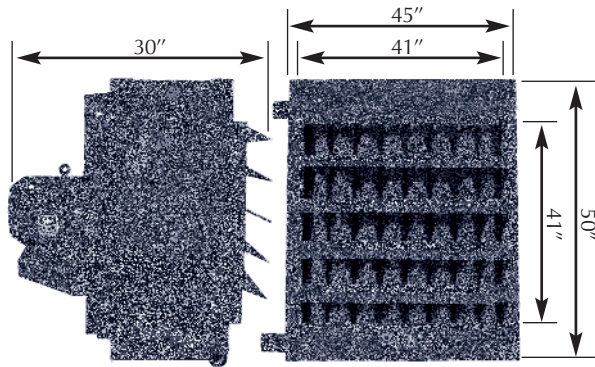


CFM 13,000

BTU/hr. & final air temperature with air @ 60 deg. F.
For performance at various inlet temperatures contact us with your specifications.

PSI.	HP.	RPM	CFM	BTU./HR	FINAL AIR	Max. Mounting Height		Air	Projection
						H	V	H	V
2	2	900	13,000	671,318	107	20	21	122	94
5	2	900	13,000	742,735	112	20	21	109	81
10	2	900	13,000	785,585	115	19	20	109	80
15	2	900	13,000	828,435	118	19	20	109	80
20	2	900	13,000	871,285	121	19	20	104	77
25	2	900	13,000	914,135	124	18	19	102	76
30	2	900	13,000	942,702	126	18	19	102	76
50	2	900	13,000	1,042,685	133	18	19	99	73
70	2	900	13,000	1,128,385	139	18	19	99	73
80	2	900	13,000	1,156,952	141	18	19	96	71
100	2	900	13,000	1,214,086	145	17	17	93	68
110	2	900	13,000	1,242,652	147	17	17	93	68
120	2	900	13,000	1,271,219	149	17	17	89	68
130	2	900	13,000	1,299,786	151	17	16	89	65
140	2	900	13,000	1,314,069	152	17	16	89	65
150	2	900	13,000	1,342,636	154	17	16	89	65
190	2	900	13,000	1,414,053	159	17	16	85	62
200	2	900	13,000	1,442,619	161	17	16	85	62

Available for pressures as high as 450 psig. @ 650° F.



Model #
RA-B-130 & RA-B-130-V
AVAILABLE FOR HOT WATER
APPLICATIONS & IN STAINLESS STEEL

Construction Data:

All Steel Unit

Model # RA-B-130

- PIPE:** 1" ID., Sch. 40, SA 106 grB (seamless)
- FIN:** Carbon steel, spiral tension wound @ 0.024" th. 6 FPI.
- HEADERS:** 1.5" to 2", SA 106 grB
- CONNECTIONS:** 1.5" to 2" NPT. supply & return
- CABINET:** # 14 ga. steel (minimum)
- MOTOR / FAN GUARD:** Heavy-duty steel
- LOUVERS:** # 14 ga. steel adjustable & removable
- HANGERS:** Heavy-duty external type, 0.625" hole
- PAINT:** Epoxy, complete unit including the core & fins
- MOTOR:** 2 hp., 230/460, 575 V., 900 rpm, TEFC.
- FAN BLADE:** steel
- TEST:** Hydrostatic @ 1500 psig.
- GUARANTEED:** 6 years rated @ 450 psig. steam max.

See page U23 for nozzles and accessories available
Dimensions are subject to change without notice

UNIT HEATER PERFORMANCE

Model # MB-B-270 (Horizontal), MB-B-270-V (Vertical)

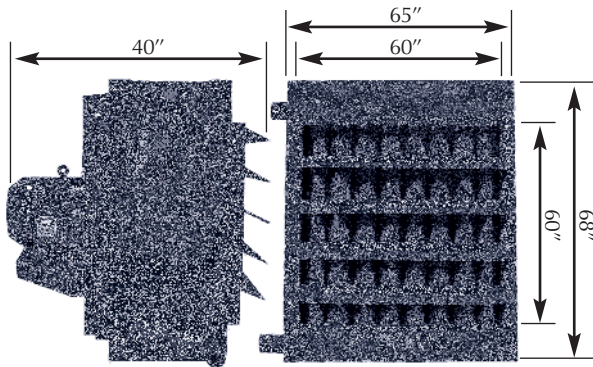


CFM 27,000

BTU/hr. & final air temperature with air @ 60 deg. F.
For performance at various inlet temperatures contact us with your specifications.

PSI.	HP.	RPM	CFM	BTU./HR	FINAL AIR	Max. Mounting Height		Air	Projection
						H	V	H	V
2	7.5	900	27,000	1,305,279	106	28	34	180	100
5	7.5	900	27,000	1,423,941	108	28	34	180	100
10	7.5	900	27,000	1,542,603	112	28	34	180	100
15	7.5	900	27,000	1,631,599	115	28	34	180	100
20	7.5	900	27,000	1,690,930	117	28	34	179	75
25	7.5	900	27,000	1,779,926	120	28	34	179	75
30	7.5	900	27,000	1,839,257	122	28	34	179	75
50	7.5	900	27,000	2,017,250	128	28	34	174	75
70	7.5	900	27,000	2,195,243	134	28	34	174	75
80	7.5	900	27,000	2,254,574	136	27	32	173	65
100	7.5	900	27,000	2,373,235	140	27	32	173	65
110	7.5	900	27,000	2,432,566	142	27	32	173	65
120	7.5	900	27,000	2,491,897	144	27	32	160	65
130	7.5	900	27,000	2,551,228	146	27	30	160	59
140	7.5	900	27,000	2,580,893	147	27	30	159	59
150	7.5	900	27,000	2,610,559	148	27	30	159	59
190	7.5	900	27,000	2,788,551	154	27	30	149	56
200	7.5	900	27,000	2,818,217	155	27	30	149	56

Available for pressures as high as 450 psig. @ 650° F.



Model #
MB-B-270 & MB-B-270-V
AVAILABLE FOR HOT WATER
APPLICATIONS & IN STAINLESS STEEL

Construction Data:

All Steel Unit

Model # MB-B-270

- PIPE:** 1" ID., Sch. 40, SA 106 grB (seamless)
- FIN:** Carbon steel, spiral tension wound @ 0.024" th. 6 FPI.
- HEADERS:** 2", SA 106 grB
- CONNECTIONS:** 2" NPT. supply & return
- CABINET:** # 14 ga. steel (minimum)
- MOTOR / FAN GUARD:** Heavy-duty steel
- LOUVERS:** # 14 ga. steel adjustable & removable
- HANGERS:** Heavy-duty external type, 0.625" hole
- PAINT:** Epoxy, complete unit including the core & fins
- MOTOR:** 7 1/2 hp., 230/460, 575 V., 900 rpm, TEFC.
- FAN BLADE:** steel
- TEST:** Hydrostatic @ 1500 psig.
- GUARANTEE:** 6 years rated @ 450 psig. steam max.

See page U23 for nozzles and accessories available
Dimensions are subject to change without notice



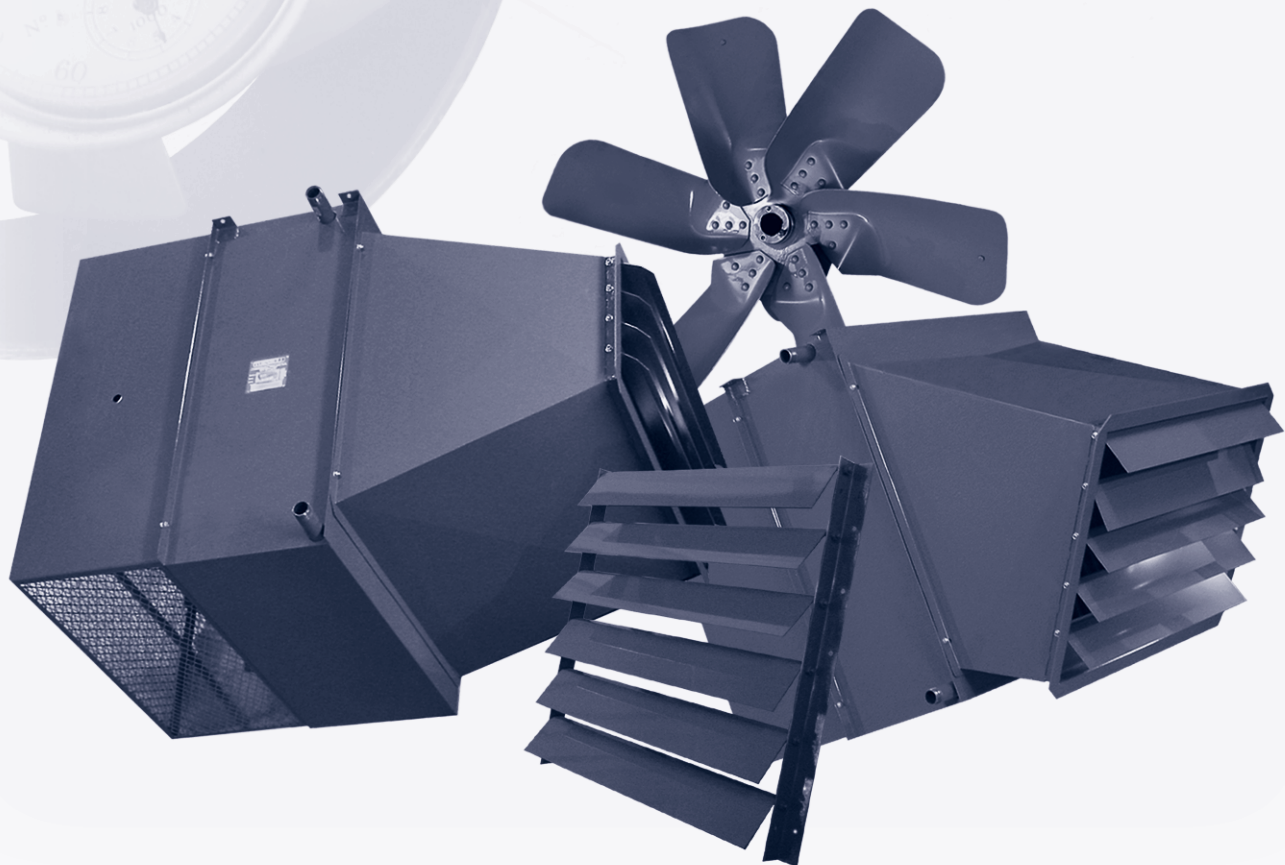
TURNBULL

OPTIONAL

Accessories

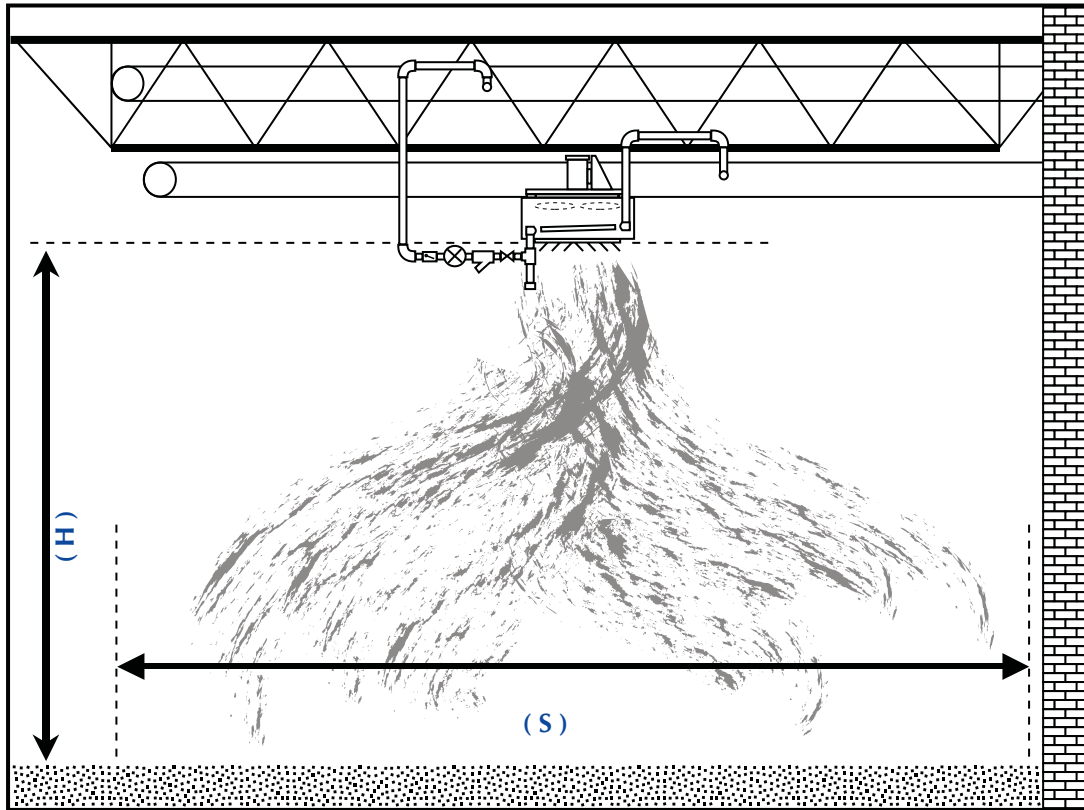
For our unit heater line we offer a wide range of nozzles and louvers to increase projections and air distribution. Custom nozzles are tested for air speed and projection to assure the performances are correct. Static air pressures are taken into consideration along with the capabilities of the motors being used to prevent overloading. Unit heaters with air filtered intakes, fan guards and total protection motor fan guards are available. All units have the option of a heavy-duty stainless steel fan blade if required.

Contact us to discuss your requirements, if we can not find something standard we can build it !





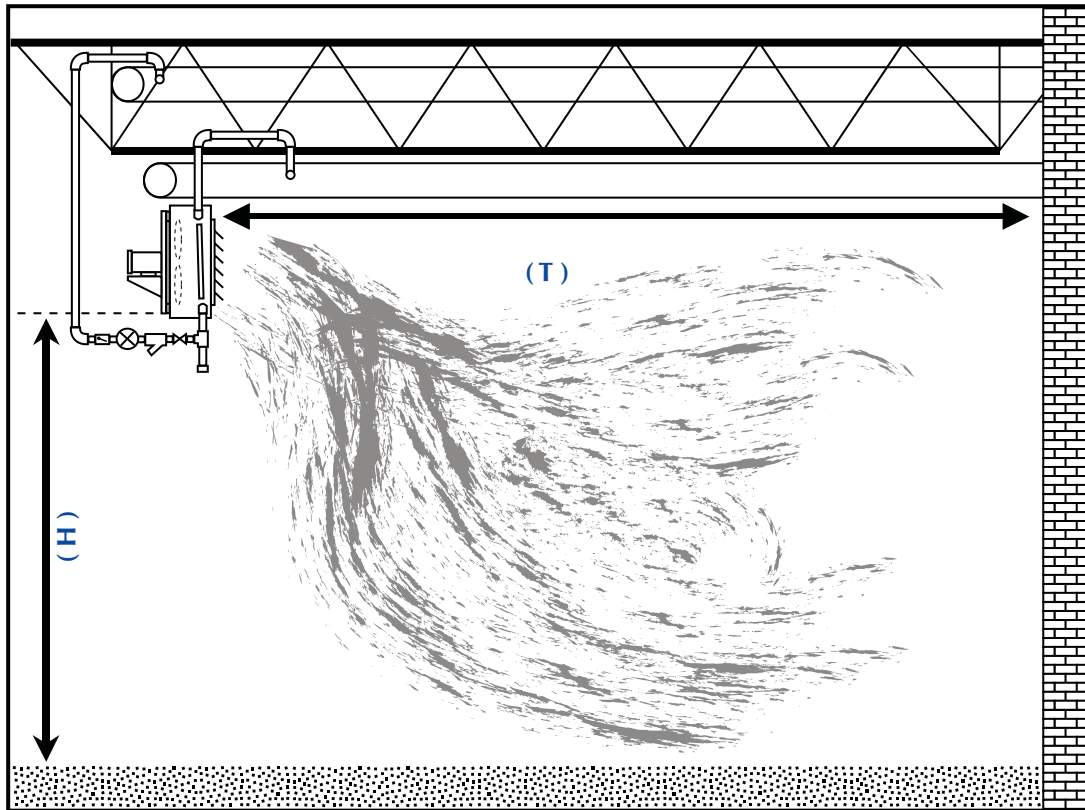
Mounting height & spread Vertical Installation



Model #	CFM	FPM	(H) Height	(S) Spread
PA-A-10-V	1,000	600'	12'	29'
PA-B-15-V	1,500	850'	14'	35'
LI-A-22-V	2,200	720'	14'	42'
CL-B-29-V	2,900	950'	14'	42'
CL-B-40-V	4,000	1300'	17'	44'
YV-A-44-V	4,400	1100'	19'	59'
YV-B-42-V	4,200	1050'	18'	58'
JE-A-66-V	6,600	900'	20'	65'
JE-B-62-V	6,200	850'	18'	56'
LU-A-120-V	12,000	1108'	21'	79'
LU-B-100-V	10,000	900'	20'	71'
GI-C-100-V	10,000	900'	20'	58'
RA-B-130-V	13,000	1200'	22'	78'
BI-B-170-V	17,000	1200'	23'	84'
MB-B-270-V	27,000	1000'	30'	56'



Mounting height & throw Horizontal Installation

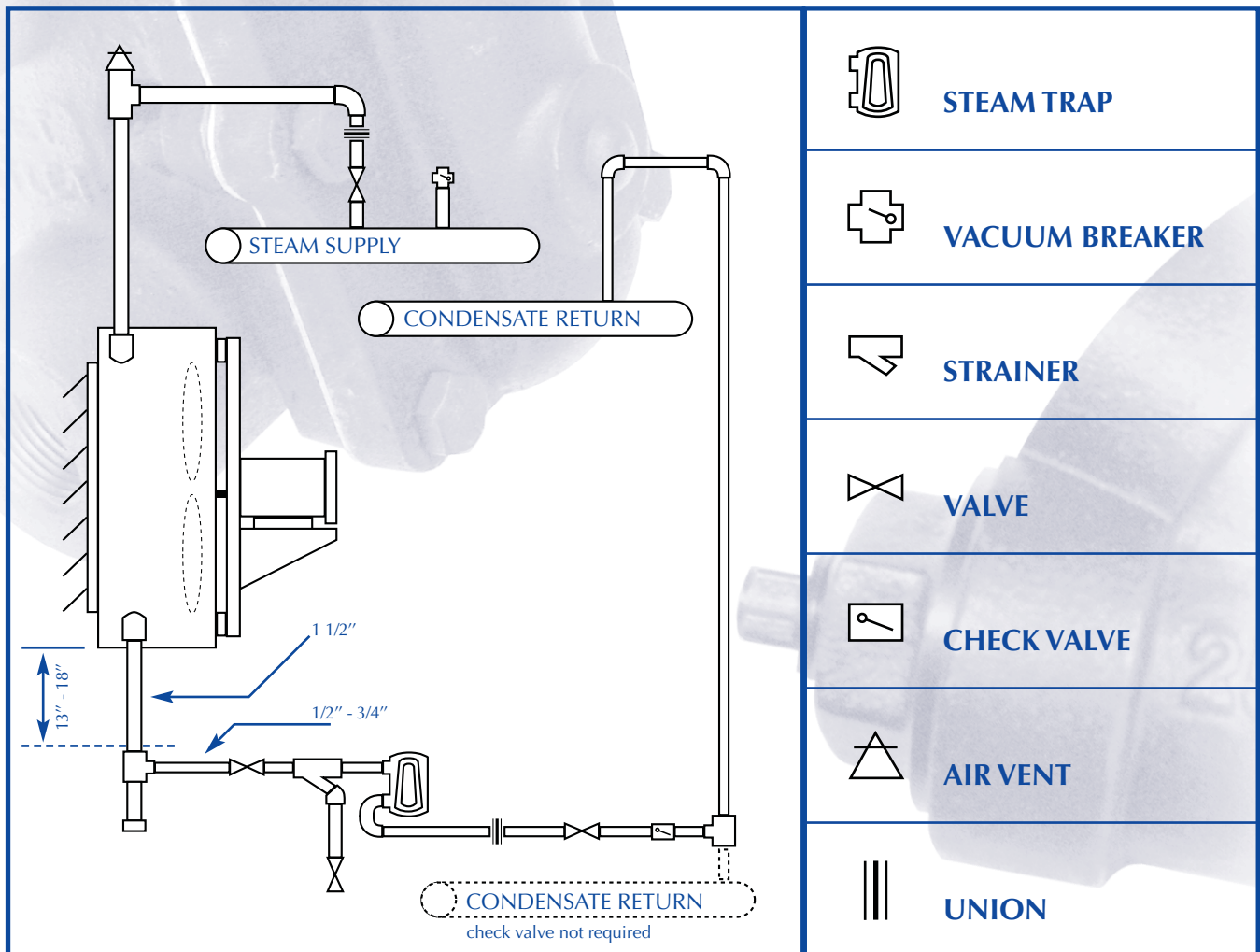


Model #	CFM	FPM	(H) Height	(T) Throw
PA-A-10	1,000	600'	12'	35'
PA-B-15	1,500	850'	12'	47'
LI-A-22	2,200	720'	14'	58'
CL-A-30	3,000	980'	15'	68'
CL-B-29	2,900	950'	14'	59'
CL-B-40	4,000	1300'	15'	70'
YV-A-44	4,400	1100'	16'	75'
YV-B-42	4,200	1050'	15'	69'
JE-A-66	6,600	900'	17'	82'
JE-B-62	6,200	850'	16'	73'
LU-A-120	12,000	1108'	19'	90'
LU-B-100	10,000	950'	18'	88'
GI-C-100	10,000	950'	18'	72'
RA-B-130	13,000	1200'	20'	90'
BI-B-170	17,000	1200'	21'	100'
MB-B-270	27,000	1000'	27'	149'

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INSTALLATIONS

Unit heaters



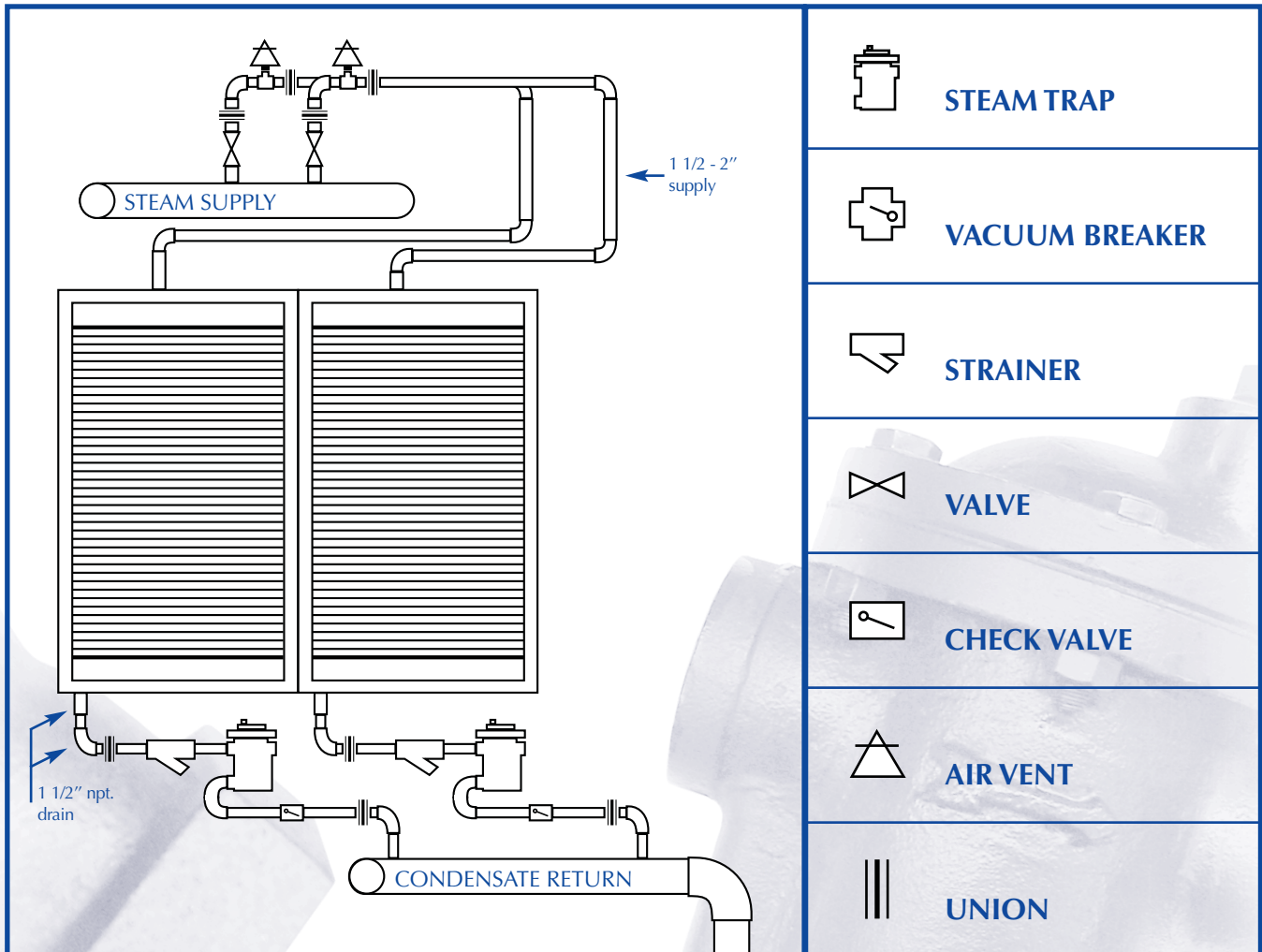
TURNBULL TIPS!

On condensate connections always install elbows and T's the same size as the connections, this will help assure complete drainage of the condensate. If possible give a minimum 13 inches or more of condensate return line lower than the unit heater. We recommend a vacuum breaker on the inlet connection to prevent the condensate from being pulled back into the unit if the steam is turned off. See page **U28** to calculate condensate LBS./hr. and lift for the return.



INSTALLATIONS

Coils



TURNBULL TIPS!

For two or more coils, 1 trap per coil is recommended to assure the system will operate correctly. On condensate connections, do not reduce the pipe size until just before the steam traps. This piping will serve as a reservoir to help keep the condensate out of the coils helping to prevent freezing, erosion and corrosion. On the steam supply lines we recommend a vacuum breaker and air vents. See page **U28** to calculate condensate LBS./hr. and lift for the return.



CHARTS & CALCULATIONS

CHART 1.
DEGREES CENTIGRADE & DEGREES FAHRENHEIT

Deg. F.	Deg. C.	Deg. F.	Deg. C.	Deg. F.	Deg. C.
-40.0	-40	44.6	7	129.2	54
-38.2	-39	46.4	8	131.0	55
-36.4	-38	48.2	9	132.8	56
-34.6	-37	50.0	10	134.6	57
-32.8	-36	51.8	11	136.4	58
-31.0	-35	53.6	12	138.2	59
-29.2	-34	55.4	13	140.0	60
-27.4	-33	57.2	14	141.8	61
-25.6	-32	59.0	15	143.6	62
-23.8	-31	60.8	16	145.4	63
-22.0	-30	62.6	17	147.2	64
-20.2	-29	64.4	18	149.0	65
-18.4	-28	66.2	19	150.8	66
-16.6	-27	68.0	20	152.6	67
-14.8	-26	69.8	21	154.4	68
-13.0	-25	71.6	22	156.2	69
-11.2	-24	73.4	23	158.0	70
-9.4	-23	75.2	24	159.8	71
-7.6	-22	77.0	25	161.6	72
-5.8	-21	78.8	26	163.4	73
-4.0	-20	80.6	27	165.2	74
-2.2	-19	82.4	28	167.0	75
-0.4	-18	84.2	29	168.8	76
1.4	-17	86.0	30	170.6	77
3.2	-16	87.8	31	172.4	78
5.0	-15	89.6	32	174.2	79
6.8	-14	91.4	33	176.0	80
8.6	-13	93.2	34	177.8	81
10.4	-12	95.0	35	179.6	82
12.2	-11	96.8	36	181.4	83
14.0	-10	98.6	37	183.2	84
15.8	-9	100.4	38	185.0	85
17.6	-8	102.2	39	186.8	86
19.4	-7	104.0	40	188.6	87
21.2	-6	105.8	41	190.4	88
23.0	-5	107.6	42	192.2	89
24.8	-4	109.4	43	194.0	90
26.6	-3	111.2	44	195.8	91
28.4	-2	113.0	45	197.6	92
30.2	-1	114.8	46	199.4	93
32.0	0	116.6	47	201.2	94
33.8	1	118.4	48	203.0	95
35.6	2	120.2	49	204.8	96
37.4	3	122.0	50	206.6	97
39.2	4	123.8	51	208.4	98
41.0	5	125.6	52	210.2	99
42.8	6	127.4	53	212.0	100

CHART 2.
WEIGHT OF 1 CU. FT. OF AIR IN LBS.

-40 Degrees F. = .094
-30 Degrees F. = .092
-20 Degrees F. = .090
-10 Degrees F. = .088
-5 Degrees F. = .0872
0 Degrees F. = .0864
5 Degrees F. = .085
10 Degrees F. = .084
20 Degrees F. = .082
32 Degrees F. = .0807
40 Degrees F. = .0789
50 Degrees F. = .0778
55 Degrees F. = .0771
60 Degrees F. = .0763
65 Degrees F. = .0756
70 Degrees F. = .0749
75 Degrees F. = .0742
80 Degrees F. = .0735
90 Degrees F. = .0720
102 Degrees F. = .0707
122 Degrees F. = .0682
152 Degrees F. = .0649
250 Degrees F. = .0559
300 Degrees F. = .0522

CHART 3.
PROPERTIES OF SATURATED STEAM

Gauge Pressure	Temperature ° Fahr.	Latent Heat
0	212	970
2	219	965
5	228	961
10	240	953
15	250	947
20	259	941
25	267	936
30	274	931
35	281	926
40	287	922
45	293	918
50	298	914
55	303	910
60	307	907
65	312	904
70	316	901
75	320	898
80	324	895
85	328	893
90	331	890
95	335	887
100	338	884
105	341	882
110	344	879
115	347	877
120	350	875
125	353	872
130	356	870
135	358	868
140	361	866
145	363	864
150	366	862
160	370	858
170	375	854
180	379	850
190	384	846
200	388	843
210	392	839
220	396	836
230	399	833
240	403	831
250	406	829
300	422	809
350	435	799
400	446	788
450	456	775
500	465	763

Condensate per hour:

BTU./hr divided by the latent heat @ the operating steam pressure = LBS. per hour.
 ig. with 4,000,000 BTU. @ 100 PSIG., steam. Refer to chart 3.
 (4,000,000/884 = 4524 LBS. per hour)

Condensate lift:

Supply pressure minus the condensate return pressure, multiplied by 26" = this will give the maximum lift in inches with the steam pressure that is available.
 ig. with steam line pressure of 30 PSIG. and a condensate line return pressure of 22 PSIG.
 (30 psi. - 22 psi. = 8 psi. x 26" = 208"/12' = 17.33' foot lift from the trap)



" T-631 "

Guarantee

Steam Coils, Unit Heaters And Heat Exchangers

Under the **TURNBULL** name we have been designing and manufacturing custom built products since 1960. During the 40 years we have developed what we feel to be a superior product on the market today.

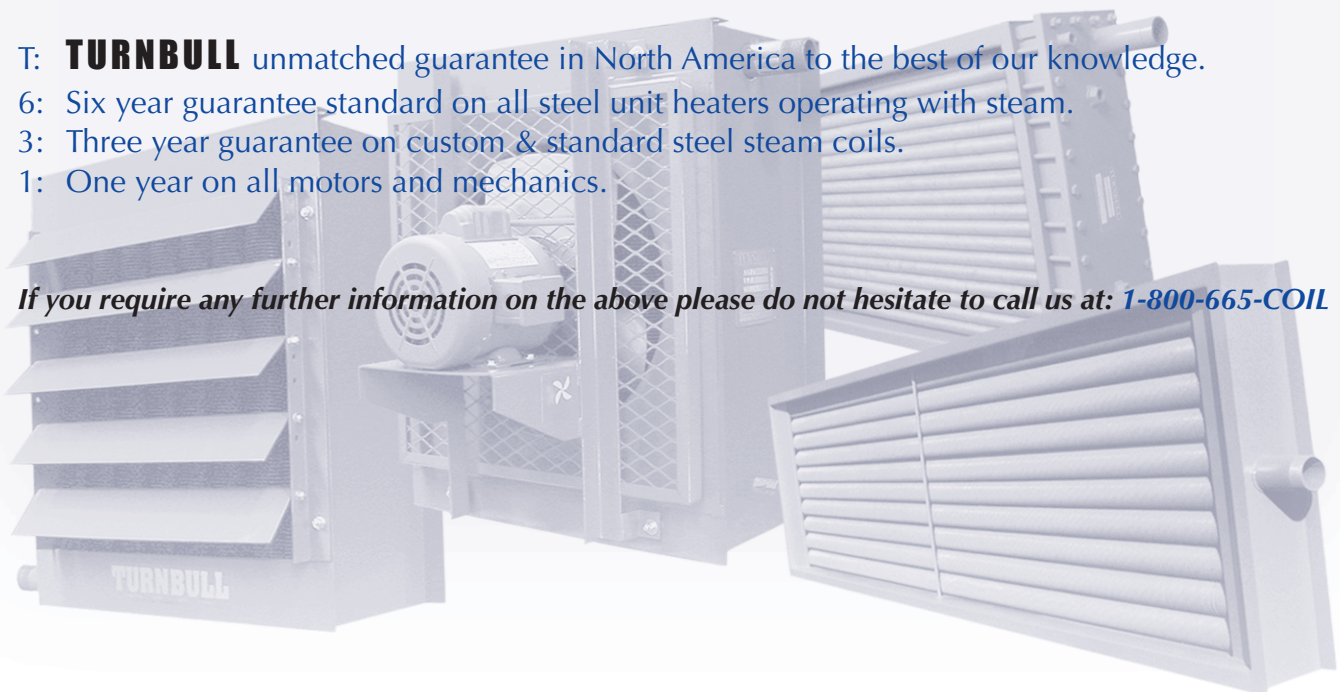
Our records indicate the failure rate for our products is extremely low in comparison to other brands. For this reason we have in the past supplied a 5 year guarantee on unit heaters and a 2 year guarantee on steam coils. This guarantee has been in effect since the 80`s and our customers have been very receptive.

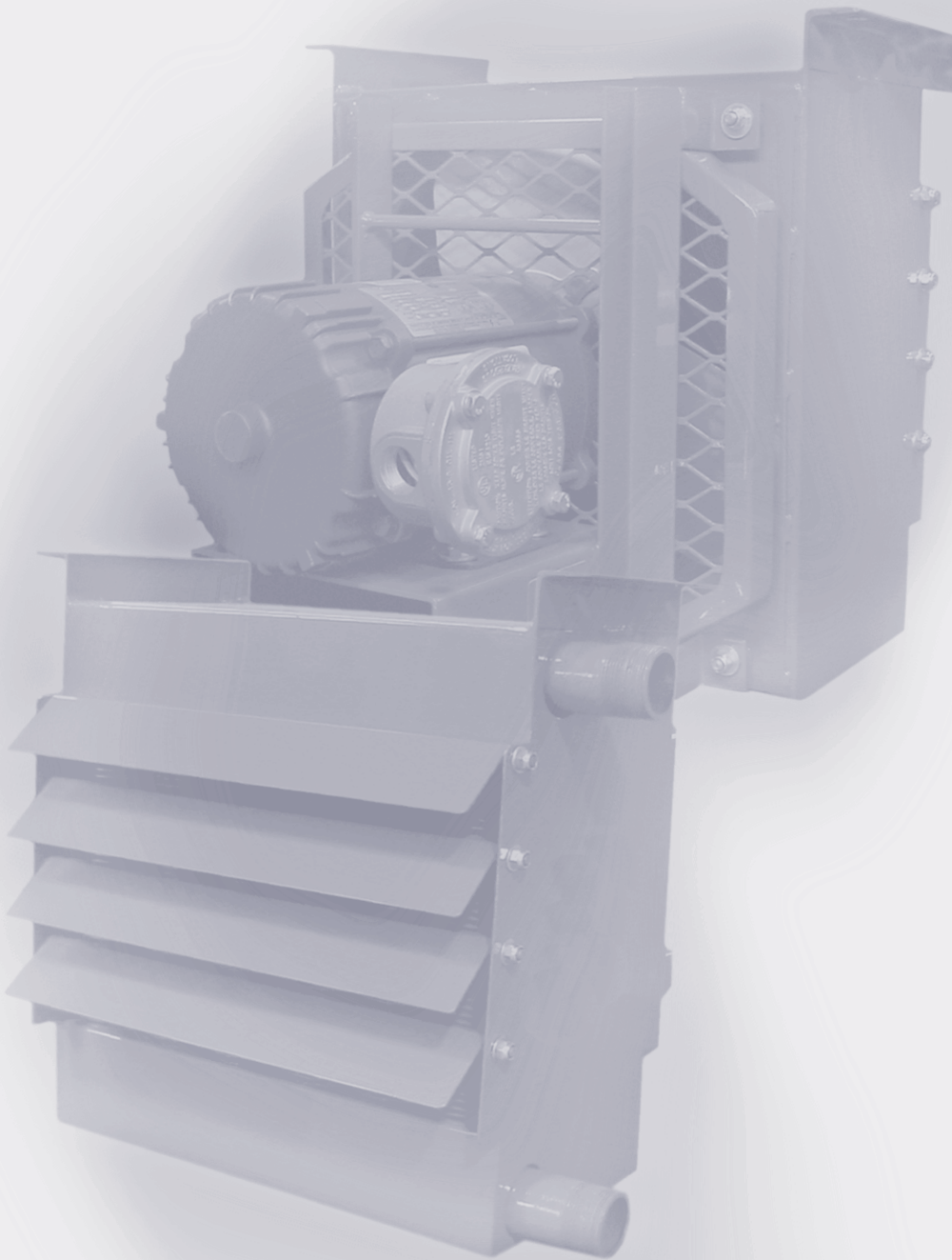
In order to mark our 40th anniversary of fabrication, we at **TURNBULL** are pleased to announce we have a new guarantee. This revised guarantee is designed to give the customer a little extra for their dollar.

The T-631 Guarantee

- T: **TURNBULL** unmatched guarantee in North America to the best of our knowledge.
- 6: Six year guarantee standard on all steel unit heaters operating with steam.
- 3: Three year guarantee on custom & standard steel steam coils.
- 1: One year on all motors and mechanics.

If you require any further information on the above please do not hesitate to call us at: 1-800-665-COIL





TURNBULL SPECIALTIES LIMITED

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