

CERTIFIED

PRODUCT DIRECTORY



Boilers
Baseboard Radiation
Finned Tube (Commercial) Radiation
Indirect-fired Water Heaters

Updated: April 2009

Introduction

The Gas Appliance Manufacturers Association (GAMA) in 2008 merged with the Air-Conditioning and Refrigeration Institute to become the Air-Conditioning, Heating, and Refrigeration Institute (AHRI). The newly merged association is now home to all of the industry's equipment certification programs: I=B=R, GAMA Efficiency Rating Certified and ARI Performance Certified.

AHRI tests boilers, baseboards, commercial finned tube radiation and indirect-fired water heaters and provides authorization for the use of I=B=R ratings for those products. AHRI is also engaged in other projects and activities to develop reliable technical data for the heating and the building industries, and to assure correct calculation, design, and installations of hydronic systems, providing maximum comfort at minimum cost to the consumer.

Some of the projects include:

1. Development of Codes and Standards
2. Research and technical investigations into hydronic theory and practice
3. Publication of technical reports and installation guides reflecting the latest research and practical experience
4. Dissemination of data of value to manufacturers and to the heating industry. The Hydronics Institute maintains its office and laboratory in its own building in Berkeley Heights, New Jersey

About the Directory

This directory contains the I=B=R Ratings for cast-iron, steel, aluminum and copper boilers, baseboard and finned tube radiation, indirect-fired water heaters, effective as of the date of this publication. These ratings have been determined under the provisions of the "I=B=R Rating Procedure for Heating Boilers," "BTS-2000 Testing Standard for Commercial Space Heating Boilers", "I=B=R Testing and Rating Standard for Baseboard Radiation," "I=B=R Testing and Rating Standard for Finned Tube Radiation," "GAMA Testing Standard for Performance of Indirect-Fired Water Heaters," and "GAMA I=B=R Rating Procedure for Indirect-Fired Waters Heaters," copies of which are available for purchase. For boilers under 300,000 Btu input, the I=B=R Procedural Guide includes the requirements of the U.S. Department of Energy.

Any boilers claiming to have I=B=R ratings, but not listed herein do not have I=B=R approval as of the date of this publication. Visit the AHRI Directory of Certified Product Performance at www.ahridirectory.org to check for updates. The designation "SBI Ratings" has been discontinued. The designation "I=B=R Ratings" is now used for all boilers, regardless of construction material.

Boiler model numbers may have prefix and/or suffix letters to indicate variations in the assembly, controls, trim, etc. Refer to the manufacturer's catalog for an explanation of the letters used. Manufacturer's catalogs are reviewed by AHRI to assure physical conformance with the product as it was when tested. Boiler ratings shown are for elevations up to 2,000 feet; for elevations above 2,000 feet, consult the manufacturer.

Any manufacturer who wishes to submit his boiler for testing and approval under the testing standard may do so, upon payment of applicable fees, regardless of whether they are a member of AHRI. Data shown in this book is only for those manufacturers who elected to participate in AHRI's rating and licensing program. An alphabetical index is provided at the back of this book of all boiler, baseboard, finned tube, and indirect-fired water heater manufacturers who have current I=B=R ratings for their products.

Every effort has been made to assure the accuracy of the data contained in this book and in the other publications issued by AHRI. However, neither AHRI nor those responsible for the preparation of the association's publications make any representation or guarantee, or assume or accept any responsibility or liability with respect thereto.

Use of the I=B=R Emblem

The I=B=R emblem is the property of AHRI, registered in its name at the United States Patent and Trademark Office, and the Registrar of Trademarks in Canada.

All boilers listed in this book must bear the I=B=R emblem on the manufacturer's nameplate affixed to the boiler. The emblem is to be used only on the specific models whose ratings have been approved by AHRI. The use of the emblem in

manufacturers' literature is limited to those pages or those publications which are entirely devoted to products qualified to display the emblem.

No one has permission to state that his product has been tested under the I=B=R Certification Program, or to publish I=B=R Ratings, or to use the I=B=R Emblem in any manner, unless

- (a) The manufacturer has executed a license with AHRI, and
- (b) AHRI has tested the series according to the I=B=R Procedural Guide for Heating Boilers, or GAMA's I=B=R Procedural Guide for Indirect-Fired Water Heaters and
- (c) AHRI has advised the manufacturer in writing of the exact rating applicable to the specific models.

All I=B=R Rated boilers must be manufactured in accordance with the latest edition of Section IV of the ASME Boiler and Pressure Vessel Code covering Heating Boilers.

Why Hydronics

Besides the reliability of equipment ratings, and the well-established reliability of hydronic accessories, there are many good reasons why hydronic systems have long been recognized as the standard method for providing indoor comfort.

Hydronic heating, whether steam or hot water, provides positive, controlled circulation of the heating medium. Systems are basically self-balancing, and in larger, more complicated heating systems, balancing is positively controlled by familiar valves and thermostats.

The life of hydronic equipment is measured in decades; some existing boilers are more than fifty years old. In addition to the high efficiency of boilers (some over 90%), losses through the distribution system are extremely low on modern installations.

Temperature control is close to ideal with hydronics. Any well-designed system can provide excellent comfort, without drafts or sharp swings in temperature.

The flexibility of hydronic installations permits a variety of piping arrangements, simple or sophisticated controls, and large choice of room distribution units for all comfort applications.

Historical Timeline

- 1915: National Boiler and Radiation Manufacturers Association is formed by producers of cast iron boilers and radiators.
- 1929: The name is changed to the Institute of Boiler and Radiator Manufacturers (I=B=R).
- 1940: Start of 30-year research agreement with the University of Illinois, including 39 research programs which resulted in many improvements of systems and equipment
- 1944: Institute broadened to include manufacturers of non-ferrous radiation, and accessories for systems and equipment.
- 1956: I=B=R Test Laboratory built at Urbana, Illinois and manned by engineers of the University of Illinois.
- 1963: Manufacturers of Steel heating boilers join to become the Steel Boiler Division.
- 1970: The Hydronics Institute is formed from the above predecessors.
- 1983: Burner and Burner Components Division is formed as an operating group within The Institute.
- 1995: The Hydronics Institute became a Division of GAMA.
- 2008: GAMA and ARI merged to become the Air-Conditioning, Heating, and Refrigeration Institute.

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TESTING AND RATING PROCEDURES FOR COMMERCIAL FINNED TUBE

The Gas Appliance Manufacturers Association (GAMA) in 2008 merged with the Air-Conditioning and Refrigeration Institute to become the Air-Conditioning, Heating, and Refrigeration Institute (AHRI). The newly merged association is now home to all of the industry's equipment certification programs: I=B=R, GAMA Efficiency Rating Certified and ARI Performance Certified.

This section contains I=B=R Ratings for Finned Tube (Commercial) Radiation, which are in effect as of the date of this publication. These Ratings have been determined under the testing and rating provisions of the I=B=R Standard for Finned Tube (Commercial) Radiation.

Any ratings for Finned Tube (Commercial) Radiation which are claimed to be I=B=R Ratings, but which are not listed herein, do not have I=B=R approval as of the date of this publication.

NOTE: The terms "Baseboard Radiation" and "Finned Tube (Commercial) Radiation" are defined similarly, except that:

1. Baseboard Radiation is designed for installation at the floor level along the bottom of the walls of rooms, replacing the conventional wood baseboard. (Usually used in residential installations).
2. Finned Tube (Commercial) Radiation is a finned tube element; one, two, or three tiers high designed for installation bare, or with open type grilles, covers, or enclosures having top, front, or inclined outlets. (Usually used for buildings other than residential.)

The following abbreviations have been used throughout the Schedules of Approved Ratings listed in this book.

A = Aluminum

C = Nominal Copper Tubing

S = Steel

Every effort has been made by AHRI to assure the accuracy of the data contained in this Ratings Book and in other I=B=R publications. However, neither AHRI nor those responsible for the preparation of association's publications, make any representation or guaranty, or assume or accept any responsibility or liability with respect thereto.

HOW I=B=R RATINGS ARE DETERMINED

The current edition of the I=B=R Testing and Rating Standard for Finned Tube (Commercial) Radiation, specifies the conditions under which tests are conducted. They may be conducted initially by the manufacturers, and later check tested in the I=B=R laboratory or all rating tests may be conducted in the I=B=R laboratory. I=B=R Ratings are approved only if the results of the I=B=R laboratory tests indicate that the requested ratings are accurate.

DEFINITIONS

Actual Encl. Height (in.): Actual Enclosure Height (inches)

Fin Size H x W (in.): Fin Size Height by Width (inches)

Heating Effect (%): Percentage of Heating Effect added

Tier Spacing: Distance between tiers (inches)

Fins per foot: Number of Fins per foot

Tiers of Element: Number of Tiers in element

EXPLANATION OF BASIS OF I=B=R RATINGS FOR FINNED TUBE (COMMERCIAL) RADIATION

STEAM RATINGS

The I=B=R Ratings listed in this book are Steam Ratings in Btuh per foot of active length at 215F steam and 65F inlet air. When the unit is installed as specified in the listings no adjustments to the listed ratings are required.

The steam ratings are based on the condensation capacity determined by laboratory tests as prescribed in the I=B=R Standard but include an added percentage, ranging up to 15% depending on the installed height and type of cover or enclosure.

The I=B=R Rating includes the factor shown in Table B below for the recommended installed height.

TABLE B

Installed Height	Factor
36 or more	1.00
34	1.01
32	1.02
30	1.03
29	1.04
28	1.05
27	1.06
26	1.07
25	1.08
24	1.09
23	1.10
22	1.11
21	1.12
20	1.13
19	1.14
18 or less	1.15

If the unit is to be installed at a difference height than that recommended, the I=B=R Rating must be adjusted as follows:

I=B=R Rating Multiplied By:

$$\frac{\text{Factor from Table B for the actual installed height}}{\text{Factor from Table B For the recommended installed height}}$$

INSTALLED HEIGHT

The term “installed height “ is used to define the installed location that is the basis of the rating, as well as to determine the percentage that the manufacturer may add to the condensation capacity. The method of measuring installed height varies depending upon the type of cover or enclosure. It is the vertical distance from the floor to (1) the highest point of a top outlet cover or enclosure, or (2) the center of the outlet of an inclined outlet cover or enclosure. Round outlet enclosures are treated the same as inclined outlet enclosures. The installed height of a bare element is the vertical distance from the floor to the top of the uppermost element.

The term “mounting height” is sometimes used, which is the vertical height from the floor to the top of the bare element, cover, or enclosure.

PERCENTAGES ADDED TO CONDENSATION CAPACITY

When the installed height of a unit is less than 36", the manufacturer may add a percentage to the condensation capacity to determine the rating. For a bare unit, a unit in an open type grille or cover, and for front outlet enclosures, the maximum percentage is taken directly from Table B. For inclined outlet enclosures, the percentages shown in Table B are multiplied by:

$$\frac{\text{Angle of Outlet to Horizontal}}{90}$$

(For example, a 45 sloping top enclosure with an installed height of 18" should have a percentage of $45/90 \times 15 = 7.5$ added to the condensation capacity.)

No percentage may be added to the condensation capacity of top outlet enclosures.

WATER RATINGS

Water ratings at various average water temperatures (applicable to water flow rates of three or more feet per second) are determined from Table I at the end of this book.

Table I was computed as specified in the Standard using the following factors:

TABLE C

Factors Used to convert I=B=R Steam Ratings to
Hot Water Ratings at Temperature Indicated

Average Radiator Temperature	Factor
100.....	0.15
110.....	0.20
120.....	0.26
130.....	0.33
140.....	0.40
150.....	0.45
155.....	0.49
160.....	0.53
165.....	0.57
170.....	0.61
175.....	0.65
180.....	0.69
185.....	0.73
190.....	0.78
195.....	0.82
200.....	0.86
205.....	0.91
210.....	0.95
215.....	1.00
220.....	1.05
225.....	1.09
230.....	1.14
235.....	1.20
240.....	1.25

**CORRECTION FACTORS FOR WATER FLOW RATES
LESS THAN 3 FEET PER SECOND**

The factors in Table I may be used only when the water flow rate through the finned tube unit is known and where the flow rate is not less than 3 feet per second. To determine the output at less than 3 feet per second, multiply the I=B=R Water Rating by the factor in this Table which applies to the known flow rate.

TABLE D

Factors for Determining Outputs at Water Flow Rates of less than 3 feet per second

Flow Rate	Factor
3.00	1.000
2.75	0.996
2.50	0.992
2.25	0.988
2.00	0.984
1.75	0.979
1.50	0.973
1.25	0.966
1.00	0.957
0.75	0.946
0.50	0.931
0.25	0.905

RATINGS FOR UNITS WITH FLAT TOP COVERS

Table J should be used to determine Flat Top Cover steam ratings for those manufacturers who have received approval to use the code factors (as noted in this listing). Water ratings for such units can then be obtained by applying Table I to the steam rating determined from Table J.

RATINGS FOR UNITS WITH EXPANDED METAL COVERS

Table K should be used to determine the Expanded Metal Cover steam ratings for those manufacturers who have received approval of an expanded metal cover factor (as noted in their listing). Water ratings for such units can then be obtained by applying Table I to the steam rating determined from Table J.

RELATIONSHIP OF DIMENSIONS TO OUTPUT

Experience has demonstrated that variations in dimensions can have a serious effect on the output of a unit. The Standard specifies that manufacturer’s literature must list the details of the unit to which the I=B=R ratings apply including:

1. Fin size, nominal thickness, nominal spacing (fins per foot) and external finish of finned tube element; i.e., unpainted or painted (including color of paint).
2. Recommended installed height (the installed height upon which the I=B=R rating is based).
3. In the case of multiple tier assemblies of finned tube elements, the distance between centers of the tiers on which the ratings are based.
4. A statement that ratings are based on active length.
5. The difference between active length and total length expressed in inches.
6. A cross-sectional drawing indicating essential dimensions, including the height and depth of enclosure, size of inlet and outlet openings and the location of the element with respect to the enclosure.

It is important that a check be made to assure that the radiation delivered conforms to the dimensions ordered. It is also important that the radiation be installed in accordance with the manufacturer’s instructions.

FINNED TUBE

Tube Size and Material	Fin Size H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating	Tube Size and Material	Fin Size H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating	
AIREDALE										Top Outlet - (TA412)										
I=B=R Steam Ratings in btuh/ft of active length at 215F steam, 65F air. Ratings approved for use with hot water (Table I).										3/4"C 4-1/4 x 4-1/4 .018"A None 50 1 12 15-1/2 0 1600										
Bare Element										Top Outlet - Louvered										
3/4"C	2-3/4 x 4-1/4	.018"A	None	34	1		6-11/16	15	1110	3/4"C	4-1/4 x 4-1/4	.018"A	None	50	1	12	15-15/16	0	1490	
3/4"C	2-3/4 x 4-1/4	.018"A	None	34	2	6	12-11/16	15	1890	3/4"C	4-1/4 x 4-1/4	.018"A	None	50	1	18	21-15/16	0	1760	
3/4"C	2-3/4 x 4-1/4	.018"A	None	34	3	6	18-11/16	14.31	2480	3/4"C	4-1/4 x 4-1/4	.018"A	None	50	1	24	27-15/16	0	1810	
3/4"C	2-3/4 x 4-1/4	.018"A	None	42	1		6-11/16	15	1250	TRIMFIN										
3/4"C	2-3/4 x 4-1/4	.018"A	None	42	2	6	12-11/16	15	2120	Inclined Outlet - Louvered										
3/4"C	2-3/4 x 4-1/4	.018"A	None	42	3	6	18-11/16	14.31	2790	3/4"C	2-3/4 x 3-1/4	.018"A	None	50	1	14	14-1/4	10	1290	
3/4"C	2-3/4 x 4-1/4	.018"A	None	50	1		6-11/16	15	1390	3/4"C	3-1/4 x 2-3/4	.018"A	None	34	1	10	10-1/4	10	860	
3/4"C	2-3/4 x 4-1/4	.018"A	None	50	2	6	12-11/16	15	2360	3/4"C	3-1/4 x 2-3/4	.018"A	None	34	1	14	14-1/4	10	910	
3/4"C	2-3/4 x 4-1/4	.018"A	None	50	3	6	18-11/16	14.31	3090	3/4"C	3-1/4 x 2-3/4	.018"A	None	34	2	5-1/16	14	14-1/4	10	1420
3/4"C	4-1/4 x 4-1/4	.018"A	None	34	1		9-1/4	15	1350	3/4"C	3-1/4 x 2-3/4	.018"A	None	34	1	8	8-1/4	10	840	
3/4"C	4-1/4 x 4-1/4	.018"A	None	42	1		9-1/4	15	1480	3/4"C	3-1/4 x 2-3/4	.018"A	None	42	1	10	10-1/4	10	950	
3/4"C	4-1/4 x 4-1/4	.018"A	None	42	2	6	15-1/4	15	2840	3/4"C	3-1/4 x 2-3/4	.018"A	None	42	1	14	14-1/4	10	1040	
3/4"C	4-1/4 x 4-1/4	.018"A	None	42	3	6	21-1/4	11.75	3720	3/4"C	3-1/4 x 2-3/4	.018"A	None	42	2	5-1/16	14	14-1/4	10	1480
3/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		9-1/4	15	1610	3/4"C	3-1/4 x 2-3/4	.018"A	None	42	1	8	8-1/4	10	910	
1"C	2-3/4 x 4-1/4	.018"A	None	34	1		6-11/16	15	1110	3/4"C	3-1/4 x 2-3/4	.018"A	None	50	1	10	10-1/4	10	1040	
1"C	2-3/4 x 4-1/4	.018"A	None	34	2	6	12-11/16	15	1880	3/4"C	3-1/4 x 2-3/4	.018"A	None	50	1	14	14-1/4	10	1160	
1"C	2-3/4 x 4-1/4	.018"A	None	34	3	6	18-11/16	14.31	2470	3/4"C	3-1/4 x 2-3/4	.018"A	None	50	2	5-1/16	14	14-1/4	10	1540
1"C	2-3/4 x 4-1/4	.018"A	None	42	1		6-11/16	15	1240	3/4"C	3-1/4 x 2-3/4	.018"A	None	50	1	8	8-1/4	10	980	
1"C	2-3/4 x 4-1/4	.018"A	None	42	2	6	12-11/16	15	2100	3/4"C	4-1/4 x 2-3/4	.018"A	None	34	1	10	10-1/4	10	960	
1"C	2-3/4 x 4-1/4	.018"A	None	42	3	6	18-11/16	14.31	2760	3/4"C	4-1/4 x 2-3/4	.018"A	None	34	1	14	14-1/8	10	1030	
1"C	2-3/4 x 4-1/4	.018"A	None	50	1		6-11/16	15	1370	3/4"C	4-1/4 x 2-3/4	.018"A	None	42	1	10	10-1/4	10	1040	
1"C	2-3/4 x 4-1/4	.018"A	None	50	2	6	12-11/16	15	2330	3/4"C	4-1/4 x 2-3/4	.018"A	None	42	1	14	14-1/8	10	1100	
1"C	2-3/4 x 4-1/4	.018"A	None	50	3	6	18-11/16	14.31	3060	3/4"C	4-1/4 x 2-3/4	.018"A	None	50	1	10	10-1/4	10	1130	
1"C	4-1/4 x 4-1/4	.018"A	None	34	1		9-1/4	15	1400	3/4"C	4-1/4 x 2-3/4	.018"A	None	50	1	14	14-1/8	10	1170	
1"C	4-1/4 x 4-1/4	.018"A	None	42	1		9-1/4	15	1530	1"C	3-1/4 x 2-3/4	.018"A	None	34	1	10	10-1/4	10	850	
1"C	4-1/4 x 4-1/4	.018"A	None	42	2	6	15-1/4	15	2770	1"C	3-1/4 x 2-3/4	.018"A	None	34	1	14	14-1/8	10	900	
1"C	4-1/4 x 4-1/4	.018"A	None	42	3	6	21-1/4	11.75	3630	1"C	3-1/4 x 2-3/4	.018"A	None	34	2	5-1/16	14	14-1/8	10	1370
1"C	4-1/4 x 4-1/4	.018"A	None	50	1		9-1/4	15	1640	1"C	3-1/4 x 2-3/4	.018"A	None	34	1	8	8-1/4	10	820	
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	34	1		6-11/16	15	1110	1"C	3-1/4 x 2-3/4	.018"A	None	42	1	10	10-1/4	10	930	
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	34	2	6	12-11/16	15	1890	1"C	3-1/4 x 2-3/4	.018"A	None	42	1	14	14-1/8	10	1020	
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	34	3	6	18-11/16	14.31	2480	1"C	3-1/4 x 2-3/4	.018"A	None	42	2	5-1/16	14	14-1/8	10	1410
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	42	1		6-11/16	15	1230	1"C	3-1/4 x 2-3/4	.018"A	None	42	1	8	8-1/4	10	880	
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	42	2	6	12-11/16	15	2100	1"C	3-1/4 x 2-3/4	.018"A	None	50	1	10	10-1/4	10	1010	
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	42	3	6	18-11/16	14.31	2740	1"C	3-1/4 x 2-3/4	.018"A	None	50	1	14	14-1/8	10	1130	
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	50	1		6-11/16	15	1350	1"C	3-1/4 x 2-3/4	.018"A	None	50	2	5-1/16	14	14-1/8	10	1450
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	50	2	6	12-11/16	15	2300	1"C	3-1/4 x 2-3/4	.018"A	None	50	1	8	8-1/4	10	940	
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	50	3	6	18-11/16	14.31	3010	1"C	4-1/4 x 2-3/4	.018"A	None	34	1	10	10-1/4	10	950	
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	34	1		9-1/4	15	1450	1"C	4-1/4 x 2-3/4	.018"A	None	34	1	14	14-1/8	10	1010	
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	42	1		9-1/4	15	1580	1"C	4-1/4 x 2-3/4	.018"A	None	42	1	10	10-1/4	10	1030	
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	42	2	6	15-1/4	15	2690	1"C	4-1/4 x 2-3/4	.018"A	None	42	1	14	14-1/8	10	1080	
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	42	3	6	21-1/4	11.75	3520	1"C	4-1/4 x 2-3/4	.018"A	None	50	1	10	10-1/4	10	1110	
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		9-1/4	15	1670	1"C	4-1/4 x 2-3/4	.018"A	None	50	1	14	14-1/8	10	1160	
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	50	2	6	15-1/4	15	2670	1-1/4"C	3-1/4 x 2-3/4	.018"A	None	34	1	10	10-1/4	10	840	
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	50	3	6	21-1/4	11.75	3480	1-1/4"C	3-1/4 x 2-3/4	.018"A	None	34	1	14	14-1/8	10	890	
Front Outlet - (F412) Louvered										MODINE MANUFACTURING COMPANY										
3/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		12	15-1/16	15	1610	I=B=R Steam Ratings in btuh/ft of active length at 215F steam, 65F air. Ratings approved for use with hot water (Table I).									
Front/Top - (R412) Louvered										Bare Element										
3/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		12	13-7/8	7.50	1670	3/4"C	2-3/4 x 4-1/4	.018"A	None	34	1		6-11/16	15	1110
Inclined Outlet - Louvered										3/4"C	2-3/4 x 4-1/4	.018"A	None	34	2	6	12-11/16	15	1890	
3/4"C	2-3/4 x 4-1/4	.018"A	None	34	1		12	13	10	1230	3/4"C	2-3/4 x 4-1/4	.018"A	None	34	3	6	18-11/16	14.31	2480
3/4"C	2-3/4 x 4-1/4	.018"A	None	42	1		12	13	10	1400	3/4"C	2-3/4 x 4-1/4	.018"A	None	42	1		6-11/16	15	1250
3/4"C	4-1/4 x 4-1/4	.018"A	None	42	1		12	13	10	1610	3/4"C	2-3/4 x 4-1/4	.018"A	None	42	2	6	12-11/16	15	2120
3/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		12	13	10	1620	3/4"C	2-3/4 x 4-1/4	.018"A	None	42	3	6	18-11/16	14.31	2790
1"C	2-3/4 x 4-1/4	.018"A	None	34	1		12	13	10	1220	3/4"C	2-3/4 x 4-1/4	.018"A	None	50	1		6-11/16	15	1390
1"C	2-3/4 x 4-1/4	.018"A	None	42	1		12	13	10	1390	3/4"C	4-1/4 x 4-1/4	.018"A	None	42	3	6	18-11/16	14.31	2790
1"C	2-3/4 x 4-1/4	.018"A	None	50	1		12	13	10	1560	3/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		6-11/16	15	1390
1"C	4-1/4 x 4-1/4	.018"A	None	42	1		12	13	10	1610	3/4"C	2-3/4 x 4-1/4	.018"A	None	50	2	6	12-11/16	15	2360
1"C	4-1/4 x 4-1/4	.018"A	None	50	1		12	13	10	1680	3/4"C	2-3/4 x 4-1/4	.018"A	None	50	3	6	18-11/16	14.31	3090
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	34	1		12	13	10	1200	3/4"C	4-1/4 x 4-1/4	.018"A	None	34	1		9-1/4	15	1350
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	42	1		12	13	10	1370										
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	50	1		12	13	10	1540										
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	42	1		12	13	10	1610										
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		12	13	10	1730										
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		18	19	9.33	2120										
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		24	25	5.33	2240										
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	50	2	12	24	25	5.33	3000										
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	50	2	6	24	25	5.33	2890										
Top Outlet - (Pedestal Style-P41) Louvered																				
3/4"C	4-1/4 x 4-1/4	.018"A	None	50	1			10-3/4	0	1390										
Top Outlet - (Pedestal Style-PA41)																				
3/4"C	4-1/4 x 4-1/4	.018"A	None	50	1			10-1/4	0	1310										

FINNED TUBE

Tube Size and Material	Fin Size H x W (in.)	Fin Thickness Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating	Tube Size and Material	Fin Size H x W (in.)	Fin Thickness Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating		
MODINE MANUFACTURING COMPANY										3/4"C	3-1/4 x 2-3/4	.018"A	None	34	2	5-1/16	14	14-1/4	10	1420	
Bare Element										3/4"C	3-1/4 x 2-3/4	.018"A	None	34	1		8	8-1/4	10	840	
3/4"C	4-1/4 x 4-1/4	.018"A	None	42	1		9-1/4	15	1480	3/4"C	3-1/4 x 2-3/4	.018"A	None	42	1	10	10-1/4	10	950		
3/4"C	4-1/4 x 4-1/4	.018"A	None	42	2	6	15-1/4	15	2840	3/4"C	3-1/4 x 2-3/4	.018"A	None	42	2	5-1/16	14	14-1/4	10	1480	
3/4"C	4-1/4 x 4-1/4	.018"A	None	42	3	6	21-1/4	11.75	3720	3/4"C	3-1/4 x 2-3/4	.018"A	None	42	1		8	8-1/4	10	910	
3/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		9-1/4	15	1610	3/4"C	3-1/4 x 2-3/4	.018"A	None	50	1	10	10-1/4	10	1040		
1"C	2-3/4 x 4-1/4	.018"A	None	34	1		6-11/16	15	1110	3/4"C	3-1/4 x 2-3/4	.018"A	None	50	1	14	14-1/4	10	1160		
1"C	2-3/4 x 4-1/4	.018"A	None	34	2	6	12-11/16	15	1880	3/4"C	3-1/4 x 2-3/4	.018"A	None	50	2	5-1/16	14	14-1/4	10	1540	
1"C	2-3/4 x 4-1/4	.018"A	None	34	3	6	18-11/16	14.31	2470	3/4"C	3-1/4 x 2-3/4	.018"A	None	50	1		8	8-1/4	10	980	
1"C	2-3/4 x 4-1/4	.018"A	None	42	1		6-11/16	15	1240	3/4"C	4-1/4 x 2-3/4	.018"A	None	34	1	10	10-1/4	10	960		
1"C	2-3/4 x 4-1/4	.018"A	None	42	2	6	12-11/16	15	2100	3/4"C	4-1/4 x 2-3/4	.018"A	None	34	1	14	14-1/8	10	1030		
1"C	2-3/4 x 4-1/4	.018"A	None	42	3	6	18-11/16	14.31	2760	3/4"C	4-1/4 x 2-3/4	.018"A	None	42	1	10	10-1/4	10	1040		
1"C	2-3/4 x 4-1/4	.018"A	None	50	1		6-11/16	15	1370	3/4"C	4-1/4 x 2-3/4	.018"A	None	42	1	14	14-1/8	10	1100		
1"C	2-3/4 x 4-1/4	.018"A	None	50	2	6	12-11/16	15	2330	3/4"C	4-1/4 x 2-3/4	.018"A	None	50	1	10	10-1/4	10	1130		
1"C	2-3/4 x 4-1/4	.018"A	None	50	3	6	18-11/16	14.31	3060	3/4"C	4-1/4 x 2-3/4	.018"A	None	50	1	14	14-1/8	10	1170		
1"C	4-1/4 x 4-1/4	.018"A	None	34	1		9-1/4	15	1400	1"C	3-1/4 x 2-3/4	.018"A	None	34	1	10	10-1/4	10	850		
1"C	4-1/4 x 4-1/4	.018"A	None	42	1		9-1/4	15	1530	1"C	3-1/4 x 2-3/4	.018"A	None	34	1	14	14-1/8	10	900		
1"C	4-1/4 x 4-1/4	.018"A	None	42	2	6	15-1/4	15	2770	1"C	3-1/4 x 2-3/4	.018"A	None	34	2	5-1/16	14	14-1/8	0	1370	
1"C	4-1/4 x 4-1/4	.018"A	None	42	3	6	21-1/4	11.75	3630	1"C	3-1/4 x 2-3/4	.018"A	None	34	1		8	8-1/4	10	820	
1"C	4-1/4 x 4-1/4	.018"A	None	50	1		9-1/4	15	1640	1"C	3-1/4 x 2-3/4	.018"A	None	42	1	10	10-1/4	10	930		
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	34	1		6-11/16	15	1110	1"C	3-1/4 x 2-3/4	.018"A	None	42	1	14	14-1/8	10	1020		
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	34	2	6	12-11/16	15	1890	1"C	3-1/4 x 2-3/4	.018"A	None	42	2	5-1/16	14	14-1/8	10	1410	
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	34	3	6	18-11/16	14.31	2480	1"C	3-1/4 x 2-3/4	.018"A	None	42	1		8	8-1/4	10	880	
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	42	1		6-11/16	15	1230	1"C	3-1/4 x 2-3/4	.018"A	None	50	1	10	10-1/4	10	1010		
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	42	2	6	12-11/16	15	2100	1"C	3-1/4 x 2-3/4	.018"A	None	50	1	14	14-1/8	10	1130		
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	42	3	6	18-11/16	14.31	2740	1"C	3-1/4 x 2-3/4	.018"A	None	50	2	5-1/16	14	14-1/8	10	1450	
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	50	1		6-11/16	15	1350	1"C	3-1/4 x 2-3/4	.018"A	None	50	1		8	8-1/4	10	940	
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	50	2	6	12-11/16	15	2300	1"C	4-1/4 x 2-3/4	.018"A	None	34	1	10	10-1/4	10	950		
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	50	3	6	18-11/16	14.31	3010	1"C	4-1/4 x 2-3/4	.018"A	None	34	1	14	14-1/8	10	1010		
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	34	1		9-1/4	15	1450	1"C	4-1/4 x 2-3/4	.018"A	None	42	1	10	10-1/4	10	1030		
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	42	1		9-1/4	15	1580	1"C	4-1/4 x 2-3/4	.018"A	None	42	1	14	14-1/8	10	1080		
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	42	2	6	15-1/4	15	2690	1"C	4-1/4 x 2-3/4	.018"A	None	50	1	10	10-1/4	10	1110		
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	42	3	6	21-1/4	11.75	3520	1"C	4-1/4 x 2-3/4	.018"A	None	50	1	14	14-1/8	10	1160		
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		9-1/4	15	1670	1-1/4"C	3-1/4 x 2-3/4	.018"A	None	34	1	10	10-1/4	10	840		
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	50	2	6	15-1/4	15	2670	1-1/4"C	3-1/4 x 2-3/4	.018"A	None	34	1	14	14-1/8	10	890		
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	50	3	6	21-1/4	11.75	3480	1-1/4"C	3-1/4 x 2-3/4	.018"A	None	34	2	5-1/16	14	14-1/8	10	1310	
Front Outlet - (F412) Louvered										1-1/4"C	3-1/4 x 2-3/4	.018"A	None	34	1		8	8-1/4	10	810	
3/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		12	15-11/16	15	1610	1-1/4"C	3-1/4 x 2-3/4	.018"A	None	42	1	10	10-1/4	10	910	
Front/Top - (R412) Louvered										1-1/4"C	3-1/4 x 2-3/4	.018"A	None	42	1	14	14-1/8	10	1000		
3/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		12	13-7/8	7.50	1670	1-1/4"C	3-1/4 x 2-3/4	.018"A	None	42	2	5-1/16	14	14-1/8	10	1340
Inclined Outlet - Louvered										1-1/4"C	3-1/4 x 2-3/4	.018"A	None	42	1		8	8-1/4	10	860	
3/4"C	2-3/4 x 4-1/4	.018"A	None	34	1		12	13	10	1230	1-1/4"C	3-1/4 x 2-3/4	.018"A	None	50	1	10	10-1/4	10	980	
3/4"C	2-3/4 x 4-1/4	.018"A	None	42	1		12	13	10	1400	1-1/4"C	3-1/4 x 2-3/4	.018"A	None	50	1	14	14-1/8	10	1110	
3/4"C	2-3/4 x 4-1/4	.018"A	None	50	1		12	13	10	1580	1-1/4"C	3-1/4 x 2-3/4	.018"A	None	50	2	5-1/16	14	14-1/8	10	1360
3/4"C	4-1/4 x 4-1/4	.018"A	None	42	1		12	13	10	1610	1-1/4"C	3-1/4 x 2-3/4	.018"A	None	50	1		8	8-1/4	10	910
3/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		12	13	10	1620	1-1/4"C	4-1/4 x 2-3/4	.018"A	None	34	1	10	10-1/4	10	940	
1"C	2-3/4 x 4-1/4	.018"A	None	34	1		12	13	10	1220	1-1/4"C	4-1/4 x 2-3/4	.018"A	None	34	1	14	14-1/8	10	980	
1"C	2-3/4 x 4-1/4	.018"A	None	42	1		12	13	10	1390	1-1/4"C	4-1/4 x 2-3/4	.018"A	None	42	1	10	10-1/4	10	1020	
1"C	2-3/4 x 4-1/4	.018"A	None	50	1		12	13	10	1560	1-1/4"C	4-1/4 x 2-3/4	.018"A	None	42	1	14	14-1/8	10	1060	
1"C	4-1/4 x 4-1/4	.018"A	None	42	1		12	13	10	1610	1-1/4"C	4-1/4 x 2-3/4	.018"A	None	50	1	10	10-1/4	10	1100	
1"C	4-1/4 x 4-1/4	.018"A	None	50	1		12	13	10	1680	1-1/4"C	4-1/4 x 2-3/4	.018"A	None	50	1	14	14-1/8	10	1140	
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	34	1		12	13	10	1200	RITTLING										
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	42	1		12	13	10	1370	DIVISION OF HYDRO-AIR COMPONENTS										
1-1/4"C	2-3/4 x 4-1/4	.018"A	None	50	1		12	13	10	1540	Bare Element - Rittling										
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	42	1		12	13	10	1610	3/4"C	2-3/4 x 4	.016"A	None	32	2	6	14-7/8	15	1850	
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		12	13	10	1730	3/4"C	2-3/4 x 4	.016"A	None	32	3	6	20-7/8	12.13	2620	
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		18	19	9.33	2120	3/4"C	2-3/4 x 4	.016"A	None	40	2	6	14-7/8	15	2030	
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		24	25	5.33	2240	3/4"C	2-3/4 x 4	.016"A	None	40	3	6	20-7/8	12.13	2840	
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	50	2	6	24	25	5.33	2890	3/4"C	2-3/4 x 4	.016"A	None	48	2	6	14-7/8	15	2220	
1-1/4"C	4-1/4 x 4-1/4	.018"A	None	50	2	12	24	25	5.33	3000	3/4"C	2-3/4 x 4	.016"A	None	48	3	6	20-7/8	12.13	3050	
Top Outlet - (Pedestal Style-P41) Louvered										3/4"C	3-1/4 x 3-1/4	.016"A	None	32	3	6	20-7/8	12.13	2400		
3/4"C	4-1/4 x 4-1/4	.018"A	None	50	1		6-3/4	10-3/4	0	1390	3/4"C	3-1/4 x 3-1/4	.016"A	None	32	2	6	14-7/8	15	1700	

FINNED TUBE

Tube Size and Material	Fin Size H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating
RITTLING									
DIVISION OF HYDRO-AIR COMPONENTS									
Bare Element - Rittling									
1"C	3-1/4 x 3-1/4	.016"A	None	32	3	6	20-7/8	12.13	2350
1"C	3-1/4 x 3-1/4	.016"A	None	32	2	6	14-7/8	15	1690
1"C	3-1/4 x 3-1/4	.016"A	None	40	2	6	14-7/8	15	1830
1"C	3-1/4 x 3-1/4	.016"A	None	40	3	6	20-7/8	12.13	2480
1"C	3-1/4 x 3-1/4	.016"A	None	48	2	6	14-7/8	15	1940
1"C	3-1/4 x 3-1/4	.016"A	None	48	3	6	20-7/8	12.13	2600
1"C	4-1/4 x 4-1/4	.016"A	None	32	2	6	14-7/8	15	2300
1"C	4-1/4 x 4-1/4	.016"A	None	32	3	6	20-7/8	12.13	3130
1"C	4-1/4 x 4-1/4	.016"A	None	40	2	6	14-7/8	15	2440
1"C	4-1/4 x 4-1/4	.016"A	None	40	3	6	20-7/8	12.13	3250
1"C	4-1/4 x 4-1/4	.016"A	None	48	2	6	14-7/8	15	2550
1"C	4-1/4 x 4-1/4	.016"A	None	48	3	6	20-7/8	12.13	3330
1-1/4"C	2-3/4 x 4	.016"A	None	32	3	6	20-7/8	12.13	2610
1-1/4"C	2-3/4 x 4	.016"A	None	32	2	6	14-7/8	15	1840
1-1/4"C	2-3/4 x 4	.016"A	None	40	3	6	20-7/8	12.13	2800
1-1/4"C	2-3/4 x 4	.016"A	None	40	2	6	14-7/8	15	2010
1-1/4"C	2-3/4 x 4	.016"A	None	48	2	6	14-7/8	15	2170
1-1/4"C	2-3/4 x 4	.016"A	None	48	3	6	20-7/8	12.13	2980
1-1/4"C	3-1/4 x 3-1/4	.016"A	None	32	3	6	20-7/8	12.13	2300
1-1/4"C	3-1/4 x 3-1/4	.016"A	None	32	2	6	14-7/8	15	1680
1-1/4"C	3-1/4 x 3-1/4	.016"A	None	40	3	6	20-7/8	12.13	2430
1-1/4"C	3-1/4 x 3-1/4	.016"A	None	40	2	6	14-7/8	15	1820
1-1/4"C	3-1/4 x 3-1/4	.016"A	None	48	2	6	14-7/8	15	1920
1-1/4"C	3-1/4 x 3-1/4	.016"A	None	48	3	6	20-7/8	12.13	2520
1-1/4"C	4-1/4 x 4-1/4	.016"A	None	32	2	6	14-7/8	15	2440
1-1/4"C	4-1/4 x 4-1/4	.016"A	None	32	3	6	20-7/8	12.13	3270
1-1/4"C	4-1/4 x 4-1/4	.016"A	None	40	3	6	20-7/8	12.13	3430
1-1/4"C	4-1/4 x 4-1/4	.016"A	None	40	2	6	14-7/8	15	2600
1-1/4"C	4-1/4 x 4-1/4	.016"A	None	48	2	6	14-7/8	15	2680
1-1/4"C	4-1/4 x 4-1/4	.016"A	None	48	3	6	20-7/8	12.13	3510
1"S	3-1/4 x 3-1/4	.029"S	Galv*	32	3	6	20-7/8	12.13	2150
1"S	3-1/4 x 3-1/4	.029"S	Galv*	32	2	6	14-7/8	15	1550
1"S	3-1/4 x 3-1/4	.029"S	Galv*	40	3	6	20-7/8	12.13	2280
1"S	3-1/4 x 3-1/4	.029"S	Galv*	40	2	6	14-7/8	15	1650
1"S	3-1/4 x 3-1/4	.029"S	Galv*	48	3	6	20-7/8	12.13	2400
1"S	3-1/4 x 3-1/4	.029"S	Galv*	48	2	6	14-7/8	15	1740
1"S	4-1/4 x 4-1/4	.029"S	Galv*	32	2	6	14-7/8	15	2010
1"S	4-1/4 x 4-1/4	.029"S	Galv*	32	3	6	20-7/8	12.13	2810
1"S	4-1/4 x 4-1/4	.029"S	Galv*	40	3	6	20-7/8	12.13	2820
1"S	4-1/4 x 4-1/4	.029"S	Galv*	40	2	6	14-7/8	15	2070
1"S	4-1/4 x 4-1/4	.029"S	Galv*	48	2	6	14-7/8	15	2130
1"S	4-1/4 x 4-1/4	.029"S	Galv*	48	3	6	20-7/8	12.13	2830
2"S	4-1/4 x 4-1/4	.029"S	Galv*	48	2	6	14-7/8	15	1990
2"S	4-1/4 x 4-1/4	.029"S	Galv*	48	3	6	20-7/8	12.13	2610

*Galv. = Galvanized

I=B=R Steam Ratings in btuh/ft of active length at 215F steam, 65F air. Ratings approved for use with hot water (Table I).

Bare Element

3/4"C	2-3/4 x 4	.016"A	None	32	1	8-7/8	15	1010
3/4"C	2-3/4 x 4	.016"A	None	40	1	8-7/8	15	1160
3/4"C	2-3/4 x 4	.016"A	None	48	1	8-7/8	15	1310
3/4"C	3-1/4 x 3-1/4	.016"A	None	32	1	8-7/8	15	940
3/4"C	3-1/4 x 3-1/4	.016"A	None	40	1	8-7/8	15	1060
3/4"C	3-1/4 x 3-1/4	.016"A	None	48	1	8-7/8	15	1190
3/4"C	4-1/4 x 4-1/4	.016"A	None	32	1	8-7/8	15	1260
3/4"C	4-1/4 x 4-1/4	.016"A	None	40	1	8-7/8	15	1420
3/4"C	4-1/4 x 4-1/4	.016"A	None	48	1	8-7/8	15	1590
1"C	2-3/4 x 4	.016"A	None	32	1	8-7/8	15	1010
1"C	2-3/4 x 4	.016"A	None	40	1	8-7/8	15	1190
1"C	2-3/4 x 4	.016"A	None	48	1	8-7/8	15	1300
1"C	3-1/4 x 3-1/4	.016"A	None	32	1	8-7/8	15	930
1"C	3-1/4 x 3-1/4	.016"A	None	40	1	8-7/8	15	1050
1"C	3-1/4 x 3-1/4	.016"A	None	48	1	8-7/8	15	1210
1"C	4-1/4 x 4-1/4	.016"A	None	32	1	8-7/8	15	1300
1"C	4-1/4 x 4-1/4	.016"A	None	40	1	8-7/8	15	1460
1"C	4-1/4 x 4-1/4	.016"A	None	48	1	8-7/8	15	1620
1-1/4"C	2-3/4 x 4	.016"A	None	32	1	8-7/8	15	1010
1-1/4"C	2-3/4 x 4	.016"A	None	40	1	8-7/8	15	1150
1-1/4"C	2-3/4 x 4	.016"A	None	48	1	8-7/8	15	1290
1-1/4"C	3-1/4 x 3-1/4	.016"A	None	32	1	8-7/8	15	920
1-1/4"C	3-1/4 x 3-1/4	.016"A	None	40	1	8-7/8	15	1030
1-1/4"C	3-1/4 x 3-1/4	.016"A	None	48	1	8-7/8	15	1130
1-1/4"C	4-1/4 x 4-1/4	.016"A	None	32	1	8-7/8	15	1350
1-1/4"C	4-1/4 x 4-1/4	.016"A	None	40	1	8-7/8	15	1500
1-1/4"C	4-1/4 x 4-1/4	.016"A	None	48	1	8-7/8	15	1650

Tube Size and Material	Fin Size H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating
1"S	3-1/4 x 3-1/4	.029"S	Galv*	32	1	8-7/8	15	890	
1"S	3-1/4 x 3-1/4	.029"S	Galv*	40	1	8-7/8	15	960	
1"S	3-1/4 x 3-1/4	.029"S	Galv*	48	1	8-7/8	15	1030	
1"S	4-1/4 x 4-1/4	.029"S	Galv*	32	1	8-7/8	15	1140	
1"S	4-1/4 x 4-1/4	.029"S	Galv*	40	1	8-7/8	15	1250	
1"S	4-1/4 x 4-1/4	.029"S	Galv*	48	1	8-7/8	15	1360	
1-1/4"S	3-1/4 x 3-1/4	.029"S	Galv*	32	1	8-7/8	15	870	
1-1/4"S	3-1/4 x 3-1/4	.029"S	Galv*	40	1	8-7/8	15	930	
1-1/4"S	3-1/4 x 3-1/4	.029"S	Galv*	48	1	8-7/8	15	980	
1-1/4"S	4-1/4 x 4-1/4	.029"S	Galv*	32	1	8-7/8	15	1130	
1-1/4"S	4-1/4 x 4-1/4	.029"S	Galv*	40	1	8-7/8	15	1240	
1-1/4"S	4-1/4 x 4-1/4	.029"S	Galv*	48	1	8-7/8	15	1350	
2"S	4-1/4 x 4-1/4	.029"S	Galv*	32	1	8-7/8	15	1090	
2"S	4-1/4 x 4-1/4	.029"S	Galv*	40	1	8-7/8	15	1200	
2"S	4-1/4 x 4-1/4	.029"S	Galv*	48	1	8-7/8	15	1310	

*Galv. = Galvanized

SIGMA CORP.

Bare Element - Sigma

1"C	4 x 4	.016"A	None	49	1	8-7/8	15	1490
1-1/4"C	4 x 4	.016"A	None	49	1	9-3/32	15	1520

I=B=R Steam Ratings in btuh/ft of active length at 215F steam, 65F air. Ratings approved for use with hot water (Table I).

WALL FIN

Bare Element

3/4"C	2-3/4 x 3	.016"A	None	49	1	8-11/16	15	1040
3/4"C	2-3/4 x 4	.016"A	None	49	1	8-11/16	15	1310
3/4"C	3 x 4	.016"A	None	49	1	8-11/16	15	1350
3/4"C	4 x 4	.016"A	None	49	1	8-11/16	15	1460
3/4"C	4 x 4	.020"A	None	49	1	8-11/16	15	1540
1"C	2-3/4 x 3	.016"A	None	49	1	8-7/8	15	990
1"C	2-3/4 x 4	.016"A	None	49	1	8-7/8	15	1270
1"C	3 x 4	.016"A	None	49	1	8-7/8	15	1330
1"C	4 x 4	.020"A	None	49	1	8-7/8	15	1580
1-1/4"C	2-3/4 x 3	.016"A	None	49	1	9-3/32	15	940
1-1/4"C	2-3/4 x 4	.016"A	None	49	1	9-3/32	15	1240
1-1/4"C	3 x 4	.016"A	None	49	1	9-3/32	15	1310
1-1/4"C	4 x 4	.020"A	None	49	1	9-3/32	15	1620

Inclined Outlet - Louvered

1-1/4"C	4 x 4	.020"A	None	49	1	12	13-1/4	10	1670
1-1/4"C	4 x 4	.020"A	None	49	1	18	19-1/4	9.17	1970
1-1/4"C	4 x 4	.020"A	None	49	1	24	25-1/4	5.17	2200

SLANT/FIN CORPORATION

I=B=R Steam Ratings in btuh/ft of active length at 215F steam, 65F air. Ratings approved for use with hot water (Table I).

Bare Element

3/4"C	3 x 3-1/4	.024"A	None	48	1	5-1/2	15	1090
3/4"C	4-1/4 x 4-1/4	.020"A	None	40.2	1	10	15	1610
1"C	4-1/4 x 4-1/4	.020"A	None	40.2	1	10	15	1650
1-1/4"C	3 x 3-1/4	.020"A	None	48	1	5-1/2	15	940
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40.2	1	10	15	1700
1-1/4"S	3 x 3-1/4	.028"S	Galv*	48	1	5-7/16	15	850
1-1/4"S	4-1/4 x 4-1/4	.024"S	Galv*	32	1	10	15	1080
1-1/4"S	4-1/4 x 4-1/4	.024"S	Galv*	40				

FINNED TUBE

Tube Size and Material	Fin Size and H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating	
SLANT/FIN CORPORATION										
Top Outlet - Louvered										
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40.2	1	14	18-3/16	0	1690	
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40.2	1	9-7/8	14-1/16	0	1620	
1-1/4"S	4-1/4 x 4-1/4	.024"S	Alum*	40	1	14	18-3/16	0	1190	
1-1/4"S	4-1/4 x 4-1/4	.024"S	Alum*	40	1	9-7/8	14-1/16	0	1210	
NOTE: Ratings are without optional back panel. *Alum. = Aluminized										
STERLING HYDRONICS DIVISION OF MESTEK, INC.										
Bare Element - Sterling										
1"C	2-3/4 x 3-3/4	.0135"A	None	50	1		8-7/8	15	1270	
1"C	2-3/4 x 5	.020"A	None	50	1		8-7/8	15	1610	
1-1/4"C	2-3/4 x 3-3/4	.020"A	None	50	1		8-7/8	15	1250	
1-1/4"C	2-3/4 x 5	.020"A	None	50	1		8-7/8	15	1600	
I=B=R Steam Ratings in btuh/ft of active length at 215F steam, 65F air. Ratings approved for use with hot water (Table I). Bare element ratings approved for flat top cover (Table J) and .96 expanded metal cover factor (Table K).										
CLASSIC SLIMLINE										
Top Outlet - (JVK-AR11) Louvered										
3/4"C	2-1/2 x 2-3/4	.010"A	None	60	1	11	14-15/16	0	1030	
1"C	5 x 2-3/4	.020"A	None	50	1	11	14-15/16	0	1170	
VERSA-LINE										
Bare Element										
3/4"C	2-3/4 x 3-3/4	.0135"A	None	50	1		8-7/8	15	1280	
3/4"C	3-1/4 x 3-1/4	.020"A	None	32	1		8-7/8	15	970	
3/4"C	3-1/4 x 3-1/4	.020"A	None	40	1		8-7/8	15	1140	
3/4"C	3-1/4 x 3-1/4	.020"A	None	50	1		8-7/8	15	1260	
3/4"C	3-5/8 x 4-1/4	.020"A	None	32	1		9-3/8	15	1210	
3/4"C	3-5/8 x 4-1/4	.020"A	None	40	1		9-3/8	15	1450	
3/4"C	3-5/8 x 4-1/4	.020"A	None	50	1		9-3/8	15	1600	
1"C	3-1/4 x 3-1/4	.020"A	None	32	1		8-7/8	15	970	
1"C	3-1/4 x 3-1/4	.020"A	None	40	1		8-7/8	15	1080	
1"C	3-1/4 x 3-1/4	.020"A	None	50	1		8-7/8	15	1210	
1"C	3-5/8 x 4-1/4	.020"A	None	32	1		9-3/8	15	1260	
1"C	3-5/8 x 4-1/4	.020"A	None	40	1		9-3/8	15	1410	
1"C	3-5/8 x 4-1/4	.020"A	None	50	1		9-3/8	15	1600	
1"C	4-1/4 x 4-1/4	.020"A	None	32	1		9-3/8	15	1340	
1"C	4-1/4 x 4-1/4	.020"A	None	40	1		9-3/8	15	1490	
1"C	4-1/4 x 4-1/4	.020"A	None	50	1		9-3/8	15	1680	
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	32	1		8-7/8	15	970	
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	1		8-7/8	15	1070	
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	50	1		8-7/8	15	1160	
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	32	1		9-3/8	15	1310	
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	40	1		9-3/8	15	1440	
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	50	1		9-3/8	15	1600	
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	32	1		9-3/8	15	1400	
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	1		9-3/8	15	1660	
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	2	6	15-3/8	15	2680	
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	3	6	21-3/8	11.60	3490	
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	50	1		9-3/8	15	1710	
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	50	2	6	15-3/8	15	2460	
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	50	3	6	21-3/8	11.60	3200	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	32	1		9-3/8	15	1310	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	32	2	6	15-3/8	15	2300	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	32	3	6	21-3/8	11.60	3030	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1		9-3/8	15	1480	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	2	6	15-3/8	15	2440	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	3	6	21-3/8	11.60	3170	
2"S	4-1/4 x 4-1/4	.032"S	Black	25	1		9-3/8	15	1140	
2"S	4-1/4 x 4-1/4	.032"S	Black	25	2	6	15-3/8	15	2030	
2"S	4-1/4 x 4-1/4	.032"S	Black	25	3	6	21-3/8	11.60	2700	
2"S	4-1/4 x 4-1/4	.032"S	Black	32	1		9-3/8	15	1320	
2"S	4-1/4 x 4-1/4	.032"S	Black	32	2	6	15-3/8	15	2230	
2"S	4-1/4 x 4-1/4	.032"S	Black	32	3	6	21-3/8	11.60	2910	
Front Outlet - (JVB-F) Louvered										
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	32	1	14	17-1/8	15	1320	
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	32	1	20	23-1/8	9.88	1370	
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	32	2	6	20	23-1/8	9.88	2140
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	32	1	24	27-1/8	5.88	1410	
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	32	2	6	24	27-1/8	5.88	2200
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	32	1	14	17-1/8	15	1360	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	32	1	20	23-1/8	9.88	1370	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	32	2	6	20	23-1/8	9.88	2190

Tube Size and Material	Fin Size and H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	32	1	24	27-1/8	5.88	1380	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	32	2	6	24	27-1/8	5.88	2230
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	32	2	10	24	27-1/8	5.88	2290
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1	20	23-1/8	9.88	1620	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	2	6	20	23-1/8	9.88	2350
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1	24	27-1/8	5.88	1660	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	2	6	24	27-1/8	5.88	2400
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	2	10	24	27-1/8	5.88	2520
2"S	4-1/4 x 4-1/4	.032"S	Black	25	1	14	17-1/8	15	1210	
2"S	4-1/4 x 4-1/4	.032"S	Black	25	1	20	23-1/8	9.88	1220	
2"S	4-1/4 x 4-1/4	.032"S	Black	25	2	6	20	23-1/8	9.88	1910
2"S	4-1/4 x 4-1/4	.032"S	Black	25	1	24	27-1/8	5.88	1230	
2"S	4-1/4 x 4-1/4	.032"S	Black	25	2	6	24	27-1/8	5.88	1940
2"S	4-1/4 x 4-1/4	.032"S	Black	25	2	10	24	27-1/8	5.88	2020
2"S	4-1/4 x 4-1/4	.032"S	Black	32	1	14	17-1/8	15	1380	
2"S	4-1/4 x 4-1/4	.032"S	Black	32	1	20	23-1/8	9.88	1420	
2"S	4-1/4 x 4-1/4	.032"S	Black	32	2	6	20	23-1/8	9.88	2130
2"S	4-1/4 x 4-1/4	.032"S	Black	32	1	24	27-1/8	5.88	1450	
2"S	4-1/4 x 4-1/4	.032"S	Black	32	2	6	24	27-1/8	5.88	2170
2"S	4-1/4 x 4-1/4	.032"S	Black	32	2	10	24	27-1/8	5.88	2240
Front/Top - (JVA-FT) Louvered										
1"C	3-1/4 x 3-1/4	.020"A	None	50	1	14	16-5/32	8.89	1290	
Front/Top - (JVB-FT) Louvered										
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	32	1	14	16-5/32	7.50	1250	
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	32	1	20	22-5/32	5.42	1300	
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	32	2	6	20	22-5/32	5.42	1990
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	32	1	24	26-5/32	3.42	1350	
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	32	2	6	24	26-5/32	3.42	2050
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	40	1	14	16-5/32	7.50	1630	
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	40	1	20	22-5/32	5.42	1740	
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	40	2	6	20	22-5/32	5.42	2440
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	40	1	24	26-5/32	3.42	1780	
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	40	2	6	24	26-5/32	3.42	2520
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	50	1	14	16-5/32	7.50	1820	
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	50	1	20	22-5/32	5.42	1970	
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	50	2	6	20	22-5/32	5.42	2460
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	50	1	24	26-5/32	3.42	2040	
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	50	2	6	24	26-5/32	3.42	2620
1-1/4"C	3-5/8 x 4-1/4	.020"A	None	50	2	10	24	26-5/32	3.42	2720
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	32	1	14	16-5/32	7.50	1290	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	32	1	20	22-5/32	5.42	1320	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	32	2	6	20	22-5/32	5.42	2060
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	32	1	24	26-5/32	3.42	1340	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	32	2	6	24	26-5/32	3.42	2100
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	32	2	10	24	26-5/32	3.42	2200
2"S	4-1/4 x 4-1/4	.032"S	Black	25	1	20	22-5/32	5.42	1190	
2"S	4-1/4 x 4-1/4	.032"S	Black	25	2	6	20	22-5/32	5.42	1870
2"S	4-1/4 x 4-1/4	.032"S	Black	25	1	24	26-5/32	3.42	1210	
2"S	4-1/4 x 4-1/4	.032"S	Black	25	2	6	24	26-5/32	3.42	1920
2"S	4-1/4 x 4-1/4	.032"S	Black	25	2	10	24	26-5/32	3.42	1990
2"S	4-1/4 x 4-1/4	.032"S	Black	32	1					

FINNED TUBE

Tube Size and Material	Fin Size H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating
STERLING HYDRONICS DIVISION OF MESTEK, INC.									
VERSA-LINE									
Inclined Outlet - (JVB-S) Louvered									
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	32	2	6	20	21-3/16	7.88	2050
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	32	1		24	25-3/16	5.21	1420
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	32	2	6	24	25-3/16	5.21	2140
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	40	1		14	15-3/16	10	1460
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	40	1		20	21-3/16	7.88	1550
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	40	2	6	20	21-3/16	7.88	2210
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	40	1		24	25-3/16	5.21	1610
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	40	2	6	24	25-3/16	5.21	2310
2"S	4-1/4 x 4-1/4	.032"S Black	25	1		14	15-3/16	10	1130
2"S	4-1/4 x 4-1/4	.032"S Black	25	1		20	21-3/16	7.88	1160
2"S	4-1/4 x 4-1/4	.032"S Black	25	2	6	20	21-3/16	7.88	1830
2"S	4-1/4 x 4-1/4	.032"S Black	25	1		24	25-3/16	5.21	1180
2"S	4-1/4 x 4-1/4	.032"S Black	25	2	6	24	25-3/16	5.21	1830
2"S	4-1/4 x 4-1/4	.032"S Black	25	2	10	24	25-3/16	5.21	1900
2"S	4-1/4 x 4-1/4	.032"S Black	32	1		14	15-3/16	10	1330
2"S	4-1/4 x 4-1/4	.032"S Black	32	1		20	21-3/16	7.88	1380
2"S	4-1/4 x 4-1/4	.032"S Black	32	2	6	20	21-3/16	7.88	2010
2"S	4-1/4 x 4-1/4	.032"S Black	32	1		24	25-3/16	5.21	1420
2"S	4-1/4 x 4-1/4	.032"S Black	32	2	6	24	25-3/16	5.21	2070
2"S	4-1/4 x 4-1/4	.032"S Black	32	2	10	24	25-3/16	5.21	2150
Inclined Outlet - (JVK-S) Louvered									
3/4"C	2-1/2 x 2-3/4	.011"A None	56.5	1		8	8-5/16	10	950
1"C	2-1/2 x 2-3/4	.011"A None	55	1		11	11-5/16	10	1050
1"C	5 x 2-3/4	.020"A None	50	1		11	11-5/16	10	1220
Inclined Outlet - (LCS 10) Louvered									
3/4"C	3-3/4 x 2-3/4	.011"A None	50	1		10-1/4	12-3/4	10	1170
1"C	5 x 2-3/4	.020"A None	50	1		10-1/4	12-3/4	10	1210
1-1/4"C	5 x 2-3/4	.020"A None	50	1		10-1/4	12-3/4	10	1230
1"S	5 x 2-3/4	.024"S Black	40	1		10-1/4	12-3/4	10	910
Round Outlet - (JVA-RD) Louvered									
1"C	3-1/4 x 3-1/4	.020"A None	50	1		14	16-7/8	6.37	1430
Top Outlet - (Classic)									
1"C	3-1/4 x 3-1/4	.020"A None	50	1		14	17-29/32	0	1270
1-1/4"C	3-5/8 x 4-1/4	.020"A None	50	1		14	17-29/32	0	1760
1-1/4"C	3-5/8 x 4-1/4	.020"A None	50	1		20	23-29/32	0	1920
1-1/4"C	3-5/8 x 4-1/4	.020"A None	50	2	6	20	23-29/32	0	2370
1-1/4"C	3-5/8 x 4-1/4	.020"A None	50	1		24	27-29/32	0	2050
1-1/4"C	3-5/8 x 4-1/4	.020"A None	50	2	6	24	27-29/32	0	2500
1-1/4"C	3-5/8 x 4-1/4	.020"A None	50	2	10	24	27-29/32	0	2630
1-1/4"C	4-1/4 x 4-1/4	.020"A None	50	1		14	17-29/32	0	1870
1-1/4"C	4-1/4 x 4-1/4	.020"A None	50	1		20	23-29/32	0	2050
1-1/4"C	4-1/4 x 4-1/4	.020"A None	50	2	6	20	23-29/32	0	2460
1-1/4"C	4-1/4 x 4-1/4	.020"A None	50	1		24	27-29/32	0	2210
1-1/4"C	4-1/4 x 4-1/4	.020"A None	50	2	6	24	27-29/32	0	2650
1-1/4"C	4-1/4 x 4-1/4	.020"A None	50	2	10	24	27-29/32	0	2780
Top Outlet - (JVA-T) Louvered									
1"C	3-1/4 x 3-1/4	.020"A None	50	1		14	17-15/16	0	1220
Top Outlet - (JVB-E) Louvered									
1"C	4-1/4 x 4-1/4	.020"A None	40	1		12-1/8	16-1/8	0	1480
1"C	4-1/4 x 4-1/4	.020"A None	40	2	6	12-1/8	16-1/8	0	2010
Top Outlet - (JVB-T) Louvered									
1-1/4"C	3-5/8 x 4-1/4	.020"A None	32	1		20	23-15/16	0	1270
1-1/4"C	3-5/8 x 4-1/4	.020"A None	32	2	6	20	23-15/16	0	1990
1-1/4"C	3-5/8 x 4-1/4	.020"A None	32	1		24	27-15/16	0	1310
1-1/4"C	3-5/8 x 4-1/4	.020"A None	32	2	6	24	27-15/16	0	2060
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	32	1		14	17-15/16	0	1150
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	32	1		20	23-15/16	0	1200
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	32	2	6	20	23-15/16	0	1940
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	32	1		24	27-15/16	0	1230
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	32	2	6	24	27-15/16	0	1990
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	32	2	10	24	27-15/16	0	2080
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	40	1		14	17-15/16	0	1410
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	40	1		20	23-15/16	0	1490
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	40	2	6	20	23-15/16	0	2190
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	40	1		24	27-15/16	0	1550
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	40	2	6	24	27-15/16	0	2260
1-1/4"S	4-1/4 x 4-1/4	.032"S Black	40	2	10	24	27-15/16	0	2410
2"S	4-1/4 x 4-1/4	.032"S Black	25	1		14	17-15/16	0	1080
2"S	4-1/4 x 4-1/4	.032"S Black	25	1		20	23-15/16	0	1120
2"S	4-1/4 x 4-1/4	.032"S Black	25	2	6	20	23-15/16	0	1790
2"S	4-1/4 x 4-1/4	.032"S Black	25	1		24	27-15/16	0	1140

Tube Size and Material	Fin Size H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating
2"S	4-1/4 x 4-1/4	.032"S Black	25	2	6	24	27-15/16	0	1820
2"S	4-1/4 x 4-1/4	.032"S Black	25	2	10	24	27-15/16	0	1920
2"S	4-1/4 x 4-1/4	.032"S Black	32	1		14	17-15/16	0	1260
2"S	4-1/4 x 4-1/4	.032"S Black	32	1		20	23-15/16	0	1310
2"S	4-1/4 x 4-1/4	.032"S Black	32	2	6	20	23-15/16	0	1980
2"S	4-1/4 x 4-1/4	.032"S Black	32	1		24	27-15/16	0	1340
2"S	4-1/4 x 4-1/4	.032"S Black	32	2	6	24	27-15/16	0	2020
2"S	4-1/4 x 4-1/4	.032"S Black	32	2	10	24	27-15/16	0	2170
Top Outlet - (JVK-T) Louvered									
1"C	2-1/2 x 2-3/4	.011"A None	55	1		11	12-15/16	0	940
TRANE PRODUCTS									
I=B=R Steam Ratings in btuh/ft of active length at 215F steam, 65F air. Ratings approved for use with hot water (Table I).									
11S									
Inclined Outlet - (LCS10) Louvered									
3/4"C	3-3/4 x 2-3/4	.011"A None	50	1		10-1/4	12-3/4	10	1170
1"C	5 x 2-3/4	.020"A None	50	1		10-1/4	12-3/4	10	1210
1-1/4"C	5 x 2-3/4	.020"A None	50	1		10-1/4	12-3/4	10	1230
1"S	5 x 2-3/4	.024"S Black	40	1		10-1/4	12-3/4	10	910
ARCHITECTURAL WALL FIN									
Bare Element									
3/4"C	3-1/4 x 3-1/4	.0135"A None	40	1			8-1/2	15	1110
3/4"C	3-1/4 x 3-1/4	.0135"A None	40	2	5-1/2		14	15	2000
3/4"C	3-1/4 x 3-1/4	.0135"A None	40	2	9-1/2		18	15	2090
3/4"C	3-1/4 x 3-1/4	.0135"A None	40	3	9-1/2		27-1/2	5.50	2820
3/4"C	3-1/4 x 3-1/4	.0135"A None	50	1			8-1/2	15	1150
3/4"C	3-1/4 x 3-1/4	.0135"A None	50	2	5-1/2		14	15	1950
3/4"C	3-1/4 x 3-1/4	.0135"A None	50	2	9-1/2		18	15	2090
3/4"C	3-1/4 x 3-1/4	.0135"A None	50	3	9-1/2		27-1/2	5.50	2790
3/4"C	3-1/4 x 3-1/4	.0135"A None	58	1			8-1/2	15	1170
3/4"C	3-1/4 x 3-1/4	.0135"A None	58	2	5-1/2		14	15	1920
3/4"C	3-1/4 x 3-1/4	.0135"A None	58	2	9-1/2		18	15	2090
3/4"C	3-1/4 x 3-1/4	.0135"A None	58	3	9-1/2		27-1/2	5.50	2750
1"C	3-1/4 x 3-1/4	.0135"A None	40	1			8-1/2	15	1110
1"C	3-1/4 x 3-1/4	.0135"A None	40	2	5-1/2		14	15	2000
1"C	3-1/4 x 3-1/4	.0135"A None	40	2	9-1/2		18	15	2090
1"C	3-1/4 x 3-1/4	.0135"A None	40	3	9-1/2		27-1/2	5.50	2820
1"C	3-1/4 x 3-1/4	.0135"A None	50	1			8-1/2	15	1140
1"C	3-1/4 x 3-1/4	.0135"A None	50	2	5-1/2		14	15	1920
1"C	3-1/4 x 3-1/4	.0135"A None	50	2	9-1/2		18	15	2070
1"C	3-1/4 x 3-1/4	.0135"A None	50	3	9-1/2		27-1/2	5.50	2760
1"C	3-1/4 x 3-1/4	.0135"A None	58	1			8-1/2	15	1150
1"C	3-1/4 x 3-1/4	.0135"A None	58	2	5-1/2		14	15	1890
1"C	3-1/4 x 3-1/4	.0135"A None	58	2	9-1/2		18	15	2050
1"C	3-1/4 x 3-1/4	.0135"A None	58	3	9-1/2		27-1/2	5.50	2700
1-1/4"C	3-1/4 x 3-1/4	.0135"A None	40	1			8-1/2	15	1120
1-1/4"C	3-1/4 x 3-1/4	.0135"A None	40	2	5-1/2		14	15	2010
1-1/4"C	3-1/4 x 3-1/4	.0135"A None	40	2	9-1/2		18	15	2100
1-1/4"C	3-1/4 x 3-1/4	.0135"A None	40	3	9-1/2		27-1/2	5.50	2820
1-1/4"C	3-1/4 x 3-1/4	.0135"A None	50	1			8-1/2	15	1140
1-1/4"C	3-1/4 x 3-1/4	.0135"A None	50	2	5-1/2		14	15	1910
1-1/4"C	3-1/4 x 3-1/4	.0135"A None	50	2	9-1/2		18	15	

FINNED TUBE

Tube Size and Material	Fin Size H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating	Tube Size and Material	Fin Size H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating	
TRANE PRODUCTS																				
ARCHITECTURAL WALL FIN																				
Front Outlet - (F) Louvered																				
3/4"C	3-1/4 x 3-1/4	.0135"A	None	40	1	18	20-3/4	12.30	1280	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	10	12-1/8	7.50	1220	
3/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	10	12-3/4	15	1190	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	14	16-1/8	7.50	1350	
3/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	14	16-3/4	15	1330	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	50	2	5-1/2	14	16-1/8	7.50	1620
3/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	18	20-3/4	12.30	1410	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	18	20-1/8	6.40	1460	
3/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	10	12-3/4	15	1200	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	50	2	9-1/2	18	20-1/8	6.40	1880
3/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	14	16-3/4	15	1400	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	10	12-1/8	7.50	1250	
3/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	18	20-3/4	12.30	1520	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	14	16-1/8	7.50	1430	
1"C	3-1/4 x 3-1/4	.0135"A	None	40	1	10	12-3/4	15	1180	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	58	2	5-1/2	14	16-1/8	7.50	1630
1"C	3-1/4 x 3-1/4	.0135"A	None	40	1	14	16-3/4	15	1250	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	58	2	9-1/2	18	20-1/8	6.40	1920
1"C	3-1/4 x 3-1/4	.0135"A	None	40	1	18	20-3/4	12.30	1310	1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	40	1	12	13-1/4	7.50	1710	
1"C	3-1/4 x 3-1/4	.0135"A	None	50	1	10	12-3/4	15	1180	1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	40	2	5-1/2	16	17-1/4	7.50	2490
1"C	3-1/4 x 3-1/4	.0135"A	None	50	1	14	16-3/4	15	1330	1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	40	1	20	21-1/4	5.90	1850	
1"C	3-1/4 x 3-1/4	.0135"A	None	50	1	18	20-3/4	12.30	1450	1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	40	2	9-1/2	20	21-1/4	5.90	2750
1"C	3-1/4 x 3-1/4	.0135"A	None	58	1	10	12-3/4	15	1180	1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	50	1	12	13-1/4	7.50	1950	
1"C	3-1/4 x 3-1/4	.0135"A	None	58	1	14	16-3/4	15	1390	1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	50	1	16	17-1/4	7.50	2110	
1"C	3-1/4 x 3-1/4	.0135"A	None	58	1	18	20-3/4	12.30	1560	1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	50	2	5-1/2	16	17-1/4	7.50	2690
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	40	1	10	12-3/4	15	1190	1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	50	1	20	21-1/4	5.90	2250	
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	40	1	14	16-3/4	15	1270	1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	50	2	5-1/2	16	17-1/4	7.50	2670
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	40	1	18	20-3/4	12.30	1320	1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	58	1	20	21-1/4	5.90	2410	
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	10	12-3/4	15	1180	1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	58	2	9-1/2	20	21-1/4	5.90	3080
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	14	16-3/4	15	1340	1-1/4"C	2-1/2 x 5-3/16	.027"S	Black	52	1	12	15-7/32	7.50	1530	
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	18	20-3/4	12.30	1460	1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	1	16	18-7/32	7.40	1650	
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	10	12-3/4	15	1170	1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	2	4	16	18-7/32	7.40	2200
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	14	16-3/4	15	1390	1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	1	20	21-7/32	5.90	1740	
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	18	20-3/4	12.30	1570	1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	2	4	20	21-7/32	5.90	2380
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	40	1	12	14-13/16	15	1710	1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	2	8	20	21-7/32	5.90	2460
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	40	1	16	18-13/16	14.20	1790	Louvered - (Type E) Louvered										
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	40	1	20	22-13/16	10.20	1840	1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	1	3-7/8	9-7/8	0	1170	
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	50	1	12	14-13/16	15	1800	Top Outlet - (T) Louvered										
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	50	1	16	18-13/16	14.20	1960	3/4"C	3-1/4 x 3-1/4	.0135"A	None	40	1	10	13-9/16	0	1060	
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	50	1	20	22-13/16	10.20	2070	3/4"C	3-1/4 x 3-1/4	.0135"A	None	40	1	14	17-9/16	0	1100	
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	58	1	12	14-13/16	15	1870	3/4"C	3-1/4 x 3-1/4	.0135"A	None	40	1	18	21-9/16	0	1150	
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	58	1	16	18-13/16	14.20	2100	3/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	10	13-9/16	0	1160	
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	58	1	20	22-13/16	10.20	2260	3/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	14	17-9/16	0	1250	
1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	1	12	14-13/16	15	1370	3/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	18	21-9/16	0	1330	
1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	1	16	18-13/16	13.30	1510	3/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	10	13-9/16	0	1230	
1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	2	4	16	18-13/16	13.30	2060	3/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	14	17-9/16	0	1340
1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	1	20	22-13/16	10.30	1640	3/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	18	21-9/16	0	1460	
1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	2	4	20	22-13/16	10.30	2220	1"C	3-1/4 x 3-1/4	.0135"A	None	40	1	10	13-9/16	0	1070
1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	2	8	20	22-13/16	10.30	2380	1"C	3-1/4 x 3-1/4	.0135"A	None	40	1	14	17-9/16	0	1110
Inclined Outlet - (S) Louvered										1"C	3-1/4 x 3-1/4	.0135"A	None	40	1	18	21-9/16	0	1160	
3/4"C	3-1/4 x 3-1/4	.0135"A	None	40	1	10	12-1/8	7.50	1090	1"C	3-1/4 x 3-1/4	.0135"A	None	40	1	10	13-9/16	0	1170	
3/4"C	3-1/4 x 3-1/4	.0135"A	None	40	1	14	16-1/8	7.50	1140	1"C	3-1/4 x 3-1/4	.0135"A	None	50	1	14	17-9/16	0	1260	
3/4"C	3-1/4 x 3-1/4	.0135"A	None	40	2	5-1/2	14	16-1/8	7.50	1610	1"C	3-1/4 x 3-1/4	.0135"A	None	50	1	18	21-9/16	0	1350
3/4"C	3-1/4 x 3-1/4	.0135"A	None	40	1	18	20-1/8	6.40	1150	1"C	3-1/4 x 3-1/4	.0135"A	None	58	1	10	13-9/16	0	1230	
3/4"C	3-1/4 x 3-1/4	.0135"A	None	40	2	9-1/2	18	20-1/8	6.40	1830	1"C	3-1/4 x 3-1/4	.0135"A	None	58	1	14	17-9/16	0	1350
3/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	10	12-1/8	7.50	1230	1"C	3-1/4 x 3-1/4	.0135"A	None	58	1	18	21-9/16	0	1470	
3/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	14	16-1/8	7.50	1330	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	40	1	10	13-9/16	0	1080	
3/4"C	3-1/4 x 3-1/4	.0135"A	None	50	2	5-1/2	14	16-1/8	7.50	1680	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	40	1	14	17-9/16	0	1120
3/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	18	20-1/8	6.40	1410	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	40	1	18	21-9/16	0	1170	
3/4"C	3-1/4 x 3-1/4	.0135"A	None	50	2	9-1/2	18	20-1/8	6.40	1950	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	10	13-9/16	0	1180
3/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	10	12-1/8	7.50	1270	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	14	17-9/16	0	1270	
3/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	14	16-1/8	7.50	1410	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	18	21-9/16	0	1360	
3/4"C	3-1/4 x 3-1/4	.0135"A	None	58	2	5-1/2	14	16-1/8	7.50	1730	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	10	13-9/16	0	1230
3/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	18	20-1/8	6.40	1550	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	14	17-9/16	0	1360	
3/4"C	3-1/4 x 3-1/4	.0135"A	None	58	2	9-1/2	18	20-1/8	6.40	2050	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	18	21-9/16	0	1480
1"C	3-1/4 x 3-1/4	.0135"A	None	40	1	10	12-1/8	7.50	1180	1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	12	15-9/16	0	1670	
1"C	3-1/4 x 3-1/4	.0135"A	None	40	1	14	16-1/8	7.50	1230	1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	40	1	16	19-9/16	0	1710	
1"C	3-1/4 x 3-1/4	.0135"A	None	40	2	5-1/2	14	16-1/8	7.50	1610	1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	40	1	20	23-9/16	0	1780
1"C	3-1/4 x 3-1/4	.0135"A	None	40	1	18	20-1/8	6.40	1270	1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	50	1	12	15-9/16	0	1880	
1"C	3-1/4 x 3-1/4	.0135"A	None	40	2	9-1/2	18	20-1/8	6.40	1840	1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	50	1	16	19-9/16	0	1970
1"C	3-1/4 x 3-1/4	.0135"A	None	50	1	10	12-1/8	7.50	1220	1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	50	1	20	23-9/16	0	2080	
1"C	3-1/4 x 3-1/4	.0135"A	None	50	1	14	16-1/8													

FINNED TUBE

TRANE PRODUCTS											DF-LINOVECTOR													
ARCHITECTURAL WALL FIN											FRONT OUTLET - LOUVERED													
Tube Size and Material	Fin Size H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating	Tube Size and Material	Fin Size H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating					
TRANE PRODUCTS											DF-LINOVECTOR													
ARCHITECTURAL WALL FIN											FRONT OUTLET - LOUVERED													
Top Outlet - (TA)																								
3/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	10	13-1/16	0	1210	1-1/4"C	2-3/4 x 3	.016"A	None	48	1	7-3/4	15	1010						
3/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	14	17-1/16	0	1300	1-1/4"C	2-3/4 x 4-1/4	.020"A	None	33	1	7-3/4	15	1140						
3/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	18	21-1/16	0	1400	1-1/4"C	2-3/4 x 4-1/4	.020"A	None	40	1	7-3/4	15	1280						
3/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	10	13-1/16	0	1280	1-1/4"C	2-3/4 x 4-1/4	.020"A	None	48	1	7-3/4	15	1440						
3/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	14	17-1/16	0	1420	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	33	1	9	15	1050						
3/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	18	21-1/16	0	1550	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	33	2	6	15	15	1940					
1"C	3-1/4 x 3-1/4	.0135"A	None	40	1	10	13-1/16	0	1130	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	33	3	6	21	12	2590					
1"C	3-1/4 x 3-1/4	.0135"A	None	40	1	14	17-1/16	0	1180	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	1	9	15	1140						
1"C	3-1/4 x 3-1/4	.0135"A	None	40	1	18	21-1/16	0	1240	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	48	1	9	15	1210						
1"C	3-1/4 x 3-1/4	.0135"A	None	50	1	10	13-1/16	0	1210	1-1/4"C	3-1/4 x 3-1/4	.016"A	None	48	2	6	15	15	1990					
1"C	3-1/4 x 3-1/4	.0135"A	None	50	1	14	17-1/16	0	1320	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	60	1	9	15	1140						
1"C	3-1/4 x 3-1/4	.0135"A	None	50	1	18	21-1/16	0	1420	1-1/4"C	3-1/4 x 3-1/4	.016"A	None	60	1	9	15	1160						
1"C	3-1/4 x 3-1/4	.0135"A	None	58	1	10	13-1/16	0	1280	1-1/4"C	3-1/4 x 3-1/4	.016"A	None	60	2	6	15	15	2030					
1"C	3-1/4 x 3-1/4	.0135"A	None	58	1	14	17-1/16	0	1430	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	33	1	10	15	1450						
1"C	3-1/4 x 3-1/4	.0135"A	None	58	1	18	21-1/16	0	1570	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	33	2	6	16	15	2600					
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	40	1	10	13-1/16	0	1140	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	33	3	6	22	11	3550					
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	40	1	14	17-1/16	0	1200	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	1	10	15	1600						
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	40	1	18	21-1/16	0	1260	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	2	6	16	15	2760					
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	10	13-1/16	0	1220	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	2	6	16	15	2810					
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	14	17-1/16	0	1330	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	60	1	10	15	1570						
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	50	1	18	21-1/16	0	1440	1-1/4"C	4-1/4 x 4-1/4	.016"A	None	60	1	10	15	1590						
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	10	13-1/16	0	1280	1"S	2-3/4 x 3-3/4	.026"S	Black	40	1	7-3/4	15	1020						
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	14	17-1/16	0	1440	1-1/4"S	3-1/4 x 3-1/4	.032"S	Black	33	1	9	15	940						
1-1/4"C	3-1/4 x 3-1/4	.0135"A	None	58	1	18	21-1/16	0	1590	1-1/4"S	3-1/4 x 3-1/4	.032"S	Black	40	1	9	15	1000						
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	40	1	12	15	0	1750	1-1/4"S	3-1/4 x 3-1/4	.032"S	Black	48	1	9	15	1070						
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	40	1	16	19	0	1810	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	1	10	15	1320						
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	40	1	20	23	0	1890	1-1/4"S	4-1/4 x 4-1/4	.026"S	Black	33	1	10	15	1270						
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	50	1	12	15	0	1980	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	2	6	16	15	2350					
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	50	1	16	19	0	2100	1-1/4"S	4-1/4 x 4-1/4	.026"S	Black	33	2	6	16	15	2290					
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	50	1	20	23	0	2230	1-1/4"S	4-1/4 x 4-1/4	.026"S	Black	33	3	6	22	11	3010					
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	58	1	12	15	0	2110	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	3	6	22	11	3150					
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	58	1	16	19	0	2280	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1	10	15	1450						
1-1/4"C	3-1/4 x 5-1/4	.0135"A	None	58	1	20	23	0	2440	1-1/4"S	4-1/4 x 4-1/4	.026"S	Black	40	1	10	15	1360						
1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	1	12	17-1/4	0	1560	1-1/4"S	4-1/4 x 4-1/4	.026"S	Black	40	2	6	16	15	2500					
1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	1	16	20-1/4	0	1610	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	2	6	16	15	2540					
1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	2	4	16	20-1/4	0	2250	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	3	6	22	11	3270				
1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	1	20	23-1/4	0	1660	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	48	1	10	15	1470						
1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	2	4	20	23-1/4	0	2400	2"S	4-1/4 x 4-1/4	.026"S	Black	24	1	10	15	1060					
1-1/4"S	2-1/2 x 5-3/16	.027"S	Black	52	2	8	20	23-1/4	0	2490	2"S	4-1/4 x 4-1/4	.032"S	Black	24	1	10	15	1160					
VULCAN RADIATOR																								
DIVISION OF MESTEK, INC.																								
I=B=R Steam Ratings in btuh/ft of active length at 215F steam, 65F air. Ratings approved for use with hot water (Table I). Bare element ratings approved on 3-1/4" and 4-1/4" fins for flat top cover (Table I) and .964 expanded metal cover factor (Table K).																								
Bare Element																								
3/4"C	2-3/4 x 3	.016"A	None	33	1		7-3/4	15	820	2"S	4-1/4 x 4-1/4	.032"S	Black	24	2	6	16	15	2090					
3/4"C	2-3/4 x 3	.016"A	None	40	1		7-3/4	15	920	2"S	4-1/4 x 4-1/4	.026"S	Black	24	2	6	16	15	1990					
3/4"C	2-3/4 x 3	.016"A	None	48	1		7-3/4	15	1040	2"S	4-1/4 x 4-1/4	.026"S	Black	24	3	6	22	11	2610					
3/4"C	2-3/4 x 4-1/4	.020"A	None	33	1		7-3/4	15	1190	2"S	4-1/4 x 4-1/4	.032"S	Black	24	3	6	22	11	2820					
3/4"C	2-3/4 x 4-1/4	.020"A	None	40	1		7-3/4	15	1350	2"S	4-1/4 x 4-1/4	.026"S	Black	33	1	10	15	1300						
3/4"C	2-3/4 x 4-1/4	.020"A	None	48	1		7-3/4	15	1520	2"S	4-1/4 x 4-1/4	.032"S	Black	33	1	10	15	1320						
3/4"C	2-3/4 x 4-1/4	.020"A	None	60	1		7-3/4	15	1470	2"S	4-1/4 x 4-1/4	.026"S	Black	33	2	6	16	15	2250					
3/4"C	3-1/4 x 3-1/4	.020"A	None	33	1		9	15	1050	2"S	4-1/4 x 4-1/4	.032"S	Black	33	2	6	16	15	2270					
3/4"C	3-1/4 x 3-1/4	.020"A	None	40	1		9	15	1150	2"S	4-1/4 x 4-1/4	.026"S	Black	33	3	6	22	11	2930					
3/4"C	3-1/4 x 3-1/4	.020"A	None	48	1		9	15	1270	2"S	4-1/4 x 4-1/4	.032"S	Black	33	3	6	22	11	2960					
3/4"C	3-1/4 x 3-1/4	.016"A	None	60	1		9	15	1220	FRONT OUTLET - LOUVERED														
3/4"C	4-1/4 x 4-1/4	.020"A	None	33	1		10	15	1460	1"C	3-1/4 x 3-1/4	.016"A	None	60	1	12	14-7/8	15	1380					
3/4"C	4-1/4 x 4-1/4	.020"A	None	40	1		10	15	1600	1"C	3-1/4 x 3-1/4	.016"A	None	60	1	18	20-7/8	12.10	1650					
3/4"C	4-1/4 x 4-1/4	.020"A	None	48	1		10	15	1760	1"C	3-1/4 x 3-1/4	.016"A	None	60	1	24	26-7/8	6.10	1730					
1"C	2-3/4 x 3	.016"A	None	33	1		7-3/4	15	820	1"C	3-1/4 x 3-1/4	.016"A	None	60	2	12	24	26-7/8	6.10	2280				
1"C	2-3/4 x 3	.016"A	None	40	1		7-3/4	15	920	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	1	12	14-7/8	15	1210					
1"C	2-3/4 x 3	.016"A	None	48	1		7-3/4	15	1020	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	1	18	20-7/8	12.10	1370					
1"C	2-3/4 x 4-1/4	.020"A	None	33	1		7-3/4	15	1170	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	2	6	18	20-7/8	12.10	2000				
1"C	2-3/4 x 4-1/4	.020"A	None	40	1		7-3/4	15	1310	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	1	24	26-7/8	6.10	1420					
1"C	2-3/4 x 4-1/4	.020"A	None	48	1		7-3/4	15	1480	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	2	6	24	26-7/8	6.10	2080				
1"C	3-1/4 x 3-1/4	.020"A	None	33	1		9	15	1050	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	2	12	24	26-7/8	6.10	2130				
1"C	3-1/4 x 3-1/4	.020"A	None	40	1																			

FINNED TUBE

Tube Size and Material	Fin Size H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating	Tube Size and Material	Fin Size H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating		
VULCAN RADIATOR																					
DIVISION OF MESTEK, INC.																					
DF-LINOVECTOR																					
Front Outlet - Louvered																					
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	3	6	24	26-7/8	6.10	2980	1"C	3-1/4 x 3-1/4	.016"A	None	60	1	24	25-1/4	5.17	1740	
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	1		12	14-7/8	15	1750	1"C	3-1/4 x 3-1/4	.016"A	None	60	2	12	24	25-1/4	5.17	2320
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	1		18	20-7/8	12.10	2060	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	1		12	13-1/4	10	1230
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	2	6	18	20-7/8	12.10	2520	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	1		18	19-1/4	9.17	1330
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	1		24	26-7/8	6.10	2140	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	2	6	18	19-1/4	9.17	2030
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	2	6	24	26-7/8	6.10	2720	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	1		24	25-1/4	5.17	1400
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	2	12	24	26-7/8	6.10	2880	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	2	12	24	25-1/4	5.17	2160
1-1/4"C	4-1/4 x 4-1/4	.016"A	None	60	1		12	14-7/8	15	1670	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	2	6	24	25-1/4	5.17	2110
1-1/4"C	4-1/4 x 4-1/4	.016"A	None	60	1		18	20-7/8	12.10	2000	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	3	6	24	25-1/4	5.17	2400
1-1/4"C	4-1/4 x 4-1/4	.016"A	None	60	1		24	26-7/8	6.10	2150	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	48	1		12	13-1/4	10	1390
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	1		12	14-7/8	15	1370	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	48	1		18	19-1/4	9.17	1580
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	1		18	20-7/8	12.10	1430	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	48	1		24	25-1/4	5.17	1630
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	2	6	18	20-7/8	12.10	2220	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	48	2	12	24	25-1/4	5.17	2410
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	1		24	26-7/8	6.10	1460	1-1/4"C	3-1/4 x 3-1/4	.016"A	None	60	1		12	13-1/4	10	1340
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	2	6	24	26-7/8	6.10	2260	1-1/4"C	3-1/4 x 3-1/4	.016"A	None	60	1		18	19-1/4	9.17	1630
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	2	12	24	26-7/8	6.10	2360	1-1/4"C	3-1/4 x 3-1/4	.016"A	None	60	1		24	25-1/4	5.17	1760
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	3	6	24	26-7/8	6.10	2630	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	1		12	13-1/4	10	1710
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1		12	14-7/8	15	1540	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	1		18	19-1/4	9.17	1860
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1		18	20-7/8	12.10	1670	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	2	6	18	19-1/4	9.17	2520
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1		24	26-7/8	6.10	1710	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	2	12	24	25-1/4	5.17	2750
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	2	12	24	26-7/8	6.10	2550	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	3	6	24	25-1/4	5.17	3020
DR-LINOVECTOR																					
Round Outlet - Louvered																					
1"C	3-1/4 x 3-1/4	.016"A	None	60	1		12	15	7.70	1450	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	2	12	24	25-1/4	5.17	2720
1"C	3-1/4 x 3-1/4	.016"A	None	60	1		18	21	6.10	1620	1-1/4"C	4-1/4 x 4-1/4	.016"A	None	60	1		12	13-1/4	10	1670
1"C	3-1/4 x 3-1/4	.016"A	None	60	1		24	27	3.10	1730	1-1/4"C	4-1/4 x 4-1/4	.016"A	None	60	1		18	19-1/4	9.17	1970
1"C	3-1/4 x 3-1/4	.016"A	None	60	2	12	24	27	3.10	2280	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	1		24	25-1/4	5.17	2110
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	1		12	15	7.70	1210	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	1		12	13-1/4	10	1280
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	1		18	21	6.10	1330	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	1		18	19-1/4	9.17	1360
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	2	6	18	21	6.10	1900	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	2	6	18	19-1/4	9.17	2010
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	1		24	27	3.10	1380	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	1		24	25-1/4	5.17	1380
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	2	6	24	27	3.10	1980	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	2	6	24	25-1/4	5.17	2070
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	2	12	24	27	3.10	2050	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	2	12	24	25-1/4	5.17	2170
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	3	6	24	27	3.10	2280	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	3	6	24	25-1/4	5.17	2550
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	48	1		12	15	7.70	1360	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1		12	13-1/4	10	1510
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	48	1		18	21	6.10	1480	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1		18	19-1/4	9.17	1660
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	48	1		24	27	3.10	1510	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1		24	25-1/4	5.17	1690
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	48	2	12	24	27	3.10	2280	1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	2	12	24	25-1/4	5.17	2540
1-1/4"C	3-1/4 x 3-1/4	.016"A	None	60	1		12	15	7.70	1320	DT-LINOVECTOR										
1-1/4"C	3-1/4 x 3-1/4	.016"A	None	60	1		18	21	6.10	1440	Top Outlet - Louvered										
1-1/4"C	3-1/4 x 3-1/4	.016"A	None	60	1		24	27	3.10	1570	1"C	3-1/4 x 3-1/4	.016"A	None	60	1		12	16	0	1330
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	1		12	14-3/4	6.70	1710	1"C	3-1/4 x 3-1/4	.016"A	None	60	1		18	22	0	1500
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	1		18	20-3/4	5.40	1860	1"C	3-1/4 x 3-1/4	.016"A	None	60	2	12	24	28	0	2190
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	2	6	18	20-3/4	5.40	2570	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	1		12	16	0	1090
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	1		24	26-3/4	2.80	1890	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	1		18	22	0	1140
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	2	12	24	26-3/4	2.80	2810	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	2	6	18	22	0	1690
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	2	6	24	26-3/4	2.80	2700	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	1		24	28	0	1210
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	3	6	24	26-3/4	2.80	3030	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	2	12	24	28	0	1850
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	1		12	14-3/4	6.70	1920	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	2	6	24	28	0	1760
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	1		18	20-3/4	5.40	2120	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	40	3	6	24	28	0	2090
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	2	6	18	20-3/4	5.40	2710	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	48	1		12	16	0	1270
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	1		24	26-3/4	2.80	2240	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	48	1		18	22	0	1340
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	2	12	24	26-3/4	2.80	3040	1-1/4"C	3-1/4 x 3-1/4	.020"A	None	48	1		24	28	0	1450
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	2	6	24	26-3/4	2.80	2900	1-1/4"C	3-1/4 x 3-1/4	.016"A	None	60	1		12	16	0	1240
1-1/4"C	4-1/4 x 4-1/4	.016"A	None	60	1		12	14-3/4	6.70	1830	1-1/4"C	3-1/4 x 3-1/4	.016"A	None	60	1		18	22	0	1370
1-1/4"C	4-1/4 x 4-1/4	.016"A	None	60	1		18	20-3/4	5.40	2130	1-1/4"C	3-1/4 x 3-1/4	.016"A	None	60	1		24	28	0	1500
1-1/4"C	4-1/4 x 4-1/4	.016"A	None	60	1		24	26-3/4	2.80	2330	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	1		12	16	0	1710
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	1		12	14-3/4	6.70	1370	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	1		18	22	0	1850
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	1		18	20-3/4	5.40	1440	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	2	6	18	22	0	2570
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	2	6	18	20-3/4	5.40	2260	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	1		24	28	0	1900
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	1		24	26-3/4	2.80	1480	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	2	6	24	28	0	2710
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	2	12	24	26-3/4	2.80	2400	1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	2	12	24	28	0	2790
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	2	6	24	26-3/4	2.8												

FINNED TUBE

Tube Size and Material	Fin Size H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating	Tube Size and Material	Fin Size H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating		
VULCAN RADIATOR																					
DIVISION OF MESTEK, INC.																					
DT-LINOVECTOR																					
Top Outlet - Louvered																					
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	1	18	22	0	1300	3/4"C	2-3/4 x 3	.016"A	None	33	1	10	10-1/8	11.70	870		
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	2	6	18	22	0	2000	3/4"C	2-3/4 x 3	.016"A	None	33	1	14	14-1/8	11.70	920	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	1		24	28	0	1320	3/4"C	2-3/4 x 3	.016"A	None	33	1	8	8-1/8	11.70	820	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	2	6	24	28	0	2090	3/4"C	2-3/4 x 3	.016"A	None	48	1	10	10-1/8	11.70	1130	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	2	12	24	28	0	2150	3/4"C	2-3/4 x 3	.016"A	None	48	1	14	14-1/8	11.70	1170	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	33	3	6	24	28	0	2460	3/4"C	2-3/4 x 3	.016"A	None	48	2	5	14	14-1/8	11.70	1710
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1		12	16	0	1420	3/4"C	2-3/4 x 3	.016"A	None	48	1	8	8-1/8	11.70	1040	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1		18	22	0	1530	1"C	2-3/4 x 3	.016"A	None	33	1	10	10-1/8	11.70	880	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1		24	28	0	1610	1"C	2-3/4 x 3	.016"A	None	33	1	14	14-1/8	11.70	910	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	2	12	24	28	0	2420	1"C	2-3/4 x 3	.016"A	None	33	1	8	8-1/8	11.70	840	
DV - DURA-VANE																					
Top Outlet - (DV)																					
3/4"C	2-3/4 x 3	.016"A	None	24	1	12-9/16	16-1/8	0	670	1"C	2-3/4 x 3	.016"A	None	33	1	10	10-1/8	11.70	1140		
3/4"C	2-3/4 x 3	.016"A	None	33	1	12-9/16	16-1/8	0	860	1"C	2-3/4 x 3	.016"A	None	33	1	8	8-1/8	11.70	1020		
3/4"C	2-3/4 x 3	.016"A	None	48	1	12-9/16	16-1/8	0	1080	1"S	3-3/4 x 2-3/4	.026"S	Black	40	1	10	10-1/8	11.70	1020		
3/4"C	2-3/4 x 3	.016"A	None	48	1	18-9/16	22-1/8	0	1160	1"S	3-3/4 x 2-3/4	.026"S	Black	40	1	14	14-1/8	11.70	1080		
3/4"C	2-3/4 x 3	.016"A	None	48	2	6	18-9/16	22-1/8	0	1700	1"S	3-3/4 x 2-3/4	.026"S	Black	40	2	5	14	14-1/8	11.70	1430
3/4"C	2-3/4 x 3	.016"A	None	48	1	24-9/16	28-1/8	0	1220	1"S	3-3/4 x 2-3/4	.026"S	Black	40	1	8	8-1/8	11.70	920		
3/4"C	2-3/4 x 3	.016"A	None	48	2	12	24-9/16	28-1/8	0	1970	Round Outlet - FR - Floorline Louvered										
3/4"C	2-3/4 x 4-1/4	.020"A	None	60	1	12-9/16	16-1/8	0	1730	3/4"C	2-3/4 x 3	.016"A	None	33	1	10	11	8.30	870		
3/4"C	2-3/4 x 4-1/4	.020"A	None	60	1	18-9/16	22-1/8	0	1940	3/4"C	2-3/4 x 3	.016"A	None	33	1	14	15	8.30	910		
3/4"C	2-3/4 x 4-1/4	.020"A	None	60	2	6	18-9/16	22-1/8	0	2560	3/4"C	2-3/4 x 3	.016"A	None	33	1	8	9	8.30	830	
3/4"C	2-3/4 x 4-1/4	.020"A	None	60	1	24-9/16	28-1/8	0	2080	3/4"C	2-3/4 x 3	.016"A	None	48	1	10	11	8.30	1130		
3/4"C	2-3/4 x 4-1/4	.020"A	None	60	2	12	24-9/16	28-1/8	0	2990	3/4"C	2-3/4 x 3	.016"A	None	48	1	14	15	8.30	1180	
1"C	2-3/4 x 3	.016"A	None	33	1	12-9/16	16-1/8	0	870	3/4"C	2-3/4 x 3	.016"A	None	48	2	5	14	15	8.30	1710	
1"C	2-3/4 x 3	.016"A	None	48	1	12-9/16	16-1/8	0	990	3/4"C	2-3/4 x 3	.016"A	None	48	1	8	9	8.30	1050		
1"C	3-1/4 x 3-1/4	.020"A	None	48	1	12-9/16	16-1/8	0	1290	1"C	2-3/4 x 3	.016"A	None	33	1	10	11	8.30	870		
1"C	3-1/4 x 3-1/4	.020"A	None	48	1	18-9/16	22-1/8	0	1390	1"C	2-3/4 x 3	.016"A	None	33	1	14	15	8.30	910		
1"C	3-1/4 x 3-1/4	.020"A	None	48	2	6	18-9/16	22-1/8	0	1990	1"C	2-3/4 x 3	.016"A	None	33	1	8	9	8.30	830	
1"C	3-1/4 x 3-1/4	.020"A	None	48	1	24-9/16	28-1/8	0	1510	1"C	2-3/4 x 3	.016"A	None	48	1	10	11	8.30	1140		
1"C	3-1/4 x 3-1/4	.020"A	None	48	2	12	24-9/16	28-1/8	0	2230	1"C	2-3/4 x 3	.016"A	None	48	1	14	15	8.30	1200	
1"C	4-1/4 x 4-1/4	.020"A	None	33	1	12-9/16	16-1/8	0	1410	1"C	2-3/4 x 3	.016"A	None	48	2	5	14	15	8.30	1660	
1"C	4-1/4 x 4-1/4	.020"A	None	33	1	18-9/16	22-1/8	0	1480	1"C	2-3/4 x 3	.016"A	None	48	1	8	9	8.30	1040		
1"C	4-1/4 x 4-1/4	.020"A	None	33	1	24-9/16	28-1/8	0	1520	1-1/4"C	2-3/4 x 3	.016"A	None	33	1	10	11	8.30	850		
1"C	4-1/4 x 4-1/4	.020"A	None	48	1	12-9/16	16-1/8	0	1790	1-1/4"C	2-3/4 x 3	.016"A	None	33	1	14	15	8.30	900		
1"C	4-1/4 x 4-1/4	.020"A	None	48	1	18-9/16	22-1/8	0	1940	1-1/4"C	2-3/4 x 3	.016"A	None	33	1	8	9	8.30	820		
1"C	4-1/4 x 4-1/4	.020"A	None	48	2	6	18-9/16	22-1/8	0	2640	1-1/4"C	2-3/4 x 3	.016"A	None	48	1	10	11	8.30	1100	
1"C	4-1/4 x 4-1/4	.020"A	None	48	1	24-9/16	28-1/8	0	2090	1-1/4"C	2-3/4 x 3	.016"A	None	48	1	14	15	8.30	1140		
1"C	4-1/4 x 4-1/4	.020"A	None	48	2	12	24-9/16	28-1/8	0	2970	1-1/4"C	2-3/4 x 3	.016"A	None	48	2	5	14	15	8.30	1570
1-1/4"C	2-3/4 x 3	.016"A	None	33	1	12-9/16	16-1/8	0	840	1-1/4"C	2-3/4 x 3	.016"A	None	48	1	8	9	8.30	1020		
1-1/4"C	2-3/4 x 3	.016"A	None	40	1	12-9/16	16-1/8	0	950	1"S	3-3/4 x 2-3/4	.026"S	Black	40	1	10	11	8.30	1020		
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	48	1	12-9/16	16-1/8	0	1210	1"S	3-3/4 x 2-3/4	.026"S	Black	40	1	14	15	8.30	1070		
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	48	1	18-9/16	22-1/8	0	1290	1"S	3-3/4 x 2-3/4	.026"S	Black	40	2	5	14	15	8.30	1420	
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	48	2	6	18-9/16	22-1/8	0	1820	1"S	3-3/4 x 2-3/4	.026"S	Black	40	1	8	9	8.30	930	
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	48	1	24-9/16	28-1/8	0	1390	Round Outlet - FRI Floorline (with Inlet Grille) Louvered											
1-1/4"C	3-1/4 x 3-1/4	.020"A	None	48	2	12	24-9/16	28-1/8	0	2040	3/4"C	2-3/4 x 3	.016"A	None	33	1	12	11	8.30	850	
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	1	12-9/16	16-1/8	0	1800	3/4"C	2-3/4 x 3	.016"A	None	48	1	12	11	8.30	1050		
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	1	18-9/16	22-1/8	0	1990	1"C	2-3/4 x 3	.016"A	None	33	1	12	11	8.30	840		
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	2	6	18-9/16	22-1/8	0	2610	1"C	2-3/4 x 3	.016"A	None	48	1	12	11	8.30	1030	
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	1	24-9/16	28-1/8	0	2080	1-1/4"C	2-3/4 x 3	.016"A	None	33	1	12	11	8.30	830		
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	2	12	24-9/16	28-1/8	0	3030	1-1/4"C	2-3/4 x 3	.016"A	None	48	1	12	11	8.30	1020	
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	60	1	18-9/16	22-1/8	0	2090	1"S	3-3/4 x 2-3/4	.026"S	Black	40	1	12	11	8.30	930		
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	60	1	24-9/16	28-1/8	0	2290	MDV - DURA-VANE											
1-1/4"S	3-1/4 x 3-1/4	.032"S	Black	40	1	12-9/16	16-1/8	0	1040	Top Outlet - (MDV)											
1-1/4"S	3-1/4 x 3-1/4	.032"S	Black	40	1	18-9/16	22-1/8	0	1100	3/4"C	2-3/4 x 4-1/4	.020"A	None	60	1	12-9/16	16-1/4	0	1520		
1-1/4"S	3-1/4 x 3-1/4	.032"S	Black	40	2	6	18-9/16	22-1/8	0	1660	3/4"C	2-3/4 x 4-1/4	.020"A	None	60	1	18-9/16	22-1/4	0	1730	
1-1/4"S	3-1/4 x 3-1/4	.032"S	Black	40	1	24-9/16	28-1/8	0	1160	3/4"C	2-3/4 x 4-1/4	.020"A	None	60	2	6	18-9/16	22-1/4	0	2290	
1-1/4"S	3-1/4 x 3-1/4	.032"S	Black	40	2	12	24-9/16	28-1/8	0	1940	3/4"C	2-3/4 x 4-1/4	.020"A	None	60	1	24-9/16	28-1/4	0	1870	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1	12-9/16	16-1/8	0	1510	3/4"C	2-3/4 x 4-1/4	.020"A	None	60	2	12	24-9/16	28-1/4	0	2660	
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1	18-9/16	22-1/8	0	1610	1"C	4-1/4 x 4-1/4	.020"A	None	33	1	12-9/16	16-1/4	0	1260		
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1	24-9/16	28-1/8	0	1670	1"C	4-1/4 x 4-1/4	.020"A	None	33	1	18-9/16	22-1/4	0	1330		
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	2	12	24-9/16	28-1/8	0	2540	1"C	4-1/4 x 4-1/4	.020"A	None	33	1	24-9/16	28-1/4	0	1370	
FS-FLOORLINE																					
Inclined Outlet - FSI Floorline (with Inlet Grille) Louvered																					
3/4"C	2-3/4 x 3	.016"A	None	33	1	12	10-1/8	11.70	810	1"C	4-1/4 x 4-1/4	.020"A	None	48	1	12-9/16	16-1/4	0	1600		
3/4"C	2-3/4 x 3	.016"A	None	48	1	12	10-1/8	11.70	1040	1"C	4-1/4 x 4-1/4	.020"A	None	48	2	6	18-9/16	22-1/4	0	1770	
1"C	2-3/4 x 3	.016"A	None	33	1	12	10-1/8	11.70	850	1"C	4-1/4 x 4-1/4	.020"A	None	48	1	24-9/16	28-1/4	0	1880		
1"C	2-3/4 x 3	.016"A	None	48	1	12	10-1/8	11.70	1020	1"C	4-1/4 x 4-1/4	.020"A	None	48	2	12	24-9/16	28-1/4	0	2600	
1-1/4"C																					

FINNED TUBE

Tube Size and Material	Fin Size H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating	Tube Size and Material	Fin Size H x W (in.)	Fin Thickness and Material	Fins per Foot	Tiers of Element	Tier Spacing (in.)	Actual Encl. Height (in.)	Installed Height (in.)	Heating Effect (%)	Rating	
VULCAN RADIATOR DIVISION OF MESTEK, INC.																				
MDV - DURA-VANE																				
Top Outlet - (MDV)																				
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	60	1	18-9/16	22-1/4	0	1840											
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	60	1	24-9/16	28-1/4	0	2040											
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1	12-9/16	16-1/4	0	1400											
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1	18-9/16	22-1/4	0	1490											
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1	24-9/16	28-1/4	0	1550											
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	2	12	24-9/16	28-1/4	0	2350										
MDVF- DURA-VANE																				
Top Outlet - MDVF (with Louvered Inlet Grille)																				
3/4"C	2-3/4 x 4-1/4	.020"A	None	60	1	10	9-3/4	0	1200											
1"C	4-1/4 x 4-1/4	.020"A	None	33	1	10	9-3/4	0	1090											
1"C	4-1/4 x 4-1/4	.020"A	None	48	1	10	9-3/4	0	1270											
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	1	10	9-3/4	0	1270											
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1	10	9-3/4	0	1150											
MDVW - DURA-VANE																				
Top Outlet - MDVW - DURA-VANE																				
3/4"C	2-3/4 x 4-1/4	.020"A	None	60	1	7	9-3/4	0	1300											
1"C	4-1/4 x 4-1/4	.020"A	None	33	1	7	9-3/4	0	1140											
1"C	4-1/4 x 4-1/4	.020"A	None	48	1	7	9-3/4	0	1380											
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	1	7	9-3/4	0	1380											
1-1/4"S	4-1/4 x 4-1/4	.032"S	Black	40	1	7	9-3/4	0	1230											
SECURITY (FPS)																				
Inclined Outlet - Fully Perforated																				
3/4"C	2-3/4 x 4-1/4	.020"A	None	48	2	6	18	19-1/8	9.30	2280										
3/4"C	2-3/4 x 4-1/4	.020"A	None	60	1		12	13-1/8	10	1260										
3/4"C	2-3/4 x 4-1/4	.020"A	None	60	1		18	19-1/8	9.30	1300										
1"C	4-1/4 x 4-1/4	.020"A	None	40	2	6	18	19-1/8	9.30	2440										
1"C	4-1/4 x 4-1/4	.020"A	None	48	1		12	13-1/8	10	1450										
1"C	4-1/4 x 4-1/4	.020"A	None	48	1		18	19-1/8	9.30	1510										
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	40	2	6	18	19-1/8	9.30	2440										
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	1		12	13-1/8	10	1450										
1-1/4"C	4-1/4 x 4-1/4	.020"A	None	48	1		18	19-1/8	9.30	1510										
SECURITY (SPS & PPS)																				
Inclined Outlet - Partially Perforated																				
3/4"C	2-3/4 x 4-1/4	.020"A	None	60	1		18	19-1/8	9.30	1370										
1"C	4-1/4 x 4-1/4	.020"A	None	48	1		18	19-1/8	9.30	1480										

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