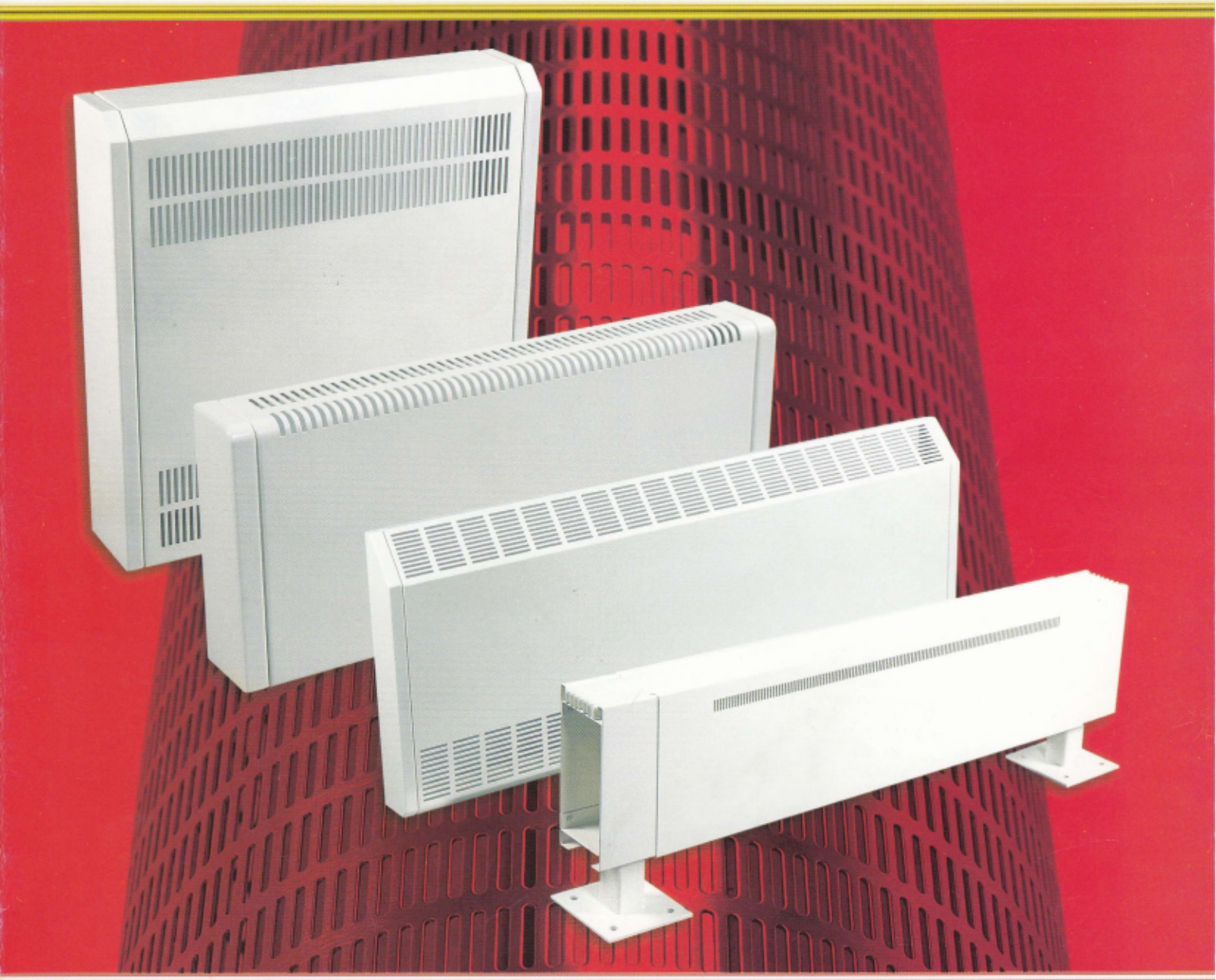
# THERMAL

Perimeter Heating Systems



## *MANUFACTURES OF INDIVIDUALLY DESIGNED:*

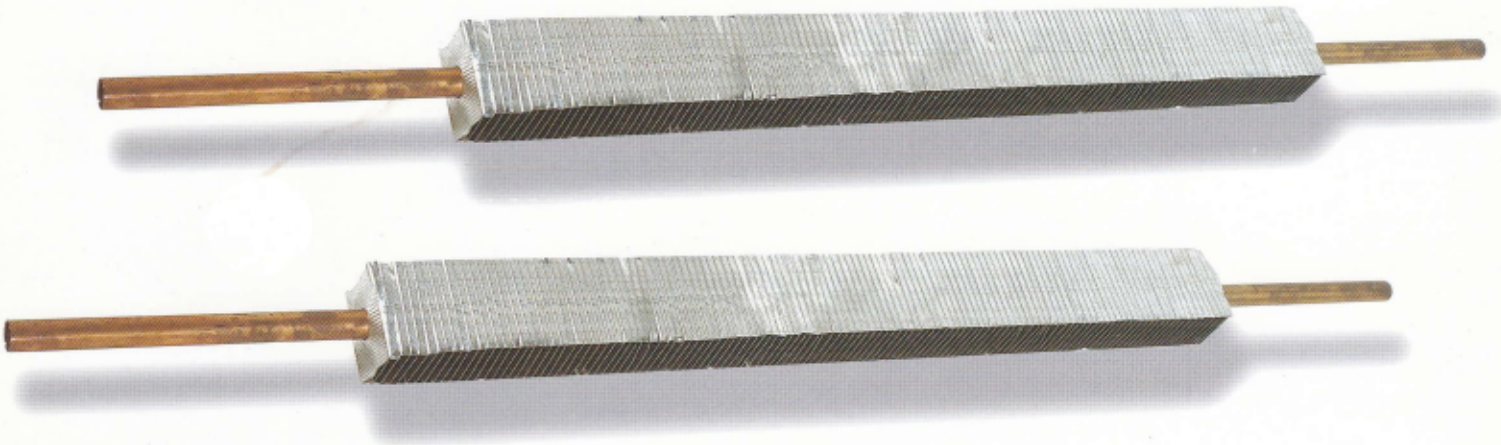
Perimeter Heating Systems

Trench Heating Systems

L.S.T Convector Modules

Specialists in Stainless Steel circular
casing for high tech architectural needs

# THERMAL ELEMENTS



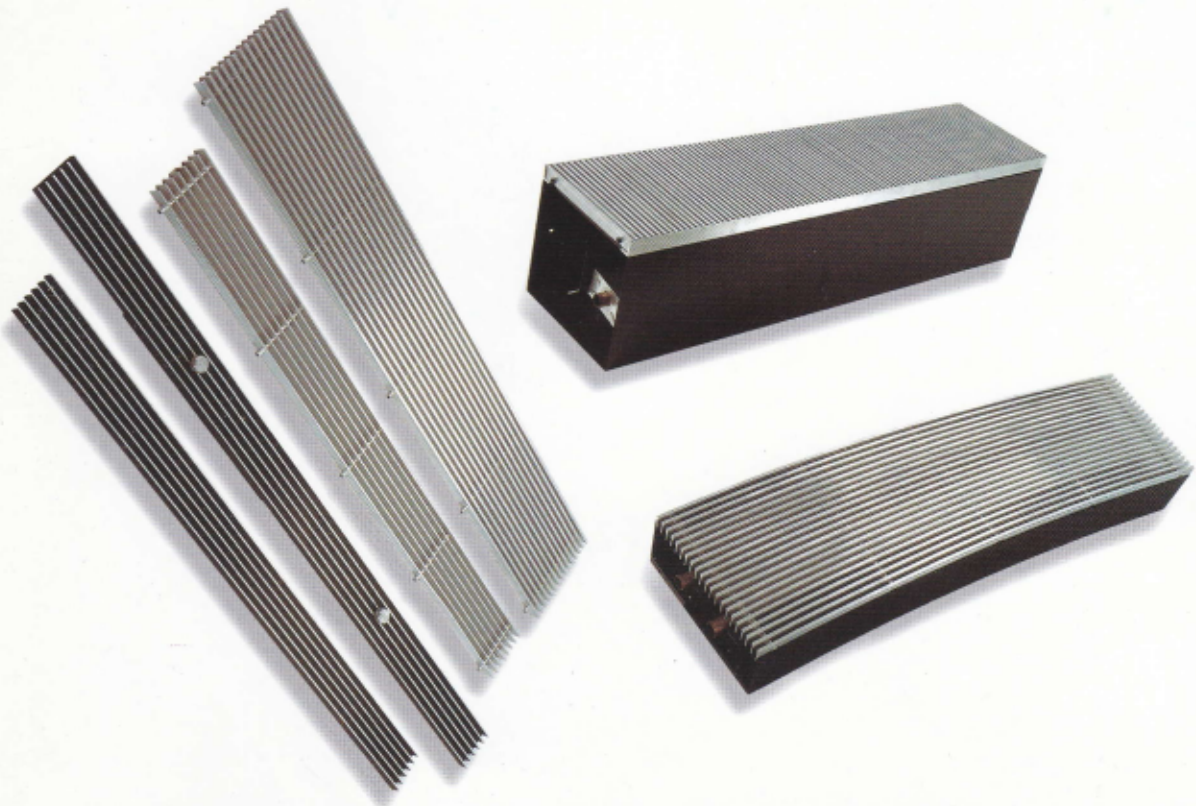
***SIZES***

**15mm** ∅ **22mm** ∅ **28mm** ∅

Copper Tube with Aluminium Finns in various sizes

# THERMAL GRILLES

*ALL GRILLES ARE SUITABLE FOR*
***MEDIUM / HEAVY PEDESTRIAN TRAFFIC***



**FINISHES INCLUDE**
- Brush finished
- Satin Anodised
- Shadowline & powder coated to RAL

(Roll up Grilles are not powder coated)

**STD PERIMETER**
Grilles

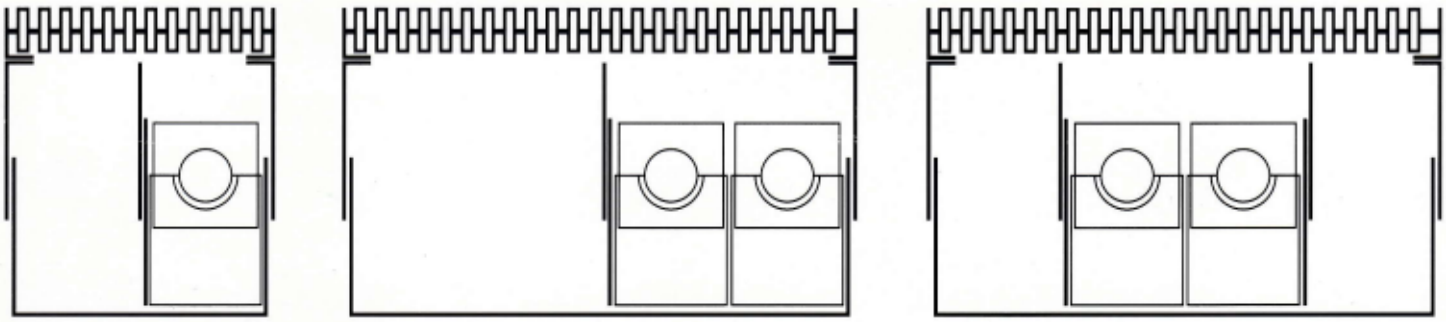
**LONGITUDINAL**
Fixed Core Grilles

**ALUMINIUM**
Short Bar
Fixed Core Grilles

**ALUMINIUM**
Roll-Up Grille

**HIT & MISS**
Grilles

# UNIQUE THERMAL TRENCH



**SINGLE ROW ELEMENT** **TWIN ROW ELEMENT** - Side **TWIN ROW ELEMENT** - Centre

**ALL TRENCH DUCTS** - Are adjustable in height //// **ALL GRILLES** - Are Sat' on Aluminium Angles

## OUTPUTS - Watts / Metre

Based upon a water / air temperature differential of 60 i.e lphw 80 mwt, ambient air at 20 and water velocity of 1 m/s

| Casing Width (mm) | Element Type | Pipe Dia (mm) | Norminal Casing Height - 'H' (mm) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 150 | 175 | 200 | 225 | 250 | 300 |
| 120 | T1 | 15/22 | 386 | 400 | 414 | 428 | 443 | 468 |
| 150 | T2 | 15/22 | 406 | 421 | 436 | 451 | 466 | 493 |
| 150 | T3 | 22/28 | 488 | 506 | 524 | 542 | 560 | 592 |
| 170 | T4 | 22/28 | 518 | 542 | 562 | 582 | 602 | 638 |
| 220 | T1 / T1 | 15/22 | 773 | 802 | 830 | 859 | 887 | 939 |
| 275 | T2 / T2 | 15/22 | 814 | 844 | 874 | 904 | 934 | 988 |
| 275 | T2 / T3 | 22 | 896 | 929 | 962 | 995 | 1028 | 1087 |
| 275 | T3 / T3 | 22/28 | 977 | 1013 | 1049 | 1085 | 1121 | 1186 |
| 300 | T4 / T4 | 22/28 | 1038 | 1086 | 1126 | 1166 | 1206 | 1278 |

## CORRECTION FACTORS

For alternative temperature differentials multiply output above by

| Temperature Differential C | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Correction Factor | 0.14 | 0.21 | 0.29 | 0.37 | 0.47 | 0.58 | 0.68 | 0.78 | 0.88 | 0.99 | 1.10 | 1.21 | 1.33 | 1.46 |

For alternative water velocities m/s multiply output above by

| Water Velocity m/s | 0.05 | 0.1 | 0.25 | 0.50 | 1.00 | 1.50 | 2.00 |
|---|---|---|---|---|---|---|---|
| Correction Factor | 0.83 | 0.89 | 0.93 | 0.96 | 0.99 | 1.01 | 1.02 |

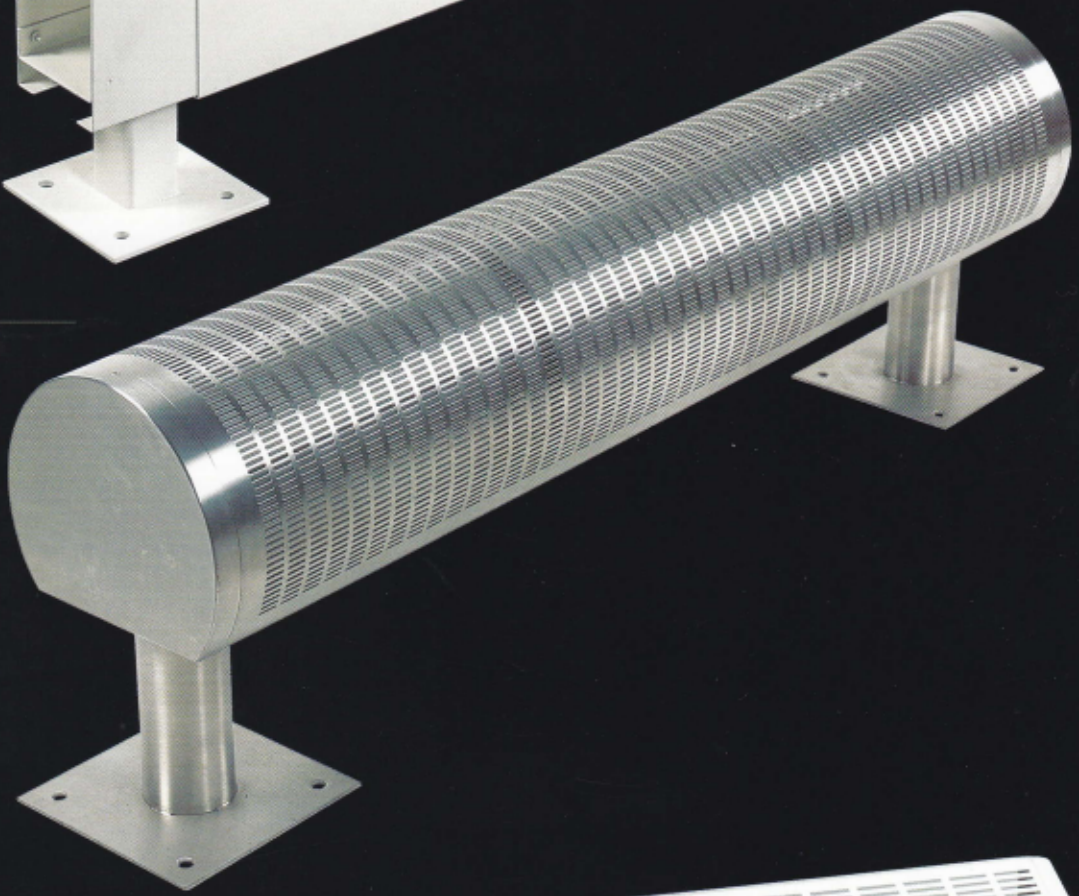
# THERMAL SPECIALS

## Double Sided

Floor Mounted Thermal
Perimeter Casing

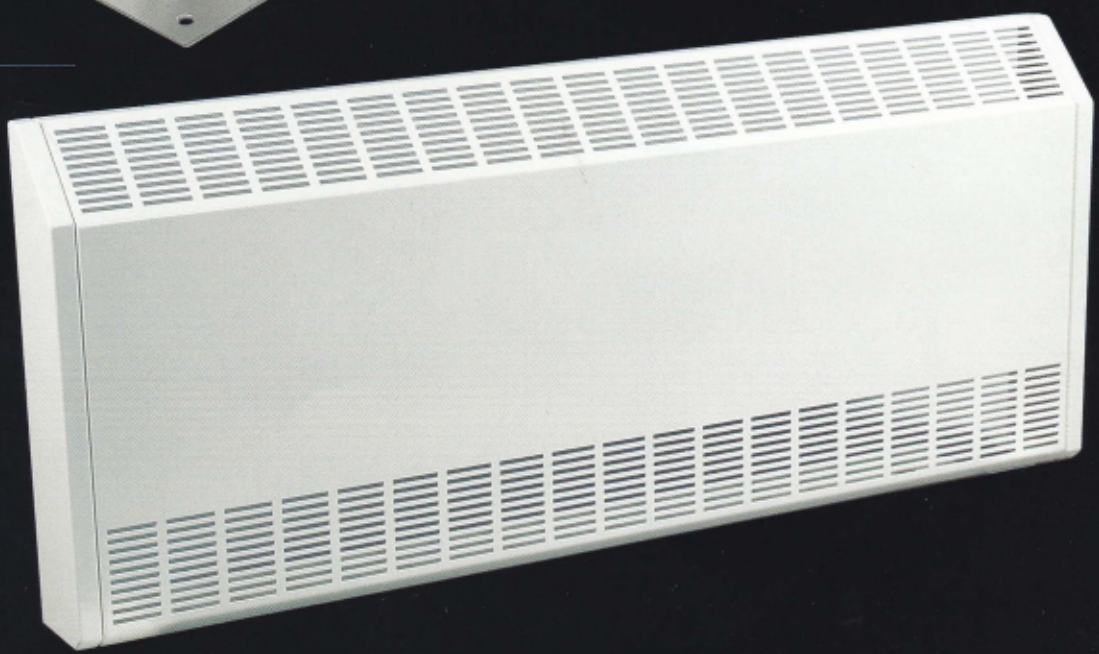
## Circular

Casing in St/Steel



## Angled

Perimeter Casing

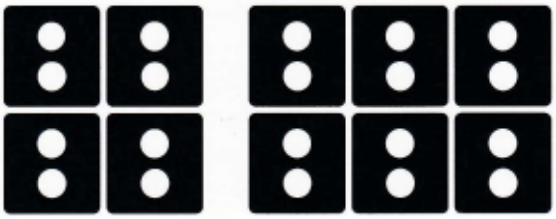


# THERMAL LST DESIGNS

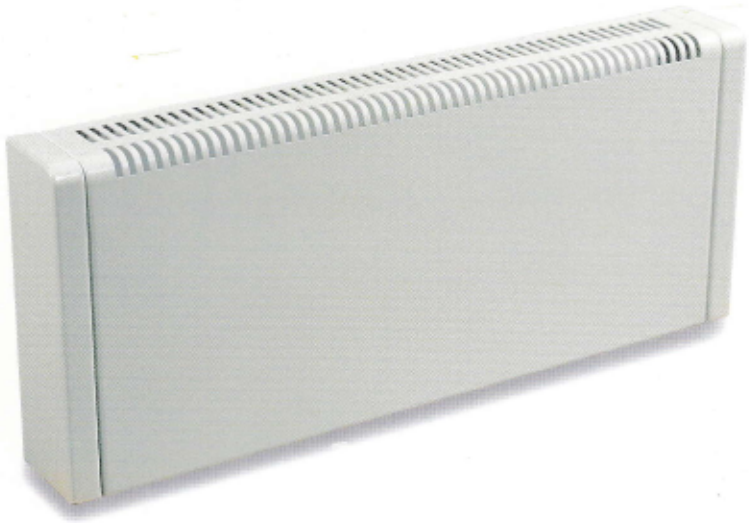
## OUTLET TOP OR FRONT FACE

### ELEMENT SPECIFICATION

STEEL TUBES & FINNS



The casing is secured by Joggle Strip on top and key hole slots on 2 sides at the bottom



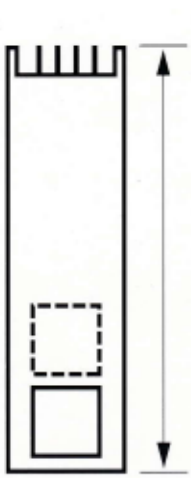
**COMPLETELY SAFE** IN HOSPITALS AND NURSING HOME ENVIRONMENTS

## EMISSIONS TABLE

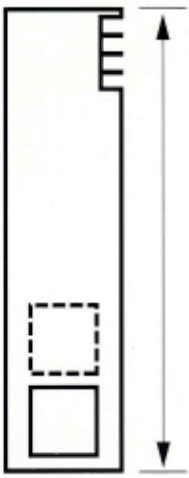
Single Element - Double Element

| EMISSIONS AT + 56 | | | SINGLE ELEMENT | | | | DOUBLE ELEMENT | | |
|---|---|---|---|---|---|---|---|---|---|
| PANEL | ELEMENT | | OUTPUT H = 200 (mm) HIGH (WATTS) | OUTPUT H = 400 (mm) HIGH (WATTS) | OUTPUT H = 600 (mm) HIGH (WATTS) | OUTPUT H = 800 (mm) HIGH (WATTS) | OUTPUT H = 400 (mm) HIGH (WATTS) | OUTPUT H = 600 (mm) HIGH (WATTS) | OUTPUT H = 800 (mm) HIGH (WATTS) |
| LENGTH (mm) | LENGTH (mm) | LENGTH (mm) | | | | | | | |
| 500 | 400 | 100 | 264 | 352 | 404 | 433 | 457 | 526 | 563 |
| | | 150 | 392 | 524 | 602 | 644 | 681 | 783 | 838 |
| 600 | 500 | 100 | 351 | 469 | 539 | 577 | 609 | 701 | 750 |
| | | 150 | 523 | 698 | 804 | 860 | 908 | 1044 | 1117 |
| 700 | 600 | 100 | 439 | 586 | 674 | 721 | 762 | 877 | 938 |
| | | 150 | 654 | 873 | 1004 | 1074 | 1135 | 1305 | 1396 |
| 800 | 700 | 100 | 527 | 704 | 809 | 865 | 914 | 1052 | 1125 |
| | | 150 | 785 | 1048 | 1205 | 1289 | 1362 | 1566 | 1675 |
| 900 | 800 | 100 | 615 | 821 | 944 | 1010 | 1067 | 1227 | 1312 |
| | | 150 | 915 | 1222 | 1406 | 1503 | 1587 | 1827 | 1955 |
| 1000 | 900 | 100 | 703 | 938 | 1079 | 1154 | 1220 | 1402 | 1499 |
| | | 150 | 1047 | 1397 | 1607 | 1718 | 1816 | 2089 | 2234 |
| 1100 | 1000 | 100 | 790 | 1055 | 1213 | 1298 | 1372 | 1578 | 1688 |
| | | 150 | 1177 | 1571 | 1807 | 1933 | 2043 | 2350 | 2513 |
| 1200 | 1100 | 100 | 878 | 1173 | 1348 | 1442 | 1525 | 1753 | 1875 |
| | | 150 | 1308 | 1746 | 2008 | 2147 | 2270 | 2611 | 2792 |
| 1300 | 1200 | 100 | 966 | 1290 | 1483 | 1587 | 1677 | 1928 | 2062 |
| | | 150 | 1439 | 1921 | 2209 | 2363 | 2497 | 2872 | 3072 |
| 1500 | 1400 | 100 | 1142 | 1525 | 1753 | 1875 | 1982 | 2279 | 2437 |
| | | 150 | 1700 | 2270 | 2611 | 2792 | 2951 | 3394 | 3630 |
| 1700 | 1600 | 100 | 1318 | 1759 | 2022 | 2164 | 2286 | 2629 | 2813 |
| | | 150 | 1962 | 2619 | 3012 | 3222 | 3405 | 3916 | 4188 |
| 1900 | 1800 | 100 | 1493 | 1994 | 2292 | 2452 | 2591 | 2980 | 3187 |
| | | 150 | 2224 | 2968 | 3414 | 3651 | 3859 | 4438 | 4747 |
| 2100 | 2000 | 100 | 1669 | 2228 | 2562 | 2740 | 2896 | 3331 | 3562 |
| | | 150 | 2485 | 3317 | 3815 | 4081 | 4313 | 4960 | 5305 |
| 2300 | 2200 | 100 | 1844 | 2462 | 2831 | 3029 | 3200 | 3681 | 3937 |
| | | 150 | 2747 | 3667 | 4217 | 4510 | 4767 | 5482 | 5864 |
| 2500 | 2400 | 100 | 2020 | 2696 | 3101 | 3317 | 3506 | 4032 | 4312 |

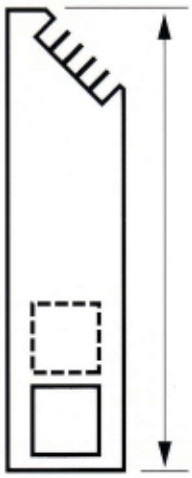
# THERMAL PERIMETER DESIGNS



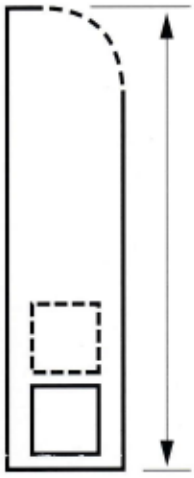
**TOP GRILLE**
Type T Outlet



**FRONT GRILLE**
Type F Outlet



**ANGLED GRILLE**
Type A / F Outlet



**RADIUSED GRILLE**
Type R / F Outlet

## OUTPUTS - Watts / Metre

Based upon a water / air temperature differential of 60 i.e lphw 80 mwt, ambient air at 20 and water velocity of 1 m/s

| Casing Width (mm) | Element Type & Arrangement | Pipe Dia(mm) | Norminal Casing Height - 'H' (mm) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 250 | 300 | 350 | 400 | 450 | 450 | 500 | 550 | 600 | 700 |
| 60 | **T1** Single Row | 15/22 | 465 | 494 | 511 | 534 | 551 | 551 | 568 | 579 | 591 | 602 |
| | **T1** Double Row | 15/22 | 517 | 573 | 619 | 657 | 706 | 706 | 745 | 777 | 810 | 862 |
| 75 | **T2** Single Row | 15/22 | 490 | 520 | 538 | 562 | 580 | 580 | 598 | 610 | 622 | 634 |
| | **T2** Double Row | 15/22 | 544 | 604 | 651 | 692 | 743 | 743 | 784 | 818 | 853 | 907 |
| | **T3** Single Row | 22/28 | 588 | 624 | 646 | 675 | 696 | 696 | 718 | 732 | 747 | 761 |
| | **T3** Double Row | 22/28 | 653 | 725 | 782 | 830 | 892 | 892 | 941 | 982 | 1024 | 1089 |
| 90 | **T4** Single Row | 22/28 | 654 | 694 | 718 | 750 | 774 | 774 | 798 | 814 | 830 | 846 |
| | **T4** Double Row | 22/28 | 726 | 805 | 869 | 923 | 991 | 991 | 1046 | 1091 | 1138 | 1211 |
| 120 | **T5** Single Row | 15/22 | 982 | 1042 | 1078 | 1126 | 1162 | 1162 | 1198 | 1222 | 1246 | 1270 |

## CORRECTION FACTORS

For alternative temperature differentials multiply output above by

| Temperature Differential C | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 |
|---|---|---|---|---|---|---|---|---|---|---|
| Correction Factor | 0.47 | 0.58 | 0.68 | 0.78 | 0.88 | 0.99 | 1.10 | 1.21 | 1.33 | 1.46 |

For alternative water velocities m/s multiply output above by

| Water Velocity m/s | 0.25 | 0.50 | 1.00 | 1.50 | 2.00 |
|---|---|---|---|---|---|
| Correction Factor | 0.93 | 0.96 | 0.99 | 1.01 | 1.02 |