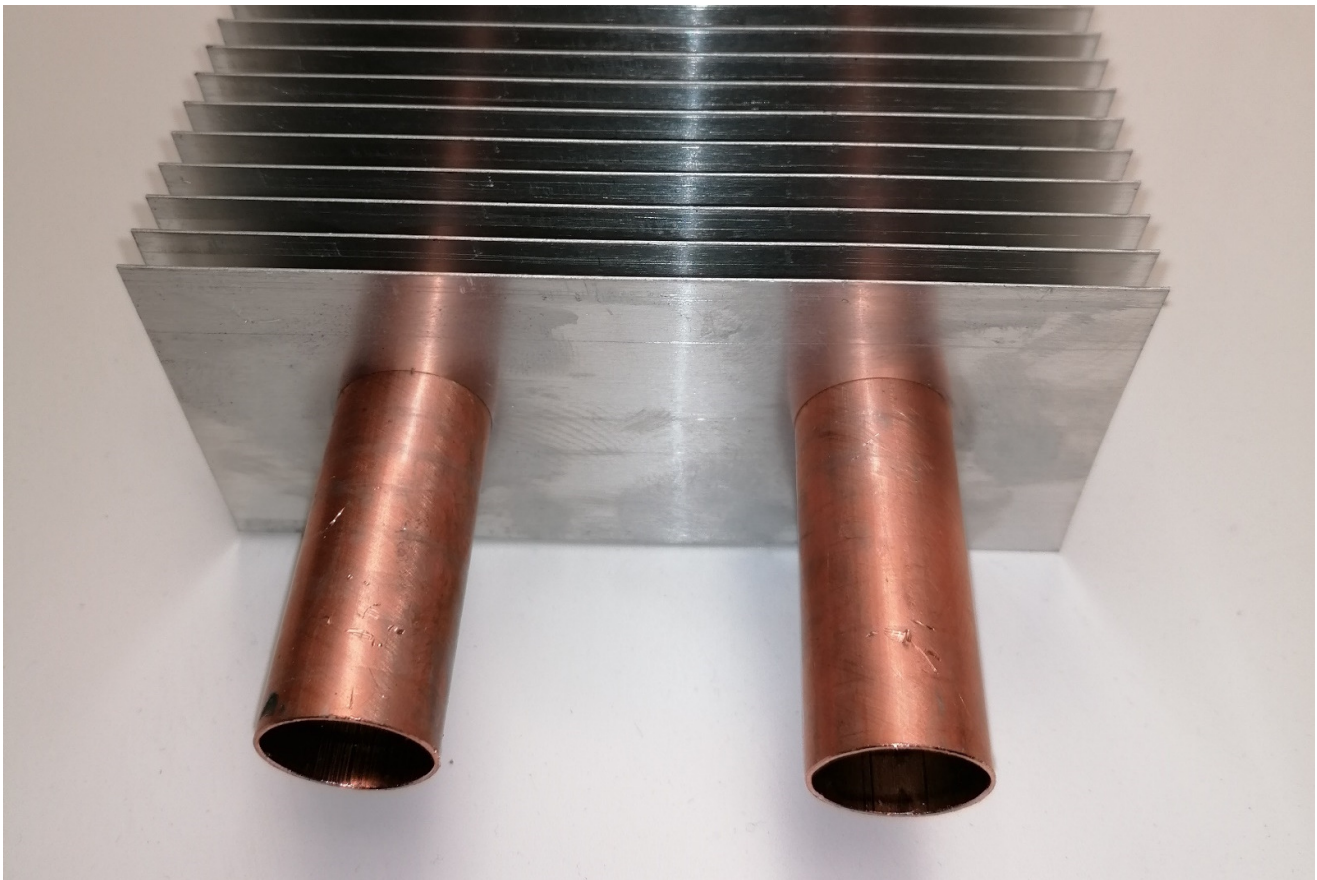


THE PERIMETER HEATING COMPANY



FINRAD® HEATING ELEMENT PRODUCT BROCHURE

Finrad Copper/Aluminium Heating Elements

As well as being used in our trench and perimeter heating casings we also offer our LPHW Finrad heating elements separately for installation into builders' work casings and trench castings.

Also referred to as Cu/Alu Coil or Baseboard Heaters, these in house manufactured elements are available in several sizes with single and twin tube options.

Typical Installations

- Retrofit into steel tube trenches within Churches and Cathedrals.
- Boats, Caravans and Campervans.
- Under changing room benches.
- Conservatories & Greenhouses.
- Installed into builders' casings in Schools, Universities, Hotels and Restaurants.

The Perimeter Heating Company Ltd has taken considerable time and effort to source materials of the highest specification to ensure optimal performance. The fins are manufactured from 0.5mm high thermal conductivity aluminium, mechanically bonded to the copper tube for superior performance over their thinner, closed sided (slide on/slide off) counterparts.

Our customers are not restricted in mounting options either as our elements are open all-round allowing vertical or horizontal mounting of twin pipe systems.

Though consideration should be taken regarding delivery and site handling, our elements can be manufactured to a tube length of up to 2700mm in increments of 25mm (Finned length is 100mm shorter than tube length).

As all products are manufactured to order we are also able to vary the fin pitch at 3mm intervals allowing the spread of heat on specific systems, contact us to discuss your specific requirements. Standard fin pitch is 6mm.

Element support brackets and baffle plates are available to facilitate fitment into pre-cast trenches as well as hanging brackets for installation in builders' work casings.

Elements are supplied Plain Both Ends (PBE) for braising, compression or speedfit installation. Should site constraints require shortening of the tube, fins can be removed with tin snips and the copper tube shortened as required.

The copper tube is subject to internal pressure exceeding 100 bar during the mechanical expansion process, working pressure should therefore be rated to the jointing method.

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Product Selection Within Trenches

Element Schedule

TABLE 1

MODEL	TPHC-01	TPHC-02	TPHC-03	TPHC-04	TPHC-05	TPHC-06
DIMENSIONS WxH(mm)	205x125	130x125	305x185	180x185	180x95	305x95
CROSS SECTION						
ELEMENT TYPE	22-WSCU	22-SLS	22-XCT	22-XCU	15-SLE	2 x 15-SLE
OUTPUT (w/m)	690	430	1180	790	250	350

Stated outputs at 82/71/18°C and flow rate of 0.92m/s, Watts/metre based on finned length. For MWT and Flow Rate correction factors refer to Tables 2 and 3.

MEAN Water / Design Room Temperature Correction Factors

TABLE 2

Room Temp. °C	Mean Water Temperature (°C)										
	35	40	45	50	55	60	65	70	75	76.5	80
16	0.21	0.29	0.37	0.47	0.59	0.68	0.79	0.90	1.10	1.06	1.20
18	0.18	0.26	0.34	0.43	0.52	0.64	0.75	0.85	0.96	1.00	1.07
20	0.16	0.23	0.31	0.39	0.50	0.60	0.70	0.80	0.92	0.95	1.03
22	0.13	0.20	0.28	0.36	0.46	0.57	0.66	0.77	0.88	0.91	0.99

Flow Rate Correction Factors

TABLE 3

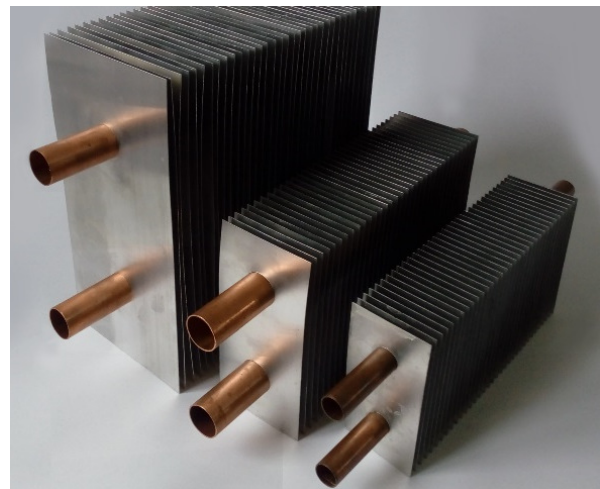
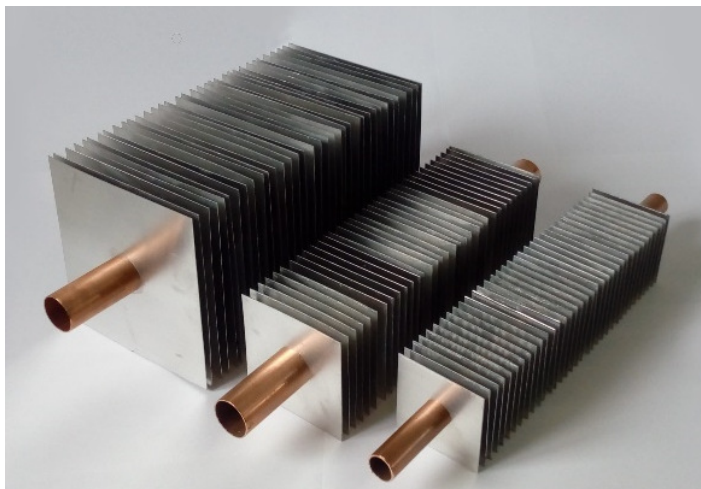
Flow Rate l/s		Correction Factor	Water Velocity m/s
15mm Pipe	22mm Pipe		
0.007	0.017	0.84	0.05
0.014	0.034	0.90	0.10
0.036	0.085	0.94	0.25
0.072	0.170	0.97	0.50
0.130	0.310	1.00	0.92
0.290	0.680	1.03	2.00

Grille Free Area Correction Factors

TABLE 4T

FREE AREA	30%	50%	60%	70%
TPHC-01	0.79	0.93	1.00	1.07
TPHC-02	0.87	0.95	1.00	1.05
TPHC-03	0.68	0.89	1.00	1.11
TPHC-04	0.82	0.93	1.00	1.06
TPHC-05	0.82	0.93	1.00	1.06
TPHC-06	0.68	0.89	1.00	1.11

Stated outputs and correction factors are the result of testing within The Perimeter Heating Company trench casing, variations in trench construction will affect output, contact us to discuss your design.



Product Selection Within Perimeter Casings

Element Schedules

TABLE 1-050





REFERENCE		SFE	SLE	SLE	SLE x 2
FIN DIMENSIONS (mm)		50 x 50	50 x 100	100 x 50	50 x 100
TUBE DIAMETER (mm)		15	15	15	15
ORIENTATION			VERTICAL	HORIZONTAL	VERTICAL SIDE BY SIDE
SECTION VIEW					
NOMINAL CASING DEPTH (mm) >		60	60	110	110
CASING HEIGHT (mm)	AIR OUTLET POSITION	WATTS/METRE	WATTS/METRE	WATTS/METRE	WATTS/METRE
165	TOP / SLOPING	275	390	385	545
	FRONT	245	350	345	490
200	TOP / SLOPING	290	415	405	580
	FRONT	265	375	370	525
300	TOP / SLOPING	335	475	470	665
	FRONT	310	445	435	625
400	TOP / SLOPING	370	530	520	740
	FRONT	350	500	490	700
500	TOP / SLOPING	400	570	560	800
	FRONT	380	540	530	755
600	TOP / SLOPING	425	605	595	845
	FRONT	405	575	565	805
700	TOP / SLOPING	450	640	630	895
	FRONT	445	635	625	890

TABLE 1-065




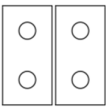

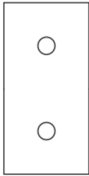
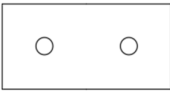
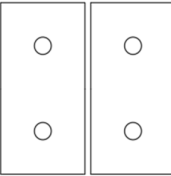
REFERENCE		SLS	WSCU	WSCU	WSCU x 2
FIN DIMENSIONS (mm)		65 x 65	65 x 130	130 x 65	65 x 130
TUBE DIAMETER (mm)		22	22	22	22
ORIENTATION			VERTICAL	HORIZONTAL	VERTICAL SIDE BY SIDE
SECTION VIEW					
NOMINAL CASING DEPTH (mm) >		75	75	140	140
CASING HEIGHT (mm)	AIR OUTLET POSITION	WATTS/METRE	WATTS/METRE	WATTS/METRE	WATTS/METRE
165	TOP / SLOPING	455	650	635	910
	FRONT	410		575	
200	TOP / SLOPING	485	690	680	965
	FRONT	435		610	
300	TOP / SLOPING	555	790	775	1105
	FRONT	520	740	730	1035
400	TOP / SLOPING	615	880	860	1230
	FRONT	580	830	810	1160
500	TOP / SLOPING	665	950	930	1330
	FRONT	630	900	880	1260
600	TOP / SLOPING	705	1010	985	1415
	FRONT	670	960	940	1345
700	TOP / SLOPING	750	1070	1050	1500
	FRONT	740	1060	1035	1485

TABLE 1-110

REFERENCE		XCU	XCT	XCT	XCT
FIN DIMENSIONS (mm)		110 x 110	110 x 220	110 x 110	110 x 110
TUBE DIAMETER (mm)		22	22	22	22
ORIENTATION			VERTICAL	HORIZONTAL	VERTICAL SIDE BY SIDE
SECTION VIEW					
NOMINAL CASING DEPTH (mm) >		120	120	230	230
CASING HEIGHT (mm)	AIR OUTLET POSITION	WATTS/METRE	WATTS/METRE	WATTS/METRE	WATTS/METRE
165	TOP / SLOPING	860		1205	
	FRONT				
200	TOP / SLOPING	920		1290	
	FRONT				
300	TOP / SLOPING	1080	1380	1510	1930
	FRONT	1010		1415	
400	TOP / SLOPING	1200	1560	1680	2185
	FRONT	1130	1470	1580	2060
500	TOP / SLOPING	1290	1680	1805	2350
	FRONT	1230	1600	1720	2240
600	TOP / SLOPING	1370	1770	1920	2480
	FRONT	1300	1700	1820	2380
700	TOP / SLOPING	1430	1840	2000	2575
	FRONT	1370	1770	1920	2480

MEAN Water / Design Room Temperature Correction Factors

TABLE 2

Room Temp. °C	Mean Water Temperature (°C)										
	35	40	45	50	55	60	65	70	75	76.5	80
16	0.21	0.29	0.37	0.47	0.59	0.68	0.79	0.90	1.10	1.06	1.20
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22	0.13	0.20	0.28	0.36	0.46	0.57	0.66	0.77	0.88	0.91	0.99

Flow Rate Correction Factors

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Flow Rate l/s		Correction Factor	Water Velocity m/s
15mm Pipe	22mm Pipe		
0.007	0.017	0.84	0.05
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0.036	0.085	0.94	0.25
0.072	0.170	0.97	0.50
0.130	0.310	1.00	0.92
0.290	0.680	1.03	2.00

Grille Free Area Correction Factors

TABLE 4P

FREE AREA	30%	50%	60%	70%
Outlet Grille	0.65	0.84	0.95	1.00
+ Inlet Grille	0.85			

To be used as a guide only. Based on 70% free area as standard.

Apply factor for outlet grille free area then the additional factor if an inlet grille is used.

Stated outputs and correction factors are the result of testing within The Perimeter Heating Company perimeter casing, variations in casing construction will affect output, contact us to discuss your design.

Optional Grilles

Finish your trench or casing project off with some durable architectural grille.

We manufacture flexible cross blade or linear grilles to various free areas in a variety of anodised and painted finishes in addition to the ever popular satin silver anodised finish as standard.

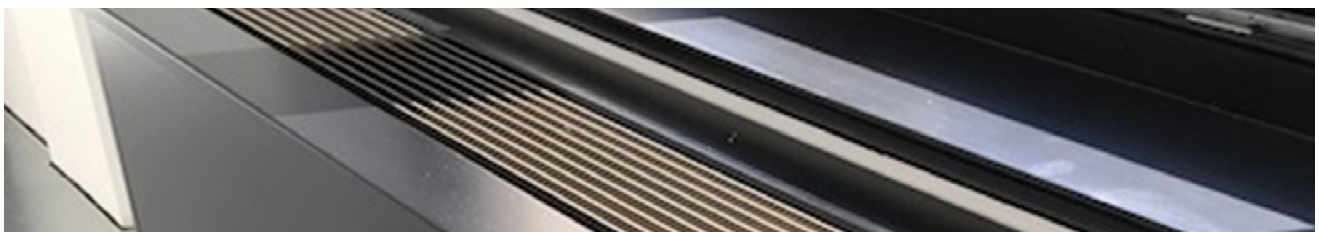
Contact us to discuss your requirements.

TABLE 4G

FREE AREA	30%	50%	60%	70%
CROSS SECTION				

TABLE 5

FINISH	SILVER	BLACK	BRONZE	IVORY	CHAMPAGNE	BRUSHED STAINLESS STEEL



THE PERIMETER HEATING COMPANY LTD.
31 Alvis Way
Royal Oak Industrial Estate
Daventry
NN11 8PG

TEL: 07803 307 373
Email: sales@perimeterheating.com
Web: www.perimeterheating.com