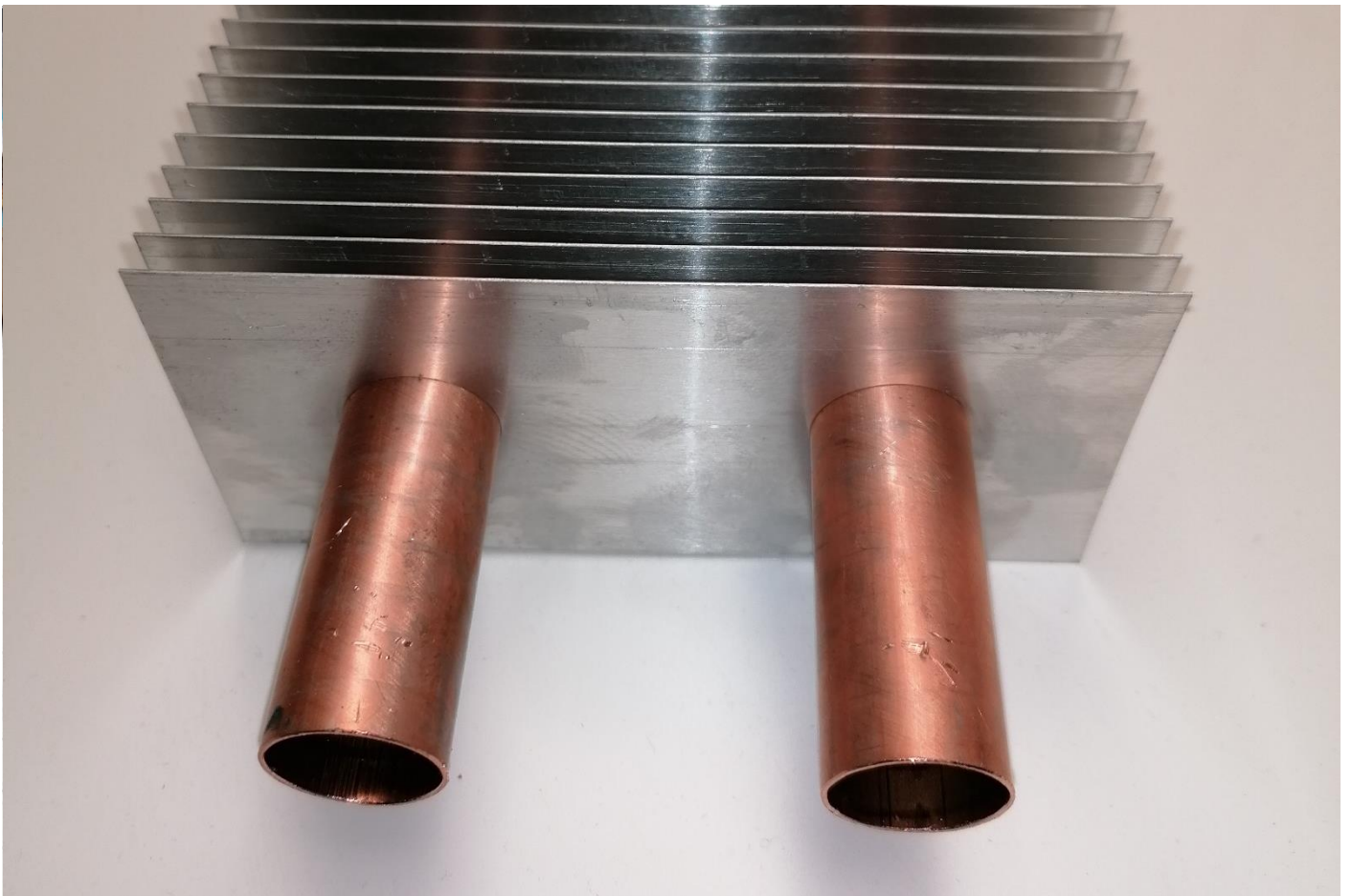


# THE PERIMETER HEATING COMPANY



HEATING ELEMENT PRODUCT BROCHURE

# Copper/Aluminium Heating Elements

As well as being used in our trench and perimeter heating casings we also offer our LPHW 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 2900mm 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.

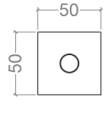
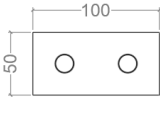
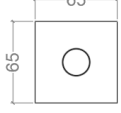
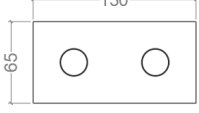
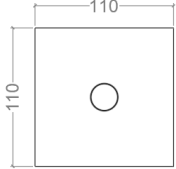
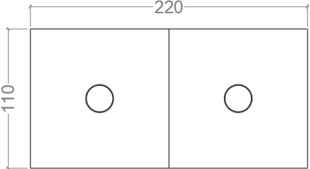
Refer to Product Selection for guide outputs and correction factors within TPHC Trench Heating. For outputs within builders' casing please contact the office to discuss the parameters.

Stated outputs are the result of testing within TPHC trench casing, variations in trench construction will affect output, contact us to discuss any potential issues with design.

# Product Selection

## Element Schedule

TABLE 0

ELEMENT TYPE	15-SLH	15-SLE	22-SLS	22-WSCU	22-XCU	22-XCT
DIMENSIONS WxH(mm)	50x50	100x50	65x65	130x65	110x110	220x110**
CROSS SECTION						
OUTPUT (w/m)*	240†	400†	430	690	790	1180

\* Based on outputs within TPHC Trench Heating

\*\* May be supplied as 2 No. XCU

† Corrected outputs following product development, 6mm fin pitch testing required to confirm, estimated output for 2 No. SLE within TPHC-06 - 560w/m.

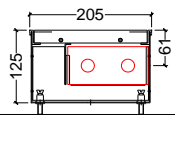
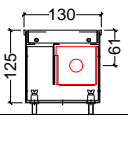
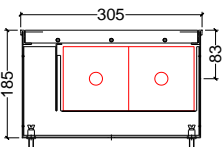
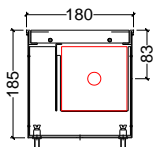
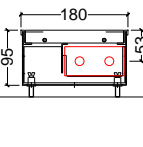
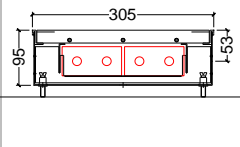
15 SLE @ 3mm pitch - test results show 550w/m (within TPHC-05),

For previous test results with thin fin material refer to TABLE 1

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.

## Trench Heating Outputs

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	2 x 22-XCU	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 4

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

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