

BEMCO have been overcoming problems of heat transfer in aggressive environments ever since the introduction of Titanium metal to the Surface Treatment and Chemical Processing Industries and our heating and cooling coils have led the field for maintenance-free atemperation of process solutions, chemicals and foodstuffs.

Titanium, Incoloy, Stainless and Carbon Steels are included in our wide range of materials\*.

For our customers' convenience the Standard BEMCO Titanium coil is offered. It has been designed for vats with depths of 2 to 3 feet. Two or more coils can be installed to give the heating (or cooling) performance required.

BEMCO coils are all designed to provide high efficiency vat heating and cooling with lower initial costs than water jacket systems. Control of the solution is more accurate, while the absence of non-conducting layers results in greatly increased transfer efficiency.

Titanium has proved particularly suitable for heating and cooling coils in the Metal Finishing and Chemical Industries. Its lightness, strength and resistance to corrosion in many solutions means long and trouble free operation with very easy installation.

We are always pleased to advise on installation for liquid phase heating or cooling and to fabricate / supply to meet special requirements.

Custom built coils can be supplied, side mounted, base mounted or spirally wound complete with any type of inlet / outlet terminations and liquid level shrouds if required.

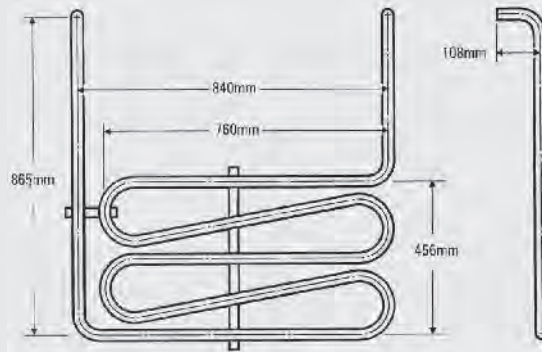
All BEMCO coils are hydraulically tested at 450 p.s.i. / 30 bar, prior to delivery unless otherwise specified.

\* N.B. Whilst always ready to advise on the choice of material, we recommend that all customers check with their chemical or solution suppliers if they are in any doubt as to the suitability of the selected material.

## Standard Specifications

### Standard Titanium Coil

<b>Materials:</b>	Commercially Pure Titanium
<b>Size:</b>	1" OD x 0.036" wall. (25.4 x 0.91mm)
<b>Surface Area:</b>	0.4sq mtr
<b>Tube Length:</b>	5.6 metres
<b>Weight:</b>	1.6 kg
<b>Fittings:</b>	Each coil supplied complete with brass couplings (3/4" BSP female)
<b>Part No:</b>	BT - 1/33/34.
<b>Also Available:</b>	Stainless Steel (Ref: BS - 1/33/34) Mid Steel (Ref: BO - 1/33/34)



**Steam Heating of Plating Baths** using BEMCO Standard coils (Ref: BT - 1/33/34) in Titanium tube. Minimum number of standard coils required to maintain a Bath Temperature of 65°C. Figures in parentheses ( ) indicate approximate heating-up time, in hours from 10°C.

Steam Pressure (P.S.I. Gauge)	Bath Capacity (Litres)					
	450	900	2300	4500	6800	9000
5	1 (1½)	1 (3½)	2 (3)	3 (4)	4 (4½)	5 (5)
10	1 (1)	1 (3)	1 (5)	2 (5)	3 (6)	4 (5)
20	1 (1)	2 (2½)	1 (4½)	4 (4½)	3 (4½)	4 (4½)
50	1 (1)	1 (2½)	1 (3½)	2 (3½)	2 (6)	3 (5)
75	1 (1)	1 (2)	1 (3½)	2 (3)	2 (5)	3 (4½)
100	1 (1½)	1 (2)	1 (3)	1 (6)	2 (4)	2 (6)

**Hot Water Heating of Plating Baths** using BEMCO standard coils (Ref: BT - 1/33/34) in Titanium tube. Minimum number of standard coils required to maintain a Bath Temperature of 65°C. Figures in parentheses ( ) indicate approximate heating-up time, in hours from 10°C.

Water Inlet (temp °C)	Bath Capacity (Litres)					
	450	900	2300	4500	6800	9000
95	1 (2)	2 (3)	2 (4)	5 (4)	7 (5)	9 (5)
110	1 (1½)	1 (5)	2 (4)	3 (5)	5 (5)	6 (5)
120	1 (1½)	1 (4)	2 (3½)	2 (5)	3 (6)	4 (6)
150	1 (1)	1 (2½)	1 (4½)	2 (4½)	2 (7)	3 (6)
175	1 (1)	1 (2)	1 (3½)	1 (7)	2 (5)	2 (7)
200	1 (1)	1 (2)	1 (3)	1 (6)	2 (4½)	2 (6)

**Note:** The above tables assume that no excessive or unusual heat loss takes place. Where this does occur, or where heating-up times required are shorter than those given in the tables, the number of coils may be increased accordingly. Alternatively we can custom design and manufacture.

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Heating and Cooling Coils



Globemarket LTD t/a BEMCO > 11/12 Carver Street, Birmingham B1 3AS > England  
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www.bemco.uk.com

BEMCO Thermal Panels are double embossed and constructed of Titanium or Stainless. They offer more efficient atemperation of process solutions than traditional coiled systems.

Consider the Benefits:- Thermal Panels occupy less than one third of the space taken up by conventional coils of equivalent output. This means that more space is available for extra throughput or for improving tank layout.

Moreover because of their narrow profile (less than 1/2" deep) they can be slotted into the narrowest of apertures.

Other benefits include the reduced possibility of mechanical or electrical damage (arcing), because of their relative size, and increased resilience to damage or deformation by nature of their construction.

They are equally suitable for heating as they are for cooling and entirely compatible with most conventional media (e.g. steam, high pressure hot water, thermal oil, glycol, chilled and mains water etc.).

Because of their design and flow characteristics, pressure drop and steam hammer considerations are virtually eliminated. Standard BEMCO panels measuring 750 x 600 mm wide and incorporating two 1.5" (38mm) long 3/4" BSP connections, are available in Titanium and Type 316 Stainless.

Other sizes and terminations can be supplied on request. Fixing straps / brackets and liquid level shrouds can also be fitted. Each panel is 150lb (10 bar) rated and hydraulically tested prior to delivery.

\* N.B. Whilst always ready to advise on the choice of material, we recommend that all customers check with their chemical or solution suppliers if they are in any doubt as to the suitability of the selected material.

## BEMCO Thermal Panels

**Size:** 750 wide x 600mm. Gives surface area approx. 11sq.ft. or 1.0sq. metres.  
(Equivalent to 40 linear feet of 1" OD tubing)

**Water/Steam Hammer:** Negligible compared to coils

**Pressure drop:** Insignificant.  
(E.g. approx. 5 p.s.i. at 100 l/min)

**Safe Working Pressure:** Max: 100 p.s.i. (7 bar) for standard panels.  
(Can be increased by special design if required).

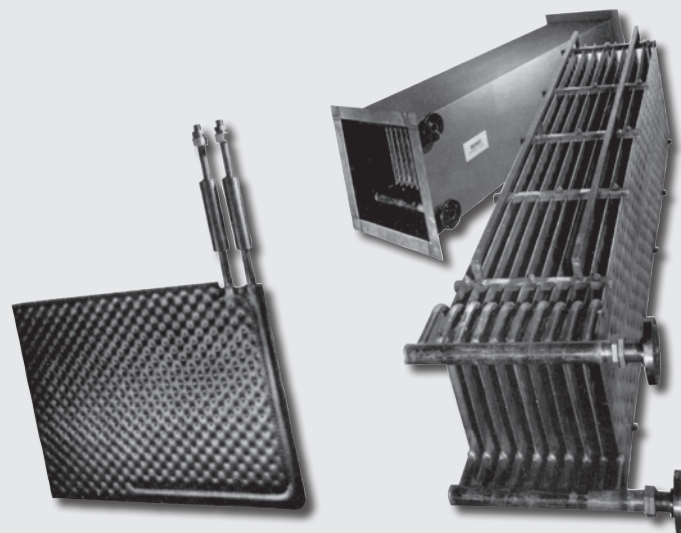
**Test Pressure:** Typically 225 p.s.i. (15 bar)  
(May be less for cooling applications).

**Outlets:** Screwed / Socketed, Flanged or plain-ended.

## Performance Data

Theoretical Steam Heating Capabilities Raising water from 15°C to 65°C (Based on 80% efficiency)			
Steam P.S.I.G	Hrs. for 2500 l	Litres in 4 hours	K cals /Hour
25	2½	4000	55,000
50	2¼	5000	65,000
75	2	5700	70,000
100	1¾	6500	78,000

Theoretical Water Cooling Capabilities Cooling watery solution with water				
Log: M.T.D. °C	Not Agitated		Agitated	
	K cals / Hr	Kw / Hr	K cals / Hr	Kw / Hr
10	2,000	2.3	4,300	5
20	4,000	4.6	8,600	10
40	8,000	9.3	17,000	20
60	12,000	14.0	26,000	30



Globemarket Ltd t/a BEMCO, is committed to a policy of continuous improvement and development. We therefore reserve the right to alter specifications at any time.

Thermal Panels

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