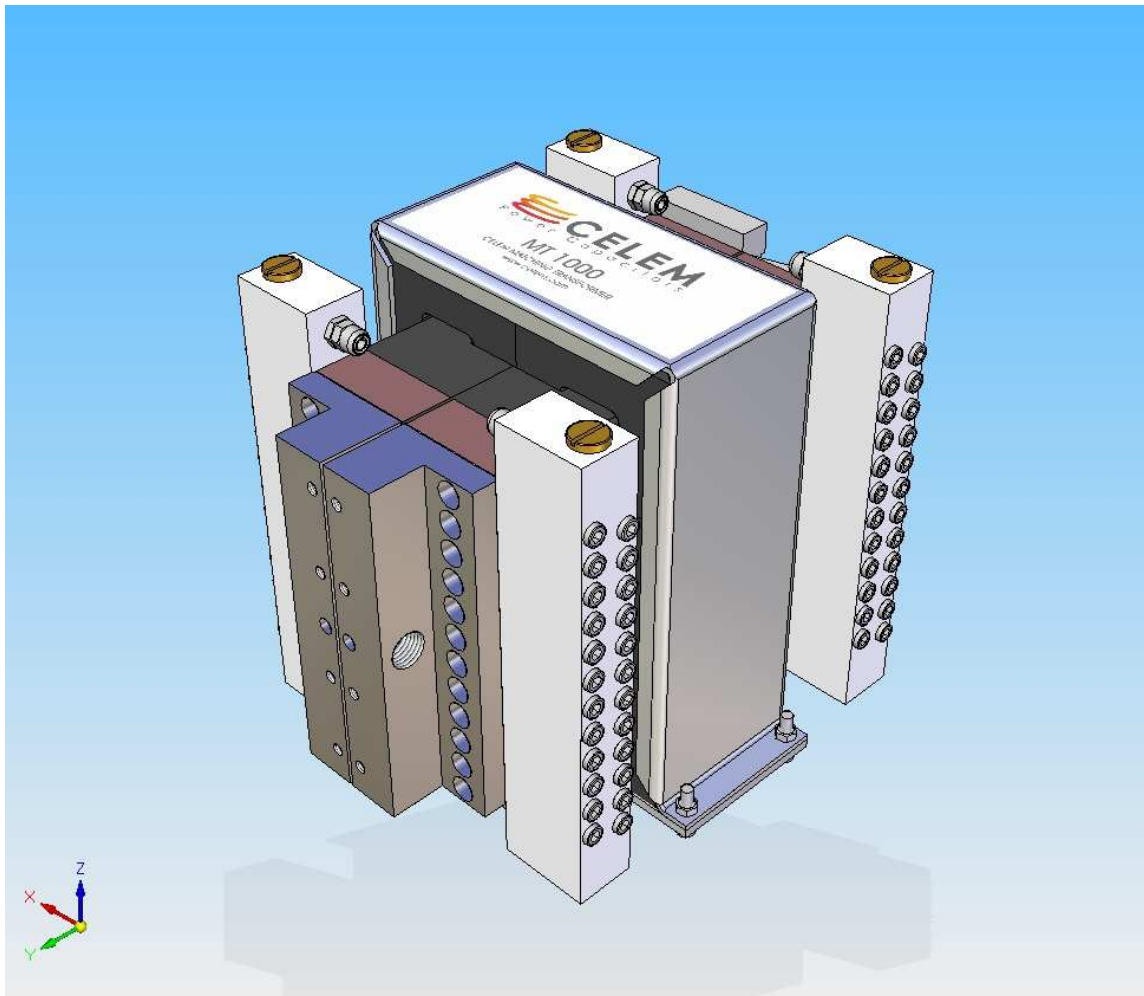


# Celem MT Series

## Matching Transformers

Technology Patented Worldwide

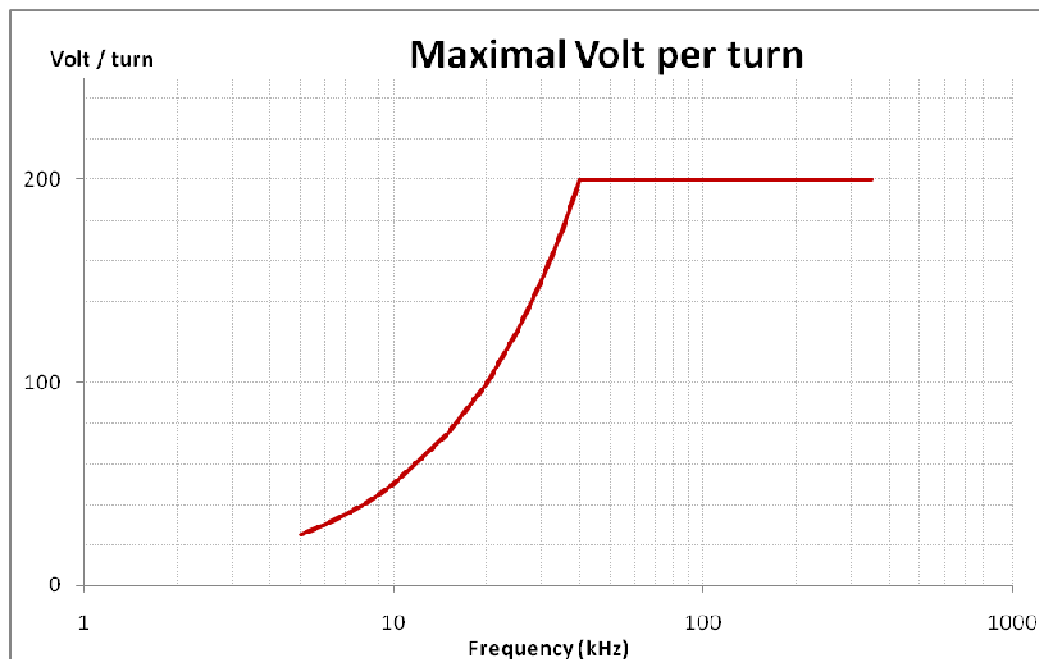


TYPE		MT250	MT300	MT500	MT1000
Dimensions (L x W x H)	mm	287.5 x 228 x 125	287.5 x 228 x 170	287.5 x 228 x 170	287.5 x 228 x 260
Weight	kg	18	22	26	45
Tapping	ratio	3:1	4:1 2:1	6:1 3:1 2:1	12:1 6:1 4:1 3:1 2:1
Max Primary voltage	V <sub>rms</sub>	600	800	1200	1200
Max secondary current	A	1500	2000	3000	6000
Max primary current	A	500	500(4:1) 1000(2:1)	500(6:1) 1000(3:1) 1500(2:1)	500(12:1) 1000(6:1) 1500(4:1) 2000(3:1) 3000(2:1)
Reactive power transfer	%	> 90%	> 90%	> 90%	> 90%
Active efficiency	%	> 95%	> 95%	> 95%	> 95%
Max power	kVA	250	300	500	1000
Stray inductance	μH	< 0.2	< 0.3	< 0.4	< 1.5
Frequency range	kHz	20 - 350	20 - 350	20 - 350	5 - 350

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Please note: due to the 1200V limit of the galvanic insulation between the primary and secondary it is not possible to utilize more than 100V/turn when operating the MT1000 with a 12:1 ratio.

### The Technology behind the MT Series

The MT series represents out of the box thinking that creatively addresses the four important characteristics that determine the quality of a matching transformer for high frequency / high power applications.

**The skin effect** in the MT is negligible due to its unique laminar structure. Instead of the traditional copper tubes, the winding of the MT are made of laminar copper sheets. At 350 kHz this revolutionary structure reduces the resistive losses by a factor of 10, and consequently increases the overall efficiency to above 90%.

**The coupling coefficient** of the MT is uniquely high. Using alternating primary and secondary layers of thin copper sheets provides an unprecedented coupling and very low reactive losses. The MT was designed with a clear target of zero stray inductance. This advanced design results in a short circuit voltage of less than 10%, meaning that over 90% of the available reactive power is transmitted to the load.

**Derating of specification when tapped** is avoided in the MT completely by an original yet simple combination of identical coil elements connected in series and parallel. This enables modification of transformation ratio quickly and without power reduction.

**The frequency range** of the MT is exceptionally wide: 5 – 350 kHz. This enabled the by quasi absence of stray inductance, combined with high saturation ferrite.