MP Interconsulting
ULTRASONICS - SONOCHEMISTRY - INNOVATION

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20-kHz-3kW-CONVERTERS SPECIFICATIONS

FLEX HOUSING CONVERTER


MMM, Flex-Housing converter (no cooling): MPI-20kHz-3kW-Flex

MMM, Flex-Housing converter (water cooling): MPI-20kHz-3kW-Flex-WC

Large mounting area
Flex-housing, water tight, shocks-resistant
Easy fixation directly on the housing
Good for single frequency and broad band operating regimes (MMM)
Resonant frequency operations: 20 kHz

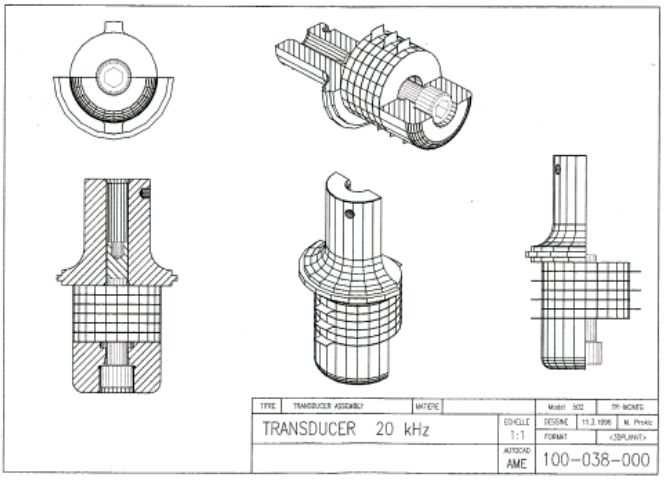
METAL HOUSING CONVERTER

MMM, Metal-Housing converter (air cooling): MPI-20kHz-3kW-MH-AC

MMM, Metal-Housing converter (air + water cooling): MPI-20kHz-3kW-MH-AC-WC

Model: MPI-20kHz-3kW, Without Housing

Optimized (502/932R, Branson Converter) for MMM applications



Typical Model Parameters Variations

	In Series Resonance	In Parallel Resonance
Model Parameters for Non-Loaded Converter (Measured on the random, standard-production-quality sample > 100 pcs. of converters, taken after assembling)	$\mathbf{C_{0p} \in [15.3 - 18.1]\,nF,\ \pm 3\%}$ $\mathbf{C_1 \in [3.92 - 4.05]\,nF,}$ $\mathbf{L_1 \in [17.53 - 18.7]\,mH}$ $\mathbf{R_1 \in [1.75 - 4.6]\,\Omega,\ \pm 20\%}$ $\mathbf{f_1 \in [18435 - 18905]\,Hz,\ \pm 0.5\%}$ $\mathbf{Q_{m01} \in \langle Q_{m01} \rangle \pm 20\%}$	$\mathbf{C_{0s} \in [18.7 - 22.05]\,nF,\ \pm 3\%}$ $\mathbf{C_2 \in [79 - 101.53]\,nF,}$ $\mathbf{L_2 \in [570.50 - 747]\,\mu H,}$ $\mathbf{R_2 \in [94 - 250]\,K\Omega,\ \pm 20\%}$ $\mathbf{f_2 \in [20635 - 20912]\,Hz,\ \pm 0.5\%}$ $\mathbf{Q_{m02} = \langle Q_{m02} \rangle \pm 20\%}$

-Total Length = 117 mm,
-Piezoceramics OD = 50 mm,
-Piezoceramic thickness, t = 5mm
-Aluminum-mass output diameter = 38 mm, h = 61 mm
-Largest middle diameter (AL mass) = 69 mm
-Steel back mass diameter = 51 mm, h = 23.5 mm
-Threaded hole in aluminum mass = ½", UNF20
f-r = f-s = 18.76 kHz (2.6 Ω)
f-p = f-a = 20.77 kHz (90 kΩ)
Fully compatible with 502 Branson models, 20 kHz, 3 kW
Front aluminum mass: AL7075, Ultrasonics Grade
Back mass: Stainless Steel 304
In MMM applications applicable for carrier frequencies from 10 kHz to 30 kHz

Applications: Extruders, Wires & Tubes Drawing, Atomizers, Liquid Alloys Treatment, Defoaming, Mixers, Sonochemical Reactors, Waste Waters Processing, Supercritical, Liquid CO-2 Reactors, Extractions, MMM Cutting, Degassing, Clamp-On Systems…

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