












Left: shrink wrapped / right: banded

## Comparison Shrinking vs. Banding with Ultra-Sonic Technology

	Shrink wrapping machine Type Micra <sup>1</sup>	Banding machine Type US-2000 AD <sup>1</sup>	Factor
 Packed products / hour	<b>221 boxes</b>	<b>680 boxes</b>	3 times 
 Energy consumption in 1h Energy consumption per year	3.26 kWh 6'520 kWh <sup>2</sup> (3.26 kWh*8h*250d)	0.06 kWh 120 kWh (0.06 kWh*8h*250d)	54 times 
 Energy costs per year	2'608 EUR (6'520 kWh*0.40 EUR)	48 EUR (120 kWh*0.40 EUR)	54 times 
 CO2-emissions per year	3'162 kg CO2e <sup>3</sup> (1 kWh = ca. 0.485 kg CO2e)	58 kg CO2e <sup>3</sup> (1 kWh = ca. 0.485 kg CO2e)	54 times 
 Waste per year	232 g for 221 boxes <b>1,42 t for 1'360'000 boxes</b>	276 g for 680 boxes <b>552 kg for 1'360'000 boxes</b>	2.5 times 

<sup>1</sup>Figures may vary depending on machine, product, number of shifts and country.

<sup>2</sup>The preheating time, which is necessary for the shrinking machine in contrast to the banding machine, was not included.

<sup>3</sup>Source: Umwelt Bundesamt Germany, 21.04.2022