

## SUPRATON® In- line Homogeniser in Emulsion Technology

SUPRATON® In- line Homogeniser is based on the rotor- stator- principle. Its quality is proved for more than 50 years in the most different and challenging duties in emulsion technology. One criterion for the quality of an emulsion is the droplet-size distribution in the disperse phase. The energy, required for this process, is highly efficient supplied by the SUPRATON® In- line Homogeniser.

The product passing through the SUPRATON® is subject to several physical mechanisms:

- Multistage hydrodynamic high-shear
- High- frequency oscillating forces
- Intensive micro- volume mixing
- Pressure increase up to 11,5 bar
- Shear- rate above  $200.000 \text{ s}^{-1}$  at circumferential speed of the rotor up to  $53 \text{ m s}^{-1}$



*SUPRATON S400 with „tooth and chamber-tools“*

A variety of toolsets is available to achieve the best possible performance in a large number of different applications.



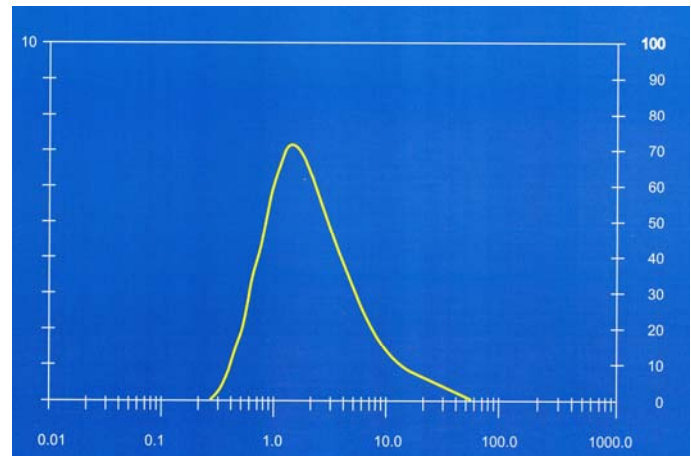
*Rotor and stator of the „nozzle- tool“*



*Rotor and stator of the „tooth and chamber-tool“*

As an example for the performance of SUPRATON® In- line Homogeniser the droplet-size distribution of a Polymer modified Bitumen / Water- emulsion is presented.

The SUPRATON®- Machine generates High- value emulsions in chemical- Industry (e. g. emulsions of epoxy- resins, emulsions of silicon paste) likewise in food- technology (e. g. tomato-soup and mayonnaise- processing etc.)



*Droplet- size distribution of a Polymer modified Bitumen (4%) / Water- emulsion*

- The efficiency of the nozzle- tool with a special set- up is shown in vegetable oil- degumming. Where, even at low power consumption, this tooling over exceeds all common used systems.
- At vinylchloride / water- emulsions SUPRATON®-Homogeniser substitute High- pressure- Homogenisers and enables new product- properties.

SUPRATON®-Homogenisers are characterised by extreme durability at strong mixing- performance. Robust, oil- cooled bearing- systems and the compact head- design assures ideal energy transfer rates and safe handling also at high temperatures. The symmetric tool- designs allows using both rotating directions to increase the lifetime considerably. In combination with a mechanical seal - type Cartridge - an effective and reliable machine is available – requiring a low maintenance.

		<b>S200</b>	<b>S300</b>	<b>S400</b>	<b>S500</b>
<b>Volume flow* [m<sup>3</sup> h<sup>-1</sup>]</b>	<b>tooth and chamber tools</b>	<b>10</b>	<b>24</b>	<b>35</b>	<b>55</b>
	<b>Nozzle tool</b>	<b>12</b>	<b>25</b>	<b>50</b>	<b>70</b>
<b>Flange conection (DIN 2635)</b>	<b>Suction side</b>	<b>DN 40</b>	<b>DN 65</b>	<b>DN 100</b>	<b>DN 150</b>
	<b>Pressure side</b>	<b>DN 32</b>	<b>DN 50</b>	<b>DN 80</b>	<b>DN 100</b>
<b>Rotor speed [rpm]</b>		<b>-7.500</b>	<b>-5.400</b>	<b>-3.600</b>	<b>-1.800</b>
<b>Motor capacity (DIN 42673) [kW]</b>		<b>8- 22</b>	<b>15-45</b>	<b>30-132</b>	<b>75-250</b>

*\* based on water at 0,35 bar feed pressure*

Additionally we offer a SUPRATON®- Machine S100 with „tooth and chamber tools“, for laboratory and small production. 2,2 kW motor will be driven by frequency- converter. The capacity covers the range of 50- 500 l/ h.