Homogenizer-Digital

Brand : IKA

Model : T25 digital ULTRA-TURRAX

Custodian : Tadtarit Anujareewat

Location : K639 Room, 6th Floor, Chalermphrakiet Building, Phayathai Campus

Description and Specification

- Particle reduction, emulsifications, and reaction enhancements in chemical,
- pharmaceutical, and food research
- Tissue homogenization for biological and medical research
- Heavy metals analysis in sludge samples
- Homogenization of marine samples for separating bacteria aggregates

Useful information

Dispersion is the dissolution and diffusion of a solid, liquid or gaseous phase in a liquid that is not consolute with that phase.

The rotor/stator principle:

Due to the high rotation speed of the rotor, the medium to be processed is automatically drawn axially into the dispersion head and then forced radially through the slots in the rotor/stator arrangement. The high accelerations acting on the material produce extremely strong shear and thrust forces. In addition, high turbulence occurs in the shear gap between rotor and stator, which provides optimum mixing of the suspension.

The dispersion effectiveness is heavily dependent on the product of the shear gradient and the time the particles spend in the shear zone. The optimum range for the circumferential velocity of the rotor/stator arrangement is 6-24 m/s.

A processing time of a few minutes is usually sufficient to produce the desired fineness. Long processing times bring only insignificant improvements in the obtainable fineness; the energy expended serves merely to increase the temperature of the medium.

Technical Data

Design voltage (VAC)	220 ... 240 = 10% 100 ... 120 + 10 %
Nominal voltage (VAC)	230 115
Frequence (Hz)	50 / 60
Power consumption (W)	800
Power output (W)	500
Speed range (rpm)	3000 ... 25000 (at nominal voltage 230V / 50Hz and 115V/60 Hz)
Speed variation on load change (%)	< 1
Motor speed display	3-digit LED display, displayed value x 1000 = motor speed in rpm
Display resolution (rpm)	200
Permissible ambient conditions	5 °C to 31 °C at 80 % relative humidity. 32 °C to 40 °C decreasing linearly to a maximum 50% relative humidity.
Permissible on time	100
Protection to DIN EN 60529	IP 20
Contamination level	2
Protection class	II
Overvoltage category	II
Noise level (without dispersing tool) (dbA)	75
Dimensions drive (Wx D x H) (mm)	87 x 106 x 271
Dimensions boom (Ø x L) (mm)	13 x 160
Weight	2.5
Operation at a terrestrial altitude	max. 2000

	S25N-18G	S25N-10G
Working range (ml)	1-50	1-100
Stator/Rotor (mm)	8/6.1	10/7.5
Gap between rotor and stator (mm)	0.25	0.35
Max. allowable speed (rpm)	25000	
Max circumferential speed (m/s)	8.0	9.8
Min./Max, immersion depth (mm)	27/85	22/85
Material in contact with medium	PTFE, AISI 316L	
pH range	2-13	
Suitable for solvents and abrasive substances	Yes	
Max. Working temperature (°C)	180	
Ultimate fineness, suspensions (µm)	10-50	
Ultimate fineness, emulsions (µm)	1-10	