

High pressure homogenizer is a kind of machine used for super fine homogenizing. In many applications, such as food, pharmaceutical, cosmetic, biotechnology and chemical, particle size needs to be in the nanometer range. A high pressure homogenizer is ideally suited for this task. It is one of the most effective production equipment for the preparation of nanomaterials by applying nanotechnology process, and its application area is very wide.

SeFluid's high pressure homogenizer consists mainly of a high-pressure homogenization chamber and a booster mechanism. The interior of the high pressure homogenizing chamber has a specially designed geometry. In the homogenizer chamber, high pressure is generated by one or more high pressure pumps. The high pressure is then released in a very narrow adjustable gap inside the homogenizing valve.

Principle of High Pressure Homogenizer

Under the action of the booster mechanism, the high pressure solution passes rapidly through the high pressure homogenizer working chamber. After that, the raw material is simultaneously subjected to mechanical forces such as high speed shear, high frequency oscillation and convective impact. As a result, mechanical and chemical effects can induce changes in the physical, chemical and structural properties of the material macromolecules. Eventually, the material achieves the effect of homogenization.

Max. Pressure of High Pressure Homogenizer

In general, the higher the homogenization pressure, the better. First, the higher the homogenization pressure, the smaller and more uniform the particle size of the homogenized material will be. This makes the equipment more efficient, and the desired effect can be achieved with fewer cycles; secondly, the higher the homogenization pressure, the more kinds of materials can be processed. For example, some liquid emulsions require only 20,000 psi to homogenize to below 100 nm, while some suspensions containing higher density solid particles require at least 26,000 psi or more to process to the nanometer scale.

But at the same time, it should be noted that the higher the homogenization pressure, the greater the calorific value, and the high temperature will affect the homogenization effect of the material. Therefore, generally without cooling measures, 30000psi is the highest pressure for ultra-high pressure homogenization.

Features

- Sufficient flow rate, no changing to flow when pressure is high.
- Super Fine particle size with micron Φ 0.01-2 after processing.
- Low noise, crank arm transmission gear, high flow and double shaft dynamo.
- Reliable sealing and no leak risk, easy disassembling and maintenance.
- Conical valve surface contact for one-way valve, no leakage, steady pressure and sufficient flow.

Application

- Preparation of fat particles, microemulsions, liposomes, suspensions and microcapsules in the pharmaceutical industry.
- Cell crushing, extraction and homogenization of intra- and extracellular substances for bioengineering products.
- Homogenization and emulsification of products in the food and beverage industry to improve product stability.
- Homogenization and dispersion of products in the cosmetic and fine chemical industries.
- Production and preparation of conductive and resistive slurries.



Specification

Model	Flow Rate	Max. Pressure	Rated Pressure	Motor Power	Size
	l / h	Mpa	Mpa	kw	L x W x H (mm)
SHPH-0.2-25	200	25	20	2.2	755X520X935
SHPH-0.3-25	300	25	20	3	755X520X935
SHPH-0.5-25	500	25	20	4	1010X616X975
SHPH-0.8-25	800	25	20	5.5	1020X676X1065
SHPH-1-25	1000	25	20	7.5	1100X676X1065
SHPH-1.5-25	1500	25	20	11	1100X770X1100
SHPH-2-25	2000	25	20	15	1410X850X1190
SHPH-2.5-25	2500	25	20	18.5	1410X850X1190
SHPH-3-25	3000	25	20	22	1410X960X1280
SHPH-4-25	4000	25	20	30	1550X1050X1380
SHPH-5-25	5000	25	20	37	1605X1200X1585
SHPH-6-25	6000	25	20	45	1671X1260X1420
SHPH-8-25	8000	25	20	55	1671X1260X1420
SHPH-10-25	10000	25	20	75	2725X1398X1320
SHPH-12-25	12000	25	20	90	2825X1500X1320

Model	Flow Rate	Max. Pressure	Rated Pressure	Motor Power	Size
	l / h	Mpa	Mpa	kw	L × W × H (mm)
SHPH-0.3-32	300	32	25	4	1010X616X975
SHPH-0.5-32	500	32	25	5.5	1020X676X1065
SHPH-0.8-32	800	32	25	7.5	1100X676X1065
SHPH-1-32	1000	32	25	11	1100X770X1100
SHPH-1.5-32	1500	32	25	15	1410X850X1190
SHPH-2-32	2000	32	25	18.5	1410X850X1190
SHPH-2.5-32	2500	32	25	22	1410X960X1280
SHPH-3-32	3000	32	25	30	1550X1050X1380
SHPH-4-32	4000	32	25	37	1605X1200X1585
SHPH-5-32	5000	32	25	45	1605X1200X1585
SHPH-6-32	6000	32	25	55	1671X1260X1420
SHPH-8-32	8000	32	25	75	2725X1398X1320
SHPH-0.1-40	100	40	35	3	755X520X935
SHPH-0.3-40	300	40	35	5.5	1020X676X1065
SHPH-0.5-40	500	40	35	7.5	1100X676X1065
SHPH-0.8-40	800	40	35	11	1100X770X1100
SHPH-1-40	1000	40	35	15	1410X850X1190
SHPH-1.5-40	1500	40	35	22	1410X850X1280
SHPH-2-40	2000	40	35	30	1550X1050X1380
SHPH-2.5-40	2500	40	35	37	1605X1200X1585
SHPH-3-40	3000	40	35	45	1605X1200X1585
SHPH-4-40	4000	40	35	55	1671X1260X1420
SHPH-5-40	5000	40	35	75	2000X1400X1500
SHPH-6-40	6000	40	35	90	2825X1500X1320
SHPH-0.1-60	100	60	50	4	1020X676X1065
SHPH-0.2-60	200	60	50	5.5	1020X676X1065
SHPH-0.3-60	300	60	50	7.5	1100X676X1065

Model	Flow Rate	Max. Pressure	Rated Pressure	Motor Power	Size
	l / h	Mpa	Mpa	kw	L × W × H (mm)
SHPH-0.5-60	500	60	50	11	1100X770X1100
SHPH-0.8-60	800	60	50	18.5	1410X850X1190
SHPH-1-60	1000	60	50	22	1470X960X1280
SHPH-1.5-60	1500	60	50	37	1605X1200X1585
SHPH-2-60	2000	60	50	45	2000X1300X1585
SHPH-2.5-60	2500	60	50	55	2000X1300X1585
SHPH-3-60	3000	60	50	75	2725X1398X1320
SHPH-4-60	4000	60	50	90	2825X1500X1320
SHPH-5-60	5000	60	50	110	2825X1500X1320
SHPH-0.1-70	100	70	60	5.5	1020X676X1065
SHPH-0.2-70	200	70	60	7.5	1100X676X1065
SHPH-0.3-70	300	70	60	11	1100X770X1100
SHPH-0.5-70	500	70	60	15	1410X850X1190
SHPH-1-70	1000	70	60	22	1410X850X1280
SHPH-1.5-70	1500	70	60	37	1605X1200X1585
SHPH-2-70	2000	70	60	45	2000X1300X1585
SHPH-2.5-70	2500	70	60	55	1671X1260X1420
SHPH-3-70	3000	70	60	75	2725X1398X1320
SHPH-4-70	4000	70	60	90	2825X1500X1320
SHPH-5-70	5000	70	60	110	2825X1500X1320
SHPH-0.1-100	100	80	80	7.5	1100X676X1065
SHPH-0.2-100	200	80	80	11	1100X770X1100
SHPH-0.3-100	300	80	80	15	1410X850X1190
SHPH-0.5-100	500	80	80	18.5	1410X850X1190
SHPH-1-100	1000	80	80	37	1605X1200X1585
SHPH-2-100	2000	80	80	75	2725X1398X1320
SHPH-3-100	3000	80	80	110	2825X1500X1320