

Blenders Catalogue

Rev 1. 11/2020

STURSAN



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Pages



Emulsifying Homogenizing Pump Series | In-line Mixer

Stursan ST-HC JZ1

Stursan ST-HC JZ3

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Homogeneous Mixing Pump Series

Stursan ST-HC PMTU

Stursan ST-HC PMZX

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Stursan ST-HHQ Series Mixing Pump | BLENDER solid/liquid mixer

Stursan ST-HHQ

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10.2020 / Revisión 1

STURSAN

Emulsifying homogenizing pump series



In-line Mixer





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Technical Specifications

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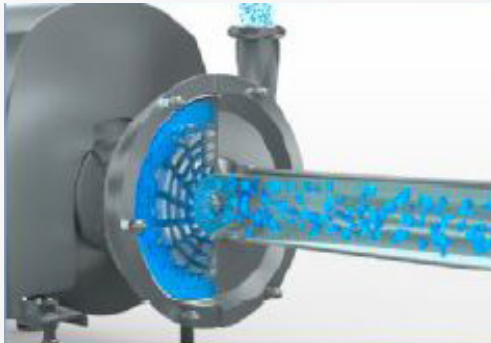
Data sheet



✓ Stursan ST-HC JZ1



Series single stage emulsifying homogenizing pump

Solutions for high-efficiency, dispersion, cut, refinement, smash, emulsification, mixing, homogenization, high purity.



JZ1 series is emulsifying homogenizing pump that could be operated for continuous production, and is composed of stator and rotor. The processed media will be operated through 6-10 layers stators and rotors, and then be dispersed, cut, refined, smashed, emulsified, mixed etc. step by step. Compared with traditional manufacturing technique, this pump is more easier, convenient and optimized, which has improved production efficiency and promoted media quality. It's mainly used in the industry of food, beverage, pharmacy, health protection, fine, chemistry, coating, pesticide, daily chemical, papermaking, etc.

Technical Specifications

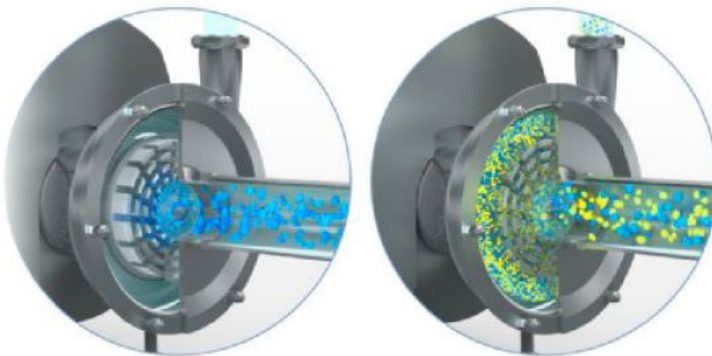
Technical Specifications	
Max. flow rate	40m ³ /h
Max. power	45KW
Max. temperature	-20°C to 140°C
Media refinement	≤ 60 GRIT (≠ 300 μ m)
Material	304 /316L, 1.431/1.4404, ASME BPE 316L,1.4435 NB2 Fe ≤ 0.5%
Surface treatment	≤ Ra0.8 μ m, ≤ Ra0.6 μ m, ≤ Ra0.4 μ m,
Mechanical seal	Single and double mechanical seals
Mechanical seal combination	See configuration table
Inlet/Outlet connection	Thread, clamp, flange, Aseptic flange
Certification	 CE  EC 1935/2004

Technical Advantages

- Maintenance disassembly and installation can be completed without professional staff and special tools.
- Initial use of installation debugging, even if a short reverse rotation will not be damaged.
- Impeller and shaft are connected by keyway; impeller and mechanical seal rotating ring are connected by pin; mechanical seal static ring and pump body are connected by special-shaped flange.
- Compatible with single and double machine seal, only need to change machine seal.



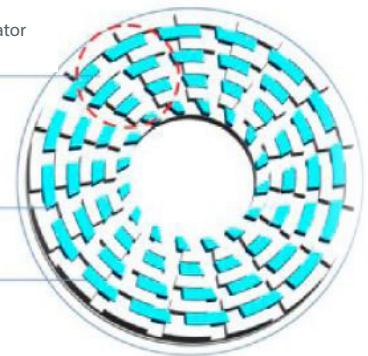
Very simple maintenance, no special tools required, no professionals required.



The gap between the stator and the rotor is 0.5mm

Stator

Rotor





Pump Inlet/outlet Connection Standard



Hand wheel nut



Union nut inlet/outlet



Threaded inlet/outlet



Clamp inlet/outlet



Aseptic Flange (DIN 11864)
Inlet/Outlet



90°...0° inclined outlet



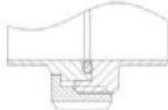
90°...135° inclined outlet

Connection: Thread, Clamp, Flange, Aseptic flange, KF etc.

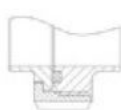
Standard: DIN SMS ISO IDF RJT ASME BPE 3A I-line



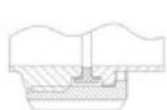
DIN 11851



DIN 11864-1-A



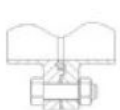
SMS



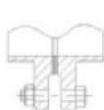
ISO/IDF



RJT



DIN 11864-2



Flange



DIN 11864-3



DIN 32676
ISO 2852



ISO 2861





Typical applications



Food & beverage

Juice, jam, ice cream, dairy products, food additives, tea drinks, chocolate, soymilk, essence



Daily chemical

Liquid detergent, liquid soap, facial cleanser, emulsified silicone oil, fragrance compound, skin care product, cosmetics



Bio-pharmaceutical

Injection, antibiotic, medicine emulsion, medicine emulsifiable paste, health care products, microcapsule emulsification, cell tissue smash, etc



Papermaking

Paper pulp, padding, dry strength agent, wet strength agent, sizing agent, retention and drainage aid, antifoaming agents, coating, water treatment chemicals, etc



Petrochemical industry

Lubricant, heavy oil emulsification, diesel oil emulsification, modified asphalt, catalyzer, wax emulsion, etc. Which media need to be emulsified and homogenized



Fine chemical engineering

Pigment, dyestuff, plastic additive, textile assistant, adhesive, resin emulsification, hot melt adhesive, sealant, glue, sizing agent, finishing agent, surfactant, dye leveller, carbon black dispersion, anti-sticking agent, textile finishing agent, brightener, leather auxiliaries, pigment paste, etc. Which media need to be emulsified and homogenized.



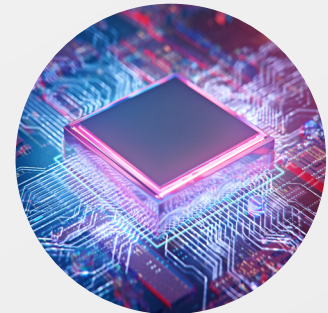
Coating & ink

Printing ink, oil paint, emulsion paint, coating, nanopaint, photocurable coating, coating adhesive, carbon black dispersion, glaze, benitonite, etc



Pesticide

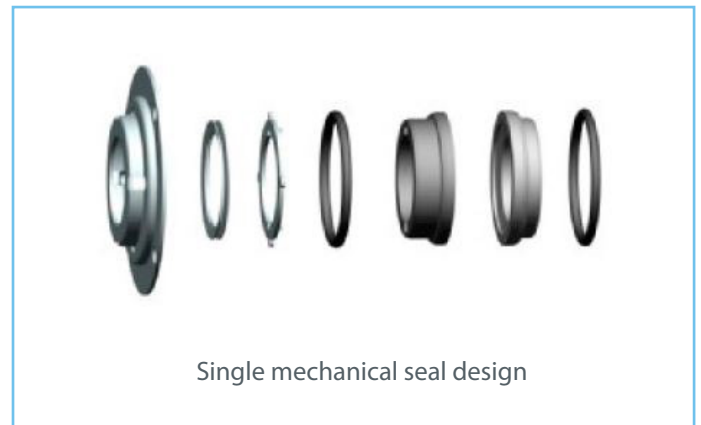
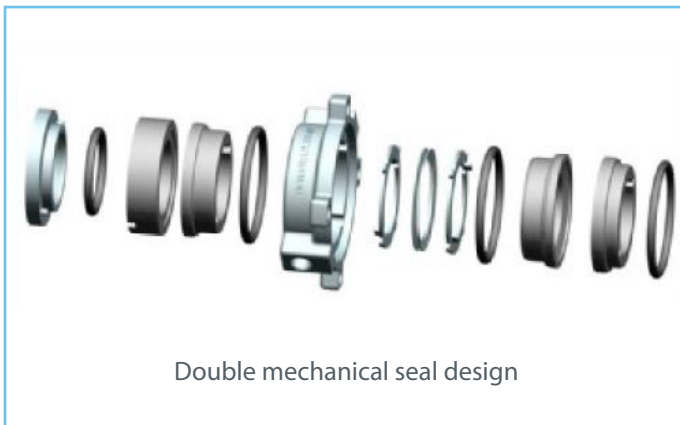
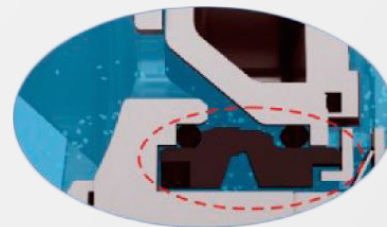
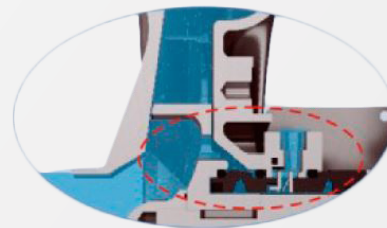
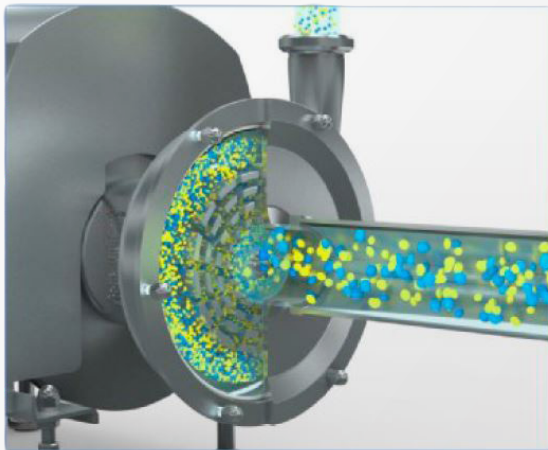
Insecticide, herbicide, pesticide missible oil, fertilizer, inert ingredient, etc. Which media need to be emulsified and homogenized.



Semiconductor

Dispersion & depolymerization of nanometer materials, etc

Mechanical Seal Features



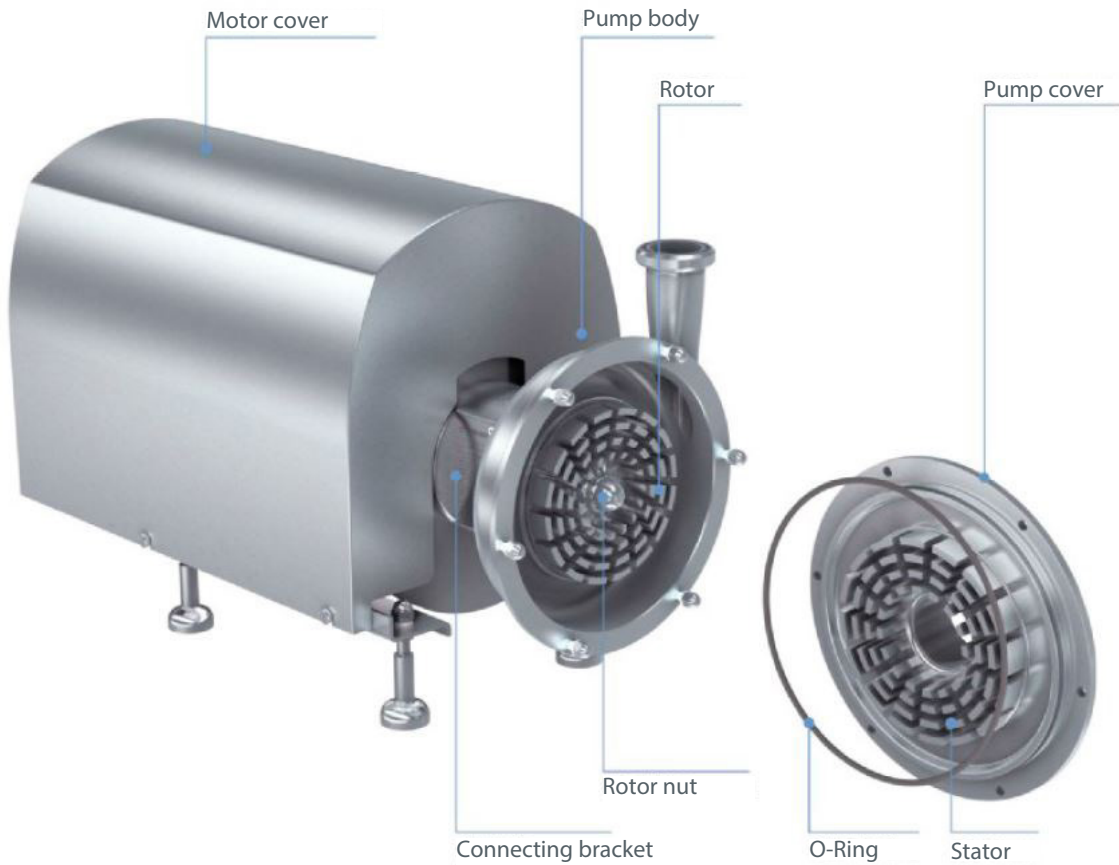
The mechanical seal is designed with pressure balance and super long working life, can be disassembled and maintained easily without special tools. The sanitary purity is according to CE and EC 1935/2004 certifications, and has lots of configuration.

Mechanical Seal Configuration	
Standard	Optional
1. SIC/EPDM	2. SIC/FKM 3. SIC/HNBR 4. SIC/SIC/EPDM 5. SIC/SIC/FKM 6. SIC/ SIC/HNBR 7. TC/TC/EPDM 8. TC/TC/FKM 9. TC/TC/HNBR

Note: Above configurations is suitable for single and double mechanical seal



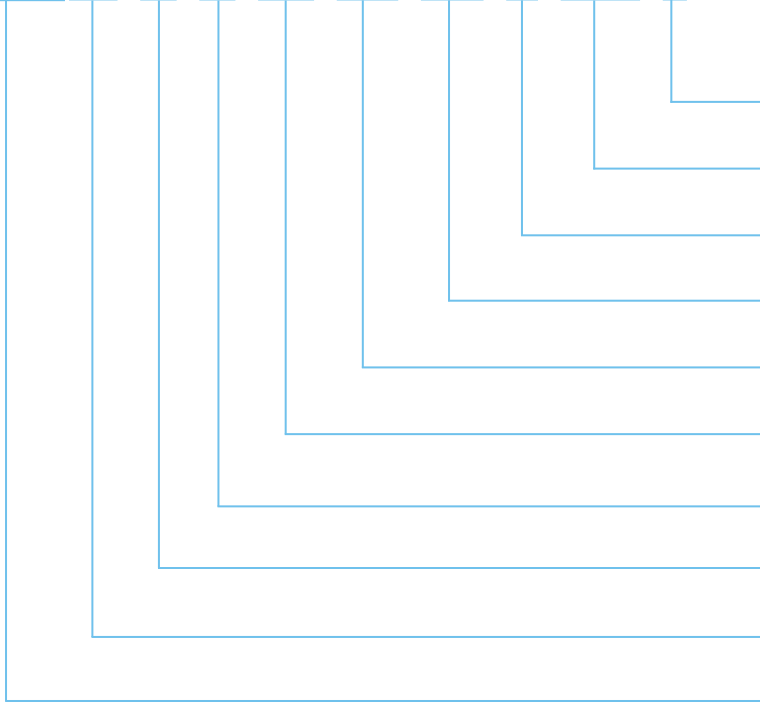
Very simple maintenance, no special tools required, no professionals required



Model Instruction



Stursan ST-HC JZ1 130 3T 10 3KW 380V 50HZ M 1.5/1.5 S



- Connection standard: DIN (D) SMS (S) 3A(A) RJT (R) ISO/IDF (I)
- Inlet/Outlet size
- Connection way: Thread (M) Clamp (C) Flange (F)
- Motor frequency: 50HZ; 60HZ
- Voltage: 110V 220V 380V (see table)
- Motor power: 1.1kw 1.5kw 2.2kw.....
- Emulsifying homogenizing pump head (see table)
- Emulsifying homogenizing pump flow (see table)
- Emulsifying homogenizing pump model
- Emulsifying homogenizing pump code: Stursan ST-HC JZ1

For example: Stursan ST-HC JZ1-130-3T-10-3KW-380V-50HZ-M-1.5"/1.5"-S

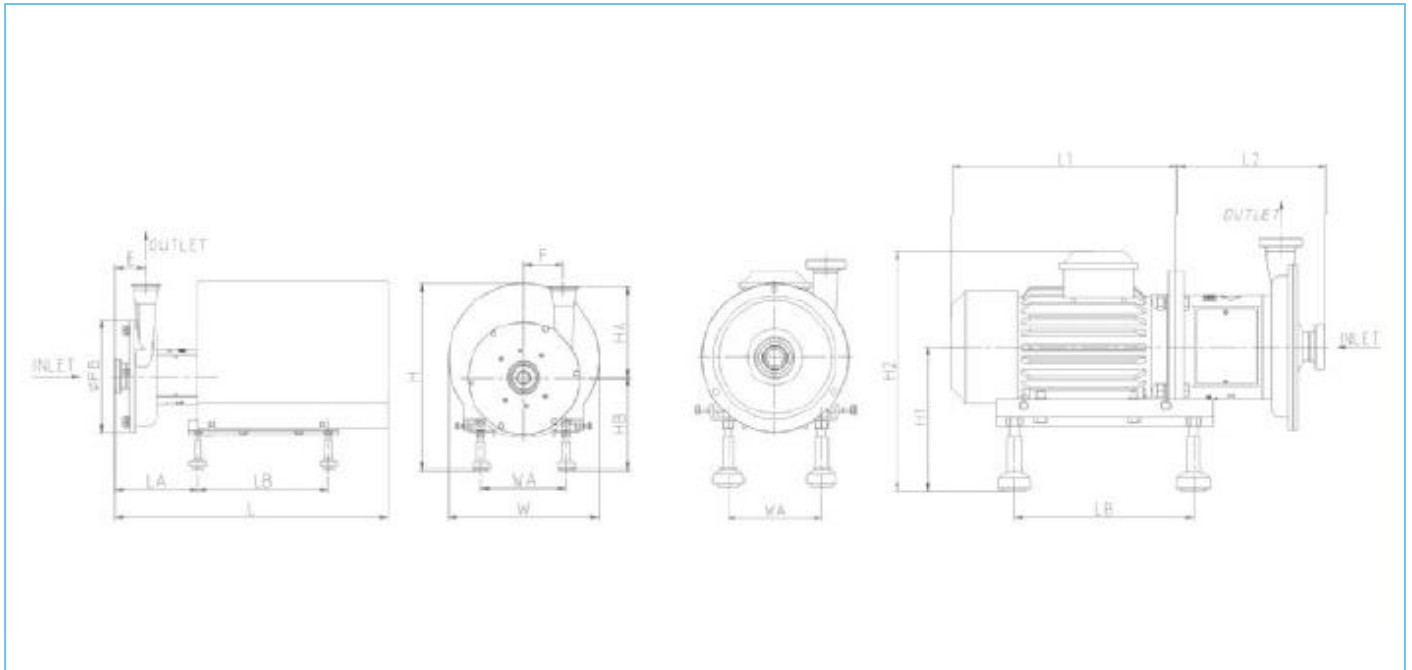


Selection table



Model	Power (kw)	Flow (m ³ /h)	Outlet pressure (bar)	Rotate speed (r/min)	Inlet/Outlet	Weight (kg)
Stursan ST-HC JZ1-130	3.0	3.0	1.0	2900	1.5"/1.5"	52.0
	4.0		1.0	2900		58.0
	5.5		1.0	2900		74.0
Stursan ST-HC JZ1-150	4.0	6.0	1.5	2900	2"/1.5"	66.0
	5.5		1.5	2900		82.0
	7.5		1.5	2900		93.0
Stursan ST-HC JZ1-170	5.5	10.0	1.5	2900	2.5"/2"	91.0
	7.5		1.5	2900		102.0
	11.0		1.5	2900		144.0
Stursan ST-HC JZ1-190	7.5	15.0	1.5	2900	2.5"/2"	107.0
	11.0		1.5	2900		149.0
	15.0		1.5	2900		164.0
Stursan ST-HC JZ1-210	11.0	25.0	1.5	2900	3"/2.5"	166.6
	15.0		1.5	2900		181.6
	18.5		1.5	2900		211.6
Stursan ST-HC JZ1-240	15.0	40.0	1.5	2900	3"/2.5"	167.0
	18.5		1.5	2900		182.0
	22.0		1.5	2900		212.0

Data Sheet



Model	Power (kw)	Inlet	Outlet	PB	F	LB	H	HB	HC	W	WA	L1	H2	SMS				INCH				DIN			
														Thread				Clamp				Thread			
														E	LA	HA	L	E	LA	HA	L	E	LA	HA	L
Stursan ST-HC JZ1-130	3.0	1.5"	1.5"	220	76.5	300	413	218	94.8	320	160	316	333.8	59	158	146	583	52	150	139	576	59	158	146	583
	4.0			220	76.5	300	421	210	94.8	340	190	351	350.8	59	165	146	584	52	157	139	577	59	165	146	584
	5.5			220	76.5	330	466	231	94.8	380	216	399	399.8	59	174	146	654	52	166	139	647	59	174	146	654
Stursan ST-HC JZ1-150	4.0	2"	1.5"	266	98	300	421	210	94.8	340	190	351	350.8	66	164	160	584	59	156	153	577	67	164.5	160	585
	5.5-7.5			266	98	330	466	231	94.8	380	216	399	399.8	66	173	160	654	59	165	153	647	67	173.5	160	655
Stursan ST-HC JZ1-170	5.5-7.5	2.5"	2"	282	100.5	330	466	231	94.8	380	216	399	399.8	77.5	210	200	689	66	199	193	677	76.5	209	201	688
	11			282	100.5	450	551	260	94.8	470	254	576.5	511.8	77.5	193	200	767	66	181	193	755	76.5	191.5	201	766
Stursan ST-HC JZ1-190	7.5	2.5"	2"	328	127.5	330	466	231	94.8	380	216	399	399.8	72.5	207	210	686	61	196	203	674	71.5	206	210	685
	11-15			328	127.5	450	551	260	94.8	470	254	576.5	511.8	72.5	190	210	764	61	178	203	752	71.5	188.5	210	763
Stursan ST-HC JZ1-210	11-15	3"	2.5"	360	141	450	551	260	94.8	470	254	576.5	512.8	74.5	227	235	801	63	215	223	789	73.5	225.5	235	800
	18.5			360	141	450	551	260	94.8	470	254	576.5	512.8	74.5	227	235	801	63	215	223	789	73.5	225.5	235	800
Stursan ST-HC JZ1-240	15-18.5	3"	2.5"	360	141	450	551	260	94.8	470	254	576.5	512.8	74.5	227	235	801	63	215	223	789	73.5	225.5	235	800
	22			360	141	515	583	281	94.8	510	279	573	533.8	74.5	227	235	896	63	215	223	884	73.5	225.5	235	895

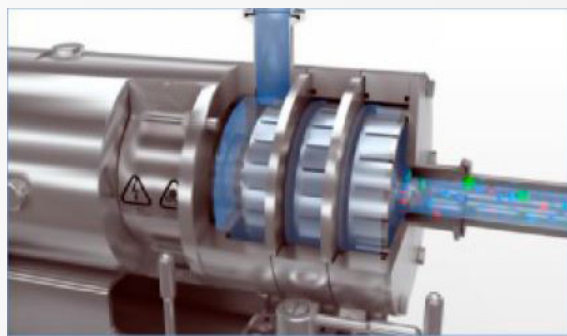
Note: The relevant dimensions of the above data diagrams are not regarded as the final basis of the actual object. Stursan keep the right to update the data without further notice.



✓ Stursan ST-HC JZ3



Series multi-stage emulsifying homogenizing pump

High-efficiency, dispersion, cut, refinement, smash, emulsification, mixing, homogenization, high purity solution



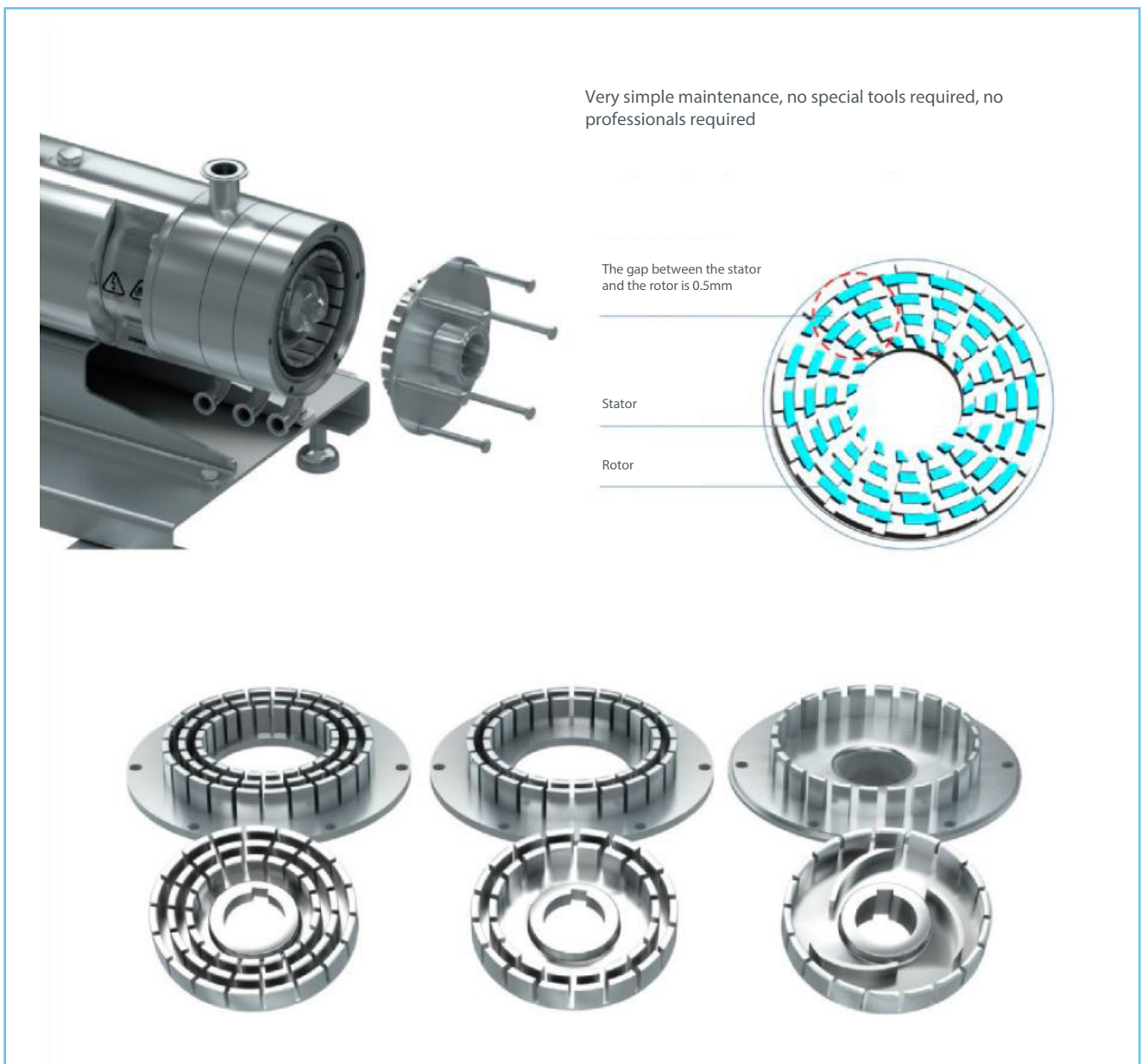
Jz3 series is online continuity production emulsification homogeneous pump, and is composed by stators and rotors, processed materials will be stepwise dispersed, sheared, refined, crushed, emulsified, mixed and homogenized through three grades twelve-tier stators and rotors, and then be dispersed, cut, refined, smashed, emulsified, mixed, etc. step by step. Compared with traditional manufacturing technique, this pump is more easier, convenient and optimized, which has improved production efficiency and promoted media quality. It's mainly used in the industry of food, beverage, pharmacy, health protection, fine, chemistry, coating, pesticide, daily chemical, papermaking, etc.

Technical Specifications

Technical Specifications	
Max. flow rate	50m ³ /h
Max. power	90KW
Max. temperature	-20°C to 140°C
Media refinement	≤ 100 GRIT (≠ 200 μ m)
Material	304 /316L, 1.431/1.4404, ASME BPE 316L,1.4435 NB2 Fe ≤ 0.5%
Surface treatment	≤ Ra0.8 μ m, ≤ Ra0.6 μ m, ≤ Ra0.4 μ m,
Mechanical seal	Single and double mechanical seals
Mechanical seal combination	See configuration table
Inlet/Outlet connection	Thread, clamp, flange, Aseptic flange
Certification	 CE  EC 1935/2004

Technical Advantages

- Maintenance disassembly and installation can be completed without professional staff and special tools.
- Initial use of installation debugging, the motor will not be damaged even if after a short reverse rotation.
- The impeller and shaft are connected by the key groove.





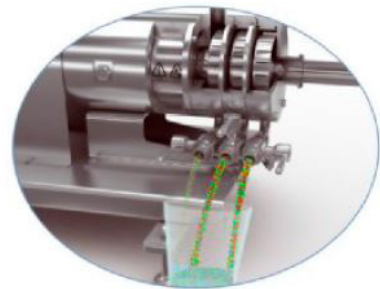
Working Schematic Diagram



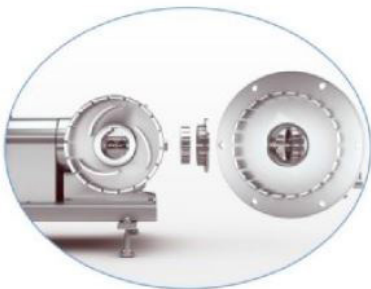
Bottom drain valve



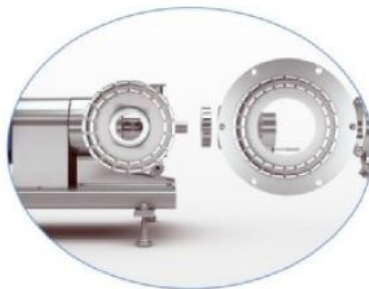
Single-stage discharge or sampling



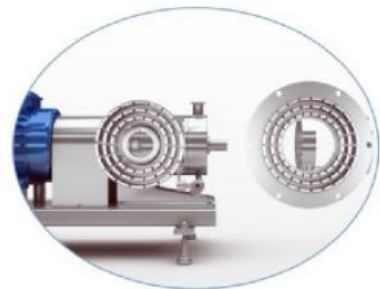
All discharge or sampling



First stage stators and rotors



Second stage stators and rotors



Thrid stage stators and rotors

Typical applications



Food & beverage

Juice, jam, ice cream, dairy products, food additives, tea drinks, chocolate, soymilk, essence



Daily chemical

Liquid detergent, liquid soap, facial cleanser, emulsified silicone oil, fragrance compound, skin care product, cosmetics



Bio-pharmaceutical

Injection, antibiotic, medicine emulsion, medicine emulsifiable paste, health care products, microcapsule emulsification, cell tissue smash, etc



Papermaking

Paper pulp, padding, dry strength agent, wet strength agent, sizing agent, retention and drainage aid, antifoaming agents, coating, water treatment chemicals, etc



Petrochemical industry

Lubricant, heavy oil emulsification, diesel oil emulsification, modified asphalt, catalyzer, wax emulsion, etc. Homogeneous and emulsified media required for various industrial petrochemical.



Fine chemical engineering

Pigment, dyestuff, plastic additive, textile assistant, adhesive, resin emulsification, hot melt adhesive, sealant, glue, sizing agent, finishing agent, surfactant, dye leveller, carbon black dispersion, anti-sticking agent, textile finishing agent, brightener, leather auxiliaries, pigment paste, and emulsifying, homogenizing and mixing materials for various chemical industries.



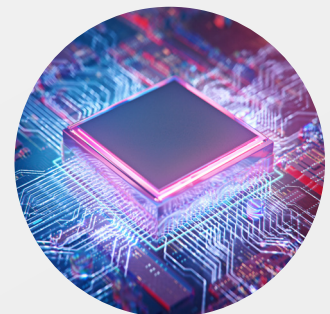
Coating & ink

Printing ink, oil paint, emulsion paint, coating, nanopaint, photocurable coating, coating adhesive, carbon black dispersion, glaze, bentonite, etc



Pesticide

Agricultural medicine medium for emulsification and homogenization of various pesticides such as insecticide squeezing, herbicide, pesticide emulsifiable concentrate, fertilizer and pesticide auxiliaries.

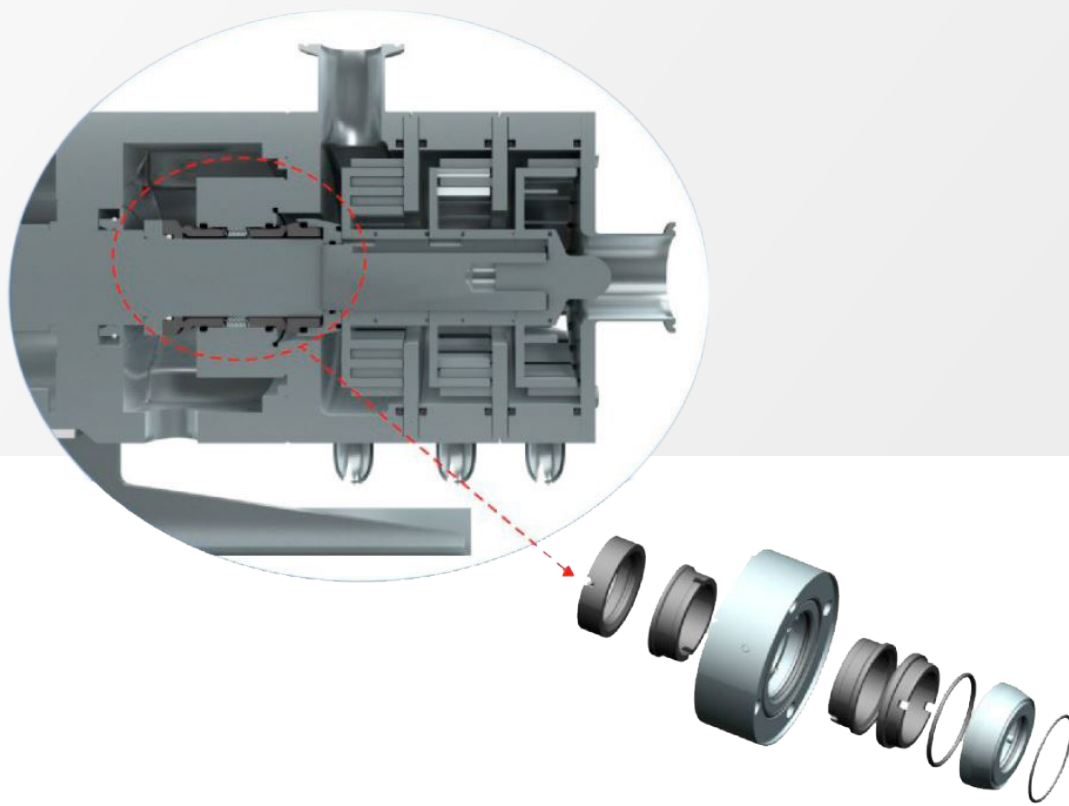


Semiconductor

Dispersion & depolymerization of nanometer materials, etc



Mechanical Seal Features

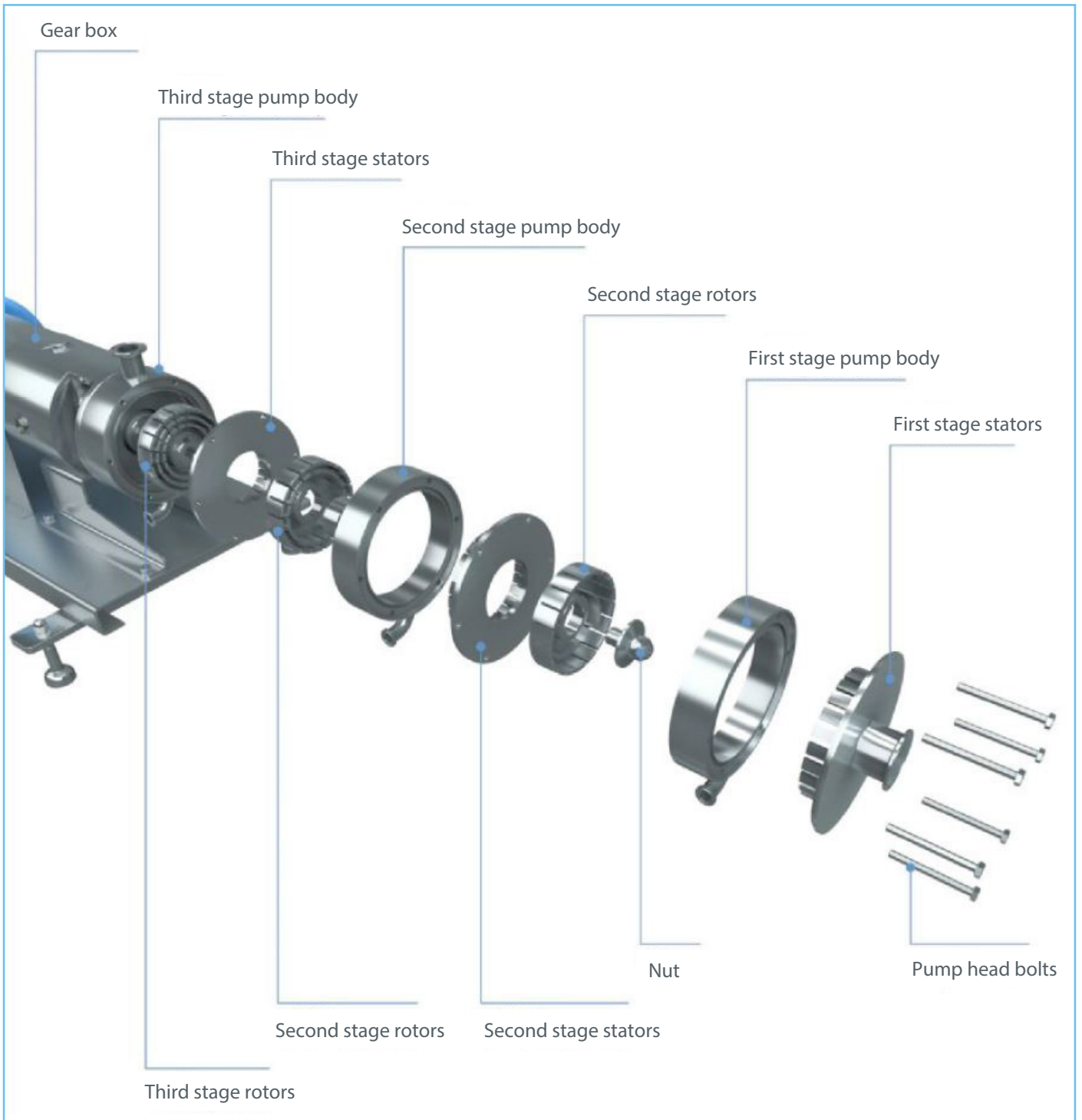


The mechanical seal is designed with pressure balance and super long working life, can be disassembled and maintained easily without special tools. The sanitary purity is according to CE and EC 1935/2004 certifications, and has lots of configuration.

Mechanical Seal Configuration	
Standard	Optional
1. SIC/C/EPDM	2. SIC/C/FKM 3. SIC/C/HNBR 4. SIC/SIC/EPDM 5. SIC/SIC/FKM 6. SIC/ SIC/HNBR 7. TC/TC/EPDM 8. TC/TC/FKM 9. TC/TC/HNBR

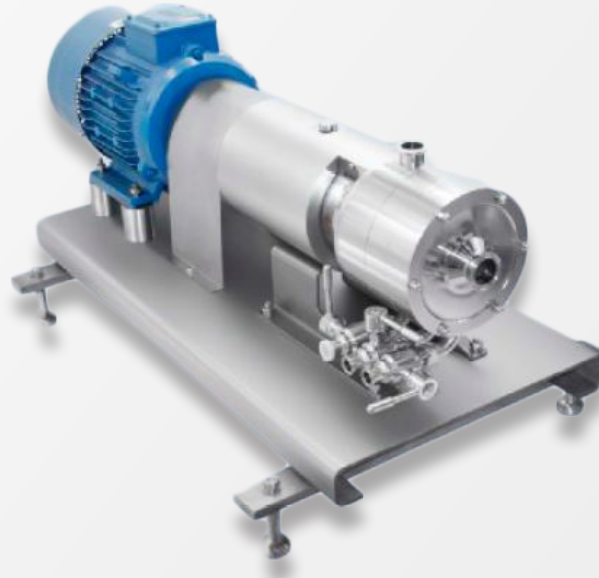
Note: The above configuration is suitable for double mechanical seal

Spare parts component





Model Instruction



Stursan ST-HC JZ3 130 4T 10 7.5KW 380V 50HZ M 1.5/1.5 S

Connection standard: DIN (D) SMS (S) 3A(A) RJT (R) ISO/IDF (I)

Inlet/Outle size

Connection method: Thread (M) Clamp (C) Flange (F)

Motro frequency: 50HZ; 60HZ

Voltage: 110V 220V 380V (See details on the selection table)

Motor power: 1.1kw 1.5kw 2.2kw.....

Multi-stage homogenizing pump head
(See details on the selection table)

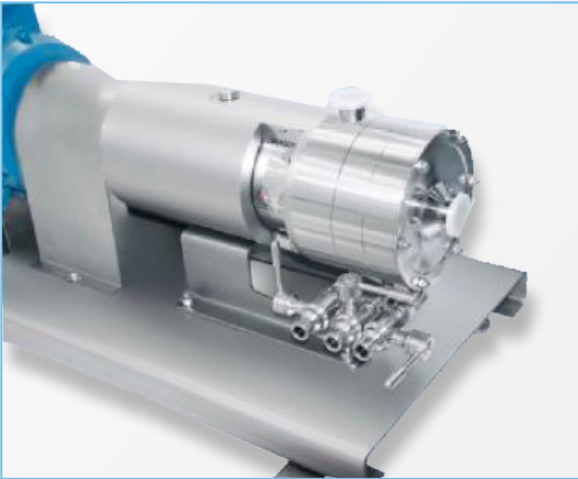
Multi-stage homogenizing pump flow
(See details on the selection table)

Multi-stage homogenizing pump model
(See details on the selection table)

Multi-stage homogenizing pump code: Stursan ST-HC JZ3

For example: Stursan ST-HC JZ3-130-4T-10-7.5KW-380V-50HZ-M-1.5"/1.5"-S

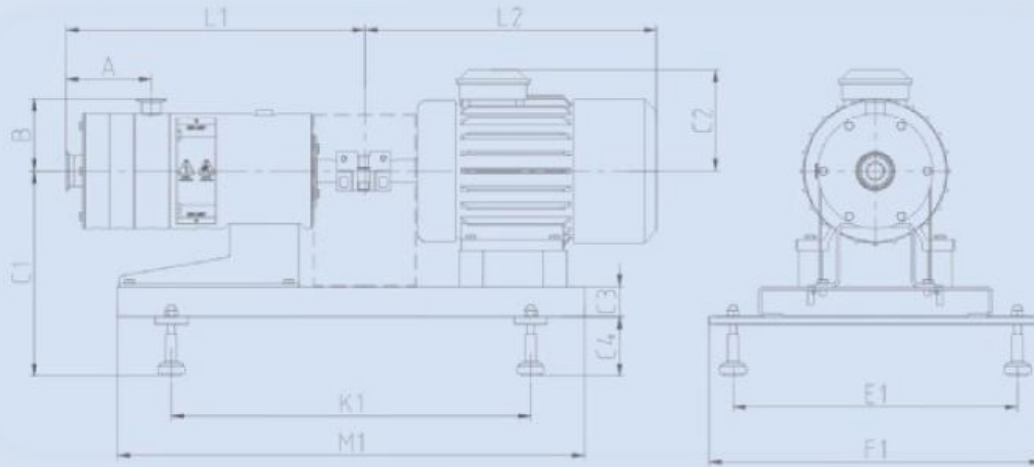
Selection table



Model	Power (kw)	Flow (m ³ /h)	Outlet pressure (bar)	Rotate speed (r/min)	Inlet	Outlet	Weight (kg)
Stursan ST-HC JZ3-130	7.5	4.0	1.0	2900	1.5"- DN40	1.5"- 1.1/4"	139.5
	11		2.0	2900			183.5
Stursan ST-HC JZ3-150	11	6.0	2.0	2900	2"- DN50	1.5"- DN40	189.8
	15		2.0	2900			202.8
Stursan ST-HC JZ3-170	15	12.0	2.0	2900	2"- 2.5"	2"- DN50	237.2
	18.5		4.0	2900			245.2
Stursan ST-HC JZ3-190	22	20.0	2.0	2900	3"- DN65	2"- 2.5"	298.9
	30		5.0	2900			346.9
Stursan ST-HC JZ3-210	45	30.0	2.0	2900	3"- DN80	2.5"- DN65	433
	55		5.0	2900			494
Stursan ST-HC JZ3-240	75	50.0	2.0	2900	4"- DN100	3"- DN80	806
	90		5.0	2900			846



Data sheet



Model	Power (kw)	Inlet	Outlet	C1	C3	C4	E1	F1	K1	M1	L1	L2	C2	A (*)	B (*)
Stursan ST-HC JZ3-130	7.5	1.5" - DN40	1.5" - 1.1/4"	342	50	99	475	555	600	780	577	531	169	144	124
	11			342	50	99	475	555	600	780	577	597	253	144	124
Stursan ST-HC JZ3-150	11	2" - DN50	1.5" - DN40	334	50	99	475	555	600	780	540	597	253	177	139
	15			334	50	99	475	555	600	780	540	597	253	177	139
Stursan ST-HC JZ3-170	15	2" - 2.5"	2" - DN50	377	50	99	545	625	920	1100	590	597	253	226	155
	18.5			377	50	99	545	625	920	1100	590	597	253	226	155
Stursan ST-HC JZ3-190	22	3" - DN65	2" - 2.5"	395	50	99	545	625	920	1100	647	693	254	283	169
	30			395	50	99	545	625	920	1100	647	738	273	283	169
Stursan ST-HC JZ3-210	45	3" - DN80	2.5" - DN65	415	50	99	545	625	920	1100	700	834	314	323	184
	55			415	50	99	545	625	920	1100	700	892	335	323	184
Stursan ST-HC JZ3-240	75	4" - DN100	3" - DN80	440	50	99	695	775	1420	1600	790	992	495	413	210
	90			440	50	99	695	775	1420	1600	790	1062	495	413	210

Note: The relevant dimensions of the above data diagrams are not regarded as the final basis of the actual object. Stursan reserves the right to update the data without further notice.

Note: The dimensions with (*)A and (*)B are based on the size of the clamp connection. Flange size will be different if use other connection, please contact us for details.

Emulsifying homogenizing pump series

10.2020 / Revisión 1

 STURSAN

Homogeneous Mixing Pump Series





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Technical Specifications

Stursan ST-HC CIP series self priming pump

Stursan ST-HC JZ1 Emulsification homogenization pump

Typical applications

Very Simple and Clear Piping Layout

Very Simple and Clear Electrical Control Layout

Model description

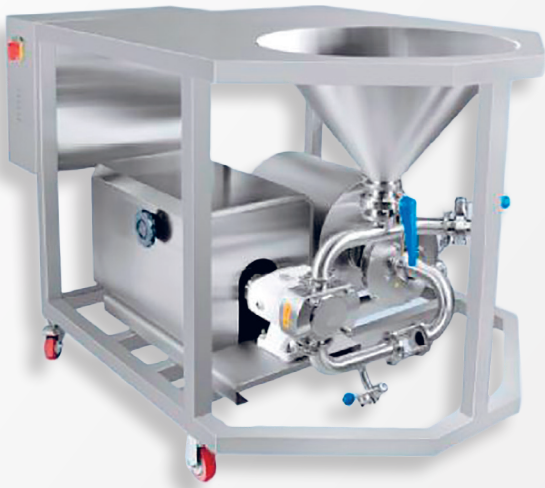
Selection table

Data chart



✓ Stursan ST-HC PMTU

Series mixing pump



Solutions for emulsification, homogenization, refining, mixing, adjustable, multi-tasking, mixing powder and liquid.



The PM series is a multifunctional material-liquid mixing pump with functions of mixing, shearing, emulsifying, homogenizing, differentiating, refining, crushing and material improvement. Compared with the traditional production process, the pump is more simple, convenient and economical, which improves the production efficiency and the quality of the materials to be treated. Mainly applied to: food, beverages, dairy products, additives, personal care, biopharmaceuticals, thickeners, industrial applications and so on.



A= Lobe pump | B= Emulsified homogeneous pump

Technical Specifications

Max. powder processing capacity	9000kg/h
Max. thickeners processing capacity	3000kg/h (Base on material's viscosity and density)
Max. temperature	130°C
Material	304 /316L, 1.431/1.4404, ASME BPE 316L,1.4435 NB2 Fe ≤ 0.5%
Surface treatment	≤ Ra0.8 μ m, ≤ Ra0.6 μ m, ≤ Ra0.4 μ m,
Mechanical seal	Single and double mechanical seals
Mechanical seal combination	See configuration table
Inlet/Outlet connection	Thread, clamp, flange, Aseptic flange
Certification	CE EC 1935/2004

Stursan ST-HC-JAB series lobe pump

JAB lobe pump pumping power and liquid from batching tank to chamber for pretreatment and sent to the emulsified homogeneous pump.

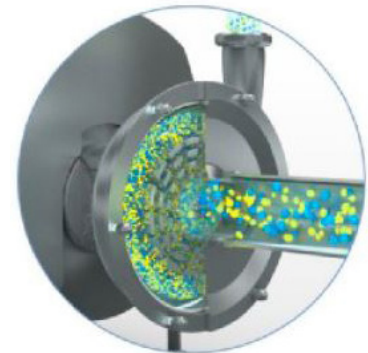
Options:

- JAB HP series



Stursan ST-HC-JZ1 Emulsified homogeneous pump

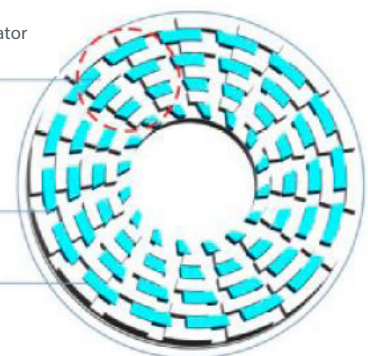
JZ1 series pumps are capable of emulsifying, homogenizing, refining, dispersing, crushing and mixing complex components such as stabilizers, thickeners, gels, flavours, sugars and other additives. Its powerful mixing function enable the material to achieve the high consistency, and improves the material quality.



The gap between the stator and the rotor is 0.5mm

Stator

Rotor





Typical applications



Food & beverage

Juice, jam, ice cream, dairy products, food additives, tea drinks, chocolate, soy milk, essence, salad dressing, chill sauce, mayonnaise, tomato sauce, mustard, yogurt, sour cream, flavoured milk, pudding and other types of materials



Daily chemical

Liquid detergent, liquid soap, facial cleanser, emulsified silicone oil, fragrance compound, skin care product, cosmetics, cream, shampoo, shower gel, etc



Bio-pharmaceutical

Injection, antibiotic, drug emulsion, medicine cream paste, health care products, microcapsule emulsification, lotion, cell tissue breakage, etc



Additives and Thickeners

Aspartame, non-skimmed milk powder, salt, citric acid, sugar, egg powder, whey protein concentrate, calcium carbonate, honey, powder essence and other additives, gels, pectin, synthetic thickeners, starch, gelatin and other thickeners



Petrochemical industry

Lubricant, heavy oil emulsification, diesel oil emulsification, modified asphalt, catalyser, wax emulsion, etc. Which media need to be emulsified and homogenized



Fine chemical engineering

Pigment, dyestuff, plastic additive, textile assistant, adhesive, resin emulsification, hot melt adhesive, sealant, glue, sizing agent, finishing agent, surfactant, dye leveller, carbon black dispersion, anti-sticking agent, textile finishing agent, brightener, leather auxiliaries, pigment paste, etc. Which media need to be emulsified and homogenized.



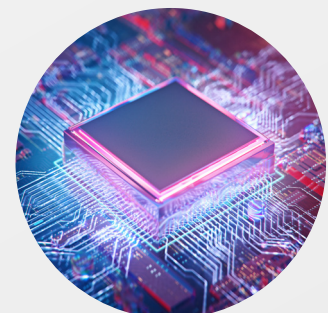
Coating & ink

Printing ink, oil paint, emulsion paint, coating, nano paint, photocurable coating, coating adhesive, carbon black dispersion, glaze, bentonite, dye compounds, etc



Pesticide

Insecticide, herbicide, pesticide miscible oil, fertilizer, inert ingredient, etc. Which media need to be emulsified and homogenized.



Semiconductor

Dispersion & depolymerization of nanometre materials, etc

Very Simple And Clear Piping Layout

- Multiple tasks can be handled simultaneously
- Ratio between liquid and powder is adjustable
- The powder inlet is designed with a valve that controls the amount of powder inhaled. The valve can be manual and pneumatic
- The liquid inlet is designed with a valve that controls the flow of liquid inhaled
- The side of the hopper is designed with a vibrator to prevent the powder from accumulating and agglomerating
- The hopper can be configured with tuning fork sensor. When work automatically, the sensor can prevent mixture ratio from inconsistent caused by low amounts of powder, and also can prevent the powder from overflowing



Powder and liquid are strongly sucked into the pump chamber



The material is being homogeneously mixed



The homogeneous mixture is delivered to the tank equipment



Sensor



Vibrator and valve

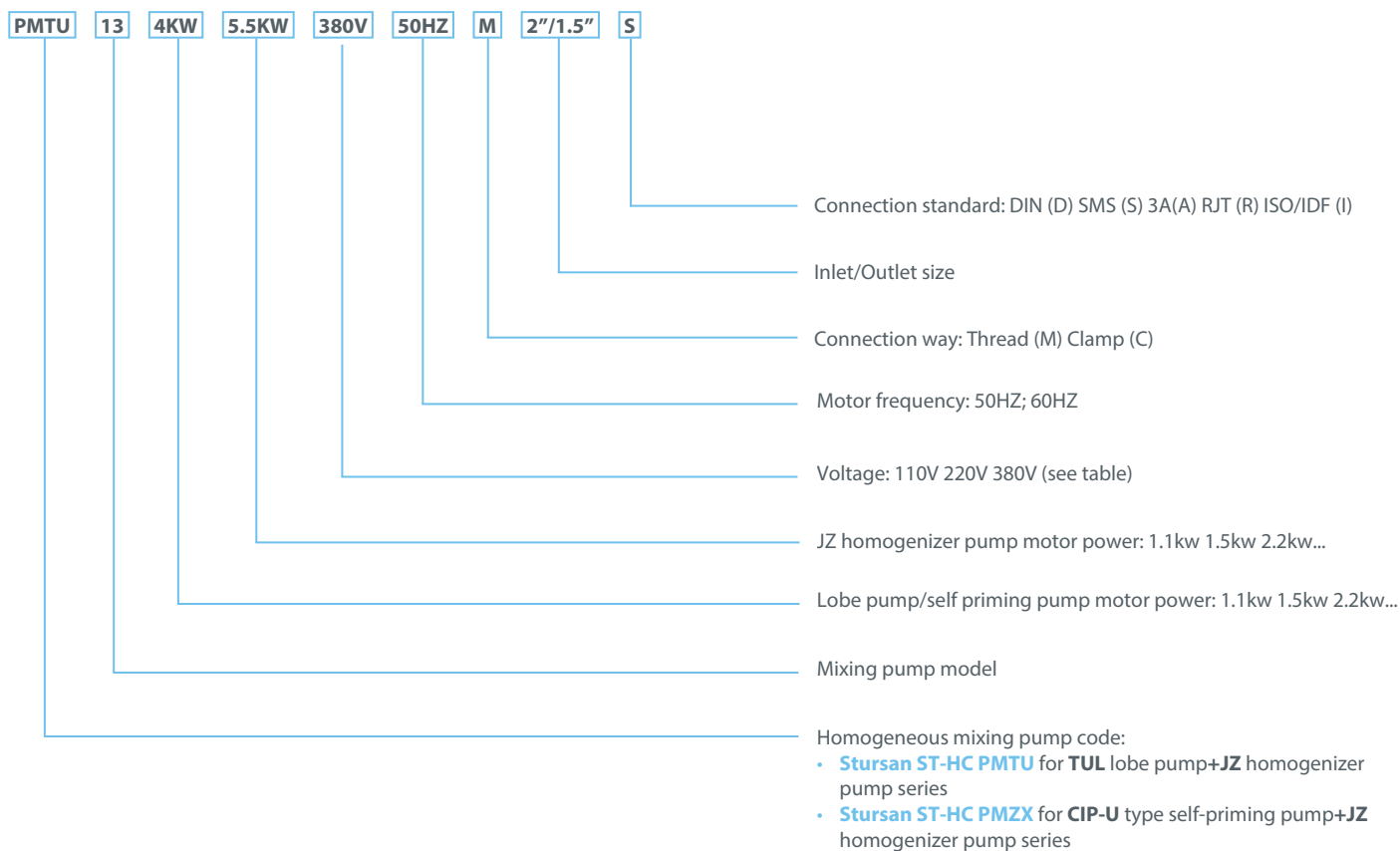
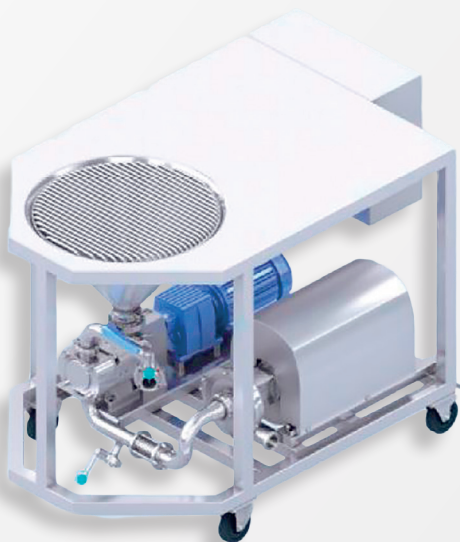
Simple, flexible, economical, efficient

Very Simple and Clear Electrical Control Layout

- Lobe pump, can control speed by frequency inverter to achieve the purpose of controlling the flow
- Homogeneous pump, can control speed by frequency inverter to achieve the effect of homogenization and mixing, meanwhile control the flow
- Console, designed with motor overload protection to prevent motor from being burned
- Console, the shell is designed with work indicator, can distinguish working condition through the light



Model instruction



For example: Stursan ST-HC PMTU 13 / 4kW / 5.5KW-380V-50HZ / M-2"/1.5"-S

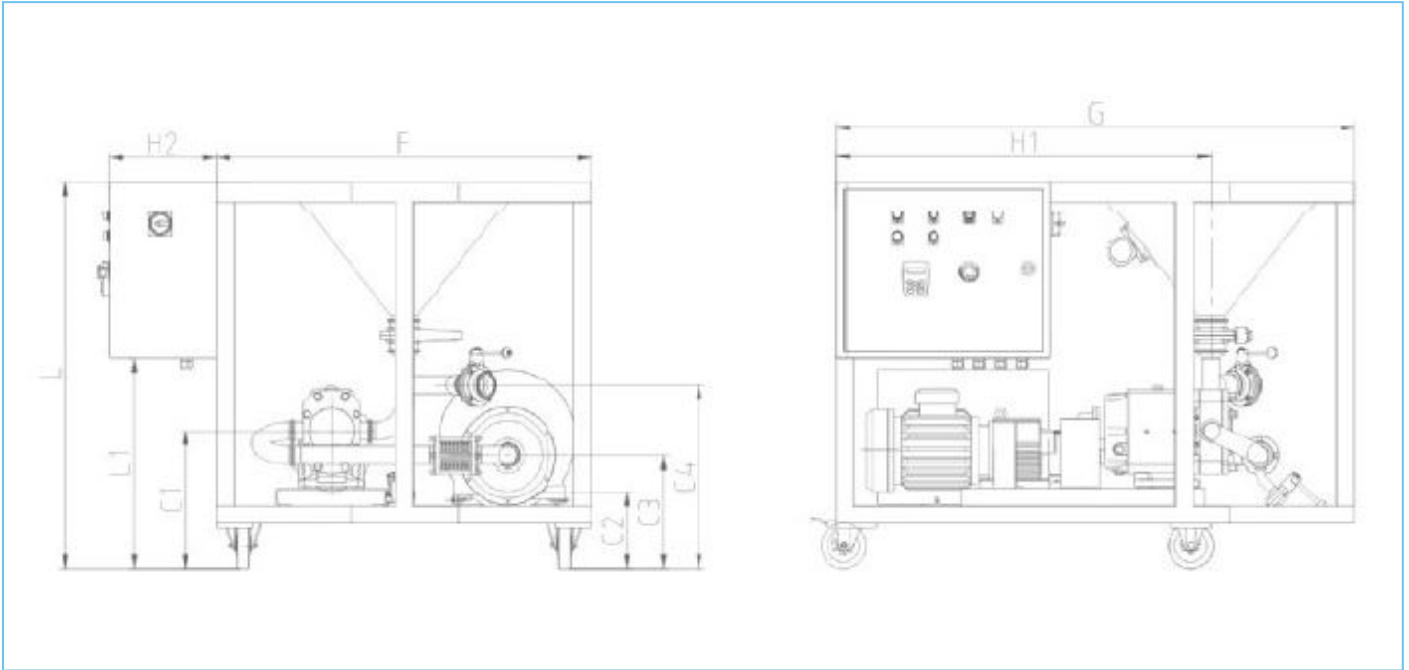


Selection table



Homogeneous mixing pump	Lobe pump		Emulsifying homogenizing pump		Powder Capacity-KG/h			Inlet	Outlet	Hopper capacity (L)	Weight (kg)
	Speed (0-1450-MIN)		Speed (2950-MIN)		Granulated sugar	Skim milk protein powder	Thickener powder (base on grade & density)				
	Lobe pump (model)	Power (KW)	Homogenizing pump (model)	Power (KW)							
Stursan ST-HC PMTU-13	JAB-25	4.0	JZ1-130	5.5	0-500	0-450	100-200	2"-DN50	1.5"-DN40	45L	563
Stursan ST-HC PMTU-15	JAB-30	4.0	JZ1-150	7.5	0-1000	0-900	200-400	2"-DN50	1.5"-DN40	45L	606
Stursan ST-HC PMTU-17	JAB-35	5.5	JZ-170	11	0-1800	0-1600	300-500	2"-DN50	2"-DN50	45L	702
Stursan ST-HC PMTU-19	JAB-60	7.5	JZ1-190	15	0-3500	0-3200	600-1200	3"	2"-DN50	65L	436
Stursan ST-HC PMTU-21	JAB-70	11.0	JZ1-210	18.5	0-5000	0-4500	1200-2000	3"-DN80	2.5"-DN65	65L	1016
Stursan ST-HC PMTU-24	JAB-100	15.0	JZ1-240	22	0-10000	0-9000	1500-3000	4"-DN100	2.5"-DN65	65L	1076

Data chart



Series	Assembly dimensions									
	C1	C2	C3	C4	F	G	H1	H2	L	L1
Stursan ST-HC PMTU-13	413.5	278.5	355	559.5	1050	1750	1050	300	1124	624
Stursan ST-HC PMTU-15	436.5	257	355	569	1050	1750	1050	300	1124	624
Stursan ST-HC PMTU-17	436.5	283.5	384	569	1050	1750	1050	300	1124	624
Stursan ST-HC PMTU-19	436.5	256.5	384	569	1050	1750	1050	300	1124	624
Stursan ST-HC PMTU-21	554	243	384	493.5	1050	1750	1050	300	1124	624
Stursan ST-HC PMTU-24	554	243	404	493.5	1050	1750	1050	300	1124	624



✓ Stursan ST-HC PMZX

Series mixing pump



Solution for emulsifying, homogenizing, refining, mixing, adjusting, multitasking, powder and liquid mixing



The PM series mixing pump is for mixing material and liquid with multi-functions, such as mixing, shearing, emulsifying, homogenizing, dispersing, refining, crushing and material improvement. Compared with the traditional production process, the pump is more simple, convenient and economical, which improves the production efficiency and the quality of treated materials.

Mainly used in: food, beverage, dairy products, additives, personal care, biopharma, thickeners, industrial applications, etc.



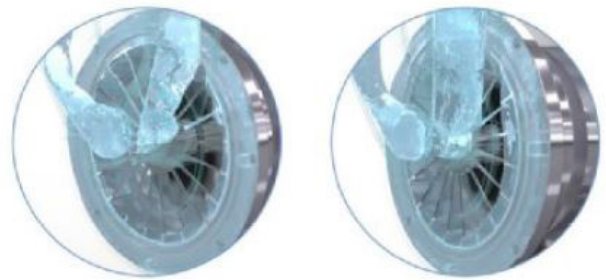
A= Liquid ring type self-priming pump | B= Homogeneous mixing pump

Technical Specifications

Max. capacity of powder	9000kg/h
Max. capacity of thickeners	3000kg/h (Depends on the viscosity and concentration of the material)
Max. temperature	130°C
Material	304 /316L, 1.431/1.4404, ASME BPE 316L,1.4435 NB2 Fe ≤ 0.5%
Surface treatment	≤ Ra0.8 μ m, ≤ Ra0.6 μ m, ≤ Ra0.4 μ m,
Mechanical seal	Single and double mechanical seals
Mechanical seal combination	See configuration table
Inlet/Outlet connection	Thread, clamp, flange, Aseptic flange
Certification	CE EC 1935/2004

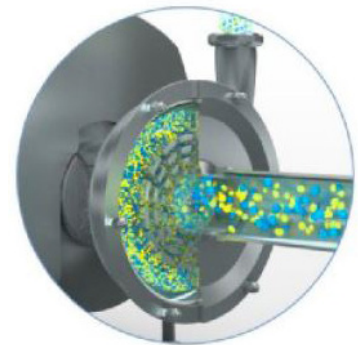
Stursan ST-HC-CIP series self priming pump

CIP Series liquid ring type self-priming pump has super strong self-priming ability, and negative pressure can reach 0.8bar, the powder and liquid are sucked into the chamber from the dosing tank for pretreatment, and then they're transported to emulsification homogenization pump.



Stursan ST-HC-JZ1 Emulsification homogenization pump

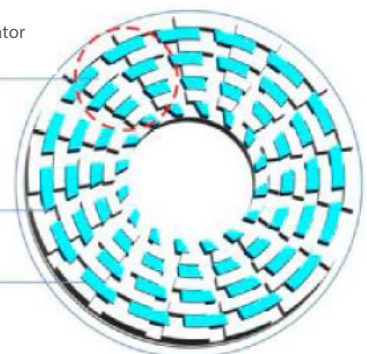
JZ1 Series pumps can be used for emulsifying, homogenizing, refining, dispersing, crushing and mixing of various complex components such as stabilizers, thickeners, gels, flavours, sugars and other additives. And the strong mixing ability makes the materials reach high consistency and improves the quality of materials.



The gap between the stator and the rotor is 0.5mm

Stator

Rotor





Typical applications



Food & beverage

Juice, jam, ice cream, dairy products, food additives, tea drinks, chocolate, soy milk, essence, salad dressing, chill sauce, mayonnaise, tomato sauce, mustard, yogurt, sour cream, flavoured milk, pudding and other types of materials



Daily chemical

Liquid detergent, liquid soap, facial cleanser, emulsified silicone oil, fragrance compound, skin care product, cosmetics, cream, shampoo, shower gel, etc



Bio-pharmaceutical

Injection, antibiotic, medicine emulsion, medicine emulsifiable paste, health care products, microcapsule emulsification, lotion, cell tissue breakage, etc



Additives and Thickeners

Aspartame, non-skimmed milk powder, salt, citric acid, sugar, egg powder, whey protein concentrate, calcium carbonate, honey, powder essence and other additives, gels, pectin, synthetic thickeners, starch, gelatin and other thickeners



Petrochemical industry

Lubricant, heavy oil emulsification, diesel oil emulsification, modified asphalt, catalyser, wax emulsion, etc. Which media need to be emulsified and homogenized



Fine chemical engineering

Pigment, dyestuff, plastic additive, textile assistant, adhesive, resin emulsification, hot melt adhesive, sealant, glue, sizing agent, finishing agent, surfactant, dye leveller, carbon black dispersion, anti-sticking agent, textile finishing agent, brightener, leather auxiliaries, pigment paste, etc. Which media need to be emulsified and homogenized.



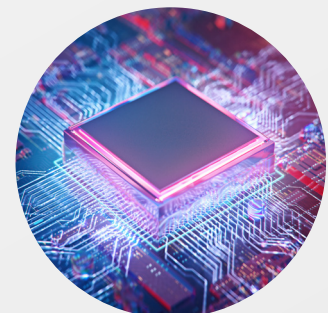
Coating & ink

Printing ink, oil paint, emulsion paint, coating, nano paint, photocurable coating, coating adhesive, carbon black dispersion, glaze, bentonite, dye compounds, etc



Pesticide

Insecticide, herbicide, pesticide miscible oil, fertilizer, inert ingredient, etc. Which media need to be emulsified and homogenized.

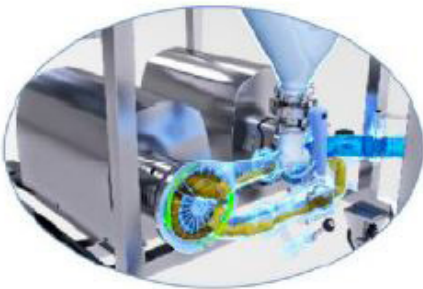


Semiconductor

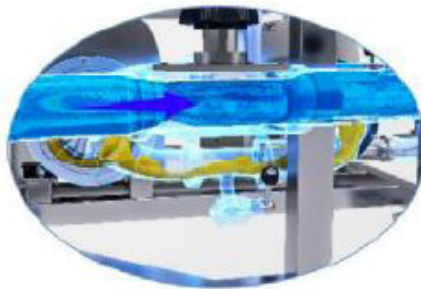
Dispersion & depolymerization of nanometre materials, etc

Very Simple And Clear Piping Layout

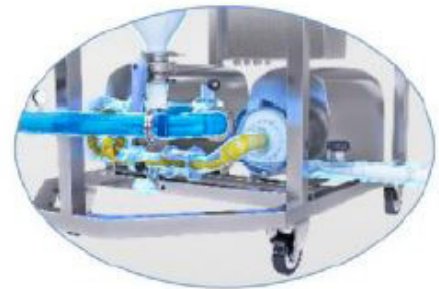
- Multiple tasks can be handled simultaneously
- Ratio between liquid and powder is adjustable
- The powder inlet is designed with a valve that controls the amount of powder inhaled. The valve can be manual and pneumatic
- The liquid inlet is designed with a valve that controls the flow of liquid inhaled
- The side of the hopper is designed with a vibrator to prevent the powder from accumulating and agglomerating
- The hopper can be configured with tuning fork sensor. When work automatically, the sensor can prevent mixture ratio from inconsistent caused by low amounts of powder, and also can prevent the powder from overflowing



Powder and liquid are strongly sucked into the pump chamber



The material is being homogeneously mixed



The homogeneous mixture is transported to the tank equipment



Simple, flexible, economical



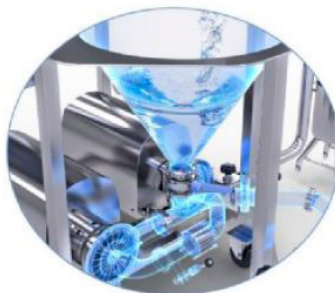
Sensor



Vibrator and valve



Cleaning liquid is poured into the hopper



Cleaning pipes and hopper



Open bottom discharge valve to drain the cleaning solution

Very Simple And Clear Electrical Control Layout

- Self priming pump, can control speed by frequency inverter to achieve the purpose of controlling the flow
- Homogeneous pump, can control speed by frequency inverter to achieve the effect of homogenization and mixing, meanwhile control the flow
- Console, designed with motor overload protection to prevent motor from being burned
- Console, the shell is designed with work indicator, can distinguish working condition through the light

Model description



PMZX 13 5.5KW 5.5KW 380V 50HZ M 2"/1.5" S

Connection standard: DIN (D) SMS (S) 3A(A) RJT (R) ISO/IDF (I)

Inlet/Outlet size

Connection method: Thread (M) Clamp (C)

Motor frequency: 50HZ; 60HZ

Voltage: 110V 220V 380V (see table)

The motor power of JZ homogeneous pump in the mixer is: 1.1kw 1.5kw 2.2kw...

The motor power of lobe pump and self-priming pump in the mixer is: 1.1kw 1.5kw 2.2kw...

Mixing pump model

Homogeneous mixing pump code:

- **Stursan ST-HC PMTU** stands for **TUL** lobe pump+**JZ** homogeneous pump series
- **Stursan ST-HC PMZX** stands for **CIP-U** type self-priming pump+**JZ** homogeneous pump series, etc

For example: Stursan ST-HC PMZX 13 / 5.5kW / 5.5KW-380V-50HZ / M-2"/1.5"-S

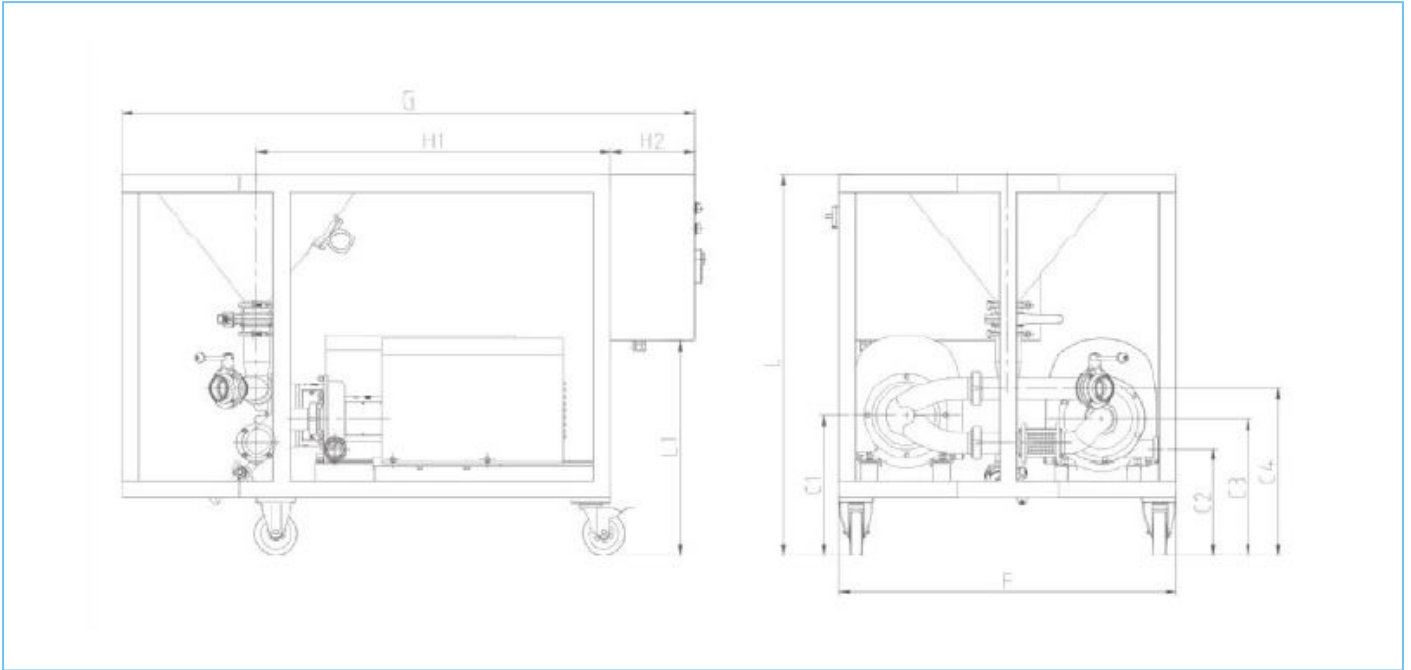


Selection table



Homogeneous mixing pump	Self-priming pump		Emulsifying homogenizing pump		Powder processing capacity-kg/h			Inlet	Outlet	Hopper capacity (L)	Weight (kg)
	Rotate Speed (1450-MIN)		Rotate Speed (2950-MIN)		Sugar class	Skim milk Protein powder class	Thickener powder (for example, pectin sodium casenate, depends on grade a concentration)				
	Self-priming pump (model)	Power (KW)	Homogeneous pump (model)	Power (KW)							
Stursan ST-HC PMZX-13	CIPU-10	5.5	JZ1-10	5.5	500	450	100-200	2"-DN50	1.5"-DN40	45	537
Stursan ST-HC PMZX-15	CIPU-10	5.5	JZ1-15	7.5	1000	900	200-400	2"-DN50	1.5"-DN40	45	560
Stursan ST-HC PMZX-17	CIPU-10	5.5	JZ1-20	11	1800	1600	300-500	2"-2.5"-DN50-65	2"-DN50	45	611
Stursan ST-HC PMZX-19	CIPU-20	7.5	JZ1-30	15	3500	3200	600-1200	DN65-3"-DN80	2"-2.5"-DN50-65	65	640
Stursan ST-HC PMZX-21	CIPU-20	11	JZ1-35	18.5	5000	4500	1200-2000	DN65-3"-DN80	2.5"-DN65	65	732
Stursan ST-HC PMZX-24	CIPU-30	11	JZ1-240	22	10000	9000	1500-3000	4"-DN100	DN65-3"-DN80	65	784

Data chart



Model	Assembly Dimension									
	C1	C2	C3	C4	F	G	H1	H2	L	L1
Stursan ST-HC PMZX-13	355	278.5	355	485	1050	1750	1050	300	1011	624
Stursan ST-HC PMZX-15	355	257	355	485	1050	1750	1050	300	1011	624
Stursan ST-HC PMZX-17	355	283.5	384	514	1050	1750	1050	300	1011	624
Stursan ST-HC PMZX-19	355	256.5	384	514	1050	1750	1050	300	1011	624
Stursan ST-HC PMZX-21	355	243	384	514	1050	1750	1050	300	1124	624
Stursan ST-HC PMZX-24	355	243	404	514	1050	1750	1050	300	1124	624

Note: The relevant dimensions of the above data diagrams are not regarded as the final basis of the actual object, Stursan reserves the right to update the data without further notice



Stursan.com

Homogeneous mixing pump

10.2020 / Revisión 1

STURSAN

Stursan ST-HHQ Series Mixing Pump



BLENDER solid/liquid mixer





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Catalogue technical information only for reference. Stursan reserves the rights to update and upgrade without prior notice.

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✓ Stursan ST-HHQ



Series mixing pump

Solutions for emulsifying, mixing, adjusting, multi-tasking, powder and liquid mixing.

The HHQ series mixing pump is for mixing solid or powder into the liquid. It provides on-line perfect processing solutions for milk powder compounding, syrup making and brine making, etc. It also can be used for preparing solid and powder mixing, in the food and beverage, biopharmacy, traditional Chinese medicine making, cosmetics and chemicals.



Technical Specifications

Technical Specifications	
Max. capacity powder	9000kg/h
Max. capacity of thickeners	3000kg/h (Depends on the viscosity and concentration of the material)
Max. temperature	130°C
Material	304 /316L, 1.4301/1.4404, ASME BPE 316L, 1.4435 BN2 Fe ≤ 0.5%
Surface treatment	≤ Ra0.8 μ m, ≤ Ra0.6 μ m, ≤ Ra0.4 μ m,
Mechanical seal	Single mechanical seal and double mechanical seal
Mechanical seal combination	See configuration table
Inlet/Outlet connection	Thread, Clamp, Flange, Aseptic flange
Certification	 CE  EC 1935/2004



Working Principle

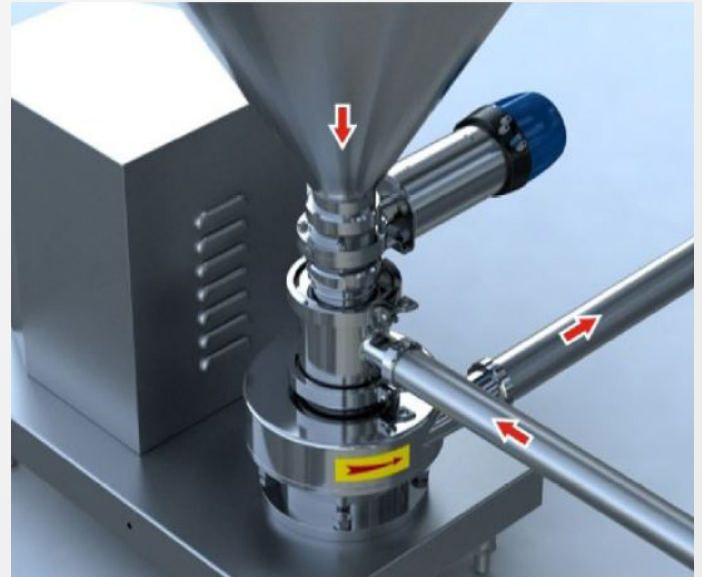
The mixer contains one tee sleeving, one impeller, one inner sleeving and a mixing chamber. Driving by motor, the impeller in mixing chamber rotates at high speed to throw around the mixture to create vacuum in the center of the impeller to inhale mediums into mixing chamber. Solid medium is inhaled into mixing chamber through inner sleeving, and liquid medium is inhaled into mixing chamber through tee sleeving. Solid medium and liquid medium are separate by inner sleeving to prevent flocculation of solid and liquid medium by premature contact before inhaled into mixing chamber. After fully mixed, the mixture is transported to mixer outlet by impeller. It asks mixer outlet keeping low pressure, in order to avoid cavitation and keeping higher work efficiency at the same time.

Note: higher outlet pressure will reduce the volume of inhaled solids, powders and other materials. When outlet pressure is higher, it needs to assemble a transfer pump to transport the material.



Very Simple And Clear Piping Layout

- Multiple tasks can be handled simultaneously
- Ratio between liquid and powder is adjustable
- The powder inlet is designed with a valve that controls the amount of powder inhaled. The valve can be manual and pneumatic
- The liquid inlet is designed with a valve that controls the flow of liquid inhaled
- The side of the hopper is designed with a vibrator to prevent the powder from accumulating and agglomerating
- The hopper can be configured with tuning fork sensor. When work automatically, the sensor can prevent mixture ratio from inconsistent caused by low amounts of powder, and also can prevent the powder from overflowing



Powder and liquid are strongly sucked into the pump chamber



The material is being mixed



The mixture is transported to the tank equipment

Simple, flexible, economic and plenty combination

Mixing pump with trolley



There are 4 wheels on the base, 2 of them have brakes. It is equipped with handles at same time.

Electrical control box



Basic functions of electrical controller, stop/start, emergency stop, motor protection.

Pneumatic vibrator



The vibrator is generated by a gas source and the frequency of vibrator is changed by adjusting the air entering the vibration.

Electric vibrator



Electric vibrator is with low noise and good vibration.

- 1) Single phase AC220V/110V
- 2) Three phase AC380V (other power)

Multi-function cover



Multiple configurations such as:

- 1) Cover + sight glass + small hopper
- 2) Cover + sight glass + small hopper + LED light

Tuning fork position sensor



The sensor mainly prevents the hopper material from being completely drained and the material overflowing the hopper. There are two kinds of sensors: high level and low level.

Power: DC24V AC220V/110V

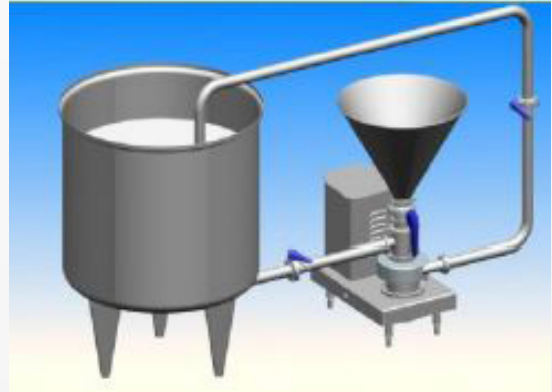
Output signal: 4-20mA, PNP



Typical Applications

1.

Can be achieved fast-dissolving of a powder product. Mainly make solution that solid content not more than 15%. Usually used in the rapid dissolution process of milk powder, pectin, additives, sugar and other materials.



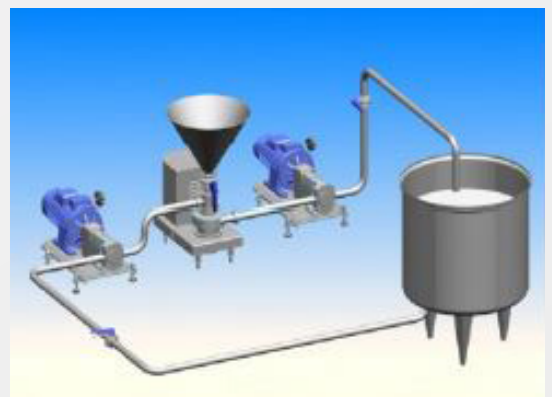
2.

Adding a centrifugal pump between Mixer and make-up tank is in order to feed mixer. This configuration can handle solution with solid, accelerating the dissolution of dry powder by high-speed liquid generated by centrifugal pump. Mainly used in the processing of final solution with solid content of 25% or less.



3.

This system is equipped with two sets of rotor pumps; rotor pump has relative large advantage in the process of delivery of materials containing the viscosity, and has a relative high pressure. This system is designed to handle high solids content of mixed solution, especially perfect in dealing with the solution with solids content of 50% or more.



Typical applications



Food & beverage

Juice, jam, ice cream, dairy products, food additives, tea drinks, chocolate, soy milk, essence, salad dressing, chill sauce, mayonnaise, tomato sauce, mustard, yogurt, sour cream, pudding, etc



Daily chemical

Liquid detergent, liquid soap, facial cleanser, emulsified silicone oil, fragrance compound, skin care product, cosmetics, cream, shampoo, shower gel, etc



Bio-pharmaceutical

Injection, antibiotic, medicine emulsion, medicine emulsifiable paste, health care products, microcapsule emulsification, lotion, cell tissue smash, etc



Additives and Thickeners

Aspartame, non-skimmed milk powder, salt, citric acid, sugar, egg powder, whey protein concentrate, calcium carbonate, honey, powder essence and other additives, gels, pectin, synthetic thickeners, starch, gelatin and other thickeners



Petrochemical industry

Lubricant, heavy oil emulsification, diesel oil emulsification, modified asphalt, catalyser, wax emulsion, etc. Which media need to be emulsified and homogenized



Fine chemical engineering

Pigment, dyestuff, plastic additive, textile assistant, adhesive, resin emulsification, hot melt adhesive, sealant, glue, sizing agent, finishing agent, surfactant, dye leveller, carbon black dispersion, anti-sticking agent, textile finishing agent, brightener, leather auxiliaries, pigment paste, etc. Which media need to be emulsified and homogenized.



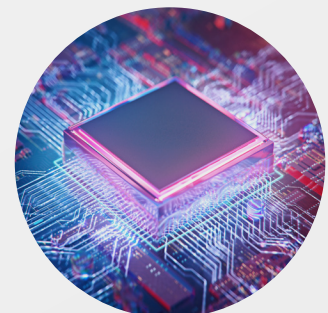
Coating & ink

Printing ink, oil paint, emulsion paint, coating, nano paint, photocurable coating, coating adhesive, carbon black dispersion, glaze, bentonite, dye compounds, etc



Pesticide

Insecticide, herbicide, pesticide miscible oil, fertilizer, inert ingredient, etc. Which media need to be emulsified and homogenized.

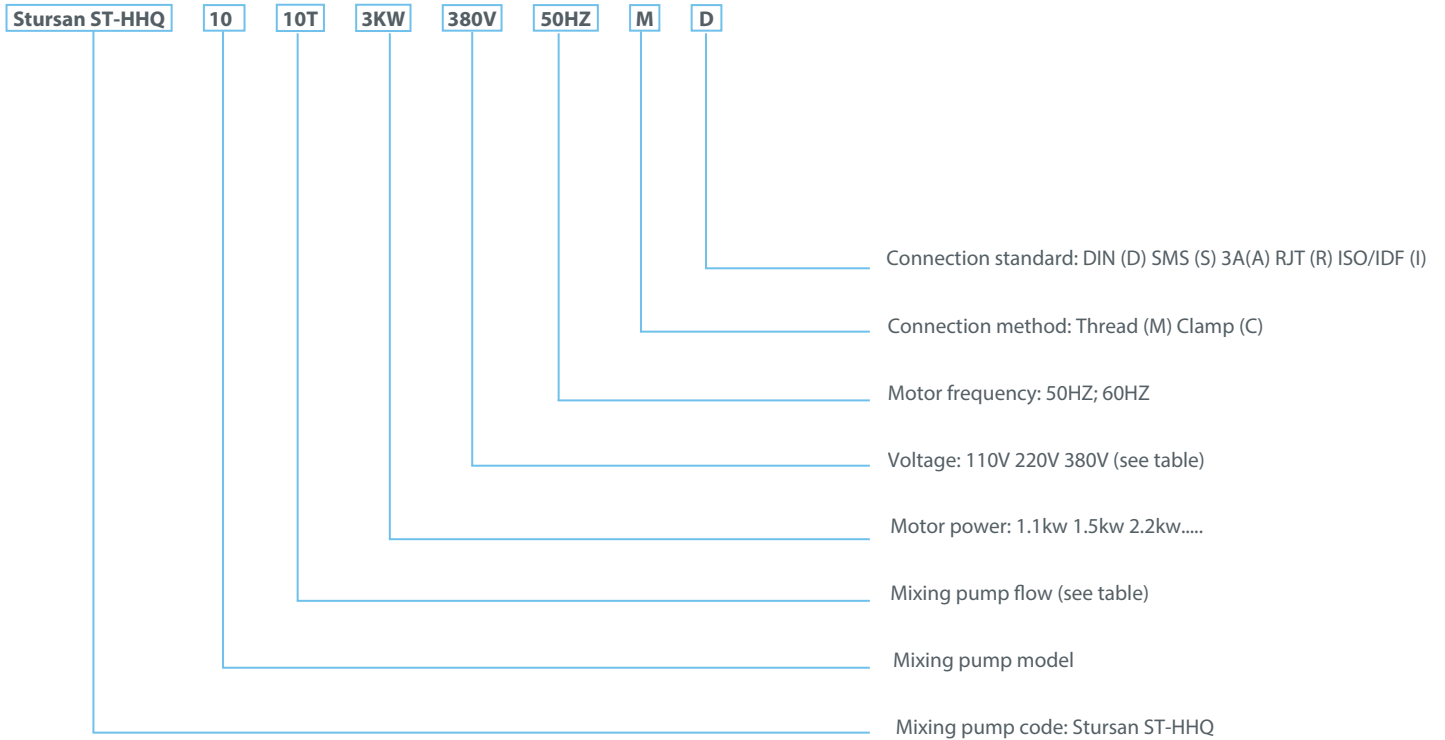


Semiconductor

Dispersion & depolymerization of nanometre materials, etc



Model Instruction

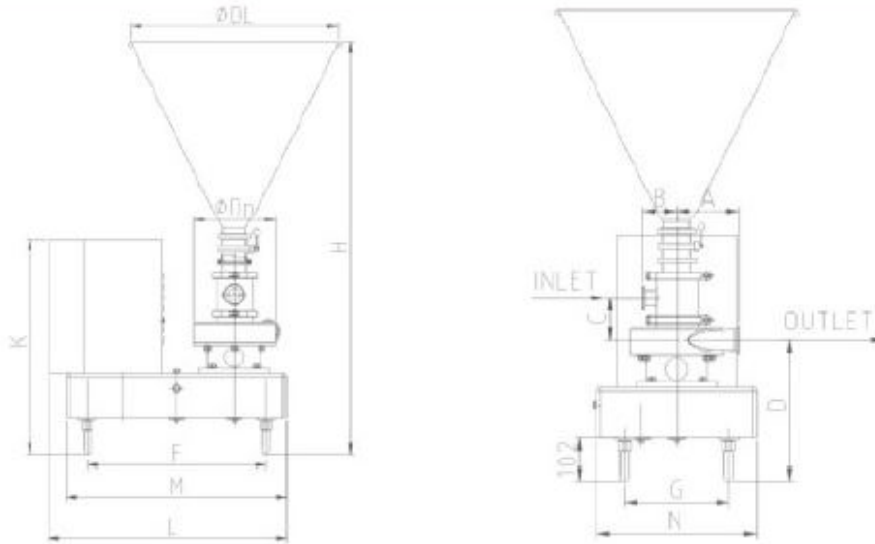


For example: Stursan ST-HHQ-10-10T-3KW-380V-50HZ-M-D

Selection Table

Model	Power	Outlet pressure (bar)	Flow (m ³ /h)	Applicable mixture viscosity	Hopper volume	Solid suction volume	Solid Inlet	Liquid Inlet	Outlet	Connection way
Stursan ST-HHQ - 10	3kw	3.0	10	≤2000	45L	2000kg/h	DN65-3"	DN40-1.5"	DN50-2"	Clamp, Thread
	5.5kw			≤3000						
Stursan ST-HHQ - 20	4kw	3.0	20	≤2000	45L	3000kg/h	DN65-3"	DN40-1.5"	DN50-2"	Clamp, Thread
	7.5kw			≤3000						
Stursan ST-HHQ - 30	5.5kw	3.0	30	≤2000	45L	4200kg/h	DN80-3.5"	DN50-2"	DN65-2.5"	Clamp, Thread
	11kw			≤3000						
Stursan ST-HHQ - 40	7.5kw	3.0	40	≤2000	45L	5500kg/h	DN80-3.5"	DN50-2"	DN65-2.5"	Clamp, Thread
	15kw			≤3000						
Stursan ST-HHQ - 50	11kw	3.0	50	≤2000	65L	7000kg/h	DN100-4"	2.5"	DN80-3"	Clamp, Thread
	18.5kw			≤3000						
Stursan ST-HHQ - 60	15kw	3.0	60	≤2000	65L	9000kg/h	DN100-4"	2.5"	DN80-3"	Clamp, Thread
	22kw			≤3000						

Data chart



Stursan ST-HHQ	Assembly dimension														
	Power	Solid Inlet	Liquid Inlet	Outlet	Dp	C	D	F	G	H	K	L	M	N	DL
Stursan ST-HHQ - 10	3kw	3"	1.5"	2"	234	109	352	550	320	1116	607	682	630	400	590
	5.5kw	3"	1.5"	2"	234	109	352	790	350	1116	692	930	870	430	590
Stursan ST-HHQ - 20	4kw	3"	1.5"	2"	234	109	352	550	320	1116	607	682	630	400	590
	7.5kw	3"	1.5"	2"	234	109	352	790	350	1116	692	930	870	430	590
Stursan ST-HHQ - 30	5.5kw	DN80	2"	2.5"	253	128	410.5	790	350	1328.5	692	930	870	430	620
	11kw	DN80	2"	2.5"	253	128	410.5	840	420	1328.5	827	989	920	500	620
Stursan ST-HHQ - 40	7.5kw	DN80	2"	2.5"	253	128	410.5	790	350	1328.5	692	930	870	430	620
	15kw	DN80	2"	2.5"	253	128	410.5	840	420	1328.5	827	989	920	500	620
Stursan ST-HHQ - 50	11kw	4"	2.5"	3"	292	135	415	840	420	1393	827	989	920	500	704
	18.5kw	4"	2.5"	3"	292	135	415	840	420	1393	827	989	920	500	704
Stursan ST-HHQ - 60	15kw	4"	2.5"	3"	292	135	415	840	420	1393	827	989	920	500	704
	22kw	4"	2.5"	3"	292	135	415	840	420	1393	925	990	920	500	704

Stursan ST-HHQ	Inlet and Outlet connection way								
	SMS Male connection			INCH Clamp connection			DIN Thread connection		
	A (Solid)	A(Liquid)	B	A (Solid)	A(Liquid)	B	A (Solid)	A(Liquid)	B
Stursan-ST-HHQ - 10	184.3	179.3	94	172	172	86.7	184.3	179.3	95
Stursan-ST-HHQ - 20	184.3	179.3	94	172	172	86.7	184.3	179.3	95
Stursan-ST-HHQ - 30	210	204	120	196.7	196.7	108.7	209	205	119
Stursan-ST-HHQ - 40	210	204	120	196.7	196.7	108.7	209	205	119
Stursan-ST-HHQ - 50	230	227	114	218.8	215.7	101.7	231	\	114
Stursan-ST-HHQ - 60	230	227	114	218.8	215.7	101.7	231	\	114

Note: The relevant dimensions of the above data diagrams are not regarded as the final basis of the actual object. Stursan reserves the right to update the data without further notice



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Stursan ST-HHQ Series Mixing Pump

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sturhygienic@stursan.com



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