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HHQ /HHZ pumps

2022 / 混合泵 系列



国家高新技术企业 浙江省著名商标

HHQ / HHZ

SERIES MIXING PUMP

HHQ/HHZ系列混合泵



乳化、混合、可调节、多任务
粉液混合的解决方案
Solutions for emulsifying, mixing, adjusting,
multi-tasking, powder and liquid mixing

HHQ混合泵 HHQ series mixing pump

HHQ混合泵是一款将固体/粉体混合到液体中,该混合器为奶粉的配制,糖浆的制作,盐水的调制等提供了在线处理完美的解决办法。在食品饮料、生物制药,中药的调制,化妆品和化学制品行业中,它也可以用于预备固体和液体的混合。

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.

技术参数 Technical Specifications

粉体最大处理量 Max capacity of powder	9000kg/h
增稠剂类最大处理 Max capacity of thickeners	3000kg/h (取决于物料粘度和浓度 Depends on the viscosity and concentration of the material)
最高温度 Max temperature	130°C
材质 Material	304 /316L, 1.4301/1.4404, ASME BPE 316L, 1.4435 BN2 Fe≤0.5% 双相钢 Dual-phase steel 2205, 哈氏合金 Hastelloy alloy C276
表面处理 Surface treatment	≤ Ra0.8 μm, ≤ Ra0.6 μm, ≤ Ra0.4 μm
机封 Mechanical seal	单机封和双机封 Single mechanical seal and double mechanical seal
机封组合 Mechanical seal combination	详见配置表 See configuration table
进/出口连接 Inlet/Outlet Connection	螺纹、卡箍、法兰、无菌法兰 Thread, Clamp, Flange, Aseptic flange
认证 Certification	3-A-02-12(N.O.1579); MD/06/42-EC (N.O.70521616101-00); FDA 177.2600; USP CLASS-II; EGV/O1935/2004



工作原理 Working Principle

混合器含有一个三通套管、一个叶轮、一个内套管以及一个混合腔。混合腔内的叶轮通过电机带动高速旋转,将混合物甩向外围从而使叶轮中心产生真空,将介质吸入混合腔,其中固体介质通过内套管被吸入混合腔,液体介质通过三通套管侧面进口被吸入混合腔(固体介质与液体介质通过内套管隔离,以防止固体介质与液体介质在进入混合腔前过早接触而产生絮状物),充分混合后的混合介质通过叶轮输送至混合器出口。要求混合器出口处保持较小压力,以避免产生气穴现象,同时保持较高工作效率。

注意,较高出口压力会降低吸入固体、粉体等物料的量,当出口压力较高时,需要安装一个输送泵来输送物料。

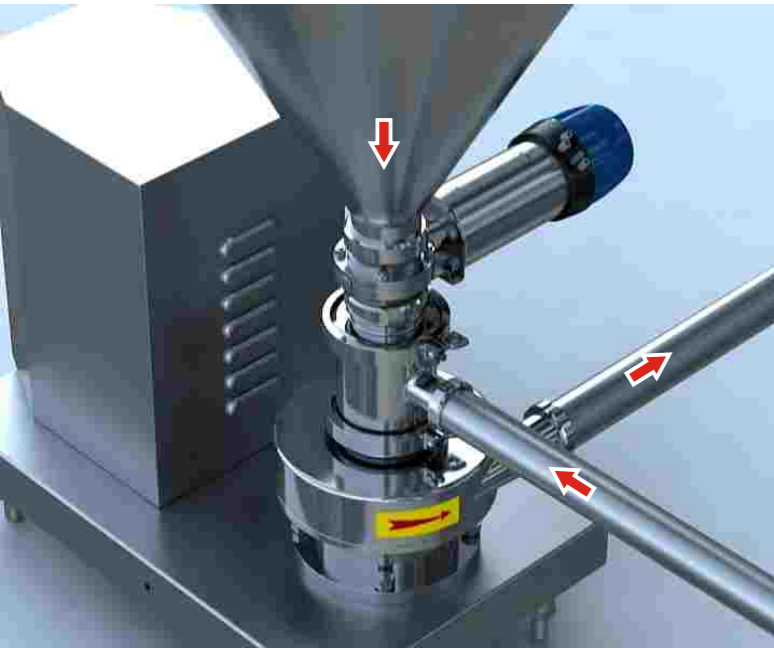
The mixer contains one tee sleeving, one impeller, one inner sleeving and a mixing chamber. Driving by motor, impeller in mixing chamber rotates at high speed to throw around the mixture to create vacuum in center of impeller to inhale mediums into mixing chamber. Solid medium is inhaled into mixing chamber through inner sleeving, and liquid medium is inhaled into mixing chamber through tee sleeving. Solid medium and liquid medium are separated 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.

HHQ

SERIES MIXING PUMP

HHQ系列混合泵



简单、灵活、经济、高效
Simple, flexible, economical, and efficient



粉体和液体被强力吸入泵腔
Powder and liquid are strongly sucked into the pump chamber



物料被混合中
The material is being mixed



混合物被输送到罐设备中
The mixture is transported to the tank equipment

非常简单清晰的管路布局

- ◆多任务的处理;
- ◆配置粉体和液体比例可调节;
- ◆粉体进口设计有阀门, 可通过阀门控制粉体被吸入的量, 阀门可选择手动或气动;
- ◆液体进口设计有阀门, 可通过阀门控制液体被吸入的流量;
- ◆料斗侧面设计有震动器, 防止粉体堆积结块;
- ◆料斗上可配置音叉传感器, 自动工作时防止粉体溢出料斗和粉体量过低导致混合物比例不相符。

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.

非常简单、灵活、经济、丰富的组合
Simple, flexible, economic and plenty combination

推车混合泵 Mixing pump with trolley

底盘上面配置有4个轮子, 其中2个带有刹车, 同时配置有把手;
There are 4 wheels on the base, 2 of them have brakes. It is equipped with handles at same time.



电器控制箱 Electrical control box

电器控制器基本功能, 停止/启动, 紧急停止, 电机保护;
Basic functions of electrical controller, stop/start, emergency stop, motor protection;



气动震动器 Pneumatic vibrator

震动器是通过气源而产生的此震动器的频率是通过调整进入振动块的空气而改变的。
The vibrator is generated by a gas source and the frequency of vibrator is changed by adjusting the air entering the vibration.



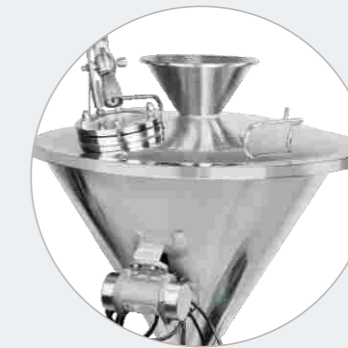
电动震动器 Electric vibrator

电动震动器, 具有噪音低, 震动效果佳。
1)单相AC220V/110V;
2)三相AC380V(其他电源)
Electric vibrator is with low noise and good vibration.
1) single phase AC220V/110V;
2) three phase AC380V (other power)



多功能盖子 Multi-function cover

多种配置如
1)盖子+视镜+小料斗;
2)盖子+视镜+小料斗+LED灯
Multiple configurations such as:
1) cover + sight glass + small hopper;
2) cover + sight glass + small hopper + LED light



音叉位置传感器 Tuning fork position sensor

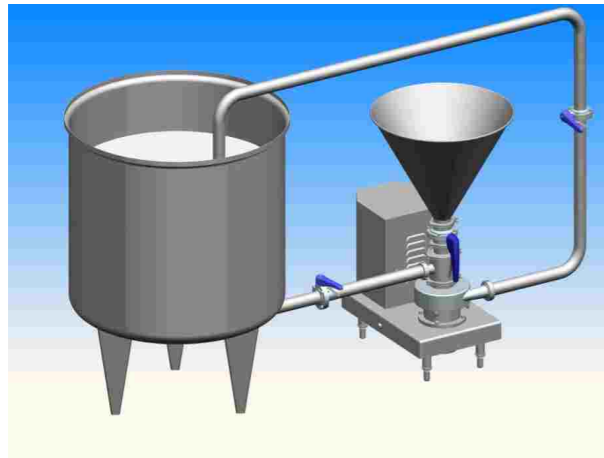
该传感器主要防止料斗物料完全被抽干和物料漫出料斗可选择高、低位传感器。
电源: DC24V AC220V/110V
输出信号: 4-20mA, PNP
The sensor mainly prevents the hopper material from being completely drained and the material overflowing the hopper. There are two kinds of sensor: high level and low level.
Power: DC24V AC220V/110V
Output signal: 4-20mA, PNP



HHQ SERIES

MIXING PUMP APPLICATION

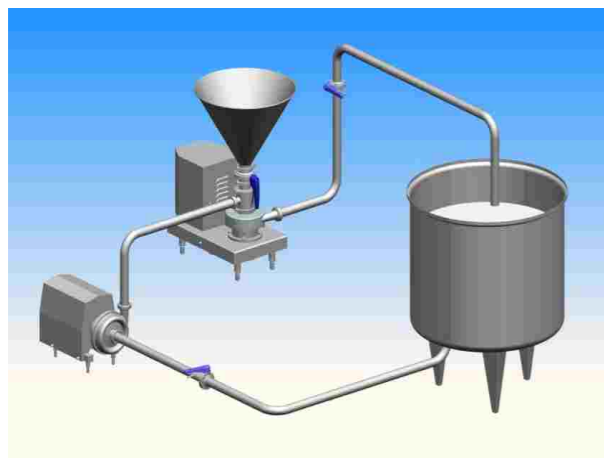
HHQ混合泵应用



典型应用1 Typical Application 1

能够实现多种粉类制品的快速溶解，主要处理固形物含量不超过15%的溶液制作。通常使用在奶粉，果胶，添加剂，蔗糖等物料的快速溶解过程中。

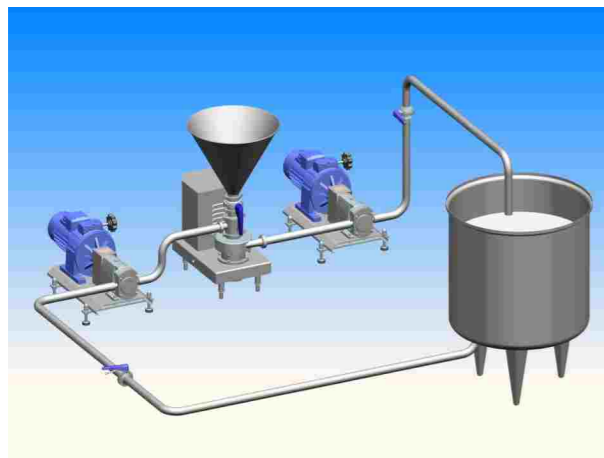
Can be achieved fast-dissolving of a powder product. Mainly make solution that solid content not more than 15%. Usually used in the rapid dissolution process of milk powder, pectin, additives, sugar and other materials.



典型应用2 Typical Application 2

在料液混合机与配料罐间增加一台离心泵的目的是为了给料液混合机供料，这种配置能够处理固形物含量较大的溶液，通过离心泵产生的高速液体加速干粉的溶解效果。应用在最终溶液中固形物含量在25%以下的溶液的处理中。

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.



典型应用3 Typical Application 3

这个系统中配备了2台转子泵，转子泵在输送含有粘度的物料的过程中具有较大的优势，并且具有比较高的压力，这个系统是专门为处理高固形含量的溶液而设计的，特别是在处理固形物含量达到50%以上的溶液的混合处理中具有很好的应用。

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

典型应用行业



食品饮料 Food & beverage

果汁、果酱、冰淇淋、乳制品、食品添加剂、茶饮料、巧克力、豆奶、香精、沙拉酱、辣椒酱、蛋黄酱、番茄酱、芥末、酸奶、酸奶油、风味奶、布丁等工种物料。

Juice, jam, ice cream, dairy products, food additives, tea drinks, chocolate, soymilk, essence, salad dressing, chili sauce, mayonnaise, tomato sauce, mustard, yogurt, sour cream, pudding, etc.



日用化工 Daily chemical

液体洗涤剂、洗手液、洗面乳、硅油乳化、日用香精、护肤品、化妆品、乳霜、洗发水、沐浴露等。

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



生物制药 Bio-pharmaceutical

注射剂、抗生素、药乳液、药乳膏、保健品、微胶囊乳化、洗剂、细胞组织破碎等各种。

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



添加剂和增稠剂 Additives and thickeners

阿斯巴甜、非脱脂奶粉、盐、柠檬酸、糖、鸡蛋粉、乳清蛋白浓缩物、碳酸钙、蜂蜜、粉末香精等添加剂，胶体、果胶、合成增稠剂、淀粉、明胶等各种增稠剂。

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.



石油化工 Petrochemical industry

润滑油、重油乳化、柴油乳化、改性沥青、催化剂、蜡乳剂等各种工业石油化工所需均质和乳化的介质。

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



精细化工 Fine chemical engineering

颜料、染料、塑料助剂、纺织助剂、胶黏剂、树脂乳化和热熔胶、密封胶、胶水、浆料、整理剂、表面活性剂、均染剂、炭黑分散、防粘剂、织物整理剂、光亮剂、皮革助剂、颜料膏等各种化工类所需的乳化和均质及混合物料等。

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.



涂料和油墨 Coating & ink

印刷油墨、油漆、乳胶漆、涂料、纳米涂料、光固化涂料、涂料助剂、炭黑分散、釉、膨润土、染料化合物等。

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



农药 Pesticide

杀虫剂、除草剂、农药乳油、肥料、农药助剂等各种农药所需乳化均质混合的介质。

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



半导体 Semiconductor

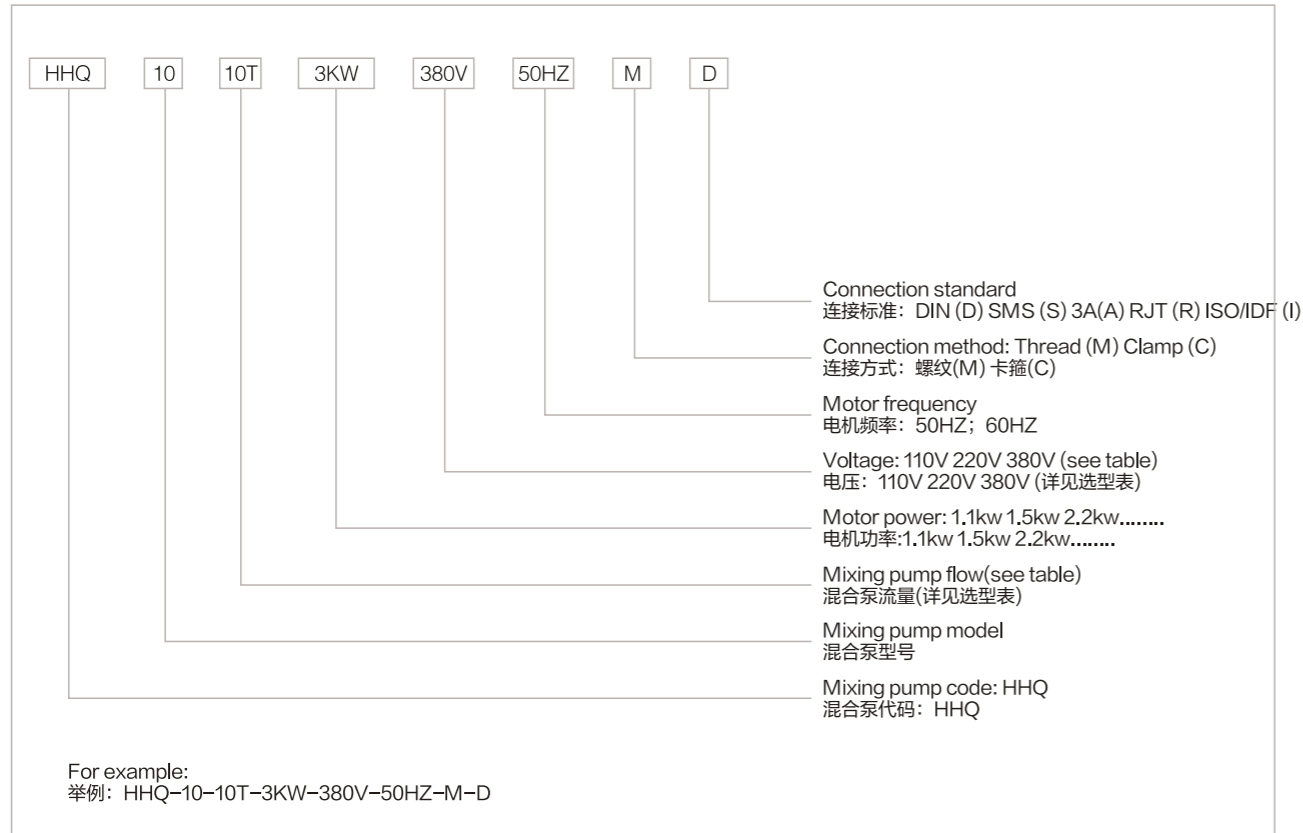
纳米材质分散、解聚等。

Dispersion & depolymerization of nanometer materials etc.

HHQ MIXING

PUMP MODEL INSTRUCTION

HHQ混合泵型号说明



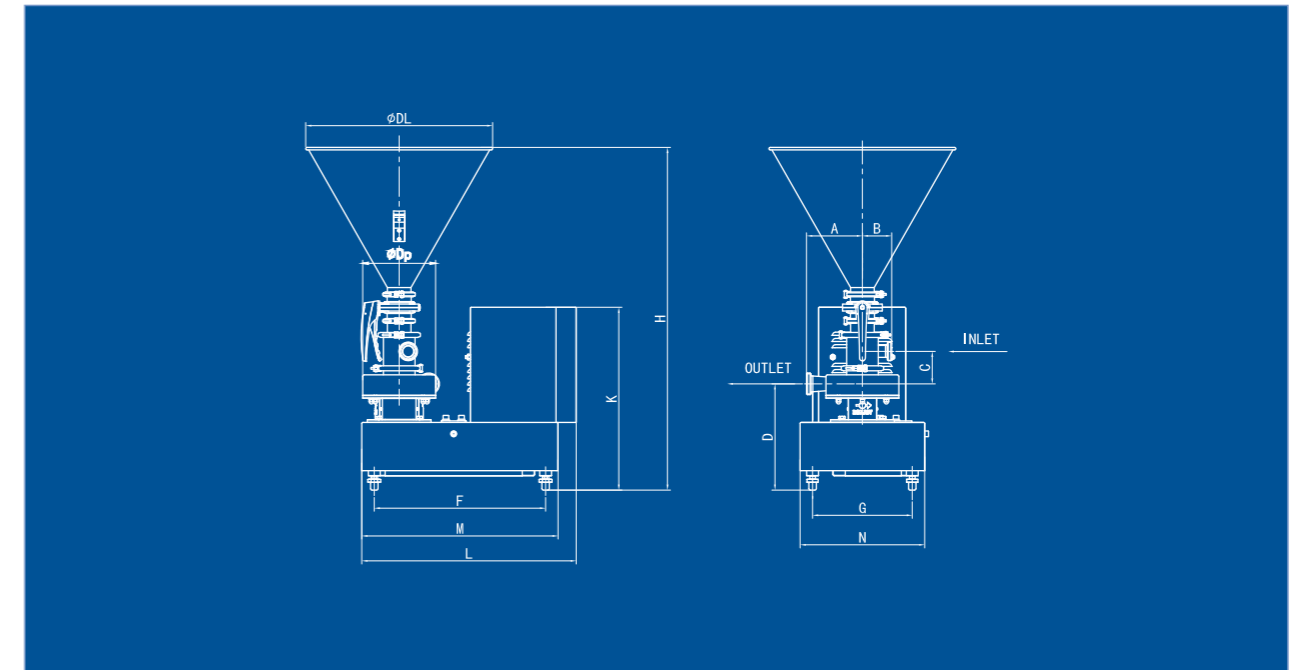
HHQ 混合泵选型表 HHQ MIXING PUMP SELECTION TABLE

型号 Model	功率 Power	出口压力 Outlet pressure (bar)	流量 Flow(m ³ /h)	适用混合物粘度(CP) Applicable mixture viscosity	加料斗容量 Hopper volume	固体吸入量 Solid suction volume	固体进口 Solid Inlet	液体进口 Liquid Inlet	出口 Outlet	连接方式 Connection way
HHQ-10	3KW	3.0	10	≤300	45L	2000kg/h	3"	DN40-1.5"	DN50-2"	卡箍/螺纹 Clamp, Thread
	4KW			≤500						
HHQ-20	4KW	3.0	20	≤300	45L	3000kg/h	3"	DN40-1.5"	DN50-2"	卡箍/螺纹 Clamp, Thread
	5.5KW			≤500						
HHQ-30	5.5KW	3.0	30	≤300	45L	4200kg/h	DN80	DN50-2"	DN65-2.5"	卡箍/螺纹 Clamp, Thread
	7.5KW			≤500						
HHQ-40	7.5KW	3.0	40	≤300	45L	5500kg/h	DN80	DN50-2"	DN65-2.5"	卡箍/螺纹 Clamp, Thread
	11KW			≤500						
HHQ-50	11KW	3.0	50	≤300	65L	7000kg/h	4"	2.5"	DN80-3"	卡箍/螺纹 Clamp, Thread
	15KW			≤500						
HHQ-60	15KW	3.0	60	≤300	65L	9000kg/h	4"	2.5"	DN80-3"	卡箍/螺纹 Clamp, Thread
	22KW			≤500						

HHQ SERIES

MIXING PUMP DATA CHART

HHQ混合泵数据图



系列 Model	电机功率 Power	外形安装尺寸 Assembly Dimension															
		固体进口 Inlet	液体进口 Inlet	出口 Outlet	A	B	C	D	DL	Dp	F	G	H	K	L	M	N
HHQ-10	3KW	3"	1.5"	2"	179.3	94	104.3	341.3	600	234	550	320	1100.7	587.3	688.4	630	400
HHQ-20	4KW				204	117	134	354	610	253	790	350	1272.7	687.3	911.4	870	430
HHQ-30	5.5KW	Dn80	2"	2.5"	227.5	114	140	384.8	700	292	840	420	1363	822.3	954	920	500
HHQ-40	7.5KW				227.5	114	140	384.8	700	292	840	420	1363	822.3	954	920	500
HHQ-50	11KW	4"	2.5"	3"	227.5	114	140	384.8	700	292	840	420	1363	822.3	954	920	500
HHQ-60	15KW				227.5	114	140	384.8	700	292	840	420	1363	822.3	954	920	500

HHQ 系列	进出口连接方式 Inlet and outlet connection way								
	SMS螺纹连接 Male connection			INCH卡箍连接 Clamp connection			DIN螺纹连接 Thread connection		
	A(固体 Solid)	A(液体 Liquid)	B	A(固体 Solid)	A(液体 Liquid)	B	A(固体 Solid)	A(液体 Liquid)	B
HHQ-10	184.3	179.3	94	172	172	86.7	184.3	179.3	95
HHQ-20	184.3	179.3	94	172	172	86.7	184.3	179.3	95
HHQ-30	210	204	120	196.7	196.7	108.7	209	205	119
HHQ-40	210	204	120	196.7	196.7	108.7	209	205	119
HHQ-50	230	227	114	218.8	215.7	101.7	231	\	114
HHQ-60	230	227	114	218.8	215.7	101.7	231	\	114

注意: 以上数据图相关尺寸不作为实物最终依据, 东正保留对于数据更新权限不再另行通知。
Note: The relevant dimensions of the above data diagrams are not regarded as the final basis of the actual object.
DONJOY reserves the right to update the data without further notice.



HHZ

SERIES MIXING PUMP

HHZ系列混合泵



HHZ 均质混合器选型表 HHZ homogenizer selection table

型号 Model	适用粘度 Viscosity (CPS)	功率 Power (kw)	流量 Flow (m³/h)	出口压力 Outlet pressure (bar)	转速 Rotate speed (r/min)	固体进口 Solid Inlet	液体进口 Liquid Inlet	出口 Outlet		
DJ-HHZ-170	≤100	4.0	15.0	1.5	2950	3"	DN40-1.5"	DN50-2"		
	≤200	7.5								
	≤300	11.0								
	DJ-HHZ-190	≤500	18.5	7.5	1.5	1450	3"	DN40-1.5"	DN50-2"	
		≤300	3.0							
		≤600	5.5							
		DJ-HHZ-210	≤800	7.5	5.5	1.5	950	3"	DN40-1.5"	DN50-2"
			≤1000	11.0						
			≤1500	15.0						
			DJ-HHZ-240	≤2000	18.5	25.0	1.5	2950	4"	DN65-2.5"
≤1000				4.0						
≤2000				7.5						
DJ-HHZ-130				≤3000	11.0	12.5	1.5	1450	4"	DN65-2.5"
	≤4000			15.0						
	≤5000			22.0						
	DJ-HHZ-150			≤5000	22.0	8.3	1.5	950	4"	DN65-2.5"
		≤120		7.5						
		≤200		11.0						
		DJ-HHZ-170		≤320	22.0	40.0	1.5	2950	4"	DN65-2.5"
			≤500	30.0						
			≤700	15.0						
			DJ-HHZ-190	≤1000	15.0	20.0	1.5	1450	4"	DN65-2.5"
≤1300				22.0						
≤1800				30.0						
DJ-HHZ-210				≤1000	7.5	13.3	1.5	950	4"	DN65-2.5"
	≤2000			15.0						
	≤3000			22.0						
	DJ-HHZ-240			≤4000	30.0	65.0	1.5	2950	4"	DN65-2.5"
		≤120		11.0						
		≤220		22.0						
		DJ-HHZ-130		≤320	30.0	32.5	1.5	1450	4"	DN65-2.5"
			≤500	11.0						
			≤700	15.0						
			DJ-HHZ-150	≤1000	22.0	21.7	1.5	950	4"	DN65-2.5"
≤1500				30.0						
≤800				7.5						
DJ-HHZ-170				≤800	11.0	4.0	1.5	950	3"	DN40-1.5"
	≤1000			15.0						
	≤1500			22.0						
	DJ-HHZ-190			≤2000	18.5	4.0	1.5	950	3"	DN40-1.5"
		≤3000		7.5						
		≤5000		11.0						

HHZ 均质混合器选型表 HHZ homogenizer selection table

型号 Model	适用粘度 Viscosity (CPS)	功率 Power (kw)	流量 Flow (m³/h)	出口压力 Outlet pressure (bar)	转速 Rotate speed (r/min)	固体进口 Solid Inlet	液体进口 Liquid Inlet	出口 Outlet	
DJ-HHZ-130	≤200	2.2	8.0	≤1.5bar	2950	3"	DN40-1.5"	DN40-1.5"	
	≤500	5.5							
	≤800	7.5							
	DJ-HHZ-150	≤1000	3.0	4.0	≤1.5bar	1450	3"	DN40-1.5"	DN40-1.5"
		≤2000	5.5						
		≤3000	7.5						
		DJ-HHZ-170	≤3000	3.0	2.7	≤1.5bar	950	3"	DN40-1.5"
≤5000			5.5						
≤7000			7.5						
DJ-HHZ-190			≤200	4.0	12.0	1.5	2950	3"	DN40-1.5"
	≤250		5.5						
	≤350		7.5						
	DJ-HHZ-210		≤500	11.0	6.0	1.5	1450	3"	DN40-1.5"
		≤500	3.0						
		≤1000	5.5						
		DJ-HHZ-240	≤1500	7.5	4.0	1.5	950	3"	DN40-1.5"
≤2000			11.0						
≤1000			3.0						
DJ-HHZ-130			≤2000	5.5	4.0	1.5	950	3"	DN40-1.5"
	≤3000		7.5						
	≤5000		11.0						