

金伊洋混合头使用说明书

Operation Manual of Jinyiyang Mixing Head

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混合头是高压发泡机-聚氨酯发泡加工设备中的核心部件，对于是否可以正常运行起到重要作用。混合头的使用为高压发泡机提供两组份或多组份的聚氨酯原料，通过高压，雾化，喷射，对撞，使原料均匀混合，形成流体发泡混合料，通过管道流进浇注模具，自行发泡成型。

速度快、均匀，流量可调节，自动清洁管道，使用PLC或电器控制，动作敏捷，准确。混合头目前已被广泛用于汽车、家电、家私等行业及库房保温、管道保温领域内。

以优质合金钢，经过多道严密工序制造而成，严格把关，精度高，性能稳定，外观整洁。关键零件表面经过特殊处理，经久耐用，使用寿命可达20万次以上，“L”型和“T”型两大系列两组份结构混合头也已经得到广泛应用。

◆混合头的三种工作模式：

- 1、无料操作：高压计量泵不作业时，演示系统浇注，根据各程序时间动作，验证程序或混合头动作是否正确；
- 2、正常工作：各系统操作程序正常，按照实际，正常操作；
- 3、标定：高压计量泵工作时，调整混合头喷嘴浇注压力。

The mixing head is the core component of the high-pressure foaming machine-polyurethane foaming processing equipment, which plays an important role in the normal operation. The use of the mixer provides two or more components of polyurethane raw materials for the high-pressure foaming machine. Through high pressure, atomization, injection and collision, the raw materials are evenly mixed to form a fluid foam mixture, flowing into the pouring mold through the pipe, and foaming molding by itself.

Fast and uniform, adjustable flow, automatic cleaning of pipes, using PLC or electrical control, agile and accurate action. Hybrid head has been widely used in automotive, household appliances, furniture and other industries, as well as warehouse insulation and pipeline insulation.

It is made of high-quality alloy steel through multiple rigorous processes. It is strictly controlled, with high accuracy, stable performance and neat appearance. The surface of key parts has been specially treated, durable, and has a service life of more than 200,000 times. The two-component structural mixing heads of the "L" and "T" type have also been widely used.

◆Three working modes of mixing head :

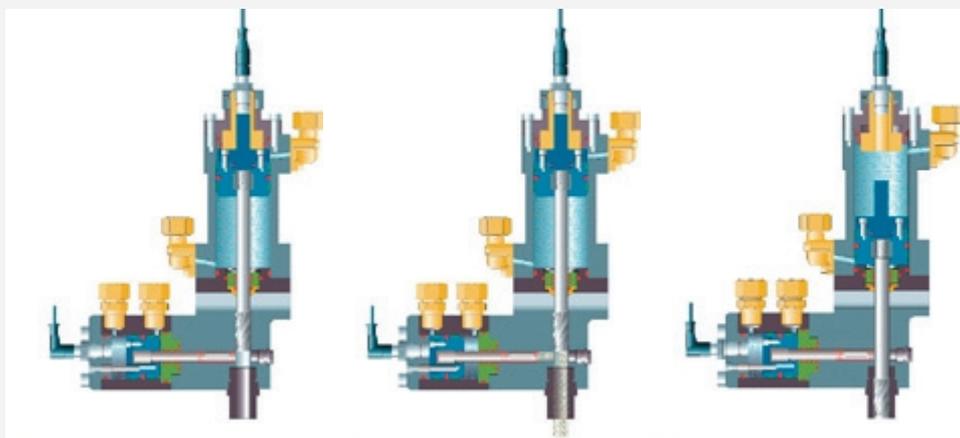
1. No-material operation: when the high-pressure metering pump is not working, demonstrate the system pouring, according to the time action of each program, verify whether the program or mixing head action correct;
2. Normal operation: the operating procedures of each system are normal, according to the actual situation, normal operation;
3. Calibration: When the high-pressure metering pump is working, adjust the pouring pressure of the mixing head nozzle power.

◆特性

- 1、利用双层倾斜浇筑喷嘴产生高混合效率;
- 2、稳定的层流-柔和的混合趋势&宽阔的层流范围;
- 3、合适于固体和灵活的成型,可用于低粘度和高粘度;
- 4、创新的喷嘴控制为多种组合时最小值转化时间;
- 5、经济性和可靠性;
- 6、反暴死设计&反异物浮动设计。

本公司的混合头为“L”型混合头形式,可用于所有种类的硬质、半硬质、软质、整皮泡沫。

◆L型混合头浇注周期流程



浇注前

浇注位置

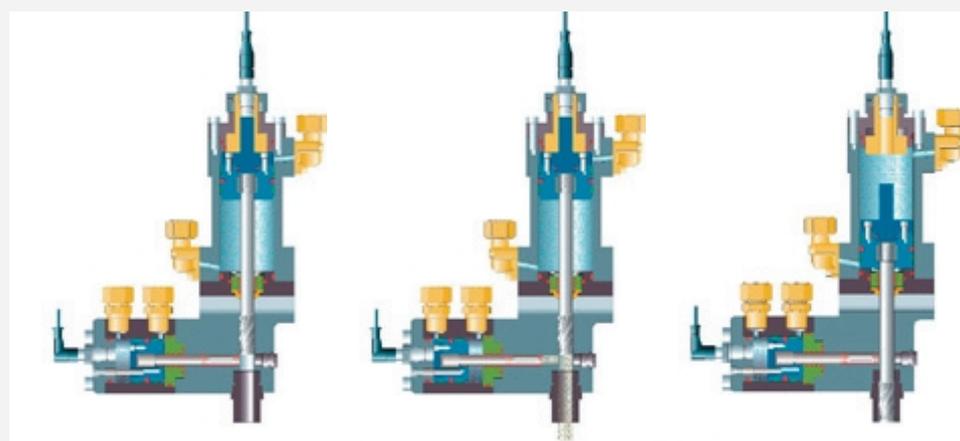
浇注后

◆Characteristics

1. High mixing efficiency is produced by using double-layer inclined pouring nozzle;
2. Stable laminar flow - gentle mixing trend - wide laminar flow range;
3. Suitable for solid and flexible molding, can be used for low viscosity and high viscosity;
4. The innovative nozzle control is the minimum conversion time for multiple combinations;
5. Economy and reliability;
6. Anti-sudden death design&anti-foreign body floating design.

The mixing head of our company is in the form of "L" type mixing head, which can be used for all kinds of hard, semi hard, soft, whole skin foam.

◆Pouring cycle flow of L-type mixing head

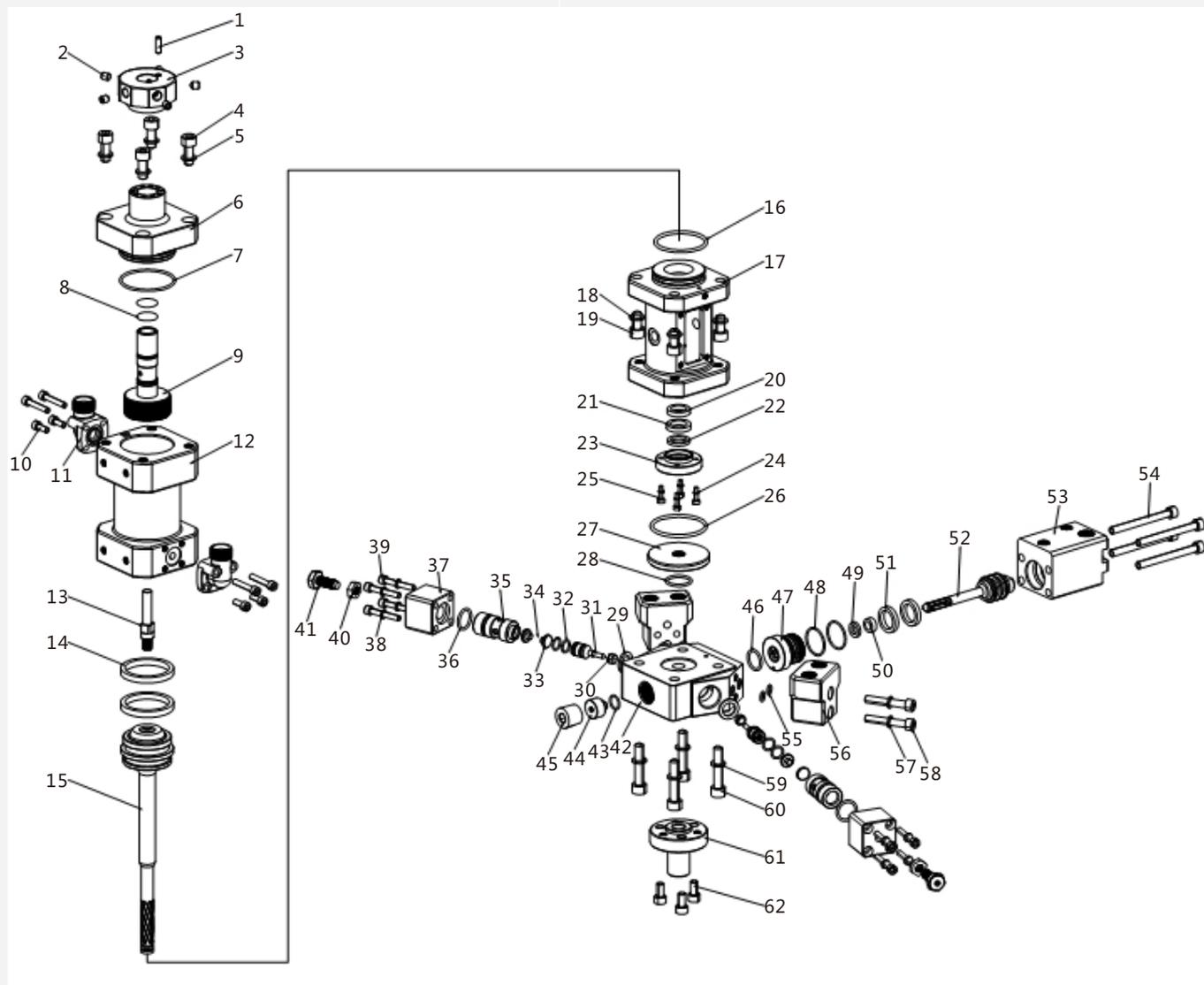


Before pouring

Pouring position

After pouring

◆10-14发泡机混合头爆炸图/10-14 Exploded view of mixing head of foaming machine



2 产品规格/Product specification

编号	名称	数量/件	编号	名称	数量/件
1	内六角紧定螺丝	1	32	O型密封圈	4
2	内六角紧定螺丝	5	33	弹簧座	4
3	行程调节旋钮	1	34	矩形弹簧	2
4	内六角圆柱头螺钉	4	35	单向阀体	2
5	弹簧垫片	4	36	O型密封圈	2
6	大油缸后端盖	1	37	压力调节阀座	2
7	O型密封圈	1	38	弹簧垫片	8
8	O型密封圈	2	39	内六角圆柱头螺钉	8
9	行程调节阀芯	1	40	锁紧螺母	2
10	内六角圆柱头螺钉	8	41	喷嘴压力调节螺丝	2
11	大油缸进油接头	2	42	混合阀体	1
12	大油缸	1	43	O型密封圈	1
13	行程限位芯轴	1	44	堵头芯子	1
14	活塞用UN密封圈	2	45	堵头	1
15	大活塞	1	46	O型密封圈	1
16	O型圈	1	47	小油缸定位芯子	1
17	联接座	1	48	O型密封圈	2
18	弹簧垫片	4	49	OED斯特封	1
19	内六角圆柱头螺钉	4	50	活塞杆用UN密封圈	1
20	活塞杆用UN密封圈	1	51	活塞用UN密封圈	2
21	OED斯特封挡圈乙	1	52	小活塞	1
22	OED斯特封	1	53	小油缸	1
23	密封压盖	1	54	内六角圆柱头螺钉	4
24	弹簧垫片	4	55	O型密封圈	4
25	内六角圆柱头螺钉	4	56	进料接口	2
26	O型密封圈	1	57	弹簧垫片	4
27	铜套	1	58	内六角圆柱头螺钉	4
28	O型密封圈	1	59	弹簧垫片	4
29	阀体密封垫	2	60	内六角圆柱头螺钉	4
30	喷嘴口	2	61	出料口	1
31	单向阀芯	2	62	内六角圆柱头螺钉	3

2 产品规格/Product specification

Number	Name	Quantity/piece	Number	Name	Quantity/piece
1	Hexagon socket set screw	1	32	O-ring	4
2	Hexagon socket set screw	5	33	Spring seat	4
3	Stroke adjustment knob	1	34	Rectangular spring	2
4	Hexagon socket head cap screw	4	35	One-way valve body	2
5	Spring washer	4	36	O-ring	2
6	Rear end cover of large cylinder	1	37	Pressure regulating valve seat	2
7	O-ring	1	38	Spring washer	8
8	O-ring	2	39	Hexagon socket head cap screw	8
9	Stroke adjusting valve element	1	40	Lock nut	2
10	Hexagon socket head cap screw	8	41	Nozzle pressure adjusting screw	2
11	Oil inlet joint of large cylinder	2	42	Mixing valve body	1
12	Large oil cylinder	1	43	O-ring	1
13	Travel limit mandrel	1	44	Plug core	1
14	UN sealing ring for piston	2	45	Plug	1
15	Large piston	1	46	O-ring	1
16	O-ring	1	47	Small oil cylinder positioning core	1
17	Coupling seat	1	48	O-ring	2
18	Spring washer	4	49	OED Steffen	1
19	Hexagon socket head cap screw	4	50	UN sealing ring for piston rod	1
20	UN sealing ring for piston rod	1	51	UN sealing ring for piston	2
21	OED seal retaining ring B	1	52	Small piston	1
22	OED Steffen	1	53	Small oil cylinder	1
23	Gland	1	54	Hexagon socket head cap screw	4
24	Spring washer	4	55	O-ring	4
25	Hexagon socket head cap screw	4	56	Feed interface	2
26	O-ring	1	57	Spring washer	4
27	Copper sleeve	1	58	Hexagon socket head cap screw	4
28	O-ring	1	59	Spring washer	4
29	Valve body gasket	2	60	Hexagon socket head cap screw	4
30	Nozzle opening	2	61	Outlet	1
31	One-way valve element	2	62	Hexagon socket head cap screw	3

2 产品规格/Product specification

混合头参数/Mixing head parameters

混合比 模型	闭合模具 (g/s)			开放模具 (g/s)
	1:1	1:2	1:3	
10-14-2K	50-450	60-380	80-340	60-250
12-18-2K	130-1100	140-900	150-750	120-500
16-25-2K	370-3500	380-2300	600-2100	400-900
16-25-4K	320-3800	430-2300	450-1800	400-800

3 产品展示/Product display



混合头各个机械部件常规的最短使用寿命是不同的。部件的磨损有的是由于粘合而产生疲劳点蚀、抓粘和微小磨损而引起的表面退化；有的是部件(典型的是滑动密封件)由于运动过程中的摩擦而遭受周期性的磨损；其他配件(喷嘴和接近开关)的退化是由使用和保养过程中的清洗引起的。

不能保证这些部件到底能用多长时间，但对于每一部件都有其相应的平均使用寿命。一旦使用时间达到建议的使用寿命，那么这一部件应被更换。多种化学成分混合的微粒也会进一步缩短喷嘴和活塞的使用寿命。

对于带有沟槽的混合头，“填料型”多元醇和异氰酸酯的使用，会改变混合头的工作条件并急剧降低其寿命。所用的填料类型也会影响混合头的寿命：“矿物”填料(石英晶体)会增加磨损，而“化学”填料相对好一点。

◆当更换密封衬垫的时候，无论如何不要超过100.000周期更换一次，自清洗油缸的四个螺丝都必须更换，且只能使用12.9 UNBRAKO级的螺丝。同时检查大活塞和末端调整螺杆的拉紧转矩。

◆更换:

- 1.小活塞密封:当小活塞密封更换好后
- 2.自清洁活塞密封:当混合头阀体更换过后不超过250,000次循环灌注周期。
- 3.大活塞和混合头腔体不建议经常拆卸混合头。只有出现问题或达到给定的维修频率需要时才可拆卸。

◆注射喷嘴的拆卸取决于所使用的原料特性。因此，用户必须根据自己的实际情况来决定喷嘴的保养。

无论何时，比如在浇注过程中，当需要拆卸混合头时，我们建议你在小活塞完全退出的情况下，从体系中移除混合头。

The conventional minimum service life of each mechanical component of the mixing head is different. Some of the wear of components are surface degradation caused by fatigue pitting, seizing and small wear due to adhesion; Some parts (typically sliding seals) suffer periodic wear due to friction during movement; The degradation of other accessories (nozzles and proximity switches) is caused by cleaning during use and maintenance.

It is impossible to guarantee how long these components can last, but each component has its corresponding average service life. Once the service life reaches the recommended service life, this part shall be replaced. Particles mixed with various chemical components will also further shorten the service life of nozzle and piston.

For the mixing head with grooves, the use of "filler type" polyols and isocyanates will change the working conditions of the mixing head and sharply reduce its life. The type of filler used will also affect the life of the mixing head: "mineral" filler (quartz crystal) will increase wear, while "chemical" filler is relatively better.

◆When replacing the sealing gasket, do not replace it more than 100.000 cycles in any case. The four screws of the self-cleaning oil cylinder must be replaced, and only 12.9 UNBRAKO screws can be used. At the same time, check the tightening torque of the large piston and the end adjusting screw.

◆Replacement:

1. Small piston seal: after the small piston seal is replaced
 2. Self-cleaning piston seal: When the mixing head valve body is replaced, it shall not exceed 250000 cycles of cyclic filling.
 3. It is not recommended to disassemble the mixing head frequently for large piston and mixing head cavity. It can only be disassembled when there is a problem or it is necessary to reach the given maintenance frequency.
- ◆The disassembly of the injection nozzle depends on the characteristics of the raw materials used. Therefore, the user must decide the maintenance of the nozzle according to his actual situation.

Whenever it is necessary to disassemble the mixing head, such as during pouring. It is recommended that you remove the mixing head from the system when the small piston is completely withdrawn.

故障	原因	处理方法
混合头大活塞结死	<ol style="list-style-type: none"> 1.大活塞杆与内壁间隙过大 2.大活塞杆表面粗糙 3.发泡液清理不干净 4.润滑不好 	保持混合头清洁并定时定量在活塞杆与外界相通处添加DOP为其润滑。
混合头漏油		需要更换密封件，特别注意的是小活塞的轴封，它的外泄油孔经常被发泡液堵住，所以坏了也不容易发现，所以要保持小油缸外泄油孔通畅定时检查更换轴封。
混合头压力不稳	<ol style="list-style-type: none"> 1.喷嘴脏和安装不规范 2.过滤网的精度太低或者有破损都会导致脏物进入喷嘴 	应该定期清洗

Fault	Reason	Processing method
The large piston of the mixing head is blocked	<ol style="list-style-type: none"> 1. The clearance between large piston rod and inner wall is too large 2. Rough surface of large piston rod 3. The foaming liquid is not cleaned 4. Poor lubrication 	Keep the mixing head clean and regularly and quantitatively add DOP at the connection between the piston rod and the outside to lubricate it.
Oil leakage of mixing head		The seal needs to be replaced. Pay special attention to the shaft seal of the small piston. Its outer oil drain hole is often blocked by foaming liquid, so it is not easy to find out if it is broken. Therefore, keep the outer oil drain hole of the small oil cylinder smooth and regularly check and replace the shaft seal.
Unstable pressure of mixing head	<ol style="list-style-type: none"> 1. Dirty nozzle and non-standard installation 2. Too low precision or damage of the filter screen will cause dirt to enter the nozzle 	It should be cleaned regularly