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Skymen Vapor Degreasers

Overview

Vapor degreasing is an industrial cleaning process for precision parts. The process uses solvent immersion, combined with vapor cleaning and ultrasonic cleaning, to remove all types of oil, grease, wax, flux, and particulate.

This closed-cycle process contains, purifies, and recycles the solvent for continuous use and reuse while concentrating contamination for minimal waste disposal.

Advantages

1. Fast cleaning speed: the impact force and permeability of high temperature steam are strong, which can effectively clean the dirt and grease on the surface. The high temperature of the steam can help soften and dissolve dirt, making it easier to wash away.
2. The cleaning effect is good: the ultrasonic oscillation can produce tens of thousands of small bubbles in the degreasing liquid, and these small bubbles produce a strong mechanical force when forming, growing and closing, so that the grease and dirt attached to the surface of the parts are quickly removed, thus accelerating the degreasing process and making degreasing more thorough
3. Save solvent and energy: equipped with solution circulation filtration system, can effectively filter oil and particulate matter, so as to reduce the frequency of solution replacement, reduce the use of solvents, thus saving costs
5. The top condensation coil quickly vaporizes the liquid attached to the surface of the workpiece, so as to achieve the purpose of drying
4. Safe operation: The top condensing coil restrains further steam diffusion and is equipped with an automatic lid and basket lifting and shifting system, which allows the operator to avoid contact with solvents and solvent gases.
6. Wide range of application: can be used in a variety of occasions, including solvent degreasing, chemical degreasing, electrochemical degreasing and pickling
5. Good effect on complex structural parts: steam and ultrasonic degreasing can go deep into the parts of deep holes, gaps and hidden parts for cleaning, especially suitable for complex shapes or cracks, deep holes, blind holes

Basic working way

The boiling sump on the left boils the volatile solvent, producing pure, clear and dense vapor, which condenses on the condenser coil 1 to form a vapor blanket.

The purpose of condenser coil 2 is to contain further vapor diffusion.

All condensed solvent and water from condenser coil 1 are directed to the water separator, from which the water is discharged to sewer and the clean solvent is returned to the ultrasonic tank. Since the ultrasonic tank is already full of clean solvent, the addition of newly distilled solvent from the water separator causes the solvent to overflow into the boiling sump, thus completing the distillation cycle. This continuous process of distillation, condensation and separation keeps the ultrasonic tank clean at all times by overflowing the contaminants into the boiling tank.

Also there are filtration system for ultarsonic cleaning tank, use 5um fiter, to filter the small particles.

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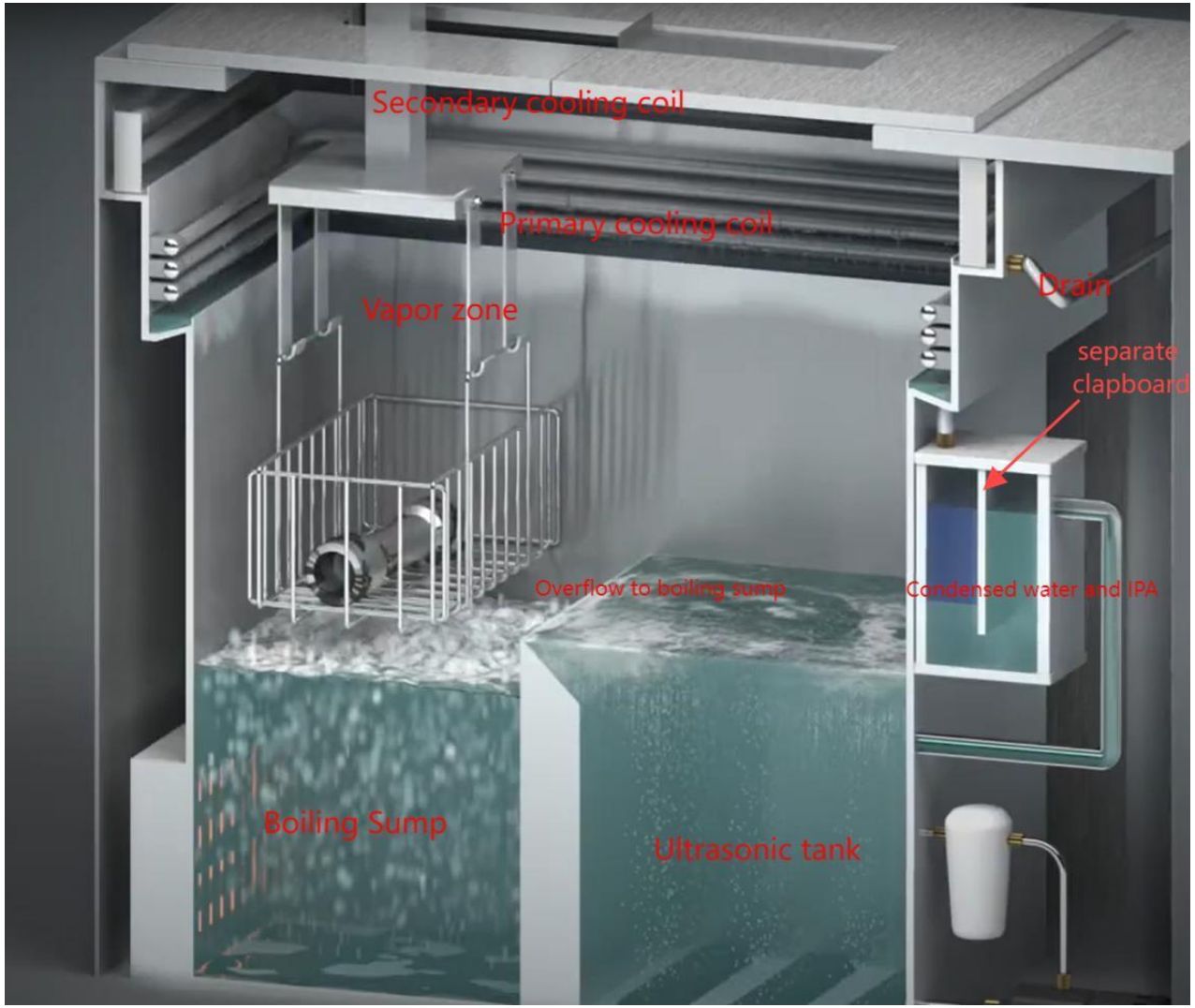
Compositoin and its function

1. Boiling sump: Equipped with electric heater in boiling sump, the solvent in the boiling sump is constantly heated to boil, and produce a large amount of vapor above the sump.
2. Vapor area: The vapor produced by boiling sump gathered above the tank and under condensed coil 1, forming a vapor blanket.
3. Condensed coil 1: The vapor encounters condensate coil 1, condenses into clean solvent ans some water on the condensed coil 1, and flows into water separator through the groove below the condensed coil 1.
4. Water separator box: Connected to the groove under the condensed coil 1. When using the solvent which is insoluble in water. Taking advantage of the density difference between the two, a direct discharge port is set at the high liquid level position on one side of the water separator. A pipe is set on the bottom of the other side of water separator, this pipe is connected to the ultrasonic tank, the clean solvent is returned to the ultrasonic tank
5. Condensed coil 2: Contain the further diffusion of vapor;
Quickly vaporizes the liquid attached to the surface of the workpiece, so as to achieve the purpose of drying
6. Ultrasonic sump: Equipped with ultrasonic emmiters on the bottom of sump, controlled by a generator, ultrasonic power is adjustable, default ultrasonic frequency is 40khz, suitable for most of the parts, 28khz, 17khz, 20khz, 25khz, 33khz, 80khz, 132khz, 28/40khz, 40/80khz, is also available.
7. Overflow: There is overflow dam on the right side of ultrasonic sump, the clean solvent from condensed coil 1 flow into ultrasonic sump, when ultrasonic sump is full, the solvent will overflow to boiling sump.
8. Filtration circulation system: Ultrasonic sump is connected with a pump and filter
9. LIquid level sensor:
   HIgh liquid level sensor in boiling sump, in case of boil liquid level is higher ultrasonic sump
   Low liquid level sensor in boling sump, protect heater.
   Low liquid level sensor in ultrasonic sump, protect heater and circulation pump.
10. Basket Movement system: composed of a lateral servo motor, a lifting reduction motor, a gear rack, and a bearing guide rail. Operator can control the lifting, lateral movement on HMI by hit.
11. Chiller: 1~5PH, designed according to tanks capacity, connect to cooling coils, coolants: R22
12. Electrical control system: Mitsubishi PLC + 7'' Weinview HMI



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JMB-C Series Ultrasonic Vapor Degreaser General Technical Specifications

Model name	JMB-2012C-38	JMB-2024C-77	JMB-2030-99	JMB-2036C-135	JMB-2060C-264	JMB-2072C-360
Basket size(not include handle height 100mm)	450x250x200mm	500x350x300mm	500x400x350mm	550x450x400mm	750x550x500mm	950x500x550mm
Boiling sump size(mm)	500x300x200mm	550x400x300mm	550x450x350mm	600x500x400mm	800x600x500mm	1000x600x550mm
US sump size(mm)	500x300x250mm	550x400x350mm	550x450x400mm	600x500x450mm	800x600x550mm	1000x600x600mm
Overall dimension(mm)	2000x1000x1300mm	2200x1100x1550mm	2200x1200x1800mm	2500x1300x2000mm	2900x1500x2400mm	3200x1500x2590mm
Heating power of boiling sump(kW)	3kW	6kW	6kW	6kW	12kW	15kW
Heating power of US sump(kW)	1.5kW	3kW	3kW	4.5kW	6kW	9kW
US power/Frequeny(kW/kHz)	0.6kW/40kHz	1.2W/40kHz	1.5kW/40kHz	1.8kW/40kHz	3kW/40kHz	3.6kW/40kHz
US emitters quantity(pcs)	12pcs	24pcs	30pcs	36pcs	60pcs	72pcs
Vapor zone height(mm)	200mm	300mm	350mm	400mm	500mm	550mm
Lower condensed coil 1 heightmm)	200mm	300mm	350mm	400mm	500mm	550mm
Lower condensed coil 2 height(mm)	200mm	300mm	350mm	400mm	500mm	550mm
Solvent capacity (L)Approx.	68L	143L	185L	255L	504L	690L
Distillation Rate (L/min) Approx.	0.5L/min	0.8L/min	1L/min	1.2L/min	1.5L/min	1.5L/min
Filtration rate((L/min)Approx.	30L/min	30L/min	30L/min	50L/min	50L/min	50L/min
Chiller(PH)	1PH	3PH	3PH	5PH	7PH	7PH
Loading capacity(Kg)	30KG	40KG	40KG	50KG	80KG	100KG
Weight(KG)	400KG	500KG	600KG	700KG	860KG	1000KG
Voltage(phase/Hz)	3 Phase, 380V/50Hz; 400V/50Hz; 220V/60Hz; 440V/60Hz					