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Official website



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Operation Manual

EVB Micro spray cooling lubrication pump

CENTRALIZED LUBRICATION DEVICE

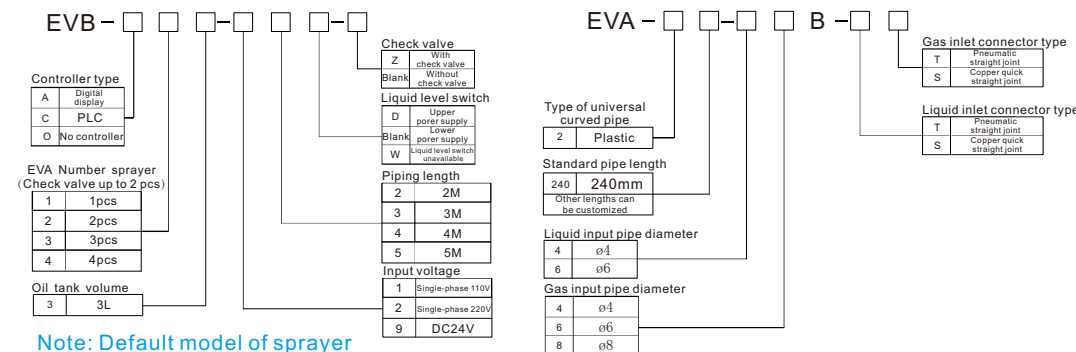


Professional to reduce friction and increase lubrication effect

Catalogue

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1.Preparation instructions:



2. System summarize

This product applies the principle of vacuum self-breathing, so that the liquid is mixed with air and atomized through the nozzle, and sprayed to the lubrication points such as machining parts, tools or bearings. The cooling effect is good, and it provides lubrication; chip removal; cleaning and other functions to improve production efficiency and processing quality, and reduce the loss of mechanical tools. Mainly used in lathes, drilling machines, milling machines, tapping machines, tool grinding machines, CNC machine tools, punching machines, sawing machines, woodworking machinery, feeders and other application occasions.

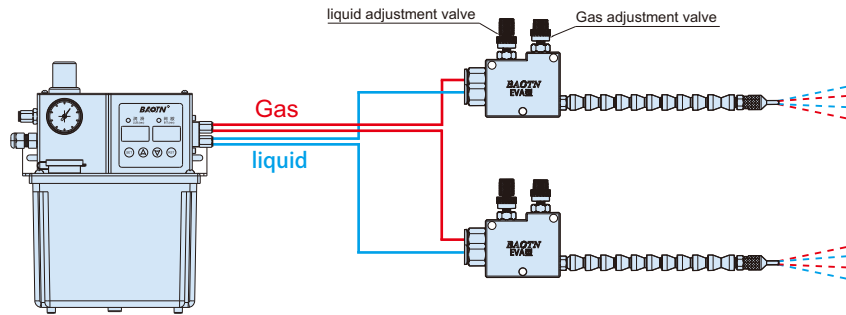
3.System combination

1. This device is mainly composed of three parts: controller; pump unit; EVA sprayer
2. There are 2 kinds of controller
 - 2.1 Digital display controller: cooling lubrication time and intermittent time can be adjusted. "LUB" lubrication time: 1-999 (seconds), "INT" intermittent time: 1-999 "seconds".
 - 2.2 PLC control controller: cooling lubrication time and intermittent time are controlled by external PLC
3. Working principle:

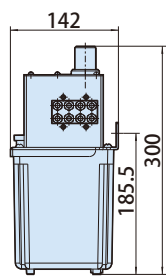
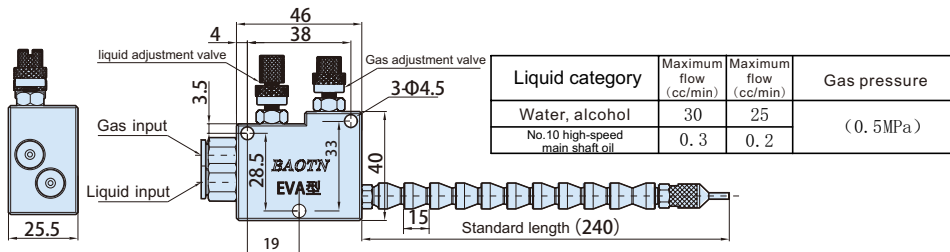
When the controller give a signal to the solenoid valve, the solenoid valve opens. After the compressed air enters the EVA sprayer, a negative pressure (vacuum) section is formed between the nozzle of the EVA sprayer and the inner spray core, forming a pressure difference with the outside atmospheric pressure, and at the meantime, the medium in oil tank enters the EVA sprayer under the action of the external atmospheric pressure and mixes with the compressed air to form an oil mist and spray out!



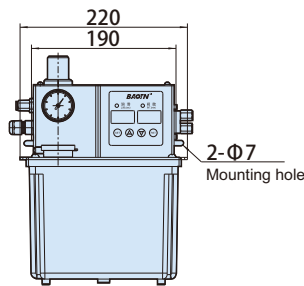
4. Schematic diagram of use method



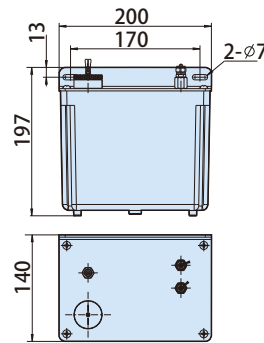
5. Dimension outline drawing



EVB-A/C

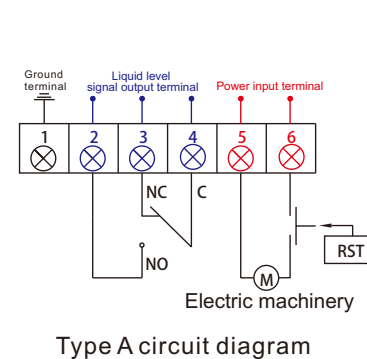


EVB-0

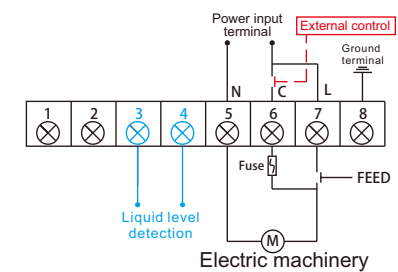


6. usage method

- The EVB micro-lubrication cooling system uses oil-air mixing structure to mix compressed air with small amount of lubricating oil and spray a proper amount of air oil mist to provide lubrication, cooling and chip removal for the tool and the workpiece. It can be widely used in metal cutting and metal forming
- Please follow the steps below:
 - Fix the system and sprayer in the proper position of the machine tool
 - Correctly connect the power cord and lubrication signal line
- Inject suitable oil into the oil port;
- Connect the air source (6-8φ), and adjust the air pressure to 0.4~0.6MPa;
- Connect the black tube of the parallel tube to the air outlet of the system and the air inlet of the sprayer;
- Connect the transparent tube of the parallel tube to the oil outlet of the system and the oil inlet of the sprayer
- When the power is turned on, the system is in the state of power supply and air supply, but the lubrication signal is not supplied, so the system does not operate
- Press and hold the forced fuel supply button, at this time, the sprayer supplies air and oil until the oil pipe is fully filled with oil, and after a large amount of oil mist is sprayed stably, release the oil supply button
- Adjust (screw the control valve) the oil volume of the sprayer to get actually need oil mist
- The nozzle should be direct at the tool and the workpiece, distance between 15mm-40mm, subject to actual requirements;
- The setting of spray lubrication time, should be considered to spray and lubricate in advance, and postpone stopping time to complete blowing chips.



Type A circuit diagram



Note: 6, 7 (C.L) terminals must use the same phase;
Do not connect zero and live wires at the same time

Type C circuit diagram



7. Commissioning method

1. When EVB-A touch digital display microcomputer electric oiling machine and EVA spray compose the lubrication system
 - (1) Fill the oil tank with a proper amount of unused clean lubricating oil.
 - (2) Connect correctly according to the electrical wiring diagram of the pump top housing flash.
 - (3) Confirm that the pump body has been reliably grounded or zeroed to prevent electric shock and fire accidents.
 - (4) Features and technical parameters of type A touch digital display microcomputer controller: The touch digital display microcomputer controller is double setting, and the double timer is a new generation of microcomputer time controller, which has convenient setting, digital display, various fault alarm prompts, and high timing accuracy and reliability.
- A. The system can set three action modes:
 - a: Lubrication: the lubrication time shall be counted first when starting the machine.
 - b: Intermittent time: the interval time is counted after the lubrication is completed.
 - c: Memory: power on again after power off can continue to execute the previously completed interval.
- B. Lubrication and intermittent time can be set by themselves, and the setting range is (with lock key function, which can be locked Lubrication and intermittent time after setting): LUB lubrication time: 1~999S (second) INT interval time: 1~999Min (minute)
- C. The system gives an alarm under the following conditions, the alarm time flashes and displays abnormally, and beeps. A Display of insufficient liquid level EroB The panel indicator can display the lubrication and intermittent status of the system.
- D. In any case, the controller can press the "RST" key to force lubrication or eliminate abnormal alarm signals.
- E. The output of control relay is AC 250V, 5A.
- F. ault relay output is AC 250V, 0.5A. Working voltage of controller, AC 110/200 ± 20% 50/60Hz. DC24V.
- (5) Use method of A type touch digital display microcomputer controller:
 - A. For the setting of lubrication time, press the SET key for 2 seconds to enter the setting state. At this time, the nixie tube displays the original Lubrication time value, press the increase or decrease key, adjust to the required lubrication time value, and press and hold the SET key After 2 seconds, it will enter the intermittent time setting state. At this time, the digital tube will flash and display the original intermittent time value, Use the increase or decrease key to adjust to the required interval value, press the SET key for 2 seconds, and then set to confirm, The data is written into the memory, the data tube normally displays the lubrication and intermittent time values, and the system immediately presses the new Set the time to automatically enter work.
 - B. The controller is connected to the AC 110V/220V/24V power supply to start working, from lubrication time to intermittent time The state cycles according to the set time.
 - C. When there is a fault alarm in the system, press the reset key (RST) after handling the abnormality to return to the set value and start operation.

- (6) Set lubrication time and intermittent time.

When the power is turned on, the controller enters the lubricating state of LUB action. At this time, the working state of the lubricating machine is lubricating, and the unit is second (S). By setting an appropriate long oil supply time or re-lubricating multiple times, let the lubrication pump inject oil several times for pre-filling, exhaust the air in the lubrication system, and check the main pipeline to ensure that there is no oil leakage, each EVA sprayer sprays normally. Lubrication time setting: set according to the required spray time. Intermittent time setting: The rest (intermittent) time is to choose the appropriate time according to the lubrication conditions of each lubrication point. It takes a long time to spray the EVA sprayer for the first time, so you should press the "R S T" key several times to start, and at the same time check to ensure that there is no oil/air leakage in the main pipe, and fill oil until all lubrication points are sprayed normally.
- (7) Start the host to enter the working state, and the controller will work cyclically according to the set time.

8. matters needing attention

- ① Use new oil (no impurities), oil viscosity 10-32CST.
- ② It is recommended to use vegetable oil-based environmentally friendly oil.
- ③ It is forbidden to use recycled oil, organic solvents, corrosive liquids, and edible oil.
- ④ Avoid crushing of oil and air pipes, which will affect the function of use.
- ⑤ Please use dry and clean compressed air to prolong the service life of the product.

9. Common faults and troubleshooting

Spray cannot be formed at the outlet of the sprayer EVA	Not open the oil adjustment valve/needle: open the oil adjustment valve and adjust to the desired spray level
	Oil pipe leakage: Reconnect the pipeline, or replace the damaged pipeline
	Sprayer air flow too small: Adjust the air adjustment valve of the EVA sprayer to increase the gas flow
Solenoid valve not working	Oil pipe blocked or leakage: Replace the filter in the oil tank, clean the oil pipe, or replace the broken pipe
	Input voltage does not match: Connect to the correct voltage according to the selected model
	Wrong wiring: Connect wires in the correct way