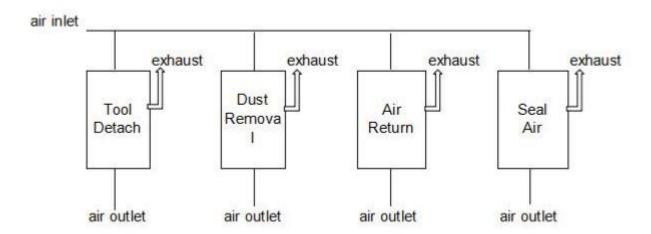
## Before the spindle started:

Check if the pressure of power source is 0.6mpa, and then filter the outlet air from the power source. Filtration accuracy is 25um.

Set up the frequency converter(VFD) according to the spindle parameters on the housing of the spindle.(Or the parameters in operation manual). Take one spindle for example. JGL-80/2.5R40-20, rated frequency: 666HZ, voltage: 220V. Time of start & stop: about 10~15 seconds



### Steps of tool change

- 1. Control the switch of tool-detach valve, time of air inlet is about 3 or 5 seconds. At this time, clamp inside the spindle will open. Insert the tool holder ISO20 into the spindle cone hole till the hole top.
- 2. Control the connector of dust removal with the dust-removal valve. The air pressure is about 0.1~0.15mpa.
  - 3. Tool-detach valve and Dust-removal valve can be operated at the same time.
- 4. Turn off the tool-detach valve and dust-removal valve at the same time. Exhaust the air in the cylinder through the exhaust.

#### Now, the tool holder is installed.

5. Turn on the air-return valve, inject the air for 5 seconds and then turn it off.

#### Now, that's all for a process of tool-change.

Turn on the tool-detach valve again, the original attached tool holder will be released.

# Operation of the sensor

Brown wire---10~24V

Blue wire----neutral wire

Black wire--output

- 1. As shown on above diagram, connect brown wire of sensor to 10~24V, blue wire to neutral wire, and black wire is output terminal.
- 2. When tool-detach valve turned on and clamp inside the spindle open, high voltage will be output from the spindle sensor. Value of the output voltage will be the same as the input voltage of brown wire.
- 3. When tool-detach valve turned off and tool holder in the spindle, high voltage will be output from the spindle sensor. Value of the output voltage will be the same as the input voltage of brown wire.