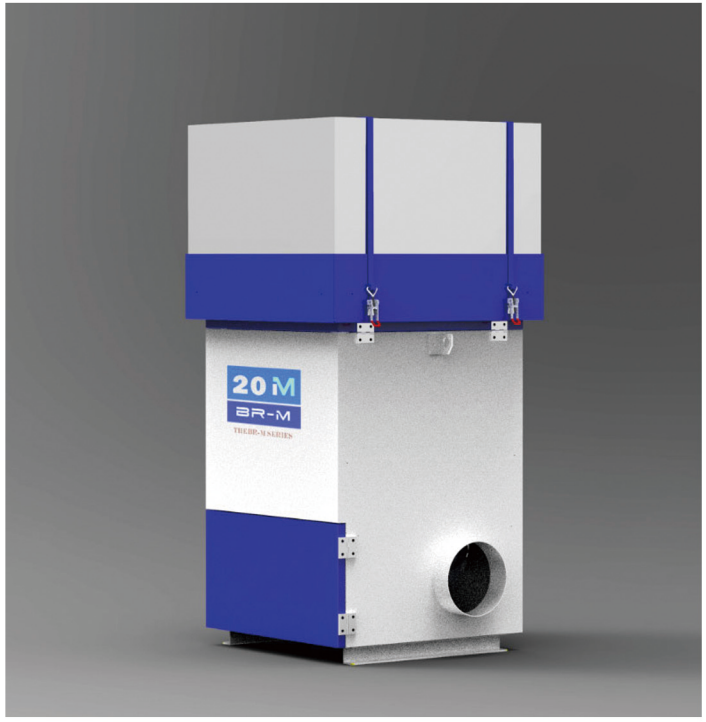
BR series
oil mist collector

USER'S GUIDE

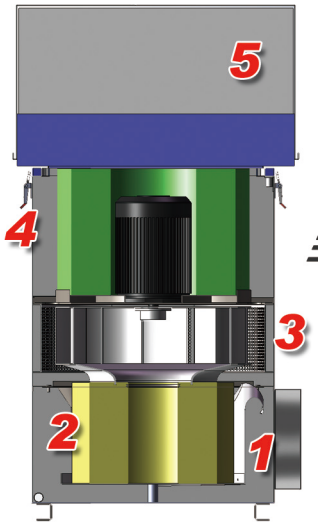


BRseries is a range of Centrifugal precipitation collector for cleaning air containing oil mists, micro-mists and smokes produced when using coolants (emulsion or neat oil).
It can be used with a majority of machine tools for all machining processes.

Working principle of BR series oil mist collector

Refined and clean, revolutionary working principle superior to traditional oil mist collectors

Invention patent technology



High efficiency filter
Filtration efficiency up to 99.99%@0.3um

4 Residual gas treatment unit (Polyester)

3 Centrifugal precipitation separator (Aluminum alloy)

2 Honeycomb-type separator (Stainless steel)

1 Pre-stage directional vortex separator

Main mechanical principle

1. Pre-stage directional vortex separator

The initial gas mixture entering the oil mist collector has the highest content of liquid and solid impurities, and the pre-stage directional vortex separator can effectively alleviate this problem. The high specific gravity liquids and solids are directed along the tangent line of the 2nd stage separator structure to the designated location, creating favorable conditions for subsequent treatment.

2. **Honeycomb-type separator.** When the mixture of oil mist, soot, vapor and dust flows into the honeycomb-type separator at high speed via the inlet, the oil droplets and drops of large sizes hit the inertial principle of the role of larger, oil droplets hit the stepped surface and flow out downwards. The gas beam is subdivided by the large number of holes, and flows into the wall cavity, where it is further separated. The gas separated is discharged via the outlets of the honeycomb-type separator to the surrounding environment.

3. **Centrifugal precipitation separator.** The gas discharged converges again into beams, and flows into the impeller rotating at a high speed, where the gas is re-compressed and accelerated in the radial direction of the blade. Subjected to the high-speed centrifugal force, some fine oil mist particles and finer aerosol particles are thrown into the precipitation separator in the radial direction due to different ratios of gas, liquid and solid matters. The precipitation separator is composed of chambers, where the oil particles are prevented from mixing with the gas flow. The oil particles condense and precipitate, while the gas flows backwards in the axial direction of the impeller, thus the gas and liquid are separated again.

4. **Residual gas treatment unit.** The oil mist ratio in the gas is reduced to the lowest value. In the residual gas treatment unit, the oil is condensed into the liquid form and returned to the collection tank for recycling after being rectified, intercepted and diffused. Under the action of the VanderWaals principle, the oily gas is finally purified and discharged after the consecutive treatment.