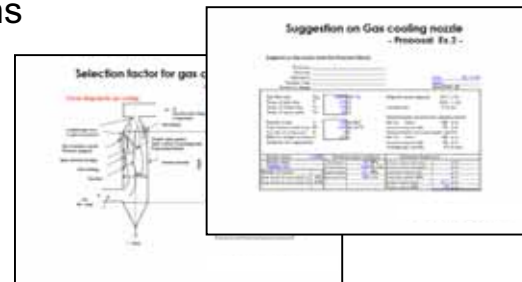


Based on your gas cooling conditions, we offer most suitable nozzle arrangement and spraying conditions. Please request "Specifications Check Sheet" to us as we check the information from you.

Offer of nozzle selection and spray conditions

Based on "Specifications Check Sheet" you complete, we select suitable nozzles and send our offer with suggestion report, in which we include suitable spray conditions and spray droplet size required for full evaporation confirmed by our original program.

Nozzle lances, flanged connection and other optional mounting systems are custom-built to meet your specifications.



Suggestion report on your gas cooling information

Test report

In order to support spray conditions, we suggest we can make test report by actual measurement of the various parameters such as:

- ▣ Droplet size and distribution by laser Doppler particle analyzer
- ▣ Spray distribution measurement
- ▣ Actual mist simulation test with using model cooling tower



Actual simulation in a model cooling tower



Measurement of spray distribution



Measurement of droplet size by Laser Doppler analyzer

Select Spray's Spray Nozzles

For Gas Conditioning Systems



It goes without saying that it is the most important thing for the gas conditioning systems, such as gas cooling tower, De-Sox process, De-Nox process and gas scrubber, is stable operation for a long time. The spray nozzles have been supplied to hundreds of gas conditioning plants so far.

In gas cooling tower application, we can offer the nozzles not only that are suitable and have ideal droplet sizes for full evaporation without extra drain, but also that realize lower running cost and minimal maintenance downtime with least clogging design and materials.

In this leaflet, introduced are some of leading nozzles in our wide lineup for gas conditioning.

Please contact us for details. We promise that our spray technology will be useful to your gas-conditioning systems.

Innovative Gas Cooling Nozzles

GBIM and GSIM-s series

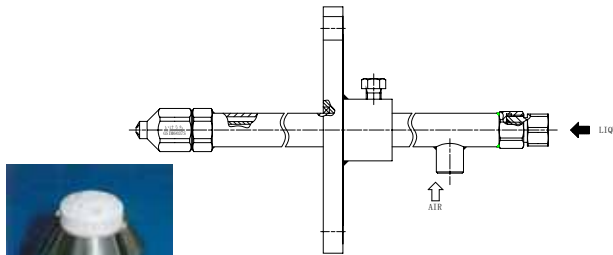
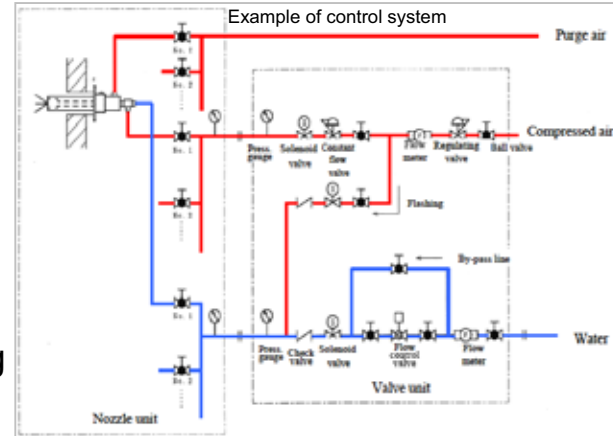
Patent pending

Pneumatic Fine Mist Nozzles for Gas Cooling



GBIM series

GSIM-s series



GSIM-s with high alumina nozzle tip

Downsize gas cooling tower

The number of required nozzles can be minimized with GBIM and GSIM-s, which combine large spray capacity and fine mist of 60um (mean droplet diameter).

You can design smaller gas cooling tower than conventional one to reduce construction and maintenance cost.

Large spray capacity with excellent atomizing

GBIM provide 30% finer atomization than the conventional nozzles.

GBIM's average droplet size is 60um (maximum droplet size 150um) with spray capacity 700L/hr under air-water ratio 100.

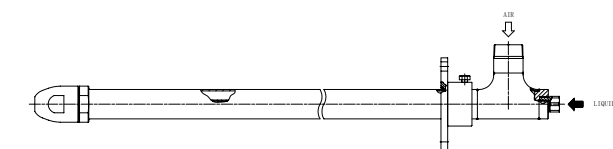
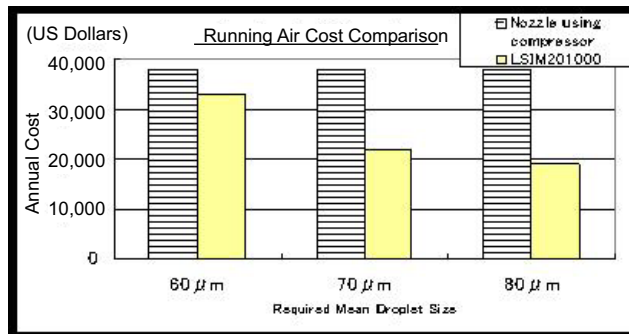
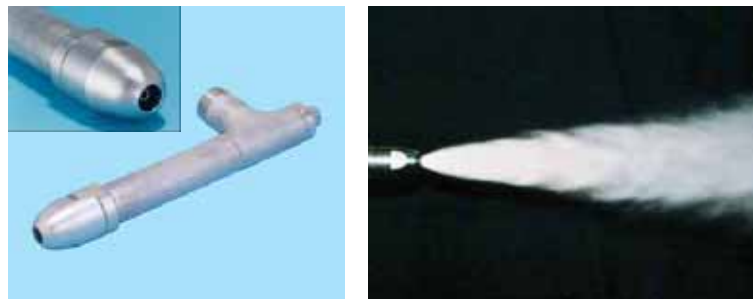
Nozzle tip available in optional materials

Standard material is stainless steel but as the optional, high-alumina ceramic tip with high wear-resistance is available for drying reacted limestone slurry. Anticorrosion alloy such as Titanium and Hastelloy® is also available.

LSIM series

Fine Mist Nozzles using blower air

Patent pending



Cost saving by using blower air

A half or 1/3 of installation cost and running cost is saved due to utilizing blower air for atomizing, compared with nozzles requiring compressed air.

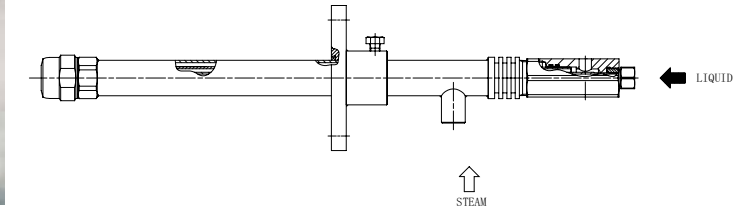
Fine atomization

Fine atomization having maximum droplet size of 180um.

Innovative Gas Cooling Nozzles

JOKIJet® series Steam Driving Nozzles

Patent pending



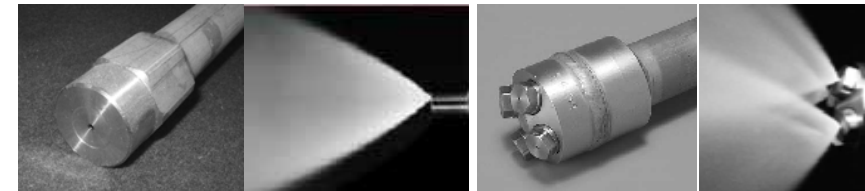
Unique concept: steam driving

Using steam instead of compressed air to generate fine mist of liquid components.

Drastic running cost saving realized by applying surplus steam from an existing boiler facility.

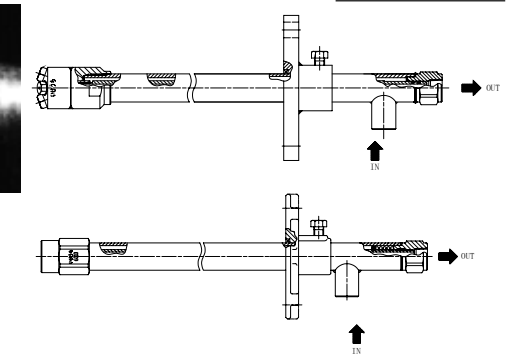
SPB series Spillback Nozzles for Gas Cooling

Patent registered



Single-head SPB nozzle

Multiple-head SPB nozzle

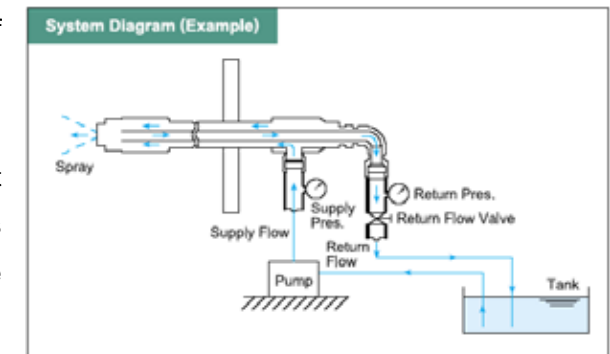


Minimal variation in droplet sizes

Spray capacity can be controlled only by adjusting return pressure while keeping constant supply pressure. Turn-down ratio of spray capacity is 1:10. The variation in droplet size of spray is minimal despite the modulation of spray flow.

Wide range of spray capacity

Available in 60deg. and 85deg. spray angles, and 15 different spray capacity according to nozzle arrangement and gas conditions in cooling tower. Multiple-head SPB nozzles are suitable when required larger spray capacity but minimal increase in spray droplet size.

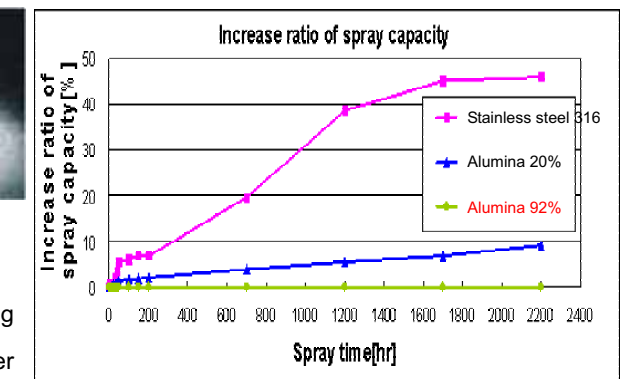


CERJet® High Alumina Ceramic Nozzles for Wet Gas Scrubber



Hydraulic full cone nozzle

Vane-less hollow cone nozzle



* Spray Tenfold condensed slurry

{Slurry spray wear resistance comparison test}

Excellent wear-resistance

High alumina ceramic CERJET® nozzles with outstanding wear-resistance so hard as Mohs' scale 7 have 20-30 times longer wear life than stainless steel nozzles.

Minimal clogging design

Minimal clogging design makes longer and more stable operation possible in wet gas scrubbing system.