



Patented!

TwinAbsorb®

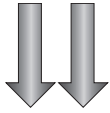
Advanced Technology for efficient
Flue Gas Desulphurization

- Increased desulphurization
- Increased efficiency
- Decreased operating costs
- Decreased maintenance





TwinAbsorb®-EV Equilateral Full Cone Nozzle



The proven equilateral Full Cone Nozzle TwinAbsorb®-EV generates two full cones by using one single supply.

Advantages

- Provides smaller Sauter diameter (SMD d_{32}) caused by dual cones.
- Particularly advantageous not only for high flow rates per nozzle.
- Improved mass transfer caused by increased specific surface area.
- Supports an even gas distribution over the scrubber cross-section.
- Rotation impact onto the gas flow is compensated within the nozzle.
- Better coverage of scrubber wall section.
- Reduced slurry loss at the scrubber wall in comparison to hollow cone nozzles.
- Reduced stress at scrubber wall in comparison to hollow cone nozzles.
- Reduced torque onto the pipe branches.
- Keeps the advantages of Lechler tangential flow full cone nozzles
 - completely self draining
 - large free passages
 - non-clogging designed



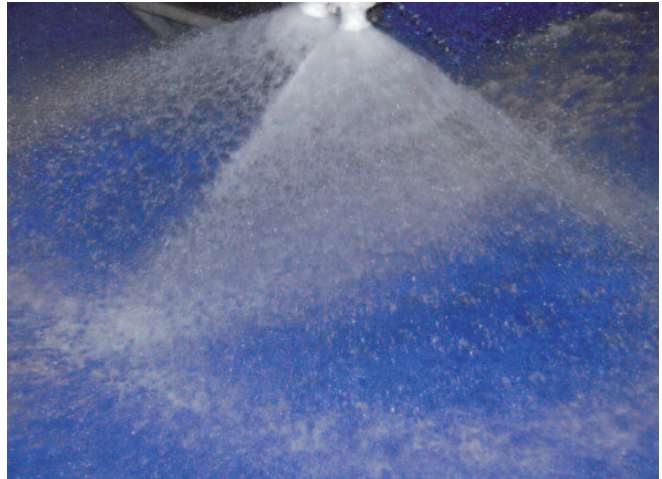
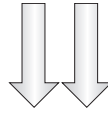
High efficient use of atomised slurry



Successful installed



TwinAbsorb®-EH Equilateral Hollow Cone Nozzle



The proven equilateral Hollow Cone Nozzle TwinAbsorb®-EH generates two hollow cones by using one single supply.

Advantages

- Provides smaller Sauter diameter (SMD d_{32}) caused by dual cones.
- Particularly advantageous not only for high flow rates per nozzle.
- Extra overlapping area for highly intensive secondary atomization.
- High efficient generation of new stimulated reaction surface without additional energy input.
- Increased turbulence within the drop achieves reactivity of reaction surface.
- Improved mass transfer caused by increased specific surface area.
- Rotation impact onto the gas flow is compensated within the nozzle.
- Better coverage of scrubber cross-section.
- Reduced torque onto the pipe branches.
- Keeps the advantages of Lechler tangential flow hollow cone nozzles
 - completely self draining
 - large free passages
 - non-clogging designed



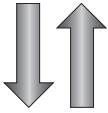
Increased secondary atomization



Extra overlapping area



TwinAbsorb®-V Bi-directional Full Cone Nozzle



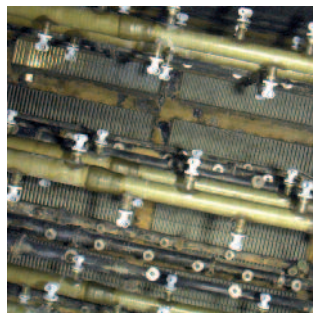
The proven bi-directional Full Cone Nozzle TwinAbsorb®-V generates two counter rotating full cones.

Advantages

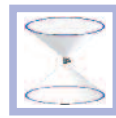
- Improved mass transfer caused by higher relative velocity of liquid to flue gas.
- Rotation impact onto the gas flow is compensated within the nozzle.
- Increased turbulence within the drop for highly active reaction surface.
- Increased residual time of drops during the process.
- Duplication of hydraulic spray level in comparison to single spray nozzles.
- Reduced pressure loss in case of counter current gas flow.
- Reduced slurry loss at the scrubber wall in comparison to hollow cone nozzles.
- Better coverage of scrubber wall section.
- Provides smaller Sauter diameter (SMD d_{32}) caused by dual cones.
- Reduced stress at scrubber wall in comparison to hollow cone nozzles.
- Reduced torque onto the pipe branches.
- Keeps the advantages of Lechler tangential flow full cone nozzles
 - completely self draining
 - large free passages
 - non-clogging designed



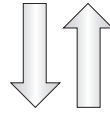
Customized configuration according state-of-art-technologies



The nozzle follows the technical demands



TwinAbsorb®-H Bi-directional Hollow Cone Nozzle



The proven bi-directional Hollow Cone Nozzle TwinAbsorb®-H generates two counter rotating hollow cones.

Advantages

- Improved mass transfer caused by higher relative velocity of liquid to flue gas.
- Rotation impact onto the gas flow is compensated within the nozzle.
- Intensive secondary atomisation results in an increased surface for faster mass transfer.
- Increased turbulence within the drop for highly active reaction surface.
- Increased residual time of drops during the process.
- Supports an even gas distribution over the scrubber cross-section.
- Duplication of hydraulic spray levels in comparison to single spray nozzles.
- Reduced pressure loss in case of counter current gas flow.
- Provides smaller Sauter diameter (SMD d_{32}) caused by dual cones.
- Reduced torque onto the pipe branches.
- Keeps the advantages of Lechler tangential flow hollow cone nozzles
 - completely self draining
 - large free passages
 - non-clogging designed



Customized configuration according state-of-art-technologies



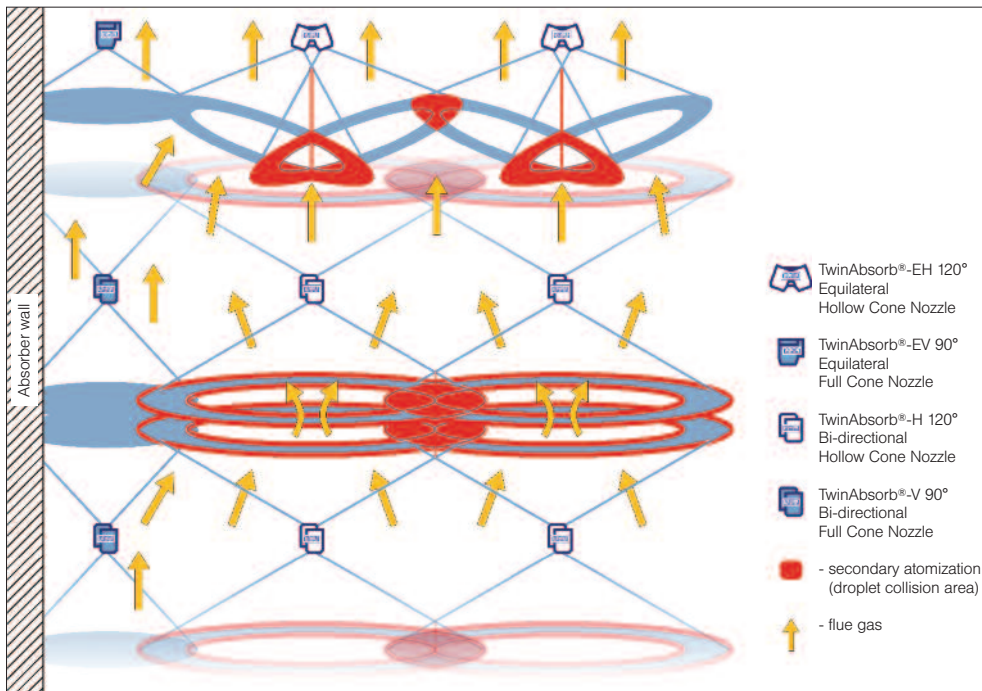
The nozzle follows the technical demands

**Customized configuration
following the process demands**



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- Support of better gas distribution
- High efficient secondary atomization
- Improved mass transfer
- Compensation of rotation impact

In addition to the TwinAbsorb® series Lechler offers a wide range of nozzles for flue gas desulfurization, in different designs and materials, tailor made for your application.



Nozzles made of SIC



Nozzles made of SISIC



Helix nozzles made of SISIC/ReSIC



Helix nozzles made of Stellite

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