

OptiVap™ dual-fluid atomizers

BoldEco's patented OptiVap DF (dual-fluid) atomizers are utilized in diverse applications across numerous industries and provide unmatched performance and reliability. Unique in air atomized nozzle technology, the OptiVap DF extends the boundaries of the state-of-the-art, with only 30-40% the compressed air requirement of its closest related nozzle, while at the same time generating significantly finer droplets.

In the following comparison, the OptiVap DF nozzle produces a 37% smaller droplet while using 42% less air than its nearest competitor.

OptiVap DF Comparative Nozzle Performance						
Water Flow		Air Flow		Air : Water Ratio		Drop Size (D ₉₅)
14.4	GPM	69.2	SCFM	4.8	SCF:Gal	
3.3	m ³ /h	117.6	Nm ³ /h	36.1	Nm ³ :m ³	

Nearest Competitor Nozzle Performance						
Water Flow		Air Flow		Air : Water Ratio		Drop Size (D ₉₅)
14.4	GPM	120.0	SCFM	8.4	SCF:Gal	
3.3	m ³ /h	204.0	Nm ³ /h	62.6	Nm ³ :m ³	

OptiVap DF applications

Advanced OptiVap technology provides for new or retrofit installations in processes and with droplet residence times which were previously unfeasible. BoldEco OptiVap DF atomizers come pre-installed in custom-engineered spray lances.

Typical applications include evaporative gas cooling, humidification, SNCR DeNOx, chemical injection, gas scrubbing, combustion and any application requiring fine, uniform droplets. BoldEco DF atomizers achieve this highly efficient spray geometry at a substantial energy savings.

Industrial markets for BoldEco OptiVap DF nozzles include cement, steel, power, incineration, waste-to-energy, foundry, non-ferrous metal, chemical and other material processing industries.



advantages of OptiVap DF nozzles

BoldEco's OptiVap DF atomizers are comprised of maintenance friendly components, designed to withstand harsh industrial environments and high process temperatures.

One of the primary advantages of the OptiVap DF technology is that it is designed specifically to operate at higher liquid pressure than air pressure, avoiding the problem of over-driving that accompanies the performance of competitive atomizer designs where specific air pressure differentials must be maintained.

BoldEco's OptiVap DF atomizers are designed to provide a highly efficient level of reliable performance, and offer the following advantages in evaporative gas cooling applications:

Finer droplet generation:

- Shorter droplet residence time
- Smaller evaporation chamber volume requirement
- Lower outlet temperatures

More uniform droplet size:

- Less danger of wetting at low gas temperatures
- More predictable performance

Lower compressed air consumption:

- Less air for same droplet size
- Same air for smaller droplet size
- Conserves energy

Liquid pressure can exceed air pressure:

- Nozzle performance does not drop off when liquid volume requirement forces liquid pressure to exceed air pressure.

features of OptiVap DF

- Lowest compressed air consumption
- Finest droplet generation
- Uniform droplet size
- Single or multiple nozzle spray lances
- Effective in the harshest environments



system performance evaluation

BoldEco maintains an a team of experienced, multi-discipline inside and field service engineers capable of evaluating system performance at competitive rates utilizing the latest numerical models and testing technologies.

program highlights

- low capital and operating cost
- small, uniform droplet size at reduced air consumption
- rugged, flexible design
- significant energy savings

Available exclusively through:

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