IH_250601E

Nozzles in Design

Insert HEADER

Seamlessly Integrated into the Landscape

"The Fog Engineers"
いけうち H.IKEUCHI & CO., LTD.

Function and Elegant Design in Perfect Harmony —Where Cooling Comfort Meets Scenic Beauty

Nozzles in Design

Insert HEADER

Seamlessly Integrated into the Landscape

Elegance, Even in the Pipework
Blending Seamlessly into Design-Conscious Spaces

Outdoor mist cooling systems are no longer just for comfort—they are now embraced as part of spatial design.
Traditionally, misting nozzles and piping were purely functional, with little concern for visual impact.
But in refined spaces, even misting systems are expected to blend in beautifully.
That's why we created **Insert HEADER**: an elegantly crafted mist system that integrates seamlessly into any space or form.
With its nozzles embedded inside the piping, it features a clean, discreet profile that harmonizes with its surroundings.
Experience a new approach to misting—where function and beauty coexist in perfect harmony.

Conventional product

Insert HEADER

SCENES

Design Applications

Insert HEADER subtly enhances spaces with the beauty of mist, in harmony with surrounding materials and structure.
This innovative approach connects the elegance of mist with architectural aesthetics. It doesn't dominate the environment—it quietly complements it.
Why not explore mist as more than just cooling—it can become an integral element of your spatial storytelling?

Architecture

Outdoor cooling integrated with architectural design

Photo by SOBAJIMA Toshihiro, Daini Nadeshiko Children's Nursery

Cool Spot

Outdoor cooling for comfortable visitor experiences

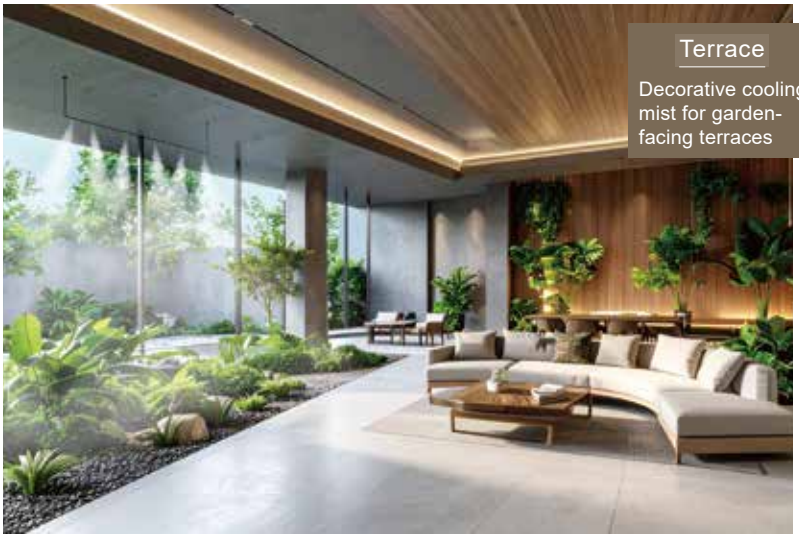
Kumamoto Castle

Accent

Outdoor cooling enhancing natural aesthetics

Terrace

Decorative cooling mist for garden-facing terraces



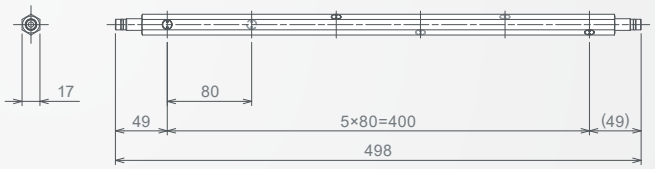
SPEC

Header Specifications

An aesthetically refined mist header with embedded nozzles.
Standard headers are available in approximately 500 mm and 1,000 mm lengths.
Header length, number of nozzles, spray direction, and overall shape can be tailored to meet your requirements.
Optional painted or buffed finishes are available.

500 mm Header

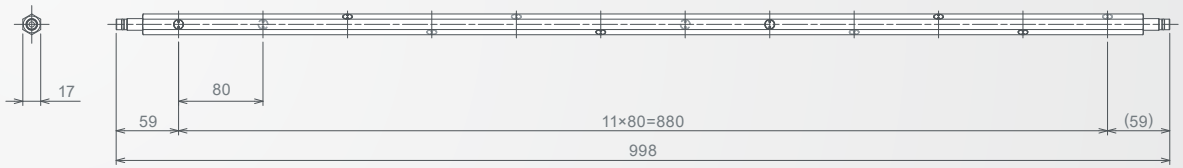
Hex: 17 mm (across flats), Nozzle Count: 6, Material: Stainless Steel 304



(Unit: mm)

1,000 mm Header

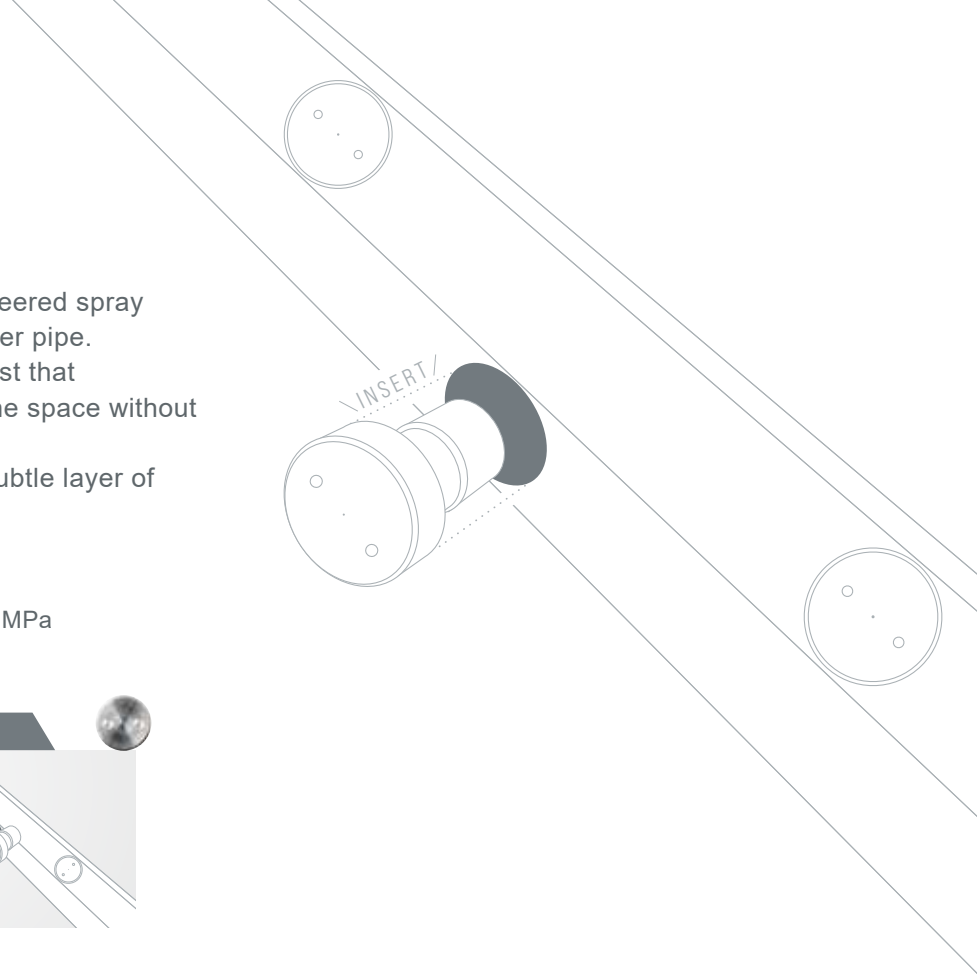
Hex: 17 mm (across flats), Nozzle Count: 12, Material: Stainless Steel 304



(Unit: mm)

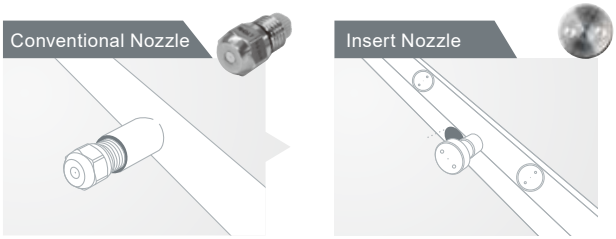
Insert Nozzle

The Insert Nozzle is a uniquely engineered spray nozzle designed to fit inside the header pipe.
It generates Semi-Dry Fog—a fine mist that evaporates instantly, gently cooling the space without wetting surfaces.
This soft, quietly drifting fog adds a subtle layer of visual expression.



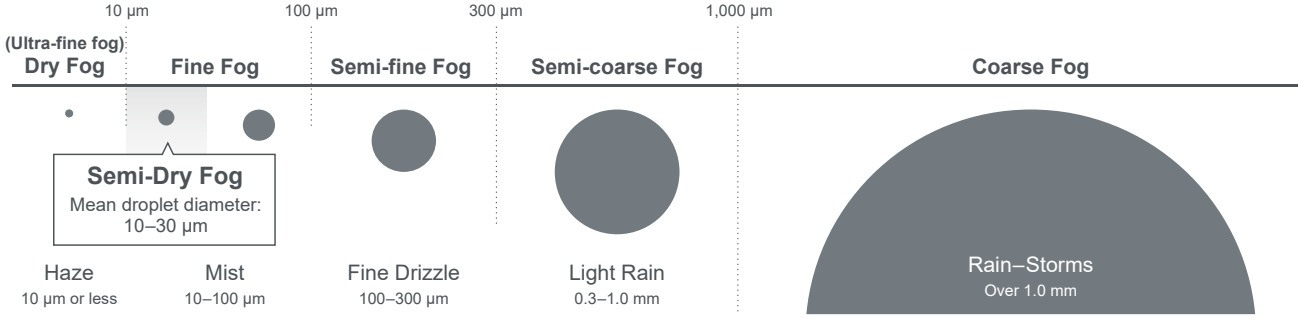
DATA

Spray flow rate (per nozzle): 2.4 L/hr at 6 MPa
Material: Stainless Steel 304



What is Semi-Dry Fog?

Semi-Dry Fog is a fine and uniform mist delivered by our proprietary atomization technology. With a mean droplet diameter of 10–30 μm, it is less likely to cause wetting due to its slow settling velocity and rapid evaporation.



Note: The Insert Nozzle produces Semi-Dry Fog, engineered specifically for cooling and scenic visual effects.

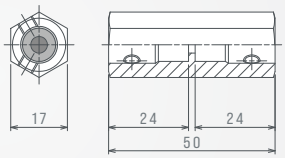
CONNECTORS

Header Fittings

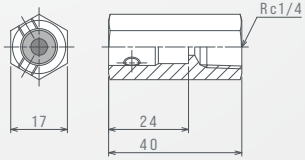
A practical lineup of adaptors and elbows for flexible adjustment of pipe direction and connections.
These components let you freely configure the header layout to suit installation conditions or visual design intent.

ADAPTORS

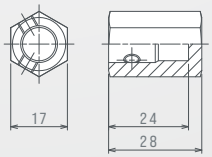
Coupling Adaptor



Thread Adaptor Rc1/4



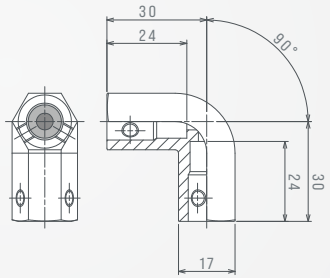
End Cap Adaptor



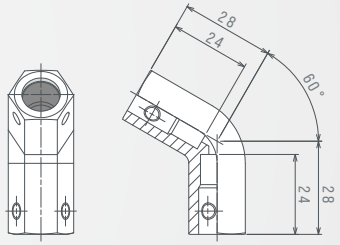
(Unit: mm)

ELBOWS

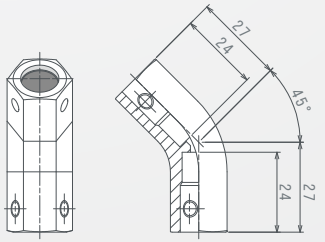
90° Elbow



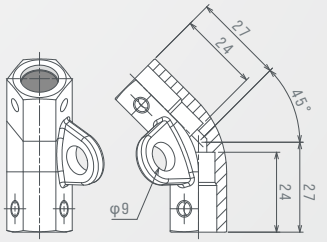
60° Elbow



45° Elbow



45° Elbow with Ø9 mm Tab

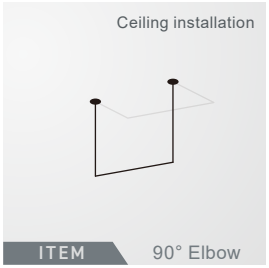


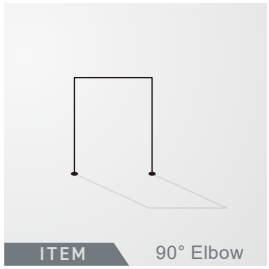
(Unit: mm)

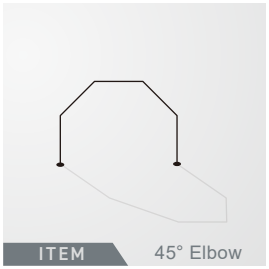
LAYOUTS

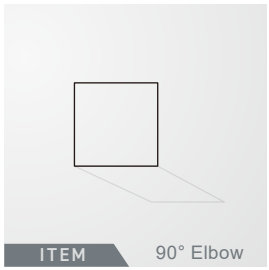
Layout Variations

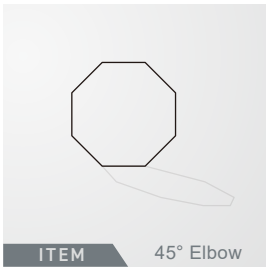
These are example configurations combining headers with a variety of standard connectors.
Custom shapes are also available upon request to suit specific spatial and design needs.
We offer layouts that integrate so naturally into the space, they no longer appear to be piping systems.

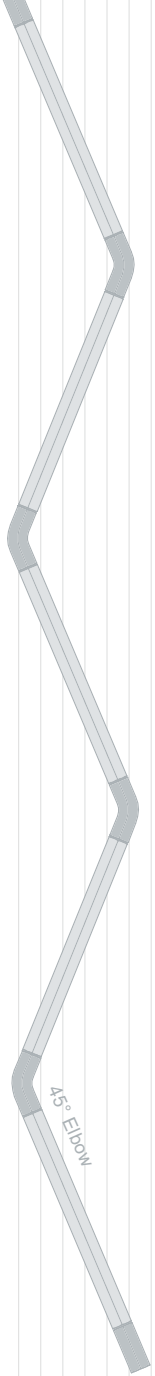








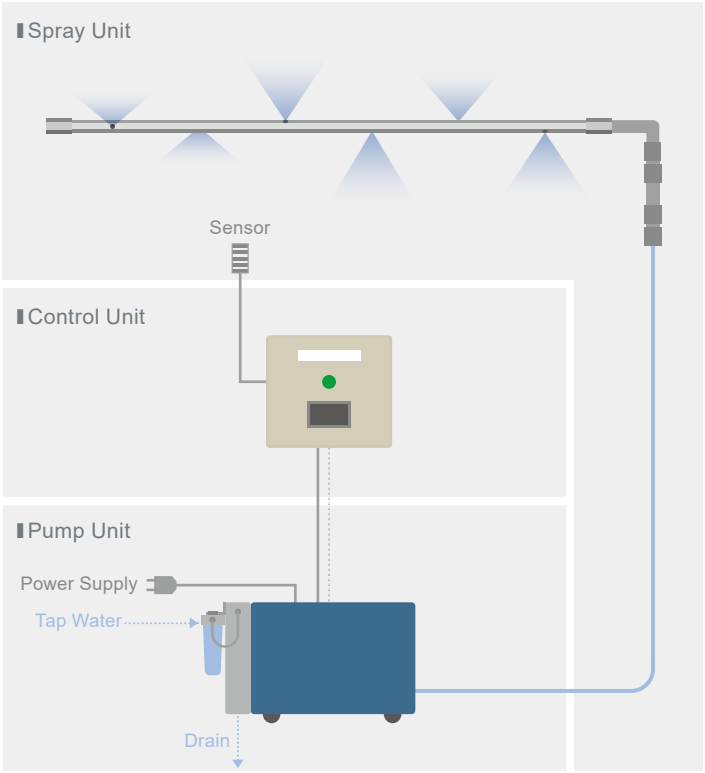




EQUIPMENT

System Components

The system consists of three primary units: the spray unit, the control unit, and the pump unit.
Specifications and system configurations are determined through consultation, on-site assessment, and discussion of operational requirements.



Spray Unit

■Header: 

A dedicated pipe with embedded nozzles, harmoniously integrated into the space.

■Insert Nozzle: 

Produces Semi-Dry Fog with 10–30 μm mean droplet size. Consumes just 2.4 L/hr per nozzle for high efficiency.
Optional plugs available where spraying is not needed.
Removable with a dedicated tool for maintenance.

■Connector: 

Standard elbows and adaptors are provided for flexible connection, direction setting, and sealing.

Control Unit

Allows automated operation using temperature/humidity sensors and timers.

Sensor-Based Control

Enables automatic operation in response to ambient temperature and humidity.

Timer-Based Control

Automatically cycles between spray and pause intervals.

■Functions:

- Touch panel operation
- Repeat timer
- Weekly timer
- Power, Spary, Alarm indicators
- Temperature/humidity sensor
- Wind speed sensor

Pump Unit

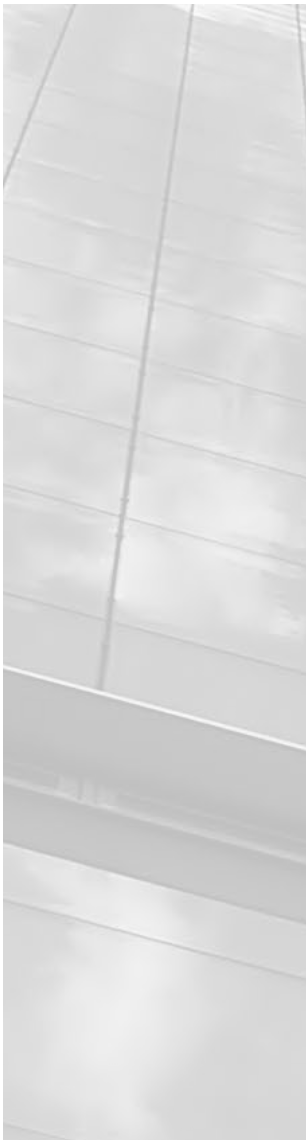
A high-pressure water supply (6 MPa) is required for stable Semi-Dry Fog generation.

Pump selection should match local power specifications and the required flow rate.

For reference, this is our domestic pump lineup (Japan)

Operating pressure: 6.0 MPa
Discharge rate:

- 42–192 L/hr (100 V AC, 50 Hz)
- 48–228 L/hr (100 V AC, 60 Hz)
- 150–1,050 L/hr (200 V AC, 3-phase, 50 Hz)
- 80–1,188 L/hr (200 V AC, 3-phase, 60 Hz)



“The Fog Engineers”

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Global Network

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