

Medium Capacity Impinging-type Fine Fog Nozzles

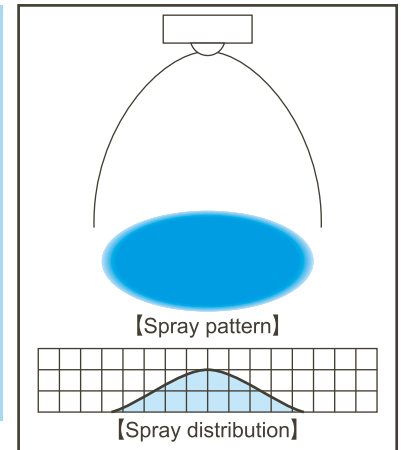
AKIJet®

Features

- Impinging-type fine fog nozzle developed from a new engineering concept for generating fine fog.
- Atomized droplets are impinged against each other creating ultrasonic waves, which results in creation of a uniform distribution of even finer droplet sizes.
- Using a special mixing adaptor, AKIJet® can mix two different liquids outside of the orifices while spraying.



AKIJet® with T-type adaptor

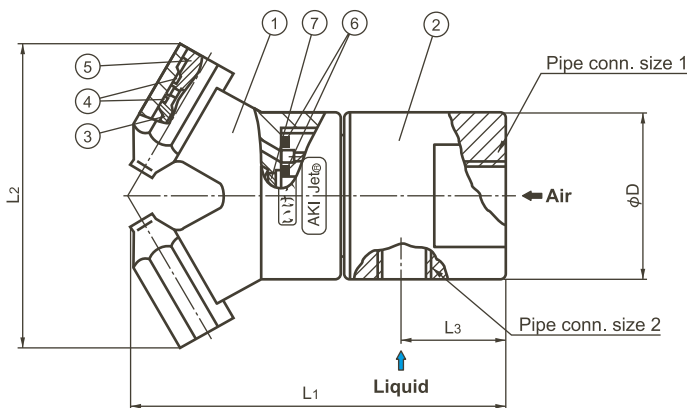


Applications

- Cooling: Gas, steel plates, refractories, moldings, glass
- Moisture control: Flue gas, concrete
- Combustion: Oil, waste water
- Others: Mixing two liquids, spray drying

Structure & Materials

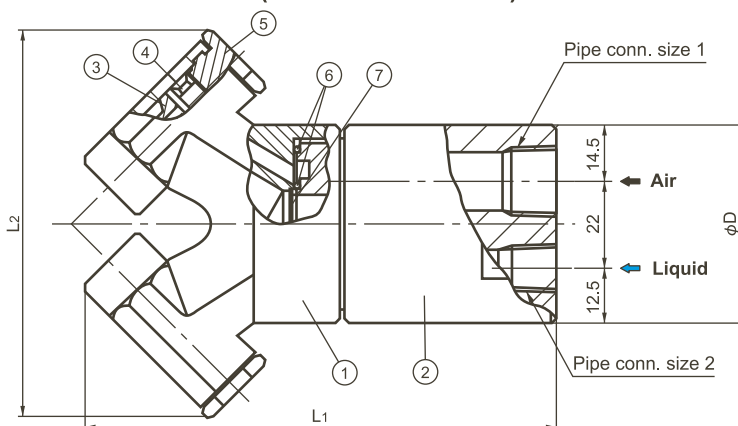
- AKI37 S303 + TS303
- AKI75 S303 + TS303



Components and materials

| No. | Components | Standard materials |
|-----|-------------|--------------------|
| ① | Nozzle body | S303 equivalent |
| ② | Adaptor | S303 |
| ③ | Spray tip | S303 |
| ④ | O-ring | FKM |
| ⑤ | Plug | S303 |
| ⑥ | Packing | PTFE |
| ⑦ | Strainer | S304 |

■ AKI150 S316 + HS316 (metal-to-metal seal)



■ Components and materials

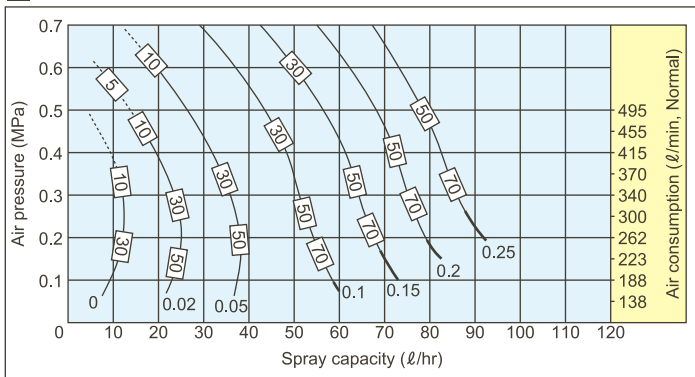
| No. | Components | Standard materials |
|-----|-------------|--------------------|
| ① | Nozzle body | SCS14 |
| ② | Adaptor | S316 |
| ③ | Spray tip | S316 |
| ④ | Liner | S316 |
| ⑤ | Plug | S316 |
| ⑥ | O-ring | S321 |
| ⑦ | Strainer | S316 |

Dimensions & Pipe Connection Sizes

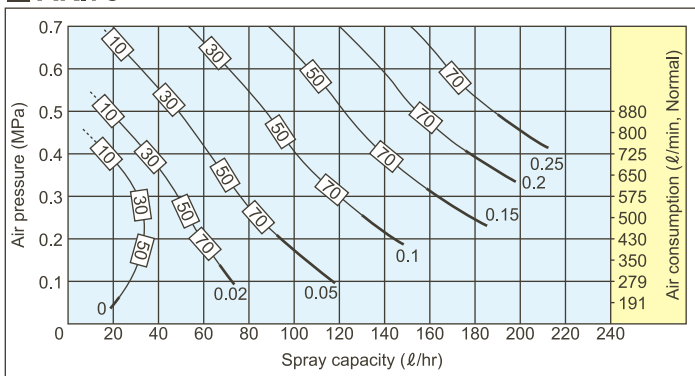
| Nozzle code | L1 (mm) | L2 (mm) | L3 (mm) | φD (mm) | Pipe connection size | | Free passage diameter (mm) | | Mass (g) |
|-------------|---------|---------|---------|---------|----------------------|------------|----------------------------|--------|----------|
| | | | | | 1 (Air) | 2 (Liquid) | Air | Liquid | |
| AKI37 | 72.5 | 62 | 19 | 33 | Rc1/4 | Rc1/8 | 0.4 | 0.6 | 300 |
| AKI75 | 100 | 87 | 30 | 49 | Rc3/8 | Rc1/4 | 0.4 | 0.8 | 880 |
| AKI150 | 105 | 94 | — | 49 | Rc3/8 | Rc1/4 | 0.9 | 1.1 | 970 |

Flow-rate Diagrams

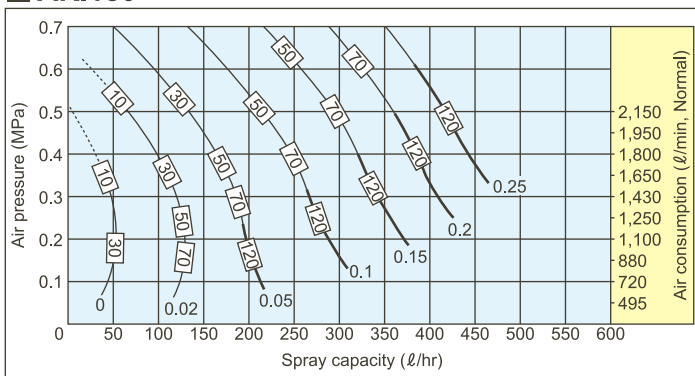
AKI37



AKI75



AKI150



How to read the chart

- ① The spray capacity shown is for one nozzle.
- ② Thin solid lines (—) represent fine atomization zone. Bold lines (—) represent semi-fine atomization zone.
- ③ Figures at the foot of each curve indicate liquid pressures in MPa.
- ④ Figures in squares □ on each curve indicate Sauter mean droplet diameters (μm) measured by the immersion sampling method.

Spray Dimensions

AKI37

| Air pressure (MPa) | Liquid pressure (MPa) | Spray width (mm) | | | | Spray thickness (mm) | | | |
|--------------------|-----------------------|------------------|--------|--------|----------|----------------------|--------|--------|----------|
| | | 250 mm | 500 mm | 750 mm | 1,000 mm | 250 mm | 500 mm | 750 mm | 1,000 mm |
| 0.2 | 0 | 230 | 350 | 430 | 500 | 160 | 260 | 340 | 400 |
| | 0.02 | 260 | 390 | 470 | 530 | 150 | 250 | 330 | 400 |
| | 0.05 | 250 | 370 | 450 | 510 | 140 | 240 | 320 | 390 |
| | 0.10 | 210 | 310 | 380 | 410 | 160 | 260 | 340 | 400 |
| 0.3 | 0 | 220 | 350 | 440 | 500 | 140 | 240 | 320 | 400 |
| | 0.02 | 250 | 380 | 470 | 540 | 150 | 260 | 340 | 420 |
| | 0.05 | 270 | 400 | 490 | 560 | 140 | 240 | 330 | 410 |
| | 0.10 | 260 | 390 | 480 | 550 | 150 | 260 | 340 | 420 |
| 0.4 | 0.02 | 230 | 350 | 440 | 520 | 140 | 270 | 360 | 410 |
| | 0.05 | 260 | 390 | 490 | 560 | 160 | 290 | 380 | 450 |
| | 0.10 | 280 | 420 | 520 | 590 | 150 | 280 | 370 | 430 |
| | 0.15 | 270 | 400 | 510 | 580 | 150 | 280 | 370 | 440 |
| 0.5 | 0.05 | 220 | 360 | 460 | 530 | 140 | 250 | 350 | 430 |
| | 0.10 | 270 | 410 | 500 | 570 | 160 | 280 | 380 | 460 |
| | 0.15 | 290 | 430 | 520 | 590 | 150 | 270 | 370 | 450 |
| | 0.20 | 250 | 390 | 480 | 550 | 160 | 280 | 390 | 470 |

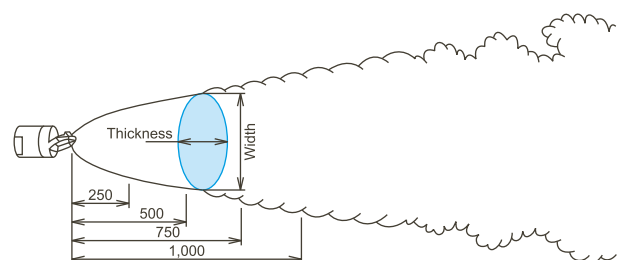
AKI75

| Air pressure (MPa) | Liquid pressure (MPa) | Spray width (mm) | | | | Spray thickness (mm) | | | |
|--------------------|-----------------------|------------------|--------|--------|----------|----------------------|--------|--------|----------|
| | | 250 mm | 500 mm | 750 mm | 1,000 mm | 250 mm | 500 mm | 750 mm | 1,000 mm |
| 0.2 | 0 | 340 | 460 | 540 | 590 | 160 | 270 | 360 | 430 |
| | 0.02 | 180 | 300 | 390 | 460 | 220 | 330 | 430 | 510 |
| | 0.05 | 150 | 250 | 340 | 410 | 270 | 400 | 500 | 590 |
| | 0.10 | 160 | 260 | 350 | 420 | 330 | 470 | 580 | 670 |
| 0.3 | 0 | 280 | 400 | 480 | 540 | 150 | 260 | 350 | 420 |
| | 0.02 | 360 | 490 | 570 | 630 | 170 | 280 | 380 | 460 |
| | 0.05 | 190 | 320 | 410 | 490 | 230 | 360 | 450 | 520 |
| | 0.10 | 180 | 290 | 390 | 460 | 290 | 420 | 510 | 580 |
| 0.4 | 0.02 | 300 | 420 | 510 | 570 | 170 | 280 | 380 | 460 |
| | 0.05 | 350 | 490 | 580 | 660 | 180 | 300 | 400 | 480 |
| | 0.10 | 190 | 300 | 390 | 460 | 240 | 360 | 460 | 530 |
| | 0.15 | 170 | 280 | 370 | 450 | 260 | 390 | 480 | 550 |
| 0.5 | 0.05 | 330 | 480 | 570 | 660 | 170 | 290 | 400 | 480 |
| | 0.10 | 280 | 420 | 500 | 560 | 190 | 320 | 420 | 500 |
| | 0.15 | 220 | 320 | 410 | 480 | 230 | 360 | 450 | 540 |
| | 0.20 | 190 | 300 | 390 | 460 | 250 | 370 | 470 | 550 |

AKI150

| Air pressure (MPa) | Liquid pressure (MPa) | Spray width (mm) | | | | Spray thickness (mm) | | | |
|--------------------|-----------------------|------------------|--------|--------|----------|----------------------|--------|--------|----------|
| | | 250 mm | 500 mm | 750 mm | 1,000 mm | 250 mm | 500 mm | 750 mm | 1,000 mm |
| 0.2 | 0 | 260 | 360 | 460 | 520 | 150 | 260 | 370 | 460 |
| | 0.02 | 250 | 350 | 450 | 500 | 200 | 320 | 420 | 510 |
| | 0.05 | 270 | 370 | 480 | 550 | 180 | 300 | 400 | 490 |
| | 0.10 | 290 | 400 | 510 | 590 | 190 | 310 | 410 | 500 |
| 0.3 | 0 | 250 | 380 | 480 | 540 | 150 | 250 | 370 | 460 |
| | 0.02 | 310 | 440 | 550 | 640 | 190 | 290 | 410 | 510 |
| | 0.05 | 300 | 430 | 530 | 610 | 170 | 280 | 400 | 500 |
| | 0.10 | 290 | 420 | 520 | 600 | 180 | 300 | 420 | 520 |
| 0.4 | 0.02 | 270 | 400 | 520 | 590 | 160 | 280 | 400 | 500 |
| | 0.05 | 300 | 440 | 550 | 630 | 180 | 300 | 420 | 520 |
| | 0.10 | 320 | 470 | 590 | 670 | 160 | 280 | 400 | 500 |
| | 0.15 | 330 | 480 | 610 | 700 | 170 | 290 | 410 | 510 |
| 0.5 | 0.05 | 270 | 420 | 530 | 640 | 160 | 260 | 360 | 460 |
| | 0.10 | 320 | 490 | 610 | 730 | 180 | 280 | 390 | 490 |
| | 0.15 | 330 | 500 | 630 | 750 | 170 | 270 | 370 | 470 |
| | 0.20 | 350 | 530 | 660 | 780 | 170 | 270 | 390 | 490 |

Note: The above data were measured with tap water in a laboratory, in windless conditions.



How to order AKIJet® series nozzles

Please inquire or order for a specific nozzle as follows.

AKI37 S303 + TS303

AKI75 S303 + TS303

AKI150 S316 + HS316 (metal-to-metal seal)

How to order AKIJet®-S series nozzles

Please inquire or order for a specific nozzle using this coding system.

<Example> AKI150S S316+HS316 (metal-to-metal seal)

AKI 150S S316 + H S316 (metal-to-metal seal)

Nozzle code

■ 150S

■ 370S