

OIL DROPLET GENERATORS MODELS 9307 AND 9307-6

TSI's Oil Droplet Generators Model 9307 and 9307-6 produce large quantities of oil droplets for seeding flows when making Particle Image Velocimetry (PIV) or Laser Doppler Velocimetry (LDV) measurements. They are ideal for seeding high-speed flows during PIV measurements when large numbers of seed particles are required. Both atomizers work best with olive oil.



TSI's Oil Droplet Generators are a general-purpose atomizers that utilizes a Laskin nozzle to generate droplets for flow seeding. Pressurized air atomizes oil in the generator reservoir to produce the droplets. An internal impactor plate blocks large droplets from getting into the droplet stream exiting the device, allowing it to generate particles with a reasonably narrow size distribution.

Generally, a larger particle output volume can be obtained without seriously affecting the droplet size range by increasing the inlet pressure. A lockable regulator with pressure gauge provides an easy way to control the inlet air pressure. Both models are equipped with an external gauge which indicates the oil level in the atomizer chamber.

Applications

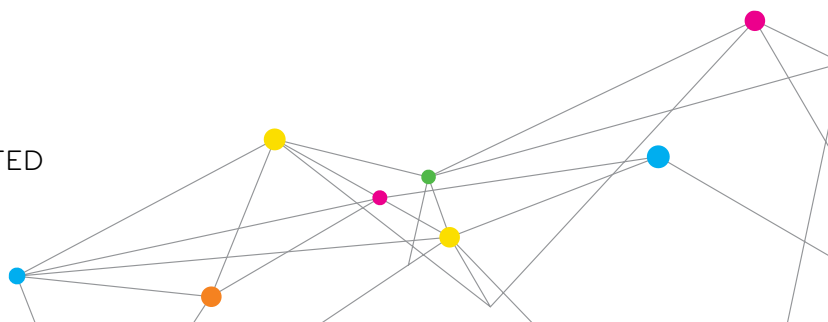
- + PIV or LDV measurements in high-speed flows
- + Wind tunnel experiments
- + Seeding large flow areas

Features and Benefits

- + Variable droplet output for seed density optimization
- + Generates large number of droplets for seeding high-speed flows
- + Reasonably narrow size distribution



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SPECIFICATIONS

OIL DROPLET GENERATORS MODELS 9307 AND 9307-6

Supply Air Pressure

Minimum 170 kPa (25 PSI)
Maximum 2720 kPa (400 PSI)

Supply Air Temperature

Normal Operation 20°C (70°F)
Maximum 65°C (150°F)

Inlet Air (operating) Pressure

Normal Operation 170 kPa (25 PSI)
Maximum 550 kPa (80 PSI)

Maximum Back Pressure

10 kPa (1.5 PSI)

Air Supply Line

Length 1.2 m (4 ft)
Connector Quick-coupler
Type Parker 1/4 in. H2C Male

Aerosol Flow Rate

9307 30 l/min (normal operation)
9307-6 1000 l/min (normal operation)

Mean Droplet Size

1 micron for olive oil (typical)

Aerosol Outlet Pipe (9307)

Outside Diameter 1.59 cm (0.625 in.)
Inside Diameter 0.95 cm (0.375 in.)

Aerosol Outlet Pipe (9307-6)

Outside Diameter 2.5 cm (1 in.)
Inside Diameter 2.4 cm (0.93 in.)

Dimensions (Height x Diameter)

9307 39.5 cm (15.5 in.) x 15 cm (5.9 in.)*
9307-6 48 cm (18.9 in.) x 23 cm (9 in.)**

Weight

9307 3.9 kg (8.5 lb)
9307-6 13.2 kg (29 lb)

* Add 2.9 cm (1.1 in.) for sight glass.

**Add 8.5 cm (3.35 in.) for regulator.

Specifications are subject to change without notice.

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TO ORDER

Oil Droplet Generators

Specify	Description
9307-1	System with single jet
9307-6	System with six jets



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