

How Air Nozzles Work



Air Nozzles use the Coanda effect to amplify compressed airflow up to 25 times or more. As illustrated on the left, compressed air (black arrows) is ejected through a series of nozzles on the outer perimeter. As the air travels along the outer wall of the nozzle, surrounding air (blue arrows) is entrained into the stream. The airstream that results is a high volume, high velocity blast of air **at minimal consumption**. The air is always ejected so it can vent safely, **well below OSHA dead end pressure requirements**, should the nozzle end be blocked.

Selecting The Right Air Nozzle

EXAIR manufactures a wide selection of Air Nozzles and Jets, which are divided into two groups. The first group includes Air Nozzles and Jets that deliver force up to 22 ounces (624 grams) and are suitable for most applications. The second group includes Air Nozzles that produce high force up to 23 lbs (10.43 kg) where additional reach and force are required.

- **Type 303 Stainless Steel**- high temperatures and corrosive environments. Max temp 800°F (426°C)
- **Type 316 Stainless Steel**- high temperatures, corrosive environments, and mechanical wear. Max temp 1000°F (538°C)
- **Brass**- general purpose applications. Max temp 400°F (204°C)
- **Zinc aluminum alloy**- general purpose applications. Max temp 250°F (121°C)
- **PEEK**- replaces metals in harsh environments. Offers chemical resistance, non-marring. Max temp 320°F (160°C)

Air Nozzles And Jets Comparison (sorted by compressed air consumption at 80 PSIG (5.5 BAR))

Model	Material	Description	Inlet	Air Consumption		Force		Sound Level dBA	More Details
				SCFM	SLPM	Ozs	Grams		
1108SS	Stainless Steel - Type 316	Atto Super Air Nozzle	M4 x 0.5	2.5	71	2.0*	57	58	p. 55
1108-PEEK	PEEK (Plastic)	Atto Super Air Nozzle	M4 x 0.5	2.5	71	2.0*	57	58	p. 55
1108SS-NPT	Stainless Steel - Type 316	Atto Super Air Nozzle	1/8 MNPT	2.5	71	2.0*	57	58	p. 55
1108-PEEK-NPT	PEEK (Plastic)	Atto Super Air Nozzle	1/8 MNPT	2.5	71	2.0*	57	58	p. 55
1109SS	Stainless Steel - Type 316	Pico Super Air Nozzle	M5 x 0.5	4.9	139	5.0*	142	68	p. 55
1109-PEEK	PEEK (Plastic)	Pico Super Air Nozzle	M5 x 0.5	4.9	139	5.0*	142	68	p. 55
1109SS-NPT	Stainless Steel - Type 316	Pico Super Air Nozzle	1/8 MNPT	4.9	139	5.0*	142	68	p. 55
1109-PEEK-NPT	PEEK (Plastic)	Pico Super Air Nozzle	1/8 MNPT	4.9	139	5.0*	142	68	p. 55
1110SS	Stainless Steel - Type 316	Nano Super Air Nozzle	M6 x 0.75	8.3	235	8.1*	230	75	p. 55
1110-PEEK	PEEK (Plastic)	Nano Super Air Nozzle	M6 x 0.75	8.3	235	8.1*	230	75	p. 55
1110SS-NPT	Stainless Steel - Type 316	Nano Super Air Nozzle	1/8 MNPT	8.3	235	8.1*	230	75	p. 55
1110-PEEK-NPT	PEEK (Plastic)	Nano Super Air Nozzle	1/8 MNPT	8.3	235	8.1*	230	75	p. 55
1001	Brass	Safety Air Nozzle	1/8 FNPT	10	283	9*	255	78	p. 60
1102	Zinc Aluminum alloy	Mini Super Air Nozzle	1/8 FNPT	10	283	9*	255	71	p. 56
1102-PEEK	PEEK (Plastic)	Mini Super Air Nozzle	1/8 FNPT	10	283	9*	255	71	p. 56
1102SS	Stainless Steel - Type 316	Mini Super Air Nozzle	1/8 FNPT	10	283	9*	255	71	p. 56
1103	Zinc Aluminum alloy	Mini Super Air Nozzle	1/8 MNPT	10	283	9*	255	71	p. 56
1103SS	Stainless Steel - Type 316	Mini Super Air Nozzle	1/8 MNPT	10	283	9*	255	71	p. 56
1126	Zinc Aluminum alloy	1" Flat Super Air Nozzle	1/8 FNPT	10.5	297	9.8†	278	75	p. 57
1126SS	Stainless Steel - Type 316	1" Flat Super Air Nozzle	1/8 FNPT	10.5	297	9.8†	278	75	p. 57
1010SS	Stainless Steel - Type 303	Micro Air Nozzle	1/8 MNPT	13	368	12*	340	80	p. 55
1009	Aluminum	Adjustable Air Nozzle	1/8 MNPT	13	368	12**	340	79	p. 60
1009SS	Stainless Steel - Type 303	Adjustable Air Nozzle	1/8 MNPT	13	368	12**	340	79	p. 60
1100	Zinc Aluminum alloy	Super Air Nozzle	1/4 FNPT	14	396	13*	369	74	p. 56
1100-PEEK	PEEK (Plastic)	Super Air Nozzle	1/4 FNPT	14	396	13*	369	74	p. 56
1100SS	Stainless Steel - Type 316	Super Air Nozzle	1/4 FNPT	14	396	13*	369	74	p. 56
1101	Zinc Aluminum alloy	Super Air Nozzle	1/4 MNPT	14	396	13*	369	74	p. 56
1101SS	Stainless Steel - Type 316	Super Air Nozzle	1/4 MNPT	14	396	13*	369	74	p. 56
1002	Brass	Safety Air Nozzle	1/4 FNPT	17	481	16*	454	80	p. 60
1002SS	Stainless Steel - Type 303	Safety Air Nozzle	1/4 FNPT	17	481	16*	454	80	p. 60
1003	Brass	Safety Air Nozzle	3/8 FNPT	18	509	18*	510	83	p. 60
6019	Brass	Adjustable Air Jet	1/8 MNPT	18	509	16***	454	83	p. 61
6019SS	Stainless Steel - Type 303	Adjustable Air Jet	1/8 MNPT	18	509	16***	454	83	p. 61
6013	Brass	High Velocity Air Jet	1/8 MNPT	22	622	20†	567	82	p. 61
6013SS	Stainless Steel - Type 303	High Velocity Air Jet	1/8 MNPT	22	622	20†	567	82	p. 61
1122	Zinc Aluminum alloy	2" Flat Super Air Nozzle	1/4 FNPT	22	622	22†	624	77	p. 57
1122SS	Stainless Steel - Type 316	2" Flat Super Air Nozzle	1/4 FNPT	22	622	22†	624	77	p. 57
1144	Zinc Aluminum/Steel	2" Super Air Scraper	1/4 FNPT	22	622	22†	624	77	p. 57
1004SS	Stainless Steel - Type 316	Back Blow Air Nozzle	M4 x 0.5	4.5	127	NA	NA	75	p. 59
1006SS	Stainless Steel - Type 316	Back Blow Air Nozzle	1/4 FNPT	22	622	NA	NA	80	p. 59

For High Force Air Nozzles, see page 63.

* Force measured at 12" (305mm) from target.

** Force measured at 12" (305mm) from target with a .008" (0.20mm) factory setting.

*** Force measured at 12" (305mm) from target with a .006" (0.15mm) factory setting.

All sound levels measured at 3 feet (914mm).

All measurements taken at 80 PSIG (5.5 BAR).

† Force measured at 12" (305mm) from target with a .015" (0.38mm) shim installed.

FNPT = NPT Female
MNPT = NPT Male.