

## 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.

## Atto Super Air Nozzles™



**Model 1108SS** M4 x 0.5  
**Material:** Type 316 Stainless Steel  
**Model 1108-PEEK** M4 x 0.5  
**Material:** PEEK (plastic)



**Model 1108SS-NPT** 1/8 NPT male  
**Material:** Type 316 Stainless Steel  
**Model 1108-PEEK-NPT** 1/8 NPT male  
**Material:** PEEK (plastic)

**Model 1108SS, 1108-PEEK, 1108SS-NPT, 1108-PEEK-NPT Atto Super Air Nozzle**  
EXAIR's Atto Super Air Nozzle delivers the smallest, most precise blowoff. The air pattern for this tiny nozzle is focused, measuring 1.0" in diameter when positioned 6" away from the surface. The 58 dBA noise level is a fraction of ordinary air nozzles.

Air Consumption		Force*		Sound Level
SCFM	SLPM	Ozs	Grams	dBA
2.5	71	2.0	57	58

\* Force measured at 12" (305mm) from target.  
Sound level measured at 3' (914mm).  
All measurements taken at 80 PSIG (5.5 BAR).



## Pico Super Air Nozzles™



**Model 1109SS** M5 x 0.5  
**Material:** Type 316 Stainless Steel  
**Model 1109-PEEK** M5 x 0.5  
**Material:** PEEK (plastic)



**Model 1109SS-NPT** 1/8 NPT male  
**Material:** Type 316 Stainless Steel  
**Model 1109-PEEK-NPT** 1/8 NPT male  
**Material:** PEEK (plastic)

**Model 1109SS, 1109-PEEK, 1109SS-NPT, 1109-PEEK-NPT Pico Super Air Nozzle**  
EXAIR's Pico Super Air Nozzle delivers a precise blowoff with a highly focused, forceful blast of airflow. The narrowly focused air pattern measures 1.3" in diameter at 6" away from the surface. The noise level is only 68 dBA.

Air Consumption		Force*		Sound Level
SCFM	SLPM	Ozs	Grams	dBA
4.9	139	5.0	142	68

\* Force measured at 12" (305mm) from target.  
Sound level measured at 3' (914mm).  
All measurements taken at 80 PSIG (5.5 BAR).



## Nano Super Air Nozzles™



**Model 1110SS** M6 x 0.75  
**Material:** Type 316 Stainless Steel  
**Model 1110-PEEK** M6 x 0.75  
**Material:** PEEK (plastic)



**Model 1110SS-NPT** 1/8 NPT male  
**Material:** Type 316 Stainless Steel  
**Model 1110-PEEK-NPT** 1/8 NPT male  
**Material:** PEEK (plastic)

**Model 1110SS, 1110-PEEK, 1110SS-NPT, 1110-PEEK-NPT Nano Super Air Nozzle**  
EXAIR's Nano Super Air Nozzle delivers a highly focused, forceful blast of airflow. The air pattern for this small nozzle measures 1.5" in diameter at 6" away from the surface. The noise level is a low 75 dBA. Overall length measures only 0.78".

Air Consumption		Force*		Sound Level
SCFM	SLPM	Ozs	Grams	dBA
8.3	235	8.1	230	75

\* Force measured at 12" (305mm) from target.  
Sound level measured at 3' (914mm).  
All measurements taken at 80 PSIG (5.5 BAR).



## Micro Air Nozzle™



**Model 1010SS** 1/8 NPT male  
**Material:** Type 303 Stainless Steel

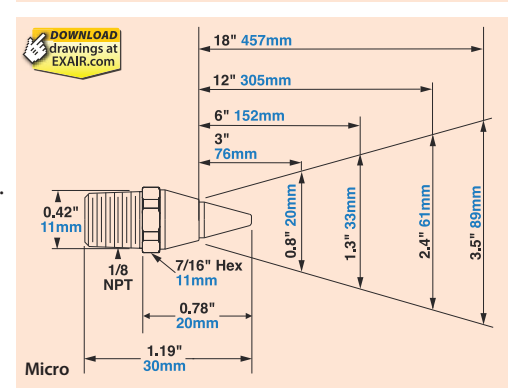
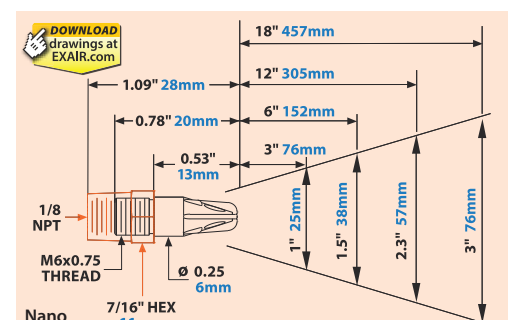
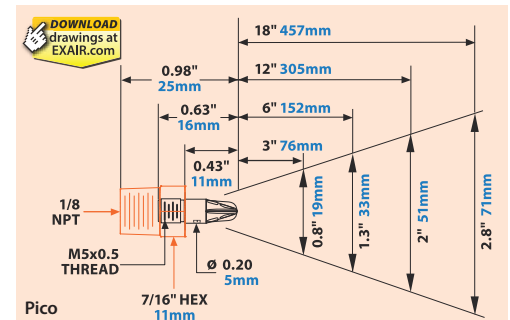
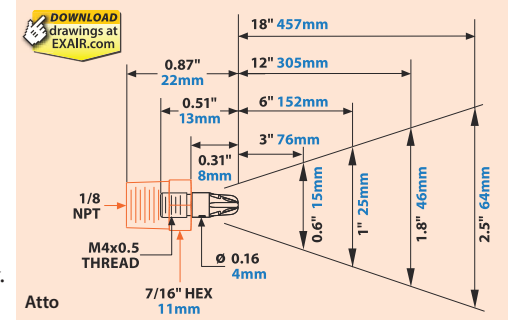
**Model 1010SS Micro Air Nozzle**  
EXAIR's Micro Air Nozzle optimizes entrainment for a directed, high volume, high velocity airflow. The compact size permits mounting where space is limited. Sound level and air consumption are low.

Air Consumption		Force*		Sound Level
SCFM	SLPM	Ozs	Grams	dBA
13	368	12	340	80

\* Force measured at 12" (305mm) from target.  
Sound level measured at 3' (914mm).  
All measurements taken at 80 PSIG (5.5 BAR).

The Air Nozzles and Jets shown on pages 55 – 61 deliver up to 22 ounces (624 grams) of force, making them suitable for most applications. All models shown use a small amount of compressed air to entrain large volumes of surrounding room air. They have been engineered to provide the best performance with low sound levels and high efficiency.

## Dimensions and Airflow Patterns



## Mini Super Air Nozzles™



**Model 1102** 1/8 NPT female

**Material:** Zinc Aluminum alloy

**Model 1102-PEEK** 1/8 NPT female

**Material:** PEEK (plastic)

**Model 1102SS** 1/8 NPT female

**Material:** Type 316 Stainless Steel

### Model 1102, 1102-PEEK, 1102SS, 1103 and 1103SS Mini Super Air Nozzles

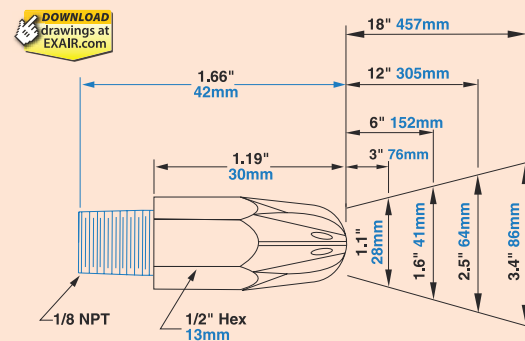
The 1/8 NPT Mini Super Air Nozzles provide a forceful, concentrated stream of high velocity airflow. It has fewer holes than the larger Super Air Nozzles, resulting in lower sound levels, air consumption and force.

Air Consumption		Force*		Sound Level
SCFM	SLPM	Ozs	Grams	dBA
10	283	9	255	71

\* Force measured at 12" (305mm) from target.  
Sound level measured at 3' (914mm).  
All measurements taken at 80 PSIG (5.5 BAR).



## Dimensions and Airflow Pattern



Air Nozzles  
& Jets

**Model 1103** 1/8 NPT male

**Material:** Zinc Aluminum alloy

**Model 1103SS** 1/8 NPT male

**Material:** Type 316 Stainless Steel

Super Air Nozzles with Stay Set Hoses provide adjustability and precision.

## Super Air Nozzles™



**Model 1100** 1/4 NPT female

**Material:** Zinc Aluminum alloy

**Model 1100SS** 1/4 NPT female

**Material:** Type 316 Stainless Steel



**Model 1100-PEEK** 1/4 NPT female

**Material:** PEEK (plastic)



**Model 1101** 1/4 NPT male

**Material:** Zinc Aluminum alloy

**Model 1101SS** 1/4 NPT male

**Material:** Type 316 Stainless Steel

### Model 1100, 1100SS, 1100-PEEK, 1101 and 1101SS Super Air Nozzles

EXAIR's award winning Super Air Nozzles deliver high performance suitable for a wide range of blowoff, drying and cooling applications. The aerodynamic design of this engineered Super Air Nozzle directs the air to a single point of convergence, delivering hard-hitting force. It dramatically reduces air consumption and, in many cases, can cut the noise level in half. All Super Air Nozzles eject the compressed air through holes located in recessed grooves that cannot be blocked or dead ended.

Air Consumption		Force*		Sound Level
SCFM	SLPM	Ozs	Grams	dBA
14	396	13	369	74

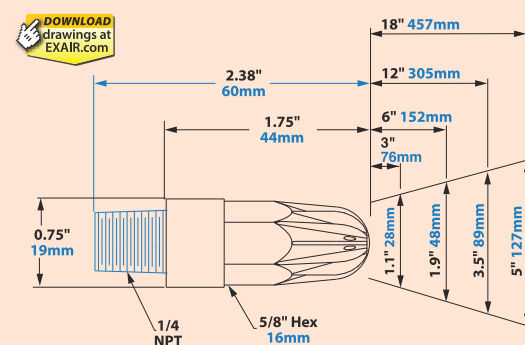
\* Force measured at 12" (305mm) from target.  
Sound level measured at 3' (914mm).  
All measurements taken at 80 PSIG (5.5 BAR).



The aerodynamic design of the Model 1100 Super Air Nozzle directs air to a single point of convergence.



## Dimensions and Airflow Pattern



Most EXAIR Air Nozzles have a standard hex base making them easy to install with a socket wrench.

## Build Your Own System

EXAIR's Swivel Fittings, available for all our nozzles up to 1 NPT, make it easy to adjust the aim of the Air Nozzles and Jets. Correct placement of the blowing angle can help optimize performance, reduce noise levels and improve efficiency. See page 68 for details.

**Swivel Fittings** can be added to most EXAIR Nozzles by adding a "W" to the Model#.

**1122** (2" Flat Super Air Nozzle)  
+ **W** (Swivel Fitting)

**1122W**



# Flat Super Air Nozzles



## Flat Super Air Nozzles™



**Model 1126** 1/8 NPT female  
**Material:** Zinc Aluminum alloy

**Model 1126SS** 1/8 NPT female  
**Material:** Type 316 Stainless Steel

Shim sets for the 1" Flat Super Air Nozzles include a .005" (0.13mm), .010" (0.25mm), and .020" (0.51mm) thick shim.

**1136SS** Stainless Steel 1" Flat Super Air Nozzle Shim Set



**Model 1122** 1/4 NPT female  
**Material:** Zinc Aluminum alloy

**Model 1122SS** 1/4 NPT female  
**Material:** Type 316 Stainless Steel

Shim sets for the 2" Flat Super Air Nozzles include a .005" (0.13mm), .010" (0.25mm), and .020" (0.51mm) thick shim.

**1132SS** Stainless Steel 2" Flat Super Air Nozzle Shim Set

## Model 1126, 1126SS, 1122 and 1122SS 1" and 2" Flat Super Air Nozzles

EXAIR's 1" and 2" Flat Super Air Nozzles are highly efficient, unique flat air nozzles. Their patented† design uses a special shim to maintain the critical position of the component parts. A precise amount of air is released through the thin slot, across a flat surface. The result is a wide, forceful stream of high velocity, laminar airflow with minimal air consumption and noise.

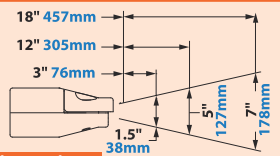
†Patent #5402938

Model	Air Consumption		Force *		Sound Level
	SCFM	SLPM	Ozs	Grams	dBA
1126/1126SS	10.5	297	9.8	278	75

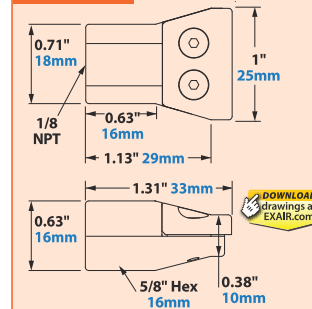
\* Force measured at 12" (305mm) from target.  
Sound level measured at 3' (914mm).  
All measurements taken at 80 PSIG (5.5 BAR).  
.015" (0.38mm) shim installed.



## 1" Flat Super Air Nozzle Airflow Pattern



### Dimensions



Air Nozzles & Jets

The 1" and 2" Flat Super Air Nozzles are shipped with a .015" (0.38mm) air gap opening that is set with a stainless steel shim positioned between the cap and the body. Force and flow may be easily increased or decreased by installing a different shim.

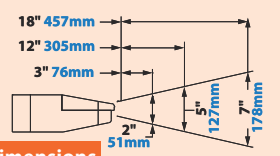
Model	Air Consumption		Force *		Sound Level
	SCFM	SLPM	Ozs	Grams	dBA
1122/1122SS	21.8	622	22	624	77

\* Force measured at 12" (305mm) from target.  
Sound level measured at 3' (914mm).  
All measurements taken at 80 PSIG (5.5 BAR).  
.015" (0.38mm) shim installed.

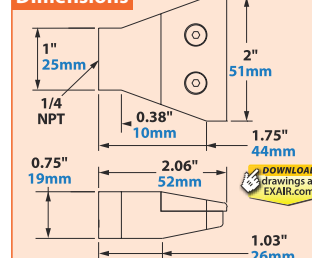


**2" Flat Super Air Nozzles  
blow off metal parts as  
they are lifted through a  
vacuum chamber.**

## 2" Flat Super Air Nozzle Airflow Pattern



### Dimensions



## Super Air Scraper™



**Model 1144** 1/4 NPT female  
**Material:** Zinc Aluminum alloy/Steel

Shim sets for the 2" Flat Super Air Nozzles include a .005" (0.13mm), .010" (0.25mm), and .020" (0.51mm) thick shim.

**1132SS** Stainless Steel 2" Flat Super Air Nozzle Shim Set

## Model 1144 2" Super Air Scraper

EXAIR's 2" Super Air Scraper is a patented nozzle† used to eliminate stubborn debris from work or machine surfaces. This 2" flat nozzle utilizes a corrosion resistant scraper blade to provide the needed leverage to get underneath and scrape away fixed debris before the air can remove it from a surface. Applications include removal of tape, gaskets, adhesive, labels and stickers, grease, paint and sealant. A scraper nozzle can assist in cleaning sub plates, machining tables and difficult to sweep metal chips, flakes or discs. They are ideal when used as a Soft Grip Super Air Scraper (see page 114).

†Patent #10,779,698

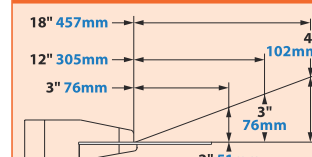
Model	Air Consumption		Force *		Sound Level
	SCFM	SLPM	Ozs	Grams	dBA
1144	21.8	622	22	624	77

\* Force measured at 12" (305mm) from target.  
Sound level measured at 3' (914mm).  
All measurements taken at 80 PSIG (5.5 BAR).  
.015" (0.38mm) shim installed.

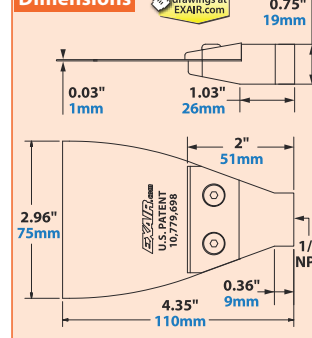


**2" Super Air Scraper can  
eliminate stubborn debris.**

## 2" Super Air Scraper Airflow Pattern



### Dimensions



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†Patent #10,779,698

**Order Direct**  
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# EXAIR® *Blows Away* *the Competition!*

**Save Over \$1,200 Per Year  
By Replacing One Outdated Air Nozzle!**

We've all seen flat air nozzles. Some are yellow. Others are orange. The oldest ones are blue or metal. Those other manufacturers want you to believe you'll save money by conserving compressed air while protecting your workers from harmful noise levels. In reality, those colorful air nozzles that blow the air out of holes consume enormous amounts of air. The plastic ones often break off. Some might even get you an OSHA fine due to the dangerous dead ended pressures that exist if someone blocks the air exhaust.

EXAIR's award winning **2" Flat Super Air Nozzle™** has been engineered to replace those outdated flat nozzles. There are no dangerous holes that can be blocked. EXAIR's patented, award winning design is efficient, maintaining a precise amount of airflow through a thin slot. The result is a forceful stream of high velocity, laminar airflow with minimal air consumption and noise. You can increase or decrease the force of each flat air nozzle – using shims to tune it to the application so you'll never waste compressed air. EXAIR also offers a **1" Flat Super Air Nozzle™**, with the same laminar airflow, to fit in tighter spaces.

Flat nozzles from other manufacturers can consume over 30 SCFM (a refrigerator sized compressor) and aren't adjustable. Some manufacturers offer different flow rates but you need to guess at which one will do the job since you can't adjust them once you've made the purchase. By default, most users feel bigger is better and go with the highest flow rate, wasting compressed air. See page 57 for more details.

## EXAIR's 2" Flat Super Air Nozzle    Theirs (Old Technology)

- 2004 Product Of The Year Winner
- Your choice of zinc/aluminum or Type 316 stainless steel
- Flexible Stay Set Hoses™, swivel fittings and magnetic bases are available
- Meets or exceeds OSHA standards
- Quietest flat nozzle available
- Easy to change the force and flow

- Can consume over 30 SCFM
- Expensive – metal or plastic
- No easy adjustment – wasted compressed air
- May not be OSHA safe
- Significantly louder
- Plastic is easily broken



## Here's how:

- One popular flat nozzle consumes 31 SCFM @ 80 PSIG.
- EXAIR's 2" Flat Super Air Nozzle with .015" shim consumes 21.8 SCFM @ 80 PSIG.
- 31 SCFM (theirs) – 21.8 SCFM (EXAIR's) = 9.2 SCFM compressed air saved.

Most large plants know their cost per 1,000 standard cubic feet of compressed air. If you don't know your actual cost per 1,000 SCF, 25¢ is a reasonable average to use.

- SCFM saved x 60 minutes x cost/1,000 SCF = dollars saved per hour.
- In this case, 9.2 SCFM x 60 x .25/1,000 SCF = **13.8 cents saved per hour.**
- 13.8 cents per hour x 24 hours = **\$3.31 saved per day.**
- \$3.31 per day x 365 days = **\$1,208.88 saved in one year** (in this 24/7 operation).

## And, This Savings Is For One Nozzle!

Air Nozzle	Air Consumption @ 80 PSIG	Noise Level dBA	lbs. of Force @ 80 PSIG
Yellow	29 SCFM	83	1.7
Orange	28 SCFM	82	1.7
Blue	26 SCFM	78	1.5
Metal (machined)	29 SCFM	82	1.7
Metal (cast)	31 SCFM	80	1.9
<b>EXAIR 2" Flat Super Air Nozzle</b>	<b>*7.3- 30 SCFM</b>	<b>62-81</b>	<b>0.5 – 1.9</b>

\*Air consumption dependent upon shim size.

**EXAIR's 2" Flat Super Air Nozzle can pay for itself in less than 27 days.**

Put the 2" Flat Super Air Nozzle to work in your blowoff, cooling or drying application. We're sure you'll agree that it blows away the competition!



@EXAIR

