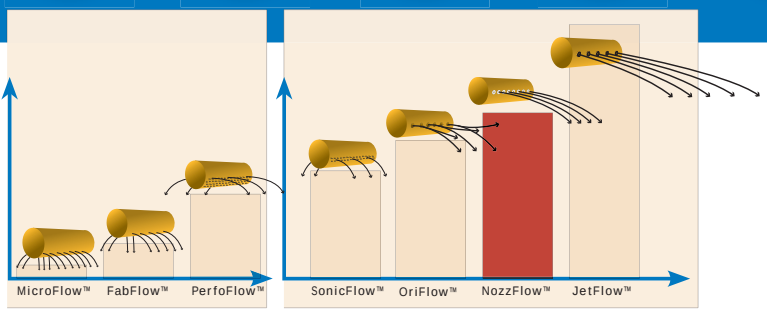
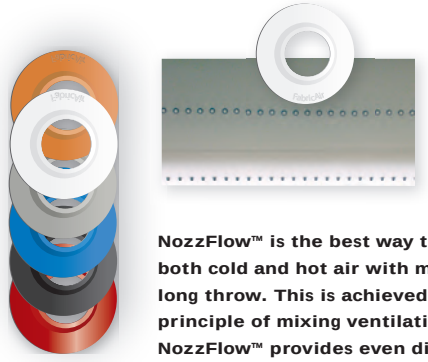
FabricAir® NozzFlow™



FabricAir Ducting with build in NozzFlow™ provides superior air distribution.

NozzFlow™

- throws air up to 37m [120 feet]
- provides accurate throw
- provides right angle throw from the duct's surface
- disperses both hot and cold air
- is noiseless
- can be placed anywhere on the rounded duct surface
- washes easily in industrial laundering machines without removal from the duct
- is available in a spectrum of colors to match the duct color
- allows undisturbed air flow by the smooth flat inside surfaces
- is stable at all common indoor temperatures
- does not consists of PVC or any harmful chemicals



NozzFlow™ is the best way to distribute both cold and hot air with medium to long throw. This is achieved by the principle of mixing ventilation and NozzFlow™ provides even distribution of the air with a high precision of direction.

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10008624 QM08 IQNet ISO9001:2008

FabricAir

Introduction

FabricAir® engineers pioneered the concept of nozzle outlets for permeable and non-permeable ducts. Our NozzFlow™ nozzle consists of two components made of hard molded plastic with a specially engineered throat that captures air from the duct, accelerates the air passing through it, and accurately throws the air long distances at a right angle to the duct, even when static pressures are very low. Also, the nozzles have no rough edges on the inside of the duct to impede air flow. Instead a flat smooth surface maintains a stable air stream throughout the length of the duct.

The NozzFlow™ nozzles also seal the fabric so there are no loss of duct fabric during washing.

They are also PVC free and contain no harmful thalate. The nozzles come in a variety of colors to match the ducts fabric color.

Longer Air Throws

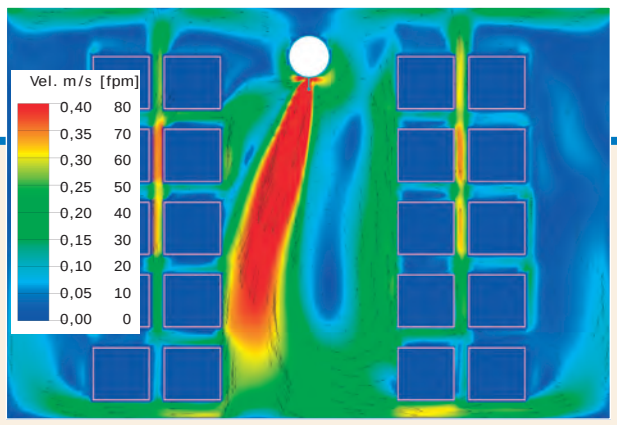
By accelerating the outlet air, FabricAir® proprietary nozzles can throw air up to 37m [120 feet], twice the throw distance of a typical fabric duct air hole. This capability is particularly valuable in large spaces such as warehouses and factories and in areas that require accurate air throws, such as skylights in swimming pool areas.

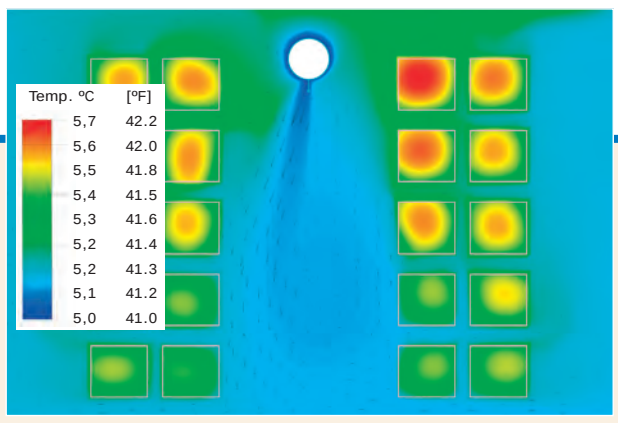
Fully Washable

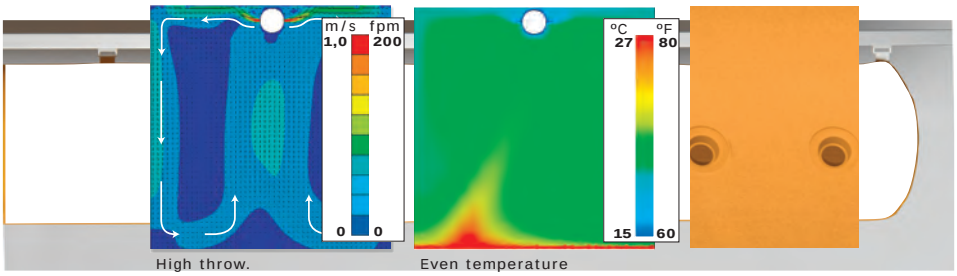
The NozzFlow™ nozzles are fully washable and do not have to be removed when the ducting is taken down for routine laundering.

Uniform Temperature Ceiling to Floor

Because of the powerful air movement created by NozzFlow™ nozzles, temperatures remain stable and consistent throughout the space being cooled or heated. Even in facilities with very high ceilings, a consistent temperature will be maintained floor to ceiling as can be seen by the simulation below of a cold storage facility. The nozzles themselves are temperature stable.







High throw.

Even temperature distribution.

NozzFlow™

NozzFlow™ disperses the air by means of a row of nozzles that helps provide a very stable directional flow from the duct. The nozzles ensure a high level of comfort by evenly distributing the air along the entire length of the duct. The nozzles ensure that the air discharge the duct perpendicularly. NozzFlow™ is well suited for dispersing cold and hot air with an air throw ranging from medium to very long.

Fabrics suitability

The flow model is suitable for these fabrics:

NC level

Design pressure:

Fabric:		ΔP [INWG]	0.24	0.32	0.40	0.48	0.56	0.64	0.72	0.80
		ΔP [PA]	60	80	100	120	140	160	180	200
FabricAir® Trevira Basic	●		20	20	25	25	30	30	35	35
FabricAir® Trevira CS 100	●		20	20	25	25	30	30	35	35
FabricAir® Trevira CS 150	●		20	20	25	25	30	30	35	35
FabricAir® Combi 20	●		20	20	25	25	30	30	35	35
FabricAir® Combi 60	●		20	20	25	25	30	30	35	35
FabricAir® Combi 70	●		20	20	25	25	30	30	35	35
FabricAir® Combi 80	●		20	20	25	25	30	30	35	35
FabricAir® Combi 85*	●		20	25	25	30	30	30	35	35
FabricAir® Combi 90*	●		20	25	25	30	30	30	35	35
FabricAir® Glass 220*	●		20	25	25	30	30	30	35	35
FabricAir® Antistat*	●		20	25	25	30	30	35	35	35
FabricAir® Poly*	-		-	-	-	-	-	-	-	-

*** = Non permeable**

Characteristics

Characteristics of this flow model are:

Flow Principle:
Mixing ventilation

Condition of suppl. air:
Cold and hot air

Exit Velocity:
7-20 m/s [1,400-4,000 fpm]

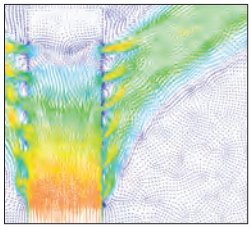
Throw type:
High

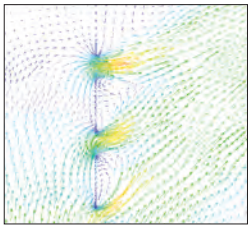
The nozzles can be placed anywhere needed on the duct surface so that conditioned air easily can be directed to where it is needed.

Directed at Right Angles to the Duct

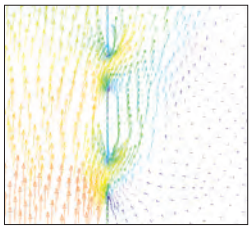
Because the NozzFlow™ nozzle consistently throws air at right angles, it is a simple task to situate nozzles so that they direct air precisely to the desired area. The difference between typical duct openings and NozzFlow™ nozzles is demonstrated below in a simulated comparison of standard Sonic Vents and our NozzFlow™ nozzles.

Sonic Vents





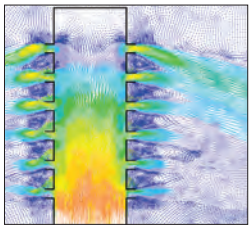
Close-up

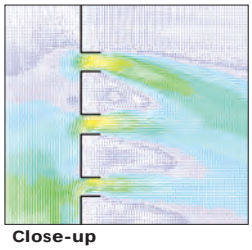


Close-up

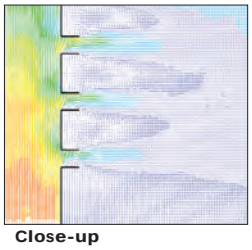
As seen in this CFD simulation, the air from the sonic vents tends to run along the surface of the duct and is not easy to control.

NozzFlow



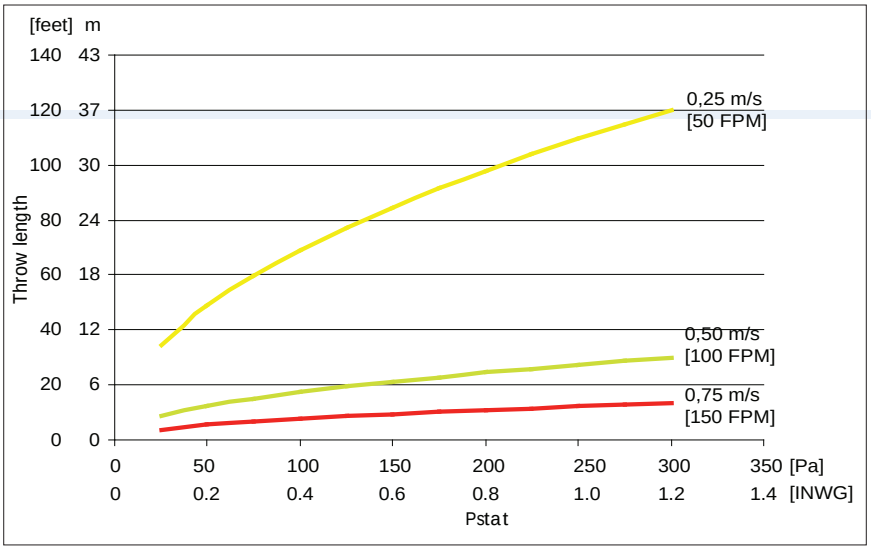


Close-up



Close-up

The accelerated air from the NozzFlow™ nozzles exits the duct at right angles, providing accurate control of the air flow throughout the length of the duct.



Throw data for a duct with nozzles shown at 0,75 m/s [150 fpm], 0,50 m/s [100 fpm] and 0,25 m/s [50 fpm] isothermal terminal velocity.

THROW
Throw lengths for NozzFlow

Pstat [Pa]	Pstat [INWG]	Throw at 0,75 [m/s] 150 [fpm] [M]	[FEET]	0,50 100 [M]	[FEET]	0,25 50 [M]	[FEET]
25	0.1	1	4	3	9	10	34
50	0.2	2	5	4	12	15	49
75	0.3	2	7	5	15	18	60
100	0.4	2	8	5	17	21	69
125	0.5	3	9	6	19	23	77
150	0.6	3	9	6	21	26	85
175	0.7	3	10	7	23	28	91
200	0.8	3	11	7	24	30	98
225	0.9	4	12	8	26	32	104
250	1.0	4	12	8	27	33	109
275	1.1	4	13	9	29	35	115
300	1.2	4	13	9	30	37	120

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