

INDUCTION DUCT



Series ETIM

Circular section induction ducts. The perforations along the length of the duct provide a strong inductive effect, generating micro-vortices and consequently an optimal mixing of the supplied air. Standard ducts are circular and are made in 1-meter sections with 90° coupling flanges and reinforcements at the ends. The perforations are distributed along the duct length and are created with specific diameters and geometries for each system and according to the environmental context. The large number of possible configurations makes the induction system a versatile solution for many applications in both civil and industrial settings. Standard ducts are circular section, made in approx. 1-meter sections with 90° flange couplings and reinforcement. Perforations are distributed along the duct with custom diameters and geometries for each system. Ducts are joined using omega clamps.

Induction ducting generates a high inductive effect between the injected and ambient air thanks to a system with micro-holes of varying diameter, distance and position. The ducting thus becomes the diffuser of the system thanks to the dual functionality of the holes

The air leaving the holes generates turbulence and micro-vortices in the vicinity of the duct; as a result, the injected air mixes with large quantities of the air in the room, which is then cooled or heated more quickly than with traditional systems.

The pre-treated air in the vicinity of the duct is pushed in the required direction and at the required distance, setting in motion large quantities of ambient air. The geometry, hole size and accessories (bends, tees, hoppers, plugs) are configured in cooperation with the designer based on the project specifications.

FEATURES

- Duct made of galvanized steel sheet DX51D with thicknesses:
 - Ø 150–500 mm: 0.6 mm (0.8 mm on request);
 - Ø 600–900 mm: 0.8 mm;
 - Ø 1000–1400 mm: 1.0 mm;
- Length: 1 meter;
- Coupling with 90° flanges and reinforcement;
- Joints using omega clamps;
- Installation height:
 - 2.5 m to 3.5 m (SYSTEM A)
 - 3.5 m to 10 m (SYSTEM B)
 - 9 m to 18 m (SYSTEM C)

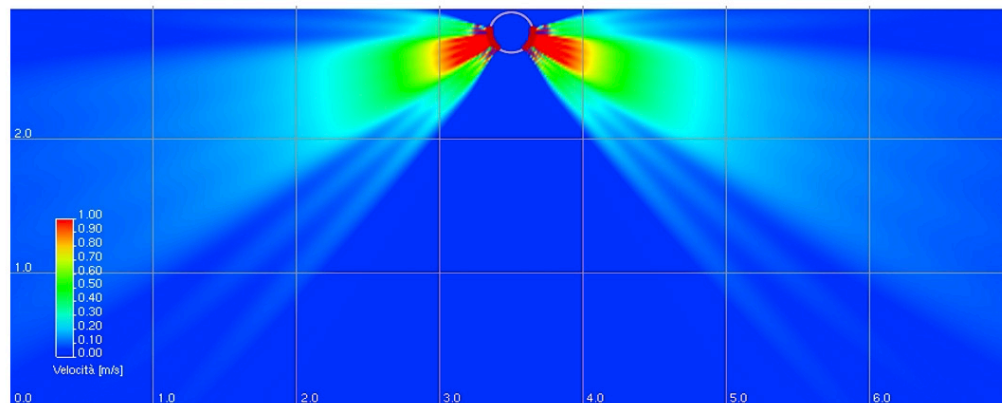
ON REQUEST

- ETIM-D version: semi-circular ducts with reduced transport costs, connected by interlocking modules;
- Powder-coated sheet metal with customizable RAL color;
- In stainless steel 304, 316 or copper;
- Anti-condensation treatment applicable to the above surfaces;
- ETIM-O version: open ducts to reduce transport and assembly costs using the 10 seconds system;

SYSTEM A

Central installation for spaces with a height from 2.5 m to 3.5 m. Suitable for habitable environments such as offices, shops.

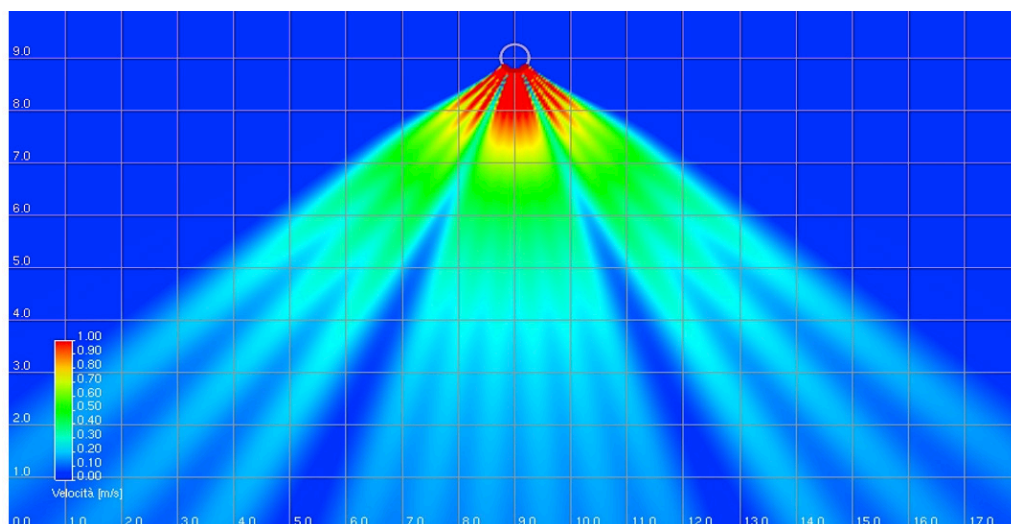
H = 3 m;
L = 7 m;



SYSTEM B

Central installation for environments with height from 3.5 m to 10 m. Suitable for both civil and industrial settings.

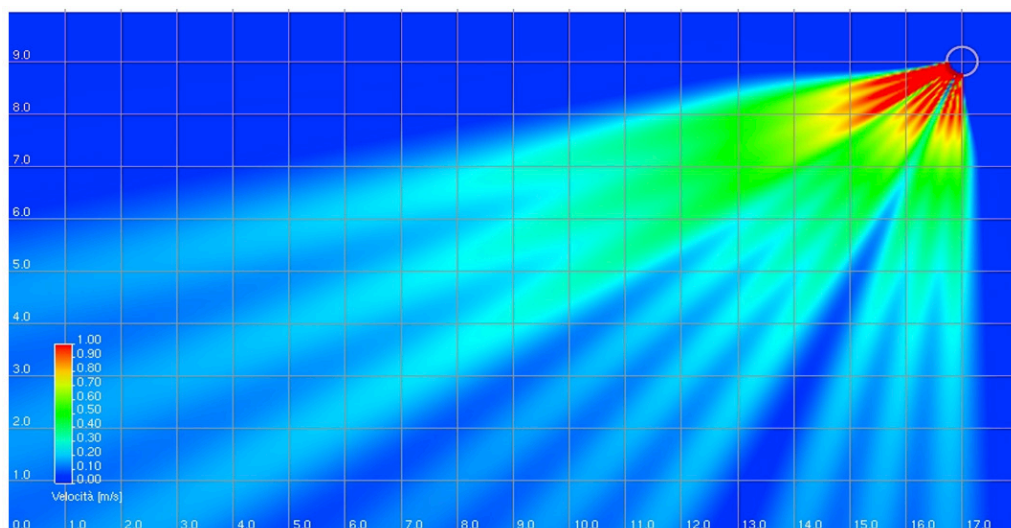
H = 9 m;
L = 18 m;



SYSTEM C

Asymmetrical diffusion installation to create thermal barriers for glass surfaces, etc.

H = 9 m;
L = 18 m;



N.B. Diagrams simulated with residual speed 0.2 m at 1800 mm from the ground in a more conservative way than UNI 10339 and UNI EN 13779.

PRESSURE DROP IN CIRCULAR DUCT

Ø	200	300	400	500	600	700	800	900	1000	1100
Air flow	Pa/m									
500	10									
600	21									
700	32									
800	38									
1100		10								
1200		14								
1300		17								
1400		21								
1500		25								
1600		29								
1700		33								
1800		38	10							
1900			12							
2000			18							
2250			22							
2500			25							
2750			31							
3000			36	17						
3250			43	21						
3500				24						
3750				27	10					
4000				31	12					
4500				40	17					
5000				43	21	12				
5500					25	15				
6000					29	17	10			
6500					34	21	12			
7000					39	24	15			
8000						30	20	14		
9000						36	24	18	10	
10000							29	22	13	
11000							34	25	17	
12000							41	30	21	11
13000								33	23	13
14000								41	25	15
15000									30	18
16000									34	20
17000									37	22
18000									43	24
19000										27
20000										29
21000										33
22000										34
23000										40
24000										43

**The limit of use of the
metal induction tube is
with speeds between
approximately 3.5 and 7
m/s**

SHEET METAL WEIGHTS AND THICKNESSES

Ø mm	Sheet metal thickness mm	Weight per linear meter kg
200	0,6	3,36
250	0,6	4,16
300	0,6	4,96
350	0,6	5,77
400	0,6	6,57
450	0,6	7,37
500	0,8	10,89
550	0,8	11,96
600	0,8	13,02
650	0,8	14,09
700	0,8	15,16
750	0,8	16,23
800	0,8	17,30
850	0,8	18,36
900	0,8	19,43
950	0,8	20,50
1000	1	26,96
1050	1	22,63
1100	1	29,63
1150	1	30,96
1200	1	32,29
1250	1	33,63
1300	1	34,96
1350	1	36,30
1400	1	37,63
1450	1	38,97
1500	1	40,30

INSTALLATION

Standard ducts are circular section, made in approx. 1-meter sections with 90° flange couplings and reinforcement. Perforations are distributed along the duct with custom diameters and geometries for each system. Ducts are joined using omega clamps.

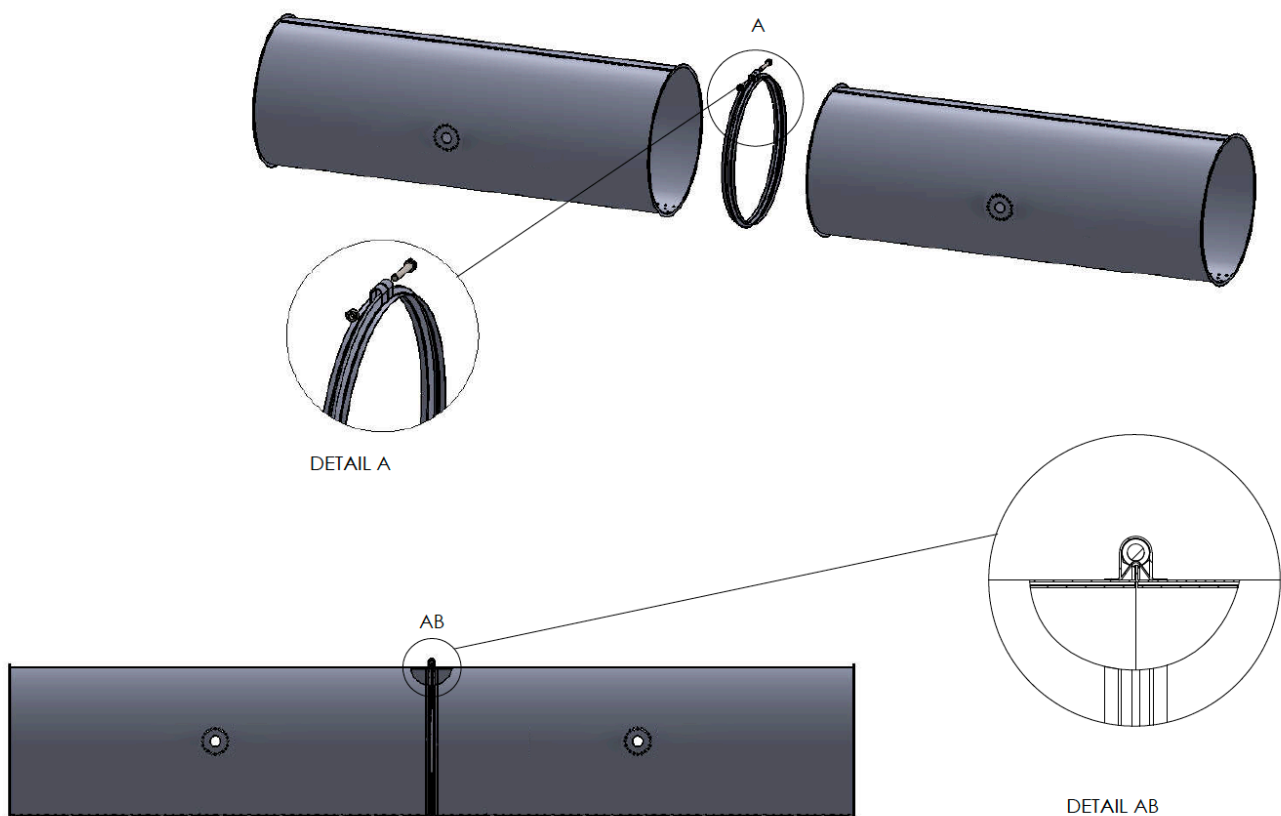
The installation of the product must be carried out in compliance with the regulations in force, and in a workmanlike manner by professionally qualified personnel. By 'qualified personnel' we mean personnel in possession of specific technical skills, suitably trained for installation and commissioning operations.

The manufacturer disclaims all liability, both contractual and non-contractual, for damage resulting from

- installation errors
- use, even partial, of components and/or accessories not supplied by the manufacturer;
- non-compliance with the instructions contained in this manual.

The product must only be used for the purposes for which it was designed.

The installation can take place by means of tie rods, chains or threaded rods; particular attention must be paid to the sizing, and subsequent installation, of the anchoring system, which must include an appropriate safety coefficient.



SPECIFICATION ITEMS

Microperforated circular ducts made of galvanised steel Z 200 / painted / pre-painted / stainless steel 304/inox316 according to specifications for air diffusion systems for air conditioning, heating and ventilation systems, type brand ECOCLIMA mod. ETIM. Standard series ETIM-O.

The micro-perforations, with variable diameter and mesh, must create a high induction effect between supply and room air. Circular section ducts must be manufactured in 1/1.5 m sections with 90° reinforced flange couplings. Perforations must be made with specific diameters and geometries based on the intended use of the serviced rooms.

The ECOCLIMA high-induction micro-perforated ducts are factory-calibrated to work without calibration dampers or air relief systems; the perforation pattern is specially calculated in diameter, quantity, and position for optimal air distribution.

Included in the price:

- Square to round transformation (if present);
- 90° bend (if present);
- Case back (if present);
- T-joint (if present);

Component connections must be made using screw-type clamp collars.