

FAN SECTION



Quality Speaks For Itself



FAN SECTIONS SINGLE / DOUBLE SKIN

HUMIDIN FAN SECTION SINGLE SKIN / DOUBLE SKIN

The Fan Section Double Skin refers to an advanced design of the fan compartment in industrial ventilation and air handling systems, particularly in systems like air handling units (AHUS), HVAC systems, or pollution control equipment such as wet or dry scrubbers. The double-skin construction of the fan section involves the use of two layers of materials (often metal or composite materials) in the fan housing or enclosure. These layers provide additional insulation, protection, and durability, significantly enhancing the performance and longevity of the system.

FEATURES:

1. Enhanced Insulation and Thermal Protection:

The primary feature of a double-skin fan section is the additional insulation between the two layers. This insulation helps reduce heat transfer, keeping the internal components at a more stable temperature. This is particularly useful in systems that handle hot gases or environments where temperature fluctuations could affect system performance. The insulation also reduces the amount of heat lost, improving energy efficiency.

2. Noise Reduction

A double-skin fan section is designed to reduce operational noise. The two layers of material, especially if they are combined with soundproofing insulation, help absorb and dampen the vibrations and noise generated by the fan. This feature is especially beneficial in applications where noise levels need to be minimized for worker safety or environmental reasons, such as in HVAC systems in commercial or residential buildings, or in industrial processes where noise pollution could be an issue.

3. Increased Durability and Corrosion Resistance:

The double-skin design improves the fan section's ability to withstand corrosive environments. The outer layer of the fan section is usually made of corrosion-resistant materials (e.g., stainless steel or coated metals), providing additional protection for the fan and other internal components. This is particularly important in environments with high humidity, aggressive chemicals, or high salt concentrations, such as marine industries or chemical processing plants.

4. Prevention of Condensation:

The insulation layer between the skins prevents the formation of condensation inside the fan section. Condensation can cause corrosion or damage to electrical components and other parts of the fan system, especially in humid environments. The double-skin construction mitigates this risk, making the system more reliable in temperature-variable

5. Increased Structural Strength and Durability

The double-skin design improves the mechanical strength and rigidity of the fan enclosure. It helps the fan section withstand internal pressure, vibration, and external impacts, resulting in longer service life and improved operational reliability.

6. Improved Safety for Operators and Equipment

The outer protective skin acts as a safety barrier, shielding personnel from hot surfaces, moving components, and electrical parts. This enhances workplace safety and reduces the risk of accidental contact or injury during operation and maintenance.

7. Easy Maintenance and Service Access

The fan section can be designed with access doors and inspection panels on the outer skin, allowing easy servicing, cleaning, and inspection of internal components. This reduces maintenance time and system downtime, improving overall operational efficiency.

8. Flexible Design for Single Skin and Double Skin Applications

The fan section can be configured as single skin or double skin based on application requirements, cost considerations, and environmental conditions. This flexibility allows the system to be customized for HVAC units, AHUs, wet scrubbers, dry scrubbers, and other pollution control equipment.

9. Improved Energy Efficiency and System Performance

The double-skin fan section helps maintain consistent internal operating conditions by reducing heat loss and air leakage. This improves overall system efficiency, reduces load on the fan and motor, and contributes to lower energy consumption while ensuring stable and reliable performance over long-term operation.

APPLICATIONS

- **HVAC Systems:**

In commercial and industrial buildings, HVAC systems use double-skin fan sections to improve energy efficiency, reduce noise, and extend the life of the system. The insulation and corrosion resistance are particularly beneficial in maintaining the system's performance in diverse environments, from office buildings to hospitals or factories.

- **Industrial Ventilation Systems:**

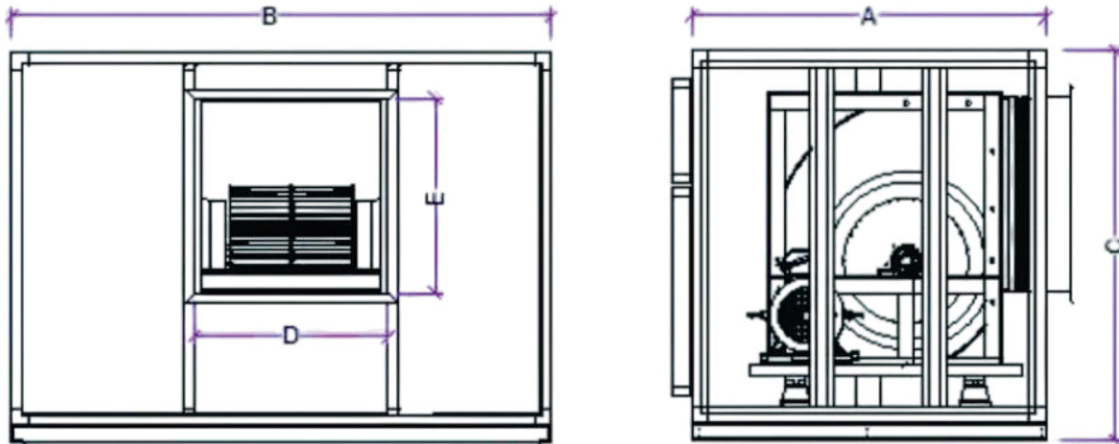
Double-skin fan sections are commonly used in heavy-duty industrial applications like power plants, chemical manufacturing, and metal processing. These environments often require fans that can withstand harsh temperatures, corrosive gases, or other challenging conditions. The double-skin design offers increased protection for these critical components.

- **Air Handling Units (AHUs):**

Air handling units with double-skin fan sections are widely used in buildings that require large volumes of conditioned air, such as in data centers, shopping malls, and public buildings. The added insulation reduces energy loss, while the durability of the double-skin construction ensures that the AHU can perform over extended periods without significant degradation.

- **Scrubbers and Filtration Systems:**
In scrubbers and filtration systems used for air or gas cleaning, the fan section is a crucial component. The double-skin design helps these systems handle high temperatures and corrosive gases effectively, which is common in waste-to-energy plants, chemical industries, or metal smelting facilities.
- **Marine and Offshore Applications:**
In the marine industry and offshore facilities, the fan section double-skin design is ideal due to its resistance to corrosion from saltwater and harsh environmental conditions. The enhanced protection ensures that the fan systems continue to function optimally despite exposure to challenging weather and corrosive elements.
- **Energy Systems:**
Energy systems that handle hot exhaust gases, such as power generation plants, use double-skin fan sections to improve thermal insulation, prevent corrosion, and enhance performance in high-temperature environments. The double skin also contributes to higher energy efficiency, which is essential in energy-intensive applications.
- **Pharmaceutical and Clean Room Facilities**
Double-skin fan sections are used in pharmaceutical manufacturing units, laboratories, and clean rooms where strict control of air quality, temperature, and noise levels is required. The insulated and sealed construction helps maintain hygienic conditions, prevents contamination, and ensures reliable long-term operation.
- **Food Processing and Cold Storage Facilities**
In food processing plants and cold storage applications, double-skin fan sections help maintain stable temperatures and prevent condensation. The corrosion-resistant construction and insulation ensure hygienic operation, energy efficiency, and protection of equipment in moisture-prone environments.

DIMENSIONS TABLE OF FAN SECTION WITH SINGLE BLOWER

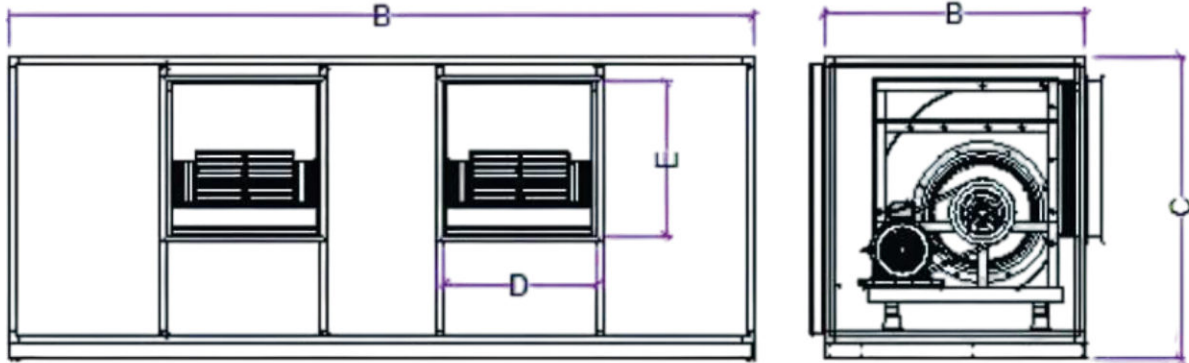


DOUBLE SKIN FAN SECTION WITH SINGLE BLOWER

Air Volume (CFM)	Static Pressure (mmwg)	Fan Type	Outlet Vel. (m/s)	Fan Dia (mm)	Motor (HP)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
1000	50	DIDW	8	180	0.75	800	695	600	245	208
2000	50	DIDW	8.99	250	1.5	950	680	750	340	300
3000	50	DIDW	8.69	315	2	1040	990	900	402	402
4000	50	DIDW	9.26	355	3	900	1295	940	465	415
5000	50	DIDW	9.22	400	5	970	1605	1050	507	507
6000	50	DIDW	8.77	450	5	1040	1460	1140	568	568
8000	50	DIDW	9.28	500	7.5	1410	1295	1310	634	634
9000	50	DIDW	8.33	560	7.5	1210	1910	1400	710	710
10000	50	DIDW	9.26	560	7.5	1210	1720	1415	710	710
12000	50	DIDW	8.85	630	10	1315	1910	1545	800	800
14000	50	DIDW	8.2	630	10	1315	2220	1545	800	800
15000	50	DIDW	8.79	710	10	1435	2030	1685	898	898
16000	50	DIDW	9.37	710	10	1435	2525	1685	898	898
18000	50	DIDW	8.4	710	15	1435	2130	1945	898	898
20000	50	DIDW	9.33	800	15	1665	2525	1685	1006	1006
24000	50	DIDW	8.85	900	15	1820	2525	2060	1132	1132
27000	50	DIDW	9.96	900	15	1820	2835	2060	1132	1132
30000	50	DIDW	8.85	1000	15	1910	3140	2220	1266	1266
32000	50	DIDW	9.44	1000	15	1910	2685	2600	1266	1266
35000	50	DIDW	8.35	1000	15	1910	3180	2380	1266	1266
40000	50	DIDW	9.34	1120	15	2250	3180	2650	1422	1422
44000	50	DIDW	9.45	1120	15	2250	3490	2650	1422	1422
50000	50	DIDW	9.4	1250	30	2370	3280	3320	1585	1585
55000	50	DIDW	10.3	1250	40	2370	3280	3650	1585	1585
60000	50	DIDW	9	1400	40	2670	3580	3935	1780	1775

NOTE: ALL TECHNICAL & DIMENSIONS ARE ONLY FOR REFERENCE

DIMENSIONS TABLE OF FAN SECTION WITH DOUBLE BLOWER



DOUBLE SKIN FAN SECTION WITH DOUBLE BLOWER

Air Volume (CFM)	Static Pressure (mmwg)	Fan Type	Outlet Vel. (m/s)	Fan Dia (mm)	Motor (HP)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
10000X2	50	DIDW	9.26	560X2	7.5X2	1210	3440	1395	710	710
12000X2	50	DIDW	8.85	630X2	10X2	1315	3800	1545	800	800
15000X2	50	DIDW	8.79	710X2	10X2	1435	3980	1685	898	898
18000X2	50	DIDW	8.4	710X2	15X2	1435	4060	1945	898	898
20000X2	50	DIDW	9.33	800X2	15X2	1660	5010	1875	1006	1006
22000X2	50	DIDW	8.11	900X2	15X2	1820	5050	2060	1132	1132
25000X2	50	DIDW	9.22	900X2	15X2	1820	5350	2060	1132	1132
27500X2	50	DIDW	8.11	1000X2	15X2	1910	5700	2195	1266	1266
30000X2	50	DIDW	8.85	1000X2	20X2	1910	6280	2195	1266	1266

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The intention of this brochure is to introduce you to, and acquaint you with the capabilities of the HUMIDIN organization in the offered product areas. It will not answer all your immediate questions, and indeed, it will no doubt raise others. We welcome your interest in our products and shall be very pleased to provide further information.

GUARANTEES

HUMIDIN guarantees its products to be free of defects in materials and workmanship for a period of one year from the date of delivery from the factory, provided motors are properly installed with overload protector. Humidin agrees to repair or replace defective parts or part to be returned to the factory, all transportation charges prepaid. Humidin does not guarantee against abrasion, corrosion or erosion. Humidin shall not be held responsible for any charges in connection with the removal or replacement of alleged defective equipment nor for incidental consequential damages

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