

WET SCRUBBER



Quality Speaks For Itself



WET SCRUBBER

HUMIDIN WET SCRUBBER

A Wet Scrubber Double Skin is an advanced variation of the conventional wet scrubber used in air pollution control. This type of scrubber features a double-layered (or double-skin) structure, which improves its efficiency, safety, and durability in managing industrial emissions. The double-skin design typically consists of two layers of materials or barriers, which provide enhanced protection, better thermal insulation, and more effective removal of pollutants from the exhaust gases.

FEATURES

1. Double-Layered Protection:

The primary feature of a double skin wet scrubber is its two-layered structure. The outer skin serves as an additional barrier to protect against corrosion, heat, and external environmental factors, while the inner layer handles the actual scrubbing process, interacting with exhaust gases to remove pollutants.

2. Enhanced Durability and Longevity:

The double skin construction significantly improves the scrubber's durability, especially in harsh or corrosive environments. The outer skin can be made of materials resistant to corrosion (such as stainless steel or fiberglass), extending the lifespan of the scrubber by preventing wear and tear due to aggressive chemicals or high temperatures.

3. Improved Thermal Insulation:

Wet scrubbers with double skins often feature insulation between the two layers, which helps to maintain the desired temperature inside the system. This thermal insulation prevents heat loss and ensures that the scrubber operates efficiently, especially in high-temperature processes like those found in power plants or chemical industries.

4. Better Pollution Control:

The design allows for more effective scrubbing of gases by providing extra surface area for gas-liquid contact. The double-skin system can increase the residence time of exhaust gases within the scrubber, allowing better removal of particulate matter, acid gases, and volatile organic compounds (VOCs).

5. Energy Efficiency:

The added insulation and double-layered construction can reduce energy consumption by maintaining the temperature of the scrubbing liquid more effectively. This leads to lower operating costs, especially in systems where temperature control is critical for optimal scrubbing performance.

6. Maintenance and Safety:

The double-skin design makes the system easier to maintain. The outer layer acts as a protective shield for internal components, reducing the need for frequent repairs or replacements due to environmental wear. Additionally, the outer skin can be designed with easy access points for inspection and maintenance, improving safety and operational efficiency.

7. Reduced Noise and Vibration:

The double-skin construction can help minimize noise and vibration during operation. This is particularly beneficial in industries where noise pollution is a concern. The additional insulation and structural design can dampen sound waves and reduce operational noise, improving working conditions.

8. Resistance to Leakage and Structural Deformation

The double skin design provides additional structural strength, minimizing the risk of leakage of scrubbing liquid or exhaust gases. It also helps maintain structural stability under pressure, temperature variations, and continuous operation.

9. Protection Against External Environmental Conditions

The outer skin acts as a shield against rain, dust, sunlight, and mechanical impact. This makes the scrubber suitable for outdoor installations and ensures reliable performance under varying climatic conditions.

10. Customizable Construction Materials

Both inner and outer skins can be fabricated using different materials based on process requirements, such as mild steel, stainless steel, FRP, or rubber-lined steel. This flexibility allows the scrubber to be tailored for specific industries and pollutants.

11. Compliance with Environmental and Safety Standards

The enhanced design supports compliance with environmental emission norms and industrial safety regulations. Improved containment, efficient scrubbing, and reduced noise contribute to meeting statutory and regulatory requirements.

APPLICATION

• Power Generation Plants

In coal-fired or gas-fired power plants, wet scrubbers with double skins are used to remove sulfur dioxide (SO₂) and other acidic gases from exhaust streams. The double skin helps protect the scrubber from high temperatures and corrosive substances found in the flue gases.

• Chemical Manufacturing:

Chemical plants often produce acidic or toxic gases that are challenging to treat. The wet scrubber double skin design ensures that these pollutants are effectively removed while protecting the scrubber from corrosion caused by the chemicals in the exhaust.

- **Waste Incineration Plants:**

Waste-to-energy plants rely on wet scrubbers to remove pollutants from the combustion of waste. A double-skin scrubber can handle the high temperatures and aggressive pollutants produced in this process, providing more robust performance and longer service life.

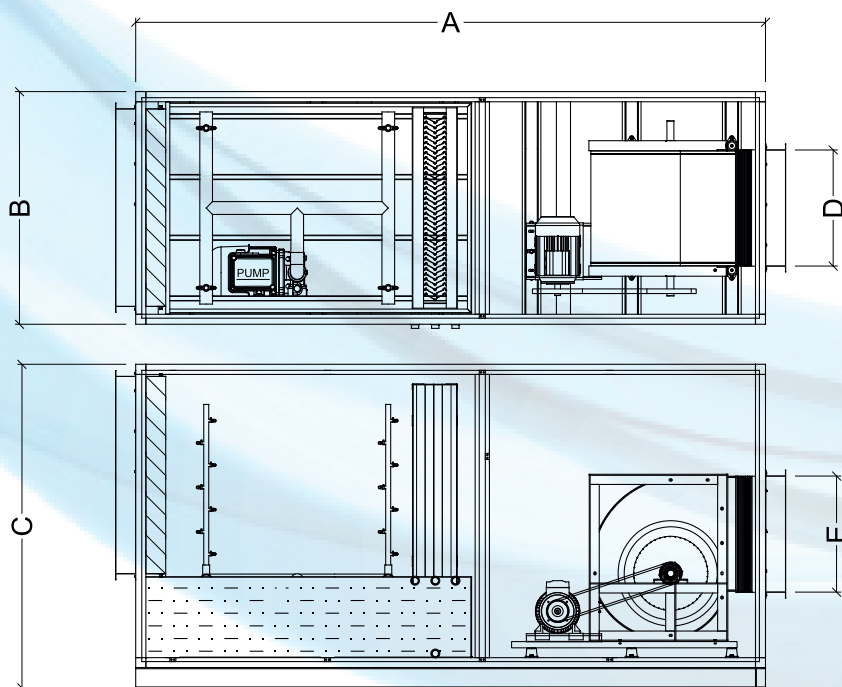
- **Refineries**

Refineries deal with volatile organic compounds (VOCs), sulfur compounds, and other pollutants that can be effectively removed using wet scrubbers. The double-skin design enhances the scrubber's ability to handle these harsh chemicals while offering additional protection against corrosion.

- **Food Processing and Pharmaceutical Plants**

These industries may need wet scrubbers to control odors, VOCs, or other emissions. The double-skin construction ensures that the scrubber performs optimally even in challenging operating conditions.

DIMENSIONS TABLE OF WET SCRUBBER WITH SINGLE BLOWER

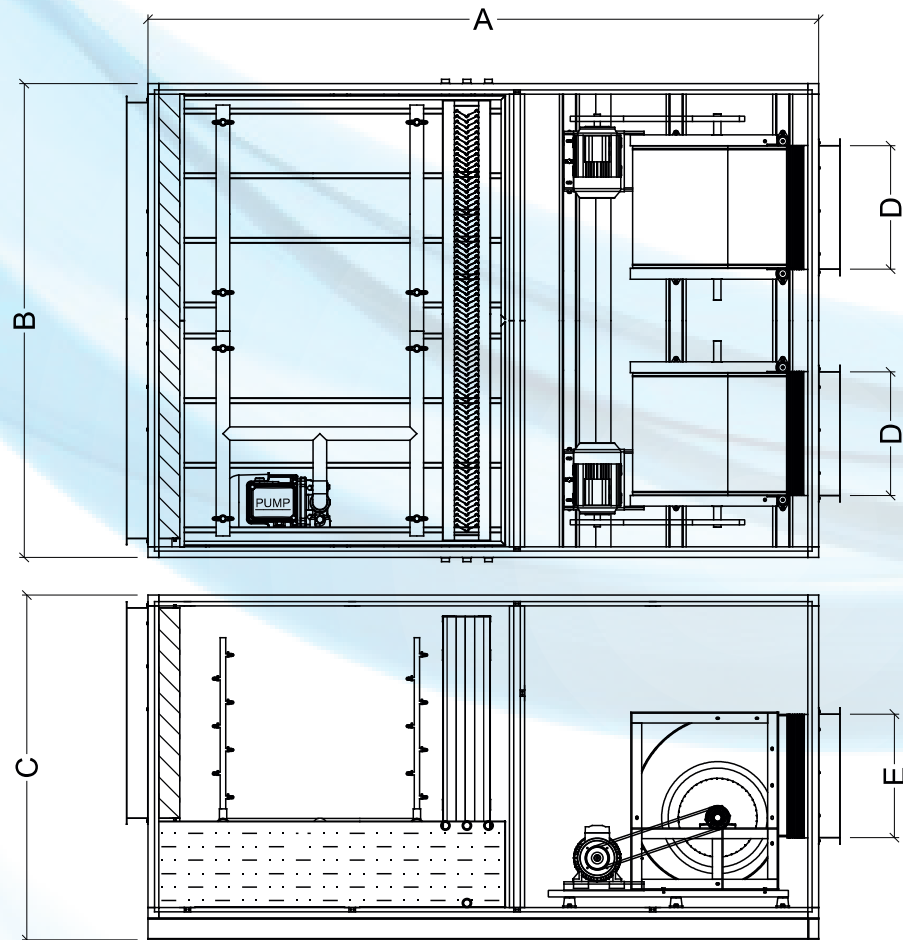


DOUBLE SKIN WET SCRUBBER (DOUBLE BANK) WITH SINGLE BLOWER

AIR VOLUME (CFM)	STATIC PRESSURE (mmwg)	FAN TYPE	FAN DIA (mm)	O.Vel (m/s)	MOTOR (HP)	PUMP (HP)	PUMP PHASE	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
1000	65	DIDW	225	5.7	0.75	1	3	2650	900	900	288	288
2000	65	DIDW	250	9	1.5	1	3	2650	1000	1050	322	322
3000	65	DIDW	315	8.7	3	1	3	2650	1000	1200	402	402
4000	65	DIDW	355	9.26	3	1.5	3	2800	1000	1350	452	452
5000	65	DIDW	400	9.22	5	1.5	3	2900	1100	1400	507	507
6000	65	DIDW	450	8.8	5	2	3	2900	1150	1500	568	568
8000	65	DIDW	500	9.4	7.5	2	3	3100	1500	1500	634	634
9000	65	DIDW	560	8.4	7.5	2	3	3100	1600	1700	710	710
10000	65	DIDW	560	9.37	7.5	3	3	3100	1600	1700	710	710
12000	65	DIDW	630	8.85	10	3	3	3200	1800	1800	800	800
14000	65	DIDW	630	10.3	10	3	3	3200	1800	2000	800	800
15000	65	DIDW	710	8.8	10	3	3	3400	1800	2100	898	898
16000	65	DIDW	710	9.37	15	3	3	3400	1800	2200	898	898
18000	65	DIDW	710	10.5	15	5	3	3400	2000	2200	898	898
20000	65	DIDW	800	9.33	15	5	3	3600	2300	2200	1006	1006
24000	65	DIDW	900	8.8	20	5	3	3800	2450	2350	1132	1132
27000	65	DIDW	900	9.9	20	5	3	3800	2450	2600	1132	1132
30000	65	DIDW	1000	8.8	20	5	3	4000	2450	2850	1266	1266
32000	65	DIDW	1000	9.4	25	5	3	4000	2600	2850	1266	1266
35000	65	DIDW	1000	10.3	25	5	3	4000	2850	2850	1266	1266
40000	65	DIDW	1120	9.34	30	7.5	3	4200	3150	2850	1422	1422
44000	65	DIDW	1120	10.27	30	7.5	3	4200	3500	2850	1422	1422
50000	65	DIDW	1250	9.4	40	7.5	3	4500	3800	3000	1585	1585
55000	65	DIDW	1250	10.3	40	10	3	4500	4200	3000	1585	1585
60000	65	DIDW	1400	9	40	10	3	4700	4200	3200	1780	1780

NOTE: ALL TECHNICAL & DIMENSIONS ARE ONLY FOR REFERENCE

DIMENSIONS TABLE OF WET SCRUBBER WITH DOUBLE BLOWER



DOUBLE SKIN WET SCRUBBER (DOUBLE BANK) WITH DOUBLE BLOWER

AIR VOLUME (CFM)	STATIC PRESSURE (mmwg)	FAN TYPE	FAN DIA (mm)	O.Vel (m/s)	MOTOR (HP)	PUMP (HP)	PUMP PHASE	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
10000X2	65	DIDW	560X2	9.37	7.5 x 2	5	3	3100	3200	1700	710	710
12000X2	65	DIDW	630X2	8.85	10 x 2	5	3	3200	3600	1800	800	800
15000X2	65	DIDW	710X2	8.8	10 x 2	5	3	3400	3600	2100	898	898
18000X2	65	DIDW	710X2	10.5	15 x 2	5	3	3400	4000	2200	898	898
20000X2	65	DIDW	800X2	9.33	15 x 2	7.5	3	3600	4600	2200	1006	1006
22000X2	65	DIDW	900X2	8.11	15 x 2	7.5	3	3800	4900	2350	1132	1132
25000X2	65	DIDW	900X2	9.2	20 x 2	7.5	3	3800	4900	2350	1132	1132
27500X2	65	DIDW	1000X2	8.1	20 x 2	10	3	4000	4900	2850	1266	1266
30000X2	65	DIDW	1000X2	8.8	20 x 2	10	3	4000	4900	2850	1266	1266

NOTE: ALL TECHNICAL & DIMENSIONS ARE ONLY FOR REFERENCE

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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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