










*High Performance
Wet Scrubbers*



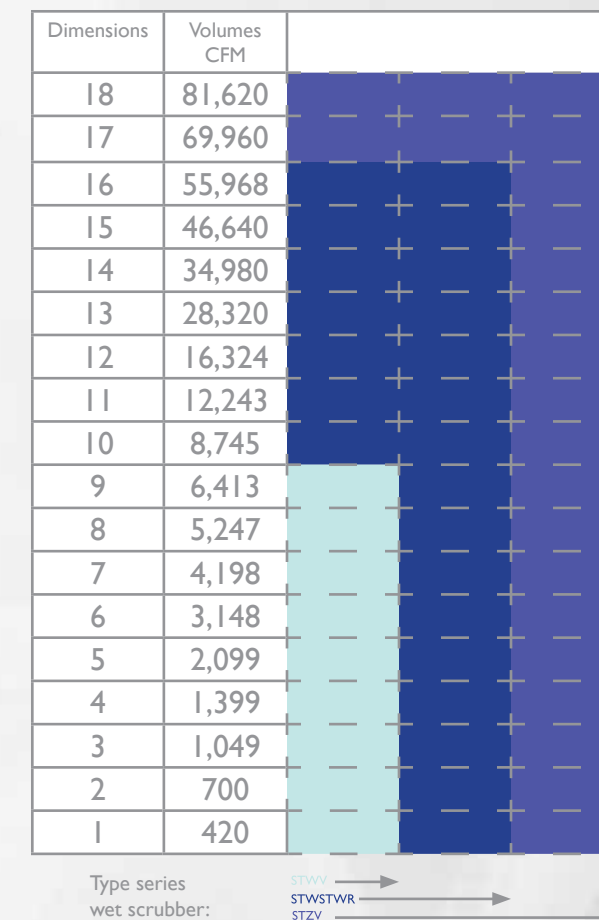
LOOKING FOR SAFE SOLUTIONS TO HAZARDOUS SUBSTANCES IN YOUR PRODUCTION PROCESSES?

| | | |
|---|------------------------------|---|
|  | Steam | Washing machines, waste treatment, soldering, die-casting machines, releasing spark discharge material removal machines, paint-stripping units, electro-plating |
|  | Fumes | Welding, laser applications, smelt furnaces, engine test rigs, cut-off machines, foundries, crematories, baking and glass smelting processes, incineration plants |
|  | Aluminum Magnesium Dust | Minimal lubrication, grit production, chip removal, de-burring, brushing, separating, finishing processes, forging processes |
|  | Aluminum Magnesium Chippings | Drilling, machining, rough machining, sawing, de-burring, forming processes |
|  | Rubber/Leather/Plastic Fumes | Shoe manufacture, tire re-treading, plastics processing, foils production, extruders |
|  | Fibers/Fluff/Textile Dust | Polishing processes, paper machines, waste sorting systems, textile processing recycling plants, insulation material production, asbestos abatement |
|  | Sticky Powders | Pharmaceutical processes, manufacturing of foodstuffs, animal feed, dyes mold and die manufacture, printing machines, tire and chip production, adhesive applications, textile finishing, mixing and conveying plants |
|  | Greasy Vapors | Canteens, animal carcass disposal plants, food production, wash units, mix stations, pharmaceutical products, de-greasing plants, meat processing industry |
|  | Flammable/Explosive Dusts | Grinding processes, finishing, polishing, blasting machines, explosives production, forging presses, grain processing, printed circuit board production, brake test rigs |
|  | Carbon Dusts | Bentonite applications, furnace soot, mix stations, tire production, cement industry, mining, mold and die production, dye production |

ALL OF THE DIFFERENT TYPES OF WET SCRUBBERS PROVIDE NUMEROUS ADVANTAGES:

- No filter elements required
- The safest solution when dealing with flammable/explosive materials
- Compliance with TALuft
- Compliance with BG guidelines, in particular BGR104/109/204
- Universal applications
- High-level separation combined with safe operating modus
- Space-saving, modular design
- Low-maintenance assembly
- Individually available in steel, stainless steel, plastic

Choose the best size of wet scrubber for any volume of air:



| | |
|---|---|
| Agents, Paint vapors, Cooling aggregates, Units, Lead Production, Electro-galvanizing |  |
| Tempering, Die-casting, Glory Holes, Fire Protection | |
| Grinding and Polishing | |
| Recycling systems | |
| Modeling, Textiles Manufacturing |  |
| Food Processing, Grain Processing | |
| Plastics Processing, Ceramic Coating | |
| Bio-Filtration Units | |
| Recycling and Drying Units, Power Plant Engineering, Mining |  |
| Electrodes Manufacturing | |
|  | |

TYPE STWV:

Extremely versatile combined with robust design to meet a wide variety of applications.

Functional features:

The Handte STWV wet scrubber works with an integrated ventilator. Pollutants are separated from the air stream by means of a combination of water swirl and disintegration principle. Pollutant-laden air enters the middle section at a tangent and then deflected. An air flow is routed to generate a strong swirl of water through which the contaminated raw gas must pass. Ultrafine particles are filtered out by means of the ventilator blade which is simultaneously employed as a disintegrator whereby non-separated particles are mixed intensively with water and flung through centrifugal force into a wall of water to achieve a high level of separation. The wetted particles flow back into the bottom part of the equipment together with the scrubbing fluid where they then settle in the water-stilling zone and the cleansed gas escapes through the central ventilation pipe.

TYPE STW:

Specially designed for dealing with fibers and fluff; particularly in combination with sticky dusts.

Functional features:

The Handte STW wet scrubber is a combination of centrifugal and water separator with a downstream ventilator which works on the water swirl principle. The pollutant-laden air is introduced at a tangent and settles as an eddy sink on the surface of the water. The special routing of the air flow generates an intensive swirl of water through which the pollutant-laden gas stream is led. Intensive mixing with the scrubbing fluid causes the pollutants to bond and precipitate. The radial-mounted separating spiral separates the liquid through centrifugal force from the pollutants bound up in it from the gas stream. The cleansed air is sucked in by the downstream ventilator and then blown out.

TYPE STZV:

The absolute top class solution for meeting the very highest demands in scrubbing.

Functional features:

The Handte STZV wet scrubber is designed to incorporate the highly-efficient Venturi principle. Pollutant-laden air is led at a tangent to the scrubber via a Venturi throat sprayed with scrubbing liquid. The air is accelerated in the upstream Venturi throat and the scrubbing liquid finely atomized. The high relative velocity of the air stream and the scrubbing liquid causes an intensive mixing of the media whereby the pollutants agglomerate/settle in the liquid droplets. In the downstream centrifugal droplet separator the pollutant-laden scrubbing fluid is separated from the air stream. The cleansed air escapes through the central pipe to the ventilator which is mounted on the clean gas side. The separated sludge in the sediments area can be disposed over via a variety of discharge systems.

TYPE STWV SCRUBBER SPECIFICATIONS

| STWV - SIZE | 2 | 3 | 5 | 5 | 6 |
|--|---------|---------|---------|---------|---------|
| AIR FLOW (CFM) | 700 | 1050 | 1400 | 2100 | 3150 |
| PRESSURE DROP ("W.G.) | 7.2 | 8.4 | 8.4 | 8.4 | 8.4 |
| PRESSURE DROP AV("W.G.) | 2 | 2.8 | 2.8 | 2.8 | 3.2 |
| MOTOR SPEED RPM | 3000 | 3000 | 3000 | 3000 | 3000 |
| VOLTAGE | 230/460 | 230/460 | 230/460 | 230/460 | 230/460 |
| FREQUENCY | 60 | 60 | 60 | 60 | 60 |
| PROTECTION | IP55 | IP55 | IP55 | IP55 | IP55 |
| NOISE EMISSION LEVEL ACCORDING DINEN ISO 7744 AT OUTLET 1.0 M DISTANCE (DBA) | 80 | 84 | 86 | 89 | 92 |
| MEASURING AREA NOISE LEVEL ACCORDING TO DIN EN ISO 3744 WITH CONNECTING PIPE IN 1.0 M DISTANCE (DBA) | 65 | 69 | 69 | 72 | 72 |
| STWV-K WITH REMOVABLE BIN ON | | | | | |
| BASE PART NUMBER | 9000541 | 900543 | 9000542 | 9000544 | 900545 |
| HEIGHT INCHES | 67.7 | 71.9 | 79.2 | 89.4 | 107.9 |
| BODY DIA INCHES | 20" | 25" | 28" | 32" | 44" |
| WEIGHT, LBS | 420 | 552 | 728 | 948 | 1810 |
| WATER CHARGING VOLUME | 21 | 32 | 43 | 54 | 106 |
| STWV-T WITH DISPOSAL FUNNEL & STANDS | | | | | |
| BASE PART NUMBER | 9000547 | 900548 | 9000549 | 9000550 | 9000551 |
| HEIGHT INCHES | 113.4 | 124 | 130.3 | 150.4 | 166 |
| BODY DIA INCHES | 20" | 25" | 28" | 32" | 44" |
| WEIGHT, LBS | 573 | 706 | 838 | 1081 | 2050 |
| WATER CHARGING VOLUME, GALLONS | 35 | 43 | 56 | 93 | 148 |

OPTIONS

- W54 heavy steel sludge bin
- 25" Sludge Bin, steel
- 31.5" sludge bin, steel
- 25" sludge bin for aluminum application
- 31.5" sludge bin for aluminum application
- Screen basket inlet for 25" sludge bin
- Screen basket for 31.5" sludge bin
- Shut Off Valve
- Automatic water level control NO surface cleaner
- Automatic water level control with surface cleaner
- Other options for automatic level control available

EFFECTIVE SOLUTIONS

Our skilled and qualified team of engineers are engaged in designing and implementing the best solutions for all individual requirements. Employing the best technology and selecting optimal components and accessories, we can ensure operational availability and economic efficiency.

Selection of components:

Modular system components ensure the best possible use; these include:

Attached Ventilators/adjacent ventilators



Ventilator -V
Mounted ventilator with Direct Drive

Water Level Control:



Mechanical float gauges (WR)

Sludge Discharge Facilities:



Bin



Bin with strainer basket

Electrical Controls

Electronic/protection/stored-program controls

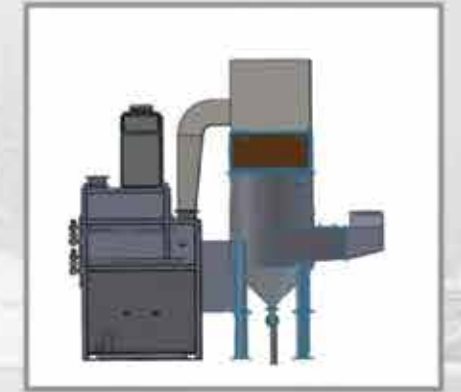
Selection of accessories

Our comprehensive range of accessories allows you utmost flexibility and includes:

- Heating elements for frost-free outdoor installations
- Measuring and control instrumentation for monitoring operations
- Suction line spray for caking media and fire protection
- Ring spray in cylinder of wet scrubber for caking mediums
- Sludge cart (slewable/tiltable)
- Compressed air injector system for cleansing workplaces/machines
- Sound insulation



CAPTURE HOODS, PIPING, AND CLEAN AIR SOLUTIONS



Maximum Performance of Clean Industrial Air Quality

- System Engineering and design
Solid Works 3D engineering
- Certified Air Specialist for onsite air quality testing
- Capture Hoods and Piping available in metric and standard options. Leak free pipe systems for wet or dry applications.
- Complete equipment installation, startup, and operator training. Proven success with guaranteed results. Backed by manufacturer Custom Air Flow Transitions

| Test Result for Mist Separators | | | |
|---------------------------------|-------------------------|--------------------------|-----------|
| Test Time | Intake Air | Exhaust Air | Air Speed |
| 28 seconds | 0.295 mg/m ³ | 0.0041 mg/m ³ | 3900 fpm |
| 39 seconds | 4.12 mg/m ³ | 0.0398 mg/m ³ | 3920 fpm |
| 20 seconds | 0.398 mg/m ³ | 0.003 mg/m ³ | 3980 fpm |
| 30 seconds | 0.005 mg/m ³ | 0.0045 mg/m ³ | 3840 fpm |
| 30 seconds | 1.17 mg/m ³ | 0.161 mg/m ³ | 2400 fpm |
| 20 seconds | 5.401 mg/m ³ | 2.801 mg/m ³ | 3560 fpm |

METHODOLOGY OF DUST TRAK ANALYZING

DUSTTRAK monitoring provides a reliable exposure assessment by measuring particle concentrations. This testing method has a continuous particle concentration laser photo meter which provides readout and documentation of potential levels of airborne contaminants such as dust, smoke, fumes, and mist. The DUSTTRAK measures the mist/dust levels in milligrams (mg) / cubic meter (m³). These test results are a snapshot of the actual conditions at any given time and will act as a guide to meet the air quality levels as recommended by OSHA and NIOSH.



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