



FRIDURIT[®] **FUME SCRUBBER**

Decentralised treatment of acidic exhaust air

www.kyocera-solutions.de

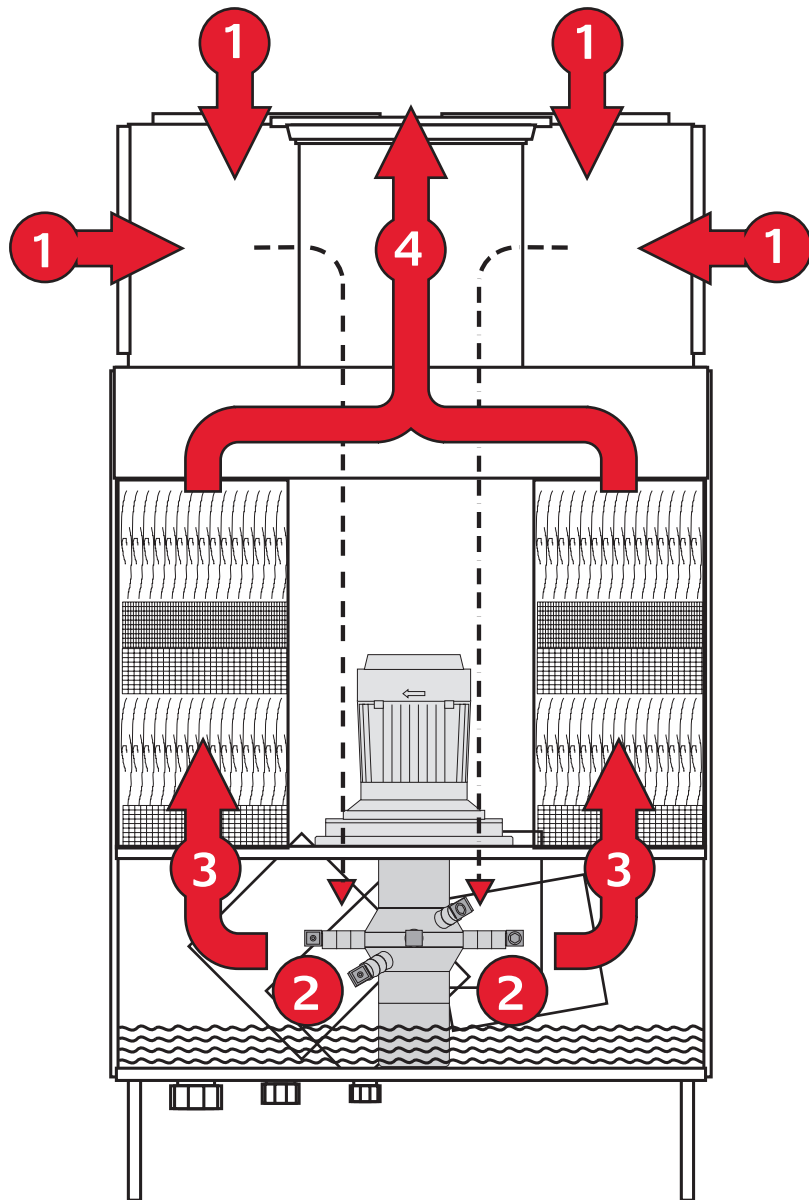
COMPACT DESIGN **HIGHEST ABSORPTION EFFICIENCY**

FRIDURIT fume scrubbers allow decentralised exhaust air treatment directly at the source of emission. Your advantage: efficient work processes, preservation of your building substance and protection of the environment.

FRIDURIT fume scrubbers work according to a highly efficient absorption principle that has been developed and optimised during numerous practical tests. Intelligent air ducts make low air resistance inside the system possible. This means that the size of ventilation components – and as a result the energy costs for the entire system – can be kept to a minimum.



FRIDURIT fume scrubber C180 with FRIDURIT neutralisation unit for the treatment of the contaminated waste-water from the fume scrubber.



THE FUNCTIONAL PRINCIPLE

- 1 The contaminated exhaust air is suctioned directly into the absorption room through noxious gas tubes.
- 2 Intensive scrubbing of the pollutants in the scrubbing liquid spray, which is produced by the spray wheel, takes place there.
- 3 Absorption is optimised and the residual liquid is separated by means of agglomerators and droplet separators.
- 4 The purified waste-air is led into the downstream duct system through the clean air connector.

ECONOMICAL. EFFICIENT. SUSTAINABLE. **IN A NUTSHELL**

FRIDURIT fume scrubbers are hallmarked by the following:

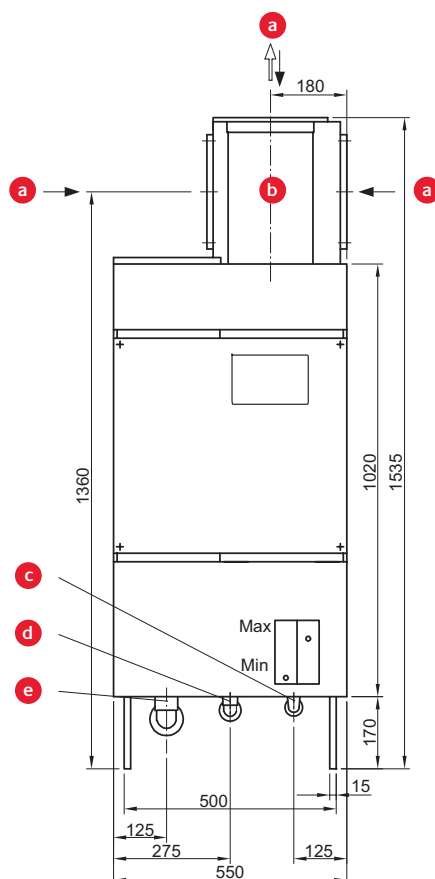
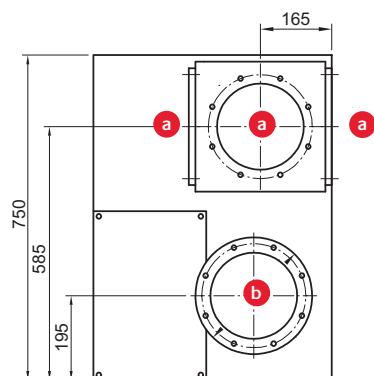
- ▶ Highest degree of absorption efficiency of up to 97 % despite compact design.
- ▶ Approx. 30 % less air resistance than when using comparable equipment.
- ▶ Significantly lower investment and operating costs than central cleaning systems.
- ▶ The units can be mounted in the fume cupboard, beside the fume cupboard or in an adjoining room.
- ▶ Extremely simple to operate and largely language-independent due to intuitive operation.
- ▶ Spray function remains in operation during the fully automatic exchange of scrubbing liquid. Work in the fume cupboard can continue without interruption.
- ▶ The level of pollutants in the scrubbing liquid can be measured and used for controlling scrubbing liquid exchange.
- ▶ A comprehensive range of accessories, e.g. fans, ventilation components or special control units, allow for individual system adjustments to respective application.
- ▶ The system has been optimised for the use of process water as scrubbing liquid. The addition of hazardous substances, such as sodium hydroxide can be avoided.
- ▶ Materials that come in contact with media are largely resistant to chemicals, separable according to type and are recyclable.
- ▶ A well-organised service network together with numerous trade partners both at home and abroad provide support for any maintenance and repairs needed.
- ▶ Sanitary, electrical and ventilation connections are constantly improved in cooperation with our customers.
- ▶ Each FRIDURIT fume scrubber is checked for functionality as well as for adherence to internal quality criteria prior to dispatch.
- ▶ Spare parts are generally available for the entire lifetime of the units. Constant care is taken that newly-developed parts are compatible with those used so far.
- ▶ In order to reduce interfaces, control, operation and measurement technology are combined to a single unit.
- ▶ The operating module included in the scope of supply allows easy operation of the fume scrubber from the fume cupboard.
- ▶ If no central unit is available for the chemically contaminated waste-water from the fume scrubber, the FRIDURIT neutralisation unit will take on this task.

OVERVIEW OF TECHNICAL DATA

| | Fume scrubber C54 | Fume scrubber C90 | Fume scrubber C75 | Fume scrubber C180 |
|--|---|-------------------------------|---|------------------------|
| Arrangement: | Installation in the fume cupboard ceiling | | Installation next to the fume cupboard or free-standing | |
| Materials used (parts with media contact) | Housing and spray wheel: Polypropylene, fittings: PVC-U, seals: EPDM/PTFE | | | |
| Ventilation data: | | | | |
| Air flow in m³/h | 480–900 | 600–1400 | 480–750 | 600–1800 |
| Pressure drop in Pa | 200–530 | 260–1140 | 320–540 | 160–1020 |
| Air inlet | 2 tubes DN 200 (underside) | 2 tubes DN 200 (underside) | Block flange DN 200 | Block flange DN 250 |
| Air outlet | 1 tube DN 250 | 1 tube DN 250 | 1 flange DN 200 | 1 flange DN 315 |
| Dimensions and weights: | | | | |
| Width in mm | 950 | 1220 | 550 | 850 |
| Depth in mm | 710 | 710 | 750 | 750 |
| Height in mm | 550 | 550 | 1535 | 1535 |
| Water volume in liters, approx. | 45 | 60 | 45 | 70 |
| Weight empty in kg, approx. | 90 | 110 | 90 | 120 |
| Total weight in kg, approx. (filled) | 135 | 170 | 135 | 190 |
| Water connection: | | | | |
| Feed | DN 10 | DN 10 | DN 10 | DN 10 |
| Outlet | DN 32 | DN 32 | DN 20 | DN 20 |
| Overflow | DN 32 | DN 32 | DN 32 | DN 32 |
| Inspection openings: | | | | |
| Inspection cover | 2 | 2 | 1 | 2 |
| Inspection window, front | Yes | Yes | No | No |
| Electrical control: | | | | |
| Control unit | Plastic housing with electronic logic controller, LCD-display with control keys, switch unit for spray wheel motor, operating mode selector switch, repair switch, terminals for accessories, operating module with membrane keyboard | | | |
| Power supply | Three-phase 400/230 Volt, 50 Hz, 3L/N/PE, 0.55 kW. Connection using plug-in connector. | | | |
| Level control | 2 level switches for minimum and maximum filling level | | | |
| Sanitary components | 1 solenoid feed valve with soil trap and manual ball valve, 1 solenoid outlet valve. | | | |
| Scrubbing liquid exchange | Time-dependent control, times can be set within wide range, optional using conductivity measurement. | | | |
| Optional accessories | Probe with integrated measuring amplifier for measuring electrical conductivity, pre-alkalisation unit for scrubbing liquid. Additional accessories in the respective chapter. | | | |
| Protection type | Motor IP 54, control unit rear IP 40, front IP 54. | | | |

FRIDURIT[®] FUME SCRUBBERS

TECHNICAL DRAWINGS TYPE C75



a. Noxious gas inlet DN 200 with 8 thread inserts M6 on LK240

b. Clean air outlet with 8 holes Ø7 on LK 240

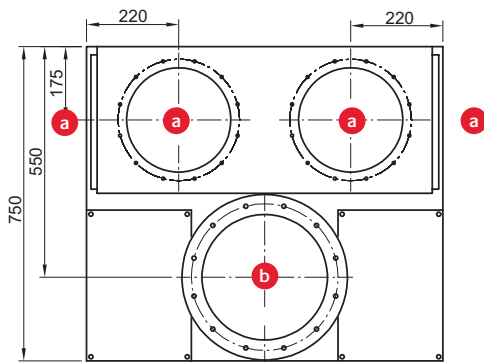
c. Water feed DN15 with screw connection and hose connector

d. Water outlet DN20 with screw connection and hose connector

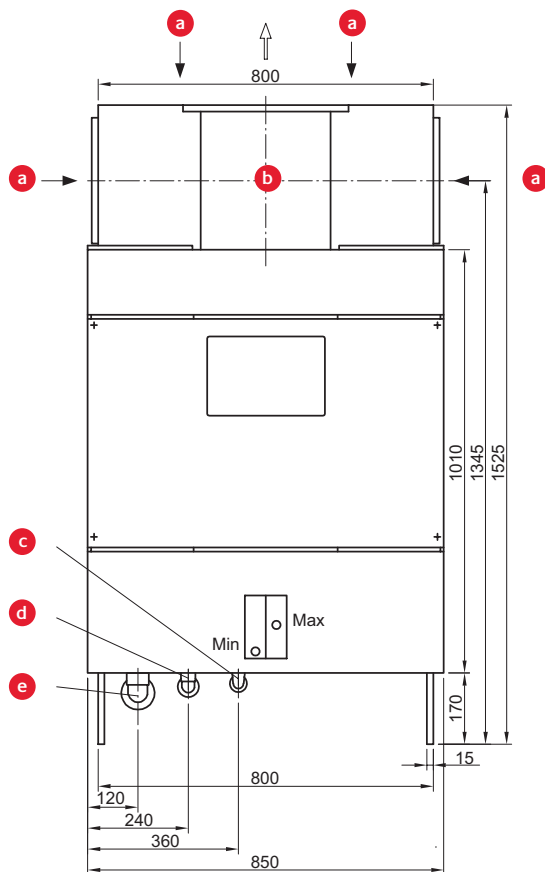
e. Water overflow DN32 with hose connector

FRIDURIT® FUME SCRUBBERS

TECHNICAL DRAWINGS TYPE C180



- a. Noxious gas inlet with 12 thread inserts M6 on LK290
- b. Clean air outlet with 12 holes Ø9 on LK350



- c. Water feed DN15 with screw connection and hose connector
- d. Water outlet DN20 with screw connection and hose connector
- e. Water overflow DN32 with hose connector



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