



FRIDURIT[®] FUME SCRUBBER

Decentralised treatment of acidic exhaust air

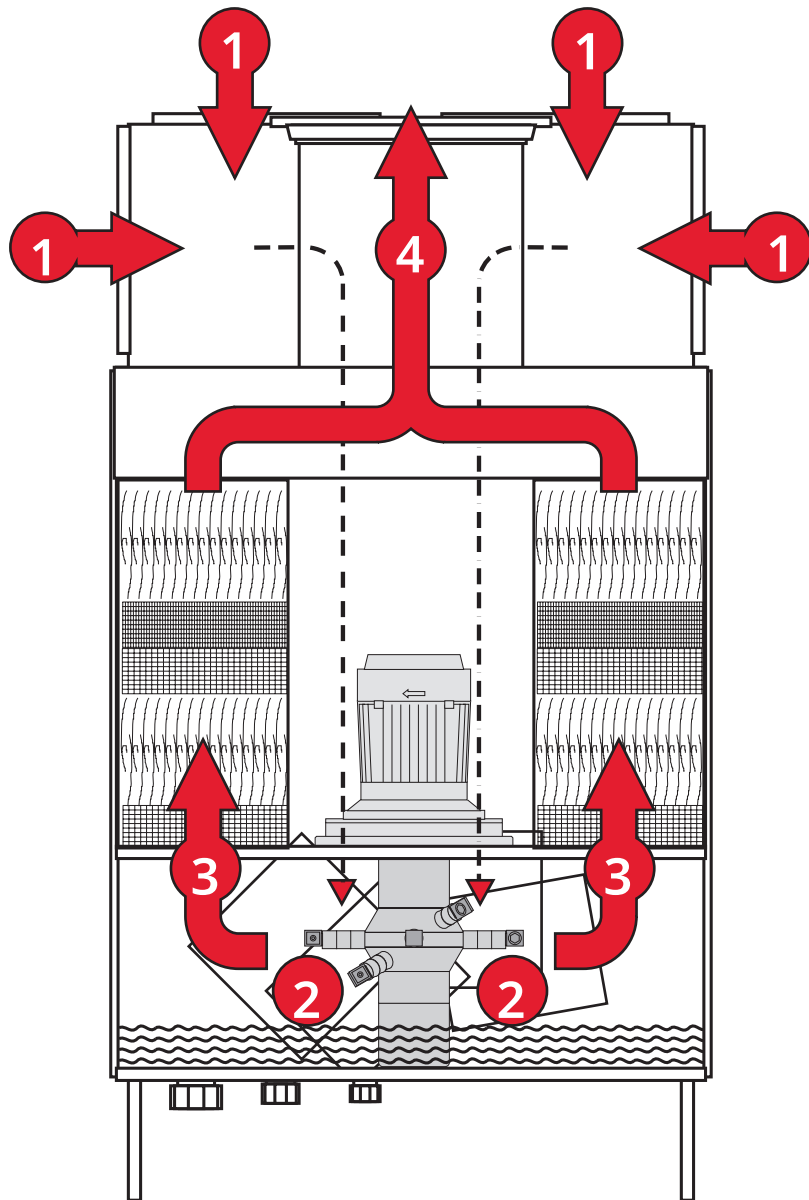
COMPACT DESIGN HIGHEST ABSORPTION EFFICIENCY

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

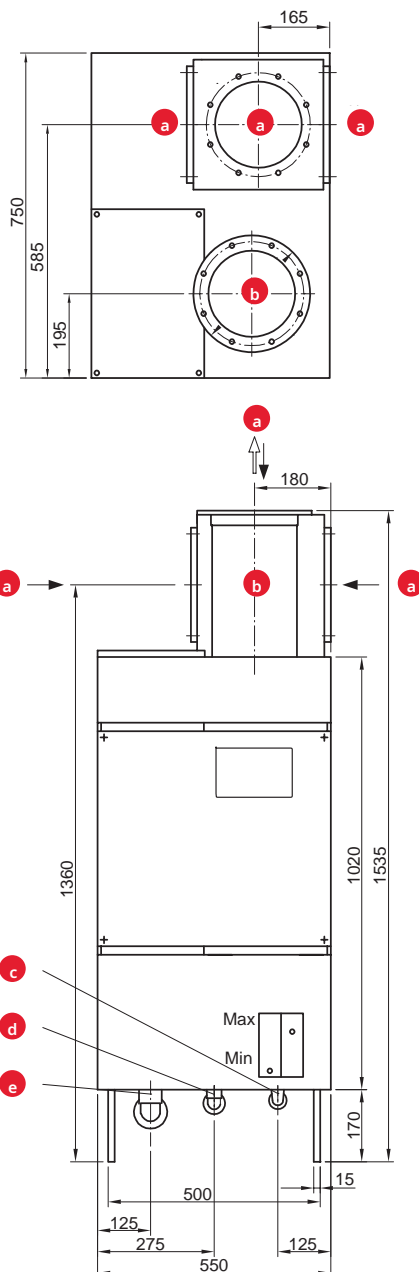
FRIDURIT fume scrubbers are hallmarked by the following:

- ▶ 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 C75	Fume scrubber C180
Arrangement:	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 m ³ /h	480–750	600–1800
Pressure drop in Pa	320–540	160–1020
Air inlet	Block flange DN 200	Block flange DN 250
Air outlet	1 flange DN 200	1 flange DN 315
Dimensions and weights:		
Width in mm	550	850
Depth in mm	750	750
Height in mm	1535	1535
Water volume in liters, approx.	45	70
Weight empty in kg, approx.	90	120
Total weight in kg, approx. (filled)	135	190
Water connection:		
Feed	DN 10	DN 10
Outlet	DN 20	DN 20
Overflow	DN 32	DN 32
Inspection openings:		
Inspection cover	1	2
Inspection window, front	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

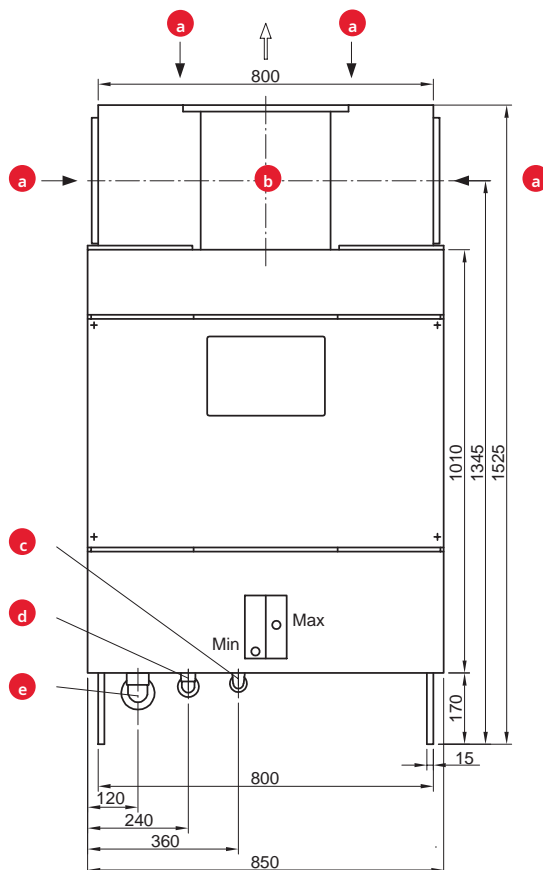
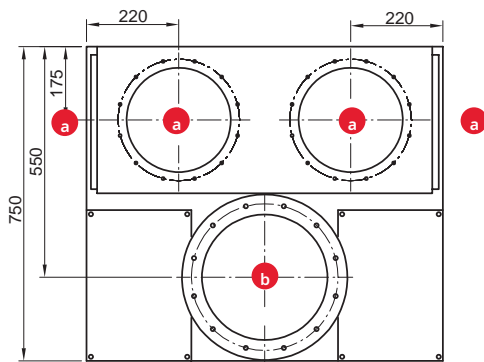
b. Clean air outlet with 8 holes Ø7 on LK 240

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 $\varnothing 9$ 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

ABOUT KYOCERA



The global Kyocera corporation - a strong partner.

- ▶ **Headquarters:** Kyoto, Japan
- ▶ **Foundation:** 1959
- ▶ **Employees:** over 83.000 worldwide
- ▶ **European headquarters:** Esslingen, Germany
- ▶ **European production sites:** Mannheim, Germany
Selb, Germany
(further subsidiaries in Europe)

 **KYOCERA** = **KYOTO CERAMICS**

KYOCERA – it all began with ceramics

KYOCERA Fineceramics Europe GmbH is part of KYOCERA Corporation, headquartered in Kyoto, Japan, one of the world's leading manufacturer of high-performance ceramic components for the technology industry. Today, the Kyocera Group offers over 200 different ceramic materials and state-of-the-art technologies and services tailored to the individual needs of each market

KYOCERA Fineceramics Europe GmbH has grown steadily in recent years – and is now a leading European supplier of customised solutions made of technical ceramics. Working in partnership, we develop and manufacture products that offer our customers added value in their respective markets and secure their technological lead in the long term. We are committed to this every day.

Throughout Europe, we are represented by two production and development sites in Mannheim and Selb, as well as six sales offices –

in Mannheim, Selb, Esslingen, Neuss, Rungis (France) and Frimley (United Kingdom).

Our hearts beat completely for ceramics. Our team provides comprehensive advice on the selection of ceramic materials, product design and project execution – from the development stage to prototyping.

We supply system components for high-tech applications in numerous industries. Our products are characterised by high quality, precision and durability.

Our business partners benefit from the fact that we think and work across divisions within the Kyocera Group. Because innovations and real milestones can only be achieved together – across industries and national borders.

This is what we believe.

About the KYOCERA Group

KYOCERA Corporation (Kyoto) is one of the world's leading manufacturers of high-performance ceramic components for the technology industry.

Strategically important business areas of the Kyocera Group, which consists of around 300 subsidiaries, are information and communications technologies, products to improve the quality of life, and environmentally friendly products. The technology group is also one of the most experienced producers of smart energy systems worldwide.

The products marketed by the company in Europe include printers, digital copying systems, semiconductor-, fine ceramic-, automotive- and electronic components as well as printing devices and ceramic kitchen products. Kyocera is represented in Germany by four independent companies:

- KYOCERA Europe GmbH (Esslingen and Neuss),
- KYOCERA Fineceramics Europe GmbH (Mannheim, Selb, Esslingen and Neuss)
- KYOCERA Automotive and Industrial Solutions GmbH (Dietzenbach)
- KYOCERA Document Solutions GmbH (Meerbusch)

The company also takes an active interest in cultural affairs. The Kyoto Prize, a prominent international award, is presented each year by the Inamori Foundation – established by Kyocera founder Dr. Kazuo Inamori – to individuals worldwide who have contributed significantly to the scientific, cultural, and spiritual betterment of humankind.





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