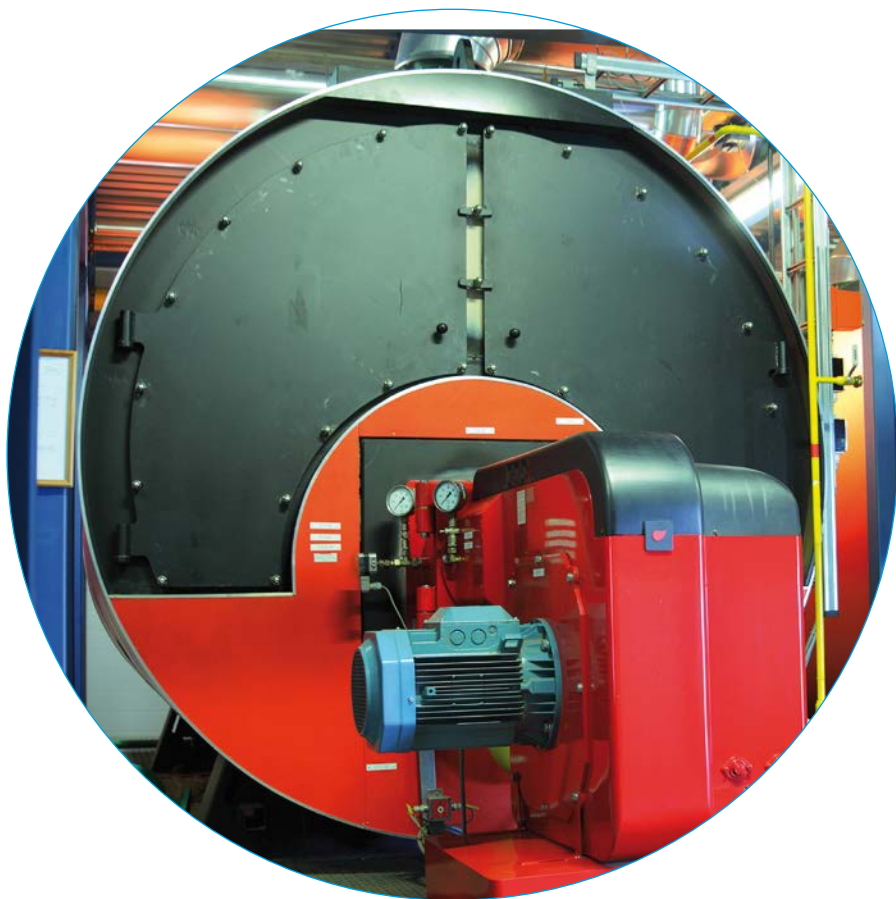




Ergonomic,
fast,
clean!





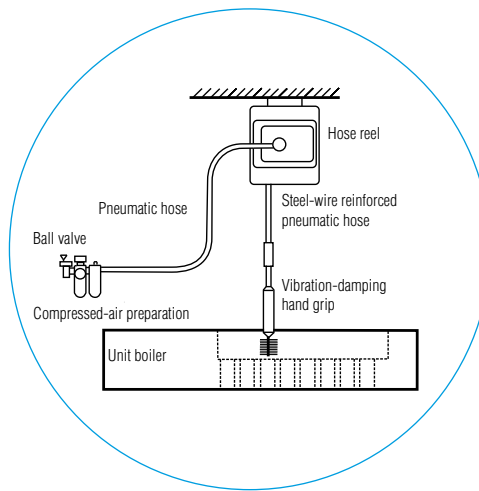
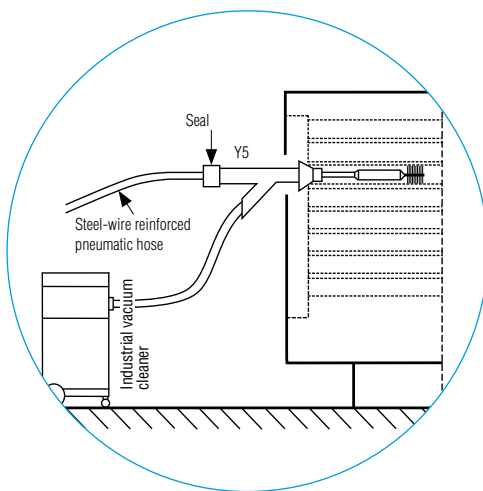
Why clean?

Combustion residues form during the combustion of gas, oil or biomass, which deposit on the inner wall of flue gas pipes. Due to their **insulating effect**, even light deposits noticeably reduce efficiency. Regular cleaning of flue gas pipes **reduces fuel consumption** and thus operating costs.



What does the FERRET machine do?

The FERRET pipe cleaning machine is a **user-friendly and handy tool** for cleaning **horizontal and vertical** flue gas pipes. This eliminates the need for strenuous cleaning with brushes on a rod or awkward fiddling with rotating shafts. This significantly reduces the cleaning time. The FERRET machine is driven **pneumatically**. The **oscillating brush** propels the machine forward automatically and ensures an excellent cleaning result. **Air consumption is low**. A work area of approx. 0.5 m in front of the boiler is more than sufficient. Use the FERRET machine to clean your flue gas pipes up to a **residual temperature of 150 °C**. The use of special vacuum cleaner nozzles means that work is carried out virtually dust-free.



The FERRET machine runs on its own through to the end of the pipe. Pulling on the pneumatic hose reverses the direction of travel.

For cleaning flue gas pipes in...

- Heating boilers
- Steam boilers
- Economisers (feedwater preheaters)
- Exhaust gas boilers and auxiliary boilers on ships



FERRET Machines

FERRET machines are high-quality industrial tools with a long service life. Whether 27.0 or 450.0 mm, we have the right solution for any pipe diameter.

FERRET90

Our smallest *FERRET* machine. Suitable for small boilers with pipe diameters between 27.0 and 34.0 mm



FERRET125RH

It fills the gap between the *FERRET90* and the *FERRET150RH*. The operating range is between 34.0 and 60.0 mm.



FERRET150RH

The all-round solution. With its large operating range of 42.0 to 150.0 mm, a *FERRET* machine can be used to clean the most common flue gas pipes.



FERRET200

For really large pipes. This *FERRET* machine is used for pipes in the range of 80.0 to 450.0 mm.



Technical data	<i>FERRET90</i>	<i>FERRET125RH</i>	<i>FERRET150RH</i>	<i>FERRET200</i>
Drive	pneumatic	pneumatic	pneumatic	pneumatic
Operating pressure	2.0 - 4.5 bar	3.5 - 7.5 bar	3.5 - 7.5 bar	3.5 - 7.5 bar
Air consumption	105 l/min - 3 bar	306 l/min - 5 bar	360 l/min - 5 bar	650 l/min - 4 bar
Diameter	23.0 mm	31.8 mm	38.0 mm	69.0 mm
Weight	0.4 kg	1.2 kg	1.6 kg	2.8 kg
Noise level	approx. 85 dBA	approx. 85 dBA	approx. 85 dBA	approx. 85 dBA
Speed	approx. 15 m/min	approx. 20 m/min	approx. 20 m/min	approx. 20 m/min
Air outlet	at the housing	at the housing	at the housing	at the housing
Pipe inside diameter	27.0 - 34.0 mm	34.0 - 60.0 mm	42.0 - 150.0 mm	80.0 - 450.0 mm

FERRET Sets

Whether for stationary use in a boiler house or constantly changing places of use in industrial services, we have the right package for any application. All sets can be combined with the *FERRET90*, *FERRET125RH*, *FERRET150RH* or *FERRET200*.

Basic cleaning station – for stationary use

- cleaning machine
- vibration-damping hand grip or vacuum cleaner nozzle
- 5-metre pneumatic hose
- foot switch with steel plate
- 10-metre steel-wire reinforced pneumatic hose
- compressed-air preparation unit, oil and oil can



Mobile cleaning system – for flexible, on-site use

- cleaning machine
- vibration-damping hand grip or vacuum cleaner nozzle
- 10-metre steel-wire reinforced pneumatic hose
- portable compressed-air preparation unit with foot switch, oil and oil can



Comfortable cleaning station – for stationary use, best for cleaning vertical pipes

- cleaning machine
- vibration-damping hand grip or vacuum cleaner nozzle
- 10-metre steel-wire reinforced pneumatic hose
- foot valve with steel plate
- 10-metre steel-wire reinforced pneumatic hose
- compressed-air preparation unit
- 883 hose reel
- oil and oil can



Other combinations available upon request.

WIBROX® Cleaning Brushes

WIBROX® cleaning brushes are an important component of the *FERRET* system. Their special design, in conjunction with the oscillation, causes the machine to propel forwards automatically.



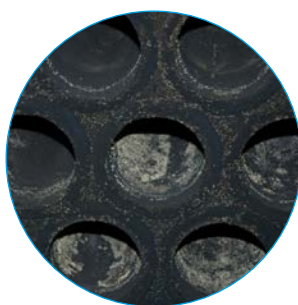
The cleaning brushes are subjected to extreme loads. In the case of a boiler with 200 pipes and 8 m in length, the brushes cover a total distance of approximately 3,200 m. The brush oscillates at a frequency of **32 strokes per second**.

The **speed of travel is 15–50 m/min**, depending on the diameter of the pipe and type of contamination.

The selection of brushes depends on the fuel and thickness of deposits. WIBROX® standard brushes are available for an inside diameter of 25 to 210 mm. Special brushes can be provided upon request.

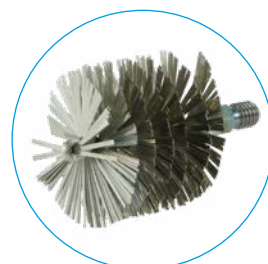
The service life of the brushes is approx. 800–1,000 m, depending on the type of contamination. The correct choice of brushes is decisive for the operating speed and the cleaning effect. Use the table to select the right brushes.

before



after

Optimum cleaning results through oscillating brushes.



„W“ design – soft



*Normal/„H“ design
– hard*



*„SH“ design –
very hard*



*„HD“ design –
hard with double axle*



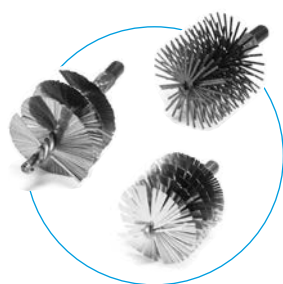
*„GD“ special design – for large
amounts of contamination*

Overview WIBROX® Cleaning Brushes

Pipe ID (mm)	Item
25.0 - 25.5	RB-WIBROX26W
26.0	RB-WIBROX27W
28.0 - 28.5	RB-WIBROX29W
29.0 - 29.5	RB-WIBROX30W
30.0 - 32.0	RB-WIBROX32.5W
32.0 - 32.5	RB-WIBROX33W
33.0 - 34.0	RB-WIBROX35W
36.0 - 36.5	RB-WIBROX37W
37.0 - 37.5	RB-WIBROX38
37.0 - 38.5	RB-WIBROX39W
37.5 - 38.5	RB-WIBROX39
38.0 - 38.5	RB-WIBROX39H
37.0 - 38.5	RB-WIBROX39G-D
39.5 - 40.0	RB-WIBROX41
40.5 - 41.0	RB-WIBROX42
41.0 - 41.5	RB-WIBROX42H
41.0 - 42.0	RB-WIBROX43W
41.5 - 42.5	RB-WIBROX43
41.0 - 42.5	RB-WIBROX43G-D
42.5 - 43.0	RB-WIBROX44
44.0 - 45.0	RB-WIBROX46
45.0-45.5	RB-WIBROX46H
45.0 - 46.0	RB-WIBROX47
48.0 - 49.0	RB-WIBROX50
49.0 - 49.5	RB-WIBROX50H-D
49.5 - 50.5	RB-WIBROX52
51.3 - 52.5	RB-WIBROX53H
50.5 - 51.5	RB-WIBROX54
50.0 - 52.0	RB-WIBROX54G-D
53.0 - 53.5	RB-WIBROX54H
53.0 - 53.5	RB-WIBROX54SH
52.0 - 53.0	RB-WIBROX55
53.1 - 54.5	RB-WIBROX55H
53.5 - 54.5	RB-WIBROX55H-D
54.0 - 54.5	RB-WIBROX55SH
55.0 - 55.5	RB-WIBROX56H-D
53.0 - 54.0	RB-WIBROX57
56.0 - 56.5	RB-WIBROX57H
54.0 - 55.0	RB-WIBROX58
57.0 - 58.0	RB-WIBROX59H
56.0 - 58.0	RB-WIBROX60
59.0 - 60.0	RB-WIBROX63
61.0 - 62.0	RB-WIBROX63H
62.0 - 63.0	RB-WIBROX66
63.0 - 64.0	RB-WIBROX66H
64.0 - 65.0	RB-WIBROX68
65.0 - 66.0	RB-WIBROX68H
66.0 - 67.0	RB-WIBROX68H-D
66.0 - 67.0	RB-WIBROX70
67.0 - 69.0	RB-WIBROX70G-D-D

Pipe ID (mm)	Item
66.0 - 68.0	RB-WIBROX70H
67.0 - 68.0	RB-WIBROX70H-D
68.0 - 69.0	RB-WIBROX70SH
68.0 - 69.0	RB-WIBROX71H
68.0 - 69.0	RB-WIBROX72W
68.0 - 69.0	RB-WIBROX72
68.0 - 69.0	RB-WIBROX72G-D
68.0 - 71.0	RB-WIBROX72H-D
70.0 - 71.0	RB-WIBROX72SH
70.0 - 71.0	RB-WIBROX74W
70.0 - 71.0	RB-WIBROX74
71.0 - 72.0	RB-WIBROX76W
72.0 - 73.0	RB-WIBROX76
74.0 - 75.0	RB-WIBROX78
74.0 - 76.0	RB-WIBROX78H-D
76.0 - 77.0	RB-WIBROX80W
76.0 - 77.0	RB-WIBROX80
76.0 - 78.0	RB-WIBROX80H-D
78.0 - 79.0	RB-WIBROX82
78.0-79.0	RB-WIBROX82G-D
79.0 - 80.0	RB-WIBROX82H-D
80.0 - 81.0	RB-WIBROX83H-D
80.0 - 81.0	RB-WIBROX84
82.0 - 83.0	RB-WIBROX86W
82.0 - 83.0	RB-WIBROX86
83.0 - 84.0	RB-WIBROX86H-D
86.0 - 88.0	RB-WIBROX90
89.0 - 91.0	RB-WIBROX93H-D
90.0 - 91.0	RB-WIBROX94

Pipe ID (mm)	Item
91.0 - 92.0	RB-WIBROX95
92.0 - 93.0	RB-WIBROX95SH
94.0 - 95.0	RB-WIBROX98
95.0 - 97.0	RB-WIBROX100
97.0 - 99.0	RB-WIBROX103W
99.0 - 101.0	RB-WIBROX103H-D
99.0 - 100.0	RB-WIBROX104
105.0 - 107.0	RB-WIBROX110
109.0 - 110.0	RB-WIBROX114
109.0 - 112.0	RB-WIBROX114H-D
113.0 - 117.0	RB-WIBROX120
118.0 - 122.0	RB-WIBROX125
119.0 - 122.0	RB-WIBROX125D
124.0 - 127.0	RB-WIBROX130D
128.0 - 132.0	RB-WIBROX135D
133.0 - 136.0	RB-WIBROX140D
138.0 - 142.0	RB-WIBROX145D
143.0 - 145.0	RB-WIBROX148
148.0 - 152.0	RB-WIBROX156D
155.0 - 161.0	RB-WIBROX164D
155.0 - 161.0	RB-WIBROX164H-D
175.0 - 179.0	RB-WIBROX183D
182.0 - 186.0	RB-WIBROX190W-D
182.0 - 186.0	RB-WIBROX190D
200.0 - 206.0	RB-WIBROX210W-D
202.0 - 210.0	RB-WIBROX213D
182.0-186.0	RB-WIBROX190D
200.0-206.0	RB-WIBROX210W-D
202.0-210.0	RB-WIBROX213D



W soft
H hard
SH very hard
D hard, double axle
G-D special brush for large amounts of contamination

To select the brushes you need the exact inside diameter of the pipe. Boiler manufacturers generally state the pipe diameter as the outside diameter x wall thickness.

Example: specification of boiler manufacturer is 76.1 x 4 mm. That gives an inside diameter of 68.1 mm. Use the RB-WIBROX72 brush.

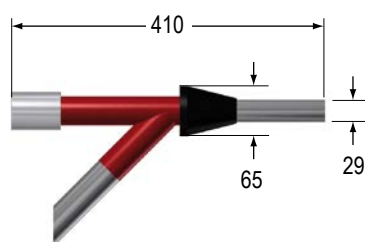
We would be glad to provide advice when selecting the right brush.

FERRET Accessories

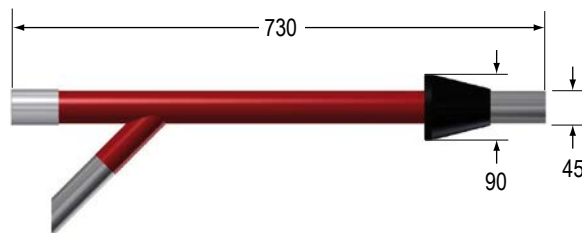
Vacuum cleaner nozzles

We generally recommend extracting any dust resulting from working with the *FERRET* machine by suction. If this is not possible on the system side, one of our vacuum cleaner nozzles should be used. **This enables work to be carried out virtually dust-free.** There are vacuum cleaner nozzles in different designs. All of them have a 38 mm pipe connection for connecting to an industrial vacuum cleaner.

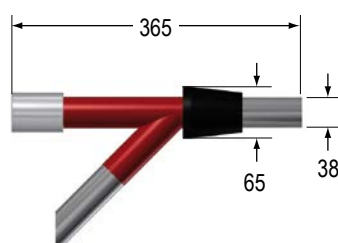
for FERRET90 Y15 – C23



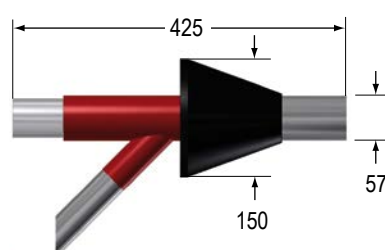
for FERRET150RH Y5 – C26



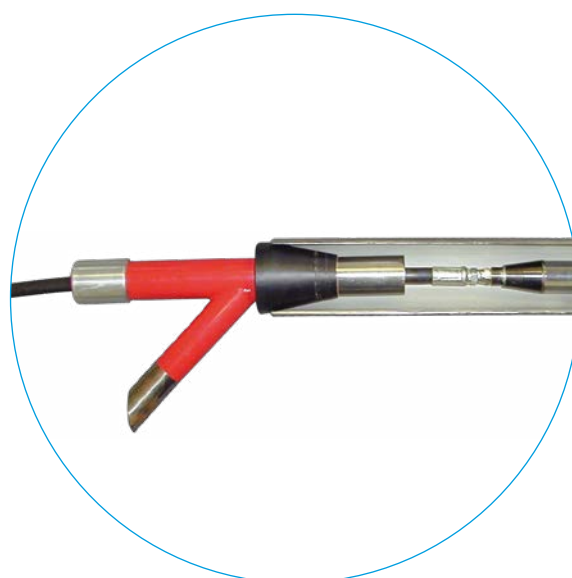
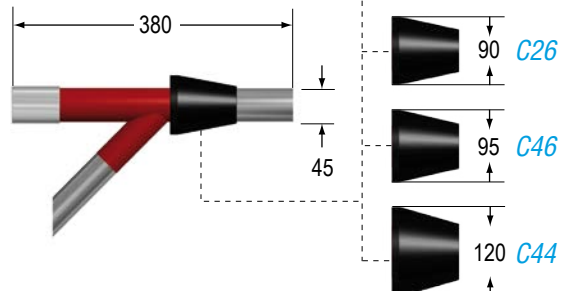
for FERRET125RH Y10 – C21



for FERRET200 Y20 – C69



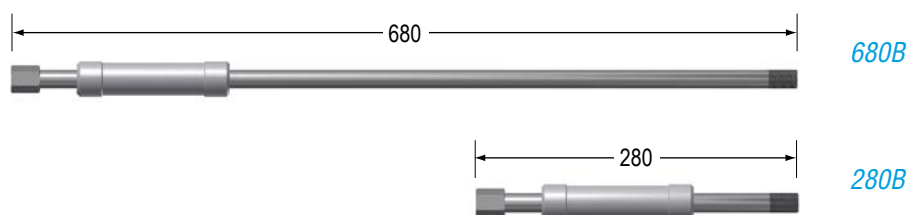
for FERRET150RH Y5



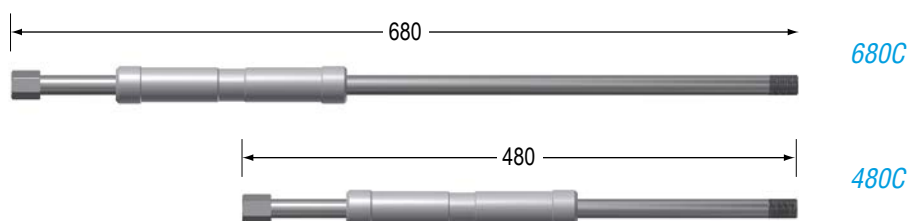
Vibration-damping hand grip

For even more **ergonomic working**: the vibration-damping hand grip prevents vibrations from the device from being transferred to the machine operator. It is fitted between the machine and the hose. The vibration-damping hand grip cannot be used in conjunction with a vacuum cleaner nozzle.

Suitable for FERRET125 und 150RH:



Suitable for FERRET200:



Industrial vacuum cleaner

We offer a large selection of high-quality industrial vacuum cleaners that go perfectly with the *FERRET* machine. The vacuum cleaner nozzle is used for precise spot extraction. For high residual temperatures, we equip the industrial vacuum cleaner with **heat-resistant suction hoses**. Request our catalogue!





Pneumatic hose

The pneumatic hose is produced using a 2-wire hydraulic hose. It is connected to the *FERRET* machine using a swivel joint. At the other end is a standard coupling plug (NW 7.2) for connection to the foot switch.



Foot switch

For **mobile use** of the *FERRET* machine you should use our practical foot switch. It means that the ON/OFF switch is always within reach. The foot switch also has a gauge for controlling the speed of travel and a maintenance unit with oiler, pressure control valve and filter.

Hose reel

Hose reels ensure a tidy work area and protect the pneumatic hose.

Flexoluft (left) = transportable

883 model (right) = for mounting on ceiling or wall.



Heat protection

At high residual temperatures or when there are particularly abrasive combustion residues, **this protects the *FERRET* machine** against damage and premature wear. The heat protection can be fitted retrospectively and has an outside diameter of 45.0 mm. It is only available for the *FERRET150RH*.



For your notes



The right solution for any application

ptc system®

ptc system®

Guarantees the technical cleanliness of tubes and hoses in hydraulic systems

- reliably removes particles from the production process
- is quick and easy to operate
- does not need cleaning fluids



FERRET

Ferret boiler cleaning

Flue gas tube cleaning – quick, ergonomic and thorough

- user-friendly and easy to handle
- highly effective cleaning thanks to oscillating brushes
- no rotating parts
- space-saving – 0.5 m work area in front of the boiler is sufficient



Dustcontrol

Dustcontrol industrial vacuum cleaner

For any use: From asbestos to cement dust

- high-quality and long-lasting technology
- 3-stage filtration system for a separation efficiency of 99.995%
- longer filter service life through cyclone principle



Please contact us.