



TBH DENTAL

PRODUCT RANGE

EXTRACTION / FILTER / POLLUTION CONTROL // TECHNOLOGY



APPLICATION

TBH GmbH offers a special product range for the wide variety of dental applications. The systems were developed for the ceramic, plastic and metal dusts with particles from 0.5 to 10µm that are created by dental milling, grinding and laser welding processes.

The devices are available with different extraction concepts, filter configurations and operating options. The TBH modular device design and all of its advantages were also a focus during the development of this device series.

AREAS OF APPLICATION:

- Laser processing
- Grinding
- CAD/CAM milling

THE SYSTEM INCLUDES NUMEROUS FEATURES:

- Modular design
- Simple filter replacement
- Optional cyclone pre-separator
- Powerful electronics



Similar to image

FUNCTIONAL PRINCIPLE

The contaminated air is collected by the collection unit (extractor hood, suction arm, hose, etc.) and transported into the filter unit directly or through a pipe or flexible hose. In the filter unit, the contaminant particles are filtered into different filter levels according to their size. An optional cyclone pre-separator can be installed upstream to reduce the filter replacement costs by up to 80%, depending on the specific application and the size of the particles. Afterwards the purified air can either be circulated back into the work area or diverted outdoors through an exhaust duct. Recirculating the air in the work area is an easy way to reduce energy costs.

PRODUCT FEATURES BF 100R-DENTAL

MODULAR DESIGN

The service handling is a big PLUS of the modular design concept. In case of servicing, only the malfunctioning motor module (and not the entire system) has to be examined. A replacement module can also be provided during the repair period. This reduces the costs for any production downtime that may be incurred.



SIMPLE FILTER REPLACEMENT

The filter is replaced by simply removing it from above. This ensures simple, clean filter replacements for the employees or maintenance service staff.



OPTIONAL CYCLONE PRE-SEPARATOR

This unit acts as a pre-separator for larger dust particles for the BF 100R-DENTAL to significantly reduce filter costs – recommended for medium amounts of dust:

- As an optional upgrade for the BF 100R-DENTAL; pre-separating large particles reduces the filter running costs of the BF 100R-DENTAL by up to 80%
- Easy disposal of the milling and grinding dust by emptying the dust container
- Available in two different versions, depending on the application



CONTROL ELECTRONICS WITH BASIC FUNCTIONS

The BF-series systems feature **INSPIRE** control electronics in its basic configuration:

- Switching between run/standby
- Manual adjustment of the rotation speed
- Filter-saturation indicator of the extraction system
- Visual and acoustic display of the filter saturation
- Fault display and notification

INTERFACE:

- System start/stop
- Warning at a filter saturation of 75%
- Preselection of run/standby at the system start-up

The extraction and filter system can thus easily be integrated into the customer system.



OPERATING ELEMENTS:

- A) Switching between run/standby
- B) Manual adjustment of the rotation speed
- 1) Filter-saturation indicator
- 2) System status indicator
- 3) Performance-setting indicator/ operating-hours meter
- 4) Temperature and turbine-malfunction indicator
- 5) Filter status indicator

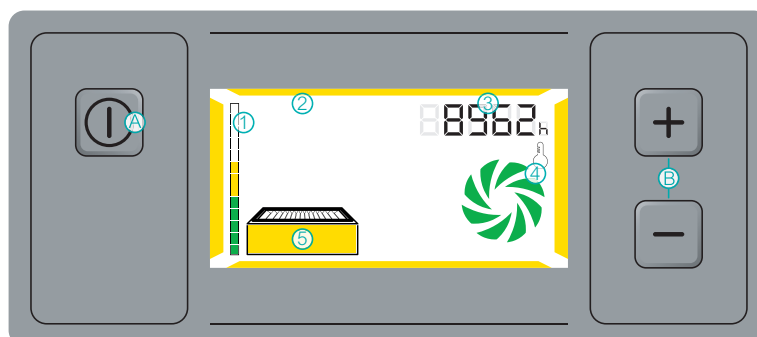


Figure 1

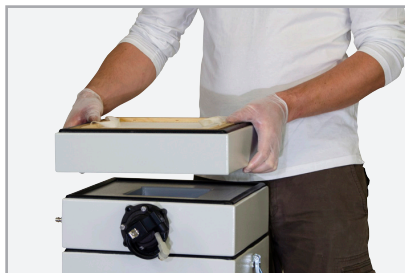
FILTER MONITORING

The system includes a differential pressure indicator for monitoring the saturation filter (Figure 1(1)). This shows when a defined value is reached to indicate that the filters need replacing, since the extraction level dissipates with increasing filter saturation.

PRODUCT FEATURES FP 150 DENTAL

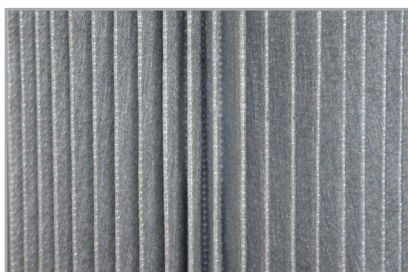
UPGRADEABLE WITH VARIOUS FILTER MODULES

The FP 150 DENTAL is equipped with a cleanable filter cartridge of dust class M. An optional particle filter (H13) can be installed downstream to increase the separation efficiency, e.g. where carcinogenic substances are present. A molecular filter (activated carbon/BAC) is also available to eliminate odours from the process air. For each additional filter selected, a machine pedestal must be ordered to increase the system's stability.



CLEANABLE FILTER CARTRIDGE

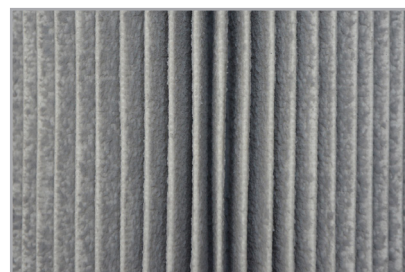
TBH's extraction and filter systems for the dental industry are equipped with special antistatic filter cartridges. These cartridges feature a durable surface that is effectively protected against mechanical strain and can easily be cleaned to remove dust. This provides a longer service life for the system as compared to use with standard filter cartridges.



new filter cartridge



filter cartridge in use



filter cartridge after cleaning

SIMPLE DUST REMOVAL

The dust collected in the process can be disposed of using the removable dust collector. If necessary, a dust bag can also be inserted for low-contamination disposal.



POWERFUL CONTROL ELECTRONICS

The FP 150 DENTAL is equipped with **INSPIRE** control electronics and a comprehensive interface. This allows controlling and monitoring the following functions:

- Switching between run/standby
- Manual adjustment of the rotation speed
- Manual start of the filter-cartridge cleaning
- Filter-saturation indicator of the extraction system
- Visual and acoustic display of the filter saturation
- Fault display and notification

INTERFACE:

- System start/stop
- Warning at a filter saturation of 75% (notification, e.g. for external control of the cleaning process)
- Visual and acoustic signals when filter is saturated
- Collective fault output (rotation speed, temperature, filter full 100%)
- External adjustment of the rotation speed
- External start of the cleaning process
- Error memory improves the coordination between the customer and the TBH service
- Parameterization access for the activation of custom functions



OPERATING ELEMENTS:

A) Switching between run/standby

B) Manual adjustment of the rotation speed

C) Manual start of the filter-cartridge cleaning

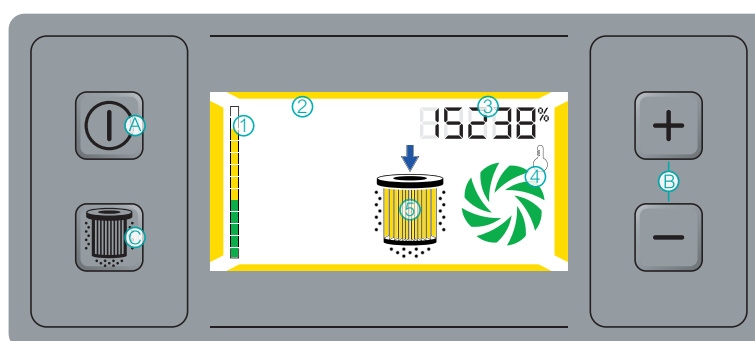
1) Filter-saturation indicator

2) System status indicator

3) Performance-setting indicator/operating-hours meter

4) Temperature and turbine-malfunction indicator

5) Cleaning-in-progress indicator



TECHNICAL DATA BF 100R-DENTAL



Similar to image

AREAS OF APPLICATION:

- Laser processing
- Grinding
- CAD/CAM milling

INCLUDES:

- Fully assembled (with device feet respectively wheels for mobile use)
- Filter equipment
- Power cable

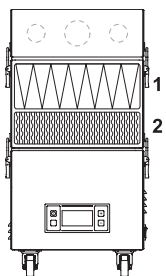
TECHNICAL SPECIFICATIONS	UNIT	BF 100R-DENTAL
Unimpeded air flow rate	m³/h	max. 280
Effective air flow rate	m³/h	30-230
Max. static pressure	Pa	11000
Voltage	V	230/120
Frequency	Hz	50/60
Power input	kW	1,1
Protection class	-	1
Motor and drive system	-	brushless motor
Noise level	db(A)	approx. 59
Serial interface	D-sub	25-pin
Weight	kg	approx. 40
Dimensions (HxWxD)	mm	700x350x350
DN 50 intake socket	number	2
DN 80 intake socket	number	1
Colour	RAL	9003

FILTER CONFIGURATION

Z-Line filter (F6)	✓
Particle filter (H13)	✓

USABLE WITH BF 100R-DENTAL	UNIT	CN10	CN20
Area of application: pre-separating particles	µm	>10	>10
Connection to the extraction system (external)	mm	50	50
Connection to the customer's system (external)	mm	50	50
Dimensions (Height/Ø or HxWxD)	mm	700/260	700x350x350
Capacity	liter	12	15
Weight	kg	approx. 4	approx. 19
Colour	RAL	-	9003

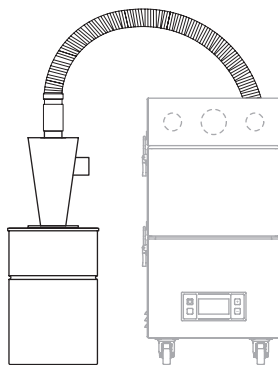
ORDER DATA BF 100R-DENTAL



BF 100R-DENTAL

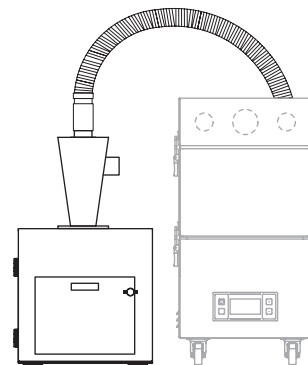
DESCRIPTION	ART.-NO.
BF 100R-DENTAL 230V 50/60Hz	90369
BF 100R-DENTAL 120V 50/60Hz	90371

SPARE FILTERS		
Z-Line filter	12503	1
Particle filter	10013	2



CYCLONE PRE-SEPARATOR CN10

DESCRIPTION	ART.-NO.
CYCLONE PRE-SEPARATOR CN10 (incl. DN 50 hose set for connecting to BF 100R-Dental)	15648



CYCLONE PRE-SEPARATOR CN20

DESCRIPTION	ART.-NO.
CYCLONE PRE-SEPARATOR CN20 (incl. DN 50 hose set for connecting to BF 100R-Dental)	15642

TECHNICAL DATA FP 150 DENTAL



Similar to image

AREAS OF APPLICATION:

- Laser processing
- Grinding
- CAD/CAM milling

INCLUDES:

- Fully assembled* (with device feet respectively wheels for mobile use)
- Filter equipment
- Power cable

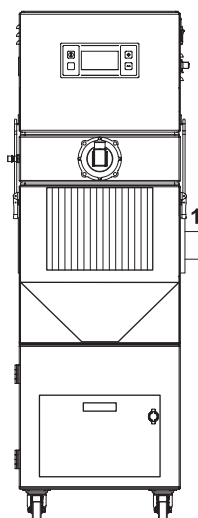
* depending on the installation height of the configuration selected, the system comes with machine base

TECHNICAL SPECIFICATIONS	UNIT	FP 150 DENTAL
Unimpeded air flow rate	m³/h	max. 280
Effective air flow rate	m³/h	30-250
Max. static pressure	Pa	20000
Voltage	V	230/120
Frequency	Hz	50/60
Power input	kW	1,1
Protection class	-	1
Motor and drive system	-	brushless motor
Noise level	db(A)	approx. 64
Serial interface	D-sub	25-pin
Weight	kg	approx. 55
Dimensions (HxWxD)	mm	1100x350x350
DN 50 intake socket	number	1
Automatic cleaning with compressed air	-	✓
Dust collector	liter	15
Colour	RAL	7035

FILTER CONFIGURATION

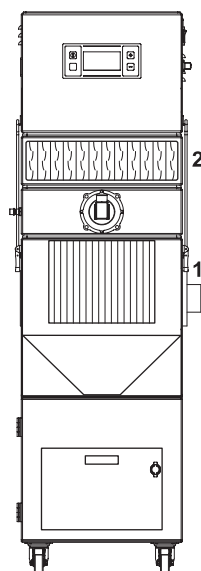
Cleanable filter cartridge anti-static (dust class M)	✓
Particle filter (H13)	optional
Activated carbon/BAC filter	optional (10 liter)

ORDER DATA FP 150 DENTAL



AS A BASIC MODEL

DESCRIPTION	ART.-NO.
FP 150 DENTAL 230V 50/60Hz	90372
FP 150 DENTAL 120V 50/60Hz	90373



WITH PARTICLE FILTER MODULE

ADDITIONAL MODULES	
Particle filter	14734
Activated carbon/BAC	11610*
Particle filter + Activated carbon/BAC	15378*

* only available in combination with machine base

SPARE FILTERS	
Filter cartridge	13016* 1
Particle filter	-
Activated carbon/BAC	-

* with antistatic coating

SPARE FILTERS	
Filter cartridge	13016* 1
Particle filter	10013 2
Activated carbon/BAC	13021

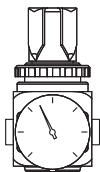
* with antistatic coating

INTAKE SOCKET	
DN 50 left	13159
DN 50 right	13160

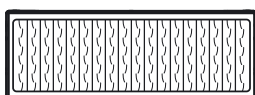
DESCRIPTION	
Machine base	16353*
Pressure regulator	11783

* increases system height 30 mm

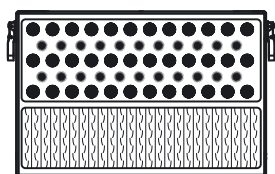
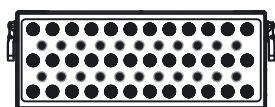
ACCESSORIES



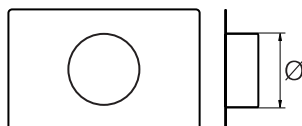
Pressure controller



Particle filter (H13)

Particle filter (H13) and
Activated carbon/BAC filter

Activated carbon/BAC filter



PRESSURE CONTROLLER for auto. cleaning

USE	DESCRIPTION	ART.-NO.
FP 150 DENTAL	Pre-set to an operating pressure of 2 bar	11783

FILTER HOUSING MODULE AS AN UPGRADE KIT - particle filter

USE	FILTER CLASS	ART.-NO.
FP 150 DENTAL	H13	14734*

** only in combination with a machine base*

FILTER HOUSING MODULE

AS AN UPGRADE KIT - particle filter + activated carbon filter

USE	FILTER CLASS	ART.-NO.
FP 150 DENTAL	H13	15378*

** only in combination with a machine base*

FILTER HOUSING MODULE AS AN UPGRADE KIT - activated carbon filter

USE	SIZE	ART.-NO.
FP 150 DENTAL	10 liter	11610*

** only in combination with a machine base*

EXHAUST PLATE*

USE	DN (mm)	ART.-NO.
BF 100R-DENTAL	80	15623
BF 100R-DENTAL	100	15624
BF 100R-DENTAL	125	15625
FP 150 DENTAL	80	11709
FP 150 DENTAL	100	12839
FP 150 DENTAL	125	12232

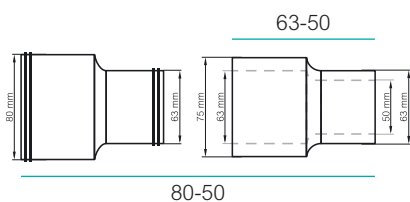
** connection plate with connection pieces for exhausting air through hose*



AIR INLET - flexible connection hoses

DESCRIPTION	DN (mm)	LENGTH (m)	ART.-NO.
Hose set with connection coupling	50	2.5*	10008
		5.0*	10010

* the hose can easily be shortened by the user depending on the specific application

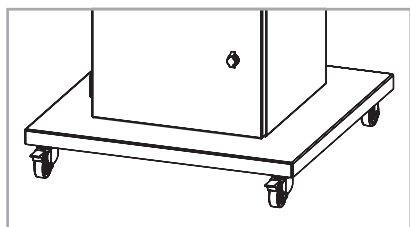


AIR INLET - reduced

DESCRIPTION	DN (mm)	LENGTH (mm)	ART.-NO.
Adapter piece*	63-50	95	14619
Adapter piece**	80-50	150	14619
			+ 10607

* for connecting the TBH DN 50 hose set to a customer's DN 63 connector

** for connecting the TBH DN 50 hose set to a customer's DN 80 connector



MACHINE BASE

USE	DIMENSIONS (HxWxD) mm	ART.-NO.
FP 150 DENTAL	30x550x550	16353



DUST BAG

USE	DESCRIPTION	ART.-NO.
FP 150 DENTAL ZYKLON CN20	10 x dust bag set	15711



CABLE REMOTE CONTROL UNIT

FUNCTIONS:

- Display "filter blocked"
- Switch Run/Stand-by
- Infinitely adjustable speed controller
- Start position of the extraction system: stand-by-mode

USE	DESCRIPTION	CABLE LENGTH	ART.-NO.
FP 150 DENTAL	Cable remote control unit	7m	16477

INCLUDES:

- Remote control unit (with cable)



ELECTRICAL FOOT SWITCH

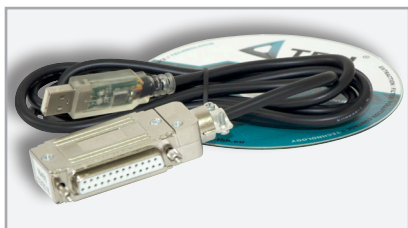
FUNCTIONS:

- Switch Run/Stand-by
- Start position of the extraction system: stand-by-mode

USE	DESCRIPTION	CABLE LENGTH	ART.-NO.
FP 150 DENTAL	Electrical foot switch	2m	16369

INCLUDES:

- Foot switch (with cable)



CONNECTION CABLE USB

USE	DESCRIPTION	CABLE LENGTH	ART.-NO.
FP 150 DENTAL	Connection cable USB	1.5m	16455

INCLUDES:

- Connection cable (incl. software)

ELECTRONIC CONTROLS

FUNCTION	BF 100R-DENTAL
Switching between run/standby	✓
Manual adjustment of the rotation speed	✓
Filter-saturation indicator (complete system)	✓
Filter status indicator	✓
System status indicator	✓
Performance-setting indicator/operating-hours meter	✓
Temperature and turbine-malfunction indicator	✓

INTERFACE FUNCTIONS	
Interface	D-sub
System start/stop	✓
Warning at a filter saturation of 75%	✓
Preselection of run/standby at the system start-up	✓

FUNCTION	FP 150 DENTAL
Switching between run/standby	✓
Manual adjustment of the rotation speed	✓
Filter-saturation indicator (complete system)	✓
Visual and acoustic display of the filter saturation	✓
Fault display and notification	✓
Pushbutton Start cleaning cycle*	✓
Display Filter cleaning status *	✓

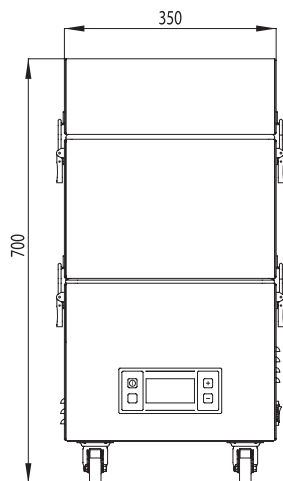
* combined with automatic cleaning

INTERFACE FUNCTIONS	
Interface	D-sub
System start/stop	✓
Warning at a filter saturation of 75%*	✓
Visual and acoustic display of the filter saturation	✓
Collective fault output (rotation speed, temperature, filter full 100%)	✓
External adjustment of the rotation speed	✓
External start of the cleaning process**	✓
Notification memory	✓
Parameterization access for the activation of custom functions	✓

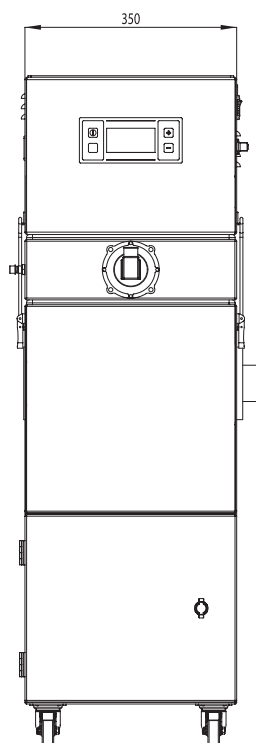
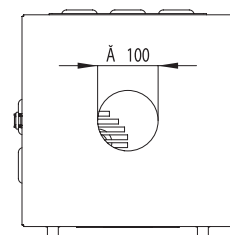
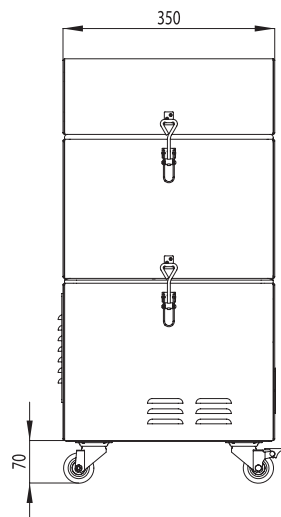
*Notification e.g. for external control of the cleaning process

** combined with automatic cleaning

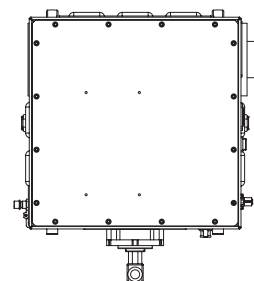
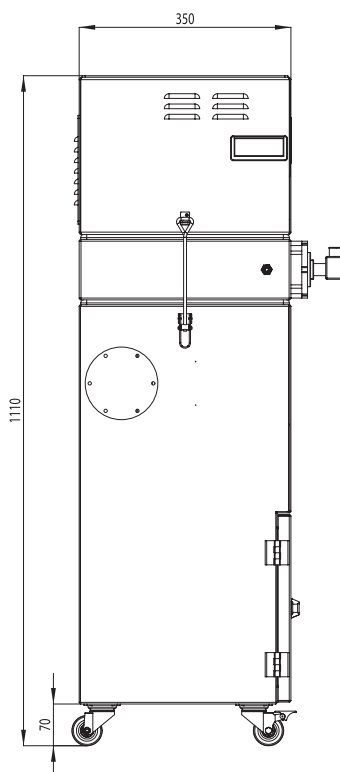
TECHNICAL DRAWINGS



BF 100R-DENTAL



FP 150 DENTAL (as a basic model)



NOTES

NOTES

NOTES



TBH GmbH

EXHAUST- AND FILTRATION TECHNOLOGY

GERMANY

Heinrich-Hertz-Straße 8 / DE-75334 Straubenhardt
Tel.: +49 (0)7082 / 94 73 0 / Fax: +49 (0)7082 / 94 73 20
info@tbh.eu / www.tbh.eu