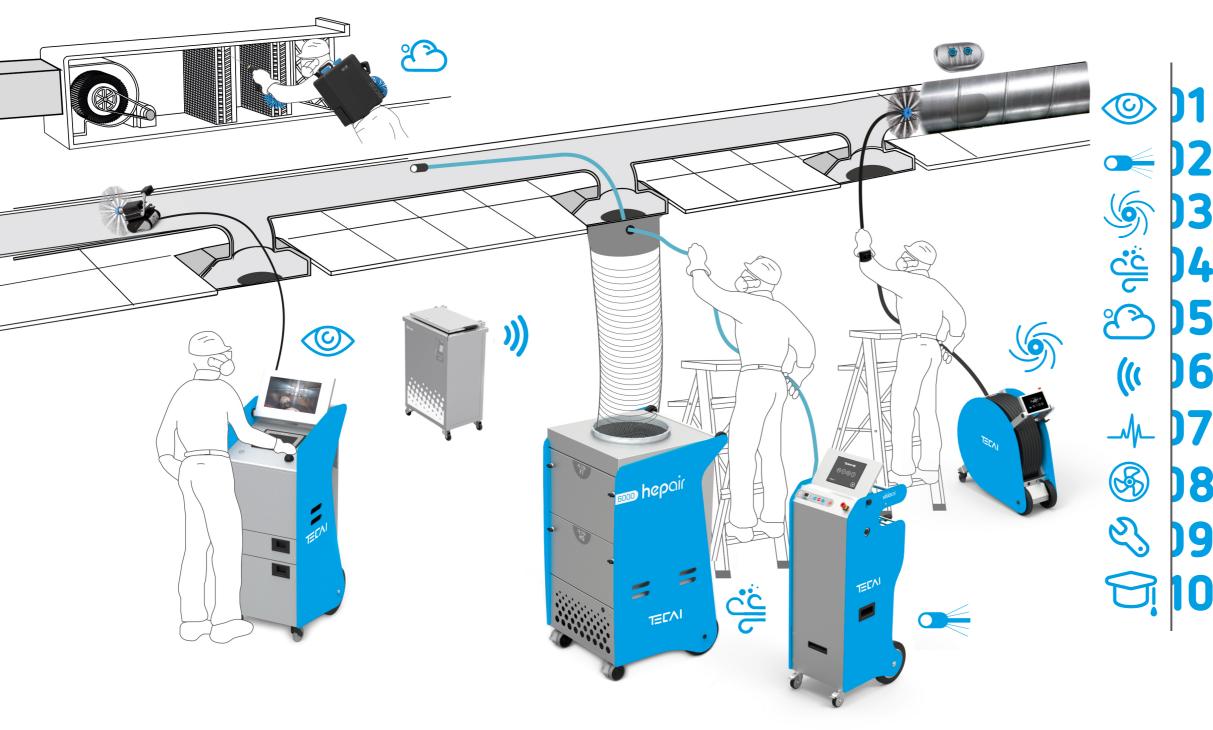


TECNI



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#### YOU CAN BE A HEALTHY INDOOR SUPPLIER

The ducts for ventilation and air-conditioning can accumulate large quantities of dirt, and are ideal places for aerobic organisms and mold to grow, leading to more than 38% of absences due to sickness and illnesses caused by respiratory conditions. The sanitation of these systems offers great advantages to your clients, such as:

Guaranteeing the health of your on-site personnel.
 Savings in maintenance and energy costs.

#### ✔Compliance with the law.

#### **REASONS FOR STARTING THIS BUSINESS**



#### THE MARKET

How many office buildings, official centers, hospitals, schools, public and private companies in your country? According to the census of the National Institute of Statistics there are more than two million non-residential residential buildings in Spain. This enormous market demands services related to services related to CAI (Indoor Air Quality) Indoor Air Quality) for compliance with existing regulations, with respect to the improvement performance of their facilities. and concern for the health concern for the health of building occupants. With only 1% of this market in Spain, its customer base would amount to some 20,000 buildings.



More and more countries are implementing regulations governing the cleaning and periodic maintenance of air conditioning systems. In Spain, RD 238 /2013, which amends the Regulation of Thermal Installations (RITE), requires, in its maintenance plans for buildings of over 70 kW, to perform an analysis of the entire air conditioning system based on the UNE 100 012 standard, which establishes the parameters for sanitization and disinfection.



### **S** THE BUSINESS

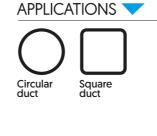
After studying this data, we can clearly state that the business of cleaning air-conditioning systems is in a phase of full expansion. the installations, and which can incorporate the This represents an opportunity for both companies who want to expand or diversify equipment adapted to the nature and scale of their business activities. These services can be approached with different configurations of entrepreneurs and cleaning or maintenance latest technical innovations.

# visiobot

#### Video inspection robot

VISIOBOT is the perfect ally for technical inspections in air conditioning or ventilation ducts. With front and rear cameras, this robot gives you a complete view of the inside of the ducts. Its compact and rugged design makes it easy to transport, while its long battery life allows you to work anywhere, even without electricity. Capture, record and edit high-resolution colour images for detailed analysis of every situation.

visiobot



visiopro

The latest technology in

the images collected

by Visiobot. It has High

resolution Easy Touch screen, captures video and HD images, with text insertion, date and time of recording,

visualization and recording of

playback of the recordings on the spot. Easy to use interface, large internal memory.



Speed-adjustable rotation, forward and reverse by joystick

360°



Transport system consisting of two cases. One houses the tractor unit and cables. The second one houses the control panel.

#### **TECHNICAL CHARACTERISTICS**

Power:	230V / 50 - 60Hz / 110V / 50 - 60Hz 75 W max.
Alignment:	Electric and battery
Battery:	Li-ion 6600mAh (97,68Wh) / 14,4V
Control panel:	Membrane keyboard and joystick
Display system:	Display 11,6" / 256GB Full HD 1080p 60Hz
Tractor unit:	By means of a high-grip strap
Case dimensions:	470 x 357 x 176 mm 18,5 x 14,1 x 6,9 inches
Luggage weight:	8,5 kg // 18,74 lb
Tractor dimensions:	216 x 148 x 102 mm 8,5 x 5,8 x 4 inches
Tractor weight:	2,9 kg // 6,4 lb
Cable length Tractor connection:	20 m // 49 ft
Structural material:	ABS y HDPE

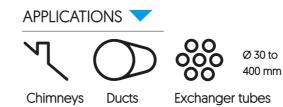


# visiomax

#### Portable video inspection system for air-conditioning ducts

It is the video inspection tool prior to any cleaning intervention of air-conditioning ducts, to convince your customers of the need to clean their ducts. It is a compact and portable system.





Scratch-resistant. waterproof, sapphire crystal LCD camera

#### STANDARD EQUIPMENT





ELECTRIC CHARGERS

WIRELESS REMOTE CONTROL





CENTRATOR

SD CARD



Power supply	Rechargeable LI-ION type 9-12 V			
Camera features	1/3" Sony CCD Ø22mm with sapphire crystal lens			
Viewing range	1000 mm			
Camera angle of vision	130 °			
Image resolution	1920*1080 AHD			
Monitor	10" TFT-LCD Color			
Sealing (Camera)	Submersible to 20 m in water			
llumination	15 white LEDs of adjustable brightness			
Charging time Battery duration	8 hours 7-9 hours			
Camera cable length	30 meters			
Dimensions [L x W x H]	517 x 434 x 200 mm 20.3 x 17 x 7.9 inch			
Weight	12 kg / 26 lb			



# visionano

#### Ultra-portable video inspection system

VISIONANO is an ultra portable and ultra light system It weighs only 530 g!, to be used as a commercial tool, for carrying out punctual, short-range inspections of ventilation system ducts. Often what is not seen or can not be demonstrated, is the barrier that postpones a work always necessary, when we talk about cleaning ducts in air conditioning systems. It has a maximum range of 4 meters.



Camera resolution 704 x 576 (PAL)



Includes case for transportation



OPTIONAL ACCESSORIES



EXTENSION FOR CAMARA OF 1m AC3303404



640 x 480 px LCD screen resolution

Camera resolution	704 x 576 (PAL)
Screen resolution	640 x 480
Powered	4 batteries AA
Sealing (camera only)	IP-67
LCD screen	3,5" TFT-LCD
External power supply	5 V
Charging time	3 h
Battery life	2 h
Length of flexible shaft	1 m (extendable up to 4 m)
Dimensions	256 x 95 x 153 mm (without flexible shaft)
Weight	530g



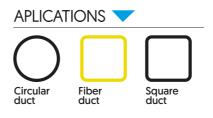
# visioair

#### Duct Cleaning equipment with pressurized air

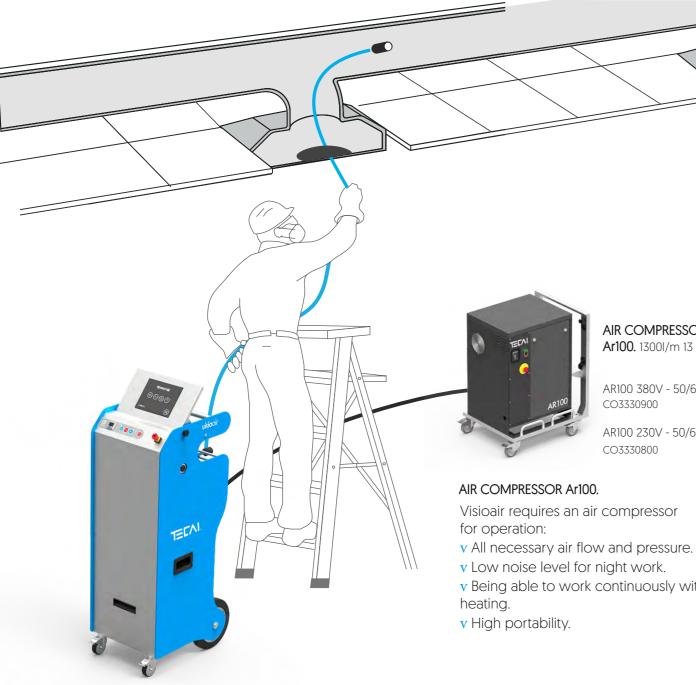
By means of the air injection system, it drags the dirt adhered to the ducts at the same time that displays, records and verifies the cleaning, through a micro camera on the intelligent head. With its perimeter cleaning technology, it goes through everything the duct, disincrusting all the dust particles and dirt. No matter what size, shape or material of the duct, the intelligent nozzles adapt to all situations.











#### AIR COMPRESSOR Ar100. 13001/m 13 bar

AR100 380V - 50/60Hz AR100 230V - 50/60Hz

- v Being able to work continuously without



#### OPTIONAL ACCESSORIES



REMOTE CONTROL ERGONOMIC RF

AIR HOSE FLAT OROFLEX. 30 m

AC3303122

AC3101207

Pressurized air jets allow advancement

Teres.

Perimeter movement throughout the duct

The system is introduced by the connection of the Suction sleeve

Cleaning and checking in a single operation

Power supply	220 V - 50Hz 110 V - 60 Hz			
Compressed	800 litres/min (smart nozzle) 28.25 cfm			
air supply	800 litres/min (rotating nozzle) 28.25 cfm			
Control	Manual electric-pneumatic with remote control			
Sound level	< 70 dB			
Hose length 8 [x2]	15 meters			
Video inspection system	HD Camera			
Body material	Stainless steel			
Dimensions (L x W x H)	550 x 410 x 1190 mm 22 x 16,14 x 47 inches			
Weight	45 kg   99 lb			



# multibot

### THE FUTURE OF AIR DUCT CLEANING IS NOW

One robot for multiple tasks

This multitask robot will allow you to carry out multiple applications, coupling different modules for cleaning, disinfection and coating inside the air ducts. It incorporates the latest technologies such as FullHD cameras, automatic module elevation system, HMI touch screen control panel, and HD recording system.



# multibot



444444

### Modular design

Multibot makes use of robotised platforms where different modules can be connected, making it suitable for any air duct cleaning task, as well as modules with different cleaning, disinfection and sealing settings.

### Versatile

The Multibot's powerful traction crawler allows you to move over any surface and climb slopes of 30° inclination.

The robot and the application modules are designed to clean any size of circular or square duct and for any size.

### **Robust and reliable**

Built with the most resistant materials, such as stainless steel in the structure and and the dense polyamide in the casing.

The heart of Multibot are its powerful engines of last generation, which assures us a long duration and reliability.

### It reaches the top

Thanks to the automated elevation system offered by the robotised **Max** platform, it is possible to clean large air ducts of up to 1000mm. The height regulation adapts itself from the control unit as the robot moves.

### Nicely-sharp images

The last technology in visualization and recording of the images collected by Multibot in Full HD 1080P. It has a high resolution monitor for recording and storage of videos and photographs, with a touch screen resistant to dust and water.

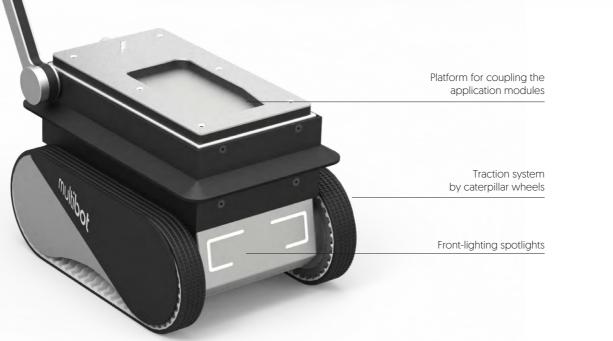


### Reach the furthest

With the robotised **MAX** platform, it is possible to clean, disinfect and seal air ducts between 400 mm and 1000 mm. This is because, thanks to the modules' automated elevation system, the height regulation adapts itself to the air ducts size from the control unit as the robot moves.

> Arm for height and angle adjustment of the display module

# MAX



Dimensions and we (excluding module 1.000 mm Structural material Cameras (front and Lighting 400 mm **B**360° -----Communication Connection of the application module

Rear view camera

Communication Connection with the control unit

#### TECHNICAL CHARACTERISTICS

veight es]	L x A x Al : 320 x 200 x 250 mm / 11 kg L x W x H : 12.6 x 7.8 x 9.8 inch / 24.2 lb
	Stainless steel and polyamide (PA12)
d back]	Full Colour HD 1080P
	High intensity LED 4000 K 360°







#### TECHNICAL CHARACTERISTICS

Dimensions and weight without module	L x A x Al : 283 x 198 x 112 mm / 5,5 kg L x W x H : 11 x 7.8 x 4.4 inch / 12.1 lb
Structural material	Stainless steel and polyamide (PA12)
Cameras (front and back)	Color Full HD 1080P
Lighting (front and back)	High intensity LED 4000 K 360°

### Compact design

With the robotised **MICRO** platform, it is possible to clean, disinfect and coat the smallest air ducts between 250 mm and 500 mm, small outside and large inside. It integrates all the same advanced technology as it's big brother, the **MAX** robot, in order to carry out any task using the Multibot system's available modules.



Module communication connection

Rear view camera

Connecting communication cable and control unit

MICRO AC3120629







#### **Quick Connect**

Easy and fast connection between the robot's modules without the need for tools. fast connection between cable and plug.



The Multibot's modular concept is made up of different modules which carry out different tasks inside air ducts, and all are compatible with the MAX and MICRO robotised platforms, with fast and easy connection.

OULES



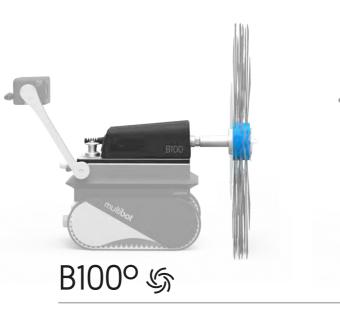
Hose protector

Protect the robot hose when accesing the duct (Accessory included).

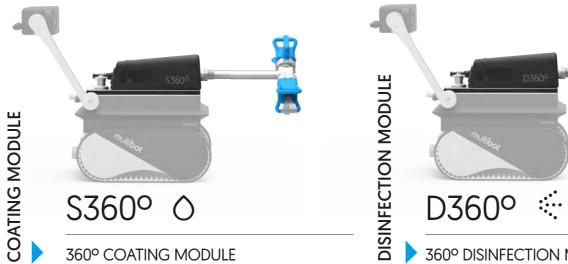
# CLEANING MODULES

B360° 纷

360° ADAPTIVE BRUSH MODULE



#### FIXED BRUSH MODULE



360° DISINFECTION MODULE



#### AIR INJECTION MODULE



### **MICRO**

**ROBOTISED PLATFORM** 



# proair

#### Pneumatic brushing equipment for air ducts

The system uses compressed air to drive a motor housed in the end of a flexible hose.

The **wrist remote control** allows a single operator to perform the cleaning of the air duct .

It incorporates the **function of automating the rotation of the brush**. This feature shortens the time required for the cleaning..

#### Brushes

Different materials and sizes for all types of ductwork. DUO Square system for effective cleaning in square ducts.

#### VISIOPRO [Optional]

Video inspection system that allows you to watch and record while cleaning is being carried out.



Provides horizontal images at all times, even when the camera is tilted. .

The camera is integrated into the hose.

Centrator (Optional)

Fixes the brush in the center of the duct.

Includes display screen with harness, and carrying case.

#### **PNEUMATIC**

For ducts up to **1000** mm

**25** m

Length of the flexible shaft

#### LED indicator

Shows the status of the machine.

#### HMI screen

Control all equipment functions.

#### Shaft guard

Facilitates its take-up and protects it when you are on the move.



**BRUSHING EQUIPMENT FOR DUCTS** 



#### OPTIONAL ACCESORIES









the brush in the center

of the duct. AC3303133

AC3303605



ANTI BREAKAGE HOSE PROTECTOR

AC3303112

#### CONSUMABLES 🔽





#### PACK 5 FINE NYLON BRUSHES.

For maintenance and delicate duct cleaning. Ø200 300 | 400 | 500 | 600 mm CP2110505

PACK 5 THICK NYLON BRUSHES. For cleaning ducts with heavy dirt. Ø200 | 300 | 400 | 500 | 600 mm CP2201015





#### TECHNICAL FEATURES

#### bloud

220 l/min – 6,3 bar 7,77 cfm – 6,3 bar			
762 rpm			
379,2 rpm			
2,5 Nm   22,13 lbf.in			
3,1 Nm   27,44 lbf.in			
5 Nm   44,25 lbf.in			
< 70 dB			
Right / Left			
Electropneumatic			
1162 x 430 x 1162 mm 45,75 x 16,93 x 45,75 inch			
65 kg   143 lb			
25 m   82 ft			
Stainless steel and HDPE			



# rotair

#### Electric duct cleaning equipment

The perfect equipment for medium sized ducts. It incorporates the exclusive ProAxis technology that prevents breakage of the rotating shaft.

The wrist remote control allows a single operator to perform the cleaning of the air duct .

It incorporates the function of automating the rotation of the brush. This feature shortens the time required for the cleaning...

#### VISIOPRO [Optional]

Video inspection system that allows you to watch and record while cleaning is being carried out.



The camera is integrated into the hose.

Provides horizontal images at all times, even when the camera is tilted.

Includes display screen with harness, and carrying case.

#### Brushes

With different materials and sizes according to according to the need. Double row brushes for effective cleaning in square ducts.



#### **ELECTRIC SYSTEM**

For ducts up to **600** mm

#### Hose lenght

15 m With VISIOPRO

20 m Without VISIOPRO

All control with just one finger

• Automatic change of the direction of rotation.



**BRUSHING EQUIPMENT FOR DUCTS** 



#### OPTIONAL ACCESORIES V





WRIST REMOTE CONTROL AC3303605

VISIOPRO. Visualization system, camera harness, camera and carrying case. SV3331034 SV-ROT





The **CENTERING** fixes the brush in the center of the duct. AC3101500

ANTI BREAKAGE HOSE PROTECTOR

AC3303112

#### CONSUMABLES 🔽





PACK 5 NYLON SQUARE DUCT BRUSHES. Single core and two rows of brushes nance and delicate duct of different sizes. Ø250 | 300 | 350 | 400 | 500 mm

PACK 5 FINE NYLON BRUSHES. For maintecleaning. Ø200 | 250 | 300 | 350 | 400 mm CP2300505

CP2300510



#### WRIST REMOTE CONTROL

Included accessory that allows the equipment to be controlled by a single operator. (Optional).

#### **TECHNICAL FEATURES**

rotair

Power supply	230V / 50Hz - 60Hz 110V / 50Hz - 60Hz
Motor power	370 W max.
Motor rotation speed	0 - 3000 r.p.m.
Operating speed	0 - 500 rpm
Noise level	< 70 dB
Control panel	HMI screen
Direction of rotation	Right   Left
Control system	Electric system
Hose length	15 m   49 ft (with VISIOPRO) 20 m   66 ft (without VISIOPRO)
Structure material	Stainless steel and HDPE
Dimensions (L x H x W)	1002 x 365,5 x 967 mm 39,45 x 14,39 x 38,07 inches
Weight	60 kg // 132 lb





				d
VOLTAGE	VISIOPRO	HOSE LENGTH	WRIST REMOTE CONTROL	
	Allows the cleaning to be viewed and recorded. No post-purchase installation possible.	Access from your location to the inside of the duct. Allows rotation of the brush	Allows a single operator to control the equipment.	F C Re
230W	~	15 meters	OPTIONAL	
50/60Hz	×	20 meters	OPTIONAL	
110W 50/60Hz	~	15 meters	OPTIONAL	
	×	20 meters	OPTIONAL	

<b>CENTERING</b> Fix the brush in the centre of the duct. Recommended from Ø400mm	P.V.P. CODE
OPTIONAL	TC3120416
OPTIONAL	TC3120412
OPCIONAL	TC3120417
OPCTIONAL	TC3120413



# venet

Ventilation and air-conditioning duct cleaning and extraction equipment

**ELECTRIC** 

For ducts of

50 to 400 mm

Hose lenght **10** m

Compact equipment that integrates a cleaning and suction system in the same machine. Cleaning is carried out by means of a mechanical brush with a rotating flexible

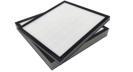
shaft that allows it to clean small-section ducts.

INCLUDED ACCESSORIES 🔻





FLEXIBLE SHAFT WITH BAG. 10 m. Ø50-250 mm AC3303614



VACUUM HOSE.

length

AC3101319

Ø160 mm, 3,33 m of



ADAPTER HOSE

DUCT. Ø160 mm

AC3101404

F7 AND H13 FILTERS. REMOTE CONTROL. 400 X 400 X 21.1 unit. 400 X 400 X 46.1 unit. AC3303605

NYLON BRUSH. Ø250 mm, CP4000250

OPTIONAL ACCESSORIES







PACK FINE NYLON BRUSHES. Ø300 | 350 | 400 mm CP2103040

PACK NYLON SQUARE FLEXIBLE SHAFT. DUCT BRUSHES. Ø300 | 350 | 400 mm CP2104055

15 m. Ø300-400 mm AC3303615

#### CONSUMABLES 🔽







F7 FILTER. 400 x 400 x 21. x 1 unit AC1300007

H13 HEPA FILTERS. 400 x 400 x 46. x 1 unit AC1300013

NYLON BRUSH. Ø250 mm, CP4000250

#### TECHNICAL FEATURES

Maximum power equipment:

venet

230V-110V / 50 - 60Hz

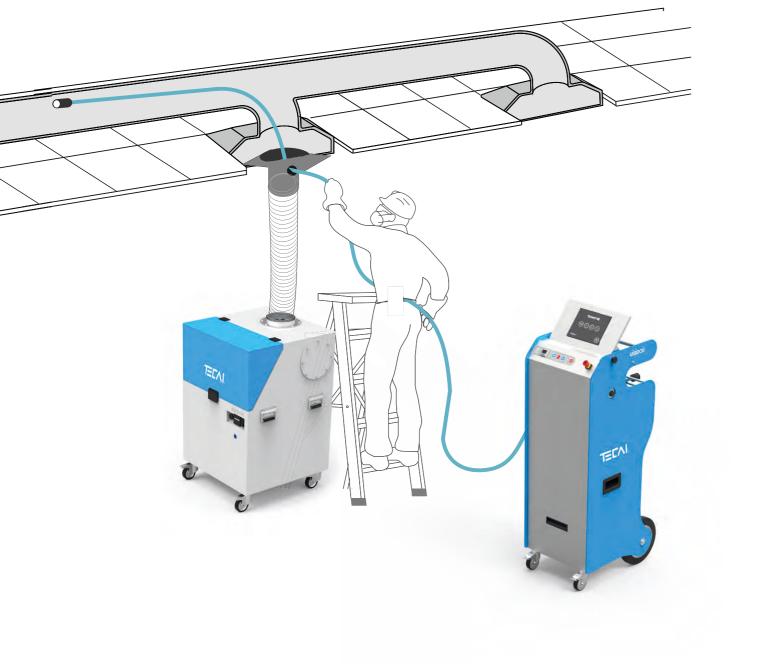
0,7 kW // 0,94 HP

	-,,, -,			
Maximum power consumption:	3 A			
Suction power:	0,27 kW			
Maximum suction flow rate:	1600 m³/h			
Maximum depression:	600 Pa			
Operating point:	1000m³/h a 450 Pa			
Filtration level 1:	F7			
Filtration level 2:	H13			
Degree of separation:	>99 %			
Aspiration hose:	Ø160 mm // 3 m / 9,84 ft			
Brushing power	0,25kW			
Brushing speed:	Adjustable 0 - 1000 rpm			
Direction of rotation:	Right / Left			
Control system:	Electric			
Control panel:	Membrane keyboard			
Brushing shaft:	Ø10 mm // 10 m / 32,8 ft			
Noise level:	72 dB			
Main materials:	Painted steel and HDPE			
Dimensions: [[L x W x H]	530 x 481 x 926 mm 20,87 x 18,94 x 36,46 inches			
Weight:	50 kg // 110,2 lb			



COMPARATIVE AIR DUCT CLEANING EQUIPMENT	CLEANING SYSTEM BRUSHED AIR INJECTION	HOSE LENGTH	Image: control control control control control the equipment	SPEED OF CLEANING	Image: Second	POWER SUPPLY SYSTEM	DUCT         CLEANING
rotair	BRUSHING	With VISIOPRO 15 m Without VISIOPRO 20 m	OPTIONAL	<b>&gt;&gt;&gt;&gt;</b> - +	OPTIONAL	ELECTRIC	De Ø200 a 600mm √ Squares √ Circular √ Coated fiber
<b>Dooii</b>	BRUSHING	25 m	OPTIONAL	<b>&gt;&gt;&gt;&gt;</b> - +	OPTIONAL	NEUMATIC (air compressor required).	Hasta Ø1000mm √ Squares √ Circular √ Coated fiber
Visioair	AIR INJECTION: AIRFLOW	15 m	OPTIONAL	<b>&gt;&gt;&gt;&gt;&gt;</b> - +	Cleans, displays and records at the same time.	NEUMATIC (air compressor required).	De Ø300 a 1000mm √ Squares √ CirculaR √ Coated fiber





### hepair2000



Suction and triple filtration system for ducts from 200 mm to 800 mm.

hepair6000



Power su

Maximum

Maximum

Filtration

Power

Noise leve

Dimensior

Weight

High power vacuum cleaner for ductwork from 300 mm to 1200 mm.

#### **COMPARATIVE TABLE OF DUCT SUCTION SYSTEMS**

	hepair	hepair
pply	230 V / 50 Hz 110 V / 60 Hz	230 V / 50-60 Hz 110 V / 50-60 Hz
n flow rate	2000 m3/h 1177,2 cfm	6200 m3/h 3650 cfm
n depression	2500 Pa 0,36 psi	1300 Pa 0,2 psi
	Prefilter G4 Bag filter M5 Hepa H13	Filtrer F7 Hepa H13
	880 W	1250 W
el	72 dB	80 dB
ns (L x W x H)	611 x 590 x 943 mm 37 x 23 x 24 in	750 x 670 x 1300 mm 29,5 x 26,4 x 51,2 in
	80 kg / 176 lb	100 kg / 220 lb



# hepair2000

Dust aspiration and filtration system

Hepair 2000 offers a triple stage of filtering [G4 + M5 + HEPA H13], which will retain all the particles, choosing them by their thickness with the different modules. Its compact and robust design with wheels and lateral handles, facilitates a better portability and maneuverability within the facilities.



#### APPLICATIONS SETION CIRCULAR DUCT 200 to 800 mm FIBRE DUCT QUARE pre-filter G4 + M5 bag filter + H13 absolute filter OPTIONAL ACCESSORIES ASPIRATION HOSE EXTENSIBLE STICK. Ø160 mm - 3 m of length For suction hose. Extendable from 160 to 290 cm. 2 units. AC3101308 AC3101303 CONSUMABLES 🔻 THICK PREFILTER G4. BAG FILTER M5. HEPA13 FILTER. 10 units. AC3101306 AC3101305 AC3101309



### Triple filtration:

#### **TECHNICAL FEATURES**

#### hepair2000

Supply voltage	230 V - 50 Hz 110 V - 60 Hz
Maximum vacuum volume	2000 m3/h 1177,2 cfm
Maximum depression	2500 Pa - 0,36 psi
Triple filtration 3 F	Prefilter G4 Bag filter M5 HEPA H13 Absolute filter
Separation degree	>99%
Engine power	880 W
Noise level	72 dB
Dimensions	611 x 590 x 943 mm 24 x 23 x 37 inches
Weight	80 kg / 176,37 lb



# hepair6000

#### The ultimate solution in negative suction for duct cleaning

This negative pressure vacuum cleaner offers a power of suction of 6200 m<sup>3</sup>/h of maximum flow, which allows face all jobs no matter how demanding they are. It has an integrated variator to adapt the suction of air at the consumption of the outlet, optimizing thus the power of the equipment.

Hepair 6000 is a single phase vacuum cleaner that allows connect to any power outlet. Fast, versatility and power in a single unit. Its design is compact to facilitate its total watertightness. It can be transported both horizontally and vertically, and can be used for ducts from 300 mm to 1200 mm.lt includes an acoustic filter clogging indicator to

know when a change is needed.



#### APLICATIONS V



Easy to transport, both horizontally

OPTIONAL ACCESSORIES V





VACUUM HOSE Ø300 mm - 5 m long VACUUM HOSE Ø400 mm - 5 m long

AC3101314

AC3101315

CONSUMABLES 🔻





ABSOLUTE FILTER



**EXPANSION STRUT** For suction sleeve. Extendable from 160 to 290 cm AC3101303

AC3101316

**BAG FILTER F7** 

AC3101317

HEPA 13

and vertically

	Hepolit con
TECHNICAL FEATURES	hepair
Supply voltage Electric consumption	230 V / 50-60 Hz 110 V / 50-60 Hz
Max. flow rate	6200 m3/h / 3200 cfm
Flow rate with filter F7	5350 m3/h / 2000 cfm
Flow rate with filter H13	4800 m3/h / 1800 cfm
Max Depression	1300 Pa / 0,2 psi
Filtration level 1	F7
Filtration level 2	H13
Degree of separation	>99%
Engine power	1250 W
Current consumption	5,6 A // 11,2 A
Sound level	80 dB
Dimensions	670 x 750 x 1300 mm 26,4 x 29,5 x 51,2 inch
Weight without filters	80 kg / 176 lb

100 kg / 220 lb

Weight with filters

### tevac

#### Industrial vacuum cleaner for dust and liquids

The liquid and dust collector is a tool essential in the cleaning of air conditioning systems, extraction and air conditioning systems. Thanks to its aspiration power you will be able to maintain clean and safe working space.

This powerful vacuum cleaner for dust and liquids allows to do the job with great comfort thanks to the long range of your hose and its potability.



#### APPLICATIONS 🔻

#### OPTIONAL ACCESSORIES



HEPA FILTER

AC3101151

#### STANDARD EQUIPMENT 🔻





#### **TECHNICAL SPECIFICATIONS**

Power supply	230-240V / 50-60 Hz
Power	1200 W
Maximum power	1400 W
Airflow	215 (m³/h)
Depression	2400 mm H2O
Sound level	60 dB
Total tank capacity	37
Hose	2,5 m   Ø40
Engine stages	Double
Dimensions (L x W x H)	400 x 400 x 740 mm 15.7 x 15.7 x 29 inch
Weight	60 kg   132 lb



# coilbox

#### Coil cleaning system through active foam injection and rinsing

For effective cleaning in the delicate coils of air conditioning, both in the "condensing" outdoor units, as in "evaporator" interiors (splits, fancoils).

This innovative system has two modules complementary, the main one is the "coilbox" module, where all the technology for foam injection is integrated activated and rinsed with water, supplied by the water network.

The other "waterbox" module is a 30 litres tank of water, to be used when no connection is available to the network. The set of .the two modules makes it a fully autonomous equipment, both water supply and electricity, thanks to its rechargeable battery.



COILBOX + WATERBOX

TECNI



APPLICATIONS V

### ~

#### OPTIONAL ACCESSORIES V







COILBOX LITHIUM BATTERY 5,5 AA

Easily clean a split cassette with this cleaning sleeve.

split with this cleaning sleeve.





AC3303329



**REDIRECTION ELBOWS.** 90° AC3303316 45° AC3303315

#### CONSUMABLES 🔻





**COILFOAM.** High effectiveness alkaline degreaser for serpentines with no coating treatment. Bag in box 10 kg PQ8400100

**COILNET.** High effectiveness alkaline degreaser for serpentines. Bag in box 10 kg PQ8400101

2





SPLIT CASSETTE SLEEVE. SPLIT CASSETTE SLEEVE. Easily clean a wall

Power supply	220 V - 110 V Using rechargeable battery
Output pressure	7 bares a 2 litros / min
Rechargeable chemical product	Bag in box de 10 litros
"Waterbox" water tank	30 litres Modular
Structure material	Stainless Steel Aluminium
Approximate consumption	5m²/liters of product [Coilnet AF]
Dimensions L x W x H	436 x 422 x 1130 mm 17,16 x 16,61 x 44,48 inch

# ecoil

#### Portable coil cleaning system by means of active foam injection and rinsing

For effective cleaning of delicate air conditioning coils, both in outdoor "condensing" and indoor "evaporating" units (splits, fan coils).

#### ACCESSORIES INCLUDED 🔽







NOZZLE 40°. For rinsing and cleaning. 370004007



LI-Ion BATTERY. 96Wh 1

hour of autonomy.

AC3303419



BATTERY CHARGER.

For lithium battery 4.5A

GUN AC3303344

SPIRAL HOSE. AC3303108

AC3303601

#### OPTIONAL ACCESSORIES V







ACCESSORY KIT. 3 atta- SPLIT CASSETTE SLEEVE. SPLIT CASSETTE SLE 2 nozzles of 45° and 90°. with this cleaning sleeve.

chable 30 cm of 30 cm, Easily clean a split cassette Easily clean a wall split this cleaning sleeve. AC3303330 AC3303329





**COILFOAM.** High effectiveness alkaline degreaser for serpentines with no coating treatment. Jerrycan 10 liters PQ8400106



R









alkaline degreaser for serpentines. Jerrycan 10 liters PQ8400105



#### **TECHNICAL FEATURES**

#### ecoil

	Power supply	Li-ion battery 6600mAh (97,68Wh)
	Nominal voltage of the battery	14,4V
-	Charging time of the battery	90 min
EEVE.	Maximum outlet pressure	6,9 bar
it with	Maximum output flow rate	6 l/min
	Water tank capacity	10
	Dimensions (L x W x H)	419 x 200 x 492 mm 16,50 x 7,87 x 19,37 inches
	Unladen weight (with battery)	8,5 kg // 18,74 lb
	Hose length	2 m // 6,56 ft
	Noise level	60 dB
_	Materials	Polyethylene UV8, HDPE and fabric

### dinetB100 ultrasonic

#### Portable ultrasonic cleaning equipment

Ultrasonic cleaning consists of energy that is initiated in the generator and distributed to the transducers or ultrasonic emitters. In this way, they implode the water molecule (cavitation), generating a micro brush in the piece to be cleaned. This process, together with the temperature offered by the equipment, makes the B100 ultrasonic the fastest and most effective system for cleaning and disinfecting air conditioning grilles and diffusers



#### APPLICATIONS V



Grids Filters

**SPEED.** In a matter of seconds the dirt is removed without the need for any kind of manual finishing, we achieve cleaning and disinfection in a single operation.

**EFFECTIVENESS.** The action of ultrasound penetrates all the cavities, providing extreme cleanliness.

SAVINGS. The amount of water and product is reduced cleaning. The water is reused for successive washings.

**ECOLOGICAL.** The cleaning liquid is composed of water and a small proportion of a specific detergent

#### CONSUMABLES 🔽



SoniPower	
\$(( <b>(</b>	

SONICLEAN. Detergent for cleaning metal parts. Jerrycan 10 liters.

SONIPOWER. Cleaning power enhancer to be added to the detergent. Jerrycan 10 liters.

PQ8100501

PQ8200200



Power supply	230V 50/60Hz	110V 60Hz
Ultrasonic power	1200 W 900 W	
Heating power	2000W 1000W	
Number of transducers	28 kHz	
Ultrasonic frecuency	24 uds.	
External dimensions	800 x 530 x 1060 mm 31,5 x 20,8 x 41,7 inch	
Interior dimensions	530 x 290 x 550 mm 20,8 x 11,4 x 21,6 inch	
Interior volume	85 litros	
Weight	kg / 192 lb	

# testair

#### Particulate matter sampling pump in ducts

TESTAIR is an equipment to carry out the sampling of surfaces for the verification of the cleanliness in ventilation and air conditioning system (HVAC) ducts. Sampling is carried out by means of an air suction pump connected by means of a pipe. Flexible to a few filters contained in a cassette.

#### Highly portable and easy to use

The aspiration is done following a template that complies with the NADCA standard placed on the surface of the duct. Particulate material stays in the filters and then weighed to measure the quantity per unit area.

#### Zefon 1-800-282-0073 A STREET 1/min AIR -1-3 - - 25 - -20 - - 15 - - 10 - -3









#### CASE CONTENTS

Transport case. Surface sampler 10 mce microsamples ø37-0.8 10 Nadca sampling guides

Power supply	230 V - 50 Hz 110 V - 60 Hz
Flow rate	30 I/min – 7,92gpm(US)
Weight of calibrated cassettes	10,61 g (sin etiquetas)
Dimensions L x W x H	470 x 350 x 190 mm 18,5 x 13,77 x 7,5 inch
Weight	6 kg   13,23 lb



# microbio

#### Microbiological air measurement equipment

The standard UNE 100012 establishes a compulsory measurement of Colony Forming Units (CFU), both before and after cleaning, as well as before and after the disinfection of air ducts. Comparison with the standard will determine the disinfection requirements.







CASE CONTENTS Transport case. 1 x PC Reporter software. 4 x Rechargeable batteries. 1 x Battery charger. 1 x Microperforated head. Instructions of use and software.



Power supply	4 x AA NiMH batteries
Flow	100 l/min
Volume sample	10 to 2000 litres in varing steps
Sample volume capacity	60.000 litres before recharge*
d50 Particle size	7 μm (220 x 1mm hole head) 1.35 μm (400 x 0.7mm hole head)
Mean particle velocity	9.62 ms-1 (220 x 1mm hole head) 10.7 ms-1 (400 x 0.7mm hole head)
Other features	<ul> <li>Auto switch off</li> <li>Delayed start up to 60 min</li> <li>4-digit 7-seg LED display</li> <li>Sample cancel feature</li> <li>Padded carry bag supplied</li> </ul>
Noise level	< 75dB
Dimensions (L x H x W)	196 x 100 x 110 mm 7.7 x 4 x 4 inch
Weight	650 g (inc. battery and petri dish) )



#### Compressed air generator for brushing robots

Pneumatic brushing equipment requires compressed air for operation. For this reason, we have designed air generators that adapt to the requirements of work to be done with the best performance: Maximum air flow and pressure in single-phase connection, low noise level for night work, being able to work continuously without heating, and also a great portability.





#### COMPATIBLE EQUIPMENT 🔽





PROAIR. Pneumatic brushing equipment for air ducts. Pages. 15-16

MULTIBOT. Air duct cleaning robot. Cleaning module A100. Pages. 9-14

Voltage	230V   50Hz
Power	22 KW
Intake	400 l/min
Output flow (5 bar)	280 l/min
Tank	18
Pressure	10 bar
r.p.m.	2850 r/min
Noise level	82 dB
Number pistons	2
Ph	1
Weight	44 kg   97 lb
Dimensions (L x W x H)	572 x 636 x 520 mm 22.5 x 25 x 20.4 inch



#### Compressed air generator for brushing robots

Pneumatic brushing equipment requires compressed air for operation. For this reason, we have designed air generators that adapt to the requirements of work to be done with the best performance: Maximum air flow and pressure in single-phase connection, low noise level for night work, being able to work continuously without heating, and also a great portability. This compressor is indicated for those places where a voltage of 110V - 60 Hz is used.



ECA.

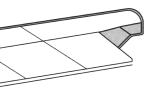
#### COMPATIBLE EQUIPMENT 🔻





PROAIR. Pneumatic brushing equipment for air ducts. Pages. 15-16

MULTIBOT. Air duct cleaning robot + Cleaning module A100. Pages. 9-14





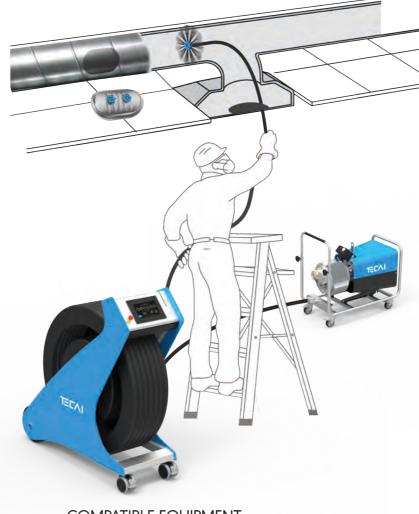
Power supply	110V - 60Hz
Nominal pressure	9 bar   125 psi
Power supply	370 l/min
Outflow rate (5 bar)	280 l/min
Flow rate (6,27 bar)	9,2 cfm   260 l/min
Motor power	2.0 HP   120V   18.8A
Sound level	79 dB
Operating principle	Piston
size	30     8 gal
Plug type	NEMA 5-20P
Dimensions (L x W x H)	1135 x 470 x 635 mm 44,5 x 18,5 x 25 inch
Weight	84 kg   183 lb



#### Compressed air generator for brushing robots

TECAI's pneumatic brushing robots require air compressed for its operation. Therefore, we have designed some air generators that adapt to the requirements of work to be carried out with the best performance as: Maximum air flow and pressure in single-phase connection, low noise level for work night, to be able to work continuously without heating and also, a great portability.





COMPATIBLE EQUIPMENT





**PROAIR.** Pneumatic brushing equipment for air ducts. Pages. 15-16

MULTIBOT. Air duct cleaning robot + Cleaning module A100



#### Paddle" System

A patented system of

sliding "paddles" which produce a large volume of air and high air pressure. Self-cooling, it can operate for 24 hours at a time.

Power supply	400V 220V 110V 50Hz 50Hz 60Hz	
Min. power cable section	2,5 mm2 3,88 x 10 3 in2	
Nominal pressure	10 bar   145,04 psi	
Air delivery [5 bar   72,52 psi]	240 l/min   8,48 cfm	
Reception capacity	360 l/min   12,71 cfm	
Power	2,2 kW	
Sound level	70 dB	
Service temperature limit	5 - 40°C   41 - 104°F	
Exit temperature	> 75°C   > 167°F	
Residual oil in compressed air	< 3 ppm	
Hydraulic circuit capacity	1,5 litres   0,4 gal	
External structure Stainless steel material	Stainless steel	
Weight	50 kg   110,23 lb	
Dimensions (L x W x H)	802 x 565 x 390 mm 31,5 x 22,3 x 15,35 inches	



#### Compressed air generator for brushing robots

It is the only complement to your Visioair when it comes to provide large flows of compressed air. It is capable of providing a flow of up to 1300 l/min with reduced dimensions and weight that make it the ideal complement to the Visioair, being easy to use within the facilities. Its sound level is only 64dB, which will allow working in noise-sensitive environments or at night.



AR100 is a compressor that is designed for effective working pressures of 8 bar, 10 bar and 13 bar. It is air-cooled to provide optimum performance and energy savings. The drive that adapts to the demand of air consumption.

#### SUPPORTED EQUIPMENT



VISIOAIR. Duct cleaning equipment with pressurized air. Pages. 7-8

Power supply	380V / 50 - 60 Hz 220V / 50 - 60 Hz	
Motor power	7 kW (continuous operation)	
Maximum air flow	13 bar	
Air flow [I/min]	1300 l/min	
Sound level in dB (A) with soundproofing kit	64 dB	
Amount of oil in compressor circuit	5 litres	
Cooling system	Air	
Control panel	Membrane keypad	
Material of the structure	Stainless steel	
Weight	126 kg / 278 lb	
Dimensions (L x H x W)	580 x 480 x 800 mm 22.8 x 18.9 x 31.4 inch	







Our generators offer the right balance between air flow, low noise level for night work, and great portability so that your work is carried out in the best conditions.





Power supply

Suction flow rate

Output flow rate

Deposit

Pression

Operating principle

Noise level

Weight

Dimensions (L x H x W)

<b>AR</b> 16	<b>AR</b> 20	<b>AR</b> 18
220 V / 50 Hz	400V / 3 / 50 Hz 220 V - 50 Hz 110 V - 60 Hz	<b>110</b> V / 50 Hz
400 l/min	360 l/min	370 l/min
280 I/min [5 bar]	240 l/min (5 bar)	2 <b>6</b> 0 l/min [5 bar]
18   / 4,7 gal	Continuous work	30   / 4,7 gal
10 bar	10 bar	9 bar
Piston	Palettes	Piston
82 dB	70 dB	79 dB
44 kg / 97 lb	50 kg / 110 lb	84 kg / 183 lb
572 x 636 x 520 mm 22,5 x 25 x 20,4 inch	802 x 565 x 390 mm 31,5 x 22,3 x 15,35 in	1135 x 470 x 635 mm 44,5 x18,5 x 25 inch

#### PERSONAL PROTECTIVE EQUIPMENT

Disposable coverall.

Limited-use protective coverall (PE+PP) impervious to particles and splashes of limited intensity. Antistatic, water vapor permeable, tear and abrasion resistant, lint free. Protection against biological agents according to Standard EN 14126:2003.

**Size L -** EP5600100 Size XL - EP5600101

#### Disposable mask.

High filtration capacity. Low in- and exhalation resistance. Soft hypoallergenic inner filter.



EP5300100

**PVC gloves** 

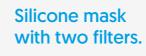


Suitable for industrial cleaning and chemical industry. Ergonomic and flocked for comfort. Cotton flower for sweat absorption. Good grip in any situation. Exceptional comfort due to special PVC formulation.

> The long glove with heat-sealed cuff also protects you from liquid splashes.



Short - EP5200100 Long - EP5200200





Made of silicone, which avoids allergic discomfort, provides a comfortable fit and good resistance to the environment aggressive.

Special system of valve holder and filter holder in one piece, which gives the body and stiffness to the front of the mask.

EP5300200

#### Silicone mask filter.



Filter against particles, gases and vapors. Approved according to EN 14387:2004.

EP5300201

#### Face shield + visor.



Face shield + polycarbonate acetate visor. Guarantees exclusive comfort thanks to its innovative indirect ventilation that reduces CO2 concentration.

EP5100101

#### Replacement protective visor



EP5100200



#### **PROTECTION OF CLEANING AREAS**

Wall splits cover.

AC3303329



Air conditioner cover.



**Quick Cover** adhesive film. For covering gratings.



Adhesive film to cover grilles. Allows a perfect suction of the air duct when cleaning. It measures 500 mm wide.

Its guick assembly and light weight make it an indispensable element for cleaning splits. The frame is made of a special aluminum alloy for light weight, acid resistance and high impact strength.

The downspout design makes it easy to collect liquids and dirt during cleaning. Water discharge pipe is one-piece to prevent liquid seepage. Dimensions: 1200 x 370 mm



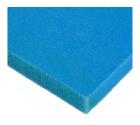
The frame is made of aluminum alloy for light weight, acid resistance and high impact strength. The downward-flowing chute design facilitates the collection of liquids and dirt during cleaning. Stainless steel anchors for adjusting the height of the splits cleaning cover.

You can use a magnetic hitch or stainless steel hitch to hang the cleaning cover easily on the appropriate parts of the split body. The water discharge pipe is made in one piece to avoid liquid leaks. Dimensions: 1200 x 1200 mm

AC3303330

AC3101150 1 unit AC3101154 4 units AC3101158 8 units

#### Foam board. For duct section.



Foam sheet (1000 mm x 1000 mm x 60 mm) for duct section. Isolates the air conditioning ducts by sections for optimal cleaning.

HE7554100



#### PROTECTION OF CLEANING AREAS

Weatherstripping to protect register. 5m

Weatherstrip to protect the contour of the open manhole in the duct. Thanks to this protection the hose of your duct cleaning system will not be damaged.



Anti-breakage protector for the shaft and hose of the brushing equipment.

Holding clamp.



Clamping clamp to place the plastics on the protection in the cleaning of air conditioning and extraction ducts.





AC3303112

3,5 cm HE7400200 5,5 cm HE7400300

AC6134102



By sealing the air outlets, the negative suction in the air ducts can be made effective to extract all dust and residues.

50 mm x 15 m AC5207450 75 mm x 15 m AC5207475



𝔇 TOOLS AND RELATED PRODUCTS



Water hose extension.



Universal tap adapter.



Allows water to reach your equipment no matter how far away the intake is. (10 meters).

Universal faucet adapter that allows the connection of your hose to all types of non-threaded faucets.



AC6200003

HE7300200







Reversible pneumatic drill.



**Reversible pneumatic** drill for use in air conditioning ducts. The AR20 air generator has an additional output for tools such as a jigsaw or pneumatic drill.

HE7100100



**Crown drain** 

HE7100101 Ø33 mm



Tool air hose

AC1012008 8 meter

Pneumatic reciprocating saw.



The ideal cutting tool for duct cleaning records.

Precise cutting and no risk of sparks that could cause fires inside the duct. The AR20 air generator has an additional output for tools such as a jigsaw or pneumatic drill.

HE7100200



#### Pneumatic saw blades

Pack 10 unitsHE7100201

### Centering brush for Rotair equipment.



Accessory for centering the rotair brush. Allows to center the brush in the duct and thus to exert equal pressure on the whole diameter of the duct, avoiding lipping. By having wheels allows a better sliding and facilitates the handling of the hose by the operator. Valid for ducts since Ø400 mm.

AC3101400

Related equipment ROTAIR pag. 17-18



### Centering brush for Proair equipment.



Accessory for centering the rotair brush. Allows to center the brush in the duct and thus to exert equal pressure on the whole diameter of the duct, avoiding lipping. By having wheels allows a better sliding and facilitates the handling of the hose by the operator. Valid for ducts since Ø400 mm.

AC3303133

Related equipment PROAIR pag. 15-16











Expansion sticks for suction hose.

Nozzle adapters.



90° adapter for directing the nozzle

AC3303316



Coil comb.



The combs are used to clean and straighten the fins of evaporators and refrigeration condensers.

Ch -

45° adapter for directing the nozzle

2 units

160 cm a 290 cm AC3101303

AC3303315

HE7300110



#### TRANSPORT ELEMENTS

#### Folding aluminum ramps.



Bamp for easy access to ducts and other uses.

#### 2 units

150 x 20 cm AC660R015 1500 x 400 x 200 mm 220 x 20 cm AC660R020 2000 x 400 x 200 mm 250 x 20 cm AC660R025 2500 x 400 x 200 mm



### 

#### SoniPower.

Detergente para rejillas y difusores de sistemas de climatización



SoniClean. Booster for grilles and diffusers.

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-	_	-	
SoniC	lean		
		1.	
	*	(((	
and and	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		

Booster for SoniClean detergent used in ultrasonic cleaning of filters and other kitchen utensils. Dilute in water at a temperature of 80° - 90° in a proportion of 1 to 5 % depending on the type of dirt to be cleaned. for SoniClean detergent used in ultrasonic cleaning of filters and other kitchen utensils. It generates a more powerful and effective cleaning. Specific detergent for cleaning with ultrasonic equipment on any type of metal part. It can also be used for filters and kitchen utensils. Dilute in water with a temperature between 50° - 80° in a proportion of 3 to 5 %. Use SoniPower to enhance the effect of the detergent in the most demanding cleanings.

CoilFoam. Coil degreaser uncoated.



Special detergent for cleaning coils without plastic coating (water repellent and oleophobic). Its powerful foam creates a dirt extraction effect from the inside to the outside. Once applied, proceed with a quick rinse of the coil.

Jerrycan 10 liters PQ8200200

Related equipment B100 ULTRASONIC pag. 27



Jerrycan 10 liters PQ8100501

Related equipment B100 ULTRASONIC pag. 27



Bag in box 10 kg PQ8400100

Related equipment COILBOX págs. 24



Coilnet.

Degreaser for air conditioning coils.



Special detergent for cleaning coils with plastic coating. It is highly recommended for cleaning ceiling and wall splits, and any coil. It is recommended to spray with the Coilbox equipment, leave for a few minutes and rinse with plenty of water.

Bag in box 10 kg PQ8400101

Related equipment COILBOX págs. 24





#### NDP Air Total.

The Surface Disinfection by an Aerial way (DSVA) equipment and air-conditioning ducts.



Applications for hospitals, offices, dental clinics, operating rooms, bathrooms and toilets, hotels. Effectiveness in Bacteria (EN13697, EN1276): Staphylococcus aureus, Enterococcus hirae, Pseudomonas aeruginosa, Escherichia coli. Fungi (EN13697, EN1650): Candida albicans, Aspergillus niger.

#### SANIT.

Surface disinfectant for critical areas. Bactericide and fungicide without formaldehyde.

5	2
	Reserve Tecas Sanit Management Strategy
	4

Non corrosive. Aerial disinfection applicable by nebulization. Powerful clinical disinfectant to ensure a high level of decontamination on treated areas UNE-EN 1650, UNE-EN 1276 and AFNOR NF-T72-281. Suitable for all types of surfaces and materials

AK-Germa 100 Disinfectant

superconcentrate for bacteria, fungi and viruses.



Bactericide-fungicide-virucide for environmental and food industry desinfection. AK-GERMA 100 is biodegradable. AK-GERMA 100 is a blend of alcohol, benzalkonium chloride and surfactants.

Jerrycan 5 liters PQ8400104

Jerrycan 5 liters PQ8300100

Box of 6 units of 1 liter

PQ8400113

#### Related equipment

MULTIBOT | Disinfection module D360° | Págs. 9-14



Elasbio Sealant for fiber ducts.



Insulating sealant for fiber ducts. For use in industrial installations only.

Jerrycan 25 Kg PQ8400110

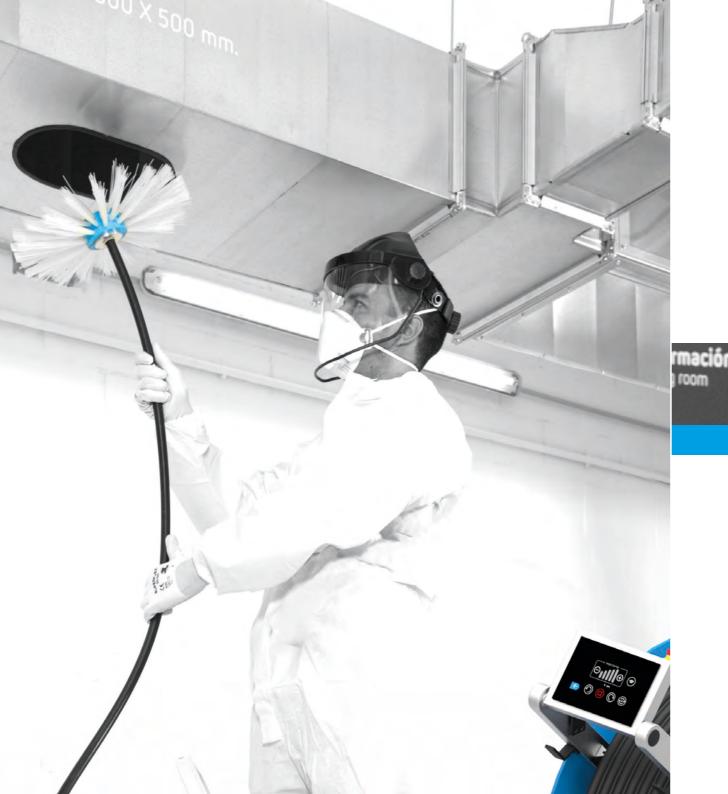
#### **Related** equipment

MULTIBOT | Disinfection module S360° | Págs. 9-14









#### Training for technicians in the cleaning of air conditioning systems

We have more than 20 years of experience working on the cleaning of heating, ventilation, and air conditioning systems (HVAC), as service providers in a first stage, and then as developers of the technology and methodology for this activity. Our range TECAI is specifically designed to perform this type of cleaning with high profitability and efficiency. That is why we are able to train any technician in all areas of this activity. We have a classroom and a training center and our students can participate in first person, as it is necessary for proper

learning the equ method system. This cou whose of execute and effic procedu

Theory (6h)

The "Sick Building Syndrome" Related Legislation Generalities of the UNE 100012 Facilities and particularities Evaluation and validation protocols Robotic visual inspection Measuring systems Microbiological sampling Evaluation frequencies Cleaning procedure Data collection Methodology for duct cleaning Methodology for cleaning of air conditioners and AHU's Methodology for cleaning of grills and air diffuser Methodology for cleaning of condensers (split units) and evaporators Methodology for cleaning of heat exchangers and chimneys Disinfection systems Occupational Risk Prevention Plan Business management Annex. Glossary of terms

learning. We have a training area with real facilities, with all the equipment, to be able to practice in-situ and apply the methodology throughout the

This course aims to cover the training needs of the sector, whose objective is that participants learns how to plan and execute a cleaning of an HVAC system, with better profitability and efficiency, thanks to the most advanced technology and procedures on the market.



#### Practice (2h)

#### Preparation of facilities for cleaning

Environment protection Prevention of Labor Risks (EH&S) Opening access doors in ducts

#### Equipment connection and start-up

Use of equipment

 $\bigcirc$ 

- Duct cleaning AHU's cleaning
- AHUS Cleaning
- Cleaning of grilles and diffusers
- Transport, storage and maintenance of equipment Inspection

PFor any information on the training, you can call us by phone at (+34) 941 44 50 56 or send an email to info@teinnova.net



#### teinnovacleaning.com

