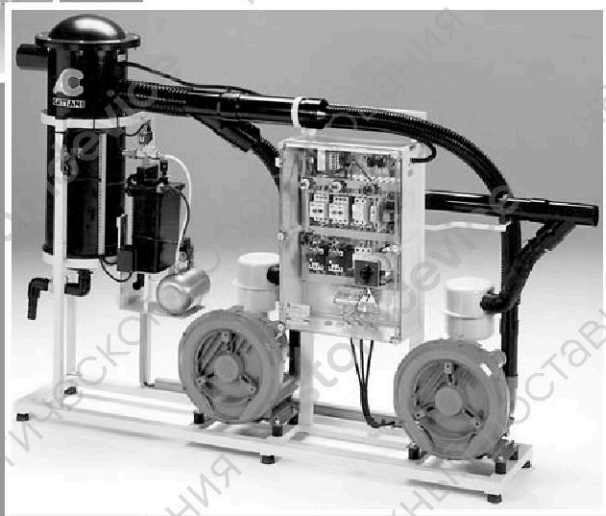
stomdevice

DRY AND SEMI-DRY CENTRALIZED SYSTEM



• **INSTRUCTIONS HANDBOOK**



CATTANI S.p.A.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

ENGLISH

AIR AND SEMI-DRY CENTRALIZED SYSTEMS

(Handbook reserved to dental engineers)

CONTENTS

Page

— INTRODUCTION 2
— GENERAL FEATURES 2
— APPLIANCES DESCRIPTION
— TURBO-JET modular 2
— MANUAL TIPS SUPPORTS 3
— PNEUMATIC TIPS SUPPORTS 3
— PNEUMATIC MANIFOLD 3
— INSERTS 3
— CANISTERS / AUTOMATIC MINI-SEPARATORS / SEPARATOR TANKS 4
— SHUTTING VALVES 4
— AMALGAM SEPARATORS 4
— DIN HYDROSEPARATOR AND HYDROCYCLONE 5
— ISO HYDROSEPARATOR AND HYDROCYCLONE 5
— SINGLE-FAN ASPIRATION UNITS 6
— TWO-FAN ASPIRATION UNITS 10
— ACCESSORIES FOR ASPIRATION UNITS 12
— ELECTRICAL CONTROL PANELS 12
— PLANNING
— ASPIRATING PIPINGS 12
— ELECTRICAL WIRINGS 12
— INSTALLATION
— TIP SUPPORTS 13
— CANISTERS AND SEPARATORS 13
— SHUTTING VALVES 14
— AMALGAM SEPARATORS
— AMALGAM SEPARATOR TRAP 14
— HYDROSEPARATOR 14
— CONTROL PANELS AND ASPIRATION UNITS 15
— OPERATION AND USE
— DRY AND SEMI-DRY SYSTEMS 16
— MAINTENANCE 16
— ORDINARY MAINTENANCE OPERATIONS 17
— ANTIFOAMING TABLETS 18
— MAIN ORDINARY MAINTENANCE OPERATIONS 18
— MAIN EXTRAORDINARY MAINTENANCE OPERATIONS RESERVED TO
— DENTAL ENGINEERS 19
— IMPORTANT NOTICE 19
— TRANSPORT AND STORAGE 20
— TRANSPORT OF SECOND-HAND APPLIANCES 20

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Introduction

The "Dry and semi-dry centralized systems" handbook is meant to offer our guidance and help to designers and engineers as for piping size and type of appliance. In case this booklet should not be exhaustive, our design department, in our headquarters in Italy, and all concessionaries abroad are willing to supply any advice and to design any plant. In order to avoid any misunderstanding we believe it is useful to clarify the meaning of dry, wet and semi-wet systems.

• In a dry system, only air runs through the aspiration pipings and the aspiration unit creates vacuum by an air ring vacuum pump.

• In a wet system the fluid running through the aspiration piping is composed of aspirated liquids and air, while the ring inside the pump is created almost totally by an independent water supply.

• In a semi-wet system both the above systems are combined: inside the aspiration pipings flow the aspirated liquid plus air (like in a wet system) while the aspiration unit is an air-ring one.

Briefly:

• in the dry version, only air flows in the piping and in the pump;

• in the wet version, liquids flow in the pipings and in the pump;

• in the semi-wet version, liquids flow in the pipings and air through the pump.

General features

Dry centralized plant are particularly suitable for dental surgeries where the main practice is prosthetics. Anyway they allow for small surgery operations.

For parodontal and maxillo-facial surgery wet ring pumps and semi-wet systems are more advisable.

Semi-wet dental aspiration systems are suitable for both surgery and prosthetics; recently introduced in the dental field, they have low operating costs. There are however some installations difficulties: counterslopes cannot be easily overcome if not to only a minimum extent; separator tanks (necessary only for large plants) must be installed at a level below the floor where the aspiration pipings run: this rule does not include the A 60 tank which can be installed at the same level as the dental unit.

APPLIANCES DESCRIPTION *

Turbo-Jet modular (draw. 33a-33b-34a pag. 87-88-89)

Turbo-Jet 1 modular, fitted for one surgery; Turbo-Jet 2 modular, sufficient for two surgeries working at the same time; Turbo-Jet 3 modular for three-four surgeries. Diagrams fig. 33a-33b-34a.

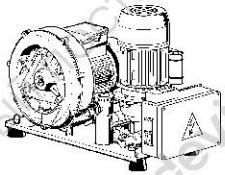
The aspiration units of semi-wet systems basically comprise, an air ring fan, a centrifugal separator and a control panel. They are available with or without box, dimensions fig. 33a-33b-34a. There is a soundproof version available for each model.

As for other parts (shutting valves, tip supports, amalgam separators, etc.) they are the same used in dry or wet systems and can be used the same way.

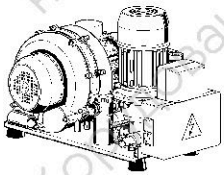
**** This presentation does not include all available appliances. For more exhaustive information we refer the reader to specific leaflets.***

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

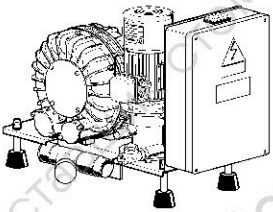
*



TURBO-JET 1 *modular*



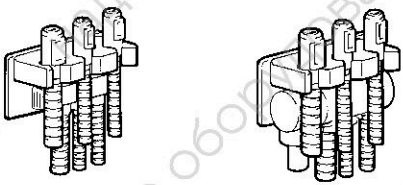
TURBO-JET 2 *modular*



TURBO-JET 3 *modular*

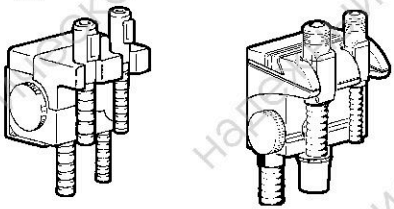
Tip supports

Manual tip supports.



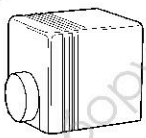
Draw. 1

Pneumatic and automatic tip supports.



Draw. 2

Pneumatic manifold.



Draw. 3

Inserts for:

1) mechanical terminal Ø 16 - 2) mechanical terminal Ø 11 - 3) micromotors
4) Turbine and syringe - 5) composite lamp - 6) manual terminal Ø 11
7) manual terminal Ø 16.



Draw. 4

1 2 3 4 5 6 7

* ***This appliance cannot work in the presence of an anaesthetic mixture inflammable with air, with oxygen or nitrogen protoxide.***

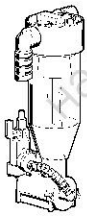
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

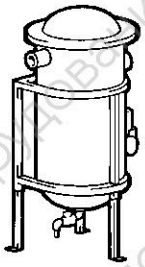
stomdevice

Canisters / Automatic Mini-Separators / Separator tanks

Maxi-Canister: *to be used in single-surgery installations, capacity 1.5 l, automatic drainage with stop of aspiration, draw. 5.*
Automatic Mini-Separator with draining pump*: to be used in single-surgery installations, capacity 1.0 l, continuous running, draw. 6.*
Small Separator Tank (A 53): *capacity 12.5 l, draw. 7; the tank is fitted with autoclave for automatic washing, for 6 surgeries max.*
Medium Separator Tank (A 54): *capacity 39 l, draw. 7; the tank is fitted with autoclave for automatic washing, for 17 surgeries max.*
Large Separator Tank (A 57): *capacity 130 l, draw. 7; the tank is fitted with autoclave for automatic washing, for 54 surgeries max.*


Draw. 5

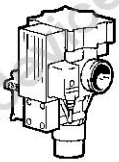

Draw. 6


Draw. 7

Shutting valves

These valves are used to make independent from the others each surgery connected to a centralized plant.
Motorized electrovalve*: usually coupled to the Maxi-Canister, is recommended for air ring systems, draw. 8.*
Electropneumatic valve*: as a rule it is coupled to the Mini-Separator and is recommended for dry and semi-dry systems, draw. 9.*
Mignon Electropneumatic valve*: same features as the previous one, it is particularly advisable for the passage of liquids and disinfectants, draw. 10.*


Draw. 8


Draw. 9

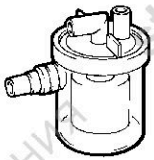

Draw. 10

Amalgam separators *

Separator-tanks: *perform separation by decantation.*

Draw. 11



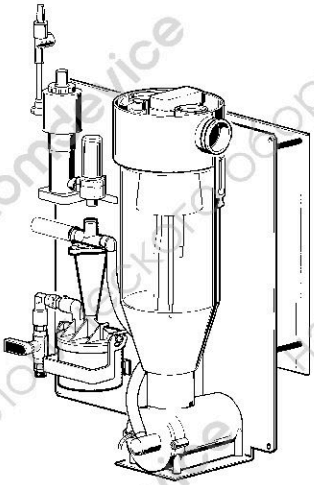


**** Our amalgam separators are not always compatible with other manufacturer's units.***

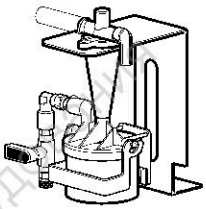
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Hydroseparator and Hydrocyclone type ISO: *tested for 96.6% separation rate, flow 5.5 l/min they are respectively suitable for dry and semi-dry systems, fig. 12a-12b.*

Draw. 12a

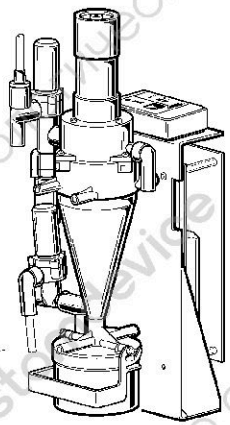


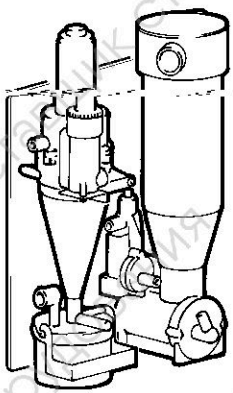
Draw. 12b



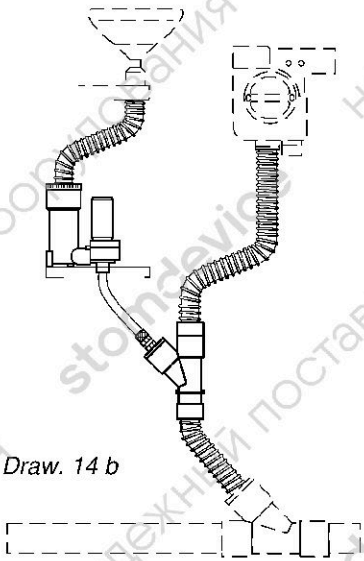
Hydroseparator and Hydrocyclone type DIN: *TÜV approved 97% separation rate, flow 3.5 l/min they are respectively suitable for dry and semi-dry systems, fig. 13-14.*

Draw. 14





Draw. 13



Draw. 14 b

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

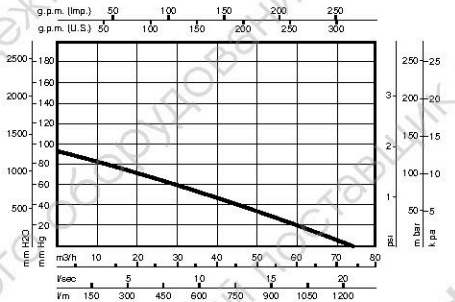
stomdevice

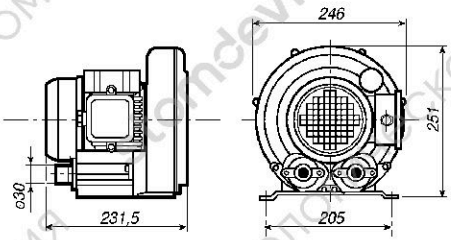
One-fan aspiration units

Six models: Uni -Jet 75, Mini-Jet 2V, Tecno-Jet, Flux-Jet, Medio-Jet and Maxi-Jet 2S. They are suitable for centralized systems where the engine room is placed close or not very far from the surgeries and where the demand is for an average head (about 900 mm H_2O). Deadening boxes and brackets for wall fixing are available for the four smallest units. Table "A" (page 81) shows useful data for the choice of aspiration units and piping diameters related to the number of surgeries and to distance.

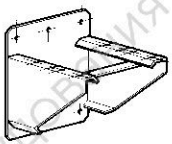
Uni-Jet 75, box and bracket

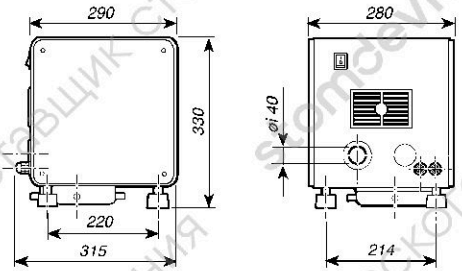
UNI-JET 75:
(1~) power output 0.4 kW - 3.1 A,
maximum flow 1250 l/min,
running maximum head for continuous service 1300 mm H_2O,
sound pressure level 62 dB (A),
single-surgery use.





UNI-JET 75 + BOX:
sound pressure level 58 dB (A).



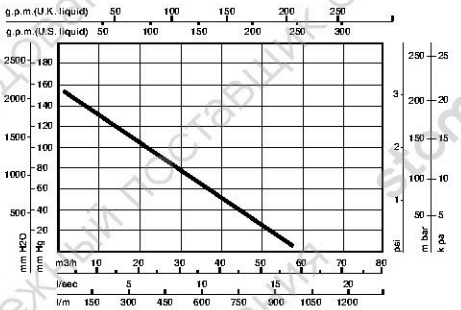


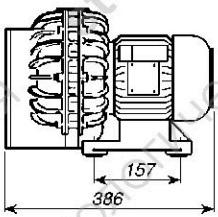
- ***This appliance cannot work in the presence of an anaesthetic mixture inflammable with air, with oxygen or nitrogen protoxide.***
- ***Sound pressure level tested with canalized air, according to ISO regulation 3746-1979 (E). Parameters: r= 1 - Background noise < 51 dB (A) - Instrument Brüel & Kjær Type 2232.***
- ***Power output in kW is referred to 220-380 V tension.***

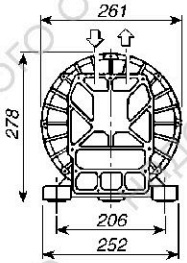
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

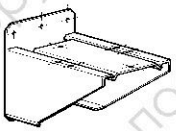
Mini-Jet 2V, box and bracket

MINI-JET 2V:
(1 ~) power output 0.55 kW - 4.3 A,
(3 ~) Y 1.6 A - Δ 2.8 A - 0.55 kW,
maximum flow 980 l/min,
running maximum head for continuous service 1900 mm H_2O,
sound pressure level 62 dB (A),
single surgery use.

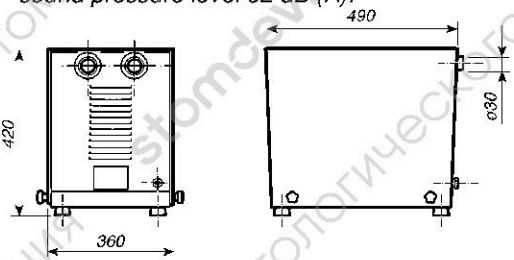






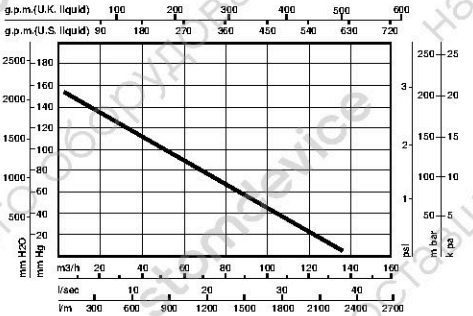


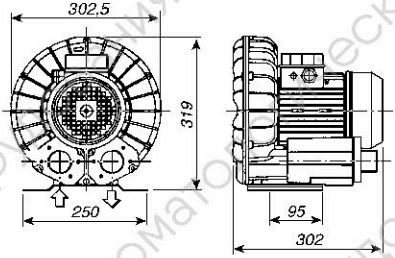
MINI-JET 2V + BOX:
sound pressure level 62 dB (A).



Tecno-Jet, box and bracket

TECNO-JET:
(1 ~) power output 0.75 kW - 5.5 A,
(3 ~) Y 1.95 A - Δ 3.4 A - 0.75 kW,
maximum flow 2000 l/min,
running maximum head for continuous service 1400 mm H_2O,
sound pressure level 67 dB (A),
for 3 surgeries working at the same time.

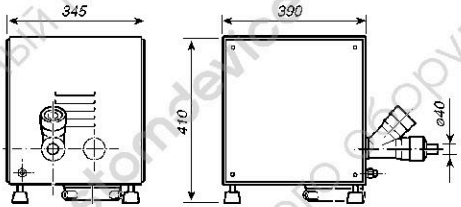


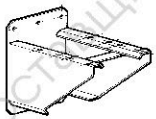


https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

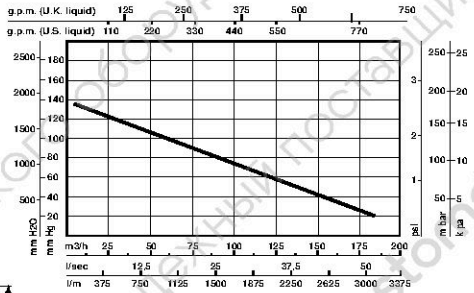
TECNO-JET + BOX:
sound pressure level 60 dB (A).

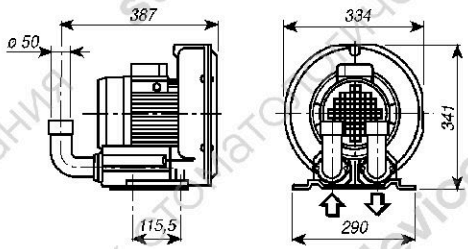




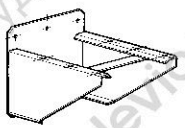
Flux-Jet, box and bracket

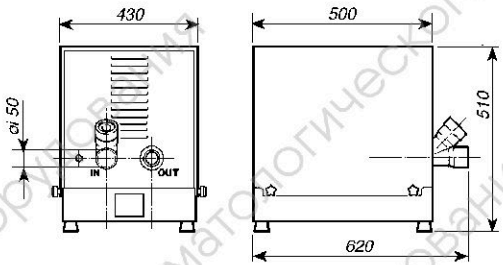
FLUX-JET:
(1 ~) power output 1.1 kW - 7.6 A,
(3 ~) Y 3.7 A - Δ 6.4 A - 1.5 kW,
maximum flow 3300 l/min,
running maximum head for continuous service 1500 mm H_2O,
sound pressure level 68.5 dB (A),
for 4 surgeries working at the same time.





FLUX-JET + BOX:
sound pressure level 63 dB (A).

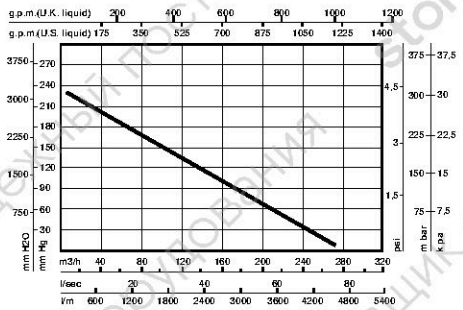


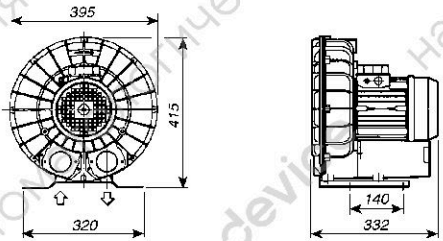


https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Medio-Jet

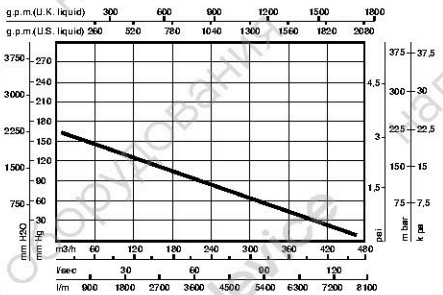
(3 ~) power output 2.2 kW - Y 5.2 A - Δ 9 A,
maximum flow 5000 l/min,
running maximum head for continuous
service 1750 mm H_2O,
sound pressure level 71 dB (A),
for 7 surgeries working at the same time..

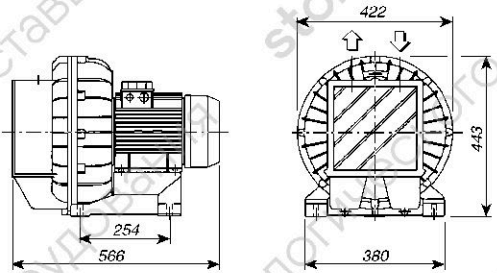




Maxi-Jet 2S

(3 ~) power output 4 kW - Y 9 A - Δ 15.6 A,
maximum flow 8333 l/min,
running maximum head for continuous
service 1700 mm H_2O,
sound pressure level 76.5 dB (A),
for 12 surgeries working at the same time.





https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

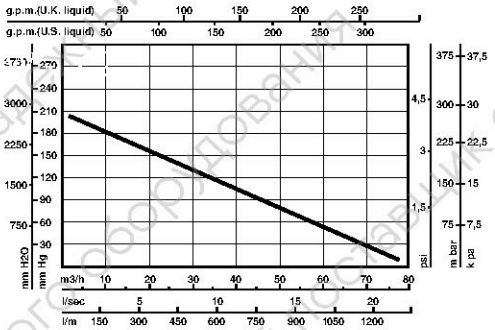
stomdevice

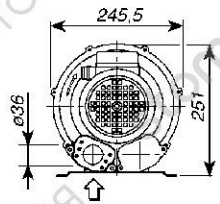
Two-fan aspiration units

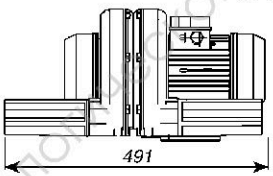
Urged by several ergonomists asking for higher head aspiration, we have introduced in the dental field two-fans aspiration units: Uni-Jet 75 2V, Tecno-Jet 2V, Flux-Jet 2V, Medio-Jet 2V. Higher head (about 2.000 mm H_2O) allows the use of thinner tips which results in lower noise, higher aspiration speed and better interception. Moreover these units are particularly suitable to overcome the loss of pressure due to friction caused by chokes or excessive length of the aspiration pipings; the y also allow installations that could not be easily realized otherwise.

Uni-Jet 75 2V

(1 ~) power output 0.70 kW - 5.2 A,
(3 ~) Y 1.95 A - Δ 3.4 A - 0.75 kW,
maximum flow 1330 l/min,
running maximum head for continuous service 2850 mm H_2O,
sound pressure level 64 dB (A),
single surgery use.

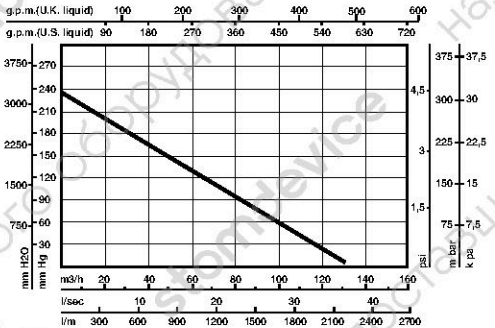


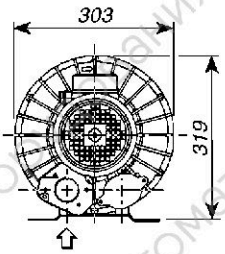


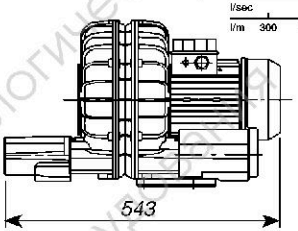


Tecno-Jet 2V

(1 ~) power output 1.1 kW - 7.5 A
(3 ~) Y 3.5 A - Δ 6.0 A - 1.5 kW,
maximum flow 2170 l/min,
running maximum head for continuous service 2000 mm H_2O single-phase, 2350 mm H_2O three-phases,
sound pressure level 65 dB (A),
for 2 surgeries working at the same time.





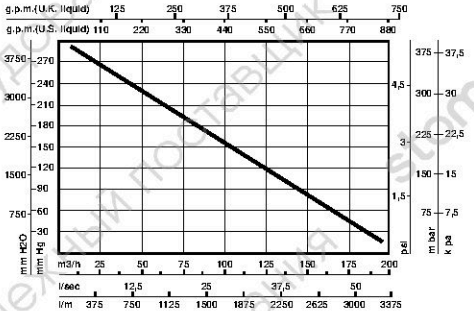


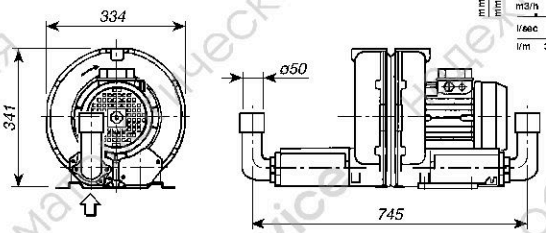
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Flux-Jet 2V

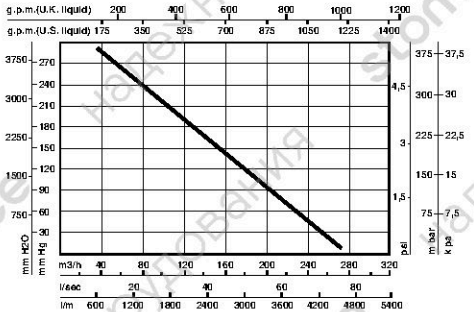
(3 ~) power output 2.2 kW - Y 5.2 A - Δ 9 A,
maximum flow 3330 l/min,
running maximum head for continuous service 2350 mm H_2O,
sound pressure level 72 dB (A),
for 3 surgeries working at the same time.

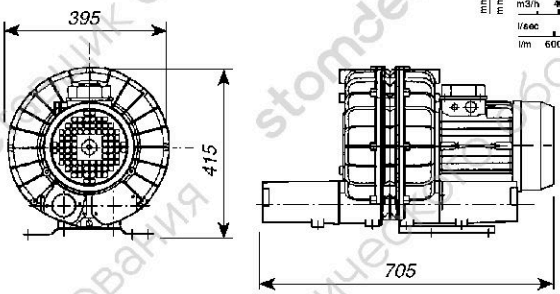




Medio-Jet 2V

(3 ~) power output 4 kW - Y 9 A - Δ 15.6 A,
maximum flow 4830 l/min,
running maximum head for continuous service 2450 mm H_2O,
sound pressure level 74 dB (A),
for 5 surgeries working at the same time.





- ***This appliance cannot work in the presence of an anaesthetic mixture inflammable with air, with oxygen or nitrogen protoxide.***
- ***Sound pressure level tested with canalized air, according to ISO regulation 3746 - 1979 (E). Parameters: r= 1 - Background noise < 51 dB (A) - Instrument Brüel & Kjær Type 2232.***
- ***Power output in kW is referred to 220-380 V tension.***

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Accessories for aspiration units *(draw. 27 pag. 83)*

For every aspiration unit is available a line of accessories including: vibration-proof devices A, tube-holder sleeves, special tube B, low frequency silencer C fitted with non-return valve D, high frequency cylindrical silencer E and compensating valve F. If the unit is fitted with deadening box, the accessories are included there. On request it is available a certified bacteriological filter to filter the exhausted air.

Electrical control panels *(draw. "A"-"B" pag. 81-82)*

Every aspiration unit must be coupled to an electrical control panel with technical features suitable for the motor input assorbine and fitted with all the safeties required by safety regulations. Control panels, aspiration units and feeding lines must be protected against electrical direct and idirect contact, from overload and overcurrent, in compliance with C.E.I. 64-8 regulations (E.C. corresponding regulations available on request) for first class appliances. Tables "A" and " B" show the indications for the choice of the control panels in relation to the aspiration units. On request, control panell can be equipped with: hour-counter, warning lights check, motor-off signal, tension control, manual/automatic running mode-switch.

PLANNING

Aspiration pipings *(draw. A"-"B"- fig. 28 pag. 81-82-84)*

The diameter of the aspiration pipings is related to several factors as the number of the surgeries that will work at the same time, the aspiration unit which has been chosen and the route of the pipings. Tables "A" and "B" show the different diameters in relation to various cases. Pipes must be of the best quality, of heavy type offering long lasting guarantee. Also the layout of ***the whole piping must facilitate the flowing of the fluids****, avoiding as much as possible any loss of pressure due to friction. It is necessary that every branching off and extension is made by* ***45° connections bent towards the surgeries****, A;* ***also 90° bends should be avoided as far as possible, they can be substituted by two 45° bends****, B. In dry systems the aspiration pipings do not create any problem of levels or counterslopes, on the contrary in semi-dry systems, where aspirated liquids flows along the whole aspiration circuit, it is necessary to* ***avoid upward slopes and syphons****. When the pipes are run in chases they must be inspectable; at the end of every branch it is always possible to insert a proper tool but when the pipings route does not allow a complete inspection from these openings, then some inspection holes should be placed at the most suitable points, C.* ***It is advisable to check the tightness of the pipeline once it has been positioned****: the test is useful in an dry system, essential in a semi-dry system. Once all outlets have been stopped up, pipings must be put under light pressure and checked with a suitable instrument (manometer, mercury or water column): pressure should be steady.*

Electrical wiring *(draw. 28 pag. 84)*

Aspiration units and control panels must be installed in a special technical room, purposely prepared and fitted with all safety devices required by safety regulations and, if necessary, under authorization and surveillance of responsible authorities. Electrical feeding line will be prepared according to tension and input shown on the control panels, on the aspiration

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

units and on the electrical diagrams jointed to control panels; furthermore the feeding line must be fitted with an high-sensitivity differential switch. Starting from the control panel a low tension three-cores cable of 1.5 mm² (section increases with distance) gets all the surgeries connected to the same plant, D. This line controls the switching on and off of the aspiration from each surgery in the system.

INSTALLATION

The dental unit is almost always fitted with the components needed for high volume aspiration such as tip support, Mini-Separator and shutting valves. In case these devices are not already fitted, the supplier of the aspiration system shall install these components inside the unit (with manufacturer's authorisation) or in other suitable positions.

Tip support ***(draw. 30a pag. 85)***

The tip support is generally fixed on the water unit, L. Dental ergonomics suggest also different positions; they must be found together with the professional in order to meet his own practice requirements in any working position.

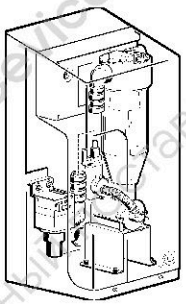
Canisters and separators

(draw. 6/15/29/30a/33a/33b/34a/34b pag. 13-85-87-88-89-90)

Only the more conventional installations, dry systems, pose the problem of canisters and Mini-Separators inside the surgery. Semi-dry systems need no separator inside the dental unit.
In semi-dry systems aspirated liquids flow along the whole aspiration circuit and are drained in the engine-room: in large installations a Separator-Tank, G draw. 29, collects all the aspirated debris from all the surgeries, separates air from liquids and drains the latter in the waste. In small installations the same operation is carried out by a centrifugal system, separating air from water and draining the latter in the waste, draw. 33a-33b-34a-34b.
In air ring systems, due to lack of room, the Canister (separator of blessed memory) has almost disappeared, to be replaced by the automatic Mini-Separator, draw. 6. When the dental unit design does not offer any room, or anyway the assembling of the Mini-Separator is too difficult to assure a proper running, a good solution is Maxi-Canister plus box, draw. 15, placed at the bottom of the chair on the left (out of the dentist's and the assistent's operation range).
Tip support and Separator must be installed so that liquids are drained by gravity, in order to avoid stagnations of liquids inside the pipings connecting the components when the aspiration is switched off; such liquids could be difficult to be aspirated rapidly on the restarting of the aspiration and could cause some annoying standstills.
The draining of the separator is worth particular attention: the draining pipe must be able to drain 1.5 - 2 l/min.



Draw. 6



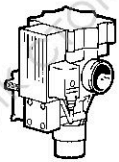
Draw. 15

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

Shutting valve (illus. 9/10)

These valves are used to make independent from the others each surgery connected to the same plant. They are controlled by a 24 V signal coming from the tip support and (only in case of dry systems) from the probes of the Mini-Separator.



Draw. 9

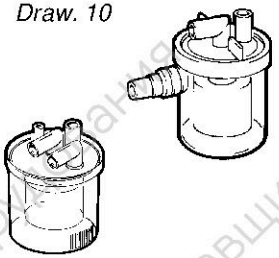


Draw. 10

AMALGAM SEPARATORS

Amalgam separator-tank (draw. 11)

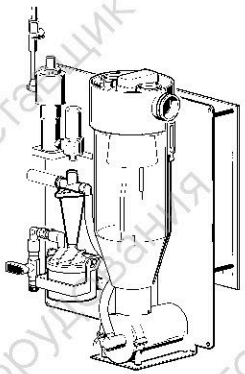
The dimensions of the standard product allow its use only in dry systems. It is advisable to install it in the water unit or in the floor-box of the dental unit. If there is no room enough it is convenient to install the Maxi-Canister plus box fitted with the purposely designed bracket. The amalgam separator can collect the liquids coming from the spittoon provided that the washing is timed for 20 sec. max.



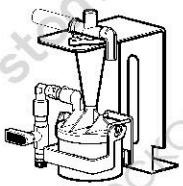
Draw. 11

Hydroseparator (draw. 12a-12b-13-14-14b pag. 14-15)

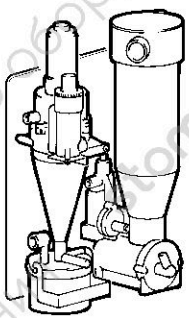
Coupling the Hydrocyclone to the Mini-Separator we have obtained the Hydroseparator, draw. 12a-13, the amalgam separator for dry systems, approved by TÜV for a separation degree of 97 % with a flow of 3.5 l/min (DIN version) and 96.6% with a flow of 5.5 l/min (ISO version). The Hydroseparator can be installed in the water unit, or, fitted with its box, at the bottom of the chair.
In case of semi-dry systems, one or more Hydrocyclones, draw. 12b-14, depending on the size of the plant, should be installed in the engine room; also in semi-dry systems, ***the spittoon draining unit draw. 14b (which is always fitted in dry systems together with Hydroseparator) must be installed in the water unit of each dental unit, so that liquids coming from spittoons will be conveyed directly into the aspiration pipeline.***



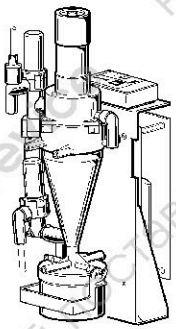
Draw. 12a



Draw. 12b



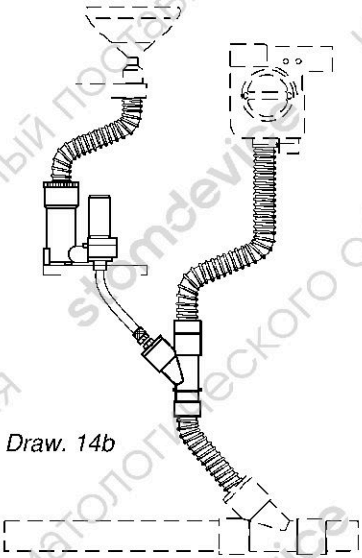
Draw. 13a



Draw. 14

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice



Draw. 14b

Control panels and aspiration units

(draw. "A"-"B"-27-28-29-30a pag. 81-82-83-84-85)

Control panels, canisters, aspiration units and, as a rule, all appliances connected to the power mains, especially when switching on and off are automatic and take place without previous notice, must be installed in an engine room, where the entry is forbidden to patients and unauthorized persons. For small plants fitted with aspiration units: Uni-Jet 75, Mini-Jet 2V, Uni-Jet 75 2V, Tecno-Jet, Tecno-Jet 2V and Flux-Jet, the engine room can be obtained in one of the surgery rooms, draw. 30a; a minimum deadening will be enough to reduce the noise to acceptable levels.

As for aspiration units Flux-Jet 2V, Medio-Jet, Medio-Jet 2V, Maxi-Jet 2S and other with higher flow, we recommend their installation at a longer distance from the surgery, draw. 29. ***Every engine room will be fitted with: an electrical feeding line proportionate to the power installed, with a switch and an high sensitivity differential; an outlet to exhaust outside the aspirated air and to ventilate properly the room (min. temp. +5 °C - max. temp. +30 °C).***

Air exhausted from the aspiration units is always very damp and its temperature is higher than the room one; due to rarefaction, some condensation, which must be discharged, can form in the draining pipe.

The manufacturer offers a certain number of accessories like: brackets, deadening boxes, low frequency silencers, draw. 27-C, high frequency silencers E, vibration-proof devices A, hoses B and heat-resistant pipes H. These accessories are not always indispensable, but they are often useful to prevent inconveniences and troubles. Tables "A" and "B", pag. 81-82, give some information useful for the choice of the aspiration units and of the control panels according to the number of surgeries supposed to be working simultaneously.

Assembling of two or more aspiration units in parallel lowers absorbtion costs when the plant is not in full use *and reduces the risk of total failure. In systems made up of two or more machines in parallel, operation controls and luminous/acoustic signals are useful both in the technological room and in the secretary's office; otherwise a progressive stop of the system might occur. It is thus advisable to request the controls and signals listed below.*

Useful controls and signals*: operation hour-counter, luminous switches with machine operation modes (manual and automatic), luminous signal test push-button, phase-on tester.*

Luminous and acoustic signals for failures*: suction assembly, drainage pump, full tank, mix separator maximum level.*

The reader is kindly requested to note that even if the sound pressure levels data (reported at the units illustrations) have been gathered systematically and precisely, they can be anyhow influenced by environment, by machines position and by others factors; consequently eventual discrepancies should be considered as resulting from these situations or from data gathering methods.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

OPERATION AND USE

Knowing how the plant operates will make the surgery staff self-sufficient and self-confident.

Dry and semi-dry systems

(draw. 29-30a-31-33a-33b-34a pag. 85-86-87-88-89)

Once the main switch on the feeding line and the control panel one are turned on (I = on / 0 = off), lifting up a terminal A, draw. 30a, from its seat will start the aspiration: the microswitch of the tip support, with a 24 V closing signal, controls the opening of the shutting valve C and starts up the aspiration unit D. Through the operative tip E and the lifted hose liquids and air, called in by the negative pressure, flow into the manifold B, where they are submitted to a first filtration. In a dry plant, after passing through the manifold, liquids get to the Mini-Separator F, where they are drained. In dry systems only air flows after the Mini-Separator, whilst in semi-dry systems fluids get to the Separator Tank G draw. 29 (or the centrifuge B, draw. 33a-33b-34a in small semi-dry systems) in the engine room where they are drained too. ***In both types of system air gets to the aspiration units and is exhausted outside,*** *H draw. 29.*
If a signal from the Mini-Separator indicates that the maximum level has been reached, the shutting valve of the involved surgery will close. In semi-dry systems, the Separator-Tank is fitted with the overflow device that might be activated during washing operations. The eventual presence of an amalgam separator fitted together with the Mini-Separator (Hydroseparator) in the dental unit water-unit (dry systems) or installed in the engine room for semi-dry systems (Hydrocyclone) does not affect or modify the operation of the plants. The reader can find a more complete and exhaustive description of the Hydroseparator operation on the specific manual.

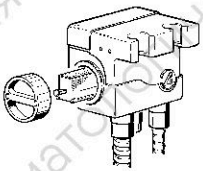
MAINTENANCE

This section of the instruction manual, that we would like to be known also by dental engineers, is particularly meant for the surgery staff *(draw. 14b-16-17-18-19-29-30a-31 pag. 15-17-85-86)*

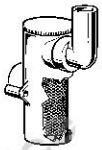
Before every cleaning or maintenance operation on the aspiration plant, wear disposable gloves, mask, goggles and overall*, carry out a careful sanitizing washing with Puli-Jet and water, draw. 19, if necessary repeat the operation several times; the aim is to obtain a good cleaning of the internal components, particularly of the parts involved in the maintenance operation and to abate as far as possible the bacterial level.* ***Before starting maintenance operations*** *on moving or under tension parts,* ***cut off power****. To clean and sanitize internally the aspiration plant act as follows, draw. 19: prepare the Puli-Jet solution following the direction printed on the bottle label; insert the tip no 17 in the large terminal by means of the adapter no 16; insert the tip no 10 in the small terminal; dip one tip at a time into the solution; aspirate it without letting any air enter into the plant; after some seconds lift rapidly the tip upwards and aspirate air only. Repeat this procedure some times; it will create the turbulence needed to clean all pipes and components that get in touch with the aspirated liquids.* ***Puli-Jet dissolves mucus and blood****, its special detergent action enchances the antimicrobial factor obtaining a sanitizing and deodorizing effect. If it is used systematically and regularly,* ***Puli-Jet assures a good functioning of the plant, prevents foam build-up and formation***

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

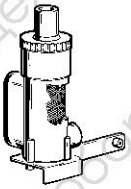
of bacterial coatings *draw. 31, responsible for sudden stops and for progressive reduction of the aspiration power. During the work solid particles are aspirated together with liquids: they must be trapped by filters; no aspiration plant can run properly and for a long time without a suitable filtering of the aspirated debris. In time large debris impair the running of the draining valves and of diaphragms closing and opening the aspiration pipes. Lacking the filter on the tip support, draw. 16, a self-contained filter, draw. 17, must be placed between the tip support and the Mini-Separator, draw. 30a det. I. In a semi-dry system the self-contained filter, draw. 17 must be placed between the tip support and the Electropneumatic valve C, draw. 29 det. I. The amalgam separators (Hydroseparator or Hydrocyclone) which can receive the liquids drained by the spittoon, draw. 14b, are already fitted with filter, draw. 18.*



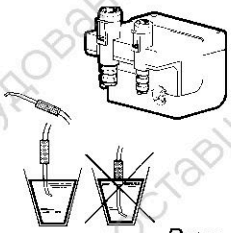
Draw. 16



Draw. 17



Draw. 18



Draw. 19

Ordinary maintenance operations

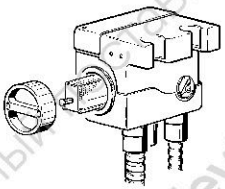
(draw. 17-19-20-21-22-32 pag. 17-18-86)

First of all, as described in the previous paragraph, before starting any maintenance operations wear disposable gloves, mask, goggles and overall *and clean-sanitize the plant with Puli-Jet, draw. 19. Use of detergents and disinfectants too strong or someway non-compatible with materials (metal, rubber and plastic) of the aspirator is strongly advised against. The Manufacturer disclaims all responsibility and will not consider under guarantee any appliance or plant treated with unsuitable products, even if such products are described as specially made for surgical aspirators. Secondly, filters are to be replaced;* ***before reaching for the tip support filters, switch on the aspiration for some seconds, aspirating air only: it will prevent any liquid spill.***

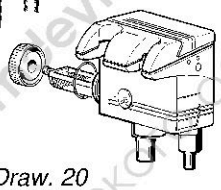
While aspiration is still on, take off plugs (draw. 16-20) and replace the filters; the recovered filters are surely contaminating and before being reused, they must be kept immersed in a high concentration sanitizing or disinfecting solution for 6/8 hours. ***Any amalgam trapped in the filter shall be recovered and put into the disposable amalgam container of the amalgam separator****, following the directions jointed to the separator itself. External hoses and tip supports can be cleaned and sanitized draw. 32.* ***Terminals (that can be detached from hoses by twisting and pulling them, draw. 21) and tips are instruments-washerproof and autoclavable****. Repeated sterilizations speed up, of course, the ageing process, but the handiness of replacement and price have been studied and calculated for frequent sterilizations.*

Also replacement of external hoses, subject to ageing due to the liquids flow, has been studied to be easy and handy, draw. 22; ***before detaching the external hoses from manifold, switch on the aspiration without aspirating liquids, lift upwards the loose end of the hose to ease the aspiration of the liquid left inside and to prevent any spill.***

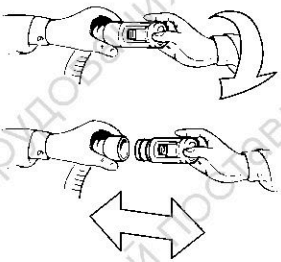
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ



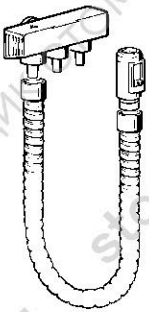
Draw. 16



Draw. 20



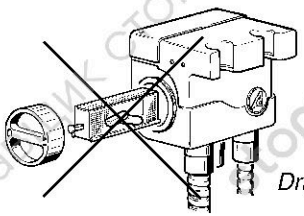
Draw. 21



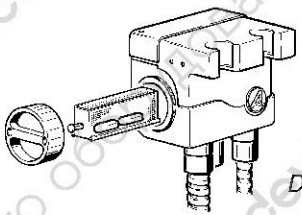
Draw. 22

Antifoaming tablets *(draw. 23-24 pag. 18)*

We strongly recommend the use of antifoaming agent *particularly in case of surgical operations. Blood, on contact with air and with turbulence created by aspiration, builds-up a large quantity of foam, which activates the emergency device of the appliance stopping the aspiration. Many other substances cause foam builds-up, such as mucus and some disinfectants used to wash and treat the mouth;* ***so the use of the antifoaming tablets (which have no contraindications) is always advisable****.*
The present production of antifoaming agent adds to its primary antifoaming effect ***also a bacteriostatic and sanitizing action*** *which anyway does not substitute the detergent and disinfectant action of Puli-Jet but on the contrary supports it during the day, when cleaning operations cannot be easily carried out. Sanitizing antifoaming tablets must be put into the tip support filter and placed so that aspirated liquids, through the filter, carry away some particles of the product. If the tablets are placed in the filter, draw. 23-24, in the evening after the cleaning with Puli-Jet, on the morrow they will be softened and their effect will be immediate; tablets placed in the filter just before starting the day's work will be too dry and will need some minutes before being activated.*



Draw. 23



Draw. 24

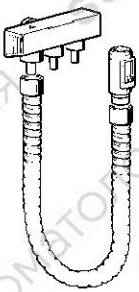
Main ordinary maintenance operations

(draw. 16-18-19-20-21-22-23-24-25-26-30a-32 pag. 17-18-19-85-86)

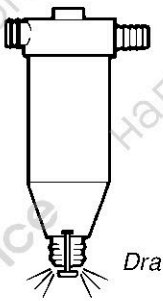
• After each surgical or long lasting operation: aspirate water, preferably warm, clean the external hoses of the tip supports, replace the terminals, draw. 21-32.
• ***After every working day: clean the plant with hot (50 °C) water and Puli-Jet, clean the filters and replace the sanitizing antifoaming tablets,*** *clean the tip supports and the external hoses, clean and sterilize terminals and tips, draw. 16-18-19-20-23-24.*

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

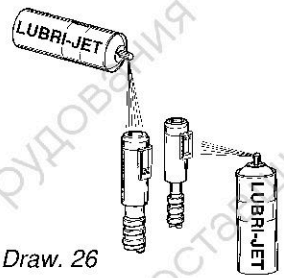
• Every fifteen days: check the draining valves and the probes (in case of problems call for the authorized engineer), lubricate the external hoses and the terminals slides with Lubri-Jet, wiping the excess off, draw. 22-25-26.
• Every six months: replace external hoses, terminals and tips, draw. 30.
• Before leaving the surgery for several days: start the aspiration system, have it running for 5/10 minutes with stopped up terminals and without aspirating liquids; the aspiration unit will dry completely: this can prevent the formation of salts, typical of light alloys and produced by moist and basic substances, which sometimes can jam the fan and block the motor.



Draw. 22



Draw. 25



Draw. 26

Main extraordinary maintenance operations reserved to dental engineers

Every six months: check the draining valves, syphons and drainages, overflow probes, relays, electrovalves, amalgam separator (impeller motor and draining pump); test appliances for noise and vibration, sure clues of the state of the components involved and of the installation.

The manufacturer, distributors, agents and service engineers are willing to provide suggestions, instructions, and to supply spare parts, literature, and any other useful information.

Important notice

The appliances are guaranteed for one year from date of sale, provided that guarantee card addressed to the manufacturer is returned to the manufacturer reporting date of sale, retailer's stamp and customer's name.

Guarantee and manufacturer liability cease in case the appliances are treated with unsuitable products or products not suggested by the manufacturer or in case they are used unproperly or found tampered by any kind of action performed by unauthorised people.

Technical needs, updating, functional and legislative problems, inability to locate products or semi-finished products can lead the manufacturer to modify the appliances without notice.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Transport and storage

For transport and storage, packed equipment can be exposed to a -10 °C / +60 °C temperature range.

Packages cannot be exposed to water and splashing and cannot tolerate humidity greater than 70%.

Packages with the same weight can be stored in piles of three only.

Transport of second-hand appliances

Prior to packing, clean and sanitize with Puli-Jet (see "Cleaning and Maintenance" section).

Place unit into a polythylene bag, seal and pack in 3-layer corrugates board.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

TABLE "A"

Dry centralized plant

Number of surgeries working simultaneously	Aspiration unit	Control Panels		Main duct		Branches	
			(2)	Section mm (3)	Max. Distance m.	Section mm	Max. Distance m.
1	Uni-Jet 75	-	AC 13	30	8	30	4
1	Mini-Jet 2V	C 86	C 86/1	30	10	30	4
3	Tecno-Jet	C 93	C 93/1	40	10	30	4
4	Flux-Jet	C 74	C 73	50	15	30	4
7	Medio-Jet	C 58	-	60	20	30	4
12	Maxi-Jet 2S	C 82	-	80	30	30	4

Examples with units installed in parallel

Number of surgeries working simultaneously	Aspiration unit	Control Panels		Main duct		Branches	
			(2)	Section mm (3)	Max. Distance m.	Section mm	Max. Distance m.
2	2 Mini-Jet 2V	C 87	C 87/1	40	15	30	4
6	2 Tecno-Jet	C 94	C 94/1	50	15	30	4
8	2 Flux-Jet	C 75 C 75/E	C 75/1 C 75/1/E	60	20	30	4
12	3 Flux-Jet	C 77/E	C 77/1/E	70	25	30	4
14	2 Medio-Jet	C 59/E	-	90	30	30	4
36	3 Maxi-Jet 2S	C 94/E	-	100	40	30	4

(1) All surgeries working simultaneously with the terminal No. 16 with tip No. 17 or 21 inserted.
(2) The control panel needed is one only, single-three-phase or electronic version.
(3) Sections of pipes are those of the tubes on the market, inside dimensions can be from 2 to 4 mm larger or smaller. The difference does not affect the good running of the plant.
(E) Electronical version. The installation of the electronic P.B. is completed by a peripheral unit.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

TABLE "B"

Dry centralized plant

Number of surgeries working simultaneously	Aspiration unit	Control Panels		Main duct		Branches	
		M 3~	M ~ (2)	Section mm (3)	Max. Distance m.	Section mm	Max. Distance m.
1	Uni-Jet 75 2V	-	0035	30	15	30	6
2	Tecno-Jet 2V	C 74	C 73	40	20	30	6
3	Flux-Jet 2V	C 58	-	50	25	30	6
5	Medio-Jet 2V	C 82	-	60	30	30	6

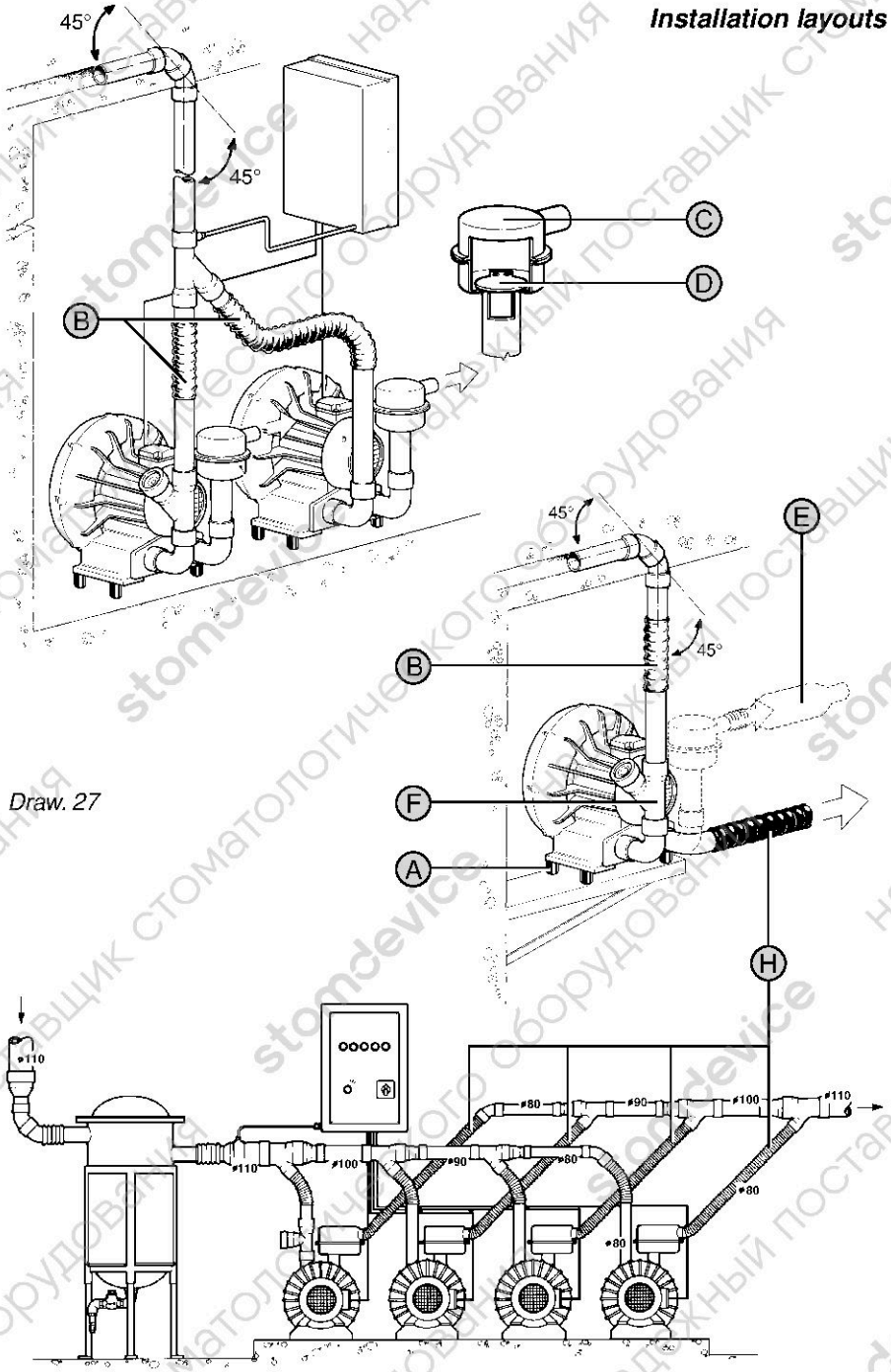
Examples with units coupled in parallel

Number of surgeries working simultaneously	Aspiration unit	Control Panels		Main duct		Branches	
		M 3~	M ~ (2)	Section mm (3)	Max. Dist. m	Section mm	Max. Dist. m
3	2 Tecno-Jet 2V	C 75	C 75/1	40	20	30	6
6	2 Flux-Jet 2V	C 59/E	-	60	30	30	6
9	3 Flux-Jet 2V	C 60/E	-	70	35	30	6
10	2 Medio-Jet 2V	C 83/E	-	70	40	30	6
30	3 Maxi-Jet 2S	C 84/E	-	100	40	30	6

(1) All surgeries working simultaneously with the terminal No. 16 with tip No. 17 or 21 inserted.
(2) The control panel needed is one only, single-three-phase or electronic version.
(3) Sections of pipes are those of the tubes on the market, inside dimensions can be from 2 to 4 mm larger or smaller. The difference does not affect the good running of the plant.
(E) Electronical version. The installation of the electronic P.B. is completed by a peripheral unit.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

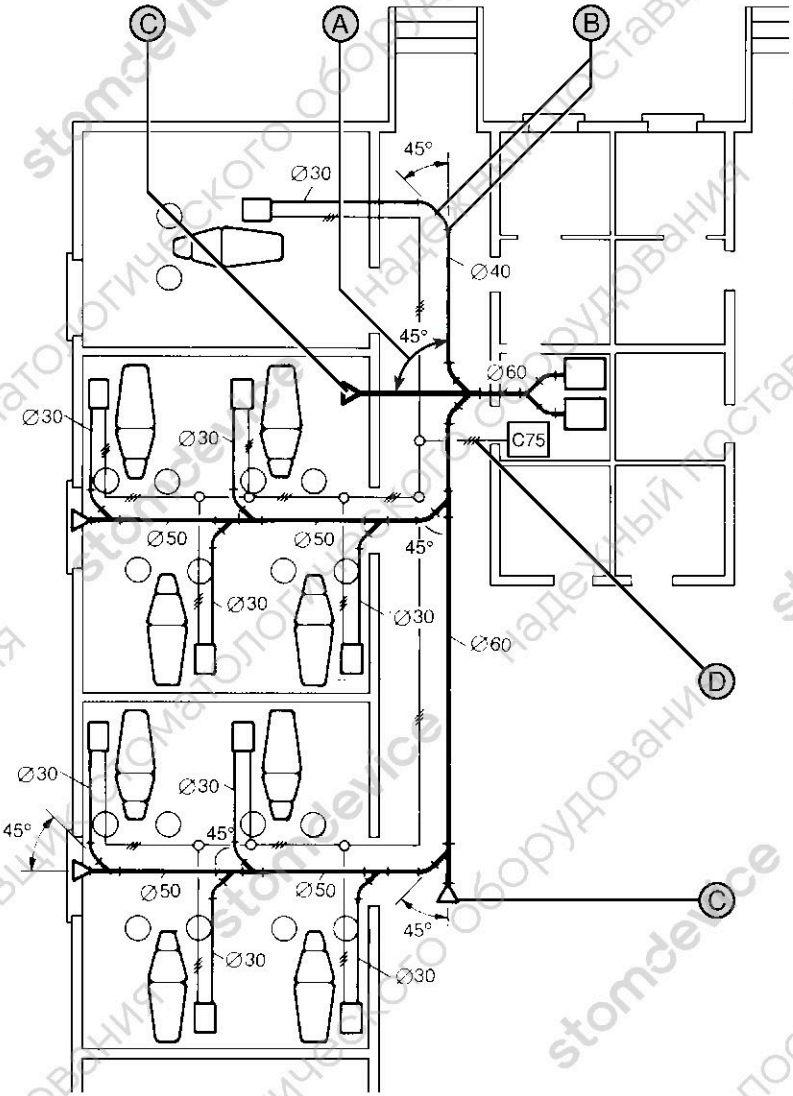
stomdevice



Draw. 27

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

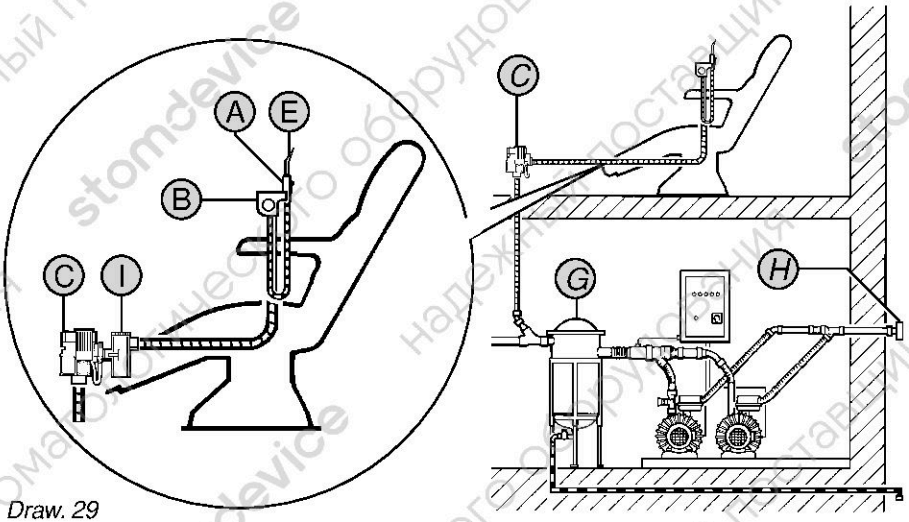
Layout of 2 Flux-Jet units with 9 surgeries



Draw. 28

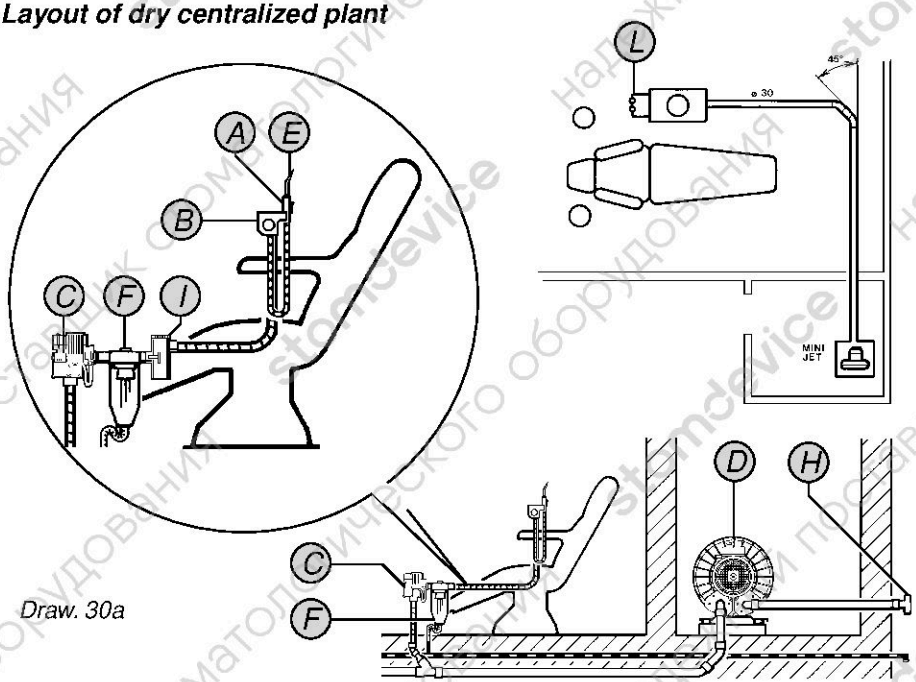
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Layout of semi-dry centralized plant



Draw. 29

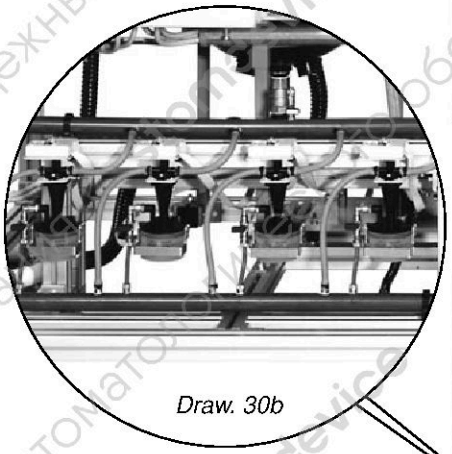
Layout of dry centralized plant



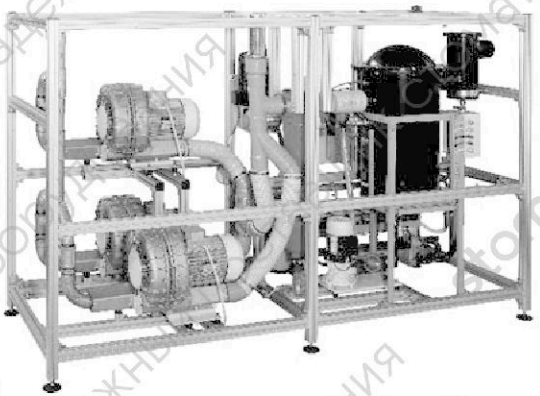
Draw. 30a

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

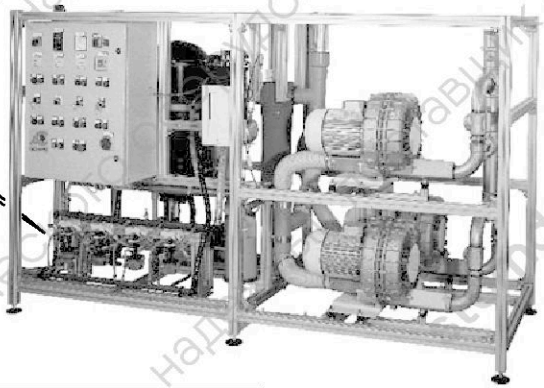
Blok-Jet (exemplary)



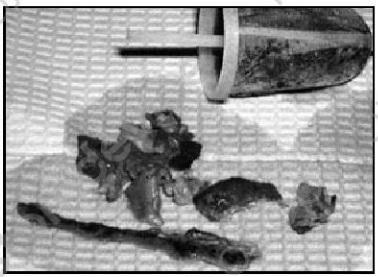
Draw. 30b



Draw. 30c

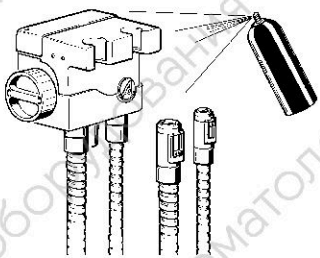


Bacterial coating

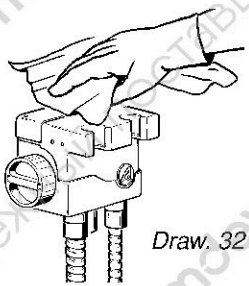


Draw. 31

Terminals and Tip supports cleaning





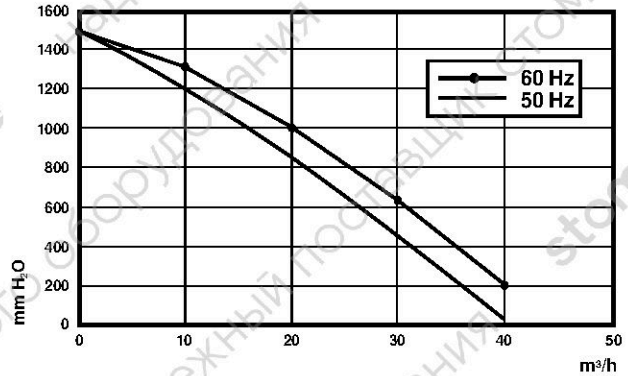


Draw. 32

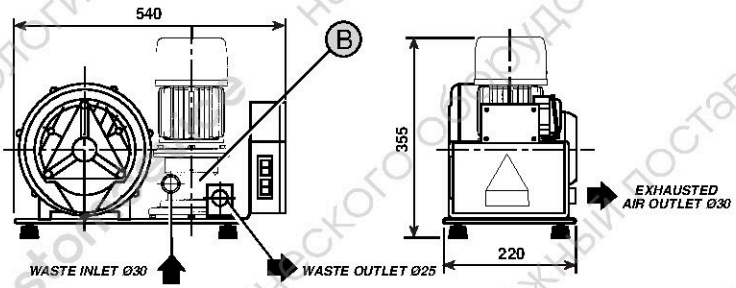
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

TURBO-JET 1 *modular*

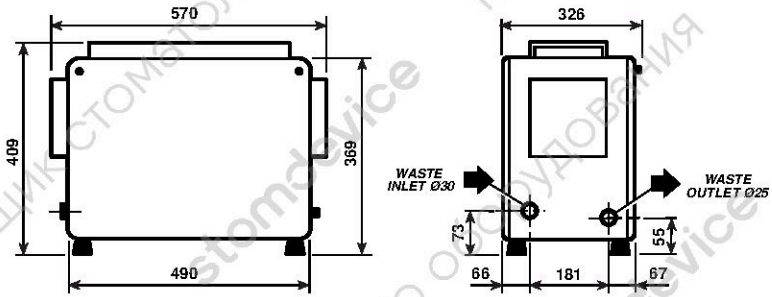
Draw. 33a



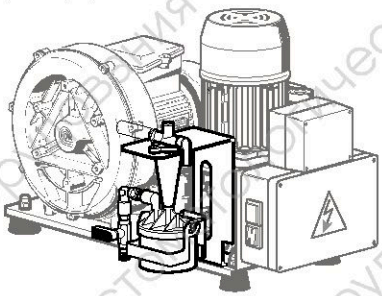
TURBO-JET 1 *modular* WITHOUT BOX

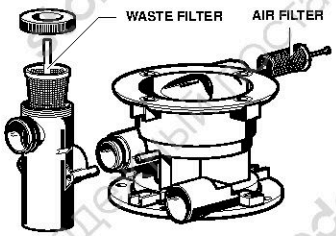


TURBO-JET 1 *modular* WITH SOUND-PROOF BOX



TURBO-JET 1 *modular*

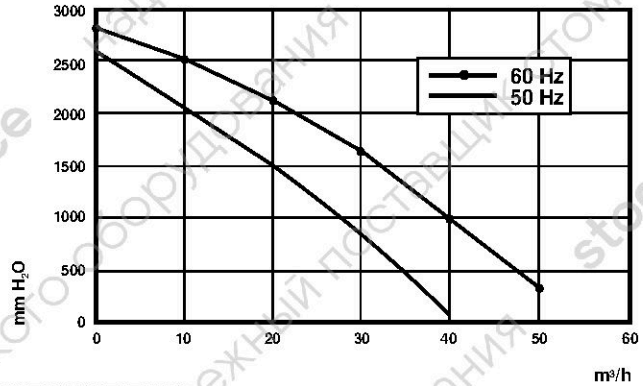




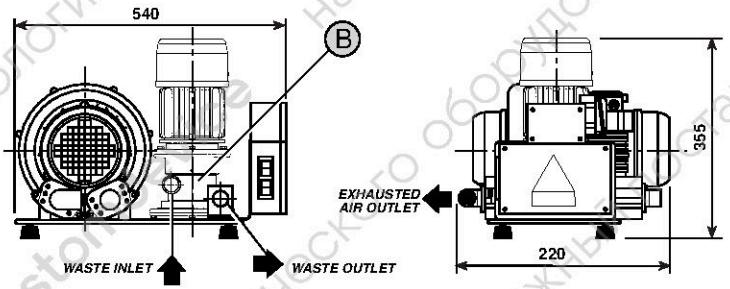
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

TURBO-JET 2 *modular*

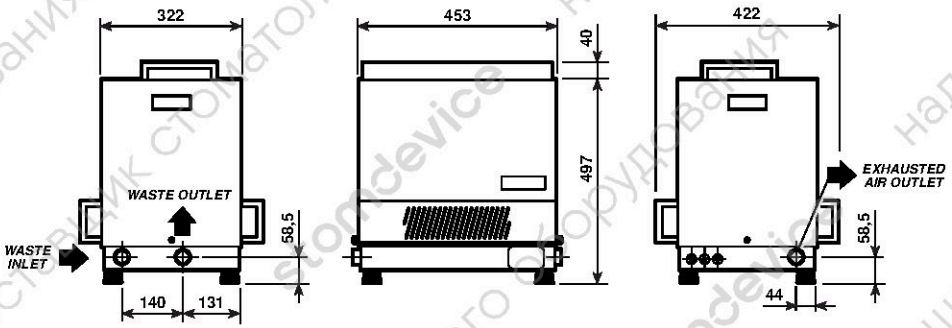
Draw. 33b



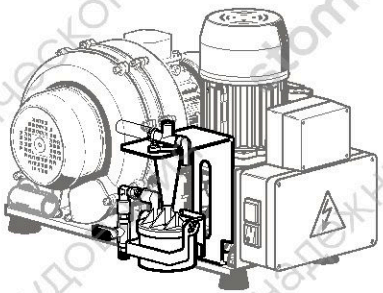
TURBO-JET 2 *modular* WITHOUT BOX



TURBO-JET 2 *modular* WITH SOUND-PROOF BOX



TURBO-JET 2 *modular*

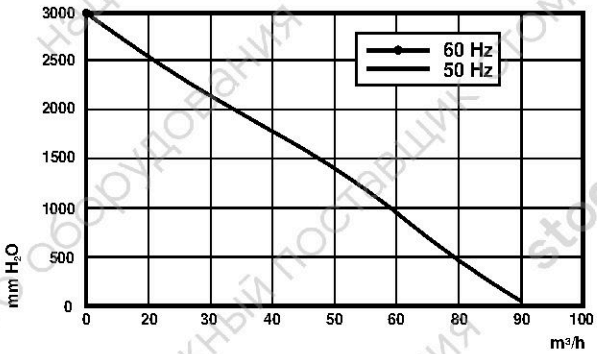


https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

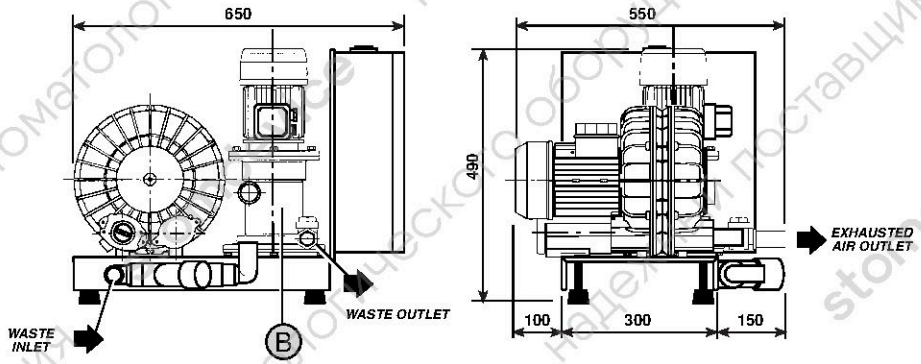
stomdevice

TURBO-JET 3 *modular*

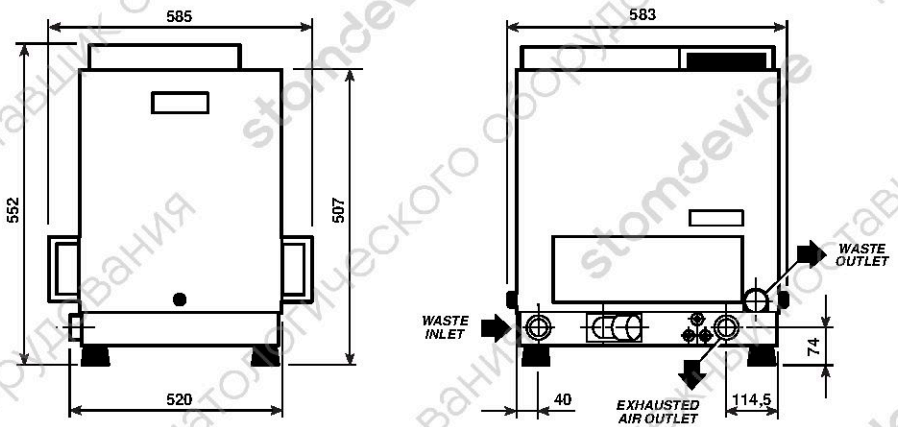
Draw. 34a



TURBO-JET 3 *modular* WITHOUT BOX



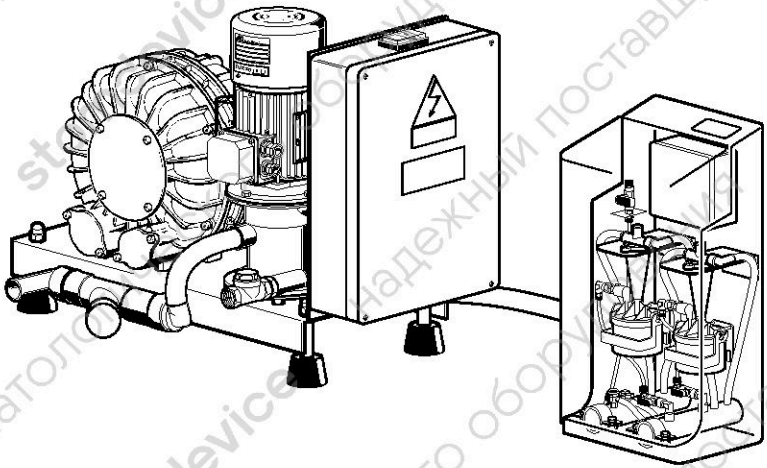
TURBO-JET 3 *modular* WITH SOUND-PROOF BOX



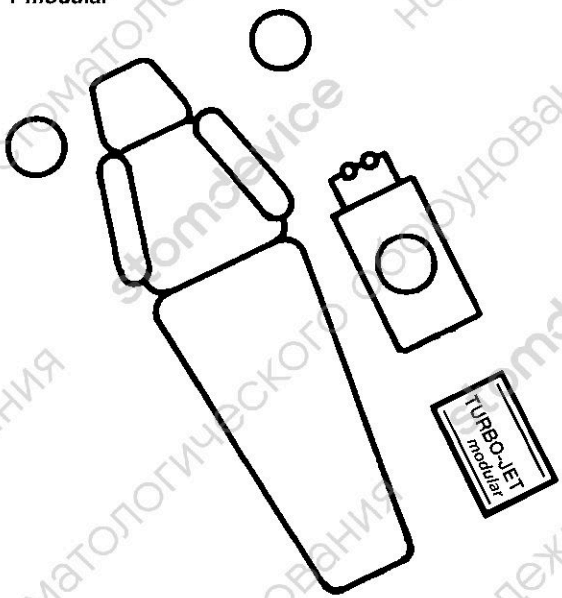
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

TURBO-JET 3 ***modular***

Draw. 34b

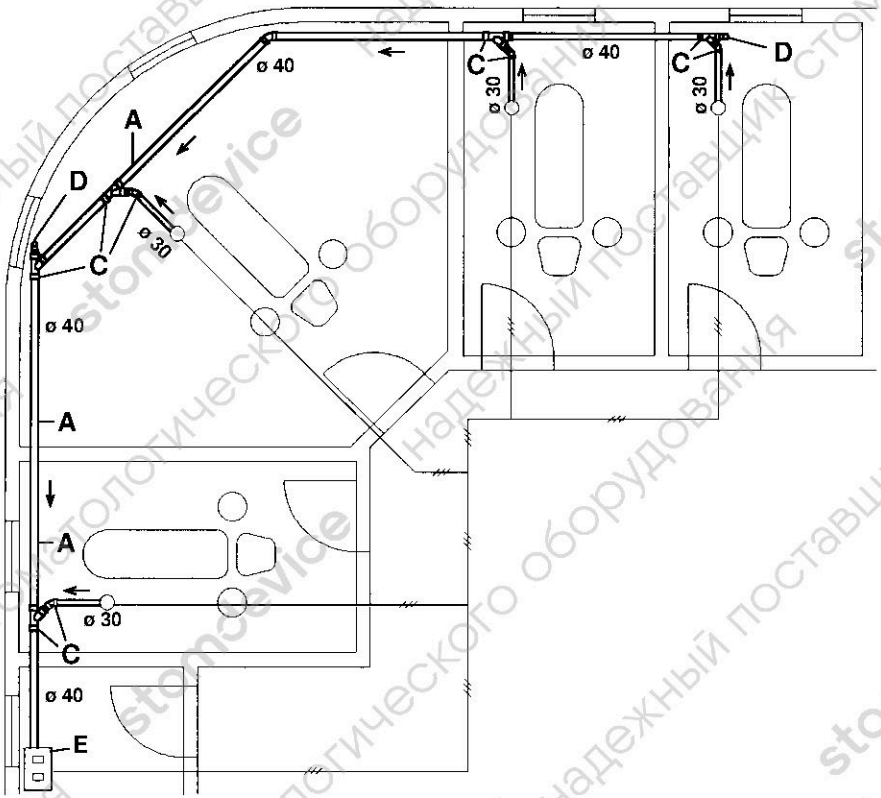


TURBO-JET 1 ***modular***



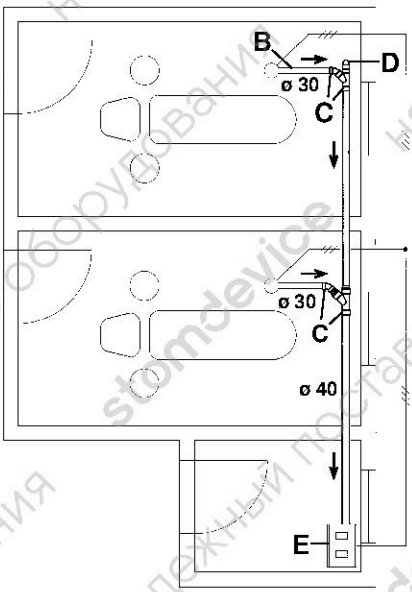
Draw. 35

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ



TURBO-JET 3 *modular*

Draw. 36



TURBO-JET 2 *modular*

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

ITALIAN PATENTS OR PATENT APPLICATIONS:

1201707 - 1234267 - 1234828 - 1259318 - 1.187.187 - 1253460 - 0766008 - 1236271 - 01242921

FOREIGN PATENTS OR PATENT APPLICATIONS:

EP 0040181 - AU 546.143 - US 4,386,910 - EP 0 638 295 - EP 0 254 687 - AU 590433 - US 4,787,846 - US 5,039,405 - EP 0335061 - US 5,002,486 - EP 0211808 - AU 580839 - US 4,684,345 - EP 0 557 251 - US 5,330,641 - EP 0766008 - US 4,710,209

PENDING PATENT

IT M093U000019 - EP 0 749 728 - IT M095U000030 - JP 168553/97 - IT M097A000139 - IT M098A000019 - IT M098A000119

CATTANI S.p.A.
Via G. Natta, 6/A - 43100 Parma (Italy) - Tel. +39 0521 607604 - Telefax +39 0521 607628-607855
http://www.cattani.it Email: cattani@tin.it
Azienda con Sistema Qualità Certificato secondo UNI EN ISO 9001 - UNI CEI EN 46001

SINCERT
UNI EN ISO 9001
UNI CEI EN 46001
SISTEMA QUALITÀ CERTIFICATO

esam S.p.A.
Via G. Natta, 4/A - 43100 Parma (Italy) - Tel. +39 0521 607613 - Telefax +39 0521 607628-607855
http://www.esam.it Email: esamspa@tin.it
Azienda con Sistema Qualità Certificato secondo UNI EN ISO 9002

SINCERT
UNI EN ISO 9002
SISTEMA QUALITÀ CERTIFICATO

Ed. MAG. 99

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ