

SOLUTIONS



**DAMAGE
RESTORATION
1|2024**

**SOLUTIONS FOR
WATER DAMAGE
RESTORATION
COMPANIES**



 TROTEC

A DANATHERMGROUP COMPANY



OUR SUBSIDIARIES -
ON SITE FOR YOU WORLDWIDE.



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Table of contents

TROTEC	Driving force for innovation on the market of drying installations.....	4 - 7	
INSULATION DRYING	Combination device Qube+.....	8 - 15	Qube+
	MultiQube® system.....	16 - 17	
	MultiQube® insulation dryers.....	18 - 21	
	Water separators.....	22 - 23	MultiQube® System
	HEPA filters.....	24 - 25	
	Filtration chain.....	26 - 27	
	DA 4 Qube.....	28 - 31	
	MQDatamonitor.....	32 - 33	Insulation Dryers
SOFTWARE	MultiMeasure Studio Professional.....	34 - 39	Water Separators
ACCESSORIES FOR RESTORATION WORK	Compact dehumidifier TTK Qube.....	40	
	Radial fan TFV Pro 1.....	42	
	Connection accessories.....	44 - 45	HEPA Filters
	Tamper-proof energy consumption measurement.....	46	
	Multiple socket outlet.....	47	
	Extension cables.....	47	Fact Check
	Mobile power distributors.....	48	
	Cable drums.....	50	
	Core drill.....	52	Drying Control Unit
	Stainless steel border joint nozzle.....	52	
	Door gap nozzle PlanoPro.....	53	
	Aluminium joint crossing system.....	53	
	Tile lifting system TilexPro.....	54 - 55	
	Floor inlays.....	56 - 57	Software

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Trotec innovations regarding insulation drying

Innovative from the start – and always committed to the highest quality



In the beginning was the end – the end of the excess pressure procedure

Already since the mid-nineties, Trotec – despite considerable resistance from competitors – was the only system provider for insulation drying solutions to promote the vacuum process and the first manufacturer to launch the innovative Vacupress technology in 1997: Excess or low pressure can be used flexibly with just one device via the Vacupress switchover without subsequent performance loss related to the changed air flow direction.

A steady stream of innovations

In the following year Trotec presents further developments to match the new Vacupress units: In his day, the WA 303 is the first water separator on the market newly developed from scratch only to suit this purpose.

To add another novelty: Disposable micro filters from Trotec are the first micro filters for insulation drying available on the market and thus complement the first insulation drying filter ladder available on the market.

Product premieres also at the beginning of the new millennium ...

Ever since 2001, all Trotec compressors have been and are still as standard equipped with permanent connections for flexible excess- or low-pressure operation.

Followed by another world debut in 2002: TTSL – the first mobile remote monitoring system i.a. to be used during insulation drying.

Shortly afterwards all Trotec compressors are as standard equipped with a TTSL interface for remote monitoring of the device installation and for the documentation of the drying process. In 2003, Trotec – also as the first provider – presents the newly developed VE silencers.

In the same year appears the new Trotec HEPA filter – the first of its kind and designed especially for the low-pressure procedure. Not to forget the new F7 micro filters with exchangeable filter cartridges.

Soon afterwards followed by the TTSL VE with PRC, the first remote monitoring system especially designed for drying technology, by use of which the entire installation can be switched on and off from any location “via remote control”.

In 2007, Trotec develops the innovative Optiflow display and declares it standard equipment for all current insulation dryers without extra charge – as well as the tamper-proof dual counter for power consumption and operating hours.

2008 comes with a multitude of options

MultiQube® is the first insulation drying system in modular design on the market – a well-matched full range of appliances comprising compressor, water separator, HEPA filter and silencer for all the requirements of insulation drying.

High performance without the need for high current – In the following year 2009, the VE 6 was revised from the ground up. This simultaneously marked the end of an era in which Trotec insulation dryers depended on 400 V, since then these systems no longer require an on-site three-phase AC supply.

A firework of innovations at the turn of the year 2010/2011

Once again improved filter technology and exponentiated flow geometry increase the insulation dryer’s efficiency factor and render the entire MultiQube® system along with unique novelties yet more powerful – for instance with the versatile integral water separator WA 4i, the new HEPA filter HC with HepaControl or the revolutionary drying control unit DA 3 with Efidry automatism for minimum drying periods.

“Leap year” 2012

The VE models 2012 are provided with the new HotStop system for automatic switch-off in case of imminent engine overheating and the new DA 3i with a sensor-supported Efidry automatic control system now allows for more efficiency, speed and reliability in drying.

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
MultiQube® system	HepaControl	VE 6 230 V	DA 3 mit Efidry	VE 4 with HotStop	DA 4 and DA 4 M	VE 4 S MultiQube®	MultiMeasure Studio Professional Pro Modules	Multiple socket outlet PV4-MID PS	MultiQube® system	WA 4i	Qube+	MultiMeasure Studio Professional
Sensor-supported DA 3i PATENT-PROTECTED	Sensor-supported DA 3i PATENT-PROTECTED	TTKwic QUICK COUPLING	VX 5 with HiDry automatism and Optiflow NT display	Sensor-supported DA 3i PATENT-PROTECTED	MultiMeasure Studio Professional	VX 5 and VX-5-Optiflow PATENT-PROTECTED	MultiMeasure Studio Professional	PlugSafe UTILITY MODEL-PROTECTION	Sensor-supported DA 3i PATENT-PROTECTED	VX 5 and VX-5-Optiflow PATENT-PROTECTED	Qube PATENT-PROTECTED	MultiMeasure Studio Professional

2013: A year of turbo innovations

VX – No hex! With the VX 5 Trotec heralds the coming end of the side channel compressor era: The new ultralight turbo engine insulation dryer VX 5 MultiQube® with its unique adaptronic power control replaces all side channel compressor performance classes from 0.8 kW to 3 kW.

A DA 4 for the anniversary and much more

As if to celebrate the 20th company anniversary, something big is coming in 2014: For the new drying control unit DA 4, speeding up the drying process, has got what it takes to fundamentally change the market in this sector:

Thanks to drying process data logging with GSM remote retrieval possibility and automatic notification at the end of a drying period, drying can be planned and on spec “empty running” should be completely obsolete!

On top of this you will be supplied with the new “MultiMeasure Studio Professional” software. Using this software, you can read and analyse the measurement data of the DA 4 and many Trotec measuring devices with one central tool and create brilliant reports thereof!

2015 heralds in a true change of guards in terms of drying technology

At the turn of the year the VX 5 is superseded by its once again improved successor with HiDry automatism and Optiflow NT display. By far the best turbo engine insulation dryer on the market – a hard act to follow, and who could? It’s really quite simple: Trotec.

Qube – simple as that! More than five man-years of development work have been devoted to the world’s only integral solution for insulation drying. None too easy for our engineers, but all the better for your day-to-day business. For with the Qube you can easily achieve a good deal more in every respect!

Fusion of innovations in the following year

At the beginning of 2016 Trotec will merge two development milestones: The DA 4 was well-nigh reinvented all over for the Qube onto which it can now simply be attached as the ultra-compact DA 4 Qube – without time-consuming intermediate hose connections, but instead with a modem for remote data retrieval included as standard equipment.

In autumn, an advanced software version of MultiMeasure Studio Professional with extra modules for water damage restoration and building experts incl. mould diagnosis will be released. In addition to MQDatamonitor synchronisation, the module designed for restoration companies offers special report text blocks for water damage restoration and construction drying.

Come 2017, we still have a trick or two up our sleeves

Right at the outset of 2017, the new Qube+ presents itself with an extra plus

of equipment and so demonstrates a yet more flexible way of being optimally prepared for any insulation drying requirement.

2018 requires an enormity of conformity

This year water damage restoration companies are faced with many regulations. MID, MessEG, MessEV etc. – conforming to all requirements is easier said than done. Trotec facilitates your everyday work.

With PV4-MID PS, PlugSafe and all the other Trotec devices you can be on the safe side, for as the first provider ever we can offer you a complete range of appliances that conforms to MID and MessEG.

These are only some of the numerous innovations that Trotec has developed and launched for your benefit in the past 22 years.

And we’re not running out of new ideas...



Trotec Innovations

Qube+

MultiQube® System

Insulation Dryers

Water Separators

HEPA Filters

Fact Check

Drying Control Unit

Software

Accessories for water damage restoration

Trotec. The original.

Driving force for innovation on the market of drying installations – Trotec advantages for water damage restoration companies



Field-tested engineering

Numerous restoration companies have trusted in Trotec quality for decades.

We closely collaborate with our customers' restoration and measurement engineers to ensure first-hand information in terms of what helps restoration companies on site and thus can offer solutions that are field-tested to 100%!

Certified manufacturing in Germany

Development, manufacturing and transfer of expertise – all brought together under one roof at the production location Germany.

This combination guarantees the interdisciplinary exchange of know-how among our highly skilled employees, who are able to quickly respond to changed market requirements, all resulting in top quality products!

Everything directly from the manufacturer

Because all of our devices, components and accessories are coming from a single source Trotec solutions are highly functional:

They are exceedingly well-matched in terms of appearance and technology. These sophisticated products make an impression – also on your clients.



Independent repair and maintenance service

You can rely on qualified service staff – no matter where you are.

Trotec has their own service vehicle fleet and specialist workshops in Germany, the Netherlands, Belgium, Poland, France, Italy and Turkey.

Optimum value-for-money ratio

For more than 20 years now renovation and water damage restoration companies have bought our products, which are giving a good return. What is more:

Trotec also offers fiscal solutions when purchasing, renting or leasing. Benefit from solely Trotec financing – without involvement of a bank.



10 % for research –

100 % for you

With Trotec you have always cutting-edge drying technology, since 10 % of our turnover goes into research and development.

Which means that every year you can benefit from clearly more product innovations than many a competitor has launched throughout his entire company history.

German

industrial design

Trotec solutions are impressive in every respect:

They stand out from the crowd by the visually appealing clarity, practicality and functionality of German industrial designs and impress with technical superiority and outstanding quality.

Permanent

delivery capacity

Whether the devices are intended for purchase or rentals – Trotec has everything available in stock at all times. You urgently require large quantities of dehumidifiers, insulation dryers, heaters, fans and more?

No problem: 150,000 machines and measuring devices as well as 10,000 rental appliances are permanently available for you.

Long-term availability

of spare parts

We guarantee the value retention of your investments. Trotec can supply you now and in future with spare parts for all requirements.

More than 100,000 spare parts are in stock at all times. Count on it!

Comprehensive

services

Along with our products you obtain important services, which ensure the functionality of your devices: Training, testers, trial operation, consultancy service when calculating installations and more.

Furthermore available for you is the on-site service in all Trotec subsidiaries.



- Trotec Innovations
- Qube+
- MultiQube® System
- Insulation Dryers
- Water Separators
- HEPA Filters
- Fact Check
- Drying Control Unit
- Software
- Accessories for water damage restoration

A FEW PRACTICAL BENEFITS:

Professional quality
"made in Germany" –
originally produced by Trotec

Patent-protected

Replaces 4 devices with one:
water separator, HEPA filter, silencer
and side channel compressor with a
capacity of up to 3 kW

Up to 75 % smaller than construc-
tions from competitors

Carrying, lifting, stacking 50 % less

This system allows a quick and easy
installation like no other

Fully automatically always the most
efficient drying performance thanks
to our HiDry automatism

Coloured power control indication via
Optiflow NT multi-function display

Additional cost-efficient HEPA
filtration on demand

Total weight only 27 kg

It's quite simple. Plus more. Qube+

Insulation drying can be so easy!

**Globally
unique integral
solution –
Trotec
exclusive!**



Achieving more. With ease.

For insulation drying, a comparable set of stacked MultiQubes® can simply be replaced with one device – the Qube+. It achieves up to 20 % more area output while being 50 % lighter and 50 % smaller than the tower.

Therefore, the transport from the service vehicle to the damage site can be effected 100 % quicker.

A multi-device installation with complex hose connections can be omitted without replacement. Just set it up, plug it in, switch it on – all done!

No more equipment technology is needed, the Qube+ comes ready for connection with all integrated parts:

A powerful VX 5 turbine insulation dryer, a water separator, a 4-stage filter system and an efficient silencer – ultra-compact, united in a robust, stackable aluminium construction, offering clearly more

advantages and at the same time causing considerably less costs than multi-device solutions.

Your employees will be grateful as well: 50 % less to carry, lift, haul, stack – 100 % fewer hose connections, less wiring and lashing down – 20 % less to be assembled!

Globally unique integral solution:

- VX 5 turbine
- Water separator WA 4i
- HEPA filter module
- Silencer NR 19

Everything is installed completely ready for connection – light, compact and powerful – in the world's only integral solution on the market!



Extremely versatile: using Qube+ the sky's the limit.



When launched, the Qube already offers the following advantages:

- Up to 20 % more area output than a comparable MultiQube® system
- Adaptronic power control for flexible low-pressure surface drying operations ranging from 10 m² to 85 m²
- The quickest possible drying owing to the globally unique HiDry automatism for all performance levels
- One Qube takes the place of 4 devices: water separators, HEPA filters, silencers and all side channel compressors of the performance classes from 0.4 kW to 3 kW
- Flexible filter system with on-demand HEPA filter usage to reduce consumption costs
- Up to 75 % smaller than constructions from rivals
- Carrying, lifting, stacking 50 % less
- Installation 100 % quicker and easier without time-consuming tube connections
- DA 4 interface for real-time remote monitoring of system status and drying progress
- Optiflow NT multi-function display with plain text status indication and colour illumination for power control
- Digital counter for operating hours and energy consumption
- Integrated thermal protection to prevent damages to the drying devices, stock and building structure
- Night operation – whisper mode
- Non-wearing touchscreen control panel

And the Qube+ offers even more advantages:

- Optimized noise emission – even more silent (8–10 dB(A)), subjectively corresponds to halving of the volume
- Newly developed, smarter control software for maximum drying efficiency
- Additional ECO level (stage 1) for a yet more flexible drying of small surfaces also
- Sensor-supported thermal protection function with regeneration sequence
- MID-compliant³ energy consumption meter
- PlugSafe socket protection
- Improved positive fit and 2 x 2 quick release fasteners for increased transport safety
- TTKwic mode for condensate discharge even with a switched off dehumidifier
- Optimized handling characteristics due to height-adjustable telescopic push handle
- Key lock function to prevent maloperation
- Even more resistant control panel design

The Qube+ sets the standard for the most energy-efficient insulation dryer in the entire industry being the superior solution both economically and energetically!



Merged to perfection:

Qube+ with drying control

unit DA 4 Qube

Further information can be found on page 28 ...

Ultra-compact – plus great equipment: Qube+



50 % smaller than a comparable MultiQube® installation and up to 75 % smaller than constructions from competitors

Minor cause, major effect: Thanks to its ultra-compact design the application of the Qube+ allows up to 100 % more working productivity and up to 300 % more warehouse productivity.

With the Qube+ all “time-wasters” can be eliminated in one sweep – this way you benefit from extreme increases in productivity in the everyday restoration work:

Making arrangements for less devices and moving them in each event of damage, reduced stock requirements, more equipment per tour in the service vehicle, quicker loading and unloading, quicker transport from the vehicle to the site of damage, quicker installation, quicker disassembly, a reduced need for cleaning.

The bottom line is your working and warehouse productivity can be increased many times over by using the Qube+!



- ① Non-wearing touchscreen control panel for setting the power level, for the activation of TTKwic and whisper mode, with key lock function and the digital display of the operating hours
- ② Optiflow NT multi-function display
- ③ DA 4 interface

Touchscreen control panel

The Qube+ comes with a non-wearing touchscreen control panel with additional screen protection ① and thus affords convenient handling by touch. No controller, no wear. A soft touch on the corresponding symbol is all it takes to configure your Qube+.

In addition to the Plus/Minus buttons ① for a quick selection of the respective performance level the control panel also accommodates functions for an extra whisper mode ④ and for the display of the operating hours ②.

Optiflow NT multi-function display

Not only the current operating status and volumetric flow can be read from the Optiflow NT multi-function display ② of the Qube+ as plain text – also in the dark or from a distance – the colour of the display illumination also automatically indicates a rendering of the drying installation's efficiency.

Provided there is an ideal drying air flow through the insulation layer, green ⑦ confirms optimum volumetric flow, orange indicates thresholds ⑧ and with a red LED the air flow rate is insufficient for the area, so that installation optimization is needed for quicker drying ⑨.

Key lock function

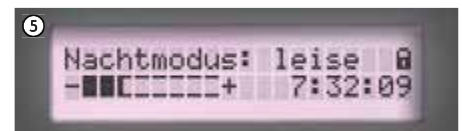
Using this function ④, you can simply eliminate the possibility of maloperation. For as long as the key lock is activated, the keypad will be disabled thus preventing accidental control inputs.

Night operation – whisper mode

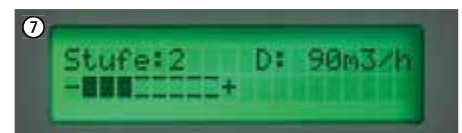
In whisper mode ④ the Qube+ is particularly silent, yet efficient. For sound level reduction is not simply effected by reducing the power, but by regulating it with noise-optimized emphasis to the optimum volumetric flow of power stage 2.

Once activated, the Qube+ operates in whisper mode for ten hours and then automatically switches back to the previously used power stage.

Enormously handy for customers requiring maximally silenced background noise for a short time.



In whisper mode the Qube+ is particularly silent, yet efficient.



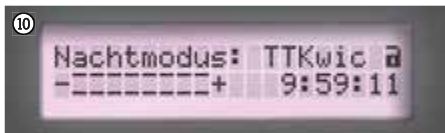
The Optiflow NT multi-function display indicates a colour-coded rendering of the drying installation's efficiency.



Qube+ – further information... →



The Qube+ has all the performance characteristics of the water separator WA 4i including two TTKwic quick couplings for the simple drainage connection of dehumidifiers.



TTKwic mode

To ensure that the condensate of the dehumidifiers connected to the Qube+ is pumped off reliably via the TTKwic quick couplings even when the Qube+ is switched off, you can switch the device into TTKwic mode via the control panel ⑩. The motor will be off, but the pump will keep running.

DA 4 interface

The Qube+ is as standard equipped with an interface for data exchange with our drying control unit DA 4 Qube ③ and also with a corresponding Efidry humidity sensor connection.

The combination of both units enables the cross-linkage of all device data incl. real-time remote monitoring of system status and drying progress.



The standard equipment of each Qube+ also includes a DA 4 interface and an Efidry humidity sensor connection.



Using PlugSafe and a seal it can be ensured that no additional or no other power consumer than the one already connected can be plugged into the service socket which complies with the MessEG requirements.



Conforming to MID and MessEG

The Qube+ comes equipped with a MID-compliant energy consumption meter. To satisfy the MessEG regulations the service socket is moreover fitted with Trotec PlugSafe, so it can be safely sealed both with an inserted plug or when shut.

Service-friendly design

In addition to the integrated service socket, where you can quickly and easily connect a condenser dryer or drying control unit, the Qube+ houses a threaded connection of 50 mm for process air discharge.

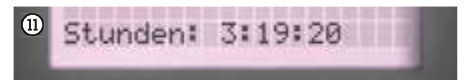
With it, the critical heating of the room temperature can be effectively reduced to preserve the value of your drying devices (see "Investment protection for your drying devices" on page 15).



The service socket of the Qube+ is equipped with the innovative PlugSafe socket protection and process air can be discharged via an air transport hose at the integrated 50 mm threaded connection.



A MID-compliant ³ energy consumption meter is included in the standard equipment of the Qube+.



The operating hours can conveniently be displayed via the Optiflow NT multi-function display.



Sensor-supported thermal protection function

An integrated sensor system monitors the internal air temperature of the Qube+ and automatically switches from the current level to level 1 before destructive climate conditions > 45 °C are reached inside the device, which lead to material stress and thus shorten the lifetime of the Qube+.

The temperature is continued to be monitored and the Qube+ will automatically switch back to normal operation if the temperatures drop again ⑪. However, if the temperature level remains critical over too long a period, the device is switched off completely for reasons of safety.

Further information on this topic can be found on page 15, see "Investment protection for your drying devices"...

Trotec Innovations

Qube+

MultiQube® System

Insulation Dryers

Water Separators

HEPA Filters

Fact Check

Drying Control Unit

Software

Accessories for water damage restoration

One device capable of doing everything that is necessary

for insulation drying – the Qube+

Performance-optimized energy consumption

Unlike conventional side channel compressor turbines, the Qube+ turbo motor's output and power consumption are always linear and directly interrelated:

When the performance level is cut back or the counter-pressure decreases, the power consumption is equally reduced. Plus the performance control is not effected based on resistance, but geared to the required volumetric flow.

Due to this technique, the Qube+, compared to side channel compressors, works more or less at the energy-saving eco tariff, especially during the final drying phase.

Turbo motor with adaptronic power control

The Qube+'s four-step variable turbo engine achieves up to 20,000 rpm and guarantees maximum efficiency at any power level, because due to the integrated HiDry automatism the current volumetric flow is recorded continually in m³/h and the Qube+ is automatically regulated to the optimum air flow rate.

At the touch of a button the Qube+ switches either into a higher performance class or, if required, into the additional whisper mode.



All in one device, simple transport: Cable holder, carrying handle and two recesses for stacking are all accommodated in the motor cover ensuring the stable positioning of stacked devices during transport or storage.



HiDry automatism

Fully automatically always the most efficient drying performance

A motor power exceeding the demand does not speed up the drying process, instead it only increases wear and power consumption.

The decisive performance variable for a quicker drying process is not motor power, but an unvaryingly high air passage through the insulation layer areas to be dried.

Therefore, the Qube+ comes equipped with the innovative HiDry automatic control system, which adjusts the performance not based on resistance, but on volumetric flow, and so automatically ensures the most efficient performance at each stage for every drying installation.

Much like a "cruise control" in a car, the sensor-supported HiDry automatism dynamically and continuously adjusts the volumetric flow rate of the Qube+ to the preset optimum value of the respective power stage.

Whilst at the beginning of the drying process more motor power is required to maintain the volumetric flow at a relatively high resistance, the need for power falls continuously as the drying proceeds.

Over the entire drying period the HiDry automatism ensures that the turbo motor of the Qube+ does not generate more power than needed to maintain the optimum volumetric flow.

The result: The quickest possible drying at minimum energy input!

Always just as much power as you need:

- **Power stage 1:**
Ideal for the economical drying of smaller surfaces. At this level the Qube+ accomplishes as much as a 0.4 kW side channel compressor, but uses 70 % less power!
- **Power stage 2:**
Corresponds to the output of a 0.8 kW side channel compressor.
- **Power stage 3:**
The Qube+ is approx. 10 % more powerful than a side channel compressor with 1.1 to 1.3 kW.
- **Power stage 4:**
Corresponds to 160 % of the output of a 1.1 kW to 1.3 kW side channel compressor and to 95 % of the performance of a 3 kW side channel compressor.



2 x 2 quick release fasteners permit a positive-fit connection and maximum transport safety.



Qube+ – further information... →



Owing to the wireless connection the motor cover can quickly and easily be disassembled for maintenance.



The telescopic push handle of the Qube+ can be adjusted in height, which means that the handle's position can be adjusted for each user and for space-saving storage.



Flexible filter system

For all applications requiring HEPA filtration the carrier case of the G4 filter sleeve can quickly and easily be replaced by the HEPA filter module with combined F8 prefilter sleeve.

Be it for filter changes or cleaning, the maintenance-friendly design of the Qube+ permits quick and safe working.

Turbo motor, power connection and all major electrical components are accommodated entirely in the motor cover, which – owing to the quick-lock technology – can be detached in a wink.

Once the cover is removed, the bottom section of the Qube+ is completely de-energized since there are no cable connections from the motor cover. Hence, you can immediately start cleaning without further safety measures.

Stackable construction with telescopic push handle

The height-adjustable telescopic push handle can be extended and retracted at the push of a button. This serves to individually adjust the handle height to the respective user as well as for space-saving storage.

The motor cover is further equipped with carrying handle and convenient cable holder. In the cover, two recesses for stacking ensure the secure stand of the stacked devices during transport or storage.



A special contact spring plate ensures an optimum positive-fit connection and quick access.



Simple, convenient: The push of a button is all it takes to adjust the height of the telescopic push handle.



Trotec Innovations

Qube+

MultiQube® System

Insulation Dryers

Water Separators

HEPA Filters

Fact Check

Drying Control Unit

Software

Accessories for water damage restoration

Technical data		Qube+
Article number		1.560.000.055
Suitable for surfaces sized up to (low pressure)	power stage 1	10 m ²
	power stage 2	25 m ²
	power stage 3	50 m ²
	power stage 4	85 m ²
Maximum pressure (low pressure)		220 mbar
Air flow rate (freely blowing) ¹		250 m ³ /h
Defined volumetric flow optimum (sucking in) of the HiDry automatism incl. HEPA filter	whisper mode	90 m ³ /h
	power stage 1	50 m ³ /h
	power stage 2	90 m ³ /h
	power stage 3	140 m ³ /h
	power stage 4	160 m ³ /h
boost stage		180 m ³ /h
Motor power (depending on the performance level)		0.12 - 1.2 kW
Sound level (distance 3 m, depending on the performance level)		40 - 59 dB(A)
Volume collection container		10 litres
Input voltage		230 V / 50 Hz
Weight		27 kg
Dimensions	length	490 mm
	width	500 mm
	height (handle down/up)	735 / 925 mm



Accessories and supplies contained in the scope of delivery:

- Water separator bottom filter mat, 1 piece
Art. no. 7.160.000.206
- G4 filter sleeve, 1 piece
Art. no. 7.160.000.214
- F7 Z-line filter for filtering the sucked-in engine cooling air, 1 filter
Art. no. 7.160.000.213 (5 pieces per set)
- 50 mm hose connector for process air discharge, 1 piece
Art. no. 7.200.000.001
- Water discharge hose, length 5 m, ø 12 mm
Art. no. 7.331.000.476

Equipment features	Qube+
carrying handle	■
stackable	■
rollable	■
carriage design	■
Hose connections insulation drying	3 x ø 38 mm
TTKwic dehumidifier quick couplings	2 x
Waste water connection	■
DA 4 interface	■
Efidry humidity sensor connection	■
Service power socket	■
PlugSafe socket protection	■
50 mm connection for process air discharge	■
Residual water draining	■
Overflow sensor with automatic switch-off	■
Baffle plate for coarse filtration	■
Stainless steel demister for water separation and fine filtration	■
Robust and non-wearing touchscreen control panel design	■
Optiflow NT multi-function display	■
Operating hours counter	digital ²
Power meter, MID-compliant ³	■
Plain text status indication	■ ²
Key lock function	■
Illumination for power control	■ ²
HEPACONTROL filter change indicator	■
TTKwic operating mode	■
Height-adjustable telescopic push handle	■
Cable holder with fixable plug	■
Thermal protection	■
Maintenance quick release fasteners	■

■ Standard equipment

¹ maximum air flow rate of the fan motor (not incorporated)

² via Optiflow NT multi-function display

³ What does MID-compliant mean?

In some areas, the Measuring Instruments Directive (MID) replaces the previous regulation of national authorization and subsequent calibration. As a result, all energy meters in Europe used for energy consumption-based billing have to be MID-compliant from now on. Therefore, the Qube+ holds a separate certified, MID-compliant counter, which transmits its data to the Optiflow NT multi-function display for inspection.



Further accessories and supplies:

- HEPA filter module, H13 high efficiency particulate air filter as per DIN EN 1822-1, filtration efficiency > 99.97 % / 0.3 µm, incl. F8 prefilter sleeve (DIN EN 779)
Art. no. 7.160.000.222
 - F8 filter sleeve, filter class F8 (DIN EN 779)
For HEPA filter module: Art. no. 7.160.000.215
For HEPA-free operation: Art. no. 7.160.000.216 (5 pieces per set)
 - DA connection cable for data transmission to the DA 4
Art. no. 7.333.000.015
 - 38 mm connectors
Art. no. 7.200.000.002
- Might as well order this, too: Suitable protective cover, can also be used when stacked. Ideal to protect the device from dirt during storage and to prevent scratching during transport.*
- Protective cover
Art. no. 6.100.003.105



All-weather sound protection hood

Art. no. 6.100.000.070



- Noise emission reduced by up to 5 dB(A) and high frequencies additionally modulated into low-frequency range perceived as more quiet
- Easily washable and waterproof material
- Ideal for the continuous operation in living environments
- Ideally suited for outdoor installation, for example for drying flat roofs
- Double zip system for quick installation and access
- Inlet and exhaust air openings guarantee optimum cooling of the motor without heat build-up
- Can also be used for Qube+ with DA 4 Qube attached

INVESTMENT PROTECTION FOR YOUR DRYING DEVICES

Drying water damages with more than 35 degrees reduces the lifetime of the dryer to less than 35 %

With this simple “rule of 35” you can easily and yet significantly increase the lifetime of your drying devices!

At extremely high humidity levels and simultaneously very high temperatures particularly refrigerant dryers are quickly brought to the limits of their capacity (red range).

This is however not a question of component quality, but pure physics, which applies to all refrigerant dryers on the market regardless of the manufacturer.

Whilst at a moderate humidity level of about 70 % RH most professional condenser dryers can operate in temperatures of up to 35 °C without difficulty, very high humidity values at a simultaneously high room temperature cause considerably more energy to be contained in the humid room air, which then also has to be “worked off” by the refrigerant circuit.

Consequently, the refrigerant pressure in the system is increased enormously leading to destructive load on the compressor.

To be sure, the dehumidifiers will at first continue to operate, but noticeably above their limit “deep in the dark red range”, resulting in an extremely shortened remaining lifetime.

All the same, there is no way around the application of a condenser dryer for water damage restoration in our opinion – desiccant dehumidifiers need considerably more energy to achieve the same level of drying performance and are therefore not a viable alternative, especially in terms of economics.

Hence, we would make the following recommendation for practical value protection:

You can easily extend the lifetime of your refrigerant dryer by many years, provided you always make sure that the room temperature stays below 35 °C when drying water damages!

The best way to realize this is to directly discharge warm process air through the 50 mm hose at the connector integrated at the Qube+.

Should the discharge not be an option, the insulation drying unit can also be installed outside of the room to be dried and the hose connection can be effected by means of a PlanoPro door gap nozzle.

After all, the process air of insulation dryers shares substantial responsibility for heating the room – regardless of the model or manufacturer.

Therefore, the Qube+ comes equipped with a sensor-supported thermal protection function (see page 11). If overheating is imminent, it first switches the device to level 1 and then – depending on the temperature profile – switches it either back to normal operation or off through sensor monitoring.

This protection not only significantly extends the lifetime of your insulation dryers and dehumidifiers, it also prevents thermal damages to materials located in the room and the building structure.

At too high temperatures the moisture transport in building materials only takes place by way of diffusion anyway rather than capillary – so there is no efficient drying at temperatures above 45 °C.



A FEW PRACTICAL BENEFITS:

Modular, completely attuned separation and filter system for insulation drying

Professional quality
"Made in Germany" – originally produced by Trotec

Optimally calculated system performance regarding intake volume, filter surface ratio and flow resistance

System-optimized filter technology with exponentiated flow geometry for maximum efficiency of the insulation dryer

All of the system's modules can be flexibly combined or used individually, as needed:

- **Water separator with integrated micro filter system**
- **HEPA filter**
- **Insulation dryer**
- **Silencers**
- **Drying control unit**

The MultiQube® system

The world's leading modular system for insulation drying

Not every restoration company is in the position to quit working with all tools other than the Qube+ overnight. Be it, that excess-pressure drying procedures are to be performed yet once in a while or that a complex machine park with many different devices in stock renders a high degree of varied combination possibilities necessary.

Exactly the demand the Trotec MultiQube® system was designed for. As the first completely attuned modular system on the market, it is for a reason that MultiQube® in the meantime has become the globally most used modular insulation drying system.

Water separator, micro and HEPA filters of the MultiQube® system are perfectly well-matched special constructions and regarding filter surface and nominal performance especially geared for a maximum air flow rate of MultiQube® insulation dryers.

All MultiQube® units can be stacked as needed and at the same time ensure the synchronous optimum performance of the entire system, variably using either the excess pressure procedure or the low-pressure procedure.



Silencer NR 19

Insulation dryer VX 5

HEPA filter HC

Water separator WA 4i with micro filter system

Drying control unit DA 4 Qube

MULTIQUBE®



MultiQube multi-stage filter system – more than the sum of its individual parts

The modular MultiQube® system unites high economic efficiency and simple handling with the greatest possible flexibility in a unique manner, for all modules were constantly advanced and complemented by performance-improving innovations with an uncompromising eye on the practical benefits for users.

Hence, the flow-optimized WA 4i filter cartridge provides hardly any resistance to the process air and the Hepa-Control function of the HEPA filter HC MultiQube® avoids a reduction of the drying air flow caused by contaminated HEPA filter elements.



Patented TTKwic quick couplings at the water separator WA 4i enable a time-saving installation of a single central water drain for all used industrial desiccant dehumidifiers.

And with the patented drying control unit DA 4 Qube up to 70 % shorter drying periods can be realized, whilst remote monitoring and documentation of the drying process are also possible.

Summed up the MultiQube® system not only facilitates ideal air filtration at maximum air current and a consequently increased insulation dryer efficiency alike.

You further benefit from longer lifetimes, always need-based and cost-saving combination possibilities of all individual modules – **and with the DA 4 Qube you have the currently fastest modular insulation drying system on the global market!**

MULTI QUBE®

With the flexibly combinable modules of the MultiQube® system you are optimally prepared for any task, for instance:

MultiQube® is a well-matched and flexibly combinable device system for all insulation drying requirements.

From the filter surface to the air flow rate, the performance of each MultiQube® device was synchronized to maximum system efficiency for all application scenarios.

All Trotec filters of the MultiQube® system come with a manufacturer approval for the use of vacuum turbines with pressure differences of more than 250 mbar!

Therefore, with the MultiQube® system you benefit not only from always ideal air filtration at maximum air current and a consequently increased efficiency factor, but beyond that with the patented drying control unit DA 4 Qube also from the currently fastest modular system for insulation drying on the global market!

1. Excess-pressure drying to 60 m²: A VX 5 MultiQube®, variably adjusted to silent power stage 2.

2. Low-pressure drying to 50 m²: A VX 5 MultiQube® and a water separator WA 4i MultiQube® with integrated micro filter system*.

3. Risk of contamination, mould or drying in hygienic areas: As application 2, additional HEPA filter MultiQube®*.

4. Speeding-up of drying periods by 30 to 70 %: As application 3, additional drying control unit DA 4 Qube®.

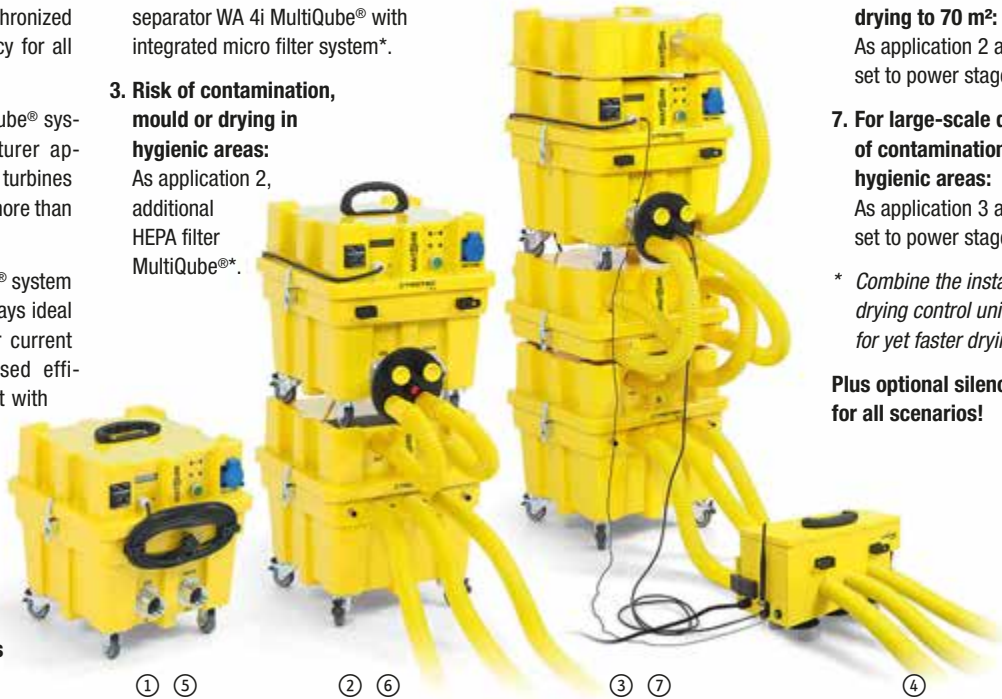
5. More power for excess-pressure drying to 90 m²: Simply increase the power stage of the VX 5 to stage 3.

6. More power for low-pressure drying to 70 m²: As application 2 and the VX 5 set to power stage 3.

7. For large-scale drying with risk of contamination, mould or in hygienic areas: As application 3 and the VX 5 set to power stage 3.

* Combine the installation with the drying control unit DA 4 Qube for yet faster drying.

Plus optional silencer application for all scenarios!



Two exemplary installations point out the benefits of a modular system:



50% of all applications!

50% of all applications!

Installed in the construction on the left is a filtration chain without HEPA filter. This structure is typical for approx. 50 % of all applications. Owing to the modular design, only few steps are required to realize an appropriate structure with HEPA filter stage as shown in the figure on the right.

Your advantage:

All individual MultiQube® modules are calculated precisely for the requirements of insulation drying using a vacuum process and exceedingly well-matched with respect to performance level, proportion of filter surfaces, flow resistance and suction capacity!

Schematic depiction of the modular MultiQube multi-stage filter system:

Microfiltering of the processed air using a microfilter element
Microfilter – see catalogue page 22...

Steel Demister pre-filtration and second-step separation of the processed air

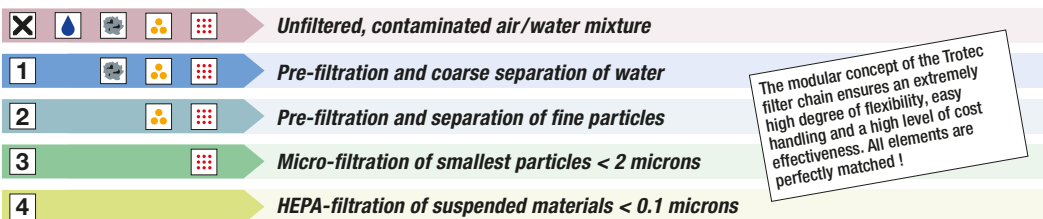
First-step separation – the water contained in the processed air remains in the water separator's storage tank
Water separators – see catalogue page 22...

5 Filter stage 5 (optional) noise emission filter via silencer connection
Information regarding insulation dryers and accessories can be found starting on page 18...

4 HEPA filtering of the processed air using a HEPA filter element
HEPA filter – see catalogue page 24

Deflector deflects the air water mixture into the storage tank

Unfiltered, contaminated air water mixture



The modular concept of the Trotec filter chain ensures an extremely high degree of flexibility, easy handling and a high level of cost effectiveness. All elements are perfectly matched!

A FEW PRACTICAL BENEFITS OF THE VX 5:

Professional quality
"Made in Germany" –
originally produced by Trotec

Exceptional, adaptronic power
control – renders thinking in equip-
ment classes virtually redundant

Supersedes all side channel
compressors of the performance
classes from 0.8 kW to 3 kW

Ultralight – only 10 kg

35 % lighter than comparable
competition models

Up to 75 % lighter than side
channel compressors with the same
performance class

DA 4 interface for linking up all device
data incl. real-time remote monitoring
of system status and drying progress

Optiflow NT multi-function display
with plain text status indication and
colour illumination for power control

MID-compliant dual counter for
operating and kilowatt hours

Whisper mode for noiseless
night operation

PlugSafe – socket protection suitable
for sealing in accordance with the
MessEG regulations

Non-wearing touchscreen
control panel

Trotec insulation dryers

**Global bestsellers and not without reason for decades
the new standard in silent, powerful, compact and light units
of their performance category on the market ...**



*Quad distributor Pro
with integrated Efidry
humidity sensor connection.
Recommended accessories
for an improved flow geom-
etry with a reduced
performance loss.*



MULTIQUBE®

The new VX 5 MultiQube® with patented Trotec technology – one for all and lots more ...

Which device is suited for which type of drying? Already with the previous model this issue was a thing of the past, for the unique adaptronic power control of the VX 5 renders thinking in equipment classes virtually redundant:

The VX 5's three-step variable turbo engine achieves up to 20,000 rpm and guarantees maximum efficiency at any power level, because due to the integrated HiDry automatism the current volumetric flow is recorded continually in m³ and the VX 5 is automatically regulated to the optimum air flow rate.

At the touch of a button the device switches either into a higher performance class or, if required, into the additionally available whisper mode.

Performance-optimized energy consumption

Unlike conventional side channel compressor turbines, the VX 5 MultiQube® turbo engine's output and power consumption are always linear and directly interrelated: When the power stage is cut back or the counter-pressure decreases, the power consumption is equally reduced. Plus the performance control is not effected based on resistance, but geared to the required volumetric flow.

Due to this technique, the VX 5, compared to side channel compressors, works more or less at the energy-saving eco tariff, especially during the final drying phase.

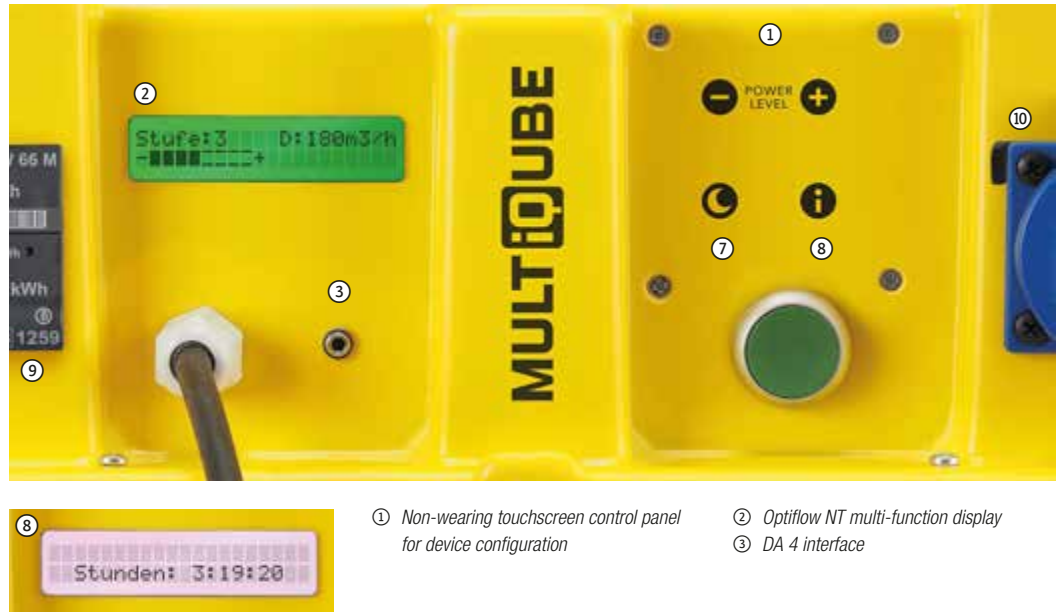
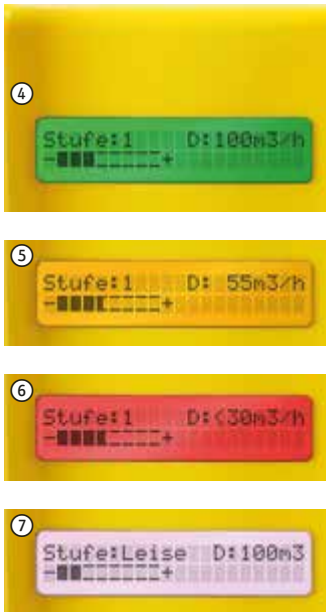
Always just as much power as you need:

- **Power stage 1:**
Corresponds to the output of a 0.8 kW side channel compressor.
- **Power stage 2:**
The VX 5 is approx. 10 % more powerful than a side channel compressor with 1.1 to 1.3 kW.
- **Power stage 3:**
Corresponds to 140 % of the output of a 1.1 kW to 1.3 kW side channel compressor and to 80 % of the performance of a 3 kW side channel compressor.



Whether it's a new model you are looking for or a reconditioned one, whether you are thinking of buying or leasing – Trotec provides you the ideal solution for every demand: Visit the Trotec Shop to find out more about great deals on our new products, our super special offers and our wide selection of demonstration, reconditioned and specially-priced products. For more information go to www.trotec.com or directly use the QR Code.

VX 5 MultiQube® – optimum performance at every stage



① Non-wearing touchscreen control panel for device configuration
 ② Optiflow NT multi-function display
 ③ DA 4 interface

HiDry automatism

Fully automatically always the most efficient drying performance

Immense strength alone does not amount to very much without a clever power control.

Quite on the contrary: If used excessively, nothing but wear and power consumption increase. Nothing else.

For much less than the applied motor power it is rather a consistent air passage through the insulation layer areas to be dried that makes the crucial difference between failure and success of accelerated drying.

Therefore, the patented VX 5 comes equipped with the innovative HiDry automatic control system, which adjusts the performance not based on the resistance, but on volumetric flow, and so automatically ensures the most efficient performance in each stage for every drying installation.



Much like a “cruise control” in a car, the sensor-supported HiDry automatism dynamically and continuously adjusts the volumetric flow rate of the VX 5 to the preset optimum value of the respective power stage.

Whilst at the beginning of the drying process more motor power is required to maintain the volumetric flow at a relatively high resistance, the need for power falls continuously as the drying proceeds.

Over the entire drying period the HiDry automatism ensures that the VX motor does not generate more power than needed to maintain the optimum volumetric flow. **The result: The quickest possible drying at minimum energy input!**

Non-wearing touchscreen control panel

Robust ABS housing on the outside, state-of-the-art electronics on the inside. Sums up to convenient handling by touch. No controller, no wear. A soft touch on the corresponding function's symbol is all it takes to configure your VX 5.

In addition to the Plus and Minus buttons ① or a quick selection of the power stage, the neatly arranged control panel further accommodates a function for the digital display of the operating hours ⑧ as well as an extra whisper mode ⑦.

VX 5 whisper mode

Strength lies in quiet

In whisper mode ⑦ the VX 5 is particularly silent, yet efficient. For sound level reduction is not simply effected by reducing the power, but by regulating it with noise-optimized emphasis to the optimum volumetric flow of power stage 1.

Once activated, the VX 5 operates in whisper mode for ten hours and then automatically switches back to the previously used power stage.

Enormously handy for customers requiring maximally silenced background noise for a short time.

Conforming to MID and MessEG

The VX 5 comes equipped with a MID-compliant combined counter for operating hours counter and energy consumption ⑧.

To satisfy the MessEG regulations the service socket is moreover fitted with Trotec PlugSafe ⑩, so it can be safely sealed both with an inserted plug or when shut.



Optiflow NT multi-function display

Illumination brought to a new dimension

Not only the current operating status and volumetric flow can be read from the Optiflow NT multi-function display ② as plain text – also in the dark or from a distance – the colour of the display illumination also automatically indicates how effectively the drying air can flow through the insulation layer of your installation.

A green display ④ confirms optimum volumetric flow, orange indicates thresholds ⑤ and with a red LED the air flow rate is insufficient for the area, so that installation optimization is needed for quicker drying ⑥.

DA 4 interface

Data networking made easy

The VX 5 is equipped already ex works with an interface for data exchange with our drying control unit DA 4 Qube ③. The combination of both units enables the cross-linkage of all device data incl. real-time remote monitoring of system status and drying progress.

Insulation drying unit VE 4 MultiQube®

First choice if you are looking for the ultimate insulation dryer in typical side channel compressor design

As opposed to the VX turbo motor concept of the VX 5 MultiQube® with power control, the VE 4 MultiQube® directly provides full side channel compressor power at the push of a button.

The VE 4 MultiQube®, originally “made in Germany” by Trotec, can be used both in low and excess pressure operation. Its ingenious Optiflow LED indicator guarantees a quick assembly of your drying installation – always at the highest efficiency level – and thanks to its LED light with comprehensible, immediately “lucid” self-explanatory traffic light principle, it is clearly legible even from afar or in the dark.

The maximum installation optimization with the Optiflow power control display thus allows you to benefit from noticeably shorter drying periods.



MULTI QUBE®

Installation optimization with Optiflow LEDs

In practice, ammeters are absolutely unfit for system control and performance optimization of insulation drying installations since in the everyday working conditions of an insulation dryer, the **difference between an air flow rate of 100 % and less than 20 % is less than one ampere!**

This corresponds to a tiny section of the ammeter scale ①, which can neither be properly read nor can conclusions be drawn from it when used for drying applications. Furthermore, the remaining 95 % of the ammeter scale ② are completely useless for the drying technician.



By contrast, the Optiflow electronics of the VE 4 MultiQube® is able to increase the resolution of the tiniest ampere scales significantly by “spreading” ③ the usable range and to indicate even the slightest value changes by means of signal processing via the Optiflow LEDs from green to red.



Insulation drying unit VE 4 S MultiQube®

The best “value-for-money compressor” on the market leaves nothing to be desired:

100 % MultiQube® “made in Germany” fully equipped incl. operating hours counter, ammeter, cable holder, transport wheels with Roll-Stop catch and service socket – as compared to competitive products, there’s nothing you’re going to miss with the VE 4 S MultiQube® except high prices.



Under the heading of ammeter

Even if, after the introduction of Optiflow, it is no longer the state of the art, we still offer you the VE 4 S MultiQube® with ammeter because this is still advertised as contemporary technology in competition models. We don’t like to lecture – therefore:

if you want a compressor with ammeter, the VE 4 S MultiQube® at least allows you to get the best value-for-money solution on the market!

Due to its construction, the VE 4 S MultiQube cannot be upgraded with a MID counter!

NR silencers

Customer-friendly accessories for insulation drying units

Although they are soundproofed at the best possible rate, even the most modern insulation dryers cause function-related turbine-like noises, often perceived as disruptive by those affected.

This unnecessary noise can be reduced significantly by Trotec NR silencers – this way your customers will keep your service in good memory!

Silencer NR 19 MultiQube®

Art. no. 6.100.000.120



The versatile silencer NR 19 MultiQube® is especially suited for the combined stacking installation with MultiQube® insulation dryers and enables **noise reductions of 14 to 19 dB** without dynamic pressure – **this is almost 75 %** since a sound level reduction of 10 dB corresponds to halving of the subjectively perceived volume.

Silencer NR 14

Art. no. 6.100.000.119



The optionally also available silencer NR 14 impresses with noise reductions from 12 to 14 dB.

Both silencers can be used with hoses of 38 mm or 50 mm length and, aside from the MultiQube® units, also with insulation dryers from other manufacturers. The installation is child’s play: simply connect it to the available connector of the insulation dryer and you’re done!



Technical data and equipment		VX 5 MultiQube®	VE 4 MultiQube®	VE 4 S MultiQube®
Article number		1.560.000.042	1.560.000.025	1.560.000.024
Suitable (approx.) for surfaces up to excess pressure / low pressure	power stage 1	30 / 25 m²	50 / 40 m²	50 / 40 m²
	power stage 2	60 / 50 m²	–	–
	power stage 3	90 / 70 m²	–	–
Maximum pressure: excess pressure / low pressure		270 / 220 mbar	200 / 175 mbar	200 / 175 mbar
Air flow rate (freely blowing) approx.		250 m³/h	150 m³/h	150 m³/h
Defined volumetric flow optimum (sucking in) of the HiDry automatism	whisper mode	100 m³/h	–	–
	power stage 1	100 m³/h	–	–
	power stage 2	150 m³/h	–	–
	power stage 3	180 m³/h	–	–
	boost stage	250 m³/h	–	–
Motor power (depending on the performance level)		0.2 - 1.2 kW	1.1 kW	1.1 kW
Input voltage		230 V / 50 Hz	230 V / 50 Hz	230 V / 50 Hz
Sound level (distance 3 m without silencer, depending on the performance level)		48 - 61 dB(A)	61 dB(A)	61 dB(A)
Weight		10 kg	25.5 kg	25.5 kg
Dimensions (L x W x H)		420 x 430 x 415 mm	420 x 430 x 415 mm	420 x 430 x 415 mm
Mobility	carrying handle	■	■	■
	stackable	■	■	■
	rollable	■	■	■
Non-wearing touchscreen control panel		■	–	–
Optiflow display	NT multi-function display	■	–	–
	LED bar	–	■	–
Operating hours counter		Dual counter, MID-compliant ²	Dual counter, MID-compliant ²	■
Energy consumption meter				–
Plain text status indication		■ ¹	–	–
Illumination for power control		■ ¹	–	–
Ammeter		–	–	■
Cable holder with fixable plug		■	■	■
Service power socket		■	■	■
PlugSafe socket protection, MessEG-compliant		■	■	–
Operating elements recessed for protection		■	■	■
Maintenance quick release fasteners		■	■	■
Accessories / supplies contained in the scope of delivery		VX 5 MultiQube®	VE 4 MultiQube®	VE 4 S MultiQube®
VE-VX connectors for 38 mm hoses		2 pieces Art. no. 7.200.000.002	2 pieces Art. no. 7.200.000.002	2 pieces Art. no. 7.200.000.002
VX filter screen for drying using the excess pressure procedure		1 piece Art. no. 7.700.000.001	□	□
VX micro filter element fine particulate air filter class F8		2 pieces Art. no. 7.160.000.212	□	□
Recommended accessories		VX 5 MultiQube®	VE 4 MultiQube®	VE 4 S MultiQube®
Silencer NR 19 MultiQube®		Art. no. 6.100.000.120	Art. no. 6.100.000.120	Art. no. 6.100.000.120
Quad distributor Pro		Art. no. 6.100.000.142	Art. no. 6.100.000.142	Art. no. 6.100.000.142
VE/VX check valve		Art. no. 6.100.000.150	Art. no. 6.100.000.150	Art. no. 6.100.000.150
50 mm rubber adapter for VE-VX connector		Art. no. 6.100.000.130	Art. no. 6.100.000.130	Art. no. 6.100.000.130
DA connection cable for data transfer to DA 4		Art. no. 7.333.000.015	–	–

Quad distributor Pro

Improved flow geometry – reduced performance loss. With integrated Efidry humidity sensor connection.



Required when using the sensor-controlled drying control unit DA 4 Qube.

Art. no. 6.100.000.142

VX filter screen

For excess pressure drying with VX insulation dryers.



Art. no. 7.700.000.001

VE/VX check valve

For parallel use of two insulation dryers with a WA 4i water separator.



Art. no. 6.100.000.150

VX micro filter element

For filtering the sucked-in engine cooling air. Class F8, set of 2.

Art. no. 7.160.000.212



VE-VX connectors

For 38 mm hoses.

Art. no. 7.200.000.002



Rubber adapter

For connecting VE-VX connectors and 50 mm hoses.

Art. no. 6.100.000.130

Further accessories can be found starting on page 44.

- standard equipment
- not available / required for this model
- ¹ via Optiflow NT multi-function display

² **What does MID compliant mean?** The European Measuring Instruments Directive (MID) has replaced the existing rules of national approval and subsequent calibration in some areas. As a result, all power meters, which are used for energy consumption billing, must be MID compliant in the future.

Trotec Innovations

Qube+

MultiQube® System

Insulation Dryers

Water Separators

HEPA Filters

Fact Check

Drying Control Unit

Software

Accessories for water damage restoration

A FEW PRACTICAL BENEFITS:

Professional quality
"Made in Germany" –
originally produced by Trotec

Performance of the filter technology
improved by approx. 25% due to
flow-optimized filter compartment and
micro filter cartridge with threefold
filter element

Two integrated TTKwic quick cou-
plings for central water discharge for
up to two connected dehumidifiers

Stainless steel demister for water
separation and fine filtration

Residual water draining function

Active overflow protection owing
to automatic switch-on/-off
of the connected compressor

Integrated connecting cable

Cable holder

Extremely light, robust and especially
low-maintenance construction

Wheels with parking brakes

Maintenance quick release fasteners

Emergency stop switch

Overflow sensor with
automatic switch-off

MID-compliant* dual counter for
operating and kilowatt hours

PlugSafe – socket protection suitable
for sealing in accordance with the
MessEG regulations

Stackable to save space

Light material base: impact-proof
and robust construction,
recyclable to 100%

Uncomplicated handling –
easy to clean

Water separator WA 4i MultiQube®



**Versatile integral solution
with all pre-HEPA filter stages
in only one device**



MULTIQUBE®

The WA 4i is provided with an inte-
grated micro filter system with low-
maintenance magnetic lock filter com-
partment to take in micro filter car-
tridges with a threefold filter element.

This makes the WA 4i a versatile inte-
gral solution with all pre-HEPA filter
stages in only one device.

**Advantage: improved flow-opti-
mized filter technology, quicker
setup, decreased material and space
requirements – no separate addi-
tional micro filter housings required.**

With respect to insulation drying of sur-
faces sized up to 40 m², no other model
is quite fit to hold a candle to this sep-
arator, for despite its ultra-compact di-
mensions the WA 4i comes fully
equipped with numerous practice-ori-
ented detailed solutions, such as an es-
pecially low-maintenance construction,
TTKwic quick couplings, cable holder,
residual water drainage and much
more.

The robust water separator is opti-
mally geared to the combined use with
MultiQube® modules and at the same
time 100% downwardly compatible to
previous models.

Fact check!
Everything you always wanted
to know about insulation drying,
water separation and technical
prerequisites of practicable systems
for process air filtration
can be found starting
on page 26...



**Our recommendation:
Quicker systematic drying!**

The drying control unit DA 4 Qube with Efidry
humidity sensor enables **up to 70% shorter drying periods!**
Further information can be found starting on page 28...



TTKwic The smart quick coupling for one single central water discharge

For an effective remediation of water damage condenser dryers are usually used in continuous operation with an integrated condensate pump, which so far for each individual industrial desiccant dehumidifier entailed an elaborate laying of water discharge hoses over long distances from the dehumidifier to an appropriate water drain.

TTKwic puts an end to this: Every WA 4i MultiQube® as standard comes with two integrated TTKwic quick couplings, where condensate discharge hoses of up to two used dehumidifiers can be connected conveniently and expeditiously. The entire water drainage is then taking place

centrally via the discharge hose of the water separator.

The TTKwic quick coupling is an especially developed pressure coupling with special valve and optimally geared to the combined use with Trotec condensate pump kits.

For water intake the valve opens exclusively with pressure load on the pump side and by means of an integrated barrier simultaneously prevents a decrease of performance of the low-pressure stream permanently and reliably.

Despite the ingenious construction the application of the TTKwic is extremely user-friendly: Connect the hose and you're done!



Save time and material for complicated multiple installations of condensate discharge hoses to far-off water drains and simultaneously ensure an effective and reliable permanent drying – **quick, easy, clean and reliable thanks to TTKwic!**



WA 4i micro filter cartridge with threefold filter element

The WA 4i's innovative micro filter system is a low-maintenance integral solution with quick and easy exchange of only one cartridge.

It can only be inserted into the WA 4i's filter compartment in the direction of air flow, which provides even more security during application.



WA 4i micro filter cartridge
Article no. 7.160.000.211



With a filter surface of 0.16 m² and a nominal air flow rate of 50 m³/h per filter element, the WA 4i micro filter cartridge is optimally adjusted to the maximum air flow rate of the vacuum turbine of MultiQube® insulation dryers.

The filter cartridge with a minimum flow resistance according to DIN EN 779 has filter class F8 and thus meets the requirements of a pre-filter for HEPA filtration.

Technical data		WA 4i MultiQube®
Article number		6.100.000.006
Volume approx.		17 litres
Input voltage		230 V
Dimensions (L x W x H)		420 x 440 x 395 mm
Weight		11.3 kg
Mobility	Carry handles	■
	Swivel casters with parking brake	■
	Stackable	■
Hose connectors		3 x ø 38 mm

Supplies contained in the scope of delivery	
WA 4i micro filter cartridge with threefold filter element, filter class F8	1 piece Art. no. 7.160.000.211
Filter mat WA 4i	1 piece Art. no. 7.160.000.205



Filter mat WA 4i (5 pc. each per pack),
Article no. 7.160.000.205

Filter mat WA 4i

The filter mat is simply inserted at the bottom of the water separator and additionally protects the pump against dirt particles. This way, reliability and lifetime of the water separator can be distinctly increased.



¹ What does MID compliant mean? The European Measuring Instruments Directive (MID) has replaced the existing rules of national approval and subsequent calibration in some areas. As a result, all power meters, which are used for energy consumption billing, must be MID compliant in the future.

A FEW PRACTICAL BENEFITS:

Professional quality
"Made in Germany" –
originally produced by Trotec

High-quality exchange filter of class
H13 as per DIN EN 1822-1

Optimized filter geometry:
Still larger power reserve and longer
lifetime of the filter element

More security and active contami-
nation protection by means of an
integrated HEPACONTROL status display

Especially designed for the flexible
combined "seamless" usage with
MultiQube® system components,
the HEPA filter MultiQube® provides
perfect separation certainty and high
cost effectiveness!

Expressly designed by leading filter
specialists for insulation drying using
a vacuum process

Ideal flow cross-section and perfect
filter surface ratio ensure a high
volumetric flow, short drying periods
and a reliable overheating protection
of the insulation dryer

Robust ABS housing –
recyclable to 100%

100% downwardly compatible
to previous model

Fact check!

Everything you always wanted to know
about insulation drying, water separation
and process air filtration can be found
on pages 26 and 27 ...

HEPA filter HC MultiQube®

High filter class – optimally adapted for the Trotec filter ladder



One of a kind – Trotec exclusive:
Innovative automatic
HEPACONTROL
status display

In combined use with Trotec MultiQube® modules, the HEPA filter HC MultiQube® enables an especially easy installation, effective filter performance and space-saving operation!

Low-pressure insulation drying not only requires the use of an effective filter ladder, in case of mineral fibre dust, mould or to protect against allergens – e.g. for allergy sufferers, in kindergartens, hospitals or homes for the elderly – a high-efficiency particulate air filter of class H13 is to be used in addition to a micro filter of class F8:

Here, our best recommendation is the HEPA filter HC MultiQube®, for it is characterized by both an optimum filter performance and a high filtration efficiency and was developed as part of the Trotec filter ladder specifically for the combined use with water separators and insulation dryers of the MultiQube® system.

The two-part MultiQube® HEPA filter system consists of a robust, low-maintenance filter housing with convenient quick release fasteners and the filter element to be replaced after usage.



MULTI QUBE®

Trotec HEPA filter elements correspond to filter class H13 as per DIN EN 1822-1:2009 and enable a separation rate of nominally > 99.97% at a particle size of 0.3 micrometres!

With a filter surface of 3 m² and a nominal air flow rate of 315 m³/h, the HEPA filter elements are optimally adjusted to the technical specifications of vacuum turbines of MultiQube® insulation drying units and provide a power reserve for the combined application with up to two VE 4 S or one VX 5.

H13 high-efficiency particulate air filter for HEPA filter HC MultiQube®, Art. no. 7.160.000.220. A filter element is already included in the scope of delivery.

More security and active contamination protection by means of HEPACONTROL



Polluted HEPA filters not only carry the risk of contamination for the ambient air, they also result in longer drying periods and overheating of the vacuum turbine!

Here, owing to its innovative HEPACONTROL status display, the HEPA filter HC offers more security and active contamination protection as opposed to passive HEPA filter systems:

With too low a filter efficiency due to a spent filter element, the HEPACONTROL warning light switches on automatically and conspicuously indicates the required replacement of a filter element.

HEPACONTROL

HEPACONTROL requires no additional power connection, for feed-in of the bright warning LED is effected via an integrated and especially long-lasting high-performance battery.



Technical data	HEPA filter HC MultiQube®
Article number	6.100.000.043
Dimensions L x W x H / Weight: approx.	435 x 435 x 255 mm / 6.3 kg
Hose connectors	4 x Ø 38 mm
Supplies contained in the scope of delivery	
H13 high-efficiency particulate air filter as per DIN EN 1822-1, filtration efficiency > 99.97% / 0.3 µm	1 piece Art. no. 7.160.000.220
H14 high-efficiency particulate air filter as per DIN EN 1822-1, filtration efficiency > 99.995% / 0.2 µm	Art. no. 7.160.000.223



Whether it's a new model you are looking for or a reconditioned one, whether you are thinking of buying or leasing – Trotec provides you the ideal solution for every demand: Visit the Trotec Shop to find out more about great deals on our new products, our super special offers and our wide selection of demonstration, reconditioned and specially-priced products. For more information go to www.trotec.com or directly use the QR Code.

The advantages of a modular segregation of water separator and HEPA filter

Cost effectiveness:

A non-removable HEPA filter housing permanently integrated in the water separator is automatically contaminated with every application, even though a HEPA filter is only required for 50 % of all applications.

Those constructions not only increase the costs for acquisition, but also exceedingly for maintenance and cleaning.

With both the Trotec Qube+ and the MultiQube® system, the HEPA filter element can optionally only be used as and when required.

Flexibility:

At a fixed installation, HEPA filter or filterhousing would also be acquired with every water separator, and then used in any application.

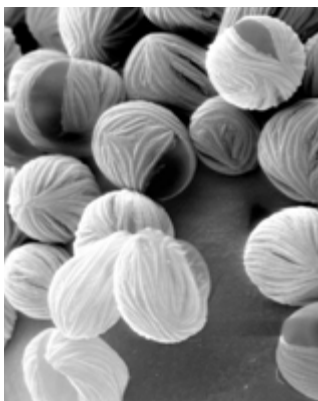
This is an enormously uneconomic component ratio of 1:1. Since empirically though, only every second application requires a HEPA filter, a component ratio of 2:1 would be entirely sufficient.

For all Trotec solutions you can purchase HEPA filters in addition at a reasonable price and use them flexibly only if needed. Either just a HEPA filter module incl. F8 prefilter sleeve for every second Qube+ or a HEPA-Filter HC MultiQube® for every other water separator WA 4i.

Important restoration regulations concerning mould spores and released fibre dusts in the air

There are a number of protective measures, technical stipulations and local regulations regarding the use of hazardous materials which have to be observed by commercial firms when restoration work is carried out in the workplace.

Although there are no standardised regulations that are valid for all countries, dust containing mould is classified as a hazardous material by many member states of the European Union.

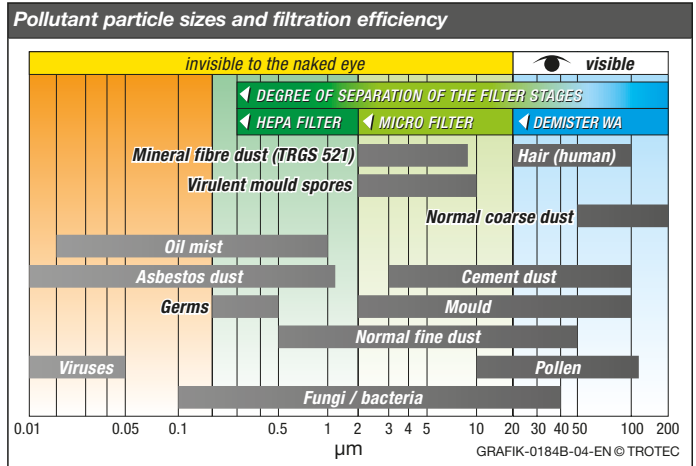


Mould spores examined at 3000 x magnification under the electron scanning microscope – each spore is approx. 8 micrometres across and ten times thinner than a human hair!

The German Ordinance on Hazardous Substances, for example, states that air that has been extracted from working areas because the dust therein contains mould may not be redirected back into the rooms and that air containing inorganic fibre dust (e.g. mineral fibre insulation) may only be recirculated if it has been sufficiently purified.

This is, for example, ensured when dedusters are employed which are consistent with dust class H.

When insulation drying is performed using the underpressure method, it must be ensured that the air is purified with suitable filter classes to prevent any exposure to such hazardous substances.



Filter classes at a glance			
Particle size	Particle examples	Filter class	Examples of application
Coarse particulate air filters for particles > 10 µm	Insects, textile fibres and hair, sand, fly ash, farina, spores, pollen, cement dust	G1 G2	For simple applications (e.g. as insect protection in compact devices)
		G3 G4	pre- and air circulation filters for civil defence shelters; exhaust air paint spraying booths and kitchen hood etc.; contamination protection for air conditioning and compact units (e.g. window air conditioners, fans); pre-filter for filter classes F6 to F8
Fine particulate air filters for particles of 1-10 µm	Spores, pollen, farina and cement dust, particles causing dust deposits and stains, bacteria and germs on host particles	F5	Fresh air filter for rooms with low requirements (e.g. factory workshops, storage facilities, garages)
		F5 F6 F7	pre- and air circulation filtration in central ventilation stations; final filter in air conditioning systems for salesrooms, stores, offices and certain production facilities, pre-filter for filter classes F9 to H11
		F7 F8* F9	final filter in air conditioning systems for offices, production facilities, control centres, hospitals, data processing centres; pre-filter for filter classes H11 to H13 and activated carbon
High-efficiency particulate air filters for particles < 1 µm	Germs, bacteria, viruses, tobacco smoke, metal oxide smoke	H10 H11 H12	final filter for rooms with high and highest demands (e.g. laboratories, production facilities in the food, pharmaceutical, precision mechanics, optical goods and electronic industries as well as for medical applications)
		H11	final filter for cleanroom classes*** ISO 6 and ISO 5
	Emerging oil vapour and soot, radioactive suspended matter	H12 H13**	final filter for cleanroom classes*** ISO 4 and ISO 3, final filter in civil defence shelters, exhaust air filters in nuclear plants
		H14 U15 U16 U17	final filter for cleanroom classes*** ISO 2 and ISO 1
Aerosols			

* Trotec micro filter class, ** Trotec HEPA filter class, *** according to ISO14644-1

Trotec Innovations
Qube+
MultiQube® System
Insulation Dryers
Water Separators
HEPA Filters
Fact Check
Drying Control Unit
Software
Accessories for water damage restoration

The individual stages of the Trotec filter ladder during insulation drying

During process air purification the following must be observed:

1. filter stage: pre-filtration and coarse separation

First, free water from the air/water mixture must be separated to protect the follow-up filters and the insulation dryer.

With the technically sophisticated Trotec solution, this coarse separation is effected by means of a special baffle plate, where the water accumulates and is diverted into the water separator's collecting tank.

2. filter stage: pre-filtration and fine separation

For performance optimization of the follow-up filters and lifetime extension of the insulation drying unit, further incoming water must be restrained and the air current cleaned from fine particles.

In case of Trotec water separators, fine separation is effected via a washable fine filter (steel demister), in whose defined mesh of stainless steel wires a boundary layer forms as barrier for further incoming water, which then falls back into the collecting tank from the demister. Simultaneously this barrier layer has a filter function for fine particulates (wet air filter).

Practical benefit: After completion of the drying process, the demister fine filter can quickly and easily be removed from the water separator, cleaned with a water jet and then be reinserted.

3. filter stage: micro-filtration, class F8 as per DIN EN 779

After pre-filtration, the cleaned and now waterless air has already been freed from particles to an extent that these are no longer visible to the naked eye. For several reasons now a micro-filtration of the process air must ensue:

On the one hand to ensure that contaminated sucked-off air has been sufficiently cleaned according to relevant regulations before feeding it back into the rooms.

On the other hand as obligatory pre-filtration for applications where the use of a HEPA filter is statutory, e.g. when there is a risk of exposure to mould spores or inorganic fibre dusts.

Trotec micro filters are especially suited and approved for the use of vacuum turbines with pressure differences of more than 250 mbar and with a filter surface of 0.16 m² and an air flow rate of 50 m³ for each filter optimally adjusted to the maximum air flow rate of the vacuum turbine of insulation dryers of the MultiQube[®] system. The filter sleeves for the Qube+ are designed analogously.

Trotec micro filters and filter sleeves conform to filter class F8 stipulated for HEPA filtration pre-filters according to DIN EN 779 and are capable of separating 99 % of all particles up to a size of 2 micrometres from the process air!

4. filter stage: HEPA filtering, class H13 as per DIN EN 1822-1

The main purpose of a HEPA filtration – here, a previous micro-filtration as pre-filter is compulsory – is the safe separation of mould spores, bacteria and even the smallest of micro fibres, which are suspected of causing cancer.

As a result, the use of a HEPA filter is required by law as technical protective measure in case of potential exposure of the ambient air to those sensitizing substances (according to TRGS 907 [GefStoffV (Ordinance on Hazardous Substances)], TRGS 540 [Technical Rules for Hazardous Substances]).

Trotec HEPA filters of class H13 are optimally adapted for the technical specifications of vacuum turbines of the respective Trotec insulation drying units (Qube+ / MultiQube[®]) as well as for the filter surface of micro filters and approved by the filter manufacturer.

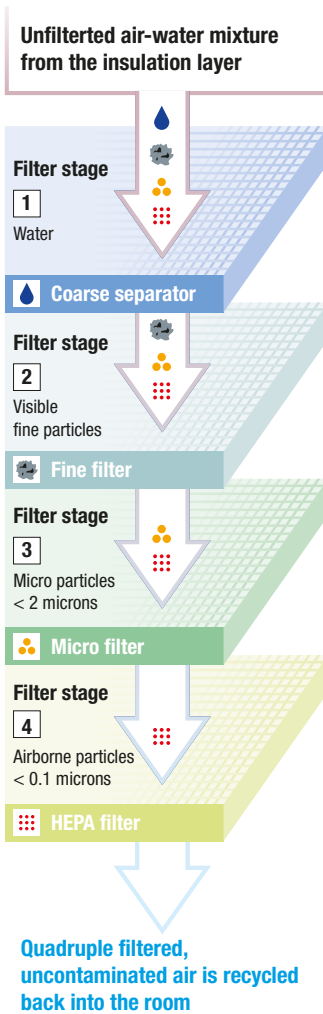
Thanks to the improved filter geometry, the filter surface of 3 m² and air flow rate of 315 m³, Trotec HEPA filters ensure a 99.97 % separation of all suspended matter to a size of 0.3 micrometres!

For comparison: A single human hair has a diameter of approx. 80 micrometres and is thus roughly 800 times larger!

Check list for the identification of practicable filter systems:

- **Is the system provided with a 4-stage filtration?**
(wet separation, wet demister fine filtration, micro-filtration class 8, HEPA filtration class H13)
- **Is the system equipped with HEPA filter condition monitoring?**
How is the demister designed? Does the steel demister come in a cube shape specifically geared to the separation volume or is it merely a flat mat?
- **Which micro filter is being used?**
CAUTION when using filters from a DIY store which can be cut to suit your requirements for smoke exhaust hoods, foam mats, dust filters etc. These are neither classified as micro filter (F8), nor as pre-filter for a HEPA filter (H13).
- **Are size and construction of the HEPA filter suited for water damage restoration?**
CAUTION regarding the following characteristics: size of the vacuum cleaner, wooden cassette filter, size and shape of a car's air filter!
- **Is the HEPA filter mounted directly behind the water separation unit or the coarse filter unit?**
CAUTION when micro filters are missing altogether or cannot be operated for pre-filtration in combination with HEPA filters!
- **How large is the filter surface ratio of the used micro and HEPA filters?**
Due to the high filtration efficiency, it is imperative to work with a low inflow velocity when using HEPA filters. To avoid pressure loss thus a micro-HEPA filter surface ratio of at least 1:6 is required; i.e. the HEPA filter surface must be at least six times as large as the filter surface of the upstream micro filters!
- **Is the HEPA filter located within the water separator?**
CAUTION: Higher cleaning and maintenance effort, for the HEPA filter case is also contaminated when the HEPA filter is not in use!
- **Can all the consumable elements be readily accessed and replaced individually?**

Fact check insulation drying, water separation and process air purification



Facts worth knowing about insulation drying

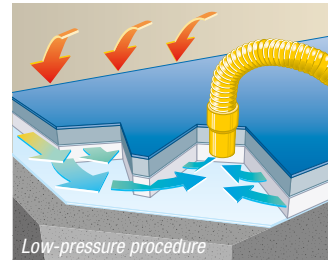
Practical process information

The principles of insulation drying

Using the **excess-pressure procedure**, dry air is flooded into the insulation layer, where it is charged with moisture and then, after having returned to the room via the border joint or other relief openings, is dried again by means of dehumidifiers positioned there.

This cycle enables drying to the material-specific equilibrium moisture content.

In case of **low pressure procedure** the entire process is reversed, i.e. humid air is sucked out of the insulation layer, where a vacuum is created, which is then counter-balanced thanks to the trailing (through relief openings) room air dried by dehumidification devices.

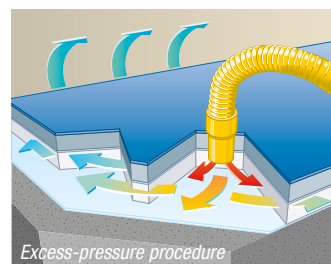


Important: The low-pressure procedure requires the use of a filter system, so that i.a. no water or solids can find their way into the insulation dryer. This would lead to the destruction of the device.

Attention: Excess pressure is not equal to low pressure!

In order to suck in a certain air volume, for instance 100 m³ at a counter-pressure of 100 mbar (e.g. styrofoam®, mineral wool), approx. 20 % more energy is required than for flooding the same amount of air into the insulation layer at the same counter-pressure (100 mbar). At a counter-pressure of 150 mbar (e.g. perlites) the discrepancy increases to 30 %.

Or in other words: Using the excess pressure procedure, an insulation drying



unit can flood approx. 20 to 30 % more air volume into the insulations layer than it would be able to suck out with identical set-up using the vacuum process!

Résumé: For process-related reasons, the achievable area performance of the vacuum process is lower than that of the excess pressure process.

State of the art: Process air purification during insulation drying

Low-pressure drying employing water separators to protect the insulation dryer against water and coarse particles is nowadays recognized as state of the art. Qualified specialist companies for the most part only use the excess pressure drying procedure in unoccupied areas.

Due to the sensitization to allergens, carcinogenic microfibres, dust, asbestos, mites and the entire mould and bacteria issue, which has increased at a breathtaking pace, the low-pressure procedure is not only preferable, but in cases when mould has been found or mineral wool was used as insulating material absolutely necessary as **per §7 GefStoffV (Ordinance on Hazardous Substances)**.

After all, hazardous fine particulates, mineral fibres as well as mould spores and bacteria from the insulation layer are inevitably released during restoration work and at high concentrations, too. Only by using suitable filter systems can the exposure be prevented (see "Pollutant particle sizes and filtration efficiency" on page 25).

As a result all of Trotec's modular and integral solutions for insulation drying come with a precisely attuned filter system consisting of water separator, micro filters and optional HEPA filter module, which separates particles sized up to 0.3 micrometres to 99.97 % and so ensures optimum purification of the process air before it is fed back to the air in the room or outdoors.

The consequences of an improper filter system:

- *Insufficient separation of hazardous substances can lead to claims of recourse and image damage*
 - *Quick pressure loss caused by contaminated HEPA filters leads to*
 - *substantially longer drying periods,*
 - *overheating of the insulation dryer turbines,*
 - *permanent replacement of expensive HEPA elements.*
- **Therefore use HEPACONTROL for filter condition monitoring!**

Advantages and disadvantages of the drying procedures by comparison	Excess pressure	Low pressure
Risk of uncontrollable spreading of water into not affected zones	yes	no
Potential inventory losses and worsening of the room climate in adjacent areas	yes	no
Pressed-in moisture in edge/corner areas can lead to an extension of the drying periods	yes	no
Area performance with identical employment of machinery	100%	80%
General drying duration in relation	normal	faster
Mineral-related efflorescence in natural stone floors possible due to capillary pressure	yes	no
Camber damages of bitumen screed flooring possible	yes	no
Protection against contamination of breathing air by spores, allergens or suspectedly carcinogenic microfibres possible	no	yes
Number of necessary bores for air inlets/outlets	more	less
Possible use in particularly hygiene-sensitive areas such as hospitals, homes for the elderly, schools, kindergartens etc.	prohibited*	yes

* see "Important restoration regulations ..." on page 25

A FEW PRACTICAL BENEFITS:

Professional quality
"Made in Germany" –
originally produced by Trotec

Depending on the case of damage,
drying periods and energy costs can
be reduced by 30 to 70 %

Areas of the same size can be dried
faster and more economical or else
areas larger by up to 30 % can be
dried with the same equipment in the
same time

Adapted to the Qube+ just as perfectly
as it can be combined with all other
insulation dryers from your stock

Yet more even and extremely fast
insulation layer drying without
places where moisture accumulates.

The integrated modem for remote
data retrieval renders on spec
"empty running" obsolete

Illuminated multi-line display
with plain text status messages

Illuminated multi-line display
with "plain text" status messages

Efidry automatic control system
with sensor-supported drying cycles
developed especially for insulation
drying

Active control of three separate drying
zones – expandable by means
of sub-distributors without difficulty

Sensor-controlled – no manual
cycle time adjustment required –
always works fully automatically at
the highest possible efficiency level

Easy handling: Connect hoses and
Efidry humidity sensors, switch on,
all done!

Drying control unit DA 4 Qube

The overdrive for your low-pressure insulation drying operation

Smaller, lighter and considerable time
saving along the way – based on the
Qube+'s development objective we
now also designed an apposite drying
control unit.

The particularly compact drying control
unit is tailored perfectly to the Qube+
and can be connected to it in just a
few steps.

In doing so, an elaborate intermediate
hose connection with water separator
is no longer necessary. This simplifies
the installation and saves both time
and material.

**DA 4 Qube: Perfect for the Qube+ –
and it can be combined well with
all other insulation dryers from
your stock due to the optional
DA adapter plate.**

Positively indispensable – why you shouldn't take a pass on using the DA 4 Qube for low-pressure drying

Using the doubly sensor-supported
drying control unit DA 4 Qube for insu-
lation drying, water damage restoration
companies can now benefit from the
advantages of intelligent control tech-
nology, as has long been customary e.g.
for machines, industrial facilities or
drive systems in terms of efficiency op-
timization.

As a consistent further development of
their successful predecessors of the
DA series – the pioneering systems for
vacuum air circulation control for insu-
lation drying – the know-how from com-
prehensive basic research, hundreds of
test series and several months of prac-
tical application in the water damage
restoration sector have had a bearing
on the development of the DA 4 Qube.



- ① Efidry process air sensor for detecting the mixing ratio and relative humidity of the process air
- ② Efidry room air sensor for detecting the room humidity level and temperature
- ③ DA 4 interface for data networking with Qube+ or VX 5 MultiQube
- ④ Multi-line display with "plain text" status messages
- ⑤ Detachable antenna
- ⑥ Cable holder
- ⑦ Clamping bracket for fast Qube+ connection
- ⑧ Additional pin connectors for a positive-fit connection with the Qube+
- ⑨ 3 winding discs for the sensor and antenna cables

**With the identical equipment
plus the DA 4 Qube you can
dry areas of the same size in
distinctly less time or con-
siderably larger areas in
the same time and re-
motely monitor the drying
process in real time via
the MQDataMonitor!**



Whether it's a new model you are looking for or a reconditioned one, whether you are thinking of buying or leasing – Trotec provides you the ideal solution for every demand: Visit the Trotec Shop to find out more about great deals on our new products, our super special offers and our wide selection of demonstration, reconditioned and specially-priced products. For more information go to www.trotec.com or directly use the QR Code.

The DA 4 Qube dictates the rhythm, when it comes to fast and effective insulation drying – fully automatic ...



One of a kind – Trotec exclusive:
Self-regulating, sensor-supported Efidry automatic control system

80 % of all tap water damages are characterized by an inhomogeneous moisture distribution in the ground: Soaked areas about on less or only little steeped zones.

In case of conventional low-pressure drying of the insulation layer, the process air flows at an increased rate through drier zones rather than through moist ones for process-related reasons, which leads to substantially longer drying periods and thus to higher energy costs.

By contrast, the drying control unit DA 4 Qube, designed specifically for low-pressure drying, with its patented Efidry control – a specially developed, sensor-supported, self-regulating automatic control system – fully automatically enables an active vacuum air load management between the different areas to be dried.

The DA 4 Qube automatically adapts its cycle times and suction intervals to the specific material mix and degree of moisture penetration of the insulation layer zones and informs the user about all processes by use of the integrated status display.

The sensors continuously capture the degree of moisture penetration of each individual drying zone, analyse and con-

secutively record the humidity values and automatically aim the main suction capacity in turns on the area most drenched at the time.

Additionally, the room air humidity is measured and at a certain approximate value for the insulation layer humidity values the DA 4 Qube automatically switches over from active drying to final drying.

Convenient: Even a power failure cannot throw the DA 4 Qube off balance, since in such a case it neither has to be switched back on nor be reconfigured, because it “memorizes” the last active phase and reliably continues working from that point.

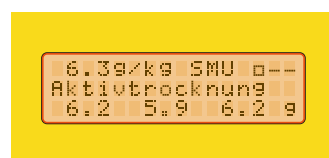
This way, the DA 4 Qube used in combination with otherwise identical equipment can reduce drying times and energy costs by 30 to 70 % – depending on the kind of damage – or dry up to 30 % larger areas in the same time!

The rate of expensive “on spec” empty running can also be reduced to virtually zero by use of the DA 4 Qube:

Thanks to the integrated GSM modem of the DA 4 Qube, water damage restoration companies are at any time able to call up the drying process data in real time even from a distance via the MQDatamonitor connection server, to gather information about the current status of the drying progress and to automatically receive a message as soon as the drying process is completed and the installation can be disassembled.

This way the “drying venture” becomes a reliably calculable fixed time project!

What is more, the radically shortened restoration time also entails a considerable reduction of the warmth and noise nuisance for the aggrieved person as well as quicker reusability of the rooms.



With two Efidry sensors the DA 4 registers both the mixing ratio and the relative humidity level of the process air as well as the room air humidity and temperature. All status messages are indicated in turns as “plain text” on the illuminated three-line display of the DA 4 Qube.



Documentation of the drying process as standard

Ex works every DA 4 Qube comes with an integrated USB flash drive as measured data memory, where the climate data of the drying process are saved at regular intervals. After drying, the flash drive can simply be removed for reading and the structured data can be imported into any common spread sheet for documentation purposes. The flash drive comes with a recording capacity for 2,000 days of drying.

Yet more possibilities via modem

Every drying control unit is as standard provided with an integrated modem for remote data monitoring – optionally also with SIM card and MQDatamonitor portal access.

This enables you to call up the data of the DA 4 Qube in real time via MQDatamonitor, to find out about the current drying status and to automatically receive a message as soon as the drying process is completed and the installation can be disassembled. No more “on spec” empty running!

Further information regarding the MQDatamonitor can be found starting on page 32...



Faster results – perfectly synchronized

Coupled with the Pro Module 2, which was specially designed for water damage restoration companies, of the optionally available “MultiMeasure Studio Professional” software you have a powerful combination for the administration, analysis and report creation of your DA 4 drying processes and your overall measuring projects at your disposal in only one application!

Further information on “MultiMeasure Studio Professional” starting on page 34...

Trotec Innovations

Qube+

MultiQube® System

Insulation Dryers

Water Separators

HEPA Filters

Fact Check

Drying Control Unit

Software

Accessories for water damage restoration

This is how the DA 4 Qube reduces drying period and energy costs

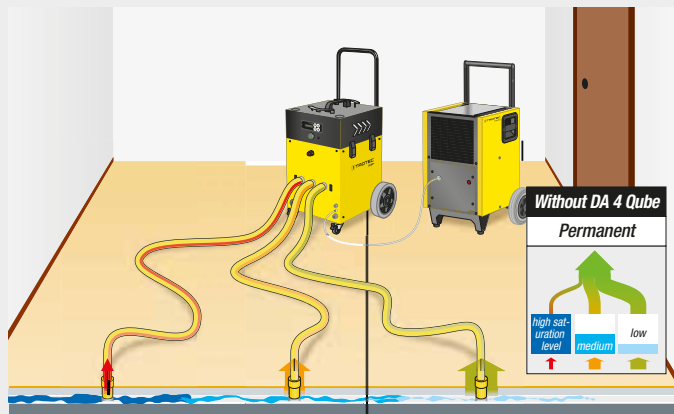
In case of conventional low-pressure drying with the suction load homogeneously distributed over all drying zones, the increased counter-pressure in drenched insulation layers entails that, proportionately, dry air flows too much through areas which have already dried a good deal and too little through sections which are still wet, which in turn leads to unnecessarily long drying periods.

By contrast, the drying control unit DA 4 Qube, designed specifically for low-pressure drying, with its especially developed, sensor-supported Efidry automatic control system fully automatically enables an active vacuum air load management between the different drying zones.

This automatic channelling of the suction capacity on the respectively most drenched area achieves a yet more homogeneous and clearly faster drying of all insulation layers – this way, depending on the type of damage, drying periods and energy costs can be reduced by 30 to 70 % or else surfaces larger by up to 30 % can be dried at the same time!

Consequently, the warmth and noise nuisance for the aggrieved person is also rigorously reduced and the rooms can shortly be utilized again as well.

Schematic comparison representation of a low-pressure insulation drying process with and without the use of a DA 4 Qube:



Detailed description of the sequence of the sensor-supported drying cycles ...

The DA 4 Qube is simply connected to the Qube+, then the process air humidity sensor is fitted to the Qube+ ① and afterwards the room air humidity sensor is positioned in the room or left in the sensor holder as needed ②.

After start-up, drying is accelerated as “active drying” based on dynamically controlled Efidry intervals, as shown in the adjoining schematic drawing:

1. Efidry interval

In the first cycle of operation, initially all vacuum channels are fully opened to check the installation and to determine reference measured values **A** – this state corresponds to “normal” low-pressure drying without application of the DA 4 Qube.

In the second cycle **B**, the measured humidity values are separately captured for each individual channel and then transferred to the control logic.

Based on the determined humidity values the automatic control system now in the third cycle **C** directs the main

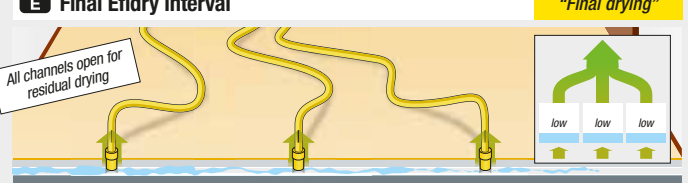
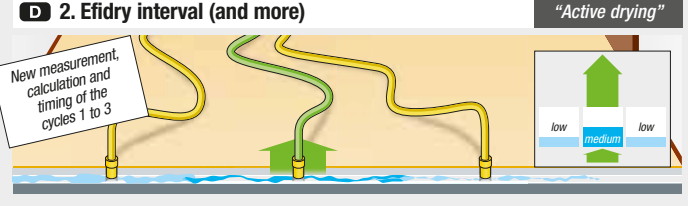
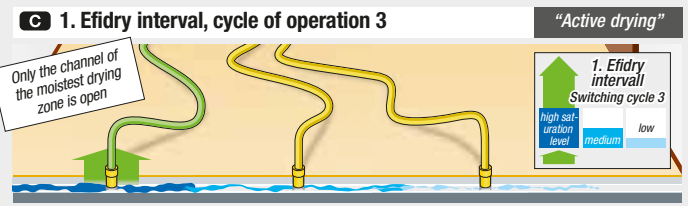
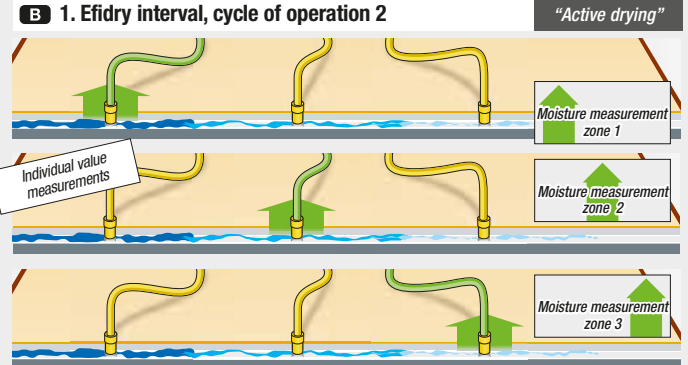
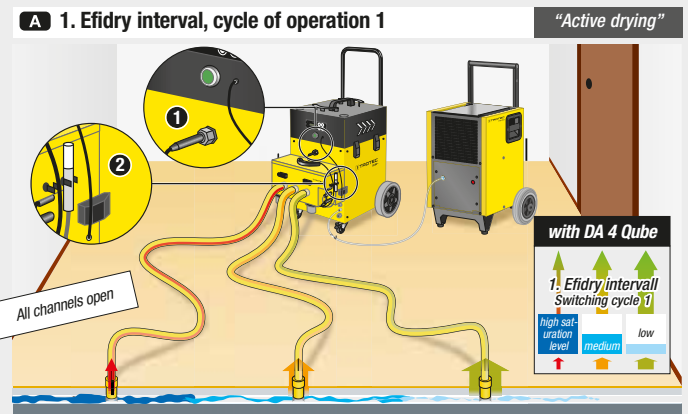
suction capacity for a calculated time-frame on the drying zone with the highest humidity value.

2. Efidry interval (and more)

For the second **D** and every following interval the sensor control permanently calculates the drying zones’ current state of moisture penetration and consequently optimizes the vacuum channels’ cycle times. This way, the main suction capacity is fully automatically directed to the respectively dampest zone. This active sensor-supported vacuum air load management results in a homogeneous and clearly faster drying of all soaked areas.

Final Efidry interval

As soon as the Efidry sensor control detects an ideal homogeneous drying level for the monitored zones, it automatically terminates the cycles and switches all vacuum channels to 100 % air flow for residual drying **E**. This final drying is effected with quality assurance: By means of balancing the humidity values of process and room air the DA 4 Qube in case of another increase of the humidity level in one drying zone automatically changes back into the “active drying” mode.



DA 4 Qube – extremely versatile



For an easy storage of all cables the DA 4 Qube comes with a convenient cable holder at the front and three winding discs for the sensor and antenna cables. The two humidity sensors are attached to the side of the device by means of holding clips.






A quick and simple assembly is ensured by rear openings for the Qube+'s hose connectors and two additional pin connectors for the positive-fit T-connection with the Qube+ as well as the two lateral clamping brackets.



For the combined application with insulation dryers from your stock, an optional DA adapter plate can be obtained. If mounted to the rear, you can benefit from the advantages of the extremely handy DA 4 Qube even during drying operations without Qube+.



Using the optional DA connection plate for intermediate hose connections, the DA 4 Qube can also be used separately in combination with insulation dryers from your stock.

Technical data		DA 4 Qube
Article number		6.100.000.034
Hose connections	Device connection side	Direct connection for the Qube+ without intermediate hoses
	Drying side	3 connectors, ø 38 mm
Memory		Capacity for 2,000 days (USB flash drive)
Ascertainable measured values	Room air sensor	Relative humidity [% RH], air temperature [°C]
	Process air sensor	Relative humidity [% RH], air temperature [°C], mixing ratio room and process air [g H ₂ O/kg of air], mixing ratio process and room air [g H ₂ O/kg of air]
Input voltage		230 V
Dimensions		L 210 x W 435 x H 265 mm
Weight approx.		7.8 kg
Scope of delivery	Standard	DA 4 Qube incl. Efidry humidity sensors, GSM modem with antenna, USB flash drive
	optional	SIM card and MQDatamonitor portal access* for 24 months Art. no.: 3.510.204.020 MQDatamonitor portal access* for 24 months with SIM cards from another supplier Art. no.: 3.510.204.025
Required MultiQube® accessories		DA connection plate for hose connection with the VX 5, art. no. 6.100.000.029
		Quad distributor (see page 21) to connect the sensor adapter to the VX 5, art. no. 6.100.000.142
Recommended accessories		DA connection cable for data transfer to DA 4 MultiQube® / Qube+, art. no. 7.333.000.015

* Usage of the connection server (MQDatamonitor, further information from page 32) for data retrieval. Special low-cost 24-month packages with or without SIM card are available for using the connection server for data retrieval. Naturally, the DA 4 Qube can also be used with SIM cards from other suppliers.

With our control units drying service providers benefit from “standardized drying” without break:

Trotec DA 4 control units entail not only drying-related advantages in terms of time and energy savings as well as a more homogenous insulation layer drying, but beyond that a permanent reorganisation of workflows and corporate processes – and thus a unique opportunity for every drying service provider:

- The DA 4 Qube turns conventional drying into “standardized drying” (continual drying). All drying operations can be planned, their progression can continuously be recorded and reviewed via data recall and the drying times can also be calculated.
- Expensive “on spec empty running” is no longer required.
- The DA 4 Qube reduces the disastrous economic consequences of faults in the installation.
- The DA 4 Qube automatically always “zones in” on the dampest areas.
- “Standardized drying” enables a high degree of planning certainty regarding the employment of staff, material usage and calculation!
- The application of the DA 4 Qube turns the “drying venture” into a reliably calculable fixed time project.
- Larger areas, and also regions further away, which were so far not worthwhile seeing into i.a. due to the “yield risk on spec empty running”, can now be made accessible for the company in economic terms.
- While making use of the same material and personnel, the gross yield can be increased and turnover and profits can be predicted more reliably.
- **This enables “drying without break”.**

A FEW PRACTICAL BENEFITS:

Running all drying installations with only one application

Portal software – can be accessed from any place and device with the respective authentication

Exclusively available only for users of the DA 4 Qube – completely free of charge for a period of 2 years*

Quick overview of the activity status of all devices and the drying progress – renders expensive “on spec empty running” redundant

Automatic e-mail notifications for individually configurable event parameters

Simple documentation via print function or data export

Possibilities for defining global thresholds for all drying installations – if required these can be adjusted for individual installations

Automatic read-out intervals for all data by the connected insulation dryer (Qube+ or VX 5) and drying control unit DA 4 Qube

Many further time-saving comfort functions for yet more efficiency in terms of system monitoring and documentation

MQDatamonitor

The efficient portal software for remote monitoring and the disposition of your drying installations



Trotec exclusive!

Simply handle all measurement runs and other activities with only one click directly from your office

With the DA 4 Qube and the MQDatamonitor you are at any time able to call up the drying process data of your installations in real time even from a distance, to gather information about the current status of the drying progress or to automatically receive a message as soon as the drying process is completed and the installation can be disassembled.

And the MQDatamonitor has even more to offer.

Manage all your drying installations in just one application, create documentations of the drying progress for your customers and gain a precise overview of the on-site

climate conditions as well as of the current degree of moisture penetration of the various insulation layer areas.

Exclusively available for users of the DA 4 Qube

The use of MQDatamonitor is available exclusively for users of the DA 4 Qube at a small surcharge*. Have your company profit from this enormous additional benefit of our drying control unit DA 4 Qube and capitalize on the manifold practical advantages this unique portal software has to offer!



* Special low-cost 24-month packages with or without SIM card are available for using the connection server for data retrieval.



An additional benefit – MQDatamonitor is the exclusive portal software available to all users of the DA 4 Qube

With MQDatamonitor handling all your devices becomes a piece of cake.

After the authentication each DA 4 Qube is henceforth permanently displayed in the MQDatamonitor overview along with all important details.

For a quick identification you can assign a random name and the current location to every device. This assignment is permanently saved referring to the date, so when changing and renaming the location in the calendar listing of the device, all previous application sites can still be traced back.

Even if a great many devices are being used, owing to a comprehensive range of search and sorting functions with the MQDatamonitor you will never lose track.

The colour-coded device status ① and drying process ② let you know whether everything is fine with the installation and which drying phase has currently been reached.

In order to protect the value of your drying devices a critical heating of the room temperature will also be drawn to your attention by a certain colour code.

The drying process of each installation can either be displayed in form of a chart or as table in a separate window; it can be adjusted to meet individual criteria and if required also printed directly from the MQDatamonitor.

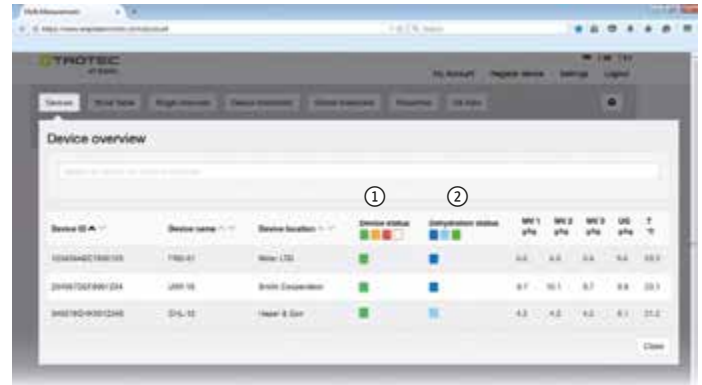
Inclusive of insulation dryer data

Provided you use Trotec insulation dryers with a DA 4 interface, you'll have nothing else to worry about. The measured data is automatically read and transmitted by the DA 4 Qube and can be viewed in MQDatamonitor via a separate menu item.

Owing to the colour-coded display of the drying progress in MQDatamonitor and the optional automatic e-mail notification you are always in the know when a drying process is completed and the installation can be disassembled.

The rate of expensive "on spec" empty running can so be reduced to virtually zero.

This renders each of your drying processes a "standardized drying" with calculable drying periods, enabling a high degree of planning certainty regarding the employment of staff, material usage and calculation.



In the device overview of MQDatamonitor you can quickly view all the important parameters for all drying installations at one glance.



The detailed display contains the drying progress for the selected period of time. An alternative tabular representation of the measured values is also not a problem.

DA 4 Qube plus MQDatamonitor: An ideal solution for remote monitoring and the disposition of your drying installations	Remote monitoring of the current device status and drying progress of all drying installations	✓
	Site scheduling incl. order-related application history	✓
	Automatic e-mail notifications for individually configurable event parameters	✓
	Simple print function for displayed process charts and tables	✓
	Data export as text file	✓
Additional application of MultiMeasure Studio Professional: Unique all-in-one solution for the management, analysis and report creation of all measurement and restoration projects	Direct import of DA 4 Qube data via MQDatamonitor	✓
	Manifold possibilities for a decided analysis of the drying data	✓
	Unique automated report function for the creation of professional restoration and measurement reports in next to no time	✓
	Convenient Excel export function for all data	✓
	Data read-out of numerous measuring devices for a profound evaluation and chart representation	✓
	Backup function for all data	✓

Take advantage of the full potential of smart software solutions

Combine the disposition possibilities of MQDatamonitor with the functional range of MultiMeasure Studio Professional to form the probably most comprehensive software all-in-one solution for all your measurement and restoration projects.

Underneath an easily manageable surface this software package comes with extremely efficient tools. The "integrated reporting system" for the generation of perfectly worded reports "as if by magic" is only one of countless functions to amaze you.

More information can be found on the following pages...

A FEW PRACTICAL BENEFITS:

Analysis software developed entirely by Trotec

Enables universal measurement data management for various measuring devices with one central tool

Unique to the construction sector for the supported device classes: automated report generating function including many completely predefined and at the same time fully editable boilerplate texts

MultiMeasure Studio Professional is the ideal software solution for everyday practice of all specialists dealing with building damage and construction drying:

- Leak detection
- Building diagnostics
- Examination and restoration of mould damage
- Climate and moisture measurement
- Water damage restoration
- Construction drying

Measurement data management software MultiMeasure Studio Professional

Based on the practice – made for the practice

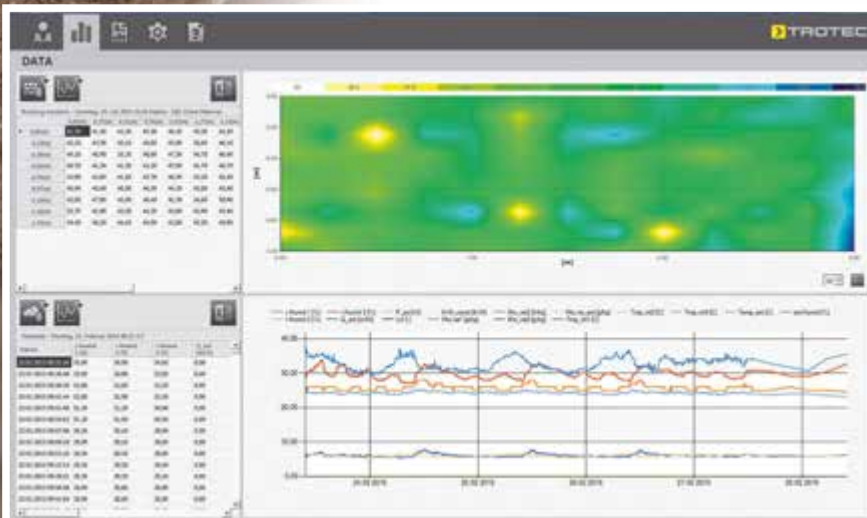


Trotec exclusive!

Benefit from a unique software for the administration, analysis and report generation of your measuring projects across multiple devices.

Many measuring devices are supplied with a software nowadays. But what is almost always missing is a comprehensive and effective synchronization to your practical requirements. After all, the work is not finished after measuring and data reading – it only starts.

Therefore, MultiMeasure Studio Professional supports you perfectly during all work steps – because this software was optimally programmed to your processes and can be applied in combination with virtually all measuring devices used in daily practice.



With each edition of MultiMeasure Studio Professional, you have three specialists at your disposal:

A brilliant data analyst organises the read-out and graphic evaluation of the measured data of all compatible measuring devices.

A versatile project manager simultaneously ensures a flexible administration of your data regarding customers, measuring sites and invoice recipients with a variable assignment of the individual measuring and restoration projects.

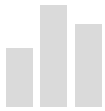
And with the unique report generating function, you also have **a gifted writer** at your side who can produce professional measuring reports of outstanding quality almost independently thanks to a large number of predefined boilerplate texts and entire templates.

Reading out measurement data and evaluating them graphically, managing measuring projects and generating reports: all in one and easier than ever before, with MultiMeasure Studio Professional.

Whether it's a new model you are looking for or a reconditioned one, whether you are thinking of buying or leasing – Trotec provides you the ideal solution for every demand: Visit the Trotec Shop to find out more about great deals on our new products, our super special offers and our wide selection of demonstration, reconditioned and specially-priced products. For more information go to www.trotec.com or directly use the QR Code.



Why make things complicated when they can be easy?



Data read-out and graphic evaluation

MultiMeasure Studio Professional allows you to automatically read out the measurement data of all compatible devices and further enables manual data collection for measuring devices from third-party suppliers. All measured data can be displayed conclusively as a graphic representation with freely definable sections which can be taken over into a report immediately. Export to Excel is also available.



Project management for customer data and measuring operations

MultiMeasure Studio Professional offers you an option for central administration of all measuring sites and customer data with separate customer and invoice addresses. If required, measuring projects can be assigned to another customer by simple drag and drop, and they can also be exported and imported as a whole – very convenient for projects across multiple branches. And thanks to the integrated backup function, you are reliably protected against data loss.



Automated report generating function

MultiMeasure Studio Professional offers an automated function for report generation – an unprecedented feature in the construction sector! Writing brilliant reports has never been that easy: with just one click, you cannot only paste entire fields from your customer or measurement data into the report, but also numerous entirely pre-formulated boilerplate texts for virtually every application.

Thanks to this “integrated reporting system”, in combination with the option of including your own company logo as well as individual headers and footers, you can generate impressively professional reports in next to no time, leaving a lasting, favourable impression on your customers!

Further details regarding the report generating function can be found on page 38



MultiMeasure Studio Professional has a modular design, is easy to learn and available in two editions optimally tailored to the respective requirements:

as a **Pro Module 1** for leak detection, building and mould diagnostics – and as a **Pro Module 2** for water damage restoration companies and the building trade.



Trotec Innovations

Qube+

MultiQube® System

Insulation Dryers

Water Separators

HEPA Filters

Fact Check

Drying Control Unit

Software

Accessories for water damage restoration



The **LiveLog** function of Multi-Measure Studio enables an automatic collection of measurement data from compatible device directly during the measurement. This comes in handy for on-site matrix measurements with a Windows tablet or laptop, for instance.



Pro Module 1 – Your number 1 for all measurements

Everything included from building diagnostics to leak detection

Plus extra modules for documentation of mould damage

Using the Pro Module 1 of MultiMeasure Studio Professional, experts do not only benefit from the possibility of direct measurement data read-out and graphic evaluation of all compatible measuring devices, they can also manually record and evaluate data from other devices – and all of that, plus customer data administration, included in one application.

As the number of mould damages in buildings does not only increase in the public perception, more and more experts offer professional damage analysis as part of their standard scope of services. At the same time, however, a uniform standard for assessment and documentation was missing. Now, MultiMeasure Studio Professional can finally close this gap.

Even the results of purely imaging methods can be integrated effectively – after all, it is the final result that counts. Here, the Pro Module 1 can score with its unique report generating function: it contains pre-formulated boilerplate texts for all methods used in the area of building diagnostics, which makes professional report generation faster and easier than ever before.

Working in close dialogue with many experts, we have elaborated systematically comprehensive boilerplate texts for mould diagnostic examinations and integrated them into the Pro Module 1.

Measuring projects, customer data, documentations – everything centrally organised in one application.

This way, you have a universally usable standard reference for the assessment and documentation of mould damage at your disposal. Ranging from contact sampling to disclaimer, the Pro Module 1 contains basically all boilerplate texts required for a fast and professional generation of your mould reports.



The Pro Module 1 offers comprehensive boilerplate texts for all measurement methods:

- Capacitive moisture measurement
- Resistance measurement method
- Microwave measurement
- Hygrometric examinations
- Endoscopy and pipe camera inspection
- Dye analysis
- Gas detection method
- Audio frequency and correlation analysis
- Thermography and IR thermometers
- Potential difference measurements
- Flue gas method
- Anemometer
- CM measurement method
- Contact sampling (mould diagnosis)



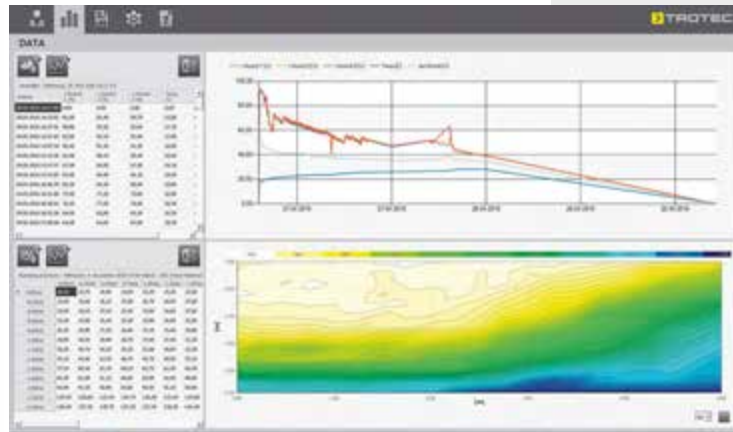
Pro Module 2 – Double benefit for water damage restoration companies and the building trade

Faster results – perfectly synchronized

Using the Pro Module 2 of MultiMeasure Studio Professional, water damage restoration and construction companies can save a great deal of time and thus money.

Carry out and administer your moisture and climate measurements for determining the damage and results and assign the data to different customers with only one application.

What damage was found, when was the building dry, on what day were the devices de-installed? The Pro Module 2 of MultiMeasure Studio provides the answers to all of these questions, and thanks to its automated report generating function it can be used for creating professional measurement reports, drying documentation and even offers with just a few clicks.



From humidity matrix to climate series measurement – using the Pro Module 2, all measured data can be read out centrally, evaluated graphically and also exported to Excel if required.

And thanks to the integrated data synchronization with MQ-Datamonitor, you can also read out the measured data of any currently used drying control units at all times, and you are ideally prepared to create detailed final reports, which are increasingly demanded by insurance companies for instance.

All project data can be exported and imported as needed. This allows for a simple measurement data exchange between several branches of a company.

Pro Module 2 – Your benefits

- Measurement, assessment, drying progress, final report – all measured data included in one application
- Automated report generating function with specific boilerplate texts for climate and moisture measurement, water damage restoration and construction drying
- MQDatamonitor synchronization for directly reading out the measurement data of all active drying control units



Trotec Innovations

Qube+

MultiQube® System

Insulation Dryers

Water Separators

HEPA Filters

Fact Check

Drying Control Unit

Software

Accessories for water damage restoration



Automated report generating function with completely pre-formulated and entirely editable boilerplate texts* for

- Leak detection and building diagnostics
- Mould diagnostics
- Climate and moisture measurement
- Water damage restoration
- Construction drying
- Plus complementary function for individual boilerplate texts

Including complete templates* for

- Measurement report Building diagnostics / thermography
- Measurement report Non-destructive leak detection
- Measurement report Mould diagnosis
- Measurement report General moisture measurement
- Offer Water damage restoration / construction drying
- Final report Water damage restoration / construction drying

Automated reports – ingeniously easy to manage for simply brilliant reports

Report? Completed!



A proverb says: He who writes, remains. Our reply is: He who writes, primarily spends longer office hours.

Better save this time and leave both, the office and a lasting impression: create outstanding measurement reports in next to no time using the ingenious automated report generating function of MultiMeasure Studio Professional.

This software function is unique in the building sector: with just one click, you cannot only paste entire fields from your customer or measurement data into the report, but also numerous entirely predefined boilerplate texts and templates for virtually every application.

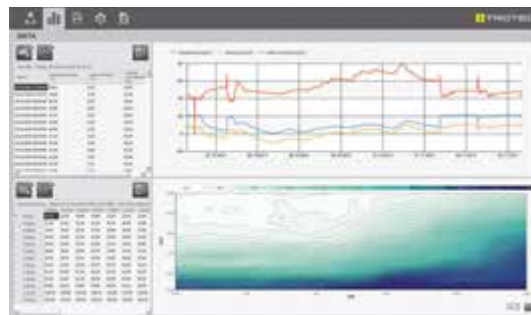
All text elements can be readily adopted for your operation report, adapted and, if necessary, completely edited. Moreover, for quick access, you can store your own boilerplate texts permanently in the software database. These texts will always be retained despite software updates.

Thanks to this “integrated reporting system”, in combination with the option of including your own company logo as well as individual headers and footers, you can generate impressively professional reports in next to no time, leaving a lasting, favourable impression on your customers!



Always up-to-date

The range of boilerplate texts available is constantly extended by us, and new texts will automatically be added to your software via the update function. This way, your reports will always be the state of the art.



* Depending on the Pro Module, see overview table on page 39

Measurement data management, graphic evaluation and report generation become faster and easier than ever before using MultiMeasure Studio Professional: read out measured data of different devices and assign them to the respective projects and customers. Data series and graphic evaluations can be directly included in reports, which practically write themselves thanks to a report generating function with a large number of predefined boilerplate texts and templates.



Functions of the MultiMeasure Studio editions by way of comparison		Standard	Professional		Trotect Innovations
			Pro Module 1 MT/SCHIM	Pro Module 2 WSB/BT	
Software update function (online)		■	■	■	Qube+
Firmware update function (online) for compatible devices		■	■	■	
Data read-out of compatible devices		■	■	■	MultiQube® System
Number of storable measurements		30	unlimited	unlimited	
Evaluation of measuring projects with chart function		■	■	■	Insulation Dryers
Combined customer and measurement data administration		■	■	■	
Backup function		–	■	■	Water Separators
Export function for entire measuring projects		–	■	■	
Import function for entire measuring projects		–	■	■	HEPA Filters
Export function to Excel		–	■	■	
Automated report generation		–	■	■	Drying Control Unit
Boilerplate text update function (online) *		–	■	■	
Included boilerplate texts for report generation, completely pre-formulated and entirely editable	Boilerplate text package Leak detection and building diagnostics	–	■	–	Fact Check
	Boilerplate text package Mould diagnosis	–	■	–	
	Boilerplate text package Climate and moisture measurement	–	■	■	
	Boilerplate text package Water damage restoration	–	–	■	
	Boilerplate text package Construction drying	–	–	■	
Complementary function for individual boilerplate texts		–	■	■	Software
Data synchronization with MQDatamonitor		–	–	■	
LiveLog function for compatible devices		■	■	■	Accessories for water damage restoration
Matrix evaluation for compatible devices	Surface representation	■	■	■	
	Optional contour representation	–	■	■	
	Available colour schemes	1	unlimited	unlimited	
	Freely definable colours	–	■	■	
Manual input of measured values	Matrix	max. 5 x 5	unlimited	unlimited	Drying Control Unit
	X-Y diagram	max. 5	unlimited	unlimited	
Device compatibility	T3000 multifunction measuring meter with all SDI sensors	□	■	■	
	T210 hygrometer	□	■	■	
	T260 IR thermohygrometer	□	■	■	
	T510 wood and building moisture measuring device	□	■	■	
	T610 material moisture measuring device	□	■	■	
	T660 material moisture measuring device	□	■	■	
	DL200 (H, D, L, P, X) data loggers	–	■	■	
	BL30 data logger	–	■	–	
Trotec measuring devices to be launched *		–	■	–	
Delivery		download	download plus dongle		Software
■ Entire function available for this edition □ Without report generating function, max. 30 storable measurements * All updates included for 12 months, afterwards only with optional maintenance licence			Pro Module 1 art. no. 3.510.204.011	Pro Module 2 art. no. 3.510.204.012	
			Pro Module 1 plus Pro Module 2 art. no. 3.510.204.013		Accessories for water damage restoration
Required operating system: Windows XP or higher; Available languages: German, English, French, Italian, Dutch, Danish, Finnish, Swedish, Polish and Turkish					

By the way: Even in between large version updates, we provide MultiMeasure Studio Professional with new appealing features on a regular basis – fully automatically through software updates. Hence, you will be able to always use the cutting-edge version of this software. And in case you are still missing a particular function, simply contact us. After all, one of the strong points of MultiMeasure Studio Professional is the fact that it was designed in close dialogue with users for their specific working practice. We will be pleased to examine your suggestion and try to integrate it.

A FEW PRACTICAL BENEFITS:

Development, design, production:
100 % Trotec

High dehumidification performance
even at low temperatures

Professional condenser dryer with
powerful rotation compressor

No "china product" –
professional quality made in EU

Comfort function for quiet
dehumidification operation

Maximum protection against dust and
moisture for all electrical components

Compressor overheating protection
with automatic switch-off function

Super-compact construction,
easy to carry, simple to stack

Integrated condensate pump with
a delivery head of max. 10 m

Extremely maintenance-friendly
design

MID-compliant dual counter for
operating and kilowatt hours

Compact commercial dehumidifier TTK Qube

Low-noise "power cube" from EU manufacturing for professional drying applications – ultra-compact, efficient, quiet



Multi-stackable construction with four recesses on the upper side of the housing to accommodate the feet

The TTK Qube combines all performance requirements of a professional living space dryer – condensed in an ultra-compact design

Particularly in the case of water damage restoration, the aim is to remove moisture from the highly humid air in the shortest possible time. What restoration companies need for this purpose are professional condenser dryers for continuous use with a high dehumidification performance, lifetime and reliability.

What restoration companies no longer need are large, heavy devices that can only be manoeuvred across storeys with great effort and also take up a lot of space in the service vehicle, which sometimes requires driving to the site of operation several times.

TTK Qube – reduction to the maximum

The TTK Qube does not make water damage drying itself any easier – but much easier to handle. The TTK Qube is a high-quality, powerful condenser dryer whose development has been based on three priorities: Maximum dehumidification performance and easy maintenance, minimum dimensions and weight, lowest possible noise emission for use in inhabited surroundings.

All these requirements are met by the TTK Qube with flying colours!





TTK Qube – professional compact condenser dryer – newly defined

The TTK Qube's high-quality rotation compressor is able to offer higher performance at a comparatively lower power consumption – while also having reserves for high dehumidification performance, even in unheated rooms. Additionally supported by a comfort function for extra-quiet dehumidification operation – ideal for water damage restoration in inhabited surroundings.

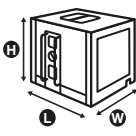
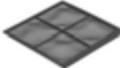


Moreover, the professional automatic hot gas defrost system of the TTK Qube guarantees a much more efficient dehumidification performance compared to other defrost systems as there are no defrost pauses at regular intervals during which no dehumidification takes place.

The condensate can be drained through the external outlet even across storeys because the standard condensate pump is designed for a delivery head of up to 10 metres.

A special enclosure of the electronic components improves the protection against harmful deposits which may enter and impair the functionality and durability. This enclosure makes the compact condenser dryer predestined for use in harsh conditions.

It goes without saying that the TTK Qube is supplied ex works with an MID-compliant combined counter for power consumption and operating hours so that billing can be carried out according to the regulations.



Technical data		TTK Qube
Article number		1.120.000.117
Dehumidification performance / 24 h [litres]	At 30 °C / 80 % RH	16
	Max.	20
Air volume [m³/h]		283
Operating range	Temperature [°C]	5 to 35
	Humidity [% RH]	40 to 90
Input voltage [V/Hz]		220 - 240 / 50
Power input [kW]		0.362
Nominal current consumption [A]		1.7
Refrigerant ¹ Type / Amount [g]		R-1234yf / 140
GWP factor ¹ / CO ₂ equivalent ¹ [t]		4 / 0.001
Sound level (distance 1 m) [dB(A)] standard/comfort mode		53 / 50
Length [mm]		315
Width [mm]		367
Height [mm]		340
Weight [kg]		16
		
Standard equipment (extract) and options		TTK Qube
Automatic hot gas defrosting		■
Hygrostat		■
Comfort function for quiet dehumidification operation		■
Integrated condensate pump		■
MID ² -compliant dual counter for operating and kilowatt hours		■
Compressor overheating protection with automatic switch-off function		■
Protective bars for the control panel		■
Cable holder		■
Stackable construction		■
Available system accessories / recommended accessories		TTK Qube
Air filter (consumables)		Art. no. 7.160.000.014
Professional extension cable (230 V, 16 A)		Art. no. 7.333.000.376
Cable drum PVD2 Further cable drums and power distributors from page 50 ...		Art. no. 7.333.000.367

- Standard equipment
- Optionally available equipment

¹ Functionally, this device contains a hermetic system with fluorinated greenhouse gas as a refrigerant in the specified specifications and with a greenhouse gas potential corresponding to the indicated GWP factor.

² **What does MID-compliant mean?** In some areas, the Measuring Instruments Directive (MID) replaces the previous regulation of national authorization and subsequent calibration. As a result, all energy meters in Europe used for energy consumption-based billing have to be MID-compliant from now on.

A FEW PRACTICAL BENEFITS:

Professional quality
"made in Germany" –
originally produced by Trotec

Extremely powerful radial fan –
max. 1,050 Pa – ideal for venting
even over longer hose distances

Ideal for ventilating cavities and shafts

Air volume infinitely adjustable
to a point of max. 1,250 m³/h

Portable and stackable construction

Equally light and stable construction

Rubber feet at the base and side
for an adaptable vertical or horizontal
operating position

Protective bars for the control panel

Dual counter for operating
hours and energy consumption
(MID compliant *)

Cable holder

Washable air filter

Can be used with fan hoses of
the following diameters: 100 mm,
50 mm and 38 mm



Radial fan TFV Pro 1

Extremely powerful high-performance blower for speeding up the drying process



Robust, yet light, easily portable and stackable, extremely powerful and versatile: TFV Pro 1

With this multifunctional radial fan you will benefit from the smallest, lightest and most powerful high-performance blower on the market – universally applicable e.g. for the ventilation of hollows or speeding up the drying process.

For the TFV Pro 1 our ventilation specialists mustered all their engineering skill to incorporate the most powerful radial fan of its class in an equally light and robust device of the highest quality.

For this reason only the best components were used, all integrated in one powder-coated aluminium housing that is light and robust in equal measure.

In addition to the cable holder, protective bars for the control panel, carrying handle and washable air filter the standard equipment of the TFV Pro 1 also includes a dual counter for both operating hours and energy consumption. The counter's initial factory calibration complies with the MID*, hence it may be used for billing purposes.

- ① Dual counter for operating hours and energy consumption ((MID compliant *))
- ② Monoventic control for the infinite adjustment of air volume
- ③ Shock protection frame

A particular advantage is the integrated Monoventic control that can be used to steplessly regulate the air volume and so to adjust the device for every demand.

An extremely powerful fan ensures that plenty of fresh air arrives even at the end of long hose connections. With unrivalled 1,050 Pa the TFV Pro 1 is definitely a class winner on that score. No other device produces this much pressure! The same goes for the air volume in everyday operation for that matter.



Radial fan TFV Pro 1 – no other device produces this much pressure!



Stackable and versatile

In the standard set-up the TFV Pro 1 generates an optimally distributed broad, near-ground air current, rendering it an ideal accelerator when drying wet flooring or screeds.

Rubber feet at the base and side of the device further permit a vertical or horizontal operating position, so the air can be discharged either sideways or towards the ceiling.

The equally light and robust radial fan can either discharge the air freely, or it can be fitted with adapter plates to variably distribute the fresh air to different areas, hollows or ducts.

It is delivered from the factory for free-blowing operation without an additional adapter plate, which allows you to combine your TVF Pro 1 with the suitable accessories for your respective application requirement as needed. The optionally available adapter plates can be used for connecting either three 100 mm hoses, eight 50 mm hoses or twelve 38 mm hoses.

A complete set of sealing caps is already included in the scope of delivery of each adapter plate and also available separately as replacement accessories.



Technical data	Radial fan TFV Pro 1
Article number	1.510.003.001
Max. air volume [m³/h]	1,250
Air current	Blowing out
Fan stages	Stepless
Max. air pressure [Pa]	1,050
Mains connection [V/Hz]	230/50
Power input [W]	170
Sound values (distance 1.5 m) [dB(A)]	73
Length [mm]	355
Width [mm]	430
Height [mm]	235
Weight [kg]	6
Equipment and functions	Radial fan TFV Pro 1
Dual counter for operating hours and energy consumption (MID compliant *)	■
Carrying handle	■
Cable holder	■
Stackable	■
Protective bars for the control panel	■
Monoventic air volume regulation	■
Washable air filter	■
Rubber feet at the base and side of the device	■
Accessories	Radial fan TFV Pro 1
Hose adapter plate 3 x ø 100 mm with 3 sealing caps	Article number 6.100.005.069
Hose adapter plate 8 x ø 50 mm with 8 sealing caps	Article number 6.100.005.070
Hose adapter plate 12 x ø 38 mm with 12 sealing caps	Article number 6.100.005.071
Spare air filter	Article number 7.160.000.008
Spare sealing caps 100 mm (3 pieces per set)	Article number 7.310.000.303
Spare sealing caps 50 mm (8 pieces per set)	Article number 7.310.000.302
Spare sealing caps 38 mm (12 pieces per set)	Article number 7.310.000.301
Air transport hose Tronect TF-L, ø 100 mm, length 6 m	Article number 6.100.001.115
Air transport hose Tronect PV-A, ø 51 mm, length 45 m (3 x 15)	Article number 6.100.001.020
Air transport hose Tronect PV-A, ø 38 mm, length 60 m (4 x 15)	Article number 6.100.001.010

* What does MID compliant mean? The European Measuring Instruments Directive (MID) has replaced the existing rules of national approval and subsequent calibration in some areas. As a result, all power meters, which are used for energy consumption billing, must be MID compliant in the future.

Connection accessories



TRT-MOKAT-ZUWA-WM-17-EN



VQuick – Quick connection with one click

With the new VQuick connection elements from Trotec you can quickly and easily realize even larger drying installations with many drying holes and hose branches.

Seeing as each counterpart is equipped with a crosswise slot running inside and a clamping collar outside, they can be connected without difficulty.

The VQuick connection is sealed tightly and can be taken apart and reconnected any number of times.



- 1. Air transport hose**
Tronect® PV-A 38, thread-reinforced, ø 38 mm, yellow, length 60 m (4 x 15 m).
Art. no. 6.100.001.010
- 2. Air transport hose**
Tronect® PV-A 51, thread-reinforced, ø 50 mm, black, length 45 m (3 x 15 m).
Art. no. 6.100.001.020
- 3. Aluminium screw connector**
for 38 mm hose.
Art. no. 6.100.009.062
- 4. Sealing plug, cork**
for 50 to 52 mm core drill holes.
Art. no. 6.100.009.080
- 5. Air inlet adapter, rubber**
for 50 to 52 mm core drill holes, for 38 mm hoses.
Art. no. 6.100.009.048

- 6. Air inlet angle adapter, rubber**
for 50 to 52 mm core drill holes, for 38 mm hoses.
Art. no. 6.100.009.050
- 7. Connection sleeves, PVC**
for 38 mm hoses.
Art. no. 6.100.009.055
- 8. T-distributor, PVC**
for 38 mm hoses.
Art. no. 6.100.009.056
- 9. End connector, PVC**
for 50 to 52 mm core drill holes, for 38 mm hoses.
Art. no. 6.100.009.044
- 10. Sealing sleeves**
for PVC end connectors.
Art. no. 6.100.009.046

- 11. Y-distributor, PVC**
for 38 mm hoses.
Art. no. 6.100.009.051
- 12. End connector, aluminium**
(38 mm hose), ideal for 50 mm overhead bores.
Art. no. 6.100.009.052
- 13. End connector, aluminium**
for poly flat roof (38 mm hose) with slotted notch for optimum fastening.
Art. no. 6.100.009.053
- 14. End connector, aluminium**
for flat bitumen roof (38 mm hose) with conical screw thread to screw in bituminous sheeting.
Art. no. 6.100.009.054

- 15. VQuick end connector, PVC**
for 38 mm hose, colour black or yellow.
Art. no. 6.100.009.045
- 16. VQuick air inlet adapter, rubber**
for 38 mm, colour black or yellow.
Art. no. 6.100.009.049
- 17. VQuick air inlet angle adapter, rubber**
for 38 mm hose, colour black or yellow.
Art. no. 6.100.009.047
- 18. VQuick T-distributor, PVC**
for 38 mm hose, colour black or yellow.
Art. no. 6.100.009.057
- 19. VQuick connection sleeve**
for 38 mm, colour black or yellow.
Art. no. 6.100.009.059
- 20. VQuick hose connection**
38 mm, colour black or yellow.
Art. no. 6.100.009.060

BX50 MID

Tamper-proof energy consumption meter with MID-compliance

A FEW PRACTICAL BENEFITS:

Professional measuring device for quickly and easily recording the energy requirement of electric consumers

MID-compliance – approved for the commercial determination of the energy consumption for billing purposes

Sealing slots for safeguarding the plugs in compliance with the Weights and Measures Act (MessEG)

Socket outlet with spring-loaded flap lid to provide protection against pollution when it is not used

Tamper-proof total consumption meter, resettable daily consumption meter

Practice-optimized German industrial design – protected design patent

The ideal supplement for existing devices without MID-compliant meters

Many restoration or craft businesses still use numerous electrical appliances without MID-compliant energy consumption meters.

Such meters, however, are mandatory for determining the electricity consumption for commercial billing purposes, for example for insurances.

Being probably the most compact ready-to-connect energy consumption meter with MID-compliance* on the market, the BX50 MID is the ideal solution.

The BX50 MID is simply plugged between the electrical appliance and a normal household safety socket (230 V/AC) and does not involve any further installation effort. **



Technical data energy consumption meter BX50 MID

Art. no. 3.510.205.950

- MID-certified active power meter, non-resettable
- IP51 type of protection
- Protection class II
- Maximum performance 3,680 W / 16 A
- Measuring range 57.5 to 3,680 W
- Measuring category CAT II (600 V)
- Accuracy class 1 IEC 62053-21, class B EN 50470-1/3
- Digital display of voltage (V), power (W), current (A), frequency (Hz), power factor (cos φ), max. electricity demand [W] and absolute consumption [kWh]
- Dimensions / weight: 77 x 63 x 118 mm / 155 g



Furthermore the BX50 MID is the only energy consumption measuring instrument in its class on the market, which comes equipped with two integrated sealing slots.

This utility model-protected solution enables users to properly safeguard the plug installation, for example by means of consecutively numbered pull-up seals, which are optionally available as accessories.

PlugSafe

Tamper protection for service sockets when measuring the energy consumption



The PlugSafe base plates are designed for built-in sockets with flange mounting. Two opposing, diagonally arranged angle brackets permit the safe application of the socket in accordance with the regulations e.g. by using a consecutively numbered seal. PlugSafe can be used for protection both with an inserted power consumer or when the socket's cover is shut.

The usage of MID-compliant counters is legally required for further electricity cost calculations.

If the devices are moreover equipped with a service socket, the German Measurement and Calibration Act (MessEG) requires that no additional or no other power consumer than the one already connected can be plugged in.

The smart solution for this task comes in the shape of Trotec's innovative PlugSafe base plate.

This patented base plate design for built-in sockets with flange mounting permits the assembly just underneath the existing service socket and its safe application in accordance with the regulations by use of a seal.



PlugSafe

Base plate for built-in sockets with flange mounting. Standard colour: black, 10 pieces per package.

Article number 6.100.002.083



Available accessories:

Seals

Plug and socket protection using PlugSafe / BX50 MID. Numbered consecutively, length 500 mm, 100 pieces per package.

Art. no. 6.100.002.090



The imprinted identification number of each seal is additionally represented as a universal barcode which can be easily scanned for purposes of documentation.



Multiple socket outlet PV4-MID PS

Easily handling the building site power supply in line with the regulations



The multiple socket outlet equipped with PlugSafe for variable indoor and outdoor application is a robust quality product that facilitates the usage in accordance with MID, MessEG and MessEV.

The PV4-MID PS is intended for the operation at proper building-site power distributors and meets the requirements of BGI 608 with respect to switching devices and distributors for circuits with sockets.**



- Ideal for rough operating conditions on ever-changing construction sites
- Integrated MID-compliant* energy consumption meter
- PlugSafe – socket protection suitable for sealing in accordance with the MessEG regulations
- Residual current device and energy consumption meter protected underneath lockable sealing cap
- Four safety sockets with self-closing hinged covers
- IP44 type of protection
- Oil- and UV-resistant cable (H07RN-F)



Technical data multiple socket outlet PV4-MID PS

Art. no. 6.100.002.085



- Multiple socket outlet made of IP44 solid rubber with integrated carrying handle
- Safety sockets: 4 pcs.
- Residual current device: 1 x 25 A, 4 p, 0.03 A (RCCB, type A)
- MID meter: 6 digit LCD, 1 tariff register, non-resettable
- Supply line: H07RN-F 3G2.5 with safety plug CEE 7/7, length 2 m
- L x W x H: 430 x 98 x 115 mm
- Weight: 3 kg

* What does MID-compliant mean?

MID-compliant counters correspond to the European Measuring Instruments Directive (MID) that defines the requirements for active power meters used for billing purposes. This also applies to, say, the energy consumption measuring for recharging to insurance companies or customers. The former initial factory calibration is now replaced by the MID compliance, however, the devices have to be re-calibrated after a defined period of time – for instance after 8 years in case of electronic counters in Germany.

** Please note that a BGI 608-compliant plug adapter must be used when operating the PV4-MID PS on construction or installation sites at a socket of the building's wiring with unknown protective measures.

Extension cables

Professional solutions from German quality manufacturing



These robust extension cables of German high-quality manufacturing with an IP44 type of protection are perfectly suited for the heavy-duty use on building sites and in the commercial sector.

The hard-wearing cable sheath in yellow safety colour consists of oil- and acid-resistant neoprene rubber, applicable in the ambient temperature range from -25 °C to +60 °C.

230 V extension cable, 16 A, H07RN-F 3G2.5



Cable length 20 m, 230 V, 16 A, cable cross-section 2.5 mm²,

plug and coupling CEE 7/7, type of protection IP44, solid rubber plug and coupling, safety contact coupling with sealing cap.

Art. no. 7.333.000.376



400 V extension cable, 16 A, H07RN-F 5G2.5



Cable length 20 m, 400 V, 16 A, cable cross-section 2.5 mm²,

plug and coupling CEE 16 A, type of protection IP44, coupling casing with integrated cover plate.

Art. no. 7.333.000.374



400 V extension cable, 32 A, H07RN-F 5G6



Cable length 20 m, 400 V, 32 A, cable cross-section 6 mm²,

plug and coupling CEE 32 A, 5-pin, type of protection IP44, coupling casing with integrated cover plate.

Art. no. 7.333.000.379



Further available:

230 V extension cable, 16 A, H05RRR-F 3G1.5



Cable length 15 m, 230 V, 16 A, cable cross-section 1.5 mm², plug and coupling CEE 7/7, type of protection IP44, UV-resistant and able to withstand high levels of mechanical stress, PVC-connector and PVC-socket, safety contact coupling with sealing cap.

Art. no. 7.333.000.372



A FEW PRACTICAL BENEFITS:

Socket combination
as per EN 61439

Hinged inspection window
for MCBs in housing cover

Fold-down V2A carrying handle

Take-up facility for
connection cable

IP44 type of protection

Stackable construction

Mobile power distributors

Mobile power distribution made easy –
as safe as it is simple



The stackable design of all PV power distributor housings allows to stack up several housings so as to save space, also with different PV model types.



All sockets are equipped with self-closing spring-loaded flap caps.



With IP44 type of protection these mobile distributors of robust plastic are equally suitable for indoor and outdoor application. The solid, high-quality plastic housing is optimally prepared for harsh environmental conditions.

The dust and splash-proof mobile distributors are characterized by a high (notched bar) impact strength, a high thermal stability, dielectric strength, weather and UV resistance, pp abrasion resistance and a good resistance to plenty of chemicals.

Easy transport, space-saving storage

To ensure easy transport, all power distributors are equipped with a fold-down V2A carrying handle and a take-up facility for the 2-m connecting cable. In the warehouse, the distributors can be stacked to save space.



PV power distributor in original Trotec brand quality – always there and full of energy



PV16



PV30



PV32

Special protective properties are provided by the circuit breakers and, for PV16 and PV32, the standard residual-current-operated protective device (RCD) which are mounted in the housing cover, well protected under a visual hatch window.

Power distributor PV16



Power distributor PV30



Power distributor PV32



Technical data

Art. no. 6.100.002.075

- CEE sockets: 2 x 16 A, 5 p, 400 V
- Safety sockets: 4 pcs.
- Residual current device: 1 x 40 A, 4 p, 0.03 A (type A 25AT)
- Supply line: H07RN-F 5G2.5 with CEE plug 16 A, 5 p, 400 V, length 2 m
- L x W x H: 250 x 230 x 210 mm
- Weight: 2.8 kg



Technical data

Art. no. 6.100.002.081

- Connector couplings: 2 x H07RN-F-5G2 with CEE coupling 16 A, 5 p, 400 V, length 2 m
- Miniature circuit breakers: 2 x 16 A, 3 p, C
- Residual current device: not included, therefore only permissible for supply points with RCD
- Supply line: H07RN-F 5G4 with CEE plug 32 A, 5 p, 400 V, length 2 m
- L x W x H: 197 x 197 x 200 mm
- Weight: 4.5 kg



Technical data

Art. no. 6.100.002.076

- CEE sockets: 1 x 32 A, 5 p, 400 V, 1 x 16 A, 5 p, 400 V
- Safety sockets: 3 pcs.
- Residual current device: 1 x 63 A, 4 p, 0.03 A (type A 40AT)
- Miniature circuit breakers: 1 x 16 A, 3 p, C, 1 x 16 A, 1 p, C
- Supply line: H07RN-F 5G6 with CEE plug 32 A, 5 p, 400 V, length 2 m
- L x W x H: 250 x 230 x 210 mm
- Weight: 4.1 kg

Trotec exclusive: PV30 – ready-to-connect power current solution for 16 A consumers



If several 16 A three-phase current devices have to be operated on site, the connection options available on the construction site can be fairly limited.

This is because common surface-mounted socket combinations usually house only one additional 16 A CEE socket outlet in addition to a 32 A CEE socket outlet. This combination can also often be found in mobile construction site power distributors. In addition, suitable connection cables are required in sufficient quantities.

The robust mobile distributor PV30 is the optimal solution in such cases.

As a completely ready-to-connect power distributor, the PV30 is equipped with two 16 A connector couplings in addition to a 32 A plug. The input line and both output lines are each equipped with a two-metre connection cable, so that even missing cables are no obstacle on site. At the same time, a sufficient operating range when installing the device is always maintained.



The PV30 is also the ideal connector accessory for the multi-air handler TAC XT 18 equipped with two 16 A device plugs.

Trotec Innovations

Qube+

MultiQube® System

Insulation Dryers

Water Separators

HEPA Filters

Fact Check

Drying Control Unit

Software

Accessories for water damage restoration

A FEW PRACTICAL BENEFITS:

Cable drum made of high-quality plastic with IP54 type of protection and self-closing safety sockets

Convenient carrying characteristics due to ergonomic handle

Additional safety due to thermal protection switch

Drainage through openings in the drum

Stable crank for optimum handling

Braking system integrated centrally in the axis

Slots for safe plug storage

Secure footing due to broad support points

Cable drums

PVD – the synonym for high-quality cable drums from Trotec for construction sites, workshops or industrial applications

There are many cable drums, but there is only one original PVD cable drum series from Trotec – our best recommendation for choosing your cable drum! Because in the sum of all details, the PVD series can score in every respect with professional users. This model series does not only offer you everything you expect from a professional cable drum, but also many convenient additional functions.



Maximum mobility

All cable drums of the PVD series are supplied as standard with an extremely robust drum body made of high-quality, unbreakable plastic, which has drainage recesses, an integrated cable brake and connector storage spaces.

The integral carrying handle is shaped ergonomically and placed in an ideal centre of gravity to ensure convenient transport.

Maximum flexibility

With their large operating range, which is due to the connecting cable with a length of up to 40 metres, and up to four dust- and splash-proof 16 A safety sockets, the PVD cable drums provide you with a flexible power distribution for electrical work at virtually all locations – the best prerequisites for indoor and outdoor use on construction sites and in workshop or industrial areas.

Maximum safety

The non-tilting cable drums of EU high-quality manufacturing with an IP54 type of protection are perfectly suited for the rough operating conditions on construction sites and in the commercial sector. The hard-wearing cable sheath consists of oil- and acid-resistant neoprene rubber, which is suited for ambient temperatures ranging from -25 °C to +60 °C, and is equipped with a solid rubber CEE 7/7 plug.

A thermal circuit breaker integrated as standard and a central braking system for the drum provide additional safety in all PVD cable drums.




TRT-MQKAT-PVDK-WM-01-EN



PVD cable drums – safely equipped

Consistently designed for professionals:

 With consistency, all Trotec cable drums of the PVD series were specifically developed for professional applications in rough operational environments. Jamming sockets or sluggish plugging in and unplugging are out of place here. This is why we have deliberately dispensed with a child protection mechanism for the sockets of these cable drums.



Convenient carrying characteristics due to ergonomic handle



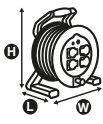
Additional safety due to thermal protection switch and operation indicator (depending on the model)



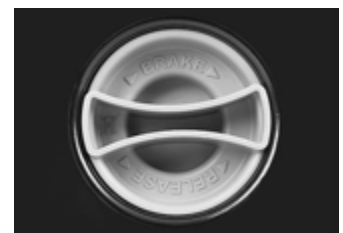
IP54 safety sockets with spring-loaded flap caps



Drainage through openings in the drum

Technical data		PVD2	PVD3
Article number		7.333.000.367	7.333.000.368
Safety sockets	Number	3	4
	Type of protection	IP54	IP54
	Lock	self-closing spring-loaded flap cap	
Connection cable	Length [m]	25	40
	Type	H07RN-F 3G	H07RN-F 3G
	Colour	black	black
	Cross-section of the pipe [mm ²]	1.5	2.5
Type of protection		IP54	IP54
Max. power [W]	rolled up	1,300	1,250
	unrolled	3,600	3,500
Rated voltage [V]		250	250
Nominal current consumption [A]		16	16
Length [mm]		240	254
Width [mm]		280	338
Height [mm]		353	409
Weight [kg]		8	10
			
Functions and features		PVD2	PVD3
Thermal protection switch		■	■
Operation indicator		–	■
Braking system		■	■
Drainage through recesses in the drum		■	■
Crank		■	■
Feet with storage spaces for plug		■	■
Ergonomic carrying handle		■	■

■ Standard equipment; □ Optional accessories



Braking system integrated centrally in the rear of the axis



Slots for safe plug storage



Stable crank for optimum handling



Secure footing due to broad support points

Trotec Innovations

Qube+

MultiQube® System

Insulation Dryers

Water Separators

HEPA Filters

Fact Check

Drying Control Unit

Software

Accessories for water damage restoration

Core drill TKB 2000



Fast and dry core drilling – no water ...

The core drill TKB 2000 with diamond core bit is the ideal tool for freehand drilling of drying holes in screed or brick walls and for core drilling in many other materials.

The compact system is ready for immediate use and impresses with its attractive value-for-money ratio, small space requirements and uncomplicated handling. The drilling unit enables easy handling also for left-handers!

The robust diamond core bits can be reinserted and are available as optional accessories in various sizes and designs.

The dry core drill EHD 1300 included in the scope of delivery with smooth start-up, overload cut-off and temperature monitoring is ideally suited for dry drilling in asphalt, cement screed, brick walls and similar materials.

The drilling unit provides additional protection by means of its mechanical safety clutch: If the tool is jammed or stuck, the drill spindle drive is disconnected.

TKB 2000 Complete Set
Art. no. 6.100.000.170

1. 1-speed dry core drill Eibenstock EHD 1300
2. Drill bit retainer with dust collection system for all available high-quality drill bits
3. Assembly tools
4. Drill bit adapter
5. Diamond core bit \varnothing 50 x 160 mm
6. Transport case



Optionally available accessories for core drill TKB 2000:

- Diamond core dry drill bits for drilling brick walls and the like incl. positioning aid, available in different effective lengths and diameters (not suited for concrete and ferroconcrete)
- Diamond core dry drill bits with additional surface hardening. Relieve the boring machine and enable still quicker and easier drilling. With up to ten times can be refitted more often than conventional drill bits.
- Wood drill bits in different effective lengths and diameters for drilling through wooden walls and timber beam ceiling constructions
- Drill bit extension

Stainless steel border joint nozzle



Comparison pays – also in case of the equipment accessories, which are only “marginally” required ...

Numerous providers offer many different versions of border joint nozzles – but not all of them can keep what they seem to promise at first sight.

The Trotec border joint nozzle was developed by experienced fluid mechanics engineers and comes with an optimum exponentiated flow geometry.

Their elastic, high-quality cellular rubber seals come with a very good resilience value and always perfectly adjust to the surface irregularities of floor and walls.

With the Trotec border joint nozzle the width or condition of the screed border joint is irrelevant, since it is not part of the sealing system.

Here, wider joints also yield a good efficiency factor, because the sealing system is designed variably applicable to a joint width of 35 mm and the air current can use this larger cross-section without hindrance.

A FEW PRACTICAL BENEFITS:

Optimum flow geometry

Elastic cellular rubber seals

Flexibly applicable for joint widths of up to 35 mm

Robust stainless steel construction

Bevelled clamping plates with little displacement volume



Furthermore, the Trotec border joint nozzle comes with especially slanted clamping plates which do not compress residual screed when inserted in the joint, but push it aside instead. Owing to the curvature, there is little resistance when inserting the nozzle.

Trotec border joint nozzles are robust and durable high-quality products “made in Germany” with practice-optimized construction details and best possible flow geometry!

Original Trotec border joint nozzle, stainless steel
for 38 / 50 mm hoses, 300 mm wide.
Article number 6.100.009.010



You need individual, application-specific accessories?

Whether special constructions or custom-made items for specific applications – we manufacture them according to your individual wishes in our own specialist workshop.

Just contact us, we would be happy to provide further assistance!



Whether it's a new model you are looking for or a reconditioned one, whether you are thinking of buying or leasing – Trotec provides you the ideal solution for every demand: Visit the Trotec Shop to find out more about great deals on our new products, our super special offers and our wide selection of demonstration, reconditioned and specially-priced products. For more information go to www.trotec.com or directly use the QR Code.

Door gap nozzle PlanoPro



Flow-optimised hose connection between closed doors

Modern insulation drying units enable the drying of large areas with only one centrally positioned device installation, from where appropriate hose connections are laid into the concerned rooms.

The application of PlanoPro provides users with significant additional advantages:

- All doors to the rooms to be dried may remain closed.
- The drying installation can be positioned in rooms with the lowest noise level.
- Owing to this noise-optimized site selection the system may be operated in almost every scenario around the clock – also during the night, which leads to a considerably reduced drying period.
- Even security-sensitive premises can be dried effectively without violating a condition, for the doors can be locked and the rooms thus protected against unauthorized access.

Shorter drying periods, more flexibility and higher customer satisfaction are decisive advantages speaking for the use of door gap nozzles.

If door gap nozzle, then PlanoPro ...

The PlanoPro door gap nozzle was especially designed for this purpose by experts and practice-optimized in many elaborate test series.

A FEW PRACTICAL BENEFITS:

- Optimum flow geometry
- Patented construction
- No “whistling noises”
- Versatile
- Small, light and handy



Only the patented PlanoPro door gap nozzle works according to a fluid mechanics method with optimum flow design, which ensures a substantially higher flow rate as opposed to competitive products.

The PlanoPro door gap nozzle generates no “whistling noises” as can arise from conventional nozzles. Such “whistling” is not only disturbing, but also vivid proof of the performance loss and poor flow geometry.

Using PlanoPro you'll benefit from a high flow rate on restricted space. With all common door dimensions two PlanoPros can also easily be installed side by side.

Regarding accessories also put your trust in the advantages of a grand brand:

The patented door gap nozzle PlanoPro is a robust and durable high-quality Trotec product with practice-optimized construction details and best possible flow geometry!

Aluminium joint crossing system



The original for systematic damage-minimizing drying processes

Using the cross joint procedure, insulation layer sections underneath grouted top surfaces can be dried without having to destroy them for core drill holes – ideal for the preservation of valuable or hard-to-replace floor covering such as tiles or other hard covers with jointing.

Unlike conventional cross joint distributors provided with a head end hose connection, the 38 or 50 mm hose of the Trotec joint crossing system is attached lengthwise.

This on the one hand leads to very favourable pressure and flow conditions with little turbulences and on the other hand provides the advantage that the joint crossing system can be extended any number of



times for large drying areas by use of the optional coupling, if required.

A FEW PRACTICAL BENEFITS:

- Professional quality “Made in Germany” – originally produced by Trotec
- The ideal solution for the preservation of grouted surfaces during insulation drying
- Optimum flow geometry
- Robust aluminium construction



Trotec aluminium joint crossing system can be extended any number of times, for 38/50 mm hoses. With 10 quick-lock couplings incl. hose and ground tips. Article number 6.100.009.020

Cross joint coupling to extend the joint crossing system. Article number 7.200.000.003



Original Trotec PlanoPro 4
Patented door gap nozzle to connect two 38/50 mm hoses, 400 mm wide. Inclusive of abrasion-resistant protector for sensitive top floor layers. Article number 6.100.000.160

A FEW PRACTICAL BENEFITS:

Professional quality
"made in Germany" –
originally produced by Trotec

Optimum solution if tiles are available
on site or can be procured for
replacement

Existing tiles can be lifted and
reinserted after completed restoration
without risking damage

No visual impairment of the
appearance

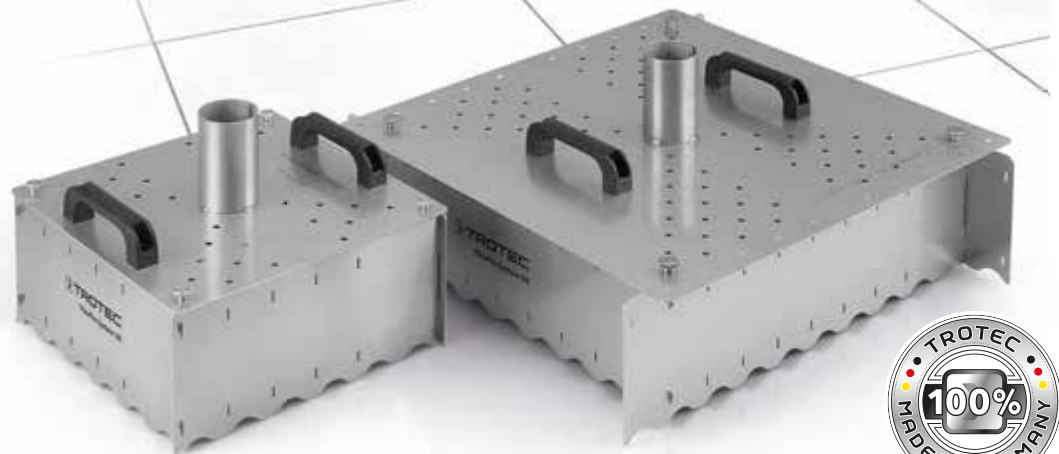
Suitable for the restoration of
larger areas

Patented system with adjustable
chamber for square and rectangular
tiles sized up to 30 cm or 50 cm

Carry handles made of thermally
non-conductive material

TilexPro – the tile lifting system for professionals

Removing and storing tiles without causing damage – by means of the patented original Trotec system



If the insulation layer has to be dried after water damage, flooring such as tiles, natural stone or parquet is often in the way.

If the flooring is damaged in the course of repairing the cause of water damage or during the drying process, at worst the entire top floor layer has to be replaced. This is not only time-consuming and expensive, it also entails considerable dirt, dust and noise exposure for the customer.

With ceramic top surfaces many restoration companies therefore rely on the non-destructive tile removal by use of the patented TilexPro system from Trotec.

The removal and concluding reuse of the concerned tile is the preferred method, when spare tiles are available for replacement and a visual impair-

ment of the flooring is unwanted by the customer.

Only with this method is it possible to completely remove several tiles in order to uncover the floor for repair work after a pipe burst.

Upon completion of the restoration task the removed tiles are simply reinserted and re-grouted.

Easy tile removal with TilexPro:

- Use a joint cutter to bare the tile
- Adjust the system chamber to the tile size, position it, then apply heat by means of a hot air blower
- Detach the tile from the ground without causing any damage and reinsert it after the restoration work has been completed

The TilexPro system is characterized by practical details:

Depending on the model, the system chamber can be adjusted to all common tile formats – square and rectangular – sized up to 30 cm or 50 cm.

TilexPro comes with carry handles of thermally non-conducting material – that way, the heated chamber can be put aside from the respective tile without the need of wearing protective gloves to remove it.

Preserving tiles and saving costs – no problem with the TilexPro!



Scope of delivery and accessories:

TilexPro system 30
for tile formats sized up to 30 cm
Art. no.: 6.100.000.050

TilexPro system 50
for tile formats sized up to 50 cm
Art. no.: 6.100.000.052

Every TilexPro system consists of the system chamber and an optionally available hot air blower.



TilexPro system 50

Further recommended accessories for using the system are a joint cutter and a combination device to remove the adhesive residues from tile and ground, for instance the PMTS 10-230V from Trotec.

TRE-MDKAT-FLAS-WM-05-EN



Whether it's a new model you are looking for or a reconditioned one, whether you are thinking of buying or leasing – Trotec provides you the ideal solution for every demand: Visit the Trotec Shop to find out more about great deals on our new products, our super special offers and our wide selection of demonstration, reconditioned and specially-priced products. For more information go to www.trotec.com or directly use the QR Code.

**Compact and robust:
Powerful baton-shaped
professional hot air blowers
with air volume regulation
and temperature control.**

Technical data

Article number	6.100.000.058
Max. air volume	320 l/min
Air pressure	3,000 Pa
Input voltage	230 V / 50 Hz
Power	3,400 W
Temperature	20 °C - 650 °C
Temperature / air volume control	infinitely variable / –
Length of power cable	2.9 m
Weight approx. (incl. cable)	1,560 g



Trotec HyStream 3400

**Our tip if there are no spare tiles available
for replacement:**

If tiles cannot be detached without causing damage and replacement tiles are no longer available, the use of Trotec floor inlays may be a suitable alternative for restoration work, provided the customer agrees to a decorative change of the visual appearance.

Without difficulty Trotec floor inlays can be introduced to all standard core drill holes and the use of our floor inlays requires neither a licence partnership nor an expensive special drilling machine.

All inlays are high-quality products and available as a matching or contrasting counterpart for virtually every decor.

Further information can be found on the following catalogue pages...



Multi-function tool PMTS 10-230V

Powerful all-rounder for restoration, expansion and reconstruction

A FEW PRACTICAL BENEFITS:

Trotec brand quality tested for safety by the German Association for Technical Inspection (TÜV)

Powerful 300 W motor with constantly high performance even under load

Quick-release system for accessories exchange without tools within a few seconds

Professional oscillation technology for grinding, scraping, sawing, cutting

Infinitely variable oscillation rate selection with soft start

Accessories can be mounted variably in 12 different working positions

Additional handle for precise guiding and vibration-damped working

Mountable dust extraction system



Application example with optional accessory kit 2 – Bathroom restoration



Application example with optional accessory kit 2 – Bathroom restoration

Technical data: power consumption 300 W; idle speed 15,000 to 21,000 rpm; oscillation angle of 3.2°; input voltage 230-240 V/50 Hz; cable length 2 m; weight 1,300 g; Art. no. 4.420.000.101

Scope of delivery: segment saw blade HSS SM 85/20, plunge-cut saw blade (for wood and metal) BIM CS 75/25, plunge-cut saw blade (for wood and plasterboard) HCS CS 95/40, scraping knife HCS SC 80/30, delta sanding plate, sandpaper, anti-vibration handle, mountable dust extraction system, transport case



Also available as cordless model **PMTS 10-20V** with 20 V lithium-ion battery, 3-stage battery level indication and integrated LED work lamp.
Art. no.: 4.420.000.055

Why not order the best possible accessories for the combined use of TilexPro and PMTS 10-230V as well:

13-piece accessory kit 2 – Bathroom restoration

Article number 6.210.000.102

- suitable for commercially available multi-function tools
- RIFF grinding plate T79 for grinding off tile adhesive, mortar and carpet adhesive residues
- diamond saw blade T64 for milling out joints
- scraping knife HCS SC 80/30 for removing tile adhesive, silicone, mortar and paint residues
- 10 sheets of Velcro sanding triangles for wood: 2 sheets each of grain size 60/80/100/120/240



A FEW PRACTICAL BENEFITS:

Flexible positioning – suitable for all systems

Comprehensive range of colours and decors

Royalty-free solution without contract obligations

Cost reduction due to significantly reduced restoration effort

All expenses can be calculated in advance – no unexpected follow-up costs

Substantially shorter restoration duration

Quicker reusability of the rooms in question

Minimized dirt, dust and noise exposure



Take the floor and impress your customers

No problem at all with Trotec floor inlays



Sample case
Contains all Trotec floor inlays, so your customer has the free choice.
Art. no. 6.100.009.901

Example illustration

Visual restoration made easy

If tiles cannot be detached without causing damage and replacement tiles are no longer available, the use of floor inlays may be a suitable alternative for restoration work, provided the customer agrees to a decorative change of the visual appearance.

Using our floor inlays requires neither a licence partnership nor an expensive special drilling machine.

The only licence you will be getting from us is the licence to save money!

For you can not only save up to 80% of the costs as compared to retiling (plus tiler) – our floor inlays are also

considerably more favourable than comparable competitive products.

Hence the use of our floor inlays is particularly attractive from an economic point of view and gives you a sure prognosis of success for restoration work, on the basis of which you and the insurance company can make reliable calculations.

Trotec floor inlays can be introduced to all standard core drill holes without difficulty.

All inlays are high-quality products and available as a matching or contrasting counterpart for virtually every decor.

Through the visual restoration with Trotec floor inlays water damages can be dealt with in a quick and cost-efficient manner. This increases your return while making your customers happy at the same time.

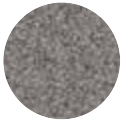


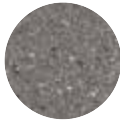
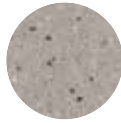
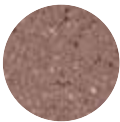

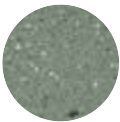





























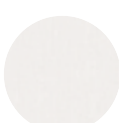


Trotec floor inlays – the whole product range at one glance:

All inlays ø 60 mm

Standard floor inlays of type T

Designation
Article number

						
T1 6.100.009.700	T2 6.100.009.701	T3 6.100.009.702	T4 6.100.009.703	T5 6.100.009.704		
						
T6 6.100.009.705	T7 6.100.009.706	T8 6.100.009.707	T9 6.100.009.708	T10 6.100.009.709	T11 6.100.009.710	T12 6.100.009.711
						
T13 6.100.009.712	T14 6.100.009.713	T15 6.100.009.714	T16 6.100.009.715	T17 6.100.009.716	T18 6.100.009.717	T19 6.100.009.718
						
T20 6.100.009.719	T21 6.100.009.720	T22 6.100.009.721	T23 6.100.009.722	T24 6.100.009.723	T25 6.100.009.724	T26 6.100.009.725
						
T27 6.100.009.726	T28 6.100.009.727	T29 6.100.009.728	T30 6.100.009.729	T31 6.100.009.730	T32 6.100.009.731	T33 6.100.009.732
						
T34 6.100.009.733	T35 6.100.009.734	T36 6.100.009.735	T37 6.100.009.736	T38 6.100.009.737		

Marquetry Inlay of type S

Designation
Article number

				
S1 6.100.009.801	S2 6.100.009.802	S3 6.100.009.803	S4 6.100.009.804	S5 6.100.009.805
				
S6 6.100.009.806	S9 6.100.009.809			

Metal floor inlay of type M

Designation
Article number

	<i>stainless steel, brushed</i>
M1 6.100.009.850	

Recommended floor inlay accessories



Sealing set
Sealing discs with XPS core and mortar coating on both sides, 100-pack, H 6/10/20/30 mm (mixed).
Art. no. 6.100.009.081



Sealing set 2
Cork sealing plug, Ø 50 mm, height 27 mm, 100-item package.
Art. no. KIT0000809



Duplex drill bit
Enables shallow and deep drilling logs at the same time.
Art. no. 6.100.000.176



Water Drilling Machine
Flexible Drill hole creation Ø 8 mm to Ø 120 mm.
Art. no. 6.100.000.177

Trotec Innovations

Qube+

MultiQube® System

Insulation Dryers

Water Separators

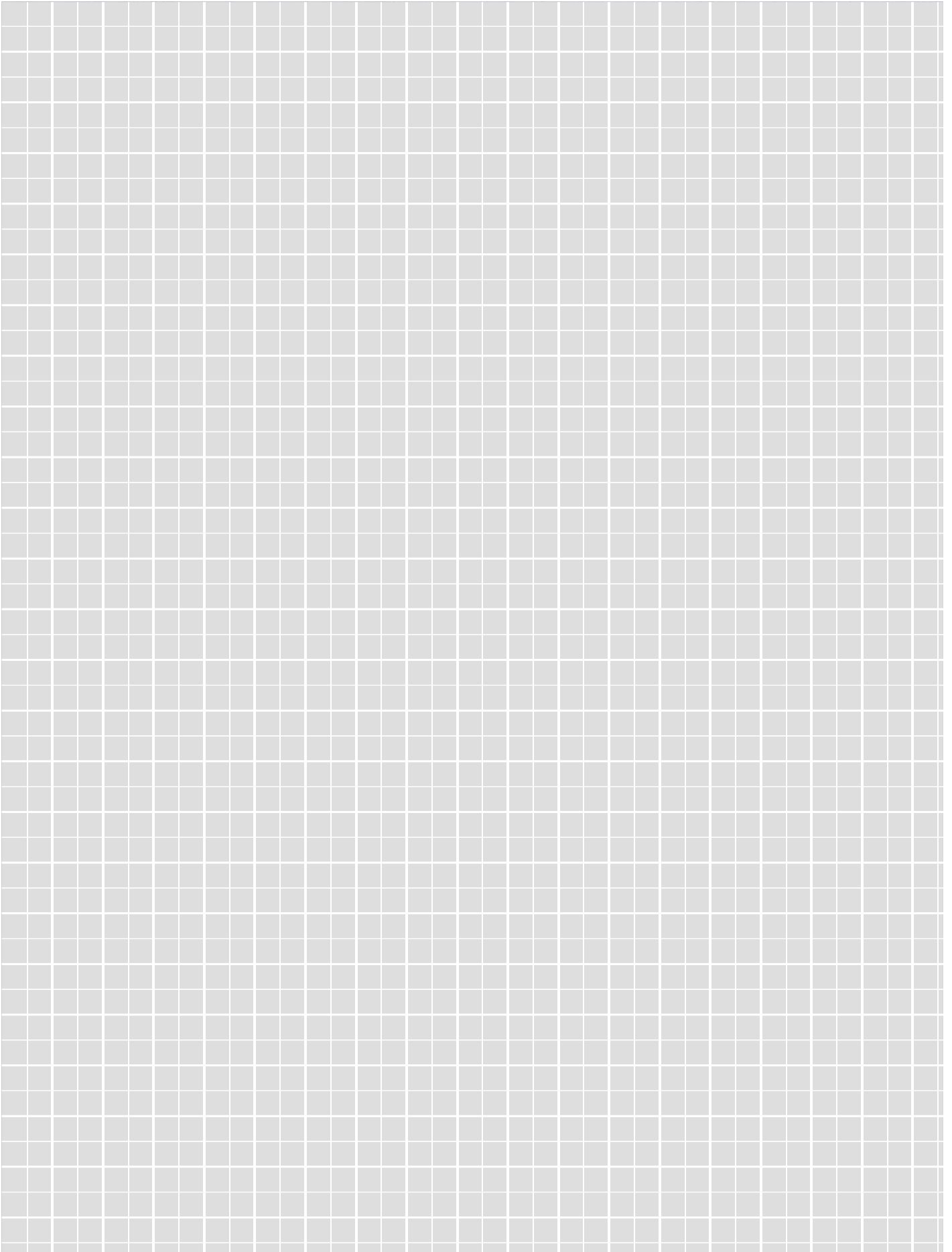
HEPA Filters

Fact Check

Drying Control Unit

Software

Accessories for water damage restoration



READY TO GO.

TOOLS BY TROTEC.



Strong in price and performance.

You have the ideas, we have the tools.

Regardless if you are screwing, drilling, sawing, cutting or sanding – the Trotec PowerTools are convincing in practice. You can rely on reliable brand quality, strong performance and an unmatched price-performance ratio in your work.

- Cordless Screwdriver
- Cordless Drills
- Cordless Hammer Drills
- Cordless Impact Driver
- Cordless Rotary Hammers
- Rotary Hammers
- Drills
- Multifunctional Tools
- Jigsaws
- Circular Saws
- Reciprocating Saws
- Planer
- Multifunction Grinder
- Belt Grinders
- Angle Grinder
- Hot Air Blowers
- Compressors
- Electric Stapler
- Hot Glue Guns
- Battery Work Lights
- Accessories and much more...

 **TROTEC**

AT WORK.

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