

BENEFITS IN PRACTICE:

It already meets the future
Fan Directive ERP2015

Electronic air amount regulation –
Infinitely adjustable

Duoventic principle: Separate infinite
adjustment of moisture content
and volume flow of required dry air
(TTR-D models)

Two separate air circuits for a
pressure-neutral circulatory
air operation (TTR-D models)

Up to 30% lighter than competitive
models with the same performance

Maximum of performance with
minimum of dimensions and weight

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

Extremely low in maintenance

Space-saving and stackable

Tried and tested German industrial
design – protected prototype

Adsorption dehumidifiers from the TTR series

100% TROTEC
DEVELOPMENT • DESIGN • PRODUCTION



**Dry air on or off. Conventional adsorption dehumidifiers frequently
do not offer more options. However, the new TTR series does – and, significantly more:**

Due to high-quality components and an innovative housing design our new TTR air dehumidifiers are the lightest machines of their performance class. The powder-coated steel sheet construction is extremely durable.

The combination of smart equipment features and remarkable performance data turns these machine into universal all-purpose adsorption dehumidifiers for industry and construction.

The TTR dehumidifiers achieve far lower dew points than refrigerator dryers and ensure a high dehumidification

performance even at low air and component temperatures. Competitive machines cannot keep up with them when directly compared with regard to performance and weight.

The infinitely electronically adjustable air amount regulation allows the variable definition of the dehumidification performance and therefore, of the power consumption and noise emission.



All the adsorption dehumidifiers of the TTR series are developed and manufactured according to the highest of quality standards in Germany.



Trotec
Rental Division

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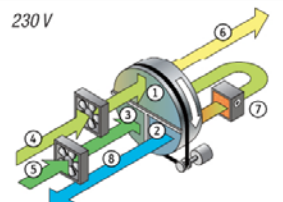
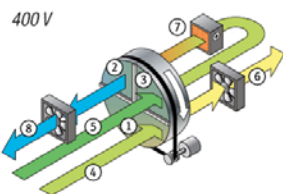
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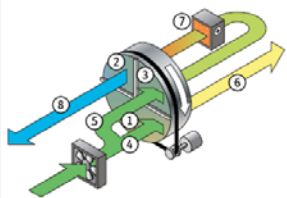
Operation principles of the TTR adsorption dehumidifiers:

TTR Trisorp Dual



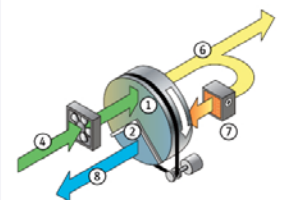
Separate air streaming of process and regeneration air by a fan for each. With purging sector for the heat recycling process for incoming regeneration air.

TTR-Trisorp-Mono



A fan located in front of the rotor for both air circuits. With purging sector for the heat recycling process for incoming regeneration air.

TTR-Bisorp-Mono

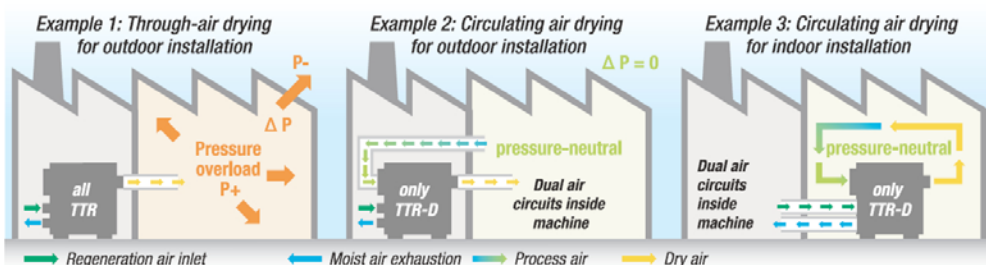


A fan located in front of the rotor for process and regeneration air. For regeneration a partial flow of the dry air is used.

Legend Operation principles:

1. Dehumidification sector
2. Regeneration sector
3. Purging sector for heat recycling process
4. Process air
5. Regeneration air
6. Dry air
7. Heating
8. Moist air

Practice-oriented typical applications: Convincing process advantages through the TTR Trisorp Dual principle



Basically conventional adsorption dehumidifiers are equipped with a common air inlet (mono) for dry and regeneration air, e.g. all Trotec machines that operate according to the Trisorp-mono or Bisorp-mono principle.

These dehumidifiers are not suitable for through-air drying directly in the respective room as a process-related low pressure is generated and therefore drawing air from the outside is blown into the room, whose moisture content cannot be controlled.

An outdoor installation, e.g. in near rooms can be done with all TTR models (Example 1). Due to the ventilation with drier fresh air, a pressure overload is generated, which leads moist air to the outside.

However, with this version the dehumidification rate always depends on the moisture content of the sucked "outdoor air". With a nominal amount of dry air it achieves a reduction in the dew point temperature by approx. 5 to 10 °C (depending on the machine).

Power-saving dehumidification and higher drying rates thanks to circulatory air operation with dual air circuits

The D models operate according to the TTR Trisorp Dual principle with two separate air flows and separate fans for each circuit.

This means that circulatory air operation is also possible with an outdoor installation supplied by a process air circuit that is separated from the "outdoor air" (Example 2).

Even if the D models are installed indoor in a room that is to be treated with dry air, a pressure-neutral circulatory air operation is possible by streaming incoming regeneration air and outgoing moist air out of the room by means of a hose or pipe connection (Example 3).

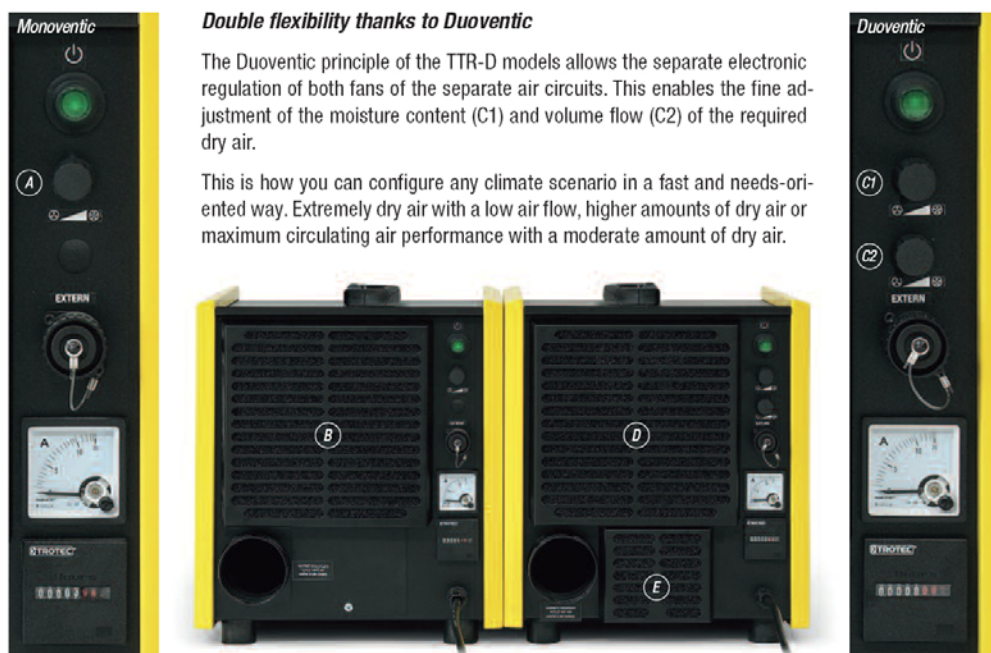
Variable circulating air drying with TTR-D models have decisive advantages for users:

If there is a nominal amount of dry air, up to 30 °C lower dew point temperatures can be achieved compared to the "outdoor air" that supplies the regeneration air, in contrast to conventional through-air operation. Therefore, dew points far below 0 °C can be achieved, which results in considerably low drying stages and in a significantly energy-efficient operation!

Double flexibility thanks to Duoventic

The Duoventic principle of the TTR-D models allows the separate electronic regulation of both fans of the separate air circuits. This enables the fine adjustment of the moisture content (C1) and volume flow (C2) of the required dry air.

This is how you can configure any climate scenario in a fast and needs-oriented way. Extremely dry air with a low air flow, higher amounts of dry air or maximum circulating air performance with a moderate amount of dry air.



The model differences at a glance:

On the left side a TTR 400 with Monoventic air amount regulation (A) and a common inlet for both air flows (B). On the right side a TTR 400 D with Duoventic regulation (C1, C2) and separate inlets for dry air (D) and regeneration air (E).

All TTR adsorption dehumidifiers with Monoventic/Duoventic are on the suction side standard-equipped with plug-on filter caps with handy clip closing for fast filter change without the need of opening the machine.

Quality filters perfectly matched to the machines are available as accessory in a 5-pack.



For airflow in separate rooms a matching hose adapter is available as accessory for each filter cap. It is just attached to the filter cap.



As an option all filter caps can be replaced by filter boxes with integrated pipe connection, also perfectly suitable for fixed installations.

In addition, the filter boxes enable the flexible usage of different Z-line filters of class G4, F7 or F9.



When replacing the filters, the filter box can be opened fast and easily with screw caps.



A standard connecting socket with protective cap for external switchings also enables flexible remote switching of all TTR machines by means of an optional hygrostat, time clock or other external switch components with matching DIN socket.



Technical data		TTR 200	TTR 300	TTR 400	TTR 400 D	TTR 500 D
Powder-coated steel sheet housing		■	■	■	■	■
Stainless steel housing		□	□	□	□	□
Fan		1 x	1 x	1 x	2 x	2 x
High-pressure fan		–	–	–	–	–
Air volume regulation	Monoventic 1	■	■	■	–	–
	Duoventic 2	–	–	–	■	■
Operating hours counter		■	■	■	■	■
Dual counter h / kWh		–	□	□	□	□
Hose adapter	Process air	□	□	□	□	□
	Regeneration air	–	–	–	□	□
Filter box	Process air	□	□	□	□	□
	Regeneration air	–	–	–	□	□
Ampere meter		■	■	■	■	■
DIN socket for external switchings		■	■	■	■	■
hygrostat		□	□	□	□	□
Self-regulating PTC electric heating		■	■	■	■	■
Internal heat recycling process		■	■	■	■	■
Ex protection model		–	–	–	–	–

■ Standard equipment; □ Optional equipment; further versions upon request

¹ **Monoventic:** Advanced electronic control system enables an accurate infinitely setting of dry air amount.

² **Duoventic:** Both air flows can be infinitely electronically regulated, independently of each other. This enables a separate adjustment of the moisture content and volume flow of the required dry air.



Instead of the standard operating hours counter an optional dual counter is available providing additional registration of power consumption.



Filter boxes with hose connection (A), hose adapter (B), filter mats (C) and Z-line air filters (D) of different classes are available as system accessories for each TTR model. We have set up a model-specific complete overview for you in the adjoining system accessories table.

Recommended Trotec accessories for moisture-dependent TTR controlling:
External hygrostat HG 120 TTR with DIN socket (E). Product number 6.100.002.040



TROTEC

Dehumidification

Humidification

Heating

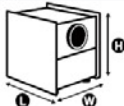
Ventilation

Air conditioning

Air cleaning

Odour control

Accessories

Technical data		TTR 200	TTR 300	TTR 400	TTR 400 D	TTR 500 D
Article number		1.110.000.010	1.110.000.015	1.110.000.020	1.110.000.021	1.110.000.025
Dry air	Dehumidification* [kg/h]	0.35	0.7	1.2	1.6	2.2
	Range [m³/h]	40 - 120	80 - 280	130 - 450	130 - 450	180 - 550
	Amount of air** [m³/h]	80	200	350	350	480
	Ext. Compression [Pa]	50	100	150	200	150
Regeneration air	Amount of air** [m³/h]	15	30	50	65	80
	Ext. Compression [Pa]	30	50	80	80	80
Principle of operation (for details see page 9)		TTR-Bisorp-Mono		TTR-Trisorp-Mono	TTR Trisorp Dual	
Operation range [°C / % r.F.]				-15 to +35 / 0 to 100		
Connection voltage [V / Hz]		230 / 50/60				
Power input	Total [kW]	0.45	0.9	1.5	2.2	3.0
	Heating [kW]	0.4	0.85	1.35	1.95	2.7
Sound level (distance 1 m) [dB (A)]		60	61	63	63	74
Length [mm]		305	355	400	400	450
Width [mm]		260	310	350	350	400
Height [mm]		285	355	405	405	455
Weight [kg]		9	12	17	20	25
Connection	Dry air output ø [mm]	80	100	125	125	125
	Moist air output ø [mm]	38 / 50	50	80	80	80
* Nominal data at 20 °C/ 60 % r.F.; ** nominal						

* Nominal data at 20 °C/60 % r.F.; ** nominal

System accessories		TTR 200	TTR 300	TTR 400	TTR 400 D	TTR 500 D
Hose adapter	Process air input ø [mm]	80	100	125	125	125
	Article number	6.100.010.001	6.100.010.005	6.100.010.010	6.100.010.010	6.100.010.010
	Regeneration air input ø [mm]	—	—	—	80	80
	Article number	—	—	—	6.100.010.101	6.100.010.105
Filter box	Process air input ø [mm]	80	80	125	125	125
	Article number	6.100.010.201	6.100.010.205	6.100.010.210	6.100.010.210	6.100.010.210
	Regeneration air input ø [mm]	—	—	—	80	80
	Article number	—	—	—	6.100.010.301	6.100.010.305
Filter mat process air	H x W x D [mm]	140 x 130 x 20	185 x 205 x 20	240 x 230 x 20	240 x 230 x 20	240 x 230 x 20
	Article number	7.710.000.680	7.710.000.681	7.710.000.682	7.710.000.682	7.710.000.682
Filter mat regeneration air	H x W x D [mm]	—	—	—	130 x 110 x 20	150 x 135 x 20
	Article number	—	—	—	7.710.000.683	7.710.000.684
Z-line filter G4 process air	H x W x D [mm]	135 x 125 x 48	180 x 205 x 48	225 x 200 x 48	225 x 200 x 48	225 x 200 x 48
	Article number	7.710.000.602	7.710.000.603	7.710.000.604	7.710.000.604	7.710.000.604
Z-line filter G4 regeneration air	H x W x D [mm]	—	—	—	117 x 123 x 48	152 x 170 x 48
	Article number	—	—	—	7.710.000.605	7.710.000.606
Z-line filter G7 process air	H x W x D [mm]	135 x 125 x 48	180 x 205 x 48	225 x 200 x 48	225 x 200 x 48	225 x 200 x 48
	Article number	7.710.000.630	7.710.000.631	7.710.000.632	7.710.000.632	7.710.000.632
Z-line filter G7 regeneration air	H x W x D [mm]	—	—	—	117 x 123 x 48	152 x 170 x 48
	Article number	—	—	—	7.710.000.633	7.710.000.634