

### Technical data sheet

# Rotavapor® R-250 EX

The Rotavapor R-250 EX is the EX rated version of the Rotavapor R-250. It fulfills the high requirements of the ATEX regulations and fits perfect to your Ex-proof production laboratory. It is designed for easy and safe operation combined with high performance.



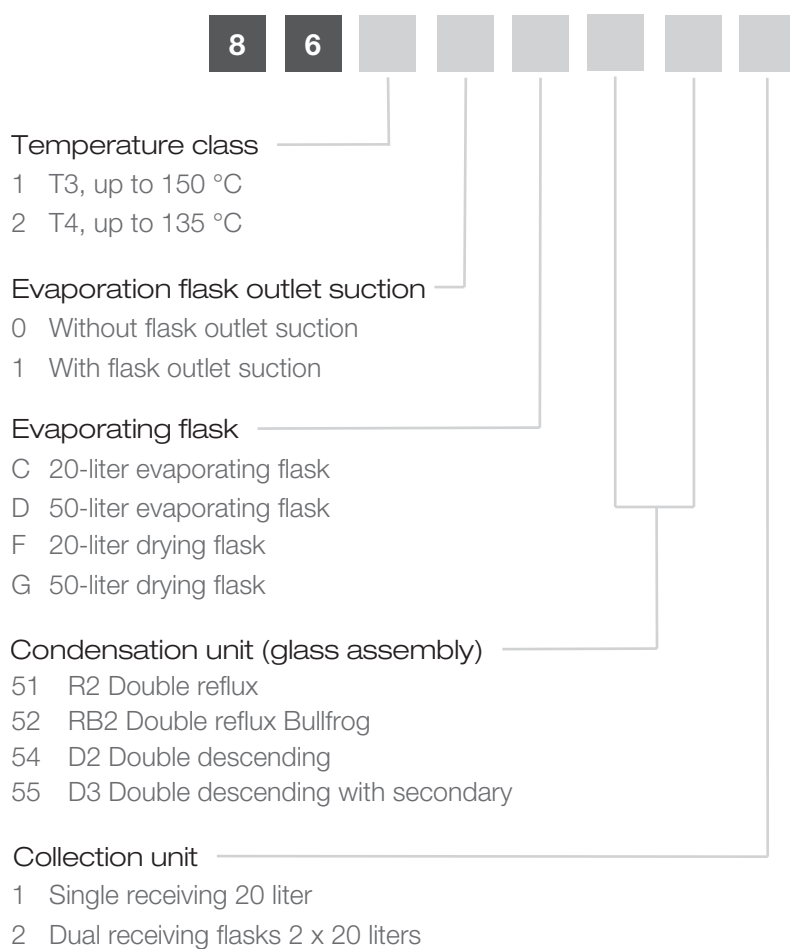
## Scope of delivery

All configurations are supplied ready to use.

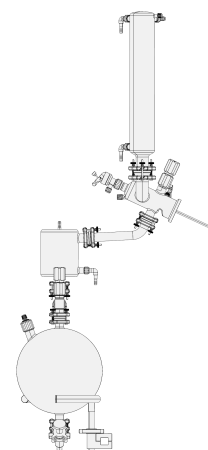
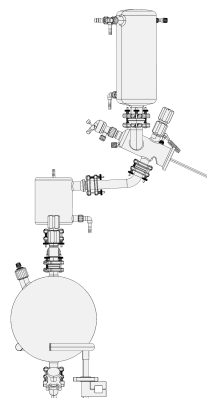
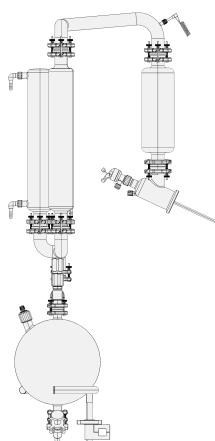
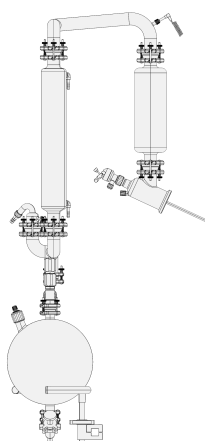
Components	R-250 EX
Vacuum controller EX	1
Vacuum valve EX	1
Glass configuration according order	1
Evaporating flask according order	1
All needed tubing (vacuum and cooling)	1
Seal removal tool	1

## Order code

Choose the configuration according to your needs:



## Glassware



**Assembly D2**

**Assembly D3**

**Assembly RB2**

**Assembly R2**

Low boiling points and/or foaming products		High boiling points	
	Minimum emissions	Reflux reactions	
		Reduced height	
H = 2300 mm	H = 2300 mm	H = 2100 mm	H = 2260 mm

## Technical data

### Rotavapor® R-250 EX

Dimensions (W x D x H) (without glass)	1410 x 830 x 1550 mm
Dimensions (W x D x H) (with glass max.)	1450 x 850 x 2300 mm
Weight (with glass max.)	295 kg
Voltage	400 – 440 V (3Ph, N, G)
Frequency	50 - 60 Hz
Max. power consumption	7'500- 9'100 W

## Standards

Ex label	Ex II 2G Ex db eb h mb ib [ib] IIC T3 or T4 Gb
CE marking	Yes

## Safety

Safety coated glassware	No, due to the risk of electrostatic charges
Over temperature protection of the bath	Separate monitoring circuit with manual reset Error if temperature is 15 °C above set value
Rotation	Soft start
At any Error	Heater off, rotation off, bath lowers Indication of error

## Display

Bath temperature	Yes (1 °C steps)
Vapor temperature	Yes (1 °C steps)
Set rotation speed	Yes (1 rpm steps)
Set bath temperature	Yes (1 °C steps)
Actual vacuum	Yes (1 mbar steps)
Set vacuum	Yes (1 mbar steps)

## Cooling

Consumption	200 – 400 liter/hour (adjustable via integrated needle valve)
Restriction	max. 2,7 bar abs. without pulsation

## Heating (bath)

Medium	Water or oil
Temperature range	Ambient to 115 °C (T4) or 150 °C (T3)
Heating capacity	6600 W (3 W/cm <sup>2</sup> )
Accuracy	+/- 2 °C

## Rotation

Motor	400 V (3Ph; 2A at 50 Hz)
Controlling	Frequency inverter
Speed	0 – 100 rpm
Accuracy	+/- 1 rpm at 5 rpm up to +/- 5 rpm at 100 rpm

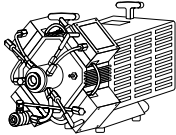
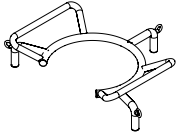
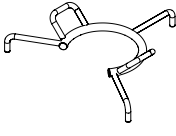
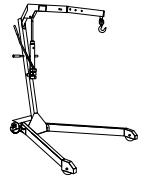
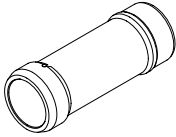
## Materials

Housing	Stainless steel 1.4301 (AISI 304)
Gear head	Aluminum cast (3.2373)
Painting	Powder coated with Epoxy (EPX)
Bath pan	Stainless steel 1.4404 (AISI 316L)
Heating element	Stainless steel 1.4404 (AISI 316L)
Glass	Borosilicate 3.3
In contact with product	FDA approved materials
Leakage of the complete system	< 1 mbar/min

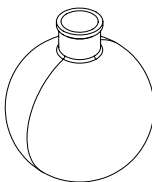
## Sensors

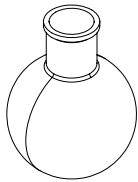
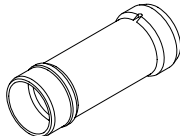
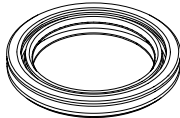
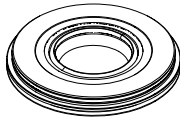
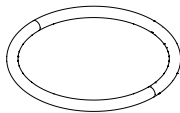
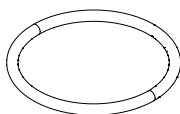
Vapor temperature	PT-1000, 2 wire
Bath temperature	PT-1000, 2 wire
Vacuum	Piezoresistive measuring cell; stainless steel 1.4435 (AISI 316L)

## Accessories

	Order no.	Image
Vacuum pump MD4C EX PTFE membrane pump with a capacity of 3.7m <sup>3</sup> /h and a final vacuum of 3mbar. 230 V / 50 Hz.	040197	
Manual flask handler for 50 L flask For easy mounting and removal of the flasks along with safe transport	041414	
Manual flask handler for 20 L flask For easy mounting and removal of the flasks along with safe transport.	041410	
Flask crane (EX version) For the safely secured transport of a 50 liter flask. Incl. the 50 liter manual flask handler.	041493	
Vapor duct with integrated sinter plate The integrated sinter plate P3 protects the condenser assembly against powder and dust during the drying process.	041100	
IQ / OQ	040786	

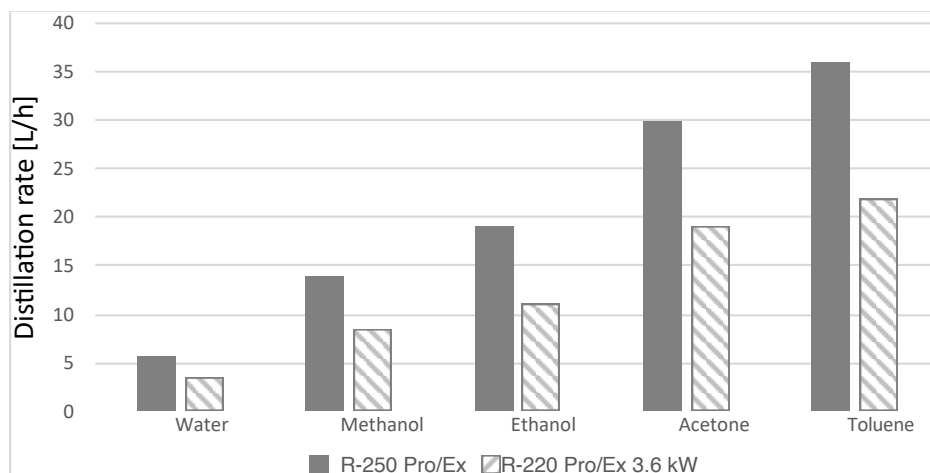
## Spare parts

	Order no.	Image
Evaporating flask 50 L D150 For a sample volume of max. 25 L. Flange size 150 mm.	041339	

	Order no.	Image
Evaporating flask 20 L D150 For a sample volume of max. 9 L. Flange size 150 mm.	041432	
Drying flask 20 L D150 Special shaped to dry up to 9 L product. Flange size 150 mm.	041393	
Drying flask 50 L D150 Special shaped to dry up to 25 L product. Flange size 150 mm.	041394	
Vapor duct	041084	
Vacuum seal, PTFE base	041095	
Evaporating flask seal, complete	041121	
FEP coated silicon gasket for DN25 (set of 5)	11056381	
FEP coated silicone gasket for DN40 (set of 5)	11056382	

## Performance

The following chart shows the maximum distillation rate.



The maximum achievable distillation rate is not just related to the heating capacity, but also on rotation speed, flask size and temperature difference between bath and cooling.

To get a high distillation rate:

- set a high rotation speed
- choose a large evaporating flask (50 L)
- set a high temperature difference between bath and cooling



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