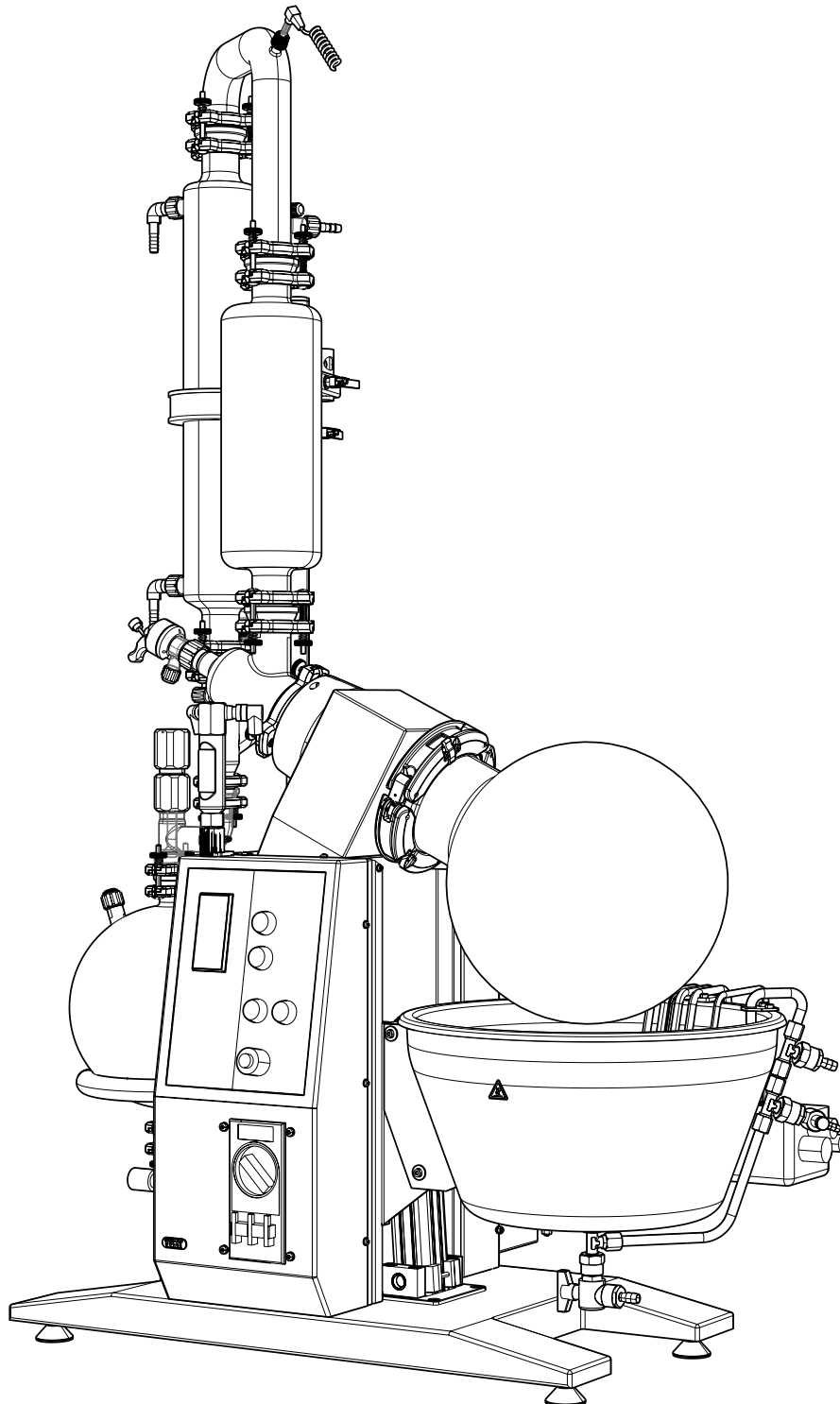




# Rotavapor® R-220 EX

## Technical data sheet

The Rotavapor R-220 EX is the EX rated version of the Rotavapor R-220 SE and fulfills the high requirements of the ATEX regulations. It is designed for easy and safe operation combined with high performance.



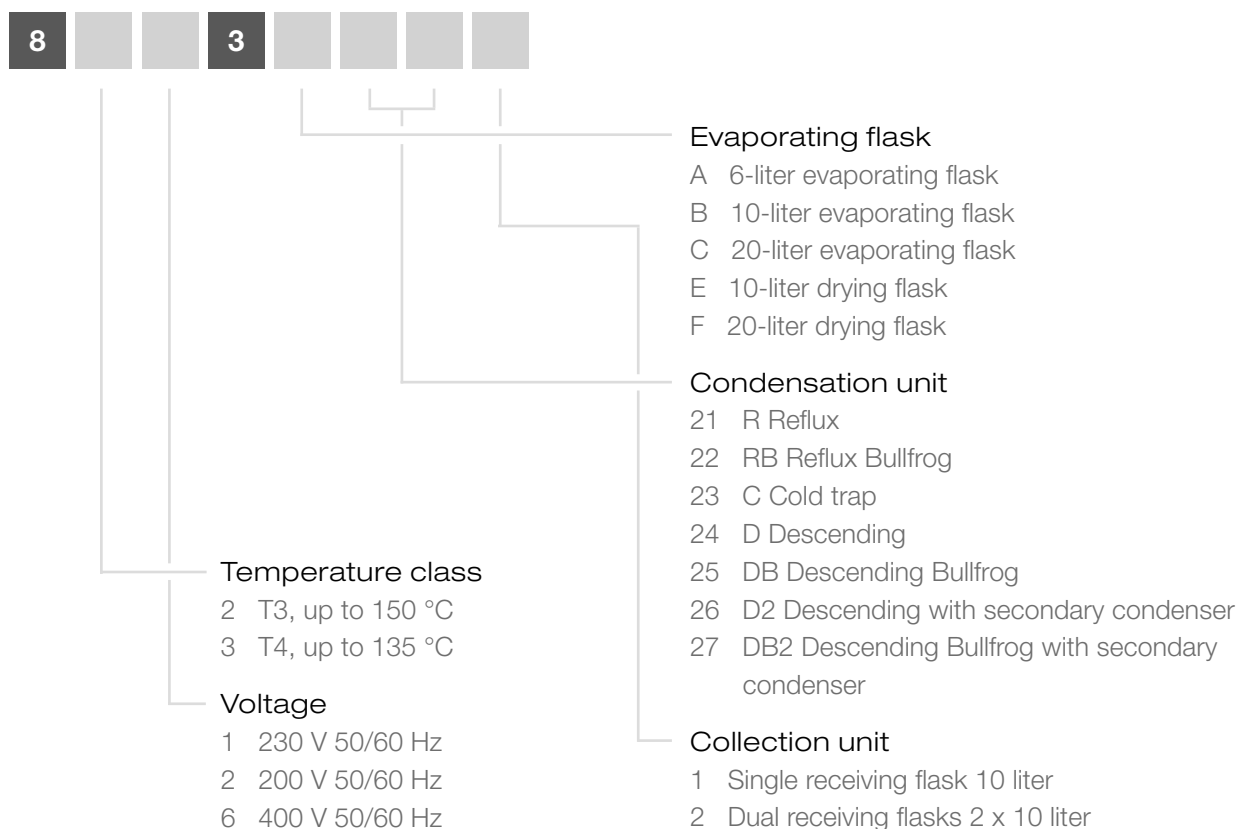
## Scope of delivery

All Rotavapor R-220 SE models are delivered ready to use, including all needed tools and are complete of:

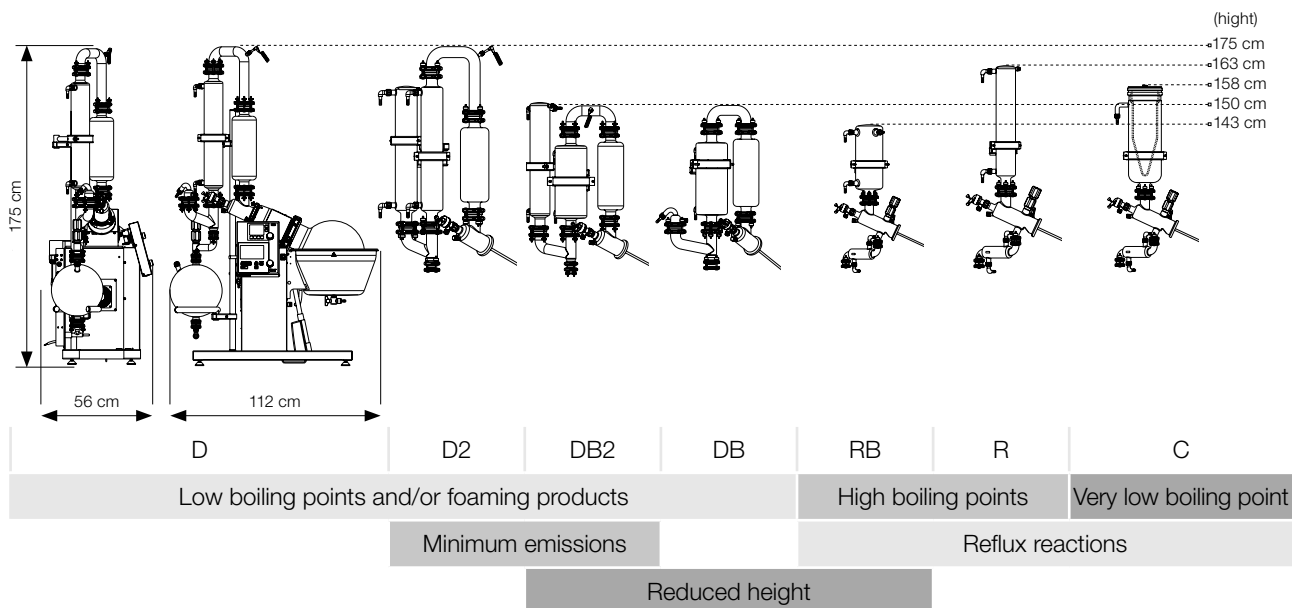
| Components   | R-220 EX |
|--|----------|
| Vacuum controller UDS7 EX                          | 1        |
| Vacuum valve EX                                    | 1        |
| Glass configuration according to order             | 1        |
| Evaporating flask according to order               | 1        |
| Vacuum hose to vacuum source (PVC), 3.5 m          | 1        |
| Vacuum hose to the vacuum controller (rubber), 2 m | 1        |
| Cooling water hose (PVC), 4.5 m                    | 1        |
| Hose for compressed air (PVC), 3.5 m               | 1        |
| Feed hose (PTFE), 2 m                              | 1        |
| Seal removal tool                                  | 1        |
| Operation manual                                   | 1        |

## Order code

Choose the configuration according to your needs:



## Dimensions and weight



|                        | Dimensions (W x H x D) |        |        | Weight |
|------------------------|------------------------|--------|--------|--------|
| R-220 SE without glass | 950 x                  | 880 x  | 560 mm | 75 kg  |
| Assembly R             | 1130 x                 | 1630 x | mm     | 7.7 kg |
| Assembly RB            | 1130 x                 | 1430 x | mm     | 9.9 kg |
| Assembly C             | 1130 x                 | 1580 x | mm     | 13 kg  |
| Assembly D             | 1130 x                 | 1750 x | mm     | 11 kg  |
| Assembly DB            | 1130 x                 | 1500 x | mm     | 13 kg  |
| Assembly D2            | 1130 x                 | 1750 x | mm     | 15 kg  |
| Assembly DB2           | 1130 x                 | 1500 x | mm     | 17 kg  |
| One receiving flask    | 1130 x                 | x      | 560 mm | 5 kg   |
| Two receiving flasks   | 1130 x                 |        | 600 mm | 6 kg   |

For the overall weight, summarize the related components

## Technical data

### Electrical

|                   |   |
|-------------------|---|
| Voltage           | 200 V (1Ph, N, G)<br>230 V (1Ph, N, G)<br>400 V (3Ph, N, G) |
| Frequency         | 50 – 60 Hz  |
| Power consumption | 4200 W  |

### Standards

|            |                             |
|------------|-----------------------------|
| EX label   | Ex de ia [ia] IIC T3 and T4 |
| 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<br>Error if temperature is 15 °C above set value Soft start |
| Rotation                                | Soft start  |
| At any Error                            | Heater off<br>Indication of error   |

### Display

|                      |                    |
|----------------------|--------------------|
| Bath temperature     | Yes (1 °C steps)   |
| Vapor temperature    | Yes (1 °C steps)   |
| Set rotation speed   | Yes (no display)   |
| Set bath temperature | Yes (1 °C steps)   |
| Actual vacuum        | Yes (1 mbar steps) |
| Set vacuum           | Yes (1 mbar steps) |

### Cooling

|             |   |
|-------------|---|
| Consumption | 120 – 200 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 135 °C (T4) or 150 °C (T3) |
| Heating capacity  | 3600 W (3 W/cm <sup>2</sup> )         |
| Accuracy          | +/- 2 °C                              |

## Rotation

|             |   |
|-------------|---|
| Motor       | Pneumatic, 6 bar, oil-free                |
| Controlling | Continuous with precision regulator valve |
| Speed       | 0 – 100 rpm                               |
| Accuracy    | no display                                |

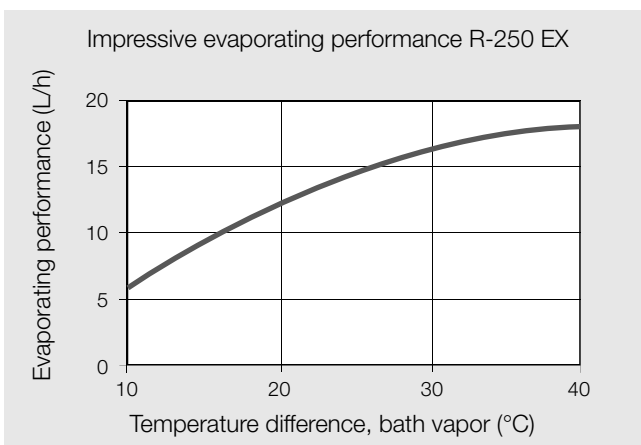
## Materials

|                                |                                     |
|--------------------------------|-------------------------------------|
| Housing                        | Stainless steel 1.4301 (AISI 304)   |
| Gear head                      | Aluminum cast (3.2373)              |
| Paint                          | Powder coated with Epoxy (EPX)      |
| Bath pan                       | Stainless steel 1.4404 (AISI 316 L) |
| Heating element                | Stainless steel 1.4404 (AISI 316 L) |
| Glass                          | Borosilicate 3.3                    |
| In contact with product        | FDA compliant 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 316 L) |

## Performance



— 20-liter flask, acetone, 100 rpm

For other solvents the following maximum general figures apply:

| Water   | Methanol | Ethanol | Toluene  | Ethylacetate | Hexane   | Trichlorethane |
|---------|----------|---------|----------|--------------|----------|----------------|
| 3.5 L/h | 8.3 L/h  | 12 L/h  | 22.0 L/h | 23.0 L/h     | 33.0 L/h | 25.0 L/h       |

## Accessories

|   | Order number |
|---|--------------|
| Vacuum pump MD4C EX<br>PTFE membrane pump with a capacity of 3.7m <sup>3</sup> /h and a final vacuum of 3mbar. 230 V / 50 Hz    | 040197       |
| Trolley<br>Made of stainless steel  | 041257       |
| Manual flask handler<br>For easy mounting and removal of the flasks along with safe transport.                                  | 041400       |
| Bath shield<br>Shield to protect the operator from splashes. Made in stainless steel.   | 046431       |
| Vapor duct with sinter plate<br>With frit P3 protects the condenser assembly against powder and dust during the drying process. | 041100       |
| Flange adapter<br>To use a 1, 2 or 3 liter evaporating flask with SJ29,2/32   | 11058738     |
| IQ/OQ   | 40786        |