



**SpeedDry**

**Rotational-Vacuum-Concentrator**

**RVC 2-33IR**





# Rotational-Vacuum-Concentrator *SpeedDry 2-33IR*

## Fastest possible Sample Concentration and Drying



This newly developed CHRIST-vacuum concentrator *SpeedDry 2-33IR* is particularly suitable for gentle concentration of DNA/RNA, proteins, and similar analysis preparations at the workplace. The versatile rotor program provides a high sample capacity, e.g. from 216 x 1.5 ml reaction vials up to 12 x microtiter-plates or 4 x deep-well plates. In addition, large sample volumes, e.g. 100-ml-tubes that are used for the screening of active substances can be quickly concentrated thanks to the efficient energy supply with halogen IR lamps.

The innovative drive system with its powerful external rotor motor, the contact-free, central rotary coupler, and direct power transmission all guarantee safe operation even in the event of high unbalance.

The user-friendly CDplus control unit provides a quick overview of the current operating parameters. Heating temperatures between +30°C and +80°C and, of course, also the entire pressure range of the vacuum pump can be selected either manually or controlled by a program, also freeze drying possible.

All units are "Made in Germany" within our ISO 9001- certified series production. Not to mention that CHRIST provides a qualified technical and application service.

## Features:

- Particularly solvent-resistant unit with a stainless-steel chamber, safety glass lid and magnetic drive without a shaft exit to the outside. Suitable for DMSO, ACN, TFA.
- CDplus control unit with a ramp programming function for pressure and temperature (16 programs max.).
- Halogen IR lamp provide optimal energy input for fastest possible evaporation.
- Control of the energy supply as a function of the sample vessel temperature, plus an additional measurement of the product temperature in order to avoid thermal damage.
- Robust, non-contact measurement data transfer (Triple TMM) from the rotor to the control unit.
- Precise vacuum control in both directions (air injection) for reproducible processes. High-performance vacuum pumps with final vacuum of <0.1 mbar allow dual-step process "Evaporation and Freeze Drying".
- Determination of the end of the drying process (pressure increase test) for automatic operation.
- Variable speed for substance mixtures that tend towards a delay in boiling.
- Central control of the entire system consisting of the RVC, cooling trap (LDplus/LSC), and vacuum pump (including a warm-up/cool-down function).
- Multilingual user interface (German/English/French).

## Technical Data *SpeedDry 2-33 IR*:

Temperature:	+30°C to +80°C
Speed (rpm):	100 min <sup>-1</sup> ÷ 1750 min <sup>-1</sup>
Relative centrifugal force (RCF):	2 ÷ 530
Max. permissible unbalance:	50g
Electrical connection:	230V 50Hz
Power consumption:	1500 VA
Dimensions (W x H x D):	390mm x 315mm x 406mm
Max. lid opening angle:	approx. 80°
Height with fully opened lid:	715mm
Weight:	approx. 48.5kg
Noise level DIN 45635:	49dB(A)
EMC according to EN 55011:	Class B
Ambient temperature:	+10°C to +25°C (higher temperatures on request)

## Configurations and Accessories *SpeedDry 2-33 IR*:

For product containing water or medium boiling solvent

- 100244** Rotational-Vacuum-Concentrator **RVC 2-33 IR** 230 V, 50/60 Hz bench top unit, stainless steel rotor chamber, magnetic drive system, solvent resistant inner glass lid, lid with electrical locking- and safety device, user-friendly control system CD (Concentrator Display) with LC-display, preselection of heating temperature and time
- 125283** Vacuum chemical diaphragm pump MD 4C without emission condenser, for substances containing solvents, only in combination with leading of the sucked steams into an outlet, gas washer or the like, with a suction capacity of 3 m<sup>3</sup>/h, 230 V, 50/60 Hz, incl. small flange connection, vacuum hose part. no. 125702 is required
- 100505** Cooling trap **CT 04-50 SR (solvent resistant)**, aircooled compressor, CFC- and H-CFC-free refrigerant, **condenser temperature approx. -50°C, capacity 4 litres**, bath opening Ø 170 mm, bath depth 185 mm, stainless steel chamber with integrated drain valve, overall dimensions 330 x 390 x 430 mm (WxDxH), standard voltage 230 V, 50/60 Hz
- 125908** Electromagnetic pressure control and stop valve DN 15, PVDF-type, incl. standard flange connections DN 25/25 ISO-KF
- 121372** Glass lid, incl. two connection hoses with standard flange for connection of the rotational-vacuum-concentrator and vacuum pump

**For products containing water solvents or low, medium and high boiling solvents, universal system**

- 100244** Rotational-Vacuum-Concentrator **RVC 2-33 IR** 230 V, 50/60 Hz bench top unit, stainless steel rotor chamber, magnetic drive system, solvent resistant inner glass lid, lid with electrical locking- and safety device, user-friendly control system CD (Concentrator Display) with LC-display, preselection of heating temperature and time
- 125295** Vacuum chemical hybrid pump RC6 with a suction capacity of 5.9 m<sup>3</sup>/h, 230 V, 50/60 Hz, incl. small flange connection, vacuum hose part no. 125702 is required
- 125702** Vacuum hose incl. standard flange connections DN 16/25 ISO-KF for external connection of the vacuum pumps
- 101552** Freeze dryer **Alpha 2-4 LDplus**, similar to part. no. 101542, additional with defrost heating at bottom and casing at ice condenser chamber
- 121418** Cover made of safety glass, resistant against solvents, diameter 300 mm, incl. corrugated metal hose and standard flange connections DN 25/25 ISO-KF
- 121422** Gripping device for the various covers of cooling traps ALPHA 1-4 and ALPHA 2-4
- 125908** Electromagnetic pressure control and stop valve DN 15, PVDF-type, incl. standard flange connections DN 25/25 ISO-KF
- 125932** Valve to release vacuum with tubing connection and and pipe bend with standard flange connections DN 25/25 ISO-KF
- 121430** Splash guard for cooling traps

## Rotors for RVC 2-33 IR

- 124610** Aluminium angle rotor 72 x 1,5/2,2 ml (Ø 10,8 x 38 mm)
- 126300** Adapter receiver for rotor 124610, max. 2 pcs.
- 124616** Universal-aluminium angle rotor to accommodate 48 x 10 ml to 15 ml vials with round or conical bottom (incl. FALCON), black anodized, angle of attack: 20°, dimensions of vials: max. Ø 16.0 to 16.5 mm x 80 to 125 mm long total capacity: 1 rotor
- 124617** Aluminium angle rotor to accommodate 48 x 10 ml vials with round or conical bottom black anodized, angle of attack: 23°, dimensions of vials: max. Ø 45 mm x 100 to 120 mm long total capacity: 1 rotor
- 126302** Adapter receiver for rotor 124617
- 124618** Aluminium angle rotor to accommodate 48 x 13 ml vials (Ø 17 x 110 mm), with round or conical bottom black anodized, angle of attack: 20°, dimensions of vials: max. Ø 18 mm x 100 to 125 mm long total capacity: 1 rotor
- 124624** Angle Rotor to accommodate 24 vials Ø 24 x 120 to 150 mm height
- 124625** Angle Rotor to accommodate 36 vials Ø 25 x 95 to 120 mm height
- 124630** Aluminium angle rotor to accommodate 24 vials (Ø 29,5 x 30,0 x 115/120 mm incl. FALCON)
- 124628** Angle Rotor to accommodate 24 vials Ø 28 x 150 mm height
- 124645** Aluminium angle rotor 12 vials (Ø 44-45 x 100 mm) with round bottom
- 124700** Aluminium swing-out rotor for 4 carriers with block and product temperature sensor
- 124701** Carrier without bottom window to accommodate either 3 x Microtiterplates or 1 x Deep Well Plate (1 set = 4 pcs.)
- 124702** Set of aluminium carriers with bottom window (1 set = 4 pieces) anodized, for one massive block, one Deep-Well-plate or one adapter for microtubes each (microtitre-plate-footprint), to be used in swing-out rotor part no. 124700
- 124703** Set of aluminium carriers without bottom window (1 set = 4 pieces) anodized, for one massive block, one Deep-Well-plate or one adapter for microtubes each (microtitre-plate-footprint), to be used in swing-out rotor part no. 124700
- 112290** Accommodation block, suitable for carrier 124702/124703 (1 set = 4 pcs.)
- 125983** Installation/Operation Qualification LD for validation purposes, performed in our facilities, consisting of detailed and performance tests, unit specific component documentations, calibration of relevant measurement systems (details on request), according to Christ standard

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