

ROTANTA 46 RSC ROBOTIC

Hettich
ZENTRIFUGEN



**Robotic
Centrifuges,
refrigerated**

ROTANTA 46 RSC ROBOTIC

The robotic versions of model ROTANTA 46 RSC are refrigerated centrifuges with PC control and rotor positioning. Designed for automatic sample processing they perform routine laboratory tasks efficiently and economically especially in genetic and pharmaceutical research.

Monotonous and repetitive operations or analyses bearing a high risk of infection no longer need to be carried out by laboratory personnel.

Therefore, robotic centrifuges are valuable working aids in the automated laboratory.

A hatch in the lid opening before and after every centrifuging cycle allows loading and unloading of the centrifuge with a robotic arm.

Hettich ROBOTIC centrifuges stand out for state-of-the-art technology and conformity to strictest safety standards.

Their robust and sturdy design guarantees troublefree 24-hour continuous service.

Features of the ROTANTA 46 RSC ROBOTIC centrifuges

Performance:

Speed

$n = 6,200 \text{ min}^{-1}$ with a 2-place swing-out rotor that corresponds to a max. RCF of 6,446.

High Capacity

up to 4 x 750 ml, or 16 x MTP, or 4 x DWP or comparable systems.

Efficient Cooling

Temperature is steplessly controllable within a range of -20°C to $+40^\circ\text{C}$.

Memory

Up to 89 complete running programmes can be memorized and recalled by their storing number.

Drive

Frequency-controlled drive, virtually maintenance-free.

Safety:

Housing and lid of metal

Centrifuging chamber of stainless steel

Panelling finished in scratch and impact resistant coating

Lid locking

Hatch locking

Emergency lid lock release

Imbalance switch-off

Motor and chamber over-heating protection

Excess temperature protection of the brake resistors

Double indication when the rotor is stationary

Additional control of the data transfer

Hettich manufactures top quality centrifuges. All stages from design to end product are continually subjected to strictest controls.



Evidence of conformity with national and international regulations such as IEC 1010-2.2 and EC standards is provided by corresponding certificates. Of course, Hettich centrifuges are CE marked.

The ISO 9001 certificate accredited to the entire company proves the extreme care and responsibility Hettich puts into the manufacture of centrifuges and their accessories.

Therefore, Hettich centrifuges are known for safety and reliability all over the world.

Reliable and enduring partners for automated laboratories

More and more, modern technology is moving into laboratories.

In pharmaceutical research labs for example new methods to reduce animal tests to a minimum are applied.

Many new drugs are no longer tried on animals but on cells, which necessitates the use of centrifuges.

The **ROTANTA 46 RSC ROBOTIC** now also permits the integration of centrifuging operations into automated laboratory routines.



All functions of the centrifuge can be remote-controlled.

If necessary, commands can also be entered manually on the centrifuge's control panel.



The illustration shows Cat. No. 4815

Cat. No. 4815-10:

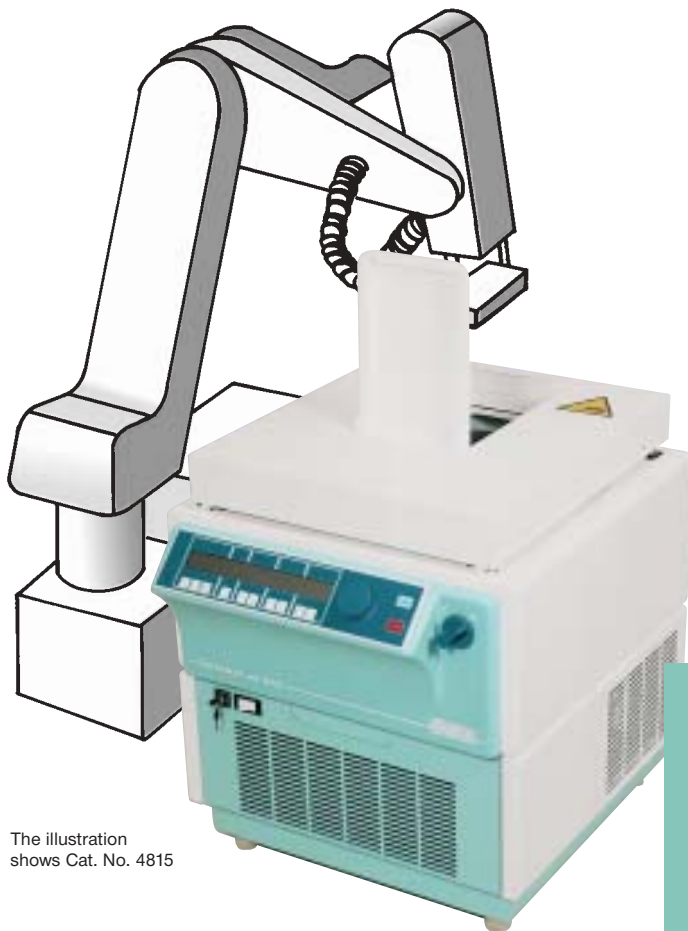
A hatch of 110 x 160 mm in the front part of the lid opens meaning **the robotic arm has front access.**

This hatch only allows the processing of tubes in bucket **No. 4412.**

Cat. No. 4815:

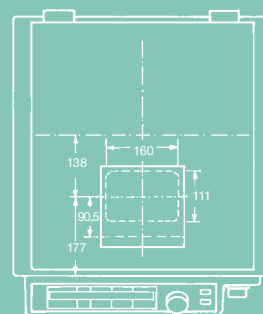
A hatch of 270 x 160 mm in the rear part of the lid opens meaning **the robotic arm has rear access.**

This hatch allows the processing of microtitration plates and tubes.

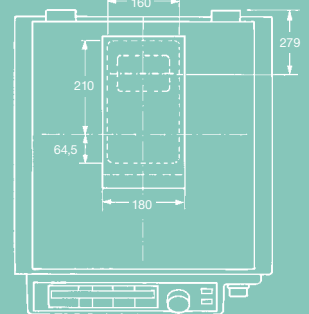


The illustration shows Cat. No. 4815

Cat. No. 4815-10



Cat. No. 4815



Buckets

The hatches correspond to the size of the buckets.

Featuring a larger hatch model **No. 4815** is designed to accept microtitration plates and comparable systems as well as bottles.

Featuring a somewhat smaller hatch model **No. 4815-10** is designed to accept buckets for accommodating tubes.



Swing-out rotor, 4- place,
 $n = 4,500 \text{ min}^{-1}$, RCF 4,754

Cat. No. **4444**

(without buckets)

illustrated with buckets
No. 4428 for plates.

ROTANTA 46 RSC ROBOTIC
centrifuges can be integrated in
any workstation.

In addition to standard accessories
Hettich also manufactures special
buckets and inserts tailored to the
requirements of the customers.

Speak with us about the details!



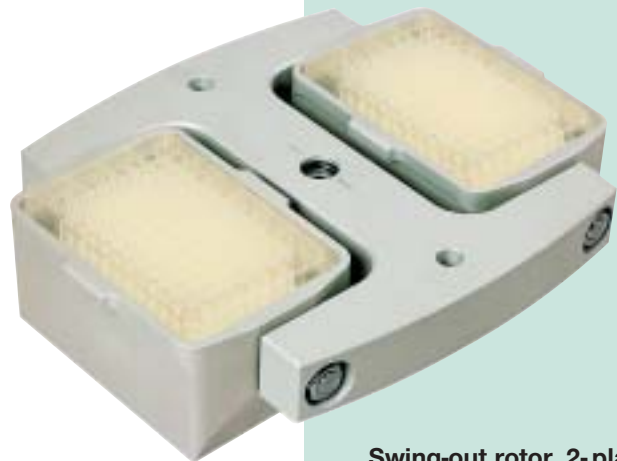
Buckets for bottles
up to 750 ml

Cat. No. **4413**



Buckets for accommo-
dating adapters for centri-
fuge tubes up to 250 ml

Cat. No. **4412**



Swing-out rotor, 2- place,
 $n = 6,200 \text{ min}^{-1}$, RCF 6,446

Cat. No. **4620**

(without buckets)

illustrated with buckets
No. 4623 for filter plates

The centrifuge is remote-controlled by optical data transmission

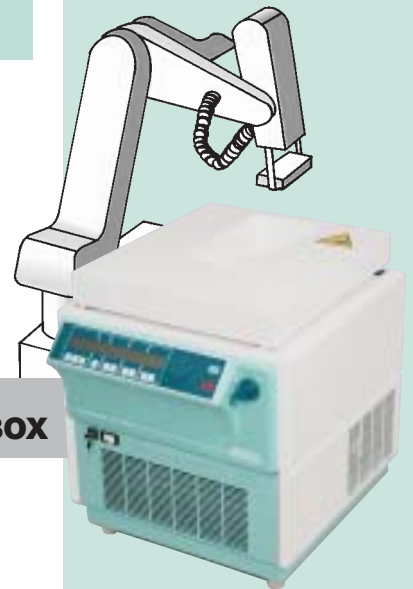
The centrifuge that reads you!



RS 232



**OPTO
DATA BOX**



The controlling PC requires a free RS 232 interface.
A 9-pole RS 232 cable is supplied with the centrifuge!

A transformer (opto data box) converts the RS 232 signals into light.

Every ROTANTA 46 RSC ROBOTIC centrifuge is supplied with an opto data box and an optical cable!

Fully developed microprocessor technology ensures troublefree operation

All functions of the centrifuge can be remote-controlled.

Status information like standstill, acceleration, centrifuging cycle, lid, rotor position, etc. can be inquired.

The position of the buckets is programmable.

Positioning:

The driving motor positions the rotor and firmly holds it in the required bucket position under the hatch.

The exact position of the buckets is adjustable.

The positioning accuracy of every rotor position is < 0.6 mm!

After every centrifuging cycle the drive automatically turns the rotor to position No. 1.

Technical Details



ROTANTA 46 RSC ROBOTIC
Floorstanding centrifuge, refrigerated, without rotor

Cat. No.	4815 (4815-10: small hatch)	4815-01 (4815-11: small hatch)
* Power supply:	220-240 V 1~	110 – 127 V 1~
Frequency:	50 Hz	60 Hz
Connected load:	1800 VA	2000 VA
Current consumption:	9 A	17 A
Power consumption:	1500 W	1650 W
Cooling:	steplessly controllable from -20 °C to +40 °C	
Cooling agent:	R 404 A	
Capacity:	4 x 750 ml	
Permissible density:	1.2 kg/dm ³	
Speed / RCF:	n = 6,200 min ⁻¹ / RCF 6,446	
Kinetic energy:	50,000 Nm	
Ambient temperature:	+5 °C to +40 °C	
Relative humidity:	max. 80 % up to 31 °C, linearly decreasing to 50 % at +40 °C	
Class of protection:	I	
Electro magnetic capability (EMC):	EN 50081-1 EN 50082-1	FCC Class A -
Noise generation:	62 dB (A)	
Dimensions:	(H x W x D) 680 x 580 x 690 mm	
Weight:	approx. 120 kg	approx. 130 kg

* other voltages on request

Design: Housing and lid of metal for safety. Coating finished in scratch and impact resistant paint. Centrifuging chamber of stainless steel. Lid locking and holding device, and imbalance switch-off are standard.

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