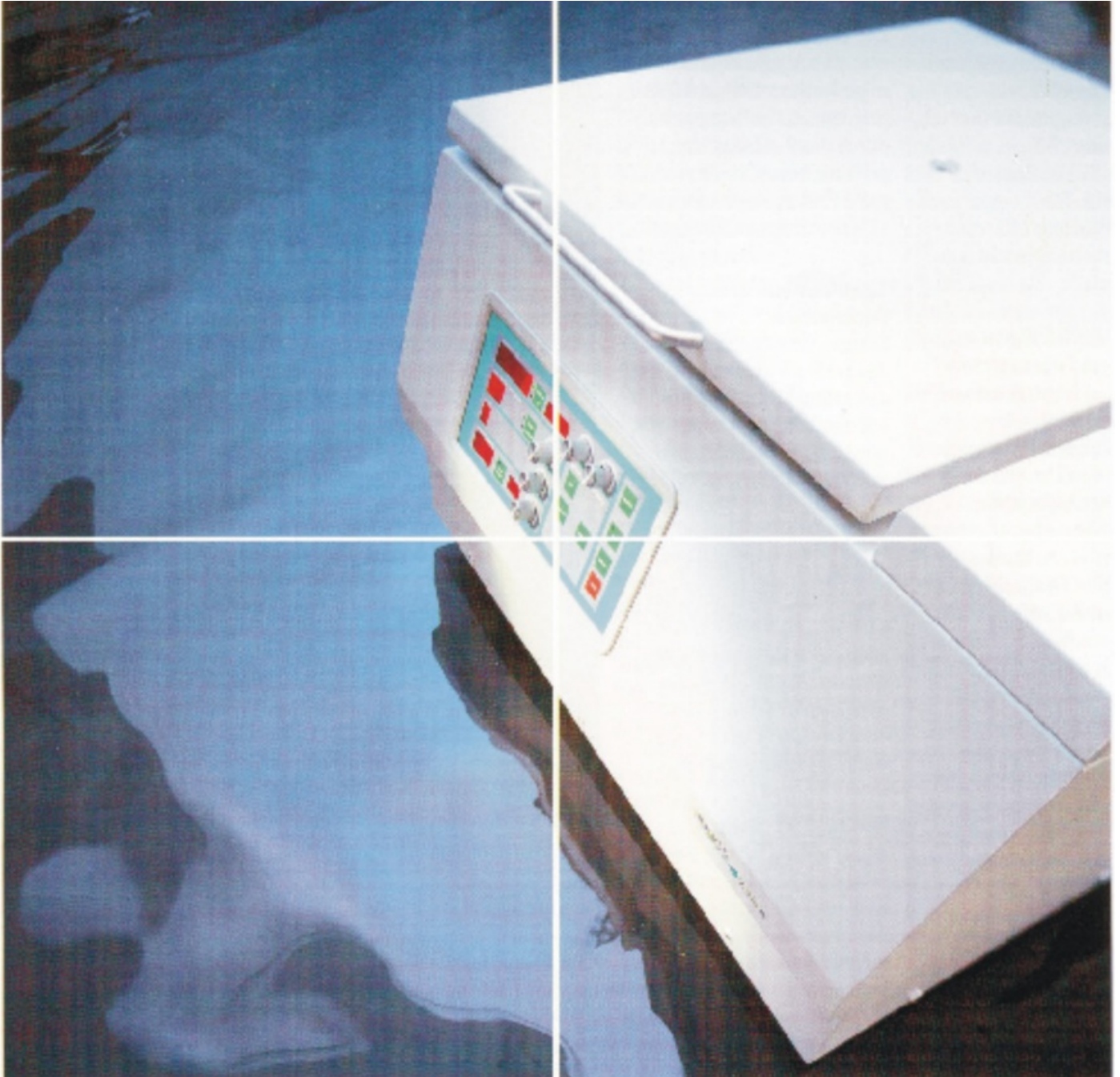


HERMLE

LABORTECHNIK



Universal, Large Volume
Laboratory Centrifuges

Z 513 ■ Z 513 K

Intelligent Centrifuges

For applications requiring high speed performance or the ability to accommodate blood bags or a large variety of different tube sizes, the centrifuges Z 513 and Z 513 K can handle the job.

The operating system of these centrifuges is based on advanced, easy to use, microprocessor technology and automatic rotor recognition.

Flexible and intelligent
The LED on the front panel displays either rotor speed (in rpm) or g-force (in RCF). If a speed is selected that exceeds the installed rotor's max. rating, the centrifuge will automatically correct the setting to the rotor's max. speed without terminating the run. This important safety-feature eliminates the possibility of over-speed. This feature for accurate calculation and display of g-force.

Program Memory
For routine works the Z 513 / Z 513 K give you the possibility to program and store 10 complete centrifuge runs. All parameters (speed, rcf ect.) can be stored and recalled at the touch of a button, saving valuable time.

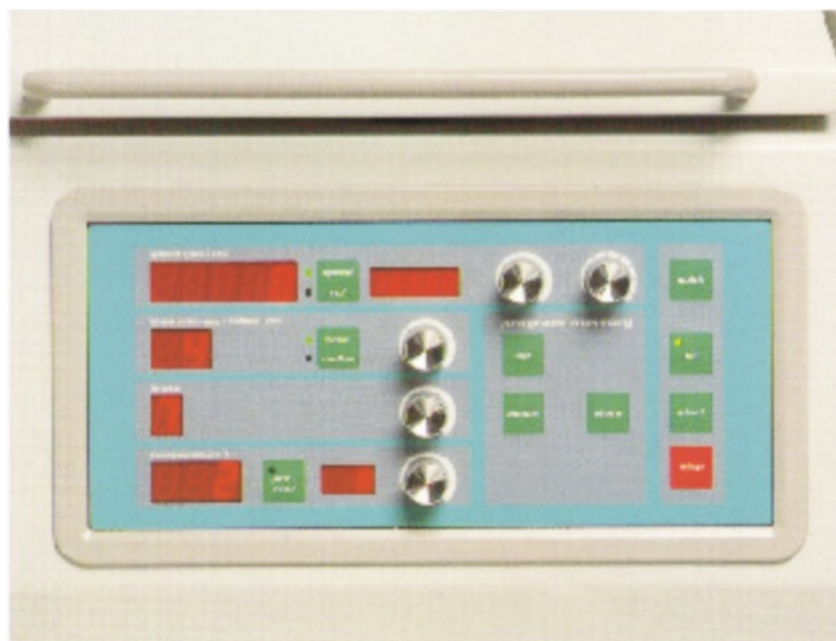
Automatic lid lock
The lid needs only to be set gently when closing the centrifuge. The motor driven lid locking system then finishes the job. This innovative feature adds to the user friendly design.

Z 513
The Z 513 is a universal, high capacity bench top centrifuge. A continuous air flow through the centrifuge housing prevents sample heating and restricts sample temperature from rising over 12°C, even at max. speed. When the rotor is not running an additional ventilating fan assists in cooling process.

Operation
The ergonomically designed control panel combines advanced microprocessor control and easy to adjust knobs. The set parameters (speed, time and temperature) remain in memory after completion of a run, allowing for repetitive runs simply by pressing "start".

Preset / Actual Display
The large LED constantly displays the actual rotor speed in rpm, while the smaller LED shows the set speed. For indication of centrifugal force just press "RCF" key during or before a run.

Coarse and Fine Adjustment Control
Two knobs are provided for coarse and fine adjustment of speed. The knob on the left allows for coarse adjustment 500 rpm increments. The knob on the right allows a more precise adjustment in 10 rpm increments.





Z 513 K

The Z 513 K is a universal, high capacity, refrigerated bench top centrifuge equipped with an efficient and powerful refrigeration system. Irrespective of the installed rotor the power of refrigeration is shown by long time runs on maximum speed. For the cooling system the CFC-free refrigerant R 404a is used. The rotor and rotor chamber can be precooled to the required working temperature prior to a centrifuge run by simply pressing the "pre-cool" key on the control panel.

Versatile Use

A large selection of rotors is available for a broad range of applications:

- **Swinging bucket rotor:** Accepts four hermetically sealed round buckets for 1000 ml each or rectangular buckets that can accommodate up to 120 x 15 ml tubes. Max. speed: 5000 rpm / 5450 xg.
- **Angle rotor 6 x 85 ml:** Max. speed 12000 rpm / 16904 xg.
- **Safety-Chassis:** can be placed on the benchtop or on one of the optional utility carts. Two carts are available, one stands at a comfortable working height, the other fits under the bench for space savings. Both of these wheeled utility carts offer the convenience of mobility and safety.

Accessories

For more information about the utility carts and the entire range of accessories for the centrifuges Z 513 and Z 513 K, please see the separate accessories brochure.

Common Features

Except the refrigeration of the Z 513 K, the features and capabilities of both units are identical. Due to the maintenance-free induction motor, there are no brushes to wear out or to be replaced. The centrifuges are extremely quiet in operation due to the extensive noise insulation. These are reasons that make work directly beside the units as pleasant as possible.

Advantages

- Speed may be in 10 rpm and 500 rpm increments
- Time may be set from 1 to 60 min. or continuous operation
- The amount of time remaining to complete the run is also displayed
- Automatic rotor recognition
- Radius correction features allows g-value calculation with compensation for varying tube sizes and adapters
- Braking power can be adjusted to any of ten available intensity levels
- Temperature range from -20°C bis + 40°C
- Temperature indicator shows preset and actual sample temperature
- Press the "quick" button for short time runs, while the elapsed seconds are displayed on the LED
- Imbalance cutout with indication
- "precool"-programm
- Diagnostics capability integrated into the software
- Electric motor driven lid lock



| Centrifuge | Z 513 | Z 513 K | |
|--|-------------------|---------------------|---------------------|
| Performance Data | | | |
| Max. speed | 12.000 rpm | | |
| Max. RCF | 16.904 x g | | |
| Max. volume | 4 x 1000 ml | | |
| Dimensions | | | |
| Unit (W/H/D) | 61/46,5/73 cm | 79/46,5/73 cm | |
| Weight | 90 kg | 140 kg | |
| Voltage | | Order Number | |
| 230 V / 50-60 Hz | 274.00 V03 | 277.00 V01 | |
| 120 V / 50-60 Hz | 274.00 V04 | | |
| Accessories | | | |
| Safety-Chassis | | | |
| working-height 70 cm | 274.98 V01 | 277.98 V01 | |
| incl. Centrifuge | | | |
| working-height 110 cm | 274.98 V02 | 277.98 V02 | |
| incl. Centrifuge | | | |
| Rotors | Max. speed | Max. RCF | Order number |
| Swing out rotor 4 x 750 ml with wind shield | 5.000 rpm ** | 5.450 x g | 220.70 V06 |
| Swing out rotor 4 x 1000 ml without wind shield | 3.600 rpm *** | 3.376 x g | 220.70 V05 |
| Swing out rotor 6 x 500 ml | 4.000 rpm | 4.239 x g | 221.11 V01 |
| Swing out rotor 4 places for conical oil test tubes | 2.000 rpm | 1.006 x g | 220.41 V04 |
| Angle rotor 6 x 85 ml | 12.000 rpm | 16.582 x g | 220.78 V02 / V04* |
| Angle rotor 6 x 50 ml | 12.000 rpm | 15.294 x g | 220.80 V02 / V04* |
| Microtitre plate rotor | 6.000 rpm | 6.399 x g | 221.06 V01 |

* Hermetically sealed Version

** 120 V version 4.500 rpm/4.414 x g

*** 120 V version 3.000 rpm/2.334 x g

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