

# HERMLE

---

## LABORTECHNIK



## Microlitre Centrifuges

ALYS Labware, Lausanne  
Tel : 021 312 42 60  
Fax : 021 312 42 61  
[labware@alys-technologies.com](mailto:labware@alys-technologies.com)

# Microlitre Centrifuges for all applications

If your daily requirements include centrifugation of microlitre tubes, we have a centrifuge for you.

All models are equipped with a brushless motor, offer an easy to use control system and are designed for easy cleaning.



## Z 160 M

All that a microlitre centrifuge needs:

- short acceleration and deceleration times
- low sample heating during the run
- continuously adjustable speed and "Quick"-key
- the 18-place-rotor can be autoclaved and is designed for 1,5 ml or 2,0 ml reaction tubes, no matter, if the tubes have a snap cover or a screw cap
- for smaller volumes we offer suitable adapters

## Z 233 M-2

A high performance microlitre centrifuge, offering a full range of features:

- digital display of time, rpm and RCF
- two acceleration and deceleration profiles
- "Quick"-key incl. digital display of running time in seconds
- 6 different rotors available, up to a capacity of 44 x 1,5 ml / 2,0 ml
- aerosol tight rotor



## Z 233 MK-2

Equipment description as Z 233 M-2

- with CFC-free refrigeration
- temperature range from -10°C to +40°C
- because of the small dimensions and arrangement of the refrigeration system, the Z 233 MK-2 only needs a little more space than the non-refrigerated centrifuge
- extremely short pre-cooling time (from room temperature to 4°C in less than 10 min.)
- aerosol tight rotor



## Strip Tube Rotor

For faster and easier sample processing. The strip tubes are compatible with 8-channel pipettes.

- 4 strips of 8 x 1,5 ml tubes
- incl. adapters to hold 4 strips 8 x 0,2 ml (PCR)



ALYS Labware, Lausanne

Tel : 021 312 42 60

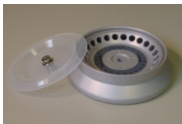
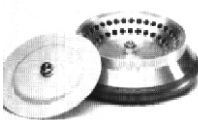
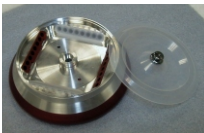
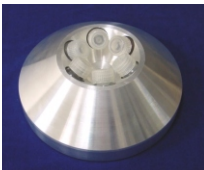
Fax : 021 312 42 61

labware@alys-technologies.com

## Features / Technical Data

| Features                             | Z 160 M                     | Z 233 M-2                                           | Z 233 MK-2                                          |
|--------------------------------------|-----------------------------|-----------------------------------------------------|-----------------------------------------------------|
| Maintenance-free brushless motor     | ✓                           | ✓                                                   | ✓                                                   |
| Imbalance switch-off                 | ✓                           | ✓                                                   | ✓                                                   |
| Automatic lid lock                   | ✓                           | ✓                                                   | ✓                                                   |
| Microprocessor-control               |                             | ✓                                                   | ✓                                                   |
| Digital display for • speed          |                             | ✓                                                   | ✓                                                   |
| • RCF                                |                             | ✓                                                   | ✓                                                   |
| • running time                       |                             | ✓                                                   | ✓                                                   |
| • temperature                        |                             |                                                     | ✓                                                   |
| Pre-selection by turning knobs       | ✓                           | ✓                                                   | ✓                                                   |
| “Quick”-key for short runs           | ✓                           | ✓                                                   | ✓                                                   |
| Display of running time in seconds   |                             | ✓                                                   | ✓                                                   |
| Pre-selection of running time        | 1 to 30 min. continuous run | 1 to 60 min. continuous run<br>in 1 min. increments | 1 to 60 min. continuous run<br>in 1 min. increments |
| 2 acceleration/deceleration profiles |                             | ✓                                                   | ✓                                                   |
| Speed range                          | 1.000 to 14.000 rpm         | 250 to 15.000 rpm                                   | 250 to 15.000 rpm                                   |
| Noise level                          | 56 dB/A                     | 57 dB/A                                             | 57 dB/A                                             |
| CFC-free refrigeration system        |                             |                                                     | ✓                                                   |
| Temperature range                    |                             |                                                     | -10°C to +40°C<br>in 1°C increments                 |
| Stand still cooling                  |                             |                                                     | ✓                                                   |

| Technical Data       | Z 160 M           | Z 233 M-2         | Z 233 MK-2      |
|----------------------|-------------------|-------------------|-----------------|
| <b>Output data</b>   |                   |                   |                 |
| Speed max.           | 14.000 rpm        | 15.000 rpm        | 15.000 rpm      |
| RCF max.             | 15.994 x g        | 21380 x g         | 21380 x g       |
| Volume max.          | 18 x 1,5 / 2,0 ml | 44 x 1,5 / 2,0 ml | 6 x 30 ml       |
| <b>Dimensions</b>    |                   |                   |                 |
| Unit (L/H/W)         | 200 x 180 x 220   | 280 x 260 x 370   | 320 x 290 x 540 |
| Package (L/H/W)      | 300 x 290 x 280   | 480 x 380 x 350   | 650 x 450 x 500 |
| <b>Weight in kg</b>  |                   |                   |                 |
| Unit                 | 6                 | 16                | 39              |
| Unit incl. packaging | 6,5               | 17                | 43              |
| <b>Voltages</b>      | <b>Order No.</b>  |                   |                 |
| 230 V / 50-60 Hz     | 290.00 P01        | 282.00 V30        | 281.00 V04      |
| 120 V / 50-60 Hz     | 290.00 P02        | 282.00 V31        | 281.00 V05      |
| 100 V / 50-60 Hz     | 290.00 P03        | 282.00 V32        | 281.00 V06      |

| Rotors                                                                             | Units                                                                            |                                                                                                                                                   | Z 160 M                                   | Z 233 M-2                                             | Z 233 MK-2                                             | Accessories |                                                                        |
|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-------------|------------------------------------------------------------------------|
|                                                                                    |                                                                                  |                                                                                                                                                   |                                           |                                                       |                                                        | Order No.:  |                                                                        |
|    | 18 x 1,5 ml / 2,0 ml<br>Order No.:<br>220.95 V01 *                               | Acceleration in sec.:<br>Deceleration (min./max.):<br>Speed max. (rpm):<br>RCF-value (x g):<br>Centrifugal radius (cm):<br>Temperature at n-max.: | 10<br>9<br>14.000<br>15.994<br>7,3<br>-/- | 9/20<br>9/20<br>14.000<br>15.994<br>7,3<br>-/-        | 9/20<br>9/20<br>14.000<br>15.994<br>7,3<br>-6°C/-10°C  | 704.004     | Set of adapters (12 pcs.)<br>for 0,4 ml and 0,2 ml<br>PCR tubes Ø 6 mm |
|                                                                                    |                                                                                  |                                                                                                                                                   |                                           |                                                       |                                                        | 704.005     | Set of adapters (12 pcs.)<br>for 0,5 ml tubes Ø 8 mm                   |
|    | 24 x 1,5 ml / 2,0 ml<br>Order No.:<br>220.87 V05                                 | Acceleration in sec.:<br>Deceleration (min./max.):<br>Speed max. (rpm):<br>RCF-value (x g):<br>Centrifugal radius (cm):<br>Temperature at n-max.: |                                           | 15/26<br>15/28<br>15.000<br>21380<br>8,5<br>-2°C/-7°C | 15/26<br>15/28<br>15.000<br>21380<br>8,5<br>-2°C/-7°C  | 704.004     | Set of adapters (12 pcs.)<br>for 0,4 ml and 0,2 ml<br>PCR tubes Ø 6 mm |
|                                                                                    |                                                                                  |                                                                                                                                                   |                                           |                                                       |                                                        | 704.005     | Set of adapters (12 pcs.)<br>for 0,5 ml tubes Ø 8 mm                   |
|    | 44 x 1,5 ml / 2,0 ml<br>Order No.:<br>220.88 V02                                 | Acceleration in sec.:<br>Deceleration (min./max.):<br>Speed max. (rpm):<br>RCF-value (x g):<br>Centrifugal radius (cm):<br>Temperature at n-max.: |                                           | 17/25<br>19/34<br>14.000<br>18.400<br>8,4<br>-/-      | 17/25<br>19/34<br>14.000<br>18.400<br>8,4<br>+3°C/-5°C | 704.004     | Set of adapters (12 pcs.)<br>for 0,4 ml and 0,2 ml<br>PCR tubes Ø 6 mm |
|                                                                                    |                                                                                  |                                                                                                                                                   |                                           |                                                       |                                                        | 704.005     | Set of adapters (12 pcs.)<br>for 0,5 ml tubes Ø 8 mm                   |
|    | 64 x 0,4 ml<br>Order No.:<br>220.92 V03                                          | Acceleration in sec.:<br>Deceleration (min./max.):<br>Speed max. (rpm):<br>RCF-value (x g):<br>Centrifugal radius (cm):<br>Temperature at n-max.: |                                           | 17/25<br>19/34<br>14.000<br>17.960<br>8,2<br>-/-      | 17/25<br>19/34<br>14.000<br>17.960<br>8,2<br>+3°C/-5°C |             |                                                                        |
|  | 24 x Capillaries<br>Order No.:<br>220.58 V08                                     | Acceleration in sec.:<br>Deceleration (min./max.):<br>Speed max. (rpm):<br>RCF-value (x g):<br>Centrifugal radius (cm):<br>Temperature at n-max.: |                                           | 24<br>32<br>12.000<br>14.811<br>9,2<br>-/-            |                                                        | 620.000     | Reading device                                                         |
|                                                                                    |                                                                                  |                                                                                                                                                   |                                           |                                                       |                                                        | 620.001     | Reading graph                                                          |
|  | 4 x 8<br>1,5 ml / 2,0 ml<br>and 0,2 ml<br>PCR-Strips<br>Order No.:<br>221.09 V01 | Acceleration in sec.:<br>Deceleration (min./max.):<br>Speed max. (rpm):<br>RCF-value (x g):<br>Centrifugal radius (cm):<br>Temperature at n-max.: |                                           | 17/25<br>19/34<br>14.000<br>15.339<br>7,0<br>-/-      | 17/25<br>19/34<br>14.000<br>15.339<br>7,0<br>+3°C/-5°C |             |                                                                        |
|  | 6 x 30 ml<br>Order No.:<br>221.10 V01                                            | Acceleration in sec.:<br>Deceleration (min./max.):<br>Speed max. (rpm):<br>RCF-value (x g):<br>Centrifugal radius (cm):<br>Temperature at n-max.: |                                           |                                                       | 58/106<br>40/85<br>12.000<br>15938<br>9,9<br>4°C       |             |                                                                        |

\* Z 160 M Order No.: 220.95 V04

**HERMLE**  
LABORTECHNIK

HERMLE Labortechnik GmbH  
Gosheimer Straße 56  
78564 Wehingen  
Germany  
Phone + 49-74 26- 96 22-50  
Fax + 49-74 26- 96 22-49  
E-mail: [hermle@hermle.biz](mailto:hermle@hermle.biz)  
Internet: [www.hermle.biz](http://www.hermle.biz)

Technical modification rights reserved.

Version 1 / 2002

ALYS Labware, Lausanne  
Tel : 021 312 42 60  
Fax : 021 312 42 61  
[labware@alys-technologies.com](mailto:labware@alys-technologies.com)