

HERMLE

Benchmark

Z446 Series

Z446

Z446-K

Universal, High Capacity Centrifuges



- **High Capacity, 4 x 750ml** (accepts 28x50ml or 68x15ml)
- **Advanced programming with auto rotor recognition**
- **Available with refrigeration**
- **Ideal for tissue culture laboratories**



Z446 Universal Centrifuge



Refrigerated

Z446-K Universal Centrifuge



Z446 Series Summary

Speed up to 16,000 rpm
G-Force up to 26,328 x g
Swing Out Capacity:
4 x 750ml
28 x 50ml
68 x 15ml
20 x microplates

Angle Rotor Capacity
44 x 1.5/2.0ml
10 x 50ml
30 x 15ml

Z446 Features

Microprocessor Control

- Over-speed protection
- Automatic rotor identification
- Program Storage (99)
- Pre-Cool function (Z446-K only)
- Momentary spin button
- Imbalance detection
- Adjustable Accel/Decel
- Audible end of run alarm

- Maintenance free induction drive
- Motor driven safety lid-lock
- Quiet operation, less than 65 DB
- Splash proof display
- Powerful Refrigeration (Z446-K only)

Z446 Specifications

Speed Range: 200 to 16,000 rpm
Max. RCF: 24,325 x g
Max Capacity: 4 x 750 ml
Timer: up to 99 hr, 59 min.
Dimensions: 21.3 x 26.4 x 15.4 in.
(W x D x H) 54 x 67 x 39 cm.
Z446-K 28.7 x 26.4 x 15.4 in.
73 x 67 x 39 cm.
Weight: 174 lbs (79 kg)
Z446-K 244 lbs (111 kg)
Electrical: 120 or 230V, 50/60Hz
Power Draw: 640W (Z446-K: 1630W)

Temp Range: -20° - 40° C
(Z446-K only)



The Z446 universal centrifuge series offers the highest capacity of any benchtop Hermle-Benchmark model. With air-craft grade, premium alloy construction, the 4 x 750ml swing out rotor can withstand centrifugal forces upwards of 4,000 x g with full loads of up to 28 x 50ml or 68 x 15ml tubes.

Advanced microprocessor controls allow for instant rotor identification, which automatically converts the rotational speed to the relevant g-force (rcf), preventing the user from setting a speed above the capabilities of the installed rotor. In addition to retrieving saved programs, the easy to use front panel can adjust accel/decel rates, and change the end of run alarm tone.

Rotor exchange is simple and requires less than one minute. An included rotor wrench can be used to loosen and install all rotors. As soon as the rotor is placed on the motor shaft, the identification process activates and the installed rotor code is displayed on the backlit LCD display.

Ordering Information:

Z446* Z446 Centrifuge (without rotor), 120V
Z446-K* Z446-K Refrigerated Centrifuge (without rotor), 120V

*115V with US Plug. For 230V (EU Plug), please order -E.

Universal Swing Out Rotors:



Z446-750



Z446-750-MP



Z446-MP-BUK
(Lid not included)



Z446-750-LID
(Hermetically sealed lid
with sealing ring)



Z446-MP-RA
Microplate removing aid

Item: Z446-750-AC	
4 x 750ml Swing Out Rotor	
Max Speed: 4,000 rpm / 3,434 x g (Z446)	
Max Speed: 4,500 rpm / 4,346 x g (Z446-K)	
Accel: 47 sec. / Decel: 49 sec.	
Z446-750-AC	Rotor without buckets
Z446-750	Rotor complete with 4 round buckets
Z446-750-BUK	Round buckets, 2/pk.
Z446-MP-BUK	Rectangular buckets, 2/pk.
Z446-750-MP	Microplate carrier, 2/pk
Z446-MP-STK	PCR plate stacking adapter (for Z446-750-MP), 2/pk
Z446-750-LID	Hermetically sealed lid for round buckets, 2/pk
Z446-MP-LID	Hermetically sealed lid for rectangular buckets, 2/pk

Inserts: (for round buckets)	Tube/Bottle	qty/insert	qty./rotor
Z446-750-A500	500ml conical	1	4
Z446-750-A250	250ml bottle	1	4
Z446-750-A225	225ml conical	1	4
Z446-750-A50	50ml conical	7	28
Z446-750-A30	30ml round	8	32
Z446-750-A15	15ml conical	17	68
Z446-750-A10	10ml	18	72
Z446-750-A57	5/7ml	27	108

New optional accessories!!!

Z326-MPCA

3 x chamber slide and dish carrier



Chamber Slides

35mm Dishes

60mm Dishes



Z446-MP-STK
PCR plate stacking adapter
(fits Z446-750-MP Only)



Additional Rotors:



Item: Z446-04500

4 x 500ml Angle Rotor (24°)
Max Speed: 8,000 rpm / 10,367 x g
Accel: 73 sec. / Decel: 82 sec.



Item: Z366-06250

6 x 250ml Angle Rotor (28°)
Max Speed: 8,000 rpm / 10,016 x g
Accel: 66 sec. / Decel: 84 sec.



Item: Z326-0685

6 x 85ml Angle Rotor (38°)
Max Speed: 11,000 rpm / 15,555 x g (Z446)
Max Speed: 13,000 rpm / 21,726 x g (Z446K)
Accel: 48 sec. / Decel: 46 sec.



Item: Z326-0485

4 x 85ml Angle Rotor (30°)
Max Speed: 15,000 rpm / 23,140 x g (Z446)
Max Speed: 16,000 rpm / 26,328 x g (Z446K)
Accel: 50 sec. / Decel: 45 sec.

Inserts/Adapters

Z446-500-A15: 15ml conical
Z446-500-A50R: 50ml round
Z446-500-A50: 50ml conical
Z446-500-A250: 250ml bottle

Inserts/Adapters

Z366-06250-A15: 4 x 15ml conical
Z366-06250-A50R: 50ml round
Z366-06250-A50: 50ml conical

Inserts/Adapters

Z326-85-A15R: 15ml round
Z326-85-A15: 15ml conical
Z326-85-A50R: 50ml round
Z326-85-A50: 50ml conical

Inserts/Adapters

Z326-85-A15R: 15ml round
Z326-85-A15: 15ml conical
Z326-85-A50R: 50ml round
Z326-85-A50: 50ml conical

Additional Rotors (Continued):



Item: Z326-0650-HS

6 x 50ml Angle Rotor (26°)
 Max Speed: 13,000 rpm / 15,869 x g
 Accel: 28 sec. / Decel: 32 sec.



Item: Z326-1050

10 x 50ml Angle Rotor (38°)
 Max Speed: 10,000 rpm / 14,532 x g
 Max Speed: 10,500 rpm / 16,022 x g
 Accel: 56 sec. / Decel: 64 sec.



Item: Z326-2010

20 x 10ml Angle Rotor (30°)
 Max Speed: 12,000 rpm / 15,775 x g
 Accel: 32 sec. / Decel: 37 sec.



Item: Z326-02MP

Swing Out Rotor
 2 x 3 microplates (90°)
 Max Speed: 4,500 rpm / 2,716 x g
 Accel: 27 sec. / Decel: 23 sec.

Inserts/Adapters

Z326-50-A30: 30ml round
 Z326-50-A15R: 15ml (conical or round)

Inserts/Adapters

Z326-50-A15: 15ml conical
 Z326-50-B15: 15ml round
 Z206-50-A57: 5-7ml (12-13mm)
 Z206-50-A57C: Cushion for 5ml tube

Inserts

BT1500-A1520: 20 x 1.5ml
 BT1500-A05: 20 x 0.5ml
 Z326-MPCA: 3 x chamber slide and dish carrier 2/pk



Item: Z326-2420

24 x 1.5/2.0ml Angle Rotor with Quick-Seal lid (45°)
 Max Speed: 16,000 rpm / 24,325 x g
 Accel: 21 sec. / Decel: 30 sec.



Item: Z326-2420H

24 x 1.5/2.0ml Angle Rotor (45°)
 Hermetically Sealed Lid
 Max Speed: 16,000 rpm / 24,325 x g
 Accel: 21 sec. / Decel: 29 sec.



Item: Z326-4420

44 x 1.5/2.0ml Angle Rotor with Quick-Seal lid (32°/55°)
 Max Speed: 16,000 rpm / 24,325 x g
 Accel: 25 sec. / Decel: 30 sec.



Item: Z326-3202

4 x 8 PCR Strips / 32 x 0.2ml (45°)
 Hermetically Sealed
 Max Speed: 15,000 rpm / 15,343 x g
 Accel: 12 sec. / Decel: 12 sec.

Also Available from Benchmark:

Z216 Series High Speed Microcentrifuges



- Available with or without refrigeration
- Up to 44 tube capacity (44 x 1.5/2.0ml)
- Max Speed: 15,000 rpm / 21, 379 x g

