



ZENTRIMIX 380 R

Homogenizing, mixing and
milling – fast and efficient



AWARD-WINNING INNOVATION

For the development of the highly versatile dual centrifuge ZentriMix 380 R and new applications in pharmaceutical development, food control and biomedical research, Hettich was awarded as one of the most innovative companies in Germany in 2018.



ZENTRIMIX 380 R

— Efficient and safe work in the laboratory

The dual centrifuge ZentriMix 380 R allows many challenging laboratory tasks in research, development and analytics in a very efficient way or makes them possible for the first time. Examples are the rapid mixing of viscous materials, the production of nanoparticles in closed (sterile) vessels or tissue disruption. A particular advantage is the powerful cooling system for temperature-sensitive samples.

The ZentriMix 380 R was developed on the basis of proven Hettich centrifuge technology. This makes the device safe, reliable and durable. In addition, the compact design and the low noise level ensure a comfortable working environment in the laboratory.



— The innovative ZentriMix rotor

In contrast to a conventional centrifuge, the rotor of the ZentriMix is equipped with two rotary disks. They are used to accommodate sample vessels and rotate them around their own axis. This additional rotation during centrifugation causes very fast movements of the sample in their containers. The result is optimum milling, mixing or homogenization of the materials.



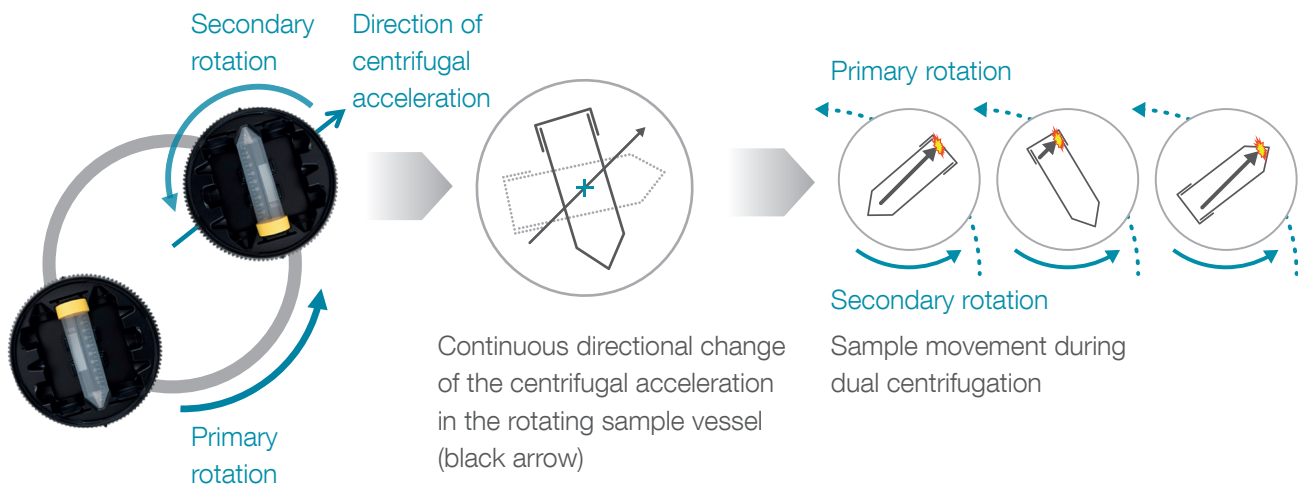
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— Operating principle of the rotor



— Good reasons to choose ZentriMix 380 R:

The ZentriMix 380 R provides a wide range of applications

- Nano-milling (e.g. of insoluble active substances)
- Conventional milling
- Extractions (e.g. QuEChERS extraction of pesticides from food)
- Fast mixing (e.g. of viscous materials such as creams, pastes, silicones, printer inks, etc.)
- Homogenization (e.g. for the production of liposomes or emulsions)
- Tissue disruption (e.g. for DNA or protein extraction)
- Degassing
- Conventional centrifugation (when using a standard rotor)

Use of standard disposable vessels

- Adapters available for 2, 10, 15 and 50 ml vessels as well as for 150 and 200 ml jars with screw cap
- Enables the execution under sterile conditions (e.g. liposome production)
- Eliminates cross-contamination
- Cleaning of the device not necessary (e.g. between two milling processes)
- Samples can be stored after the ZentriMix process directly in the production vessel
- Low procurement costs for consumables

Integrated cooling system

- Enables the processing of temperature sensitive samples
- Allows long process times without heating up the device (e.g. 90 min for nano-grinding)
- Use of the ZentriMix as a conventional refrigerated centrifuge (when using a standard rotor)




— Technical data

The following tables list the technical specifications for the ZentriMix 380 R and the ZentriMix H and S rotors.

	ZentriMix 380 R	
voltage ¹⁾	200 – 240 V 1 ~	110 – 127 V 1 ~
frequency	50 – 60 Hz	60 Hz
consumption	1,400 VA	1,600 VA
emission, immunity	EN/IEC 61326-1, class B	FCC class B
max. capacity	2 x 200 ml / 40 x 2.0 ml	2 x 200 ml / 40 x 2.0 ml
max. RPM (S rotor / Swing-out rotor, 4-place)	1,500 / 2,500 min ⁻¹	1,500 / 2,500 min ⁻¹
max. RCF (S rotor / Swing-out rotor, 4-place)	1,048 / 4,863	1,048 / 4,863
dimensions (WxDxH)	472x759x418 mm	472x769x418 mm
weight	approx. 81.5 kg	approx. 89 kg
Cat. No.	3200	3200-01

1) Other voltages on request.

— Available rotors

ROTORS		angle	max. RPM	max. capacity	Cat. No.	page
	H rotor, 2-place	40°	1,500 min ⁻¹	2 x 200 ml	3206	6
	S rotor, 2-place	40°	2,500 min ⁻¹	2 x 200 ml	3205	6
STANDARD ROTOR						
	Swing-out rotor, 4-place	90 °	5,000 min ⁻¹	4 x 250 ml	3234	7

H rotor, 2-place | 3206



Rotor

max. RPM max. RCF	1,500 min ⁻¹ 377
max. capacity	2 x 200 ml
run-up run-down, braked in sec	22 24
angle temperature in °C	40° +20
Cat. No.	3206



Vessels

capacity in ml	15	50	150	200
Ø x L in mm	17 x 120	29 x 115	68 x 60	68 x 79
max. RCF	377	377	377	377
radius in mm	150	150	150	150
Cat. No.	tubes	tubes	jars with screw cap	



Adapter

vessels per rotor	6	6	2	2
Cat. No.	3218	3218	3221-A	3221-A

S rotor, 2-place | 3205



Rotor

max. RPM max. RCF	2,500 min ⁻¹ 1,048
max. capacity	2 x 200 ml
run-up run-down, braked in sec	35 35
angle temperature in °C	40° +20
Cat. No.	3205



Vessels

capacity in ml	2,0	10	150	200
Ø x L in mm	11 x 45.5	25.5 x 49	68 x 60	68 x 79
max. RCF ²⁾	1,048	1,048	1,048	1,048
radius in mm	150	150	150	150
Cat. No.	-	-	jars with screw cap	



Adapter

vessels per rotor	40	4	2	2
Cat. No.	3236	3211	3221-A	3221-A



Removal aid for adapter 3236.

3210

37) Conical 2 ml Sarstedt PP microlitre tubes with screw cap (Art.No. 72.693.005)

38.1) Please only use polypropylene vessels in accordance with ISO 8362 (No Glass!), to fit into the adapter the height of the vessel including crimp cap and stopper should be 48.5 mm.

39) All S Rotor adapters can also be used in the H Rotor.

— The standard rotor converting the ZentriMix 380 R into a powerful Hettich centrifuge

In order to use the ZentriMix for conventional centrifuge applications, we provide a swing-out rotor. With this standard rotor, the ZentriMix becomes

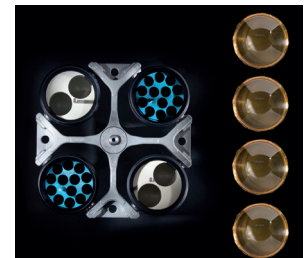
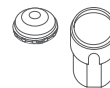
a high-quality refrigerated centrifuge and covers all standard vessels – either alternating with your ZentriMix applications or as a replacement centrifuge.

— Swing-out rotor, 4-place | 3234

Rotor	
max. RPM max. RCF	5,000 min ⁻¹ 4,863
max. capacity	4x 250 ml
run-up run-down, braked in sec	42 27
angle	90°
Cat. No.	3234



Bucket	
lid bioseal ⁵⁾	1751
Cat. No.	1752



Vessels														
capacity in ml		2.0	10	9	15	94	100	100	250	15	50	30	50	250
Ø x L in mm		11 x 38	25.5 x 49	14 x 100	17 x 100	38 x 102	40 x 115	44 x 100	65 x 115	17 x 120	29 x 115	25 x 110	29 x 115	61 x 122
max. RCF ⁷⁾	top / bottom	3,494 / 4,779	4,695	4,668	4,668	4,807	4,640	4,640	4,640	4,863	4,863	4,528	4,752	4,863
radius in mm	top / bottom	125 / 171	168	167	167	172	166	166	166	174	174	162	170	174
Bestell-Nr.		-	-	tubes ⁷⁾					tubes with screw cap					
Adapter														
boring Ø x L in mm		11,2x39,5	26x33	17.5x61	17.5x61	38.5x80	41x97	45x87	66x104.5	17x84	30x84	26.5x72	30x80	62 x 100
vessels per rotor		144	24	52	52	8	4	4	4	36	16	20	16	4
Cat. No.		1761	3235	1763-A	1763-A	1777	1767	1766	1768	1771-A	1772-A	1779	1774-A	1769

5) Tested by the TÜV in conformity with DIN EN 61010, section 2-020.

6) Polypropylene vessels in accordance with ISO 8362.

7) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers.

8) At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

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