

ALL AROUND
TALENT



UNIVERSAL 320/320 R
Benchtop Centrifuges
classic/cooled

Hettich
ZENTRIFUGEN

There are good reasons why we have called these centrifuges UNIVERSAL. Their excellent performance and comprehensive range of accessories enable them to carry out virtually any centrifuging task. In the low speed range, the UNIVERSAL 320 and 320 R process standard tubes up to a volume of 100 ml, microtitre plates, conical tubes with screw cap, blood collection tubes and cyto accessories. Microlitre tubes can be accelerated to an RCF of 21,382. Centrifuge tubes taking higher volumes (up to 85 ml) also profit from the extraordinary motor power of the UNIVERSAL 320 / 320 R. At an RCF of 9,418, bacteria and yeast sediment quickly and easily.



UNIVERSAL 320 classic

Cat. No. 1401

PERFORMANCE

- High RCF
 - 85 ml tubes up to 9,418
 - 15 ml tubes up to 16,582
 - Microlitre tubes up to 21,382
- Extremely short run-up and run-down times

DESIGN

- Metal housing
- Metal lid
- Stainless steel centrifuging chamber
- Viewing port in the lid

USER-FRIENDLINESS

- Automatic lid-locking
- Quick-entry foil keypad
- Easily exchangeable rotors
- 10 programmable memories

REFRIGERATION (UNIVERSAL 320 R)

- Infinitely variable setting from – 20 °C to + 40 °C
- Fast cool function

SAFETY

- Lid locking and holding during rotor run
- Emergency lid-lock release
- Motor-overheating protection
- Chamber-overheating protection (with the UNIVERSAL 320 R)
- Imbalance switch-off
- Automatic rotor recognition
- Lid dropping protection

OPTIONS

As an option, the UNIVERSAL 320 R is also available

- with connection to an external refrigerated/heating circulator (provided by the customer) – **Cat. No. 1406-50** (without internal cooling unit). Depending on circulator performance, the centrifuge can heat or cool within a range of 0 °C to 90 °C,
- with connection for flushing with nitrogen – **Cat. No. 1406-20** (without monitoring and controlling system).

OPERATION AND CONTROL

The display panel and all controls on the UNIVERSAL 320 and 320 R centrifuges have been designed ergonomically. Information on the display is clearly positioned and perfectly legible. During centrifugation, the actual parameter values are indicated.


Nine acceleration and braking ramps, or unbraked run-down, can be pre-selected. Ramp 9 always corresponds to the shortest possible run-up or run-down time. The stored parameter combination remains in the memory even after the centrifuge has been switched off.

By entering the rotor radius r /mm, the centrifuge calculates and indicates the rotational speed RPM or the relative centrifugal force RCF.


The twist knob allows quick and easy entry or changing of the parameters.

DIGITAL DISPLAY AND CONTROL PANEL

KEYPAD

	Precooling (UNIVERSAL 320 R)
RCF	Change-over from RPM to RCF indication
SELECT	Selection of parameters
START	Starts centrifugation /
IMPULS	Short cycle mode
STOP	Stops centrifugation manually /
OPEN	Opens the lid

ENTRY OF THE PARAMETERS

P	Entry of the program number, 10 programmable memories
T/°C	Entry of the temperature in increments of 1 °C within a range of - 20 °C to + 40 °C (UNIVERSAL 320 R)
RCF	Entry in increments of 10
RPM	Entry in increments of 10
r/mm	Entry of the radius in mm
t/min	Entry of the centrifuging time in minutes and seconds (max. 99 min : 59 sec)
	Entry of the acceleration ramp 1 - 9 Entry of the braking ramp 1 - 9



UNIVERSAL 320 R control panel



UNIVERSAL 320 R cooled

Cat No. 1406


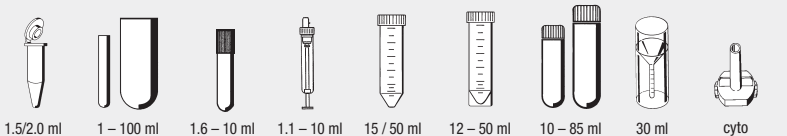

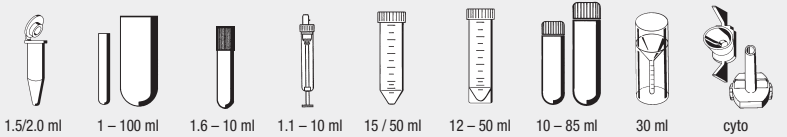




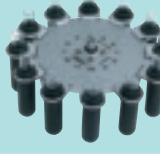
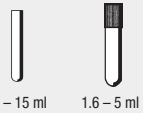


ROTORS AND ACCESSORIES

UNIVERSAL 320 / 320 R centrifuges accommodate rotors and accessories for virtually every centrifuging task required in industrial, research and clinical laboratories.










































Tubes / plates	Max. capacity
standard tubes	28 x 15 ml or 4 x 100 ml
hematocrit capillaries	24
conical tubes with screw cap	8 x 15 ml or 8 x 50 ml
microtitre plates	4
culture plates	2
cyto suspensions	8
blood collection tubes	48
round-bottom tubes with screw cap	6 x 85 ml
microlitre tubes	30 x 1.5 / 2.0 ml

Rotors	Max. RCF
swing-out rotor with bio-containment buckets	2,655
rotor for conical tubes with screw cap	3,857
rotor for microtitre and culture plates	2,093
rotor for 8 cyto suspensions	2,218
angle rotor for round-bottom tubes with screw cap (6 x 85 ml)	9,418
angle rotors (12-, 24- or 30-place) for microlitre tubes (0.2 – 2.0 ml)	21,382

Quick overview of rotors and suitable accessories. The figures highlighted under the arrows refer to the pages where technical and ordering details are listed.

 <p>some accessories with bio-containment</p>	<p>Swing-out rotor 4-place n = 5,000 min⁻¹ max. RCF 4,193 Cat. No. 1494</p>		<p>→ Page 6-8</p>
 <p>some accessories with bio-containment</p>	<p>Swing-out rotor 4-place n = 4,000 min⁻¹ max. RCF 2,665 Cat. No. 1624</p>		<p>→ Page 9-10</p>
	<p>Swing-out rotor 8-place n = 5,000 min⁻¹ max. RCF 3,875 Cat. No. 1617</p>		<p>→ Page 11</p>
	<p>Swing-out rotor 6-place n = 4,000 min⁻¹ max. RCF 2,701 Cat. No. 1619</p>		<p>→ Page 11</p>
	<p>Swing-out rotor 12-place n = 5,000 min⁻¹ max. RCF 4,187 Cat. No. 1628</p>		<p>→ Page 11</p>
	<p>Swing-out rotor 8-place n = 4,000 min⁻¹ max. RCF 2,415 Cat. No. 1611</p>		<p>→ Page 12</p>

ROTORS AND ACCESSORIES

	<p>Swing-out rotor 2-place $n = 4,000 \text{ min}^{-1}$ max. RCF 2,093 Cat. No. 1622</p>		 microtitre plate  culture plate	 Page 12
	<p>Swing-out rotor 4-place $n = 4,000 \text{ min}^{-1}$ max. RCF 1,896 Cat. No. 1645</p>		 microtitre plate  culture plate	 Page 12
<p>auto-clavable with bio-containment</p> 	<p>Angle rotor 30-place $n = 14,000 \text{ min}^{-1}$ RCF 21,255 Cat. No. 1689</p>	 0.2 – 2.0 ml		 Page 13
	<p>Angle rotor 12-place $n = 15,000 \text{ min}^{-1}$ max. RCF 16,602 Cat. No. 1612</p>	 0.2 – 2.0 ml		 Page 13
<p>auto-clavable with bio-containment</p> 	<p>Angle rotor 24-place $n = 15,000 \text{ min}^{-1}$ max. RCF 21,382 Cat. No. 1420</p>	 0.2 – 2.0 ml		 Page 13
	<p>Angle rotor 12-place $n = 6,000 \text{ min}^{-1}$ max. RCF 4,146 Cat. No. 1613</p>	 5 – 15 ml  15 ml		 Page 14
	<p>Angle rotor 12-place $n = 12,000 \text{ min}^{-1}$ max. RCF 16,582 Cat. No. 1615</p>	 5 – 15 ml  15 ml		 Page 14
	<p>Angle rotor 6-place $n = 9,000 \text{ min}^{-1}$ max. RCF 9,418 Cat. No. 1620 A</p>	 1.5/2.0 ml  5 – 15 ml  9 – 10 ml  15 / 50 ml  10 – 85 ml		 Page 14
	<p>Hematocrit rotor 24-place $n = 15,000 \text{ min}^{-1}$ max. RCF 21,382 Cat. No. 1650</p>		 capillary	 Page 15
	<p>Cyto rotor 6-place $n = 4,000 \text{ min}^{-1}$ max. RCF 2,039 Cat. No. 1626</p>		 cyto	 Page 16
	<p>Cyto rotor 8-place $n = 4,000 \text{ min}^{-1}$ max. RCF 2,218 Cat. No. 1648</p>		 cyto	 Page 16

ROTORS AND ACCESSORIES

Swing-out rotor, 4-place
































illustrated with buckets No. 1427


























$n = 5,000 \text{ min}^{-1}$

max. RCF 4,193

$\pm 90^\circ$

Cat. No. (without buckets) 1494

capacity ml	1.5 - 2.0	1	3	5	6	7	9	15	25	50	15	50	25	30
dimensions Ø x L mm	11 x 38	6 x 45	10 x 60	13 x 75	12 x 82	12 x 100	14 x 100	17 x 100	24 x 100	34 x 100	17 x 120	29 x 115	25 x 90	25 x 110
Cat. No.	2078/0536	Rhesus	-	-	0501²⁾	0578²⁾	0500²⁾	0518²⁾	0519²⁾	0521²⁾	0509	0513	-	-
 bucket Cat. No. 1427														
														
Cat. No.	5277	1357	1327	1732	5229	5230	5237	5231	5232	5233	5275	5276	1731	5272
boring Ø x L mm	11.5 x 38	6.5 x 23	10.5 x 23	13.4 x 58	12.5 x 44	12.4 x 87	15 x 73	17.8 x 87	25.5 x 87	35.5 x 87	17 x 90	30 x 90	25.5 x 72	25.5 x 85
tubes per rotor	36	120	48	32	48	48	24	8	4	4	4	4	8	4
max. RCF	4,109	4,081	4,053	4,025	4,053	3,941				4,165	4,053	3,969	4,025	
radius in mm	147	146	145	144	145	141				149	145	142	144	
run-up in sec	30													
run-down in sec	☐ 32 ◻ 600													
temperature °C ¹⁾	-7													

capacity ml	1.1-1.4	2.6-2.9	2.7-3	4-5.5	4.5-5	4.9	7.5-8.2	9-10	1.6-5	4-7	8.5-10	
dimensions Ø x L mm	8 x 66	13 x 65	11 x 66	15 x 75	11 x 92	13 x 90	15 x 92	16 x 92	13 x 75	13 x 100	16 x 75	16 x 100
Cat. No.	blood collection/urine tubes											
 bucket Cat. No. 1427												
												
Cat. No.	5278	5229	5229	5279	5230	1732	5279	5271	1732	5271	5231	
boring Ø x L mm	9 x 41	12.5 x 44	12.5 x 44	15.6 x 41	12.4 x 87	13.4 x 58	15.6 x 41	17 x 66	13.4 x 58	17 x 66	17.8 x 87	
tubes per rotor	48		48	20	48	32	20		32	20	24	
max. RCF	4,109	4,053	4,053	4,109	3,941	4,025	4,109	3,969	4,025	3,969	3,941	
radius in mm	147	145	145	147	141	144	147	142	144	142	141	
run-up in sec	30											
run-down in sec	☐ 32 ◻ 600											
temperature °C ¹⁾	-7											

1) Lowest attainable temperature in precooled refrigerated centrifuges at max. speed

2) Please make sure not to exceed the tubes' max. permissible RCF. For glass tubes the max. RCF is 4,000.

3) When using these tubes, bucket No. 1427 cannot be closed with lid No. 1421.





























4) Please remove the rubber insert.


























ROTORS AND ACCESSORIES



adapter No. 1441
for blood collection
tubes



bucket No. 1425

capacity ml	1.5	2.0	1	3	5	6	7	9	15	25	50	100	50	50
dimensions Ø x L mm	11 x 38		6 x 45	10 x 60	13 x 75	12 x 82	12 x 100	14 x 100	17 x 100	24 x 100	34 x 100	44 x 100	29 x 115	29 x 115
Cat. No.	2078	0536	Rhesus	-	-	0501²⁾	0578²⁾	0500²⁾	0518²⁾	0519²⁾	0521²⁾	0526²⁾	0513	-
 bucket Cat. No. 1425														
														
Cat. No.	1444	1432	1433	1438	1434	1431	1435	1436	1437	1443	1737			
boring Ø x L mm	11.5 x 38		6.5 x 34	10.5 x 40	13.4 x 50	12.7 x 60		17.5 x 84		25.5 x 84	35.5 x 84	45.5 x 86	30 x 90	30 x 90
tubes per rotor	36		144	56	28	48		28		8	4	4	4	4
max. RCF	3,885		3,969	3,913							3,801		4,081	4,081
radius in mm	139		142	140							136		146	146
run-up in sec	30													
run-down in sec	 32  600													
temperature °C ¹⁾	-10													






























capacity ml	1.1 - 1.4	2.6 - 2.9	2.7 - 3	4 - 5.5	4.5 - 5	4.9	7.5 - 8.2	9 - 10	1.6 - 7		4 - 10	
dimensions Ø x L mm	8 x 66	13 x 65	11 x 66	15 x 75	11 x 92	13 x 90	15 x 92	16 x 92	13 x 75	13 x 100	16 x 75	16 x 100
Cat. No.	blood collection/urine tubes											
 bucket Cat. No. 1425												
												
Cat. No.	1458	1438	1441	1438	1441	1439	1438	1441	1438	1441		
boring Ø x L mm	9 x 50	13.4 x 50		16.5 x 50	13.4 x 50		16.5 x 50	17 x 45	13.4 x 50		16.5 x 50	
tubes per rotor	36	28					16	28				
max. RCF	4,025	3,913										
radius in mm	144	140										
run-up in sec	30											
run-down in sec	 32  600											
temperature °C ¹⁾	-10											




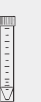

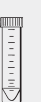







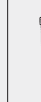

















 braked run-down at level 9
 unbraked run-down

ROTORS AND ACCESSORIES

rotor No. 1494
with buckets
No. 1425



capacity ml	1.5	2.0	1	3	5/6/7	9	15	25	50	100	10	30	50	85
dimensions Ø x L mm	11 x 38		6 x 45	10 x 60	13 x 75/82/100	14 x 100	17 x 100	24 x 100	34 x 100	44 x 100	16 x 80	26 x 95	29 x 107	38 x 106
Cat. No.	2078	0536	Rhesus	-	-/0501²⁾/0578²⁾	0500²⁾	0518²⁾	0519²⁾	0521²⁾	0526²⁾	-	0545	0546	0547
 bucket Cat. No. 1430														
														
Cat. No.	1351	1339	1343	1383	1329	1330	1331	0761⁶⁾	1348	4417	4416	4416	1396	
boring Ø x L mm	11.2 x 38	6.5 x 34	10.5 x 43	13.4 x 48	17.6 x 91	25.2 x 87	35.2 x 87	45.6 x 98	16.5 x 56	26 x 83	29 x 93	38.5 x 92		
tubes per rotor	20	108	36	20	16	4				16	4			
max. RCF	3,857	4,081	4,137	4,025	3,997	3,829	3,801	4,025	4,025	3,857	4,137	4,109		
radius in mm	138	146	148	144	143	137	136	144	144	138	148	147		
run-up in sec	30													
run-down in sec	☐ 32 ○ 600													
temperature °C ¹⁾	-10													

capacity ml	15	50	12	25	30	50	1.6 - 7	4 - 10	1.1 - 1,4	2.7 - 5	2.6 - 4,9	4 - 8.2	9 - 10	10	30
dimensions Ø x L mm	17 x 120	29 x 115	17 x 100	25 x 90	25 x 110	29 x 115	13x75/100	16x75/100	8 x 66	11x66/92	13 x 65/90	15 x 75/92	16 x 92	15 x 102	44 x 105
Cat. No.	0509	0513	-	-	-	-	blood collection/urine tubes								0534⁵⁾
 bucket Cat. No. 1430															
															
Cat. No.	1347	1384	6311	1363	1365	6318	1383	1348	1457	1383	1459	1329	1329	0765	
boring Ø x L mm	17 x 90	30 x 90	17 x 80	26 x 72	26 x 80	29.5 x 80	13.4 x 48	16.5 x 56	9 x 47	13.4 x 48	15.6 x 47	17.6 x 91		45.6 x 98	
tubes per rotor	4						20	16	28	20		16		4	
max. RCF	4,193		3,689		4,193		4,025		4,053	4,025		4,053	3,997	4,193	3,997
radius in mm	150		132		150		144		145	144		145	143	150	143
run-up in sec	30														
run-down in sec	☐ 32 ○ 600														
temperature °C ¹⁾	-10														

- 1) Lowest attainable temperature in precooled refrigerated centrifuges at max. speed
- 2) Please make sure not to exceed the tubes' max. permissible RCF. For glass tubes the max. RCF is 4,000.
- 4) Please remove the rubber insert.
- 5) Tested by the TÜV in conformity with DIN EN 61010, part 2-020.
- 6) A rubber stopper for closing the tube is available with Cat. No. 0535.

ROTORS AND ACCESSORIES

Swing-out rotor, 4-place



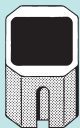












illustrated with suspensions No. 1369

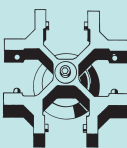












$n = 4,000 \text{ min}^{-1}$

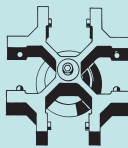




























max. RCF 2,665

$\pm 90^\circ$


Cat. No. (without suspensions) **1624**

capacity ml	1.5	2.0	1	3	4
dimensions $\varnothing \times L$ mm	11 x 38		6 x 45	10 x 60	12 x 60
Cat. No.	2078	0536	Rhesus	-	-
 bucket Cat. No. 1366					
					
Cat. No.	5277	1357	1327	1326	
boring $\varnothing \times L$ mm	11.5 x 38	6.5 x 23	10.5 x 23	12.5 x 44	
tubes per rotor	36	120	48		
max. RCF	1,968	1,950	1,932		
radius in mm	110	109	108		
run-up in sec	20				
run-down in sec	 25  390				
temperature $^\circ\text{C}^{(1)}$	-17				

capacity ml	1.6 - 5	4 - 7	1.1 - 1.4	4-5.5	4.9
dimensions $\varnothing \times L$ mm	13 x 75	16 x 75	8 x 66	15 x 75	13 x 90
Cat. No.	blood collection tubes				
 rotor Cat. No. 1624					
					
Cat. No.	1742	1741	1742	1741	
boring $\varnothing \times L$ mm	17.6 x 78	14.6 x 78	17.6 x 78	14.6 x 78	
tubes per rotor	28	40	28	40	
max. RCF	2,451	2,415	2,451	2,451	
radius in mm	137	135	137	137	
run-up in sec	20				
run-down in sec	 25  390				
temperature $^\circ\text{C}^{(1)}$	-15				

capacity ml	5	5	7	9	9	15	15	20	25	45	50	50	8.5-10
dimensions $\varnothing \times L$ mm	13 x 75	13 x 75	12 x 100	14 x 100	14 x 100	17 x 100	17 x 100	21 x 100	24 x 100	31 x 100	34 x 100	34 x 100	16 x 100
Cat. No.	-	-	0578²⁾	0500²⁾	0500²⁾	0518	0518	-	0519²⁾	-	0521²⁾	0521²⁾	blood coll. tube
 rotor Cat. No. 1624													
													
Cat. No.	1369-91	1372	1369-92	1370	1741	1369	1742	1346	1745	1345	1308	1746	1369
boring $\varnothing \times L$ mm	11.5 x 64.4	13.5 x 65	11.5 x 71.5	14.6 x 74	14.6 x 78	17.6 x 74	17.6 x 78	21.5 x 74	26 x 78	32 x 74	35.7 x 88.2	35 x 78	17.6 x 74
tubes per rotor	16	68	16	20	40	16	28	8	8	4	4	4	16
max. RCF	2,057	2,164	2,308	2,415	2,308	2,451	2,361	2,451	2,361	2,290	2,451	2,308	2,308
radius in mm	115	121	129	135	129	137	132	137	132	128	137	129	129
run-up in sec	20												
run-down in sec	 25  390												
temperature $^\circ\text{C}^{(1)}$	-17		-15		-17	-15	-17	-15	-17	-15		-17	
































 braked run-down at level 9
































 unbraked run-down

ROTORS AND ACCESSORIES



rotor No. 1624
with buckets No. 1381
and lid No. 1382

capacity ml	1.5	2.0	1	3	5/6/7	9	15	25	50	100	10	30	50	85	
dimensions Ø x L mm	11 x 38		6 x 45	10 x 60	13 x 75/82/100		14 x 100	17 x 100	24 x 100	34 x 100	44 x 100	16 x 80	26 x 95	29 x 107	38 x 106
Cat. No.	2078	0536	Rhesus	-	-/0501 ²⁾ /0578 ²⁾		0500²⁾	0518²⁾	0519²⁾	0521²⁾	0526²⁾	-	0545	0546	0547
 bucket Cat. No. 1381															
															
Cat. No.	1351	1339	1343	1383	1329	1330	1331	0761	1348	4417	4416	1396			
boring Ø x L mm	11.2 x 38		6.5 x 34	10.5 x 43	13.4 x 48		17.6 x 91	25.2 x 87	35.2 x 87	45.6 x 98	16.5 x 56	26 x 83	29 x 93	38.5 x 92	
tubes per rotor	20		108	36	20		16	4	4	4	16	4	4	4	
max. RCF	2,451		2,594	2,630	2,558		2,540	2,433	2,415	2,558	2,522	2,451	2,630	2,612	
radius in mm	137		145	147	143		142	136	135	143	141	137	147	146	
run-up in sec	20														
run-down in sec	☐ 25 ☐ 390														
temperature °C ¹⁾	-15														

capacity ml	15	50	12	25	30	50	1.6 - 7	4 - 10	1.1 - 1.4	2.7 - 5	2.6 - 4.9	4 - 8.2	9 - 10	10	30
dimensions Ø x L mm	17 x 120	29 x 115	17 x 100	25 x 90	25 x 110	29 x 115	13 x 75/100	16 x 75/100	8 x 66	11 x 66/92	13 x 65/100	15 x 75/92	16 x 92	15 x 102	44 x 105
Cat. No.	0509	0513	-	-	-	-	blood collection/urine tubes								0534⁵⁾
 bucket Cat. No. 1381															
															
Cat. No.	1347	1384	6311	1363	1365	6318	1383	1348	1457	1383	1459	1329	1329	0765	
boring Ø x L mm	17 x 90	30 x 90	17 x 80	26 x 72	26 x 80	29.5 x 80	13.4 x 48	16.5 x 56	9 x 47	13.4 x 48	15.6 x 47	17.6 x 91	17.6 x 91	45.6 x 98	
tubes per rotor	4						20	16	28	20		16			4
max. RCF	2,665			2,343	2,655		2,558	2,522	2,576	2,558		2,576	2,540	2,665	2,540
radius in mm	149			131	149		143	141	144	143		144	142	149	142
run-up in sec	20														
run-down in sec	☐ 25 ☐ 390														
temperature °C ¹⁾	-15														

- 1) Lowest attainable temperature in precooled refrigerated centrifuges at max. speed
- 2) Please make sure not to exceed the tubes' max. permissible RCF. For glass tubes the max. RCF is 4,000.
- 4) Please remove the rubber insert.
- 5) Tested by the TÜV in conformity with DIN EN 61010, part 2-020.
- 6) A rubber stopper for closing the tube is available with Cat. No. 0535.

ROTORS AND ACCESSORIES

Swing-out rotor, 8-place



↻45°

n = 5,000 min⁻¹
max. RCF 3,875

Cat. No. (with buckets) **1617**

Swing-out rotor, 6-place



↻90°

n = 4,000 min⁻¹
max. RCF 2,701

Cat. No. (with buckets) **1619**




Swing-out rotor, 12-place














↻75°

n = 5,000 min⁻¹
max. RCF 4,187

Cat. No. (without buckets) **1628**

capacity ml	15	50
dimensions Ø x L mm	17 x 120	29 x 115
Cat. No.	0509	0513
 rotor Cat. No. 1617	 	
Cat. No.	1462-A	-
boring Ø x L mm	17 x 84	30 x 94.5
tubes per rotor	8	
max. RCF	3,875	
radius in mm	138	
run-up in sec	20	
run-down in sec	☐ 19 ☐ 380	
temperature °C ¹⁾	-10	

capacity ml	15	50
dimensions Ø x L mm	17 x 120	29 x 115
Cat. No.	0509	0513
 rotor Cat. No. 1619	 	
Cat. No.	1462-A	-
boring Ø x L mm	17 x 84	30 x 87.5
tubes per rotor	6	
max. RCF	2,701	
radius in mm	151	
run-up in sec	20	
run-down in sec	☐ 22 ☐ 265	
temperature °C ¹⁾	-15	

capacity ml	5	10	15	7.5 - 8.2	1.6 - 5	8.5 - 10
dimensions Ø x L mm	13 x 75	17 x 70	17 x 100	15 x 92	13 x 75	16 x 100
Cat. No.	-	2079	0518	blood collection tubes		
 rotor Cat. No. 1628	 	 				
Cat. No.	1127	1122	1621	1127	1621	
boring Ø x L mm	13.2 x 53	17.5 x 53	17.5 x 79	13.2 x 53	17.5 x 79	
tubes per rotor	12					
max. RCF	3,488	3,530	4,187	3,488	4,187	
radius in mm	125	126	150	125	150	
run-up in sec	16					
run-down in sec	☐ 16 ☐ 360					
temperature °C ¹⁾	-15		-10	-15	-10	

☐ braked run-down at level 9
☐ unbraked run-down

ROTORS AND ACCESSORIES

Swing-out rotor, 8-place



±90°

n = 4,000 min⁻¹
max. RCF 2,415

Cat. No. (without buckets) **1611**

Swing-out rotor, 2-place



±90°

n = 4,000 min⁻¹
max. RCF 2,093

Cat. No. (with carriers) **1622**











Swing-out rotor, 4-place






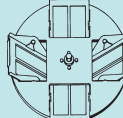


±90°

n = 4,000 min⁻¹
max. RCF 1,896

Cat. No. (without carriers) **1645**

capacity ml	5	10	15	2.6 - 2.9	4 - 5.5	1.6 - 5	4 - 7	8.5 - 10	
dimensions Ø x L mm	13 x 75	17 x 70	13 x 100	17 x 100	13 x 65	15 x 75	13 x 75	13 x 100	
Cat. No.	-	2079	-	0518²⁾	blood collection tubes				
 rotor Cat. No. 1611									
Cat. No.	1131	1132	1643	1644	1131	1132	1131	1643	1644
boring Ø x L mm	13 x 53	17.5 x 53	13.2 x 81	17.5 x 81	13 x 53	17.5 x 53	13 x 53	13.2 x 81	17.5 x 81
tubes per rotor	8								
max. RCF	1,914		2,415		1,914		2,415		
radius in mm	107		135		107		135		
run-up in sec	20								
run-down in sec	☐ 20 ○ 155								
temperature °C ¹⁾	-16								

D x W x H in mm	86 x 128 x 15	86 x 128 x 22
plates	MTP	CP
Cat. No.	-	-
 rotor Cat. No. 1622		
Cat. No.	incl.	
boring Ø x L mm	-	
plates per rotor	4	2
max. RCF	2,093	
radius in mm	117	
run-up in sec	20	
run-down in sec	☐ 26 ○ 470	
temperature °C ¹⁾	-15	

D x W x H in mm	86 x 128 x 15	86 x 128 x 22
plates	MTP	CP
Cat. No.	-	-
 rotor Cat. No. 1645		
Cat. No.	4345	
boring Ø x L mm	-	
plates per rotor	4	
max. RCF	1,896	
radius in mm	106	
run-up in sec	20	
run-down in sec	☐ 19 ○ 800	
temperature °C ¹⁾	-16	

Abbreviation	Description
MTP	Microtitre plate
CP	Culture plate

- 1) Lowest attainable temperature in precooled refrigerated centrifuges at max. speed
- 2) Please make sure not to exceed the tubes' max. permissible RCF. For glass tubes the max. RCF is 4,000.
- 5) Tested by the TÜV in conformity with DIN EN 61010, part 2-020.
- 7) For centrifugation at high speeds we recommend the use of form-fitting adapter No. 2031.

ROTORS AND ACCESSORIES

Angle rotor, 30-place

Angle rotor, 12-place

Angle rotor, 24-place



with bio-containment⁵⁾

45°

n = 14,000 min⁻¹
max. RCF 21,255

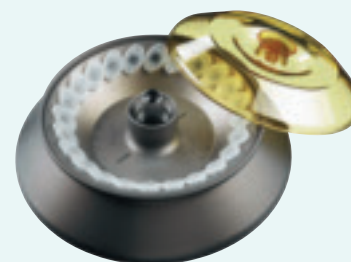
Cat. No. 1689



45°

n = 15,000 min⁻¹
max. RCF 16,602








Cat. No. 1612

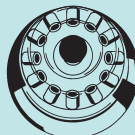















40°

n = 15,000 min⁻¹
max. RCF 21,382

Cat. No. 1420

capacity ml	0.2	0.4	0.5	0.8	1.5	2.0
dimensions Ø x L mm	6 x 18	6 x 45	8 x 30	8 x 45	11 x 38	
Cat. No.	-	-	-	-	2078	0536
 rotor with bio-containment ⁵⁾ Cat. No. 1689						
Cat. No.	2024	2023	2031 ⁷⁾	-	-	-
boring Ø x L mm	6 x 40		8 x 40		11.2 x 40.9	
tubes per rotor	30					
max. RCF	21,255					
radius in mm	97					
run-up in sec	35					
run-down in sec	☐ 31 ☐ 770					
temperature °C ¹⁾	0					

capacity ml	0.2	0.4	0.5	0.8	1.5	2.0
dimensions Ø x L mm	6 x 18	6 x 45	8 x 30	8 x 45	11 x 38	
Cat. No.	-	-	-	-	2078	0536
 rotor Cat. No. 1612						
Cat. No.	2024	2023	2031 ⁷⁾	-	-	-
boring Ø x L mm	6 x 40		8 x 40		11.4 x 39	
tubes per rotor	12					
max. RCF	16,602					
radius in mm	66					
run-up in sec	25					
run-down in sec	☐ 23 ☐ 240					
temperature °C ¹⁾	-10					

capacity ml	0.2	0.4	0.5	0.8	1.5	2.0
dimensions Ø x L mm	6 x 18	6 x 45	8 x 30	8 x 45	11 x 38	
Cat. No.	-	-	-	-	2078	0536
 rotor Cat. No. 1420						
Cat. No.	2024	2023	2031 ⁷⁾	-	-	-
boring Ø x L mm	6 x 40		8 x 40		5.6 x 21.3	
tubes per rotor	24					
max. RCF	21,382					
radius in mm	85					
run-up in sec	25					
run-down in sec	☐ 24 ☐ 550					
temperature °C ¹⁾	-4					

Optional lids for rotor Nr. 1420

Cat. No. 2423

Cat. No. 2425

- phenol-resistant
- with bio-containment⁵⁾
- autoclavable

- with bio-containment⁵⁾
- autoclavable



- ☐ braked run-down at level 9
- ☐ unbraked run-down

ROTORS AND ACCESSORIES

Angle rotor, 6-place



∠35°

n = 9,000 min⁻¹
max. RCF 9,418

Cat. No. 1620 A

Angle rotor, 12-place



∠35°

n = 6,000 min⁻¹
max. RCF 4,146

Cat. No. 1613















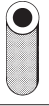

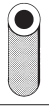

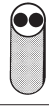
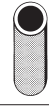


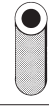
Angle rotor, 12-place





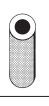






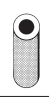
∠35°

n = 12,000 min⁻¹
max. RCF 16,582

Cat. No. 1615

capacity ml	1.5	2.0	15	75	15	50	10	30	50	85	9-10	
dimensions Ø x L mm	11 x 38		17 x 100	35 x 105	17 x 120	29 x 115	16 x 80	26 x 95	29 x 107	38 x 106	16 x 92	
Cat. No.	2078	0536	0518²⁾	0548	0509	0513	-	0545	0546	0547	blood coll. tube	
 rotor Cat. No. 1620A												
												
Cat. No.	1449		1451	1463	1466	1454	1646⁸⁾	1448	1447	1446	-	1451
boring Ø x L mm	11.4 x 39		17.5 x 92	35 x 89	17 x 106	29.8 x 97	-	16.5 x 74	26 x 85	29 x 92	38.6x90.2	17.5 x 92
tubes per rotor	24		6			3	6	12		6		
max. RCF	9,146		8,784	9,327	8,965		8,784	8,603	9,056	9,418	8,784	
radius in mm	101		97	103	99		97	95	100	104	97	
run-up in sec	30											
run-down in sec	☐ 30 ☐ 970											
temperature °C ¹⁾	-11											

capacity ml	5	15	15
dimensions Ø x L mm	13 x 75	17 x 100	17 x 120
Cat. No.	-	0518²⁾	0509
 rotor Cat. No. 1613			
			
Cat. No.	1054-A	-	-
boring Ø x L mm	13.5 x 60	18 x 88	
tubes per rotor	12		6
max. RCF	3,300	4,146	
radius in mm	82	103	
run-up in sec	15		
run-down in sec	☐ 15 ☐ 570		
temperature °C ¹⁾	-16		

capacity ml	5	15	15
dimensions Ø x L mm	13 x 75	17 x 100	17 x 120
Cat. No.	-	0518²⁾	0509
 rotor Cat. No. 1615			
			
Cat. No.	1054-A	-	-
boring Ø x L mm	13.5 x 60	18 x 88	
tubes per rotor	12		6
max. RCF	13,201	16,582	
radius in mm	82	103	
run-up in sec	40		
run-down in sec	☐ 40 ☐ 840		
temperature °C ¹⁾	-2		

1) Lowest attainable temperature in precooled refrigerated centrifuges at max. speed

2) Please make sure not to exceed the tubes' max. permissible RCF. For glass tubes the max. RCF is 4,000.

8) Adapter set, 6-place, for conical 50 ml tubes with screw cap.

ROTORS AND ACCESSORIES

Hematocrit rotor

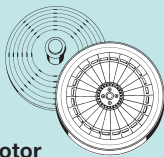



The hematocrit rotor enables centrifuging the capillaries in separate chambers. Each capillary is secured within its own chamber and supported by a holding tray. This holding tray serves to contain glass shards and any leakage, should a tube break. It is easy to clean and disposable in the case of glass breakage. Other capillaries will not be affected. The rotor lid is cover and evaluation disk in one. This ensures fast and easy determination of the hematocrit value.

Hematocrit rotor, 24-place



n = 15,000 min⁻¹,
max. RCF 21,382

Cat. No. 1650

capillaries	basic	mylar-coated	self-sealing and mylar-coated
Cat. No.	2074	1072	1071
 rotor Cat. No. 1650			
	sealing putty		
Cat. No.	2077		-
boring Ø x L mm	-	-	-
capillaries per rotor	24		
max. RCF	21,382		
radius in mm	85		
run-up in sec	13		
run-down in sec	 9  180		
temperature °C ¹⁾	-1		

Rotors for cytology

Detailed information on our comprehensive range of cyto accessories is provided in a separate brochure. We will be pleased to send one to you on request.

Application notes from our R&D department on the preparation of slides for the cytological examination of various body fluids can be obtained free of charge or downloaded from our homepage www.hettichlab.com.

Cyto rotor, 6-place



illustrated with suspensions No. 1660
for cyto chambers
 $n = 4,000 \text{ min}^{-1}$, max. RCF 2,039

Cat. No. (without suspensions) **1626**

Cyto rotor, 8-place



illustrated with suspensions No. 1680
for angle chambers
 $n = 4,000 \text{ min}^{-1}$, max. RCF 2,218

Cat. No. (without suspensions) **1648**

ROLLING CABINETS

Rolling cabinets for Hettich centrifuges save space on the laboratory bench while ensuring enhanced flexibility.

All rolling cabinets are of sturdy design and feature large castors and two locks.

Any vibrations of the centrifuge are safely compensated for.



Low and narrow,
with one drawer.
Depth 650 mm

Cat. No. 4612

Low and wide,
with one drawer.
Depth 650 mm

Cat. No. 4614



High and narrow,
with two drawers.
Depth 650 mm

Cat. No. 4613

High and wide,
with two drawers.
Depth 650 mm

Cat. No. 4615

UNIVERSAL 320/320 R

TECHNOLOGY

	UNIVERSAL 320		UNIVERSAL 320 R	
Benchtop centrifuge, without rotor	classic		cooled	
Power supply*	200 – 240 V 1~	110 – 127 V 1~	200 - 240 V1~ / 240 V1~	110 – 127 V 1~
Frequency	50 – 60 Hz	50 – 60 Hz	50 Hz / 60 Hz	60 Hz
Consumption	400 VA	450 VA	800 VA	1000 VA
Radio interference	EN 55011 ISM class B	FCC class B	EN 55011 ISM class B	FCC class B
Immunity	EN 61000-6-2	-	EN 61000-6-2	-
Max. capacity	4 x 100 ml			
Max. RPM (speed)	15,000 min ⁻¹			
Max. RCF	21,382			
Running time	1 – 99 min:59 sec, ∞ continuous run, impulse key (short cycle mode)			
Dimensions (H x W x D) in mm	346 x 395 x 520		346 x 401 x 695	
Weight	approx. 29 kg		approx. 52 kg	
Refrigeration				
Temperature control, infinitely variable	-		from -20 to +40 °C	
Cat. No.	1401	1401-01	1406	1406-01

* other voltages on request

Hettich centrifuges conform to all relevant EC standards in effect. All stages from design to end-product are continuously subjected to the strictest controls. Evidence is provided by national and international test marks such as IEC 61010 or the CE mark. The ISO 9001:2000 certificate accredited to the entire company bears witness to the extreme care and responsibility Hettich puts into the manufacturing of centrifuges and their accessories. This is why Hettich centrifuges are known for safety and reliability all over the world.



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