TOP SPIN

FIRST IN ROBOTICS



Hettich HT1501 ROBOTIC
Robotic Centrifuge
cooled

Hettich
ZENTRIFUGEN

The Hettich HT1501 ROBOTIC is a refrigerated centrifuge with PC control and rotor positioning. It is ideal wherever sample processing can be automated. Especially in genetic and pharmaceutical research, it significantly contributes to rationalisation of routine tasks. As well, in pharmaceutical research more and more agents are being tested on cells to keep animal testing to a minimum – necessitating the use of centrifuges.

The Hettich HT1501 ROBOTIC integrates perfectly into automated laboratories. Highly qualified laboratory personnel no longer have to carry out monotonous tasks. Moreover, analyses bearing a high risk of infection can be carried out automatically.

The centrifuge reaches a speed of 6,200 min^{-1}, or a maximum of 6,446 RCF with a capacity of 4 x 250 ml, 24 x MTP, 4 DWP or comparable systems.
Its robust, sturdy design guarantees trouble-free, 24-hour operation.

DESIGN

- Metal housing
- Metal lid
- Stainless steel centrifuging chamber
- Casing finished in scratch- and impact-resistant coating

LOCATION

- Ambient temperature between + 5 °C and + 40 °C
- Relative humidity max. 80 % up to + 31 °C, linearly decreasing to 50 % at + 40 °C

REFRIGERATION

- Infinitely variable setting from – 20 °C to + 40 °C
- Cooling agent: R 404A

SAFETY

- Lid locking
- Hatch locking
- Emergency lid lock release
- Motor overheating protection
- Chamber overheating protection
- Imbalance switch-off
- Excess temperature protection of brake resistors
- Dual indication when the rotor is stationary
- Additional control of data transfer
- Subject to regular inspection
- Device protection class I

TECHNOLOGY

- Frequency drive
- Maintenance required only according to BGR 261 regulation
- 89 programmable memories
- Noise generation at 62 dB (A)
- Kinetic energy of 50,000 Nm



Hettich HT1501 ROBOTIC control panel

All centrifuge functions can be remote-controlled via optical data transmission. A 9-pole RS 232 cable, an opto data box and a light conducting cable are supplied with the centrifuge. The controlling PC requires a free RS 232 interface.

The driving motor positions the rotors and securely holds them in the 2 or 4 designated programmable bucket positions under the hatch. After completion of the centrifuging cycle, the drive automatically turns them to rotor position No. 1.

Status information like standstill, acceleration, centrifuging cycle, lid, rotor position, etc. can be accessed.

ROBOTIC

- Remote control of all functions
- If necessary, commands can also be entered manually on the centrifuge's control panel.
- Sophisticated microprocessor technology
- Recallable status information
- Programmable bucket position
- Positioning accuracy < 0.6 mm



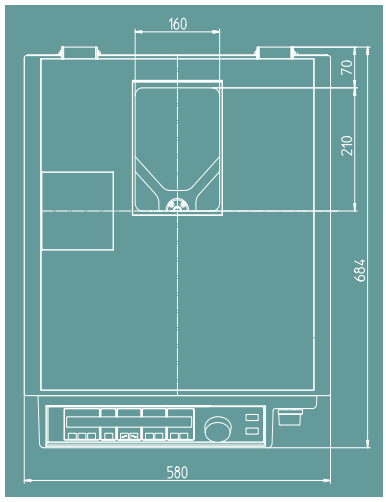


Hettich HT1501 ROBOTIC centrifuges can be integrated in any workstation.
In addition to standard accessories, we also manufacture special buckets and inserts tailored to your requirements.

Just talk to us about your special needs!

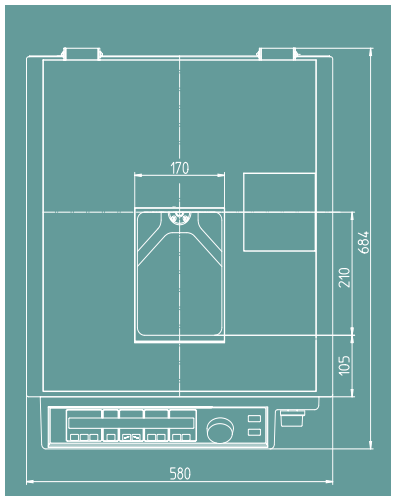
Hettich HT1501 ROBOTIC
Cat. No. 4816

A sliding hatch in the lid opens before and after every centrifuging cycle and allows loading and unloading of the rotor with a robotic arm. Fully automatic loading and unloading relieves laboratory personnel of routine work while saving valuable time.



Cat. No.s 4816/4816-01

A hatch of 160 x 210 mm opens in the rear section of the lid.
The robotic arm has rear access.



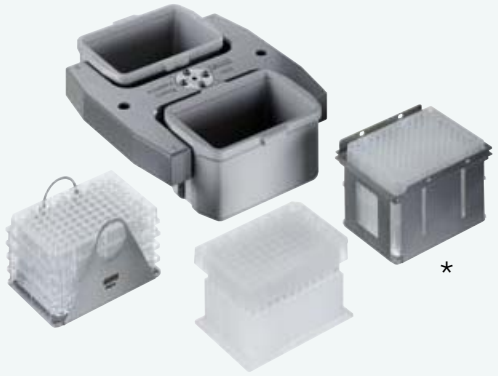
Cat. No.s 4816-10/4816-11

A hatch of 160 x 210 mm opens in the front section of the lid.
The robotic arm has front access.



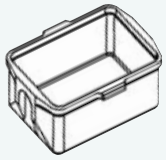
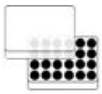
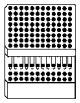
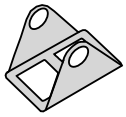
By means of the dimensioned drawings, the location of the centrifuge can be defined precisely before delivery.

Swing-out rotor, 2-place



illustrated with buckets No. 4623-R
n = 6,200 min^{-1}
max. RCF = 6,446

Cat. No. 4620 (without buckets)

D x W x H in mm [6]	86 x 128 x 15	86 x 128 x 17.5	86 x 128 x 22	86 x 128 x 44.5	86 x 128 x 46	86 x 128 x 83
plates	**MTP**		**CP**	**DWP**	**MS**	**QP**
 **bucket** Cat. No. **4623-R**						
						
Cat. No.	**4626**					
plates per rotor	12	10	8	2	2	2
RCF	6,446					
radius in mm	max. 150					
run-up in sec	38					
run-down in sec	40 390					
temperature °C [1]	+12					

Abbreviation / Symbol	Meaning
MTP	Microtitre plate
CP	Culture plate
DWP	Deep well plate
MS	Micronic system
QP	Filter plate
40	braked run-down at level 9
390	unbraked run-down

[1] Lowest attainable temperature in precooled refrigerated centrifuges at max. speed.
[6] Max. adaptable size (D x W x H): 86 x 128 x 85 mm

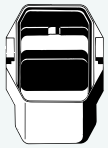
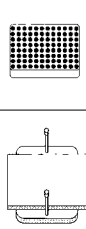
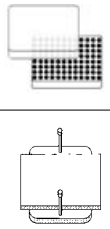
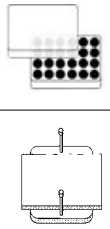
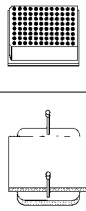
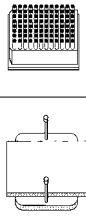
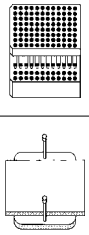
* Customised removal frame

swing-out rotor, 4-place



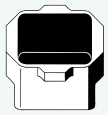
illustrated with buckets No. 4428
n = 4,500 min^{-1}
max. RCF = 4,460

Cat. No. 4444 (without buckets)

D x W x H in mm [6]	86 x 128 x 15	86 x 128 x 17.5	86 x 128 x 22	86 x 128 x 44.5	86 x 128 x 46	86 x 128 x 83
plates	**MTP**		**CP**	**DWP**	**MS**	**QP**
 **bucket** Cat. No. **4428**						
Cat. No.	**4429**					
plates per rotor	16	12	8	4	4	4
RCF	3,849					
radius in mm	170					
run-up in sec	78					
run-down in sec	75 1,080					
temperature °C [1]	+10					

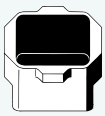
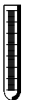
Abbreviation / Symbol	Meaning
MTP	Microtitre plate
CP	Culture plate
DWP	Deep well plate
MS	Micronic system
QP	Filter plate
75	braked run-down at level 9
1,080	unbraked run-down

[1] Lowest attainable temperature in precooled refrigerated centrifuges at max. speed.
[6] Max. adaptable size (D x W x H): 86 x 128 x 85 mm

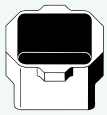
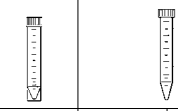
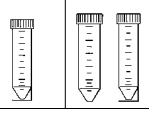
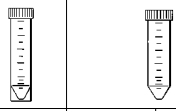
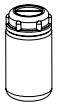
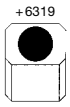
capacity ml	1.5 / 2.0	1.5 / 2.0
dimensions Ø x L mm	11 x 38	11 x 38
Cat. No.	**2078/0536**	**-**
 **bucket** Cat. No. **4412-R**	 	 
Cat. No. [3]	**5281**	**5257**
tubes per rotor	128	320
RCF	4,369	3,260/4,369
radius in mm	193	144/193
run-up in sec	78	
run-down in sec	75 1,080	
temperature °C [1]	+10	

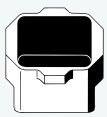
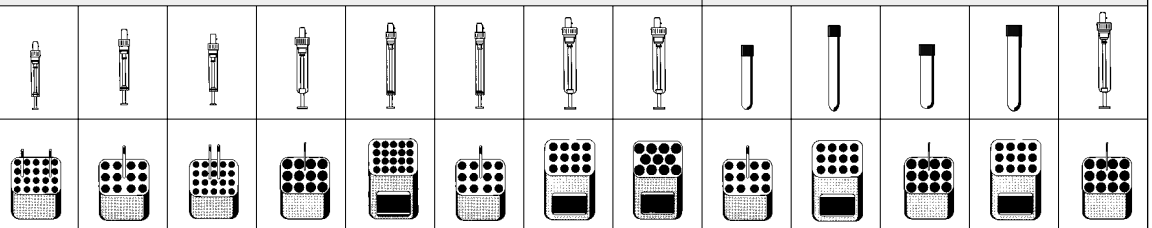


swing-out rotor, 4-place, No. 4444,
illustrated with buckets No. 4412-R

capacity ml	3	5	6	7	9	15	25	50		100		250
dimensions Ø x L mm	10 x 60	13 x 75	12 x 82	12 x 100	14 x 100	17 x 100	24 x 100	34 x 100		40 x 115	44 x 100	65 x 115
Cat. No.	**-**	**-**	**0501**[2]	**0578**[2]	**0500**[2]	**0518**[2]	**0519**[2]	**0521**[2]		**0523**[2]	**0526**[2]	**0530**[2]
 **bucket** Cat. No. **4412-R**		 	 	 	 	 	 	 		 	 	 
Cat. No.	**5267**[3]	**5227**[3]	**5227**[3]	**5247**[3,4]	**5264**[3]	**5248**[3,4]	**5242**[3]	**5261**	**5243**[3]	**5249**[3]	**5262**[3]	**5263**
tubes per rotor	160	160		160	96	96	40	24	16	8		4
RCF	4,279	4,324		4,302	4,324	4,302	4,302	4,256	4,302	4,279		4,256
radius in mm	189	191		190	191	190	190	188	190	189		188
run-up in sec	78											
run-down in sec	75 1,080											
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.
[3] Two each of these adapters need to be placed into bucket No. 4412-R.
[4] With Cat No. 5247-91 or 5248-91 these adapters can be ordered with a decanting aid.

capacity ml	12	15		25	30	50			250
dimensions Ø x L mm	17 x 100	17 x 120		25 x 90	25 x 110	29 x 115			62x122
Cat. No.	**-**	**0509**		**-**	**-**	**-**	**0513**		**5127**
bucket Cat. No. **4412-R**									
						 +2 x 6316			 +6319
Cat. No.	**6306** [3]	**4459**	**6306** [3]	**5266** [3]		**5243** [3]	**5259** [3]	**5269**	**5263**
tubes per rotor	56	52	56	40		16	16	24	4
RCF	4,460	4,460		4,302		4,302	4,392	4,460	4,392
radius in mm	197	197		190		190	194	197	194
run-up in sec	78								
run-down in sec	75 1,080								
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	1.6-5	4-7	4-7	8.5-10	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	15 x 102
Cat. No.	**blood collection tubes**								**blood collection/urine tubes**				
bucket Cat. No. **4412-R**													
Cat. No. [3]	**5267**	**5268**	**5227**	**5264**	**5247**	**5268**	**5248**	**5258**	**5268**	**6301**	**5264**	**5248**	**5264**
tubes per rotor	160	96	160	96	160	96	96	88	96	96	96	96	96
RCF	4,279	4,369	4,324	4,324	4,302	4,369	4,302	4,302	4,369	4,302	4,324	4,302	4,324
radius in mm	189	193	191	191	190	193	190	190	193	190	191	190	191
run-up in sec	78												
run-down in sec	75 1,080												
temperature °C [1]	+10												

Abbreviation / Symbol	Meaning
MTP	Microtitre plate
CP	Culture plate
DWP	Deep well plate
MS	Micronic system
QP	Filter plate
75	braked run-down at level 9
1,080	unbraked run-down

[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] Two each of these adapters need to be placed into bucket No. 4412-R or 5628-R.
[4] With Cat. No. 5247-91 or 5248-91 these adapters can be ordered with a decanting aid.
[6] Max. adaptable size (D x W x H): 86 x 128 x 85 mm

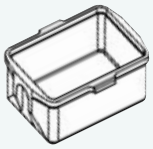
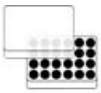
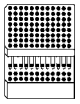
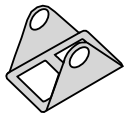
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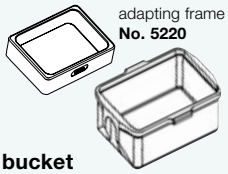
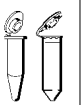
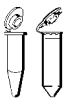
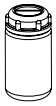
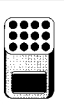
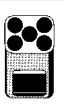
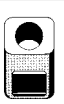
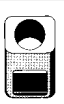
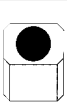
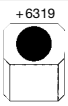
swing-out rotor, 4-place

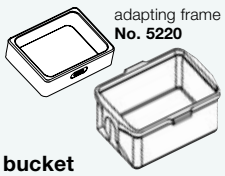


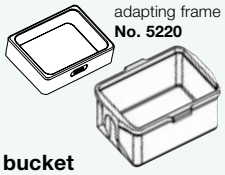
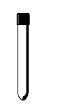
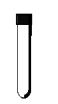
illustrated with buckets No. 5628-R
n = 4,600 min^{-1}
max. RCF = 4,637

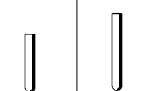
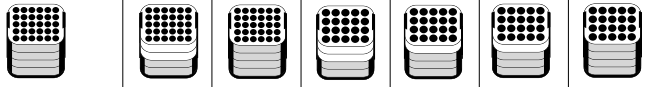
Cat. No. 5624 (without buckets)

D x W x H in mm [6]	86 x 128 x 15	86 x 128 x 17.5	86 x 128 x 22	86 x 128 x 44.5	86 x 128 x 46	86 x 128 x 83
plates	**MTP**		**CP**	**DWP**	**MS**	**QP**
 **bucket** Cat. No. **5628-R**						
						
Cat. No.	**4626**					
plates per rotor	24	20	16	4	4	4
RCF	4,211					
radius in mm	178					
run-up in sec	90					
run-down in sec	95 960					
temperature °C [1]	+4					

capacity ml	1.5 / 2.0	1.5 / 2.0	3	5	6	7	15	25	50	100	100	250	250
dimensions Ø x L mm	11 x 38	11 x 38	10 x 60	13 x 75	12 x 82	12 x 100	17 x 100	24 x 100	34 x 100	40 x 115	44 x 100	65 x 115	62 x 122
Cat. No.	**2078/0536**	**-**	**-**	**-**	**0501** [2]	**0578** [2]	**0518** [2]	**0519** [2]	**0521** [2]	**0523** [2]	**0526** [2]	**-**	**5127**
adapting frame **No. 5220**  **bucket** Cat. No. **5628-R**													 +6319
													
Cat. No. [3]	**5281**	**5257**	**5267**	**5227**		**5247** [4]	**5248** [4]	**5242**	**5243**	**5249**	**5262**	**5263**	
tubes per rotor	128	320	160	160		160	96	40	16	8		4	
RCF	4,164	3,004/4,164	4,069	4,116		4,093				4,069		4,045	4,187
radius in mm	176	127/176	172	174		173				172		171	177
run-up in sec	90												
run-down in sec	95 960												
temperature °C [1]	+4												

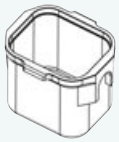
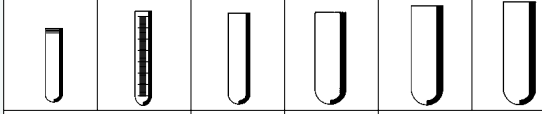
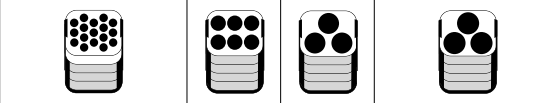
capacity ml	15	50		50
dimensions Ø x L mm	17 x 120	29 x 115		29 x 115
Cat. No.	**0509**	**0513**		**-**
 **bucket** Cat. No. **5628-R**				
				
Cat. No.	**6306** [3]	**5259** [3]	**5269**	**5243** [3]
tubes per rotor	56	16	24	16
RCF	4,258	4,187	4,258	4,093
radius in mm	180	177	180	173
run-up in sec	90			
run-down in sec	95 960			
temperature °C [1]	+4			

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	4 - 7	8.5 - 10	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	15 x 102
Cat. No.	**blood collection tubes**								**blood collection/urine tubes**				
 **bucket** Cat. No. **5628-R**													
Cat. No. [3]	**5267**	**5268**	**5227**	**5264**	**5247**	**5268**	**5248**	**5258**	**5268**	**6301**	**5264**	**5248**	**5258**
tubes per rotor	160	96	160	96	160	96	96	88	96	96	96	96	88
RCF	4,069	4,164	4,116		4,093	4,164	4,093		4,164	4,093	4,116	4,093	
radius in mm	172	176	174		173	176	173		176	173	174	173	
run-up in sec	90												
run-down in sec	95 960												
temperature °C [1]	+4												

capacity ml	1.5/2.0	3	4	4	5	6	7
dimensions Ø x L mm	11 x 38	10 x 60	10 x 88	12 x 60	13 x 75	12 x 82	12 x 100
Cat. No.	**2078/0536**	**-**	**-**	**-**	**-**	**0501** [2]	**0578** [2]
 **bucket** Cat. No. **5625**							
							
Cat. No.	**4730**	**4730**		**4732**			
tubes per rotor	224	120		80			
RCF	3,572/4,637	4,637					
radius in mm	151/196	196					
run-up in sec	90						
run-down in sec	95 960						
temperature °C [1]	+4						

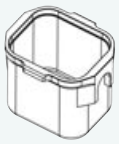
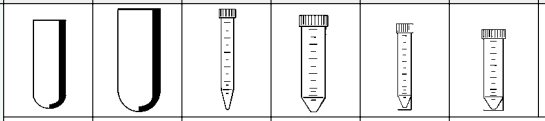
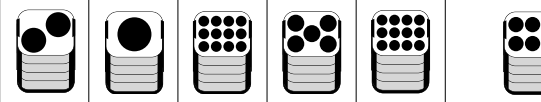
The adapters for bucket No. 5625 are built in layers. With shorter tubes, 1 to 2 layers should be removed. In the tables, the required layers are marked in grey.

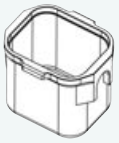
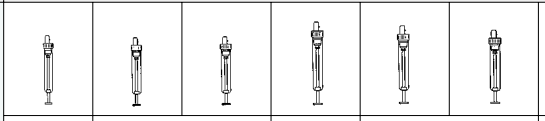
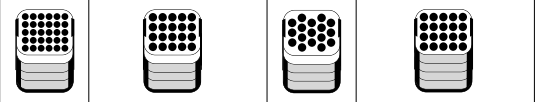
[1] Lowest attainable temperature in precooled refrigerated centrifuges at max. speed.
[2] Please make sure not to exceed the tubes' max. permissible RCF. For glass tubes the max. RCF is 4,000.
[3] Two each of these adapters need to be placed into bucket No. 5628-R.
[5] The screw cap for tube No. 0538 is available with Cat. No. 0539 (dimensions with lid 38 x 106 mm).

capacity ml	10	15	25	50	85	100
dimensions Ø x L mm	17 x 70	17 x 100	24 x 100	35 x 105	38 x 106	40 x 115
Cat. No.	**2079**	**0518** [2]	**0519** [2]	**0548**	**0549**	**0523** [2]
 **bucket** Cat. No. **5625**	 					
Cat. No.	**4733**		**4734**	**4735**	**4736**	
tubes per rotor	68		24	12		
RCF	4,637			4,495		
radius in mm	196			190		
run-up in sec	90					
run-down in sec	95 960					
temperature °C [1]	+4					



swing-out rotor, 4-place, No. 5624,
illustrated with buckets No. 5625

capacity ml	100	250	15	50	12	25	30	50	10	30	50	85	94
dimensions Ø x L mm	44 x 100	65 x 115	17 x 120	29 x 115	17 x 100	25 x 90	25 x 110	29 x 115	16 x 80	26 x 95	29 x 107	38 x 106	38 x 102
Cat. No.	**0526** [2]	**0530** [2]	**0509**	**0513**	**-**	**-**	**-**	**-**	**-**	**0545**	**0546**	**0547**	**0538** [5]
 **bucket** Cat. No. **5625**	 												
Cat. No.	**4737**	**4738**	**4739**	**4740**	**4739**	**4734**		**4740**	**4733**	**4734**	**4740**	**4736**	
tubes per rotor	8	4	48	20	48	24		20	68	24	20	12	
RCF	4,637	4,495	4,637									4,495	
radius in mm	196	190	196									190	
run-up in sec	90												
run-down in sec	95 960												
temperature °C [1]	+4												

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	4 - 7	8.5 - 10	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	15 x 102
Cat. No.	**blood collection tubes**								**blood collection/urine tubes**				
 **bucket** Cat. No. **5625**	 												
Cat. No.	**4730**	**4732**		**4733**	**4732**		**4733**		**4732**		**4733**		
tubes per rotor	120	80		68	80		68		80		68		
RCF	4,637												
radius in mm	196												
run-up in sec	90												
run-down in sec	95 960												
temperature °C [1]	+4												

Hettich HT1501 ROBOTIC

TECHNOLOGY

	Hettich HT1501 ROBOTIC	
Floorstanding centrifuge, without rotor	**refrigerated**	
	rear hatch / front hatch	**rear hatch / front hatch**
Power supply *	230-240 V 1~	110-127 V 1~
Frequency	50 Hz	60 Hz
Consumption	max. 2,300 VA	
Emitted interference / radio shielding	EN 55011 ISM class B	FCC class A
Interference resistance	EN 61000-6-2	
Capacity	4 x 250 ml	
Max. RPM (speed)	6,200 min^{-1}	
Max. RCF	6,446	
Permissible density	1.2 kg/dm^3	
Temperature control, infinitely variable	-20 °C to +40 °C	
Dimensions (H x W x D)	684 x 580 x 684 mm	
Weight	approx. 130 kg	
Cat. No.	**4816 / 4816-10**	**4816-01 / 4816-11**

* 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.

QUALITY MANAGEMENT GLC SYSTEMS
ISO 9001
Zertifikat Nr. QS-681 HH

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