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ROTOFIX 46/46 H
Benchtop centrifuges
classic/heated

Special applications require special solutions

Centrifuges for use in research and industrial laboratories should ideally be robust and able to cope with the demands of such environments, and have a wide range of accessories for routine applications. They should also enable solutions for special situations. They must therefore be able to hold special sample tubes and in many cases enable the temperature of the samples to be controlled.

DESIGN

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

USER FRIENDLINESS

- Twist lock for effortless opening and closing of the lid
- Ergonomic control and information panel
- 10 programmable memories
- Easy rotor changing

HEATING (ROTOFIX 46 H)

- Infinitely variable setting from +10 °C to +90 °C, dependent on the ambient temperature
- Pre-heating function

SAFETY

- Lid locking and holding
- Automatic rotor recognition
- Imbalance switch-off
- Emergency lid lock release
- Lid dropping protection
- Motor overheating protection
- Chamber overheating protection

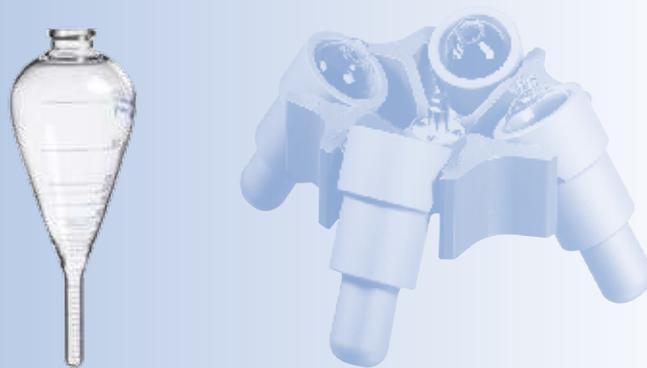


ROTOFIX 46

Cat. No. 4600

SPECIAL TUBES

To carry out standardized methods for crude oil testing the sample tubes can be centrifuged in the heatable ROTOFIX 46 H at the specified temperatures (up to 90 °C). Suitable tubes for this application are those designed to meet the requirements of the **American Society for Testing Materials (ASTM)**.



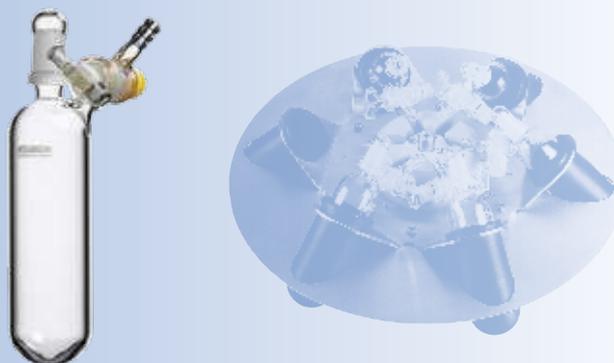
ASTM tubes

The sulphuric acid content of chrome baths can be determined by using **chrome bath tubes**. The method, which is intended to provide quality assurance information, is not only of interest to public and private test bodies, but also for the operators of the baths who wish to carry out the regularly necessary sulphate determinations themselves.



Chrome bath tubes

Rotor 5616 is suited for centrifuging **Schlenk tubes** widely used in organo-metallic chemistry and co-ordination complex chemistry. Substances that have been prepared in Schlenk tubes can also be separated in them through centrifugation where necessary.



Schlenk tubes

OPERATION AND CONTROL

The display panel and all controls on the ROTOFIX 46 / 46 H have been designed ergonomically. During centrifugation, the actual parameter values are indicated.

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

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

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



ROTOFIX 46 H

Cat. No. 4600-50

DIGITAL DISPLAY AND CONTROL PANEL KEYPAD

	Pre-heating (ROTOFIX 46 H)
RCF	Change-over from RPM to RCF indication
SELECT	Selection of parameters
<u>START</u> IMPULS	Starts centrifugation / Short cycle mode
STOP	Stops centrifugation manually



ENTRY OF THE PARAMETERS

P	Entry of program number, 10 programmable memories
T/°C	Entry of temperature in increments of 1 within a range of + 10 °C to + 90 °C (ROTOFIX 46 H), dependent on the ambient temperature
RCF	Entry in increments of 10
RPM	Entry in increments of 10
r/mm	Entry of the rotor radius in mm in RCF mode
t/min	Entry of the centrifugation time in minutes and seconds (max. 99 min : 59 s)
	Entry of the acceleration ramp 1-9 Entry of the braking ramp 1-9

ROTORS AND ACCESSORIES FOR ROTOFIX 46 AND 46 H

Swing-out rotor, 4-place, for ASTM tubes



↗ 90°

n = 2,000 min⁻¹
max. RCF 984
illustrated with
carriers 4275

Cat. No. (without carriers) **4474**

Swing-out rotor, 6-place, for chrome bath tubes



↗ 90°

n = 2,000 min⁻¹
max. RCF 917

Cat. No. **4619**³⁾

Angle rotor, 6-place, for Schlenk tubes



↘ 45°

n = 2,000 min⁻¹
max. RCF 805

Cat. No. **5616**³⁾

capacity in ml	50	100	100	100
Ø x L in mm	45 x 130	58 x 161	44 x 168	37 x 200
Cat. No.	- ¹⁾	0528 ¹⁾	- ¹⁾	0531 ¹⁾
carrier Cat. No. 4275				
rotor Cat. No. 4474				
Cat. No.	4278-A	0771	4277	4276
boring Ø x L in mm	-			
tubes per rotor	4			
max. RCF ¹⁾	984		961	
radius in mm	220		215	
run-up in sec	16			
run-down in sec, braked	40			

capacity in ml	30
Ø x L in mm	24 x 151
Cat. No.	0529 / 0508 ²⁾
rotor Cat. No. 4619 ³⁾	
Cat. No.	-
boring Ø x L in mm	-
tubes per rotor	6
max. RCF ¹⁾	917
radius in mm	205
run-up in sec	15
run-down in sec, braked	20

capacity in ml	25	50
Ø x L in mm	24 x 146.5	38 x 148.5
Cat. No.	0532	0533
rotor Cat. No. 5616 ³⁾		
Cat. No.	4317	-
boring Ø x L in mm	25 x 86	38.5 x 89.9
tubes per rotor	6	
max. RCF ¹⁾	783	805
radius in mm	175	180
run-up in sec	15	
run-down in sec, braked	35	

The method used for determination of the sulphate content of chrome baths can be ordered from Hettich free of charge or downloaded from our homepage www.hettichlab.com

¹⁾ 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. The max. RCF for ASTM tubes annotated with footnote ¹⁾ is 700.

²⁾ The tube may not be centrifuged with the stopper. The stopper only serves to close the tube for agitating or mixing.

³⁾ In heatable model ROTOFIX 46 H, rotors 4619 and 5616 can only be used up to a maximum of + 40 °C.

ROTORS AND ACCESSORIES FOR ROTOFIX 46, NOT FOR ROTOFIX 46 H

Swing-out rotor, 4-place



±90°

n = 4,000 min⁻¹
max. RCF 3,095

illustrated with carriers 5051
and lids 5053

Cat. No. (without carriers) **5694**

capacity in ml	3	5	6	7	9	15	25	50	100	100
Ø x L in mm	10 x 60	12 x 75	12 x 82	12 x 100	14 x 100	17 x 100	24 x 100	34 x 100	44 x 100	40 x 115
Cat. No.	-	0553 ¹⁾	0501 ¹⁾	0578 ¹⁾	0500 ¹⁾	0518 ¹⁾	0519 ¹⁾	0521 ¹⁾	0526 ¹⁾	0523 ¹⁾
lid Cat. No. 5053   carrier Cat. No. 5051										
										
Cat. No.	5267	5227	5247 ⁵⁾	5264	5248 ⁵⁾	5242	5243	5262	5249	5249
boring Ø x L in mm	11 x 44	12.5 x 42	12.5 x 86	16 x 50	17.5 x 86	26 x 86	36 x 86	45.5 x 86	42 x 86	42 x 86
tubes per rotor	80	80	80	48	48	20	8	4		
max. RCF ¹⁾	2,737	2,773	2,755	2,773	2,755		2,755			
radius in mm	153	155	154	155	154		154			
run-up in sec	40									
run-down in sec, braked	45									

capacity in ml	15	50	12	30	50
Ø x L in mm	17 x 120	29 x 115	17 x 100	25 x 110	29 x 115
Cat. No.	0509	0513	-	-	
lid Cat. No. 5053   carrier Cat. No. 5051	 ⁴⁾	 ⁴⁾		 ⁴⁾	 ⁴⁾
					 ⁵⁾
Cat. No.	6306	5259	6306	5266	5243 ⁵⁾
boring Ø x L in mm	17 x 90	30 x 86	17 x 90	26 x 86	36 x 86
tubes per rotor	28	8	28	20	8
max. RCF ¹⁾	2,898	2,826	2,898	2,755	
radius in mm	162	158	162	154	
run-up in sec	40				
run-down in sec, braked	45				

¹⁾ 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. The max. RCF for ASTM tubes annotated with footnote ¹⁾ is 4,000.

⁴⁾ When using these tubes, carrier 5051 cannot be closed with lid 5053.

ROTORS AND ACCESSORIES FOR ROTOFIX 46, NOT FOR ROTOFIX 46 H



Illustrated with carriers 5092 and lids 5093 with bio-containment⁷⁾

Swing-out rotor 5694

capacity in ml	4	5	6	7	10	15	25	50	100	100	250	
Ø x L in mm	12x60	12x75	12x82	12x100	17x70	17x100	24x100	34x100	44x100	40x115	65x115	
Cat. No.	-	0553¹⁾	0501¹⁾	0578¹⁾	2079	0518¹⁾	0519¹⁾	0521¹⁾	0526¹⁾	0523¹⁾	0530¹⁾	
lid with biocontainment ⁷⁾ Cat. No. 5093												
carrier Cat. No. 5092												
Cat. No.		5128		5120		5136		5122	5124	5125	5126	1791
boring Ø x L in mm		12.8 x 45		12.8x82		17.5x60.7		25.5x82	35.5x82.5	45.5x85	42x85	66x103
tubes per rotor		48			32		16	4				
max. RCF ¹⁾		3,005			2,952		2,898	2,952	2,952		3,095	
radius in mm		168			165		162	165	165		173	
run-up in sec	40											
run-down in sec, braked	45											

capacity in ml	15	50	12	25	30	50	10	250	290	
Ø x L in mm	17x120	29x115	17x100	25x90	25x110	29x115	16x80	61x122	62x137	
Cat. No.	0509	0513						5127⁸⁾	-⁸⁾	
lid with biocontainment ⁷⁾ Cat. No. 5093										
carrier Cat. No. 5092										
Cat. No.	5129	5123	5121	5134	5122	5135	5136	6319		
boring Ø x L in mm	17x85	30x85	17.5x82	26x73	25.5x82	30x99	17.5x60.7	66x103		
tubes per rotor	28	8	28	12	16	8	32	4		
max. RCF ¹⁾	3,095		3,005	2,826	2,898	3,023	2,952	3,095		
radius in mm	173		168	158	162	169	165	173		
run-up in sec	40									
run-down in sec, braked	45									

⁵⁾ With Cat. No. 5247-91 or 5248-91 these adapters can also be ordered with a decanting aid.

⁶⁾ Please remove inserts.

⁷⁾ Tested by the TÜV in conformity with DIN EN 61010, section 2-020.

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

ROTOFIX 46/46 H

TECHNOLOGY	ROTOFIX 46		ROTOFIX 46 H	
Benchtop centrifuge, without rotor	classic		heated	
Power supply ^{*)}	200 – 240 V 1 ~	100 – 127 V 1 ~	200 – 240 V 1 ~	100 – 127 V 1 ~
Frequency	50 – 60 Hz			
Consumption	460 VA	500 VA	600 VA	650 VA
Emission, Immunity	EN / IEC 61326-1, class B		FCC class B	
 Max. capacity	4 x 290 ml		4 x 100 ml	
Max. RPM (speed)	4,000 min ⁻¹		2,000 min ⁻¹	
Max. RCF	3,095		984	
Running time	1 sec – 99 min : 59 sec, continuous run, short cycle mode (impulse key)			
Dimensions (HxWxD)	345 x 538 x 647 mm			
Weight	approx. 60 kg			
Heating				
Temperature setting, infinitely variable (dependent on the ambient temperature)	-		from + 10 to + 90 °C	
Permissible rotor	4474		4474	
	4619		4619³⁾	
	5616		5616³⁾	
	5694		-	
Cat. No.	4600	4600-01	4600-50	4600-51

^{*)} Other voltages on request.
³⁾ Only up to + 40 °C.



Hettich centrifuges comply with all relevant EU standards in effect and conform to the European level of quality and safety for medical devices. Evidence is provided by national and international test marks such as IEC 61010 or the CE conformity. The ISO 9001 and 14001 certificates accredited to the company bear witness to the extreme care and responsibility Hettich puts into the manufacturing of centrifuges and their accessories.



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