



Appropriate Technical Resources, Inc.

Main Office: 800.827.5931

www.atrbiotech.com



Centrifuge

3-16L



Refrigerated Centrifuge

3-16KL

SIGMA 3-16L No. 10355 (220-240 V, 50/60 Hz), No. 10356 (120 V, 60 Hz), No. 10357 (100 V, 50 / 60 Hz)

- Universal table top centrifuge; speed range up to 15.300 rpm
- Spincontrol L
- Various angle and swing-out rotors available
- Maximum capacity of 4 x 400 ml down to microtubes with different adapters in the same bucket
- Maintenance-free induction drive motor
- Magnetic rotor identification prevents the rotor from overspeeding, active rotor identification
- Stainless steel bowl
- Window in the lid for external speed control
- Backlit keys for start, stop, lid open
- Wearless electric fuse
- Imbalance switch
- Excess temperature cut-out for the motor
- Needless to open the casing for emergency lid lock release
- Easy lid opening through pneumatic spring support through
- Produced according to national and international safety regulations (e. g. EN 61010-2-020)

SIGMA 3-16KL No. 10360 (220-240 V, 50/60 Hz), No. 10361 (120 V, 60 Hz), No. 10362 (100 V, 50/60 Hz)

- Refrigerated version of 3-16L
- Universal refrigerated table top centrifuge
- Possibility of precooling the rotors during standstill; Refrigerant CFC-free (R 134 a)
- Fast cooling program: Rapid temp
- Guaranteed 4°C at max. speed with all rotors



Rotor No.	3-16L		3-16KL		
	max. rpm	max. RCF	max. rpm	max. RCF	
11180 + 2 x 13190	4.200	3.392	4.500	3.894	
11180 + 2 x 13194	4.200	3.313	4.500	3.803	
Complete rotor					
No. 11182: 12 x 50 ml (11180 + 2 x 13190 + 2 x 17346 + 12 x 15151)					
Adapters for bucket No. 13190, Biosafe sealable with cap No. 17190					
1 set = 2 pcs					
No.	Adapter	Tube No.	No.	Adapter	Tube No.
17350	24 x 0.5 – 0.75 ml	(15005)	17376	4 x 40 – 50 ml	(15052)
17361	16 x Microtainer		17375	3 x 50 ml	(15050)
17353	20 x 1.5 – 2.0 ml	(15008, 15040)	17346	3 x 50 ml Culture	(15151)
17352	25 x 5 ml RIA	(15006)	17377	4 x 50 ml Culture	(15151)**
17356	16 x 5 – 6 ml RIA, Hemolyse, Vacutainer		17344	3 x 50 ml Culture*	
17354	16 x 7 ml	(15007)	17385	1 x 78 – 85 ml	(15076)
17351	12 x 7 – 9 ml Monovette		17390	1 x 100 ml	(15100)
17358	12 x 9 – 10 ml Monov. +15 ml	(15015)	17395	1 x 125 ml	(15125)
17355	12 x 10 – 12 ml	(15010)	17393	1 x 175 ml Culture	(15174)**
17345	5 x 15 ml Culture	(15115)	17400	1 x 200 ml	(15202)
17359	9 x 15 ml Culture	(15115)**	17401	1 x 200 ml**	(15201)
17370	5 x 25 – 30 ml	(15025)	17347	1 x 250 ml	(15249)
17362	5 x 30 ml		15401	1 x 400 ml	(15401)
Adapter for bucket 13194					
No.	Adapter	No.	Adapter	No.	Adapter
18310	4 x 50 ml Culture**	(15115)**	18311	10x15 ml Culture	(15115)**
18309	4 x 50 ml Culture**				



Rotor No.	3-16L		3-16KL		
	max. rpm	max. RCF	max. rpm	max. RCF	
11180 + 2 x 13180	4.200	3.372	4.500	3.871	
Complete rotor					
No. 11181: 48 x 15 ml (11180 + 2 x 13180 + 2 x 18015 + 48 x 15023)					
Adapters for bucket No. 13180, sealable with cap No. 17112					
1 set = 2 pcs					
No.	Adapter	Tube No.	No.	Adapter	Tube No.
18002	20 x 1.5 – 2.0 ml	(15008, 15040)	18025	5 x 25 ml	(15025)
18005	20 x 5 ml RIA	(15006)	18030	5 x 25 – 30 ml	(15030)
18009	20 x 5 – 6 ml Hemolyse		18022	4 x 30 ml Sterilin	
18012	12 x 5 – 7 ml Vacutainer		18050	2 x 50 ml	(15050)
18007	20 x 7 ml	(15007)	18051	2 x 40 – 50 ml	(15052)
18017	10 x 9 – 15 ml Monov. +15 ml	(15015)	18052	2 x 50 ml Culture	(15151)
18010	12 x 9 – 12 ml	(15010)	18053	2 x 50 ml Culture*	
18015	12 x 15 ml	(15015)	18085	1 x 78 – 85 ml	(15076)
18016	4 x 15 ml Culture	(15115)	18100	1 x 100 ml	(15100)
18018	6 x 15 ml Culture**	(15115)	18125	1 x 125 ml	(15125)
			18200	1 x 200 ml	(15202)

* with skirt **without bucket cap



Main Office: 800.827.5931

www.atrbiotech.com

Appropriate Technical Resources, Inc.

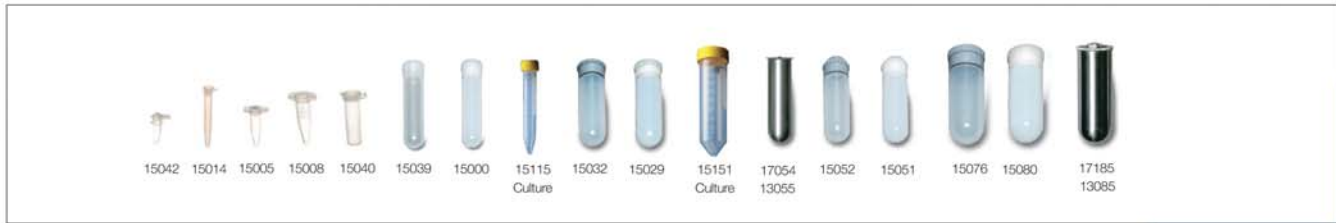
	3-16L		3-16KL		
<i>Rotor No.</i>	<i>max. rpm</i>	<i>max. RCF</i>	<i>max. rpm</i>	<i>max. RCF</i>	
11133 + 2 x 13104	5.000	4.332	5.500	5.242	
11133 + 2 x 13130	5.000	4.472	5.500	5.411	
Complete rotor					
No. 11132: 28 x 15 ml (11133 + 2 x 13104 + 2 x 17015 + 28 x 15023)					
Adapters for bucket No. 13104, sealable with cap No. 17111					
1 set = 2 pcs					
<i>No.</i>	<i>Adapter</i>	<i>Tube No.</i>	<i>No.</i>	<i>Adapter</i>	<i>Tube No.</i>
17008	12 x 1.5 – 2.0 ml	(15008, 15040)	17032	1 x 30 ml Sterilin	
17006	12 x 5 ml RIA, Hemolyse	(15060)	17049	1 x 50 ml Culture (15151)	
17027	7 x 5 – 7 ml Vacutainer		17048	1 x 50 ml Culture*	
17007	12 x 7 ml	(15007)	17050	1 x 50 ml	(15050)
17012	6 x 10 ml	(15010)	17052	1 x 40 – 50 ml	(15052)
17018	4 x 9 – 10 ml Monov. +15 ml		17085	1 x 78 – 85 ml	(15076)
17015	7 x 15 ml	(15015)	17100	1 x 100 ml	(15100)
17019	3 x 15 ml Culture**	(15115)	17101	1 x 100 ml	(15102)
13130	3 x 15 ml Culture	(15115)	17125	1 x 125 ml	(15125)
17025	2 x 25 ml	(15025)	15202	PP-bottle 190 ml	
17030	2 x 25 – 30 ml	(15030)			

* with skirt **without bucket cap



4 x Cytrotor				
	3-16L		3-16KL	
<i>Rotor No.</i>	<i>max. rpm</i>	<i>max. RCF</i>	<i>max. rpm</i>	<i>max. RCF</i>
11224	3.000	1.137	3.000	1.137
MTP Swing-out rotor				
	3-16L		3-16KL	
<i>Rotor No.</i>	<i>max. rpm</i>	<i>max. RCF</i>	<i>max. rpm</i>	<i>max. RCF</i>
11222	3.000	1.238	3.000	1.238
max. H. = 56 mm				
11241	4.200	2.505	4.200	2.505
max. H. = 60 mm				
24 x 1.5 – 2.0 ml Swing-out rotor				
	3-16L		3-16KL	
<i>Rotor No.</i>	<i>max. rpm</i>	<i>max. RCF</i>	<i>max. rpm</i>	<i>max. RCF</i>
11135	12.500	12.927	14.000	16.215
<i>No.</i>	<i>Adapter</i>	1 set = 2 pcs		
13021	0.2 ml PCR			
13000	0.4 ml reaction vials			
13002	0.5 – 0.75 ml reaction vials			
0.2 – 2.0 ml Drumrotor				
	3-16L		3-16KL	
<i>Rotor No.</i>	<i>max. rpm</i>	<i>max. RCF</i>	<i>max. rpm</i>	<i>max. RCF</i>
11136	13.000	13.226	14.500	16.454
Capacity: 6 x adapter				
<i>No.</i>	<i>Adapter</i>	1 set = 2 pcs		
14021	8 x 4 x 0.2 ml PCR			
14020	10 x 0.2 – 0.5 ml PCR			
14000	20 x 0.25 – 0.4 ml reaction vials			
14002	10 x 1.5 – 2.0 ml reaction vials			





Rotor No.	Capacity	Tube No.	3-16L		3-16KL	
			max. rpm	max. RCF	max. rpm	max. RCF
12115	12 x 8 x 0.2 ml PCR	15042	14.000	21.475	14.000	21.475
12154	24 x 1.5 – 2.0 ml	15008, 15040	15.300	21.460	15.300	21.460
12131	30 x 1.5 – 2.0 ml	15008, 15040	13.200	19.480	14.000	21.913
12349	48 x 1.5 – 2.0 ml	15008, 15040	13.000	18.894	14.000	21.913
12111	10 x 10 ml	15000, 15039	15.300	19.890	15.300	19.890
12157	20 x 10 ml	15000, 15039	9.000	8.875	10.000	10.956
12171	12 x 15 ml Culture	15115	9.000	8.965	9.500	9.989
12158	6 x 30 ml	15032, 15029	15.300	20.675	15.300	20.675
19776	6 x 50 ml Culture	15151	9.000	8.422	9.500	9.384
12150	6 x 50 ml	15051, 15052	10.000	9.391	11.000	11.363
12156	8 x 50 ml	15051, 15052	9.000	8.604	10.000	10.733
12155	4 x 85 ml	15076, 15080	10.000	10.174	10.000	10.174
12159	6 x 85 ml	15076, 15080	8.000	7.012	8.000	7.012

All rotors incl. hermetic aluminium lid

Adapters for angle rotors 1 set = 2 pcs

Rotor Type	No.	Adapter	Tube No.	No.	Adapter	Tube No.
1.5 – 2.0 ml	13021	0.25 – 0.4 ml	(15042)	13002	0.5 – 0.75 ml PCR	(15005)
	13000	0.4 ml	(15014)			
30 ml	13059	10 ml	(15000, 15039)			
50 ml Culture	13060	15 ml Culture	(15115)	13079	50 ml	(15051, 15052)
50 ml	16018	15 ml Glass	(15085)	16030	30 ml Glass	(15086)
	13062	15 ml Greiner				
85 ml	13084	10 ml	(15000, 15020)	13083	30 ml	(15029, 15032)
	16019	15 ml Glass	(15085)	16031	30 ml Glass	(15086)
	13081	15 ml Culture	(15115)	13080	50 ml Culture	(15151)
	13063	15 ml Round bottom		13082	50 ml	(15051, 15052)



Sigma 3-16L



Sigma 3-16KL



Appropriate Technical Resources, Inc.

Main Office: 800.827.5931

www.atrbiotech.com

Spincontrol L

Display	LCD with backlight
Permanent display set and current values	+
Display of dimensions	+
Timer	10 sec - 99h 59 min
Runtime starts after set speed has been reached	+
Time increments [sec]	1
Short run	+
Continuous run	+
Speed increments [rpm]	100
Display speed or g-force	+
g-force increments [xg]	10
Programs	50
Acceleration curves	10
Deceleration curves	10
Brakeless	+
Acoustic signal, switchable	+, +
Optical display standstill	+
Cycle counter	+
Signal expired rotor life time	+
Automatic lid opening at the end of the run, switchable	+, +
Control unit lockable	+
Micorprocessor controlled	+



Created during production. Centrifuge with one rotor

	Sigma 3-16L	Sigma 3-16KL
<i>Calibration certificate for speed and time</i>	No. 17714	No. 17714
<i>Calibration certificate for temperature speed and time</i>	–	No. 17715
<i>IQOQ</i>	No. 17710	No. 17711
<i>For a further rotor</i>	No. 17712	No. 17712





17927 Trolley
(W x H x D, 490 x 497 x 647 mm)



17926 Trolley
(W x H x D, 670 x 497 x 650 mm)

Technical data	3-16L	3-16KL
Power consumption [W]	440	1010
Max. capacity [ml]	4 x 400	4 x 400
Max. speed [rpm]	15.300	15.300
Min. speed [rpm]	100	100
Hight x Width x Depth [mm]	355 x 460 x 600	355 x 630 x 600
Hight with open lid [mm]	770	785
Interference suppression	EN 61326	EN 61326
Weight without rotor [kg]	48	78
Kinetic energy max. [Nm]	9.530	9.970
Noise level at max. speed (approx.)		
Rotor 12154 at 15.300 rpm	60 dB (A)	66 dB (A)
Rotor 11132 at 5.000 rpm	66 dB (A)	60 dB (A)
Max. acceleration rotor 12154 [sec]	29	28
rotor 11132 [sec]	22	20
Max deceleration rotor 12154 [sec]	46	53
rotor 11132 [sec]	11	12
Temperature setting range	-	-10°C – +40°C



Main Office: 800.827.5931

Appropriate Technical Resources, Inc.

www.atrbiotech.com

MADE IN GERMANY



SIGMA Laborzentrifugen GmbH

An der Unteren Söse 50
37520 Osterode am Harz
Germany

Tel. +49 (0) 55 22 / 50 07-0
Fax. +49 (0) 55 22 / 50 07-12
info@sigma-zentrifugen.de
www.sigma-zentrifugen.de



WEEE-Reg.-Nr.
DE 76714077

