



*Centrifuge*

**2-16P**



*Refrigerated Centrifuge*

**2-16KL**

**SIGMA 2-16P** No. 10155 (220-240 V, 50/60 Hz), No. 10156 (120 V, 50/60 Hz), No. 10157 (100 V, 50/60 Hz)

- Universal laboratory centrifuge for swing-out and angle rotors
- Spincontrol Universal
- Illuminated keys for start, stop, lid open
- For sedimentation up to 4 x 100 ml in swing-out-rotors or up to 20.000 x g in angle rotors
- Brushless drive practically maintenance-free
- Speed preselection up to 15.000 rpm Low speed operation from 100 rpm possible
- A magnetic rotor identification prevents rotors from overspeeding, active rotor identification
- Stainless steel bowl
- Imbalance switch
- No need to open the casing for emergency lid lock release
- Easy lid opening due to pneumatic spring support
- Window in the centrifuge lid for external speed control
- Produced according to national and international safety regulations (e.g. EN 61010-2-020)

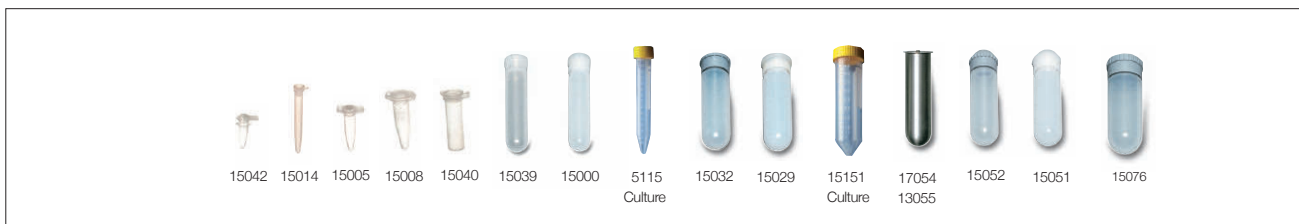
**SIGMA 2-16KL** No. 10350 (220-240 V, 50/60 Hz), No. 10351 (120 V, 60 Hz), No. 10352 (100 V, 50/60 Hz)

- Refrigerated version of 2-16P
- Spincontrol L
- Universal laboratory centrifuge; speed range up to 15.300 rpm
- Possibility of precooling the rotors during standstill refrigerant CFC-free (R 134 a)
- Guaranteed +4 °C at max. speed with all rotors

**SIGMA 2-16KHL** No. 10353 (220-240 V, 50/60 Hz)

- Heated version of 2-16KL
- Max. rotor temperature +40 °C up to +60 °C depending on rotor and speed





Rotor No.	Capacity	Tube No.	2-16P		2-16KL	
			max. rpm	max. RCF	max. rpm	max. RCF
12104*	12 x 8 x 0.2 ml PCR	(15042)			14.000	21.475
12148*	24 x 1.5 – 2.0 ml	(15008, 15040)	15.000	20.627	15.300	21.460
12133*	30 x 1.5 – 2.0 ml	(15008, 15040)	12.000	16.099		
12132*	30 x 1.5 – 2.0 ml	(15008, 15040)			14.000	21.913
12141*	10 x 10 ml	(15000, 15039)	13.500	15.485	15.300	19.890
12072	20 x 15 ml Culture	(15115)	4.000	2.486	4.000	2.486
12073	30 x 15 ml Culture	(15115)	4.000	2.486	4.000	2.486
12139*	6 x 30 ml	(15032, 15029)	13.500	15.893	15.300	20.414
12181*	6 x 50 ml Culture	(15151)	10.000	10.621	12.000	15.294
12071	12 x 15 ml Culture	(15115)	4.000	2.254	4.000	2.254
	6 x 50 ml Culture	(15151)				
12138*	4 x 85 ml	(15076, 15080)			9.400	9.484

\* 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)
	13079+			13079+		
	16018	15 ml Glass	(15085)	16030	30 ml Glass	(15086)
	13079+					
85 ml	13062	15 ml Greiner	(15065)	13064	30 ml Sterilin	
	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 Greiner	(15065)	13082	50 ml	(15051, 15052)

Swing-out rotor No. 11192

		<b>2-16P</b>		<b>2-16KL</b>	
<i>Rotor No.</i>		<i>max. rpm</i>	<i>max. RCF</i>	<i>max. rpm</i>	<i>max. RCF</i>
<b>11192 + 2 x 13012</b>		4.500	3.034	5.000	3.745
<i>Bucket No.</i>		<i>Tube No.</i>			
<b>13012</b>	4 x <b>15 ml</b> , Monovette	15020			
<i>Adapter No.</i>	<i>Adapter</i>	<i>Tube No.</i>			
<b>13070</b>	1 x <b>5 ml</b> , Vacutainer				
<b>13071</b>	1 x <b>5 ml</b> , Hemolyse				
<b>13072</b>	1 x <b>4 - 7 ml</b>	15007			
		<b>2-16P</b>		<b>2-16KL</b>	
<i>Rotor No.</i>		<i>max. rpm</i>	<i>max. RCF</i>	<i>max. rpm</i>	<i>max. RCF</i>
<b>11192 + 2 x 13009</b>		4.500	2.558	5.000	3.158
<i>Bucket No.</i>		<i>Tube No.</i>			
<b>13009</b>	5 x <b>5 ml</b> , Hemolyse	15060			
		<b>2-16P</b>		<b>2-16KL</b>	
<i>Rotor No.</i>		<i>max. rpm</i>	<i>max. RCF</i>	<i>max. rpm</i>	<i>max. RCF</i>
<b>11192 + 2 x 13042</b>		4.500	3.011	5.000	3.717
<i>Bucket No.</i>		<i>Tube No.</i>			
<b>13042</b>	6 x <b>15 ml</b> , Monovette	15020			
<i>Adapter No.</i>	<i>Adapter</i>	<i>Tube No.</i>			
<b>13070</b>	1 x <b>5 ml</b> , Vacutainer				
<b>13071</b>	1 x <b>5 ml</b> , Hemolyse				
<b>13072</b>	1 x <b>4 - 7 ml</b>	15007			
		<b>2-16P</b>		<b>2-16KL</b>	
<i>Rotor No.</i>		<i>max. rpm</i>	<i>max. RCF</i>	<i>max. rpm</i>	<i>max. RCF</i>
<b>11192 + 2 x 13152</b>		4.500	3.237	5.000	3.997
<i>Bucket No.</i>		<i>Tube No.</i>			
<b>13152</b>	2 x <b>15 ml</b> , Culture	15115			
		<b>2-16P</b>		<b>2-16KL</b>	
<i>Rotor No.</i>		<i>max. rpm</i>	<i>max. RCF</i>	<i>max. rpm</i>	<i>max. RCF</i>
<b>11192 + 2 x 13150</b>		4.500	3.260	5.000	4.025
incl. cap No. 17151					
<i>Bucket No.</i>		<i>Tube No.</i>			
<b>13150</b>	1 x <b>50 ml</b> , Cultur	15151			
<i>Adapter No.</i>	<i>Adapter</i>	<i>Tube No.</i>			
<b>13060</b>	1 x <b>15 ml</b> , Culture	15115			
<b>13064</b>	1 x <b>30 ml</b> , Sterilin				
		<b>2-16P</b>		<b>2-16KL</b>	
<i>Rotor No.</i>		<i>max. rpm</i>	<i>max. RCF</i>	<i>max. rpm</i>	<i>max. RCF</i>
<b>11192 + 2 x 13097</b>		4.500	3.056	5.000	3.773
<i>Bucket No.</i>		<i>Tube No.</i>			
<b>13097</b>	1 x <b>100 ml</b>	15100			
<i>Adapter No.</i>	<i>Adapter</i>	<i>Tube No.</i>			
<b>17925</b>	1 x <b>25 ml</b>	15025			
<b>17950</b>	1 x <b>50 ml</b>	15050			



11192

1 set = 2 pcs



13012



13042



13152



13150



13097



17130

13041



14032



14034



14033

<b>2-16P</b>		<b>2-16KL</b>		
<i>Bucket No.</i>	<i>max. rpm</i>	<i>max. RCF</i>	<i>max. rpm</i>	<i>max. RCF</i>
<b>11192 + 2 x 13041</b>	4.500	3.170	5.000	3.913
Adapter for bucket No. 13041, sealable with cap No. 17130 1 set = 2 pcs				
<i>No.</i>	<i>Adapter</i>	<i>Tube No.</i>		
<b>14028</b>	4 x <b>1.5-2.0 ml</b> ,	15008		
<b>14036</b>	5 x Microtainer			
<b>14029</b>	5 x <b>5 - 7 ml</b> , Hemolyse	15007		
<b>14033</b>	4 x <b>5 - 7 ml</b> , Vacutainer	15060		
<b>14030</b>	4 x <b>10 - 15 ml</b>	15000		
<b>14034</b>	3 x <b>15 ml</b> , Monovette	15015		
<b>14035</b>	1 x <b>30 ml</b> , Sterilin			
<b>14031</b>	1 x <b>25 - 30 ml</b>	15025		
<b>14032</b>	1 x <b>50 ml</b>	15050		
Swing-out rotor 4 x <b>100 ml</b> No. 11190 (11192 + 2 x 13097 + 4 x 15100)				
Swing-out rotor 16 x <b>15 ml</b> No. 11191 (11192 + 2 x 13012 + 16 x 15020)				



<b>4 x Cytrotor</b>				
		<b>2-16KL</b>		
<i>Rotor No.</i>	<i>max. rpm</i>	<i>max. RCF</i>	<i>max. rpm</i>	<i>max. RCF</i>
<b>11194</b>	3.000	1.137		
<b>MTP Swing-out rotor</b>				
		<b>2-16P</b>	<b>2-16KL</b>	
<i>Rotor No.</i>	<i>max. rpm</i>	<i>max. RCF</i>	<i>max. rpm</i>	<i>max. RCF</i>
<b>11122</b>	3.000	1.218	3.000	1.218
max. H. = 56 mm				
<b>11123</b>	4.000	2.111	4.000	2.111
max. H. = 50 mm				
<b>24 x 1.5 - 2.0 ml Swing-out rotor</b>				
		<b>2-16P</b>	<b>2-16KL</b>	
<i>Rotor No.</i>	<i>max. rpm</i>	<i>max. RCF</i>	<i>max. rpm</i>	<i>max. RCF</i>
<b>11124</b>	12.500	12.927	14.000	16.215
<i>No.</i>	<i>Adapter</i>	1 set = 2 pcs		
<b>13021</b>	<b>0.2 ml</b> PCR			
<b>13000</b>	<b>0.4 ml</b> Reaction vials			
<b>13002</b>	<b>0.5 - 0.75 ml</b> Reaction vials			
<b>24 x ø 1.5 x 75 mm Microhematocritrotor</b>				
		<b>2-16P</b>	<b>2-16KL</b>	
<i>Rotor No.</i>	<i>max. rpm</i>	<i>max. RCF</i>	<i>max. rpm</i>	<i>max. RCF</i>
<b>11409</b>	12.000	14.489	12.000	14.489
<b>17002</b>	Reader			
<b>17005</b>	Sealing putty			
<b>15001</b>	Microhematocrit capillary tubes 1.5 x 75 mm, 200 pcs.			
<b>17004</b>	Magnifying glass			

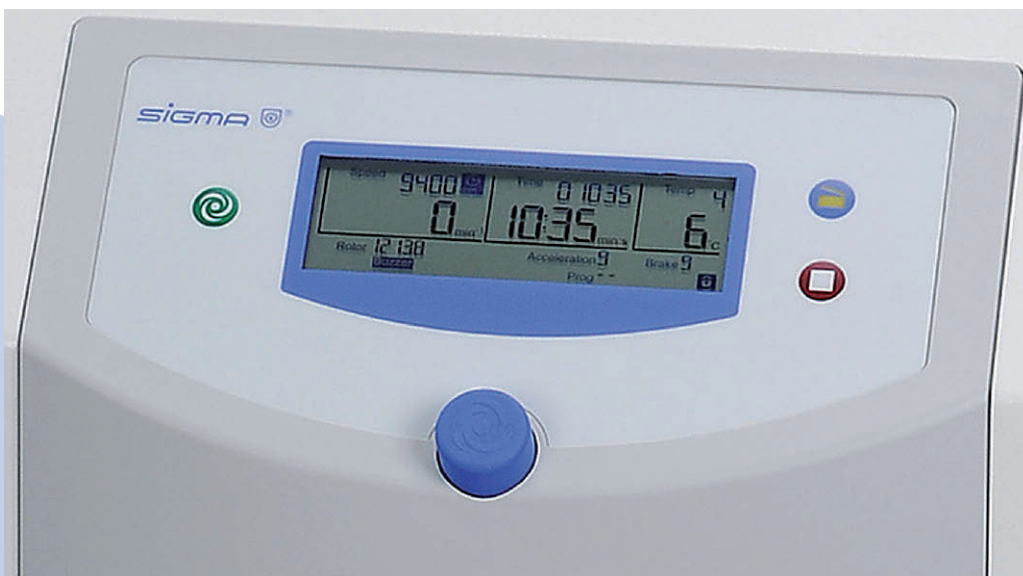




## Spincontrol Universal



## Spincontrol L



**Spincontrol Universal\*\*****Spincontrol L\***

Timer	10sec – 11 h 59min	10sec – 99 h 59min
Backlit display	LCD	Graphic LCD
Runtime starts after set speed has been reached, switchable	–	+; +
Time increments [sec]	10;1	1
Short run	+	+
Continuous run	+	+
Speed increments [rpm]	100;1	100
Permanent display preselected, actual values	+	+
g-force increments [xg]	10;1	10
Temperature increments [°C]*	–	1
Programs	50	50
Linear acceleration curves	2	10
Linear deceleration curves	2	10
Brakeless	+	+
Auto lid open, switchable	+; +	+; +
Acoustic signal, switchable	+; +	+; +
Optical display standstill	+	+
Counter centrifugation cycles, each rotor	+; –	+; +
Standstill cooling*	–	+
Fast cool program Rapid-temp*	–	+
All rotors pre programmed	+	+
Control unit lockable	+	+
Microprocessor controlled	+	+

\*2-16KL only \*\*2-16P only

***Created during production. Centrifuge with one rotor***

	<b>Sigma 2-16P</b>	<b>Sigma 2-16KL</b>
<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



17920 Trolley for Sigma 2-16KL  
(w x d x h) (570 x 497 x 600 mm)

Technical data	2-16P	2-16KL
Power consumption [W]	240	720
Max. capacity [ml]	4 x 100	4 x 100
Max. speed [rpm]	15.000	15.300
Min. speed [rpm]	100	100
Interference suppression	EN 61326	EN 61326
Height x Width x Depth [mm]	300 x 365 x 452	310 x 550 x 570
Hight with open lid [mm]	610	705
Weight without rotor [kg]	32	60
Kinetic energy max. [Nm]	7.750	9.962
Noise level at max. speed (approx.)		
Rotor 12148	< 67 dB (A)	65 dB (A)
Rotor 11190	–	63 dB (A)
Max. acceleration rotor 12148 [sec]	33	27
rotor 11190 [sec]	36	22
Max deceleration rotor 12148 [sec]	27	18
rotor 11190 [sec]	20	17
Temperature setting range	–	-10°C – +40°C

MADE IN GERMANY



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