



Refrigerated Centrifuges

4" Alphanumeric
LCD display

Bi-directional
encoder for setting



Specifications subject to change without notice



These Plus series Refrigerated Centrifuges are designed for centrifugation of temperature sensitive material and find application in routine and research work in auxiliary laboratories in industry, Educational & Research institutions, Bio Technology, Medical Laboratories, Hospitals, Blood Banks, Pharmaceutical & Clinical research laboratories. A wide variety of swing out and angle rotors with a choice of reduction adaptors make these units truly versatile.

Salient Features / Technical Data

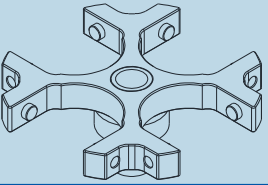
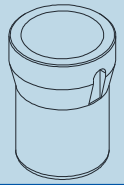
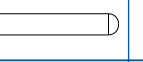
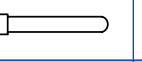
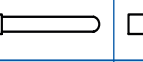
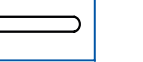
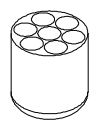
	Table Top Models					Floor Models	
	High Volume Low Speed		Low Volume High Speed			High Volume High Speed	
Models	C-23 Plus	CPR-23 Plus	C-24 Plus	CPR-24 Plus	CPR-24i Plus	C-30 Plus	CPR-30 Plus
Max. Speed (rpm)	7000	7000	20000			20000	
Max. RCF (g)	7400	7400	37570			37570	
Max. Tube Size (ml)	250	250	100		250	250	
Max. Capacity (ml)	1200	1200	400		1000	1200	
Lowest Temp. * (°C)	-8	-8	-8		-10	-8	
#Noise (dB)	≤ 60	≤ 60	≤ 60			≤ 60	
Programable compensation for true sample temperature	×	✓	×	✓	✓	×	✓
Pre Cooling	×	✓	×	✓	✓	×	✓
Acceleration Profiles	Low, High	9	Low, High	9	9	Low, High	9
Deceleration Profiles	Coasting, Low, High	9 & Coasting	Coasting, Low, High	9 & Coasting	9 & Coasting	Coasting, Low, High	9 & Coasting
Fast Spin	×	✓	×	✓	✓	×	✓
Calibration window on lid for speed	✓	✓	✓	✓	✓	✓	✓
Display	LED	LCD	LED	LCD	LCD	LED	LCD
Control Communication	Digital	Digital	Digital	Digital	Digital	Digital	Digital
Self-Diagnostic of error	×	✓	×	✓	✓	×	✓
Parameters setting switches	Feather Touch Keys	Feather Touch Keys + Bi-directional encoder	Feather Touch Keys	Feather Touch Keys + Bi-directional encoder	Feather Touch Keys + Bi-directional encoder	Feather Touch Keys	Feather Touch Keys + Bi-directional encoder
Brushless motor with frequency drive	✓	✓	✓	✓	✓	✓	✓
Inverter fault detection with auto shut down	✓	✓	✓	✓	✓	✓	✓
CFC free refrigeration system	✓	✓	✓	✓	✓	✓	✓
No. of Programs	×	99	×	99	99	×	99
Last set parameters recall	✓	✓	✓	✓	✓	✓	✓
Choice of rpm / rcf setting	RPM	RPM / RCF	RPM	RPM / RCF	RPM / RCF	RPM	RPM / RCF
Temperature Display	°C	°C	°C	°C	°C	°C	°C
Digital Countdown timer 0-99 min & Continuous run	✓	✓	✓	✓	✓	✓	✓
Log of cumulative run time	×	✓	×	✓	✓	×	✓
Automatic Rotor Identification	✓	✓	✓	✓	✓	✓	✓
Motor overload protection	✓	✓	✓	✓	✓	✓	✓
Emergency lid lock release	✓	✓	✓	✓	✓	✓	✓
Imbalance detection with centrifugation cut off	✓	✓	✓	✓	✓	✓	✓
Password Protection	×	✓	×	✓	✓	×	✓
Gas Hinge to prevent door falling	✓	✓	✓	✓	✓	✓	✓
W x D x H (mm)	830 x 650 x 500		775 x 575 x 475		830 x 650 x 500	660 x 765 x 945	
Recommended Voltage Stabilizer	VS-03		VS-03		VS-03	VS-03	
Supply: 220-240 Volts, 50 Hz Single Phase.							

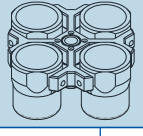
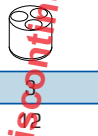
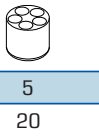
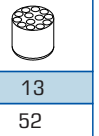
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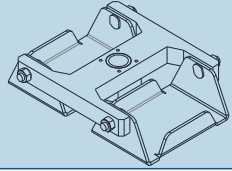
Models	C-23 Plus	C-24 Plus CPR-24 Plus	CPR-24i Plus	C-30 Plus CPR-30 Plus
R-230 M + R-231 M 4 x 200 ml	Max 5100 rpm Max 4500 g	×	×	Max 4500 rpm Max 3500 g
R-234 M 4 x 250 ml	Max 5500 rpm Max 5070 g	×	Max 4500 rpm Max 3500 g	Max 4500 rpm Max 3500 g
R-235 M 8 x 96 wells	Max 3200 rpm Max 1370 g	×	Max 3200 rpm Max 1370 g	Max 3200 rpm Max 1370 g
R-230 BM + R 233 BM 108 x 5 ml (RIA)	Max 5100 rpm Max 3980 g	×	×	Max 4500 rpm Max 3500 g
R-240 M 16 x 50 ml	×	×	×	Max 3200 rpm Max 2110 g
R-240 AM 28 x 15 ml	×	×	×	Max 3200 rpm Max 2110 g
R-246 AM 4 x 25 ml	×	Max 11000 rpm Max 12180 g	Max 11000 rpm Max 12180 g	Max 11000 rpm Max 12180 g
R-236 M 6 x 200 ml	Max 7000 rpm Max 7400 g	×	×	Max 7000 rpm Max 7400 g
R-237 M 8 x 100 ml	Max 7000 rpm Max 7400 g	×	×	Max 7000 rpm Max 7400 g
R-238 M 12 x 50 ml	Max 7000 rpm Max 7400 g	×	×	Max 7000 rpm Max 7400 g
R-239 M 36 x 15 ml	Max 7000 rpm Max 7400 g	×	×	Max 7000 rpm Max 7400 g
R-241 M 4 x 100 ml	×	Max 14500 rpm Max 23980 g	Max 14500 rpm Max 23980 g	Max 14500 rpm Max 23980 g
R-243 M 8 x 25 ml	×	Max 18000 rpm Max 31150 g	Max 18000 rpm Max 31150 g	Max 18000 rpm Max 31150 g
R-244 M 12 x 15 ml	×	Max 18000 rpm Max 31150 g	Max 18000 rpm Max 31150 g	Max 18000 rpm Max 31150 g
R-247 M 8 x 50 ml	×	Max 16000 rpm Max 30020 g	Max 16000 rpm Max 30020 g	Max 16000 rpm Max 30020 g
R-248 M 24 x 2 ml	×	Max 20000 rpm Max 37570 g	Max 20000 rpm Max 37570 g	Max 20000 rpm Max 37570 g
R-249 M 6 Strips of 8 PCR	×	Max 11000 rpm Max 12180 g	Max 11000 rpm Max 12180 g	Max 11000 rpm Max 12180 g
R-250 M 48 x 1.5 ml	×	Max 16000 rpm Max 30020 g	Max 16000 rpm Max 30020 g	Max 16000 rpm Max 30020 g
R-251 M 28 x 1.5 ml	×	Max 20000 rpm Max 37570 g	Max 20000 rpm Max 37570 g	Max 20000 rpm Max 37570 g
R-238 MF 12 x 50 ml	Max 7000 rpm Max 7400 g	×	×	Max 7000 rpm Max 7400 g
R-239 MF 24 x 15 ml	Max 7000 rpm Max 7400 g	×	×	Max 7000 rpm Max 7400 g
R-244 MF 12 x 15 ml	×	Max 14500 rpm Max 28680 g	Max 14500 rpm Max 28680 g	Max 14500 rpm Max 28680 g
R-247 MF 8 x 50 ml	×	Max 14500 rpm Max 28680 g	Max 14500 rpm Max 28680 g	Max 14500 rpm Max 28680 g

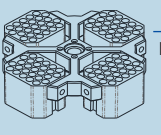
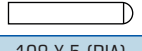
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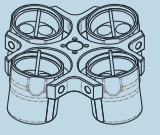
Swing Out Rotors

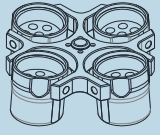
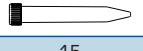
 R-230 M		 R-231 M		Swing Out Rotor R-230 M + R-231 M (4 x 200ml)				
				C-23 Plus		C-30 Plus CPR-30 Plus		
				Max. Speed RPM 5100 Max RCF (g) 4500		Max. Speed RPM 4500 Max RCF (g) 3500		
Image of Tube								
Tube Capacity (ml)	200	100	50	30	15	10	5/7	5/7
Type of Tube	Glass	Glass	Glass	Glass	Glass	Blood Collection Tube	Blood Collection Tube (Long)	Blood Collection Tube (Short)
Insert or Cushion No.	C 200R Included	(OLD - RA-2311)	(OLD - RA-2312)	(OLD - RA-2313)	RE 200-15R(7) (OLD - RA-2314)	(OLD - RA-2316)	(OLD - RA-2315)	(OLD - RA-2317)
Image of Insert (Set of 4, supplied with suitable bottom cushions)	No							
No of tubes/Insert	1	1	1	3	7	5	6	6
No of tubes/rotor	4	4	4	12	28	20	24	24
Ø x L (mm)	55 x 115	45.5 x 104	30 x 110	24 x 110	17 x 110	15.5 x 106	12.5 x 106	12.5 x 81
Tubes supplied	Yes	Yes	Yes	Yes	Yes	No	No	No

Swing Out Rotor R-234 M (4 x 250ml)					
C-23 Plus		CPR-24i Plus		C-30 Plus CPR-30 Plus	
Max. Speed RPM 5500 Max RCF (g) 5070				Max. Speed RPM 4500 Max RCF (g) 3500	
Image of Tube					
Tube Capacity (ml)	250	50	25	15	5
Type of Tube	Plastic	Glass	Glass	Glass	Glass
Insert or Cushion No.	C 250R Included	(OLD - RA-2341)	(OLD - RA-2342)	RE 250-15R(5) (OLD - RA-2343)	RE 250-5R(13) (OLD - RA-2344)
Image of Insert (Set of 4, supplied with suitable bottom cushions)	No				
No of tubes/Insert	1	1	1	5	13
No of tubes/rotor	4	4	4	20	52
Ø x L (mm)	67.5 x 100	30 x 110	25 x 62.5	17 x 110	14 x 100
Tubes supplied	Yes	Yes	Yes	Yes	Yes

Swing Out Rotor R-235 M (8 x 96 WELL)		
C-23 Plus	CPR-24i Plus	C-30 Plus CPR-30 Plus
 Max. Speed RPM 3200 Max RCF (g) 1370		
Image of Tube		
Tube Capacity (ml)	8 x 96 wells	
Type of Tube	Microtiter	
No of tubes/rotor	8	
W x D x L (mm)	127 x 84 x 18	
Tubes supplied	No	

Swing Out Rotor R-230 BM + R-233 BM (108 x 5ml (RIA))	
C-23 Plus	C-30 Plus CPR-30 Plus
Max. Speed RPM 5100 Max RCF (g) 3980	Max. Speed RPM 4500 Max RCF (g) 3500
	
Image of Tube	
Tube Capacity (ml)	108 X 5 (RIA)
Type of Tube	RIA Plastic Tubes
Insert or Cushion No.	No
No of tubes/Carrier	27
No of tubes/rotor	108
Ø x L (mm)	12.4 x 76
Tubes supplied	Yes

Swing Out Rotor R-240 M (16 x 50ml)	
C-30 Plus CPR-30 Plus	
Max. Speed RPM 3200 Max RCF (g) 2110	
	
Image of Tube	
Tube Capacity (ml)	50
Type of Tube	Conical
Insert or Cushion No.	C 4-50F Included
No of tubes/Insert	4
No of tubes/rotor	16
Ø x L (mm)	29 x 116
Tubes supplied	No

Swing Out Rotor R-240 AM (28 x 15ml)	
C-30 Plus CPR-30 Plus	
Max. Speed RPM 3200 Max RCF (g) 2110	
	
Image of Tube	
Tube Capacity (ml)	15
Type of Tube	Conical
Insert or Cushion No.	C 7-15F Included
No of tubes/Insert	7
No of tubes/rotor	28
Ø x L (mm)	16.5 x 120
Tubes supplied	No

Swing Out Rotor R-246 AM (4 x 25ml)			Image of Tube	
C-24 Plus CPR-24 Plus	CPR-24i Plus	C-30 Plus CPR-30 Plus	Tube Capacity (ml)	25
 Max. Speed RPM 11000 Max RCF (g) 12180			Type of Tube	Glass
			Insert or Cushion No.	C 25R Included
			No of tubes/Insert	1
			No of tubes/rotor	4
			Ø x L (mm)	28 x 62.5
			Tubes supplied	Yes

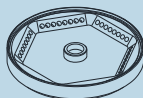
Angle Rotors

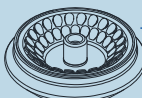
Angle Rotor R-236 M (6 x 200ml)			Angle Rotor R-237 M (8 x 100ml)			Angle Rotor R-238 M (12 x 50ml)		
C-23 Plus		C-30 Plus CPR-30 Plus	C-23 Plus		C-30 Plus CPR-30 Plus	C-23 Plus		C-30 Plus CPR-30 Plus
Max. Speed RPM 7000 Max RCF (g) 7400		Max. Speed RPM 7000 Max RCF (g) 7400	Max. Speed RPM 7000 Max RCF (g) 7400		Max. Speed RPM 7000 Max RCF (g) 7400	Max. Speed RPM 7000 Max RCF (g) 7400		Max. Speed RPM 7000 Max RCF (g) 7400
Image of Tube			Image of Tube			Image of Tube		
Tube Capacity (ml)	200		Tube Capacity (ml)	100		Tube Capacity (ml)	50	
Type of Tube	Plastic		Type of Tube	Plastic		Type of Tube	Plastic	
Insert or Cushion No.	No		Insert or Cushion No.	C 100R Included		Insert or Cushion No.	C 50R Included	
No of tubes/Insert	-		No of tubes/Insert	1		No of tubes/Insert	1	
No of tubes/rotor	6		No of tubes/rotor	8		No of tubes/rotor	12	
Ø x L (mm)	61 x 125		Ø x L (mm)	45.5 x 104		Ø x L (mm)	30 x 100	
Tubes supplied	Yes		Tubes supplied	Yes		Tubes supplied	Yes	

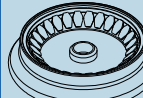
Angle Rotor R-239 M (36 x 15ml)			Angle Rotor R-241 M (4 x 100ml)			Angle Rotor R-243 M (8 x 25ml)		
C-23 Plus		C-30 Plus CPR-30 Plus	C-24 Plus CPR-24 Plus	CPR-24i Plus	C-30 Plus CPR-30 Plus		C-24 Plus CPR-24 Plus	CPR-24i Plus C-30 Plus CPR-30 Plus
Max. Speed RPM 7000 Max RCF (g) 7400		Max. Speed RPM 7000 Max RCF (g) 7400	Max. Speed RPM 14500 Max RCF (g) 23980			Max. Speed RPM 18000 Max RCF (g) 31150		
Image of Tube			Image of Tube			Image of Tube		
Tube Capacity (ml)	15		Tube Capacity (ml)	100		Tube Capacity (ml)	25	
Type of Tube	Plastic		Type of Tube	Plastic		Type of Tube	Plastic	
Insert or Cushion No.	C 15R Included		Insert or Cushion No.	No		Insert or Cushion No.	No	
No of tubes/Insert	1		No of tubes/Insert	-		No of tubes/Insert	-	
No of tubes/rotor	36		No of tubes/rotor	4		No of tubes/rotor	8	
Ø x L (mm)	17 x 102		Ø x L (mm)	45.5 x 104		Ø x L (mm)	25 x 95	
Tubes supplied	Yes		Tubes supplied	Yes		Tubes supplied	Yes	

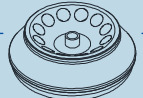
Angle Rotor R-244 M (12 x 15ml)			Angle Rotor R-247 M (8 x 50ml)			Angle Rotor R-248 M (24 x 2ml)		
	C-24 Plus CPR-24 Plus	CPR-24i Plus C-30 Plus CPR-30 Plus		C-24 Plus CPR-24 Plus	CPR-24i Plus C-30 Plus CPR-30 Plus		C-24 Plus CPR-24 Plus	CPR-24i Plus C-30 Plus CPR-30 Plus
Max. Speed RPM 18000 Max RCF (g) 31150			Max. Speed RPM 16000 Max RCF (g) 30020			Max. Speed RPM 20000 Max RCF (g) 37570		
Image of Tube			Image of Tube			Image of Tube		
Tube Capacity (ml)	15		Tube Capacity (ml)	50		Tube Capacity (ml)	2	
Type of Tube	Plastic		Type of Tube	Plastic		Type of Tube	Plastic	
Insert or Cushion No.	No		Insert or Cushion No.	No		Insert or Cushion No.	No	
No of tubes/Insert	-		No of tubes/Insert	-		No of tubes/Insert	-	
No of tubes/rotor	12		No of tubes/rotor	8		No of tubes/rotor	24	
Ø x L (mm)	17 x 102		Ø x L (mm)	30 x 100		Ø x L (mm)	11 x 41	
Tubes supplied	Yes		Tubes supplied	Yes		Tubes supplied	Yes	

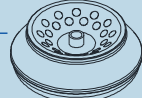
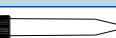
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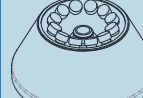
Angle Rotor R-249 M (6 Strips of 8 PCR x 0.2ml)		
C-24 Plus CPR-24 Plus	CPR-24i Plus	C-30 Plus CPR-30 Plus
 Max. Speed RPM 11000 Max RCF (g) 12180		
Image of Tube		
Tube Capacity (ml)	6 strips of 8 PCR	
Type of Tube	PCR	
Insert or Cushion No.	No	
No of tubes/Insert	-	
No of tubes/rotor	6	
Ø x L (mm)	6 x 78	
Tubes supplied	Yes	

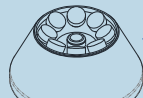
Angle Rotor R-250 M (48 x 1.5ml)		
C-24 Plus CPR-24 Plus	CPR-24i Plus	C-30 Plus CPR-30 Plus
 Max. Speed RPM 16000 Max RCF (g) 30020		
Image of Tube		
Tube Capacity (ml)	1.5	
Type of Tube	Plastic	
Insert or Cushion No.	No	
No of tubes/Insert	-	
No of tubes/rotor	48	
Ø x L (mm)	11 x 41	
Tubes supplied	Yes	

Angle Rotor R-251 M (28 x 1.5ml)		
C-24 Plus CPR-24 Plus	CPR-24i Plus	C-30 Plus CPR-30 Plus
 Max. Speed RPM 20000 Max RCF (g) 37570		
Image of Tube		
Tube Capacity (ml)	1.5	
Type of Tube	Plastic	
Insert or Cushion No.	No	
No of tubes/Insert	-	
No of tubes/rotor	28	
Ø x L (mm)	11 x 41	
Tubes supplied	Yes	

Angle Rotor R-238 MF (12 x 50ml)		
C-23 Plus	C-30 Plus CPR-30 Plus	
 Max. Speed RPM 7000 Max RCF (g) 7400		
Image of Tube		
Tube Capacity (ml)	50	
Type of Tube	Conical	
Insert or Cushion No.	C 50F	
No of tubes/Insert	1	
No of tubes/rotor	12	
Ø x L (mm)	29 x 116	
Tubes supplied	No	

Angle Rotor R-239 MF (24 x 15ml)		
C-23 Plus	C-30 Plus CPR-30 Plus	
 Max. Speed RPM 7000 Max RCF (g) 7400		
Image of Tube		
Tube Capacity (ml)	15	
Type of Tube	Conical	
Insert or Cushion No.	C 15F	
No of tubes/Insert	1	
No of tubes/rotor	24	
Ø x L (mm)	16.5 x 120	
Tubes supplied	No	

Angle Rotor R-244 MF (12 x 15ml)		
C-24 Plus CPR-24 Plus	CPR-24i Plus	C-30 Plus CPR-30 Plus
 Max. Speed RPM 14500 Max RCF (g) 28680		
Image of Tube		
Tube Capacity (ml)	15	
Type of Tube	Conical	
Insert or Cushion No.	No	
No of tubes/Insert	-	
No of tubes/rotor	12	
Ø x L (mm)	16.5 x 120	
Tubes supplied	No	

Angle Rotor R-247 MF (8 x 50ml)		
C-24 Plus CPR-24 Plus	CPR-24i Plus	C-30 Plus CPR-30 Plus
 Max. Speed RPM 14500 Max RCF (g) 28680		
Image of Tube		
Tube Capacity (ml)	50	
Type of Tube	Conical	
Insert or Cushion No.	No	
No of tubes/Insert	-	
No of tubes/rotor	8	
Ø x L (mm)	29 x 116	
Tubes supplied	No	