



# Thermo Scientific ultracentrifuge rotor guide

# Thermo Scientific ultracentrifuge rotors\*

Thermo Scientific™ rotors	Max. speed (rpm)	Max. RCF (x g)**	K factor†	Capacity (No. tubes x mL)	Page No.
<b>Fixed angle</b>					
Fiberlite™ F65L-6x13.5 Rotor	65,000	324,000	70	6 x 13.5	4
Fiberlite™ F50L-8x39 Rotor	50,000	266,000	87	8 x 39	5
Fiberlite™ F50L-24x1.5 Rotor	50,000	280,000	33	24 x 1.5	6
Fiberlite™ F37L-8x100 Rotor	37,000	182,460	168	8 x 100	7
T-8100 Rotor	100,000	802,006	17.7	8 x 6.5	8
T-890 Rotor	90,000	692,149	25.1	8 x 12.5	10
TFT-80.4 Rotor	80,000	468,246	25.8	10 x 4.4	12
TFT-80.2 Rotor	80,000	429,643	22.6	12 x 2	14
T-1270 Rotor	70,000	448,811	36.3	12 x 12.5	15
T-865 Rotor	65,000	429,459	51.7	8 x 36	17
T-1250 Rotor	50,000	301,032	68.7	12 x 36	19
T-647.5 Rotor	47,500	250,259	121	6 x 100	21
TFT-45.6 Rotor	45,000	238,859/204,252‡	41.1/49.6‡	40 x 6.0	23
A-621 Rotor	21,000	204,252	751	6 x 250	25
<b>Swinging bucket</b>					
TH-660 Rotor	60,000	488,576	44.4	6 x 4.4	26
AH-650 Rotor	50,000	296,005	53	6 x 5	28
TH-641 Rotor	41,000	287,660	114	6 x 13.2	30
SureSpin™ 632 (17 mL) Rotor	32,000	191,759	221	6 x 17	32
SureSpin™ 632 (38.5 mL) Rotor	32,000	187,295	194	6 x 38.5	34
SureSpin™ 630 (17 mL) Rotor§	30,000	166,880	268	6 x 17	36
SureSpin™ 630 (36 mL) Rotor§	30,000	166,880	219	6 x 36	38
AH-629 (17 mL) Rotor	29,000	155,846	284	6 x 17	40
AH-629 (36 mL) Rotor	29,000	151,243	242	6 x 36	42

# Thermo Scientific ultracentrifuge rotors, continued

Thermo Scientific™ rotors	Max. speed (rpm)	Max. RCF (x g)**	K factor†	Capacity (No. tubes x mL)	Page No.
<b>Vertical</b>					
StepSaver™ 70V6 Rotor	70,000	467,420	8.7	8 x 6	44
StepSaver™ 65V13 Rotor	65,000	400,671	12.9	8 x 13.5	46
StepSaver™ 50V39 Rotor	50,000	241,831	35.8	8 x 39	48
TV-1665 Rotor	65,000	414,357	9.8	16 x 6	50
TV-860 Rotor	60,000	340,596	25.2	8 x 35	52
<b>Neo angle</b>					
TN-890 Rotor	90,000	645,101	10	8 x 5	53
TN-1065 Rotor	65,000	401,614	23	10 x 12	54
TN-1865 Rotor	65,000	430,874	15	18 x 5	55

\* Zonal and continuous flow rotors are also available. Please contact your sales representative for more information.

\*\* RCF calculated for maximum rotor radius.

† K factor calculated assuming the maximum volume in a sealed tube.

‡ Outer row/inner row.

§ These rotors have been replaced by SureSpin 632 6 x 17 mL and 6 x 38.5 mL ultracentrifuge rotors. Please contact your sales representative to inquire about the availability of related accessories and labware.

# Fiberlite F65L-6x13.5 Fixed Angle Rotor



## Fiberlite F65L-6 x 13.5 rotor specifications

Type	Fixed angle	
Material	Carbon fiber composite	
Capacity	6 x 13.5 mL	
Maximum speed	65,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	16 x 76 mm	
Angle	30°	
K factor	70	
Net weight	4.31 kg/9.5 lb	
Warranty	15 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	324,000 x g	68.4 mm
Minimum	99,372 x g	21 mm

## Fiberlite F65L-6 x 13.5 rotor package (Cat. No. 096-067135)

Description	Cat. No.
Rotor lid assembly	099-067135
O-ring refresher kit (5 o-rings, 3 vacuum grease packets, 3 lubricant packets)	021-067135
Lid fastening tool	014-2455
PC bottle assembly (3 pkg. of 2)	010-0128
Tube removal tool	097-1133
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Ultraspeed rotor log book	52384
Extra overspeed decal (65,000 rpm)	014-2466

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/rotor	Max. speed (rpm)	Max. RCF* (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
13.5	10.4	PC bottle assembly	010-1382	2	6	65,000	324,000	16 x 76	Closure	Included	2	Aluminum sealing assembly
									Tool	097-1133	1	Removal tool
13.5	10.4	PC bottle only	010-1380	6	6	65,000	324,000	16 x 76	-	-	-	-
13.5	8.9	OptiSeal™ polyallomer tube	010-1262	56	6	65,000	324,000	16 x 60	Closure	010-1355	2	Spacer
									Tool	017-0045	1	Spacer removal tool
									Tool	017-0044	1	Tube extraction tool

# Fiberlite F50L-8x39 Fixed Angle Rotor



## Fiberlite F50L-8 x 39 rotor specifications

Type	Fixed angle	
Material	Carbon fiber composite	
Capacity	8 x 39 mL	
Maximum speed	50,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	25 x 89 mm	
Angle	23°	
K factor	87	
Net weight	8.39 kg/18.5 lb	
Warranty	15 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	266,000 x g	95.07 mm
Minimum	109,200 x g	43 mm

## Fiberlite F50L-8 x 39 rotor package (Cat. No. 096-087051)

Description	Cat. No.
Rotor lid assembly	099-087051
O-ring refresher kit (5 o-rings, 3 vacuum grease packets, 3 lubricant packets)	021-087051
Lid fastening tool	014-2455
PC bottle assembly (4 pkg. of 2)	010-1371
Tube removal tool	097-1133
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Ultraspeed rotor log book	52384
Extra overspeed decal (50,000 rpm)	014-2456

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max speed (rpm)	Max RCF* (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
39	26.3	PC bottle assembly	010-1371	2	8	50,000	266,000	25 x 89	Closure	Included	2	Aluminum sealing assembly
									Tool	097-1133	1	Removal tool
39	26.3	PC bottle only	010-1370	6	6	50,000	266,000	25 x 89	-	-	-	-
39	32.4	OptiSeal™ polyallomer tube	010-1289	56	6	50,000	266,000	25 x 77	Closure	010-1356	2	Spacer
									Tool	017-0045	1	Tube removal tool
									Tool	017-0044	1	Tube extraction tool

# Fiberlite F50L-24x1.5 Fixed Angle Rotor



## Fiberlite F50L-24 x 1.5 rotor specifications

Type	Fixed angle	
Material	Carbon fiber composite	
Capacity	24 x 1.5 mL	
Maximum speed	50,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	11 x 40 mm	
Angle	45°	
K factor	33	
Net weight	5.3 kg/11.5 lb	
Warranty	15 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	280,000 x g	100 mm
Minimum	201,600 x g	72 mm

## Fiberlite F50L-24 x 1.5 rotor package (Cat. No. 096-247028)

Description	Cat. No.
Rotor lid assembly	099-247028
O-ring refresher kit (5 o-rings, 3 vacuum grease packets, 3 lubricant packets)	021-247028
Lid fastening tool	014-2455
1.5 mL polyallomer microtubes (1 pkg. of 100)	314352H01
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Ultraspeed rotor log book	52384
Extra overspeed decal (65,000 rpm)	014-2456

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
1.5	1.5	Polyallomer microtubes*	314352H01	100	24	50,000	280,000	11 x 40	Closure	Included	-	Snap-on seals

\* Polyallomer microtubes may be centrifuged at maximum speed when partially full (0.2–1.5 mL per tube).

# Fiberlite F37L-8x100 Fixed Angle Rotor



## Fiberlite F37L-8 x 100 rotor specifications

Type	Fixed angle	
Material	Carbon fiber composite	
Capacity	8 x 100 mL	
Maximum speed	37,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	38 x 102 mm	
Angle	25°	
K factor	168	
Net weight	11.34 kg/25 lb	
Warranty	15 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	182,460 x g	119 mm
Minimum	73,600 x g	48 mm

## Fiberlite F37L-8 x 100 rotor package (Cat. No. 096-087056)

Description	Cat. No.
Rotor lid assembly	099-087056
O-ring refresher kit (5 o-rings, 3 vacuum grease packets)	021-087056
Lid fastening tool	014-2455
PC bottle assembly (1 pkg. of 8)	010-1333
Tube removal tool	097-1133
Rotor stand	20048993
Vacuum grease	017-0025
Ultraspeed rotor log book	52384
Extra overspeed decal (37,000 rpm)	014-2889

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./pkg.	Tubes/rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./pkg.	Description
100	70	PC bottle assembly	010-1333	8	8	37,000	182,460	38 x 102	Closure	Included	8	Aluminum sealing assembly
									Tool	097-1133	1	Removal tool
100	70	PC bottle only	010-1331	8	8	37,000	182,460	38 x 102	-	-	-	-
39	26.3	PC bottle assembly	010-1371	2	8	30,000	119,950	25 x 89	Adapter	010-0189	2	1 Place/adapter
									Closure	Included	2	Aluminum sealing assembly
									Tool	097-1133	1	Removal tool
39	26.3	PC bottle only	010-1370	6	8	30,000	119,950	25 x 89	-	-	-	-
13.5	10.4	PC bottle assembly	010-1382	2	8	30,000	119,950	16 x 76	Adapter	010-0191	2	1 Place/adapter
									Closure	Included	2	Aluminum sealing assembly
									Tool	097-1133	1	Removal tool
13.5	10.4	PC bottle only	010-1380	6	8	30,000	119,950	16 x 76	-	-	-	-

# T-8100

## Fixed Angle Rotor



### T-8100 rotor specifications

Type	Fixed angle	
Material	Titanium	
Capacity	8 x 6.5 mL	
Maximum speed	100,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	13 x 64 mm	
Angle	26°	
K factor	17.7	
Net weight	3.7 kg/8.2 lb	
Warranty	7 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	802,006 x g	71.8 mm
Average	599,829 x g	53.7 mm
Minimum	397,652 x g	35.6 mm

### Ordering information

Description	Cat. No.
<b>T-8100 rotor package</b>	
T-8100 Fixed Angle Rotor	45621
Rotor cover o-ring (2)	45657
Rotor cover locking nut o-ring (5)	45658
Rotor cover tool	20490312
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Extra overspeed decal (100,000 rpm)	45659
Ultracentrifuge rotor log book	52384
Instruction manual	45623
<b>Accessories</b>	
Ultracrimp/clearcrimp sealing tool	03920
Crimp gauge replacement	03919
Extra plugs and caps	03999
Tube rack	03921
Rotor cap	45662
Tube cap vise	52176
Tube removal tool	52177



## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
6.0	5.7	PA ultracrimp tube	03945	50	8	100,000	802,006	13 x 66	Closure	Included	50	Ultracrimp plugs and caps
									Closure	45662	1	Rotor cap
									Accessory	03921	1	Tube rack
									Tool	03920	1	Ultracrimp sealing tool
6.0	5.7	PET clearcrimp tube	01086	50	8	100,000	802,006	13 x 66	Closure	Included	50	Ultracrimp plugs and caps
									Closure	45662	1	Rotor cap
									Accessory	03921	1	Tube rack
									Tool	03920	1	Ultracrimp sealing tool
6.5	5.8	PA thin-walled tube	45660	50	8	80,000	513,284	13 x 64	Closure	45801	1	Multipiece Titanium assembly
									Tool	52176	1	Tube cap vise
									Tool	52177	1	Tube removal tool
									Closure	45801	1	Multipiece Titanium assembly
									Tool	52176	1	Tube cap vise
Tool	52177	1	Tube removal tool									

# T-890

## Fixed Angle Rotor



### T-890 rotor specifications

Type	Fixed angle	
Material	Titanium	
Capacity	8 x 12.5 mL	
Maximum speed	90,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	16 x 80 mm	
Angle	25°	
K factor	25.1	
Net weight	4.5 kg/9.9 lb	
Warranty	7 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	692,149 x g	76.5 mm
Average	500,790 x g	55.3 mm
Minimum	309,431 x g	34.2 mm

### Ordering information

Description	Cat. No.
<b>T-890 rotor package</b>	
T-890 Fixed Angle Rotor	11690
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Extra overspeed decal (90,000 rpm)	11696
Rotor cover	70050436
Rotor cover o-ring (2)	20290464
Rotor cover locking nut	70048779
Rotor cover locking nut o-ring (5)	91910
Rotor cover tool	20490312
Ultracentrifuge rotor log book	52384
Instruction manual	11656
<b>Accessories</b>	
Ultracrimp/clearcrimp sealing tool	03920
Crimp gauge replacement	03919
Extra plugs and caps	03999
Tube racks (2)	03922
Wrench for reseal tubes	75000478
Tube removal tool for reseal tubes	75000479
Tool kit for multipiece assembly (tube cap vise, tube removal tool, torque wrench, 7/16 in. wrench)	52609

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
12.5	11.8	PA thin-walled tube	03128	50	8	75,000	480,659	16 x 76	Closure	52178	1	Multipiece aluminum seal assembly*
									Closure	52634	1	Multipiece titanium seal assembly*
									Accessories	52609	1	Tool kit for multipiece assembly
11.5	11.5	PA ultracrimp tube	03987	50	8	90,000	692,149	16 x 76	Closure	Included	50	Plug and cap
									Closure	03993	1	Rotor cap
									Accessory	03922	1	Tube racks
									Tool	03920	1	Crimp sealing tool
11.5	11.5	PET clearcrimp tube	01087	50	8	90,000	692,149	16 x 76	Closure	Included	50	Plug and cap
									Closure	03993	1	Rotor cap
									Accessory	03922	1	Tube racks
									Tool	03920	1	Crimp sealing tool
10.0	6.8	PA thick-walled tube	03238	50	8	45,000	173,037	16 x 71	–	–	–	–
10.0	6.8	PC thick-walled tube	03237	50	8	65,000	361,028	16 x 71	–	–	–	–
10.0	9.1	PP oak ridge tube**	03929	50	8	50,000	213,626	16 x 80	Closure	03613	25	Nylon screw cap
10.0	9.1	PC oak ridge tube†	03020	25	8	65,000	361,028	16 x 80	Closure	03613	25	Nylon screw cap
6.3	6.5	PA Cone-Top™ tube	75000450	50	8	80,000	546,883	16 x 45	Closure	75000452	1	16 mm crown‡
									Closure	75000451	10	Stainless steel plug
									Tool	75000478	1	Wrench
									Tool	75000479	1	Tube removal tool

\* Requires either an aluminum closure rated to 65,000 rpm or a titanium closure rated to 75,000 rpm.

\*\* Rated to 21,000 rpm when partially full.

† Rated to 50,000 rpm when partially full.

‡ Must order one crown for each place in the rotor.

# TFT-80.4

## Fixed Angle Rotor



### TFT-80.4 rotor specifications

Type	Fixed angle	
Material	Titanium	
Capacity	10 x 4.4 mL	
Maximum speed	80,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	11 x 60 mm	
Angle	25°	
K factor	25.8	
Net weight	3.5 kg/7.7 lb	
Warranty	7 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	468,246 x g	65.5 mm
Average	356,010 x g	49.8 mm
Minimum	243,774 x g	34.1 mm

### Ordering information

Description	Cat. No.
<b>T-80.4 rotor package</b>	
T-80.4 Fixed Angle Rotor	54356
Rotor cover	750050436
Rotor cover tool	20490312
Rotor cover locking nut	70048779
Rotor cover o-ring (5)	20290464
Rotor cover locking nut o-ring (5)	11551
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Extra overspeed decal (80,000 rpm)	11628
Ultracentrifuge rotor log book	52384
Instruction manual	54355
<b>Accessories</b>	
Ultracrimp/clearcrimp sealing tool	03920
Crimp gauge replacement	03919
Extra plugs and caps	03999
Rotor cap	03091
Tube racks	03773
Wrench	75000478
Tube removal tool	75000479
Cone-Top™ Re-Seal™ tube vise 13 mm	75000481
Tool kit for multipiece assembly (tube cap vise and tube removal tool)	54380

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
4.4	3.3	PA thin-walled tube	03955	50	10	80,000	468,246	11 x 60	Closure	54366	1	Multipiece Aluminum assembly
									Tool	52176	1	Tube cap vise
									Tool	11557	1	Tube removal tool
4.4	2.7	PC threaded Thick-walled tube	54361	50	10	45,000	148,156	11 x 60	Closure	54365	1	Aluminum screw cap
									Tool	52176	1	Tube cap vise
									Tool	11557	1	Tube removal tool
3.5	3.5	PA ultracrimp tube	03905	50	10	80,000	468,246	11 x 60	Closure	Included	50	Ultracrimp plugs And caps
									Closure	03091	1	Rotor cap
									Accessory	03773	1	Tube rack
									Tool	03920	1	Ultracrimp sealing tool
2.0	2.0	PA Cone-Top Re-Seal tube	75000459	50	10	80,000	468,246	11 x 32	Closure	75000460	1	11 mm Noryl™ cone-top tube crown*
									Closure	75000451	10	Stainless steel plug
									Tool	75000478	1	Wrench
									Tool	75000478	1	Tube removal tool
									Tool	75000478	1	Tube vise

\* Must order one crown for each place in the rotor.

# TFT-80.2

## Fixed Angle Rotor



### TFT-80.2 rotor specifications

Type	Fixed angle	
Material	Titanium	
Capacity	12 x 2.0 mL	
Maximum speed	80,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	8 x 51 mm	
Angle	25°	
K factor	22.6	
Net weight	2.5 kg/5.5 lb	
Warranty	7 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	429,643 x g	60.1 mm
Average	335,994 x g	47.0 mm
Minimum	242,344 x g	33.9 mm

### Ordering information

Description	Cat. No.
<b>T-80.2 rotor package</b>	
TFT-80.2 Fixed Angle Rotor	54456
Rotor cover	70051388
Rotor cover locking nut	70048779
Rotor cover tool	20490312
Rotor cover o-ring (5)	20290479
Rotor cover locking nut o-ring (5)	11551
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Extra overspeed decal (80,000 rpm)	11628
Ultracentrifuge rotor log book	52384
Instruction manual	54462
<b>Accessories</b>	
Tube removal tool	11537

### Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
2.0	1.3	PA thin-walled tube	54460	50	12	80,000	429,643	8 x 51	Closure	54459	1	Multipiece Aluminum assembly <sup>1</sup>
									Tool	11557	1	Tube removal tool

<sup>1</sup>Rated up to 65,000 rpm only.

# T-1270

## Fixed Angle Rotor



### T-1270 rotor specifications

Type	Fixed angle	
Material	Titanium	
Capacity	12 x 12.5 mL	
Maximum speed	70,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	16 x 80 mm	
Angle	24°	
K factor	36.3	
Net weight	5.9 kg/13.0 lb	
Warranty	7 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	448,811 x g	82.0 mm
Average	335,513 x g	61.3 mm
Minimum	222,216 x g	40.6 mm

### Ordering information

Description	Cat. No.
<b>T-1270 rotor package</b>	
TFT-1270 Fixed Angle Titanium Rotor	08259
Rotor cover	08336
Rotor cover locking nut	08253
Rotor cover o-ring (1)	67932
Rotor cover locking nut o-ring (1)	64667
Rotor cover tool	20490312
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Extra overspeed decal (70,000 rpm)	08254
Ultracentrifuge rotor log book	52384
Instruction manual	08255
Washer for locking nut	51301
<b>Accessories</b>	
Ultracrimp/clearcrimp sealing tool	03920
Crimp gauge replacement	03919
Extra plugs and caps	03999
Tool kit for multipiece assembly (tube cap vise, tube removal tool, torque wrench, and 7/16" wrench)	52609
Rotor cap	03993
Tube racks	03922
Wrench	75000478
Tube removal tool	75000479

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
12.5	11.8	PA thin-walled tube	03128	50	12	70,000	448,811	16 x 76	Closure	52178	1	Multipiece Aluminum assembly <sup>1</sup>
									Closure	52634	1	Multipiece titanium seal
									Tool	52609	1	Tool kit
11.5	11.5	PA ultracrimp tube	03987	50	12	70,000	448,811	16 x 76	Closure	Included	50	Ultracrimp plugs and caps
									Closure	03993	1	Rotor cap
									Accessory	03922	1	Tube racks
									Tool	03920	1	Ultracrimp sealing tool
11.5	11.5	PET clearcrimp tube	01087	50	12	70,000	448,811	16 x 76	Closure	Included	50	Ultracrimp plugs and caps
									Closure	03993	1	Rotor cap
									Accessory	03922	1	Tube racks
									Tool	03920	1	Ultracrimp sealing tool
10.0	6.8	PA thick- walled tube	03238	50	12	45,000	185,478	16 x 71	–	–	–	–
10.0	6.8	PC thick- walled tube	03237	50	12	65,000	386,985	16 x 71	–	–	–	–
10.0	9.1	PP oak ridge tube*	03929	50	12	50,000	228,985	16 x 80	Closure	03613	25	Nylon screw cap
10.0	9.1	PC oak ridge tube**	03020	25	12	65,000	386,985	16 x 80	Closure	03613	25	Nylon screw cap
6.5	6.5	PA Cone-Top Re-Seal tube	75000450	50	12	70,000	448,811	16 x 45	Closure	75000452	1	16 mm Noryl crown <sup>†</sup>
									Closure	75000451	10	Stainless steel plug
									Tool	75000478	1	Wrench
									Tool	75000479	1	Tube removal tool

<sup>†</sup>Rated up to 65,000 rpm only.

\* Tube is limited to 21,000 rpm when partially full.

\*\* Rated to 50,000 rpm when partially full.

<sup>†</sup> Must order one crown for each place in the rotor.



# T-865

## Fixed Angle Rotor



### T-865 rotor specifications

Type	Fixed angle	
Material	Titanium	
Capacity	8 x 36 mL	
Maximum speed	65,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	25 x 97 mm	
Angle	23.5°	
K factor	51.7	
Net weight	8.3 kg/18.3 lb	
Warranty	7 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	429,459 x g	91.0 mm
Average	305,340 x g	64.7 mm
Minimum	181,222 x g	38.4 mm

### Ordering information

Description	Cat. No.
<b>T-865 rotor package</b>	
T-865 Fixed Angle Rotor	51411
Rotor cover	51380
Rotor cover locking nut	51338
Rotor cover o-ring (2)	64666
Rotor cover locking nut o-ring (2)	64667
Rotor cover tool	20490312
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Extra overspeed decal (65,000 rpm)	51345
Ultracentrifuge rotor log book	52384
Instruction manual	52266
Washer for locking nut	51301
<b>Accessories</b>	
Ultracrimp/clearcrimp sealing tool	03920
Crimp gauge replacement	03919
Extra plugs and caps	03999
Tool kit for multipiece assembly (tube cap vise, tube removal tool, torque wrench)	52610
Rotor cap	03996
Tube racks	03935
Tube removal tool	314353

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
36.0	33.0	PA thin-walled tube	03141	25	8	65,000	429,459	25 x 89	Closure	52572	1	Multipiece Aluminum assembly
									Tool	52610	1	Tool kit
35.0	35.0	PA ultracrimp tube	03989	25	8	65,000	429,459	25 x 97	Closure	Included	50	Plug and cap
									Accessory	03996	1	Rotor cap
									Accessory	03935	1	Tube racks
									Tool	03920	1	Ultracrimp sealing tool
30.0	23.0	PP oak ridge tube*	314349	25	8	45,000	205,835	25 x 94	Closure	314347	1	Aluminum sealing cap
									Tool	314353	1	Tube removal kit
30.0	23.0	PC oak ridge tube**	314348	25	8	65,000	429,459	25 x 94	Closure	314347	1	Aluminum sealing cap
									Tool	314353	1	Tube removal kit
11.5	11.5	PA ultracrimp tube	03987	50	8	65,000	429,459	16 x 76	Closure	Included	50	Plug and cap
									Adapter	00399	1	Adapter
									Accessory	03996	1	Rotor cap
									Accessory	03922	1	Tube rack
									Tool	03920	1	Ultracrimp sealing tool
11.5	11.5	PET clearcrimp tube	01087	50	8	65,000	429,459	16 x 76	Closure	Included	50	Plug and cap
									Adapter	00399	1	Adapter
									Accessory	03996	1	Rotor cap
									Accessory	03922	1	Tube rack
									Tool	03920	1	Ultracrimp sealing tool
10.0	6.8	PA thick-walled tube	03238	50	8	45,000	205,835	16 x 71	Adapter	00399	1	Adapter
10.0	6.8	PC thick-walled tube	03237	50	8	65,000	429,459	16 x 71	Adapter	00399	1	Adapter
10.0	9.1	PP oak ridge tube <sup>†</sup>	03929	50	8	30,000	91,482	16 x 80	Closure	03613	25	Nylon screw cap
									Adapter	00399	1	Adapter
10.0	9.1	PC oak ridge tube	03020	25	8	30,000	91,482	16 x 80	Closure	03613	25	Nylon screw cap
									Adapter	00399	1	Adapter

\* Tube must be full.

\*\* Rated to 45,000 rpm when partially full.

† Rated to 21,000 rpm when partially full.

# T-1250

## Fixed Angle Rotor



### T-1250 rotor specifications

Type	Fixed angle	
Material	Titanium	
Capacity	12 x 36 mL	
Maximum speed	50,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	25 x 97 mm	
Angle	24°	
K factor	68.7	
Net weight	11.1 kg/24.5 lb	
Warranty	7 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	301,032 x g	108.0 mm
Average	227,030 x g	81.3 mm
Minimum	152,750 x g	54.7 mm

### Ordering information

Description	Cat. No.
<b>T-1250 rotor package</b>	
T-1250 Fixed Angle Rotor	11713
Rotor cover	11716
Rotor cover locking nut	11715
Rotor cover o-ring (1)	11549
Rotor cover locking nut o-ring (1)	11550
Rotor cover tool	20490312
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Extra overspeed decal (65,000 rpm)	51349
Ultracentrifuge rotor log book	52384
Instruction manual	11718
<b>Accessories</b>	
Ultracrimp/clearcrimp sealing tool	03920
Crimp gauge replacement	03919
Extra plugs and caps	03999
Tool kit for multipiece assembly (tube cap vise, tube removal tool, torque wrench)	52610
Rotor cap	03996
Tube racks	03935
Tube removal tool	314353

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
36.0	33.0	PA thin-walled tube	03141	25	12	50,000	301,032	25 x 89	Closure	52572	1	Multipiece Aluminum assembly
									Tool	52610	1	Tool kit
35.0	35.0	PA ultracrimp tube	03989	25	12	50,000	301,032	25 x 97	Closure	Included	50	Plug and cap
									Closure	03996	1	Rotor cap
									Accessory	03935	1	Tube racks
									Tool	03920	1	Ultracrimp sealing tool
30.0	23.0	PP oak ridge tube*	314349	25	12	37,000	164,845	25 x 94	Closure	314347	1	Aluminum sealing cap
									Tool	314353	1	Tube removal kit
30.0	23.0	PC oak ridge tube**	314348	25	12	50,000	301,032	25 x 94	Closure	314347	1	Aluminum sealing cap
									Tool	314353	1	Tube removal kit
11.5	11.5	PA ultracrimp tube	03987	50	12	27,500	91,062	16 x 76	Closure	Included	50	Plug and cap
									Adapter	00399	1	Adapter
									Closure	03996	1	Rotor cap
									Accessory	03922	1	Tube rack
									Tool	03920	1	Ultracrimp sealing tool
11.5	11.5	PET clearcrimp tube	01087	50	12	27,500	91,062	16 x 76	Closure	Included	50	Plug and cap
									Adapter	00399	1	Adapter
									Closure	03996	1	Rotor cap
									Accessory	03922	1	Tube rack
									Tool	03920	1	Ultracrimp sealing tool
10.0	6.8	PA thick-walled tube	03238	50	12	27,500	91,062	16 x 71	Adapter	00399	1	Adapter
10.0	6.8	PC thick-walled tube	03237	50	12	27,500	91,062	16 x 71	Adapter	00399	1	Adapter
10.0	9.1	PP oak ridge tube	03929	50	12	21,000	53,102	16 x 80	Closure	03613	25	Nylon screw cap
									Adapter	00399	1	Adapter
10.0	9.1	PC oak ridge tube	03020	25	12	27,500	91,062	16 x 80	Closure	03613	25	Nylon screw cap
									Adapter	00399	1	Adapter

\* Tube must be full.

\*\* Rated to 37,000 rpm when partially full.

# T-647.5

## Fixed Angle Rotor



### T-647.5 rotor specifications

Type	Fixed angle	
Material	Titanium	
Capacity	6 x 100 mL	
Maximum speed	47,500 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	39 x 107 mm	
Angle	22.5°	
K factor	121	
Net weight	11 kg/24.3 lb	
Warranty	7 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	250,259 x g	99.3 mm
Average	167,847 x g	66.6 mm
Minimum	85,436 x g	33.9 mm

### Ordering information

Description	Cat. No.
<b>T-647.5 rotor package</b>	
T-647.5 Fixed Angle Rotor	08322
Rotor cover	08333
Rotor cover tool	20490312
Rotor cover o-ring (1)	64668
Rotor cover locking nut o-ring (1)	64667
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Locking nut	08331
Extra overspeed decal (80,000 rpm)	51350
Ultracentrifuge rotor log book	52384
Instruction manual	08326
Washer for locking nut	51301
<b>Accessories</b>	
Ultracrimp/clearcrimp sealing tool	03920
Crimp gauge replacement	03919
Extra plugs and caps	03999
Rotor cap	03998
Tube rack	03940
Tube removal tool	314353
Replacement o-ring for sealing assembly	314463

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
90.0	89.0	PA ultracrimp tube	03990	25	6	47,500	250,259	39 x 107	Closure	Included	25	Plug and cap
									Closure	03998	1	Rotor cap
									Accessory	03940	1	Tube rack
									Tool	03920	1	Ultracrimp sealing tool
75.0	68.0	PC oak ridge tube*	314460	6	6	47,500	250,259	39 x 107	Closure	314462	1	Aluminum sealing lid
									Tool	314353	1	Tube removal kit

\* Rated to 41,000 rpm when partially full.

# TFT-45.6

## Fixed Angle Rotor



### TFT-45.6 rotor specifications

Type	Fixed angle	
Material	Titanium	
Capacity	40 x 6 mL	
Maximum speed	45,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	13 x 66 mm	
Angle	20°	
K factor	41.4 outer row, 49.6 inner row	
Net weight	10.9 kg/24.3 lb	
Warranty	7 years	
	<b>RCF Outer/inner</b>	<b>Radius Outer/inner</b>
Maximum	238,859 x g/204,252 x g	105.6 mm/90.3 mm
Average	205,383 x g/170,775 x g	90.8 mm/75.5 mm
Minimum	171,906 x g/137,299 x g	76.0 mm/60.7 mm

### Ordering information

Description	Cat. No.
<b>T-45.6 rotor package</b>	
TFT-45.6 Fixed Angle Rotor	11637
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Rotor cover	70048671
Rotor cover locking nut	70048348
Rotor cover tool	20490312
Rotor cover o-ring (5)	11547
Rotor cover locking nut o-ring (5)	11551
Rotor cover tool	20490312
Extra overspeed decal (45,000 rpm)	51351
Ultracentrifuge rotor log book	52384
Instruction manual	11512

## Ordering information (cont.)

Description	Cat. No.
<b>Accessories</b>	
Ultracrimp sealing tool	03920
Crimp gauge replacement	03919
Extra plugs and caps	03999
Rotor cap	03992
Tube rack	03921
Wrench	75000478
Tube removal tool	75000479
Cone-Top Re-Seal tube vise 13 mm	75000481

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
6.0	5.7	PA ultracrimp tube	03945	50	40	45,000	238,859	13 x 66	Closure	Included	50	Plug and cap
									Closure	03992	1	Rotor cap
									Accessory	03921	1	Tube rack
									Tool	03920	1	Ultracrimp sealing tool
6.0	5.7	PET clearcrimp tube	01086	50	40	45,000	238,859	13 x 66	Closure	Included	50	Plug and cap
									Closure	03992	1	Rotor cap
									Accessory	03921	1	Tube rack
									Tool	03920	1	Ultracrimp sealing tool
3.5	3.1	PA Cone-Top Re-Seal tube	75000456	50	40	45,000	238,859	13 x 32	Closure	75000457	1	13 mm Noryl crown*
									Closure	75000451	10	Stainless steel plug
									Tool	75000478	1	Wrench
									Tool	75000481	1	Tube vise
2.0	2.0	PA re-seal Cone-Top tube	75000458	50	40	45,000	238,859	13 x 25	Closure	75000457	1	13 mm Noryl crown*
									Closure	75000451	10	Stainless steel plug
									Tool	75000478	1	Wrench
									Tool	75000481	1	Tube vise
									Tool	75000479	1	Tube removal tool

\* Must order one crown for each place in the rotor.



# A-621

## Fixed Angle Rotor



### A-621 rotor specifications

Type	Fixed angle	
Material	Aluminum	
Capacity	6 x 250 mL	
Maximum speed	21,000 Rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions Ø x L	61 x 153 mm	
Angle	23°	
K factor	751	
Net weight	13.6 kg/30.1 lb	
Warranty	7 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	66,993 x g	136.0 mm
Average	42,536 x g	86.4 mm
Minimum	18,078 x g	36.7 mm

### Ordering information

Description	Cat. No.
<b>A-621 rotor package</b>	
A-621 Fixed Angle Rotor	11876
Rotor cover	11967
Rotor cover locking nut	11999
Rotor cover o-ring (6)	92233
Rotor cover locking nut o-ring (6)	90793
Rotor cover tool	20490312
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Extra overspeed decal (21,000 rpm)	52277
Ultracentrifuge rotor log book	52384
Instruction manual	11872
Retaining ring pliers	65614

### Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Dimensions Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
250.0	200.0	PA oak ridge bottle	314250H01	4	6	21,000	66,993	61 x 120	Closure	314249H01	1	Screw cap

# TH-660

## Swinging Bucket Rotor



TH-660 rotor specifications		
Type	Swinging bucket	
Material	Titanium	
Capacity	6 x 4.4 mL	
Maximum speed	60,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	11 x 60 mm	
Angle	90°	
K factor	44.4	
Net weight	5.8 kg/12.8 lb	
Warranty	5 years	
	RCF	Radius
Maximum	488,576 x g	121.5 mm
Average	374,173 x g	93.1 mm
Minimum	259,770 x g	64.6 mm

### Ordering information

Description	Cat. No.
<b>TH-660 rotor package</b>	
TH-660 Swinging Bucket Rotor	10502
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Extra overspeed decal (60,000 rpm)	51346
4.4 mL buckets (6)	10509
Bucket o-ring (ea.)	63713
Bucket rack	52243
Bucket cap tool	20048389
Instruction manual	10506
Ultracentrifuge rotor log book	52384
<b>Accessories</b>	
Conical adapter removal tool	75000480
11 x 32 mm tube vise	75000481
Wrench	75000478
Tube removal tool	75000479

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
4.4	4.0	PA thin-walled tube	03955	50	6	60,000	488,576	11 x 60	–	–	–	–
4.0	4.0	PA Cone-Top Re-Seal tube	75000483	50	6	57,000	440,940	11 x 57	Closure	75000460	1	11 mm Noryl crown*
									Closure	75000451	10	Stainless steel plug
									Tool	75000478	1	Wrench
									Tool	75000481	1	Tube vise
3.4	3.4	PET thin-walled UltraCone™ tube	75000469	50	6	60,000	488,576	11 x 57	Adapter	75000470	1	Conical tube adapter
									Tool	75000480	1	Conical adapter removal tool
3.4	3.4	PA thin-walled UltraCone tube	75000472	50	6	60,000	488,576	11 x 57	Adapter	75000470	1	Conical tube adapter
									Tool	75000480		Conical adapter removal tool
2.0	2.0	PA Cone-Top Re-Seal tube	75000459	50	6	60,000	488,576	11 x 32	Closure	75000460	1	11 mm Noryl crown*
									Closure	75000451	10	Stainless steel plug
									Tool	75000478	1	Wrench
									Tool	75000479	1	Tube removal tool
									Tool	75000481	1	Tube vise

\* Must order one crown for each place in the rotor.

# AH-650

## Swinging Bucket Rotor



### AH-650 rotor specifications

Type	Swinging bucket	
Material	Aluminum	
Capacity	6 x 5 mL	
Maximum speed	60,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	13 x 51 mm	
Angle	90°	
K factor	53	
Net weight	3.0 kg/6.6 lb	
Warranty	5 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	296,005 x g	106.0 mm
Average	235,687 x g	84.4 mm
Minimum	175,369 x g	62.8 mm

### Ordering information

Description	Cat. No.
<b>AH-650 rotor package</b>	
AH-650 Swinging Bucket Rotor	54294
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Extra overspeed decal (50,000 rpm)	51349
5 mL buckets (6)	52072
Bucket cap tool	52258
Bucket o-ring (ea.)	63713
Bucket rack	52243
Instruction manual	52274
Ultracentrifuge rotor log book	52384
<b>Accessories</b>	
Conical adapter removal tool	75000480
Conical adapter	75000468
Cone-Top Re-Seal tube vise 13 mm	75000481
Wrench	75000478

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
5.0	5.0	PA thin-walled tube	03127	50	6	50,000	296,005	13 x 51	–	–	–	–
4.0	4.0	PA Cone-Top Re-Seal tube	75000482	50	6	49,000	284,283	13 x 48	Closure	75000457	1	13 mm Noryl crown*
									Closure	75000451	10	Stainless steel plug
									Tool	75000478	1	Wrench
									Tool	75000481	1	Tube vise
3.5	3.4	PA UltraCone tube	75000473	50	6	50,000	296,005	13 x 48	Adapter	75000468	1	Conical tube adapter
									Tool	75000480	1	Conical adapter removal tool
3.5	3.4	PET UltraCone tube	75000467	50	6	50,000	296,005	13 x 48	Adapter	75000468	1	Conical tube adapter
									Tool	75000480	1	Conical adapter removal tool
3.5	3.1	PA Cone-Top Re-Seal tube	75000456	50	6	50,000	296,005	13 x 32	Closure	75000457	10	13 mm Noryl crown*
									Closure	75000451	1	Stainless steel plug
									Tool	75000478	1	Wrench
									Tool	75000479	1	Tube removal tool
									Tool	75000481	1	Tube vise
2.0	2.0	PA Cone-Top Re-Seal tube	75000458	50	6	50,000	296,005	13 x 25	Closure	75000460	1	13 mm Noryl crown*
									Closure	75000451	10	Stainless steel plug
									Tool	75000478	1	Wrench
									Tool	75000479	1	Tube removal tool
									Tool	75000481	1	Tube vise

\* Must order one crown for each place in the rotor.

# TH-641

## Swinging Bucket Rotor



### TH-641 rotor specifications

Type	Swinging bucket	
Material	Titanium	
Capacity	6 x 13.2 mL	
Maximum speed	41,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	14 x 89 mm	
Angle	90°	
K factor	114	
Net weight	5.6 kg/12.3 lb	
Warranty	5 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	287,660 x <i>g</i>	153.2 mm
Average	211,333 x <i>g</i>	112.6 mm
Minimum	135,005 x <i>g</i>	71.9 mm

### Ordering information

Description	Cat. No.
<b>TH-641 rotor package</b>	
TH-641 Swinging Bucket Rotor	54295
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Extra overspeed decal (41,000 rpm)	51353
13.2 mL buckets (6)	08225
Bucket rack	52243
Bucket cap tool	11556
Bucket o-ring (ea.)	08232
Instruction manual	52243
Ultracentrifuge rotor log book	52384
<b>Accessories</b>	
Conical adapter removal tool	75000480
Conical adapter	75000466
Tube removal tool	75000479
Wrench	75000478

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
13.2	10.0	PA thin-walled tube	03699	50	6	41,000	287,660	14 x 89	–	–	–	–
12.0	12.0	PET thin-walled tube	06752	50	6	41,000	287,660	14 x 89	–	–	–	–
11.0	11.0	PA Cone-Top Re-Seal tube	75000411	50	6	41,000	287,660	14 x 88	Closure	75000455	1	14 mm Noryl crown*
									Closure	75000451	10	Stainless steel plug
									Tool	75000478	1	Wrench
9.1	9.1	PET thin-walled UltraCone tube	75000465	50	6	41,000	287,660	14 x 84	Adapter	75000466	1	Conical tube adapter
									Tool	75000480	1	Conical adapter removal tool
9.1	9.1	PET thin-walled UltraCone tube	75000465	50	6	41,000	287,660	14 x 84	Adapter	75000466	1	Conical tube adapter
									Tool	75000480	1	Conical adapter removal tool
9.0	9.0	PA thin-walled UltraCone tube	75000474	50	6	41,000	287,660	14 x 84	Adapter	75000466	1	Conical tube adapter
									Tool	75000480	1	Conical adapter removal tool
5.9	5.9	PA Cone-Top Re-Seal tube	75000454	50	6	41,000	287,660	14 x 47	Closure	75000455	1	14 mm Noryl crown*
									Closure	75000451	10	Stainless steel plug
									Tool	75000478	1	Wrench
									Tool	75000479	1	Tube removal tool

\*Must order one crown for each place in the rotor.

# SureSpin 632 (17 mL) Swinging Bucket Rotor



## SureSpin 632 (17 mL) rotor specifications

Type	Swinging bucket	
Material	Titanium	
Capacity	6 x 17 mL	
Maximum speed	32,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	16 x 102 mm	
Angle	90°	
K factor	221	
Net weight	7.4 kg/16.2 lb	
Warranty	5 years*	
	<b>RCF</b>	<b>Radius</b>
Maximum	191,759 x g	153.2 mm
Minimum	78,421 x g	68.5 mm

\* Subject to a maximum cycle life of 1200 cycles. This rotor must be retired upon reaching the end of its cycle life. Exceeding the maximum number of cycles can result in rotor failure with subsequent damage to the centrifuge

## Ordering information

Description	Cat. No.
<b>SureSpin 632 (17 mL) rotor package</b>	
SureSpin 632 (17 mL) Swing-out Ultracentrifuge Rotor	75003031
Rotor stand	20048993
Vacuum grease	76003500
Lubricant	70006692
Extra overspeed decal (32,000 rpm)	51359
17 mL buckets (6)	75003036
Bucket o-ring (6)	75003039
Bucket rack	52240
Instruction manual	50153788
Ultracentrifuge rotor log book	52384
<b>Optional accessories</b>	
38.5 mL buckets (6)	75003037



## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
17.0	17.0	PET thin-walled tube	06750-AV	50	6	32,000	191,759	16 x 102	-	-	-	-
17.0	16.0	Pa thin-walled tube	03126	50	6	32,000	191,759	16 x 102	-	-	-	-
15.0	15.0	PA re-seal cone-top tube	75000414	50	6	32,000	191,759	16 x 100	Closure	75000452	1	16 mm Noryl crown*
									Closure	75000451	10	Stainless steel plug
									Tool	75000478	1	Wrench
13.0	12.7	PET thin-walled UltraCone tube	75000463	NA	6	32,000	191,759	16 x 96	Adapter	75000464	1	1 place/adapter
									Tool	75000480	1	Conical adapter removal tool
13.0	12.3	PA thin-walled UltraCone tube	75000475	NA	6	32,000	191,759	16 x 96	Adapter	75000464	1	1 place/adapter
									Tool	75000480	1	Conical adapter removal tool

\* Must order one crown for each place in the rotor.

# SureSpin 632 (38.5 mL) Swinging Bucket Rotor



## SureSpin 632 (38.5 mL) rotor specifications

Type	Swinging bucket	
Material	Titanium	
Capacity	6 x 38.5 mL	
Maximum speed	32,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	25 x 89 mm	
Angle	90°	
K factor	194	
Net weight	7.2 kg/15.9 lb	
Warranty	5 years*	
	<b>RCF</b>	<b>Radius</b>
Maximum	187,295 x g	163.6 mm
Minimum	85,404 x g	74.6 mm

\* Subject to a maximum cycle life of 1,200 cycles. This rotor must be retired upon reaching the end of its cycle life. Exceeding the maximum number of cycles can result in rotor failure and damage the centrifuge.

## Ordering information

Description	Cat. No.
<b>SureSpin 632 (38.5 mL) rotor package</b>	
SureSpin 632 (38.5 mL) Swing-out Ultracentrifuge Rotor	75003032
Rotor stand	20048993
Vacuum grease	76003500
Lubricant	70006692
Extra overspeed decal (32,000 rpm)	51359
38.5 mL buckets (6)	75003037
Bucket o-ring (1)	75003038
Bucket rack	52240
Instruction manual	50153788
Ultracentrifuge rotor log book	52384
<b>Optional accessories</b>	
17 mL buckets (6)	75003036

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
38.5	38.5	PET thin-walled tube	75000471	50	6	32,000	187,295	25 x 88	-	-	-	-
36.0	35.0	PA thin-walled tube	03141	25	6	32,000	187,295	25 x 89	-	-	-	-
31.0	31.0	PA re-seal cone-top tube	75000427	50	6	29,000		25 x 81	Closure	75000428	1	25 mm Noryl crown*
									Closure	75000451	10	Stainless steel plug
									Tool	75000478	1	Wrench
28.0	28.0	PA UltraCone tube	75000476	50	6	32,000	187,295	25 x 84	Adapter	75000462	1	Conical tube adapter
									Tool	75000480	1	Conical adapter removal tool
28.0	28.0	PET UltraCone tube	75000461	50	6	32,000	187,295	25 x 84	Adapter	75000462	1	Conical tube adapter
									Tool	75000480	1	Conical adapter removal tool

\* Must order one crown for each place in the rotor.

# SureSpin 630 (17 mL) Swinging Bucket Rotor

(no longer available\*)



## SureSpin 630 (17 mL) Rotor specifications

Type	Swinging bucket	
Material	Titanium	
Capacity	6 x 17 mL	
Maximum speed	30,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	16 x 102 mm	
Angle	90°	
K factor	268	
Net weight	8 kg/17.6 lb	
Warranty	5 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	166,880 x g	166 mm
Minimum	64,339 x g	64 mm

## Ordering information

Description	Cat. No.
<b>SureSpin 630 (17 mL) rotor package</b>	
SureSpin 630 (17 mL) Rotor*	79363
Rotor stand	51942
Vacuum grease	65937
Lubricant	70006692
17 mL buckets (6)	79364
Extra overspeed decal (30,000 rpm)	51361
Bucket o-ring (6)	79370
Bucket rack	52240
Instruction manual	79369
Ultracentrifuge rotor log book	52384
<b>Accessories</b>	
17 mL buckets (6)	79364
Conical adapter removal tool	75000480
Conical adapter	75000464

\* This rotor has been replaced by the SureSpin 632 (17 mL) Swing-out Ultracentrifuge Rotor (Cat. No. 75003031).

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
17.0	17.9	PET thin-walled tube	06750-AV	50	6	30,000	166,880	16 x 102	-	-	-	-
17.0	16.0	Pa thin-walled tube	03126	25	6	30,000	166,880	16 x 102	-	-	-	-
15.0	15.0	PA re-seal cone- top tube	75000414	50	6	30,000	-	16 x 100	Closure	75000452	1	16 mm Noryl crown*
									Closure	75000451	10	Stainless steel plug
									Tool	75000478	1	Wrench
13.0	12.7	PA UltraCone tube	75000463	N/A	6	30,000	166,880	16 x 96	Adapter	75000464	1	1 place/ adapter
									Tool	75000480	1	Conical adapter removal tool
13.0	12.3	PET UltraCone tube	75000475	N/A	6	30,000	166,880	16 x 96	Adapter	75000464	1	1 place/ adapter
									Tool	75000480	1	Conical adapter removal tool

\* Must order one crown for each place in the rotor.

# SureSpin 630 (36 mL) Swinging Bucket Rotor

(no longer available\*)



## SureSpin 630 (36 mL) Rotor specifications

Type	Swinging bucket	
Material	Titanium	
Capacity	6 x 36 mL	
Maximum speed	30,000 Rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	25 x 89 mm	
Angle	90°	
K factor	219	
Net weight	7.9 kg/17.4 lb	
Warranty	5 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	166,880 x g	166 mm
Average	121,792 x g	121.2 mm
Minimum	76,704 x g	76.3 mm

## Ordering information

Description	Cat. No.
<b>SureSpin 630 (36 mL) rotor package</b>	
SureSpin 630 (36 mL) Rotor*	79368
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
36 mL buckets (6)	75007936
Extra overspeed decal (30,000 rpm)	51361
Bucket o-ring (1)	79374
Bucket rack	52240
Instruction manual	79369
Ultracentrifuge rotor log book	52384
<b>Accessories</b>	
36 mL buckets (6)	75007936
Conical adapter removal tool	75000480
Conical adapter	75000462
Wrench	75000478

\* This rotor has been replaced by the SureSpin 632 (38.5 mL) Swing-out Ultracentrifuge Rotor (Cat. No. 75003032).

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
36.0	38.1	PET thin-walled tube	75000471	50	6	30,000	166,880	25 x 88	-	-	-	-
36.0	35.0	PA thin-walled tube	03141	25	6	30,000	166,880	25 x 89	-	-	-	-
31.0	31.0	PA reseal Cone-Top tube	75000427	50	6	29,000	155,940	25 x 81	Closure	75000428	1	25 mm Noryl crown*
									Closure	75000451	10	Stainless steel plug
									Tool	75000478	1	Wrench
28.0	29.4	PA UltraCone tube	75000476	50	6	30,000	166,880	25 x 84	Adapter	75000462	1	Conical tube Adapter
									Tool	75000480	1	Conical adapter removal tool
28.0	28.7	PET UltraCone tube	75000461	50	6	30,000	166,880	25 x 84	Adapter	75000464	1	Conical tube adapter
									Tool	75000480	1	Conical adapter removal tool

\* Must order one crown for each place in the rotor.

# AH-629 (17 mL) Swinging Bucket Rotor



## AH-629 (17 mL) rotor specifications

Type	Swinging bucket	
Material	Titanium	
Capacity	6 x 17 mL	
Maximum speed	29,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	16 x 102 mm	
Angle	90°	
K factor	284	
Net weight	6.2 kg/13.7 lb	
Warranty	5 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	155,846 x g	165.9 mm
Average	108,219 x g	115.2 mm
Maximum	60,591 x g	64.5 mm

## Ordering information

Description	Cat. No.
<b>AH-629 (17 mL) rotor package</b>	
AH-629 (17 mL) Swinging Bucket Rotor	54285
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Extra overspeed decal (29,000 rpm)	51362
17 mL buckets (6)	52030
Bucket o-ring (ea.)	63712
Bucket rack	52240
Instruction manual	54276
Ultracentrifuge rotor log book	52384
<b>Accessories</b>	
17 mL buckets (6)	52030
Conical adapter removal tool	75000480
Conical adapter	75000464
Tube removal tool	75000479



## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
17.0	17.9	PET thin-walled tube	06750	50	6	29,000	155,846	16 x 102	–	–	–	–
17.0	16.0	PA thin-walled tube	03126	50	6	29,000	155,846	16 x 102	–	–	–	–
15.0	15.0	PA re-seal cone- top tube	75000414	50	6	29,000	155,846	16 x 100	Closure	75000452	1	16 mm Noryl crown*
									Closure	75000451	10	Stainless steel plug
									Tool	75000478	1	Wrench
13.0	12.7	PET thin-walled UltraCone tube	75000463	50	6	29,000	155,846	16 x 96	Adapter	75000464	1	Conical tube adapter
									Tool	75000480	1	Conical adapter removal tool
13.0	12.3	PA thin-walled UltraCone tube	75000475	50	6	29,000	155,846	16 x 96	Adapter	75000464	1	Conical tube adapter
									Tool	75000480	1	Conical adapter removal tool

\* Must order one crown for each place in the rotor.

# AH-629 (36 mL) Swinging Bucket Rotor



## AH-629 (36 mL) rotor specifications

Type	Swinging bucket	
Material	Aluminum	
Capacity	6 x 36 mL	
Maximum speed	29,000 rpm	
Maximum sample density	1.2 g/mL	
Tube dimensions (Ø x L)	25 x 89 mm	
Angle	90°	
K factor	242	
Net weight	6.4 kg/14.1 lb	
Warranty	5 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	151,243 x g	161.0 mm
Average	109,487 x g	116.6 mm
Maximum	67,731 x g	72.1 mm

## Ordering information

Description	Cat. No.
<b>AH-629 (36 mL) rotor package</b>	
AH-629 (36 mL) Swinging Bucket Rotor	54284
Rotor stand	20048993
Vacuum grease	65937
Lubricant	70006692
Extra overspeed decal (29,000 rpm)	51362
36 mL buckets (6)	52035
Bucket o-ring (ea.)	64667
Bucket rack	52240
Instruction manual	54276
Ultracentrifuge rotor log book	52384
<b>Accessories</b>	
36 mL buckets (6)	52035
Conical adapter removal tool	75000480
Conical adapter	75000462

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
36.0	38.1	PET thin-walled tube	75000471	50	6	29,000	151,243	25 x 88	–	–	–	–
36.0	35.0	PA thin-walled tube	03141	25	6	29,000	151,243	25 x 89	–	–	–	–
31.0	31.0	PA re-seal cone- top tube	75000427	50	6	29,000	151,243	25 x 81	Closure	75000428	1	25 mm Noryl crown*
									Closure	75000451	10	Stainless steel plug
									Tool	75000478	1	Wrench
28.0	29.4	PET thin-walled UltraCone tube	75000476	50	6	29,000	151,243	25 x 84	Adapter	75000462	1	Conical tube adapter
									Tool	75000480	1	Conical adapter removal tool
28.0	28.7	PA thin-walled UltraCone tube	75000461	50	6	29,000	151,243	25 x 84	Adapter	75000462	1	Conical tube adapter
									Tool	75000480	1	Conical adapter removal tool

\* Must order one crown for each place in the rotor.

# StepSaver 70V6 Vertical Rotors



## StepSaver 70V6 rotor specifications

Type	Vertical	
Material	Titanium	
Capacity	8 x 6 mL	
Maximum speed	70,000 rpm	
Tube dimensions (Ø x L)	13 x 66 mm	
Angle	0°	
K factor	8.7	
Net weight	7.6 kg/16.8 lb	
Warranty	7 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	467,420 x g	85.4 mm
Average	431,022 x g	78.8 mm
Minimum	67,731 x g	72.1 mm

## Ordering information

Description	Cat. No.
<b>StepSaver 70V6 rotor package (6 mL)</b>	
StepSaver 70V6 Vertical Rotor (6 mL)	79240
Rotor stand	20048993
Extra overspeed decal (70,000 rpm)	08254
PA ultracrimp tube, 6 mL (1 pkg. of 50)	79273
6 mL ultracrimp cartridge set (8)	79286
Tube racks (2)	03921
Instruction manual	79231
Ultracentrifuge rotor log book	52384
<b>StepSaver 70V6 rotor package (2 mL)</b>	
StepSaver 70V6 Vertical Rotor (2 mL)	79274
Rotor stand	20048993
Extra overspeed decal (70,000 rpm)	08254
PA ultracrimp tube, 2 mL (1 pkg. of 50)	79251
2 mL ultracrimp cartridge set (8)	79289
Tube racks (2)	79242
Instruction manual	79231
Ultracentrifuge rotor log book	52384
<b>StepSaver 70V6 rotor package (5.1 mL Quick-Seal™)</b>	
StepSaver 70V6 Vertical Rotor (5.1 mL Quick-Seal)	79280
Rotor stand	20048993
Extra overspeed decal (70,000 rpm)	08254
5.1 mL Quick-Seal cartridge set (8)	79291
Instruction manual	79231
Ultracentrifuge rotor log book	52384

## Ordering information (cont.)

Description	Cat. No.
<b>Accessories</b>	
Ultracrimp/clearcrimp sealing tool	03920
Crimp gauge replacement	03919
Extra plugs and caps	03999
6 mL ultracrimp tube rack	03921
2 mL ultracrimp tube rack	79242
6 mL ultracrimp cartridge set (8)	79286
2 mL ultracrimp cartridge set (8)	79289
5.1 mL Quick-Seal cartridge set (8)	79291
6 mL ultracrimp individual cartridge (1)	79241
2 mL ultracrimp individual cartridge (1)	79261

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
6.0	5.7	PA ultracrimp tube	79273	50	8	70,000	467,420	13 x 66	Closure	Included	50	Ultracrimp plugs and caps
									Closure	79286	8	6 mL ultracrimp cartridge set
									Accessory	03921	1	6 mL ultracrimp tube rack
									Tool	03920	1	Ultracrimp sealing tool
5.1	5.1	PA Quick-Seal tubes	342412	–	8	70,000	467,420	13 x 51	Closure	79291	1	5.1 mL Quick-Seal cartridge set
									Closure	79291	1	5.1 mL Quick-Seal cartridge set
2.0	2.0	PA ultracrimp tube	79251	50	8	70,000	467,420	13 x 45	Closure	Included	8	Ultracrimp plugs and caps
									Closure	79289	8	2 mL ultracrimp cartridge set
									Accessory	79242	1	Tube rack
									Tool	03920	1	Ultracrimp sealing tool
2.0	2.0	PET clearcrimp tube	79292	50	8	70,000	467,420	13 x 45	Closure	Included	50	Ultracrimp plugs and caps
									Closure	79289	8	2 mL ultracrimp cartridge set
									Accessory	79242	1	Tube rack
									Tool	03920	1	Ultracrimp sealing tool

\* Tubes must be purchased from manufacturer.

# StepSaver 65V13 Vertical Rotors



## StepSaver 65V13 rotor specifications

Type	Vertical	
Material	Titanium	
Capacity	8 x 13.5 mL	
Maximum speed	65,000 rpm	
Tube dimensions (Ø x L)	13 x 66 mm	
Angle	0°	
K factor	12.9	
Net weight	9.7 kg/21.4 lb	
Warranty	7 years	
	<b>RCF</b>	<b>Radius</b>
	<b>13.5 mL/6 mL</b>	<b>13.5 mL/6 mL</b>
Maximum	400,671 x g/393,120 x g	84.9 mm/83.3 mm
Average	361,972 x g/361,972 x g	76.7 mm/76.7 mm
Minimum	323,274 x g/330,825 x g	68.5 mm/70.1 mm

## Ordering information

Description	Cat. No.
<b>StepSaver 65V13 rotor package (13.5 mL)</b>	
StepSaver 65V13 Vertical Rotor (13.5 mL)	79243
Rotor stand	20048993
Extra overspeed decal (65,000 rpm)	51345
Pa ultracrimp tube, 13.5 mL (1 pkg. of 50)	79246
13.5 mL ultracrimp cartridge set (8)	79296
Tube racks (2)	79247
Instruction manual	79231
Ultracentrifuge rotor log book	52384
<b>StepSaver 65V13 rotor package (13.5 mL Quick-Seal)</b>	
StepSaver 65V13 Vertical Rotor (13.5 mL Quick-Seal)	79285
Rotor stand	20048993
Extra overspeed decal (65,000 rpm)	51345
13.5 mL Quick-Seal cartridge set (8)	79298
Instruction manual	79231
Ultracentrifuge rotor log book	52384
<b>StepSaver 65V13 rotor package (6 mL)</b>	
StepSaver 65V13 Vertical Rotor (6 mL)	79290
Rotor stand	20048993
Extra overspeed decal (65,000 rpm)	51345
Pa ultracrimp tube, 6 mL (1 pkg. of 50)	79231
6 mL ultracrimp cartridge set (8)	79297
Tube racks (2)	03921
Instruction manual	79231
Ultracentrifuge rotor log book	52384

## Ordering information (cont.)

Description	Cat. No.
<b>Accessories</b>	
Ultracrimp/clearcrimp sealing tool	03920
Crimp gauge replacement	03919
Extra plugs and caps	03999
13.5 mL ultracrimp tube racks	79247
6 mL ultracrimp tube rack	03921
13.5 mL ultracrimp cartridge set (8)	79296
13.5 mL ultracrimp cartridge set (8)	79298
13.5 mL Quick-Seal cartridge set (8)	79298
6 mL ultracrimp cartridge set (8)	79297
13.5 mL ultracrimp individual cartridge (1)	79244
6 mL ultracrimp individual cartridge (1)	79260

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
13.5	13.8	PA ultracrimp tube	79246	50	8	65,000	400,617	16 x 93	Closure	Included	50	Ultracrimp plugs and caps
									Closure	79286	8	13.5 mL ultracrimp cartridge set
									Accessory	79247	1	Ultracrimp tube rack
									Tool	03920	1	Ultracrimp sealing tool
13.5	13.5	PET clearcrimp tube	79294	50	8	65,000	467,420	13 x 51	Closure	Included	50	Ultracrimp plugs and caps
									Closure	79286	8	13.5 mL ultracrimp cartridge set
									Accessory	79247	1	Ultracrimp tube rack
									Tool	03920	1	Ultracrimp sealing tool
13.5	13.5	PA Quick- Seal tubes*	342413	–	8	65,000	400,671	16 x 76	Closure	79298	8	13.5 mL Quick-Seal
13.5	13.5	PET Quick- Seal tubes*	344322	–	8	65,000	400,671	16 x 76	Closure	79298	8	13.5 mL Quick-Seal
6.0	5.7	PA ultracrimp tube	79273	50	8	65,000	393,120	13 x 66	Closure	Included	50	Ultracrimp plugs and caps
									Closure	79297	8	6 mL ultracrimp cartridge set
									Accessory	03921	1	Tube rack
										03920	1	Ultracrimp sealing tool
2.0	2.0	PET clearcrimp tube	79292	50	8	65,000	393,120	13 x 45	Closure	Included	50	Ultracrimp plugs and caps
									Closure	79297	8	6 mL ultracrimp cartridge set
									Accessory	03921	1	Tube rack
									Tool	03920	1	Ultracrimp sealing tool

\* Tubes must be purchased from manufacturer.

# StepSaver 50V39 Vertical Rotors



## StepSaver 50V39 rotor specifications

Type	Vertical	
Material	Titanium	
Capacity	8 x 39 mL	
Maximum speed	50,000 rpm	
Tube dimensions Ø x L	25 x 113 mm	
Angle	0°	
K factor	38.5	
Net weight	10.3 kg/22.7 lb	
Warranty	7 years	
	RCF	Radius
	39 mL/13.5 mL	39 mL/13.5 mL
Maximum	205,807 x g/205,807 x g	73.7 mm/73.7 mm
Average	169,784 x g/169,784 x g	60.8 mm/60.8 mm
Minimum	205,807 x g/205,807 x g	73.7 mm/73.7 mm

## Ordering information

Description	Cat. No.
<b>StepSaver 50V39 (39 mL) rotor package</b>	
StepSaver 50V39 Vertical Rotor (39 mL)	79245
Rotor stand	20048993
Extra overspeed decal (50,000 rpm)	51349
PA ultracrimp tube, 39 mL (1 pkg. of 50)	79253
39 mL ultracrimp cartridge set (8)	79299
Tube racks (2)	79249
Instruction manual	79231
Ultracentrifuge rotor log book	52384
<b>StepSaver 50V39 (13.5 mL) rotor package</b>	
StepSaver 50V39 Vertical Rotor (13.5 mL)	79277
Rotor stand	20048993
Extra overspeed decal (50,000 rpm)	51349
PA ultracrimp tube, 13.5 mL (1 pkg. of 50)	79246
13.5 mL ultracrimp cartridge set (8)	79300
Tube racks (2)	79247
Instruction manual	79231
Ultracentrifuge rotor log book	52384



## Ordering information (cont.)

Description	Cat. No.
<b>Accessories</b>	
Ultracrimp/clearcrimp sealing tool	03920
Crimp gauge replacement	03919
Extra plugs and caps	03999
39 mL ultracrimp tube racks	79249
13.5 mL ultracrimp tube rack	79247
39 mL ultracrimp cartridge set (8)	79299
13.5 mL ultracrimp cartridge set (8)	79300
13.5 mL ultracrimp individual cartridge (1)	79263

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
39.0	38.9	PA ultracrimp tube	79253	50	8	50,000	241,831	25 x 113	Closure	Included	50	Ultracrimp plugs and caps
									Closure	79299	8	39 mL ultracrimp cartridge set
									Accessory	79249	1	Tube rack
									Tool	03920	1	Ultracrimp closure tool
39.0	38.9	PET clearcrimp tube	79295	50	8	50,000	241,831	25 x 113	Closure	Included	50	Ultracrimp plugs and caps
									Closure	79299	8	39 mL ultracrimp cartridge set
									Accessory	79249	1	Tube rack
									Tool	03920	1	Ultracrimp sealing tool
13.5	13.8	PA ultracrimp tube	79246	50	8	50,000	228,706	16 x 93	Closure	Included	50	Ultracrimp plugs and caps
									Closure	79300	8	13.5 mL ultracrimp cartridge set
									Accessory	79247	1	Tube rack
									Tool	03920	1	Ultracrimp sealing tool
13.5	13.8	PET clearcrimp tube	79294	50	8	50,000	228,706	16 x 93	Closure	Included	50	Ultracrimp plugs and caps
									Closure	79300	8	13.5 mL ultracrimp cartridge set
									Accessory	79247	1	Tube rack
									Tool	03920	1	Ultracrimp sealing tool

# TV-1665

## Vertical Rotor



### TV-1665 rotor specifications

Type	Vertical	
Material	Titanium	
Capacity	16 x 6 mL	
Maximum speed	65,000 rpm	
Tube dimensions Ø x L	13 x 66 mm	
Angle	0°	
K factor	9.8	
Net weight	9.07 kg/19.9 lb	
Warranty	7 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	414,357 x g	87.8 mm
Average	383,209 x g	81.2 mm
Minimum	352,062 x g	74.6 mm

### Ordering information

Description	Cat. No.
<b>TV-1665 rotor package</b>	
TV-1665 Vertical Rotor	11672
Rotor stand	20048993
Lubricant	70006692
Extra overspeed decal (65,000 rpm)	51345
Instruction manual	11670
Ultracentrifuge rotor log book	52384
<b>Accessories</b>	
Ultracrimp/clearcrimp sealing tool	03920
Crimp gauge replacement	03919
Extra plugs and caps	03999
Tube rack	03921
Rotor cap	03991
Tool kit for ultracrimp sealing system (rotor holding fixture, torque wrench, and socket cap wrench)	12770
Tool kit for 5 mL thin-walled tube (rotor holding fixture and wrench)	52598

## Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
6.0	5.7	PA ultracrimp tube	03945	50	16	65,000	414,357	13 x 66	Closure	Included	50	Ultracrimp plugs and caps
									Accessory	03921	1	6 mL ultracrimp tube rack
									Accessory	03991	1	Tube rack
									Tool	12770	1	Tool kit for ultracrimp sealing system
									Tool	03920	1	Ultracrimp sealing tool
6.0	5.7	PET clearcrimp tube	01086	50	16	65,000	414,357	13 x 66	Closure	Included	50	Ultracrimp plugs and caps
									Accessory	03921	1	6 mL ultracrimp tube rack
									Tool	12770	1	Tool kit for ultracrimp sealing system
									Tool	03920	1	Ultracrimp sealing tool
5.0	4.4	PA thin-walled tubes*	03127	50	16	65,000	414,357	13 x 51	Closure	52521	1	Body cap
									Closure	52522	1	Plugs
									Tool	52598	1	Tool kit for 5 mL thin-walled tube

\* Must use caps and plugs together.

# TV-860

## Vertical Rotor



### TV-860 rotor specifications

Type	Vertical	
Material	Titanium	
Capacity	8 x 35 mL	
Maximum speed	60,000 rpm	
Tube dimensions Ø x L	25 x 97 mm	
Angle	0°	
K factor	25.2	
Net weight	11.4 kg/25.1 lb	
Warranty	7 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	340,596 x g	84.7 mm
Average	289,325 x g	72.0 mm
Minimum	238,055 x g	59.2 mm

### Ordering information

Description	Cat. No.
<b>TV-860 rotor package</b>	
TV-860 Vertical Rotor	53289
Rotor stand	20048993
Lubricant	70006692
Extra overspeed decal (60,000 rpm)	51346
Instruction manual	53292
Ultracentrifuge rotor log book	52384
Tool kit for ultracrimp sealing system (rotor holding fixture and torque wrench)	12771
<b>Accessories</b>	
Ultracrimp/clearcrimp sealing tool	03920
Crimp gauge replacement	03919
Extra plugs and caps	03999
Tube rack	03935
Rotor cap	03994
Tool kit for ultracrimp sealing system (rotor holding fixture and torque wrench)	12771

### Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
35.0	35.0	PA ultracrimp tube	03989	25	8	60,000	340,596	25 x 97	Closure	Included	50	Ultracrimp plugs and caps
										03994	1	Rotor cap
										03935	1	Tube rack
										12771	1	Tool kit for ultracrimp sealing system

# TN-890

## Neo Angle Rotor



### TN-890 rotor specifications

Type	Neo angle	
Material	Titanium	
Capacity	8 x 5 mL	
Maximum speed	90,000 rpm	
Tube dimensions Ø x L	13 x 53 mm	
Angle	10°	
K factor	10	
Max. sample density	1.7 g/mL	
Net weight	4.9 kg/10.8 lb	
Warranty	5 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	645,101 x g	71.3 mm
Average	554,624 x g	61.3 mm
Minimum	463,657 x g	51.2 mm

### Ordering information

Description	Cat. No.
<b>TN-890 rotor package</b>	
TN-890 Neo Angle Rotor	75003033
Caps (8)	4880992
Cap o-rings (54)	84521049
Cap handle	S401062A
Optical speed disc (2)	34644424
Rotor stand	216715
Lubricant	70006692
Vacuum grease	65937
Log book	52384
Instruction manual	-
<b>Accessories</b>	
PA seal tube kit for 5 mL tube (100 5 mL PA tubes, 8 spacers, tools)	50146080
Tube rack for 5 mL PA tubes	50146076
STF3 tube sealer, 110 V (CSA)	50146078
STF3 tube sealer, 200–240 V (CE mark)	50146079

### Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
5.0	5.1	PA seal tube	50146014	50	8	90,000	645,101	13 x 53	PA seal tube kit*	50146080	1	PA seal tube kit for 5 mL tubes

\* 50146078 or 50146079 required.

# TN-1065

## Neo Angle Rotor



### TN-1065 rotor specifications

Type	Neo angle	
Material	Titanium	
Capacity	10 x 12 mL	
Maximum speed	65,000 rpm	
Tube dimensions Ø x L	16 x 78 mm	
Angle	10°	
K factor	23	
Max. sample density	1.7 g/mL	
Net weight	9.6 kg/21.1 lb	
Warranty	5 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	401,614 x g	85.1 mm
Average	337,903 x g	71.6 mm
Minimum	274,438 x g	58.1 mm

### Ordering information

Description	Cat. No.
<b>TN-1065 rotor package</b>	
TN-1065 Neo Angle Rotor	75003034
Caps (10)	S402308
Cap o-rings (30)	S409653A
Cap handle	S401062A
Optical speed disc (2)	3464443
Rotor stand	216715
Lubricant	70006692
Vacuum grease	65937
Log book	52384
Instruction manual	-
<b>Accessories</b>	
PA seal tube kit for 12 mL tubes (100 12 mL PA tubes, 10 spacers, tools)	50146081
Tube rack for 12 mL PA tubes	50146077
STF3 tube sealer, 110 V (CSA)	50146078
STF3 tube sealer, 200–240 V (CE mark)	50146079

### Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
12.0	13.5	PA seal tube	50146075	50	10	65,000	401,614	16 x 78	PA seal tube kit*	50146081	1	PA seal tube kit for 12 mL tubes

\* 50146078 or 50146079 required.

# TN-1865

## Neo Angle Rotor



### TN-1865 rotor specifications

Type	Neo angle	
Material	Titanium	
Capacity	18 x 5 mL	
Maximum speed	65,000 rpm	
Tube dimensions Ø x L	13 x 53 mm	
Angle	10°	
K factor	15	
Max. sample density	1.7 g/mL	
Net weight	8.7 kg/19.1 lb	
Warranty	5 years	
	<b>RCF</b>	<b>Radius</b>
Maximum	430,874 x g	85.1 mm
Average	383,681 x g	81.3 mm
Minimum	336,317 x g	71.2 mm

### Ordering information

Description	Cat. No.
<b>TN-1865 rotor package</b>	
TN-1865 Neo Angle Rotor	75003035
Caps (18)	4880992
Cap o-rings (54)	84521049
Cap handle	S401062A
Optical speed disc (2)	3464443
Rotor stand	216715
Lubricant	70006692
Vacuum grease	65937
Log book	52384
Instruction manual	-
<b>Accessories</b>	
PA seal tube kit for 5 mL tubes (100 5 mL PA tubes, 18 spacers, tools)	50146082
Tube rack for 12 mL PA tube	50146076
STF3 tube sealer, 110 V (CSA)	50146078
STF3 tube sealer, 200–240 V (CE mark)	50146079

### Labware ordering information

Tube vol. (mL)	Fill vol. (mL)	Description	Cat. No.	Qty./ pkg.	Tubes/ rotor	Max. speed (rpm)	Max. RCF (x g)	Ø x L (mm)	Required tube closures, adapters, tools, and accessories			
									Type	Cat. No.	Qty./ pkg.	Description
5.0	5.1	PA seal tube	50146014	50	18	90,000	645,101	13 x 53	PA seal tube kit*	50146081	1	PA seal tube kit for 5 mL tubes

\* 50146078 or 50146079 required.

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