



IEC CL40 and FL40 Centrifuge Series

Power, Safety and Versatility for Multiple Applications

The IEC CL40 and FL40 Centrifuge Series from Thermo Electron combines power, safety and versatility to increase your productivity in the lab. Available with a broad array of rotors and accessories for high-volume blood tube processing and microplate applications, the IEC CL40 and FL40 Centrifuge Series is the perfect choice for your busy clinical lab.

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Power, Safety and Versatility for Multiple Applications

The IEC CL40 and FL40 Centrifuge Series from Thermo Electron offers a sophisticated blend of power and versatility to help you process your samples safely and efficiently. Offering a broad array of accessories that meet the most stringent requirements for biocontainment, the IEC CL40 and FL40 Centrifuge Series is the perfect choice for your large clinical lab.

Intuitive Control Panel

- Protocols can be saved in five memory locations on the panel for instant recall with a single keystroke.
- For each protocol, centrifugation time, speed, 'g' force, temperature, acceleration and braking rates can be selected. Both set parameters and actual run conditions can be displayed and modified in real time.
- Precise RCF setting and display can be achieved for any kind of adapter or container simply by programming the radius to within 1 mm; automatic rotor recognition prevents disallowed speeds from being achieved.

Reliable and Repeatable Runs

- The IEC CL40/FL40 Series incorporates precise microprocessor-based controls that ensure reproducible runs in conformity with GLP standards.
- To adjust protocols for spinning very fragile samples, the CL40/FL40 series software provides 5 acceleration and 5 braking profiles. This permits the minimum run time to be achieved while avoiding resuspension of the pellet.

Precise Temperature Control

- Ventilated CL40 and FL40 models provide centrifugation at room temperature, with minimal sample temperature increase.
- Refrigerated CL40R and FL40R models are equipped with a powerful refrigeration system, offering settings from -9°C to 40°C. Excellent cooling performance is provided, even at maximum speeds. 4°C is easily maintained at full load, full speed, and with any rotor.



Operating the IEC CL40/FL40 centrifuge is fast, easy and accurate with the intuitive, watertight control panel and bright display which allows for continuous monitoring from across the laboratory.

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IEC CL40 and FL40 Rotors and Accessories



11175338



11174154
Sealed
buckets



11175378
Sealed buckets,
250 mL Corning



11210823
Unsealed
plate carrier



11174223
Sealed plate
carriers



11174202
Insert for
cytology carrier

M4 High Throughput Swing-Out Rotor

Description	Rotor Capacity	Max Tube \varnothing (mm)	Radius (mm)	CL40-FL40		CL40R - FL40R		Cat. No.
				Max Speed (rpm)	Max RCF (xg)	Max Speed (rpm)	Max RCF (xg)	
M4 High Throughput Swing-Out Rotor	4 x 750 mL			4000		4500		11175338
Standard buckets, 750 mL (set of 4)	4	95	190	4000	3398	4500	4301	11174154
Sealed buckets, 750 mL (set of 4)	4	95	190	4000	3398	4500	4301	11174218
Sealing lid for 11174218 (each)	4							25144058
Sealed plate carriers, 3 std microplates/bucket (set of 4)	12		173	4000	3094	4500	3916	11174223
Unsealed plate carriers, 4 std microplates/bucket (set of 4)	16		173	4000	3094	4500	3916	11210823
Cushion for microplates (each)								11174207
Buckets, 500 mL Nalgene bottle (set of 4)	4		208	4000	3720	4500	4708	11175370
Inserts for 250 mL bottle (set of 4)	4		208	4000	3720	4500	4708	11175371
Buckets, 250 mL Corning bottle (set of 4)	4		213	4000	3810	4500	4822	11175372
Sealed buckets, 250 mL Corning (set of 4)	4		213	4000	3810	4500	4822	11175378
Cytology carrier (set of 2)	2		180	4000	3219	4500	4075	11174197
Inserts for cytology carrier (set of 2)								11174202
Adapters for 11174154 and 11174218 (set of 4)								
1 x 750 mL	4	95	190	4000	3398	4500	4301	directly
1 X 450 mL	4	80.5	185	4000	3309	4500	4188	11174192
1 X 250 mL flat	4	63	185	4000	3309	4500	4188	11174167
2 X 100 mL	8	45	185	4000	3309	4500	4188	11174166
7 X 50 mL con (unsealed)	28	30	185	4000	3309	4500	4188	11174529
5 X 50 mL con	20	30	185	4000	3309	4500	4188	11177572
7 X 50 mL rnd	28	30	182	4000	3256	4500	4120	11174164
4 X 50 mL rnd	16	35	185	4000	3309	4500	4188	11174165
7 X 50 mL flat	28	30	172	4000	3077	4500	3894	11174189
4 X 50 mL flat	16	30	172	4000	3077	4500	3894	11174199
7 X 30 mL universal	28	28	177	4000	3166	4500	4007	111710569
12 X 20 mL	48	22.2	177	4000	3166	4500	4007	11174163
7 X 15 mL vac	28	17.7	185	4000	3309	4500	4188	11174161
12 X 15 mL	48	16.5	184	4000	3291	4500	4166	11174190
12 X 15 mL con (unsealed)	48	18	188	4000	3363	4500	4256	11177573
10 X 15 mL con	40	18	188	4000	3363	4500	4256	11175781
21 X 10 mL vac	84	16.5	177	4000	3166	4500	4007	11210821
12 X 10 mL flat	48	16.5	184	4000	3291	4500	4166	11174208
12 X 10 mL flat	48	18	172	4000	3077	4500	3894	11174188
30 X 5-7 mL (no cap)	120	13.5	172	4000	3077	4500	3894	11174158
27 X 5-7 mL vac	108	13.5	172	4000	3077	4500	3894	11210822
37 X 5 mL	148	12.5	172	4000	3077	4500	3894	11174157
37 X 5 mL decant	148	12.5	172	4000	3077	4500	3894	11174193
30 X microtainer	120	8.5	165	4000	2952	4500	3736	11174204
7 X (18 X 155 mm)	28	18	185	4000	3309	4500	4188	85540111
7 X (16 X 155 mm)	28	16	185	4000	3309	4500	4188	85540112
9 X 4 mL chlamydia vials	36	18	184	4000	3291	4500	4166	11174205
12 X 4 mL chlamydia vials	48	16.5	184	4000	3291	4500	4166	11174206
30 X 1.5/2 mL	120	11.5	160	4000	2862	4500	3622	11174201



Indicates that the centrifuge accessory has been successfully tested for biological containment.

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11175382

QG2.5 Tall Plate Swing-Out Rotor

Description	Rotor Capacity	Max Tube ø (mm)	Radius (mm)	CL40-FL40		CL40R - FL40R		Cat. No.
				Max Speed (rpm)	Max RCF (xg)	Max Speed (rpm)	Max RCF (xg)	
QG2.5 Tall Plate Swing-out Rotor	2x1 column filter blocks, 2x6 microplates		127	5400	4140	5400	4140	11175382



11175181

CD1 Fixed Angle Rotor

Description	Rotor Capacity	Max Tube ø (mm)	Radius (mm)	CL40-FL40		CL40R - FL40R		Cat. No.
				Max Speed (rpm)	Max RCF (xg)	Max Speed (rpm)	Max RCF (xg)	
CD1 Fixed Angle Rotor, 35°	8 X 100 mL	44.5	134	7800	9115	8000	9588	11175181
Adapters, 1 X 10 mL vac (set of 8)		16.5						64662300



11175183

CD2 Fixed Angle Rotor

Description	Rotor Capacity	Max Tube ø (mm)	Radius (mm)	CL40-FL40		CL40R - FL40R		Cat. No.
				Max Speed (rpm)	Max RCF (xg)	Max Speed (rpm)	Max RCF (xg)	
CD2 Fixed Angle Rotor, 35°	10 X 50 mL round	34	130	7800	8842	8000	9302	11175183
Adapters (set of 10)*								
1 x 50 mL	10	30						directly
1 X 50 mL con	10	29						64724502
1 X 38 mL (set of 8)	10	26						11174535
1 X (30mm diam)	10	30						64726601
1 X 15-20 mL	10	17.5						64814700
1 X 15 mL vac	10	16						64726602
1 X 15 mL con	10	17						11210769
4 X 2 mL (each)	40	11.5						85540075

*Unless otherwise indicated



11175186

CD3 Fixed Angle Rotor

Description	Rotor Capacity	Max Tube ø (mm)	Radius (mm)	CL40-FL40		CL40R - FL40R		Cat. No.
				Max Speed (rpm)	Max RCF (xg)	Max Speed (rpm)	Max RCF (xg)	
CD3 Fixed Angle Rotor, 35°	40 X 15 mL	18.5	132/145	7800	9863	8000	10375	11175186
Adapter, 1 X 5 mL vac (each)	40	12						85540084
Adapter, 1 X (10 X 75 mm) (each)	40	10						85540085

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A Broad Array of Accessories Expands Your Options



Sealed buckets ensure biocontainment, protecting laboratory personnel from tube spillage or breakage.



A specially-designed holder accommodates up to 4 microplates per bucket, allowing direct loading of the centrifuge with the bucket in place. Providing high RCF, the rotor permits high-throughput microplate processing

Safety Assurance for Operators and Samples

The CL40 family incorporates a comprehensive set of safety features that enable it to be safely operated by everyone in the lab.

- Audible and visual messages alert operators to any anomalies.
- In case of excessive imbalance, the machine stops within seconds.
- All rotors are automatically identified and prevented from exceeding allowed speeds.
- A double-lid locking system, armored chamber and other important features ensure complete operator safety.

Guaranteed Protection from Biohazards

The IEC CL40/FL40 Series offers a range of accessories equipped with solvent-proof gaskets to ensure biocontainment. These accessories are tested by CAMR,* Porton Down (UK) the gold standard in biological safety testing.

- Transparent sealing caps allow the immediate detection of biological risks.

- In case of tube breakage, the individually-sealed bucket can be removed and opened in a biosafety cabinet.
- If one tube should break, the samples in the other sealed buckets are still viable.

Versatile Accessories for Multiple Applications

The IEC CL40/FL40 Series accepts samples up to 750 mL, including tubes, bottles, microplates, and special containers.

- A wide range of rotors and inserts can handle sample tubes of all shapes and sizes as well as special carriers.
- All units can accommodate large batches of tubes in the pre-analytical preparation of samples.

With their capacity of 108 x 5/7 mL Vacutainers®, 28 x 50 mL conical tubes, 16 x microplates or 4 x deep-well blocks, the IEC CL40/FL40 centrifuges are the ideal solution for high-volume clinical laboratories.

*CAMR is now incorporated within the UK Health Protection Agency (HPA).

Reliable Performance

The IEC CL40/FL40 centrifuge series is designed and manufactured by Thermo to perform for years with minimal maintenance. The brushless induction motor maintains a low sound level to ensure a pleasant working environment.

Worldwide Compliance

The CL40/FL40 Series is CE marked and UL approved. Further more, Thermo has chosen to comply with the international safety standards IEC 1010-1 and IEC 1010-2-020, in their general and specific safety requirements for laboratory centrifuges.

History of Quality and Value

Building upon 105 years of experience, the new IEC CL40 and FL40 Series leverages Thermo's expertise in laboratory equipment to provide high-quality, user-friendly centrifuges that address the everyday needs of today's demanding laboratories.

Compact FL40 Floor Model Saves Valuable Bench Space

The IEC FL40 Series offers the full capabilities of the bench-top unit in a compact floor-standing model, making it an ideal choice for laboratories where bench space is limited.

- At just 58 cm wide by 66 cm deep, the FL40 Series can be stored, moved and installed almost anywhere.
- The 86 cm working height makes sample loading and rotor exchanges comfortable and easy operations.
- The lid can be opened and closed easily with assistance from the gas springs.
- Locking wheels allow the centrifuge to be safely set in place on the floor for undisturbed operation.



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IEC CL40 and FL40 Centrifuge Series Specifications



Specifications		CL40-FL40	CL40R-FL40R
Max capacity	Swing-out	(4x750 mL) 3000 mL	(4x750 mL) 3000 mL
	Fixed Angle	(8x100 mL) 800 mL	(8x100 mL) 800 mL
Max density		1.2	1.2
Max load		3.6 kg	3.6 kg
Max speed	Swing-out (M4)	4000 rpm	4500 rpm
	Swing-out (QG2.5)	5400 rpm	5400 rpm
	Fixed Angle	7800 rpm	8000 rpm
Max RCF	Swing-out (M4)	3810 x g	4822 x g
	Swing-out (QG2.5)	4140 x g	4140 x g
	Fixed Angle	9863 x g	10375 x g
Control system		Microprocessor	Microprocessor
Programs		5 (direct recall)	5 (direct recall)
Speed set/display	Range	500 - 7800 rpm	500 - 8000 rpm
	Step	10 rpm at less than 1000 rpm 100 rpm at above 1000 rpm	10 rpm at less than 1000 rpm 100 rpm at above 1000 rpm
	Accuracy	±20 rpm (display)	±20 rpm (display)
RCF set/display	Range	20 - 9900 x g	20 - 10400 x g
	Step	10 x g at less than 1000 x g 100 x g at above 1000 x g	10 x g at less than 1000 x g 100 x g at above 1000 x g
	Accuracy	±20 x g (display)	±20 x g (display)
Timer set/display		30 s - 99 min + continuous	30 s - 99 min + continuous
Temperature set/display		-	-9°C to 40°C ("R")
Acceleration rates		5	5
Braking rates		5	5
Drive system		Direct	Direct
Motor type		Brushless induction	Brushless induction
Standards		CE marked, UL approval (CL40)	CE marked, UL approval (CL40R)

Ordering Information	CL40	FL40	CL40R	FL40R
Catalog numbers				
230V - 50/60 Hz	11210922	11210940	11210926	11210943
120 V - 60 Hz	11210923	11210941	11210927	11210944
Product Dimensions				
Height (lid open) [cm / in]	92 / 36.2	134 / 58.8	92 / 36.2	134 / 58.8
Height / (lid closed) [cm / in]	42 / 16.5	86 / 33.8	42 / 16.5	86 / 33.8
Width [cm / in]	58 / 22.8	58 / 22.8	85 / 33.5	58 / 22.8
Depth [cm / in]	66 / 26.0	66 / 26.0	66 / 26.0	66 / 26.0
Weight unpacked [kg / lb.]	80 / 176	95 / 209	106 / 233	115 / 253
Packing Dimensions				
Height [cm / in]	50 / 19.7	99 / 38.9	50 / 19.7	99 / 38.9
Width [cm / in]	70 / 27.6	68 / 26.7	97 / 38.2	68 / 26.7
Depth [cm / in]	67 / 26.4	78 / 30.7	67 / 26.4	78 / 30.7
Weight packed [kg / lb.]	91 / 201	120 / 264	116 / 256	145 / 319

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