

The Velocity Range

Bench Top Centrifuges

Velocity 14 / 14R

Benchtop Centrifuges



The Velocity 14 / 14R centrifuges set a new benchmark in versatility and compactness. The clever design results in a compact footprint yet generous capacity which not only frees up precious bench space but also provides the flexibility to alternate from micro-volume centrifugation to medium-volume centrifugation and all at an impressive maximum speed of 14,000 RPM / 20,290xg (with the FA15C rotor). Furthermore, the V14R incorporates powerful and efficient refrigeration whilst the absence of refrigeration in the Velocity 14 further reduces its footprint by at least 50% compared to that of the Velocity 14R.

Smart, Compact, 3-in-1 Design

The versatile design of the Velocity 14 / 14R centrifuges offers the best of both worlds from the perspective of micro-volume and medium-volume centrifugation. The FA15A rotor is sufficiently fast and yet accommodating for up to 24 x 1.5/2 ml tubes with a terminal velocity of 14,000 RPM (18,726 x g) whilst the FA15C rotor has sufficient capacity for up to 6 x 50 ml tubes reaching an impressive terminal velocity of 14,000 RPM (20,290 x g) in V14R. The new SW4C Swing Bucket Rotor further expands the flexibility of the Velocity 14/14R centrifuges to incorporate a wide range of new applications.

Quick Set and Forget Rotor System

Screwing or bolting rotors to the drive shaft is a thing of the past. Likewise lost spanners and rotor over tightening. With the Velocity 14 / 14R simply place the rotor on the drive shaft and that's all. The auto lock and secure mechanism performs the rest. Once centrifugation is complete, simply lift the rotor off the drive shaft. Quicker, easier, more efficient and safer.

Auto Rotor Recognition

Microchip technology allows automatic recognition of rotor and confirmation once centrifugation has commenced, including rotational speed calculation and optimum temperature control.

Furthermore, new rotors can be easily loaded onto the on-board database as they are introduced.

Fast Acceleration and Deceleration

The innovative high torque, drive technology effortlessly accelerates even the heaviest rotors to terminal velocity quickly and efficiently. Even the heaviest rotors with a full load will achieve maximum velocity within a few minutes. Furthermore, 9 pre-set acceleration and 9 pre-set deceleration profiles ensure the right conditions are set for the most precious samples including density gradients.

High Imbalance Tolerances

Innovative motor engineering and mounting including a flexible drive shaft allow for greater imbalance tolerances, so that samples can be balanced simply with the naked eye. No more weighing, just fill tubes or bottles to within 5mm of each other.

Powerful Refrigeration (Velocity 14R model only)

A powerful non -CFC compressor cools the chamber quickly whilst maintaining the rotor at set temperature during centrifugation.

Furthermore, twin cooling fans - one each for the compressor and motor respectively - dissipate heat quickly to improve cooling efficiency and extend motor life.

Actual Sample (Rotor) Temperature Measurement and Display (Velocity 14R only)

The temperature displayed on the LCD panel during centrifugation is that of the rotor (and hence samples) and not the temperature of the chamber nor the temperature at the sensor to allow for more precise, reproducible and efficient experimentation.

Safety is Paramount

The Velocity 14 / 14R offers many safety features in the unlikely event of an emergency such as:

Non-contact imbalance detection and shutdown based on the run profile for each rotor across its entire speed range rather than the inferior and conventional micro-switch detector.

- > Guard barrier
- > Dual lid electronic interlock
- > Auto-hinge for improved sealing and door opening
- > Over speed detection and shutdown
- > Motor overheat detection and shutdown

User Friendly Operation

Parameters are quickly and effortlessly inputted through the uncomplicated touch pad interface and displayed on the brightly backlit and easy to read LCD panel.

The LCD panel concurrently displays all experimentation parameters including diagnostic information as it occurs.

Furthermore, once centrifugation has commenced, a real time graphic profile of the centrifugation status is displayed.

Quiet Operation

Noise abating insulation in the console including lower noise fans combine to reduce the audible operating noise to ≤53 dB (≤58 dB for V14R).

Liquid Seeping Prevention

A single continuous rubber cap with strong gasket, firmly seals the motor chamber opening and drive shaft to prevent liquid from seeping into the motor and electronic components. As additional back-up, a highly absorbent sponge positioned beneath the rubber cap soaks up any liquid or condensation which then evaporates during operation.

Velocity 14R & 14 ROTORS

	CAT. NO.# (rotor material)	V14R (V14) MAX SPEED (RPM)	V14R (V14) MAX RCF (XG)	TUBE VOLUME (ML)	TUBE DESCRIPTION	TUBE DIMENSIONS (φ x L) MM	CAPACITY	ADAPTOR
Fixed Angle Rotors								
	FA15A (Aluminium)	14,000 (14,000)	18,728 (18,728)	1.5 /2.0	Standard micro-tube	10.5 x 41	24 x 1.5/2.0 ml	N/A
	"	"	"	0.5	PCR single tube	8 x 32	24 x 0.5 ml	FA15A.05
	"	"	"	0.2	PCR single tube	6 x 24	25 x 0.2ml	FA15A.02
	FA12A (Aluminium)	12,000 (12,000)	12,290 (12,290)	0.2	PCR single or strip	6 x 24	48 x 0.2 ml	N/A
	FA18A (Aluminium)	14,000 (14,000)	16,200 (16,200)	10	Round Bottom	16 x 81	8 x 10 ml	N/A
	FA15B (Aluminium)	14,000 (12,000)	18,990 (13,950)	50	Round Bottom	29 x 106	4 x 50 ml	N/A
	"	"	"	15	Culture V Bottom	17 x 120	4 x 15 ml	FA15.15C
	"	"	"	15	Round Bottom	16.5 x 113	4 x 15 ml	FA15.15R
	FA15C (Aluminium)	14,000 (12,000)	20,290 (14,900)	50	Round Bottom	29 x 106	6 x 50 ml	N/A
	"	"	"	15	Culture V Bottom	17 x 120	6 x 15 ml	FA15.15C
	"	"	"	15	Round Bottom	16.5 x 113	6 x 15 ml	FA15.15R
	FA10E (Aluminium)	10,000 (10,000)	10,600 (10,600)	50	Culture V Bottom	29 x 115	4 x 50 ml	N/A
	"	"	"	15	Culture V Bottom	17 x 120	4 x 15 ml	FA10.15C
	"	"	"	15	Round Bottom	16.5 x 113	4 x 15 ml	N/A
Swing Bucket Rotor								
	SW4C* (Aluminium)	4,000 (4,000)	1,780 (1,780)	5	Blood collection	12 x 106	4 x 5 ml	Included

* Without rotor lid

VELOCITY 14R & 14 SPECIFICATIONS	V14R	V14
Maximum Speed	14,000 RPM (FA15C rotor)	14,000 RPM (FA15A rotor)
Maximum RCF	20,290 x g (FA15C rotor)	18,728 x g (FA15A rotor)
Maximum Capacity	300 ml (6 x 50 ml)	
Drive Mechanism	Brushless Induction	
Control	Microprocessor based	
Speed Range	300-14,000 RPM (100 RPM increments)	
Speed Accuracy	±20 RPM	
Speed / RCF Conversion	Yes	
Timer	1 min - 99 Hrs 59 mins plus HOLD function	
Display	Backlit LCD	
Operating Noise	<58dB (A)	<53dB (A)
Temperature Range	-20°C to +40°C	-
Temperature Accuracy	±2°C	-
Acceleration/Deceleration	9 stages / 9 stages	
Automatic Rotor Identification	Yes	
Imbalance Detection	Yes	
Dimensions (L x D x H)	560 x 500 x 380 mm	340 x 490 x 380 mm
Weight (Net)	60 Kg	40 Kg
Power Supply	Single Phase AC 220V ±2V, 50Hz, 10A	Single Phase AC 220V ±2V, 50Hz, 8A

Velocity 14R & 14 Ordering Information

PRODUCT	CATALOG NUMBER#
Velocity 14R Refrigerated Centrifuge	(220V, 50Hz) V14R-2
Velocity 14R Refrigerated Centrifuge	(220V, 60Hz) V14R-2A
Velocity 14R Refrigerated Centrifuge	(110V, 60Hz) V14R-1
Velocity 14 Centrifuge	(220V, 50/60Hz) V14-2
Velocity 14 Centrifuge	(110V, 60Hz) V14-1

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