



The Grant-bio Combi-spin and Multi-spin are combined centrifuge/vortex mixers for spinning and mixing of microtubes and 0.2ml strips. Both instruments can be used for independent centrifuge and vortex mixing applications. Combi-spin can also be used for vortex mixing of an individual tube concurrently with spinning of multiple tubes, while Multi-spin enables consecutive spin and mix phases of multiple tubes. Each comprising two instruments in one, Combi-spin and Multi-spin are compact and convenient, fitting neatly into the smallest workspace.

Combi-spin is an ideal, cost-effective instrument for low volume applications.

Multi-spin is ideal for all laboratories processing multiple tubes, such as clinical and hospital PCR laboratories and immunology departments.

- two interchangeable rotors supplied as standard for:
 - 12 x 1.5/2.0ml microtubes
 - 12 x 0.5ml plus 12 x 0.2ml microtubes
- optional rotors for:
 - 8 x 1.5/2.0ml plus 8 x 0.5ml microtubes
 - 6 x 1.5/2.0ml plus 6 x 0.5ml plus 6 x 0.2ml microtubes
 - 2 x 8-well 0.2ml microtube strips
- safety interlock stops the rotor when the lid is opened
- amazingly quiet
- extremely easy to operate
- operating ambient temperature range 4°C to 45°C, for use in a cold room or incubator
- low energy consumption

Combi-spin

Tubes are loaded into the rotor for simultaneous spinning, then removed for individual mixing in the vortex cup, which is located at the top of the central shaft. With the vortex cup emerging through an opening in the closed lid, individual tubes can be mixed while a full load of tubes is spinning.

- fixed speed combined centrifuge/vortex mixer
- fixed speed: 2400 rpm
- continuous operation or short spin

Multi-spin

Multi-spin enables consecutive spin and mix phases of multiple tubes. Tubes are loaded into the rotor for spinning, and remain in position for vortex mixing.

User control of all parameters ensures maximum flexibility and complete sample reproducibility, with accurate setting of spin speed and mixing level, and a time setting for each. Consecutive spin and mix phases can be linked, and a sequence of linked phases may be repeated up to 999 times. Set-up is extremely easy and the two line LCD display clearly indicates the current operating status.



With the tubes positioned in the rotor during the mix step, the mixing strength is fully reproducible. This compares favourably with operator-dependent manual operation: the angle at which the tube meets the cup and the pressure exerted on the tube both affect the mixing strength.

- adjustable speed combined centrifuge/vortex mixer
- spin speed: 1000 to 3000 rpm, adjustable in steps of 100 rpm
- integral spin timer, 1 sec. to 99 minutes, with automatic switch-off
- vortex mixing speed adjustable in three levels: soft, medium, hard
- integral mix timer, 1 to 20 seconds, with automatic switch-off
- low voltage power supply enables safe cold room operation

Combi-spin and Multi-spin aid the sample preparation process for many procedures, including PCR, gel electrophoresis and enzyme restrictions, with significant costs saved:

- decreased reagent volumes with no corresponding increase in error
- reduced sample preparation time
- multiple instruments in one for reduced equipment cost

Reduced volumes

By the simple practice of spinning samples before and after mixing, lower reagent volumes can be used without any increase in sample error, and the Combi- and Multi-spin were developed specifically for this purpose. Combi-spin is highly effective for use with volumes down to approximately 50µl, and Multi-spin can be used with volumes as low as 5µl, due to:

- more powerful G force
- timer for accurate control of spin and mix time
- accurate control of spin speed
- 3 stage control of mixing strength

Speed of operation

Combi-spin and Multi-spin both provide a simple and effective means of carrying out a spin-mix-spin sequence. Multi-spin can be programmed to complete the cycle automatically with tubes positioned in the rotor throughout, resulting in a dramatic time saving and consequently a considerable cost saving. For example, time taken to complete the cycle with 100 tubes using Multispin is approximately 4 minutes, compared with 35 minutes for individual instruments.

Applications

Suitable for spin-mix-spin applications in many fields, including:

- PCR diagnostic laboratories
 - biochemical clinical laboratories
- Specific applications include:
- preparing samples prior to PCR reactions, gel electrophoresis and enzyme reactions
 - immunoprecipitations
 - cell permeabilisation by chelating or hydrophobic agents for reaction in situ
 - low solubility drug testing
 - cell washing from culture media after fermentation

Accessories

- PR2-05 8 x 1.5/2.0ml plus 8 x 0.5ml microtubes
- PR2-05-02 6 x 1.5/2.0ml plus 6 x 0.5ml plus 6 x 0.2ml microtubes
- PSR-16 2 x 8-well 0.2ml microtube strips



Specification

		Combi-Spin PCV-2400		Multi-spin PCV-3000	
G-force	G	700		1000	
speed	rpm	2400		1000 to 3000	
spin time		continuous up to 60 mins or short spin		continuous or timer: 1 sec to 99 min	
mixing intensity		-		soft, med, hard	
mixing time		-		1 to 20 sec	
cycle regulation		-		1 to 999	
tube capacity	standard	12 x 1.5/2.0 ml		12 x 1.5/2.0 ml	
	standard	12 x 0.5 ml plus 12 x 0.2 ml		12 x 0.5 ml plus 12 x 0.2 ml	
footprint	w/d	mm	225/180	225/180	
height		mm	115	115	
ambient operating temperature	°C	4 to 45		4 to 45	
input voltage	V	220-240		12	
		110-120			
input type		ac (50-60Hz)		ac	
input current	A	0.63		1	

Grant

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Grant-bio products

- meet the requirements of IEC61010 parts 1 and 2
- bear the CE mark to indicate that they meet the requirements of the Low Voltage and EMC Directives

Repairs are normally carried out within three to five working days of arrival at our factory or receipt of authorisation to repair. Alternatively, spare parts and service manuals can be despatched within two working days. Most overseas distributors offer a rapid and effective after-sales service, with spare parts held in stock.

Grant-bio products are guaranteed for two years against faulty materials and workmanship. For repairs carried out under guarantee, no charge is made for labour or materials.

We are committed to a continuous programme of improvement and specifications may be changed without notice.