



The Grant-bio PTR-30 and PTR-60 multi-function rotators provide all that is required for thorough mixing of microtubes, for reproducible sample preparation:

- 360° vertical rotation
- reciprocal rotation, turning angle from 15° to 90°
- vibration, settable in a burst of 1 to 5 seconds
- 5 second pause
- all actions may be set for continuous or timed operation, and individual phases may be linked together for absolute flexibility:
 - 360° vertical rotation
 - 360° and reciprocal
 - 360° and reciprocal and vibration
 - 360° and reciprocal and pause
 - reciprocal
 - reciprocal and pause
 - vibration and reciprocal

Designed to meet the challenge of workspace restrictions, the Grant-bio vertical rotators are compact, with a low profile and small footprint, fitting neatly into the smallest workspace. They are also extremely quiet.

Small but highly functional, the stepper motor produces regulated and reproducible rotation throughout the speed range and, combined with the sturdy construction, will guarantee years of consistent operation.

The Grant-bio vertical rotators are quiet and extremely easy to operate, with very simple set-up of a multi-segment program, using the two line set-up and status display.

- variable speed, variable angle, 360° vertical multi-function rotators
- multi-function: rotation, reciprocation, vibration
- standard platform for microtubes up to 15mm diameter
 - PTR-30: for 22 microtubes
 - PTR-60: for 48 microtubes
- alternative platforms available for larger tubes/ tube combinations
- variable speed, variable tilt rotator
- variable speed
 - PTR-30: 5 to 30 rpm
 - PTR-60: 5 to 60 rpm
- integral timer, 1 min to 24 hours, with automatic switch-off
- adjustable angle in reciprocal mode: 15 to 90° tilt angle
- timed operation for each phase
- low voltage power supply enables safe cold room operation
- operating ambient temperature range 4°C to 45°C – for use in a cold room or an incubator
- low energy consumption



Mixing of small volumes is extremely difficult due to surface tension of viscous liquids, but insufficient mixing can lead to a high percentage error. 360° vertical rotation (turning the tube end over end) has a highly efficient mixing effect. The Grant-bio PTR-30 and PTR-60 not only provide 360° vertical rotation, they also emulate other manual actions used for mixing in small tubes: reciprocal rotation has the effect of backward and forward shaking, a brief pause allows droplets to slide down the tube walls, and the vibration motion emulates a light tap with a finger.

The goal of mixing is to produce a uniform and reproducible mixture from an assortment of components of different size and characteristics. In spite of considerable interchangeability, the correct kind of movement is often critical and can affect the outcome of an experiment or a diagnosis. One of the key criteria is the particle size of each component, as this determines which type of 'wave' motion is needed to produce adequate mixing for that particular component:

- small particles require short wave motion
- medium size particles require medium wave motion
- large particles require long wave motion

A short wave motion, for example, will have very little effect on large particles.

The 360° vertical rotator provides all that is needed for a mixture of different sized particles:

- 360° vertical rotation long wave
- reciprocal action long and medium wave
- vibration short wave

and a dedicated program may be configured for every different combination of components, to produce the correct result.

Accessories

For PTR-30

PPRS4-12 platform for 4 tubes up to 30mm diameter (e.g. 50ml centrifuge tubes)
plus 12 tubes up to 15mm diameter (e.g. 1.5ml, 2.0ml, 15ml tubes)

For PTR-60

PPRS8-26 platform for 8 tubes up to 30mm diameter (e.g. 50ml centrifuge tubes)
plus 24 tubes up to 15mm diameter (e.g. 1.5ml, 2.0ml, 15ml tubes)

PPRS-14 platform for 14 tubes up to 30mm diameter (e.g. 50ml centrifuge tubes)

Applications

Suitable for 360° vertical mixing applications in many different fields, with specific applications including:

- immunoprecipitations and other affinity matrix applications
- prevention of blood coagulation
- latex diagnostics



Specification

			PTR-30	PTR-60
capacity, microtubes	standard		22	48
general timer			1 min to 24 hrs	1 min to 24 hrs
360° vertical mode				
speed	rpm		5 to 30	5 to 60
timer	sec		1 to 250	1 to 250
reciprocal mode				
turning angle	°		15 to 90	15 to 90
timer	sec		1 to 250	1 to 250
vibration mode				
turning angle	°		1 to 5	1 to 5
timer	sec		1 to 5	1 to 5
pause	sec		1 to 5	1 to 5
number of cycles			1 to 125	1 to 125
ambient temperature range	°C		4 to 45	4 to 45
maximum load	kg		1	1.5
overall dimensions	w/d/h	mm	310/125/175	420/230/230
input voltage	V		12	220-240
input type			dc	ac (50-60Hz)
input current	A		0.5	0.3

Grant

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.