JA-20.1 FIXED ANGLE ROTOR

SPECIFICATIONS
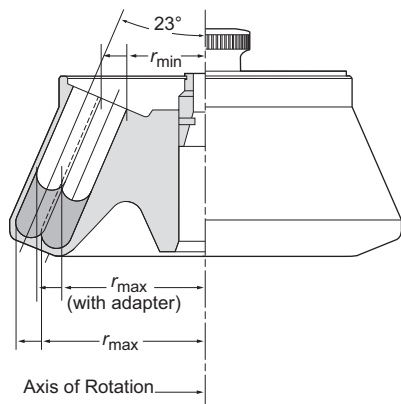
Maximum speed	20 000 rpm*
Critical speed range†	600 to 800 rpm
Density rating at maximum speed.	1.2 g/mL
Maximum allowable imbalance of opposing loads.	2 grams

Relative Centrifugal Field‡ at maximum speed
  Outer row of tubes
    At r_{max} (115 mm) . . . . 51 500 × g
    At r_{max} with adapter 342327 (107 mm) . . . . 47 900 × g
    At r_{min} (64 mm) . . . . 28 700 × g
  Inner row of tubes
    At r_{max} (98 mm) . . . . 43 900 × g
    At r_{max} with adapter 342327 (90 mm) . . . . 40 300 × g
    At r_{min} (47 mm) . . . . 21 100 × g

k factors at maximum speed
    Outer row of tubes 371
    Outer row of tubes with adapter 342327 325
    Inner row of tubes 465
    Inner row of tubes with adapter 342327 411

Conditions requiring speed reductions	see RUN SPEEDS
Number of tube cavities	32
Available tubes	see Table 4
Nominal tube dimensions (largest tube)	18 × 99 mm
Nominal tube capacity (largest tube)	15 mL
Nominal rotor capacity	480 mL

Approximate acceleration time to maximum speed
    (rotor fully loaded). . . . . 1 1/2 min
Approximate deceleration time from maximum speed
    (rotor fully loaded). . . . . 2 1/2 min

Weight of fully loaded rotor	7.5 kg (16.5 lb)
Rotor material	aluminum

Rotor entry code for Avanti J-E, J2 and J6 series
    microprocessor-controlled centrifuges. 20.1

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* Maximum speed at 2°C in the Avanti J-E . . . . .17 000 rpm

† The critical speed range is the range of speeds over which the rotor shifts so as to rotate about its center of mass. Passing through the critical speed range is characterized by some vibration.

‡ Relative Centrifugal Field (RCF) is the ratio of the centrifugal acceleration at a specified radius and speed ($r\omega^2$) to the standard acceleration of gravity (g) according to the following formula:

$$\text{RCF} = \frac{r\omega^2}{g}$$

where r is the radius in millimeters, ω is the angular velocity in radians per second (2π RPM /60), and g is the standard acceleration of gravity (9807 mm/s^2). After substitution:

$$\text{RCF} = 1.12\, r \left(\frac{\text{RPM}}{1000}\right)^2$$