

Reaction Modules

The C1000 thermal cycler is compatible with any 1000-series reaction module. The reaction modules come in three block sizes: the 96-, dual 48-, or 384-well block. Each block in the reaction module includes a fully adjustable heated lid that is capable of running reliably with a broad range of reaction vessels.

Recommended Sample Volumes

When using the C1000 thermal cycler, the maximum sample volume is determined by the type of reaction module used. Table 7 lists the recommended reaction volumes and the maximum amount of volume to be used with different reaction modules.

Table 7. Size and volume limit for 1000-series reaction modules

Number of Wells	Number of Blocks	Recommended Sample Volume (Upper Limit)
Dual 48/48	2	10–50 μ l (50 μ l limit)
96	1	10–50 μ l (50 μ l limit)
384	1	3–30 μ l (30 μ l limit)

Specifications of Reaction Modules

The reaction modules come in three block sizes. Specifications for each 1000-series reaction module are listed in Table 8.

Table 8. Reaction module specifications

Feature	96-Well Fast	Dual 48/48 Fast	384-Well
Sample capacity	96 x 0.2 ml tubes	2 x 48 x 0.2 ml tubes	1 x 384-well PCR microplate
Gradient direction	Back (upper temperature) to front (lower temperature) of block	Back (upper temperature) to front (lower temperature) of block	Back (upper temperature) to front (lower temperature) of block
Gradient temperature range	30–100°C	30–100°C	30–100°C
Gradient temperature differential	1–24°C	1–24°C	1–24°C
Gradient accuracy	$\pm 0.2^\circ\text{C}$ of programmed temperature at end rows	$\pm 0.2^\circ\text{C}$ of programmed temperature at end rows	$\pm 0.2^\circ\text{C}$ of programmed temperature at end rows
Gradient (end row) uniformity	$\pm 0.4^\circ\text{C}$ well-to-well (within row) within 10 sec of arrival at target temperature	$\pm 0.4^\circ\text{C}$ well-to-well (within row) within 10 sec of arrival at target temperature	$\pm 0.4^\circ\text{C}$ well-to-well (within row) within 10 sec of arrival at target temperature
Gradient calculator accuracy	$\pm 0.4^\circ\text{C}$ of the actual well temperature	$\pm 0.4^\circ\text{C}$ of the actual well temperature	$\pm 0.4^\circ\text{C}$ of the actual well temperature
Heated lid temperature	0–110°C	0–110°C	0–110°C
Average ramp rate	3.3°C/sec	3.0°C/sec	2.0°C/sec
Maximum ramp rate	5.0°C	4.0°C	2.5°C