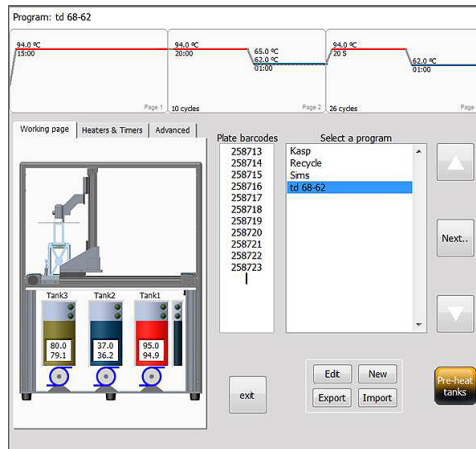




How does the Hydrocycler²™ work?

(For research use only. Not for use in diagnostic procedures.)

The Hydrocycler² thermal cycler uses three precise temperature controlled water baths to modulate the temperatures of the PCR reaction. A robotic arm is used to move plates between the three water baths, achieving a rapid thermal cycling profile. The result is higher throughput and higher data quality compared to standard thermal cyclers.



Where cooling and heating speeds in standard peltier-based thermal cyclers rely on ramping the temperature of a metal block up and down the Hydrocycler² only needs ~ three seconds to change to the next water bath. As shown below, this translates into 30% reduction in cycle time based on 35 cycles.

2-Stage PCR using KASP Chemistry

2-Stage PCR using Alternative Chemistry

Peltier PCR

15 min @ 95°C
10 cycles of:
 20 sec @ 95°C
 1 min @ 61-55°C
26 cycles of:
 20 sec @ 95°C
 1 min @ 55°C
Total: 2h 5min

Hydrocycler²

15 min @ 95°C
10 cycles of:
 20 sec @ 95°C
 1 min @ 61-55°C
26 cycles of:
 20 sec @ 95°C
 1 min @ 55°C
Total: 1h 10min
55 min less,
44% reduction in total time.

Peltier PCR

15 min @ 95°C
35 cycles of:
 1 min @ 95°C
 1 min @ 58°C
 1 min @ 72°C
Total: 2h 45min

Hydrocycler²

15 min @ 95°C
35 cycles of:
 1 min @ 95°C
 1 min @ 58°C
 1 min @ 72°C
Total: 1h 55min
50 min less,
30% reduction in total time.

www.lgcgroup.com/genomics • genomics@lgcgroup.com

Science for a safer world

Brazil • Bulgaria • China • France • Germany • Hungary • India • Ireland • Italy • Netherlands
Nordic countries • Poland • Romania • Russia • South Africa • Spain • Turkey • United Kingdom • USA

All trademarks and registered trademarks mentioned herein are the property of their respective owners. All other trademarks and registered trademarks are the property of LGC and its subsidiaries. Specifications, terms and pricing are subject to change. Not all products are available in all countries. Please consult your local sales representative for details. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or any retrieval system, without the written permission of the copyright holder. © LGC Limited, 2016. All rights reserved. FL-161223.01