



ThermoFisher
S C I E N T I F I C

qualyfast Legionella Workflow

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The world leader in serving science

qualyfast[®] Legionella Range

- Free DNA Inactivator
- DNA Extraction Kits
- Legionella qPCR Kits
- Legionella Quantification Standard



What is Legionella?



- ✓ *Legionella* bacterial are commonly found in typical freshwater environments
- ✓ *L. pneumophila* has been recovered from a wide range of human-made and natural settings
- ✓ *Legionella* bacterial are not free-living but require parasitic or commensal relationship with other aquatic organisms, e.g biofilms
- ✓ When inhaled by humans *Legionella* bacteria can rapidly replicate within the lungs causing severe pneumonia – Legionnaires disease

Why are the tests needed?

- ✓ Legionella testing minimizes the risk of Legionnaires disease from cooling towers and similar water systems
- ✓ Increasing regional regulatory requirements for testing susceptible water systems
- ✓ ISO/TS 12869 specifies use of PCR for Legionella testing in environmental water samples
- ✓ Growing evidence that recreational water poses a substantial risk
 - Swimming pools & hot tubs
 - Decorative water features
 - Lakes & ponds



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Features and Benefits of Using qalyfast Legionella workflow

Easy to use

A
B C

End-to-end
solution

Simplified workflow

Lyophilized qPCR
reagents

Rapid presence /
absence detection

Increased
throughput



Multiplex assay

Legionella species
& *Legionella*
pneumophila in
single PCR

Reduced
repeats



Robust sample
preparation

Rapid inactivation
of DNA from non-
viable sources

Protocol for clean
& dirty water

Improved
accuracy



Validated &
quantifiable

Protocol compliant
with ISO/TS 12869

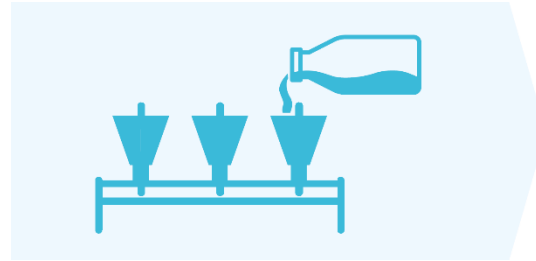
Calibration with
standard reference
material

Accurate, real-time PCR-based Legionella detection from environmental water samples

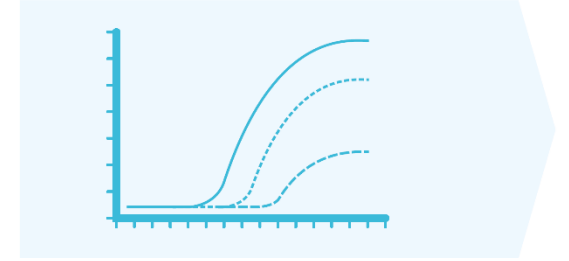
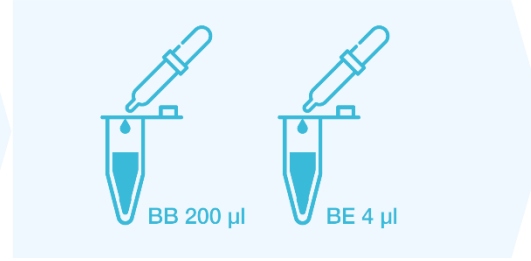
qualyfast Legionella Workflow



Free DNA Inactivator
Eliminates false-positives associated with free DNA from non-viable sources



DNA Extraction Kit
Filters water sample with single use membrane
Buffer & enzyme solutions used to lyse bacteria



Legionella qPCR Kits
Detection via qPCR
Optional
Quantification Standards
Quantify presence of Legionella species with calibrated references

qualyfast Legionella kits offer rapid, sensitive, specific and reliable detection, discrimination and quantification of *Legionella* species and *Legionella pneumophila* from water samples

qualyfast® Free DNA Inactivator removes the Legionella DNA from non-viable sources commonly present in the environment

- Rapid pre-treatment of environmental water samples
- Optimized for used with Clean Water DNA Extraction kit
- Elimination of Free DNA via combined action of a specific enzyme and optimized buffers
- Enables detection of DNA from only intact living Legionella cells without the need for complicated equipment or protocols



qualyfast® DNA Extraction Kits include all components required to prepare DNA for qPCR detection from environmental water samples

- Two kits are available
 - Clean water – distribution systems, drinking water and other samples with minimal suspended particles
 - Dirty water – containing suspended particles or sediment
- Kits include filter membranes, sample tubes, buffers and enzymes as required to extract DNA and remove PCR inhibitors from the different sample types



qualyfast[®] Legionella qPCR kits for detection of *Legionella* species and *Legionella pneumophila* with Inhibition Amplification Control

- Rapid detection via amplification of specific DNA sequences belonging to the genus *Legionella* species and *Legionella pneumophila*
- Simultaneous co-amplification of an Inhibition Amplification Control to highlight possible inhibition of PCR from sample
- Easy-to-use and reduced handling steps due to pre-aliquoted lyophilized format



qualyfast[®] Legionella Quantified Standards for quantification of *Legionella* species

- Kit contains 4 standards allowing *Legionella* species detection to be calibrated across the 25 - 25,000 GU range
- Uses reference material of *Legionella pneumophila* DNA with certified GU
- Easy-to-use and reduced handling steps due to pre-aliquoted lyophilized format plus DNA free solution



qualyfast Legionella Workflow

Description	Format	Order code
qualyfast® Free DNA Inactivator	200 reactions	D401009
qualyfast® DNA Extraction Kit I clear water	24 reactions	D101001
	48 reactions	D201001
	96 reactions	D301001
qualyfast® DNA Extraction Kit II dirty water	48 reactions	D211001
	96 reactions	D311001
qualyfast® Legionella PCR Assay	24 tests (3x 8-tube strips)	A101013
	48 tests (6x 8-tube strips)	A201013
	96 tests (12x 8-tube strips)	A301013
qualyfast® Legionella Quantification Standards	8 tests (4 standards each in an 8-tube strip)	A501013

qualyfast[®] Legionella Range

A complete sample-to-answer workflow for the detection of *Legionella* species and *Legionella pneumophila* in environmental water samples



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