



MILLIPORE

# Direct-Q<sup>®</sup> 3

Water Purification system



Ultrapure and pure water the easy way!

ADVANCING LIFE SCIENCE TOGETHER™  
Research. Development. Production.

# TAP TO PURE AND ULTRAPURE WATER

- For small volume users
- Ultrapure and pure water (Type III) directly from tap water!
- High quality pure water

## Ultrapure water for low volume critical applications

HPLC mobile phase preparation - Sample dilution - Buffer and cell culture media preparation - Preparation of chemical solutions used with titrators, spectrophotometers and electrophoresis systems

## Pure water for low volume non-critical applications

General glassware washing and final rinsing

### Ready for use



#### Easy installation

The Direct-Q system requires no special installation. In fact, you can do it yourself, straight from the box! Connect the system to your tap water supply, plug in the system and install the pack - it's ready to use!

#### Saves space

The Direct-Q system's compact design means you can locate it almost anywhere in your laboratory, either on the benchtop or on the wall - the choice is yours!

### Facilitates your work

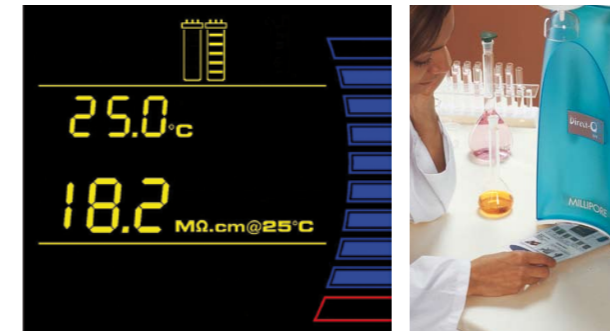


#### Dispensing adapted to laboratory glassware

The height and shape of the Direct-Q system is designed so that common laboratory glassware containers of differing sizes are easy to fill without the need to hold the container.

#### Automatic functions

The Direct-Q system recirculates water when the system is not in use in order to maintain water quality. You can also pre-set your system to deliver a fixed volume of water on demand.



#### System status at a glance

The color graphic display clearly indicates all system parameters. From water quality to knowing when it is time to change the purification pack, you will see at a glance what is needed.

#### Information at your fingertips

Just to ensure you have fast access to system information, you will find a handy Quick Reference Guide in the base pocket.

### Quality solutions



With Millipore's extensive experience in water purification technologies and laboratory applications, you can be sure you are getting guaranteed water quality day after day.

#### Time-saving purification pack

For ease-of-use, the main purification technologies are contained in an innovative all-in-one pack. The pack's plug-and-use design means that you can change it in just a couple of minutes.

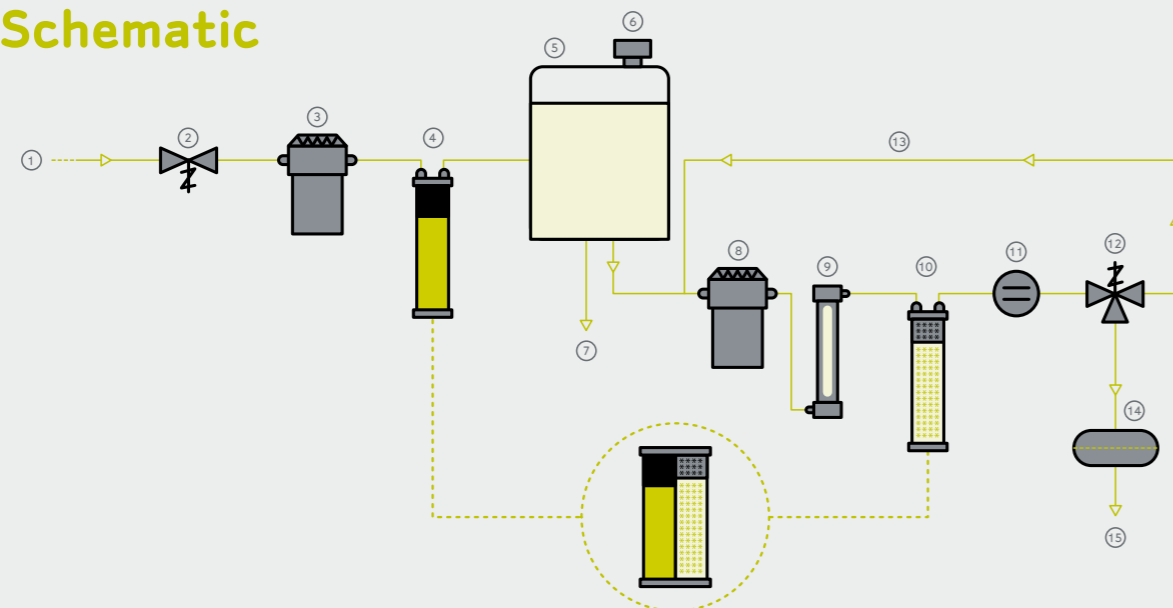
#### Organic-sensitive applications

This reliable and robust system is also available with a built-in 185 and 254 nm UV lamp for production of low TOC water required by organic-sensitive applications.

#### Final polishers to match your needs

Do your applications require bacteria-free, pyrogen-free or nuclease-free water? A range of filters and cartridges are available for the Direct-Q system to match your water requirements.

## Flow Schematic



- ① Potable (tap) water feed
- ② Inlet solenoid valve
- ③ Booster pump to increase flow rate and RO rejection
- ④ SmartPak® DQ3 cartridge first stage:
  - Pre-treatment for Reverse Osmosis cartridge protection
  - Reverse Osmosis cartridge for removal of ions (> 94 %), organics, particulates and colloids (> 99 %)
- ⑤ Tank for RO (pure, Type III) water storage
- ⑥ Vent filter
- ⑦ Tap for RO (pure, Type III) water delivery
- ⑧ Pump for ultrapure water production and delivery
- ⑨ UV lamp (185/254 nm) for the destruction of bacteria and trace organic substances
- ⑩ SmartPak DQ3 cartridge second stage:
  - Mixed bed ion-exchange resin for removal of remaining ions
  - Organex for removal of trace ionic and organic contaminants
- ⑪ Product resistivity cell
- ⑫ Solenoid valve for water delivery or recirculation
- ⑬ Ultrapure water automatic recirculation pathway to ensure high water quality
- ⑭ Final polisher
- ⑮ Ultrapure (Type I) water on demand or volumetric dispense

# Specifications

## Ultrapure (Type I) Product Water Quality\*

## Direct-Q 3 system

Resistivity	18.2 M $\Omega$ ·cm @ 25 °C
TOC (Direct-Q 3 system without 185/254 nm UV lamp)	< 10 ppb
TOC (Direct-Q 3 UV system with 185/254 nm UV lamp)	< 5 ppb
Particulates (size > 0.22 $\mu$ m)**	< 1 Particulate/ml
Bacteria**	< 0.1 cfu/ml
Endotoxin*** (pyrogens)	< 0.001 EU/ml
RNase***	< 0.01 ng/ml
DNase***	< 4 pg / $\mu$ l
Flow rate (with Millipak® Express 20 filter or BioPak® cartridge)	> 0.5 l/min

\* In regular operating conditions

\*\* With Millipak Express 20 (0.22  $\mu$ m) membrane filter or with BioPak ultrafiltration cartridge as final polisher

\*\*\* Only with BioPak ultrafiltration cartridge as final polisher

## Pure (Type III) Product Water Quality

Ionic rejection	> 94 %
Organic rejection for MW > 200	> 99 %
Bacteria and particulates	> 99 %
Flow rate	2.4 l/h @ 15 °C (typical)

\* In regular operating conditions

## System

Dimensions (H x W x D)	54 x 29 x 42 cm (21.3 x 11.4 x 16.5 in)
Net weight (Direct-Q 3 system without 185/254 nm UV lamp)	8.1 kg (17.9 lb)
Net weight (Direct-Q 3 UV system with 185/254 nm UV lamp)	8.6 kg (19.0 lb)
Operating weight (Direct-Q 3 system without 185/254 nm UV lamp)	17.6 kg (38.8 lb)
Operating weight (Direct-Q 3 UV system with 185/254 nm UV lamp)	18.2 kg (40.1 lb)
Built-in reservoir volume*	5.6 l
Electrical feed voltage	100 - 250 V +/- 10 %
Electrical feed frequency	50 - 60 Hz
Tap (feed) water connection	½ " Gaz M
Tap (feed) water pressure	0.5 to 6 bar

\* The system can be connected to 30 l Millipore reservoirs on demand.

