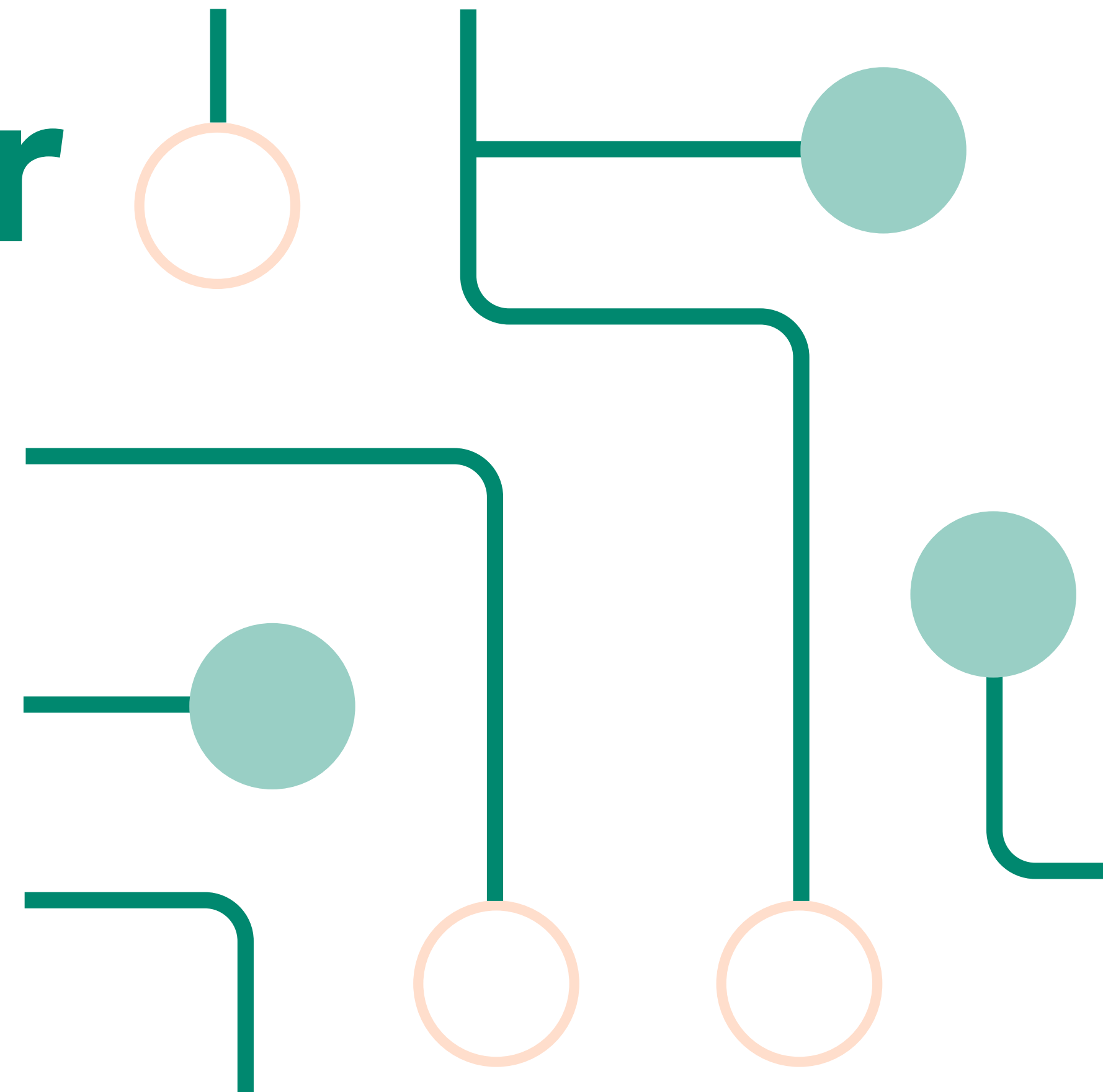


Guide for connecting a light scattering detector to ÄKTA pure



Equipment needed

In the following example, light scattering (LS) and refractive index (RI) devices from Wyatt have been used.

To connect a light scattering device to ÄKTA™ pure chromatography system you need:

1. An I/O box to handle signals
2. Software to analyze data

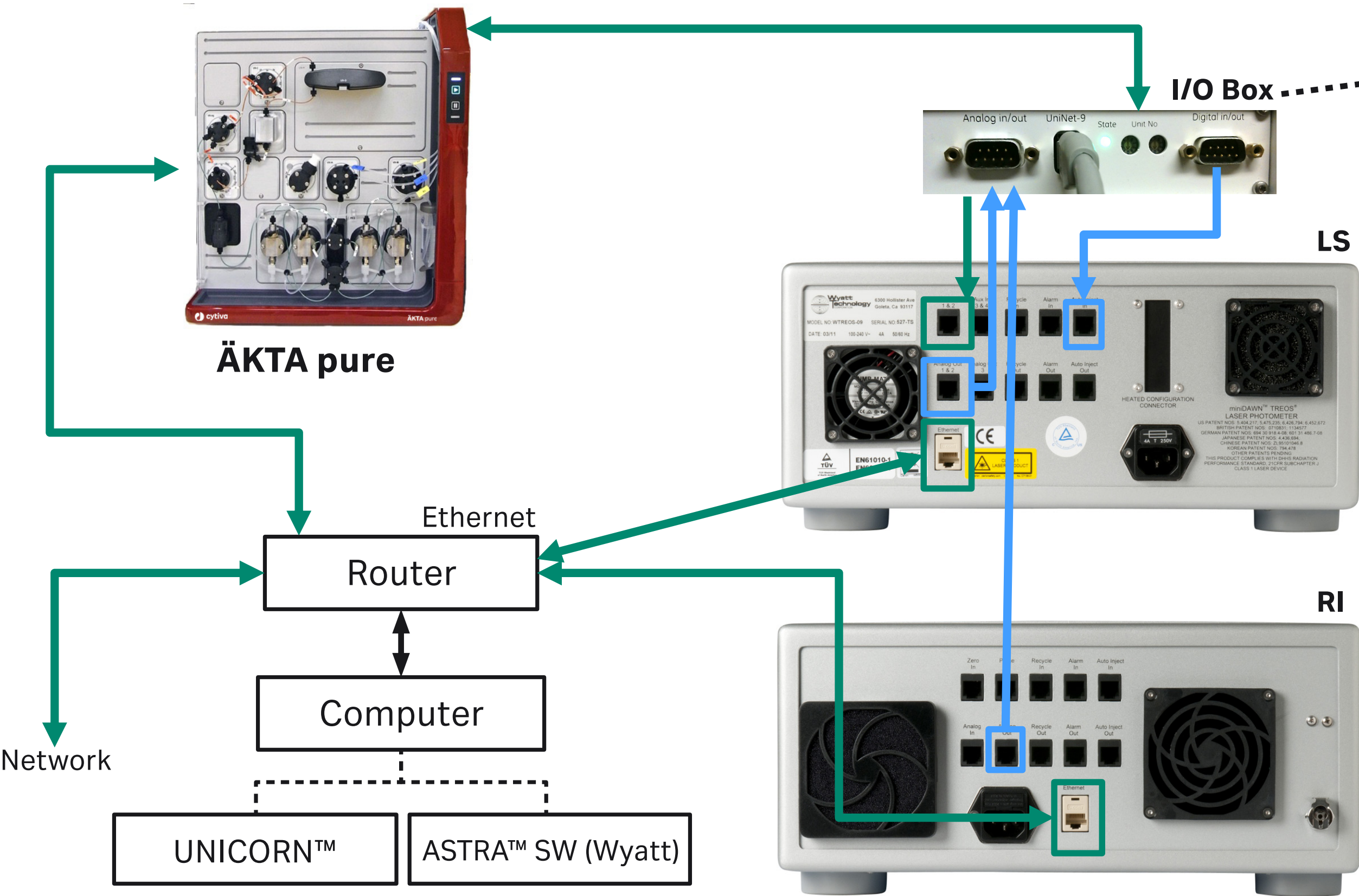
You might also need:

3. Extra valves to connect detectors to the flow path
4. Filters to minimize signal disturbances



How to connect the hardware

ÄKTA pure with Wyatt RI and LS detector (miniDAWN™ TREOS)



Signal	From I/O box	To port
UV	Analog Out 1	LS: Aux In 1
LS	Analog In 1	LS: Analog Out 1
RI	Analog In 2	RI: Analog Out
Auto inject	Digital Out 1	LS: Auto inject in

For detailed information please refer to the Install I/O box E9 instruction, 29021463

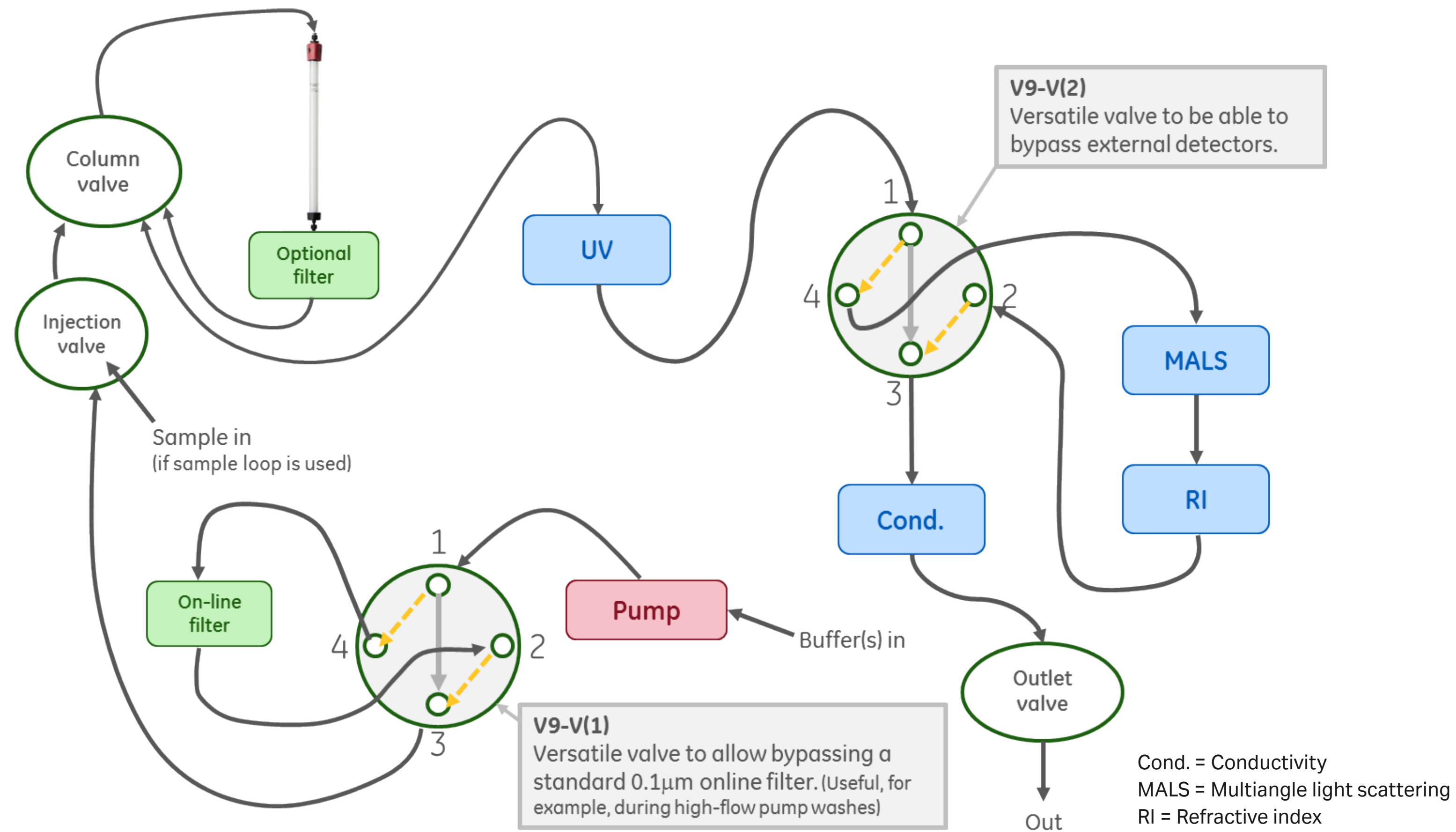
Configure the I/O-box for UV signal on Analog Out 1 and set the default value for Digital Out 1 to '1'.

The LS and RI signals will be available as curves and run data in UNICORN software.

Note: Up to three cables can be connected to the Analog In/Out connector on the I/O box. These cables are not standard and must be supplied by the user if it is not provided with the LS detector. For detailed information please refer to the Install I/O box E9 instruction, 29021463.

LS = Light scattering
RI = Refractive index
SW = Software

Schematic liquid flow path



Optional filter

A post-column filter can be used to remove signal effects on the light scattering data.

The signal effect can occur due to data due to small particles in the sample and the column.

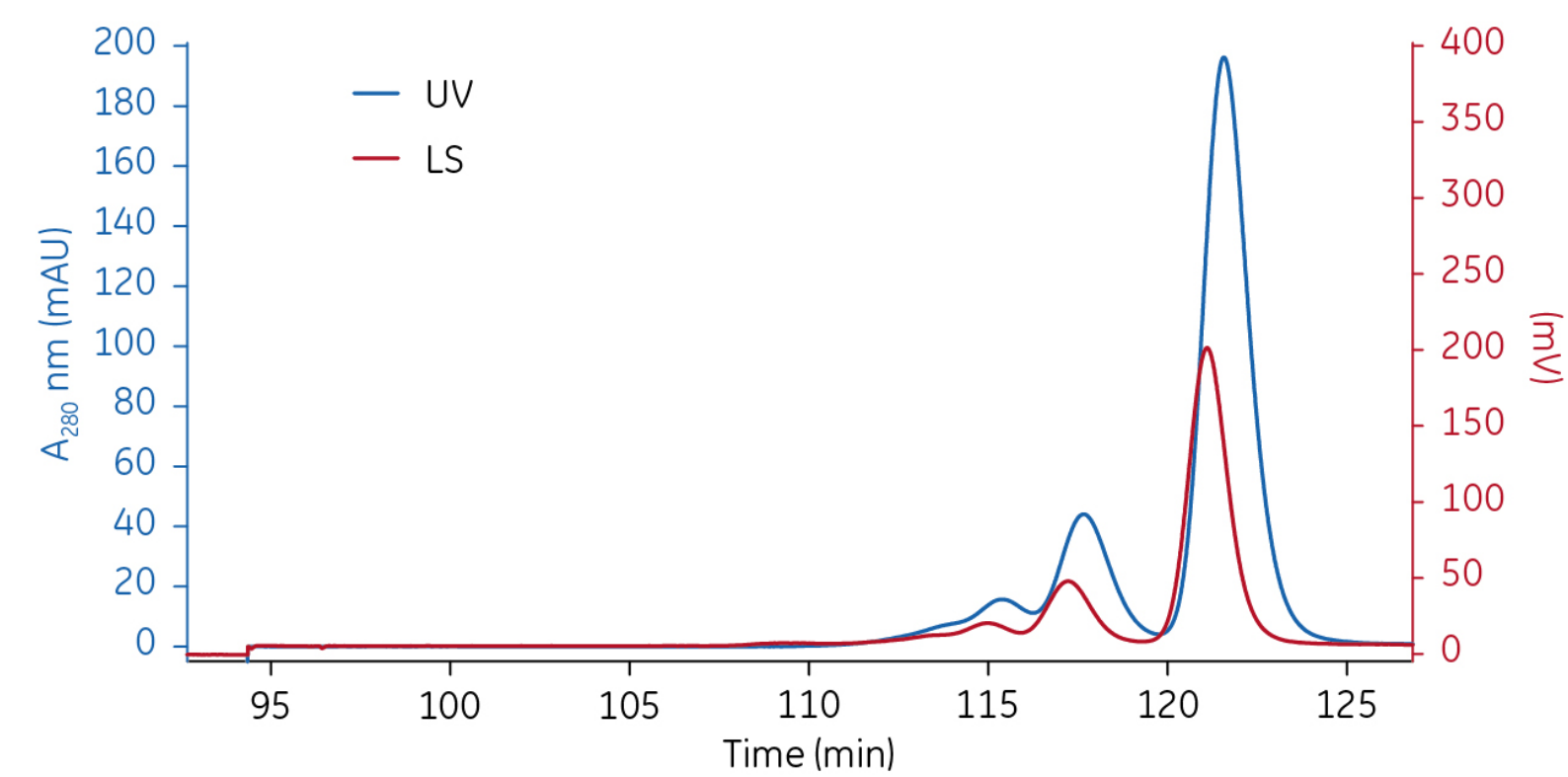
Post column filter

A 0.1µm VVLP filter was used. It was placed on top of a standard polypropylene top filter in an empty Tricorn™ column tube (5 mm i.d.) with two long top adaptors.

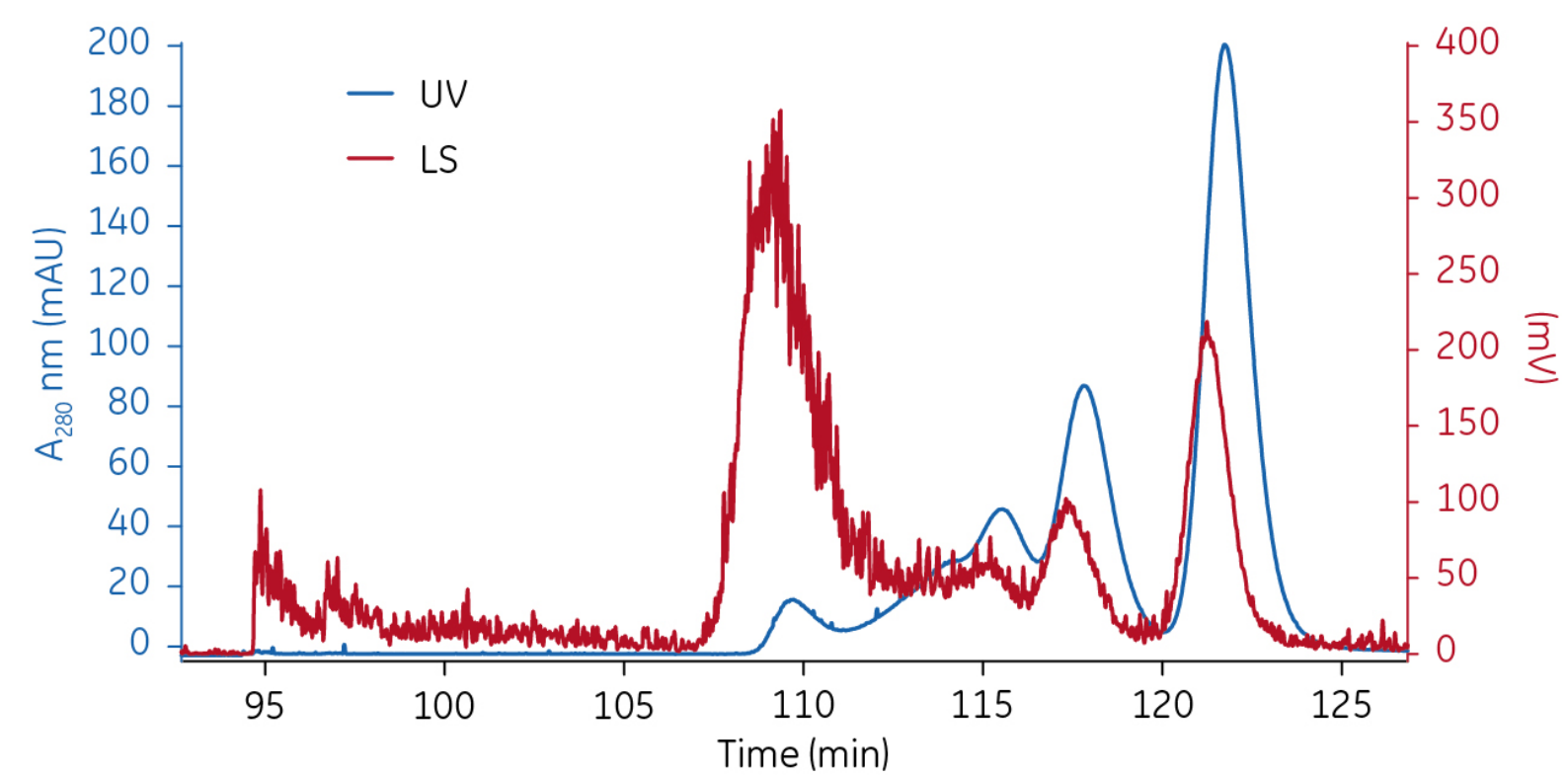


Results from comparison

With filter



Without filter



Column:	Superdex™ 200 10/300 GL with or without post column filter
Injection method:	Sample loop
Sample volume:	100 μ L (experiment without filter); 200 μ L (experiment with filter)
Sample:	5 mg/mL Bovine serum albumin (BSA)
Eluent:	PBS (10 mM sodium phosphate, 140 mM sodium chloride, 2.7 mM potassium chloride, pH 7.4)
Flow:	0.5 mL/min
UV cell:	10 mm
MALS detection:	miniDAWN TREOS Light scattering detector (Wyatt)
System:	ÄKTA pure
System configuration:	0.5 mm tubing, UV-monitor U9-M, column valve V9-Cs (single position), 400 mm tubing before and after the column

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