Install Loop valve V9-L and V9H-L

Instructions

Scope

Instructions on how to install an optional Loop valve V9-L (29011358) or V9H-L (29090689).

Description

Introduction

The Loop valve allows several loops to be connected simultaneously to the instrument. It can for example be used for storing intermediate fractions in multi-step purifications, for storing samples to be used in scouting runs, or for storing eluents needed in low volumes. The valve also has a built-in bypass function that enables bypassing all loops. It is possible to install one Loop valve per instrument.

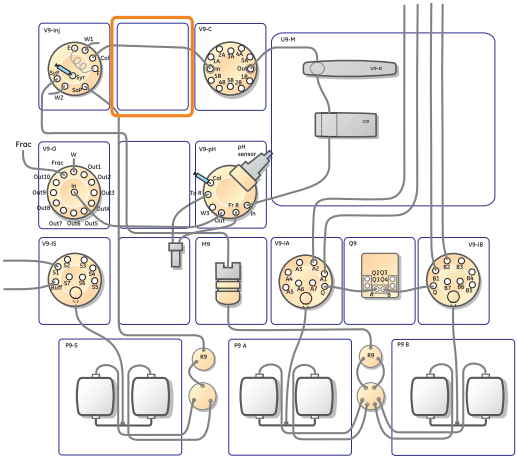
Location

ÄKTA pure

Position 8 in the illustration below indicates the recommended position for Loop valve **V9-L** or **V9H-L**.

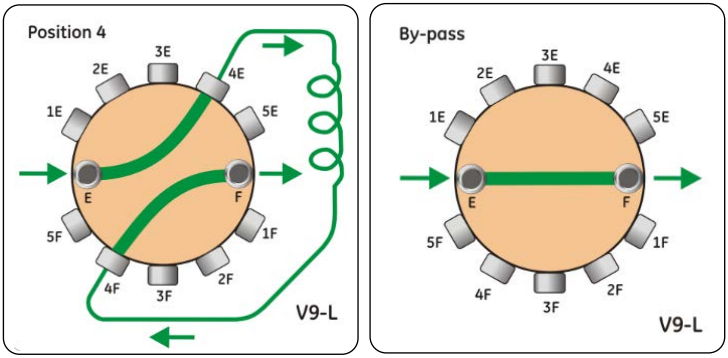
ÄKTA avant

When using the Loop valve V9-L or V9H-L in ÄKTA™ avant it is recommended to place the loop valve to the right of the injection valve.



Flow path

The illustration below shows different flow paths through Loop valve **V9-L**. In the example below, the loop is connected to loop position 4 and the loop is being emptied.



Flow path	Description
Position ***1-5***	The flow direction depends on the Injection valve position.
By-pass	The flow bypasses the loop(s). ***By-pass*** is the default flow path.

Installation

Introduction

Optional modules are easy to install in the instrument. The existing module or module panel is removed with a Torx T20 screwdriver and the cable is disconnected. The cable is then connected to the optional module, which is subsequently inserted into the instrument. The newly installed module is then added to the ***System properties*** in UNICORN™.

If an optional module is installed in an Extension Box (29110806), see Extension box instruction for installation and cable connection information.

Node ID

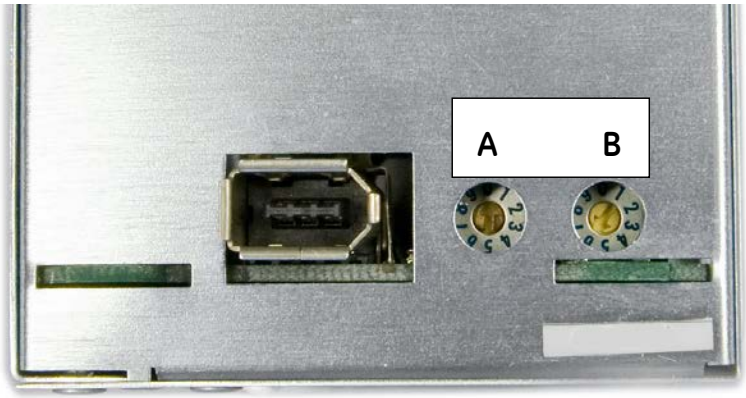
All of the available optional modules are preconfigured to give the desired function. However, the function of a module can be changed by changing its Node ID. Node ID is a unit number designation that is used by the instrument to distinguish between several units of the same type.

In a troubleshooting situation it may be useful to check a module's Node ID.

Note: *The function of a module is defined by a combination of the module type and the Node ID, not by its physical position.*

Check/change Node ID

The Node ID is set by positioning the arrows of the two rotating switches at the back of the valve. Use a screwdriver to set the arrows of the switches to the desired number.

Step	Action
1	Remove the existing module from the instrument according to the hardware installation instruction below.
2	• The first rotating switch, labeled **A** sets the tens. • The second switch, labeled **B** sets the units. • Set the Node ID to **17**. The **A** switch is set to **1** and the **B** switch to **7**.
	
3	Install the Loop valve in the instrument.

Hardware installation of a module

The instruction below describes how to install a module in the instrument.

Note: *The illustrations show the principle how to install an optional module. The position of the module on the instrument and the used type of module will depend on the module being installed.*

CAUTION

Disconnect power. Always switch off power to the ÄKTA instrument before replacing any of its components, unless stated otherwise in the user documentation.

Step	Action
1	Disconnect power from the instrument by switching off the instrument **Power** switch.
2	Loosen the connectors and remove the tubing from the existing module. ***Note:*** *This step does not apply for a dummy module.*
3	Loosen the module with a Torx T20 screwdriver.

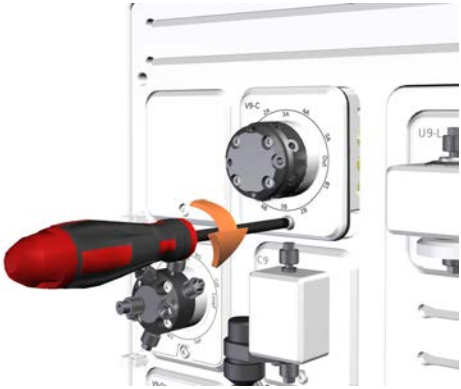
Step	Action
4	Remove the module.

5	Disconnect the cable and secure it in the slit.

6	Connect the cable to the module to be installed.

Step	Action
7	Insert the module.

8	Fasten it with a Torx T20 screwdriver.



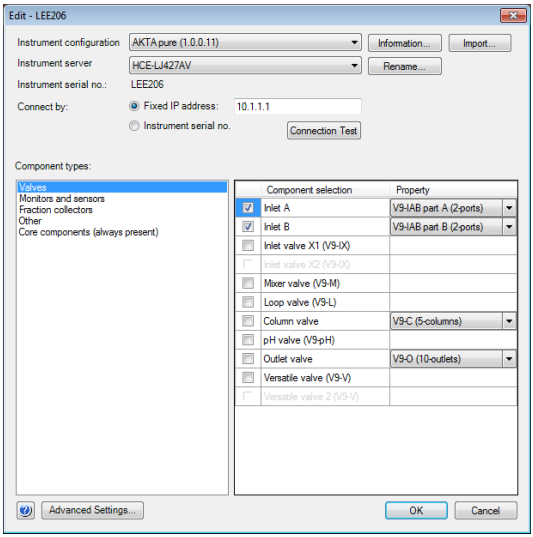
Note: *A warning message is displayed at start up if a module has been installed in the instrument but not added to the current system configuration in UNICORN.*

Software configuration

When a new module has been installed, the ***System Properties*** have to be updated in UNICORN.

Follow the instructions below to update the system in UNICORN. Update UNICORN before the instrument is powered on.

The menu options in the instruction are not identical for ÄKTA pure and ÄKTA avant, but it is the same principle in both systems.

Step	Action
1	• On the ***Tools*** menu in the ***Administration*** module, click ***System Properties*** or click the ***System Properties*** icon to open the dialog. *Result:* The ***System Properties*** dialog is displayed. • Select the system of interest in the ***System Properties*** dialog. • Click ***Edit***. ***Note:*** *Only active systems can be edited.* *Result:* The ***Edit*** dialog is displayed. The ÄKTA pure dialog is shown in the example below. 

Step	Action
2	• Select ***Valves*** from the ***Component types*** list. *Result:* All available valves are shown in the ***Component selection*** list. • Click the ***Loop valve (V9-L)*** (or ***Loop valve (V9H-L)***) checkbox. ***Note:*** *Instrument modules are referred to as* ***Components*** *in UNICORN.*
3	Click ***OK*** to apply the changes.

Connect tubing

The tables below show recommended tubing and connectors.

ÄKTA pure 25 and ÄKTA avant 25

Connection between...	Tubing label	Tubing	Connector	Tubing length (mm)
Injection valve position **LoopF** and Loop valve position **F**	**L1**	PEEK, o.d. 1/16", i.d. 0.50 mm (orange)	Fingertight connector, 1/16"	160
Injection valve position **LoopE** and Loop valve position **E**	**L2**	PEEK, o.d. 1/16", i.d. 0.50 mm (orange)	Fingertight connector, 1/16"	160

ÄKTA pure 150

Connection between...	Tubing label	Tubing	Connector	Tubing length (mm)
Injection valve position **LoopF** and Loop valve position **F**	**L1**	PEEK, o.d. 1/16", i.d. 0.75 mm (green)	Fingertight connector, 1/16"	160
Injection valve position **LoopE** and Loop valve position **E**	**L2**	PEEK, o.d. 1/16", i.d. 0.75 mm (green)	Fingertight connector, 1/16"	160

ÄKTA avant 150

Connection between...	Tubing label	Tubing	Connector	Tubing length (mm)
Injection valve position **LoopF** and Loop valve position **F**	**L1**	PEEK, o.d. 1/16", i.d. 1.00 mm (beige)	Fingertight connector, 1/16"	160
Injection valve position **LoopE** and Loop valve position **E**	**L2**	PEEK, o.d. 1/16", i.d. 1.00 mm (beige)	Fingertight connector, 1/16"	160

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