



# **Technical Note for Preparative Flow Cells (G1315C/D DAD / G1365C/D MWD)**

This note describes the prep flow cells for Agilent 1200 Infinity diode array detector (G1315C/D) and multiple wavelength detector (G1365C/D).

## Flow Cells for Preparative HPLC

Table 1 Flow Cells for Preparative HPLC

Options for G1315C/D DAD and G1365C/D MWD	DAD/ MWD preparative flow cells		
	#022	#024	#026
Part Number	G1315-60016	G1315-60017	G1315-60018
Path length	3.0 mm	0.3 mm	0.06 mm
Cell body	SST	Quartz	Quartz
Capillary connections	0.5 mm SST	0.8 mm PTFE	0.8 mm PTFE
Cell volume	4 $\mu$ l	Not applicable (bypass design)	Not applicable (bypass design)
Maximum pressure	120 bar (12 MPa)	20 bar (2 MPa)	20 bar (2 MPa)
Maximum flow rate	100 mL/min	100 mL/min	100 mL/min
Typical Noise at 10 ml/min MeOH, @254 nm, Temperature: ambient, restriction capillary: 01048-87302	$5 \times 10^{-4}$	$5 \times 10^{-4}$	$5 \times 10^{-4}$

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## Parts Identification

- “Special Accessories” on page 3,
- “Prep Flow Cells - Quartz” on page 5,
- “Prep Flow Cell - SST” on page 8.

### Special Accessories

The tools below mentioned tools may be helpful for your work with the preparative flow cells.

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Table 2                      Special Accessories

Description	Part Number
Plastic tubing cutter, see Figure 1	8710-1930
Back pressure regulator, see Figure 1 keeps the system pressure at 100 psi, used for low flow rates to remove air bubbles from the flow cell (e.g. MeOH/H <sub>2</sub> O gradients). Comes with two 50 cm PTFE tubings, 1/16" o.d. and 0.8 mm i.d. and fittings	5042-6443

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Figure 1 Special Accessories

Plastic tubing cutter



Back pressure regulator



## Prep Flow Cells - Quartz

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**NOTE** The flow cell comes with two tubings 0.8 mm i.d. and one 0.5 mm i.d. so that the combination at the flow cell could be either 0.8/0.8 or 0.5/0.8 (inlet/outlet)

Standard is 0.8/0.8. Depending on the system pressure (< 30 ml/min) or bandbroadening, the inlet tubing might be changed to 0.5 mm.

Use the plastic tubing cutter, described under “Special Accessories” on page 3, to shorten the tubings as needed.

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Table 3 Prep Flow Cells - Quartz

Item	Description	Part Number
	Prep Flow Cell Quartz, 0.3 mm, 2 MPa completely assembled, includes all items below	G1315-60017
	Prep Flow Cell Quartz, 0.06 mm, 2 MPa completely assembled, includes all items below	G1315-60018
	Prep Cell Connection Kit, includes items a-d	G1315-68000
a	Nut Flangeless ESD 1/4-28 for 1/16 OD (Qty=2)	5023-2268
b	Union Flat-Bottom ESD 1/4-28 (Qty=1)	5023-2508
c, 2	Fitting Fingertight ESD for 1/16 OD (Qty=2)	5023-2270
d	Ferrule Flangeless ESD for 1/16 OD (Qty=2)	5023-2269

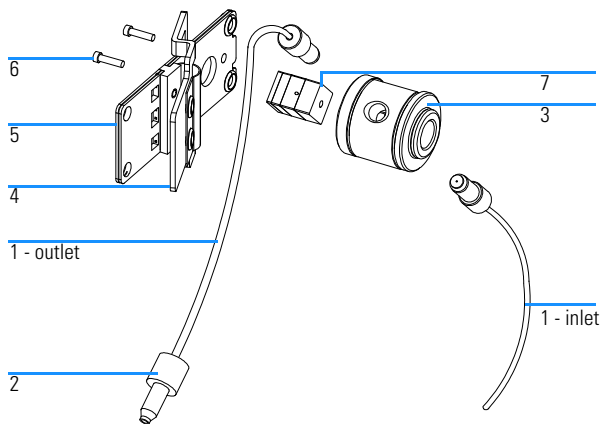
## Parts Identification

Table 3      Prep Flow Cells - Quartz (Continued)

Item	Description	Part Number
1	Outlet PTFE-ESD tubing 2 m length, 0.8 mm i.d., o.d. 1.6 mm with fittings for flow cell assembled (see note on page 5)	G1315-67305
1	Outlet PTFE-ESD tubing 80 cm length, 0.5 mm i.d., o.d. 1.6 mm with fittings for flow cell assembled (see note on page 5)	G1315-67306
2	Fitting Fingertight ESD for 1/16 OD	5023-2270
3	Cell housing	G1315-27705
4	Handle for clamp unit	G1315-84902
5	Clamp unit	G1315-84901
6	Screw M 2.5, 4 mm lg for cell body/clamp	0515-1056
7	Quartz body - Prep Cell 0.3 mm	G1315-80004
7	Quartz body - Prep Cell 0.06 mm	G1315-80003
	Grounding Spring	G1315-20004

## Parts Identification

Figure 2      Prep Flow Cell - Quartz



## Prep Flow Cell - SST

Table 4          Prep Flow Cells - SST

Item	Description	Part Number
	Prep Flow Cell SST - 3 mm, 12 MPa completely assembled, includes all items below	G1315-60016
1	Window screw	79883-22402
2	Spring washers, pack of 10	5062-8553
3	Compression washer	79883-28801
4	Window holder	79883-22301
5	Quartz window	1000-0488
6	Gasket BACK (FEP Teflon), 2.3 mm hole, outlet side Seal kit BACK for STD flow cell, qty=12	G1315-68711
7	Gasket FRONT (FEP Teflon), 1.3 mm hole, inlet side Seal kit FRONT for STD flow cell, qty=12	G1315-68710
8	Window assembly, comprises item 1, 2, 3, 4, 5	No part number
	Window screw kit, includes 2 quartz windows, 2 compression washers, 2 window holders, 2 window screws and 10 spring washers	79883-68703
	Cell repair kit semi-micro, includes window screw kit, 4 mm hexagonal wrench and seal kits	G1315-68713
9	Capillary SST, 250 mm length, 0.5 mm i.d., o.D. 0.9 mm	G1315-87305
9a	with fittings for flow cell assembled Fitting FRONT, Fitting BACK, Fitting 1/16", re-order 10/pk	5062-2418



## Parts Identification

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Table 4      Prep Flow Cells - SST (Continued)

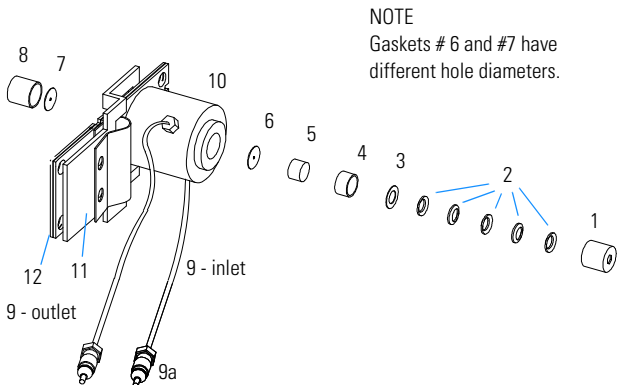
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Item	Description	Part Number
10	Cell body	G1315-27706
11	Handle for clamp unit	G1315-84901
12	Clamp unit	G1315-84902
13	Screw M 2.5, 4 mm lg for cell body/clamp	0515-1056

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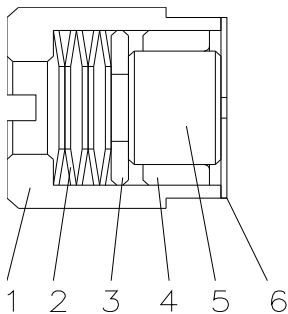
## Parts Identification

Figure 3 Prep Flow Cell - SST



## Details of Window Assembly

- 1 - window screw
- 2 - spring washers
- 3 - compression washer
- 4 - window holder
- 5 - quartz window
- 6 - Gasket

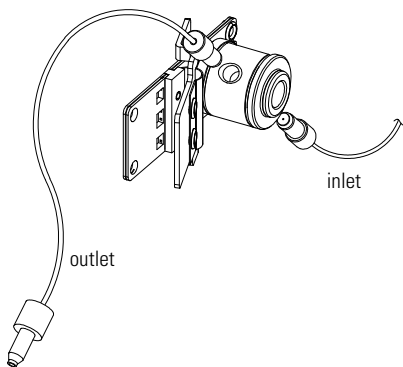


## Replacing or Cleaning Parts on the Quartz Prep Cells

**NOTE** The quartz block can be cleaned with alcohol. **DO NOT** touch the inlet and outlet windows at the quartz block.

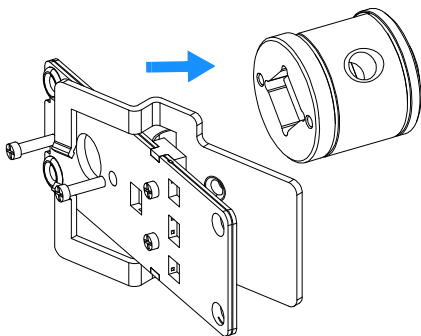
**1** Remove the flow cell from the detector's flow cell compartment by pressing the clamp.

**2** Unscrew the tubings from the flow cell.

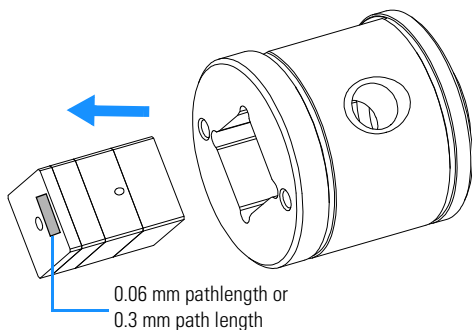


## Replacing or Cleaning Parts on the Quartz Prep Cells

**3** Unscrew the cell body from the holder.

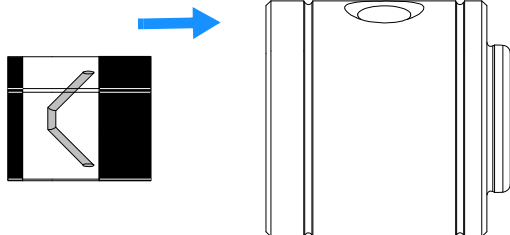


**4** Using for example a toothpick, press on the plastic part and slide the quartz body out of the cell housing.

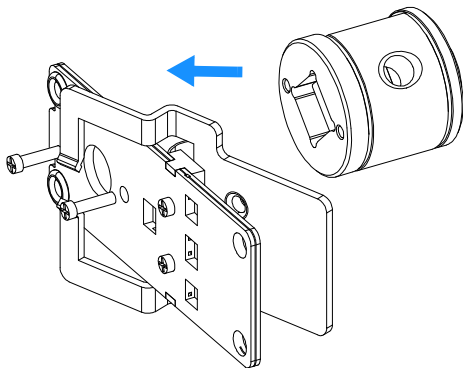


## Replacing or Cleaning Parts on the Quartz Prep Cells

- 5** Slide the quartz body completely into the cell body to the front stop (use for example a toothpick). Ensure, the orientation of the quartz block vs cell body is as shown below.



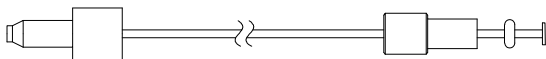
- 6** Reassemble the flow cell body to the holder.



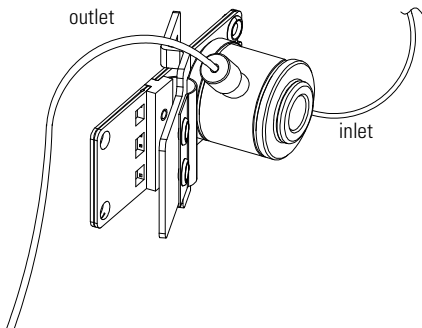
## Replacing or Cleaning Parts on the Quartz Prep Cells

**7** The flow cell comes with two tubings 0.8 mm i.d. and one 0.5 mm i.d. so that the combination at the flow cell could be either 0.8/0.8 or 0.5/0.8 (inlet/outlet). See note on page 7 for additional information.

flow cell side



**8** Refit the tubings to the flow cell.



**9** Re-install the flow cell and connect the tubings.

**Remove the flow cell and perform a leak test.**

**If no leak is observed, install the flow cell and you are ready to work.**

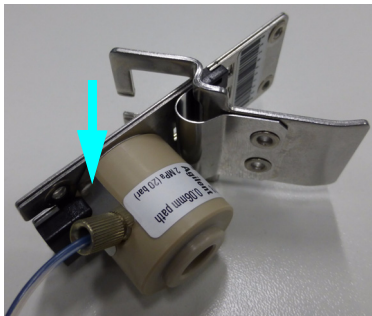
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## **Replacing or Cleaning Parts on SST Prep Cell**

Please refer for this procedure to the *1100/1200 Series Diode Array Detector User Manual*, section “*Repairing the Standard or Semi-Micro Flow Cell*” and use the parts listed in “*Prep Flow Cell - SST*” on page 8.

## Grounding of ESD Tubings

Quartz Prep Cells introduced 11/2014 include a grounding clamp that connects the ESD Outlet Tubing Fitting with the grounding of the detector (optical unit).



## Upgrading old Quartz Prep Cells

If an existing Quartz Prep Cells does not have the Grounding Spring and the ESD grounding feature is required, the Grounding Spring, ESD parts (Tubings and Prep Cell Connection Kit) mentioned in Table 3 are required.

The Grounding Spring can be added by inserting it between the cell body and the cell clamp.

