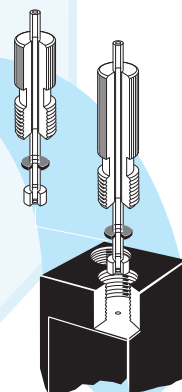


Advantages of Starna® Type 583, 584, 576, 577 & 585 series flow cells

(for 576, 577 & 583 see page 20)

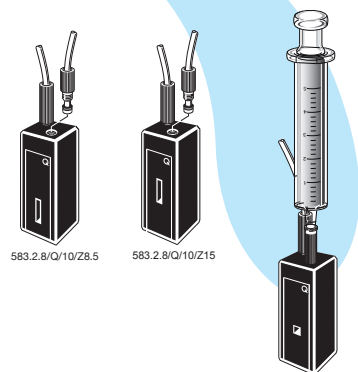
- Fully fused body, accurately located in precisely formed extruded CNC drilled enclosure.
- Superior design, firm and accurate positioning of screw-in M6 gripper fittings with PTFE tubing, without reliance on the shear strength of intermediate bonding material.
- Polished top surface of the cell creates a positive seal with the PTFE face of the M6 gripper fitting, (see illustration), ensures a leak proof seal without dislodging the cell body or damaging the cell surface.
- A gap of ≈300 microns between the top of the cell body and the enclosure allows confirmation of a positive seal before use.
- Internally profiled inlet and outlet to each sample chamber optimises flow characteristic and performance, providing a smooth laminar flow wherever possible and reduces bubble retention.
- All cells are pressure tested to more than 5 bar after final assembly.
- Each cell is engraved with the path length and a unique identifying number, for full traceability throughout the manufacturing process.
- Cells with path lengths of less than 0.5mm or less are checked on a reference spectrophotometer before and after final assembly using an interference method. The path length is determined to an uncertainty better than 0.2 microns (0.0002mm). Path lengths of 0.5mm or greater are verified by physical measurement during the production processes.
- Flanged fittings, FEP tubing, and special adaptors Type TJ/G/038 for use with normal silicone tubing are available, see page 29.
- Short path length flow cells may be used as static short path length using a syringe and luer lock adaptor (see illustration).



Type 583.2.8 Flow cells. Dissolution. Micro aperture

- Two polished windows.
- M6 Screw-in connections.
- Profiled sample compartment to optimise flow characteristics, reduces carry-over and bubble retention.

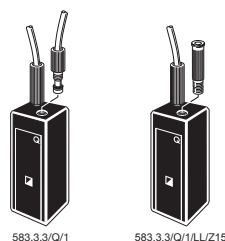
Type No.	Window Material	Path Length	Z Height	Internal W	Internal H	External L	External W	External H	Nominal Vol. ml
583.2.8	Q	10	8.5, 15	2	8	12.5	12.5	35	0.160



Type 583.3.3. Flow cells. Sub-micro. Small aperture

- Two polished windows.
- Overflow tube attached to outlet side of cell.
- M6 fittings as described, included with cell.
- Also designed for use with luer lock fitting and syringe for introduction and extraction of sample.

Type No.	Window Materials	Path Length	Z Height	Internal W	Internal H	External W	External H	Nominal Vol. ml
583.3.3	Q	1	15	3	3	12.5	35	0.009
583.3.3	Q	2	15	3	3	12.5	35	0.018
583.3.3	Q	5	15	3	3	12.5	35	0.045

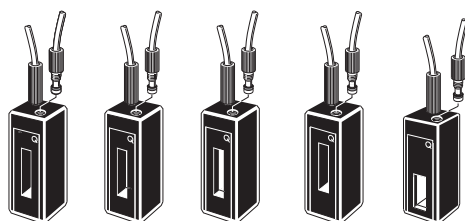


Z Dimension per instrument

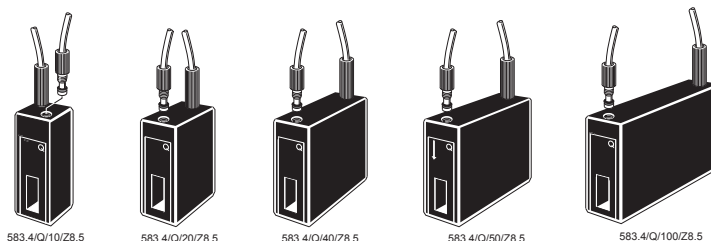
Manufacturer	Z Dimension
Agilent®	15mm
Beckman®	8.5mm
Bio-Rad®	8.5mm
Eppendorf®	8.5mm
GBC®	15mm
Hewlett-Packard®	15mm
Hitachi®	8.5mm
Jasco®	12mm
Perkin-Elmer®	15mm
Pharmacia®	15mm
Scinco®	15mm
Shimadzu®	15mm
Spectronics®	8.5mm
Turner®	8.5mm
Varian® (Cary®/Agilent®)	20mm

Type 583.4 & 583.4.14 Flow cells. Dissolution. Medium Aperture

- Two polished windows.
- M6 Screw-in connections.
- Profiled sample compartment to optimise flow characteristics, reduces carry-over and bubble retention.



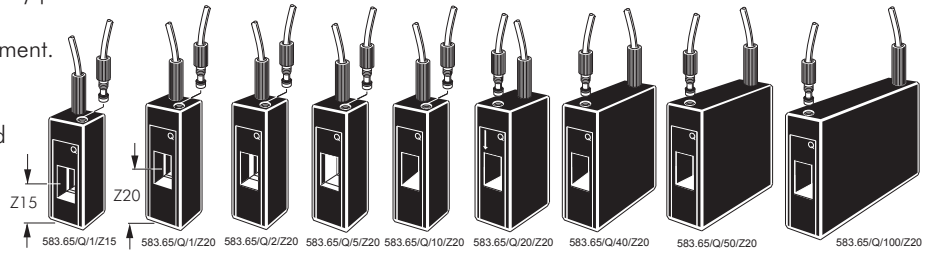
Type No.	Window Materials	Path Length	Z Height	Internal W	Internal H	External W	External H	Nominal Vol. ml
583.4.14	Q	1	15, 20	4	14	12.5	35	0.056
583.4.14	Q	2	15, 20	4	14	12.5	35	0.112
583.4.14	Q	5	15, 20	4	14	12.5	35	0.280
583.4.14	Q	10	15, 20	4	14	12.5	35	0.560
583.4	Q	5	8.5, 15, 20	4	11	12.5	35	0.225
583.4	Q	10	8.5, 15, 20	4	11	12.5	35	0.450
583.4	Q	20	8.5, 15, 20	4	11	12.5	35	0.900
583.4	Q	40	8.5, 15, 20	4	11	12.5	35	1.800
583.4	Q	50	8.5, 15, 20	4	11	12.5	35	2.250
583.4	Q	100	8.5, 15, 20	4	11	12.5	35	4.500



G = Optical Glass 334-2500nm SOG = Special Optical Glass 320-2500nm PX = Borosilicate 325-2500nm HH = UV Silica 220-2500nm
 Q = Far UV Quartz 170-2700nm I = Near Infra-Red Quartz 220-3800nm SX = Far UV to Near IR Quartz (Water free) 170-3500nm

Type 583.65 Flow cells. Dissolution. Wide aperture

- Two polished windows.
- Cells with a Z height of 20mm have overall an height of 40mm.
- Path lengths of 0.5mm or less incorporate by-pass tubes to avoid back pressure and assist laminar flow through the sample compartment.
- M6 Screw-in connections.
- Profiled sample compartment to optimise flow characteristics, reduce carry-over and bubble retention.



Type No.	Window Material	Path Length	Z Height	Internal		External			Nominal Vol. ml
				W	H	L	W	H	
583.65	Q	0.1	15, 20	6.5	11	12.5	12.5	35	0.029
583.65	Q	0.2	15, 20	6.5	11	12.5	12.5	35	0.036
583.65	Q	0.5	15, 20	6.5	11	12.5	12.5	35	0.072
583.65	Q	1	15, 20	6.5	11	12.5	12.5	35	0.072
583.65	Q	2	15, 20	6.5	11	12.5	12.5	35	0.290
583.65	Q	5	15, 20	6.5	11	12.5	12.5	35	0.360
583.65	Q	10	15, 20	6.5	11	12.5	12.5	35	0.720
583.65	Q	20	15, 20	6.5	11	22.5	12.5	35	1.400
583.65	Q	40	15, 20	6.5	11	42.5	12.5	35	2.900
583.65	Q	50	15, 20	6.5	11	52.5	12.5	35	3.600
583.65	Q	100	15, 20	6.5	11	102.5	12.5	35	7.200



Type 583.65.65 Flow cells. Dissolution. Wide square aperture

- Two polished windows.
- Cells with a Z height of 20mm have overall an height of 40mm.
- M6 Screw-in connections.
- Profiled sample compartment to optimise flow characteristics, reduces carry over and bubble retention.
- Aperture with reduced height and volume for specific instruments such as Agilent 8453 and Varian Cary 50.

Type No.	Window Material	Path Length	Z Height	Internal		External			Nominal Vol. ml
				W	H	L	W	H	
583.65.65	Q	1	15, 20*	6.5	6.5	12.5	12.5	35	0.076
583.65.65	Q	2	15, 20*	6.5	6.5	12.5	12.5	35	0.160
583.65.65	Q	5	15, 20*	6.5	6.5	12.5	12.5	35	0.210
583.65.65	Q	10	15, 20*	6.5	6.5	12.5	12.5	35	0.420

* When Z height is 20mm, external height is 40mm



Type 584.4 Flow cells. Dissolution. Short path length, long aperture

- Two polished windows.
- Long aperture.
- Path lengths of 0.5mm or less incorporate by-pass tubes to avoid back pressure and assist laminar flow through the sample compartment.
- M6 Screw-in connections.
- Profiled sample compartment to optimise flow characteristics, reduces carry over and bubble retention.

Type No.	Window Material	Path Length	Z Height	Internal W	Internal H	External			Nominal Vol. ml
						L	W	H	
584.4	Q	0.01	8.5, 15, 20*	4	17.5	12.5	12.5	35	0.036
584.4	Q	0.05	8.5, 15, 20*	4	17.5	12.5	12.5	35	0.039
584.4	Q	0.1	8.5, 15, 20*	4	17.5	12.5	12.5	35	0.041
584.4	Q	0.2	8.5, 15, 20*	4	17.5	12.5	12.5	35	0.047
584.4	Q	0.5	8.5, 15, 20*	4	17.5	12.5	12.5	35	0.095
584.4	Q	1	8.5, 15, 20*	4	17.5	12.5	12.5	35	0.120
584.4	Q	2	8.5, 15, 20*	4	17.5	12.5	12.5	35	0.240

* When Z height is 20mm, external height is 40mm

