

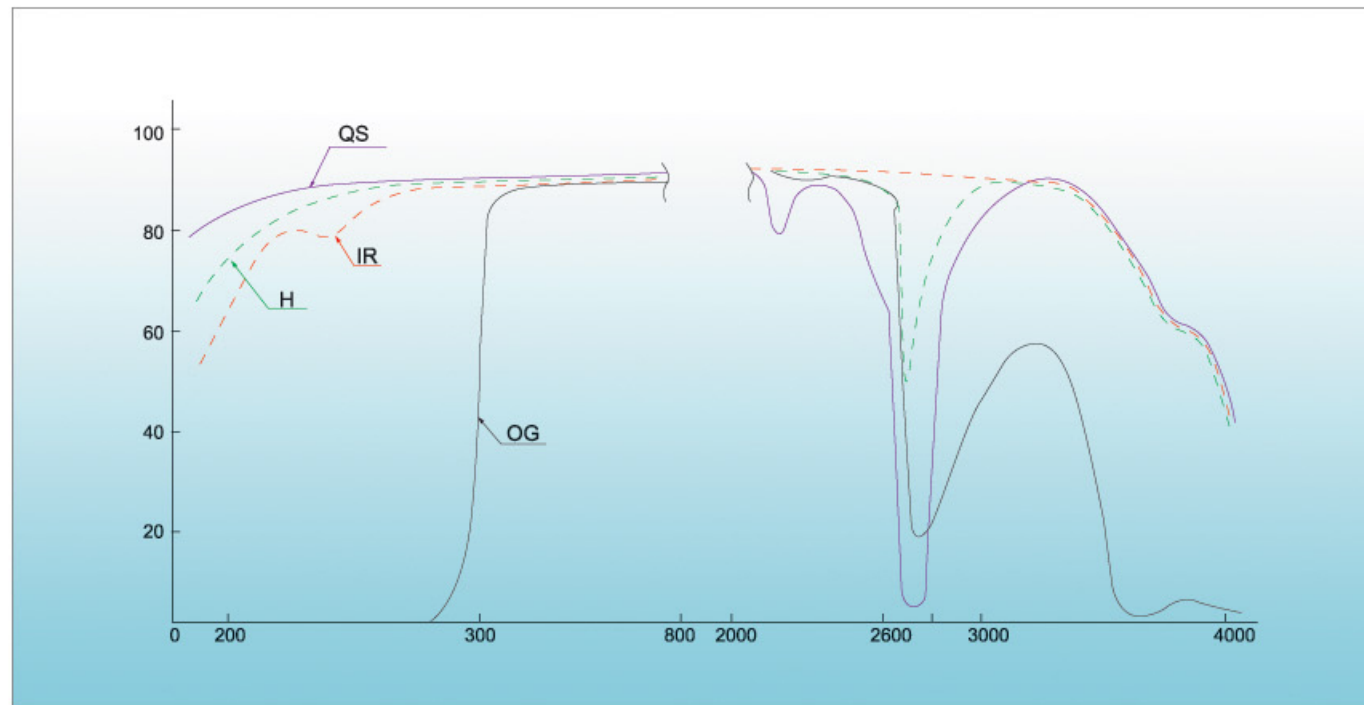
## Material

**T**ransmission values on empty cells and deviations in a matching set

Material	Code	Transmission on Empty Cell	Deviation in Matching
Optical Glass	OG	at 350nm approx.82%	at 350nm max.0.5%
UV Quartz Glass	H	at 220nm approx.80%	at 220nm max.0.5%
ES Quarts Glass	QS	at 200nm approx.88%	at 200nm max.0.5%
IR Quarts Glass	IR	at 2730nm approx.88%	at 2730nm max.0.5%

## Transmission Chart

- Thickness 1.25mmX 2
- Including surface reflection losses



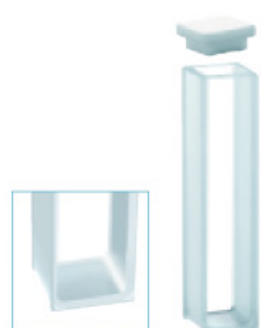
## Z Dimension (Zd)




The Z dimension is the height from the bottom of the cell to the center of its sample chamber. In case of using a small volume cell in a spectrophotometer or fluorimeter, the Z dimension of the cell should be the same as the height of the instrument's light beam. The height of the light beam is usually 8.5mm or 15mm, depending on the manufacturer. When ordering a cell which has more than one Z dimension available, it is necessary to specify the required Z dimension.

Picture	Outside Dim H × W × D	Path Length	Inner Length	VOL	Product Numbet		
					ES Quartz Glass	IR Quartz Glass	Optical Glass
	mm	mm	mm	ml	190nm-2500nm	250nm-3500nm	340nm-2500nm


#### Standard cell with lid, sharp corners

	45 × 12.5 × 3.5	1	10	0.35	QS-1	IR-1	OG-1
	45 × 12.5 × 4.5	2		0.70	QS-2	IR-2	OG-2
	45 × 12.5 × 7.5	5		1.70	QS-3	IR-3	OG-3
	45 × 12.5 × 12.5	10		3.50	QS-4	IR-4	OG-4
	45 × 12.5 × 22.5	20		7.00	QS-5	IR-5	OG-5
	45 × 12.5 × 32.5	30		10.50	QS-6	IR-6	OG-6
	45 × 12.5 × 42.5	40		14.00	QS-7	IR-7	OG-7
	45 × 12.5 × 52.5	50		17.50	QS-8	IR-8	OG-8
	45 × 12.5 × 102.5	100		35.00	QS-9	IR-9	OG-9


#### Standard cell with lid round corners

	45 × 12.5 × 3.5	1	10	0.35	QS-101	IR-101	OG-101
	45 × 12.5 × 4.5	2		0.70	QS-102	IR-102	OG-102
	45 × 12.5 × 7.5	5		1.70	QS-103	IR-103	OG-103
	45 × 12.5 × 12.5	10		3.50	QS-104	IR-104	OG-104
	45 × 12.5 × 22.5	20		7.00	QS-105	IR-105	OG-105
	45 × 12.5 × 32.5	30		10.50	QS-106	IR-106	OG-106
	45 × 12.5 × 42.5	40		14.00	QS-107	IR-107	OG-107
	45 × 12.5 × 52.5	50		17.50	QS-108	IR-108	OG-108
	45 × 12.5 × 102.5	100		35.50	QS-109	IR-109	OG-109

#### Standard cell with teflon stopper


	45 × 12.5 × 7.5	5	10	1.70	QS-13	IR-13	OG-13
	45 × 12.5 × 12.5	10		3.50	QS-14	IR-14	OG-14
	45 × 12.5 × 22.5	20		7.00	QS-15	IR-15	OG-15
	45 × 12.5 × 32.5	30		10.50	QS-16	IR-16	OG-16
	45 × 12.5 × 42.5	40		14.00	QS-17	IR-17	OG-17
	45 × 12.5 × 52.5	50		17.50	QS-18	IR-18	OG-18
	45 × 12.5 × 102.5	100		35.00	QS-19	IR-19	OG-19

#### Standard cell with teflon stopper but round bottom


	48 × 12.5 × 7.5	5	10	1.70	QS-113	IR-113	OG-113
	48 × 12.5 × 12.5	10		3.50	QS-114	IR-114	OG-114
	48 × 12.5 × 22.5	20		7.00	QS-115	IR-115	OG-115
	48 × 12.5 × 32.5	30		10.50	QS-116	IR-116	OG-116
	48 × 12.5 × 42.5	40		14.00	QS-117	IR-117	OG-117
	48 × 12.5 × 52.5	50		17.50	QS-118	IR-118	OG-118
	48 × 12.5 × 102.5	100		35.00	QS-119	IR-119	OG-119

Picture	Outside Dim H × W × D	Path Length	Inner Length	VOL	Product Numbet		
					ES Quartz Glass	IR Quartz Glass	Optical Glass
	mm	mm	mm	ml	190nm-2500nm	250nm-3500nm	340nm-2500nm


#### Standard cell with lid and level bottom

	45 × 12.5 × 3.5	1	10	0.35	QS-401	IR-401	OG-401
	45 × 12.5 × 4.5	2		0.70	QS-402	IR-402	OG-402
	45 × 12.5 × 7.5	5		1.70	QS-403	IR-403	OG-403
	45 × 12.5 × 12.5	10		3.50	QS-404	IR-404	OG-404
	45 × 12.5 × 22.5	20		7.00	QS-405	IR-405	OG-405
	45 × 12.5 × 32.5	30		10.50	QS-406	IR-406	OG-406
	45 × 12.5 × 42.5	40		14.00	QS-407	IR-407	OG-407
	45 × 12.5 × 52.5	50		17.50	QS-408	IR-408	OG-408
	45 × 12.5 × 102.5	100		35.50	QS-409	IR-409	OG-409

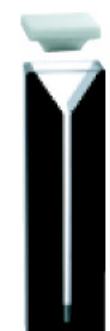
#### Standard fluoromete cell with lid

	45 × 12.5 × 7.5	5	10	1.70	QS-203	IR-203	OG-203
	45 × 12.5 × 12.5	10		3.50	QS-204	IR-204	OG-204
	45 × 12.5 × 22.5	20		7.00	QS-205	IR-205	OG-205
	45 × 12.5 × 32.5	30		10.50	QS-206	IR-206	OG-206
	45 × 12.5 × 42.5	40		14.00	QS-207	IR-207	OG-207
	45 × 12.5 × 52.5	50		17.50	QS-208	IR-208	OG-208

#### Standard fluoromete cell with teflon stopper

	48 × 12.5 × 7.5	5	10	1.70	QS-213	IR-213	OG-213
	48 × 12.5 × 12.5	10		3.50	QS-214	IR-214	OG-214
	48 × 12.5 × 22.5	20		7.00	QS-215	IR-215	OG-215
	48 × 12.5 × 32.5	30		10.50	QS-216	IR-216	OG-216
	48 × 12.5 × 42.5	40		14.00	QS-217	IR-217	OG-217
	48 × 12.5 × 52.5	50		17.50	QS-218	IR-218	OG-218

#### Micro cell with black walls and with lid

	45 × 12.5 × 7.5	5	1	0.17	QS-123	IR-123	OG-123
	45 × 12.5 × 12.5	10		0.35	QS-124	IR-124	OG-124
	45 × 12.5 × 22.5	20		0.70	QS-125	IR-125	OG-125
	45 × 12.5 × 32.5	30		1.00	QS-126	IR-126	OG-126
	45 × 12.5 × 42.5	40		1.40	QS-127	IR-127	OG-127
	45 × 12.5 × 52.5	50		1.75	QS-128	IR-128	OG-128

Picture	Outside Dim H × W × D mm	Path Length mm	Inner Length mm	VOL ml	Product Number		
					ES Quartz Glass	IR Quartz Glass	Optical Glass
					190nm-2500nm	250nm-3500nm	340nm-2500nm

Micro cell with black walls and lid



45 × 12.5 × 7.5	5	2	0.35	QS-43	IR-43	OG-43
45 × 12.5 × 12.5	10		0.70	QS-44	IR-44	OG-44
45 × 12.5 × 22.5	20		1.40	QS-45	IR-45	OG-45
45 × 12.5 × 32.5	30		2.10	QS-46	IR-46	OG-46
45 × 12.5 × 42.5	40		2.80	QS-47	IR-47	OG-47
45 × 12.5 × 52.5	50		3.50	QS-48	IR-48	OG-48

Micro cell with black walls and with lid



45 × 12.5 × 7.5	5	3	0.50	QS-133	IR-133	OG-133
45 × 12.5 × 12.5	10		1.00	QS-134	IR-134	OG-134
45 × 12.5 × 22.5	20		2.10	QS-135	IR-135	OG-135
45 × 12.5 × 32.5	30		3.15	QS-136	IR-136	OG-136
45 × 12.5 × 42.5	40		4.20	QS-137	IR-137	OG-137
45 × 12.5 × 52.5	50		5.25	QS-138	IR-138	OG-138

Semi-Micro cell with black walls and lid



45 × 12.5 × 7.5	5	4	0.70	QS-23	IR-23	OG-23
45 × 12.5 × 12.5	10		1.40	QS-24	IR-24	OG-24
45 × 12.5 × 22.5	20		2.80	QS-25	IR-25	OG-25
45 × 12.5 × 32.5	30		4.20	QS-26	IR-26	OG-26
45 × 12.5 × 42.5	40		5.60	QS-27	IR-27	OG-27
45 × 12.5 × 52.5	50		7.00	QS-28	IR-28	OG-28

Semi-Micro cell with black walls and with lid



45 × 12.5 × 7.5	5	5	0.85	QS-143	IR-143	OG-143
45 × 12.5 × 12.5	10		1.75	QS-144	IR-144	OG-144
45 × 12.5 × 22.5	20		3.50	QS-145	IR-145	OG-145
45 × 12.5 × 32.5	30		5.25	QS-146	IR-146	OG-146
45 × 12.5 × 42.5	40		7.00	QS-147	IR-147	OG-147
45 × 12.5 × 52.5	50		8.75	QS-148	IR-148	OG-148

Picture	Outside Dim H × W × D mm	Path Length mm	Inner Length mm	VOL ml	Product Number		
					ES Quartz Glass	IR Quartz Glass	Optical Glass
					190nm-2500nm	250nm-3500nm	340nm-2500nm

Micro cell with black walls and teflon stopper



45 × 12.5 × 7.5	5	2	0.35	QS-53	IR-53	OG-53
45 × 12.5 × 12.5	10		0.70	QS-54	IR-54	OG-54
45 × 12.5 × 22.5	20		1.40	QS-55	IR-55	OG-55
45 × 12.5 × 32.5	30		2.10	QS-56	IR-56	OG-56
45 × 12.5 × 42.5	40		2.80	QS-57	IR-57	OG-57
45 × 12.5 × 52.5	50		3.50	QS-58	IR-58	OG-58

Semi-Micro cell with black walls and teflon stopper



45 × 12.5 × 7.5	5	4	0.70	QS-33	IR-33	OG-33
45 × 12.5 × 12.5	10		1.40	QS-34	IR-34	OG-34
45 × 12.5 × 22.5	20		2.80	QS-35	IR-35	OG-35
45 × 12.5 × 32.5	30		4.20	QS-36	IR-36	OG-36
45 × 12.5 × 42.5	40		5.60	QS-37	IR-37	OG-37
45 × 12.5 × 52.5	50		7.00	QS-38	IR-38	OG-38

Micro cell with frosted walls and lid



45 × 12.5 × 7.5	5	1	0.17	QS-233	IR-233	OG-233
45 × 12.5 × 12.5	10		0.35	QS-234	IR-234	OG-234
45 × 12.5 × 22.5	20		0.70	QS-235	IR-235	OG-235
45 × 12.5 × 32.5	30		1.00	QS-236	IR-236	OG-236
45 × 12.5 × 42.5	40		1.40	QS-237	IR-237	OG-237
45 × 12.5 × 52.5	50		1.75	QS-238	IR-238	OG-238

Micro cell with frosted walls and with lid



45 × 12.5 × 7.5	5	2	0.35	QS-243	IR-243	OG-243
45 × 12.5 × 12.5	10		0.70	QS-244	IR-244	OG-244
45 × 12.5 × 22.5	20		1.40	QS-245	IR-245	OG-245
45 × 12.5 × 32.5	30		2.10	QS-246	IR-246	OG-246
45 × 12.5 × 42.5	40		2.80	QS-247	IR-247	OG-247
45 × 12.5 × 52.5	50		3.50	QS-248	IR-248	OG-248

Picture	Outside Dim H × W × D mm	Path Length mm	Inner Length mm	VOL ml	Product Number		
					ES Quartz Glass	IR Quartz Glass	Optical Glass
					190nm-2500nm	250nm-3500nm	340nm-2500nm

Micro cell with frosted walls and with lid



45 × 12.5 × 7.5	5	3	0.50	QS-253	IR-253	OG-253
45 × 12.5 × 12.5	10		1.00	QS-254	IR-254	OG-254
45 × 12.5 × 22.5	20		2.10	QS-255	IR-255	OG-255
45 × 12.5 × 32.5	30		3.15	QS-256	IR-256	OG-256
45 × 12.5 × 42.5	40		4.20	QS-257	IR-257	OG-257
45 × 12.5 × 52.5	50		5.25	QS-258	IR-258	OG-258

Semi-Micro cell with frosted walls and with lid



45 × 12.5 × 7.5	5	4	0.70	QS-263	IR-263	OG-263
45 × 12.5 × 12.5	10		1.40	QS-264	IR-264	OG-264
45 × 12.5 × 22.5	20		2.80	QS-265	IR-265	OG-265
45 × 12.5 × 32.5	30		4.20	QS-266	IR-266	OG-266
45 × 12.5 × 42.5	40		5.60	QS-267	IR-267	OG-267
45 × 12.5 × 52.5	50		7.00	QS-268	IR-268	OG-268

Semi-Micro cell with frosted walls and with lid



45 × 12.5 × 7.5	5	5	0.85	QS-273	IR-273	OG-273
45 × 12.5 × 12.5	10		1.70	QS-274	IR-274	OG-274
45 × 12.5 × 22.5	20		3.50	QS-275	IR-275	OG-275
45 × 12.5 × 32.5	30		5.20	QS-276	IR-276	OG-276
45 × 12.5 × 42.5	40		7.00	QS-277	IR-277	OG-277
45 × 12.5 × 52.5	50		8.75	QS-278	IR-278	OG-278

Micro cell with frosted walls and with stopper



45 × 12.5 × 7.5	5	2	0.35	QS-283	IR-283	OG-283
45 × 12.5 × 12.5	10		0.70	QS-284	IR-284	OG-284
45 × 12.5 × 22.5	20		1.40	QS-285	IR-285	OG-285
45 × 12.5 × 32.5	30		2.10	QS-286	IR-296	OG-286
45 × 12.5 × 42.5	40		2.80	QS-287	IR-287	OG-287
45 × 12.5 × 52.5	50		3.50	QS-288	IR-288	OG-288

Picture	Outside Dim H × W × D mm	Path Length mm	Inner Length mm	VOL ml	Product Number		
					ES Quartz Glass	IR Quartz Glass	Optical Glass
					190nm-2500nm	250nm-3500nm	340nm-2500nm

Semi-Micro cell with frosted walls and with stopper



45 × 12.5 × 7.5	5	4	0.70	QS-293	IR-293	OG-293
45 × 12.5 × 12.5	10		1.40	QS-294	IR-294	OG-294
45 × 12.5 × 22.5	20		2.80	QS-295	IR-295	OG-295
45 × 12.5 × 32.5	30		4.20	QS-296	IR-296	OG-296
45 × 12.5 × 42.5	40		5.60	QS-297	IR-297	OG-297
45 × 12.5 × 52.5	50		7.00	QS-298	IR-298	OG-298

Self masking continuous flow through cell



45 × 12.5 × 7.5	5	ø3	0.40	QS-63	IR-63	OG-63
45 × 12.5 × 12.5	10		0.70	QS-64	IR-64	OG-64
45 × 12.5 × 22.5	20		0.14	QS-65	IR-65	OG-65
45 × 12.5 × 32.5	30		0.21	QS-66	IR-66	OG-66
45 × 12.5 × 7.5	5	ø2	0.02	QS-67	IR-67	OG-67
45 × 12.5 × 12.5	10		0.03	QS-68	IR-68	OG-68
45 × 12.5 × 22.5	20		0.06	QS-69	IR-69	OG-69
45 × 12.5 × 12.5	10	ø1.5	0.02	QS-70	IR-70	OG-70

Self masking continuous flowthrough cell



45 × 12.5 × 7.5	5	4 × 12	0.24	QS-73	IR-73	OG-73
45 × 12.5 × 12.5	10		0.48	QS-74	IR-74	OG-74
45 × 12.5 × 22.5	20		1.00	QS-75	IR-75	OG-75
45 × 12.5 × 32.5	30		1.50	QS-76	IR-76	OG-76

Self masking continuous flowthrough cell



45 × 12.5 × 12.5	10	ø1	0.01	QS-154	IR-154	OG-154
45 × 12.5 × 22.5	20		0.02	QS-155	IR-155	OG-155
45 × 12.5 × 32.5	30		0.03	QS-156	IR-156	OG-156
45 × 12.5 × 12.5	10	ø1.5	0.02	QS-164	IR-164	OG-164
45 × 12.5 × 22.5	20		0.04	QS-165	IR-165	OG-165
45 × 12.5 × 32.5	30		0.06	QS-166	IR-166	OG-166
45 × 12.5 × 12.5	10	ø2	0.03	QS-174	IR-174	OG-174
45 × 12.5 × 22.5	20		0.06	QS-175	IR-175	OG-175
45 × 12.5 × 32.5	30		0.09	QS-176	IR-176	OG-176

Picture	Outside Dim H × W × D	Path Length	Inner Length	VOL	Product Numbet		
					ES Quartz Glass	IR Quartz Glass	Optical Glass
	mm	mm	mm	ml	190nm-2500nm	250nm-3500nm	340nm-2500nm

#### Cylindrical cell



Outside Dim H × W × D	Path Length	Inner Length	VOL	ES Quartz Glass	IR Quartz Glass	Optical Glass
ø22 × 12.5	10	ø19	2.80	QS-85	IR-85	OG-85
ø22 × 22.5	20		5.70	QS-86	IR-86	OG-86
ø22 × 52.5	50		14.00	QS-87	IR-87	OG-87
ø22 × 102.5	100		28.00	QS-88	IR-88	OG-88

#### Micro fluorometer cell



Outside Dim H × W × D	Path Length	Inner Length	VOL	ES Quartz Glass	IR Quartz Glass	Optical Glass
45 × 12.5 × 12.5	10	4	1.40	QS-224	IR-224	OG-224
45 × 12.5 × 12.5	10	2	0.70	QS-525	IR-524	OG-524

#### Micro fluorometer cell with teflon stopper



Outside Dim H × W × D	Path Length	Inner Length	VOL	ES Quartz Glass	IR Quartz Glass	Optical Glass
25 × 12.5 × 12.5	10	2	0.70	QS-534	IR-534	OG-534
25 × 12.5 × 12.5		4	1.40	QS-544	IR-544	OG-544

#### Micro cell with black walls and with lid



Outside Dim H × W × D	Path Length	Inner Length	VOL	ES Quartz Glass	IR Quartz Glass	Optical Glass
25 × 12.5 × 12.5	10	1	0.15	QS-424	IR-424	OG-424
25 × 12.5 × 12.5		2	0.30	QS-434	IR-434	OG-434
25 × 12.5 × 12.5		3	0.45	QS-444	IR-444	OG-444
25 × 12.5 × 12.5		4	0.60	QS-454	IR-454	OG-454

Picture	Outside Dim H × W × D	Path Length	Inner Length	VOL	Product Numbet		
					ES Quartz Glass	IR Quartz Glass	Optical Glass
	mm	mm	mm	ml	190nm-2500nm	250nm-3500nm	340nm-2500nm

#### Micro cell with frost walls and with lid



Outside Dim H × W × D	Path Length	Inner Length	VOL	ES Quartz Glass	IR Quartz Glass	Optical Glass
25 × 12.5 × 12.5	10	1	0.15	QS-464	IR-464	OG-464
25 × 12.5 × 12.5		2	0.30	QS-474	IR-474	OG-474
25 × 12.5 × 12.5		3	0.45	QS-484	IR-484	OG-484
25 × 12.5 × 12.5		4	0.60	QS-494	IR-494	OG-494

#### Large Cell



Outside Dim H × W × D	Path Length	Inner Length	VOL	ES Quartz Glass	IR Quartz Glass	Optical Glass
40 × 20 × 10.4	6.35	16	3.50	QS-321	IR-321	OG-321
40 × 20 × 16.7	12.70		7.10	QS-322	IR-322	OG-322
40 × 20 × 29.4	25.40		14.20	QS-323	IR-323	OG-323
40 × 20 × 54.8	50.80		28.40	QS-324	IR-324	OG-324
40 × 20 × 137.4	133.35		74.60	QS-325	IR-325	OG-325

#### Absorptionmeter rectangular cell



Outside Dim H × W × D	Path Length	Inner Length	VOL	ES Quartz Glass	IR Quartz Glass	Optical Glass
40 × 28 × 6.5	2.5	25	2.2	QS-1682	IR-1682	OG-1682
40 × 28 × 9	5		4.4	QS-1683	IR-1683	OG-1683
40 × 28 × 14	10		8.8	QS-1684	IR-1684	OG-1684
40 × 28 × 24	20		17.5	QS-1685	IR-1685	OG-1685
40 × 28 × 44	40		35	QS-1686	IR-1686	OG-1686
40 × 28 × 54	50		43.8	QS-1687	IR-1687	OG-1687
40 × 28 × 104	100		87.5	QS-1688	IR-1688	OG-1688
40 × 28 × 204	200		175	QS-1689	IR-1689	OG-1689

#### Micro cell with black walls



Outside Dim H × W × D	Path Length	Inner Length	VOL	ES Quartz Glass	IR Quartz Glass	Optical Glass
13 × 12.5 × 12.5	10	2	0.05	QS-0653	IR-0653	OG-0653
13 × 12.5 × 12.5		4	0.10	QS-0654	IR-0654	OG-0654
19.5 × 12.5 × 12.5		2	0.05	QS-1663	IR-1663	OG-1663
19.5 × 12.5 × 12.5		4	0.10	QS-1664	IR-1664	OG-1664

Picture	Outside Dim H × W × D	Path Length	Inner Length	VOL	Product Number		
					ES Quartz Glass	IR Quartz Glass	Optical Glass
	mm	mm	mm	ml	190nm-2500nm	250nm-3500nm	340nm-2500nm



45 × 12.5 × 12.5	10	10	3.5	QS-L-01 for Standard cell (type 104)
Tube Outside Diameter: 8mm, Overall Height 120mm				QS-L-02 for Fluorimeter cell (type 204)

#### Cells for reflection measurements



ø34 × 25			12.0	QS-0731	IR-0731	OG-0731
ø50 × 30			32.0	QS-0732	IR-0732	OG-0732
ø60 × 40.5			73.0	QS-0733	IR-0733	OG-0733