

PHARMACEUTICAL BUBBLE TRAP

STANDARD DESIGN FEATURES

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PHARMACEUTICAL BUBBLE TRAP STANDARD DESIGN FEATURES

7° TAPER ON BUBBLE TRAP LID FOR SELF DRAINING EXTERIOR



TIE ROD THREADS ARE SELF ENCLOSED FOR EASY WIPE DOWN

CREVICE FREE DESIGN ELIMINATES BACTERIA COLLECTION AREAS

ALL SURFACES ARE ANGLED GUARANTEEING A SELF DRAINING EASILY WASHED DOWN UNIT WHEN INSTALLED IN THE UPRIGHT POSITION

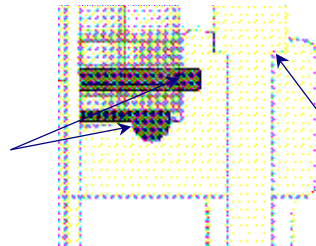


ALL CORNERS ARE BROKEN WITH 'SOFT' RADII

ALL WELDS ARE REMOVED, SMOOTHED & POLISHED

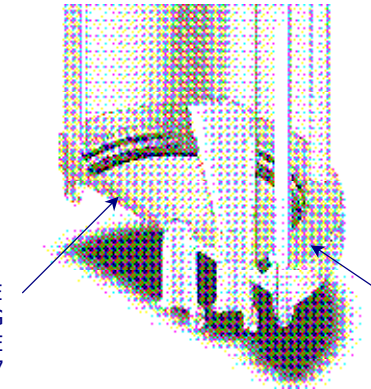


EHEDG APPROVED DESIGN GUARANTEES THE MOST HYGIENIC SEALING O-RING COMBINATION ON TODAY'S PHARMACEUTICAL MARKET

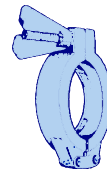


PRECISION LENGTH TIE-RODS GIVING CONTROLLED COMPRESSION TO THE SEALING O-RING REDUCING INTRUSION INTO THE VESSEL

7° TAPER ON THE BASE GUARANTEES A SELF DRAINING BUBBLE TRAP IN ACCORDANCE WITH ASME BPE 2007



7° TAPER FOR SELF-DRAINING EXTERIOR



PHARMACEUTICAL BUBBLE TRAP SIZING GUIDE

The most important feature of any bubble trap installation is the selection of the correct size trap, there are two over-riding factors that ultimately dictate which size bubble trap you require:

- # Flow Rate (Q) - Flow Rate of the media entering the bubble trap, measured in litres per minute (LPM)
- # Operating Pressure - Pressure inside the system when entering the bubble trap

When the above two factors are known a bubble trap can easily be selected from the table below :

BUBBLE TRAP - STANDARD SIZES DATA SHEET																			
Bubble Trap Diameter (Inches)	Rec. Fill Volume (litres)	To Suit Flow Rate (litres/min)	Operating Pressure		Base Inlet / Outlet Tri-Clamp Ferrule Sizes					Lid Controls (2 Ports) Tri-Clamp Ferrule Size					Lid Controls (3 Ports) Tri-Clamp Ferrule Size				
			Borosilicate 3.3 bar (psi)	Acrylic bar (psi)	1/2"	3/4"	1"	1 1/2"	2"	1/2"	3/4"	1"	1 1/2"	2"	1/2"	3/4"	1"	1 1/2"	2"
4"	1	4	6.0 (87)	7.0 (102)	●	●	●			●	●	●	●		●	●	●		
	2	8			●	●	●			●	●	●	●		●	●	●		
	3	12			●	●	●			●	●	●	●		●	●	●		
6"	2	8	5.5 (80)	6.0 (87)		●	●	●		●	●	●	●		●	●	●	●	
	3	12				●	●	●		●	●	●	●		●	●	●	●	
	4	16				●	●	●		●	●	●	●		●	●	●	●	
	6	24				●	●	●		●	●	●	●		●	●	●	●	
	8	32				●	●	●		●	●	●	●		●	●	●	●	
8"	6	24	5.0 (73)	5.0 (73)			●	●	●	●	●	●	●	●	●	●	●	●	
	8	32					●	●	●	●	●	●	●	●	●	●	●	●	
	10	40					●	●	●	●	●	●	●	●	●	●	●	●	
	12	48					●	●	●	●	●	●	●	●	●	●	●	●	
10"	12	48	3.5 (51.0)	4.0 (58)			●	●	●	●	●	●	●	●	●	●	●	●	
	16	64					●	●	●	●	●	●	●	●	●	●	●	●	
	20	80					●	●	●	●	●	●	●	●	●	●	●	●	

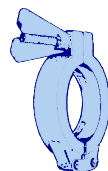
It should be noted that each separate diameter size of bubble trap overlaps the previous size, this is particularly useful as the small diameter longer length bubble trap will always have a higher pressure rating than its larger sized diameter alternative.

The above data is derived from the underlying principal that the media should remain inside the bubble trap for a minimum of 15 seconds (residence time) and is generated from the basic formula:

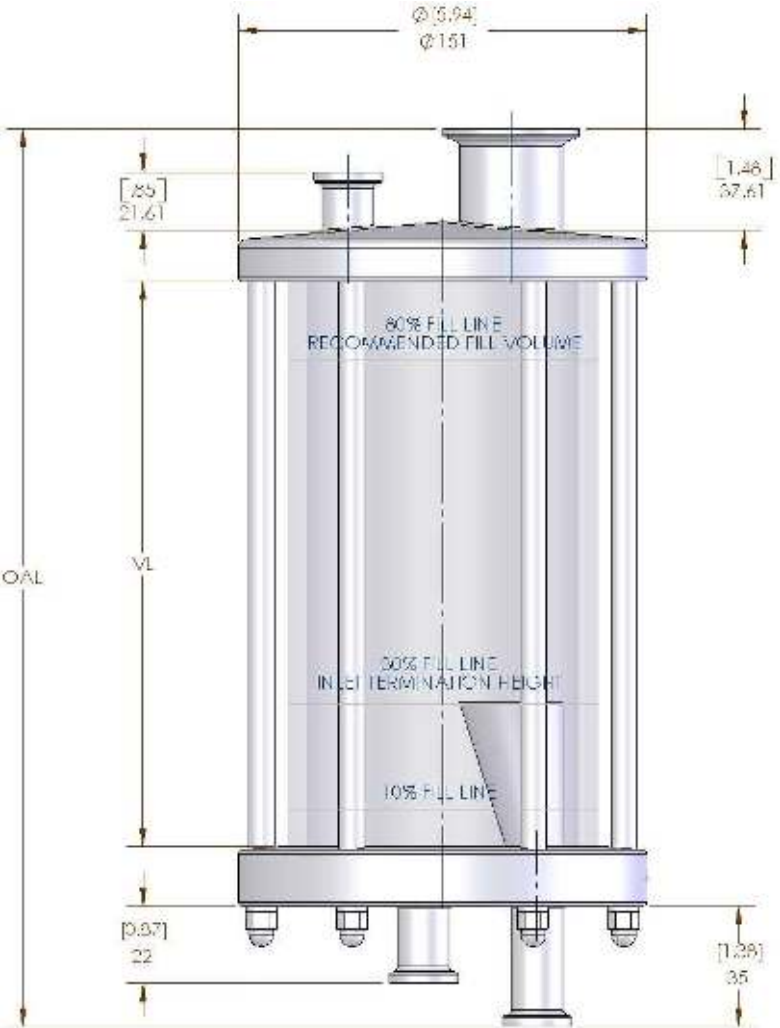
$$Rt = \frac{Rfv}{Q} \times 60$$

Rt = Residence Time (Greater Than 15 Secs)
Rfv = Recommended Fill Volume (Litres)
Q = Flow Rate (Litres Per Minute)

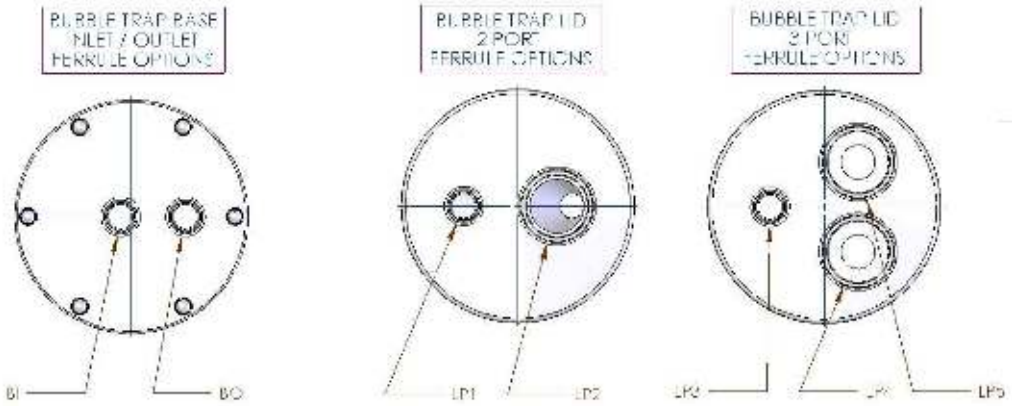
Note : If your exact flow rate is not shown on the table above, the bubble trap sized for the nearest flow rate larger / quicker than yours must be selected. This will guarantee the residence time will exceed the 15 second minimum.



PHARMACEUTICAL BUBBLE TRAP 4" DIAMETER DATA SHEET



Standard Glass Size = 115.0mm OD x 101.0mm ID Operating Pressure = 6.0 bar (87 psi) @ 30°C (86°F)
We can offer & manufacture non-standard variations of the 4" bubble trap to meet customer requirements / specifications

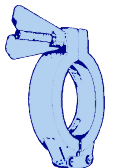


BILL OF MATERIALS

Components	Qty	Standard Material	S/Finish - Grade	Alternative Options
Bubble Trap Lid	1	316L / 1.4404	SF4 - 0.38Ra EP	C22 - AL6XN
Bubble Trap Base	1	316L / 1.4404	SF4 - 0.38Ra EP	C22 - AL6XN
Tie Rods	1	316L / 1.4404	SF3 - 0.8Ra	C22 - AL6XN
M6 Domed Nut	6	316L / 1.4404	SF3 - 0.8Ra	C22 - AL6XN
Spring Washer	12	316 / A4	SF3 - 0.8Ra	C22 - AL6XN
Viewing Cylinder	1	3.3 Borosilicate	Flame Polished	Acrylic USP Class VI
O-Rings	4	EPDM	USP Class VI	VITON - FEP Silicone

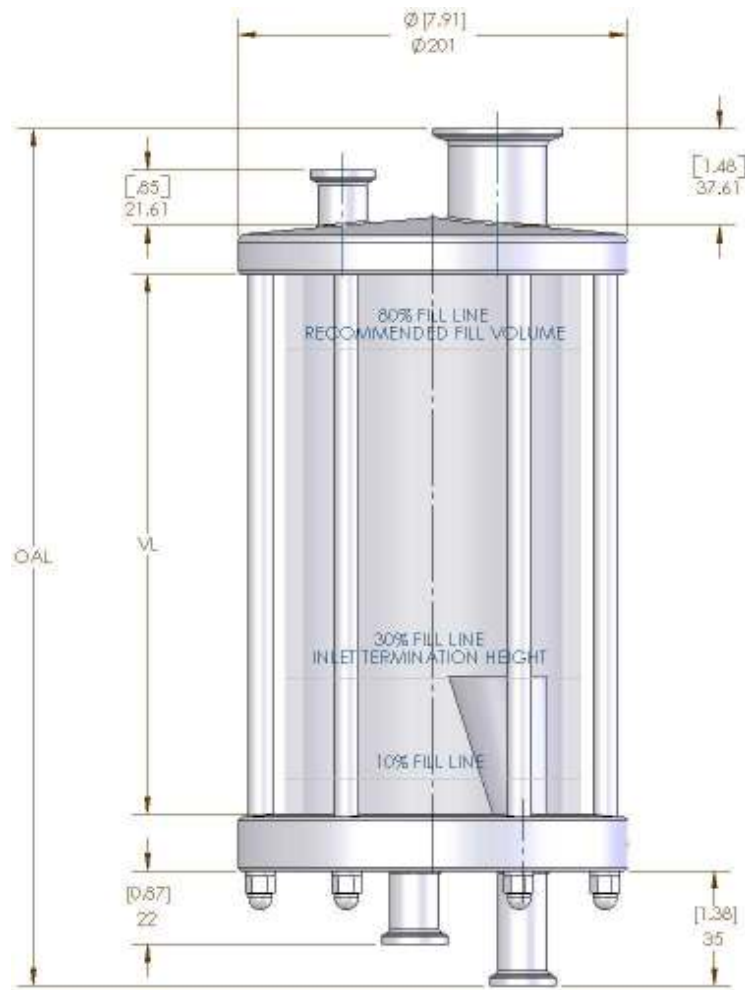
4" DIAMETER BUBBLE TRAP - STANDARD CONFIGURATIONS

Glass Length [inches] mm	Rec. Fill Volume Litres	Max Fill Volume Litres	OAL Overall Length [inches] mm	VL View Length [inches] mm	BI Base Inlet Options	BO Base Outlet Options	LP1 Lid Port 1 Options	LP2 Lid Port 2 Options	LP3 Lid Port 3 Options	LP4 Lid Port 4 Options	LP5 Lid Port 5 Options
[05.90] 150	1	1.3	[09.60] 244	[05.12] 130	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
[12.20] 310	2	2.5	[15.91] 404	[11.42] 290	3/4"	3/4"	3/4" 1"	3/4" 1"	3/4"	3/4"	3/4"
[18.50] 470	3	3.8	[22.20] 564	[17.72] 450	1"	1"	1 1/2"	1 1/2"	1"	1"	1"

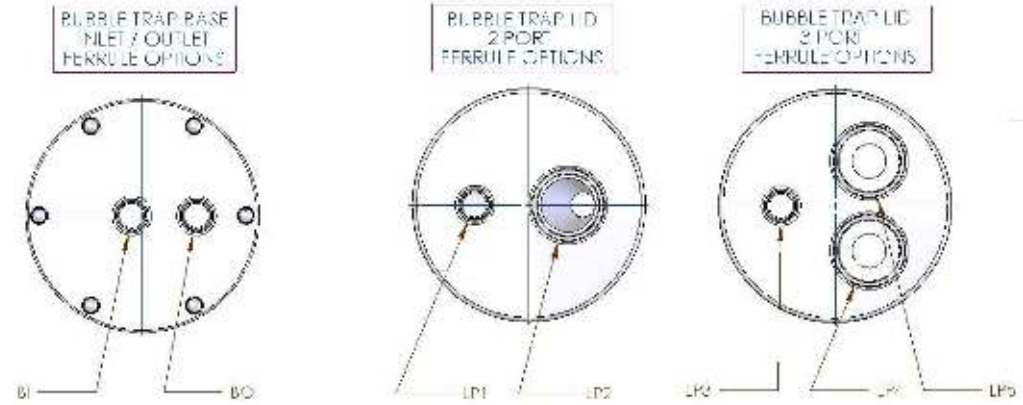


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PHARMACEUTICAL BUBBLE TRAP 6" DIAMETER DATA SHEET



Standard Glass Size = 165.0mm OD x 151.0mm ID Operating Pressure = 5.5 bar (80 psi) @ 30°C (86°F)
 We can offer & manufacture non-standard variations of the 6" bubble trap to meet customer requirements / specifications

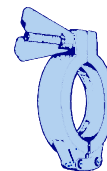


BILL OF MATERIALS

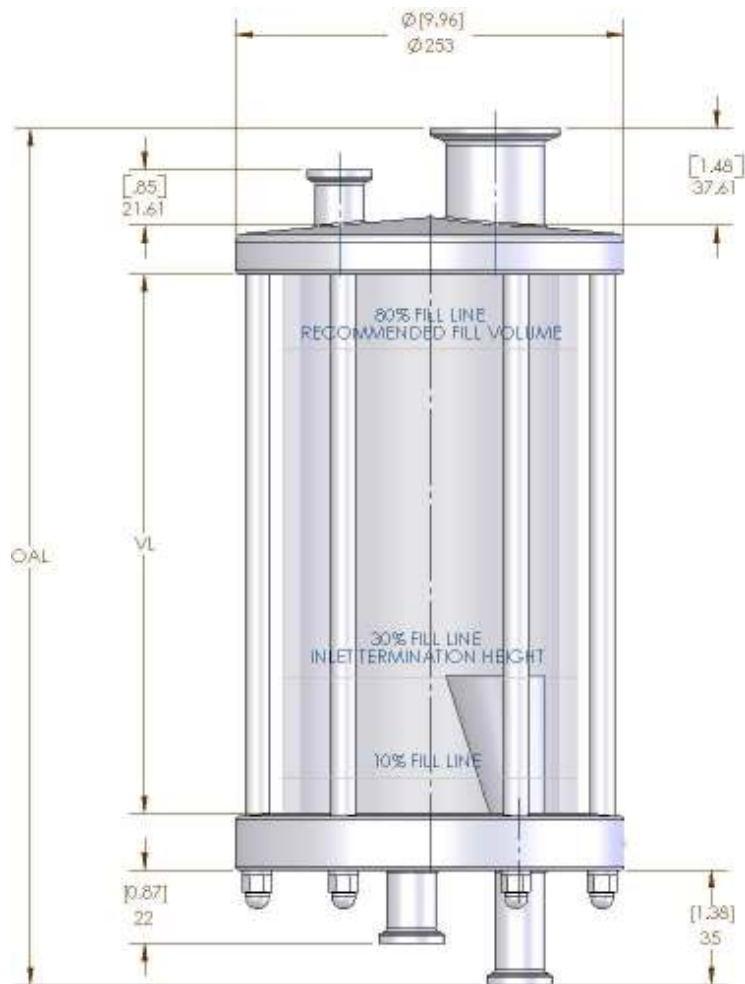
Components	Qty	Standard Material	S/Finish - Grade	Alternative Options
Bubble Trap Lid	1	316L / 1.4404	SF4 - 0.38Ra EP	C22 - AL6XN
Bubble Trap Base	1	316L / 1.4404	SF4 - 0.38Ra EP	C22 - AL6XN
Tie Rods	1	316L / 1.4404	SF3 - 0.8Ra	C22 - AL6XN
M6 Domed Nut	6	316L / 1.4404	SF3 - 0.8Ra	C22 - AL6XN
Spring Washer	12	316 / A4	SF3 - 0.8Ra	C22 - AL6XN
Viewing Cylinder	1	3.3 Borosilicate	Flame Polished	Acrylic USP Class VI
O-Rings	4	EPDM	USP Class VI	VITON - FEP Silicone

6" DIAMETER BUBBLE TRAP - STANDARD CONFIGURATIONS

Glass Length [inches] mm	Rec. Fill Volume Litres	Max Fill Volume Litres	OAL Overall Length [inches] mm	VL View Length [inches] mm	BI Base Inlet Options	BO Base Outlet Options	LP1 Lid Port 1 Options	LP2 Lid Port 2 Options	LP3 Lid Port 3 Options	LP4 Lid Port 4 Options	LP5 Lid Port 5 Options
[05.51] 140	2	2.5	[10.00] 254	[04.72] 120	3/4"	3/4"	1/2"	1/2"	1/2"	1/2"	1/2"
[08.27] 210	3	3.8	[12.76] 324	[07.48] 190							
[11.02] 280	4	5.0	[15.51] 394	[10.24] 260	1"	1"	1"	1"	3/4"	3/4"	3/4"
[16.54] 420	6	7.5	[21.02] 534	[15.74] 400							
[22.05] 560	8	10.0	[26.54] 674	[21.26] 540	1 1/2"	1 1/2"	2"	2"	1 1/2"	1 1/2"	1 1/2"



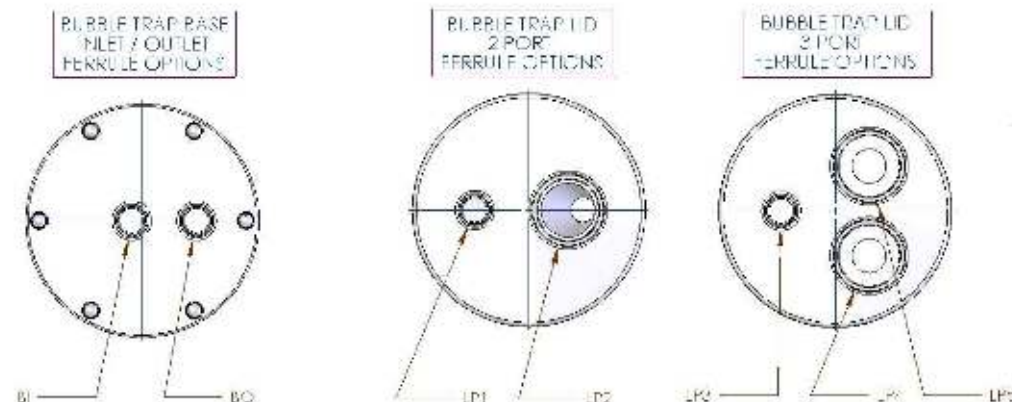
PHARMACEUTICAL BUBBLE TRAP 8" DIAMETER DATA SHEET



Standard Glass Size = 215.0mm OD x 197.0mm ID

Operating Pressure = 5.0 bar (73 psi) @ 30°C (86°F)

We can offer & manufacture non-standard variations of the 8" bubble trap to meet customer requirements / specifications

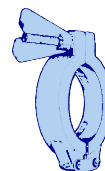


BILL OF MATERIALS

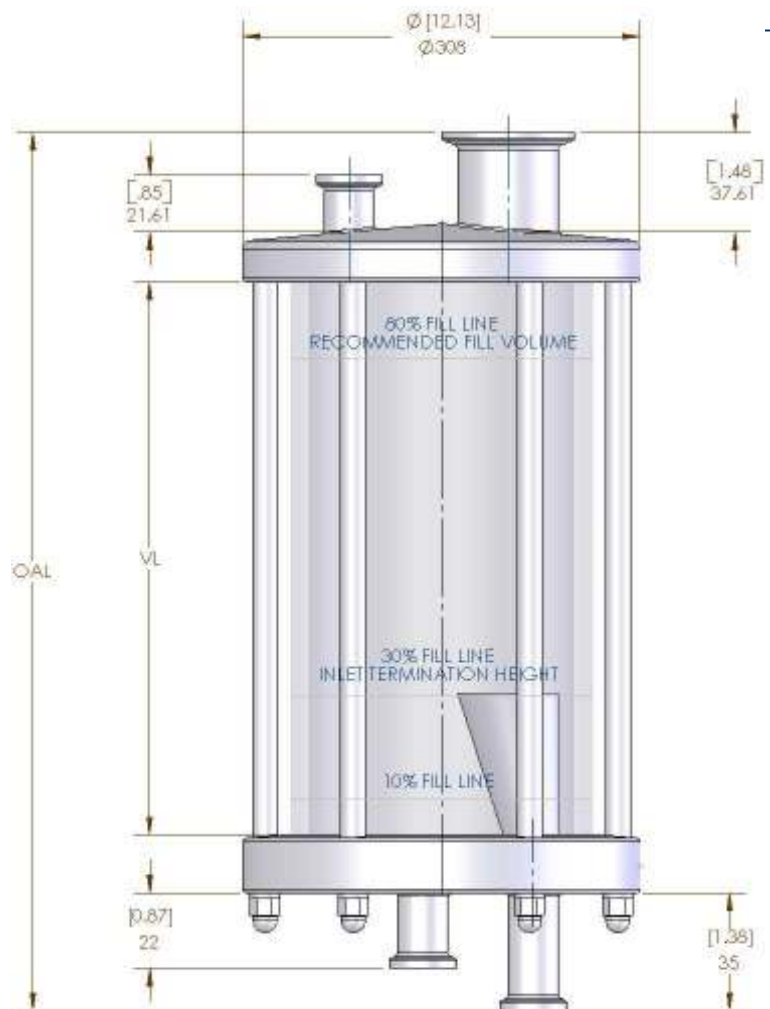
Components	Qty	Standard Material	S/Finish - Grade	Alternative Options
Bubble Trap Lid	1	316L / 1.4404	SF4 - 0.38Ra EP	C22 - AL6XN
Bubble Trap Base	1	316L / 1.4404	SF4 - 0.38Ra EP	C22 - AL6XN
Tie Rods	1	316L / 1.4404	SF3 - 0.8Ra	C22 - AL6XN
M8 Domed Nut	8	316L / 1.4404	SF3 - 0.8Ra	C22 - AL6XN
Spring Washer	16	316 / A4	SF3 - 0.8Ra	C22 - AL6XN
Viewing Cylinder	1	3.3 Borosilicate	Flame Polished	Acrylic USP Class VI
O-Rings	4	EPDM	USP Class VI	VITON - FEP Silicone

8" DIAMETER BUBBLE TRAP - STANDARD CONFIGURATIONS

Glass Length [inches] mm	Rec. Fill Volume Litres	Max Fill Volume Litres	OAL Overall Length [inches] mm	VL View Length [inches] mm	BI Base Inlet Options	BO Base Outlet Options	LP1 Lid Port 1 Options	LP2 Lid Port 2 Options	LP3 Lid Port 3 Options	LP4 Lid Port 4 Options	LP5 Lid Port 5 Options
[09.45] 240	6	7.5	[13.94] 354	[08.66] 220	1"	1"	1/2"	1/2"	1/2"	1/2"	1/2"
[12.99] 330	8	10.0	[17.48] 444	[12.20] 310			3/4" 1"	3/4" 1"	3/4"	3/4"	3/4"
[16.14] 410	10	12.5	[20.63] 524	[15.35] 390	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1"	1"	
[19.29] 490	12	15.0	[23.78] 604	[18.50] 470	2"	2"	2"	2"	1 1/2"	1 1/2"	



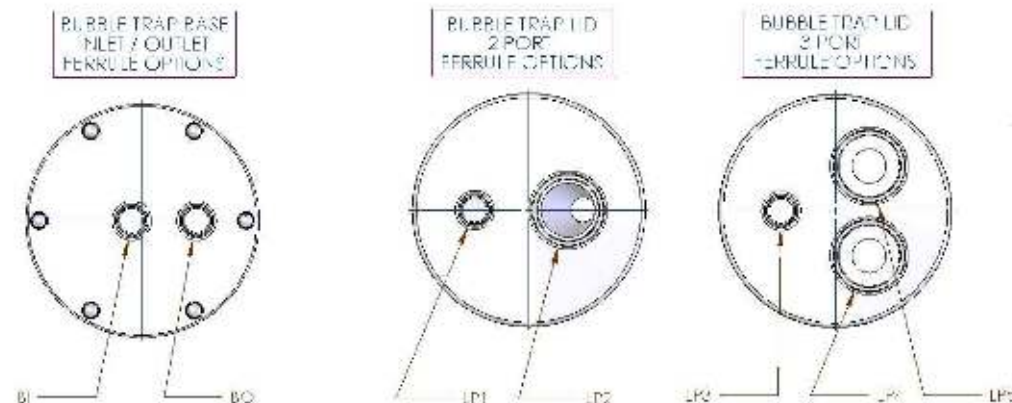
PHARMACEUTICAL BUBBLE TRAP 10" DIAMETER DATA SHEET



Standard Glass Size = 270.0mm OD x 252.0mm ID

Operating Pressure = 3.5 bar (51 psi) @ 30°C (86°F)

We can offer & manufacture non-standard variations of the 10" bubble trap to meet customer requirements / specifications



BILL OF MATERIALS

Components	Qty	Standard Material	S/Finish - Grade	Alternative Options
Bubble Trap Lid	1	316L / 1.4404	SF4 - 0.38Ra EP	C22 - AL6XN
Bubble Trap Base	1	316L / 1.4404	SF4 - 0.38Ra EP	C22 - AL6XN
Tie Rods	1	316L / 1.4404	SF3 - 0.8Ra	C22 - AL6XN
M8 Domed Nut	8	316L / 1.4404	SF3 - 0.8Ra	C22 - AL6XN
Spring Washer	16	316 / A4	SF3 - 0.8Ra	C22 - AL6XN
Viewing Cylinder	1	3.3 Borosilicate	Flame Polished	Acrylic USP Class VI
O-Rings	4	EPDM	USP Class VI	VITON - FEP Silicone

10" DIAMETER BUBBLE TRAP - STANDARD CONFIGURATIONS

Glass Length [inches] mm	Rec. Fill Volume Litres	Max Fill Volume Litres	OAL Overall Length [inches] mm	VL View Length [inches] mm	BI Base Inlet Options	BO Base Outlet Options	LP1 Lid Port 1 Options	LP2 Lid Port 2 Options	LP3 Lid Port 3 Options	LP4 Lid Port 4 Options	LP5 Lid Port 5 Options
[11.81] 300	12	15.0	[16.30] 414	[11.02] 280	1"	1"	1/2" 3/4"	1/2" 3/4"	1/2" 3/4"	1/2" 3/4"	1/2" 3/4"
[15.75] 400	16	20.0	[20.24] 514	[14.96] 380	1 1/2"	1 1/2"	3/4" 1 1/2"	3/4" 1 1/2"	3/4" 1 1/2"	3/4" 1 1/2"	3/4" 1 1/2"
[19.69] 500	20	25.0	[24.17] 614	[18.90] 480	2"	2"	2"	2"	2"	2"	2"

