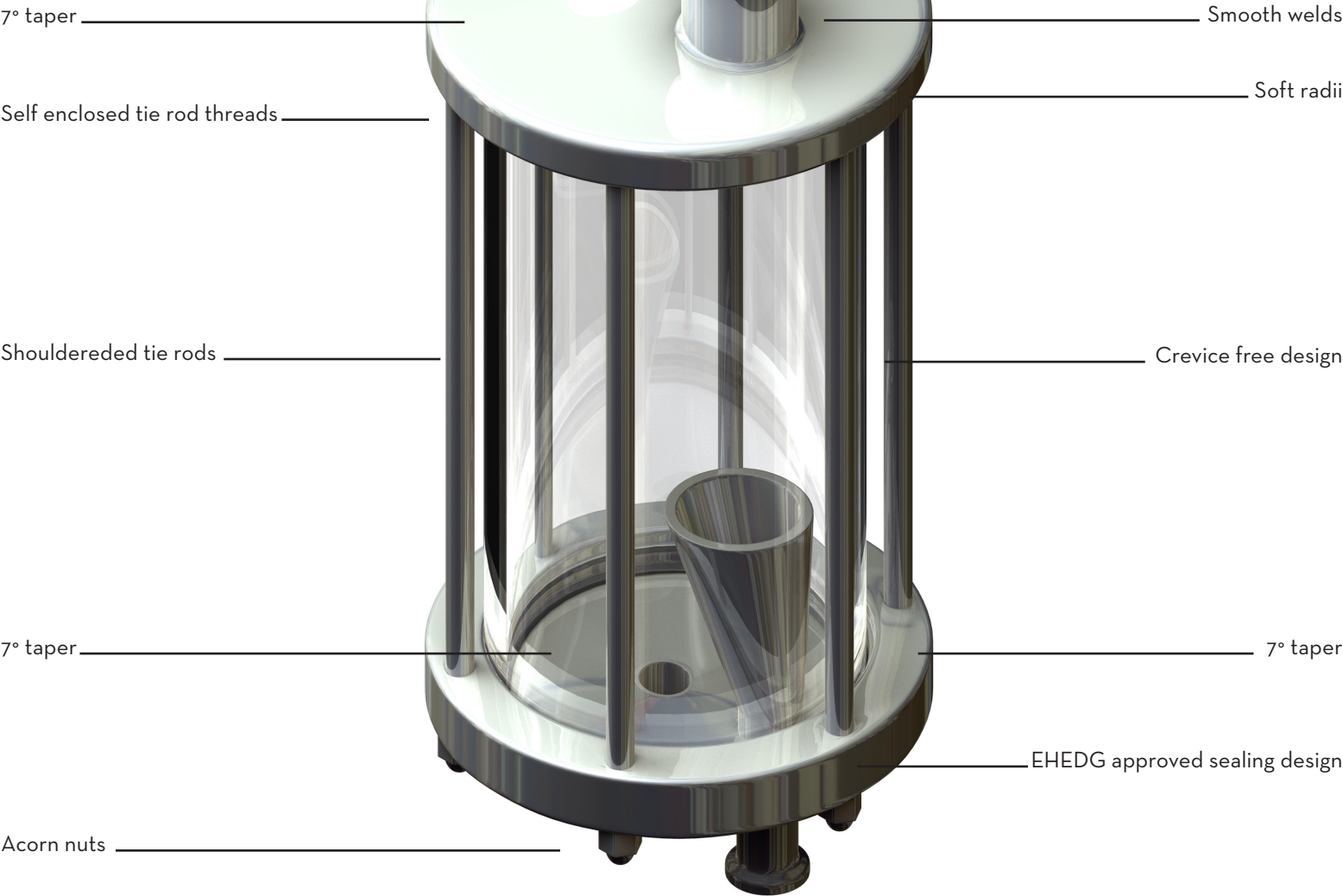


PHARMACEUTICAL BUBBLE TRAP

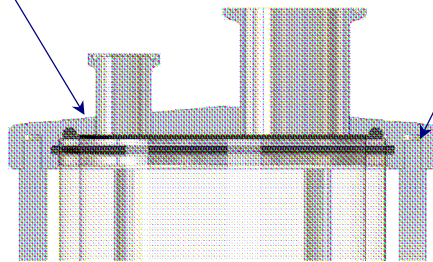
STANDARD DESIGN FEATURES

● Mouse over for details



PHARMACEUTICAL BUBBLE TRAP STANDARD DESIGN FEATURES

7° TAPER ON BUBBLE
TRAP LID FOR SELF
DRAINING EXTERIOR



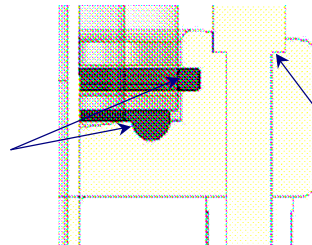
TIE ROD THREADS ARE
SELF ENCLOSED FOR
EASY WIPE DOWN

CREVICE FREE DESIGN ELIMINATES
BACTERIA COLLECTION AREAS

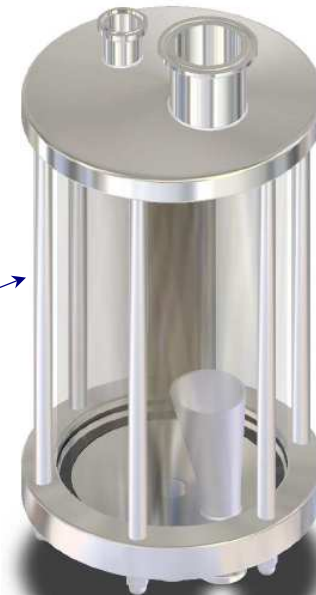
ALL SURFACES ARE ANGLED
GUARANTEEING A SELF DRAINING
EASILY WASHED DOWN UNIT WHEN
INSTALLED IN THE UPRIGHT POSITION



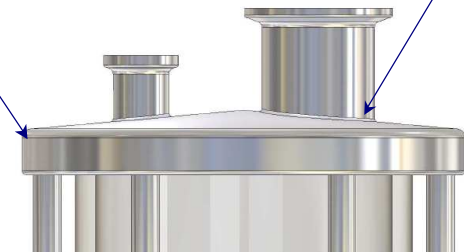
EHEDG APPROVED DESIGN
GUARANTEES THE MOST
HYGIENIC SEALING O-RING
COMBINATION ON TODAY'S
PHARMACEUTICAL MARKET



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

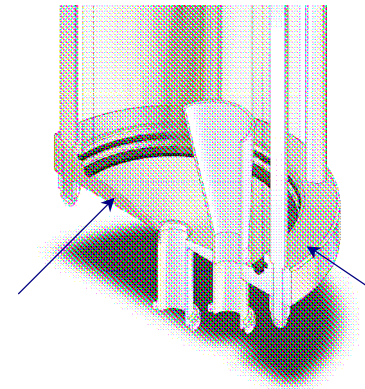


ALL CORNERS ARE BROKEN
WITH 'SOFT' RADII



ALL WELDS ARE REMOVED,
SMOOTHED & POLISHED

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



7° TAPER FOR SELF-
DRAINING EXTERIOR



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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 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:

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

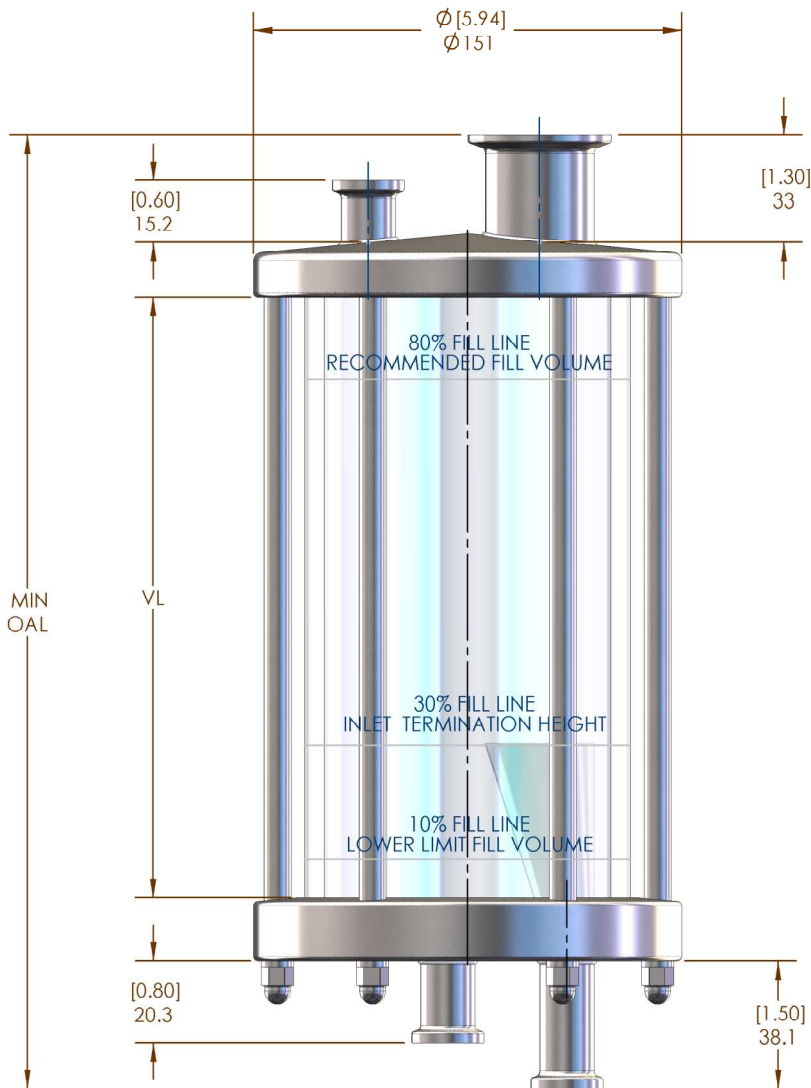
Rt = Residence Time (Greater Than 15 Secs)
Rfv = Recommended Fill Volume (Litres)
Q = Flow Rate (Litres Per Minute)

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.

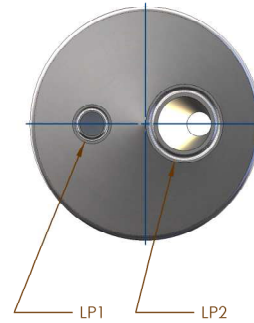


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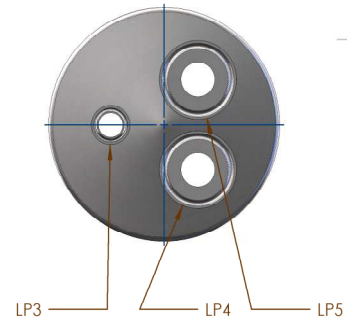
PHARMACEUTICAL BUBBLE TRAP 4" DIAMETER DATA SHEET



BUBBLE TRAP LID
2 PORT
FERRULE OPTIONS



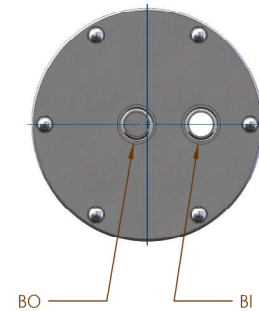
BUBBLE TRAP LID
3 PORT
FERRULE OPTIONS



Standard Glass Size = 115.0mm OD x 101.0mm ID
Operating Pressure = 6.0 bar (87 psi) @ 30°C (86°F)

We can offer and manufacture non-standard variations of the 4" bubble trap to meet individual requirements and specifications.

BUBBLE TRAP BASE
INLET / OUTLET
FERRULE OPTIONS



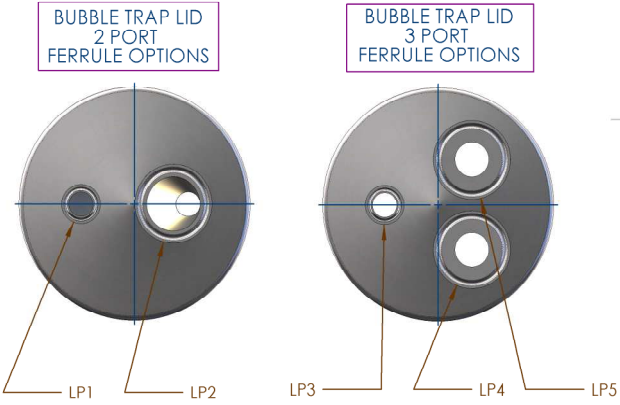
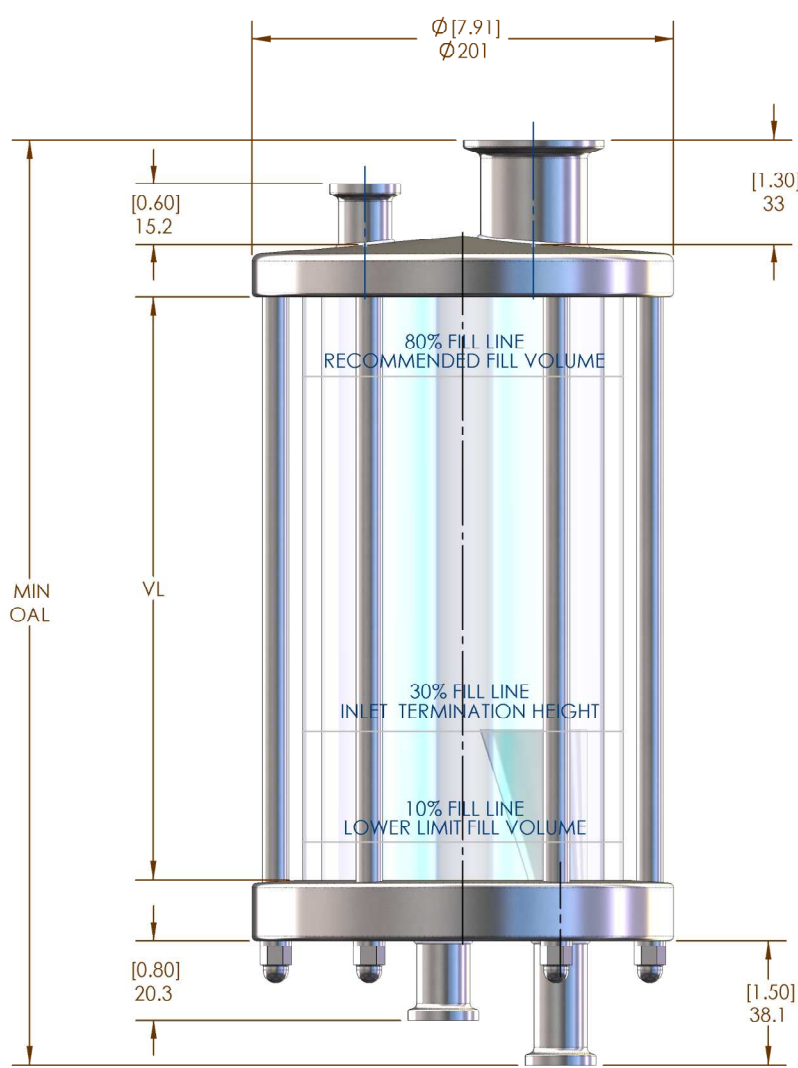
4" DIAMETER BUBBLE TRAP - STANDARD CONFIGURATIONS

Standard Part # Dia-Length	Glass Length [in] mm	Rec. Fill Vol. Litres	Max Fill Vol. Litres	Max Flow Rate (LPM)	MIN OAL Overall Length [in] mm	VL View Length [in] mm	Base BI & BO Inlet & Outlet TC Options	LP1 & LP2 2 Ports On Lid TC Options	LP3, LP4 & LP5 3 Ports On Lid TC Options
04-150	[05.90] 150	1	1.2	4	[09.61] 244	[05.12] 130	1/2"	1/2"	1/2"
04-310	[12.20] 310	2	2.5	8	[15.91] 404	[11.42] 290	3/4"	3/4" 1"	3/4"
04-470	[18.50] 470	3	3.8	12	[22.20] 564	[17.72] 450	1"	1 1/2"	1"

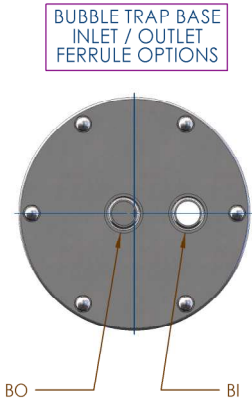
BILL OF MATERIALS

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	4	316L / 1.4404	SF3 - 0.8Ra	C22 - AL6XN
M6 Domed Nut	4	316L / 1.4404	SF3 - 0.8Ra	C22 - AL6XN
Spring Washer	8	316 / A4	SF3 - 0.8Ra	C22 - AL6XN
Viewing Cylinder	1	3.3 Borosilicate	Flame Polished	USP Class VI Acrylic
O-Rings	4	EPDM	USP Class VI	VITON - FEP Silicone

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 and manufacture non-standard variations of the 6" bubble trap to meet individual requirements and specifications.



6" DIAMETER BUBBLE TRAP - STANDARD CONFIGURATIONS

Standard Part # Dia-Length	Glass Length [in] mm	Rec. Fill Vol. Litres	Max Fill Vol. Litres	Max Flow Rate (LPM)	MIN OAL		VL	Base BI & BO	LP1 & LP2	LP3, LP4 & LP5
					Overall Length [in] mm		View Length [in] mm	Inlet & Outlet TC Options	2 Ports On Lid TC Options	3 Ports On Lid TC Options
06-140	[05.51] 140	2	2.5	8	[09.21] 234	[04.72] 120	3/4"	1/2"	1/2"	
06-210	[08.27] 210	3	3.8	12	[11.97] 304	[07.48] 190				
06-280	[11.02] 280	4	5.0	16	[14.72] 374	[10.24] 260				
06-420	[16.54] 420	6	7.5	24	[20.24] 514	[15.74] 400				
06-560	[22.05] 560	8	10.0	32	[25.75] 654	[21.26] 540				

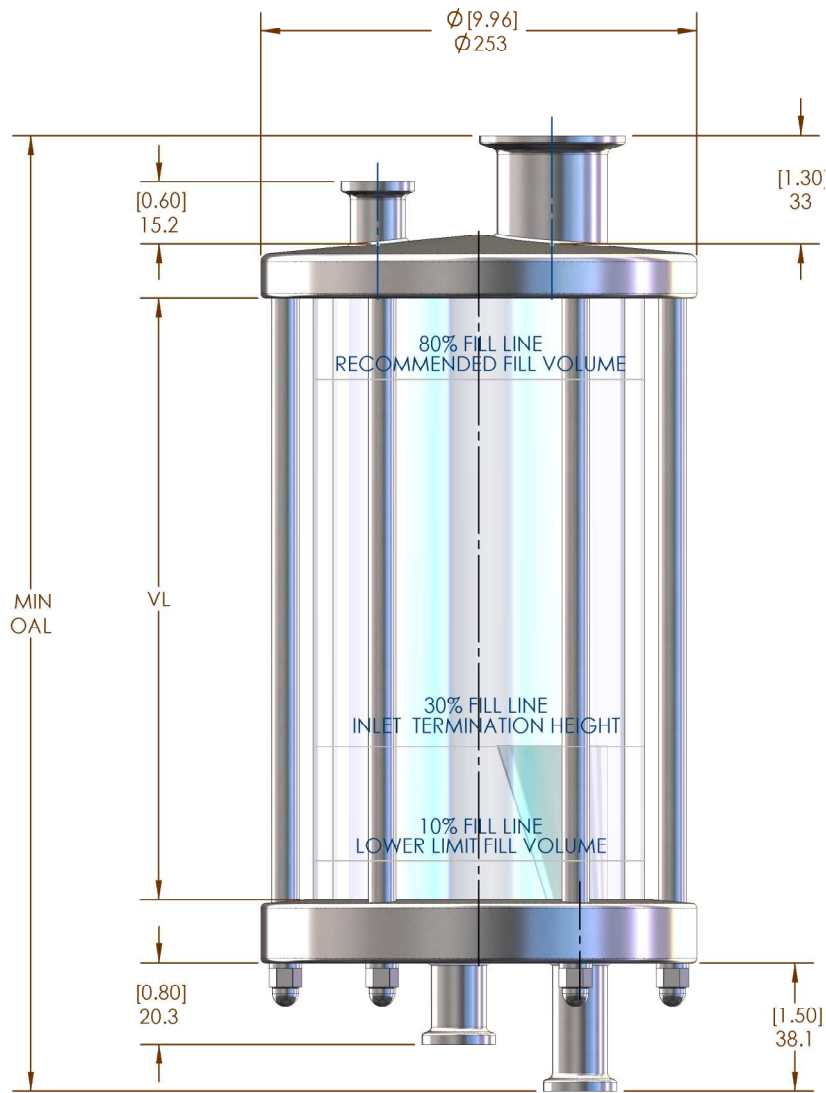
BILL OF MATERIALS

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	6	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	USP Class VI Acrylic
O-Rings	4	EPDM	USP Class VI	VITON - FEP Silicone

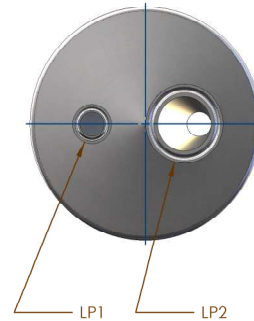


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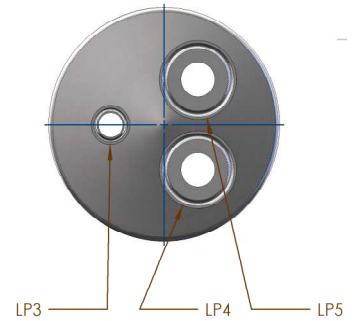
PHARMACEUTICAL BUBBLE TRAP 8" DIAMETER DATA SHEET



BUBBLE TRAP LID
2 PORT
FERRULE OPTIONS



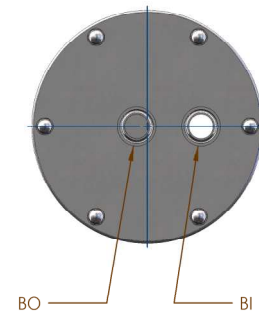
BUBBLE TRAP LID
3 PORT
FERRULE OPTIONS



Standard Glass Size = 215.0mm OD x 197.0mm ID
Operating Pressure = 5.0 bar (73 psi) @ 30°C (86°F)

We can offer and manufacture non-standard variations of the 8" bubble trap to meet individual requirements and specifications.

BUBBLE TRAP BASE
INLET / OUTLET
FERRULE OPTIONS



8" DIAMETER BUBBLE TRAP - STANDARD CONFIGURATIONS

Standard Part # Dia-Length	Glass Length [in] mm	Rec. Fill Vol. Litres	Max Fill Vol. Litres	Max Flow Rate (LPM)	MIN OAL Overall Length [in] mm	VL View Length [in] mm	Base BI & BO Inlet & Outlet TC Options	LP1 & LP2 2 Ports On Lid TC Options	LP3, LP4 & LP5 3 Ports On Lid TC Options
08-240	[09.45] 240	6	7.5	24	[13.15] 334	[08.66] 220	1"	1/2"	1/2"
08-330	[12.99] 330	8	10.0	32	[16.69] 424	[12.20] 310	1 1/2"	3/4" 1"	3/4"
08-410	[16.14] 410	10	12.5	40	[19.84] 504	[15.35] 390	2"	1 1/2"	1"
08-490	[19.29] 490	12	15.0	48	[23.00] 584	[18.50] 470		2"	1 1/2"

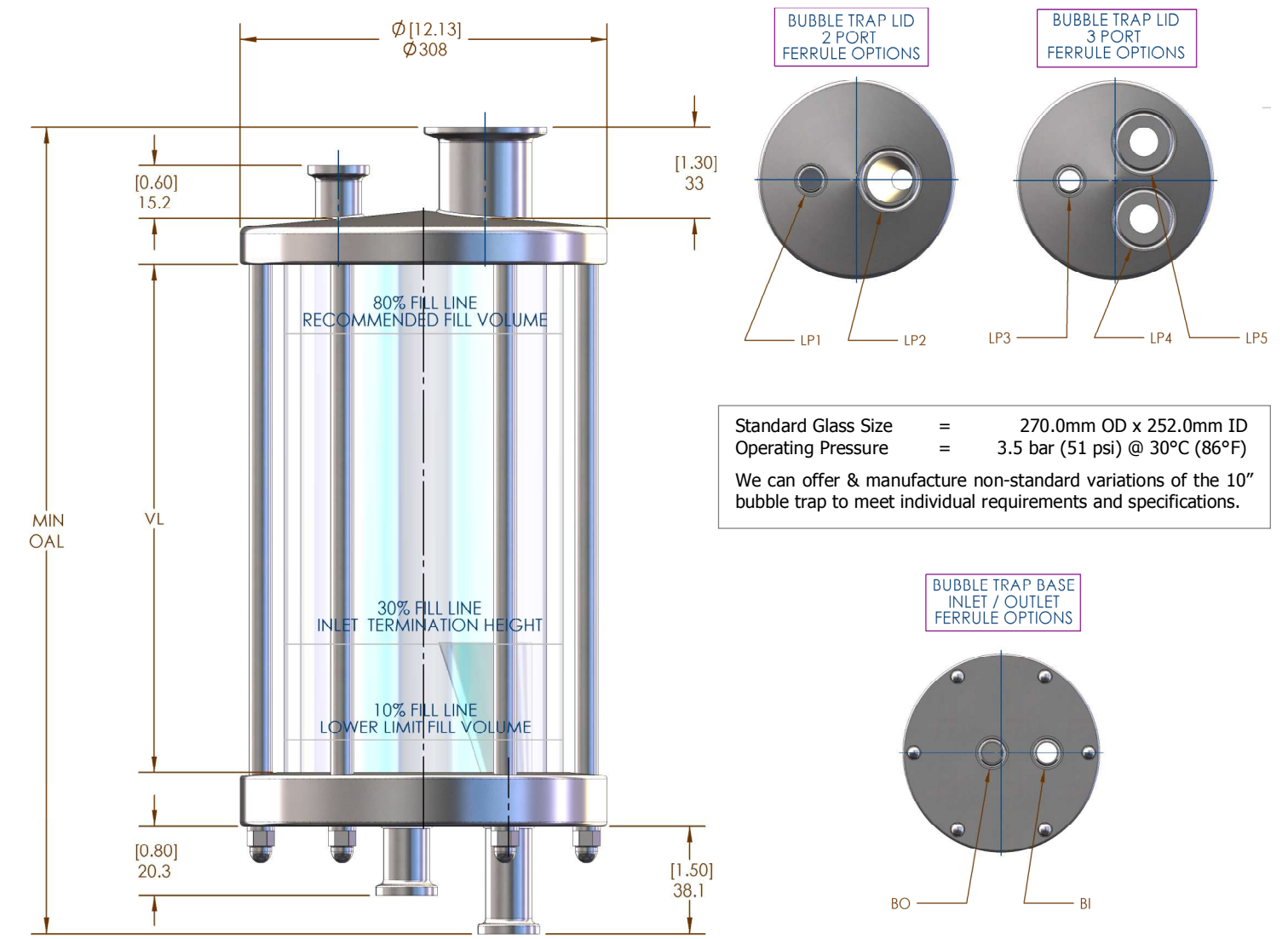
BILL OF MATERIALS

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	8	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	USP Class VI Acrylic
O-Rings	4	EPDM	USP Class VI	VITON - FEP Silicone



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PHARMACEUTICAL
BUBBLE TRAP
10" DIAMETER DATA SHEET



10" DIAMETER BUBBLE TRAP - STANDARD CONFIGURATIONS

Standard Part # Dia-Length	Glass Length [in] mm	Rec. Fill Vol. Litres	Max Fill Vol. Litres	Max Flow Rate (LPM)	MIN OAL Overall Length [in] mm	VL View Length [in] mm	Base BI & BO Inlet & Outlet TC Options	LP1 & LP2 2 Ports On Lid TC Options	LP3, LP4 & LP5 3 Ports On Lid TC Options
10-300	[11.81] 300	12	15.0	48	[15.51] 394	[11.02] 280	1"	1/2" 3/4"	1/2" 3/4"
10-400	[15.75] 400	16	20.0	64	[19.45] 494	[14.96] 380	1 1/2"	3/4" 1 1/2"	3/4" 1 1/2"
10-500	[19.69] 500	20	25.0	80	[23.39] 594	[18.90] 480	2"	2"	2"

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	8	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	USP Class VI Acrylic
O-Rings	4	EPDM	USP Class VI	VITON - FEP Silicone



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