

Forgeworks Vessel Sizing and Features

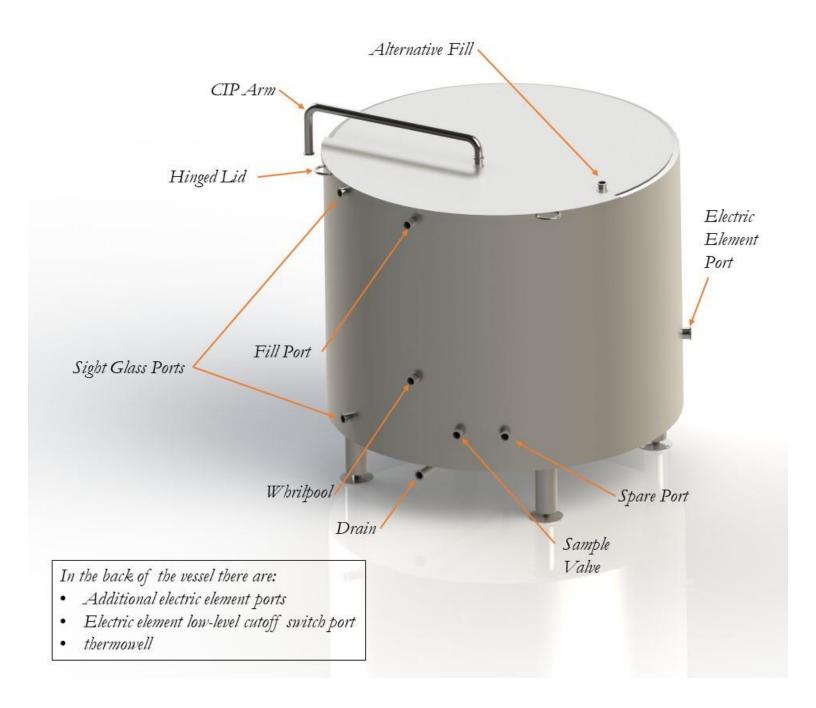
We take customer feedback seriously and have driven the design of our brewery vessels to reflect that. Here are some true stories that have changed the way we build our tanks:

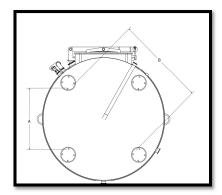
- We had a customer that received their drawings for the Hot Liquor Tank, and their response was that our design lacked key features. From that moment forward, we changed our HLT design from the top down to include every feature a brewer could dream of. A Whirlpool port to aid in mixing, a sample valve port for testing, and many fill port options, including one on the hinged lid. They come standard with two ports for Electric Immersion Elements, and a level sensor port.
- Years ago at a seminar at the Craft Brewer's Convention, we learned that the ideal Kettle should have 40% headspace, and we have been sizing them that way ever since.
- One day a customer, a master brewer who has been featured in many brewing safety podcasts, asked us if our Kettles came standard with a 2" port on the lid for the ability to install a Foam Sensor for boil-over protection. Our response was, " well it does now".
- On two occasions we had a customer tell us that our Brewer's Platform design was not going to work for their space, so we made one for them that reduced the space between the tanks. Another customer wanted the tanks to be a foot apart, with more access to the manways. Now we have three platform designs for you to choose from, or to inspire your own design. We have even built the platforms with removable steps, to free up floorspace when you are not brewing.

The theme here is that if you have a great idea, we are probably going to adopt it. Occasionally we come up with great ideas ourselves, like the two door rectangular manway on our Kettle. It even has a mechanism to prop one door open. We don't buy pre-built manways, and you probably know the ones I am talking about. Our Mash Lauter Tun manway is huge and rectangular. It's easy to remove the screens, and it comes with a removable spent grain chute, and manometer tubes. What are Manometer Tubes? These are two sight tubes that show you the pressure differential or suction within and across the grain bed. These tubes offer you a visual representation of how fast you are drawing wort through the grain bed, based on the difference in level between the two tubes. This visual gives you a warning if you are potentially puling a vacuum under the screen, which can lead to a stuck mash or a bent screen...or both.



Hot Liquor Tank Features



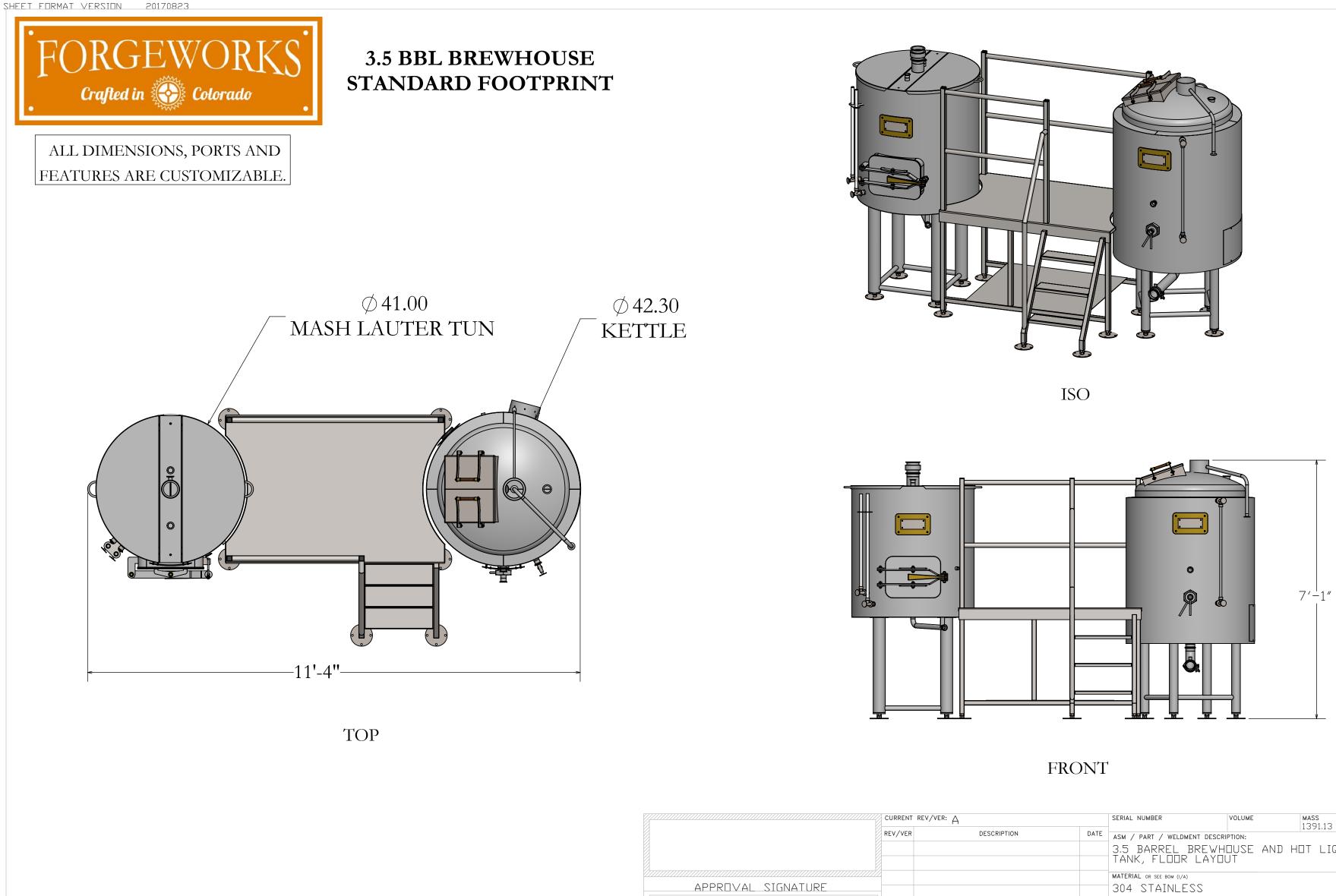


Forgeworks Brewhouse Equipment Dimensions

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Crafted in 🛞 Colorado Brewhouse and Cellar Vessels

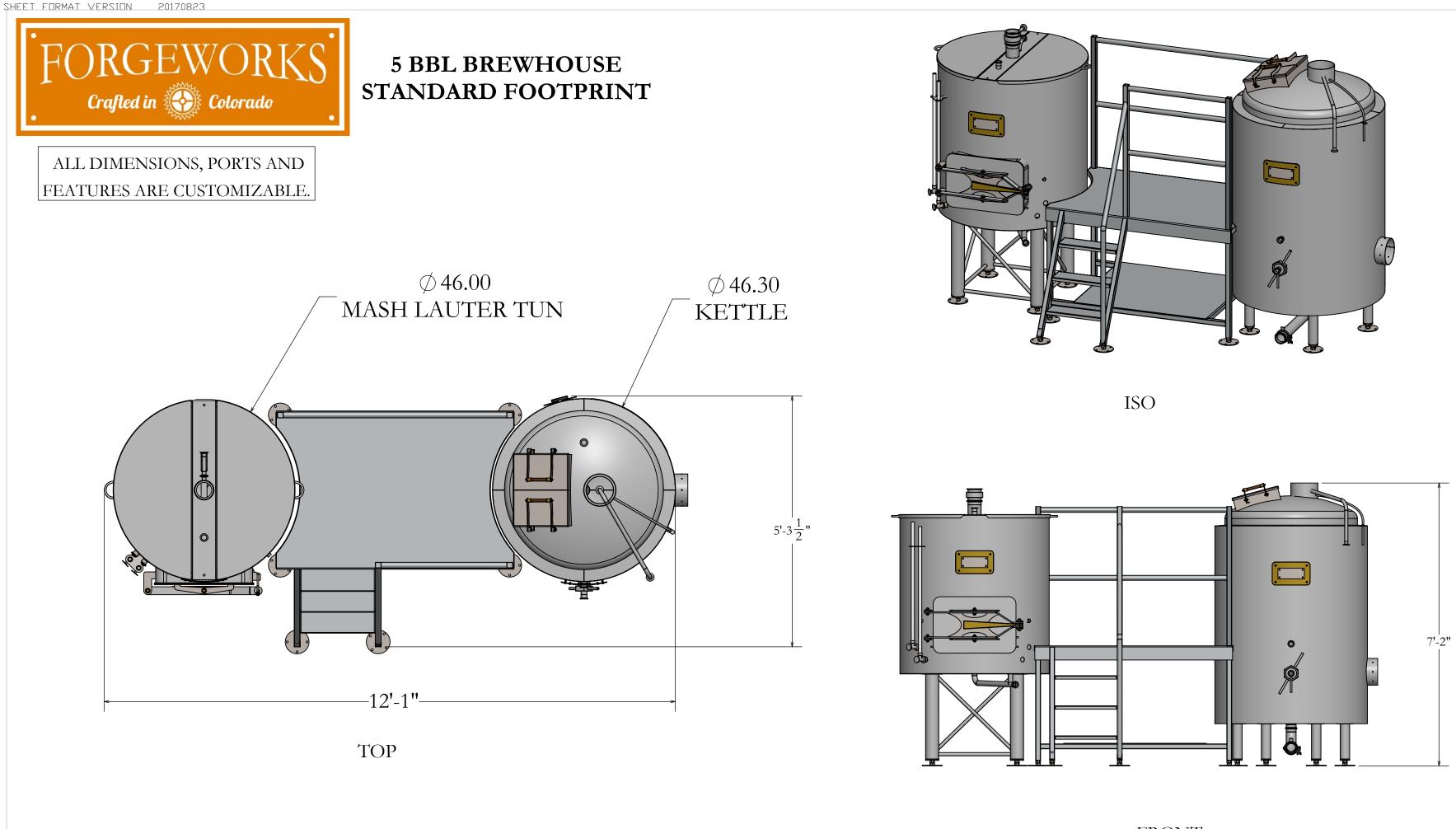
	CAP	ACITY		DIMEN	SIONS	S	EISMIC	
Nominal	• •	• •	•			Distance A between	Distance B between	Foot Diameter
Gallons	Barrels	Gallons	%	Width Inches	Height Inches	Legs (Inches)	Legs (Inches)	(Inches)
								6
								6
								6
310	16.9	524.2	69%	68.0	84.0	33.5	44.3	6
100		100 7	E 40/	40.0	75.0	10 5		6
							-	6
							-	6
								6
310	14.3	444.4	43%	64.0	88.0	30.5	44.5	6
109	F 4	1007	E 49/	41.0	64.0	10.0	20	6
	-							6
						-	-	
								6 6
310	16.9	524.2	69%	02.5	64.0	34	50.5	6
108	5.4	166.7	54%	37.0	64.0	18.6	28	6
155	8.9	274.9	77%	42.5	64.0	23	34	6
217	12.6	389.6	80%	50.5	64.0	28.5	42	6
310	16.9	524.2	69%	58.5	64.0	34	50.5	6
465	20.6	638.2	37%	62.0	72.0	40	60	6
620	33.4	1035.9	67%	68.0	72.0	44	66	6
217	9.4	290.0	34%	53.0	104.0	26.5	39.3	6
217	11.6	359.0	65%	-	-	-		-
310	13.6	423.0	36%	63.0	104.0	33.5	44.3	6
310	16.9	524.2	69%	-	-	-		-
	Gallons 108 155 217 310 108 155 217 310 108 155 217 310 108 155 217 310 465 620 217 310	Nominal GallonsTotal Capacity in Barrels1085.81558.521711.631016.91085.41558.521710.731014.31085.41558.921712.631016.946520.662033.42179.42179.421711.631013.6	Nominal GallonsCapacity in BarrelsCapacity in Gallons1085.8179.91558.5262.021711.6359.031016.9524.21085.4166.71558.5262.921710.7332.831014.3444.41085.4166.71558.9274.921712.6389.631016.9524.21085.4166.71558.9274.921712.6389.631016.9524.246520.6638.262033.41035.921712.6389.631016.9524.246520.6638.262033.41035.92179.4290.021711.6359.031013.6423.0	Total GallonsTotal Capacity in BarrelsTotal Capacity in GallonsHead Space1085.8179.967%1558.5262.069%21711.6359.065%31016.9524.269%1085.4166.754%1558.5262.970%21710.7332.853%31014.3444.443%1085.4166.754%1558.9274.977%21712.6389.680%31016.9524.269%1085.4166.754%1558.9274.977%21712.6389.680%31016.9524.269%31016.9524.269%46520.6638.237%62033.41035.967%2179.4290.034%21711.6359.065%31013.6423.036%	Total GallonsTotal Capacity in BarrelsTotal Capacity in GallonsHead Space %Width Inches1085.8179.9 67% 45.0 1558.5262.0 69% 52.0 21711.6 359.0 65% 58.0 31016.9 524.2 69% 68.0 1085.4 166.7 54% 48.0 1558.5262.9 70% 52.0 21710.7 332.8 53% 57.0 31014.3 444.4 43% 64.0 1085.4 166.7 54% 41.0 1558.9 274.9 77% 46.5 21712.6 389.6 80% 54.5 31016.9 524.2 69% 58.5 31016.9 524.2 69% 58.5 31016.9 524.2 69% 58.5 31016.9 524.2 69% 58.5 31016.9 524.2 69% 58.5 31016.9 524.2 69% 58.5 31016.9 524.2 69% 58.5 465 20.6 638.2 37% 62.0 620 33.4 1035.9 67% 68.0 2179.4 290.0 34% 53.0 21711.6 359.0 65% $-$ 31013.6 423.0 36% 63.0	TotalTotalTotalNominal GallonsCapacity in BarrelsCapacity in GallonsHead Space %108 5.8 179.9 67% 45.0 72.0 155 8.5 262.0 69% 52.0 84.0 21711.6 359.0 65% 58.0 84.0 31016.9 524.2 69% 68.0 84.0 108 5.4 166.7 54% 48.0 75.0 155 8.5 262.9 70% 52.0 88.0 31014.3 444.4 43% 64.0 88.0 31014.3 444.4 43% 64.0 88.0 108 5.4 166.7 54% 41.0 64.0 155 8.9 274.9 77% 46.5 64.0 21712.6 389.6 80% 54.5 64.0 31016.9 524.2 69% 52.5 64.0 31016.9 524.2 69% 52.5 64.0 31016.9 524.2 69% 58.5 64.0 31016.9 524.2 69% 58.5 64.0 62.5 638.2 37% 62.0 72.0 62.0 33.4 1035.9 67% 68.0 72.0 72.0 79.4 290.0 34% 53.0 104.0 717 11.6 359.0 65% $ 717$ 71.6 359.0 65% $-$ <th>Total Total Total Capacity in Capacity in Head Space Width Inches Height Inches Distance A between 108 5.8 179.9 67% 45.0 72.0 18 155 8.5 262.0 69% 52.0 84.0 21.5 217 11.6 359.0 65% 58.0 84.0 26.5 310 16.9 524.2 69% 68.0 84.0 23.5 108 5.4 166.7 54% 48.0 75.0 19.5 155 8.5 262.9 70% 52.0 88.0 23.5 217 10.7 332.8 53% 57.0 88.0 26.5 310 14.3 444.4 43% 64.0 88.0 30.5 108 5.4 166.7 54% 41.0 64.0 28.5 310 16.9 524.2 69% 62.5 64.0 28.5 310 16.9</th> <th>Total Nominal Gallons Total Capacity in Barrels Total Gallons Width Inches Height Inches Distance A between Distance B between 108 5.8 179.9 67% 45.0 72.0 18 27.3 155 8.5 262.0 69% 52.0 84.0 21.5 32.3 217 11.6 359.0 65% 58.0 84.0 26.5 39.3 108 5.4 166.7 54% 48.0 75.0 19.5 29 108 5.4 166.7 54% 48.0 75.0 19.5 29 108 5.4 166.7 54% 48.0 75.0 19.5 29 105 8.5 262.9 70% 52.0 88.0 30.5 44.5 108 5.4 166.7 54% 41.0 64.0 18.6 28 1108 5.4 166.7 54% 37.0 64.0 28.5 42 310 16.9</th>	Total Total Total Capacity in Capacity in Head Space Width Inches Height Inches Distance A between 108 5.8 179.9 67% 45.0 72.0 18 155 8.5 262.0 69% 52.0 84.0 21.5 217 11.6 359.0 65% 58.0 84.0 26.5 310 16.9 524.2 69% 68.0 84.0 23.5 108 5.4 166.7 54% 48.0 75.0 19.5 155 8.5 262.9 70% 52.0 88.0 23.5 217 10.7 332.8 53% 57.0 88.0 26.5 310 14.3 444.4 43% 64.0 88.0 30.5 108 5.4 166.7 54% 41.0 64.0 28.5 310 16.9 524.2 69% 62.5 64.0 28.5 310 16.9	Total Nominal Gallons Total Capacity in Barrels Total Gallons Width Inches Height Inches Distance A between Distance B between 108 5.8 179.9 67% 45.0 72.0 18 27.3 155 8.5 262.0 69% 52.0 84.0 21.5 32.3 217 11.6 359.0 65% 58.0 84.0 26.5 39.3 108 5.4 166.7 54% 48.0 75.0 19.5 29 108 5.4 166.7 54% 48.0 75.0 19.5 29 108 5.4 166.7 54% 48.0 75.0 19.5 29 105 8.5 262.9 70% 52.0 88.0 30.5 44.5 108 5.4 166.7 54% 41.0 64.0 18.6 28 1108 5.4 166.7 54% 37.0 64.0 28.5 42 310 16.9



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ENT REV/VER: A		SERIAL NUMBER	VOLUME	MASS 1391.13 lb	
ER	DESCRIPTION	DATE	ASM / PART / WELDMENT DESCR	10,51110, 00	
			3.5 BARREL BREWH Tank, floor layo		OT LIQUOR
			MATERIAL OR SEE BOM (1/A)		SHEET
			304 STAINLESS		1 of 1

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ENT REV/VER: A			SERIAL NUMBER	VOLUME	MASS 1632.32 lb	
'ER	DESCRIPTION	DATE	ASM / PART / WELDMENT DESCRI			
			5 BARREL BREWHOUSE AND HOT LIQUO Tank, Floor Layout			
			MATERIAL OR SEE BOM (I/A)		SHEET	
			304 STAINLESS		1 of 1	

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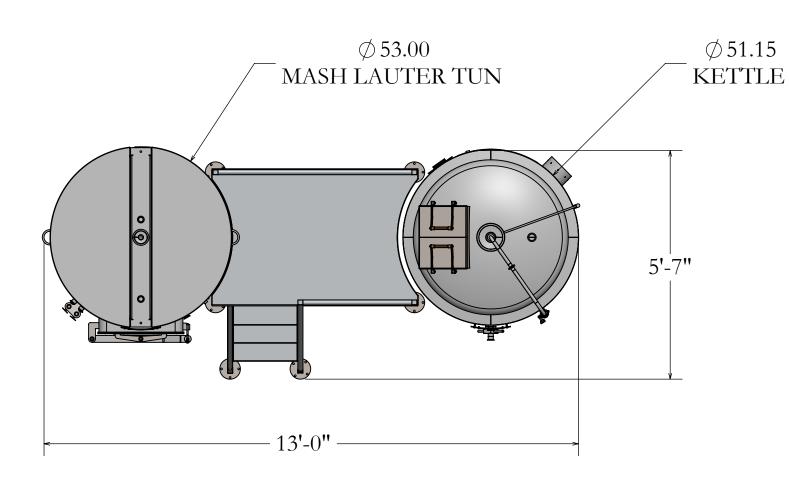


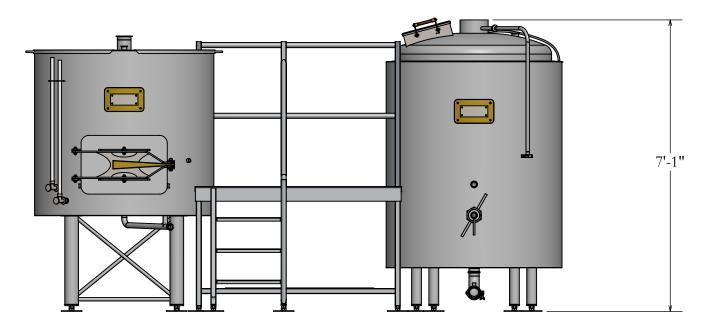


7 BBL BREWHOUSE STANDARD FOOTPRINT

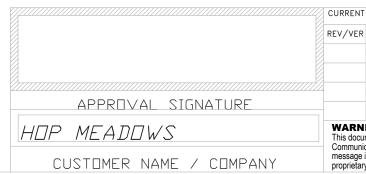
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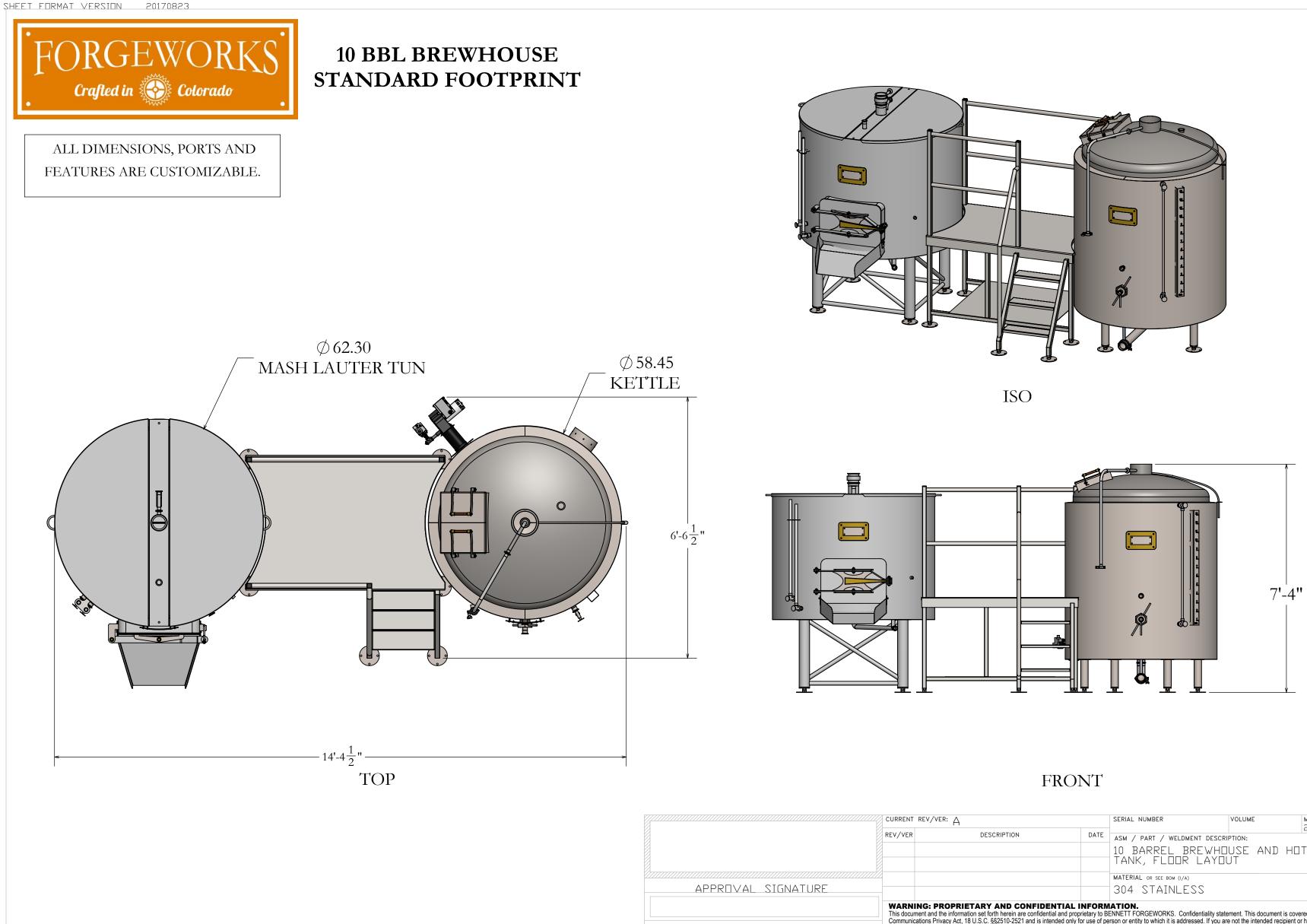


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IT REV/VER: A			SERIAL NUMBER	VOLUME	MASS		
R		DATE	ASM / PART / WELDMENT DESCRI		1890.68	0.68 lb	
			7 BARREL BREWHOL Tank, Floor Layou		T LIQUE	IR	
			MATERIAL OR SEE BOM (1/A)			SHEET	
			304 STAINLESS			1 of 1	

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CUSTOMER NAME / COMPANY

ENT REV/VER: A		SERIAL NUMBER	VOLUME	маss 2151.45 lb		
ER	DESCRIPTION	DATE	ASM / PART / WELDMENT DESCRI			
			10 BARREL BREWHOUSE AND HOT LIQUOR Tank, Floor Layout			
			MATERIAL OR SEE BOM (1/A)		SHEET	
			304 STAINLESS		1 of 1	

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