



Bulk Bag Discharger with Liquid Slurry Delivery System

Application Details:

NBE CSO #: E702070002

Material(s): Trisodium Citrate, Sodium Chloride, and Sodium-Lauryl-Sulfate (SLS)

Bulk Densities: 54-60, 75-78, and 34-40 #/ft³

Specific Gravities (once aqueous): 1.76, 2.17, and 1.05 g/cc

Particle Sizes: 100 mesh, 60 mesh, and 1/16" diameter needles

Flowability varies with specific product

Area Classification: General Purpose (non-hazardous)

Process Rate: Develop, blend, and dissolve one batch every 4-hours

Application Overview:

The customer will make-up a complete batch of concentrated soap solution starting with heated DI water and adding the three (3) solids, by weight, sequentially. The recipe data will automatically compensate for the 'heel' of dry solids which remain in the transfer conveyor between ingredients. The solids are added using the integral flash-blend addition tank and circulated through the in-line high shear blender and transfer pump specifically designed to integrate with the customers' existing large process tank. The solution will continuously circulate through the blending system until all solids have been added and fully dissolved. Once the batch (approx. 30,000 gallons) has been completed, the concentrated soap solution is blended with other ingredients in preparation for consumer packaging.

REVISIONS		NAME	DATE
LET	REVISION NOTES	RES	10/30/2020
A	ISSUED FOR APPROVAL	RES	10/30/2020
B	AS-BUILT	RES	3/29/2021

NOZZLE SCHEDULE			
ITEM	DESCRIPTION	SIZE	RATE
A	COMPRESSED AIR INLET	1/2 NPTF	4CFM @ 80PSI CONTINUOUS -15 CFM @ 80 PSI INTERMITTENT
B	SYSTEM INLET	3" ANSI 150# FLANGE	
C	SYSTEM OUTLET	2-1/2" ANSI 150# FLANGE	
D	SYSTEM DRAIN	3" TRICLAMP	
E	DUST COLLECTOR EXHAUST	6" PF 150# ANSI FLANGE	650 CFM @ 6" WC
F	MAIN POWER DROP	460V/3PH/60HZ	

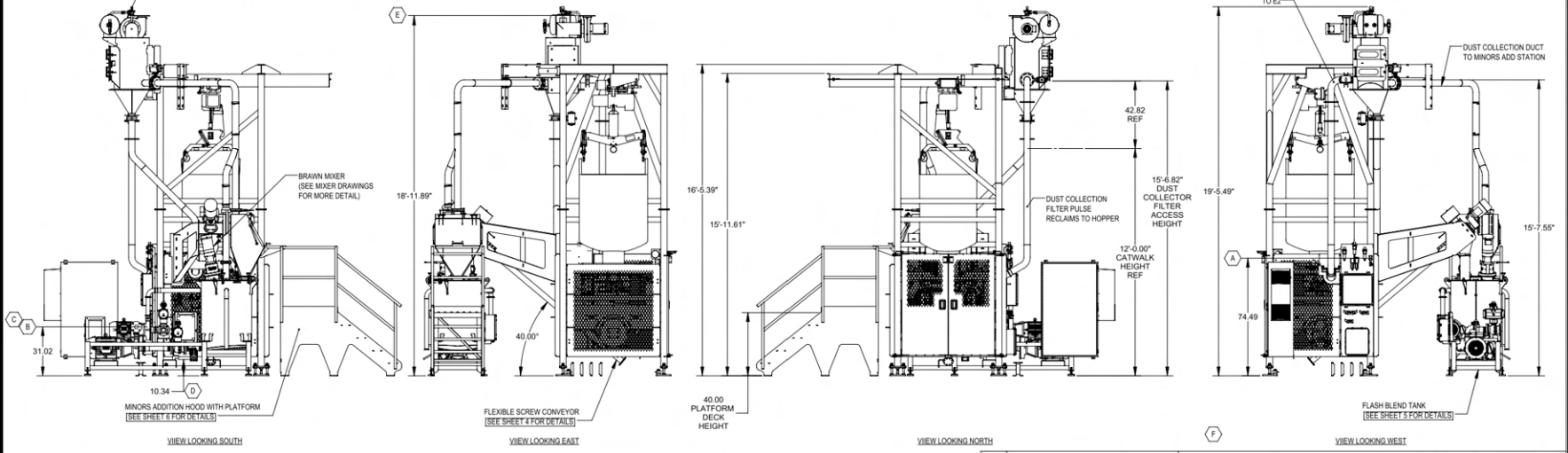
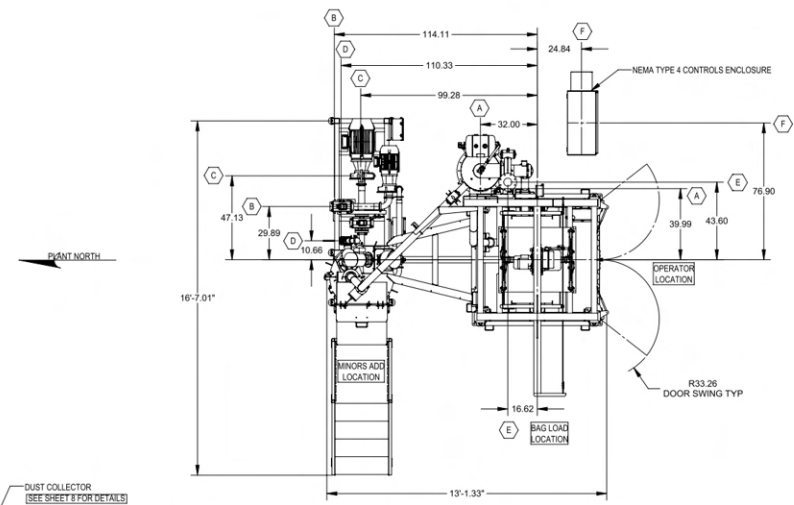
MATERIALS TO BE PROCESSED:
SODIUM CITRATE:
 -SOURCE - SPECIFIED BULK BAGS AND/OR KRAFT BAGS
 -FILLED WEIGHT - ASSUMED TO BE 1,300 - 2,200 POUNDS
 -BULK DENSITY - APPROX. 54.60 #/FT³ (AS CONFIRMED DURING TESTING)
SODIUM CHLORIDE:
 -SOURCE - SPECIFIED BULK BAGS AND/OR KRAFT BAGS
 -FILLED WEIGHT - ASSUMED TO BE 1,300 - 2,200 POUNDS
 -BULK DENSITY - APPROX. 75.78 #/FT³ (AS CONFIRMED DURING TESTING)
 -SPECIFIC GRAVITY - 2.17 G/CC
SODIUM LAURYL SULFATE (SLS):
 -SOURCE - SPECIFIED BULK BAGS AND/OR KRAFT BAGS
 -FILLED WEIGHT - SPECIFIED AS 1,300 POUNDS
 -BULK DENSITY - APPROX. 34.48 #/FT³ (AS CONFIRMED DURING TESTING)
 -SPECIFIC GRAVITY - 1.85 G/CC

PROCESS RATES:
 -SOLIDS FEED - AS QUICK AS REASONABLE (SPECIFIED MIN. OF 100-150 CUBIC FEET PER HOUR)
 -SOLUTION RECIRCULATION RATE - SIZED AT 150-170 GPM
 -BATCH MAKE-UP RATE - SPECIFIED AS NOT TO EXCEED 4 HOURS
 -BATCH FREQUENCY - SPECIFIED AS 4-5 BATCHES PER WEEK

BULK BAG INFORMATION:
 -SODIUM CITRATE - 30" L X 37" W X 43" H, 11" LONG STRAPS, Ø 14" X 30" LONG DISCHARGE SPOUT
 -SODIUM CHLORIDE - 35.25" L X 35.25" W X 43" H, 10" LONG STRAPS, Ø 14" X 19" LONG DISCHARGE SPOUT
 -SLS - 36" L X 43" W X 39" H, 10 LONG STRAPS, Ø 15" X 20" LONG DISCHARGE SPOUT

MATERIALS, WELDING AND FINISH SPECIFICATIONS:
 -ALL DRY PRODUCT CONTACT SURFACES ARE CONSTRUCTED FROM 304 STAINLESS STEEL
 -ALL WETTED PRODUCT CONTACT SURFACES ARE CONSTRUCTED FROM 304L STAINLESS STEEL
 ALL STAINLESS STEEL MATERIAL TGA AND THINNER IS 2B FINISH
 ALL STAINLESS STEEL MATERIAL THICKER THAN TGA IS MILL FINISH
 ALL STAINLESS STEEL MATERIALS TUBING AND PIPE IS MILL FINISH
 -ALL PRODUCT CONTACT WELDS ARE CONTINUOUS AND GROUND SMOOTH TO NOT NECESSARILY FLUSH (80 GRIT)
 -ALL NON-PRODUCT CONTACT SURFACES ARE CONSTRUCTED FROM CARBON STEEL AND PAINTED NBE GRAPHITE EPOXY
 -ALL NON-PRODUCT CONTACT WELDS ARE CONTINUOUS AND GROUND TO REMOVE IRREGULARITIES
 -PURCHASED PARTS ARE PROVIDED WITH STANDARD CONSTRUCTION FINISHPAINT
 -DRY PRODUCT CONTACT GASKETS & SEALS TO BE NITRILE UNLESS SPECIFIED OTHERWISE
 -WETTED PRODUCT CONTACT GASKETS & SEALS TO BE EPDM UNLESS SPECIFIED OTHERWISE

ELECTRICAL:
 -GENERAL INDUSTRIAL AREA CLASSIFICATION
 -NEMA TYPE 4 ENCLOSURES
 -460V/3PH/60HZ MAIN POWER CONNECTION
 -24V DC CONTROL VOLTAGE



SYSTEM LAYOUT & NOZZLE SCHEDULE

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APPROVED BY: [Signature]	National Bulk Equipment 13038 STEINLESS DR., HOLLAND, MICHIGAN 49423 PHONE: (616) 399-2220 www.nbe-inc.com
	MODEL CREATOR: RES 0000010 DWG BY: RES DATE: 10/30/2020 ASSY SLS SOLUTION SYSTEM CS/304SS NOTE: NOT ALL ITEMS SCALE SHEET: 01 DRAWING NUMBER: 13038-01-01 RES TO SCALE: 1:30 2 OF 9 D A313010 B

