



TRANSVAIR AERO- MECHANICAL CONVEYOR

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Young Industries has been supplying Aero-Mechanical Conveyors for powder handling applications since 1985. We have been constantly improving the design of the conveyor and our newest design addresses the needs of today's powder handling applications. Young Industries Aero-Mechanical Conveyors and rope assemblies are proudly manufactured in the USA. Our standard design offers the following features:

- ▶ **GAS TIGHT**
- ▶ **DUST TIGHT**
- ▶ **OUTBOARD BEARINGS**
- ▶ **PURGED SHAFT SEAL OPTION**
- ▶ **SHAFT MOUNTED DIRECT DRIVEN**

See Bulletin S-255-102.00 For Details

**ADVANCED
TECHNOLOGY
PROVEN DESIGN**

FABRICATED TO YOUR REQUIREMENTS

The standard features of our conveyor make it an ideal choice for conveying most powders. When conveying combustible powders, the conveyor can be inert gas blanketed. For handling sticky or cohesive powders Young Industries developed and patented the Transflow Aero-Mechanical Conveyor using our powder fluidization and conditioning technology. The cohesive powders will not stick or build up in our Transflow unit.

The heart of the Aero-Mechanical Conveyor is the rope assembly and Young Industries rope assemblies are manufactured in our "state of the art" facility located in Muncy, PA. We stock a wide range of Aero-Mechanical rope assemblies.



TRANSVAIR AERO-MECHANICAL CONVEYOR

What Is Aero-Mechanical?

The Transvaair Aero-Mechanical Conveyor operates mechanically. Sprocket assemblies positioned at the Inlet and discharge of the conveyor are joined together by two (2) tubes. The sprocket assemblies are sealed within rugged housings of either aluminum, carbon steel, or stainless-steel construction. A rope assembly consisting of equally spaced plastic discs on a wire rope travels around the sprockets and through the tubes at a velocity of 700 ft. per minute.



The velocity of the discs within the conveyor creates a moving column of atmospheric air. The fan type effect created by the moving discs tends to fluidize and suspend the materials being conveyed. On an average, 20% of the volume between each disc is material, with the remainder being atmospheric air. An added benefit to Aero-Mechanical Conveying is that the velocity allows powder and granules to stay in suspension while running horizontally, vertically, or any convey angle in between.

At the conveyor discharge, a cyclonic action takes place with material and air being separated. Due to its linear velocity, the material is thrown from the discharge by centrifugal force.

When a dust-tight connection is supplied between the conveyor and the receiving vessel, displaced air from the receiving vessel can be recirculated through the conveyor and vented at the conveyor inlet. In many cases the need for a vent filter on the receiving vessel is eliminated.



Configurations

The Transvaair Aero-Mechanical Conveyor is available in several standard configurations. Each unit is engineered to consume minimal floor space. Length and configuration are unit specific and each conveyor is engineered to meet the service conditions of the application.

TRANSVAIR AERO-MECHANICAL CONVEYOR

Model SL

The Model SL is the simplest of units. It is a straight-line unit capable of conveying at any angle from horizontal through vertical with no loss of capacity or efficiency. For most applications we limit the length of the unit to 40 ft. Portable units are available.



Model VH

The Model VH is a right-angle unit. The unit conveys vertically then by placing a sprocket on each tube makes a 90 degree turn to convey horizontally. For those applications where floor space is a premium, the Model VH Conveyor has advantages. For most applications we limit this conveyor to a total length of 60 ft. (vertical and horizontal combined).

Model HV

The Model HV is a right-angle unit. This unit conveys horizontally, then by positioning sprockets on each tube makes a 90-degree turn to convey vertically. For most applications we limit this conveyor to a total length of 60 ft. (vertical and horizontal combined).



Z Configurations

By adding sprockets to the Model HV or VH Conveyor, we can make additional turns to have a Z-Configuration.

TRANSVAIR AERO-MECHANICAL CONVEYOR

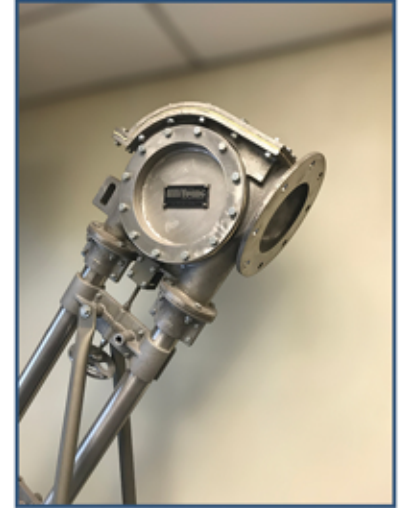
Size And Capacities

Young Industries Transvair Aero-Mechanical Conveyors are available in 3" and 4" diameter tube sizes.

3" Conveyor has an estimated capacity of 500 cu. ft. per hour

4" Conveyor has an estimated capacity of1000 cu. ft. per hour

For conveying fine powder, other types of mechanical conveyors can be limited to the flowability of the product handled. Young Industries uses our Transflow fluidization and conditioning technology on these fine powders. We can condition powders to flow freely into the conveyor which results in higher convey rates. With the Aero-Mechanical concept, the more fluid the product is entering the conveyor, the higher the convey capacity of the machine.



Pressure Containment
Design



Rope Assemblies

Young Industries rope assemblies are proudly made in the USA. Using local injection molding suppliers, we have a wide range of plastics available for disc assemblies. Our "state of the art" Aero-Mechanical Rope manufacturing facility in Muncy, PA gives us complete control of the quality and consistency of our rope assemblies. We offer a wide range of standard rope assemblies that are in stock for quick delivery to our customers. Our rope assemblies fit most brands of Aero-Mechanical Conveyors. Additional information for our rope assemblies is available in bulletin S-255-101.00

Cleanability

Young Industries Transvair Aero-Mechanical Conveyor is easily cleaned. There is very little residual material left in the conveyor after it has conveyed material. Typically, the residual material left in the conveyor can be easily cleaned with purge air to get the unit 95% clean. When complete cleaning is needed this conveyor can be washed down. An added benefit to the Aero-Mechanical Conveyor is that it readily conveys liquids and can be washed easily. For those applications that require water washdown, purge and drain connections can be provided.



Purge Air Cleaning

TRANSVAIR AERO-MECHANICAL CONVEYOR

Capabilites

The Transvair Aero-Mechanical Conveyor can be supplied as a simple unit to convey material from ground level to a process vessel, or as part of a large system that requires high rate conveying. The Transvair Aero-Mechanical Conveyor's compact design and high convey capacity make it a good choice for:

- **Bulk Bag Unloading Systems** – The high convey rate and compact design of the Transvair Aero-Mechanical Conveyor make it an excellent choice for bulk bag unloading applications.
- **Paper Bag Dumping Systems** – For those applications where powders are added to the process from paper bags, our conveyor is a great choice. Typically, the 3" Conveyor will convey at a higher rate than an operator will dump bags. Also, with the ability to convey vertical the dump station can be positioned closely to the receiving vessel.
- **Batch Loading Of Mixers Or Blenders** – High rate, dust free unloading paper bags, drums or bulk bags into mixers or blenders
- **Loading Rate Feeders** – The Transvair Aero-Mechanical Conveyor is frequently used to load powders into our Stinger Gravimetric feeders since it can convey at high rates and is gas and dust tight.
- **Pressure Containment/ High Pressure Units** – On some occasions we are asked to design our conveyor for the P-Max of the powder being conveyed due to process safety requirements. Young Industries is an ASME code certified manufacturer and we have the capabilities to design and fabricate our conveyors for high pressure conditions.
- **Conveying Combustible Powders** – Our conveyor is gas-tight for those applications where inert gas blanketing is needed. The conveyor system is grounded and bonded and is available with static conductive carbon filled discs. Young Industries also manufactures NFPA Compliant Rotary Valves which easily integrate with our Transvair Aero-Mechanical System.

PROUDLY MADE IN THE USA



Portable Model "SL"
Conveyor



Filter bag Dump Station With Model
"SL" Conveyor

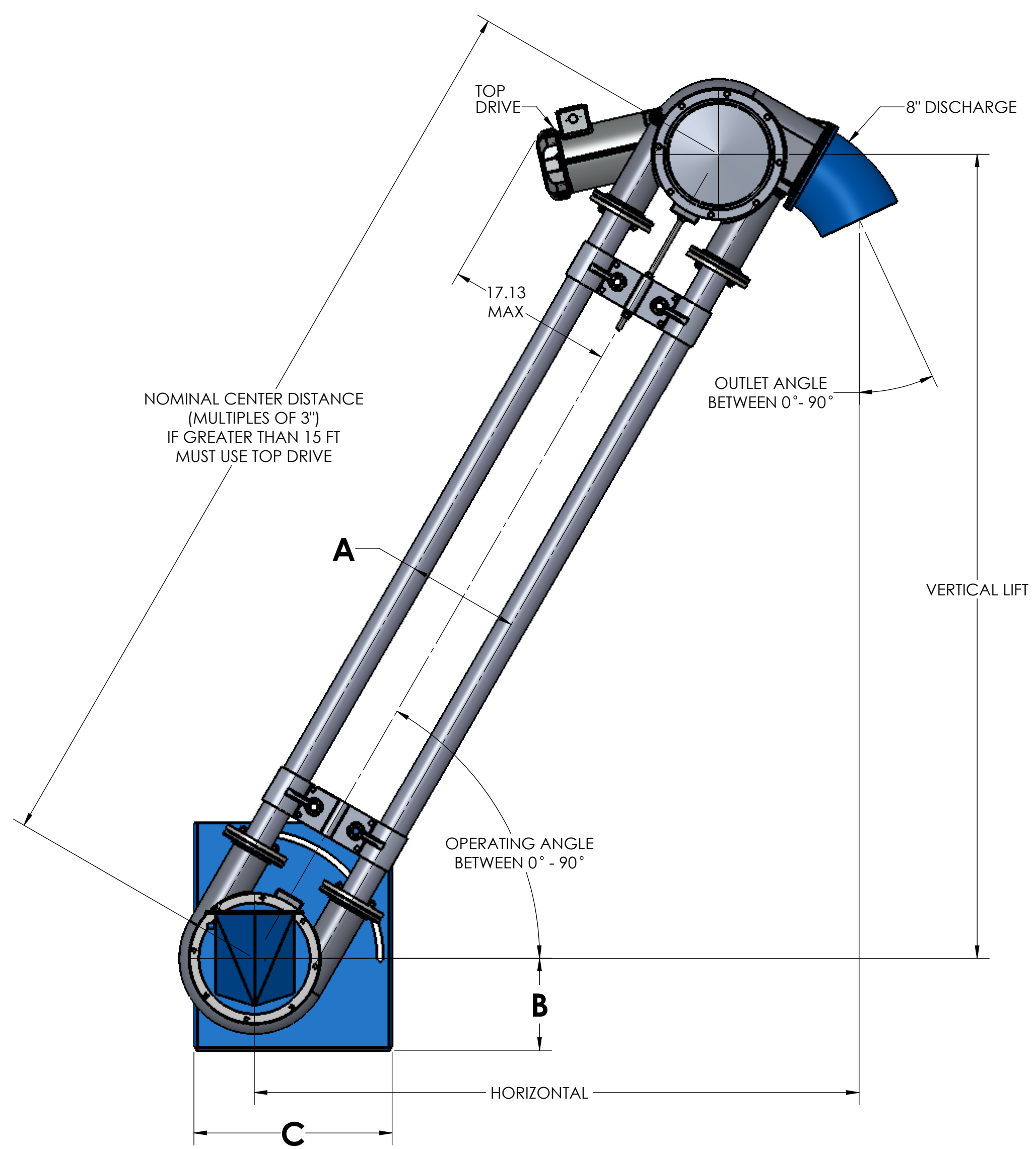


Bulk Bag Unloading With Model "VH" Conveyor

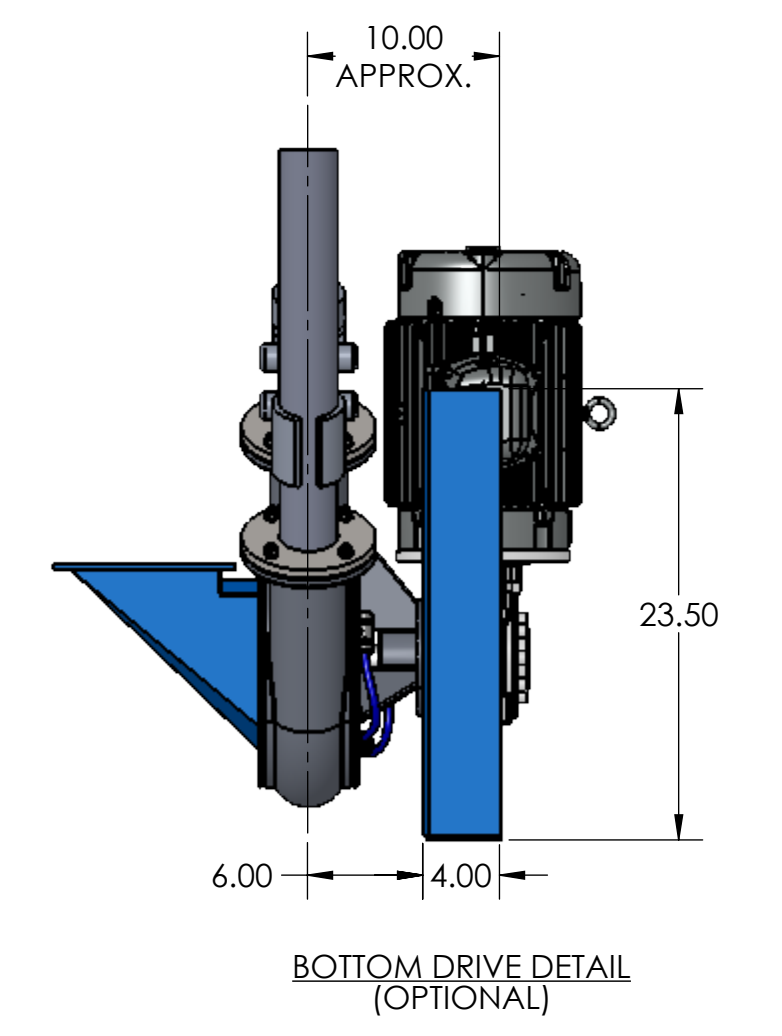
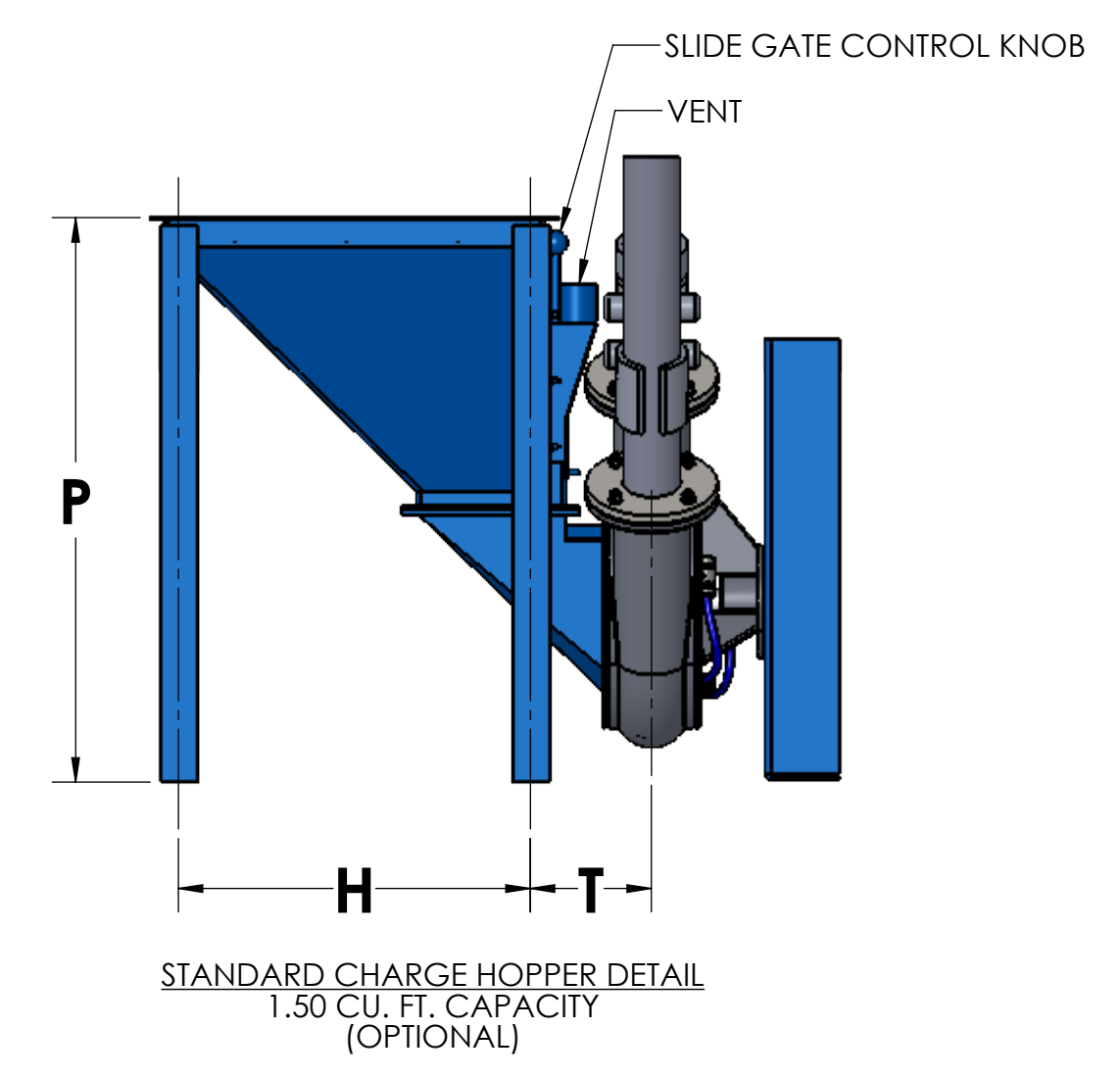
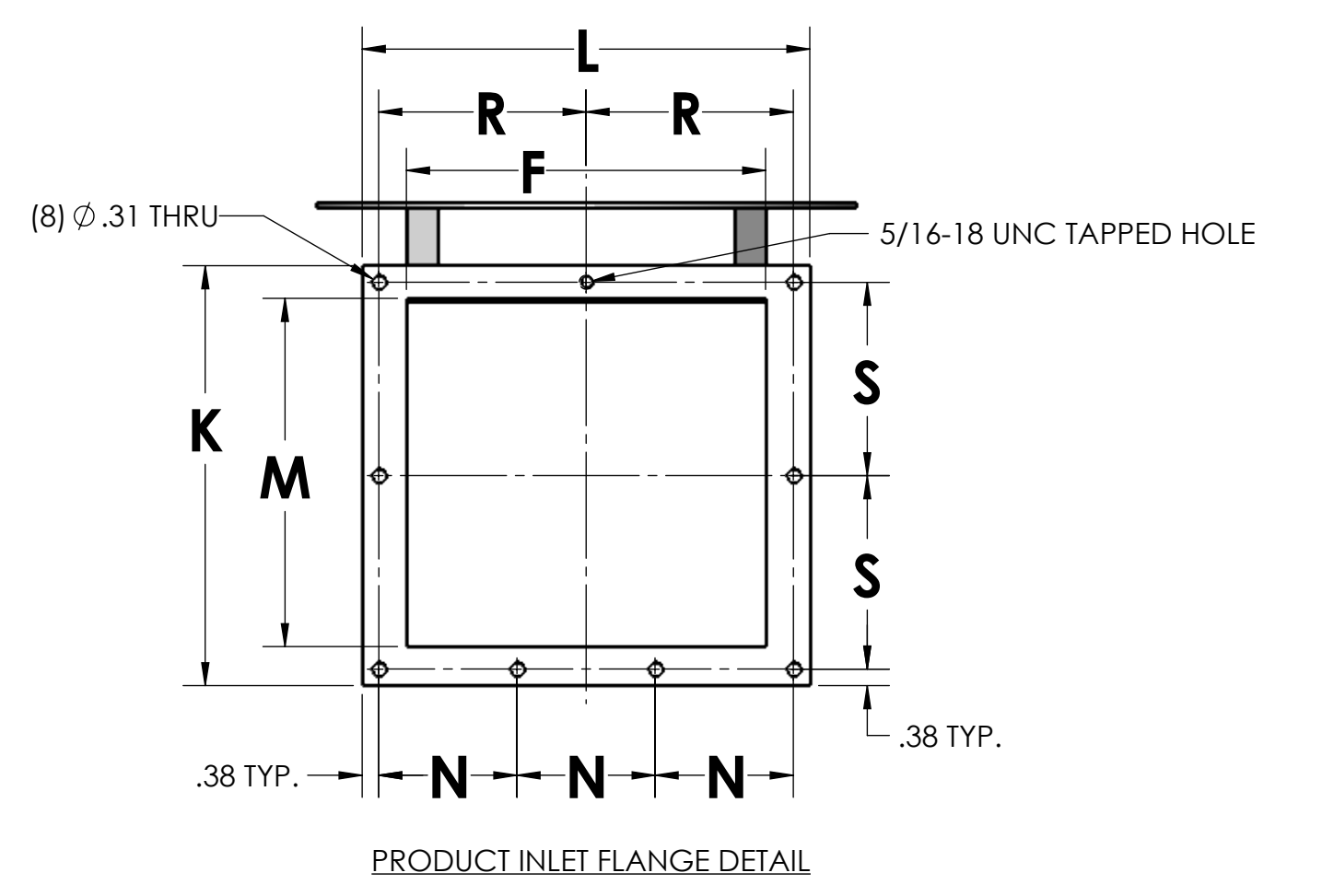
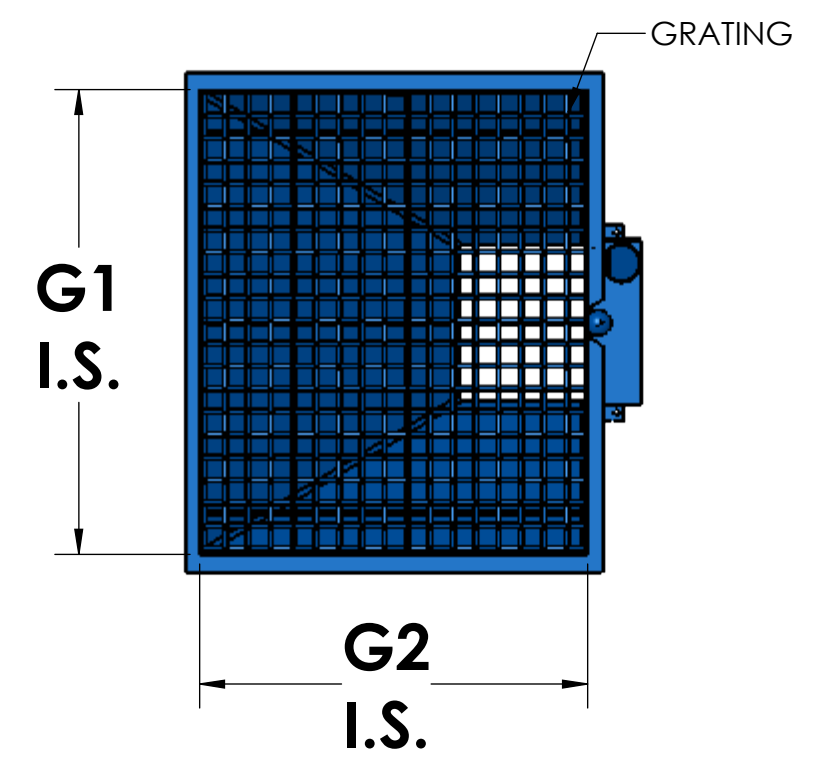
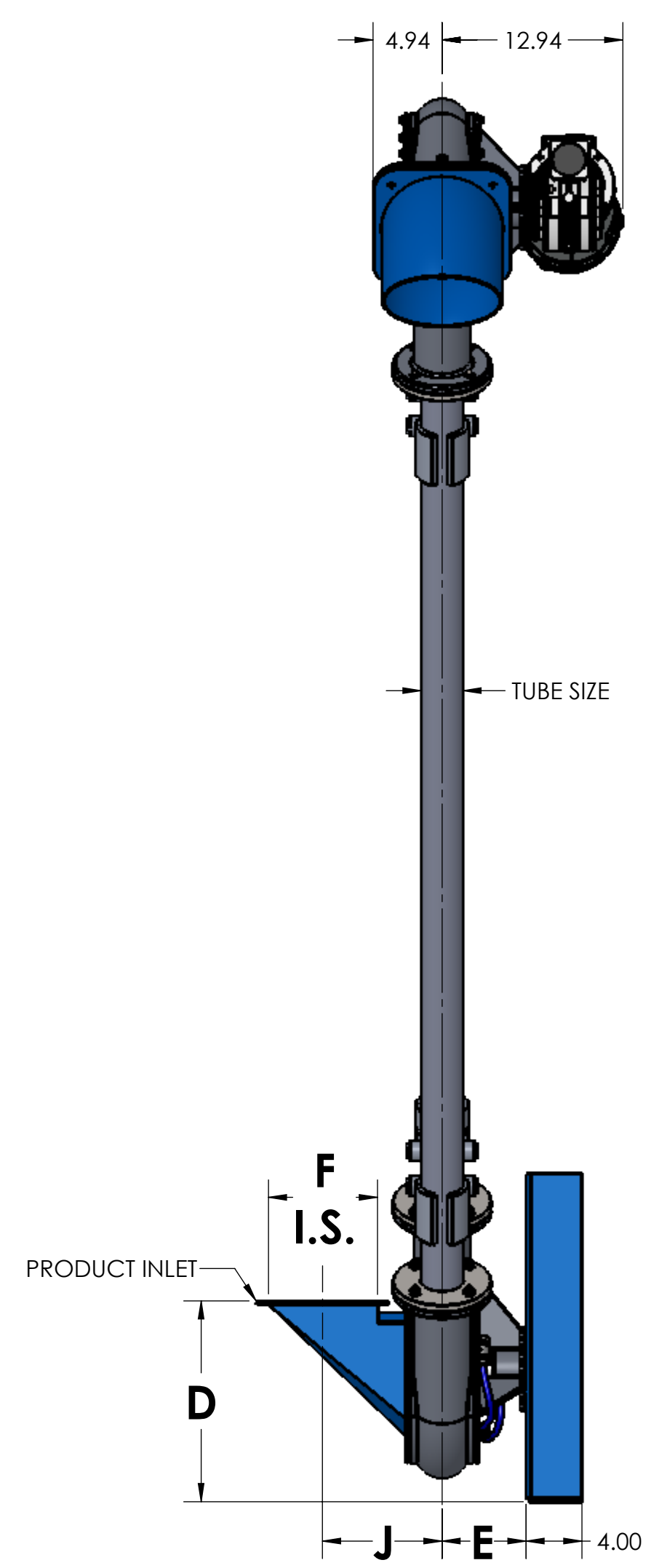


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NOTE: RIGHT HAND DISCHARGE W/ TOP DRIVE SHOWN
LEFT HAND DISCHARGE OPPOSITE

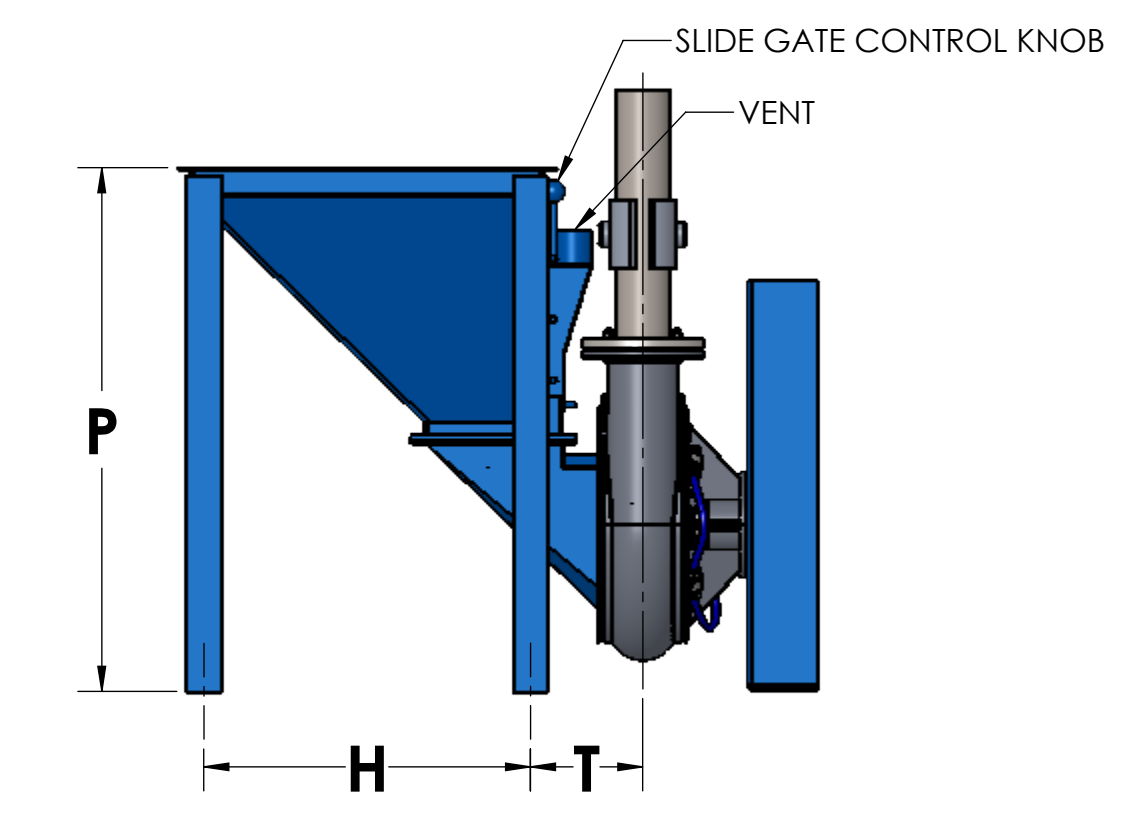
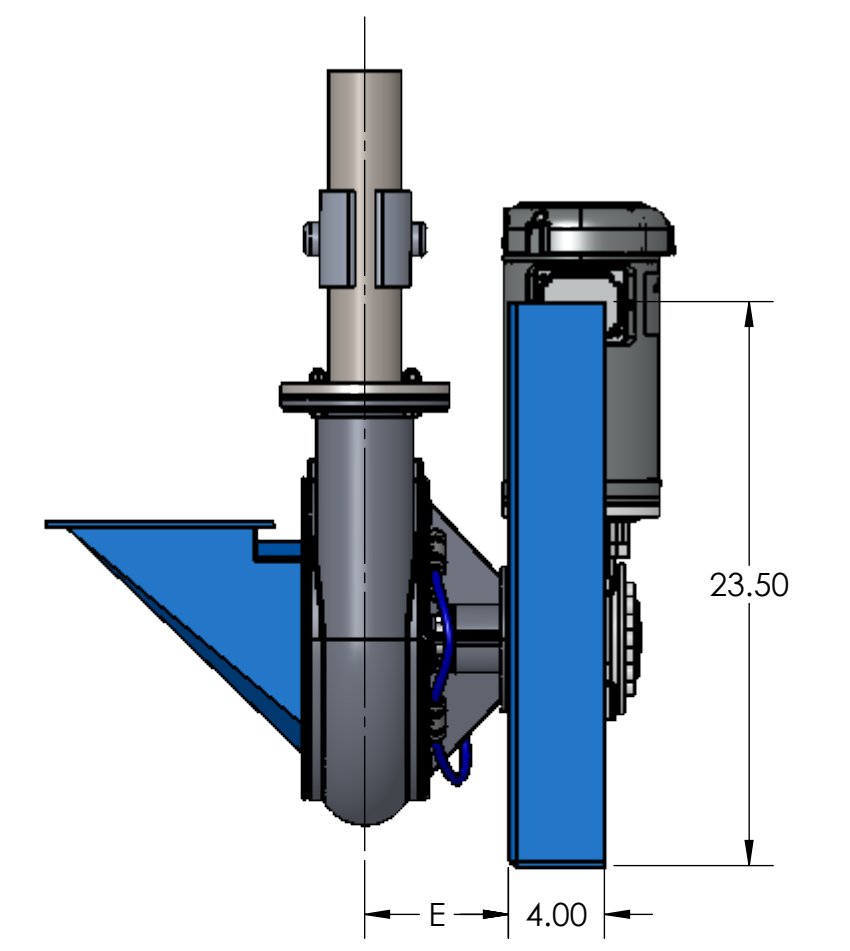
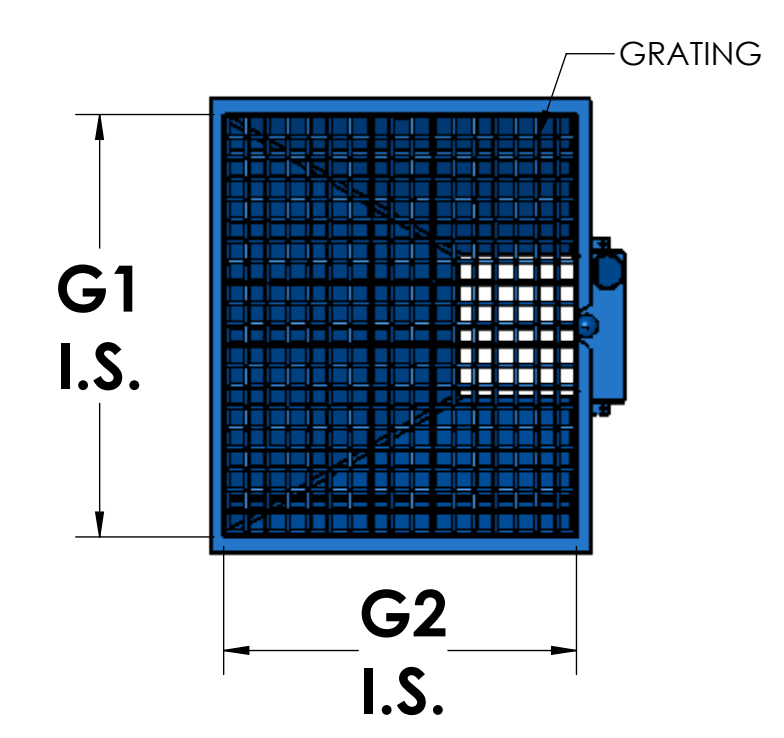
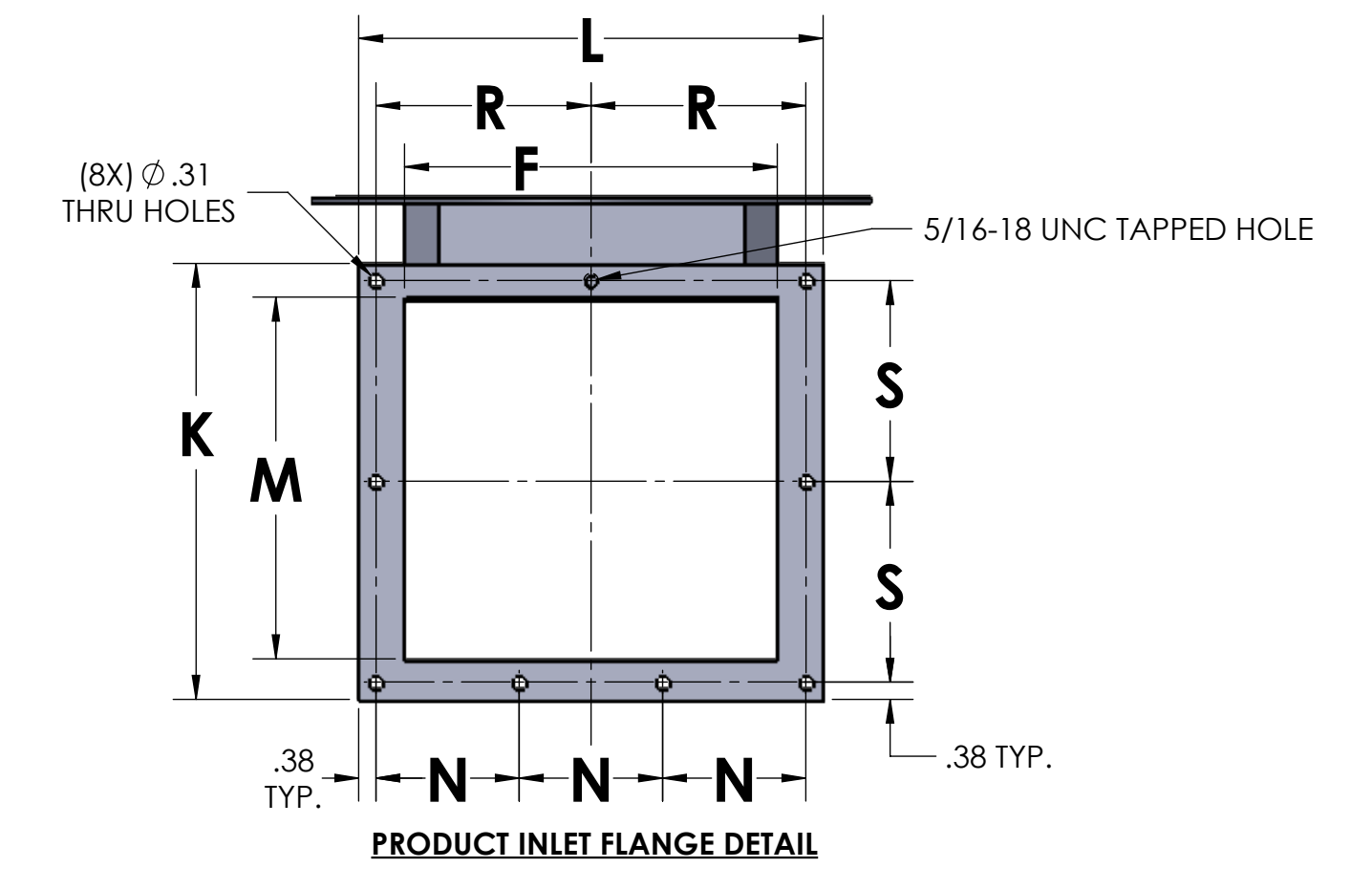
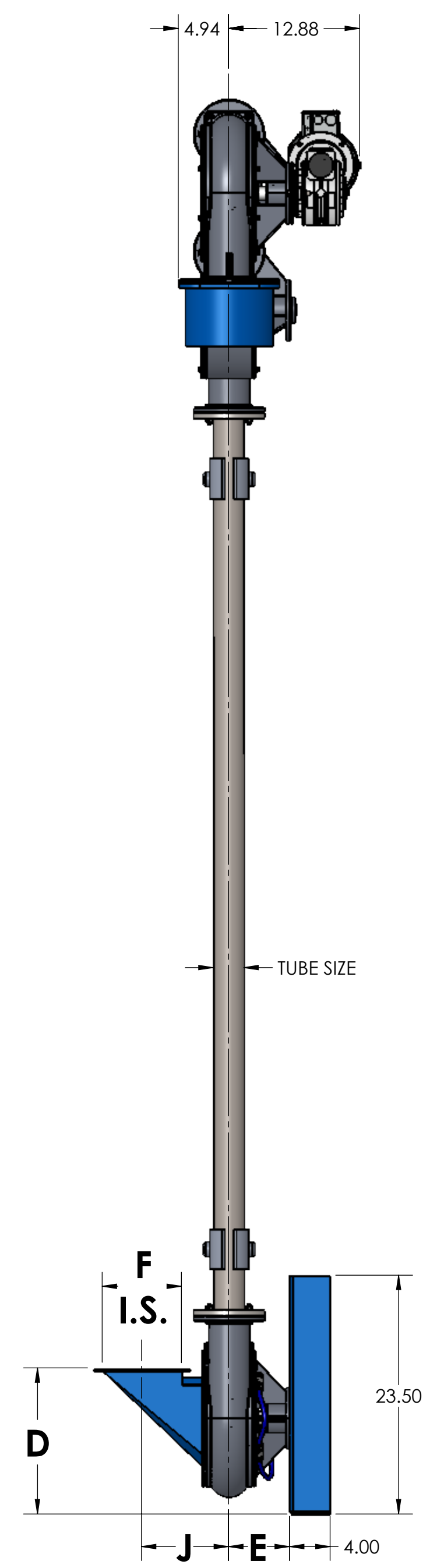
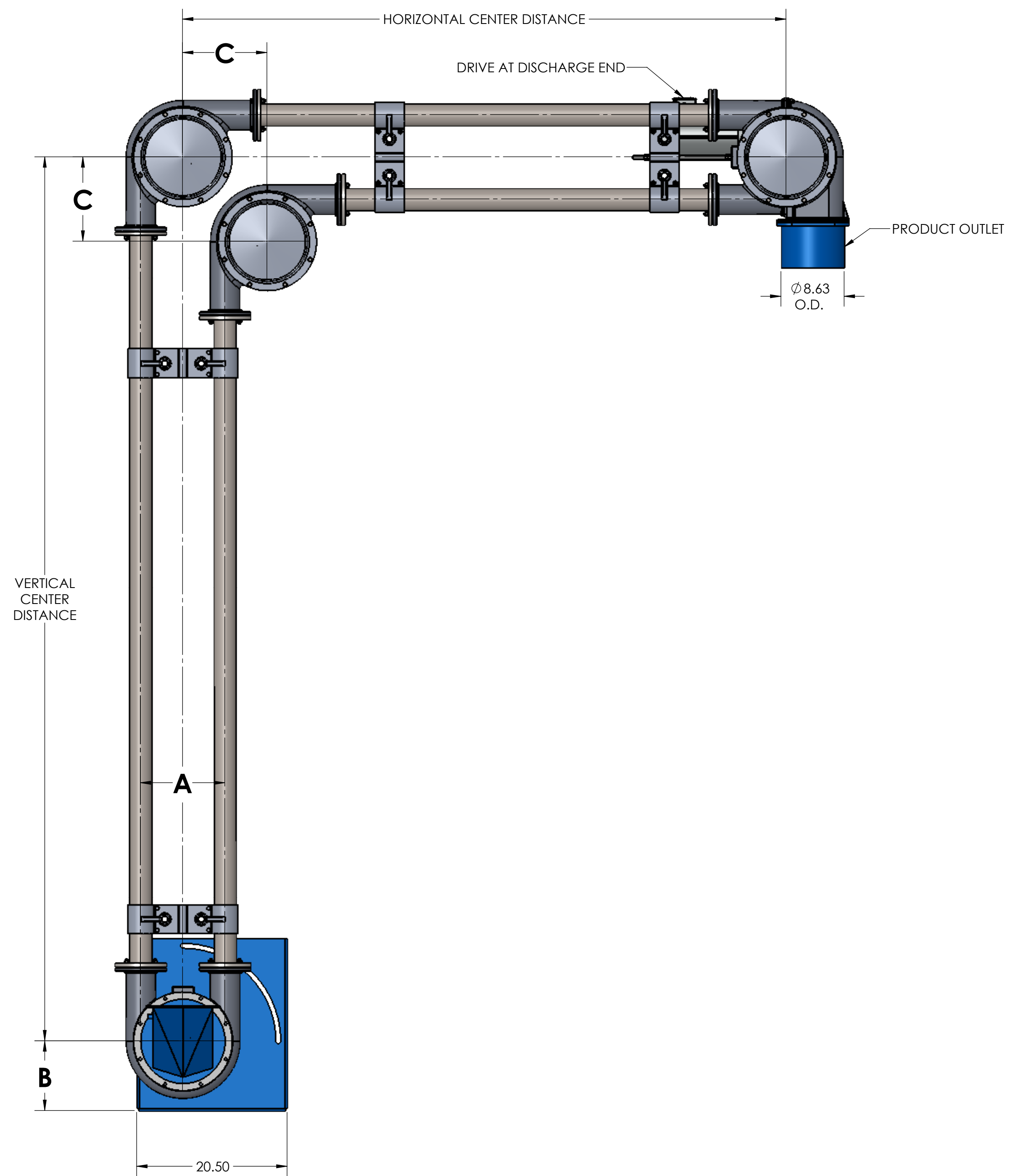


THIS IS A PRELIMINARY SKETCH ONLY. DIMENSIONS ARE ESTIMATED. NOT FOR FABRICATION.

TUBE SIZE	A	B	C	D	E	F	G1 X G2	H	J	K	L	M	N	P	R	S	T
3"	11.50	9.50	20.50	14.38	6.00	7.88	24.00 X 20.00	18.44	8.56	9.50	10.25	7.75	3.13	30.00	4.69	4.38	6.44
4"	15.25	11.38	25.00	17.63	6.63	9.56	24.00 X 20.00	18.88	9.31	11.13	10.63	9.56	3.25	31.00	4.88	5.22	6.44

GENERAL TOLERANCES	
UNLESS OTHERWISE SPECIFIED THE FOLLOWING SHALL APPLY	
MACHINING - .XX= .02 .XXX= .005 ANGLE= .50°	
SURFACE ROUGHNESS HEIGHT 63 MICRONS OR LESS	
FABRICATION - UNDER 6 6 TO 24 24 TO 60 OVER 60	
± .06 ± .12 ± .19 ± .25	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	

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REVISIONS			
CUSTOMER:			
CUSTOMER PO NUMBER:			
YOUNG JOB NUMBER:			
TITLE			
ASSEMBLY: YOUNG INDUSTRIES TRANSAIR MECHANICAL CONVEYOR (TMC), MODEL 'SL' TOP DRIVE W/ SHAFT MOUNTED DRIVE, SIZE 3" & 4"			
YOUNG INDUSTRIES, INC. MUNCY, PENNSYLVANIA 17756 TELEPHONE: 570-546-3165			
DRAWN BY: SMR		DATE: 01/10/19	
CHECKED BY:		SCALE=1:10	
DRAWING NUMBER		SHEET	REV:
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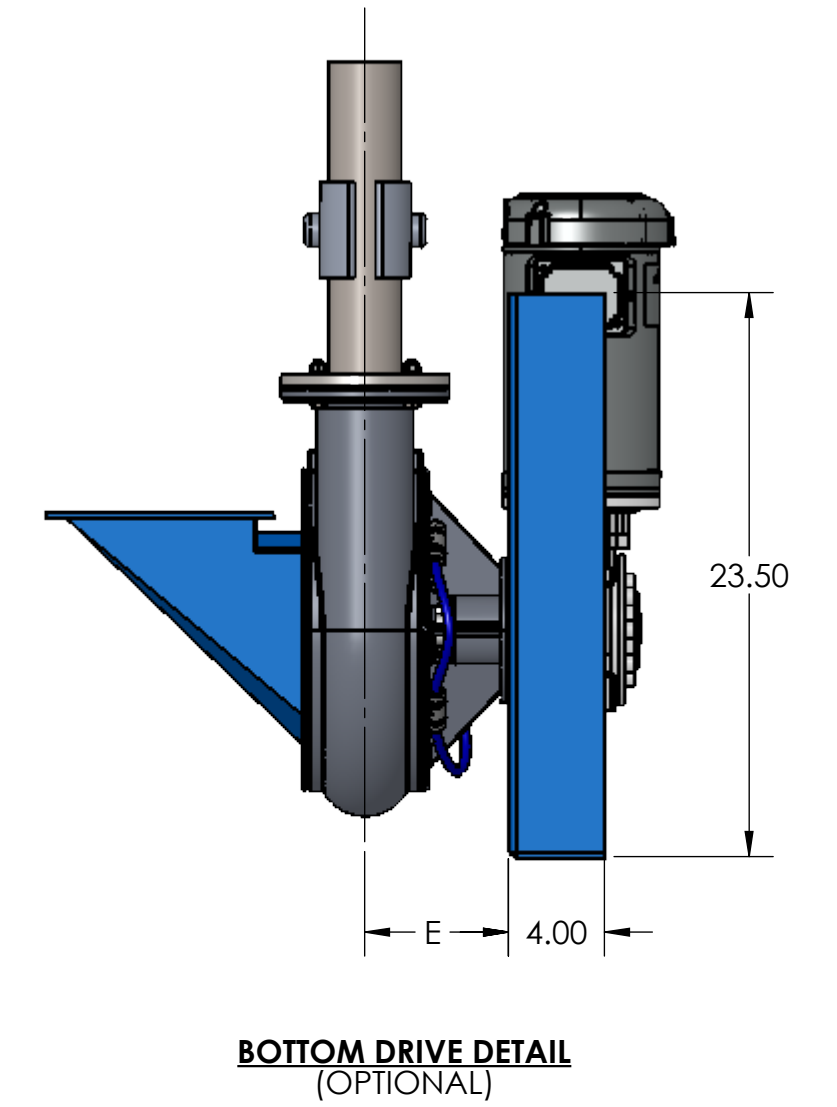
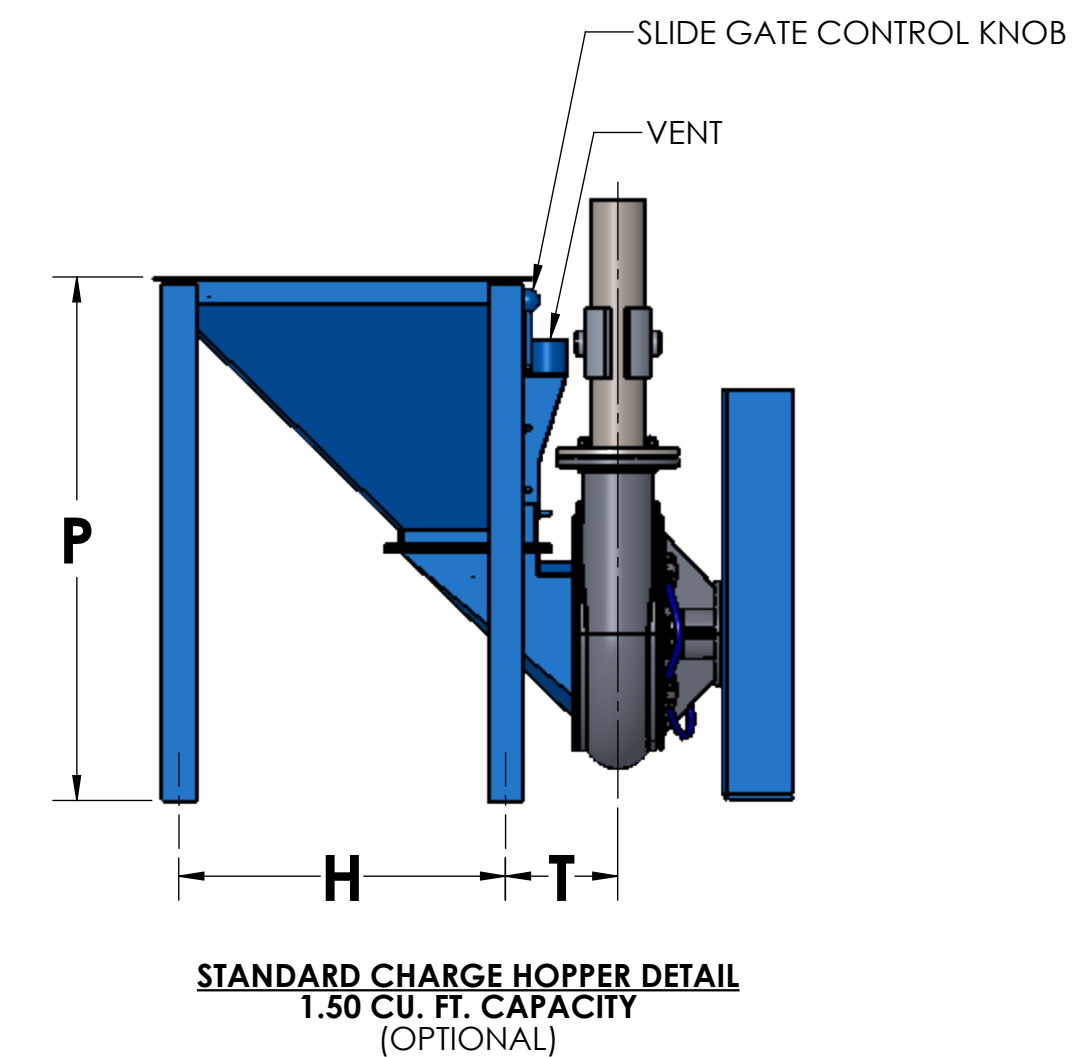
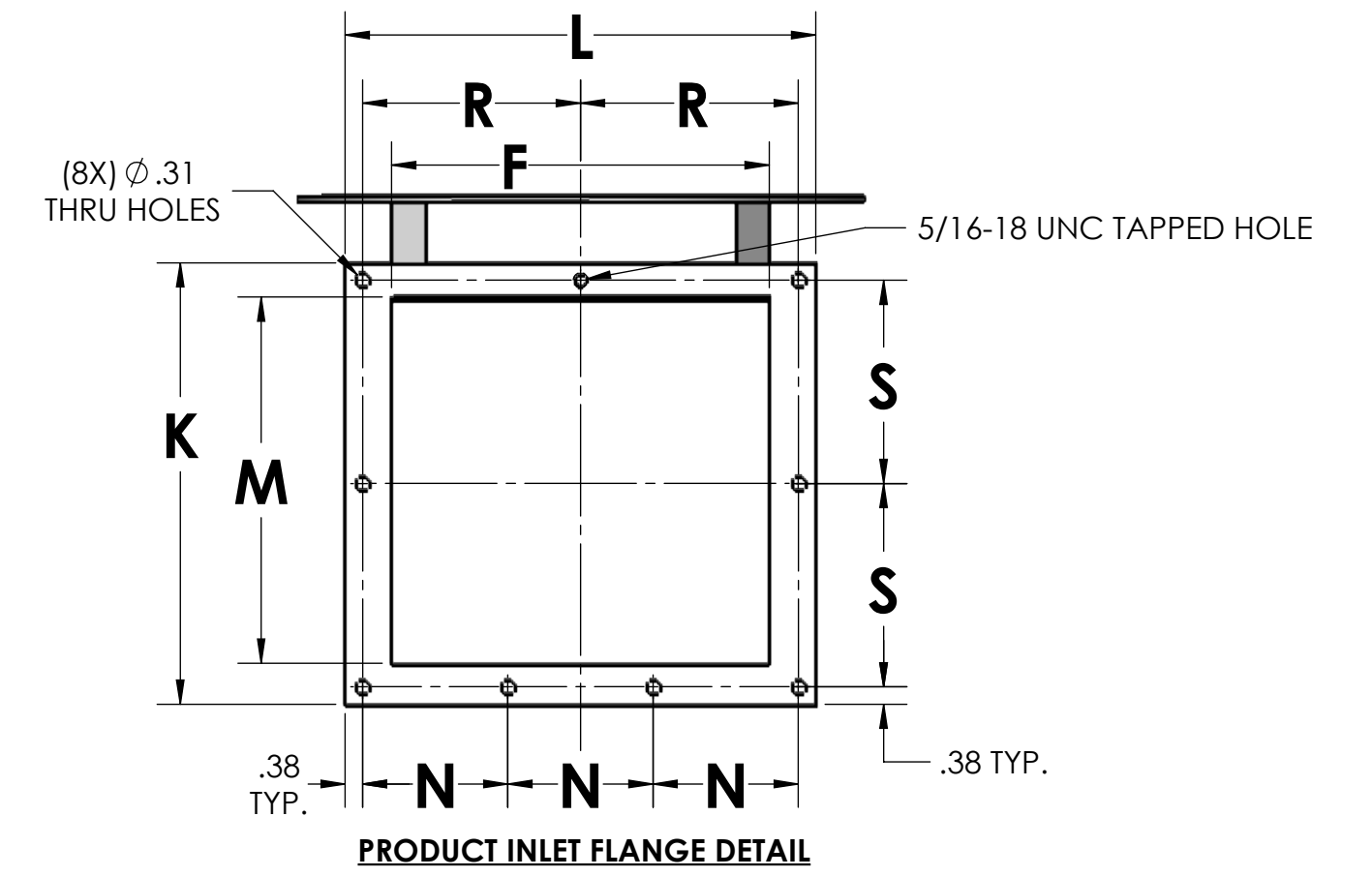
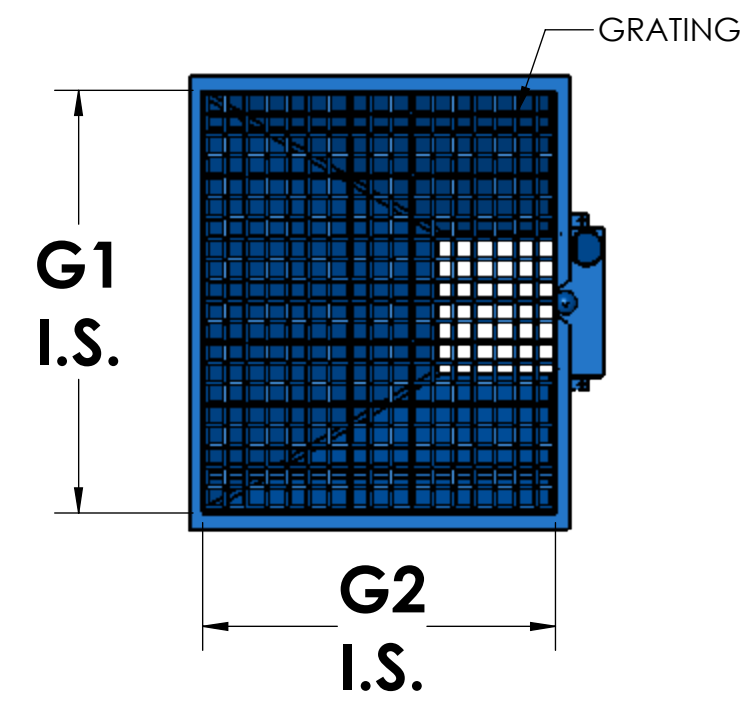
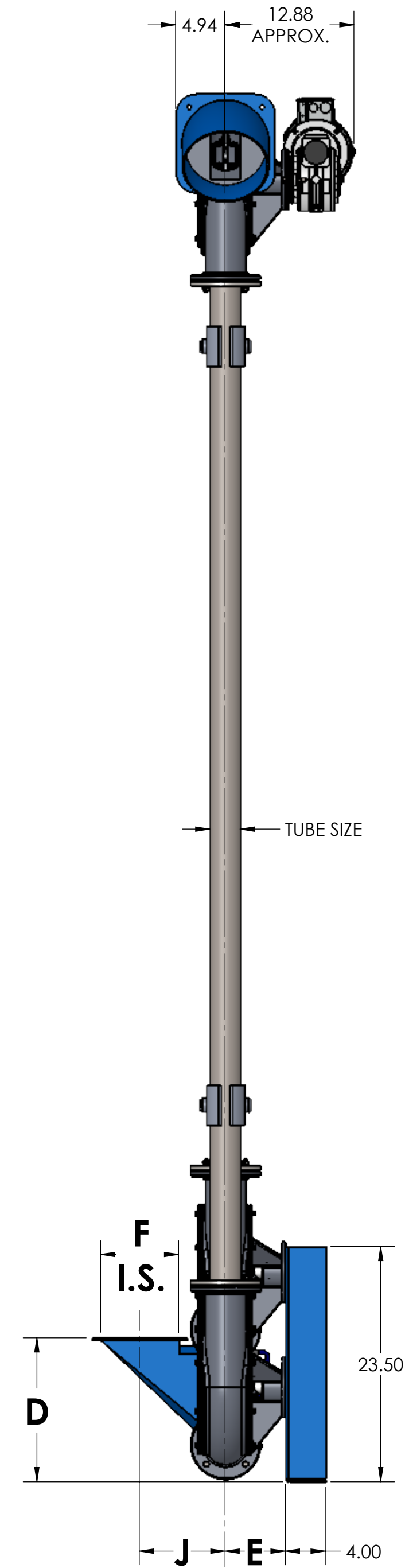
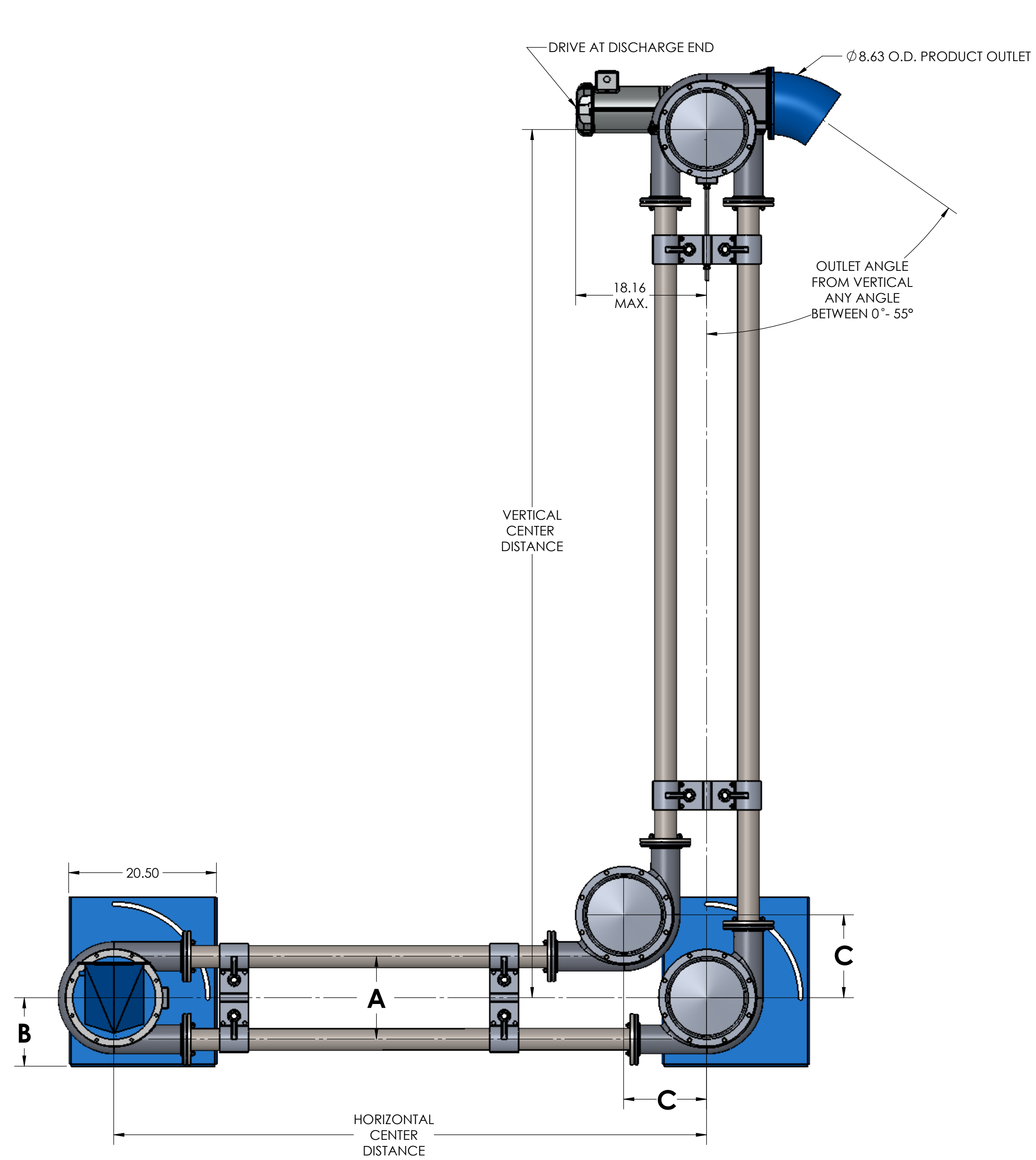


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DRAWN BY: SMR		DATE: 01/16/19	
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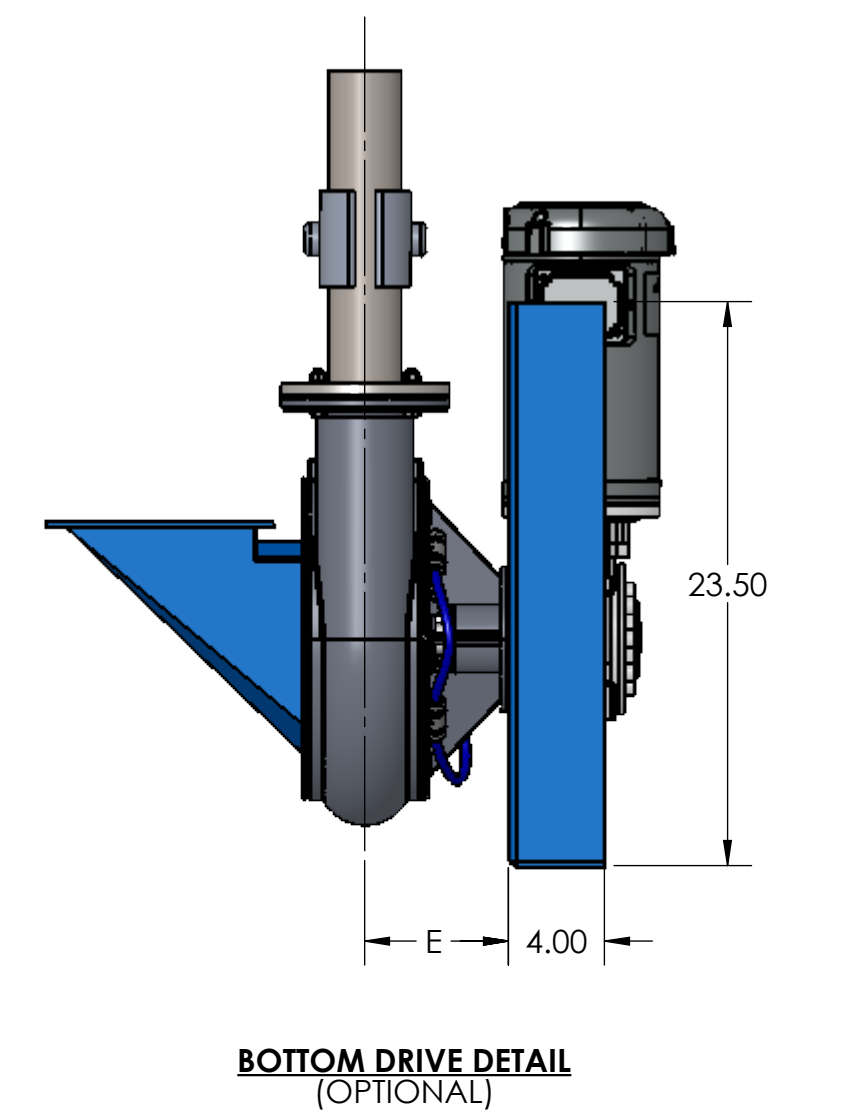
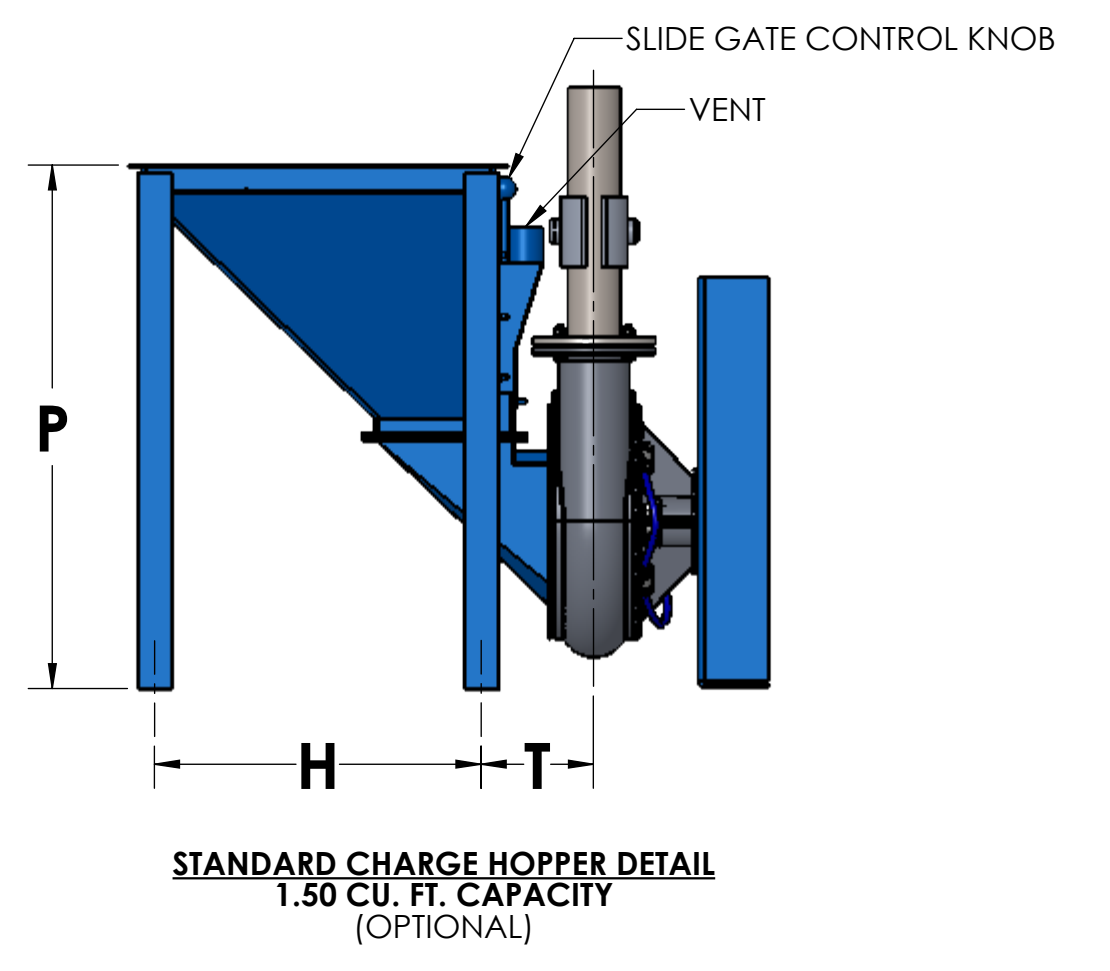
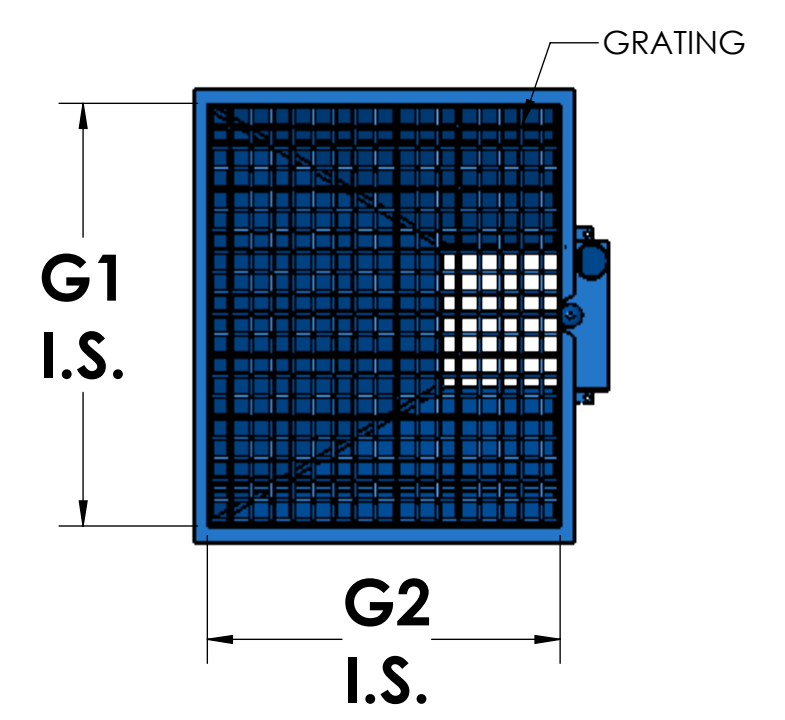
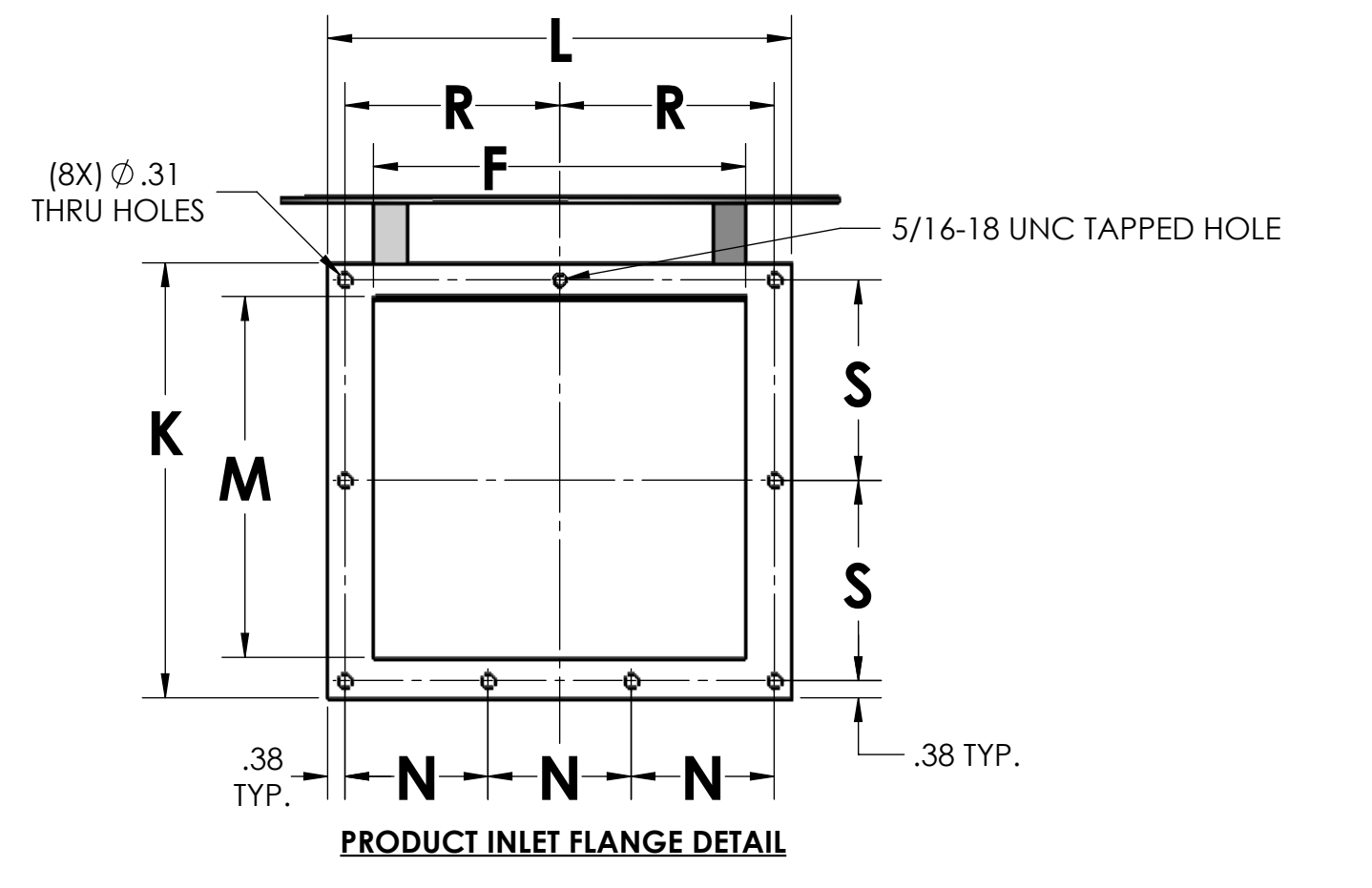
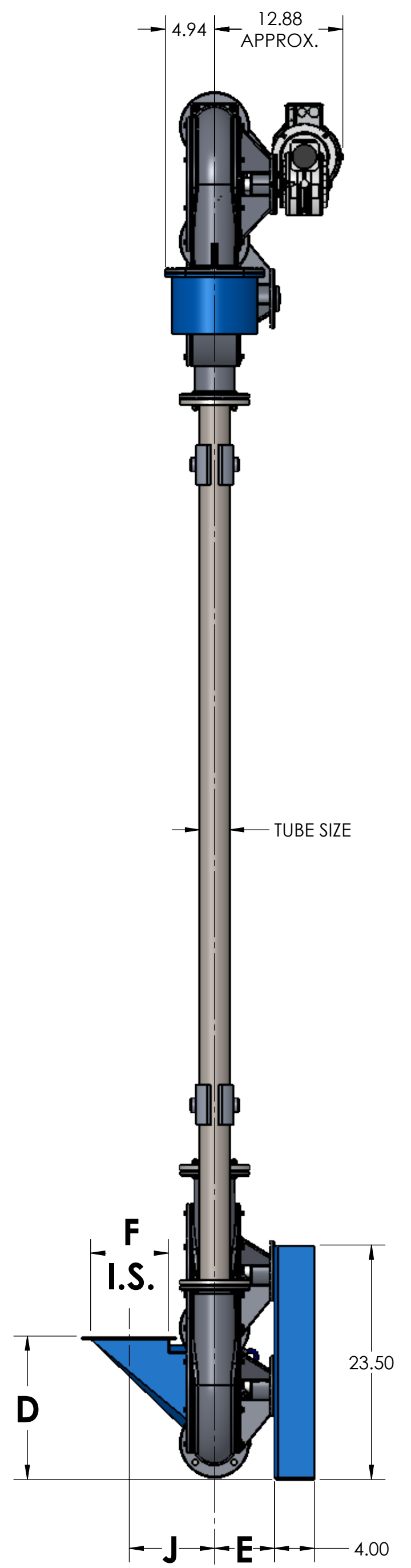
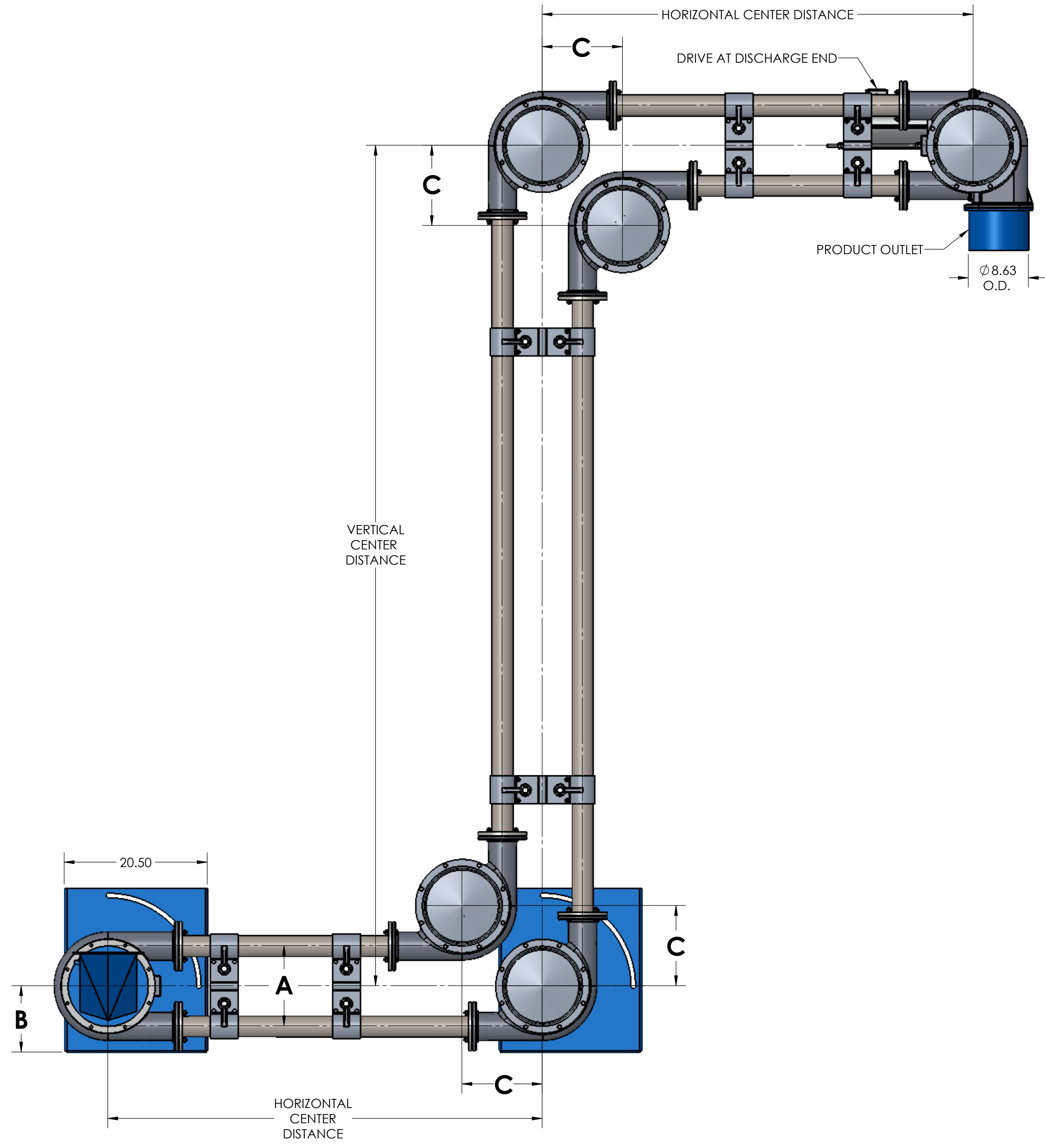


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THE YOUNG INDUSTRIES, INC. MUNCY, PENNSYLVANIA 17756 TELEPHONE: 570-546-3165			
DRAWN BY: SMR		DATE: 01/16/19	
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