

TWIN-SHAFT CONTINUOUS MIXER

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For over 70 years, Young Industries has been providing Twin-Shaft Mixers for continuous blending of a wide variety of powders, liquids and pastes. These mixers are being used in the Petrochemical, Chemical, Ceramics, Food, and Waste Treatment Industries.

Young Industries has an extensive background in testing and application assistance. The Twin-Shaft Mixer provides a highly efficient method to mix powders of multiple ingredients on a continuous basis. The mixer offers standard features which allow for changing the retention time of product in the mixer. Based on our experience and testing we can determine the proper set-up to comply with the requirements of the application.

FABRICATED TO YOUR REQUIREMENTS

Constructed from 300 series stainless steel, carbon steel, or special alloy materials, the Twin-Shaft Mixer will be designed to your specific use. Each unit is custom designed based on the parameters of the application. The Mixer can be equipped with a spray manifold for dispersing of liquids, a weir plate to maintain the proper retained volume, and as many inlets as required for powder addition. Twin-Shaft agitator sizes are available from 4 inches to 36 inches in diameter with variable lengths and retained volumes. (See specification chart.) The body of the Twin-Shaft Mixer is fabricated into a double U-shaped construction. This configuration allows the paddles to thoroughly mix products, eliminating dead-spots in areas where products can become lodged.



**ADVANCED
TECHNOLOGY
PROVEN DESIGN**

TWIN-SHAFT CONTINUOUS MIXER

SANITARY CONSTRUCTION

Young Industries has been supplying mixers for the food processing, baking, and pharmaceutical industries since our founding in 1947. These mixers are generally 300 series stainless steel construction where product contacts, and in many cases having exterior components of stainless steel. We design these mixers based on the level of cleanability required by the application. Some of our design features may include interior with a uniform finish having welds free from cracks, crevices and pin holes, ground to a smooth finish (up to 180 grit). The same precision, sanitary construction can be used on agitators. Covers are dust tight with access provisions as needed. Provisions for clean in place with liquid spray nozzles can also be provided.

Young Industries sanitary seal provides space around the agitator shafts for ease of cleaning. Hand knobs are used so that the entire seal assembly can be taken apart for cleaning without tools.

PRODUCT MIXING TIME FROM 30 SECONDS TO 10 MINUTES

Product mixing is thoroughly achieved by the efficient design of the agitator system. Once the products enter, they are mixed and conveyed by the counter rotation of the two agitator shafts. The Twin Shaft Mixer has a single drive that powers the driven agitator. AGMA spur gears on the tail end of the mixer assures both shafts operate at the same speed for smooth operation.

The agitator shafts span the full length of the unit and are fitted with rows of adjustable paddles. These paddles are designed and constructed to convey the product down through the trough, cutting and kneading it all the way to the discharge outlet.

By adjusting the pitch of these paddles, the mixing rate can be either increased or decreased as material travels through the mixer. This type of adjustment regulates the thoroughness of blending and the capacity of the mixer. Adjustable paddles are standard, but welded paddles are also available.

MEETING CUSTOMER REQUIREMENTS

Each application of a Twin Shaft Mixer must meet specific production requirements. Each unit is supplied to the exact specifications to meet the rates, and mixing efficiencies required. We take into consideration factors such as, the type of products to be mixed, bulk density, and the required mixing time. Then we determine the proper size unit for that application.



Removable Weir Plate



Weir Plate in position while mixing powders

TWIN-SHAFT CONTINUOUS MIXER

PRESSURE AND VACUUM MIXERS



Special high pressure or vacuum applications are no problem for Young Industries. We are authorized to apply ASME “U”, “UM”, stamps to Twin-Shaft Mixers and associated equipment as the need arises. If exterior jackets are needed for heating or cooling, ASME exterior jackets are available.



Packing gland seals with air purge connections and outboard bearings

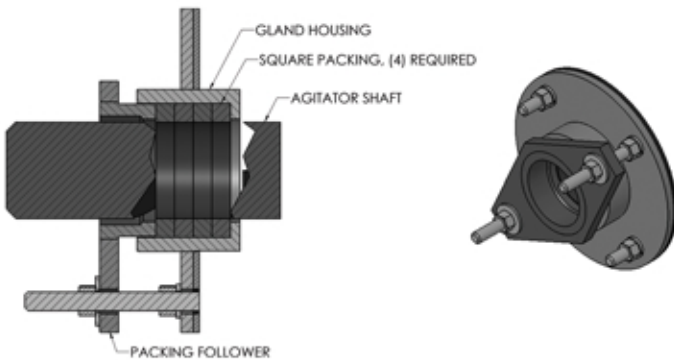


AGMA Spur Gears at discharge end of mixer

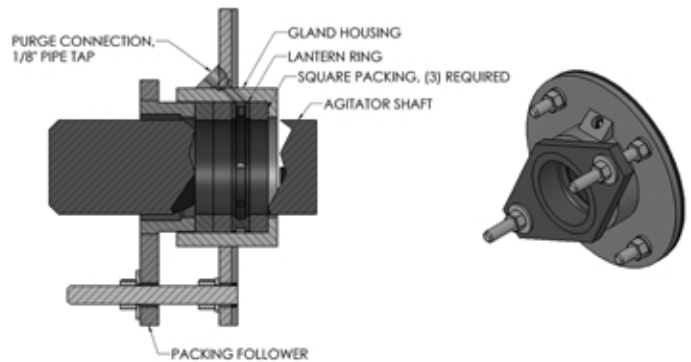
MIXER TESTING

Young Industries offers equipment testing at our test facility in Muncy, PA. Testing the Twin Shaft Mixer requires metering of multiple products at controlled rates. We have metering equipment in our test facility to achieve precise additions as needed by the application. For those applications where product testing must be conducted on site, Young Industries can supply a Twin Shaft Mixer for testing and supervision as needed.

Shaft Seals

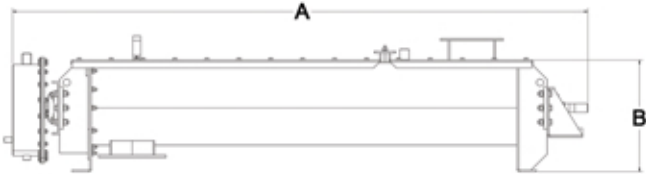
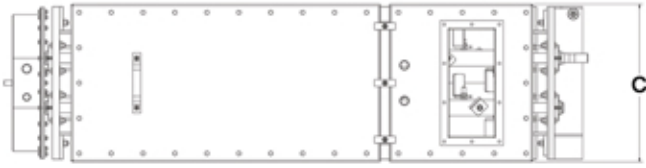


Packing Gland W/ 4 - Rings of Packing



Packing Gland W/ Purge Connection & Lantern Ring

TWIN-SHAFT CONTINUOUS MIXER



NOTICE

The photographs, illustrations, drawings and descriptions contained in this publication are not intended to depict actual operating conditions or to suggest operating procedures. They are included only for the purpose of portraying the features of the machinery. The manufacturer's installation, operation and maintenance instructions and recommended safety procedures must be expressly followed during installation, operation or maintenance of the equipment.

Mixer Designation	Retained Volume	Dimensions		
		A	B	C
4 x 36	0.32	60.25	7.00	9.75
4 x 48	0.44	72.25		
4 x 60	0.56	84.25		
4 x 72	0.69	96.25		
6 x 36	0.74	56.00	9.50	13.38
6 x 48	1.05	68.00		
6 x 60	1.35	80.00		
6 x 72	1.65	92.00		
6 x 84	1.96	104.00	13.50	20.38
9 x 36	1.73	59.50		
9 x 48	2.47	71.50		
9 x 60	3.21	83.50		
9 x 72	3.95	95.50	19.00	26.38
9 x 84	4.68	107.50		
9 x 96	5.42	119.50		
12 x 48	4.19	75.50		
12 x 60	5.52	87.50	22.00	31.00
12 x 72	6.84	99.50		
12 x 84	8.16	111.50		
12 x 96	9.49	123.50		
12 x 108	10.81	135.50	25.00	40.00
15 x 72	10.20	101.75		
15 x 84	12.30	113.75		
15 x 96	14.40	125.75		
15 x 108	16.50	137.75	25.00	40.00
15 x 120	18.50	149.75		
15 x 132	20.60	161.75		
18 x 96	17.00	130.75		
18 x 120	22.00	154.75	25.00	40.00
18 x 144	27.00	178.75		
18 x 168	32.00	202.75		
18 x 192	37.00	226.75		
18 x 216	42.00	250.75		

Mixer Designation	Retained Volume	Dimensions		
		A	B	C
21 x 120	29.30	158.75	30.00	45.00
21 x 144	36.00	182.75		
21 x 168	42.80	206.75		
21 x 192	46.90	230.75		
21 x 216	56.40	254.75	34.00	52.00
21 x 240	63.20	278.75		
24 x 120	39.40	163.25		
24 x 144	48.60	187.25		
24 x 168	57.90	211.25	42.00	63.00
24 x 192	67.10	235.25		
24 x 216	76.40	259.25		
24 x 240	85.62	283.25		
30 x 120	62.45	167.75	50.00	75.00
30 x 144	77.25	191.75		
30 x 168	92.05	215.75		
30 x 192	106.86	239.75		
30 x 216	121.66	263.75	50.00	75.00
30 x 240	136.46	287.75		
36 x 120	91.50	171.25		
36 x 144	113.60	195.25		
36 x 168	135.70	219.25	50.00	75.00
36 x 192	157.80	243.25		
36 x 216	181.81	267.25		
36 x 240	202.10	291.25		

Determining The Size of Your Mixer

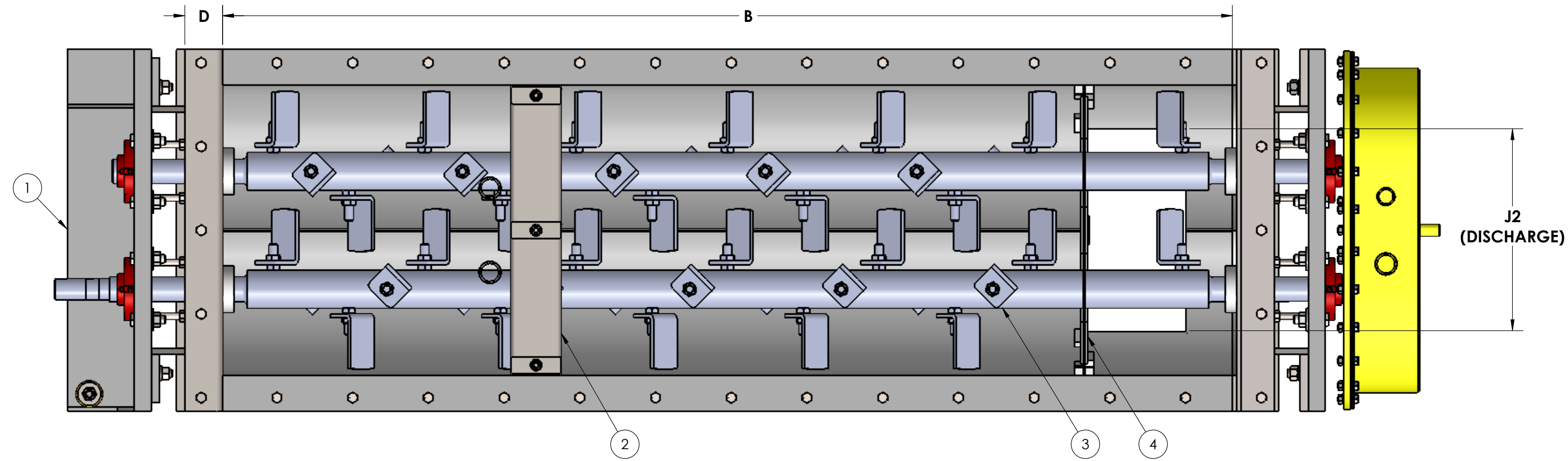
To select the proper mixer for your needs, you must divide your throughput capacity by the bulk density of your mixed products. Then Multiply that total by the required mixing time (Residence Time).

$$\frac{\text{Capacity (lbs./Min.)}}{\text{Bulk Density (Lbs./cu. ft.)}} \times \text{Residence Time (Minutes)} = \text{Retained Volume (cu. ft.)}$$

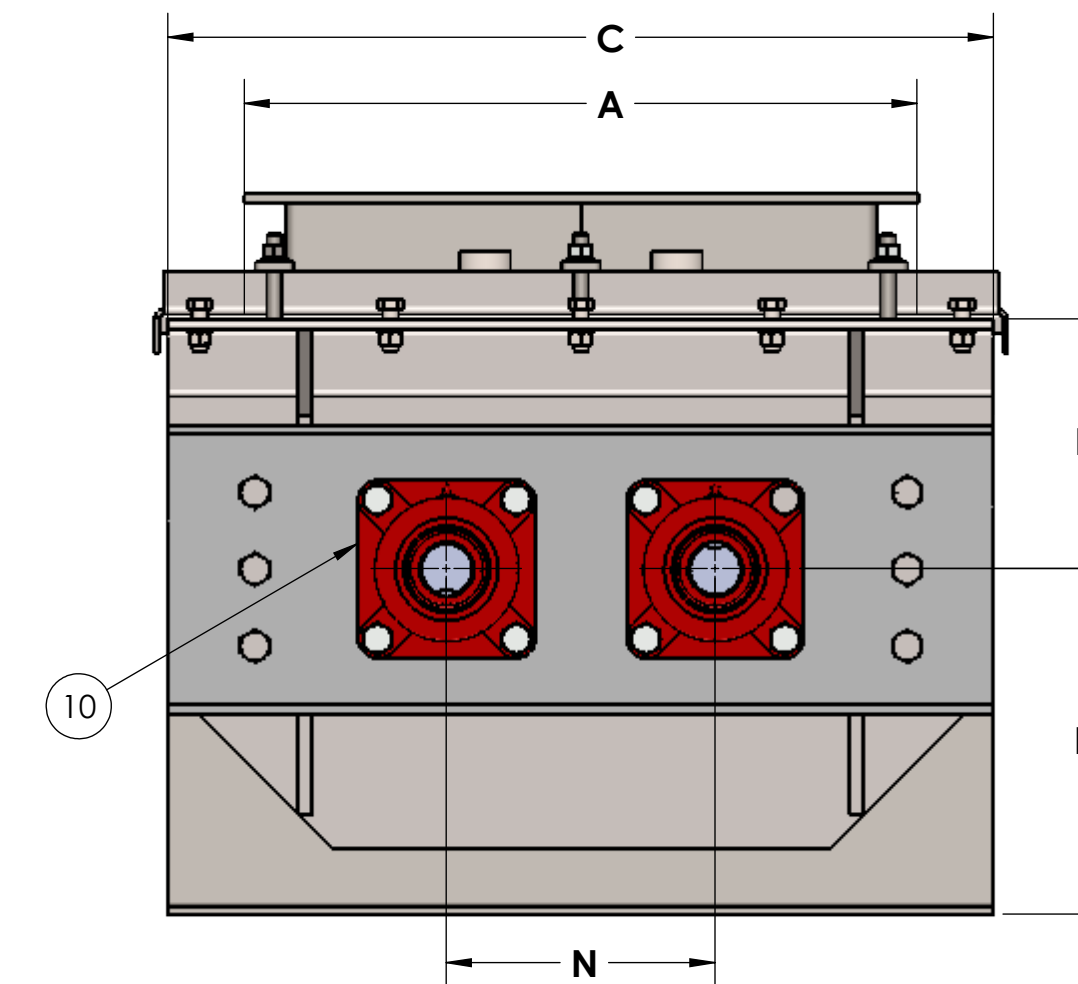
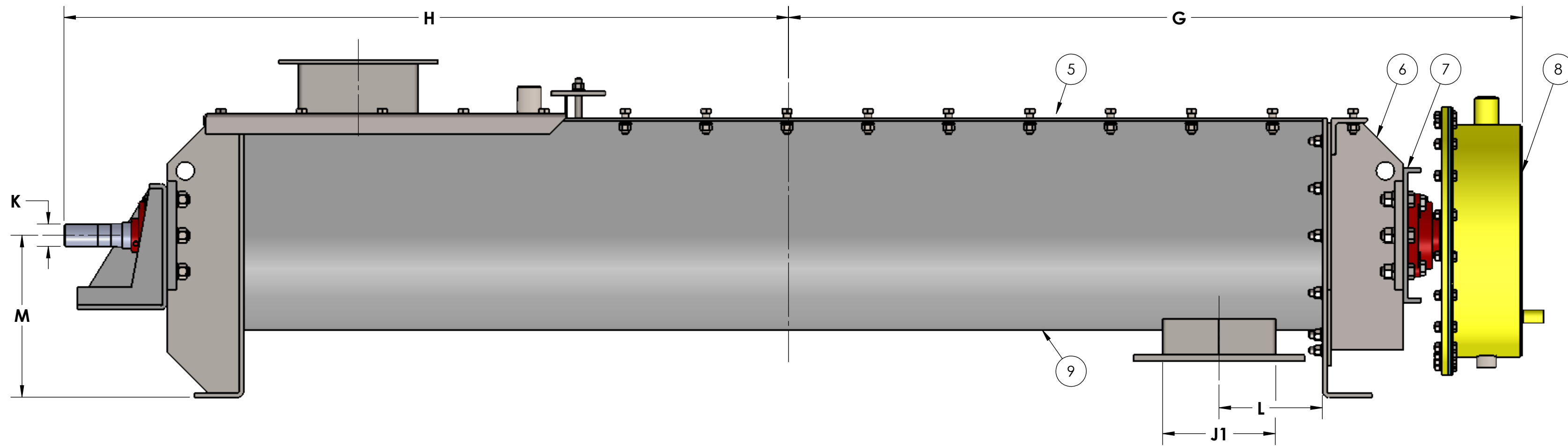
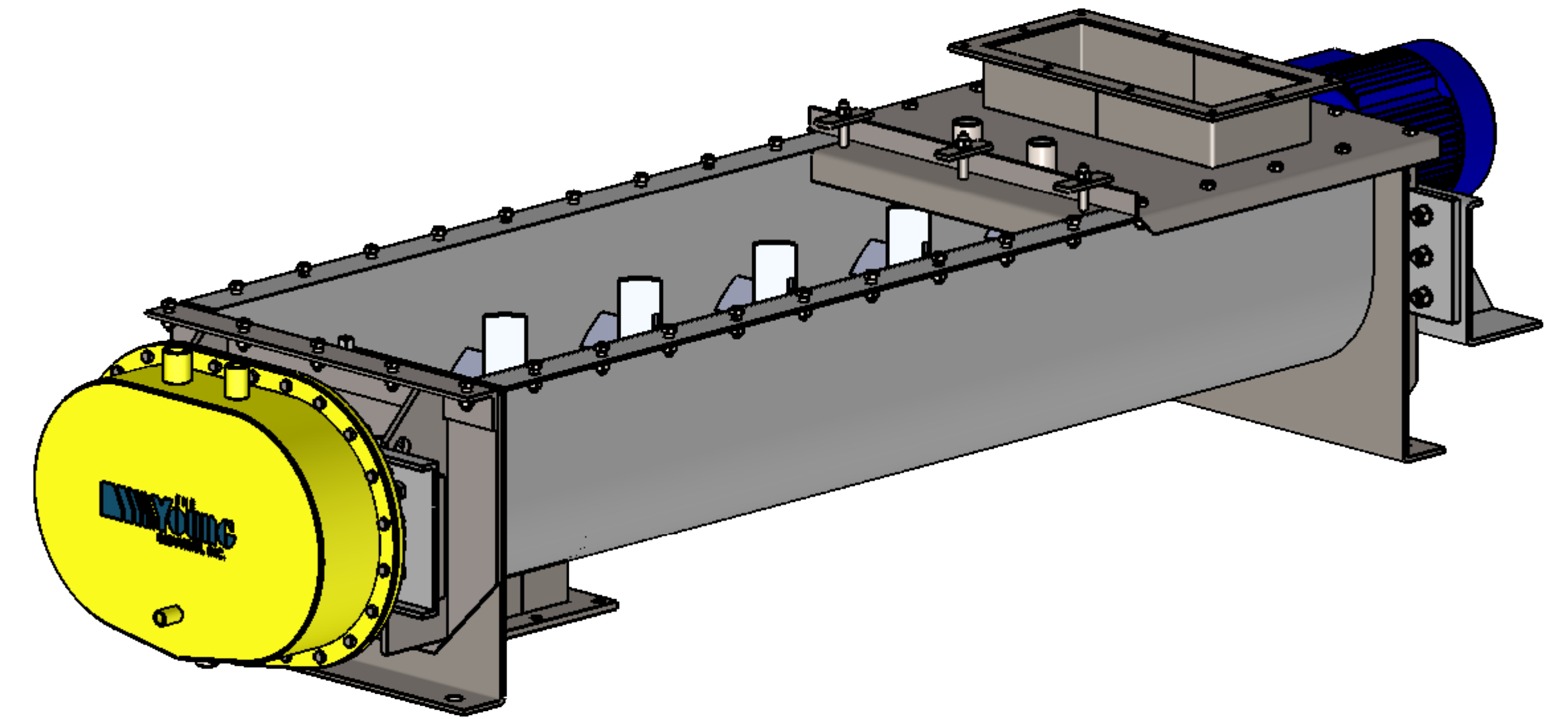
Note:
Specifications and dimensions are subject to change without notification



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NOTE: TOP COVER & DRIVE REMOVED FOR CLARITY




NOTE: GEAR GUARD REMOVED FOR CLARITY

MIXER SIZE	RETAINED VOLUME (CU. FT.)	A	B	C	D	E	F	G	H	J1	J2	K	L	M	N	STD. SPEED (RPM)
4 X 36	.32	7.00	36.00	9.75	1.25	3.50	3.50	30.13	30.13	3.00	5.00	1.19	3.50	3.00	3.00	575
4 X 48	.44	7.00	48.00	9.75	1.25	3.50	3.50	36.13	36.13	3.00	5.00	1.19	3.50	3.00	3.00	575
4 X 60	.56	7.00	60.00	9.75	1.25	3.50	3.50	42.13	42.13	3.00	5.00	1.19	3.50	3.00	3.00	575
4 X 72	.69	7.00	72.00	9.75	1.25	3.50	3.50	48.13	48.13	3.00	5.00	1.19	3.50	3.00	3.00	575
6 X 36	.74	10.00	36.00	13.38	1.50	5.00	4.50	28.13	27.88	5.00	8.00	1.44	4.00	4.50	4.00	380
6 X 48	1.05	10.00	48.00	13.38	1.50	5.00	4.50	34.13	33.88	5.00	8.00	1.44	4.00	4.50	4.00	380
6 X 60	1.35	10.00	60.00	13.38	1.50	5.00	4.50	40.13	39.88	5.00	8.00	1.44	4.00	4.50	4.00	380
6 X 72	1.65	10.00	72.00	13.38	1.50	5.00	4.50	46.13	45.88	5.00	8.00	1.44	4.00	4.50	4.00	380
6 X 84	1.96	10.00	84.00	13.38	1.50	5.00	4.50	52.13	51.88	5.00	8.00	1.44	4.00	4.50	4.00	380
9 X 36	1.73	16.00	36.00	20.38	2.00	7.00	6.50	29.63	29.88	6.00	12.00	1.94	5.00	6.00	7.00	255
9 X 48	2.47	16.00	48.00	20.38	2.00	7.00	6.50	35.63	35.88	6.00	12.00	1.94	5.00	6.00	7.00	255
9 X 60	3.21	16.00	60.00	20.38	2.00	7.00	6.50	41.63	41.88	6.00	12.00	1.94	5.00	6.00	7.00	255
9 X 72	3.95	16.00	72.00	20.38	2.00	7.00	6.50	47.63	47.88	6.00	12.00	1.94	5.00	6.00	7.00	255
9 X 84	4.68	16.00	84.00	20.38	2.00	7.00	6.50	53.63	53.88	6.00	12.00	1.94	5.00	6.00	7.00	255
9 X 96	5.42	16.00	96.00	20.38	2.00	7.00	6.50	59.63	59.88	6.00	12.00	1.94	5.00	6.00	7.00	255
12 X 48	4.19	22.00	48.00	26.38	2.00	10.00	9.00	36.88	38.63	8.00	16.00	2.19	6.00	9.00	9.00	170
12 X 60	5.52	22.00	60.00	26.38	2.00	10.00	9.00	42.88	44.63	8.00	16.00	2.19	6.00	9.00	9.00	170
12 X 72	6.84	22.00	72.00	26.38	2.00	10.00	9.00	48.88	50.63	8.00	16.00	2.19	6.00	9.00	9.00	170
12 X 84	8.16	22.00	84.00	26.38	2.00	10.00	9.00	54.88	56.63	8.00	16.00	2.19	6.00	9.00	9.00	170
12 X 96	9.49	22.00	96.00	26.38	2.00	10.00	9.00	60.88	62.63	8.00	16.00	2.19	6.00	9.00	9.00	170
12 X 108	10.81	22.00	108.00	26.38	2.00	10.00	9.00	66.88	68.63	8.00	16.00	2.19	6.00	9.00	9.00	170

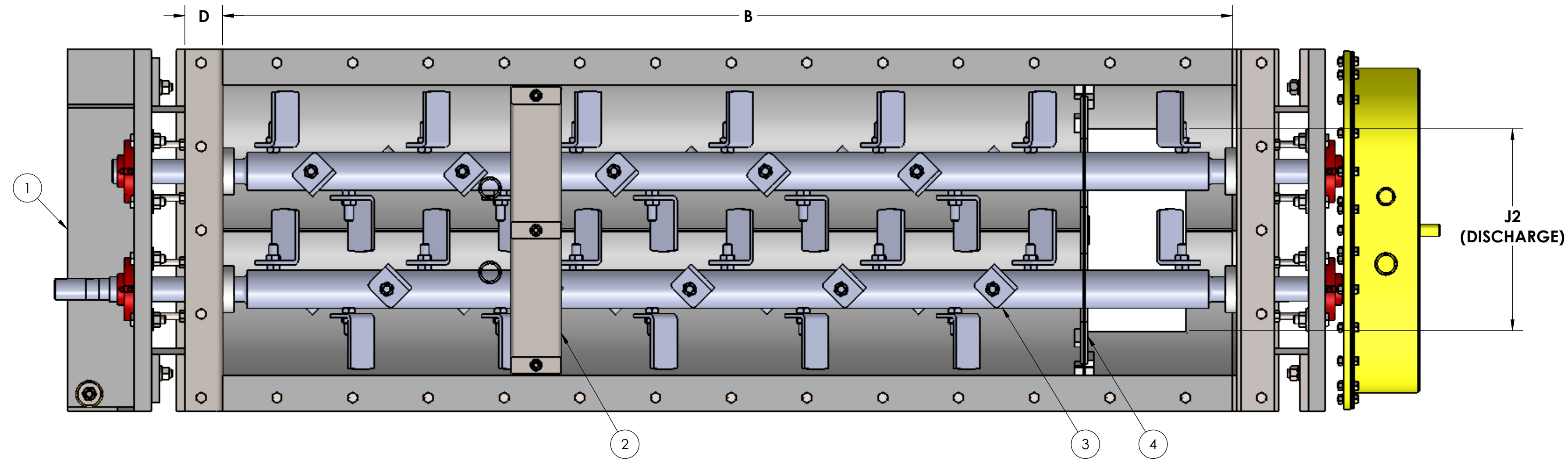
NOTE: SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTIFICATION

LEGEND

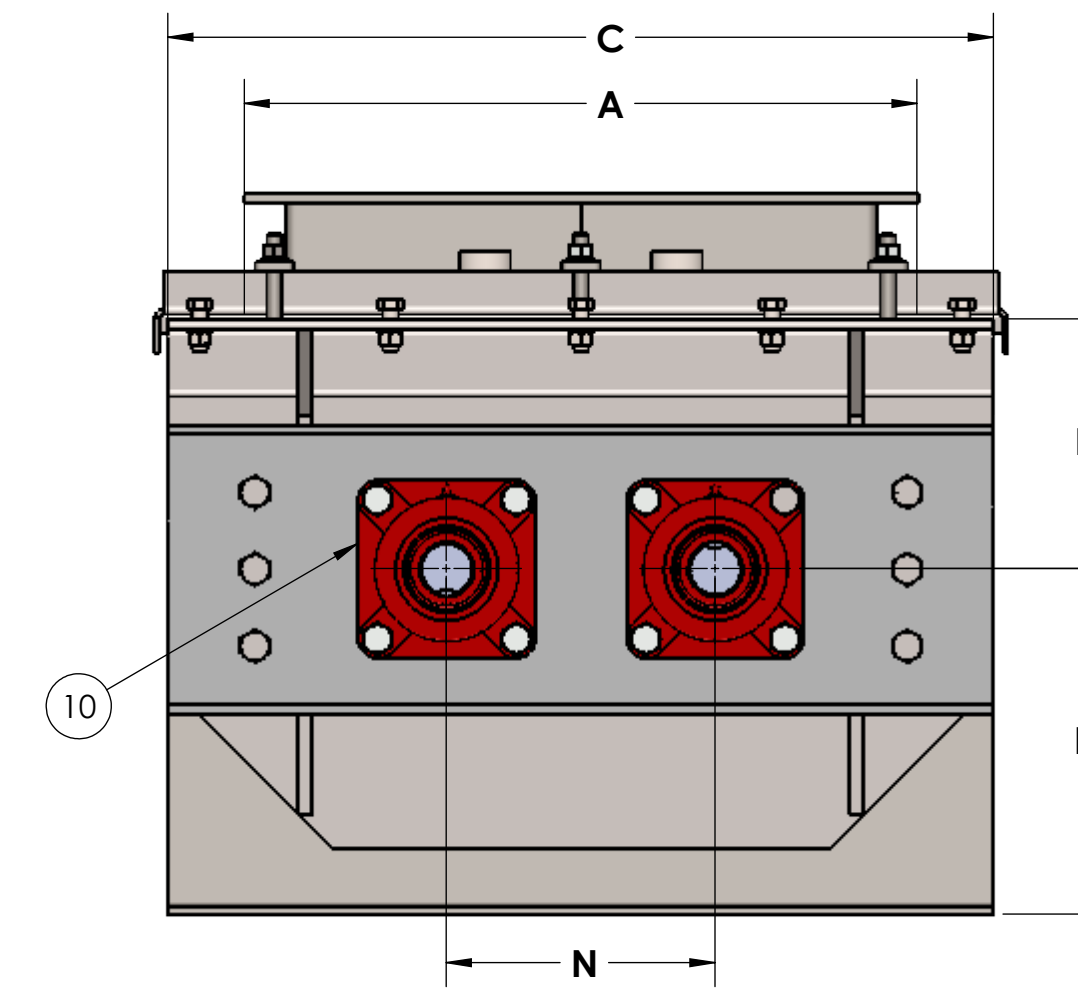
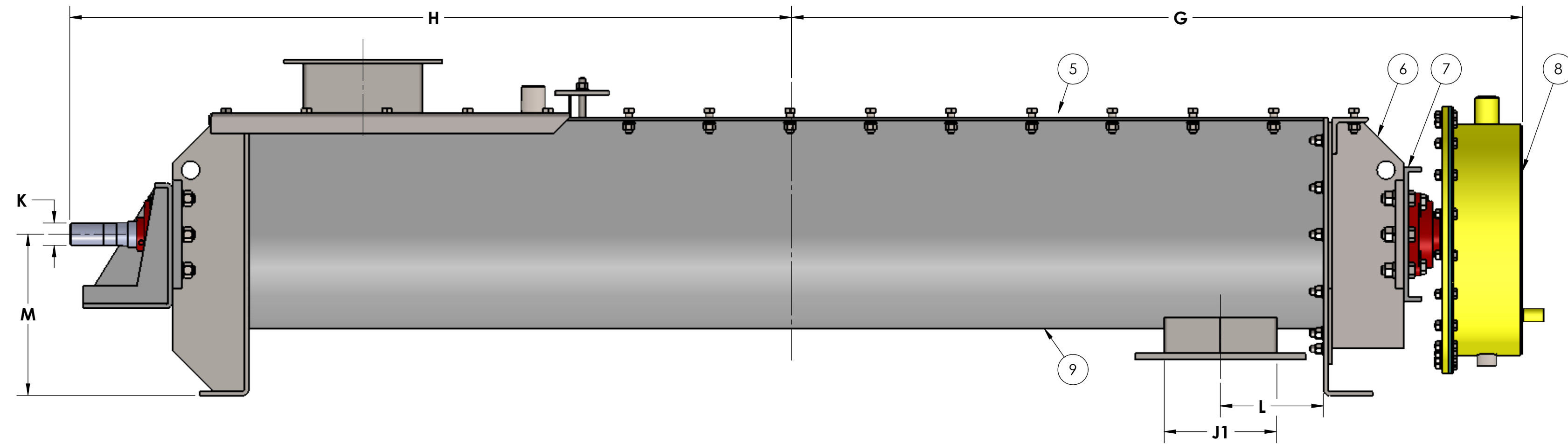
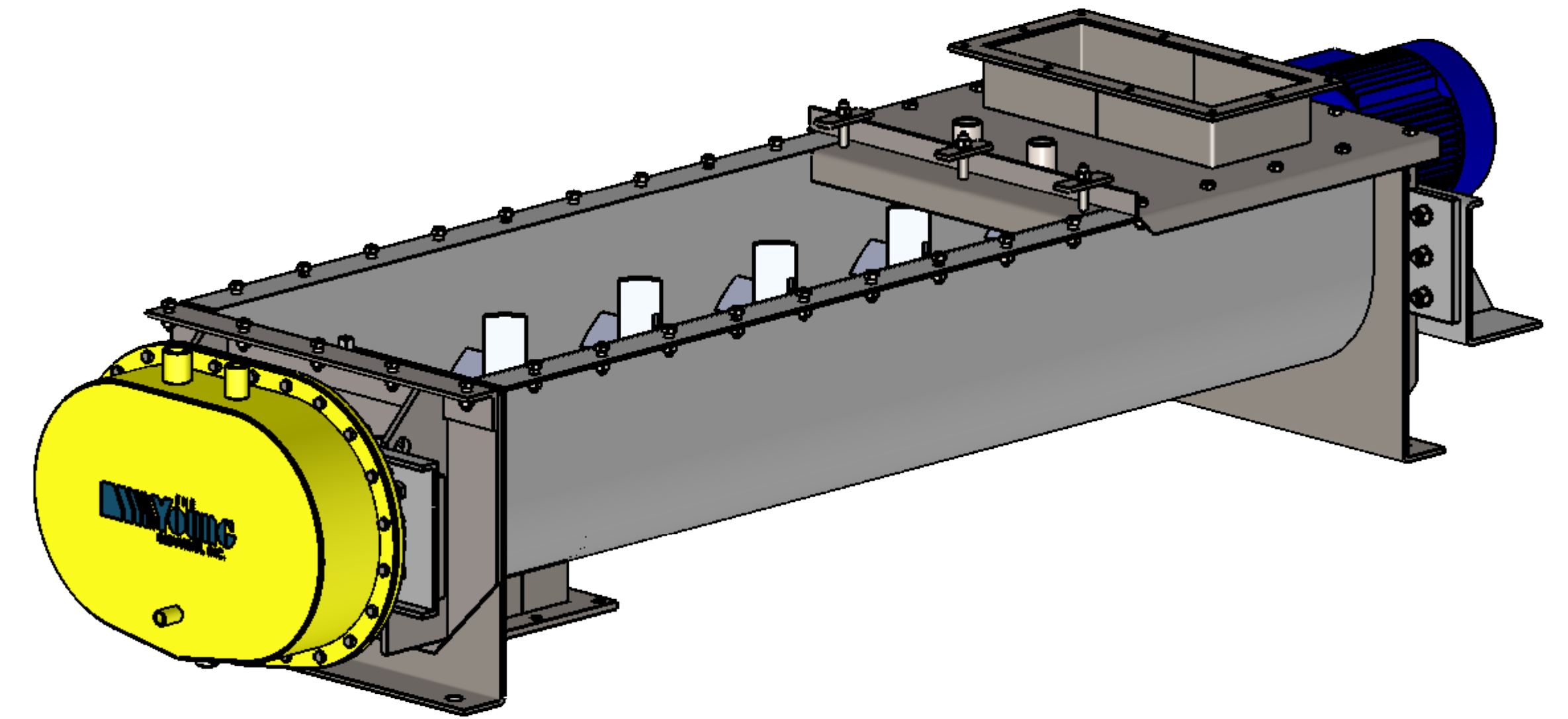
- ① DRIVE MOUNTING SUPPORT BRACKET (DRIVE NOT SHOWN)
- ② TWIN SHAFT MIXER COVER CLAMP BAR
- ③ AGITATOR
- ④ WEIR GATE ASSEMBLY
- ⑤ TWIN SHAFT MIXER COVER
- ⑥ TWIN SHAFT MIXER REMOVABLE END
- ⑦ BEARING MOUNTING PLATE
- ⑧ OIL TIGHT GEAR GUARD
- ⑨ TWIN SHAFT MIXER BODY
- ⑩ BEARING, SEALMASTER

REV. NO.	DESCRIPTION	DATE	BY
REVISIONS			
CUSTOMER:			
CUSTOMER PO NUMBER:			
YOUNG JOB NUMBER:			
TITLE			
YOUNG INDUSTRIES CONTINUOUS TWIN SHAFT MIXER W/ WEIR PLATE ASSEMBLY, SIZE 4" X 36" TO 12" X 108" STANDARD DIMENSION SHEET			
 THE YOUNG INDUSTRIES, INC. MUNCY, PENNSYLVANIA 17756 TELEPHONE: 570-546-3165			
DRAWN BY: BMF		DATE: 12/12/18	
CHECKED BY:		SCALE: 1:5	
DRAWING NUMBER	S-21118-04	SHEET 1 OF 1	REV: 00

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			



NOTE: TOP COVER & DRIVE REMOVED FOR CLARITY



NOTE: GEAR GUARD REMOVED FOR CLARITY

MIXER SIZE	RETAINED VOLUME (CU. FT.)	A	B	C	D	E	F	G	H	J1	J2	K	L	M	N	STD. SPEED (RPM)
15 X 72	10.20	26.50	72.00	31.00	2.00	11.00	11.00	50.38	51.38	10.00	20.00	2.44	7.75	10.00	10.00	155
15 X 84	12.30	26.50	84.00	31.00	2.00	11.00	11.00	56.38	57.38	10.00	20.00	2.44	7.75	10.00	10.00	155
15 X 96	14.40	26.50	96.00	31.00	2.00	11.00	11.00	62.38	63.38	10.00	20.00	2.44	7.75	10.00	10.00	155
15 X 108	16.50	26.50	108.00	31.00	2.00	11.00	11.00	68.38	69.38	10.00	20.00	2.44	7.75	10.00	10.00	155
15 X 120	18.50	26.50	120.00	31.00	2.00	11.00	11.00	74.38	75.38	10.00	20.00	2.44	7.75	10.00	10.00	155
15 X 132	20.60	26.50	132.00	31.00	2.00	11.00	11.00	80.38	81.38	10.00	20.00	2.44	7.75	10.00	10.00	155
18 X 96	17.00	34.50	96.00	40.00	2.50	12.00	13.00	65.88	64.88	12.00	28.00	2.94	8.75	11.00	16.00	125
18 X 120	22.00	34.50	120.00	40.00	2.50	12.00	13.00	77.88	76.88	12.00	28.00	2.94	8.75	11.00	16.00	125
18 X 144	27.00	34.50	144.00	40.00	2.50	12.00	13.00	89.88	88.88	12.00	28.00	2.94	8.75	11.00	16.00	125
18 X 168	32.00	34.50	168.00	40.00	2.50	12.00	13.00	101.88	100.88	12.00	28.00	2.94	8.75	11.00	16.00	125
18 X 192	37.00	34.50	192.00	40.00	2.50	12.00	13.00	113.88	112.88	12.00	28.00	2.94	8.75	11.00	16.00	125
18 X 216	42.00	34.50	216.00	40.00	2.50	12.00	13.00	125.88	124.88	12.00	28.00	2.94	8.75	11.00	16.00	125
21 X 120	29.30	39.50	100.00	45.00	2.50	14.00	16.00	79.88	78.88	14.00	30.00	3.44	9.75	13.00	18.00	110
21 X 144	36.00	39.50	144.00	45.00	2.50	14.00	16.00	91.88	90.88	14.00	30.00	3.44	9.75	13.00	18.00	110
21 X 168	42.80	39.50	168.00	45.00	2.50	14.00	16.00	103.88	102.88	14.00	30.00	3.44	9.75	13.00	18.00	110
21 X 192	49.60	39.50	192.00	45.00	2.50	14.00	16.00	115.88	114.88	14.00	30.00	3.44	9.75	13.00	18.00	110
21 X 216	56.40	39.50	216.00	45.00	2.50	14.00	16.00	127.88	126.88	14.00	30.00	3.44	9.75	13.00	18.00	110
21 X 240	63.20	39.50	240.00	45.00	2.50	14.00	16.00	139.88	138.88	14.00	30.00	3.44	9.75	13.00	18.00	110

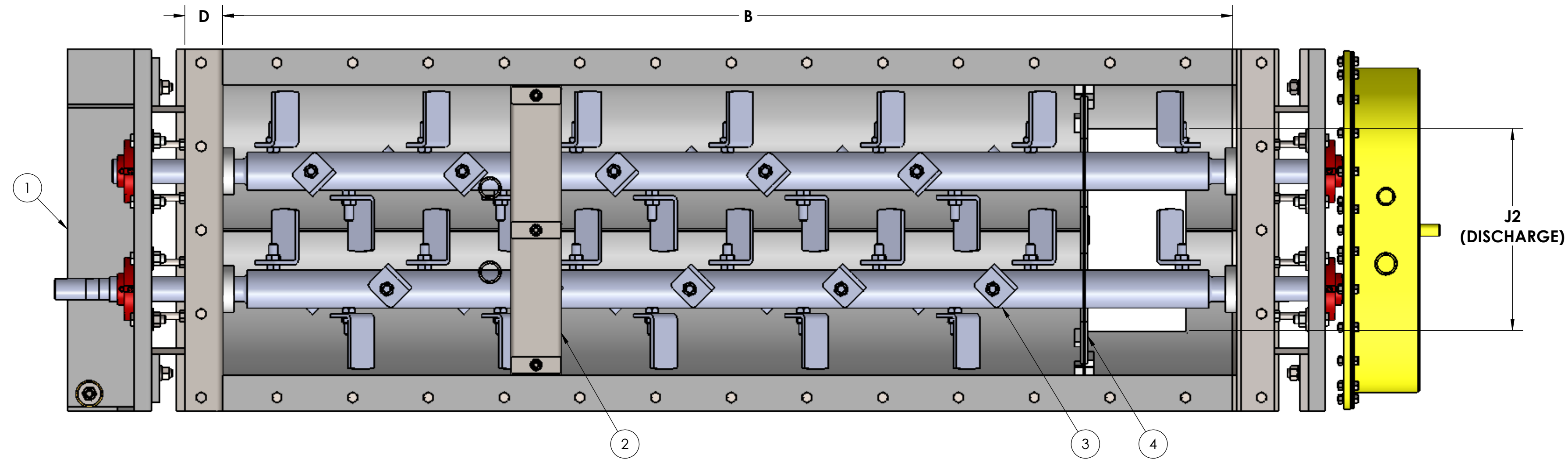
NOTE: SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTIFICATION

LEGEND

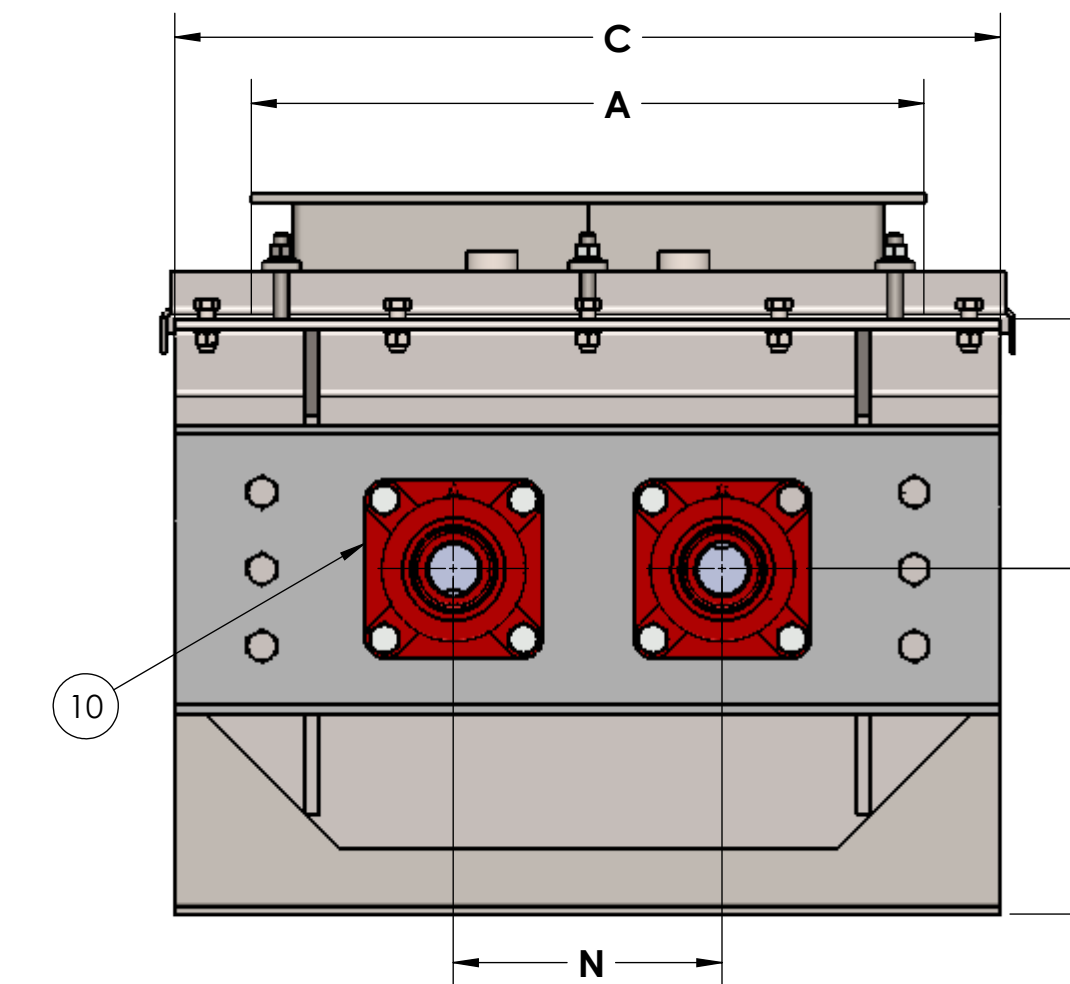
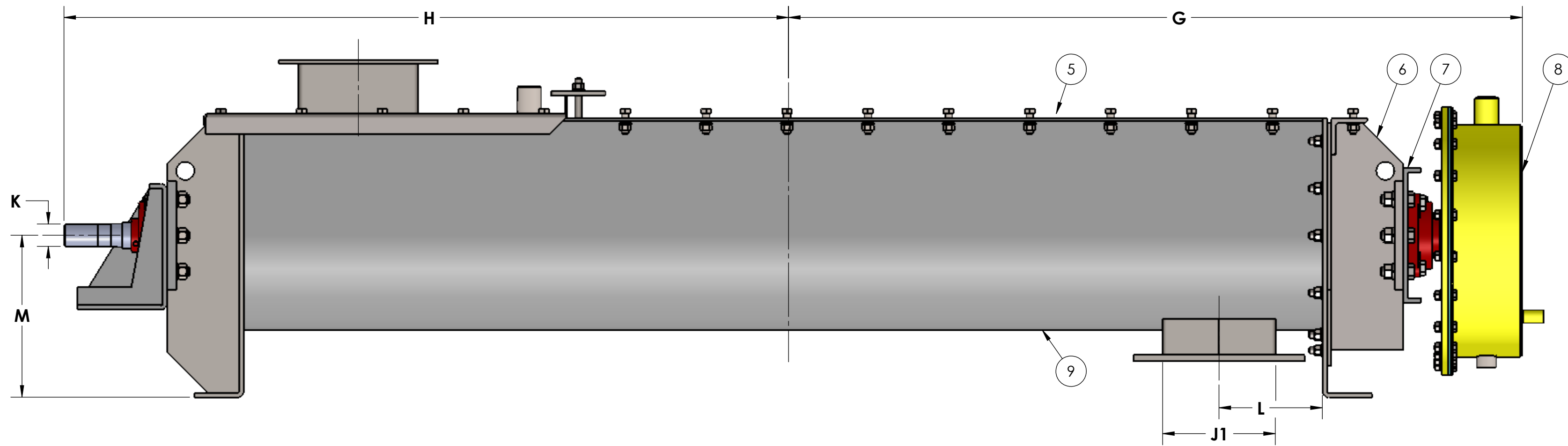
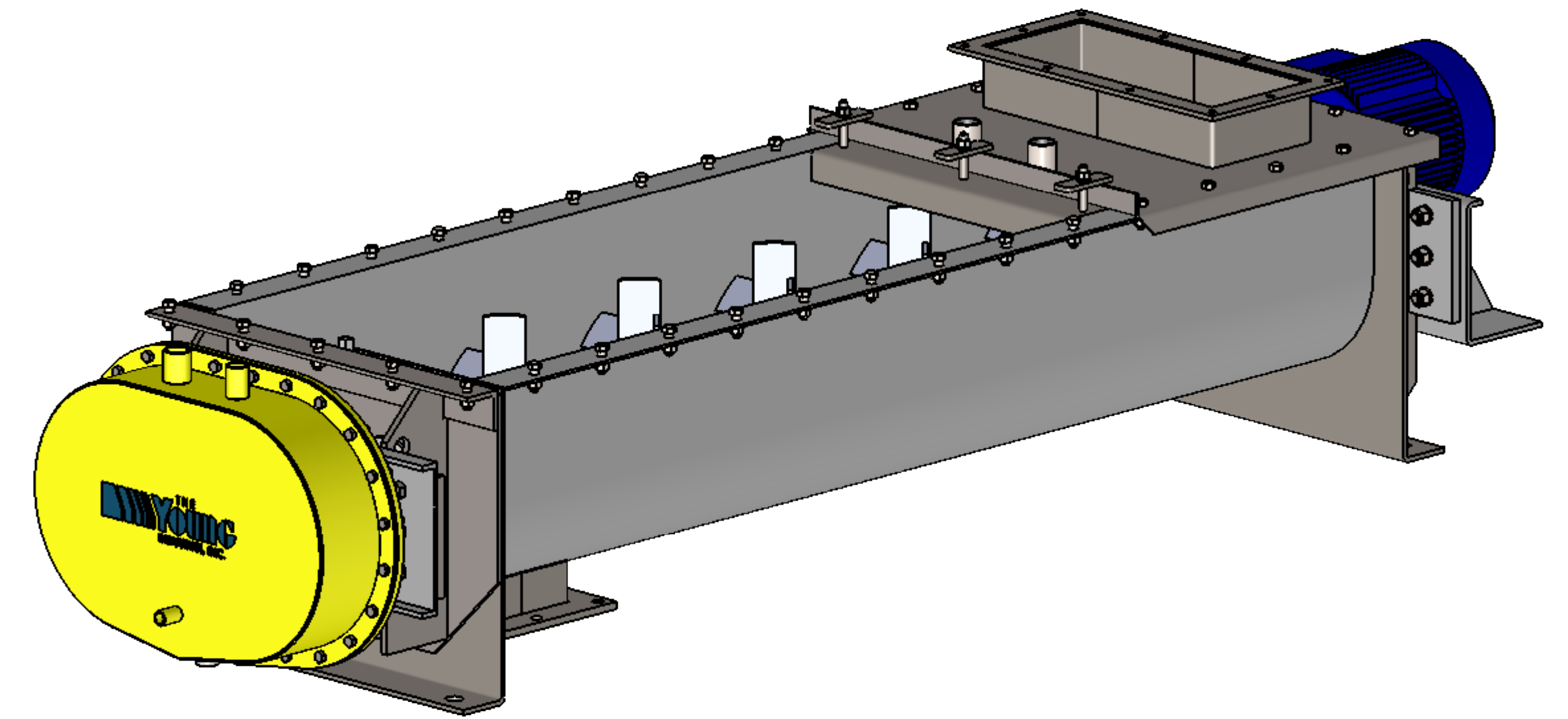
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GENERAL TOLERANCES	
UNLESS OTHERWISE SPECIFIED THE FOLLOWING SHALL APPLY	
MACHINING - .XX= .02 .XXX= .005 ANGLE= 50°	
SURFACE ROUGHNESS HEIGHT 63 MICRONS OR LESS	
FABRICATION - UNDER 6 6 TO 24 24 TO 60 OVER 60	
± .06 ± .12 ± .19 ± .25	
UNLESS OTHERWISE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

REV. NO.	DESCRIPTION	DATE	BY
REVISIONS			
CUSTOMER:			
CUSTOMER PO NUMBER:			
YOUNG JOB NUMBER:			
TITLE			
YOUNG INDUSTRIES CONTINUOUS TWIN SHAFT MIXER W/ WEIR PLATE ASSEMBLY, SIZE 15' X 72" TO 21' X 240" STANDARD DIMENSION SHEET			
YOUNG INDUSTRIES, INC. MUNCY, PENNSYLVANIA 17756 TELEPHONE: 570-546-3165			
DRAWN BY: BMF		DATE: 12/12/18	
CHECKED BY:		SCALE=1:5	
DRAWING NUMBER		SHEET	REV:
S-21118-12		1 OF 1	00



NOTE: TOP COVER & DRIVE REMOVED FOR CLARITY



NOTE: GEAR GUARD REMOVED FOR CLARITY

MIXER SIZE	RETAINED VOLUME (CU. FT.)	A	B	C	D	E	F	G	H	J1	J2	K	L	M	N	STD. SPEED (RPM)
24 X 120	39.40	45.50	120.00	52.00	3.00	16.00	18.00	58.13	57.13	15.00	36.00	3.94	10.25	15.00	21.00	85
24 X 144	48.60	45.50	144.00	52.00	3.00	16.00	18.00	70.13	69.13	15.00	36.00	3.94	10.25	15.00	21.00	85
24 X 168	57.90	45.50	168.00	52.00	3.00	16.00	18.00	82.13	81.13	15.00	36.00	3.94	10.25	15.00	21.00	85
24 X 192	67.10	45.50	192.00	52.00	3.00	16.00	18.00	94.13	93.13	15.00	36.00	3.94	10.25	15.00	21.00	85
24 X 216	76.40	45.50	216.00	52.00	3.00	16.00	18.00	106.13	105.13	15.00	36.00	3.94	10.25	15.00	21.00	85
24 X 240	85.62	45.50	240.00	52.00	3.00	16.00	18.00	118.13	117.13	15.00	36.00	3.94	10.25	15.00	21.00	85
30 X 120	62.45	56.50	120.00	63.00	3.00	20.00	22.00	84.38	83.38	16.00	44.00	4.44	10.75	18.00	26.00	65
30 X 144	77.25	56.50	144.00	63.00	3.00	20.00	22.00	96.38	95.38	16.00	44.00	4.44	10.75	18.00	26.00	65
30 X 168	92.05	56.50	168.00	63.00	3.00	20.00	22.00	108.38	107.38	16.00	44.00	4.44	10.75	18.00	26.00	65
30 X 192	106.86	56.50	192.00	63.00	3.00	20.00	22.00	120.38	119.38	16.00	44.00	4.44	10.75	18.00	26.00	65
30 X 216	121.66	56.50	216.00	63.00	3.00	20.00	22.00	132.38	131.38	16.00	44.00	4.44	10.75	18.00	26.00	65
30 X 240	136.46	56.50	240.00	63.00	3.00	20.00	22.00	144.38	143.38	16.00	44.00	4.44	10.75	18.00	26.00	65
36 X 120	91.50	68.50	120.00	75.00	3.00	24.00	26.00	86.13	85.13	18.00	54.00	4.94	11.75	21.00	32.00	60
36 X 144	111.60	68.50	144.00	75.00	3.00	24.00	26.00	98.13	97.13	18.00	54.00	4.94	11.75	21.00	32.00	60
36 X 168	135.70	68.50	168.00	75.00	3.00	24.00	26.00	110.13	109.13	18.00	54.00	4.94	11.75	21.00	32.00	60
36 X 192	157.80	68.50	192.00	75.00	3.00	24.00	26.00	122.13	121.13	18.00	54.00	4.94	11.75	21.00	32.00	60
36 X 216	181.81	68.50	216.00	75.00	3.00	24.00	26.00	134.13	133.13	18.00	54.00	4.94	11.75	21.00	32.00	60
36 X 240	202.10	68.50	240.00	75.00	3.00	24.00	26.00	146.13	145.13	18.00	54.00	4.94	11.75	21.00	32.00	60

NOTE: SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTIFICATION

LEGEND

- ① DRIVE MOUNTING SUPPORT BRACKET (DRIVE NOT SHOWN)
- ② TWIN SHAFT MIXER COVER CLAMP BAR
- ③ AGITATOR
- ④ WEIR GATE ASSEMBLY
- ⑤ TWIN SHAFT MIXER COVER
- ⑥ TWIN SHAFT MIXER REMOVABLE END
- ⑦ BEARING MOUNTING PLATE
- ⑧ OIL TIGHT GEAR GUARD
- ⑨ TWIN SHAFT MIXER BODY
- ⑩ BEARING, SEALMASTER

REV. NO.	DESCRIPTION	DATE	BY
REVISIONS			
CUSTOMER:			
CUSTOMER PO NUMBER:			
YOUNG JOB NUMBER:			
TITLE			
YOUNG INDUSTRIES CONTINUOUS TWIN SHAFT MIXER W/ WEIR PLATE ASSEMBLY, SIZE 24" X 120" TO 36" X 240" STANDARD DIMENSION SHEET			
YOUNG INDUSTRIES, INC. MUNCY, PENNSYLVANIA 17756 TELEPHONE: 570-546-3165			
DRAWN BY: BMF		DATE: 12/12/18	
CHECKED BY:		SCALE: 1:5	
DRAWING NUMBER	S-21118-13	SHEET 1 OF 1	REV: 00

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	