

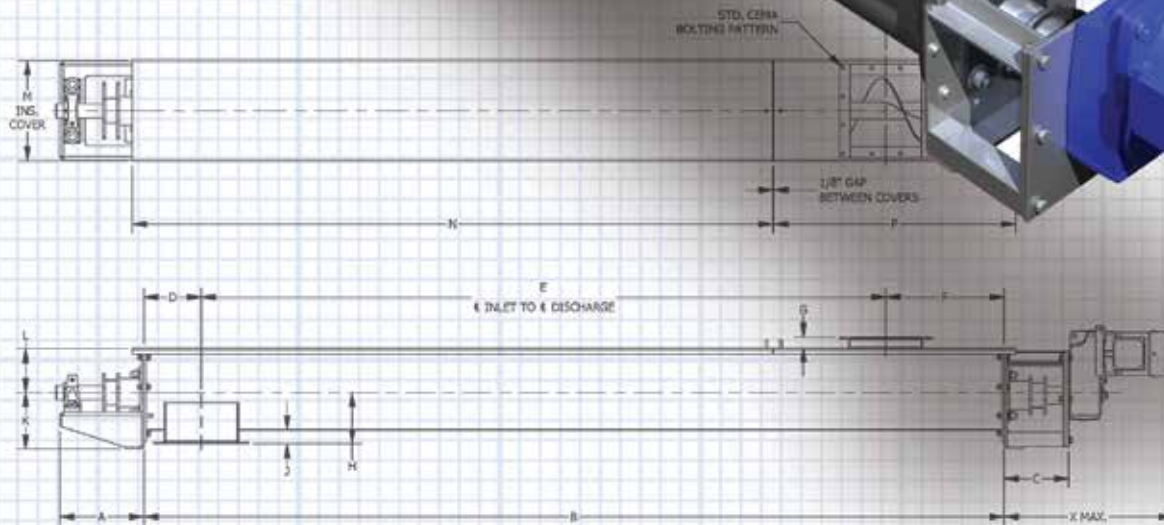
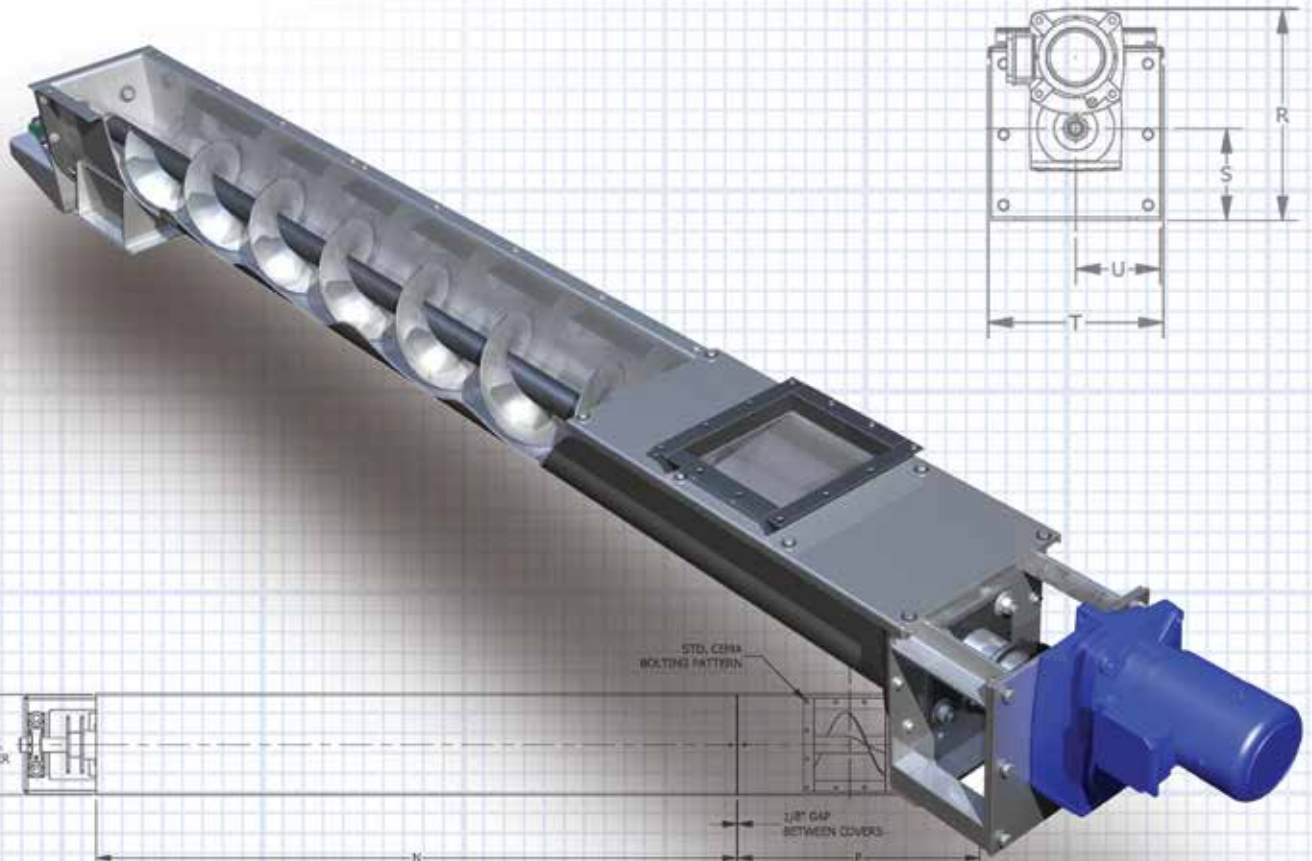


**Design
Engineering
Manufacturing**

Conveying Knowledge, Workmanship, Solutions

COMPONENT GUIDE

Screw Conveyors



KWS PROFILE

Founded in 1972, KWS Manufacturing Company, Ltd, is the leader in the design and manufacture of conveying equipment for the bulk material handling industry. Our primary Customers are power transmission distributors, end users, engineering firms, system suppliers and original equipment manufacturers (OEMs).

As an ISO 9001 certified manufacturer, KWS provides the highest quality equipment and service to our Customers. The KWS name stands for Knowledge, Workmanship and Solutions. Our large number of repeat Customers shows our commitment to Customer satisfaction. Our quality system ensures that your equipment is designed and manufactured to rigid specifications and validated by exceeding performance expectations.

We also offer complete system design and engineered solutions for our Customers. KWS is one of the largest conveyor manufacturers in North America and continues to grow every year.

KWS SCREW CONVEYOR COMPONENT GUIDE

Screw conveyors are a cost effective and reliable method of conveying bulk materials. Thousands of bulk materials are conveyed and processed daily utilizing screw conveyors. The KWS Screw Conveyor Component Guide is an excellent resource for understanding and selecting the proper components for screw conveyors. The component guide is easy to use, with descriptions of every screw conveyor component and their proper use. Recommendations are provided to assist the screw conveyor designer on how to properly select components for a specific application.



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CARBON STEEL STOCK COMPONENTS

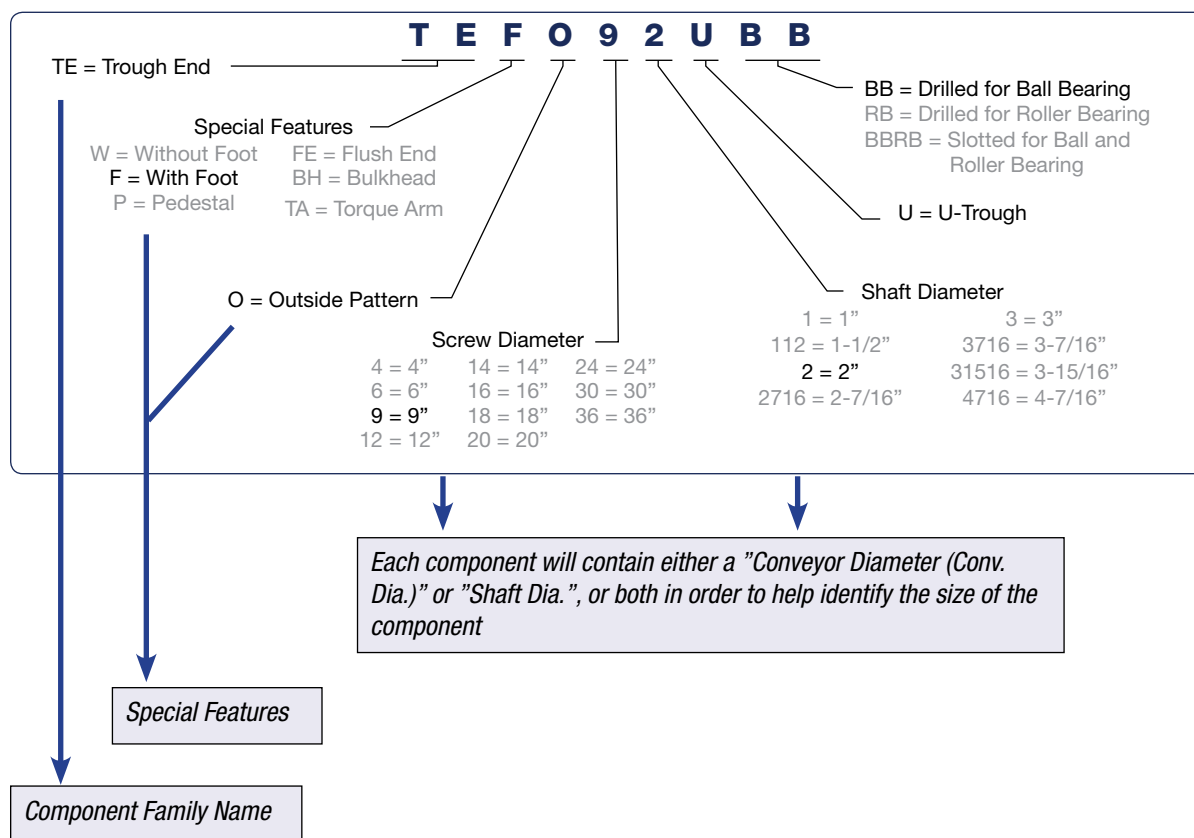
USING THE KWS SCREW CONVEYOR GUIDE

Each component specified in the KWS Screw Conveyor Component Guide can be used in the design and manufacture of screw conveyors and screw feeders. A very wide selection of components is provided so the engineer or designer can customize each screw conveyor or screw feeder for a specific application or need. Screw conveyors and screw feeders are used throughout the world for conveying and metering thousands of bulk materials and are the most versatile of all mechanical conveying devices.

The KWS Screw Conveyor Component Guide provides a description of each component along with dimensional information, weight and stock availability. KWS also offers the KWS Screw Conveyor Engineering Guide to better understand the design of screw conveyors and screw feeders.

An example of KWS part number nomenclature is shown below. Please note that dimensions and weights of some standard components could change as design improvements are made, so please contact KWS Engineering or your KWS salesperson before finalizing your design.

NOMENCLATURE





SCREWS

Screws can be configured for every application. The Basic Conveyor Flight and Pitch Type Section provides descriptions of various types of screws that can be used in a multitude of bulk material conveying and processing applications.

The use of helicoid or sectional screws is dependent upon the requirements of the application and the needs of the end user. In general, helicoid screws are used in light to medium duty applications, and are more cost effective when compared to sectional screws. Sectional screws can be configured for almost every type of application with special features such as ribbon or cut-and-folded flighting. Sectional screws can also be manufactured from special materials such as AR-235 or 316 stainless steel.

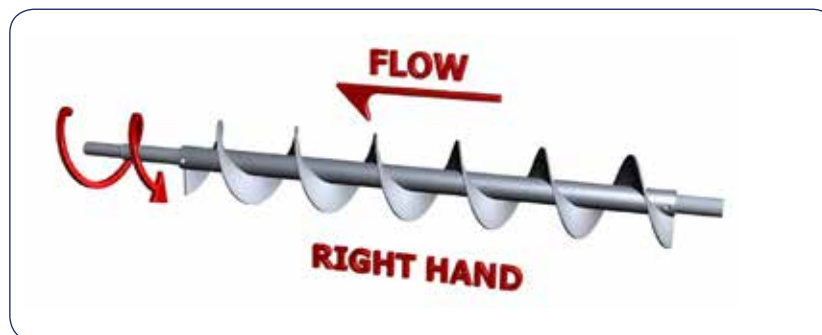
Screw section length is also dependent upon the requirements of the application and the needs of the end user. Standard screw lengths and hanger bearings can be used where the bulk material is non-abrasive and free-flowing. Single length screws are recommended for abrasive, heavy industrial applications.

Screws are available in right and left hand construction. Right hand screws are much more common and are recommended for almost every application. Spare parts are more readily available for right hand screws. The "hand" of a screw along with the direction of rotation of the screw determine the direction of bulk material flow. The diagrams below illustrate the direction of bulk material flow for both right hand and left hand screws when rotated clockwise or counter clockwise. The rotation arrows indicate the location of the motor and gear reducer. The direction of bulk material flow is reversed when the direction of rotation is reversed.

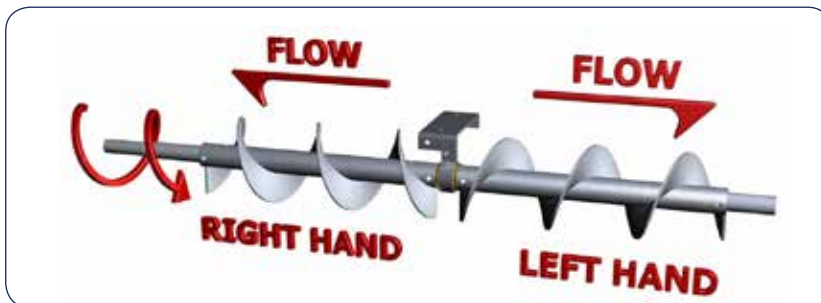
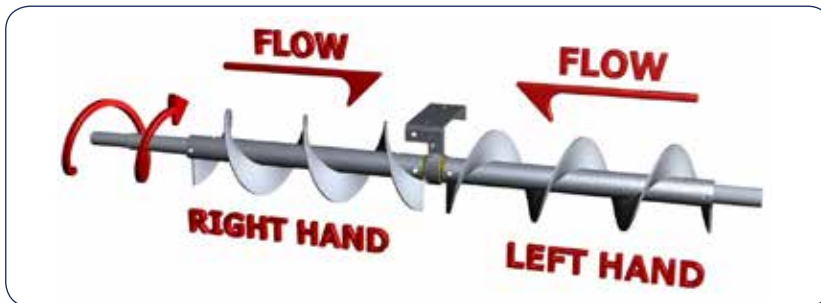
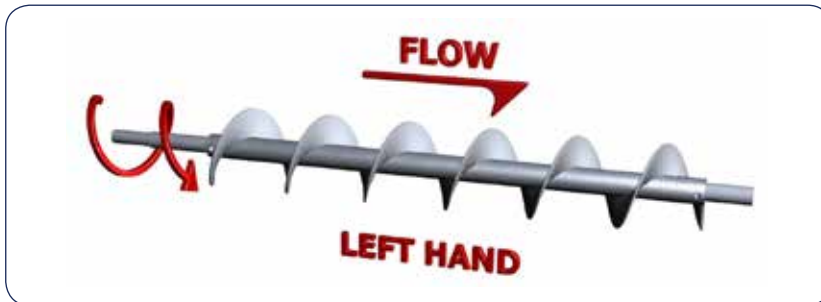
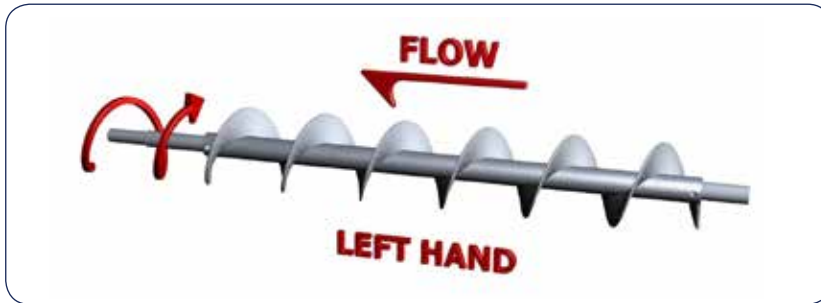
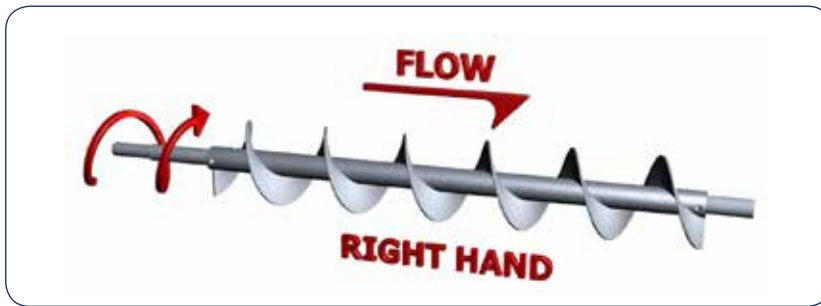
A right hand screw with the motor and gear reducer located on the discharge end pulls the bulk material toward the discharge end and rotates clockwise.

A left hand screw with the motor and gear reducer located on the discharge end pulls the bulk material toward the discharge end and rotates counter-clockwise.

To determine the hand of a screw, observe the slope of the near side of the flighting. If the slope is downward to the right, then the screw is right hand. If the slope is downward to the left, the screw is left hand.

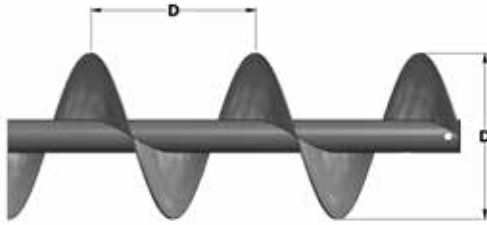


SCREWS



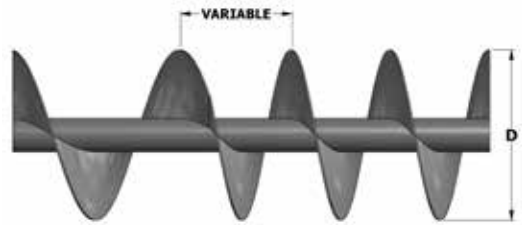
BASIC CONVEYOR FLIGHT AND PITCH TYPES

STANDARD PITCH, SINGLE FLIGHT



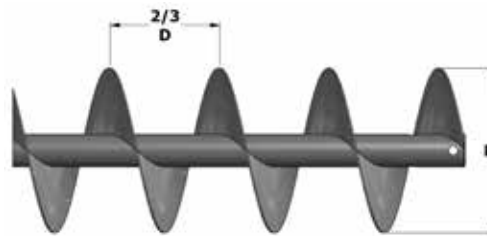
Standard pitch, single flight screws have the outside diameter equal to the pitch and are the most common screw type used for horizontal screw conveyors and inclines up to 10-degrees.

VARIABLE PITCH, SINGLE FLIGHT



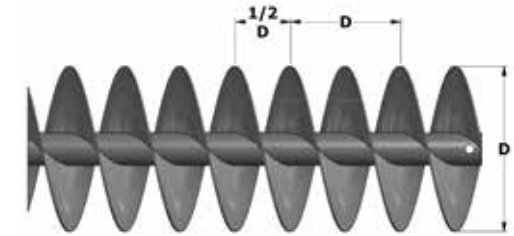
Variable pitch, single flight screws have increasing pitch with every flight and are used in screw feeders to provide uniform withdrawal of free-flowing bulk materials from hoppers, bins or silos.

SHORT PITCH, SINGLE FLIGHT



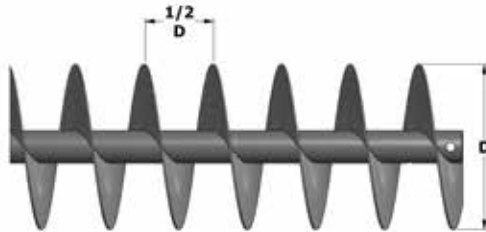
Short pitch, single flight screws have the pitch reduced to $\frac{2}{3}$ of the diameter and are most commonly used in inclined and vertical screw conveyor applications. Short pitch is also used in some variable pitch screw feeder applications.

STANDARD PITCH, DOUBLE FLIGHT



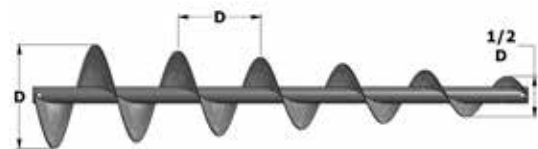
Standard pitch, double flight screws have the outside diameter equal to the pitch, very similar to standard pitch, single flight. A second set of flights is added 180-degrees apart from the first set of flights to provide a more even discharge of bulk materials.

HALF PITCH, SINGLE FLIGHT



Half pitch, single flight screws have the pitch reduced to $\frac{1}{2}$ of the diameter and are commonly used in inclined and vertical screw conveyor applications. $\frac{1}{2}$ pitch is also used in some variable pitch screw feeder applications.

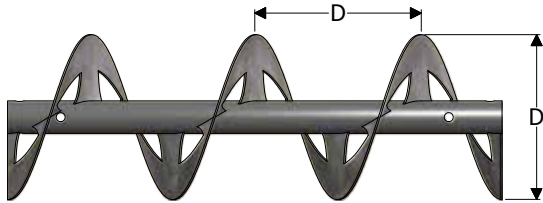
STANDARD PITCH, TAPERED SINGLE FLIGHT



Standard pitch, single tapered flight screws have a tapered outside diameter increasing from $\frac{1}{2}$ to full diameter and are used in screw feeders to provide uniform withdrawal of free-flowing bulk materials from hoppers, bins or silos.

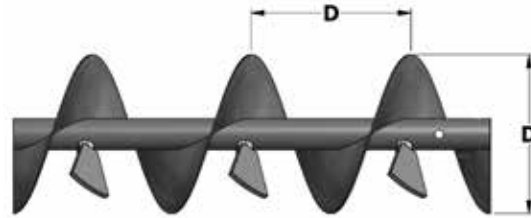
BASIC CONVEYOR FLIGHT AND PITCH TYPES

STANDARD PITCH, SINGLE RIBBON FLIGHT



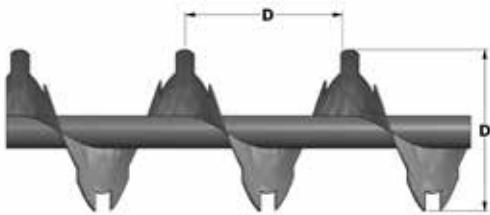
Standard pitch, single ribbon flight screws have a space within the flight and around the center pipe to minimize the collection and buildup of viscous and sticky bulk materials.

STANDARD PITCH, SINGLE FLIGHT WITH PADDLES



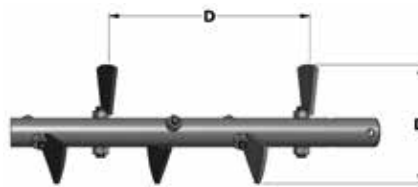
Standard pitch, single flight with paddles screws have adjustable paddles located between screw flights. Up to four paddles per pitch can be added for gentle and thorough mixing of bulk materials.

STANDARD PITCH, SINGLE CUT FLIGHT



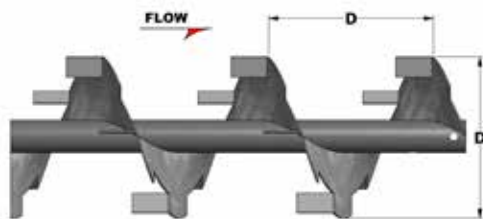
Standard pitch, single cut flight screws are notched at regular intervals on the outer edge to promote mixing and agitation of bulk materials.

STANDARD PITCH, PADDLE



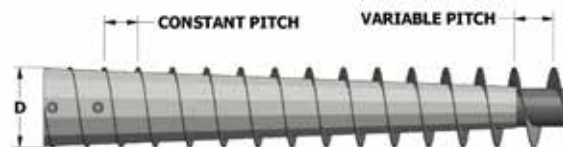
Standard pitch, paddle screws have adjustable paddles located in a helix around the diameter of the center pipe. Up to four paddles per pitch can be used for aggressive mixing and controlled flow of bulk materials.

STANDARD PITCH, SINGLE CUT AND FOLDED FLIGHT



Standard pitch, single cut and folded flight screws are notched at regular intervals on the outer edge and have lifting paddles to promote aggressive mixing and agitation of bulk materials.

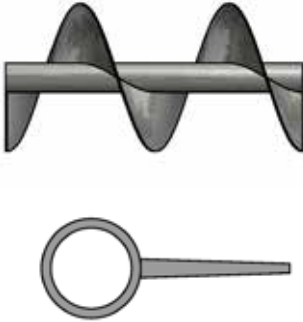
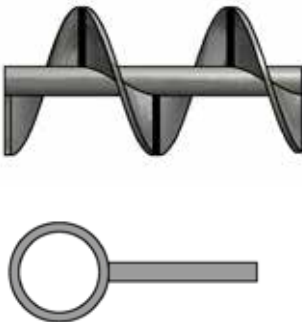
MASS FLOW



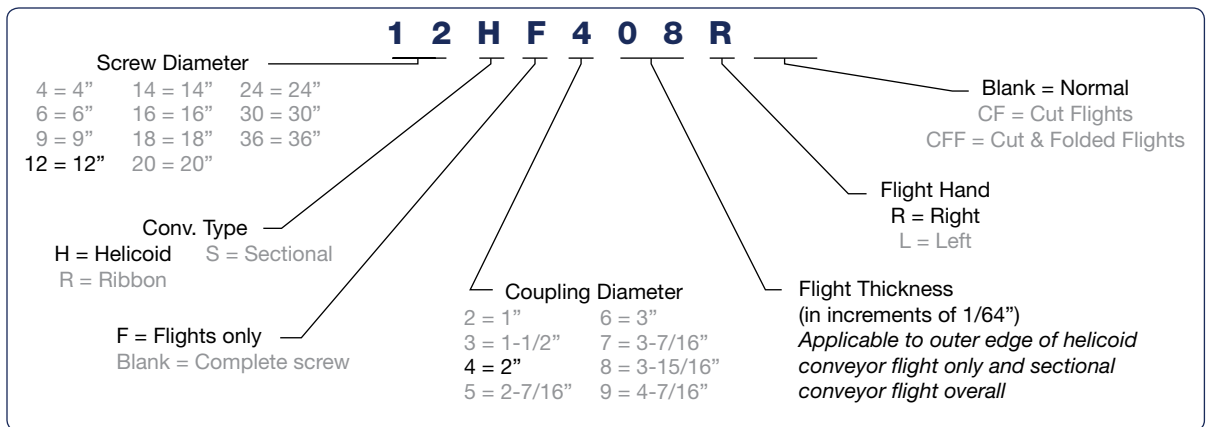
Mass flow screws utilize a combination of internal cone and variable pitch to provide increasing volume with every flight and are used in screw feeders to provide uniform withdrawal of bulk materials from hoppers, bins or silos.



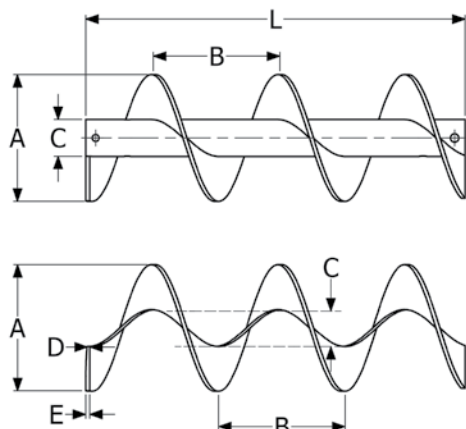
CONVEYOR SCREWS: HELICOID VERSUS SECTIONAL

HELICOID FLIGHT SCREW CONVEYORS	SECTIONAL FLIGHT SCREW CONVEYORS
	
<p>Helicoid flighting is cold rolled from special steel into a continuous helix that produces a work-hardened, smoothly finished flighting surface. It is very cost-effective and provides superior strength with diameter, pitch and thickness closely controlled. Helicoid screws are manufactured by mounting helicoid flighting on a center pipe and fastening by intermittent welds. Continuous welding on the carrying side or both sides is also available. Internal collars are inserted in each end and plug welded to accommodate shafts. Screws are structurally reinforced at the ends by end lugs.</p>	<p>Sectional flighting is manufactured from steel plate and formed into a helix. Sectional flighting is available in heavier thicknesses than helicoid flighting and used in more abrasive applications. Sectional screws are manufactured by mounting sectional flighting on a center pipe, butt welding each flight together and fastening by intermittent welds. Continuous welding on the carrying side or both sides is also available. Internal collars are inserted in each end and plug welded to accommodate shafts. Screws can be structurally reinforced at the ends by end lugs.</p>

NOMENCLATURE



HELICOID SCREW AND FLIGHTING



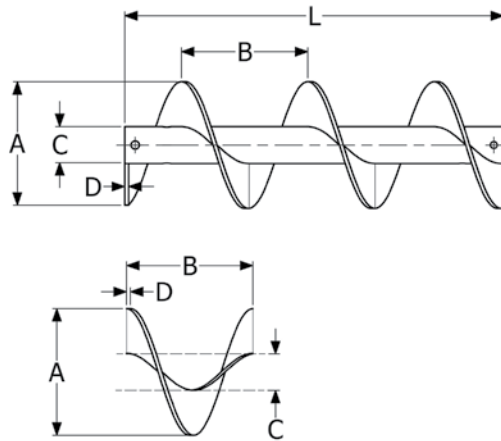
Screw Dia.	Pitch	Part Number	Screw Coupling Dia	Pipe Sch 40		L Std. Length	A		B		D		E		Average Weight Per Ft. (Lbs./Ft.)		
				Size	C Pipe OD		Diameter Tolerance		Pitch Tolerance		Flight Thickness		Complete Screw	Flight Only			
							Plus	Minus	Plus	Minus	Root	Tip					
4"	4"	4H#206●*	1"	1-1/4"	1-21/32"	9' - 10-1/2"	1/16"	1/8"	1/2"	1/4"	3/16"	3/32"	4	2			
6"	6"	6H#304●*	1-1/2"	2"	2-3/8"	9' - 10"	1/16"	3/16"	1/2"	1/4"	1/8"	1/16"	5	2			
		6H#308●*									1/4"	1/8"	6	3			
		6H#312●*									3/8"	3/16"	7	5			
9"	9"	9H#306●*	1-1/2"	2"	2-3/8"	9' - 10"	1/16"	3/16"	3/4"	1/4"	3/16"	3/32"	7	3			
		9H#312●*									3/8"	3/16"	10	7			
		9H#406●*	2"	2-1/2"	2-7/8"			3/16"			3/32"	9	3				
		9H#412●*						3/8"			3/16"	12	6				
		9H#414●*						7/16"			7/32"	13	7				
12"	12"	12H#408●*	2"	2-1/2"	2-7/8"	11' - 10"	1/8"	5/16"	1"	1/4"	1/4"	1/8"	12	6			
		12H#412●*									3/8"	3/16"	15	9			
		12H#508●*	2-7/16"	3"	3-1/2"						11' - 9"	1/4"	1/8"	14	6		
		12H#512●*										3/8"	3/16"	17	8		
		12H#614●*										3"	3-1/2"	4"	11' - 9"	1/8"	3/8"
14"	14"	14H#508●*	2-7/16"	3"	3-1/2"	11' - 9"	1/8"	5/16"	1"	1/4"		1/4"	1/8"	14	7		
		14H#614●*	3"	3-1/2"	4"	11' - 9"	1/8"	3/8"	1"	1/4"		7/16"	7/32"	22	11		
16"	16"	16H#610●*	3"	3-1/2"	4"	11' - 9"	1/8"	3/8"	1-1/2"	1/4"	5/16"	5/32"	19	10			
		16H#614●*		4"	4-1/2"						7/16"	7/32"	24	13			

F = Flighting Only, Blank = Screw • R = Right Hand Flighting, L = Left Hand Flighting

* Only Right Hand Flighting is a KWS Stock Component



SECTIONAL SCREW AND FLIGHTING



Screw Dia.	Pitch	Part Number	Screw Coupling Dia	Pipe Sch 40		L Std. Length	A		B		D Flight Thickness	Average Weight	
				Size	C Pipe OD		Diameter Tolerance		Pitch Tolerance			Complete Screw (Lbs./Ft.)	Flight Only (Lbs./ea.)
							Plus	Minus	Plus	Minus			
4"		NOT AVAILABLE											
6"	6"	6S#307•	1-1/2"	2"	2-3/8"	9' - 10"	1/16"	3/16"	3/8"	1/4"	12 Ga.	6	1
		6S#309•									10 Ga.	6	2
		6S#312•									3/16"	7	2
		6S#316•*									1/4"	8	3
9"	9"	9S#307•	1-1/2"	2"	2-3/8"	9' - 10"	1/16"	3/16"	1/2"	1/4"	12 Ga.	6	3
		9S#309•									10 Ga.	7	4
		9S#312•									3/16"	9	5
		9S#316•*									1/4"	11	6
		9S#324•*									3/8"	14	9
		9S#407•	2"	2-1/2"	2-7/8"	9' - 10"	1/16"	3/16"	1/2"	1/4"	12 Ga.	9	3
		9S#409•						3/16"			10 Ga.	10	4
		9S#412•						3/16"			3/16"	11	5
		9S#416•						1/4"			1/4"	13	6
		9S#424•*						1/4"			3/8"	16	9
12"	12"	12S#409•	2"	2-1/2"	2-7/8"	11' - 10"	1/8"	5/16"	3/4"	1/4"	10 Ga.	11	6
		12S#412•									3/16"	13	7
		12S#416•*									1/4"	15	14
		12S#424•*									3/8"	19	20
		12S#509•	2-7/16"	3"	3-1/2"	11' - 9"	1/8"	5/16"	3/4"	1/4"	10 Ga.	13	6
		12S#512•									3/16"	15	7
		12S#516•									1/4"	17	10
		12S#524•*									3/8"	21	15
		12S#612•	3"	3-1/2"	4"	11' - 9"	1/8"	5/16"	3/4"	1/4"	3/16"	16	7
		12S#616•						5/16"			1/4"	18	10
		12S#624•*						3/8"			3/8"	22	13

F = Flighting Only, Blank = Screw • R = Right Hand Flighting, L = Left Hand Flighting

* Only Right Hand Flighting is a KWS Stock Component



SECTIONAL SCREW AND FLIGHTING

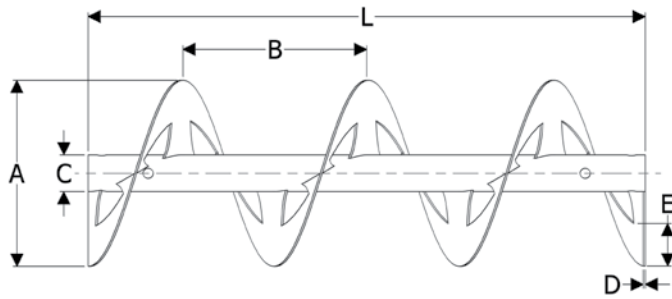
Screw Dia.	Pitch	Part Number	Screw Coupling Dia	Pipe Sch 40		L Std. Length	A		B		D Flight Thickness	Average Weight	
				Size	C Pipe OD		Diameter Tolerance		Pitch Tolerance			Complete Screw (Lbs./Ft.)	Flight Only (Lbs./ea.)
							Plus	Minus	Plus	Minus			
14"	14"	14S#509•	2-7/16"	3"	3-1/2"	11' - 9"	1/8"	5/16"	3/4"	1/4"	10 Ga.	14	7
		14S#512•									3/16"	16	10
		14S#516•*									1/4"	19	13
		14S#524•									3/8"	23	20
		14S#612•	3"	3-1/2"	4"	11' - 9"	1/8"	5/16"	3/4"	1/4"	3/16"	18	11
		14S#616•						1/4"			20	13	
		14S#624•*						3/8"			25	20	
16"	16"	16S#609•	3"	3-1/2"	4"	11' - 9"	1/8"	3/8"	3/4"	1/4"	10 Ga.	15	10
		16S#612•						3/8"			19	14	
		16S#616•						1/4"			22	18	
		16S#624•*						3/8"			27	26	
		16S#632•						1/2"			33	35	
18"	18"	18S#612•	3"	3-1/2"	4"	11' - 9"	3/16"	3/8"	3/4"	1/2"	3/16"	20	18
		18S#616•						1/4"			23	24	
		18S#624•*						3/8"			29	35	
		18S#632•						1/2"			36	46	
		18S#712•	3-7/16"	4"	4-1/2"	11' - 8"	3/16"	3/8"	3/4"	1/2"	3/16"	22	18
		18S#716•						1/4"			25	24	
		18S#724•						3/8"			31	35	
		18S#732•						1/2"			37	46	
20"	20"	20S#612•	3"	3-1/2"	4"	11' - 9"	3/16"	3/8"	7/8"	1/2"	3/16"	21	20
		20S#616•						1/4"			25	28	
		20S#624•*						3/8"			32	40	
		20S#632•						1/2"			39	56	
		20S#712•	3-7/16"	4"	4-1/2"	11' - 8"	3/16"	3/8"	7/8"	1/2"	3/16"	23	20
		20S#716•						1/4"			26	28	
		20S#724•*						3/8"			33	40	
		20S#732•						1/2"			40	56	
24"	24"	24S#712•	3-7/16"	4"	4-1/2"	11' - 8"	3/16"	3/8"	7/8"	1/2"	3/16"	25	38
		24S#716•						1/4"			30	42	
		24S#724•*						3/8"			38	63	
		24S#732•						1/2"			46	84	
30"	30"	30S#816•	3-15/16"	5"	5-9/16"	11' - 8"	3/16"	3/8"	7/8"	1/2"	1/4"	38	54
		30S#824•						3/8"			50	70	
		30S#832•						1/2"			59	83	
36"	36"	36S#916•	4-7/16"	6"	6-5/8"	11' - 7"	3/16"	3/8"	7/8"	1/2"	1/4"	47	63
		36S#924•						3/8"			60	80	
		36S#932•						1/2"			73	98	

F = Flighting Only, Blank = Screw • R = Right Hand Flighting, L = Left Hand Flighting

* Only Right Hand Flighting is a KWS Stock Component



RIBBON SCREW

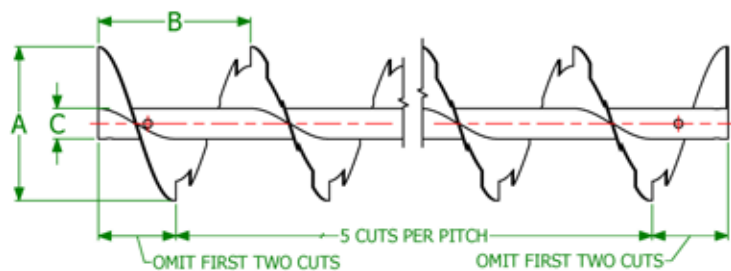


Screw Dia.	Pitch	Part Number	Screw Coupling Dia	Pipe Sch 40		L Std. Length	A Diameter Tolerance		B Pitch Tolerance		D Flight Thickness	E Flight Width	Average Weight		
				Size	C Pipe OD		Plus	Minus	Plus	Minus			Complete Screw (Lbs./Ft.)	Flight Only (Lbs./ea.)	
4"						NOT AVAILABLE									
6"	6"	6R312•	1-1/2"	2"	2-3/8"	9' - 10"	1/16"	3/16"	3/8"	1/4"	3/16"	1"	7	2	
9"	9"	9R316•	1-1/2"	2"	2-3/8"	9' - 10"	1/16"	3/16"	1/2"	1/4"	1/4"	1-1/2"	10	5	
		9R424•	2"	2-1/2"	2-7/8"			1/4"			3/8"		15	8	
12"	12"	12R416•	2"	2-1/2"	2-7/8"	11' - 10"	1/8"	5/16"	3/4"	1/4"	1/4"	2"	14	13	
		12R424•									3/8"		18	19	
		12R524•	2-7/16"	3"	3-1/2"	11' - 9"		3/8"			2-1/2"	20	14		
		12R624•	3"	3-1/2"	4"			3/8"				21	12		
14"	14"	14R524•	2-7/16"	3"	3-1/2"	11' - 9"	1/8"	5/16"	3/4"	1/4"	3/8"	2-1/2"	22	19	
		14R624•	3"	3-1/2"	4"			3/8"			24		19		
16"	16"	16R616•	3"	3-1/2"	4"	11' - 9"	1/8"	3/8"	3/4"	1/4"	1/4"	2-1/2"	21	17	
		16R624•									3/8"		26	25	
18"	18"	18R624•	3"	3-1/2"	4"	11' - 9"	3/16"	3/8"	3/4"	1/2"	3/8"	3"	28	34	
		18R724•	3-7/16"	4"	4-1/2"								11' - 8"	30	34
20"	20"	20R624•	3"	3-1/2"	4"	11' - 9"	3/16"	3/8"	7/8"	1/2"	3/8"	3"	31	39	
		20R724•	3-7/16"	4"	4-1/2"								11' - 8"	32	39
24"	24"	24R724•	3-7/16"	4"	4-1/2"	11' - 8"	3/16"	3/8"	7/8"	1/2"	3/8"	3"	37	62	
30"	30"	30R824•	3-15/16"	5"	5-9/16"	11' - 8"	3/16"	3/8"	7/8"	1/2"	3/8"	4"	49	69	
36"	36"	36R924•	4-7/16"	6"	6-5/8"	11' - 7"	3/16"	3/8"	7/8"	1/2"	3/8"	4"	59	79	

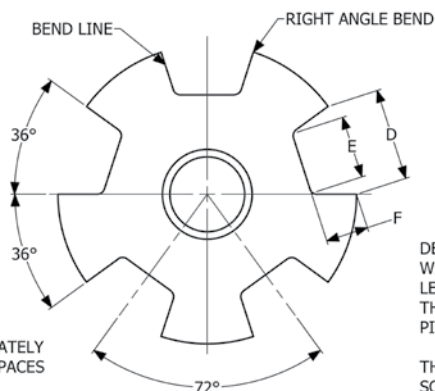
• R = Right Hand Flighting, L = Left Hand Flighting



CUT SCREW / CUT AND FOLDED SCREW



FOR INFORMATION ON TOLERANCES, PIPE SIZES, AND THICKNESSES REFER TO SECTIONAL SCREWS



DEPTH OF CUT "F" IS ONE HALF THE FLIGHT WIDTH FOR NORMAL MAXIMUM PIPE SIZE. LENGTHS "D" & "E" ARE CALCULATED FROM THE DEVELOPED O.D. FOR A STANDARD PITCH.

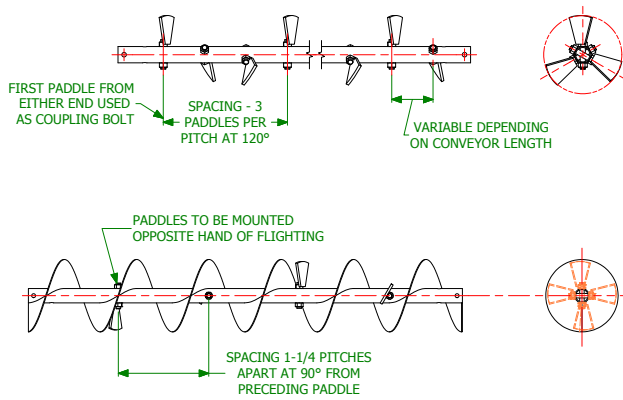
THIS ALSO APPLIES TO CUT AND FOLDED SCREW AS WELL

Screw Dia.	Pitch	Part Number	Screw Coupling Dia	Pipe Sch 40		L Std. Length	A		B		Flight Thickness	D Length of Upper Cut	E Length of Lower Cut	F Depth of Cut	Average Weight	
				Size	C Pipe OD		Plus	Minus	Plus	Minus					Complete Screw (Lbs./Ft.)	Flight Only (Lbs./ea.)
4"		NOT AVAILABLE														
6"	6"	6S312●-#	1-1/2"	2"	2-3/8"	9' - 10"	1/16"	3/16"	3/8"	1/4"	3/16"	2"	1-1/2"	7/8"	7	2
9"	9"	9S316●-#	1-1/2"	2"	2-3/8"	9' - 10"	1/16"	3/16"	1/2"	1/4"	3/8"	3"	2-1/8"	1-1/2"	11	6
		9S424●-#	2"	2-1/2"	2-7/8"			16							9	
12"	12"	12S416●-#	2"	2-1/2"	2-7/8"	11' - 10"	1/8"	5/16"	3/4"	1/4"	1/4"	4"	2-3/4"	2"	15	14
		12S424●-#													19	20
		12S524●-#	2-7/16"	3"	3-1/2"	11' - 9"		3/8"	21	15						
		12S624●-#	3"	3-1/2"	4"				22	13						
14"	14"	14S524●-#	2-7/16"	3"	3-1/2"	11' - 9"	1/8"	5/16"	3/4"	1/4"	3/8"	4-5/8"	3-1/8"	2-1/2"	23	20
		14S624●-#	3"	3-1/2"	4"			3/8"				25	20			
16"	16"	16S616●-#	3"	3-1/2"	4"	11' - 9"	1/8"	3/8"	3/4"	1/4"	1/4"	5-1/4"	3-1/2"	3"	22	18
		16S624●-#									3/8"				27	26
18"	18"	18S624●-#	3"	3-1/2"	4"	11' - 9"	3/16"	3/8"	3/4"	1/2"	3/8"	6"	3-7/8"	3-3/8"	29	35
		18S724●-#	3-7/16"	4"	4-1/2"	11' - 8"									31	35
20"	20"	20S624●-#	3"	3-1/2"	4"	11' - 9"	3/16"	3/8"	7/8"	1/2"	3/8"	6-5/8"	4-1/4"	3-7/8"	32	40
		20S724●-#	3-7/16"	4"	4-1/2"	11' - 8"									33	40
24"	24"	24S724●-#	3-7/16"	4"	4-1/2"	11' - 8"	3/16"	3/8"	7/8"	1/2"	3/8"	7-7/8"	4-7/8"	4-7/8"	38	63
30"	30"	30S824●-#	3-15/16"	5"	5-9/16"	11' - 8"	3/16"	3/8"	7/8"	1/2"	3/8"	9-9/32"	5-23/32"	5-3/4"	50	70
36"	36"	36S924●-#	4-7/16"	6"	6-5/8"	11' - 7"	3/16"	3/8"	7/8"	1/2"	3/8"	11-1/8"	7-3/16"	6-3/8"	60	80

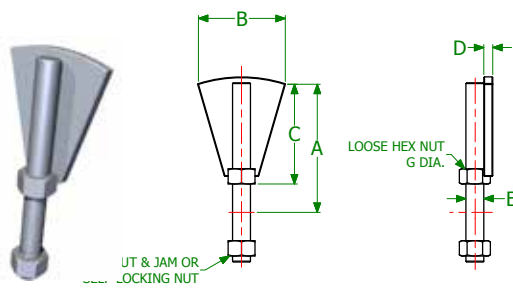
● R = Right Hand Flighting, L = Left Hand Flighting # CF = Cut Flight Screw, CFF = Cut and Folded Flight Screw



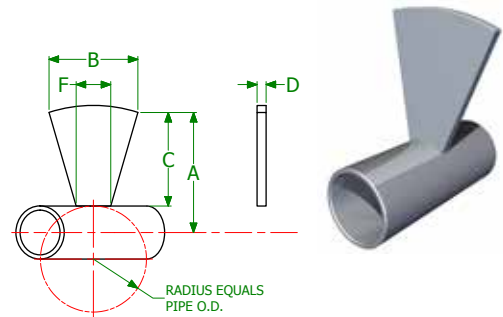
PADDLE SCREW CONVEYORS



PADDLES



STYLE 1: ADJUSTABLE



STYLE 2: WELDED

Screw Dia.	Part Number	Cplg. Dia.	Pipe Size	A	B	C	D	E	F	G	Wt. Each Paddle (Lbs.)	
4"	PAD42	1"	1-1/4"	2"	1-1/2"	1-3/16"	3/16"	3/8"	7/8"	1/2"	0.25	
6"	PAD63	1-1/2"	2"	3"	2-1/16"	1-13/16"	1/4"	1/2"	1-7/16"	5/8"	0.50	
9"	PAD93	1-1/2"	2"	4-1/2"	2-3/4"	3-5/16"	1/4"	1/2"	1-1/2"	5/8"	0.50	
	PAD94	2"	2-1/2"			3-1/16"		5/8"	1-3/4"	3/4"		0.75
12"	PAD124	2"	2-1/2"	6"	3-11/16"	4-9/16"	3/8"	5/8"	1-3/4"	3/4"	1.50	
	PAD125	2-7/16"	3"			4-1/4"		5/8"	1-7/8"	3/4"		1.75
	PAD126	3"	3-1/2"			4"		3/4"	2"	7/8"		2.00
14"	PAD145	2-7/16"	3"	7"	4-1/4"	5-1/4"	3/8"	5/8"	2"	3/4"	2.25	
	PAD146	3"	3-1/2"			5"		3/4"	2-1/8"	7/8"		2.50
16"	PAD166	3"	3-1/2"	8"	4-15/16"	6"	3/8"	3/4"	2-1/4"	7/8"	3.25	
	PAD166	3"	4"			5-3/4"		7/8"	2-3/8"	1"		3.50
18"	PAD186	3"	3-1/2"	9"	5-3/8"	7"	3/8"	3/4"	2-1/8"	7/8"	4.00	
	PAD187	3-7/16"	4"			6-3/4"		7/8"	2-1/4"	1"		4.25
20"	PAD206	3"	3-1/2"	10"	6-1/8"	8"	3/8"	3/4"	2-7/16"	7/8"	4.75	
	PAD207	3-7/16"	4"			7-3/4"		7/8"	2-9/16"	1"		5.00
24"	PAD247	3-7/16"	4"	12-1/8"	7-3/8"	9-7/8"	1/2"	7/8"	2-11/16"	1"	6.75	
30"	PAD308	3-15/16"	5"	15"	9-1/2"	12"	1/2"	7/8"	3-1/4"	1"	7.50	
36"	PAD369	4-7/16"	6"	18"	11-3/8"	15"	5/8"	7/8"	3-9/16"	1"	9.25	

SCREW CONVEYOR SURFACE FINISHES

The surface finish of the interior and exterior of a screw conveyor can be very important to the success of the overall bulk material process. Certain bulk materials such as chemicals or food products require special finishes to maintain the integrity of the bulk material and prevent contamination. Understanding the bulk material process is very important to determining the proper surface finish of a screw conveyor.

Most industrial applications such as conveying limestone, biosolids or offal require no special polishing of the welds, flights or pipe on the interior of a screw conveyor. Likewise, the exterior of a screw conveyor requires no special polishing of the welds or surfaces of the troughs, trough ends or covers. Pits and crevices are allowed at welded joints because the bulk material will not contaminate or corrode.

Special industrial applications such as conveying food ingredients or specialty chemicals require special polishing of the welds, flights and pipe on the interior of a screw conveyor. Continuous welding of the flights to both sides of the center pipe is typically required to eliminate any pits or crevices. The surfaces of the flights, welds and pipe are then polished to a specific grit finish to meet the requirements of the application. The exterior of a screw conveyor may require special welding and polishing of the troughs, trough ends and covers. No pits or crevices are allowed at welded joints because the bulk material could be contaminated or cause corrosion.

The KWS screw conveyor surface finishes shown below address the needs of almost every bulk material application. Surface finishes are called out for the interior and exterior of a screw conveyor including the welds, flights, pipe, troughs, trough ends and covers.

The KWS screw conveyor surface finishes are much more comprehensive when compared to the CEMA surface finishes. KWS addresses the surface finish requirements of the welds, flights, pipe, troughs, trough ends and covers while CEMA only addresses the surface finish of the welds on a screw conveyor. The CEMA surface finish call outs are incomplete and can be confusing to the Customer, possibly creating a problem.

Our goal at KWS is to exceed the expectations of our Customers by providing screw conveyors with the proper surface finish for the application and process.



SCREW CONVEYOR SURFACE FINISHES

Screw Assembly:

KWS Industrial Finish 1S

Weld: Weld spatter and slag removed, 40 to 50 grit finish, pits and crevices permissible (CEMA II)

Flight Surface: Mill finish, no grinding or polishing on steel surfaces

Pipe: Mill finish, no grinding or polishing on steel surfaces

KWS Industrial Finish 2S

Weld: Weld spatter and slag removed, 80 to 100 grit finish, pits and crevices permissible (CEMA III)

Flight Surface: Mill finish, no grinding or polishing on steel surfaces

Pipe: Mill finish, no grinding or polishing on steel surfaces

KWS Industrial Finish 3S

Weld: Weld spatter and slag removed, welds as laid, no pits or crevices permissible (No CEMA equivalent)

Flight Surface: Mill finish, no grinding or polishing on steel surfaces

Pipe: Mill finish, no grinding or polishing on steel surfaces

KWS Industrial Finish 1SP

Weld, Flight Surface and Pipe: 150 grit finish on all surfaces, no pits or crevices permissible (No CEMA Equivalent)

Trough Assembly (Including Trough Ends and Covers)

KWS Industrial Finish 1T – Interior and/or Exterior

Weld: Weld spatter and slag removed, 40 to 50 grit finish, pits and crevices permissible (CEMA II)

Trough Surface: Mill finish, no grinding or polishing on steel surfaces

KWS Industrial Finish 2T – Interior and/or Exterior

Weld: Weld spatter and slag removed, 80 to 100 grit finish, pits and crevices permissible (CEMA III)

Trough Surface: Mill finish, no grinding or polishing on steel surfaces

KWS Industrial Finish 3T – Interior and/or Exterior

Weld: Weld spatter and slag removed, welds as laid, no pits or crevices permissible (No CEMA equivalent)

Trough Surface: Mill finish, no grinding or polishing on steel surfaces

KWS Industrial Finish 1TP – Interior Only

Weld: 150 grit finish, no pits or crevices permissible (CEMA IV)

Trough Surface: Mill finish, no grinding or polishing on 2B surfaces, plate surfaces to be polished to 150 grit finish



SCREW CONVEYOR SURFACE FINISHES

KWS Industrial Finish 2TP – Interior Only

Weld and Trough Surface: 150 grit finish on all surfaces, no pits or crevices permissible (No CEMA Equivalent)

Standard Exterior Paint Finish for Carbon Steel Components and Assemblies
(Up to 220-Degrees F)

Surface Preparation: Hand tool clean per SSPC-SP2

Paint: One shop coat of KWS gray enamel, 2 to 3 mils minimum DFT

Standard Exterior Paint Finish for Carbon Steel Components and Assemblies
(Between 220 and 600-Degrees F)

Surface Preparation: Near white blast per SSPC-SP10

Paint: One shop coat of KWS high temperature paint, 2 to 3 mils minimum DFT



KWS HARDSURFACING FOR ABRASIVE APPLICATIONS

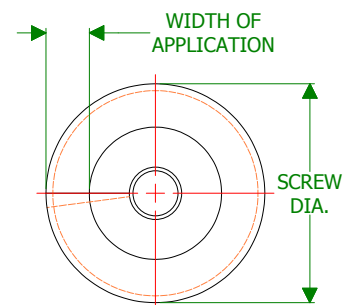
KWS provides screw conveyors manufactured from many commercially available abrasion-resistant materials. Metals such as AR-235, AR-400 and AR-500 plate are used in many abrasive applications. Hardsurfacing, also known as hardfacing, is the application of wear-resistant metals to the flight surface by means of welding. KWS hardsurfaced screws are designed to eliminate excessive wear on flights while conveying abrasive bulk materials. A hardsurface alloy is typically welded to the carrying side of the fighting face. When handling extremely abrasive bulk materials such as glass cullet or wood bark, the non-carrying side and outside diameter of the flight as well as the outer surface of the center pipe can be hardsurfaced to prevent wear of the softer base materials.

Hardsurfacing materials manufactured by Postle Industries, Allied Welding and Stellite are commonly used by KWS. Many other hardsurface alloys are available. The chart provided shows the standard width of hardsurfacing for a specific screw conveyor diameter. Please consult KWS Engineering or your KWS Salesperson to determine the best solution for your application.

Additional consideration must be given to selecting the proper coupling shafts and hanger bearings for an abrasive application. Hard iron bearings and hardened coupling shafts are sufficient for most moderately abrasive applications such as handling crushed limestone or Portland cement. For severely abrasive applications such as handling alumina or flyash, Stellite sleeved bearings and couplings shafts are typically required.

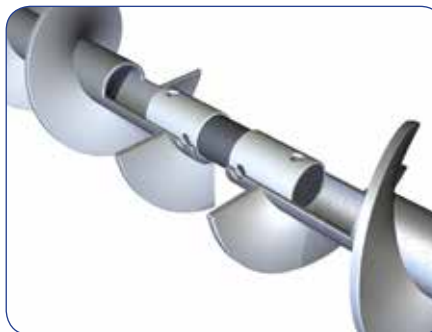
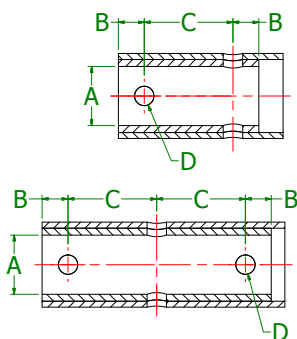


Screw Dia.	Width of Application
4"	3/4"
6"	1"
9"	1-1/2"
12"	2"
14"	2"
16"	2-1/2"
18"	2-1/2"
20"	3"
24"	3"
30"	4"
36"	4"



INTERNAL COLLARS

Internal collars, sometimes referred to as bushings, are used to reduce the inside diameter of the center pipe of a screw to match standard CEMA shaft sizes and to increase the torque rating of the CEMA bolted connection. For standard pipe sizes, internal collars are manufactured from special seamless tubing and match fit to the bore of the pipe of a screw. Internal collars are plug welded in place for a permanent connection. For larger than standard pipe sizes KWS creates a shrink fit connection between the internal collar and pipe. Then, the internal collars are plug welded in place for a permanent connection.



NOMENCLATURE

I		C		2		7		1		6		3		4		0		3		B							
IC = Internal Collar				Shaft Diameter								Pipe Schedule				Drilling											
				1 = 1" 3 = 3" 112 = 1-1/2" 3716 = 3-7/16" 2 = 2" 31516 = 3-15/16" 2716 = 2-7/16" 4716 = 4-7/16"								40				Blank = 2 Bolt				3B = 3 Bolt							
												80				Pipe Size											
												114 = 1-1/4" 312 = 3-1/2"				2 = 2" 4 = 4"				212 = 2-1/2" 5 = 5"				3 = 3" 6 = 6"			

Part Number	A		B	C	D	Weight (Lbs.)	
	Bore Dimension					Spacing 1st Bolt	Bolt Centers
	Min.	Max.					
IC111440*	1.005"	1.016"	1/2"	2"	3/8"	3	4
IC112240*	1.505"	1.516"	7/8"	3"	1/2"	3	4
IC221240*	2.005"	2.016"	7/8"	3"	5/8"	3	4
IC2716340*	2.443"	2.458"	15/16"	3"	5/8"	4	7
IC331240*	3.005"	3.025"	1"	3"	3/4"	4	7
IC3440*	3.005"	3.025"	1"	3"	3/4"	4	7
IC3716440*	3.443"	3.467"	1-1/2"	4"	7/8"	8	12
IC31516540	3.943"	3.967"	1-11/16"	4"	1-1/8"	17	27
IC4716640	4.443"	4.467"	1-7/8"	4"	1-1/4"	35	50

* KWS Stock Component in 2-bolt only

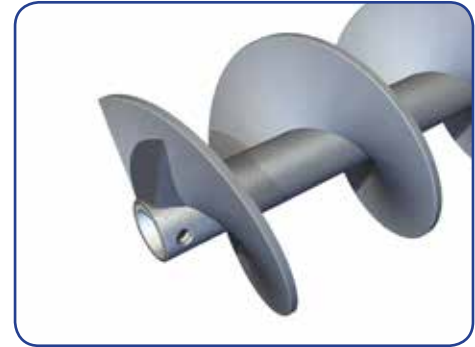


END LUGS

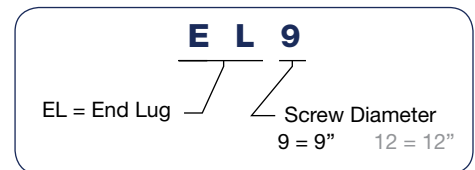
End lugs are used to provide extra support to the first and last flight of a screw section and are located on the non-carrying side of the flight. End lugs are manufactured from heavy-gauge steel and continuously welded to the flight and center pipe of a screw section. End lugs are designed to provide maximum support with the least obstruction of material flow.

Screw Dia.	Part Number
6" to 9"	EL9*
12" to 16"	EL12*

* KWS Stock Component



NOMENCLATURE

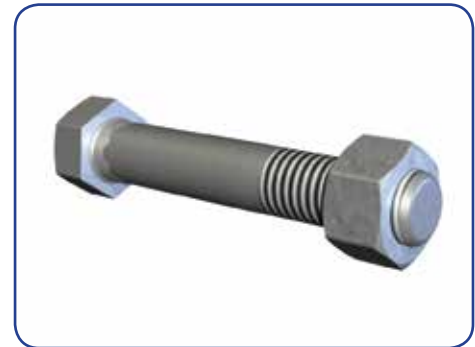


COUPLING BOLTS

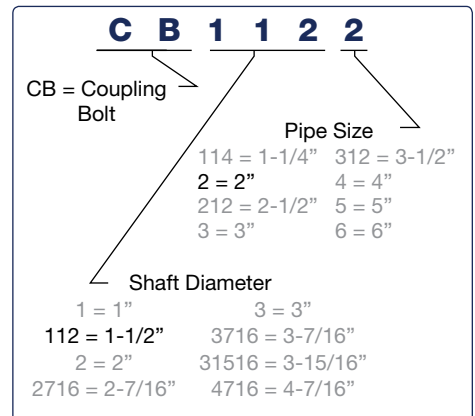
Coupling bolts are manufactured from various high-strength carbon steels and 18-8 stainless steels. KWS stocks Grade 5 carbon steel and 18-8 stainless steel coupling bolts. The shank length of a coupling bolt is equal to the measured outside diameter of the center pipe of the screw to provide maximum shear area and strength. It is very important to only use the correct coupling bolt for corresponding screw and pipe size.

Cplg. Dia.	Outside Pipe Dia	Pipe Size (Sch 40)	Bolt Size	Part Number	Wt. Each (Lbs.)
1"	1-11/16"	1-1/4"	3/8" x 2-1/16"	CB1114*	0.13
1-1/2"	2-3/8"	2"	1/2" x 3"	CB1122*	0.32
2"	2-7/8"	2-1/2"	5/8" x 3-5/8"	CB2212*	0.56
2-7/16"	3-1/2"	3"	5/8" x 4-3/8"	CB27163*	0.63
3"	4"	3-1/2"	3/4" x 5"	CB3312*	0.91
3"	4-1/2"	4"	3/4" x 5-1/2"	CB34*	1.05
3-7/16"	4-1/2"	4"	7/8" x 5-1/2"	CB37164*	1.59
3-15/16"	5-9/16"	5"	1-1/8" x 7-1/16"	CB315165	3.14
4-7/16"	6-5/8"	6"	1-1/4" x 7-1/2"	CB47166	4.62

* KWS Stock Component



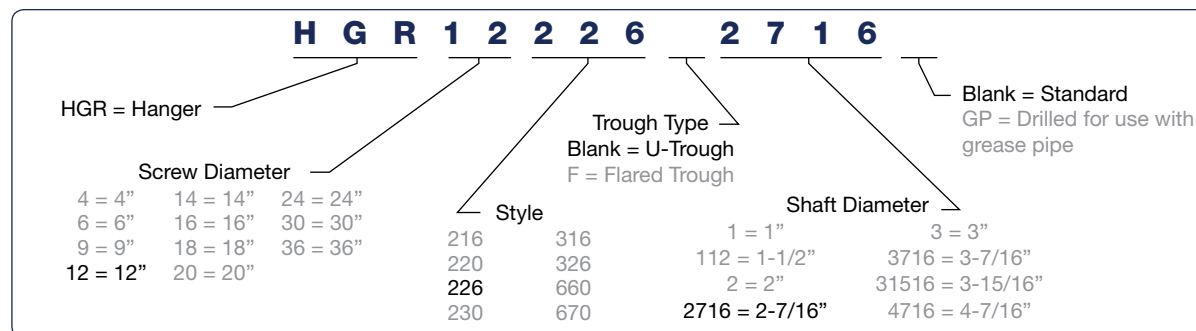
NOMENCLATURE



HANGERS

Hangers are intermediate support brackets located between screw sections along the length of a screw conveyor. Hangers allow for the use of multiple screw sections. Many different hanger styles are available, depending on the application. Style 216 and 226 hangers are the most widely used and are in stock at KWS. Hangers are generally used when conveying non-abrasive and free-flowing bulk materials. The bulk material must be able to flow around the hanger. Hangers are not recommended when conveying abrasive and sluggish bulk materials.

NOMENCLATURE



Style 216

Style 216 hangers are an inside flush mounted hanger. The double body bar provides extra rigidity for heavier screw sections in more demanding applications. The flush mounted top bar bolts to the inside of the trough flanges and allows for the use of standard trough covers.



Style 220

Style 220 hangers are a top mounted hanger. The combination body bar provides rigidity for light and medium duty applications while allowing minimal obstruction of material flow. The top mounted top bar bolts to the top of the trough flanges and requires the use of special covers.



Style 226

Style 226 hangers are an inside flush mounted hanger. The combination body bar provides rigidity for light and medium duty applications while allowing minimal obstruction of material flow. The flush mounted top bar bolts to the inside of the trough flanges and allows for the use of standard trough covers.





HANGERS



Style 230

Style 230 hangers are a top mounted hanger. The double body bar provides extra rigidity for heavier screw sections in more demanding applications. The top mounted top bar bolts to the top of the trough flanges and requires the use of special covers.



Style 316

Style 316 hangers are an inside flush mounted hanger. The top bar is self-adjusting to compensate for thermal expansion in high temperature applications. The double body bar provides extra rigidity for heavier screw sections in more demanding applications. The flush mounted top bar bolts to the inside of the trough flanges and allows for the use of standard trough covers.



Style 326

Style 326 hangers are an inside flush mounted hanger. The top bar is self-adjusting to compensate for thermal expansion in high temperature applications. The combination body bar provides rigidity for light and medium duty applications while allowing minimal obstruction of material flow. The flush mounted top bar bolts to the inside of the trough flanges and allows for the use of standard trough covers.



Style 660

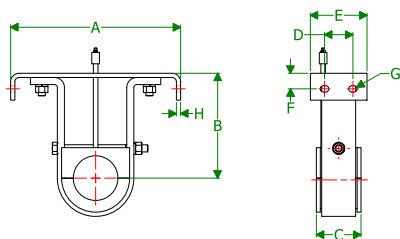
Style 660 hangers are a top mounted hanger. Supplied with a dust-tight sealed ball bearing, style 660 hangers allow for 4-degrees of shaft misalignment and temperatures up to 240-degrees F. The pipe body bar provides rigidity for light and medium duty applications while allowing minimal obstruction of material flow. The top mounted top bar bolts to the top of the trough flanges and requires the use of special covers.



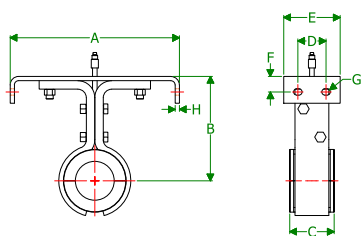
Style 670

Style 670 hangers are an inside flush mounted hanger. Supplied with a dust-tight sealed ball bearing, style 670 hangers allow for 4-degrees of shaft misalignment and temperatures up to 240-degrees F. The pipe body bar provides rigidity for light and medium duty applications while allowing minimal obstruction of material flow. The flush mounted top bar bolts to the inside of the trough flanges and allows for the use of standard trough covers.

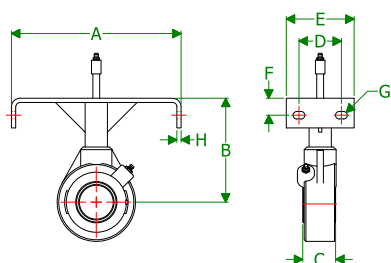
U-TROUGH HANGERS



**Style 216 for
U - Trough**



**Style 226 for
U - Trough**



**Style 670 for
U - Trough**



Screw Dia.	Shaft Dia.	A	B	C	D	E	F	G Bolts	H	Part Number	Weight (Lbs.)		
											216	226	670
4"	1"	5"	3-5/8"	1-1/2"	2"	4"	5/8"	1/4"	3/16"	HGR4#1*†•	3	5	5
6"	1-1/2"	7"	4-1/2"	2"	2-1/2"	4"	3/4"	3/8"	1/4"	HGR6#112*@	5	7	7
9"	1-1/2" 2"	10"	6-1/8"	2"	2-1/2"	4"	1"	3/8"	1/4"	HGR9#112*@ HGR9#2*@	7	9	8
				2"							9	11	9
12"	2" 2-7/16" 3"	13"	7-3/4"	2"	2-1/2"	5"	1-1/4"	1/2"	3/8"	HGR12#2*@ HGR12#2716*@ HGR12#3*@	14	16	12
				3"							18	21	20
				3"							21	28	30
14"	2-7/16" 3"	15"	9-1/4"	3"	2-1/2"	5"	1-3/8"	1/2"	3/8"	HGR14#2716*@ HGR14#3*@	23	22	21
				3"							25	26	32
16"	3"	17"	10-5/8"	3"	2-1/2"	5"	1-3/8"	1/2"	3/8"	HGR16#3*@	28	39	35
18"	3" 3-7/16"	19"	12-1/8"	3"	3-1/2"	5"	1-5/8"	5/8"	1/2"	HGR18#3*@ HGR18#3716*@	34	41	40
				4"							44	49	46
20"	3" 3-7/16"	21"	13-1/2"	3"	3-1/2"	5"	1-5/8"	5/8"	1/2"	HGR20#3*@ HGR20#3716*@	36	43	45
				4"							47	51	52
24"	3-7/16"	25"	16-1/2"	4"	3-1/2"	5"	1-3/4"	5/8"	1/2"	HGR24#3716*@	53	67	63
30"	3-15/16"	31"	19-1/2"	4"	3-1/2"	5-1/2"	1-3/4"	3/4"	1/2"	HGR30#31516•@	68	79	68
36"	4-7/16"	37"	22-1/2"	5"	3-1/2"	5-1/2"	1-3/4"	3/4"	1/2"	HGR36#4716•@	83	88	83

* KWS Stock Component only for 216 and 226 standard style hangers # = 216, 226, or 670

† Not Available for Style 216

• Not Available for Style 670

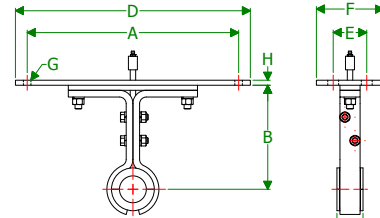
@ = Blank=Standard, GP=Drilled for grease pipe



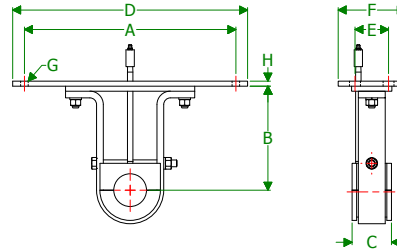
U-TROUGH HANGERS



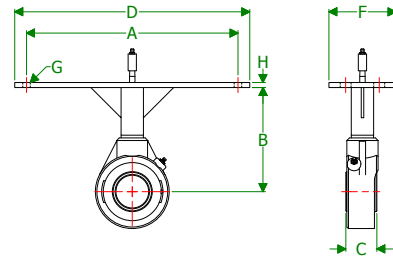
Style 220 for U - Trough



Style 230 for U - Trough



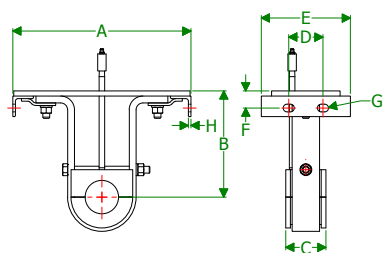
Style 660 for U - Trough



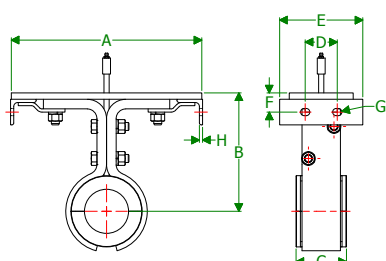
Screw Dia.	Shaft Dia.	A	B	C	D	E	F	G Bolts	H	Part Number	Weight (Lbs.)		
											220	230	660
4"	1"	6-1/4"	3-5/8"	1-1/2"	7-1/4"	2"	4"	1/4"	1/4"	HGR4#1†•	5	5	5
6"	1-1/2"	8-3/4"	4-1/2"	2"	9-3/4"	2-1/2"	4"	3/8"	1/4"	HGR6#112@	7	7	7
9"	1-1/2" 2"	12-1/4"	6-1/8"	2" 2"	13-1/2"	2-1/2"	4"	3/8"	1/4"	HGR9#112@ HGR9#2@	9 11	9 11	8 9
12"	2" 2-7/16" 3"	15-3/4"	7-3/4"	2" 3" 3"	17-1/2"	2-1/2"	5"	1/2"	3/8"	HGR12#2@ HGR12#2716@ HGR12#3@	16 21 28	16 21 28	12 20 30
14"	2-7/16" 3"	17-3/4"	9-1/4"	3" 3"	19-1/2"	2-1/2"	5"	1/2"	3/8"	HGR14#2716@ HGR14#3@	26 33	26 33	21 32
16"	3"	19-3/4"	10-5/8"	3"	21-1/2"	2-1/2"	5"	1/2"	3/8"	HGR16#3@	39	39	35
18"	3" 3-7/16"	22-1/4"	12-1/8"	3" 4"	24-1/2"	3-1/2"	5"	5/8"	1/2"	HGR18#3@ HGR18#3716@	41 49	41 49	40 46
20"	3" 3-7/16"	24-1/2"	13-1/2"	3" 4"	26-1/2"	3-1/2"	5"	5/8"	1/2"	HGR20#3@ HGR20#3716@	43 51	43 51	45 58
24"	3-7/16"	28-1/4"	16-1/2"	4"	30-1/2"	3-1/2"	5"	5/8"	1/2"	HGR24#3716@	67	67	69
30"	3-15/16"	36-1/4"	19-1/2"	4"	38-1/2"	3-1/2"	5-1/2"	3/4"	1/2"	HGR30#31516•@	73	73	75
36"	4-7/16"	42-1/4"	22-1/2"	5"	44-1/2"	3-1/2"	5-1/2"	3/4"	1/2"	HGR36#4716•@	88	88	91

= 220, 230, or 660 † Not Available for Style 230 • Not Available for Style 660
 @ = Blank=Standard, GP=Drilled for grease pipe

U-TROUGH HANGERS



**Style 316 for
U - Trough**



**Style 326 for
U - Trough**



Screw Dia.	Shaft Dia.	A	B	C	D	E	F	G Bolts	H	Part Number	Weight (Lbs.)	
											220	230
4"	1"	5"	3-5/8"	1-1/2"	2"	5"	5/8"	1/4"	1/8"	HGR4#1†@	5	5
6"	1-1/2"	7"	4-1/2"	2"	2-1/2"	6"	3/4"	3/8"	1/8"	HGR6#112@	6	6
9"	1-1/2" 2"	10"	6-1/8"	2" 2"	2-1/2"	6"	1"	3/8"	3/16"	HGR9#112@ HGR9#2@	8 10	8 10
12"	2" 2-7/16" 3"	13"	7-3/4"	2" 3" 3"	2-1/2"	6-1/2"	1-1/4"	1/2"	3/16"	HGR12#2@ HGR12#2716@ HGR12#3@	15 20 25	15 20 25
14"	2-7/16" 3"	15"	9-1/4"	3" 3"	2-1/2"	6-1/2"	1-3/8"	1/2"	1/4"	HGR14#2716@ HGR14#3@	24 31	24 29
16"	3"	17"	10-5/8"	3"	2-1/2"	6-1/2"	1-3/8"	1/2"	1/4"	HGR16#3@	36	35
18"	3" 3-7/16"	19"	12-1/8"	3" 4"	3-1/2"	6-1/2" 7"	1-5/8"	5/8"	1/4"	HGR18#3@ HGR18#3716@	36 48	34 47
20"	3" 3-7/16"	21"	13-1/2"	3" 4"	3-1/2"	6-1/2" 7"	1-5/8"	5/8"	1/4"	HGR20#3@ HGR20#3716@	40 51	40 51
24"	3-7/16"	25"	16-1/2"	4"	3-1/2"	7"	1-3/4"	5/8"	5/16"	HGR24#3716@	58	58
30"	3-15/16"	31"	19-1/2"	4"	3-1/2"	8"	1-3/4"	3/4"	3/8"	HGR30#31516@	63	64
36"	4-7/16"	37"	22-1/2"	5"	3-1/2"	8"	1-3/4"	3/4"	3/8"	HGR36#4716@	80	82

= 316 or 326 † Not Available for Style 316 @ = Blank=Standard, GP=Drilled for grease pipe



FLARED TROUGH HANGERS



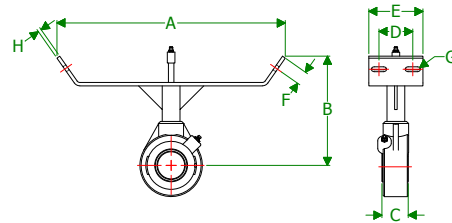
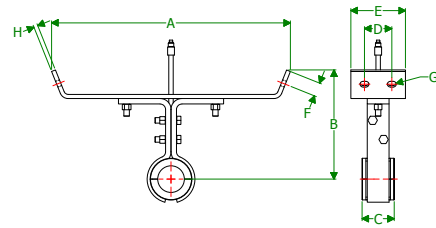
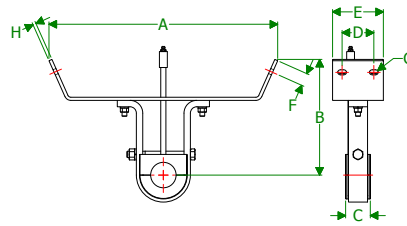
Style 216 for Flared Trough



Style 226 for Flared Trough



Style 670 for Flared Trough



Screw Dia.	Shaft Dia.	A	B	C	D	E	F	G Bolts	H	Part Number	Weight (Lbs.)			
											220	230	660	
4"	NOT AVAILABLE													
6"	1-1/2"	14"	7"	2"	2-1/2"	4"	3/4"	3/8"	1/4"	HGR6#F112@	7	8	8	
9"	1-1/2" 2"	18"	9"	2" 2"	2-1/2"	4"	1"	3/8"	1/4"	HGR9#F112@ HGR9#F2@	8	10	9	
											10	13	11	
12"	2" 2-7/16" 3"	22"	10"	2" 3" 3"	2-1/2"	5"	1-1/4"	1/2"	3/8"	HGR12#F2@ HGR12#F2716@ HGR12#F3@	15	18	14	
											20	23	23	
											24	32	35	
14"	2-7/16" 3"	24"	11"	3" 3"	2-1/2"	5"	1-3/8"	1/2"	1/4"	HGR14#F2716†@ HGR14#F3†@	25	29	24	
											28	27	37	
16"	3"	28"	11-1/2"	3"	2-1/2"	5"	1-3/8"	1/2"	1/4"	HGR16#F3†@	31	43	49	
18"	3" 3-7/16"	31"	12-1/8"	3" 4"	3-1/2"	6"	1-5/8"	5/8"	3/8"	HGR18#F3†@ HGR18#F3716†@	37	45	45	
											50	55	52	
20"	3" 3-7/16"	34"	13-1/2"	3" 4"	3-1/2"	6"	1-5/8"	5/8"	3/8"	HGR20#F3†@ HGR20#F3716†@	39	47	50	
											53	57	58	
24"	3-7/16"	40"	16-1/2"	4"	3-1/2"	6"	1-5/8"	5/8"	3/8"	HGR24#F3716†@	59	73	69	
30"	3-15/16"	47-3/8"	19-1/2"	4"	3-1/2"	7"	1-5/8"	3/4"	1/2"	HGR30#F31516•†@	78	95	78	
36"	4-7/16"	54-3/8"	22-1/2"	5"	3-1/2"	7"	1-5/8"	3/4"	1/2"	HGR36#F4716•†@	95	117	95	

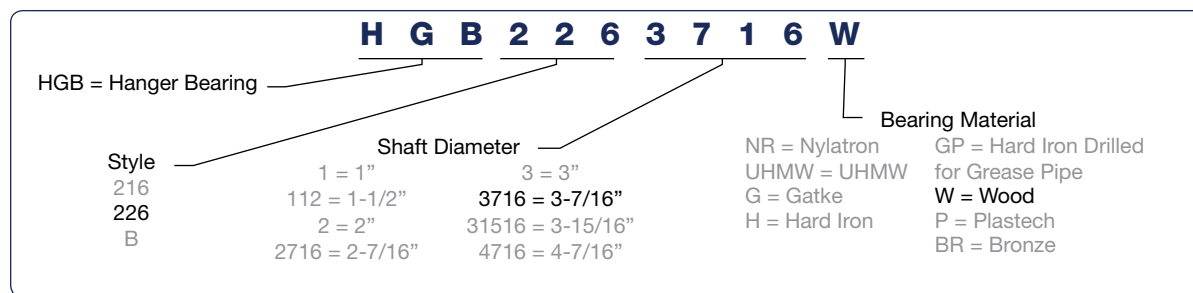
= 216, 226, or 670 † Requires Top Bar To Be Constructed From Channel • Not Available For Style 670
 @ = Blank=Standard, GP=Drilled for grease pipe

HANGER BEARINGS

Hanger bearings provide a bearing surface to support a screw section when multiple screw sections are used in a screw conveyor. Hanger bearings are journal or plain type bearings that mount in hangers and are replaceable when worn. Many different hanger bearing materials are available, depending on the application. Style 216 and 226 bearings are the most widely used and are in stock at KWS.

KWS hanger bearing recommendations are listed in the Component Series Table of the KWS Screw Conveyor Engineering Guide for the specific bulk material to be conveyed. The most common hanger bearing materials are described in the table below. Please consult KWS Engineering for specific hanger bearing recommendations.

NOMENCLATURE

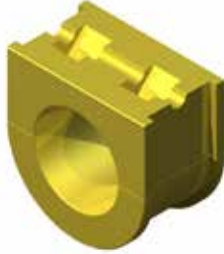


Bearing Material	RPM Max	Temp Max (°F)	Wear Resist*	Industry Uses	Comments
Nylatron (NR)	60	180	3	Chemical handling, grain, feed	Self lubricating, very low load capacity
UHMW	60	160	6	Food, Ice	USDA approved, doesn't swell in water
Gatke (G)	75	250	7	Medium temp applications (alternate for Hard Iron)	Low load capacity, Food Grade
Hard Iron (H)	75	400	9	Lime, Cement, Salt, Gypsum	Requires hardened shaft, can be noisy, lube req'd in some applications
Wood (W)	175	160	4	Grain, Feed, Fertilizer	Self lubricating, good general purpose
Plastech (P)	100	160	6	Grain, Food	Food grade
Bronze (BR)	150	850	7	Grain, Feed, Processing	Self lubricating, high quality bearings, high load capacity
Ball Bearing (BB)	400	180	1**	High speed, low loading	Screw action tends to force product thru seals reducing bearing life
Stellite (S)	50	1000	10	Very high temp applications, metal processing, ceramics	Requires stellite insert in shaft

* 0 = Least, 10 = Highest ** Depending on bearing type and seal arrangement



HANGER BEARINGS



Style 216

Style 216 hanger bearings are used in 216, 316, and 230 hangers, and are manufactured to CEMA dimensional standards. Style 216 hangers and hanger bearings offer superior rigidity and are excellent for extra heavy-duty applications.



Style 226

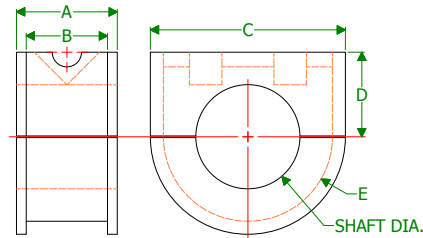
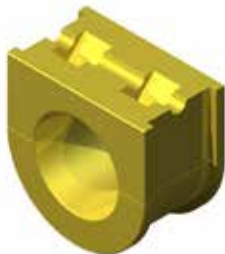
Style 226 hanger bearings are used in 226, 326, and 220 hangers, and are manufactured to CEMA dimensional standards. Style 226 hangers and hanger bearings have clearance for bulk materials to pass and are excellent for normal and heavy-duty applications.



Style B

Style B hanger bearings are used in 660 and 670 hangers, and are manufactured to CEMA dimensional standards. Style B hanger bearings utilize a self-aligning ball bearing for lower power consumption and quieter operation. The bearing is sealed to minimize contamination.

STYLE 216 HANGER BEARING

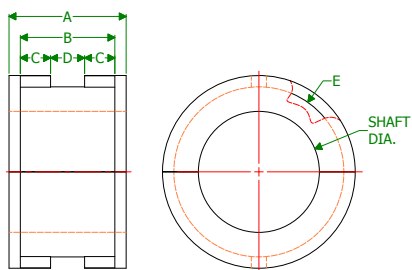


Shaft Dia.	A	B	C	D	E (Dia.)	Part Number	Weight (Lbs.) •
1"	NOT AVAILABLE						
1-1/2"	1-15/16"	1-9/16"	2-3/4"	1-3/8"	2-1/4"	HGB216112#*	2.0
2"	1-15/16"	1-9/16"	3-3/4"	1-5/8"	3-1/4"	HGB2162#*	4.0
2-7/16"	2-15/16"	2-1/4"	4-1/2"	2"	4"	HGB2162716#*	9.2
3"	2-15/16"	2-1/4"	5"	2-5/16"	4-1/2"	HGB2163#*	10.8
3-7/16"	3-15/16"	3-1/4"	5-1/2"	2-7/16"	4-7/8"	HGB2163716#*	15.2
3-15/16"	3-15/16"	3-1/4"	6"	2-11/16"	5-3/8"	HGB21631516#*	17.3
4-7/16"	4-15/16"	4-1/4"	7-3/16"	3-1/4"	6-3/16"	HGB2164716#*	31.7

* KWS Stock Component • All weights are based on hard iron. # Bearing Material (UHMW, Gatke, Hard Iron, Wood, Bronze, Stellite)

Note: Only Hard Iron and Bronze are available in 3-15/16" and 4-7/16".

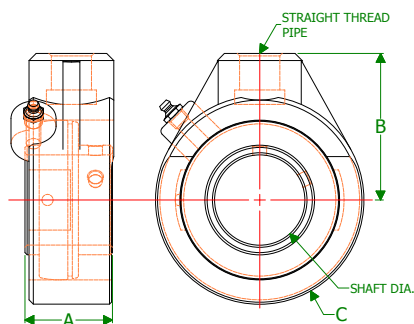
STYLE 226 HANGER BEARING



Shaft Dia.	A	B	C	D	E (Dia.)	Part Number	Weight (Lbs.) •
1"	1-7/16"	1-1/8"	5/16"	1/2"	1-3/16"	HGB2261#*	2
1-1/2"	1-15/16"	1-9/16"	1/2"	9/16"	2-3/16"	HGB226112#*	2
2"	1-15/16"	1-9/16"	1/2"	9/16"	2-13/16"	HGB2262#*	4
2-7/16"	2-15/16"	2-1/4"	3/4"	3/4"	3-3/16"	HGB2262716#*	9
3"	2-15/16"	2-1/4"	3/4"	3/4"	4-1/16"	HGB2263#*	11
3-7/16"	3-15/16"	3-1/4"	1-1/4"	3/4"	4-3/4"	HGB2263716#*	15
3-15/16"	3-15/16"	3-1/4"	1-1/4"	3/4"	5-1/4"	HGB22631516#	17
4-7/16"	4-15/16"	4-1/4"	1-3/4"	3/4"	5-13/16"	HGB2264716#	32

• All weights are based on hard iron. # Bearing Material (Nylatron, UHMW, Gatke, Hard Iron, Wood, Plasteel, Bronze, Stellite) * KWS Stock Component Note: Only UHMW and Wood are available in the 1" size.

STYLE B HANGER BEARING



Shaft Dia.	A	B	C	Straight Thread Pipe D	Part Number	Weight
1"	1-1/2"	2-1/2"	3-1/8"	3/4"	HGBB1	3
1-1/2"	1-15/16"	2-7/8"	4"	3/4"	HGBB112	3
2"	1-15/16"	3-1/4"	4-5/8"	3/4"	HGBB2	4
2-7/16"	2-5/16"	4"	5-1/2"	1"	HGBB2716	7
3"	2-3/8"	4-7/8"	7"	1"	HGBB3	15
3-7/16"	2-9/16"	6"	8-3/8"	1-1/2"	HGBB3716	21

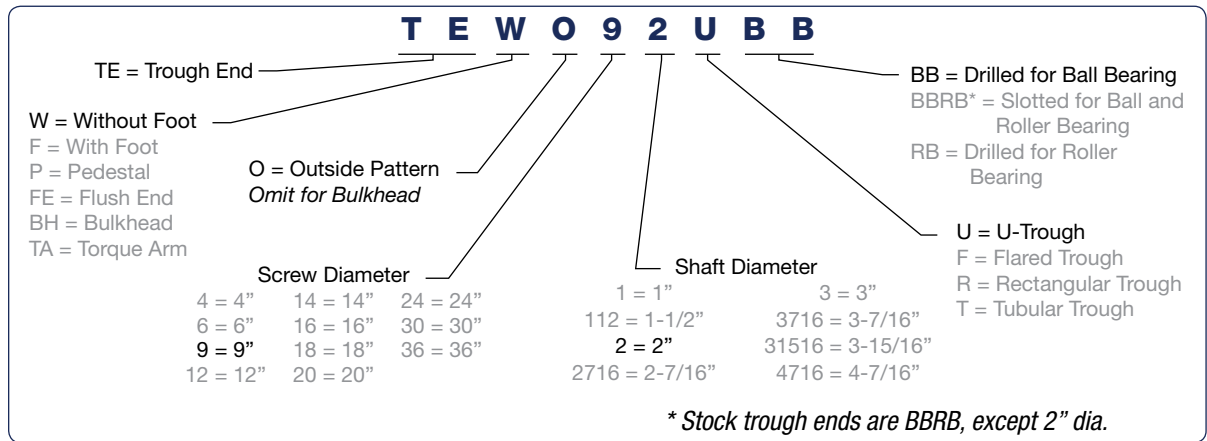


TROUGH ENDS

Trough ends are manufactured from heavy gauge steel to very close tolerances. Assembly and mounting holes are precision cut to ensure correct alignment with trough end flanges.

KWS stocks a large inventory of trough ends in both carbon and stainless steel construction that are ready for immediate shipment. Stock trough ends are available with hole patterns for 4-bolt flange mounted ball and roller bearings.

NOMENCLATURE



Note: Torque Arm Trough Ends include Drive Size before bearing call-out. (i.e: TETA092U-SK3-RB)



WITHOUT FOOT

Trough ends without feet are typically used in applications where a screw conveyor is suspended above ground and is supported from the top flange.



WITH FOOT

Trough ends with feet are the most commonly used type of trough end, and are typically used in applications where a screw conveyor is mounted directly to the floor or on structural supports.

TROUGH ENDS

PEDESTAL

Pedestal trough ends are typically used in heavy and extra-heavy duty applications where a split gland, flanged gland or mechanical seal is required. Pedestal trough ends require the use of a pillow block bearing. The space between the trough end and pillow block bearing prevents contamination of the bearing.



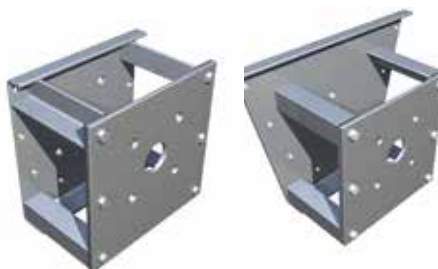
FLUSH END

Flush End trough ends are used with flush end discharge spouts where overall length needs to be minimized and conveyance length needs to be maximized. The bottom flange of the flush end trough end is drilled to match the discharge flange pattern.



BULKHEAD

Bulkhead trough ends are used with flange mounted gear reducers on the drive end of a screw conveyor and are typically used in heavy and extra-heavy duty applications where a split gland, flanged gland or mechanical seal is required. The space between the trough end and bulkhead prevents contamination of the gear reducer. A bulkhead drive shaft is required.



TORQUE ARM

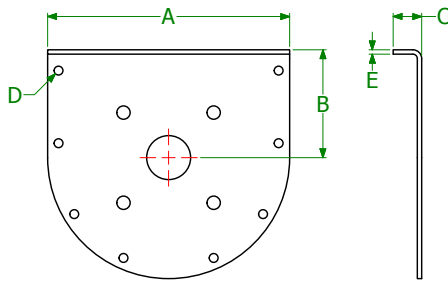
Torque arm trough ends are used with pillow block bearings and shaft-mounted gear reducers on the drive end of a screw conveyor and are typically used in heavy and extra-heavy duty applications where a split gland, flanged gland or mechanical seal is required. The space between the trough end and pillow block bearing prevents contamination of the bearing and gear reducer. The special torque arm design allows the gear reducer to float freely on the drive shaft. A torque arm drive shaft is required.



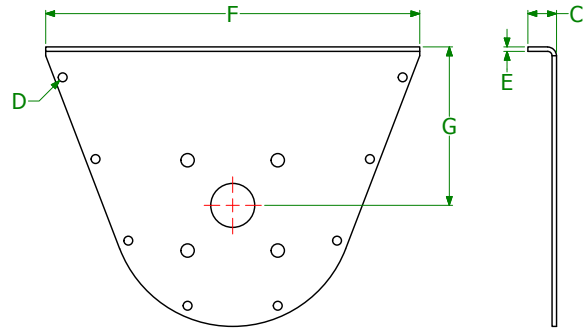


TROUGH ENDS WITHOUT FEET

U-TROUGH WITHOUT FOOT

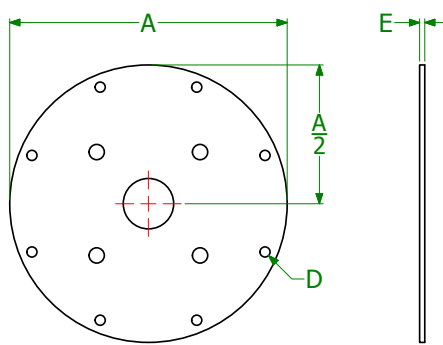
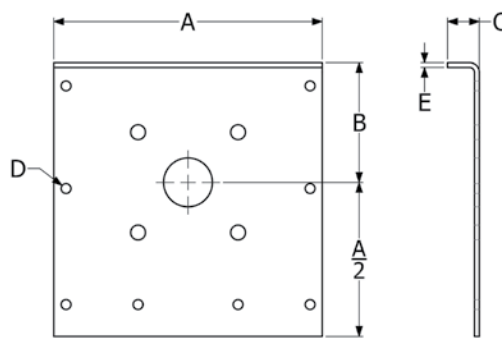


FLARED WITHOUT FOOT



Screw Dia.	Shaft Dia.	A	B	C	D Bolts	E	F	G	Part Numbers	Weight (Lbs.)	
										U-Trough	Flared
4"	1"	7-3/4"	3-5/8"	1-7/16"	3/8"	3/16"	X	X	TEW041#	5	N/A
6"	1-1/2"	9-3/4"	4-1/2"	1-1/2"	3/8"	3/16"	16-5/8"	7"	TEW06112#	10	13
9"	1-1/2" 2"	13-3/4"	6-1/8"	1-5/8"	3/8"	1/4"	21-1/4"	9"	TEW09112#	18	19
									TEW092#	18	24
12"	2" 2-7/16" 3"	17-1/4"	7-3/4"	2"	1/2"	1/4"	26-3/8"	10"	TEW0122#	43	36
									TEW0122716#	43	37
									TEW0123#	43	49
14"	2-7/16" 3"	19-1/4"	9-1/4"	2"	1/2"	1/4"	28-3/8"	11"	TEW0142716#	48	43
									TEW0143#	48	55
16"	3"	21-1/4"	10-5/8"	2-1/2"	5/8"	3/8"	32-1/2"	11-1/2"	TEW0163#	62	72
18"	3" 3-7/16"	24-1/4"	12-1/8"	2-1/2"	5/8"	3/8"	36-1/2"	12-1/8"	TEW0183#	84	83
									TEW0183716#	84	89
20"	3" 3-7/16"	26-1/4"	13-1/2"	2-1/2"	5/8"	3/8"	39-1/2"	13-1/2"	TEW0203#	102	103
									TEW0203716#	102	109
24"	3-7/16"	30-1/4"	16-1/2"	2-1/2"	5/8"	3/8"	45-1/2"	16-1/2"	TEW0243716#	128	132
30"	3-15/16"	38"	19-1/2"	3"•	5/8"	1/2"•	47-3/8"	19-1/2"	TEW03031516#•	250	267
36"	4-7/16"	44"	22-1/2"	3"•	5/8"	1/2"•	54-3/8"	22-1/2"	TEW0364716#•	340	350

= Trough and Bearing type; U=U-Trough, F=Flared, BB=Ball Bearing, RB=Roller Bearing, BBRB=Slotted for Roller and Ball Bearing
 • Top Flange Must Be Welded On and Not Formed

TROUGH ENDS WITHOUT FEET
TUBULAR WITHOUT FOOT

RECTANGULAR WITHOUT FOOT


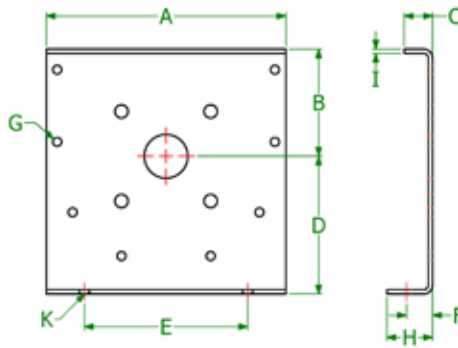
Screw Dia.	Shaft Dia.	A	B	C	D Bolts	E	Part Numbers	Weight (Lbs.)	
								Tubular	Rectangular
4"	1"	7-3/4"	3-5/8"	1-7/16"	3/8"	3/16"	TEW041#	4	N/A
6"	1-1/2"	9-3/4"	4-1/2"	1-1/2"	3/8"	3/16"	TEW06112#	9	11
9"	1-1/2" 2"	13-3/4"	6-1/8"	1-5/8"	3/8"	1/4"	TEW09112#	12	16
							TEW092#	15	21
12"	2" 2-7/16" 3"	17-1/4"	7-3/4"	2"	1/2"	1/4"	TEW0122#	29	32
							TEW0122716#	24	33
							TEW0123#	36	51
14"	2-7/16" 3"	19-1/4"	9-1/4"	2"	1/2"	1/4"	TEW0142716#	30	39
							TEW0143#	42	57
16"	3"	21-1/4"	10-5/8"	2-1/2"	5/8"	3/8"	TEW0163#	52	72
18"	3" 3-7/16"	24-1/4"	12-1/8"	2-1/2"	5/8"	3/8"	TEW0183#	63	79
							TEW0183716#	74	86
20"	3" 3-7/16"	26-1/4"	13-1/2"	2-1/2"	5/8"	3/8"	TEW0203#	85	104
							TEW0203716#	97	110
24"	3-7/16"	30-1/4"	16-1/2"	2-1/2"	5/8"	3/8"	TEW0243716#	116	138
30"	3-15/16"	38"	19-1/2"	3" •	5/8"	1/2" •	TEW03031516# •	131	182
36"	4-7/16"	44"	22-1/2"	3" •	5/8"	1/2" •	TEW0364716# •	237	301

= Trough and Bearing type; T=Tubular, R=Rectangular, BB=Ball Bearing,
 BBRB=Slotted for Ball and Roller Bearing, RB=Roller Bearing • Top Flange Must Be Welded On and Not Formed

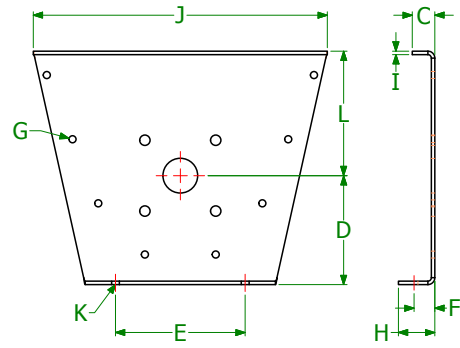


TROUGH ENDS WITH FEET

U-TROUGH WITH FOOT



FLARED WITH FOOT

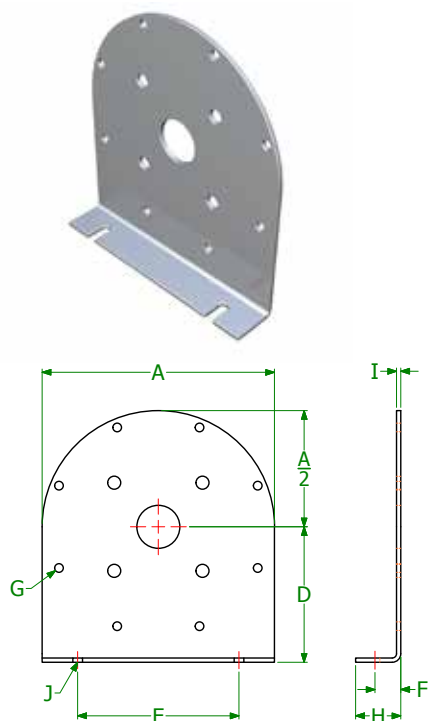
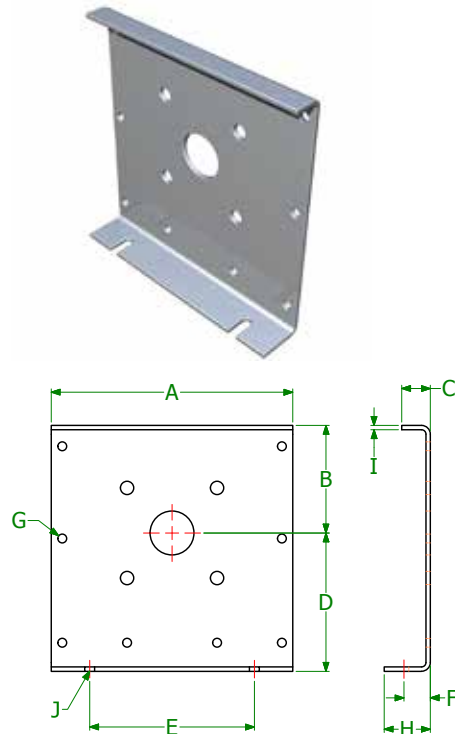


Screw Dia.	Shaft Dia.	A	B	C	D	E	F	G Bolts	H	I	J	K Bolts	L	Part Numbers	Weight (Lbs.)	
															U-Trough	Flared Trough
4"	1"	7-3/4"	3-5/8"	1-7/16"	4-5/8"	5-3/4"	1"	3/8"	1-5/8"	3/16"	X	3/8"	X	TEF041#*	7	N/A
6"	1-1/2"	9-3/4"	4-1/2"	1-1/2"	5-5/8"	8-1/8"	1"	3/8"	1-3/4"	3/16"	16-5/8"	3/8"	7"	TEF06112#*	12	15
9"	1-1/2" 2"	13-3/4"	6-1/8"	1-5/8"	7-7/8"	9-3/8"	1-1/2"	3/8"	2-5/8"	1/4"	21-1/4"	1/2"	9"	TEF09112#*	18	22
														TEF092#*	22	27
12"	2-7/16" 3"	17-1/4"	7-3/4"	2"	9-5/8"	12-1/4"	1-5/8"	1/2"	2-3/4"	1/4"	26-3/8"	5/8"	10"	TEF0122#*	36	43
														TEF0122716#*	38	44
														TEF0123#*	50	56
14"	2-7/16" 3"	19-1/4"	9-1/4"	2"	10-7/8"	13-1/2"	1-5/8"	1/2"	2-7/8"	1/4"	28-3/8"	5/8"	11"	TEF0142716#*	45	52
														TEF0143#*	57	64
16"	3"	21-1/4"	10-5/8"	2-1/2"	12"	14-7/8"	2"	5/8"	3-1/4"	3/8"	32-1/2"	5/8"	11-1/2"	TEF0163#*	75	85
														TEF0183#*	89	98
18"	3" 3-7/16"	24-1/4"	12-1/8"	2-1/2"	13-3/8"	16"	2"	5/8"	3-1/4"	3/8"	36-1/2"	5/8"	12-1/8"	TEF0183716#*	101	104
														TEF0203#*	142	153
20"	3" 3-7/16"	26-1/4"	13-1/2"	2-1/2"	15"	19-1/4"	2-1/4"	5/8"	3-3/4"	3/8"	39-1/2"	3/4"	13-1/2"	TEF0203716#*	153	169
														TEF0243716#*	197	213
24"	3-7/16"	30-1/4"	16-1/2"	2-1/2"	18-1/8"	20"	2-1/2"	5/8"	4-1/8"	3/8"	45-1/2"	3/4"	16-1/2"	TEF0243716#*	197	213
30"	3-15/16"	38"	19-1/2"	3"•	21-1/2"	30"	2-1/2"	5/8"	4-1/2"•	1/2"•	47-3/8"	3/4"	19-1/2"	TEF03031516#•	215	230
36"	4-7/16"	44"	22-1/2"	3"•	24"	36"	2-1/2"	5/8"	4-1/2"•	1/2"•	54-3/8"	3/4"	22-1/2"	TEF0364716#•	330	360

*KWS Stock Component (U-Trough only. Stock trough ends are BBRB, except 2" dia. which are drilled for Ball Bearing only)

= Trough and Bearing type; U=U-Trough, F=Flared, BB=Ball Bearing, RB=Roller Bearing, BBRB=Slotted for Roller and Ball Bearing

• Flanges Must Be Welded On and Not Formed

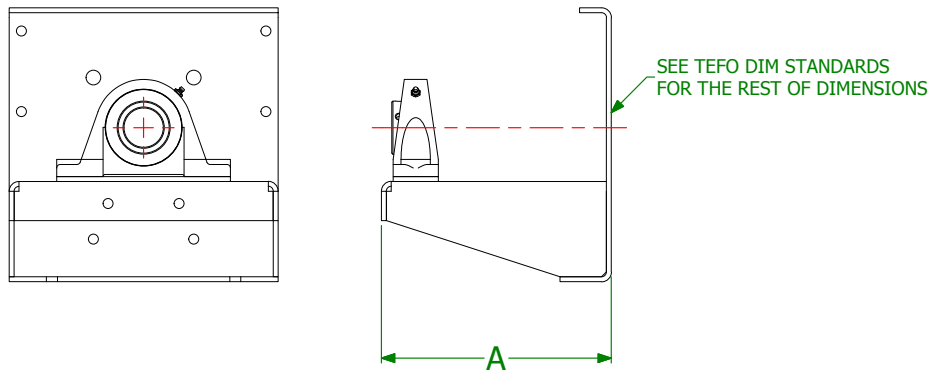
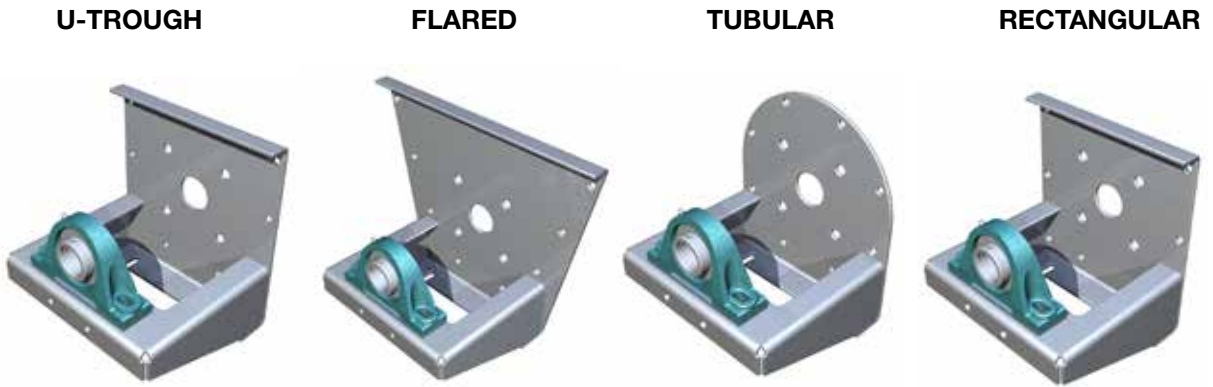
TROUGH ENDS WITH FEET
TUBULAR WITH FOOT

RECTANGULAR WITH FOOT


Screw Dia.	Shaft Dia.	A	B	C	D	E	F	G Bolts	H	I	J Bolts	Part Numbers	Weight (Lbs.)	
													Tubular	Rectangular
4"	1"	7-3/4"	X	X	4-5/8"	5-3/4"	1"	3/8"	1-5/8"	3/16"	3/8"	TEF041#	6	N/A
6"	1-1/2"	9-3/4"	4-1/2"	1-1/2"	5-5/8"	8-1/8"	1"	3/8"	1-3/4"	3/16"	3/8"	TEF06112#	11	13
9"	1-1/2" 2"	13-3/4"	6-1/8"	1-5/8"	7-7/8"	9-3/8"	1-1/2"	3/8"	2-5/8"	1/4"	1/2"	TEF09112# TEF092#	15	19
													18	24
12"	2" 2-7/16" 3"	17-1/4"	7-3/4"	2"	9-5/8"	12-1/4"	1-5/8"	1/2"	2-3/4"	1/4"	5/8"	TEF0122# TEF0122716# TEF0123#	29	39
													31	40
													43	58
14"	2-7/16" 3"	19-1/4"	9-1/4"	2"	10-7/8"	13-1/2"	1-5/8"	1/2"	2-7/8"	1/4"	5/8"	TEF0142716# TEF0143#	39	48
													51	66
16"	3"	21-1/4"	10-5/8"	2-1/2"	12"	14-7/8"	2"	5/8"	3-1/4"	3/8"	5/8"	TEF0163#	65	85
18"	3" 3-7/16"	24-1/4"	12-1/8"	2-1/2"	13-3/8"	16"	2"	5/8"	3-1/4"	3/8"	5/8"	TEF0183# TEF0183716#	78	94
													89	101
20"	3" 3-7/16"	26-1/4"	13-1/2"	2-1/2"	15"	19-1/4"	2-1/4"	5/8"	3-3/4"	3/8"	3/4"	TEF0203# TEF0203716#	115	134
													127	140
24"	3-7/16"	30-1/4"	16-1/2"	2-1/2"	18-1/8"	20"	2-1/2"	5/8"	4-1/8"	3/8"	3/4"	TEF0243716#	157	179
30"	3-15/16"	38"	19-1/2"	3"•	21-1/2"	30"	2-1/2"	5/8"	4-1/2"•	1/2"•	3/4"	TEF03031516#•	250	270
36"	4-7/16"	44"	22-1/2"	3"•	24"	36"	2-1/2"	5/8"	4-1/2"•	1/2"•	3/4"	TEF0364716#•	320	340

= Trough and Bearing type; T=Tubular, R=Rectangular, BB=Ball Bearing, BBRB=Slotted for Ball and Roller Bearing, RB=Roller Bearing
 • Flanges Must Be Welded On and Not Formed



PEDESTAL TROUGH ENDS



Note: Dimension shown is the same for each style trough.

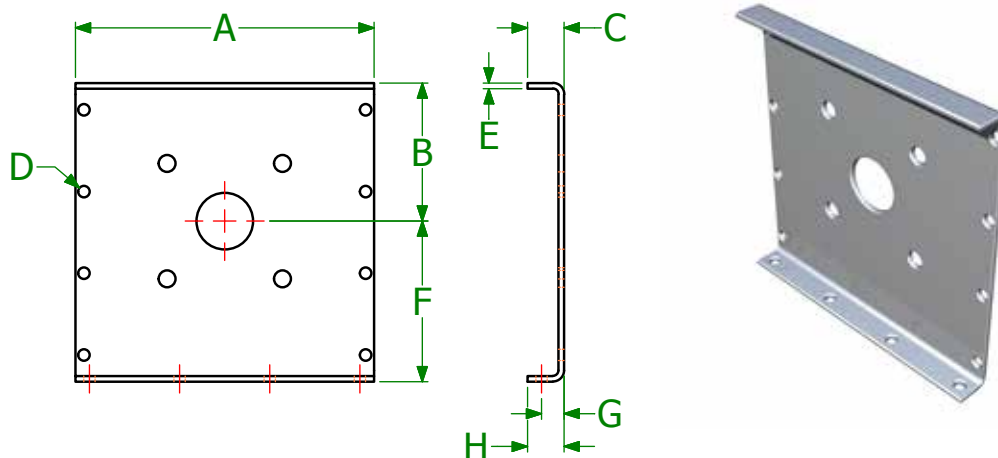
Screw Dia.	Shaft Dia.	A	Part Numbers	Weight (Lbs.)			
				U-Trough	Flared	Tubular	Rectangular
4"	1"	10"	TEP041#	14	15	13	14
6"	1-1/2"	10-3/4"	TEP06112#	19	22	18	20
9"	1-1/2"	10-3/4"	TEP09112#	27	31	24	28
	2"	11-1/4"	TEP092#	30	36	27	33
12"	2"	11-1/4"	TEP0122#	56	63	49	59
	2-7/16"	13"	TEP0122716#	58	64	51	60
	3"	12-3/4"	TEP0123#	70	76	63	78
14"	2-7/16"	13"	TEP0142716#	68	75	62	71
	3"	12-3/4"	TEP0143#	80	87	74	89
16"	3"	12-3/4"	TEP0163#	115	125	105	125
18"	3"	12-3/4"	TEP0183#	129	138	118	134
	3-7/16"	14-1/2"	TEP0183716#	139	144	149	141
20"	3"	12-3/4"	TEP0203#	189	196	178	197
	3-7/16"	14-1/2"	TEP0203716#	195	202	190	203
24"	3-7/16"	14-1/2"	TEP0243716#	246	250	234	256
30"	3-15/16"	14-1/2"	TEP03031516#•	271	296	265	305
36"	4-7/16"	14-1/2"	TEP0364716#•	406	374	400	401

= Trough and Bearing type; U=U-Trough, F=Flared, T=Tubular, R=Rectangular, BB=Ball Bearing, RB=Roller Bearing

• Flanges must be welded on and not formed

FLUSH END DISCHARGE TROUGH ENDS

U- TROUGH AND RECTANGULAR FLUSH END



Note: U-Trough and Rectangular Flush End Discharge Trough Ends are dimensionally the same.

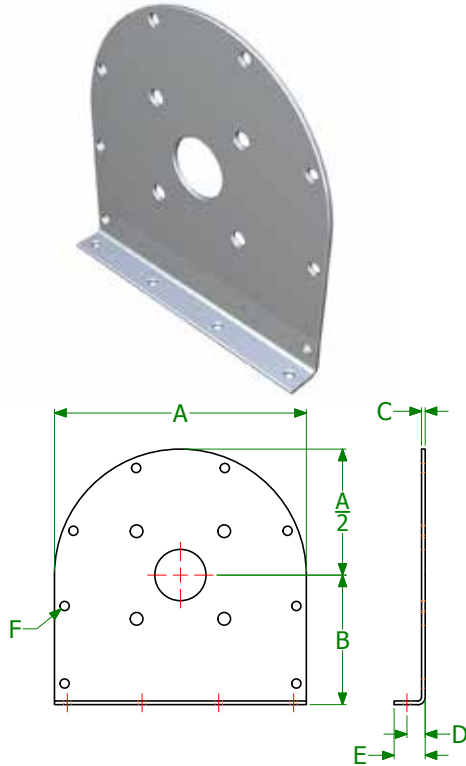
Screw Dia.	Shaft Dia.	A	B	C	D Bolts	E	F	G	H	Part Number	Weight (Lbs.)
4"	1"	7-1/2"	3-5/8"	1-7/16"	3/8"	3/16"	3-3/4"	7/8"	1-1/4"	TEFE041#	9
6"	1-1/2"	10"	4-1/2"	1-1/2"	3/8"	3/16"	5"	13/16"	1-1/2"	TEFE06112#	13
9"	1-1/2" 2"	13-1/4"	6-1/8"	1-5/8"	3/8"	1/4"	7-1/8"	1"	1-5/8"	TEFE09112# TEFE092#	19 24
12"	2" 2-7/16" 3"	17-1/4"	7-3/4"	2"	1/2"	1/4"	8-7/8"	1-1/4"	2-1/8"	TEFE0122# TEFE0122716# TEFE0123#	39 40 58
14"	2-7/16" 3"	19-1/4"	9-1/4"	2"	1/2"	1/4"	10-1/8"	1-1/4"	2-1/8"	TEFE0142716# TEFE0143#	48 66
16"	3"	21-1/4"	10-5/8"	2-1/2"	5/8"	3/8"	11-1/8"	1-1/4"	2-1/8"	TEFE0163#	85
18"	3" 3-7/16"	24-1/4"	12-1/8"	2-1/2"	5/8"	3/8"	12-3/8"	1-1/2"	2-5/8"	TEFE0183# TEFE0183716#	94 101
20"	3" 3-7/16"	26-1/4"	13-1/2"	2-1/2"	5/8"	3/8"	13-3/8"	1-1/2"	2-5/8"	TEFE0203# TEFE0203716#	134 140
24"	3-7/16"	30-1/4"	16-1/2"	2-1/2"	5/8"	3/8"	15-3/8"	1-1/2"	2-5/8"	TEFE0243716#	179
30"	3-15/16"	38"	19-1/2"	3"•	5/8"	1/2"•	18-3/8"	1-3/4"	3"•	TEFE03031516#•	270
36"	4-7/16"	44"	22-1/2"	3"•	5/8"	1/2"•	21-3/8"	1-3/4"	3"•	TEFE0364716#•	340

= Trough and Bearing type; U=U-Trough, F=Flared, T=Tubular, R=Rectangular, BB=Ball Bearing, RB=Roller Bearing, BBRB=Slotted for Roller and Ball Bearing • Flanges Must Be Welded On and Not Formed

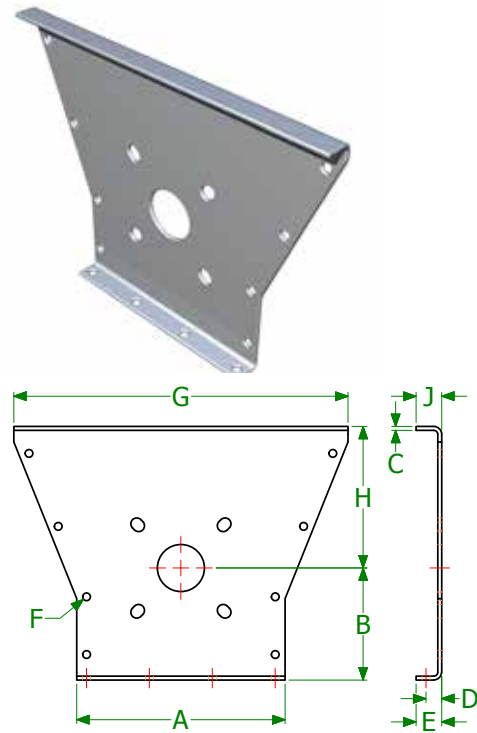


FLUSH END DISCHARGE TROUGH ENDS

TUBULAR FLUSH END



FLARED FLUSH END

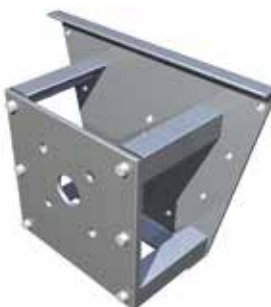
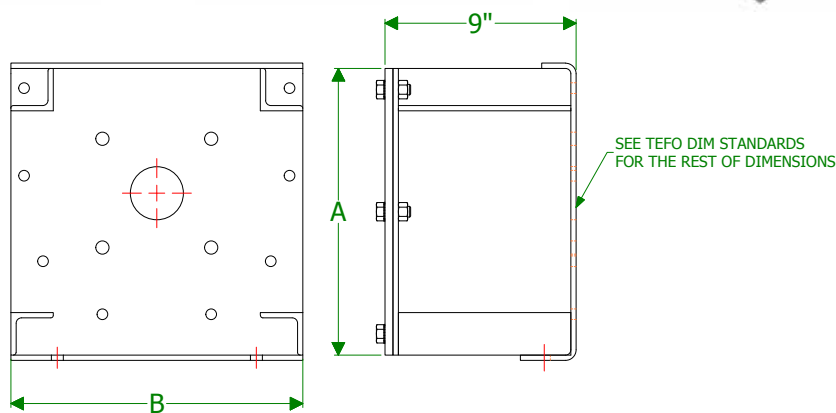


Screw Dia.	Shaft Dia.	A	B	C	D	E	F Bolts	G	H	J	Part Number	Weight (Lbs.)	
												Tubular	Flared
4"	1"	7-1/2"	3-3/4"	3/16"	7/8"	1 1/4"	3/8"	X	X	X	TEFE041#	6	N/A
6"	1-1/2"	10"	5"	3/16"	13/16"	1-1/2"	3/8"	16-5/8"	7"	1-1/2"	TEFE06112#	11	13
9"	1-1/2" 2"	13-1/4"	7-1/8"	1/4"	1"	1-5/8"	3/8"	21-1/4"	9"	1-5/8"	TEFE09112#	15	19
											TEFE092#	18	23
12"	2" 2-7/16" 3"	17-1/4"	8-7/8"	1/4"	1-1/4"	2-1/8"	1/2"	26-3/8"	10"	2"	TEFE0122#	29	37
											TEFE0122716#	31	38
											TEFE0123#	43	56
14"	2-7/16" 3"	19-1/4"	10-1/8"	1/4"	1-1/4"	2-1/8"	1/2"	28-3/8"	11"	2"	TEFE0142716#	39	45
											TEFE0143#	51	55
16"	3"	21-1/4"	11-1/8"	3/8"	1-1/4"	2-1/8"	5/8"	32-1/2"	11-1/2"	2-1/2"	TEFE0163#	65	73
18"	3" 3-7/16"	24-1/4"	12-3/8"	3/8"	1-1/2"	2-5/8"	5/8"	36-1/2"	12-1/8"	2-1/2"	TEFE0183#	78	84
											TEFE0183716#	89	89
20"	3" 3-7/16"	26-1/4"	13-3/8"	3/8"	1-1/2"	2-5/8"	5/8"	39-1/2"	13-1/2"	2-1/2"	TEFE0203#	115	130
											TEFE0203716#	127	144
24"	3-7/16"	30-1/4"	15-3/8"	3/8"	1-1/2"	2-5/8"	5/8"	45-1/2"	16-1/2"	2-1/2"	TEFE0243716#	157	181
30"	3-15/16"	37-1/4"	18-3/8"	1/2"•	1-3/4"	3-1/8"•	5/8"	47-3/8"	19-1/2"	3"•	TEFE03031516#•	250	196
36"	4-7/16"	43-1/4"	21-3/8"	1/2"•	1-3/4"	3-1/8"•	5/8"	54-3/8"	22-1/2"	3"•	TEFE0364716#•	320	306

= Trough and Bearing type; T=Tubular Trough, F=Flared Trough, R=Rectangular Trough, BB=Ball Bearing, RB=Roller Bearing, BBRB=Slotted for Roller and Ball Bearing • Flanges Must Be Welded On and Not Formed

BULKHEAD TROUGH ENDS

U-TROUGH/RECTANGULAR

FLARED

TUBULAR


Note: Dimensions shown are the same for each style trough.

Screw Dia.	Shaft Dia.	A	B •	Part Numbers	Weight (Lbs.)			
					U-Trough	Flared	Tubular	Rectangular
4"	1"	7-3/4"	7-3/4"	TEBH41#	23	N/A	21	N/A
6"	1-1/2"	9-3/4"	9-3/4"	TEBH6112#	32	35	31	33
9"	1-1/2"	13-1/2"	13-3/4"	TEBH9112#	53	57	50	53
	TEBH92#			57	62	53	57	
12"	2"	16-7/8"	17-1/4"	TEBH122#	96	103	89	96
	2-7/16"			TEBH122716#	98	104	91	98
	3"			TEBH123#	110	116	103	110
14"	2-7/16"	19-5/8"	19-1/4"	TEBH142716#	112	129	116	112
	3"			TEBH143#	134	141	128	134
16"	3"	21-7/8"	21-1/4"	TEBH163#	195	205	185	195
18"	3"	21-7/8"	21-1/4"	TEBH183#	209	218	198	209
	3-7/16"			TEBH183716#	221	224	209	221
20"	3"	21-7/8"	21-1/4"	TEBH203#	262	273	235	262
	3-7/16"			TEBH203716#	273	289	247	273
24"	3-7/16"	21-7/8"	21-1/4"	TEBH243716#	317	333	277	317
30"	3-15/16"	26-1/4"	26-1/4"	TEBH3031516#	375	390	410	375
36"	4-7/16"	26-1/4"	26-1/4"	TEBH364716#	490	520	480	490

= Trough and Bearing type; U=U-Trough, R=Rectangular Trough, F=Flared Trough, T=Tubular Trough, BB=Ball Bearing, RB=Roller Bearing, BBRB=Slotted for Roller and Ball Bearing • "B" Dimension Is Width Of Drive Plate, Not Trough End Plate



TORQUE ARM TROUGH ENDS

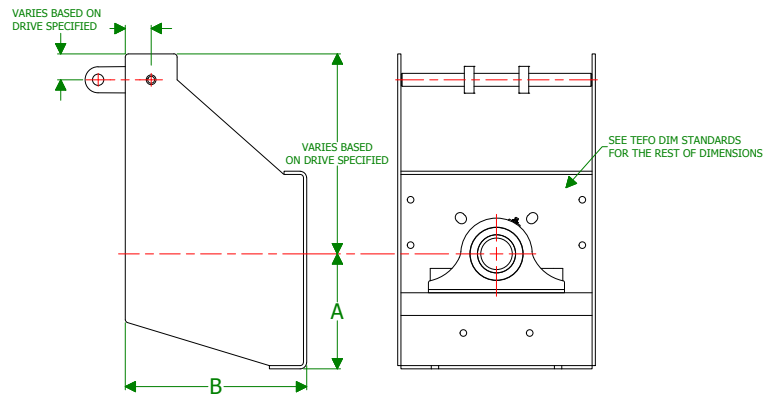
U-TROUGH/RECTANGULAR



FLARED



TUBULAR



Note: Dimensions shown are the same for each style trough.

Screw Dia.	Shaft Dia.	A	B •	Part Numbers
4"	1"	4-5/8"	11"	TETA041#
6"	1-1/2"	5-5/8"	11-3/4"	TETA06112#
9"	1-1/2" 2"	7-7/8"	11-3/4" 12-1/4"	TETA09112# TETA092#
12"	2" 2-7/16" 3"	9-5/8"	12-1/4" 13" 13-3/4"	TETA0122# TETA0122716# TETA0123#
14"	2-7/16" 3"	10-7/8"	13" 13-3/4"	TETA0142716# TETA0143#
16"	3"	12"	13-3/4"	TETA0163#
18"	3" 3-7/16"	13-3/8"	13-3/4" 15-1/2"	TETA0183# TETA0183716#
20"	3" 3-7/16"	15"	13-3/4" 15-1/2"	TETA0203# TETA0203716#
24"	3-7/16"	18-1/8"	15-1/2"	TETA0243716#
30"	3-15/16"	21-1/2"	15-3/4"	TETA03031516#
36"	4-7/16"	24"	16-1/4"	TETA0364716#

= Trough and Bearing type; U=U-Trough, R=Rectangular Trough, F=Flared Trough, T=Tubular Trough, BB=Ball Bearing, RB=Roller Bearing, BBRB=Slotted for Roller and Ball Bearing

• "B" Dimension Is Width Of Drive Plate, Not Trough End Plate

SEALS

Several types of shaft seals are available to prevent contamination of bulk materials being conveyed or the leakage of bulk materials from screw conveyors. Improper selection of shaft seals could result in the loss of production or exposure of personnel to a harmful bulk material.

NOMENCLATURE

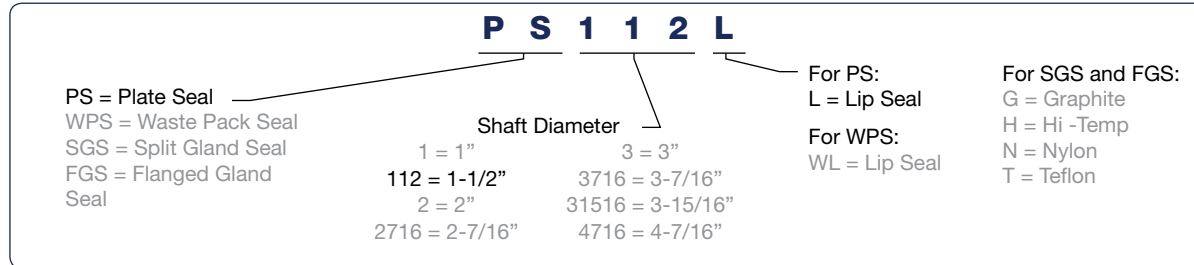


PLATE SEAL

Plate seals are economical and effective shaft seals that are mounted between a trough end and a flanged bearing by means of common bolts. Stock plate seals are available with neoprene lip seals. Other types of seal cartridges are also available upon request. Plate seals can also be used with pedestal trough ends and pillow block bearings.



WASTE PACK SEAL

Waste pack seals are the most common type of screw conveyor shaft seal because of low cost and simple design and are mounted between a trough end and a flanged bearing by means of common bolts. All KWS waste pack seals are available with neoprene lip seal. Other types of seal cartridges are also available upon request. An opening at the top of the seal housing facilitates the packing of loose fiber material called waste packing. The waste packing forms a seal around the diameter of the shaft. The waste packing can be oiled for specific applications. Waste pack seals can also be used with pedestal trough ends and pillow block bearings.



SPLIT GLAND SEAL

Split gland seals are compression type seals utilizing one ring of rope packing and typically located on the outside of a pedestal trough end. The standard rope packing is graphite impregnated for wear resistance. Other types of rope packing are available including Teflon and Fiberfrax. Split gland seals are easily adjusted by tightening the upper and lower nuts to further compress the packing around the shaft.



FLANGED GLAND SEAL

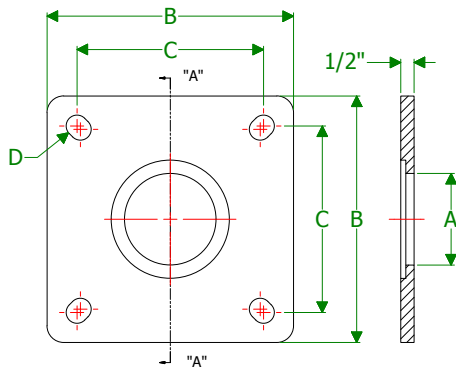
Flanged gland seals are compression type seals utilizing multiple rings of packing and located on the outside of a pedestal trough end. The standard rope packing is graphite impregnated for wear resistance. Other types of rope packing are available including Teflon and Fiberfrax. Flanged gland seals are easily adjusted by tightening the "follower" nuts to further compress the rope packing around the shaft. Many custom designs are available, including air purged, grease purged and split "follower" type.



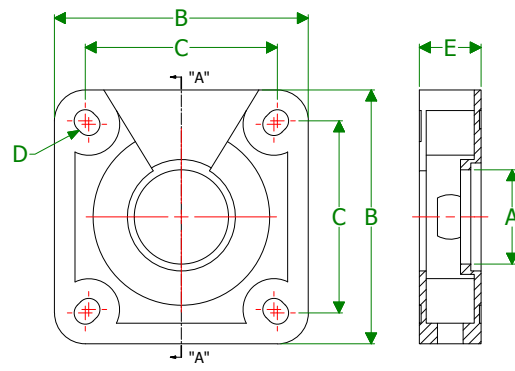


PLATE AND WASTE PACK SEAL

PLATE SEAL



WASTE PACK SEAL

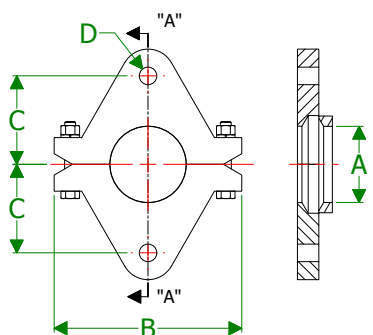


A Shaft Dia.	B	C		D Bolts	E	Part Number		Weight (Lbs.)	
		Min.	Max.			Plate Seal	Waste Pack Seal	Plate Seal	Waste Pack Seal
1"	4"	2-3/4"	2-3/4"	3/8"	1-3/4"	PS1L	WPS1WL	2	3
1-1/2"	5-3/8"	4"	4-1/8"	1/2"	1-3/4"	PS112L*	WPS112WL*	4	7
2"	6-1/2"	4-3/8"	5-1/8"	5/8"	1-3/4"	PS2L*	WPS2WL*	6	9
2-7/16"	7-3/8"	5-3/8"	5-5/8"	5/8"	1-3/4"	PS2716L*	WPS2716WL*	8	11
3"	7-3/4"	6"	6"	3/4"	1-3/4"	PS3L*	WPS3WL*	8	12
3-7/16"	9-1/4"	6-3/4"	7"	3/4"	2-1/4"	PS3716L*	WPS3716WL*	12	18
3-15/16"	10-1/4"	7-3/4"	7-3/4"	7/8"	2-1/4"	PS31516L	WPS31516WL	14	22
4-7/16"	10-7/8"	8-3/4"	8-3/4"	7/8"	2-1/4"	PS4716L	WPS4716WL	15	24

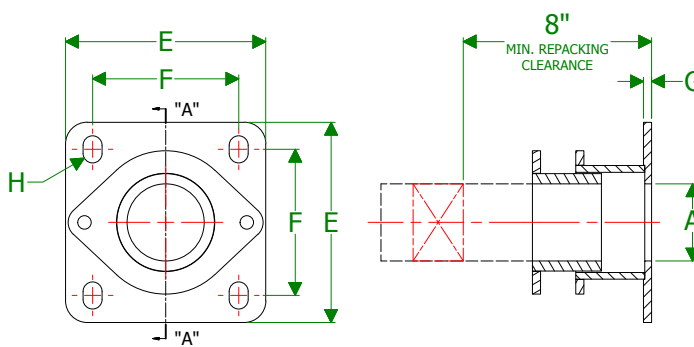
* KWS Stock Component (Includes Lip Seal Style Only)

SPLIT GLAND AND FLANGED GLAND SEAL

SPLIT GLAND SEAL



FLANGED GLAND SEAL



A Shaft Dia.	B	C	D Bolts	E	F	G	H Bolts	Part Number		Weight (Lbs.)	
								Split Gland Seal	Flanged Gland Seal	Split Gland Seal	Flanged Gland Seal
1"	4-1/8"	1-3/4"	3/8"	4"	2-3/4"	3/8"	3/8"	SGS1#	FGS1#	4	10
1-1/2"	4-5/8"	2-3/16"	1/2"	5-3/8"	4"	3/8"	1/2"	SGS112#*	FGS112#*	5	14
2"	5-3/8"	2-5/8"	1/2"	6-1/2"	5-1/8"	3/8"	5/8"	SGS2#*	FGS2#*	6	18
2-7/16"	6-1/8"	3-1/16"	5/8"	7-3/8"	5-5/8"	3/8"	5/8"	SGS2716#*	FGS2716#*	8	21
3"	6-3/4"	3-9/16"	5/8"	7-3/4"	6"	3/8"	3/4"	SGS3#*	FGS3#*	9	27
3-7/16"	8-3/4"	4-1/8"	3/4"	9-1/4"	6-3/4"	1/2"	3/4"	SGS3716#*	FGS3716#*	13	30
3-15/16"	9-1/2"	4-1/2"	3/4"	10-1/4"	7-3/4"	1/2"	7/8"	SGS31516#	FGS31516#	14	35
4-7/16"	10"	4-5/8"	3/4"	10-3/4"	8-3/4"	1/2"	7/8"	SGS4716#	FGS4716#	15	40

* KWS Stock Component (Graphite seal material only) #Seal Material; G=Graphite, H=Hi-Temp, N=Nylon, T=Teflon

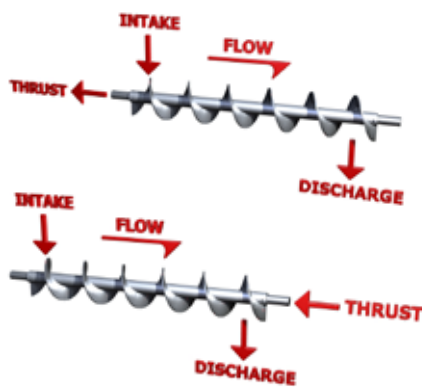


END BEARINGS

End bearings provide support at one or both ends of a screw conveyor and must be designed to handle radial and thrust loads as well as shaft runout.

Radial load as measured at the end bearing is half the weight of the last screw section. Radial loads act at right angles to the shaft centerline or bearing axis of rotation. Radial loads are typically negligible at the screw conveyor end shaft. However, end bearings located at the drive end of a screw conveyor are subject to higher radial loading due to the weight of the gear reducer and motor or overhung loads from chain and sprocket drives.

Thrust load is the reaction through the conveyor screws from the movement of a bulk material. Thrust loads are also called axial loads and act parallel to the shaft centerline or bearing axis of rotation. The end bearing on the drive end must prevent axial movement of the screw. Any axial movement of the screw could allow contact



with the hanger bearings or trough ends. KWS recommends locating the drive unit and thrust bearing at the discharge end of a screw conveyor, placing the screws in tension and preventing misalignment when the conveyor is heavily loaded.

Shaft runout occurs when the shaft rotates in an eccentric pattern about the centerline axis. Shaft runout is caused by the minor amount of "bend" inherent in any screw due to the manufacturing process. Shaft runout must be accounted for at the bearings to avoid premature bearing failure. KWS recommends using a fixed thrust bearing at the drive end and a ball or spherical roller bearing at the tail end.

NOMENCLATURE

	E B F 1 1 2 B B	
EB = End Bearing	Shaft Diameter	BB = Ball Bearing RB = Roller Bearing
F = Flange	1 = 1"	3 = 3"
P = Pillow Block	112 = 1-1/2"	3716 = 3-7/16"
	2 = 2"	31516 = 3-15/16"
	2716 = 2 -7/16"	4716 = 4-7/16"



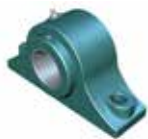
FLANGED ROLLER BEARING

Flanged roller bearings are mounted directly to standard trough ends on the drive end of a screw conveyor. The flanged roller bearing housing contains two sets of tapered bearings that are designed to withstand the thrust of the bulk material being conveyed.



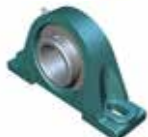
FLANGED BALL BEARING

Flanged ball bearings are mounted directly to standard trough ends on the tail end of a screw conveyor. The ball bearing housing contains one set of ball bearings that are designed to withstand radial loads only.



PILLOW BLOCK ROLLER BEARING

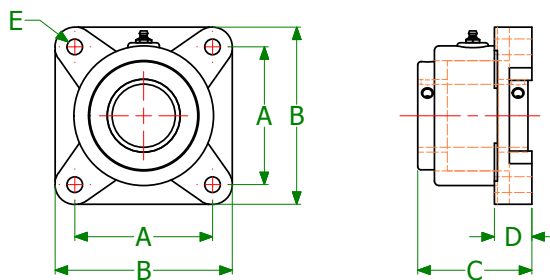
Pillow block roller bearings are mounted to pedestal trough ends on the drive end of a screw conveyor. The flanged roller bearing housing contains two sets of tapered or spherical bearings that are designed to withstand the thrust of the bulk material being conveyed.



PILLOW BLOCK BALL BEARING

Pillow block ball bearings are mounted to pedestal trough ends on the tail end of a screw conveyor. The ball bearing housing contains one set of ball bearings that are designed to withstand radial loads only.

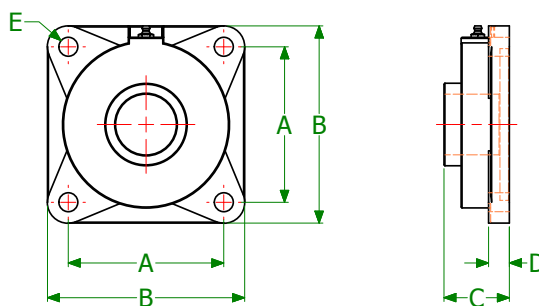
ROLLER BEARING FLANGE UNIT



Shaft Dia.	A	B	C	D	E Bolt Dia.	Part Number	Weight (Lbs.)
1"	NOT AVAILABLE						
1-1/2"	4-1/8"	5-3/8"	3-3/8"	1-3/16"	1/2"	EBF112R*	11
2"	4-3/8"	5-5/8"	3-1/2"	1-3/16"	1/2"	EBF2R*	12
2-7/16"	5-3/8"	6-7/8"	4"	1-1/2"	5/8"	EBF2716R*	20
3"	6"	7-3/4"	4-1/2"	1-5/8"	3/4"	EBF3R*	26
3-7/16"	7"	9-1/4"	5"	1-7/8"	3/4"	EBF3716R*	50
3-15/16"	7-1/2"	10-1/4"	6-1/4"	2-1/8"	7/8"	EBF31516R	75
4-7/16"	8-3/4"	10-7/8"	7-3/4"	2-7/16"	7/8"	EBF4716R	90

* KWS Stock Component

BALL BEARING FLANGE UNIT

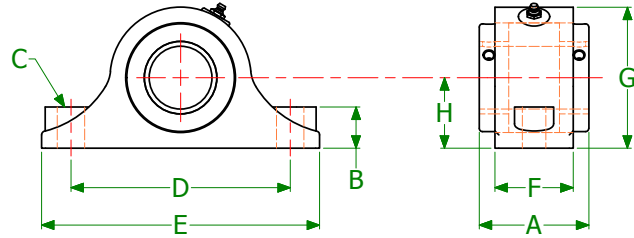
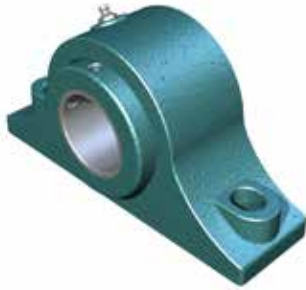


Shaft Dia.	A	B	C	D	E Bolt Dia.	Part Number	Weight (Lbs.)
1"	2-3/4"	3-3/4"	1 3/8"	1/2"	7/16"	EBF1BB*	2
1-1/2"	4"	5-1/8"	2"	1/2"	1/2"	EBF112BB*	5
2"	5-1/8"	6-1/2"	2-1/4"	11/16"	5/8"	EBF2BB*	10
2-7/16"	5-5/8"	6-7/8"	2-3/8"	5/8"	5/8"	EBF2716BB*	11
3"	6"	7-3/4"	3-1/16"	7/8"	3/4"	EBF3BB*	22
3-7/16"	6-3/4"	8-7/16"	3-3/8"	1"	3/4"	EBF3716BB*	28
3-15/16"	NOT AVAILABLE						
4-7/16"	NOT AVAILABLE						

* KWS Stock Component - All Flange Bearings Include 1/8" Alemite Fitting



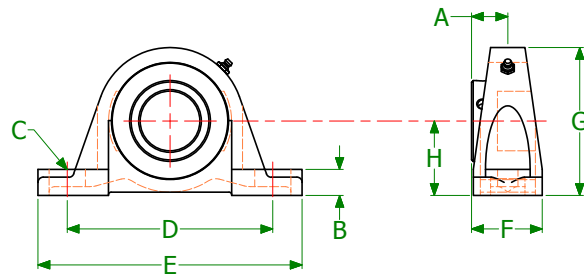
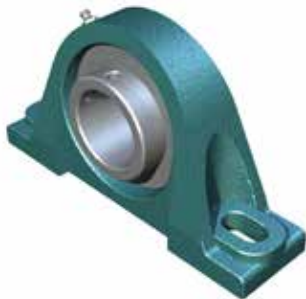
ROLLER BEARING PILLOW BLOCK



Shaft Dia.	A	B	C Bolt Dia.	D	E	F	G	H	Part Number	Weight (Lbs.)
1"	NOT AVAILABLE									
1-1/2"	3-3/8"	1-1/4"	1/2"	6-1/4"	7-7/8"	2-3/8"	4-1/4"	2-1/8"	EBP112R	10
2"	3-1/2"	1-5/16"	5/8"	7"	8-7/8"	2-1/2"	4-1/2"	2-1/4"	EBP2R	12
2-7/16"	4"	1-5/8"	5/8"	8-1/2"	10-1/2"	2-7/8"	5-1/2"	2-3/4"	EBP2716R	20
3"	4-1/2"	1-7/8"	3/4"	9-1/2"	12"	3"	6-1/4"	3-1/8"	EBP3R	28
3-7/16"	5"	2-1/4"	7/8"	11"	14"	3-1/2"	7-1/2"	3-3/4"	EBP3716R	46
3-15/16"	6-1/4"	2-7/16"	3/4"•	12-1/2"	15-1/4"	4-1/2"	8-7/16"	4-3/4"	EBP31516R•	69
4-7/16"	6-3/4"	2-3/4"	3/4"•	13-1/2"	16-5/8"	4-5/8"	9-5/16"	4-3/4"	EBP4716R•	85

• Uses a 4 bolt base instead of 2.

BALL BEARING PILLOW BLOCK



Shaft Dia.	A	B	C Bolt Dia.	D	E	F	G	H	Part Number	Weight (Lbs.)
1"	3/4"	9/16"	3/8"	4-1/8"	5-1/2"	1-7/16"	2-3/4"	1-7/16"	EBP1BB	2
1-1/2"	1-3/16"	15/16"	1/2"	5-1/2"	7-1/4"	1-15/16"	4-3/16"	2-1/8"	EBP112BB	6
2"	1-3/8"	7/8"	5/8"	7"	8-7/8"	2-3/8"	4-15/16"	2-1/2"	EBP2BB	9
2-7/16"	1-7/16"	15/16"	3/4"	8"	10-3/4"	2-5/8"	6-1/16"	3"	EBP2716BB	16
3"	1-1/2"	1-1/4"	7/8"	9"	11-3/4"	3"	6-15/16"	3-1/2"	EBP3BB	21
3-7/16"	1-5/8"	1-5/16"	7/8"	11"	14"	3-3/8"	8"	4"	EBP3716BB	32
3-15/16"	NOT AVAILABLE									
4-7/16"	NOT AVAILABLE									

SHAFTS

Shafts are designed to transmit rotation and torque between individual conveyor screw sections and provide radial support at the hanger bearings and trough ends. Shafts are manufactured from cold-rolled C-1045 carbon steel as well as 304 and 316 stainless steel; other materials are available upon request. Cold-rolled C-1045 carbon steel shafts are adequate for most applications. However, high-tensile strength materials such as C-4140 may be required for specific applications. Stainless steel shafts may be necessary when corrosive or contaminable materials are to be conveyed. Using a combination of CNC and specially-built jigs, KWS shafts are manufactured to the tightest tolerances available and ensure perfect bolting alignment.

Shaft size is determined based on full motor torque of the drive assembly and the materials of construction of the shafts. Cold-rolled C-1045 carbon steel has a yield strength of 45,000 psi. 304 and 316 stainless steel shafts have a yield strength of 30,000 psi. Please refer to the Engineering Section of the KWS Engineering Guide for further information on shaft selection. A significant safety factor is included in the shaft design calculations.

For information regarding the weights of each shaft, please contact KWS Engineering.

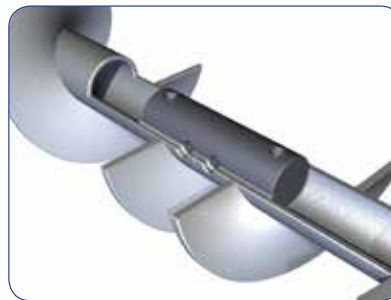
COUPLING SHAFT

Coupling shafts transmit rotation and torque between screw sections. Clearance is provided between the screw sections for a hanger and hanger bearing support. Hardened shafts are required for hard iron hanger bearings.



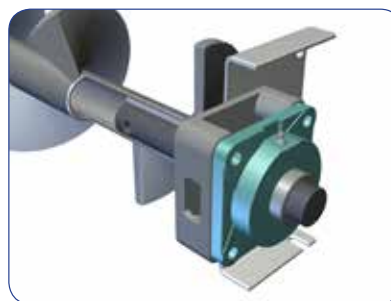
CLOSE COUPLING SHAFT

Close coupling shafts transmit rotation and torque between screw sections. The screw sections are butted together with no clearance and clocked to form one continuous helix. Close coupled screws are supported by a wear liner or wear bars that are welded into the trough sections.

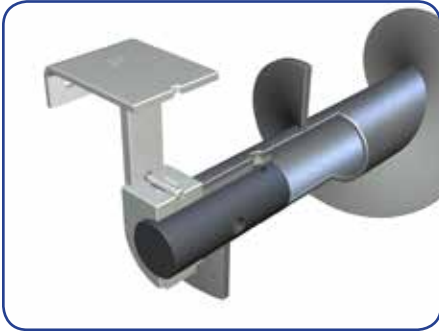


END SHAFT

End shafts support the tail end of the screw section at the non-drive end of the screw conveyor. End shafts are typically the same diameter as the coupling and drive shafts. End shaft length is dependent on the type of end bearing, seal and trough end.

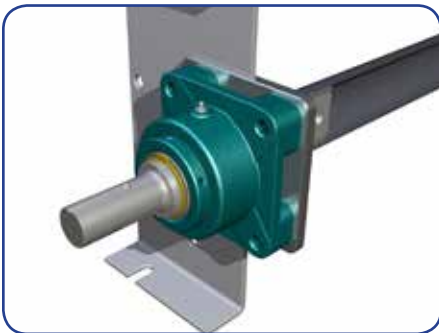


SHAFTS



HANGER END SHAFT

Hanger end shafts are very similar to end shafts except that a hanger with hanger bearing is used as the end bearing instead of a flanged or pillow block bearing. Hanger end shafts are hardened in the bearing area when using hard iron hanger bearings.



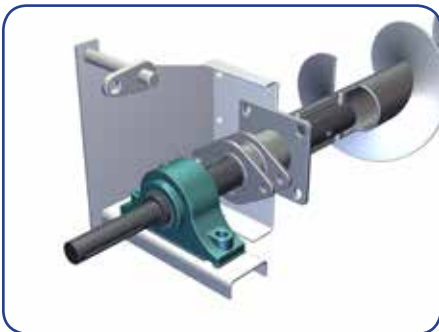
ROLLER THRUST BEARING DRIVE SHAFT

Roller thrust bearing drive shafts are used with roller thrust bearings. A key-way is provided to couple the drive shaft with the output shaft of a gear reducer or a sprocket with chain. The drive shaft has snap ring grooves on either side of the flanged roller bearing to capture thrust loading in both directions.



BULKHEAD DRIVE SHAFT

Bulkhead drive shafts are extended shafts that are used with KWS bulkhead trough ends. Standard bulkhead drive shafts can be designed to work with any gear reducer manufacturer.



TORQUE ARM DRIVE SHAFT

Torque arm drive shafts are extended shafts that are used with KWS torque arm trough ends. Standard torque arm drive shafts can be designed to work with any gear reducer manufacturer.

COUPLING SHAFT

NOMENCLATURE

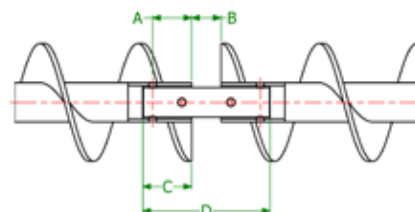
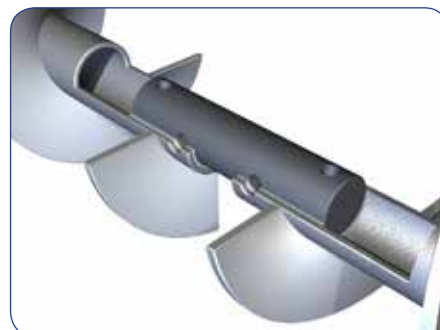
CS = Coupling Shaft		C S 3 7 1 6 H		Blank = Standard H = Hardened SS = Stainless Steel
		Shaft Diameter		
	1 = 1"	3 = 3"		
	112 = 1-1/2"	3716 = 3-7/16"		
	2 = 2"	31516 = 3-15/16"		
	2716 = 2-7/16"	4716 = 4-7/16"		

Note: Also available as a 3-bolt shaft. Dimensions may change for a 3-bolt shaft.

Shaft Dia.	Part Number	A	B	C	D
1"	CS1#*	2"	1-1/2"	3"	7-1/2"
1-1/2"	CS112#*	3"	2"	4-3/4"	11-1/2"
2"	CS2#*	3"	2"	4-3/4"	11-1/2"
2-7/16"	CS2716#*	3"	3"	4-7/8"	12-3/4"
3"	CS3#*	3"	3"	5"	13"
3-7/16"	CS3716#*	4"	4"	7"	18"
3-15/16"	CS31516#	4"	4"	7-3/8"	18-3/4"
4-7/16"	CS4716#	4"	5"	7-3/4"	20-1/2"

* KWS Stock Component (Made-to-order End Shafts are available upon request)

Bearing Area; Blank = Standard, H = Hardened or Material; Blank = Standard, SS = Stainless Steel



CLOSE COUPLING SHAFT

NOMENCLATURE

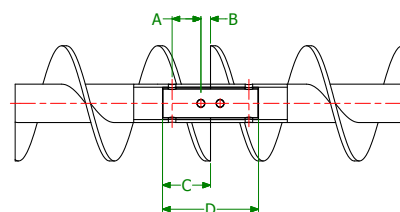
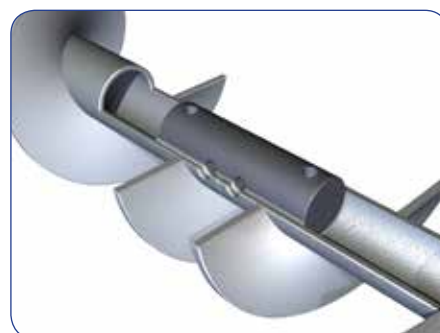
CCS = Close Coupling Shaft		C C S 3 7 1 6 S S		Blank = Standard SS = Stainless Steel
		Shaft Diameter		
	1 = 1"	3 = 3"		
	112 = 1-1/2"	3716 = 3-7/16"		
	2 = 2"	31516 = 3-15/16"		
	2716 = 2-7/16"	4716 = 4-7/16"		

Note: Also available as a 3-bolt shaft. Dimensions may change for a 3-bolt shaft.

Shaft Dia.	Part Number	A	B	C	D
1"	CCS1#	2"	1/2"	3"	6"
1-1/2"	CCS112#*	3"	7/8"	4-3/4"	9-1/2"
2"	CCS2#*	3"	7/8"	4-3/4"	9-1/2"
2-7/16"	CCS2716#*	3"	15/16"	4-7/8"	9-3/4"
3"	CCS3#*	3"	1"	5"	10"
3-7/16"	CCS3716#*	4"	1-1/2"	7"	14"
3-15/16"	CCS31516#	4"	1-11/16"	7-3/8"	14-3/4"
4-7/16"	CCS4716#	4"	1-7/8"	7-3/4"	15-1/2"

* KWS Stock Component (Standard Only)

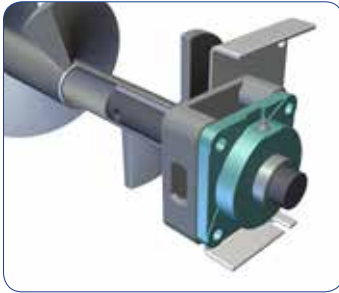
Material; Blank = Standard, SS = Stainless Steel





END SHAFT

NOMENCLATURE

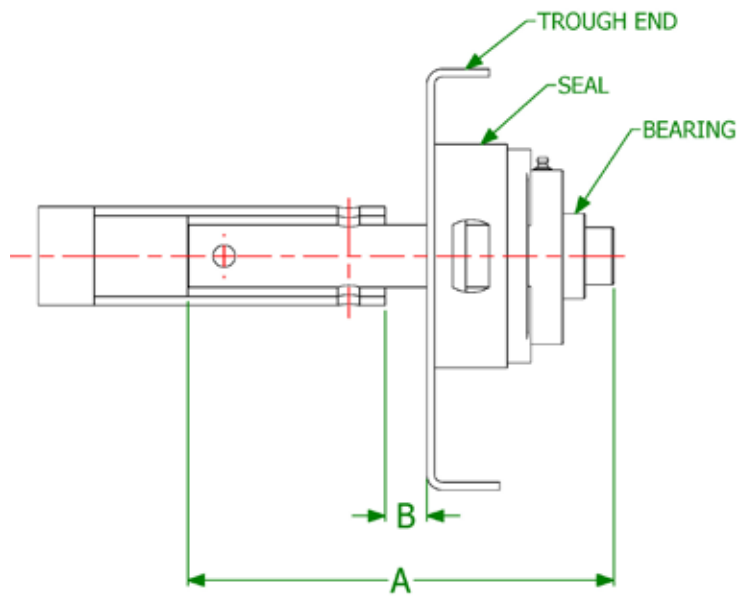


E S 1 1 2

ES = End Shaft

Shaft Diameter

1 = 1"	3 = 3"
112 = 1-1/2"	3716 = 3-7/16"
2 = 2"	31516 = 3-15/16"
2716 = 2-7/16"	4716 = 4-7/16"




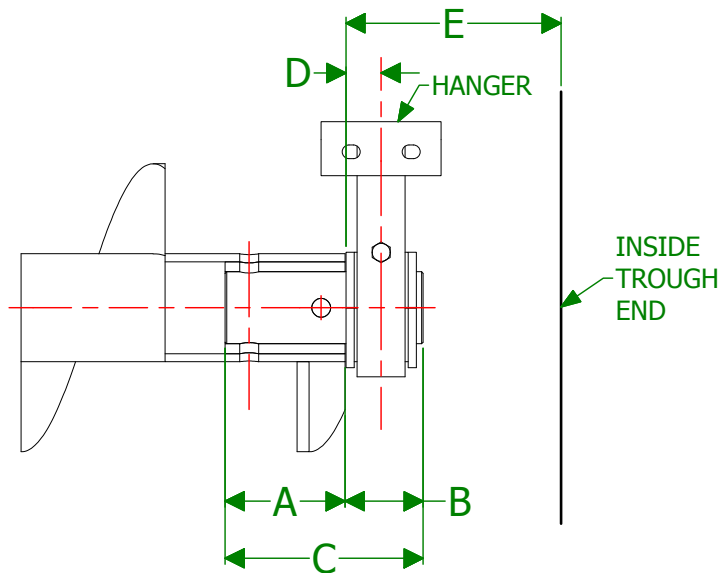
Shaft Dia.	Drilling	A	B	Part Number
1"	2-Bolt	7-1/2"	3/4"	ES1*
1-1/2"	2-Bolt	11-3/4"	1"	ES112*
2"	2-Bolt	12"	1"	ES2*
2-7/16"	2-Bolt	13"	1-1/2"	ES2716*
3"	2-Bolt	14"	1-1/2"	ES3*
3-7/16"	2-Bolt	17-3/8"	2"	ES3716*
3-15/16"	2-Bolt	19-1/4"	2"	ES31516
4-7/16"	2-Bolt	20-3/4"	2-1/2"	ES4716

* KWS Stock Component. (Made-to-order End Shafts are available upon request)

HANGER END SHAFT

NOMENCLATURE

H E S		1 1 2 H	
HES = Hanger End Shaft		Shaft Diameter	
		1 = 1"	3 = 3"
		112 = 1-1/2"	3716 = 3-7/16"
		2 = 2"	31516 = 3-15/16"
		2716 = 2-7/16"	4716 = 4-7/16"
		Blank = Standard	
		H = Hardened	
		SS = Stainless Steel	

Note: Also available as a 3-bolt shaft. Dimensions may change for a 3-bolt shaft.

Shaft Dia.	A	B	C	D	E	Part Number
1"	3"	1-5/8"	4-5/8"	3/4"	2-3/8"	HES1#
1-1/2"	4-3/4"	2-1/8"	6-7/8"	1"	3-1/8"	HES112#
2"	4-3/4"	2-1/8"	6-7/8"	1"	3-1/8"	HES2#
2-7/16"	4-7/8"	3-1/4"	8-1/8"	1-1/2"	4-3/4"	HES2716#
3"	5"	3-1/4"	8-1/4"	1-1/2"	4-3/4"	HES3#
3-7/16"	7"	4-1/4"	11-1/4"	2"	6-1/4"	HES3716#
3-15/16"	7-3/8"	4-1/4"	11-5/8"	2"	6-1/4"	HES31516#
4-7/16"	7-3/4"	5-1/4"	13"	2-1/2"	7-3/4"	HES4716#

Bearing Area; Blank = Standard, H = Hardened or Material; Blank = Standard, SS = Stainless Steel



ROLLER THRUST BEARING SHAFT

NOMENCLATURE

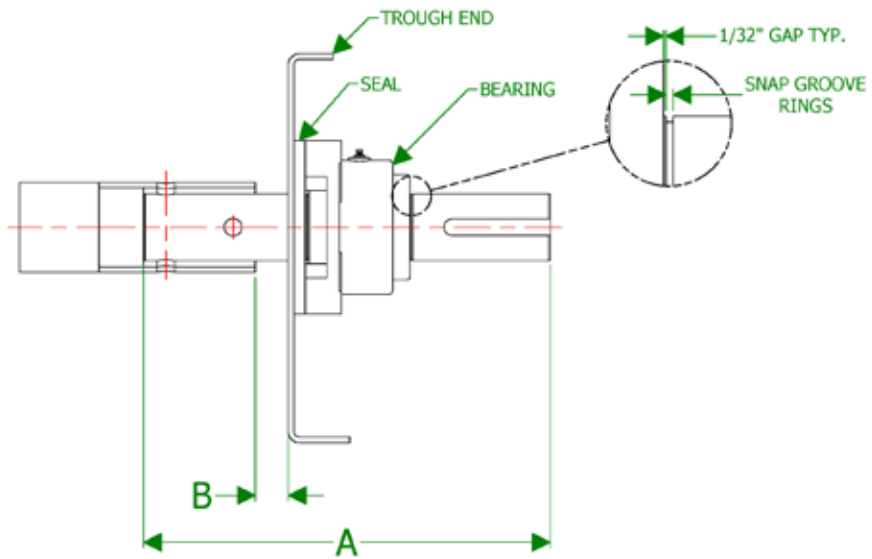


R T B 1 1 2

RTB = Roller Thrust Bearing

Shaft Diameter

1 = 1"	3 = 3"
112 = 1-1/2"	3716 = 3-7/16"
2 = 2"	31516 = 3-15/16"
2716 = 2-7/16"	4716 = 4-7/16"


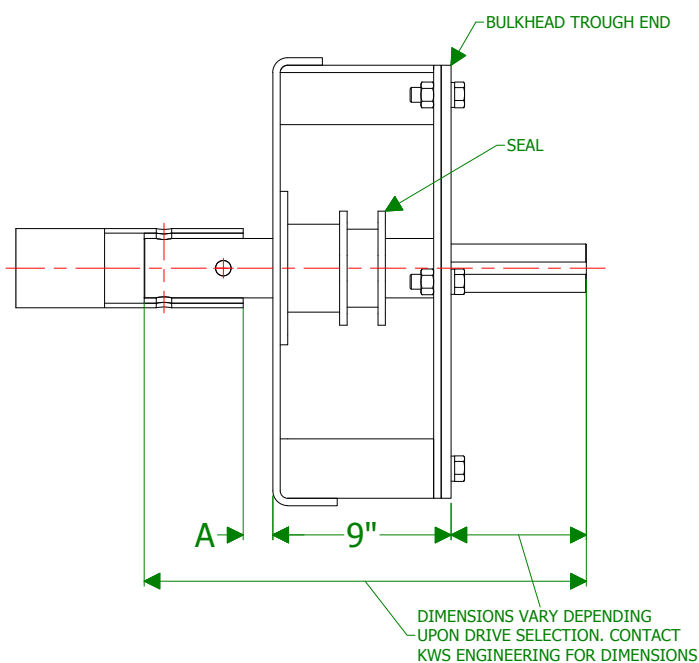


Shaft Dia.	B	A (WPS)	Part Number
1"		Not Available	
1-1/2"	1"	15-15/32"	RTB112
2"	1"	16-1/8"	RTB2
2-7/16"	1-1/2"	18-5/16"	RTB2716
3"	1-1/2"	19-7/16"	RTB3
3-7/16"	2"	24-1/8"	RTB3716
3-15/16"	Contact KWS		RTB31516
4-7/16"	Contact KWS		RTB4716

BULKHEAD SHAFT

NOMENCLATURE

Q	D	S	- (Varies)	-	2	-	2	B	-	B	H
DS = Drive Shaft			2B = 2 Bolt			BH = Bulkhead					
Drive Size / Adapter Style			3B = 3 Bolt								
Drive Manufacturer:			Shaft Diameter								
N = Nord Drive Shaft			1 = 1"			3 = 3"					
Q = Quantis Drive Shaft			112 = 1-1/2"			3716 = 3-7/16"					
(Other Mfg. drive shafts available)			2 = 2"			31516 = 3-15/16"					
			2716 = 2-7/16"			4716 = 4-7/16"					

Shaft Dia.	A	Part Number
1"	3/4"	•DS-#-1-#-BH
1-1/2"	1"	•DS-#-112-#-BH
2"	1"	•DS-#-2-#-BH
2-7/16"	1-1/2"	•DS-#-2716-#-BH
3"	1-1/2"	•DS-#-3-#-BH
3-7/16"	2"	•DS-#-3716-#-BH
3-15/16"	2"	•DS-#-31516-#-BH
4-7/16"	2-1/2"	•DS-#-4716-#-BH

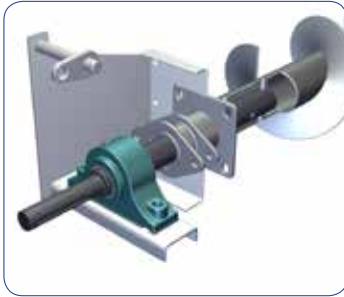
= Varies Depending Upon Drive Selection and Number of Bolts

•Drive Manufacturer: N = Nord, Q = Quantis



TORQUE ARM SHAFT

NOMENCLATURE



Q D S - (Varies) - 2 - 2 B - P

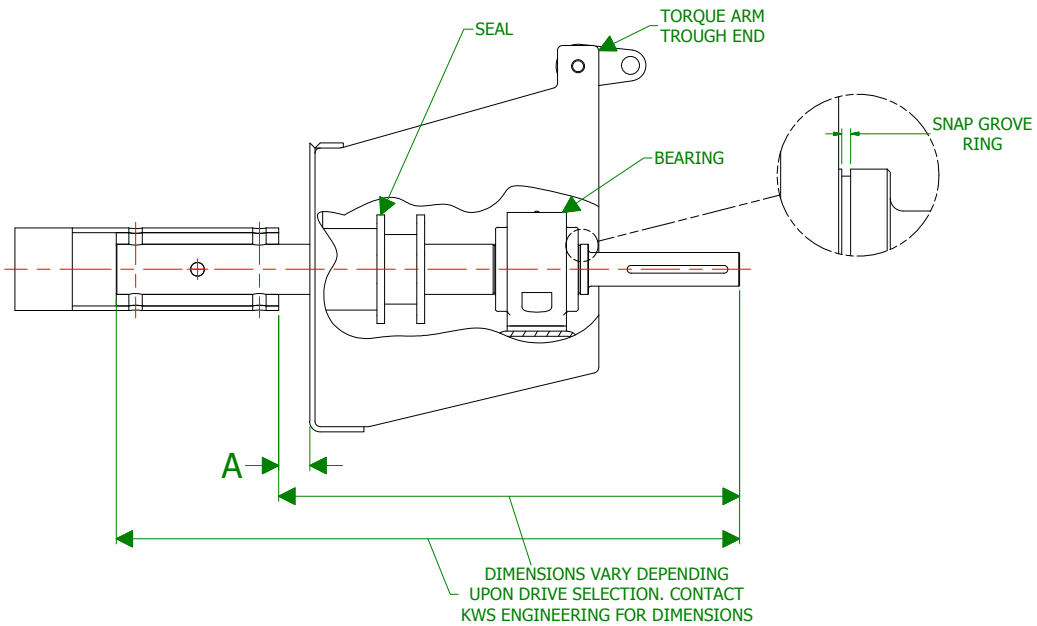
DS = Drive Shaft
Drive Size / Adapter Style

Drive Manufacturer:
N = Nord Drive Shaft
Q = Quantis Drive Shaft
(Other Mfg. drive shafts available)

Shaft Diameter

1 = 1"	3 = 3"
112 = 1-1/2"	3716 = 3-7/16"
2 = 2"	31516 = 3-15/16"
2716 = 2-7/16"	4716 = 4-7/16"

P = Pedestal
2B = 2 Bolt
3B = 3 Bolt



Shaft Dia.	A	Part Number
1"	3/4"	•DS-#-1-#-P
1-1/2"	1"	•DS-#-112-#-P
2"	1"	•DS-#-2-#-P
2-7/16"	1-1/2"	•DS-#-2716-#-P
3"	1-1/2"	•DS-#-3-#-P
3-7/16"	2"	•DS-#-3716-#-P
3-15/16"	2"	•DS-#-31516-#-P
4-7/16"	2-1/2"	•DS-#-4716-#-P

= Varies Depending Upon Drive Selection and Number of Bolts

• Drive Manufacturer: N = Nord, Q = Quantis



TROUGHS



DOUBLE FORMED FLANGE

Double formed flange troughs are manufactured with two formed top flanges for added rigidity. Double formed flange troughs provide an effective dust-tight seal when used with flanged covers and a compressible gasket material.



FORMED CHANNEL

Formed channel troughs are manufactured with two formed side channels to provide rigidity for spanning long distances without intermediate supports. The lower, curved trough section is typically bolted to the channel sides and can be replaced when worn.



DROP BOTTOM

Drop bottom troughs are manufactured with a removable or hinged lower curved trough section. Drop bottom troughs allow access to the screw for clean out or maintenance purposes. Removable drop bottom troughs are bolted on close spacing on both sides of the trough. Hinged drop bottom troughs are hinged on one side with quick-release clamps and safety bolts on the other side.



JACKETED

Jacketed troughs are manufactured with an outer jacket that is seal-welded to the trough. Bulk materials can be cooled, heated or maintained at a constant temperature with jacketed troughs. Heat transfer mediums such as water, hot oil or steam flow through the jacketed trough to provide heat transfer. ASME coded troughs are available from KWS.



FLARED TROUGH

Flared troughs are manufactured with formed top flanges. The top opening of a flared trough is wider than a U-trough to allow sticky or viscous bulk materials to enter the trough easier. Many mixing screw conveyors utilize flared troughs because the additional space above the screw creates more room for bulk materials to be mixed.

TROUGHS

TUBULAR HOUSINGS

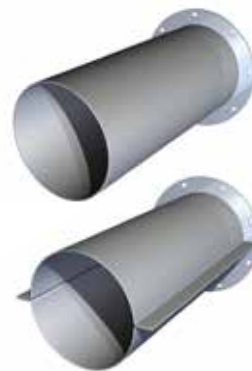
Tubular housings are typically used when a screw conveyor is inclined over 15-degrees. Conveying efficiency is greatly improved with tubular housings because bulk materials are contained and fall back is reduced. Tubular housings are also used for weather-tight applications and used to hold internal pressure in a screw conveyor. ASME coded tubular housings are available from KWS.

NON-SPLIT

Non-split tubular housings are manufactured by rolling a cylindrical tube and continuously welding at the seam or cutting down spouting or pipe to length.

SPLIT

Split tubular housings are manufactured by rolling two halves and forming flanges on each side. The two halves are then bolted together to form a rigid assembly.



RECTANGULAR TROUGHS

Rectangular troughs are typically used in applications for conveying abrasive bulk materials. The space between the screw and rectangular trough fills with the bulk material being conveyed forming a static layer. The bulk material being conveyed slides over the static material and eliminates wear on the rectangular trough. Rectangular troughs are also beneficial when utilizing certain abrasion-resistant steels such as AR-400, AR-500 and chromium carbide steel due to their low formability.

ANGLE FLANGE

Angle flange rectangular troughs are manufactured with structural angle top flanges to provide extra rigidity similar to U-troughs.

FORMED FLANGE

Formed flange rectangular troughs are manufactured with formed angle top flanges similar to U-troughs.

ANGLE FLANGE -TOP & BOTTOM

Angle flange – top & bottom rectangular troughs are manufactured with structural angles on both the top and bottom flanges. Some high strength steel plate materials such as AR-400 cannot be formed at 90-degree angles and angle flanges are required.

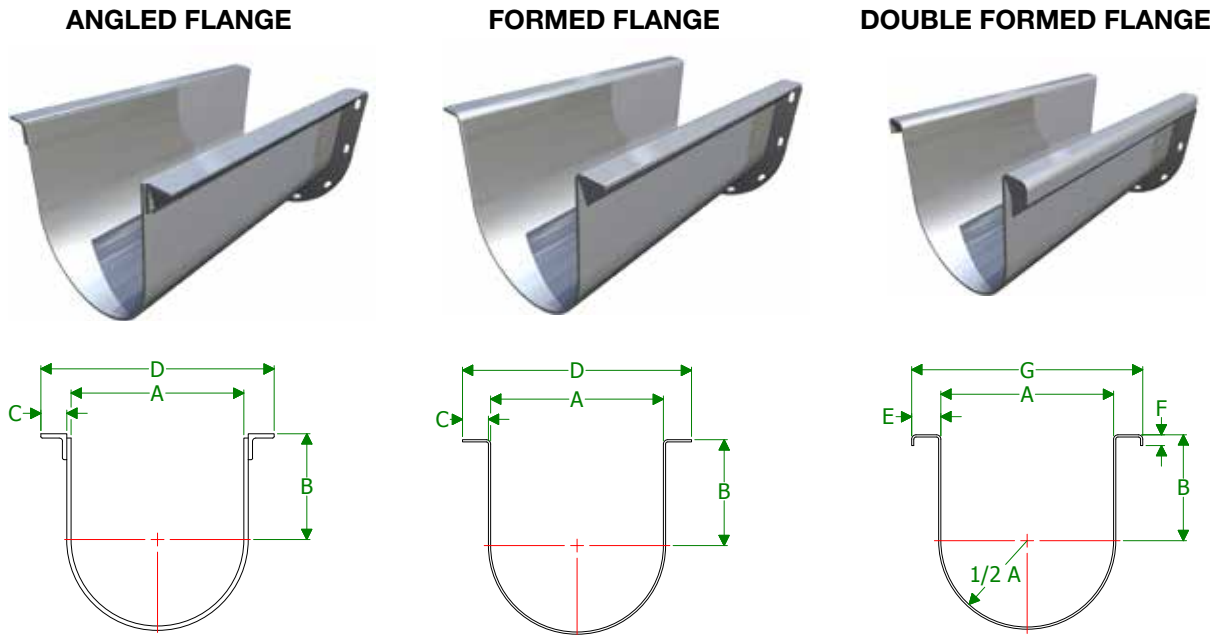
FORMED FLANGE -TOP & BOTTOM

Formed flange – top & bottom rectangular troughs are manufactured with formed angles on both the top and bottom flanges.





U-TROUGHS



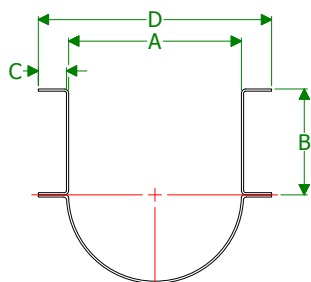
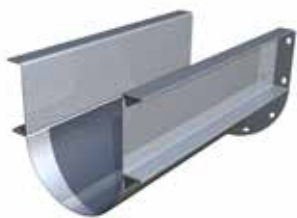
Screw Dia.	Trough Thk.	A	B	C	D	E	F	G	Angle Flange		Formed Flange		Double Formed Flange	
									Part Number	Wt. Per ft. (Lbs.)	Part Number	Wt. Per ft. (Lbs.)	Part Number	Wt. Per ft. (Lbs.)
4"	14 Ga.	5"	3-5/8"	1"	7-1/4"	1-1/4"	7/8"	7-1/2"	TUA414*	7	TUF414	5	TUDF414	6
	12 Ga.								TUA412	9	TUF412	7	TUDF412	9
	10 Ga.								TUA410	12	TUF410	9	TUDF410	11
6"	14 Ga.	7"	4-1/2"	1-1/4"	9-3/4"	1-3/8"	7/8"	9-3/4"	TUA614*	9	TUF614	7	TUDF614	8
	12 Ga.				9-3/4"		7/8"		TUA612	13	TUF612	10	TUDF612	12
	10 Ga.				9-3/4"		7/8"		TUA610	16	TUF610	13	TUDF610	15
	3/16"				9-7/8"		1-5/8"		TUA6316	22	TUF6316*	19	TUDF6316	21
	1/4"				10"		1-3/4"		TUA6250	30	TUF6250	28	TUDF6250	30
9"	14 Ga.	10"	6-1/8"	1-1/2"	13-1/4"	1-11/16"	7/8"	13-3/8"	TUA914*	12	TUF914	10	TUDF914	11
	12 Ga.				13-1/4"		7/8"		TUA912	16	TUF912	13	TUDF912	15
	10 Ga.				13-1/4"		7/8"		TUA910*	21	TUF910	17	TUDF910	20
	3/16"				13-3/8"		1-5/8"		TUA9316	27	TUF9316*	22	TUDF9316	26
	1/4"				13-1/2"		1-3/4"		TUA9250	39	TUF9250	34	TUDF9250	38
12"	12 Ga.	13"	7-3/4"	2"	17-1/4"	2-1/8"	7/8"	17-1/4"	TUA1212*	21	TUF1212	17	TUDF1212	19
	10 Ga.				17-1/4"		7/8"		TUA1210	27	TUF1210	22	TUDF1210	25
	3/16"				17-3/8"		1-5/8"		TUA12316	35	TUF12316*	29	TUDF12316	33
	1/4"				17-1/2"		1-3/4"		TUA12250	46	TUF12250	38	TUDF12250	44
14"	12 Ga.	15"	9-1/4"	2"	19-1/4"	2-1/8"	7/8"	19-1/4"	TUA1412*	23	TUF1412	19	TUDF1412	21
	10 Ga.				19-1/4"		7/8"		TUA1410	30	TUF1410	25	TUDF1410	28
	3/16"				19-3/8"		1-5/8"		TUA14316	39	TUF14316*	33	TUDF14316	37
	1/4"				19-1/2"		1-3/4"		TUA14250	52	TUF14250	44	TUDF14250	50
16"	12 Ga.	17"	10-5/8"	2"	21-1/4"	2-1/8"	7/8"	21-1/4"	TUA1612*	26	TUF1612	22	TUDF1612	24
	10 Ga.				21-1/4"		7/8"		TUA1610	33	TUF1610	28	TUDF1610	31
	3/16"				21-3/8"		1-5/8"		TUA16316	43	TUF16316*	37	TUDF16316	41
	1/4"				21-1/2"		1-3/4"		TUA16250	57	TUF16250	49	TUDF16250	55
18"	10 Ga.	19"	12-1/8"	2-1/2"	24-1/4"	2-5/8"	7/8"	24-1/4"	TUA1810*	38	TUF1810	32	TUDF1810	35
	3/16"				24-3/8"		1-5/8"		TUA18316	50	TUF18316	42	TUDF18316	46
	1/4"				24-1/2"		1-3/4"		TUA18250	65	TUF18250	55	TUDF18250	61
20"	3/16"	21"	13-1/2"	2-1/2"	26-1/2"	2-5/8"	1-5/8"	26-1/4"	TUA20316*	54	TUF20316	46	TUDF20316	50
	1/4"				26-1/2"		1-3/4"		TUA20250	71	TUF20250	61	TUDF20250	67
24"	3/16"	25"	16-1/2"	2-1/2"	30-3/8"	2-5/8"	1-5/8"	30-1/4"	TUA24316*	63	TUF24316	55	TUDF24316	59
	1/4"				30-1/2"		1-3/4"		TUA24250	83	TUF24250	73	TUDF24250	79
30"	3/8"	31"	19-1/2"	3"	37-3/4"	3-1/8"	1-3/4"	37-1/4"	TUA30375	148	TUF30375	134	TUDF30375	142
	1/2"				38"		X		TUA30500	198	TUF30500	X	TUDF30500	X
36"	3/8"	37"	22-1/2"	3"	43-3/4"	3-1/2"	1-3/4"	44"	TUA36375	170	TUF36375	156	TUDF36375	164
	1/2"				44"		X		TUA36500	227	TUF36500	X	TUDF36500	X

* KWS Stock Component (In Carbon Steel only)

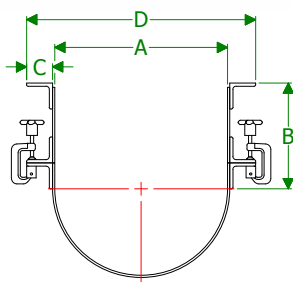


U-TROUGHS

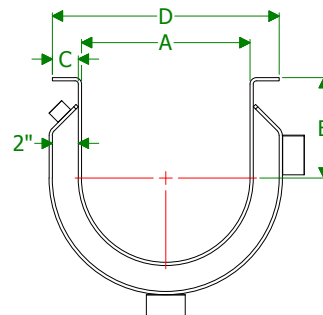
FORMED CHANNEL



DROP BOTTOM



JACKETED

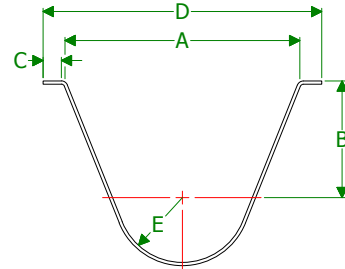
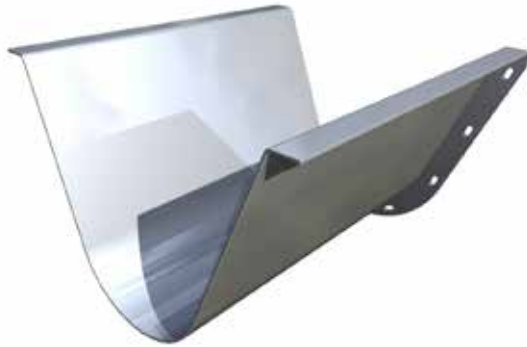


Screw Dia.	Trough Thk.	A	B	C	D	Formed Chanel Trough		Drop Bottom Trough		Jacketed Trough	
						Part Number	Wt. Per ft. (Lbs.)	Part Number	Wt. Per ft. (Lbs.) †	Part Number	Wt. Per ft. (Lbs.) •
4"						NOT AVAILABLE					
6"	14 Ga.	7"	4-1/2"	1-1/4"	9-3/4"	TUFC614	9	TUDB614	14	X	X
	12 Ga.				9-3/4"	TUFC612	12	TUDB612	16		
	10 Ga.				9-3/4"	TUFC610	16	TUDB610	19		
	3/16"				9-7/8"	TUFC6316	20	TUDB6316	23		
	1/4"				10"	TUFC6250	26	TUDB6250	29		
9"	14 Ga.	10"	6-1/8"	1-1/2"	13-1/4"	TUFC914	12	TUDB914	18	TUF914J	19
	12 Ga.				13-1/4"	TUFC912	16	TUDB912	22	TUF912J	25
	10 Ga.				13-1/4"	TUFC910	20	TUDB910	27	TUF910J	33
	3/16"				13-3/8"	TUFC9316	26	TUDB9316	33	TUF9316J	43
	1/4"				13-1/2"	TUFC9250	30	TUDB9250	39	TUF9250J	62
12"	12 Ga.	13"	7-3/4"	2"	17-1/4"	TUFC1212	20	TUDB1212	31	TUF1212J	32
	10 Ga.				17-1/4"	TUFC1210	26	TUDB1210	28	TUF1210J	41
	3/16"				17-3/8"	TUFC12316	35	TUDB12316	45	TUF12316J	54
	1/4"				17-1/2"	TUFC12250	46	TUDB12250	56	TUF12250J	72
	12 Ga.				19-1/4"	TUFC1412	22	TUDB1412	33	TUF1412J	36
14"	10 Ga.	15"	9-1/4"	2"	19-1/4"	TUFC1410	29	TUDB1410	40	TUF1410J	47
	3/16"				19-3/8"	TUFC14316	39	TUDB14316	49	TUF14316J	61
	1/4"				19-1/2"	TUFC14250	51	TUDB14250	62	TUF14250J	82
	12 Ga.				21-1/4"	TUFC1612	25	TUDB1612	36	TUF1612J	41
	10 Ga.				21-1/4"	TUFC1610	32	TUDB1610	43	TUF1610J	52
16"	3/16"	17"	10-5/8"	2"	21-3/8"	TUFC16316	50	TUDB16316	53	TUF16316J	69
	1/4"				21-1/2"	TUFC16250	56	TUDB16250	67	TUF16250J	91
	10 Ga.				24-1/4"	TUFC1810	37	TUDB1810	43	TUF1810J	58
	3/16"				24-3/8"	TUFC18316	49	TUDB18316	65	TUF18316J	77
	1/4"				24-1/2"	TUFC18250	64	TUDB18250	80	TUF18250J	102
20"	3/16"	21"	13-1/2"	2-1/2"	26-1/2"	TUFC20316	53	TUDB20316	69	TUF20316J	84
	1/4"				26-1/2"	TUFC20250	70	TUDB20250	86	TUF20250J	112
24"	3/16"	25"	16-1/2"	2-1/2"	30-3/8"	TUFC24316	63	TUDB24316	78	TUF24316J	100
	1/4"				30-1/2"	TUFC24250	82	TUDB24250	98	TUF24250J	133
30"	3/8"	31"	19-1/2"	3"	37-3/4"	TUFC30375	151	TUDB30375	163	TUF30375J	241
	1/2"				38"	X	X	TUDB30500	238	X	X
36"	3/8"	37"	22-1/2"	3"	43-3/4"	TUFC36375	173	TUDB36375	185	TUA36375J	281
	1/2"				44"	X	X	TUDB36500	260	X	X

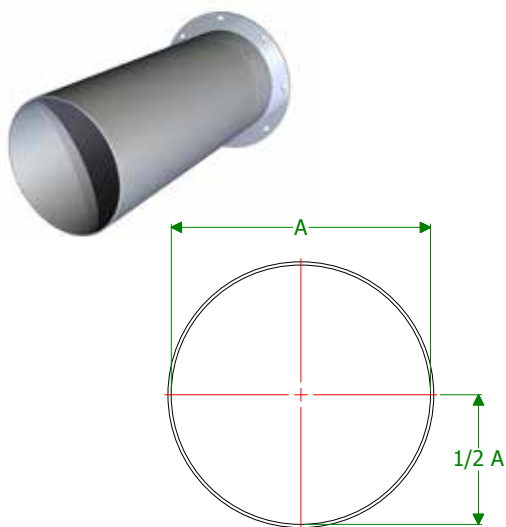
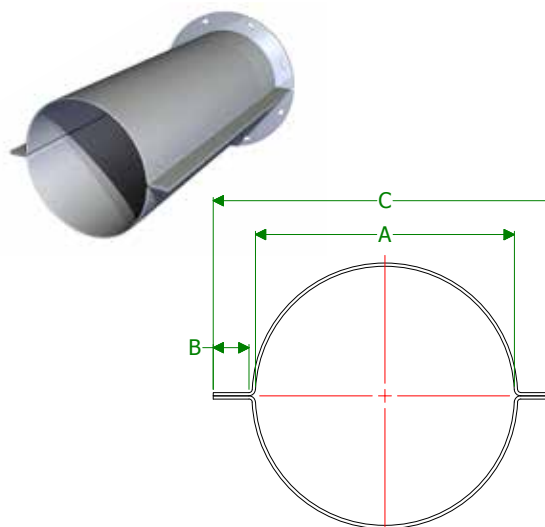
† Weights do not include clamps • Weights do not include couplings



FLARED TROUGHS



Screw Dia.	Trough Thk.	A	B	C	D	E	Part Number	Weight Per Foot (Lbs.)
4"		NOT AVAILABLE						
6"	14 Ga. 12 Ga. 3/16" 1/4"	14"	7"	1-1/4"	16-5/8" 16-5/8" 16-3/4" 16-7/8"	3-1/2"	TFLF614 TFLF612 TFLF6316 TFLF6250	5 8 11 15
9"	12 Ga. 10 Ga. 3/16" 1/4"	18"	9"	1-1/2"	21-1/4" 21-1/4" 21-3/8" 21-1/2"	5"	TFLF912 TFLF910 TFLF9316 TFLF9250	10 18 23 37
12"	12 Ga. 10 Ga. 3/16" 1/4"	22"	10"	2"	26-1/4" 26-1/4" 26-3/8" 26-3/8"	6-1/2"	TFLF1212 TFLF1210 TFLF12316 TFLF12250	17 22 30 41
14"	12 Ga. 10 Ga. 3/16" 1/4"	24"	11"	2"	28-1/4" 28-1/4" 28-3/8" 28-3/8"	7-1/2"	TFLF1412 TFLF1410 TFLF14316 TFLF14250	19 24 33 45
16"	12 Ga. 10 Ga. 3/16" 1/4"	28"	11-1/2"	2"	32-1/4" 32-1/4" 32-3/8" 32-1/2"	8-1/2"	TFLF1612 TFLF1610 TFLF16316 TFLF16250	20 26 36 48
18"	10 Ga. 3/16" 1/4"	31"	12-1/8"	2-1/2"	36-1/4" 36-3/8" 36-1/2"	9-1/2"	TFLF1810 TFLF18316 TFLF18250	30 40 53
20"	3/16" 1/4"	34"	13-1/2"	2-1/2"	39-3/8" 39-1/2"	10-1/2"	TFLF20316 TFLF20250	43 58
24"	3/16" 1/4"	40"	16-1/2"	2-1/2"	45-3/8" 45-1/2"	12-1/2"	TFLF24316 TFLF24250	51 68
30"	3/8" 1/2"	48"	19-1/2"	3"	55" 55-3/8"	15-1/2"	TFLF30375 TFLF30500	13 184
36"	3/8" 1/2"	54"	22-1/2"	3"	61-1/8" 61-1/2"	18-1/2"	TFLF36375 TFLF36500	15 213

TUBULAR TROUGHS
NON-SPLIT

SPLIT


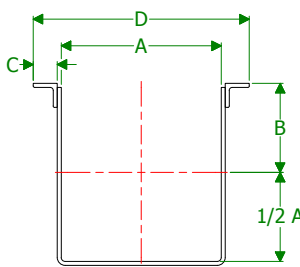
Screw Dia.	Trough Thk.	A (Dia.)	B	C	Non-Split		Split	
					Part Number	Wt Per Foot (Lbs.)	Part Number	Wt. Per Foot (Lbs.)
4"	14 Ga.	5" •	1"	7-1/4	N/A	X	TTF414	5
	12 Ga.				TT412-DS	7	TTF412	7
	10 Ga.				N/A	X	TTF410	9
6"	14 Ga.	7" •	1-1/4"	9-3/4"	TT614-DS	7	TTF614	8
	12 Ga.			TT612-DS	9	TTF612	10	
	10 Ga.			N/A	X	TTF610	13	
	3/16"			N/A	X	TTF6316	18	
	1/4"			N/A	X	TTF6250	26	
				N/A	X			
9"	14 Ga.	10" •	1-7/16"	13-3/8"	N/A	X	TTF914	11
	12 Ga.			TT912-DS	13	TTF912	15	
	10 Ga.			TT910-DS	17	TTF910	19	
	3/16"			TT9316-DS	22	TTF9316	25	
	1/4"			TT9250-DS	30	TTF9250	34	
12"	12 Ga.	13"	2"	17-1/4"	TT1212	16	TTF1212	20
	10 Ga.			TT1210	21	TTF1210	25	
	3/16"			TT12316	28	TTF12316	33	
	1/4"			TT12250	37	TTF12250	45	
14"	12 Ga.	15"	2"	19-1/4"	TT1412	19	TTF1412	22
	10 Ga.			TT1410	24	TTF1410	29	
	3/16"			TT14316	32	TTF14316	38	
	1/4"			TT14250	43	TTF14250	50	
16"	12 Ga.	17"	2"	21-1/4"	TT1612	21	TTF1612	25
	10 Ga.			TT1610	28	TTF1610	32	
	3/16"			TT16316	37	TTF16316	42	
	1/4"			TT16250	49	TTF16250	56	
18"	10 Ga.	19"	2-1/2"	24-1/4"	TT1810	31	TTF1810	36
	3/16"			TT18316	41	TTF18316	48	
	1/4"			TT18250	55	TTF18250	64	
20"	3/16"	21"	2-1/2"	26-3/8"	TT20316	46	TTF20316	53
	1/4"			TT20250	61	TTF20250	70	
24"	3/16"	25"	2-1/2"	30-3/8"	TT24316	54	TTF24316	62
	1/4"			TT24250	73	TTF24250	82	
30"	3/8"	31"	3"	37-3/4"	TT30375	136	TTF30375	153
	1/2"			TT30500	188	TTF30500	210	
36"	3/8"	37"	3"	43-3/4"	TT36375	163	TTF36375	180
	1/2"			TT36500	224	TTF36500	245	

• Down Spouting Used for Non-Split 4, 6, and 9 inch: "A" Dimension Becomes OD and not ID

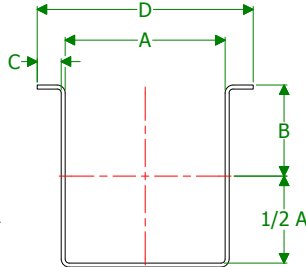


RECTANGULAR TROUGHS

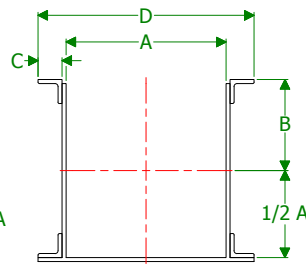
ANGLE FLANGE



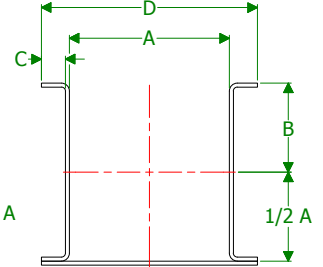
FORMED FLANGE



DOUBLE ANGLE



FORMED CHANNEL

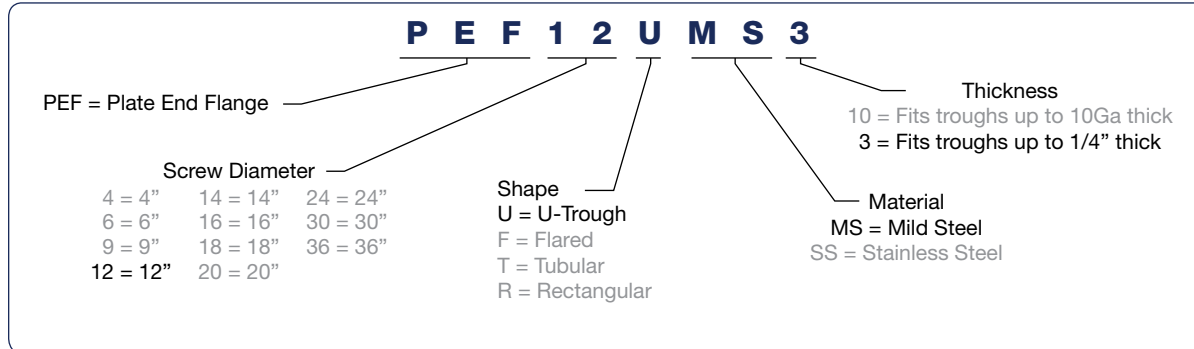


Screw Dia.	Trough Thk	A	B	C	D	Angle Flanged		Formed Flanged		Double Angle		Formed Channel	
						Part Number	Wt./Ft. (Lbs.)	Part Number	Wt./Ft. (Lbs.)	Part Number	Wt./Ft. (Lbs.)	Part Number	Wt./Ft. (Lbs.)
4"		NOT AVAILABLE											
6"	14 Ga.	7"	4-1/2"	1-1/4"	9-3/4"	TRA614	8	TRF614	8	TRDA614	9	TRFC614	8
	12 Ga.				9-3/4"	TRA612	11	TRF612	11	TRDA612	12	TRFC612	11
	10 Ga.				9-3/4"	TRA610	14	TRF610	14	TRDA610	16	TRFC610	14
	3/16"				9-7/8"	TRA6316	19	TRF6316	19	TRDA6316	21	TRFC6316	19
	1/4"				10"	TRA6250	25	TRF6250	25	TRDA6250	28	TRFC6250	25
9"	14 Ga.	10"	6-1/8"	1-1/2"	13-1/4"	TRA914	11	TRF914	11	TRDA914	12	TRFC914	11
	12 Ga.				13-1/4"	TRA912	15	TRF912	15	TRDA912	17	TRFC912	15
	10 Ga.				13-1/4"	TRA910	19	TRF910	19	TRDA910	22	TRFC910	19
	3/16"				13-3/8"	TRA9316	26	TRF9316	26	TRDA9316	29	TRFC9316	26
	1/4"				13-1/2"	TRA9250	34	TRF9250	34	TRDA9250	38	TRFC9250	35
12"	12 Ga.	13"	7-3/4"	2"	17-1/4"	TRA1212	19	TRF1212	19	TRDA1212	22	TRFC1212	19
	10 Ga.				17-1/4"	TRA1210	25	TRF1210	25	TRDA1210	28	TRFC1210	25
	3/16"				17-3/8"	TRA12316	31	TRF12316	31	TRDA12316	38	TRFC12316	34
	1/4"				17-1/2"	TRA12250	44	TRF12250	44	TRDA12250	50	TRFC12250	45
14"	12 Ga.	15"	9-1/4"	2"	19-1/4"	TRA1412	22	TRF1412	22	TRDA1412	24	TRFC1412	22
	10 Ga.				19-1/4"	TRA1410	29	TRF1410	29	TRDA1410	32	TRFC1410	29
	3/16"				19-3/8"	TRA14316	38	TRF14316	38	TRDA14316	42	TRFC14316	39
	1/4"				19-1/2"	TRA14250	51	TRF14250	51	TRDA14250	56	TRFC14250	52
16"	12 Ga.	17"	10-5/8"	2"	21-1/4"	TRA1612	25	TRF1612	25	TRDA1612	27	TRFC1612	25
	10 Ga.				21-1/4"	TRA1610	32	TRF1610	32	TRDA1610	35	TRFC1610	33
	3/16"				21-3/8"	TRA16316	42	TRF16316	42	TRDA16316	37	TRFC16316	44
	1/4"				21-1/2"	TRA16250	57	TRF16250	57	TRDA16250	50	TRFC16250	58
18"	10 Ga.	19"	12-1/8"	2-1/2"	24-1/4"	TRA1810	37	TRF1810	37	TRDA1810	40	TRFC1810	37
	3/16"				24-3/8"	TRA18316	49	TRF18316	49	TRDA18316	54	TRFC18316	49
	1/4"				24-1/2"	TRA18250	65	TRF18250	65	TRDA18250	72	TRFC18250	66
20"	3/16"	21"	13-1/2"	2-1/2"	26-3/8"	TRA20316	54	TRF20316	53	TRDA20316	59	TRFC20316	54
	1/4"				26-1/2"	TRA20250	72	TRF20250	71	TRDA20250	78	TRFC20250	73
24"	3/16"	25"	16-1/2"	2-1/2"	30-3/8"	TRA24316	63	TRF24316	63	TRDA24316	69	TRFC24316	65
	1/4"				30-1/2"	TRA24250	85	TRF24250	84	TRDA24250	91	TRFC24250	86
30"	3/8"	31"	19-1/2"	3"	37-3/4"	TRA30375	154	TRF30375	153	TRDA30375	166	TRFC30375	157
36"	3/8"	37"	22-1/2"	3"	43-3/4"	TRA36375	180	TRF36375	178	TRDA36375	192	TRFC36375	183

PLATE END FLANGES

Plate end flanges are continuously welded to the ends of each trough section and used to connect trough sections together. Bolts are located external to the trough for ease of access. Plate end flanges are CNC cut and jig-welded to ensure exact alignment with other adjacent sections.

NOMENCLATURE



U-TROUGH PLATE END FLANGE



TUBULAR TROUGH PLATE END FLANGE



RECTANGULAR TROUGH PLATE END FLANGE



FLARED TROUGH PLATE END FLANGE



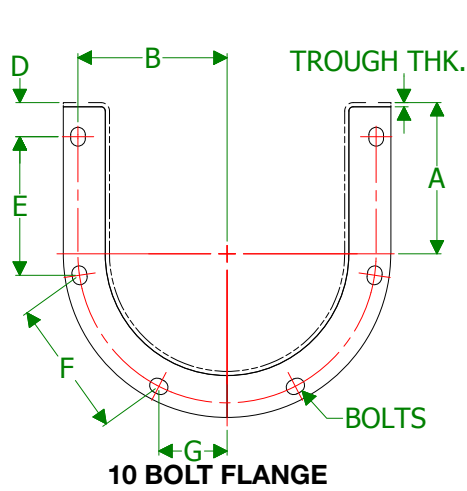
U-TROUGH / RECTANGULAR FLUSH END PLATE END FLANGE



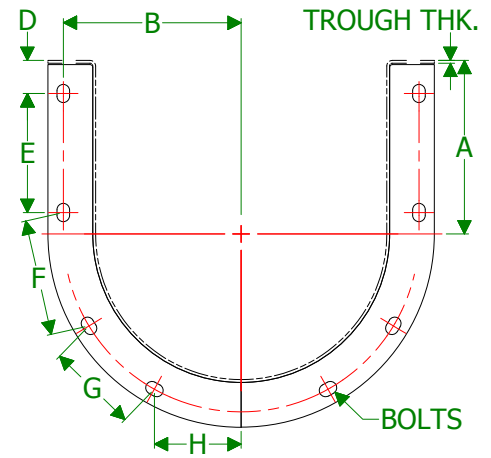


U-TROUGH PLATE END FLANGES

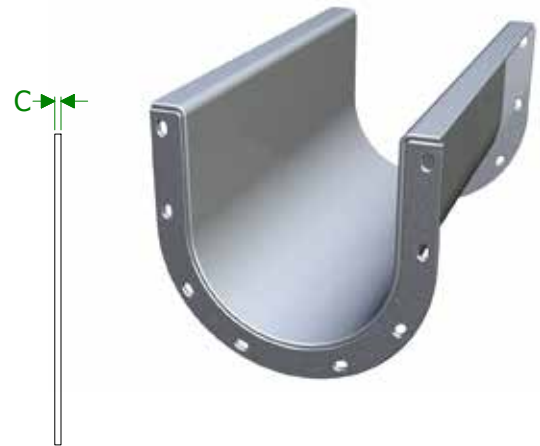
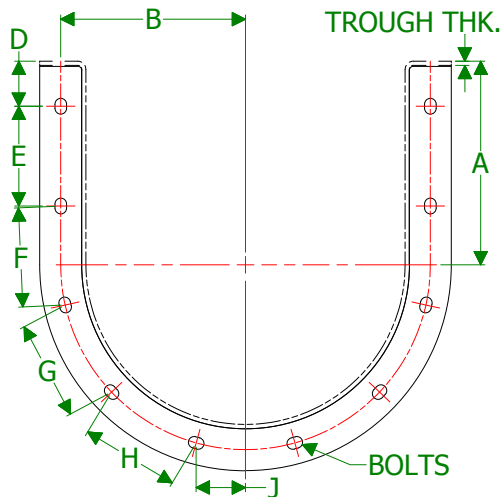
6 BOLT FLANGE



8 BOLT FLANGE



10 BOLT FLANGE

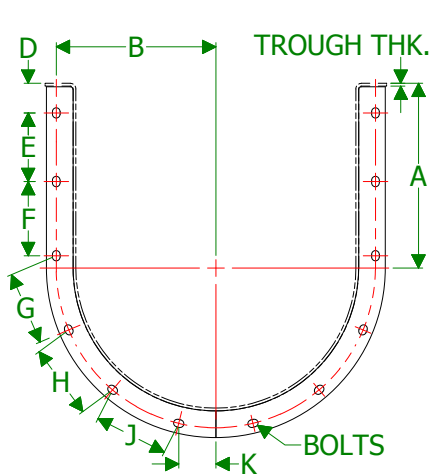


Screw Dia.	Bolts		A	B	C Thk.	D	E	F	G	H	J	Part Number	Weight (Lbs.)
	Dia.	Qty.											
4"	3/8"	6	3-5/8"	3-1/2"	3/16"	1-1/8"	3-1/8"	3 1/8"	1-9/16"	X	X	PEF4U•##	1
6"	3/8"	6	4-1/2"	4-7/16"	3/16"	1-1/32"	4-1/8"	4-1/16"	2"	X	X	PEF6U•##	2
9"	3/8"	8	6-1/8"	6-1/4"	1/4"	1-3/16"	4-1/8"	4-1/8"	3-3/4"	2-9/16"	X	PEF9U•##	4
12"	1/2"	8	7-3/4"	7-15/16"	1/4"	1-1/2"	5-5/16"	5-3/16"	4-1/16"	3-7/8"	X	PEF12U•##	6
14"	1/2"	8	9-1/4"	8-15/16"	1/4"	2-1/2"	5-5/8"	5-15/16"	5-15/16"	3"	X	PEF14U•##	7
16"	5/8"	8	10-5/8"	10"	1/4"	2-5/8"	6-3/8"	6-5/8"	6-5/8"	3-3/4"	2-15/16"	PEF16U•##	8
18"	5/8"	10	12-1/8"	11"	1/4"	2-11/16"	5-15/16"	5-7/8"	5-7/8"	5-7/8"	2-11/32"	PEF18U•##	11
20"	5/8"	10	13-1/2"	12-3/16"	1/4"	2-3/4"	6-1/4"	6-11/16"	6-11/16"	6-11/16"	3-3/8"	PEF20U•##	12

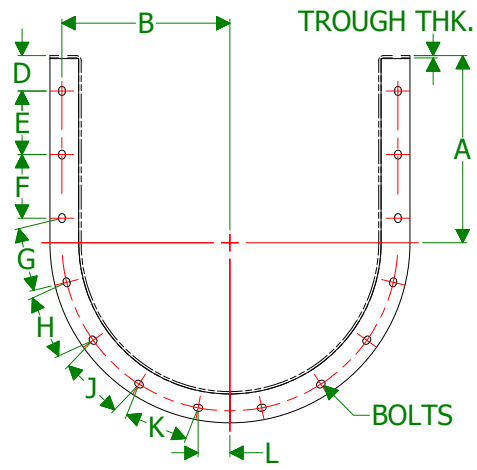
* KWS Stock Component (Only Mild Steel) # = Thickness: 10 = Fits troughs up to 10Ga thick, 3 = Fits troughs up to 1/4" thick
 • Material Type; MS = Mild Steel, SS = Stainless Steel

U-TROUGH PLATE END FLANGES

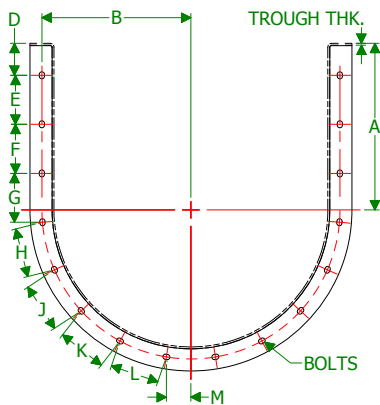
12 BOLT FLANGE



14 BOLT FLANGE



16 BOLT FLANGE



Screw Dia.	Bolts		A	B	C Thk.	D	E	F	G	H	J	K	L	M	Part Number	Weight (Lbs.)
	Dia.	Qty.														
24"	5/8"	12	16-1/2"	14-1/4"	1/4"	2-5/8"	6-1/8"	6-5/8"	6-5/8"	6-5/8"	6-5/8"	3-5/16"	X	X	PEF24U•#*	14
30"	5/8"	14	19-1/2"	17-1/2"	3/8"	3-3/4"	6-5/8"	6-5/8"	6-5/8"	6-5/8"	6-5/8"	6-5/8"	3-5/16"	X	PEF30U•#	21
36"	5/8"	16	22-1/2"	20-1/8"	3/8"	4-5/16"	6-5/8"	6-5/8"	6-5/8"	6-5/8"	6-5/8"	6-5/8"	6-5/8"	3-5/16"	PEF36U•#	25

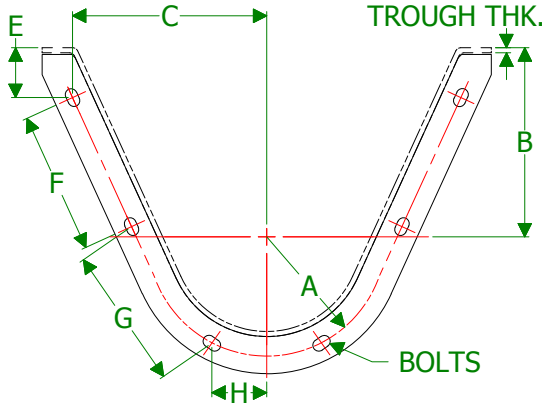
* KWS Stock Component (Only Mild Steel) # = Thickness: 10 = Fits troughs up to 10Ga thick, 3 = Fits troughs up to 1/4" thick

• Material Type; MS = Mild Steel, SS = Stainless Steel

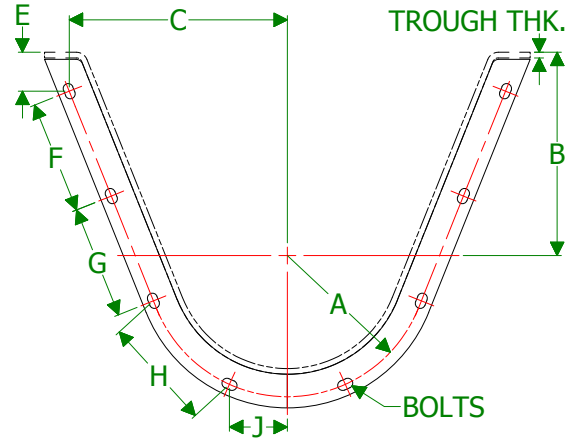


FLARED TROUGH PLATE END FLANGES

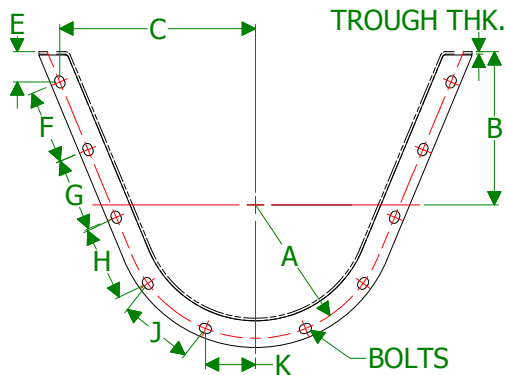
6 BOLT FLANGE



8 BOLT FLANGE



10 BOLT FLANGE

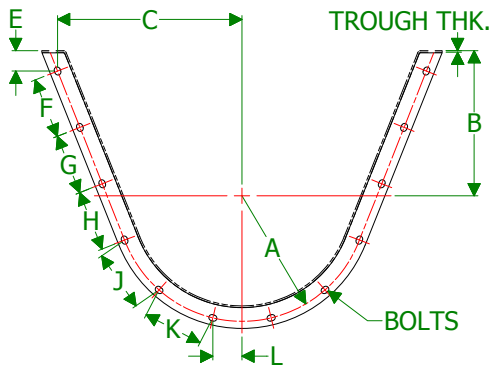


Screw Dia.	Bolts		A	B	C	D Thk.	E	F	G	H	J	K	Part Number	Weight (Lbs.)
	Dia.	Qty.												
4"	NOT AVAILABLE													
6"	3/8"	6	4-7/16"	7"	7-3/16"	3/16"	1-27/32"	5-1/4"	5-1/4"	2-1/32"	X	X	PEF6F•	3
9"	3/8"	8	6-1/4"	9"	9-11/16"	1/4"	1-3/4"	5"	5"	5"	2-9/16"	X	PEF9F•	5
12"	1/2"	8	7-15/16"	10"	11-13/16"	1/4"	1-13/16"	5-3/4"	5-3/4"	5-3/4"	3-7/8"	X	PEF12F•	7
14"	1/2"	10	8-15/16"	11"	12-3/4"	1/4"	2-1/16"	5-1/8"	5-1/8"	5-1/8"	5-1/8"	3"	PEF14F•	8
16"	5/8"	10	10"	11-1/2"	14-11/16"	1/4"	2-1/4"	5-1/2"	5-1/2"	5-1/2"	5-1/2"	3-3/4"	PEF16F•	8
18"	5/8"	10	11"	12-1/8"	16"	1/4"	2-5/8"	6-3/16"	6-3/16"	6-3/16"	6-3/16"	2-15/16"	PEF18F•	11
20"	5/8"	10	12-3/16"	13-1/2"	17-7/8"	1/4"	2-5/16"	7"	7"	7"	7"	3-11/32"	PEF20F•	12

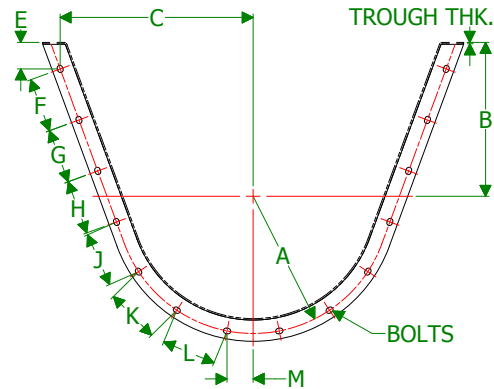
• Material Type; MS = Mild Steel, SS = Stainless Steel

FLARED TROUGH PLATE END FLANGES

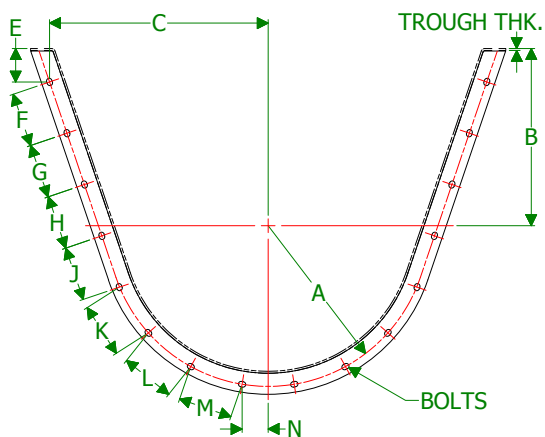
12 BOLT FLANGE



14 BOLT FLANGE



16 BOLT FLANGE



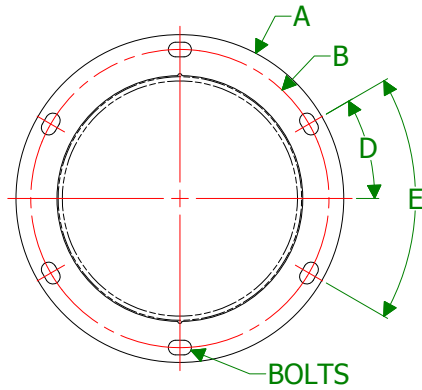
Screw Dia.	Bolts		A	B	C	D Thk.	E	F	G	H	J	K	L	M	N	Part Number	Weight (Lbs.)
	Dia.	Qty.															
24"	5/8"	12	14-1/4"	16-1/2"	20-15/16"	1/4"	2-5/16"	6-7/8"	6-7/8"	6-7/8"	6-7/8"	6-7/8"	3-5/16"	X	X	PEF24F•	15
30"	5/8"	14	17-1/2"	19-1/2"	24-13/16"	3/8"	3-1/2"	6-7/8"	6-7/8"	6-7/8"	6-7/8"	6-7/8"	6-7/8"	3-1/2"	X	PEF30F•	20
36"	5/8"	16	20-1/2"	22-1/2"	27-15/16"	3/8"	3-1/2"	6-7/8"	6-7/8"	6-7/8"	6-7/8"	6-7/8"	6-7/8"	6-7/8"	4-1/4"	PEF36F•	23

• Material Type; MS = Mild Steel, SS = Stainless Steel

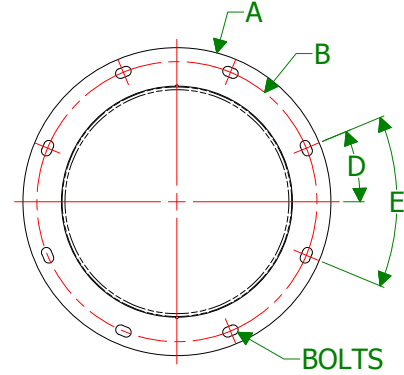


TUBULAR TROUGH PLATE END FLANGES

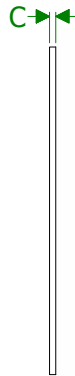
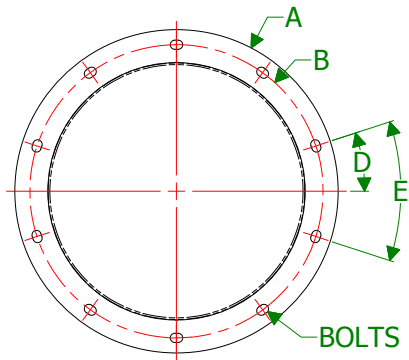
6 BOLT FLANGE



8 BOLT FLANGE

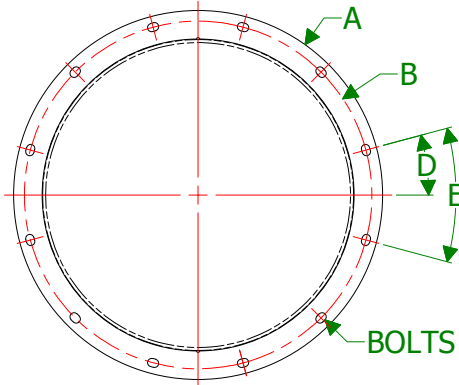
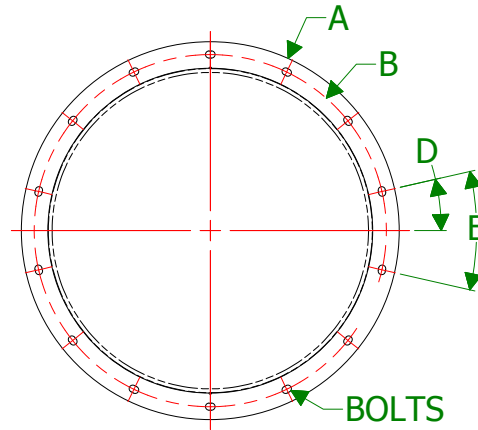
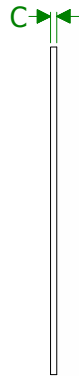
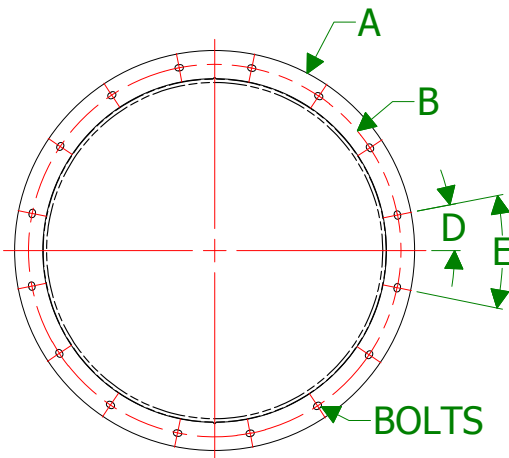


10 BOLT FLANGE



Screw Dia.	Bolts		A Dia.	B Dia.	C Thk.	D Angle	E Angle	Part Number	Weight (Lbs.)
	Dia.	Qty.							
4"	3/8"	6	7-3/4"	7"	3/16"	30°	60°	PEF4T•	2
6"	3/8"	6	9-3/4"	8-7/8"	3/16"	30°	60°	PEF6T•	2
9"	3/8"	8	13-3/4"	12-1/2"	1/4"	22.5°	45°	PEF9T•	5
12"	1/2"	8	17-1/4"	15-7/8"	1/4"	22.5°	45°	PEF12T•	8
14"	1/2"	8	19-1/4"	17-7/8"	1/4"	22.5°	45°	PEF14T•	8
16"	5/8"	8	21-1/4"	20"	1/4"	22.5°	45°	PEF16T•	9
18"	5/8"	10	24-1/4"	22"	1/4"	18°	36°	PEF18T•	13
20"	5/8"	10	26-1/4"	24-3/8"	1/4"	18°	36°	PEF20T•	14

• Material Type; MS = Mild Steel, SS = Stainless Steel

TUBULAR TROUGH PLATE END FLANGES
12 BOLT FLANGE

14 BOLT FLANGE

16 BOLT FLANGE


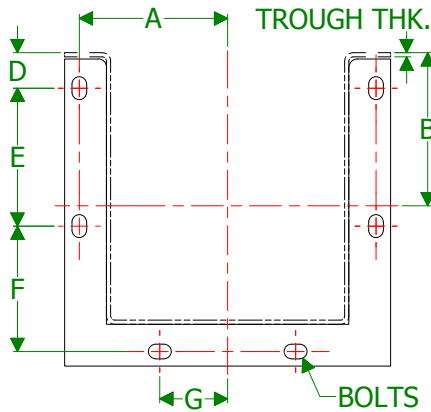
Screw Dia.	Bolts		A Dia	B Dia.	C Thk.	D Angle	E Angle	Part Number	Weight (Lbs.)
	Dia	Qty							
24"	5/8"	12	30-1/4"	28-1/2"	1/4"	15°	30°	PEF24T•	17
30"	5/8"	14	37"	34-1/2"	3/8"	13°	26°	PEF30T•	22
36"	5/8"	16	44"	41"	3/8"	11.5°	23°	PEF36T•	31

• Material Type; MS = Mild Steel, SS = Stainless Steel

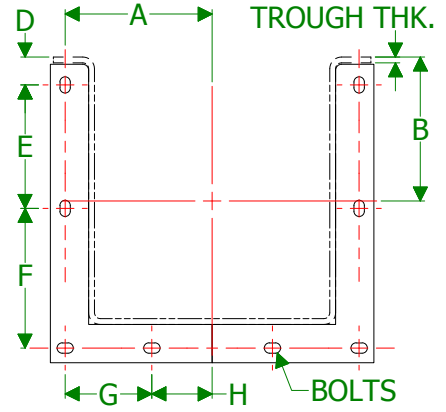


RECTANGULAR PLATE END FLANGES

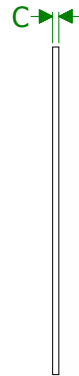
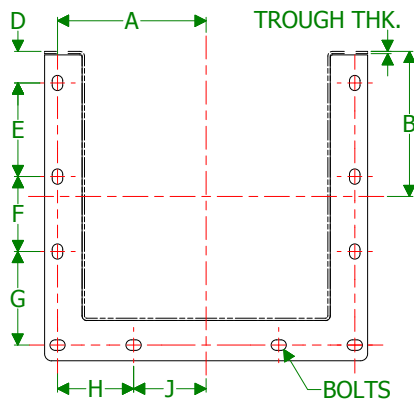
6 BOLT FLANGE



8 BOLT FLANGE



10 BOLT FLANGE

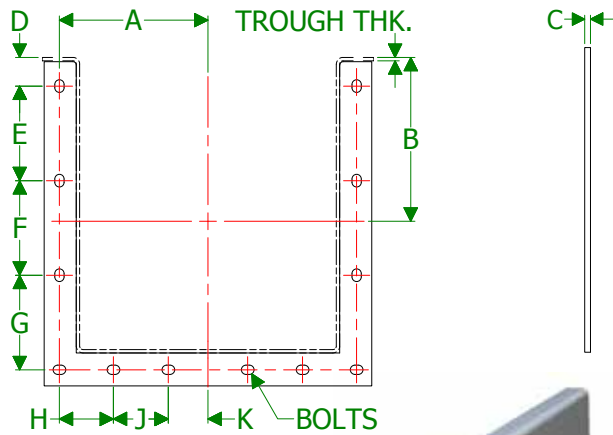


Screw Dia.	Bolts		A	B	C Thick	D	E	F	G	H	J	Part Number	Weight (Lbs.)
	Dia	Qty.											
4"	NOT AVAILABLE												
6"	3/8"	6	4-9/16"	4-1/2"	3/16"	1-1/16"	4-1/8"	3-3/4"	2-1/32"	X	X	PEF6R•	3
9"	3/8"	8	6-1/4"	6-1/8"	1/4"	1-3/16"	5-1/4"	5-15/16"	3-11/16"	2-9/16"	X	PEF9R•	4
12"	1/2"	10	7-15/16"	7-3/4"	1/4"	1-11/16"	5"	4"	5"	4-1/16"	3-7/8"	PEF12R•	7
14"	1/2"	10	8-15/16"	9-1/4"	1/4"	2-7/16"	5-1/4"	5-1/4"	5-1/4"	5-15/16"	3	PEF14R•	8
16"	5/8"	10	10"	10-5/8"	1/4"	2-5/8"	6"	6"	6"	6-1/4"	3-3/4"	PEF16R•	9

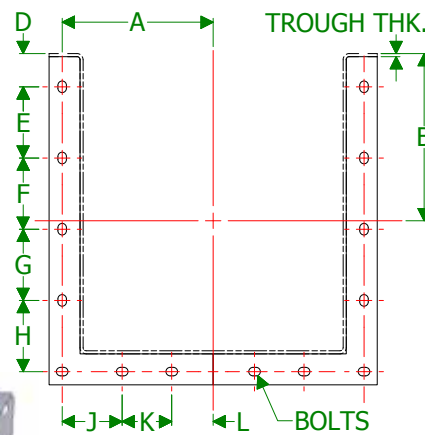
• Material Type; MS = Mild Steel, SS = Stainless Steel

RECTANGULAR PLATE END FLANGES

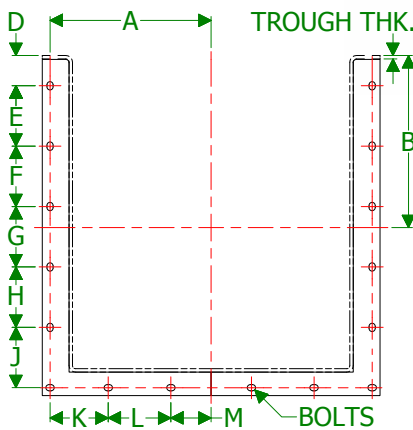
12 BOLT FLANGE



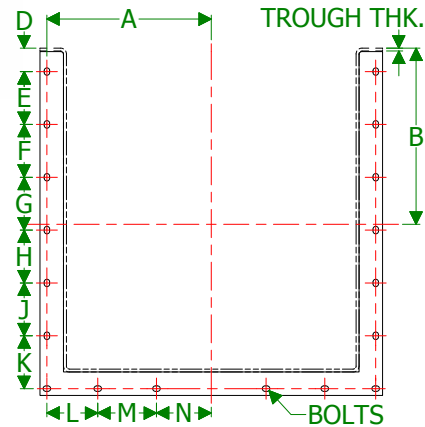
14 BOLT FLANGE



16 BOLT FLANGE



18 BOLT FLANGE

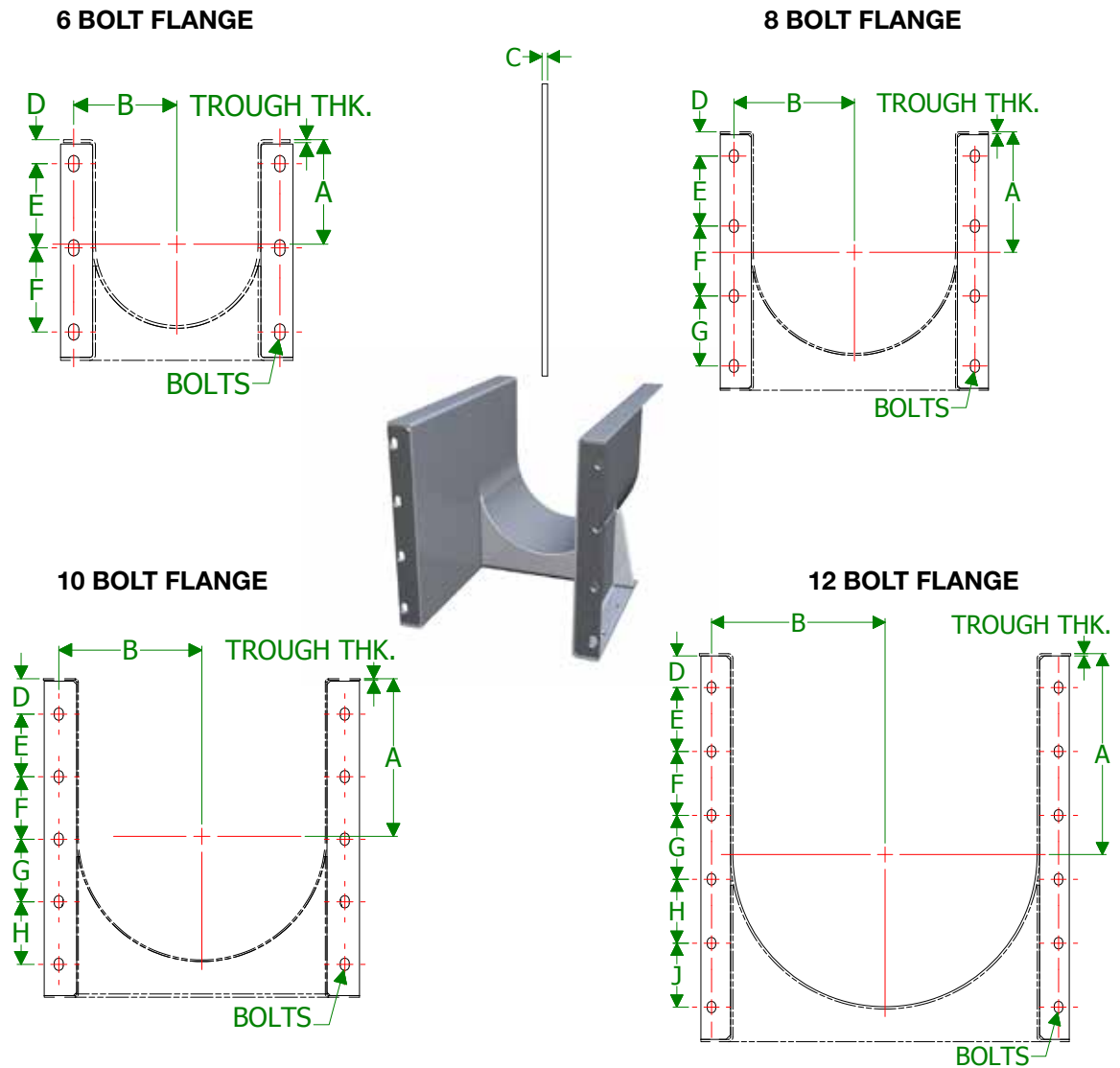


Screw Dia.	Bolts		A	B	C Thk.	D	E	F	G	H	J	K	L	M	N	Part Number	Weight (Lbs.)
	Dia.	Qty.															
18"	5/8"	12	11"	12-1/8"	1/4"	2-1/8"	7"	7"	7"	4"	4-1/16"	2-15/16"	X	X	X	PEF18R•	13
20"	5/8"	14	12-3/16"	13-1/2"	1/4"	2-11/16"	5-3/4"	5-3/4"	5-3/4"	5-3/4"	4-27/32"	4"	3-11/32"	X	X	PEF20R•	21
24"	5/8"	14	14-1/4"	16-1/2"	1/4"	2-3/4"	7"	7"	7"	7"	5-1/2"	5-7/16"	3-5/16"	X	X	PEF24R•	30
30"	5/8"	16	18"	19-1/2"	3/8"	2-15/16"	6-3/4"	6-3/4"	6-3/4"	6-3/4"	6-3/4"	6-3/4"	6-3/4"	4-1/2"	X	PEF30R•	36
36"	5/8"	18	21"	22-1/2"	3/8"	3"	6-3/4"	6-3/4"	6-3/4"	6-3/4"	6-3/4"	6-3/4"	7"	7"	7"	PEF36R•	44

• Material Type; MS = Mild Steel, SS = Stainless Steel



U-TROUGH AND RECTANGULAR FLUSH END PLATE END FLANGE



Screw Dia.	Bolts		A	B	C Thk.	D	E	F	G	H	J	K	Part Number	Weight (Lbs.)
	Dia.	Qty.												
4"	3/8"	6	3-5/8"	3-3/8"	3/16"	1-1/4"	2-1/2"	2-1/2"	X	X	X	X	PEF4@•FE	2
6"	3/8"	6	4-1/2"	4-7/16"	3/16"	1-1/16"	3-5/8"	3-5/8"	X	X	X	X	PEF6@•FE	2
9"	3/8"	8	6-1/8"	6 1/4"	1/4"	1-3/16"	3-5/8"	3-5/8"	3-5/8"	X	X	X	PEF9@•FE	3
12"	1/2"	8	7-3/4"	7-15/16"	1/4"	1-1/2"	4-5/8"	4-5/8"	4-5/8"	X	X	X	PEF12@•FE	5
14"	1/2"	8	9-1/4"	8-15/16"	1/4"	2-1/2"	4-3/4"	4-3/4"	4-3/4"	X	X	X	PEF14@•FE	6
16"	5/8"	8	10-5/8"	10"	1/4"	2-5/8"	5-1/2"	5-1/2"	5-1/2"	X	X	X	PEF16@•FE	6
18"	5/8"	10	12-1/8"	11"	1/4"	2-11/16"	4-13/16"	4-13/16"	4-13/16"	4-13/16"	X	X	PEF18@•FE	9
20"	5/8"	10	13-1/2"	12-3/16"	3/8"	2-27/32"	5-5/16"	5-5/16"	5-5/16"	5-5/16"	X	X	PEF20@•FE	14
24"	5/8"	12	16-1/2"	14-1/4"	3/8"	2-3/4"	5-1/4"	5-1/4"	5-1/4"	5-1/4"	5-1/4"	X	PEF24@•FE	18
30"	5/8"	12	19-1/2"	17-1/2"	3/8"	2-1/2"	6-1/4"	6-1/4"	6-1/4"	6-1/4"	6-1/4"	X	PEF30@•FE	27
36"	5/8"	14	22-1/2"	20-1/2"	3/8"	2-1/2"	6-1/4"	6-1/4"	6-1/4"	6-1/4"	6-1/4"	6-1/4"	PEF36@•FE	32

• Material Type; MS = Mild Steel, SS = Stainless Steel @ = U for U-Trough or R for Rectangular Note: 14 Bolt Pattern Not Shown

DISCHARGE SPOUTS

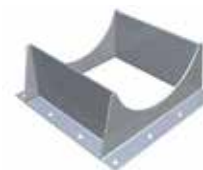
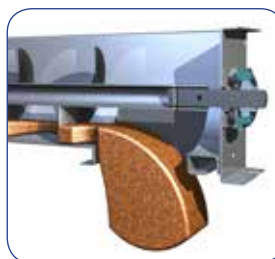
Discharge spouts are typically located at one end of a screw conveyor on the bottom of the trough. Bulk materials exit a screw conveyor through the discharge spout. Multiple discharge spouts with slide gates can be used to distribute bulk materials to various downstream processes. Slide gates should not be used on the final discharge of a screw conveyor because if the slide gate is closed, bulk materials will be compressed against the trough end and cause damage to the screw conveyor.

NOMENCLATURE

D		S		P		1		2		3		1		6		T		F		E		
DSP = Discharge Spout																						
Screw Diameter																						
4 = 4"	14 = 14"	24 = 24"																				
6 = 6"	16 = 16"	30 = 30"																				
9 = 9"	18 = 18"	36 = 36"																				
12 = 12"	20 = 20"																					
Discharge Thickness																						
14 = 14GA 250 = 1/4"																						
12 = 12GA 375 = 3/8"																						
10 = 10GA 500 = 1/2"																						
316 = 3/16"																						
Shape																						
Blank = U-Trough																						
T = Tubular																						
F = Flared																						
R = Rectangular																						
Discharge Style																						
Blank = Plain (Fixed)																						
HS = Hand Slide																						
FE = Flush End Formed Trough																						
FEA = Flush End Angled Trough																						

STANDARD

Standard discharge spouts are continuously welded to the bottom of a U-trough or tubular housing and can be located anywhere along the length of a screw conveyor. A minimum distance is required for the final discharge spout to allow for welding of the plate end flange and discharge spout.



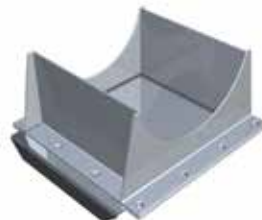
FLUSH END

Flush end discharge spouts are continuously welded to the end of a U-trough or tubular housing in order to maximize the length of the trough. A special flush end trough end is required with a flush end discharge. The discharge is considered "flush" with the trough end.



HAND SLIDE

A hand slide gate is the simplest form of slide gate and utilizes a slide plate, spacer and retainer flange bolted to a standard discharge spout.



OPEN END

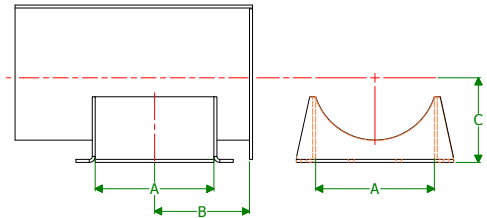
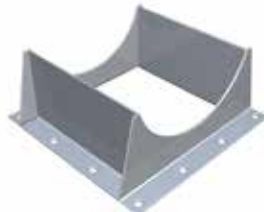
Open end discharge spouts utilize a hanger, hanger bearing and end shaft to allow bulk materials to discharge out the end of a screw conveyor. Open end discharges allow for maximum conveying distance over the length of the trough.



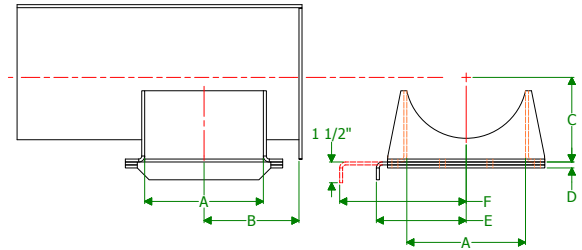
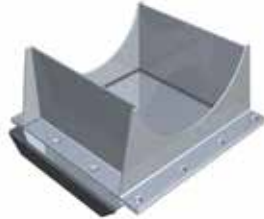


DISCHARGES

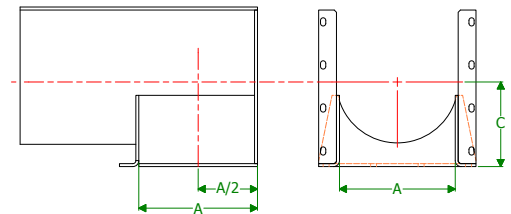
STANDARD



WITH HAND SLIDE



FLUSH END



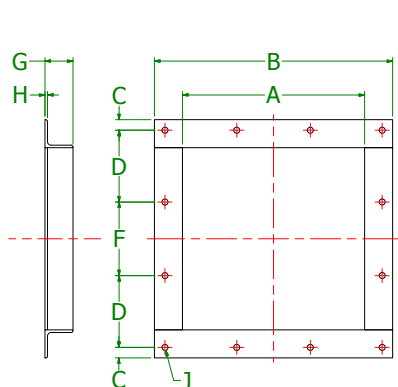
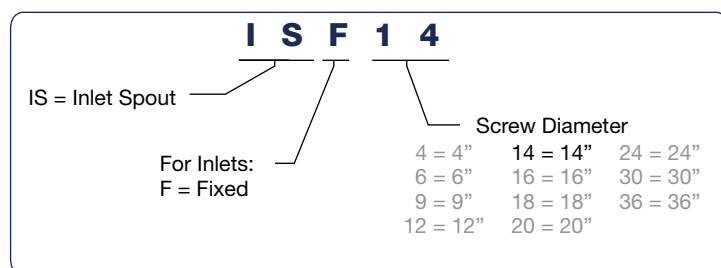
Screw Dia.	Thk.	A	B Min.	C	D	E	F	Standard		With Hand Slide		Flush End	
								Part Number	Weight (Lbs.)	Part Number	Wt.	Part Number	Weight (Lbs.)
4"	14 Ga.	5"	4-1/2"	3-3/4"	5/16"	5-5/8"	11"	DSP414#	2	DSP414#HS	5	DSP414#FE	2
	DSP412#*							3	DSP412#HS	6	DSP412#FE	2	
	DSP410#							4	DSP410#HS	6	DSP410#FE	3	
6"	14 Ga.	7"	6"	5"	5/16"	6-5/8"	14"	DSP614#	4	DSP614#HS	8	DSP614#FE	3
	DSP612#*							5	DSP612#HS	9	DSP612#FE	4	
	DSP610#							7	DSP610#HS	1	DSP610#FE	5	
	DSP6316#							8	DSP6316#HS	12	DSP6316#FE	6	
	DSP6250#							10	DSP6250#HS	14	DSP6250#FE	8	
9"	14 Ga.	10"	8"	7-1/8"	5/16"	8"	19"	DSP914#	7	DSP914#HS	15	DSP914#FE	5
	DSP912#							10	DSP912#HS	17	DSP912#FE	7	
	DSP910#*							12	DSP910#HS	20	DSP910#FE	9	
	DSP9316#							16	DSP9316#HS	23	DSP9316#FE	12	
	DSP9250#							20	DSP9250#HS	28	DSP9250#FE	15	
12"	12 Ga.	13"	10-1/2"	8-7/8"	5/16"	10-1/8"	24"	DSP1212#	16	DSP1212#HS	29	DSP1212#FE	12
	DSP1210#*							20	DSP1210#HS	33	DSP1210#FE	15	
	DSP12316#							26	DSP12316#HS	39	DSP12316#FE	20	
	DSP12250#							33	DSP12250#HS	46	DSP12250#FE	24	
	DSP1412#							20	DSP1412#HS	41	DSP1412#FE	15	
14"	12 Ga.	15"	11-1/2"	10-1/8"	5/16"	11-1/4"	27"	DSP1410#*	26	DSP1410#HS	47	DSP1410#FE	19
	DSP14316#							32	DSP14316#HS	54	DSP14316#FE	24	
	DSP14250#							41	DSP14250#HS	63	DSP14250#FE	31	
	DSP1612#							23	DSP1612#HS	45	DSP1612#FE	17	
	DSP1610#							30	DSP1610#HS	52	DSP1610#FE	23	
16"	10 Ga.	17"	13-1/2"	11-1/8"	5/16"	12-3/8"	30"	DSP16316#*	38	DSP16316#HS	60	DSP16316#FE	29
	DSP16250#							50	DSP16250#HS	72	DSP16250#FE	38	
	DSP1810#							39	DSP1810#HS	5	DSP1810#FE	29	
	DSP18316#*							50	DSP18316#HS	76	DSP18316#FE	38	
	DSP18250#							64	DSP18250#HS	90	DSP18250#FE	48	
18"	10 Ga.	19"	14-1/2"	12-3/8"	5/16"	13-3/8"	33"	DSP20316#*	58	DSP20316#HS	89	DSP20316#FE	43
	DSP20250#							75	DSP20250#HS	106	DSP20250#FE	56	
	DSP24316#*							75	DSP24316#HS	117	DSP24316#FE	56	
20"	3/16"	21"	15-1/2"	13-3/8"	3/8"	14-3/8"	36"	DSP24250#	97	DSP24250#HS	139	DSP24250#FE	72
	1/4"							DSP30375#	194	DSP30375#HS	253	DSP30375#FE	146
24"	3/16"	25"	17-1/2"	15-3/8"	3/8"	16-3/8"	42"	DSP30500#	259	DSP30500#HS	318	DSP30500#FE	194
	1/4"							DSP36375#	272	DSP36375#HS	351	DSP36375#FE	204
30"	3/8"	31"	20-1/2"	18-3/8"	1/2"	18-3/8"	48"	DSP36500#	363	DSP36500#HS	442	DSP36500#FE	272
	1/2"												

* KWS Stock Component (U-Trough Only) # = Specify Trough Style: Blank = U-Trough, T = Tubular, F = Flared, R = Rectangular

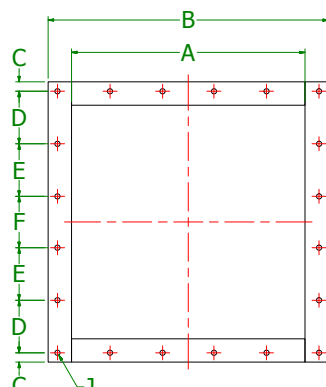
INLET SPOUTS

Inlet spouts are typically located at one end of a screw conveyor on the top of the cover. Bulk materials enter a screw conveyor through the inlet spout. Multiple inlet spouts can be used to feed a screw conveyor. The screw conveyor must be designed for the total volumetric feed rate of all of the inlets combined.

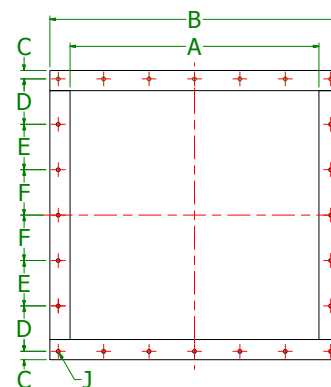
NOMENCLATURE



12 BOLT



20 BOLT



24 BOLT

Screw Dia.	A	B		C		D	E	F	G	H	J		Part Number	Weight (Lbs.)
		Inlets	Discharges	Inlets	Discharges						Qty.	Bolt Dia.		
4"	5"	7-1/2"	7-1/2"	3/8"	3/8"	2-1/4"	X	2-1/4"	1-1/4"	1/8"	12	1/4"	ISF4*	2
6"	7"	10"	10"	11/16"	11/16"	2-13/16"	X	3"	1-1/2"	3/16"	12	3/8"	ISF6*	5
9"	10"	13"	13-1/4"	1/2"	5/8"	4"	X	4"	1-1/2"	3/16"	12	3/8"	ISF9*	7
12"	13"	17"	17-1/4"	3/4"	7/8"	5-1/8"	X	5-1/4"	2"	3/16"	12	3/8"	ISF12*	12
14"	15"	19"	19-1/4"	3/4"	7/8"	3-1/2"	3-1/2"	3-1/2"	2"	3/16"	20	3/8"	ISF14*	14
16"	17"	21"	21-1/4"	3/4"	7/8"	3-3/4"	4"	4"	2"	1/4"	20	3/8"	ISF16*	15
18"	19"	24"	24-1/4"	1"	1-1/8"	4-7/16"	4-3/8"	4-3/8"	2-1/2"	1/4"	20	1/2"	ISF18*	29
20"	21"	26"	26-1/4"	1"	1-1/8"	4-7/8"	4-3/4"	4-3/4"	2-1/2"	1/4"	20	1/2"	ISF20*	32
24"	25"	30"	30-1/4"	1"	1-1/8"	5-5/8"	5-5/8"	5-1/2"	2-1/2"	1/4"	20	1/2"	ISF24*	37
30"	31"	37"	36-1/4"	1-1/4"	1-3/8"	5-3/4"	5-3/4"	5-3/4"	3"	3/8"	24	1/2"	ISF30	62
36"	37"	43"	43-1/4"	1-1/4"	1-3/8"	6-3/4"	6-3/4"	6-3/4"	3"	3/4"	24	1/2"	ISF36	73

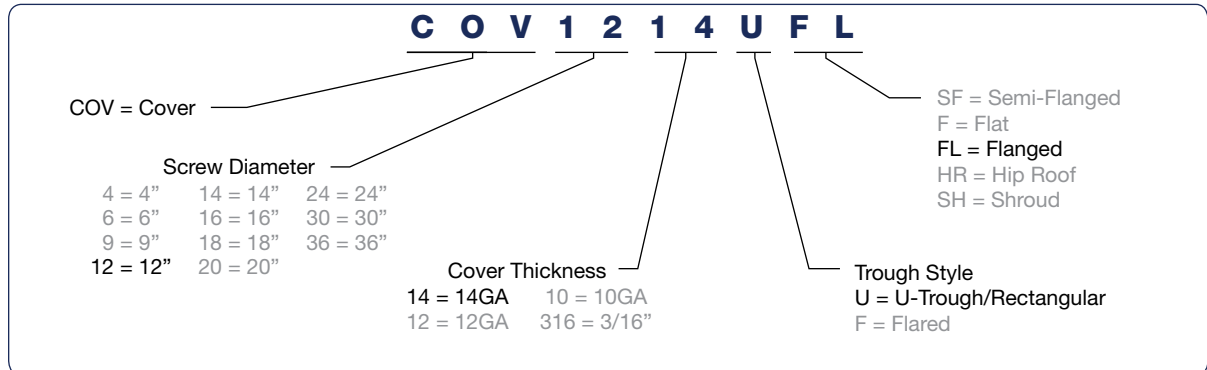
* KWS Stock Component (Only Includes Fixed Inlets) Note: Above table gives dimensions for the Discharge Flanges also.



COVERS

Covers are placed over the trough and fastened in place to provide a FIXED enclosure for the bulk material and to provide protection for personnel operating and maintaining the equipment. Standard cover lengths are 10-feet for 4, 6, and 9-inch diameter screw conveyors. Standard cover lengths are 12-feet for screw conveyors 12-inch and larger in diameter. KWS recommends bolting all covers on close centers to prevent access to the screw during operation.

NOMENCLATURE



FLANGED

Flanged covers are manufactured with formed flanges on each side to provide extra rigidity. KWS recommends using flanged covers with U, flared and rectangular troughs because covers are held in place by the formed flanges on each side. KWS recommends bolting all covers on close centers to prevent access to the screw during operation.



FLAT

Flat covers are manufactured from thin gauge flat metal and do not have the rigidity of flanged covers. KWS does not recommend the use of flat covers because flat covers can easily slide off the top of a screw conveyor and cause injury to personnel. KWS recommends bolting all covers on close centers to prevent access to the screw during operation.

COVERS

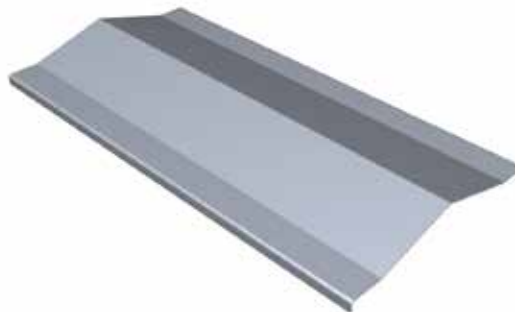
SEMI-FLANGED

Semi-flanged covers are manufactured with a slight formed flange on each side to provide some rigidity. KWS recommends flanged covers in place of semi-flanged covers in most applications. Cover sections are typically secured using spring clamps. KWS recommends bolting all covers on close centers to prevent access to the screw during operation.



HIP ROOF

Hip roof or ridged covers are manufactured with a center peak for outdoor applications. Snow or rain runs off the hip roof cover similar to a roof on a house. Formed flanges on both sides of the cover provide extra rigidity. KWS recommends bolting all covers on close centers to prevent access to the screw during operation.



SHROUD

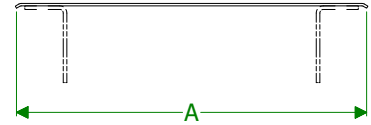
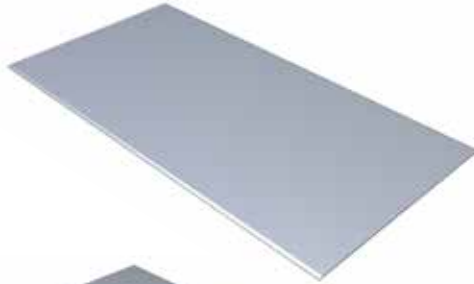
Shrouds are manufactured to fit in U, flared or rectangular troughs and create a tubular cross section for screw feeders and steeply inclined screw conveyors. Standard covers can be used with shrouds. Shrouds are bolted on both sides of the trough for easy removal and include an integrated batten bar.



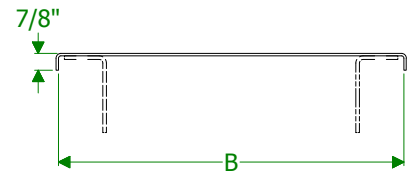
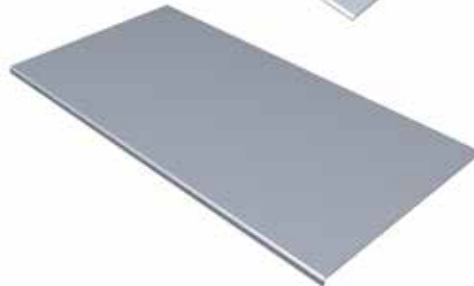


COVERS

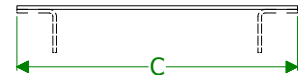
SEMI-FLANGED



FLANGED

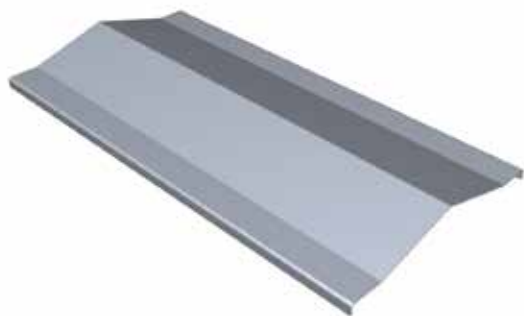
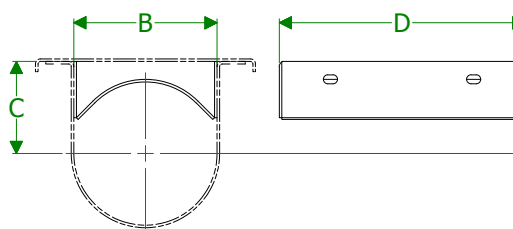
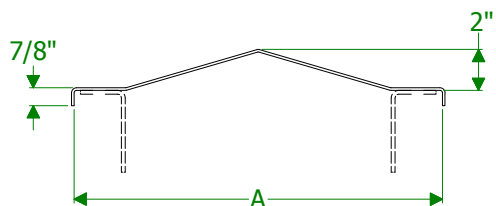


FLAT



Screw Dia.	Cover Thk.	A • (Approx)	B •	C •	Semi-Flanged		Flanged		Flat	
					Part Number	Wt. (Lbs.)	Part Number	Wt. (Lbs.)	Part Number	Wt. (Lbs.)
4"	14 Ga.	8-3/8"	8"	7-3/4"	COV414#SF	2	COV414#FL*	3	COV414#F	2
6"	14 Ga.	10-7/8"	10-1/2"	9-3/4"	COV614#SF	3	COV614#FL*	4	COV614#F	2
9"	14 Ga.	14-3/8"	14"	13-1/4"	COV914#SF	4	COV914#FL*	5	COV914#F	3
	12 Ga.				COV912#SF	5	COV912#FL	7	COV912#F	6
12"	14 Ga.	18-1/4"	18"	17-1/4"	COV1214#SF	5	COV1214#FL*	6	COV1214#F	5
	12 Ga.				COV1212#SF	7	COV1212#FL	8	COV1212#F	8
14"	14 Ga.	20-1/4"	20"	19-1/4"	COV1414#SF	6	COV1414#FL*	6	COV1414#F	5
	12 Ga.				COV1412#SF	8	COV1412#FL	9	COV1412#F	9
16"	14 Ga.	22-1/4"	22"	21-1/4"	COV1614#SF	6	COV1614#FL*	7	COV1614#F	6
	12 Ga.				COV1612#SF	9	COV1612#FL	10	COV1612#F	10
18"	12 Ga.	25-1/4"	25"	24-1/4"	COV1812#SF	10	COV1812#FL	11	COV1812#F	6
	10 Ga.				COV1810#SF	14	COV1810#FL*	14	COV1810#F	11
20"	12 Ga.	27-1/4"	27"	26-1/4"	COV2012#SF	11	COV2012#FL	12	COV2012#F	7
	10 Ga.				COV2010#SF	15	COV2010#FL*	15	COV2010#F	12
24"	12 Ga.	31-1/4"	31"	30-1/4"	COV2412#SF	12	COV2412#FL	14	COV2412#F	11
	10 Ga.				COV2410#SF	17	COV2410#FL*	18	COV2410#F	14
30"	10 Ga.	39-3/8"	39"	38-1/2"	COV3010#SF	21	COV3010#FL	22	COV3010#F	21
36"	3/16"	45-3/8"	45"	44-1/2"	COV36316#SF	32	COV36316#FL	33	COV36316#F	32

* KWS Stock Component (U-Troughs only) • Dimensions will change for flared troughs
 # Trough Style; U = U-Trough/Rectangular, F = Flared

COVERS
HIP ROOF

SHROUD


Screw Dia.	Cover Thk.	A •	B •	C •	D	Hip Roof		Shroud	
						Part Number	Wt. /Ft. (Lbs.)	Part Number	Wt. /Ft. (Lbs.)
4"	14 Ga.	8"	5"	3-5/8"	8"	COV414#HR	2	N/A	
6"	14 Ga.	10-1/2"	7"	4-1/2"	12"	COV614#HR	4	N/A	8
	COV612#HR					4	COV612#SH*		
9"	14 Ga.	14"	10"	6-1/8"	18"	COV914#HR	4	N/A	23
	COV912#HR					6	N/A		
12"	14 Ga.	18"	13"	7-3/4"	24"	COV1214#HR	5	N/A	41
	COV1210#HR					10	N/A		
14"	14 Ga.	20"	15"	9-1/4"	28"	COV1414#HR	6	N/A	60
	COV1410#HR					11	N/A		
16"	14 Ga.	22"	17"	10-5/8"	32"	COV1614#HR	7	N/A	78
	COV1610#HR					12	N/A		
18"	12 Ga.	25"	19"	12-1/8"	36"	COV1812#HR	10	N/A	98
	COV1810#HR					12	N/A		
20"	12 Ga.	27"	21"	13-1/2"	40"	COV2012#HR	11	N/A	114
	COV2010#HR					15	N/A		
24"	12 Ga.	31"	25"	16-1/2"	48"	COV2412#HR	14	N/A	175
	COV2410#HR					19	N/A		
30"	10 Ga.	39"	31"	20-1/4"	60"	COV3010#HR	25	N/A	290
	COV30250#SH					X	COV30250#SH		
36"	3/16" / 1/4"	45"	37"	24-3/8"	72"	COV36316#HR	36	N/A	330
						COV36250#SH	X	COV36250#SH	

* KWS Stock Component (U-Troughs only) • Dimensions will change for flared troughs
 # Trough Style; U = U-Trough/Rectangular, F = Flared

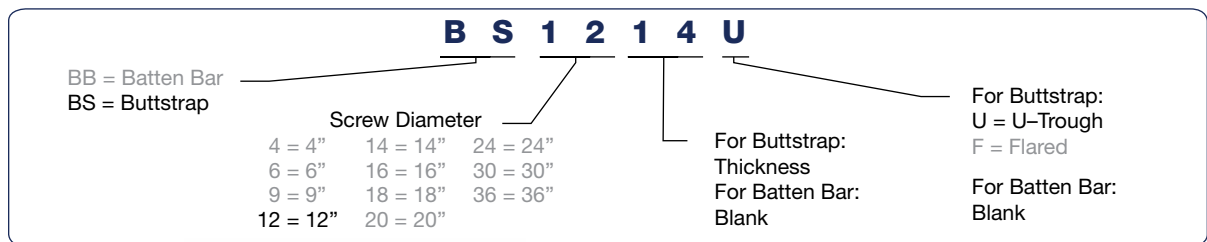


BUTTSTRAPS AND BATTEN BARS

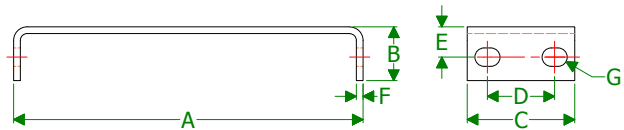
Buttstraps fit over the top of the joint between two cover sections. Gasket material is used under the buttstrap to provide a sealed design. The buttstrap is bolted on both sides through the cover and trough flange to create a dust-tight enclosure.

Batten bars are mounted flush with the top of the trough flange and fit under the joint between two cover sections. Gasket material is used over the batten bar to provide a seal. Batten bars can be provided with weld studs or rivnuts for securing the cover sections to the batten bar to create a dust-tight enclosure.

NOMENCLATURE



BATTEN BAR



BUTTSTRAP



Screw Dia.	A	B	C	D	E	F	G Bolts	H	Buttstrap		Batten Bar	
									Part Number	Weight (Lbs.)	Part Number	Weight (Lbs.)
4"	5"	1"	3"	2"	5/8"	3/16"	3/8"	8-3/8"	BS4#@	1	BB4	1
6"	7"	1-1/4"	3"	2"	3/4"	3/16"	3/8"	10-7/8"	BS6#@	1	BB6	2
9"	10"	1-1/2"	4"	2-1/2"	7/8"	1/4"	1/2"	14-3/8"	BS9#@	1	BB9	4
12"	13"	2"	4"	2-1/2"	1-1/8"	1/4"	5/8"	18-3/8"	BS12#@	2	BB12	5
14"	15"	2	4"	2-1/2"	1-1/8"	1/4"	5/8"	20-3/8"	BS14#@	2	BB14	6
16"	17"	2	5"	2-1/2"	1-1/8"	3/8"	5/8"	22-3/8"	BS16#@	2	BB16	11
18"	19"	2-1/2"	5"	3-1/2"	1-3/8"	3/8"	5/8"	25-3/8"	BS18#@	3	BB18	13
20"	21"	2-1/2"	5"	3-1/2"	1-3/8"	3/8"	3/4"	27-3/8"	BS20#@	4	BB20	14
24"	25"	2-1/2"	5"	3-1/2"	1-3/8"	3/8"	3/4"	31-3/8"	BS24#@	4	BB24	17
30"	31"	3"	6"	3-1/2"	1-3/4"	1/4"	3/4"	39-3/8"	BS30#@	7	BB30 •	27
36"	37"	3"	6"	3-1/2"	1-3/4"	1/4"	3/4"	45-3/8"	BS36#@	7	BB36 •	32

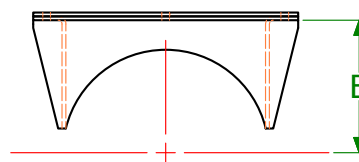
• Requires a Formed Channel Support Bar # = Thickness Note: Dimensions in the above table are for U-Troughs only.
 @ = Trough Type; U = U-Trough, F = Flared

HANGER POCKET

Hanger pockets allow the use of standard U-trough hangers in tubular housings. Hanger pockets are continuously welded on the top of a tubular housing at each hanger bearing location. A hanger bolts to the sides of the hanger pocket and space is allowed for bearing maintenance and replacement. Standard 216 and 226 style hanger bearings can be used with hanger pockets. A bolted cover seals the hanger pocket.

NOMENCLATURE

H		G		P		1		2		3		1		6	
HGP = Hanger Pocket															
Screw Diameter															
4 = 4"		14 = 14"		24 = 24"		Material Thickness									
6 = 6"		16 = 16"		30 = 30"		14 = 14GA		316 = 3/16"							
9 = 9"		18 = 18"		36 = 36"		12 = 12GA		250 = 1/4"							
12 = 12"		20 = 20"				10 = 10GA		375 = 3/8"							



Screw Dia.	Part Number	A	B	Material Thickness	Weight (Lbs.)
4"	HGP414	12"	3-3/4"	14 Ga.	3
	HGP412			12 Ga.	5
	HGP410			10 Ga.	7
6"	HGP614	18"	5"	14 Ga.	5
	HGP612			12 Ga.	7
	HGP610			10 Ga.	9
9"	HGP914	18"	7-1/8"	14 Ga.	8
	HGP912			12 Ga.	10
	HGP910			10 Ga.	13
	HGP9316			3/16"	18
12"	HGP1212	24"	8-7/8"	12 Ga.	15
	HGP1210			10 Ga.	20
	HGP12316			3/16"	27
	HGP12250			1/4"	36
14"	HGP1412	20"	10-1/8"	12 Ga.	19
	HGP1410			10 Ga.	24
	HGP14316			3/16"	33
	HGP14250			1/4"	44
16"	HGP1612	24"	11-1/8"	12 Ga.	23
	HGP1610			10 Ga.	30
	HGP16316			3/16"	41
	HGP16250			1/4"	55

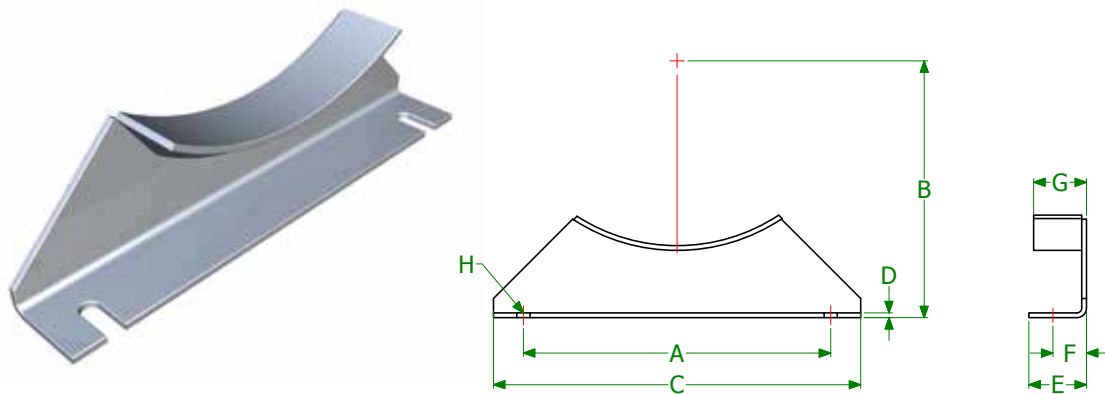
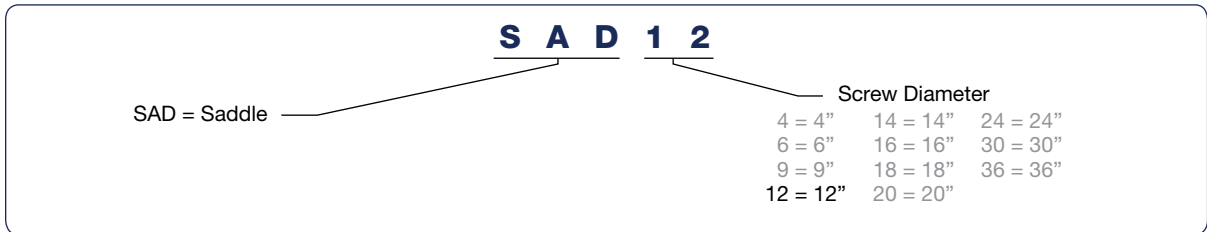
Screw Dia.	Part Number	A	B	Material Thickness	Weight (Lbs.)
18"	HGP1810	26"	12-3/8"	10 Ga.	37
	HGP18316			3/16"	51
	HGP18250			1/4"	68
20"	HGP2010	26"	14"	10 Ga.	46
	HGP20316			3/16"	63
	HGP20250			1/4"	84
24"	HGP2410	26"	17"	10 Ga.	61
	HGP24316			3/16"	83
	HGP24250			1/4"	111
30"	HGP30250	32"	20"	1/4"	149
	HGP30375			3/8"	182
36"	HGP36250	34"	23"	1/4"	199
	HGP36375			3/8"	235



SADDLES

Saddles provide support for a screw conveyor anywhere along the length of the trough. Saddles are welded to the bottom of a trough section at the desired support location and then fastened to the floor or structural support. A standard saddle will fit U-trough, flared trough, and tubular housings. Rectangular troughs require special saddles.

NOMENCLATURE



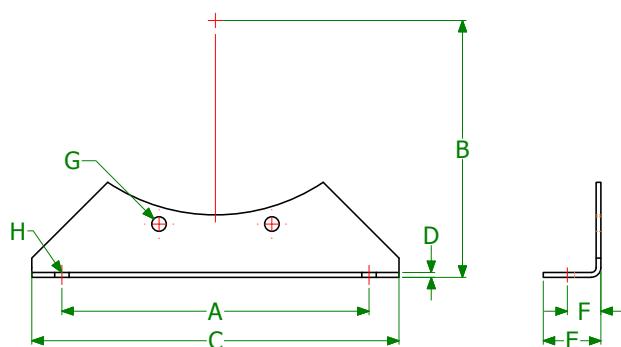
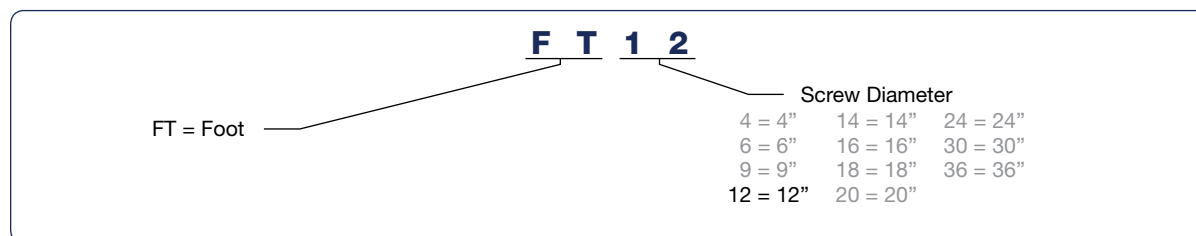
Screw Dia.	A	B	C	D	E	F	G	H Bolts	Part Number	Weight (Lbs.)
4"	5-3/4"	4-5/8"	7-3/8"	3/16"	1-1/2"	7/8"	1-3/8"	3/8"	SAD4*	2
6"	8-1/8"	5-5/8"	10"	3/16"	1-1/2"	13/16"	1-3/4"	3/8"	SAD6*	3
9"	9-3/8"	7-7/8"	12"	3/16"	2-1/2"	1-5/16"	2"	1/2"	SAD9*	4
12"	12-1/4"	9-5/8"	15"	1/4"	2-1/2"	1-3/8"	2-1/4"	5/8"	SAD12*	6
14"	13-1/2"	10-7/8"	16-1/2"	1/4"	2-1/2"	1-3/8"	2-3/4"	5/8"	SAD14*	8
16"	14-7/8"	12"	18"	1/4"	3"	1-3/4"	2-3/4"	5/8"	SAD16*	10
18"	16"	13-3/8"	19-1/8"	1/4"	3"	1-3/4"	2-3/4"	5/8"	SAD18*	11
20"	19-1/4"	15"	22-3/4"	1/4"	3-1/2"	2"	2-3/4"	3/4"	SAD20*	15
24"	20"	18-1/8"	24"	1/4"	4"	2-1/4"	2-3/4"	3/4"	SAD24*	17
30"	30"	21-1/2"	38"	3/8"	4-1/2"	2-1/2"	4"	3/4"	SAD30	20
36"	36"	24"	44"	1/2"	4-1/2"	2-1/2"	4"	3/4"	SAD36	25

* KWS Stock Component

FEET

Feet provide support for a screw conveyor at each trough connection. Feet are bolted through the trough flanges and then fastened to the floor or structural support. A standard foot will fit U-trough, flared trough and tubular trough housing except for 4", 6", 18", and 20" which are unique for tubular housings. Rectangular troughs require special feet.

NOMENCLATURE



Screw Dia.	A	B	C	D	E	F	G bolts	H Bolts	Part Number	Weight (Lbs.)
4"	5-3/4"	4-5/8"	7-3/8"	3/16"	1-1/2"	7/8"	3/8"	3/8"	FT4*	2
6"	8-1/8"	5-5/8"	10"	3/16"	1-1/2"	13/16"	3/8"	3/8"	FT6*	3
9"	9-3/8"	7-7/8"	12"	3/16"	2-1/2"	1-5/16"	3/8"	1/2"	FT9*	4
12"	12-1/4"	9-5/8"	15"	1/4"	2-1/2"	1-5/8"	1/2"	5/8"	FT12*	6
14"	13-1/2"	10-7/8"	16-1/2"	1/4"	2-1/2"	1-3/8"	1/2"	5/8"	FT14*	8
16"	14-7/8"	12"	18"	1/4"	3"	1-3/4"	5/8"	5/8"	FT16*	10
18"	16"	13-3/8"	19-1/8"	1/4"	3"	1-3/4"	5/8"	5/8"	FT18*	11
20"	19-1/4"	15"	22-3/4"	1/4"	3-1/2"	2"	5/8"	3/4"	FT20*	15
24"	20"	18-1/8"	24"	1/4"	4"	2-1/4"	5/8"	3/4"	FT24*	17
30"	30"	21-1/2"	38"	3/8"	4-1/2"	2-1/2"	5/8"	3/4"	FT30	21
36"	36"	24"	44"	1/2"	4-1/2"	2-1/2"	5/8"	3/4"	FT36	25

* KWS Stock Component



BOLT REQUIREMENTS

CONVEYOR DIAMETER: 4" - 14"

Components Assembled	Conveyor Diameter									
	4		6		9		12		14	
	No	Size	No	Size	No	Size	No	Size	No	Size
Covers (Per Section) on 24" Centers	12	3/8" x 1-1/2"	12	3/8" x 1-1/2"	12	3/8" x 1-1/2"	14	3/8" x 1-1/2"	14	3/8" x 1-1/2"
Trough Flange										
U-Trough	6	3/8" x 1-1/2"	6	3/8" x 1-1/2"	8	3/8" x 1-1/2"	8	1/2" x 2"	8	1/2" x 2"
Tubular	6	3/8" x 1-1/2"	6	3/8" x 1-1/2"	8	3/8" x 1-1/2"	8	1/2" x 2"	8	1/2" x 2"
Flared	N/A	N/A	6	3/8" x 1-1/2"	8	3/8" x 1-1/2"	8	1/2" x 2"	10	1/2" x 2"
Rectangular	N/A	N/A	6	3/8" x 1-1/2"	8	3/8" x 1-1/2"	10	1/2" x 2"	10	1/2" x 2"
Flush Discharge Ends	6	3/8" x 1-1/2"	6	3/8" x 1-1/2"	8	3/8" x 1-1/2"	8	1/2" x 2"	8	1/2" x 2"
Foot										
U-Trough	2	3/8" x 1-1/2"	2	3/8" x 1-1/2"	2	3/8" x 1-1/2"	2	1/2" x 2"	2	1/2" x 2"
Tubular	3	3/8" x 1-1/2"	3	3/8" x 1-1/2"	3	3/8" x 1-1/2"	3	1/2" x 2"	3	1/2" x 2"
Flared	N/A	N/A	2	3/8" x 1-1/2"	2	3/8" x 1-1/2"	2	1/2" x 2"	2	1/2" x 2"
Rectangular	N/A	N/A	2	3/8" x 1-1/2"	2	3/8" x 1-1/2"	2	1/2" x 2"	2	1/2" x 2"
Pipe Supports	2	3/8" x 1-1/2"	2	3/8" x 1-1/2"	2	1/2" x 2"	2	5/8" x 2"	2	5/8" x 2"
Inlet/Discharge										
Square	12	1/4" x 1"	12	3/8" x 1-1/2"	12	3/8" x 1-1/2"	12	3/8" x 1-1/2"	20	3/8" x 1-1/2"
Round	6	3/8" x 1-1/2"	6	3/8" x 1-1/2"	8	3/8" x 1-1/2"	8	1/2" x 1-1/2"	8	1/2" x 1-1/2"
Hanger/Batten Bar	4	3/8" x 1"	4	3/8" x 1"	4	3/8" x 1"	4	1/2" x 1-1/2"	4	1/2" x 1-1/2"

CONVEYOR DIAMETER: 16" - 36"

Components Assembled	Conveyor Diameter											
	16		18		20		24		30		36	
	No	Size	No	Size	No	Size	No	Size	No	Size	No	Size
Covers (Per Section) on 24" Centers	14	3/8" x 1-1/2"	14	3/8" x 1-1/2"	14	3/8" x 1-1/2"	14	3/8" x 1-1/2"	14	3/8" x 1-1/2"	14	3/8" x 1-1/2"
Trough Flange												
U-Trough	8	5/8" x 2"	10	5/8" x 2"	10	5/8" x 2"	12	5/8" x 2"	14	5/8" x 2-1/2"	16	5/8" x 2-1/2"
Tubular	8	5/8" x 2"	10	5/8" x 2"	10	5/8" x 2"	12	5/8" x 2"	14	5/8" x 2-1/2"	16	5/8" x 2-1/2"
Flared	10	5/8" x 2"	10	5/8" x 2"	10	5/8" x 2"	12	5/8" x 2"	14	5/8" x 2-1/2"	16	5/8" x 2-1/2"
Rectangular	10	5/8" x 2"	12	5/8" x 2"	14	5/8" x 2"	14	5/8" x 2"	16	5/8" x 2-1/2"	18	5/8" x 2-1/2"
Flush Discharge Ends	8	5/8" x 2"	10	5/8" x 2"	10	5/8" x 2"	12	5/8" x 2"	12	5/8" x 2-1/2"	14	5/8" x 2-1/2"
Foot												
U-Trough	2	5/8" x 2-1/2"	2	5/8" x 2-1/2"	2	5/8" x 2-1/2"	2	5/8" x 2-1/2"	4	5/8" x 3"	4	5/8" x 3"
Tubular	3	5/8" x 2-1/2"	3	5/8" x 2-1/2"	3	5/8" x 2-1/2"	3	5/8" x 2-1/2"	4	5/8" x 3"	4	5/8" x 3"
Flared	2	5/8" x 2-1/2"	2	5/8" x 2-1/2"	2	5/8" x 2-1/2"	4	5/8" x 2-1/2"	4	5/8" x 3"	4	5/8" x 3"
Rectangular	2	5/8" x 2-1/2"	4	5/8" x 2-1/2"	4	5/8" x 2-1/2"	4	5/8" x 2-1/2"	4	5/8" x 3"	4	5/8" x 3"
Pipe Supports	2	5/8" x 2"	2	5/8" x 2"	2	3/4" x 2-1/2"	2	3/4" x 2-1/2"	2	3/4" x 2-1/2"	2	3/4" x 2-1/2"
Inlet/Discharge												
Square	20	1/2" x 1-1/2"	20	1/2" x 1-1/2"	20	1/2" x 1-1/2"	20	1/2" x 1-1/2"	24	1/2" x 2"	24	1/2" x 2"
Round	8	5/8" x 2"	10	5/8" x 2"	10	5/8" x 2"	12	5/8" x 2"				
Hanger/Batten Bar	4	1/2" x 2"	4	5/8" x 2"	4	5/8" x 2"	4	5/8" x 2-1/2"	4	3/4" x 2-1/2"	4	3/4" x 2-1/2"



BOLT REQUIREMENTS

SHAFT DIAMETER: 1" TO 2-7/16"

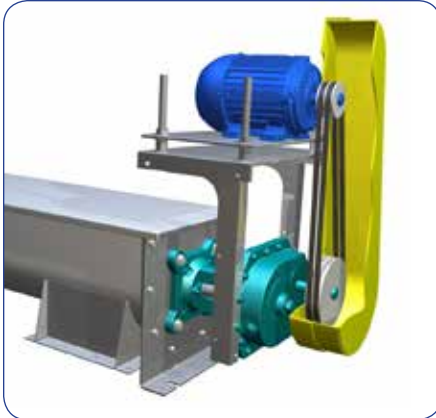
Components Assembled	Shaft Diameter							
	1"		1-1/2"		2"		2-7/16"	
	Qty.	Size	Qty.	Size	Qty.	Size	Qty.	Size
End Bearings To Trough End								
SCP Adapter	X	X	4	1/2" x 2"	4	1/2" X 2"	4	5/8" X 2-1/2"
Ball, Flanged	4	7/16" x 2"	4	1/2" x 2"	4	5/8" x 2-1/2"	4	5/8" x 2-1/2"
Roller, Flanged	X	X	4	1/2" x 2-1/2"	4	1/2" X 2-1/2"	4	5/8" X 3"
Ball, Pillow Block	2	3/8" x 2"	2	1/2" x 2-1/2"	2	5/8" x 2-1/2"	2	5/8" x 2-1/2"
Roller, Pillow Block	X	X	2	1/2" x 2-1/2"	2	5/8" x 3"	2	5/8" x 3-1/2"
Seals to Trough End								
Flanged Gland	4	3/8" x 2"	4	1/2" x 2"	4	1/2" x 2"	4	5/8" x 2"
Plate	4	3/8" x 1-1/2"	4	1/2" x 2"	4	5/8" x 2-1/2"	4	5/8" x 2-1/2"
Plate w/Ball	4	3/8" x 2-1/2"	4	1/2" x 3"	4	5/8" x 3"	4	5/8" x 3"
Plate w/ Roller	N/A	N/A	4	1/2" x 3"	4	1/2" x 3-1/2"	4	5/8" x 4"
Split Gland	2	3/8" x 4"	2	1/2" x 4-1/2"	2	1/2" x 4-1/2"	2	5/8" x 4-1/2"
Waste Pack	4	3/8" x 3-1/2"	4	1/2" x 3"	4	5/8" x 3-1/2"	4	5/8" x 3-1/2"
Waste Pack w/Ball	4	3/8" x 3-1/2"	4	1/2" x 4"	4	5/8" x 4"	4	5/8" x 4"
Waste Pack w/Roller	N/A	N/A	4	1/2" x 4-1/2"	4	1/2" x 4-1/2"	4	5/8" x 5"

SHAFT DIAMETER: 3" - 4-7/16"

Components Assembled	Shaft Diameter							
	3"		3-7/16"		3-15/16"		4-7/16"	
	Qty.	Size	Qty.	Size	Qty.	Size	Qty.	Size
End Bearings To Trough End								
SCP Adapter	4	3/4" X 3"	4	3/4" x 3"	4	7/8" x 3"	4	7/8" x 3"
Ball, Flanged	4	3/4" x 3"	4	3/4" x 3"	N/A	N/A	N/A	N/A
Roller, Flanged	4	3/4" X 3- 1/2"	4	3/4" x 4"	4	7/8" x 4-1/2"	4	7/8" x 5"
Ball, Pillow Block	2	7/8" x 3-1/2"	2	7/8" x 3-1/2"	N/A	N/A	N/A	N/A
Roller, Pillow Block	2	3/4" x 4"	2	7/8" x 4-1/2"	4	3/4" x 4-1/2"	4	3/4" x 5"
Seals to Trough End								
Flanged Gland	4	3/4" x 2"	4	3/4" x 2-1/2"	4	7/8" x 3"	4	7/8" x 3"
Plate	4	3/4" x 3"	4	3/4" x 3"	4	7/8" x 3"	4	7/8" x 3"
Plate w/Ball	4	3/4" x 4"	4	3/4" x 4"	N/A	N/A	N/A	N/A
Plate w/ Roller	4	3/4" x 4-1/2"	4	3/4" x 5"	4	7/8" x 5-1/2"	4	7/8" x 5-1/2"
Split Gland	2	5/8" x 5"	2	3/4" x 6"	2	7/8" x 6"	2	7/8" x 6"
Waste Pack	4	3/4" x 4"	4	3/4" x 4-1/2"	4	7/8" x 4-1/2"	4	7/8" x 4-1/2"
Waste Pack w/Ball	4	3/4" x 4-1/2"	4	3/4" x 5-1/2"	N/A	N/A	N/A	N/A
Waste Pack w/Roller	4	3/4" x 5-1/2"	4	3/4" x 6"	4	7/8" x 7"	4	7/8" x 7"

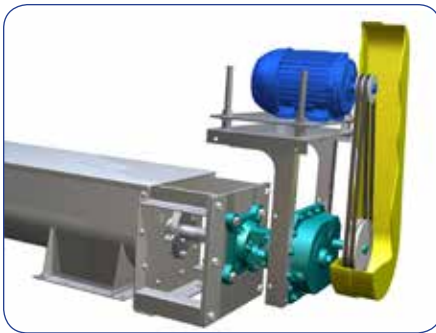
DRIVE ARRANGEMENTS

KWS utilizes a variety of drive arrangements and gear reducer manufacturers. Each drive arrangement shown below provides unique advantages for specific applications. KWS designs each drive with a minimum of 1.4 service factor (Class II) to ensure long life and reduced maintenance. Spare parts are available through authorized power transmission distributors all across the U.S. and Canada.



SCREW CONVEYOR DRIVE

Screw conveyor drives are the most common drive arrangement utilizing a screw conveyor adapter that bolts to the trough end of a screw conveyor. The gear reducer is flange mounted directly to the trough end to provide a simple, rigid assembly.



BULKHEAD

Bulkhead trough ends are used in applications where there is a need to locate the drive away from the trough end. When conveying bulk materials at high temperatures, the drive must be located away from the source of heat to prevent drive failure. Also, if a special shaft seal is required, bulkhead trough ends provide clearance for the seal. Flanged gland, split gland and mechanical seals are typically used with bulkhead trough ends.



TORQUE ARM

Torque arm trough ends allow shaft-mounted reducers to "float" to handle shaft run-out. A pillow block bearing is required to support the screw when using a torque arm trough end. Similar to bulkhead trough ends, torque arm trough ends are used in special applications where there is a need to locate the drive away from the trough end. Flanged gland, split gland and mechanical seals are typically used with torque arm trough ends.



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What makes KWS different from other manufacturers?

At KWS we understand the needs and exceed the expectations of our Customers. As an ISO-9001 certified company, quality is integrated into every aspect of our processes. Quality is defined by the Customer, and derived from the total KWS Customer experience. It's not just product quality, but quality throughout every step of the Sales, Engineering and Manufacturing processes. Quality starts with our first Customer contact and never ends.

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