

Custom Designed Material Systems

Edition VI



The Advantages of En-Masse Conveying

The En-Masse Conveyor provides one of the most effective and versatile conveying methods developed to date, and is second in flexibility (in tight installations) only to pneumatic conveying systems.

This conveying method is number one in capacity vs. installation area required when compared to other mechanical systems. They can provide up to 90% space utilization for your bulk handling requirements.

Several features that make this style conveyor desirable are:

- Totally enclosed design, which makes them inherently safe, and eliminates the need for additional personnel safety devices, weather considerations or expensive, non-productive dust control systems.
- En-Masse Conveying is set apart from all but the belt conveyor in their horsepower efficiency vs. hourly capacity conveyed.
- By using a skeletal flight and a high quality alloy chain, weight is greatly minimized, reducing wear and horsepower requirements.



High Temperature Applications

Under extreme temperatures, conveyor chain is subjected to severe stress, which ultimately results in breakdown of the case-hardened exterior, elongation of the chain link and subsequent failure.

Designed for these hostile applications, our base alloy is a high CrMn steel, suitable for handling inlet temperatures to 1000°F (540°C). Should your specific application require even higher temperatures, CDM can formulate alloys that withstand temperatures up to 1000°C.

Benefits and Results of En-Masse Conveying

Totally enclosed design, inherently safe
No auxiliary safety equipment required

Highest efficiency in conveying
First in smallest area vs. capacity

Reduced horsepower requirements
Second only to belt conveying

Combination of conveying directions
Second only to pneumatic conveying

High capacities over great distances
Second only to belt conveyors

Reduced structural supports
Second only to pneumatic conveying

Minimal production degradation
First in reduced product contact

Can handle extremely hostile products
First at abrasive, high temperatures

Dust and weather tight
No auxiliary equipment required

Conveying in dual directions
Allows for multiple discharge points

Ordering Conveyor Chain

By using the following product designation, CDM Systems can easily provide engineering and pricing information for a specific type of chain:

13" 142 STD BT 1

Indicates nominal overall width of flight (in inches)

Indicates chain pitch (in mm)

Indicates standard (STD) or heavy (HVY) duty chain

Indicates style of flight

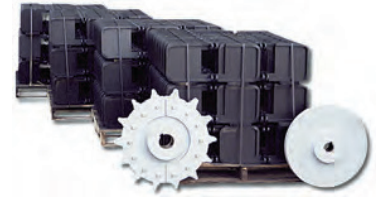
Indicates flight frequency pattern



Conveyor Data Required for Proper Chain Application

1. Horizontal length of conveyor
2. Inclined length and degree of conveyor
3. Vertical height (rise) of conveyor
4. Hourly capacity required
5. Material being handled
6. Bulk density of material
7. Product granulation size
8. Abrasive/corrosive /hygroscopic qualities
9. Product temperature at inlet
10. Is gas/vapor tight conveyor required?
11. Hours of service per 24 hour day
12. Installation location
13. Physical limitations or restrictions
14. Number of inlets to conveyor
15. Metered or choke feed?
16. Number of discharges in conveyor
17. Is end discharge open?
18. Are intermediate gates required?

With this data, CDM can provide you with the necessary technical data for your particular application, including nominal chain speeds, volumetric efficiencies, BHP requirements, and nominal construction techniques.



Delivery

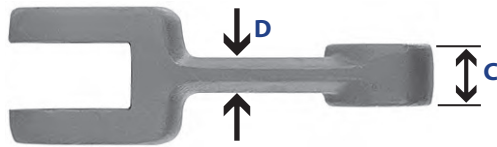
Chain is pre-assembled in nominal 8-pitch lengths, palletized, for reduced field installation time. Typical, delivery of finished conveyors, gates, and chains as it leaves our dock. Pre-assembled, match marked, and broke-down into manageable lengths.



Flight Options

Besides a variety of chain link options, CDM offers a combination of flights that cover the entire spectrum of en-masse conveying requirements. In addition to welded steel flights, we also offer materials such as stainless and abrasion-resistant steels. (See page 8 For more details.)

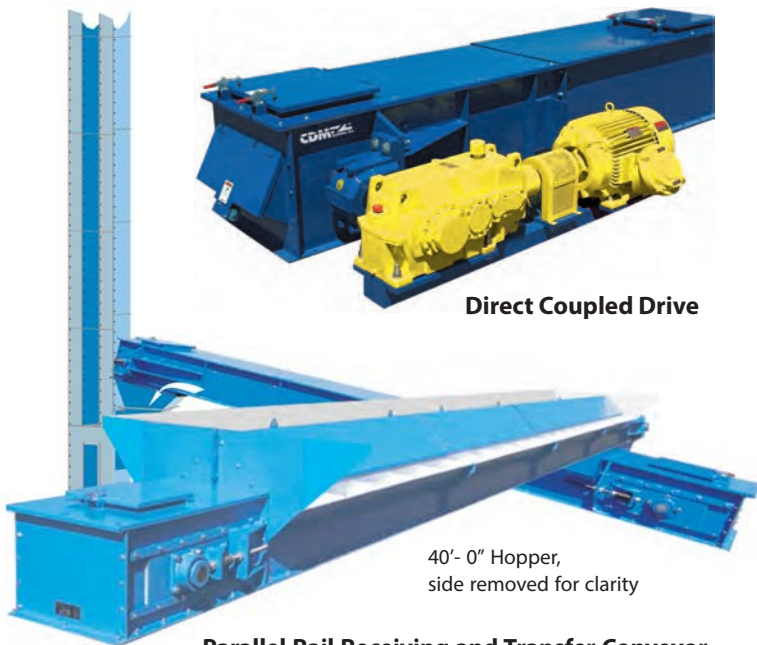




Drop-Forged Steel Alloy Chains
 Forged in CrMn alloy, with core hardness of 300 - 400 BHN, machined, and carburized for a case of 550 - 650 at .030" to .040" eff. depth.

Chain Series	Ultimate Strength	Working Load	Weight	A	B	C	D	E	Recommended Sprocket Type
102 HVY	38,000 Lbs 17,275 Kg	6,900 Lbs 3,135 Kg	.99 .45	1.375" 35 mm	1.26 32	.55 14	.354 9	.709 18	Symmetrical ONLY
142 STD	73,000 33,180	13,000 5,910	2.45 1.11	1.97" 50	1.65 42	.75 19	.47 12	.98 25	Symmetrical
142 HVY	99,000 45,000	18,000 8,182	3.74 1.7	1.97" 50	2.44 62	1.14 29	.63 16	.98 25	Symmetrical
142 STD/DBL	73,000 33,180	13,000 5,910	3.41 1.55	See table on page 3 for dimensional information					Non-Symmetrical
142 HVY/DBL	99,000 45,000	18,000 8,182	4.72 2.15	See table on page 3 for dimensional information					Non-Symmetrical
260 STD	150,000 68,180	27,270 12,390	14.0 6.4	2.95" 75	2.76 70	1.18 30	.79 20	1.26 32	Non-Symmetrical

See additional sprocket information on pages 11 and 12.



Direct Coupled Drive

40'- 0" Hopper, side removed for clarity

Parallel Rail Receiving and Transfer Conveyor
 Hourly capacity for single strand units up to 1800 TPH.

Engineering Notes

To provide the proper chain strength for your application, the above data illustrates the ultimate strength of the chain along with its recommended nominal working load. CDM uses a 5.5:1 safety ratio for proper application.

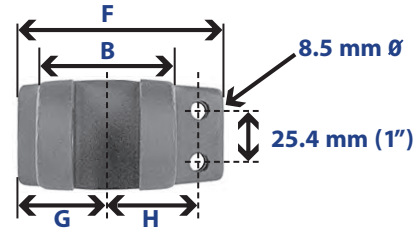
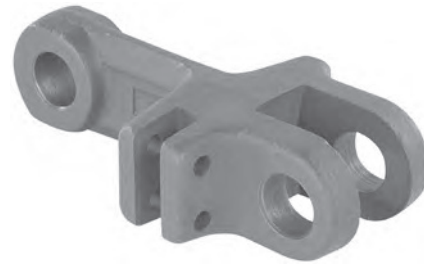
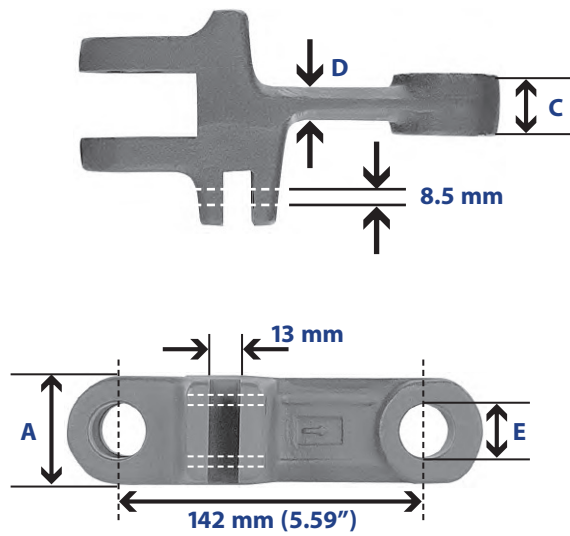
Once you have determined your chain speed and brake horsepower requirements, a simple formula (*shown below*) can be used for choosing the proper chain.

Chain Pull Formula

$$\frac{\text{Actual BHP}^* \times 33,000}{\text{Chain Speed (FPM)}} = \text{Actual Working Load}$$

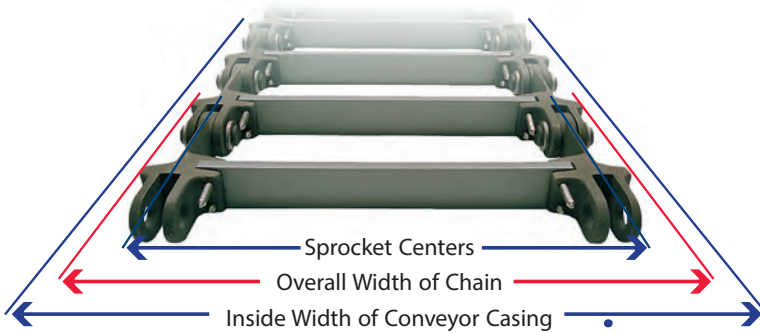
*do not use installed motor size

For vertical conveyors, add the chain weight from the conveyor height to the figure derived from this formula. Do not add the return chain to this figure.



Chain Style	Ultimate Strength	Working Load	Weight	A	B	C	D	E	F	G	H
142 STD/DBL	73,000 Lbs	13,000	3.41	1.97"	1.65	.75	.47	.98	3.11	1.30	1.41
	33,180 Kg	5,190	1.55	50 mm	42	19	12	25	79	33	35
142 HVY/DBL	99,000	18,000	4.72	1.97	2.44	1.14	.63	.98	3.90	1.69	1.71
	45,000	8,182	2.15	50	62	29	16	25	99	43	43.5

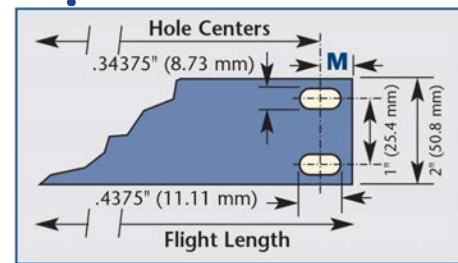
This chain type requires the use of non-symmetrical sprocket plates. See pages 11-12 for further information.



Chain Style	J	K	L	M
142 STD/DBL	2.60"	4.39	1.06	.53
	66 mm	111	26.8	13.4
142 HVY/DBL	3.38"	5.95	.87	.43
	86	151	22	11

To Calculate:

Sprocket Centers:	Subtract J from the overall width
Flight Length:	Subtract K from the overall width
Hole Centers	Subtract L from the overall width



Double-Series Flights

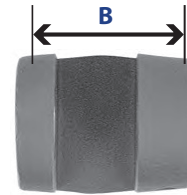
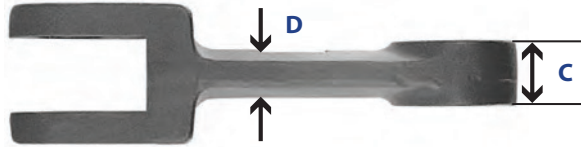
The DBL-series flight cutaway diagram shows the slots located at each end of the flight, which allow for expansion and contraction during operation.

One U-pin connector connects each end of this type of flight to a DBL-series chain link. In applications where the flight operates under unusually heavy loads or extreme widths, a stiffener is welded to the back of the flight for extra stability. Although the U-pin is the most common (and preferred) method of fastening DBL flights, 5/16" (8 mm) grade-8 bolts can be substituted.

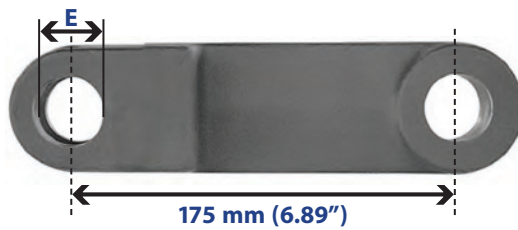
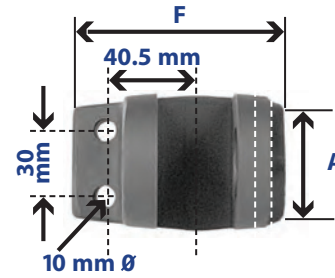
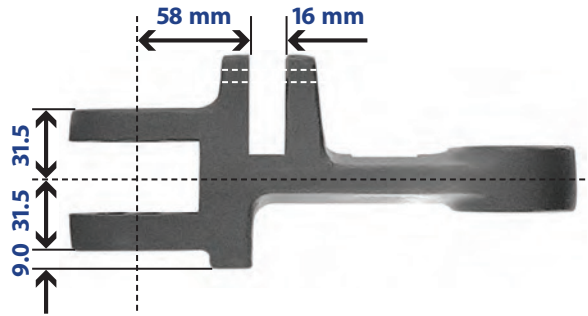


175N DOUBLE SERIES

175N STD

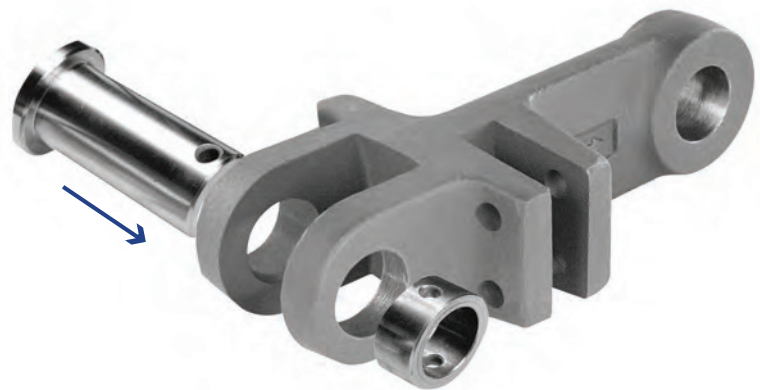


175N STD/DBL

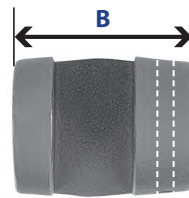
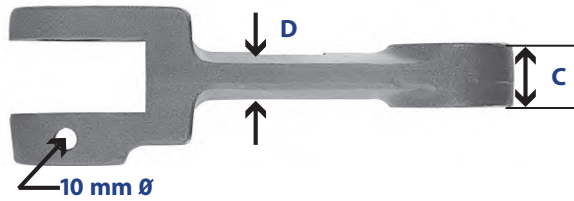


Chain Style	Ultimate Strength	Working Load	Weight	A	B	C	D	E	F
175N STD	135,000 Lbs 61,360 Kg	24,540 11,150	5.90 2.68	2.36" 60 mm	2.48 63	1.18 30	.87 22	1.18 30	—
175N STD/DBL	135,000 61,360	24,540 11,150	7.00 3.20	2.36 60	2.48 63	1.18 30	.87 22	1.18 30	3.78 96

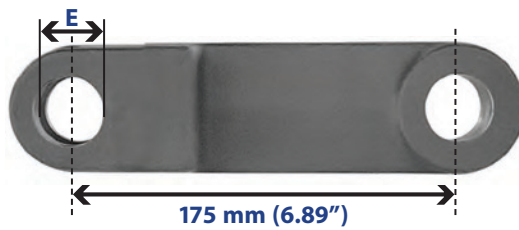
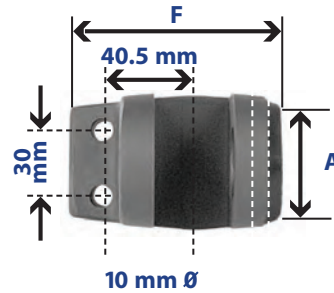
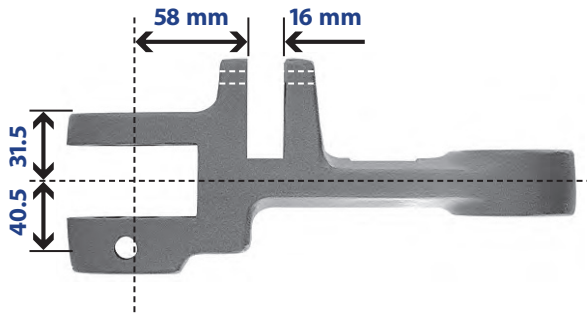
This chain type requires the use of non-symmetrical sprocket plates. See pages 11-12 for further information.



175 STD



175 STD/DBL



Chain Style	Ultimate Strength	Working Load	Weight	A	B	C	D	E	F
175 STD	135,000 Lbs 61,360 Kg	24,540 11,150	6 2.73	2.36" 60 mm	2.84 72	1.18 30	.87 22	1.18 30	—
175N STD/DBL	135,000 61,360	24,540 11,150	7.13 3.24	2.36 60	2.84 72	1.18 30	.87 22	1.18 30	3.78 96

This chain type requires the use of non-symmetrical sprocket plates. See pages 11-12 for further information.

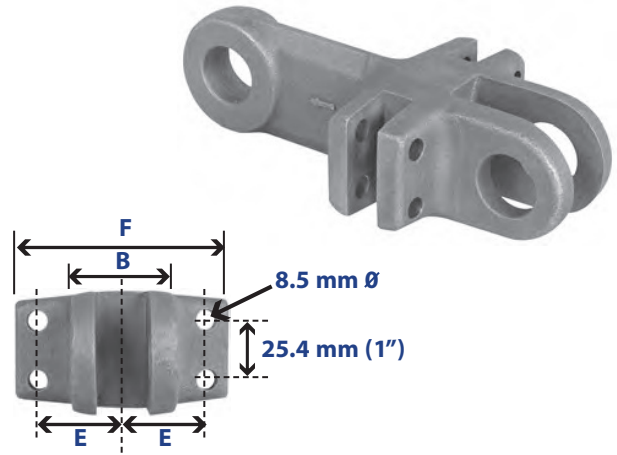
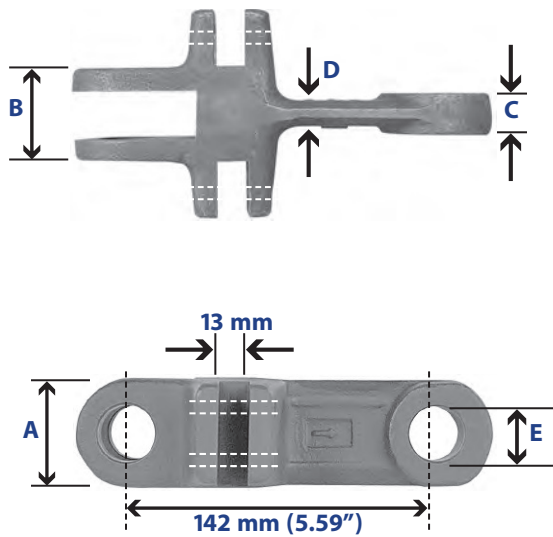
Applications

Typical applications for the 175 mm single and double strand chains are for conveying systems with flight widths up to 2 meters (78").

Technical Notes

The connecting system used on 175 mm series chain links consists of a straight bolt (type 'E') and spring pin fastener. Only one spring pin is required per connection, which is inserted through a machined bore in the top of the link. This holds the bolt securely in place with a flush fit. When disassembling links, a simple hammer and pin punch is all that is required to remove the spring pin. For further bolt details, see page 7. For detailed information on sprockets and terminal idlers for this chain series, see pages 11-14.





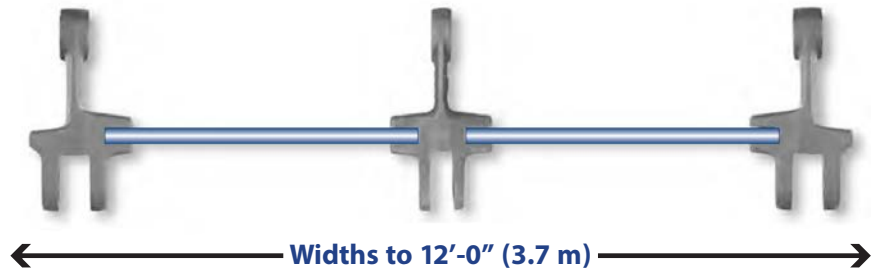
Drop-Forged Steel Alloy Chains
 Forged in CrMn alloy, with core hardness of 300 - 400 BHN, machined, and carburized for a case of 550 - 650 at .030" to .040" eff. depth.

Chain Style	Ultimate Strength	Working Load	Weight	A	B	C	D	E	F
142 STD/TPL	73,000 Lbs	13,000	4.07	1.97"	1.65	.75	.47	1.41	3.62
	33,180 Kg	5,910	1.85	50 mm	42	19	12	35	92
142 HVY/TPL	99,000	18,000	5.40	1.97	2.44	1.14	.63	1.71	4.42
	45,000	8,180	2.45	50	62	29	16	43.5	112.3

This chain type requires the use of non-symmetrical sprocket plates. See pages 11-12 for further information.

Applications

Typical applications for the triple (TPL) series chains include single-strand flight widths up to 30", and when used in tandem with DBL series chains (for triple strand widths), flight widths reaching up to 12'-0" (3.7 m).



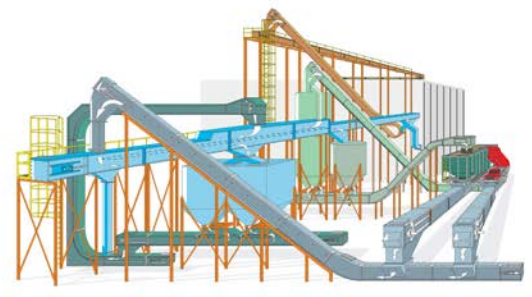
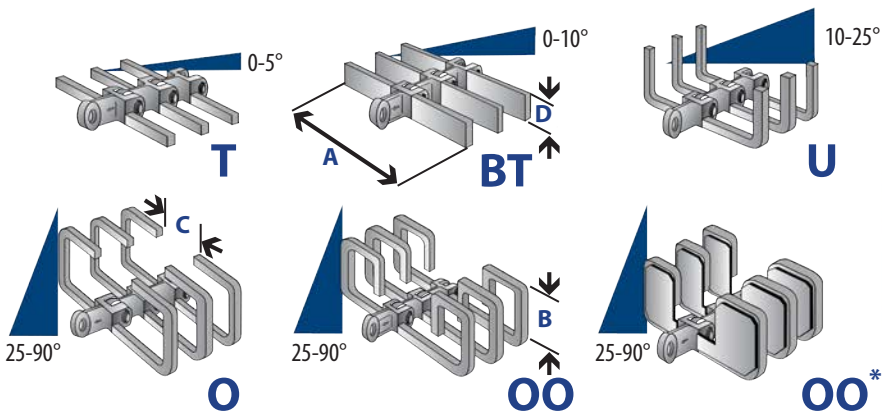
Technical Notes

The retaining mechanisms used to fasten flights onto the TPL link are standard 142 series U-pins or optional 5/16" grade 8 bolts, identical to those used with the DBL-series shown on page 4.

Also available for the TPL link are single-slotted flights that can be made in a variety of materials, shapes and sizes. These can easily be slipped into the groove of the chain link and fastened with a set of U-pins. Contact CDM Systems for more details.

Because of their unique design, 142 TPL links require the use of non-symmetrical sprockets ('TN' series) as illustrated on page 11.





	Conveyor Size	Weight (Flights only*)									
		A	B	C	D	T	BT	U	O	OO	OO*
102 SERIES	10" 254 mm	9.88 2.50	4.50 114.3	3.00 76.2	1.375 35	—	2.2 Lbs 1 Kg	—	2.5 1.14	2.8 1.27	—
	12" 305 mm	11.88 300	4.50 114.3	3.00 76.2	1.375 35	—	2.5 1.14	—	2.8 1.27	3.1 1.41	—
	14" 356 mm	13.88 352	4.50 114.3	3.00 76.2	1.375 35	—	2.8 1.27	—	3.3 1.5	3.6 1.6	—
	16" 406 mm	15.63 397	4.50 114.3	3.00 76.2	1.375 35	—	3.1 1.41	—	3.5 1.6	3.8 1.7	—
142 STD SERIES	11" 280 mm	10.94 278	5.88 149.5	4.75 120.7	2.00 50	1.41 Lbs .64 Kg	2.36 1.07	3.10 1.41	3.62 1.65	4.40 2.0	5.62 2.55
	15" 280 mm	14.88 378	7.56 192	5.50 139.7	2.00 50	2.04 .93	3.41 1.55	4.30 1.95	5.45 2.48	6.80 3.09	9.38 4.26
	19" 480 mm	18.81 478	10.0 254	6.25 158.7	2.00 50	2.72 1.24	4.45 2.02	5.65 2.59	7.16 3.25	9.27 4.21	14.07 6.40
	25" 635 mm	24.69 627	10.0 254	6.25 158.7	2.00 50	3.60 1.64	6.01 2.73	6.60 3.0	9.07 4.12	11.25 5.11	18.19 8.27
	30" 762 mm	29.81 757.2	10.0 254	6.25 158	2.00 50	4.43 2.01	7.39 3.36	7.44 3.38	10.66 4.85	12.90 5.86	21.67 9.85

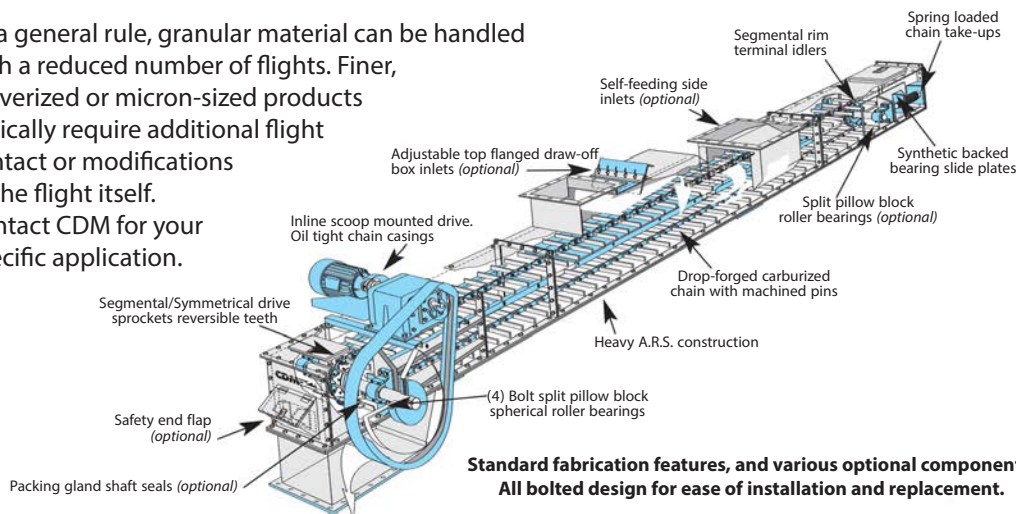
*See pages 3-7 for weight information of specific chain links.

Applications

The flights illustrated above represent the most frequently demanded designs in the industry and are by no means the only styles available. The **T** and **BT** style flights are used for horizontal through slight incline applications, normally between 0 to 12°, while the **U** flight can be used for horizontal/incline combinations through approximately 25°. The modified **BT**, **O**, **OO**, and **OO*** with filler plates are utilized in horizontal/inclined applications through 90°.

Technical Data

As a general rule, granular material can be handled with a reduced number of flights. Finer, pulverized or micron-sized products typically require additional flight contact or modifications of the flight itself. Contact CDM for your specific application.



Standard fabrication features, and various optional components. All bolted design for ease of installation and replacement.



Applications

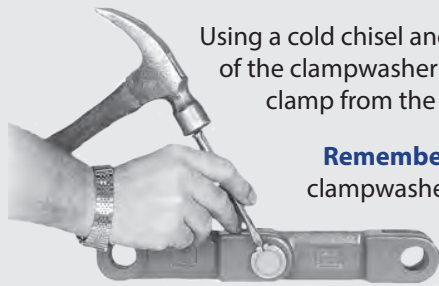
Clampwashers are used in combination with our most popular "A" style chain bolt, and are easily crimped into the machined groove on either end of the chain bolt.

Precautions

CDM Systems normally ships conveyor chain assembled into manageable, 8-pitch strand lengths, final field connection of these strands is required. It is imperative that the clampwasher be installed correctly (*as illustrated to the right*). The two tabs must make contact at the time of installation or damage due to chain separation can occur. (*The use of tools such as Vise Grips® or Channel-Locks® will not insure proper installation and should therefore not be used.*)

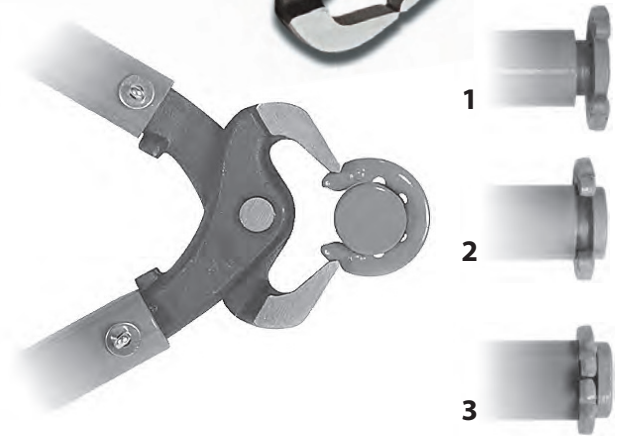
Crimping tool shown is available from CDM Systems, Inc. (*Never re-use clampwashers.*)

Removing Clampwashers



Using a cold chisel and hammer, spread the tabs of the clampwasher apart, enough to slide the clamp from the connecting pin groove.

Remember: Removing just one clampwasher per pin is necessary to separate chain links.



The C Bolt

The C bolt is the second most commonly utilized chain bolt.

The Integral machined head reduces component installation by 50% and is suitable for hostile environments.

Installation is achieved by merely positioning bolt in link, slip collar onto bolt and drive the appropriate spring pin in place.

Removal is accomplished by using a drift pin, to drive the spring pin out of the collar.

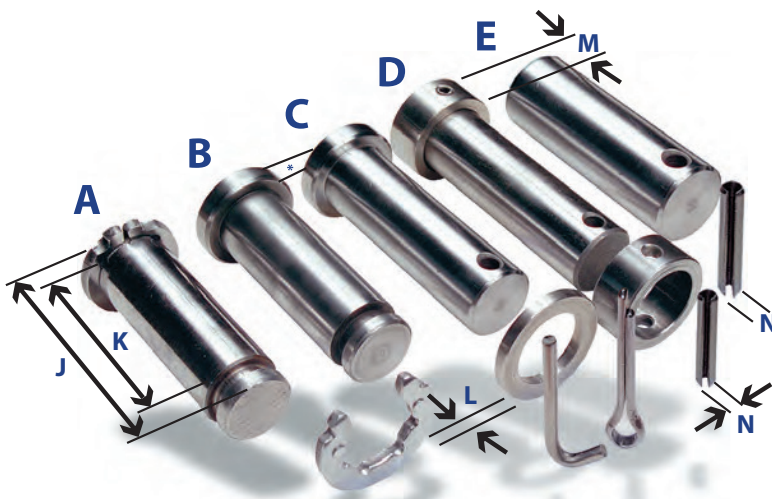
Spring Pins are available in both carbon and stainless steel.

All CDM chain bolts are provided with a core and carburized case hardness that matches the change links.



Bolt Types

- A:** The most widely used bolt; fastened using one clampwasher at each end.
- B:** Features an integral head (*8 mm) at one end and a clampwasher groove at the other.
- C:** Features an integral head (*8 mm) at one end and uses a **flat washer/cotter/'S' pin or collar/spring pin** combination on the other.
- D:** (Ring Bolt) This is secured using one collar and spring pin at each end.
- E:** Uses a single spring pin that fastens directly to the chain link for a flush fit.



	Bolt Type	J	K	L	M	Spring Pin Diameter (N)	Bolt Diameter	Bolt Weight
102 SERIES	A	1.86" 47.3 mm	1.38 35	.915 3	—	—	.71 18	.186 Lbs .085 Kg
142 STD SERIES	A	2.56" 65 mm	1.77 45	.197 5	—	—	.984 25	.492 .224
	B	2.48" 63 mm	1.77 45	.197 5	—	—	.984 25	.567 .258
	C	2.68" 68 mm	1.77 45	.157 4	.591 15	2.36 6	.984 25	.624 .284
	D	2.953" 75 mm	1.77 45	—	.591 15	2.36 6	.984 25	.592 .269
142 HVY SERIES	A	3.35" 85 mm	2.56 65	.197 5	—	—	.984 25	.656 .298
	B	3.27" 83 mm	2.56 65	.197 5	—	—	.984 25	.740 .336
	C	3.465" 88 mm	2.56 65	.157 4	.591 15	.236 6	.984 25	.785 .357
	D	3.74" 95 mm	2.56 65	—	.591 15	.236 6	.984 25	.770 .350
175 STD SERIES	E	2.835" 72 mm	—	—	—	.394 10	1.18 30	.819 .372
175N STD SERIES	C	3.54" 90 mm	2.58 65	—	.591 15	.236 6	1.18 30	.910 .414
260 STD SERIES	D	4.41" 112 mm	2.95 75	—	.728 18.5	.394 10	1.26 32	1.444 .656

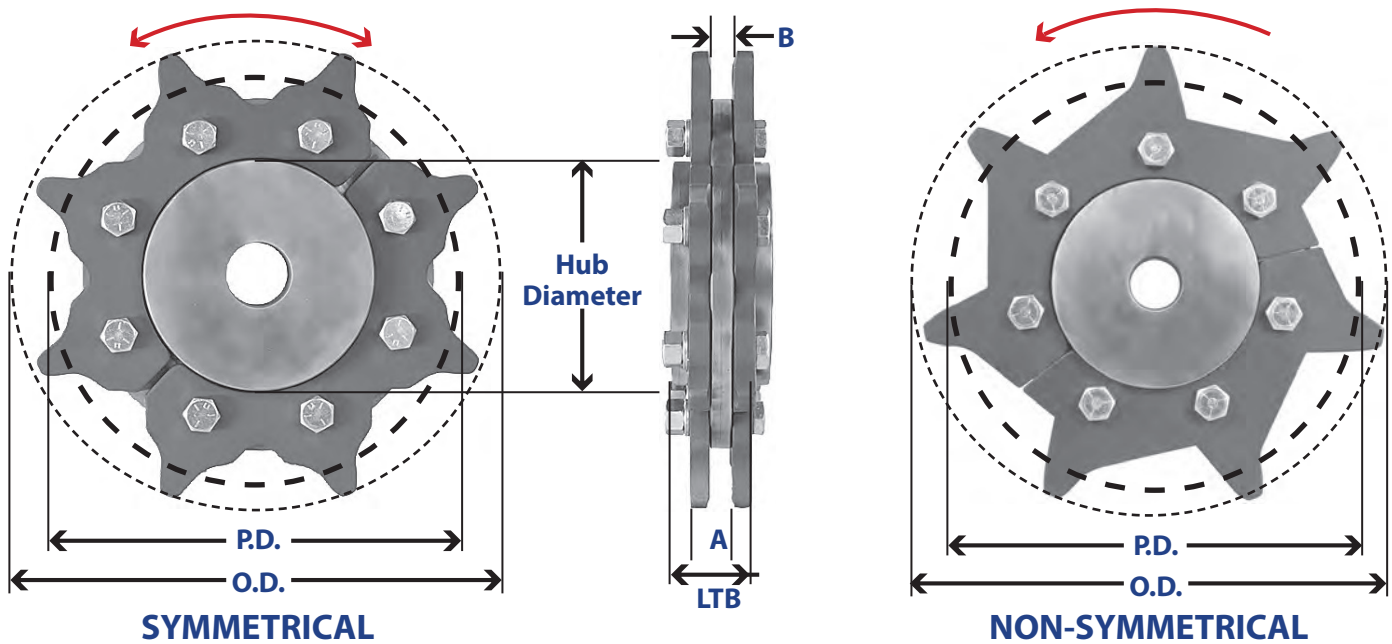
Specifications

Normal chain bolts are fabricated in a CrMn steel alloy, then machined and heat treated. Core hardnesses range from 300 - 400 BHN, with a total carburized case to 550 - 650 BHN. Effective case depths range from .030" to .040" (.76 to 1.02 mm).

Applications

All connecting bolts and accessories are available in stainless steel or other custom alloy formulations. Special extended-length bolts can also be manufactured to meet your specific application requirements. Contact CDM for additional information.





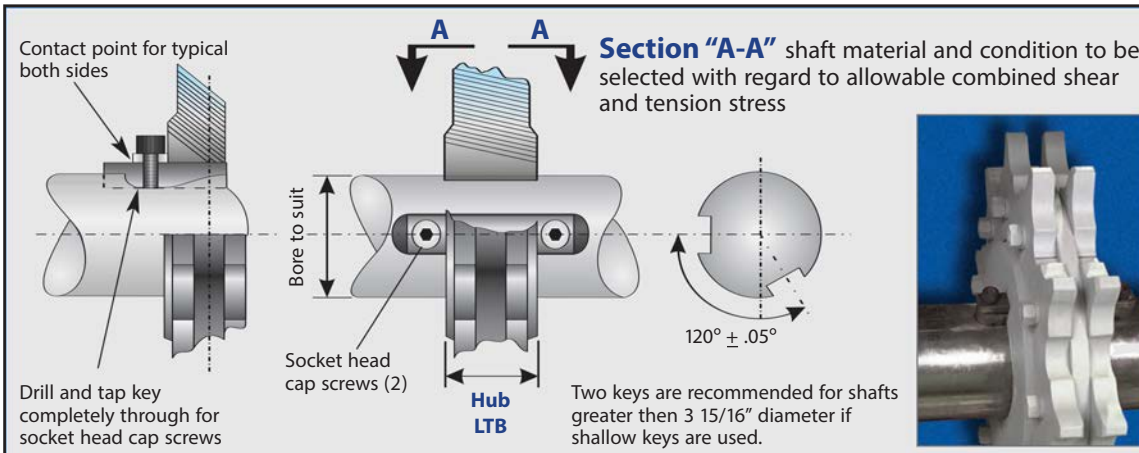
Application

CDM drive sprockets provide rugged, reliable service and feature replaceable tooth plates for easy field maintenance. Tooth plates for 102 and 142 series chain are available with a segmental/symmetrical reversible tooth profile. The 142 DBL, TPL as well as the 175 and 260 series use our non-symmetrical profile.

Non-Symmetrical Sprockets and Tooth Plates

All CDM sprocket tooth profiles are induction hardened to 55 Rockwell C, and are replaceable. The replacement and maintenance of tooth plate segments does not require removal of the drive shaft, bearings, etc. CDM also designs custom split hub components for retro-fit applications that minimize field labor costs.

Recommended Sprocket and Idler Installation



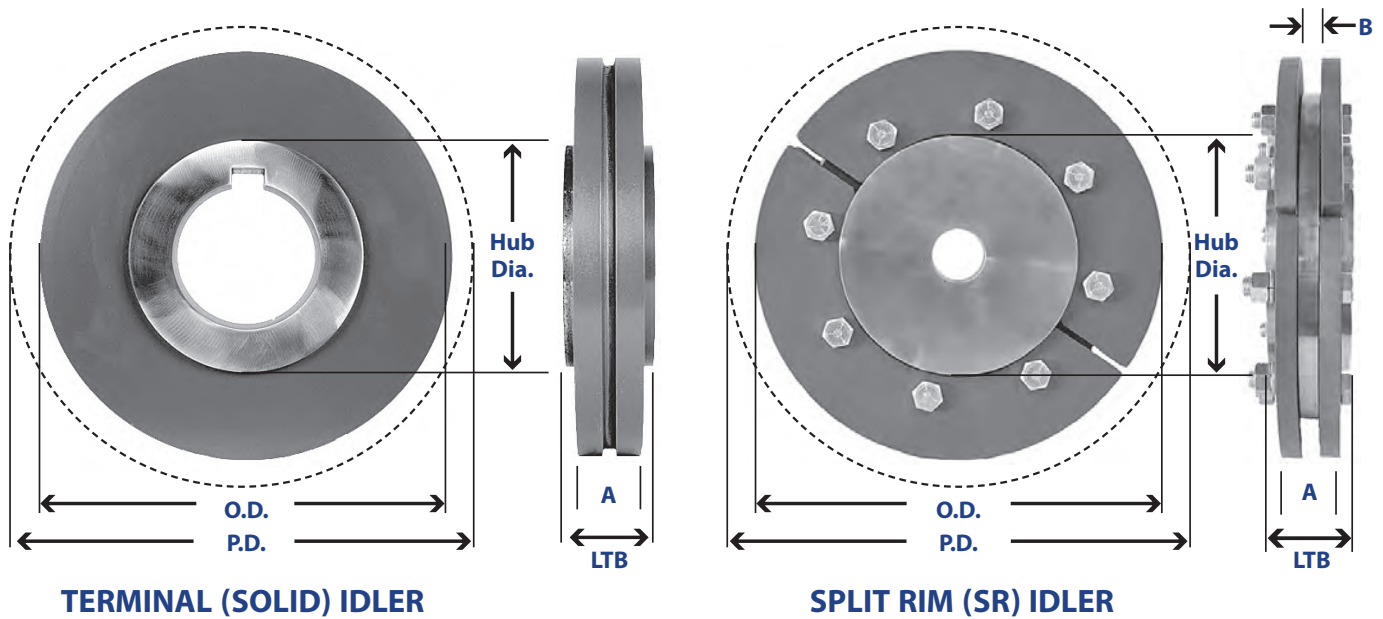
Sprocket/Idlers are mechanically locked in place and can not move laterally. This is a positive locator.

Custom Sprocket Components

- A:** Replacement Sprocket Tooth Plates
(non-symmetrical version shown here)
- B:** 6-Piece Split Hub Kit
- C:** 2-Piece Split Hub Kit



	Tooth/ Bolt	P.D.	O.D.	Chain O.D.	A	B	Max. Bore	Hub Diameter	LTB	Weight
102 SERIES SYMMETRICAL ONLY	6TS/6B	8.03" 204 mm	8.50 216	9.375 238	1.375 35	.50 12.7	2.4375 62	3.375 86	2.250 57	13 Lbs 5.9 Kg
	8TS/8B	10.49" 266	11.00 280	11.625 295	1.375 35	.50 12.7	3.4375 87	5.25 133	2.25 57	30 13.65
	10TS/10B	12.99" 330	13.50 343	14.375 365	1.375 35	.50 12.7	3.9375 100	7.50 190	2.25 57	50 22.7
142 STD SERIES SYMMETRICAL	6TS/6B	11.18" 284 mm	11.8 300	13.25 337	1.97 50	.67 17	3.0 76.2	4.25 108	2.75 70	35 Lbs 15.90 Kg
	7TS/7B	12.88" 327	13.5 343	15.0 381	1.97 50	.67 17	3.9375 100	5.875 149.2	2.75 70	50 22.73
	8TS/8B	14.6" 371	15.25 387	16.69 424	1.97 50	.67 17	5.75 146	7.87 200	2.75 70	84 38.18
	9TS/9B	16.35" 415	17.0 432	18.43 468	1.97 50	.67 17	5.75 146	7.87 200	2.75 70	87 39.55
	10TS/10B	18.09" 459	19.25 489	20.19 513	1.97 50	.67 17	6.50 165	9.50 241	2.75 70	140 63.64
	11TS/11B	19.84" 504	21.06 535	21.94 557	1.97 50	.67 17	7.0 178	11.0 279	3.15 80	165 75
	14TS/14B	25.12" 638	26.37 670	27.24 692	1.97 50	.67 17	7.0 178	9.75 279	4.72 120	255 115.90
142 STD SERIES NON SYMMETRICAL	6TN/6B	11.18" 284 mm	11.8 300	13.25 337	1.97 50	.67 17	3.0 76.2	4.25 108	2.75 70	35 Lbs 15.90 Kg
	7TN/7B	12.88" 327	13.5 343	15.0 381	1.97 50	.67 17	3.9375 100	5.875 149.2	2.75 70	50 22.73
	8TN/8B	14.6" 371	15.25 387	16.69 424	1.97 50	.67 17	5.75 146	7.87 200	2.75 70	84 38.18
	9TN/9B	16.35" 415	17.0 432	18.43 468	1.97 50	.67 17	5.75 146	7.87 200	2.75 70	87 39.55
	10TN/10B	18.09" 459	19.25 489	20.19 51	1.97 50	.67 17	6.50 165	9.50 241	2.75 70	140 63.64
	11TN/11B	19.84" 504	21.06 535	21.94 557	1.97 50	.67 17	7.0 178	11.0 279	3.15 80	165 75
	14TN/14B	25.12" 638	26.37 670	27.24 692	1.97 50	.67 17	7.0 178	11.0 279	4.72 120	255 115.90
142 HVY SERIES SYMMETRICAL	7TS/7B	12.88" 327 mm	13.5 343	15.0 381	2.75 70	.75 19.05	3.9375 100	5.875 149.2	3.54 90	80 Lbs 36.4 Kg
	8TS/8B	14.6" 371	15.25 387	16.69 424	2.75 70	.75 19.05	5.75 146	7.87 200	3.54 90	98 44.55
	9TS/9B	16.35" 415	17.0 432	18.43 468	2.75 70	.75 19.05	5.75 146	7.87 200	3.54 90	119 54.09
	10TS/10B	18.09" 459	19.25 489	20.19 513	2.75 70	.75 19.05	6.50 165	9.50 241	3.54 90	164 74.55
	11TS/11B	19.84" 504	21.06 535	21.94 557	2.75 70	.75 19.05	7.0 178	11.0 279	3.54 90	210 95.45
	14TS/14B	25.12" 638	26.37 670	27.24 692	2.75 70	.75 19.05	7.0 178	9.75 279	4.72 120	320 145.45
142 HVY SERIES NON SYMMETRICAL	7TN/7B	12.88" 327 mm	13.5 343	15.0 381	2.75 70	.75 19.05	3.9375 100	5.875 149.2	3.54 90	80 Lbs 36.4 Kg
	8TN/8B	14.6" 371	15.25 387	16.69 424	2.75 70	.75 19.05	5.75 146	7.87 200	3.54 90	98 44.55
	9TN/9B	16.35" 415	17.0 432	18.43 468	2.75 70	.75 19.05	5.75 146	7.87 200	3.54 90	119 54.09
	10TN/10B	18.09" 459	19.25 489	20.19 513	2.75 70	.75 19.05	6.50 165	9.50 241	3.54 90	164 74.55
	11TN/11B	19.84" 504	21.06 535	21.94 557	2.75 70	.75 19.05	7.0 178	11.0 279	3.54 90	210 95.45
	14TN/14B	25.12" 638	26.37 670	27.24 692	2.75 70	.75 19.05	7.0 178	9.75 279	4.72 120	320 145.45
175 STD SERIES NON SYMMETRICAL ONLY	6TN/6B	13.78" 350 mm	14.0 356	16.14 410	2.44 62	1.18 30	4.9375 125	7.28 185	4.72 120	105 Lbs 47.73 Kg
	8TN/8B	17.99" 457	18.25 464	20.35 517	2.44 62	1.18 30	6.5 165	10.0 254.0	4.72 120	175 79.55
	10TN/10B	22.28" 566	22.6 574	24.65 626	2.44 62	1.18 30	9.0 228.6	13.5 343	4.72 120	305 138.6

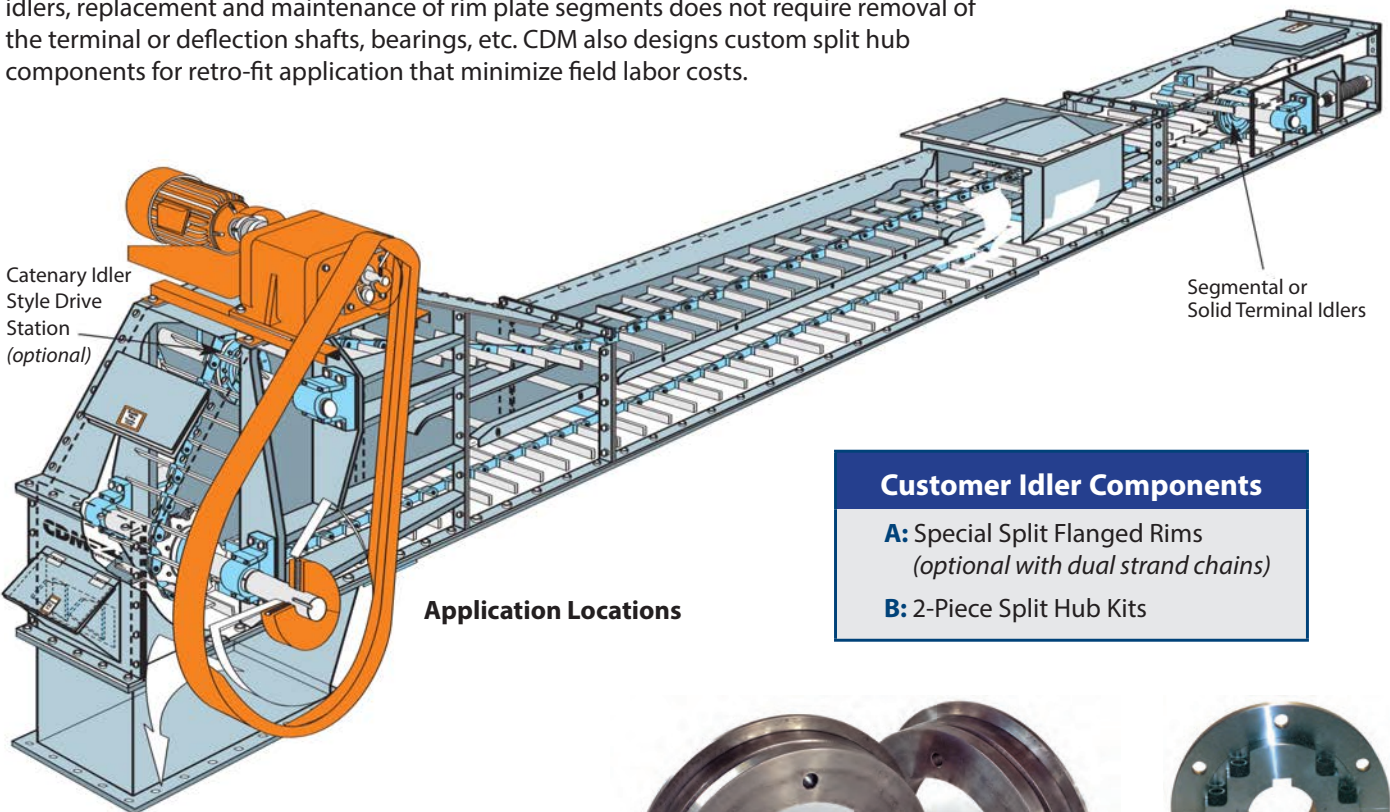


Application

Solid and SR idlers are utilized for terminal/take-up stations, along with catenaries for drive stations, and deflection idlers at bend sections.

Technical Data

All CDM idlers are provided with induction hardened rims to 55 Rockwell. With the SR series of idlers, replacement and maintenance of rim plate segments does not require removal of the terminal or deflection shafts, bearings, etc. CDM also designs custom split hub components for retro-fit application that minimize field labor costs.



Customer Idler Components

- A:** Special Split Flanged Rims (optional with dual strand chains)
- B:** 2-Piece Split Hub Kits



	Idler Size	Idler O.D.	P.D.	Chain O.D.	A	Hub Diameter	LTB	Max. Bore	Bolts Req'd	Weight
102 SERIES SOLID ONLY	145	5.70" 145 mm	8.00 203	9.375 238	1.25 31.75	QD	1.25 31.75	2.625 66.7	—	10 Lbs 4.5 Kg
	213	8.40" 213	10.48 266	11.625 295	1.25 31.75	QD	1.25 31.75	2.625 66.7	—	20 9.1
	277	10.90" 277	12.83 326	14.17 360	1.25 31.75	QD	1.25 31.75	2.625 66.7	—	30 13.6
142 STD SERIES SOLID	198	7.80" 198 mm	11.25 286	13.39 340	1.97 50	4.72 120	2.36 60	2.94 75	—	25 Lbs 11.4 Kg
	289	11.375" 289	14.49 368	16.61 422	1.97 50	7.087 180	2.75 70	3.94 100	—	63 28.6
	321	12.625" 321	15.63 397	17.76 451	1.97 50	7.087 180	2.75 70	3.94 100	—	75 34.1
	345	13.58" 345	16.54 420	18.66 474	1.97 50	9.45 240	3.15 80	6.50 165	—	100 45.5
	437	17.20" 437	19.96 507	22.09 561	1.97 50	9.45 240	3.15 80	6.50 165	—	150 68.2
	557	21.93" 557	24.53 623	26.65 677	1.97 50	8.0 203	4.72 102	6.50 165	—	245 111.4
142 STD SERIES SPLIT RIM	289 SR	11.375" 289 mm	14.49 368	16.61 422	1.97 50	7.87 200	2.75 70	3.94 100	8	63 Lbs 28.6 Kg
	321 SR	12.625" 321	15.63 397	17.76 451	1.97 50	7.87 200	2.75 70	3.94 100	8	75 34.1
	345 SR	13.58" 345	16.54 420	18.66 474	1.97 50	7.87 200	2.75 70	6.50 165	8	100 45.5
	437 SR	17.20" 437	19.96 507	22.09 561	1.97 50	9.50 241	2.75 70	6.50 165	10	150 68.2
	557 SR	21.93" 557	24.53 623	26.65 677	1.97 50	9.75 279	3.15 80	6.50 165	14	245 111.4
142 HVY SERIES SOLID	198	7.80" 198 mm	11.25 286	13.39 340	2.75 70	—	2.75 70	2.94 75	—	35 Lbs 15.9 Kg
	289	11.375" 289	14.49 368	16.61 422	2.75 70	—	2.75 70	3.94 100	—	75 34.1
	321	12.625" 321	15.63 397	17.76 451	2.75 70	—	2.75 70	3.94 100	—	95 43.2
	345	13.58" 345	16.54 420	18.66 474	2.75 70	9.45 240	3.15 80	6.50 165	—	110 50
	437	17.20" 437	19.96 507	22.09 561	2.75 70	9.45 240	3.15 80	6.50 165	—	185 84.1
	557	21.93" 557	24.53 623	26.65 677	2.75 70	8.0 203	4.72 102	6.50 165	—	305 138.6
142 HVY SERIES SPLIT RIM	289 SR	11.375" 289 mm	14.49 368	16.61 422	2.75 70	7.87 200	2.75 70	3.94 100	8	75 Lbs 34.1 Kg
	321 SR	12.625" 321	15.63 397	17.76 451	2.75 70	7.87 200	2.75 70	3.94 100	8	95 43.2
	345 SR	13.58" 345	16.54 420	18.66 474	2.75 70	7.87 200	2.75 70	6.50 165	8	110 50
	437 SR	17.20" 437	19.96 507	22.09 561	2.75 70	9.50 241	2.75 70	6.50 165	10	185 84.1
	557 SR	21.93" 557	24.53 623	26.65 677	2.75 70	9.75 279	3.15 80	6.50 165	14	305 138.6
175 STD SERIES SOLID ONLY	243	9.567" 243 mm	13.779 350	16.14 410	2.84 72	7.28 185	3.54 90	4.9375 125	—	80 Lbs 36.4 Kg
	362	14.252" 362	17.992 457	20.35 517	2.84 72	10.0 254	3.54 90	6.5 165	—	175 79.6
	479	18.858" 479	22.283 566	24.65 626	2.84 72	13.5 343	3.54 90	9.0 228.6	—	295 134.1

Note: All dimensions within this text are nominal and subject to change contact CDM Systems for certified drawings on various components.

Hi-Temperature Boiler Draw-Off

Capacities up to 100 TPH per side.
Inlet temperatures to 1000° F.

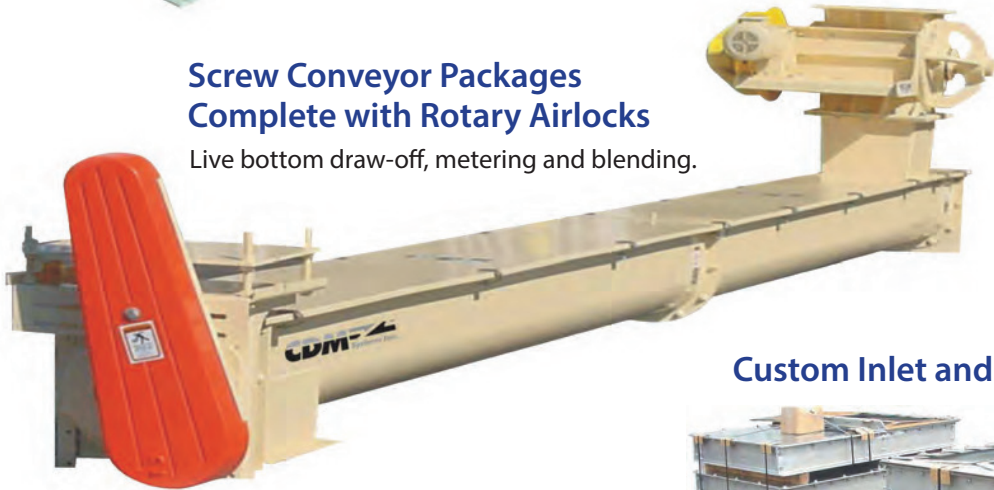
Split casing conveyors provide additional protection for components, and additional cooling.



Choked feed draw-off inlets provide metered feed and airlock for system.

Screw Conveyor Packages Complete with Rotary Airlocks

Live bottom draw-off, metering and blending.



Custom Inlet and Discharge Gates



Marine Unloaders Mobile and Stationary



Available in manual pneumatic, hydraulic, and electric in-line, and cross configurations.

Horizontal Loop Distribution Conveyors



Applications: Silo/bin feed systems, on-demand process machinery feeding, continuous loop recycle. Conveying lengths up to 200+ feet.

Features: Drop-forged steel alloy, case hardened conveying chain, suited for 24hr/day operations. No welded flights, flights are retained by U-pins or bolted for ease of replacement, segmental sprockets, direct coupled drives, automatic hydraulic/air chain tensioning.

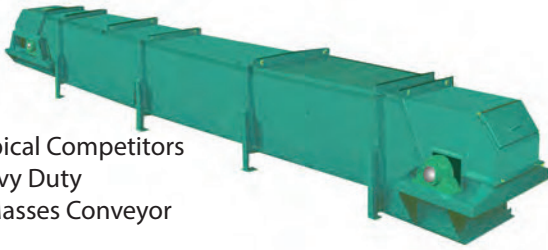
Capacities from 135 - 600 STPH for mobile units.

Stationary tower and traveling gantries with capacities to 1500 STPH available.

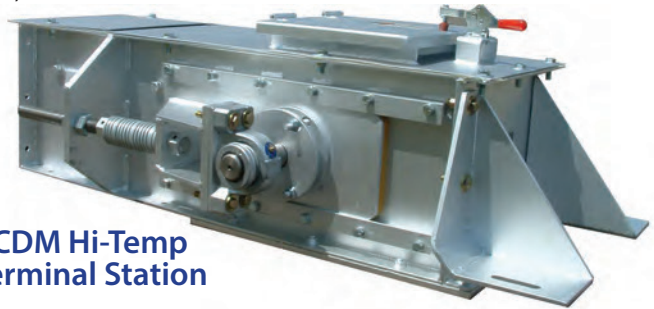
All CDM Conveyors are custom designed, fabricated, and shop assembled for your specific application

(Match marked and broke down for manageable shipping lengths.)

"Typical Competitors Heavy Duty EnMasses Conveyor



CDM Hi-Temp Terminal Station



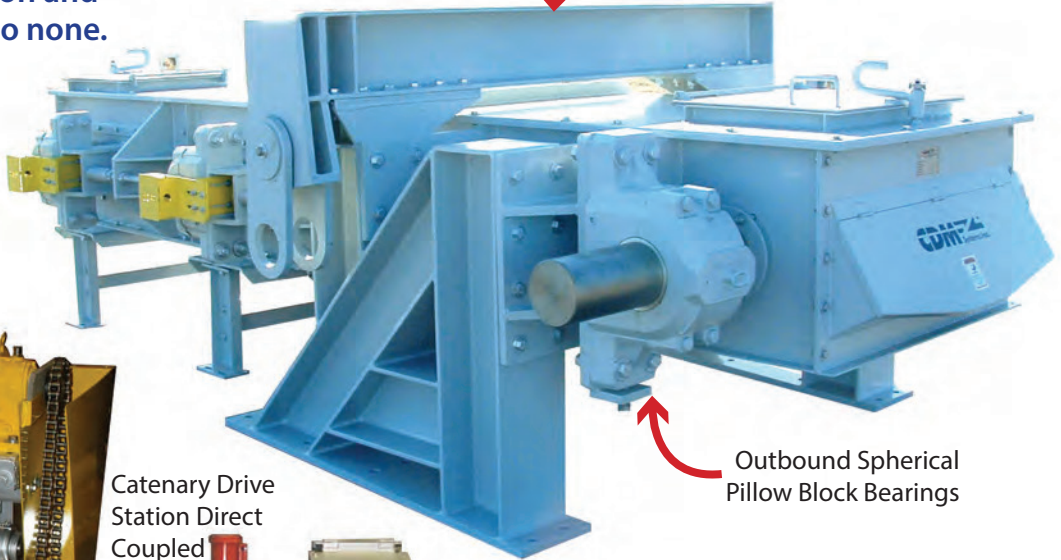
When you study the differences we feel our designs Heavy Duty construction and durability are second to none.

We don't build what we consider are might to medium duty conveyors

Catenary Drive Station with Oil Bath



Catenary Drive Station Direct Coupled



Hollow bore mounted drive and torque arm support

Outbound Spherical Pillow Block Bearings

Leg Support Brackets

Auxiliary Clean-Out Access Parts

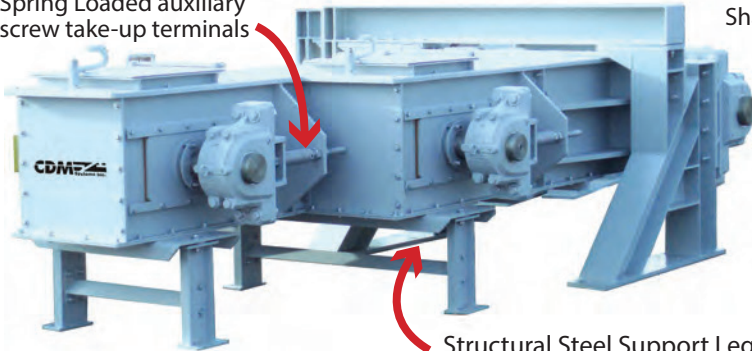
Packing Gland Shaft Seals

Bearing Slide Plate Seals

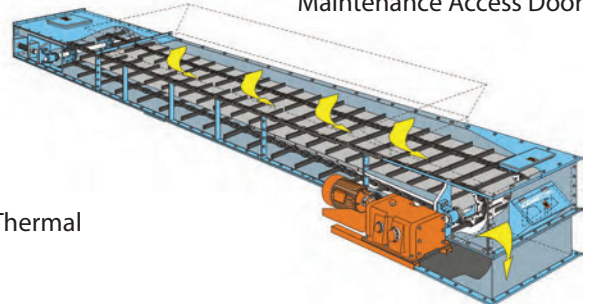
Inspection Door

Maintenance Access Door

Spring Loaded auxiliary screw take-up terminals



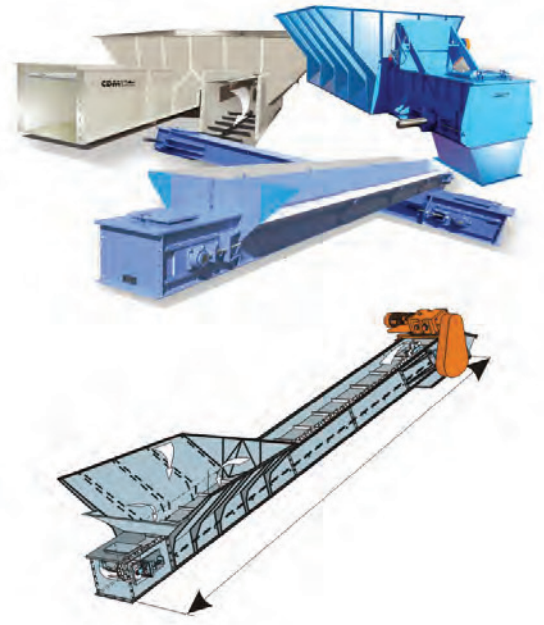
Structural Steel Support Legs with Thermal expansion/contraction Capabilities



General Information (Preliminary data required to better assist you.)

1. **Customer:** _____
2. **Location/Country:** _____
3. **Product Specifications:**
 Products: _____
 Bulk Density: _____ lbs/cuft.
 Particle Size: _____
 Moisture Content _____ %

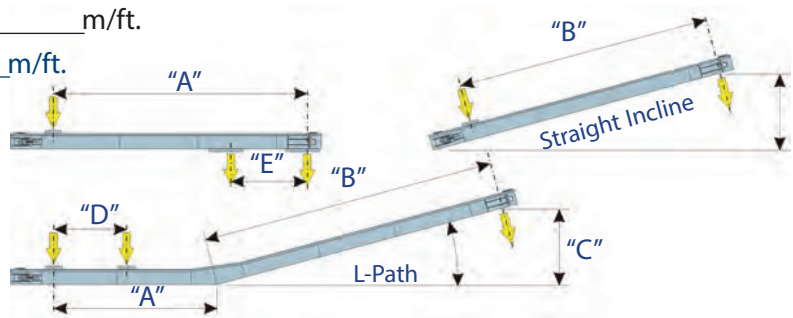
	Non	Moderate	Very
Abrasive:	_____	_____	_____
Corrosive:	_____	_____	_____
Hygroscopic:	_____	_____	_____
Temperature:	_____	_____	_____ F°
4. **Capacity:** _____ Tons/Hr.
 Hours of Operation: _____ per 24hr day



5. Conveyor Configuration:

Length: _____ m/ft.
 "A" _____ m/ft. "B" _____ m/ft. "C" _____ m/ft.

6. **Conveyor Inlets:** _____ Qty: _____ "D" m/ft.
7. **Conveyor Discharges:** _____ Qty: _____ "E" m/ft.
8. **Conveyor Discharge Gates:**
 Manual _____ Elect. _____ Air/Hyd.



Note: Due to multiple variables, and since our conveyors are all custom designed for your specific requirement, please contact CDM Systems, Inc.

Nominal "QUICK Ref." Conveyor Sizes and Capacities Based on Horizontal Applications with Single Strand Chains

Conveyor Size		9"	11"	15"	19"	25"	30"
Product:	<i>(Nominal Density)</i>	<i>Hourly Capacity in Specific Units of Measure i.e. Bushels/Hrs., STPH etc.</i>					
Alumina	(60 lbs/cuft.)	12 STPH	18 STPH	35 STPH	55 STPH	80 STPH	110 STPH
Ash (Dry)	(50 lbs/cuft.)	9 STPH	14 STPH	25 STPH	40 STPH	60 STPH	85 STPH
Cement (Finished)	(90 lbs/cuft.)	80 STPH	120 STPH	225 STPH	365 STPH	530 STPH	760 STPH
Coal (Bituminous)	(50 lbs/cuft.)	80 STPH	120 STPH	225 STPH	365 STPH	530 STPH	760 STPH
Fertilizers (Multiple)	(75 lbs/cuft.)	65 STPH	100 STPH	180 STPH	290 STPH	430 STPH	600 STPH
Grains (Whole)	(60 lbs/bushel)	4800 BPH	7200 BPH	13400 BPH	22000 BPH	32000 BPH	45000 BPH
Limestone	(80 lbs/cuft.)	70 STPH	100 STPH	190 STPH	310 STPH	450 STPH	640 STPH
Malt	(35 lbs/cuft.)	80 STPH	120 STPH	220 STPH	360 STPH	525 STPH	750 STPH
Meals (Food)	(40 lbs/cuft.)	80 STPH	120 STPH	220 STPH	360 STPH	525 STPH	750 STPH
Petro-Coke	(45 lbs/cuft.)	35 STPH	55 STPH	100 STPH	165 STPH	230 STPH	340 STPH
Phosphate Rock	(80 lbs/cuft.)	75 STPH	110 STPH	200 STPH	330 STPH	490 STPH	700 STPH
Salt Cake	(10 lbs/cuft.)	3.5 STPH	5.3 STPH	10 STPH	16 STPH	23 STPH	35 STPH
Soda Ash (Dense)	(60 lbs/cuft.)	50 STPH	75 STPH	145 STPH	230 STPH	340 STPH	485 STPH
Silica/Quartz (Sand)	(100 lbs/cuft.)	15 STPH	25 STPH	50 STPH	80 STPH	110 STPH	160 STPH
Woodchips (Sized)	(25 lbs/cuft.)	20 STPH	30 STPH	60 STPH	90 STPH	135 STPH	200 STPH
Urea	(45 lbs/cuft.)	45 STPH	70 STPH	130 STPH	210 STPH	310 STPH	440 STPH
Zinc (Calcined)	(110 lbs/cuft.)	100 STPH	160 STPH	300 STPH	480 STPH	700 STPH	1000 STPH

The hourly capacities are nominal and meant to provide you with preliminary data for conveyor sizing. Each product has its own special characteristics, volumetric efficiency, HP factors, recommended chain speed, etc. Capacities reflect chain speeds from 10-200 FPM, contact CDM Systems for specific recommended speeds. For application of incline or vertical conveying please contact CDM Systems. Higher capacities and wider dual strand conveyors are also available.

General Information

1. Customer: _____
 Location/Country: _____

2. Product Specifications:
 Products: _____
 Bulk Density: _____ Tons/m³
 Particle Size: _____
 Moisture Content _____ %

3. Capacity: Max. digging _____ MT/Hr.
 Average desired: _____ MT/Hr.
 Annual Throughput: _____ MT/Year

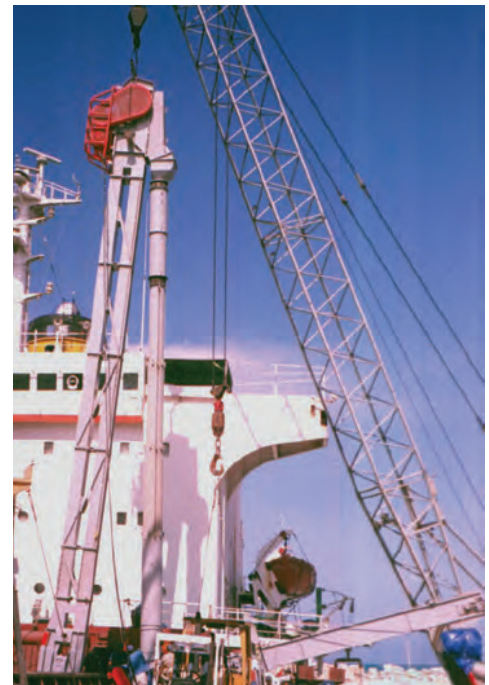
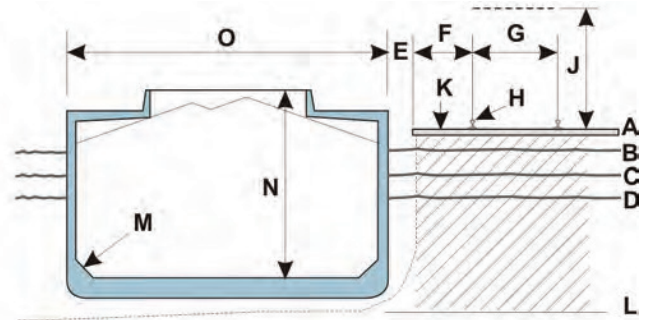
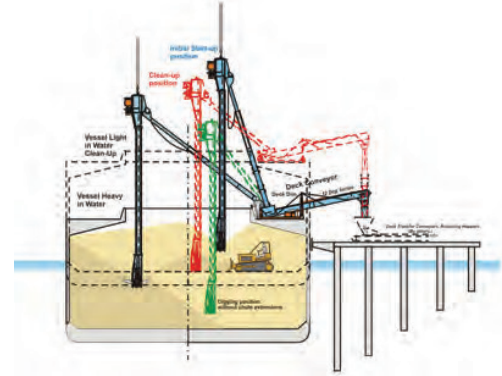
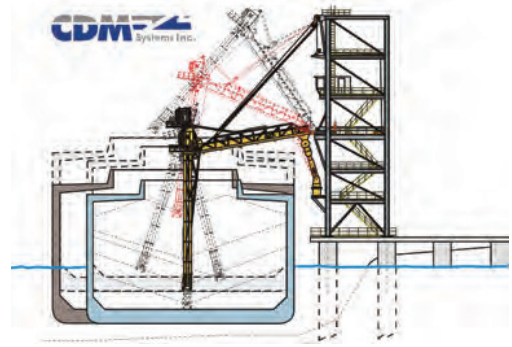
4. Technical Data:
 Number of Units required: _____
 How will units be supported: _____
 Ships Gear _____
 Harbor Cranes _____
 Stationary Tower _____
 Mobil Gantry _____

Max Wind Speeds: _____ M/sec

A = Dock elevation _____ M
 B = High water level _____ M
 C = Mean/normal water level _____ M
 D = Low water level _____ M
 E = Distance from ship to Dock _____ M
 F = Distance from rail to Dock line _____ M
 Rails existing/new? _____
 G = if rails exist _____ M
 H = Max. Permissible wheel loads _____ Kg/cm²
 J = Gantry Height Clearance _____ M
 K = Max. Permissible ground loads _____ Kg/cm²
 L = Water depth at Dock _____ M

M = Type and size of ships:
 Gross weight GWT _____
 a). Barge _____
 b). Bulk Carrier _____

N = Depth of hold a) _____ b) _____ c) _____ M
 O = Width of Vessel a) _____ b) _____ c) _____ M





CDM Systems, Inc., 430 Main Street Elk River, Minnesota 55330 USA

Phone: 763-428-9700

Fax: 763-428-9701

Email: sales@cdmsys.com

Website: www.cdmsys.com