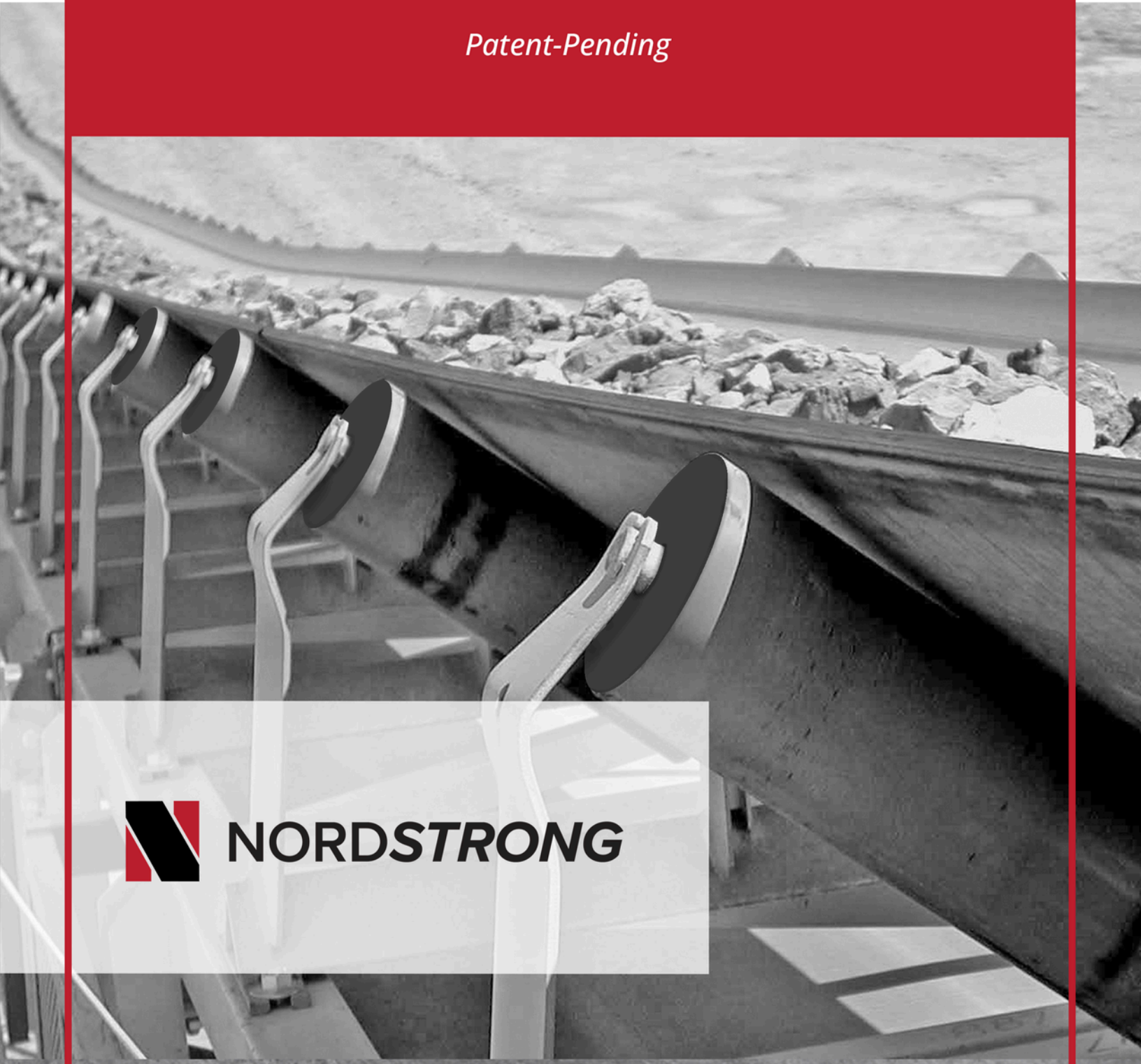


31000 Series CEMA-C Conveyor Idlers

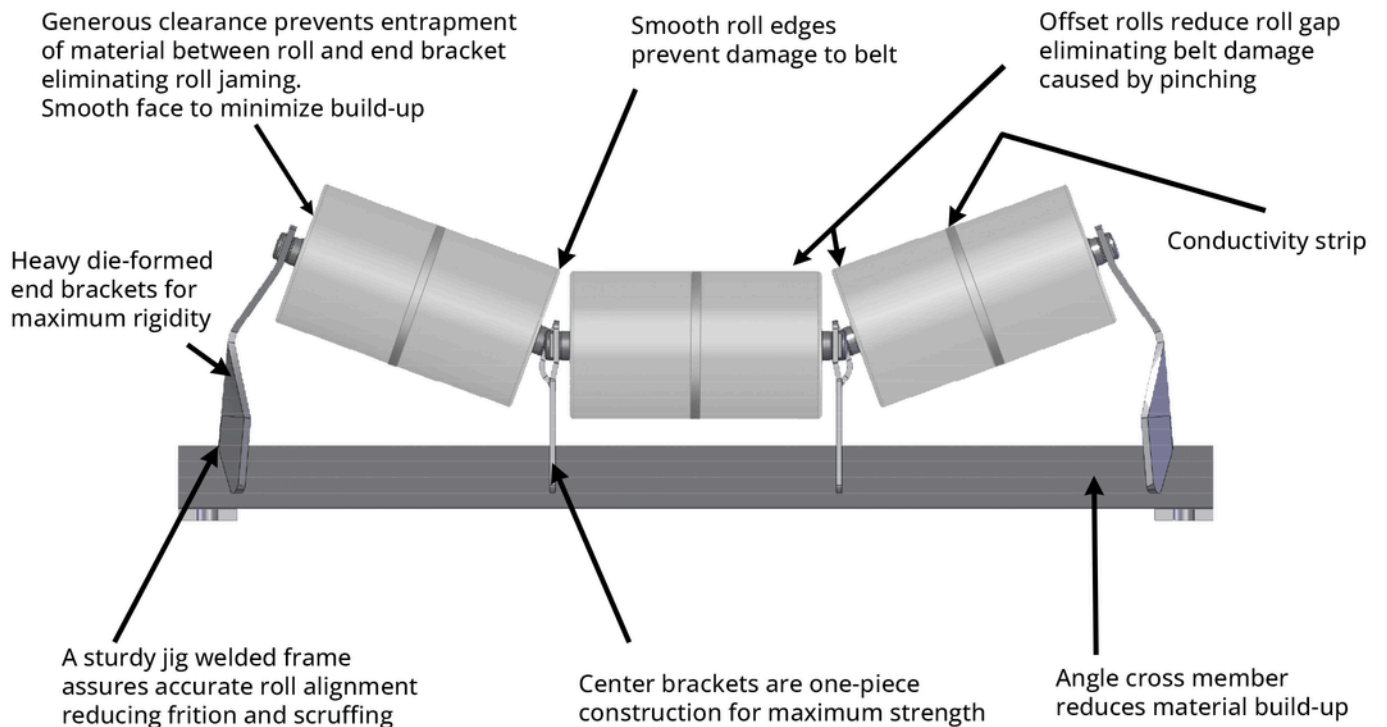
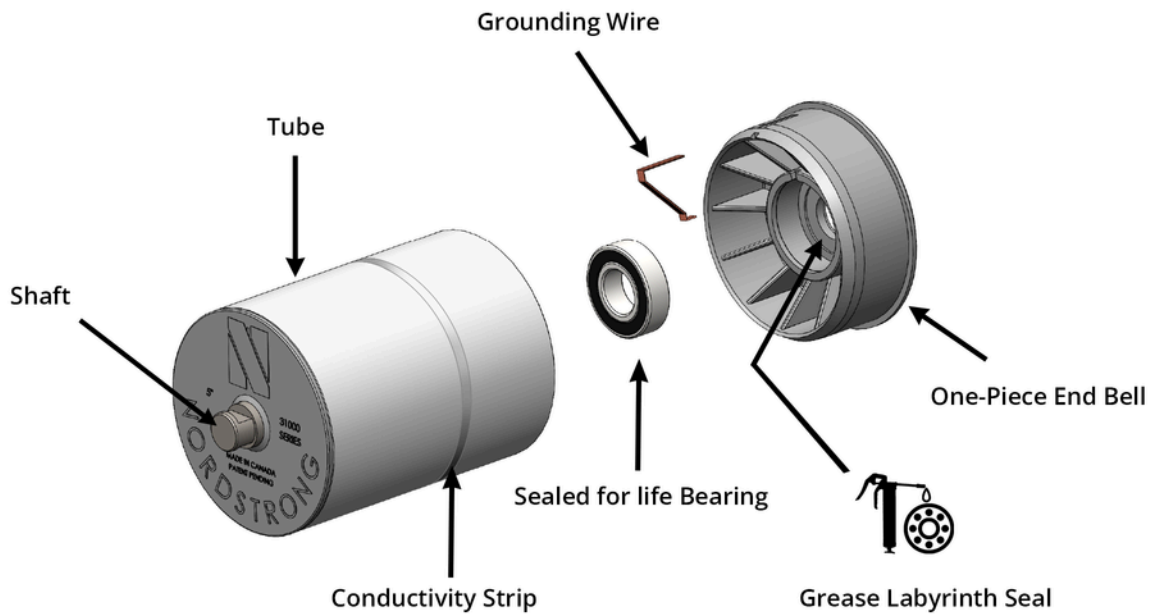
Patent-Pending



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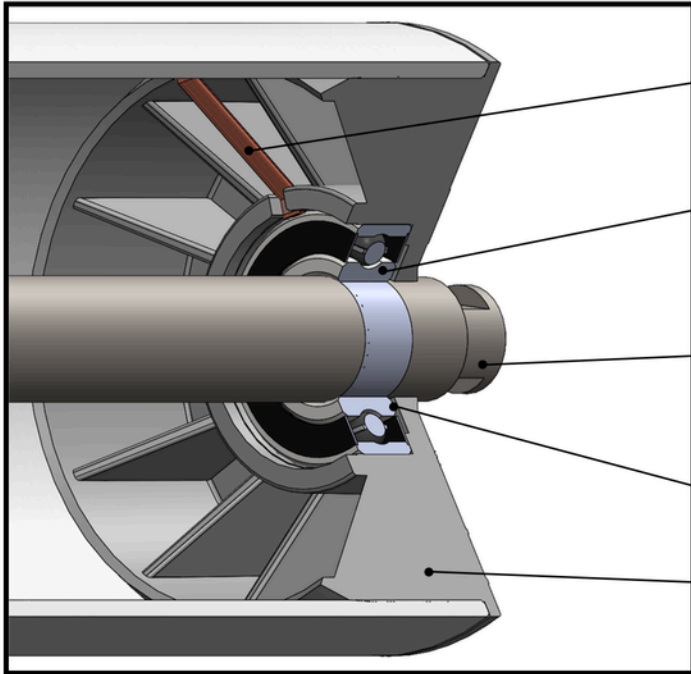
31000 Series CEMA-C Idlers: Overview



Which is right for you? The 30000 or 31000 Series

31000 SERIES CEMA-C IDLERS

The New Patent-Pending Design



Copper Grounding Wire

Sealed for life ball bearing, specially designed for use in belt conveyor idlers

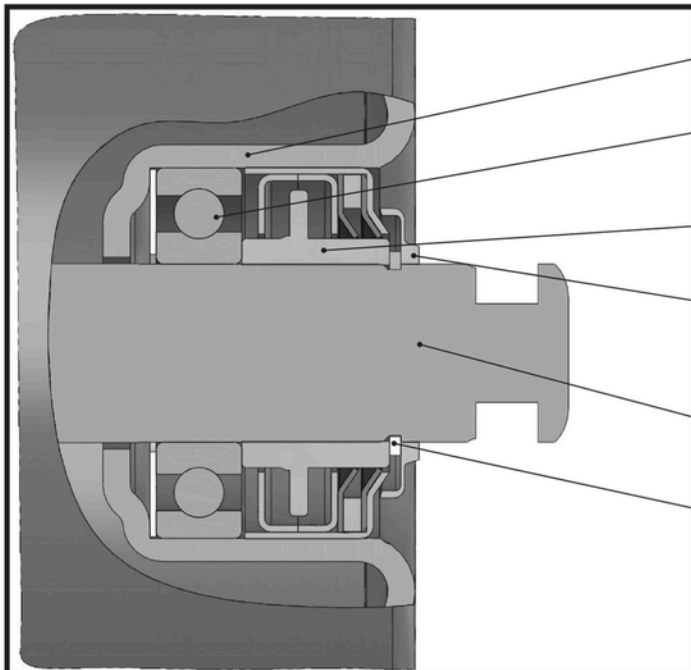
Precision-machined solid steel shaft provides accurate bearing alignment and reduces deflection. Designed to fit most manufacturers' frames.

Grease Labyrinth Seal

One-piece end bells equipped with fine-bore bearing seats for precise alignment

30000 SERIES CEMA-C IDLERS

Decades of Proven Reliability



Bearing seats at each end of roll are simultaneously fine-bored for precise bearing alignment

Seize-resistant ball bearing designed specifically for use in belt conveyor idlers

Cartridge seal consists of double lip Buna "N" contact and multi-labyrinth grease filled seal

Contact type weather shield restricts moisture and dust from entering the cartridge seal

Precision machined solid steel shaft provides accurate bearing alignment and reduced deflection
Designed to fit most manufacturers' frames

Steel retaining clip ensures secure positioning of bearing and seal

Load Ratings

1. IDLER SPACING SELECTION

Belt Width		Troughing Idles Weight of material handled, lbs per cu ft						Return Idlers
Inches	mm	30	50	75	100	150	200	
18	450	5.5 ft	5.0 ft	5.0 ft	5.0 ft	4.5 ft	4.5 ft	10.0 ft
24	600	5.0 ft	4.5 ft	4.5 ft	4.0 ft	4.0 ft	4.0 ft	10.0 ft
30	750	5.0 ft	4.5 ft	4.5 ft	4.0 ft	4.0 ft	4.0 ft	10.0 ft
36	900	5.0 ft	4.5 ft	4.0 ft	4.0 ft	3.5 ft	3.5 ft	10.0 ft
42	1050	4.5 ft	4.5 ft	4.0 ft	3.5 ft	3.0 ft	3.0 ft	10.0 ft
48	1200	4.5 ft	4.0 ft	4.0 ft	3.5 ft	3.0 ft	3.0 ft	10.0 ft
54	1400	4.5 ft	4.0 ft	3.5 ft	3.5 ft	3.0 ft	3.0 ft	10.0 ft
60	1500	4.0 ft	4.0 ft	3.5 ft	3.0 ft	3.0 ft	3.0 ft	10.0 ft
72	1800	4.0 ft	3.5 ft	3.5 ft	3.0 ft	2.5 ft	2.5 ft	8.0 ft
84	2100	3.5 ft	3.5 ft	3.0 ft	2.5 ft	2.5 ft	2.0 ft	8.0 ft
96	2400	3.5 ft	3.5 ft	3.0 ft	2.5 ft	2.0 ft	2.0 ft	8.0 ft

Spacing may be limited by load rating of idler. See load ratings in tables below.

2. BELT WEIGHT SECTION

Estimated average belt weight,
Multiple - And Reduced - Ply Belts, lbs/ft

Belt Width		Material carried, lbs/ft ³		
Inches	mm	30-74	75-129	130-200
18	450	3.5	4	4.5
24	600	4.5	5.5	6
30	750	6	7	8
36	900	9	10	12
42	1050	11	12	14
48	1200	14	15	17
54	1400	16	17	19
60	1500	18	20	22
72	1800	21	24	26
84	2100	25	30	33
96	2400	30	35	38

Steel-cable belts - increase above value by 50%

3. LOAD RATINGS

Belt Width		Load Ratings for CEMA B Idlers, lbs				Load Ratings for CEMA C Idlers, lbs			
		Trough Angle			Return	Trough Angle			Return
Inches	mm	20°	35°	45°		20°	35°	45°	
18	450	410	410	410	220	900	900	900	475
24	600	410	410	410	190	900	900	900	325
30	750	410	410	410	165	900	900	900	250
36	900	410	410	396	155	900	837	810	200
42	1050	390	363	351	140	850	791	765	150
48	1200	380	353	342	130	800	744	720	125
54	1400					750	698	675	*
60	1500					700	650	630	*

*Use CEMA D return Idlers Ratings based on min. L10 of 30,000 hours at 500 RPM

Belt Width		Load Ratings for CEMA D Idlers, lbs				Load Ratings for CEMA E Idlers, lbs			
		Trough Angle			Return	Trough Angle			Return
Inches	mm	20°	35°	45°		20°	35°	45°	
24	600	1200	1200	1200	600				
30	750	1200	1200	1200	600				
36	900	1200	1200	1200	600	1800	1800	1800	1000
42	1050	1200	1200	1200	500	1800	1800	1800	1000
48	1200	1200	1200	1200	425	1800	1800	1800	1000
54	1400	1200	1116	1080	375	1800	1800	1800	925
60	1500	1150	1070	1035	280	1800	1800	1800	850
72	1800	1050	977	945	155	1800	1800	1800	700
84	2100					1800	1674	1620	550
96	2400					1750	1628	1575	400

Ratings based on min. L10 of 60,000 hours at 500 RPM

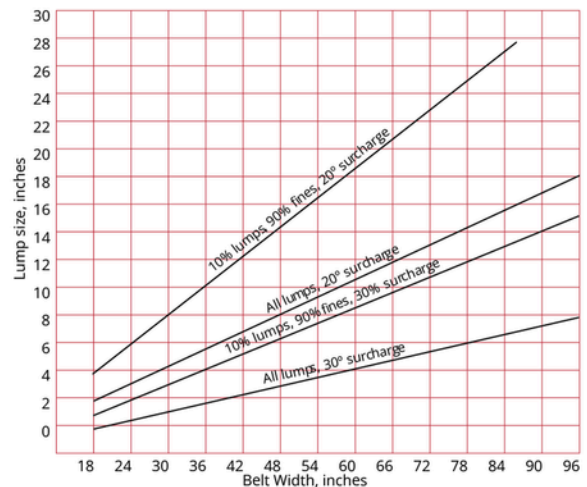
4. CARRYING IDLER LOAD CALCULATION

$$P_c = S \left[\frac{(TPH \times 33.3)}{FPM} + W_b \right]$$

WHERE:

- P_c** = Load per Idler in Lbs
- S** = Idler Spacing in Feet – from Step1
- TPH** = Required Conveyor Capacity in Tons Per Hour
- FPM** = Belt Speed in Feet per Minute
- W_b** = Belt Weight in Lbs Per Foot – from Step2

Troughing idler load ratings are based on a load distribution of 70% on center roll and 15% on each end roll for all trough angles.





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