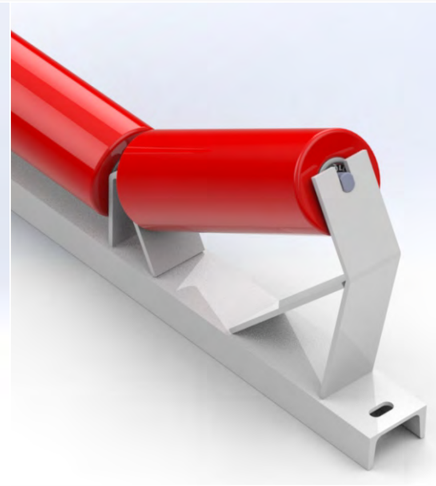
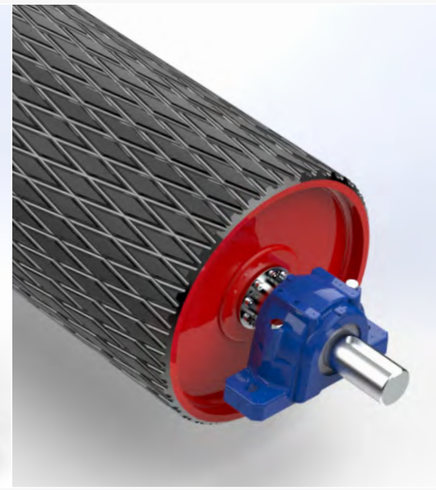
JOYROLL
卓运机械

河北卓运输送机械有限公司
Hebei Joyroll Conveyor Machinery Co., Ltd.

ROLLER



IDLERS



PULLEY

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ROLLER / IDLERS / PULLEY CATALOG

STANDARD | ***DIN 15207 / DIN 22107***
BS 2890

Moving Forever ...

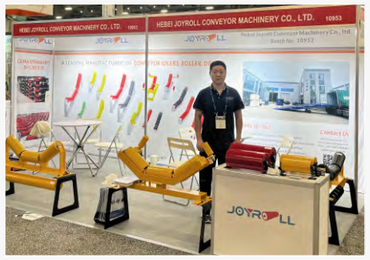
公司简介 COMPANY PROFILE

Hebei Joyroll Conveyor Machinery Co., Ltd. was founded in 2008 and is a modern high-tech enterprise integrating research and development, production, sales, and service. Our company mainly produces idler rollers, brackets, and drums, and our products are positioned in high-end markets abroad. The company has established a complete ISO9001 quality management system and obtained EU CE certification, with registered trademarks "JOYROLL" and more than ten technical patents. The characteristics of our products are high efficiency, high quality, safety, and reliability. Providing the best solutions and meeting customer needs accurately and quickly is our business principle. After years of development, "JOYROLL" has become a highly influential brand in the domestic and foreign conveyor industries.

Our company has an advanced international fully automatic roller processing and assembly production line equipped with a full set of roller performance testing equipment and a high-efficiency, energy-saving, and long-life roller R&D center. With a perfect quality management system and strong roller manufacturing technology, the rollers produced by our company have the characteristics of small radial runout, low rotating resistance, dustproof, waterproof, low noise, flexible rotation, and energy savings. The service life is over 50,000 hours.

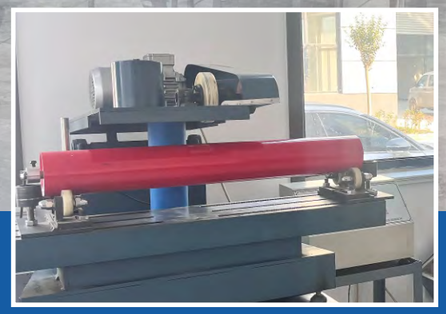
With years of export experience, our company can also produce idlers and rollers according to DIN, CEMA, JIS, AS, SANS-SABS, GOST, AFNOR etc. The products are widely used in coal, ports, mining, building materials, steel plants, electricity, and other fields and exported to more than 50 countries and regions, including the UK, Germany, France, Poland, Greece, Australia, Russia, South Africa, the United States, Chile, Peru, Brazil, Indonesia, Thailand etc.

The company adheres to the quality policy of "survive by quality, develop by integrity, pursue customer satisfaction, and continuously improve and innovate" to ensure that we provide customers with high-quality products and satisfactory services.



Quality Control

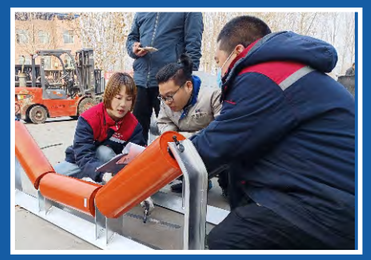
T.I.R （Runout） Test



Rotational Resistance Test

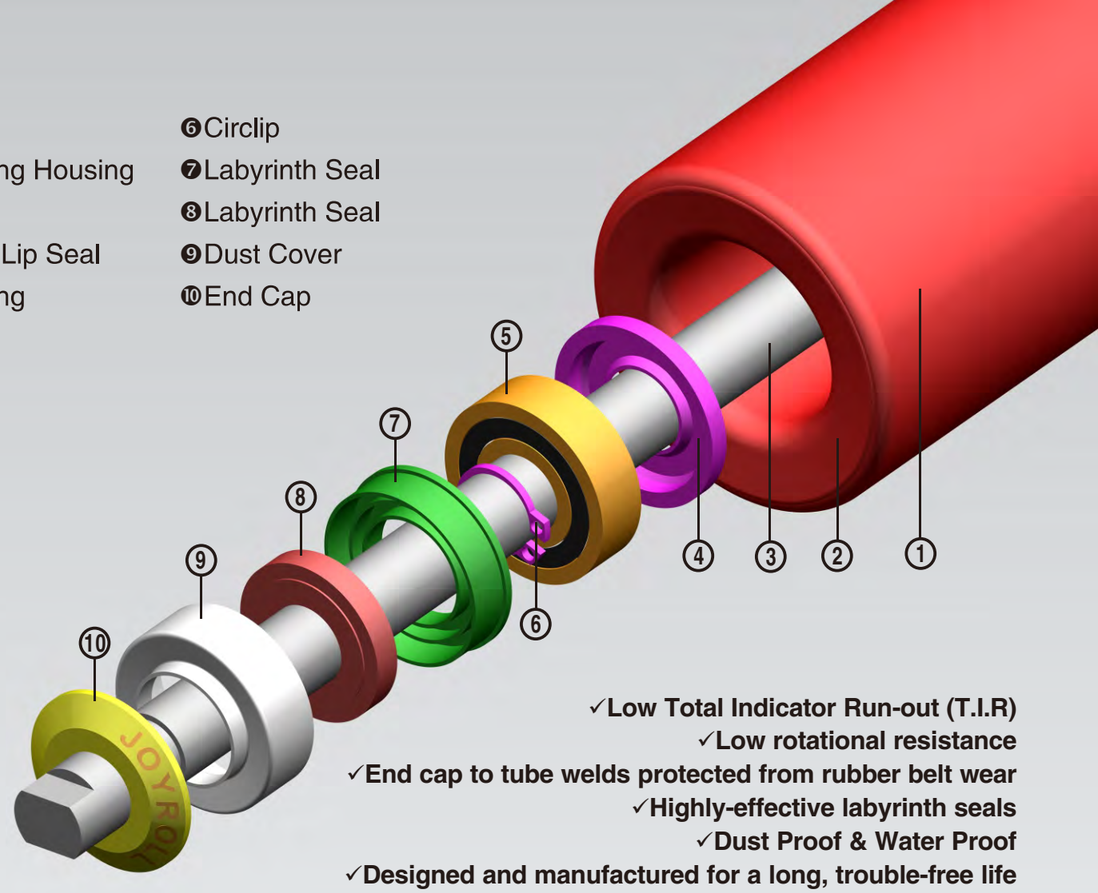
Dustproof & Waterproof Test

Axial Load & Displacement Test



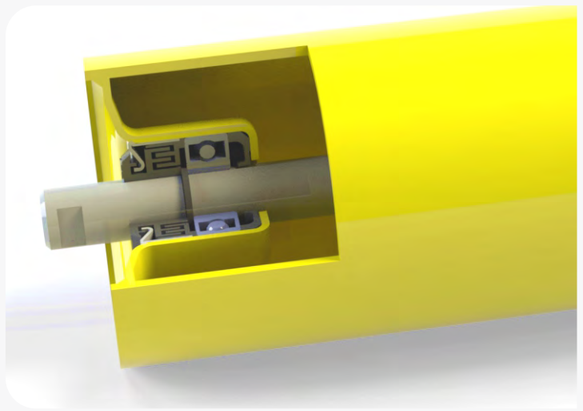
Idler Dimensions Inspection

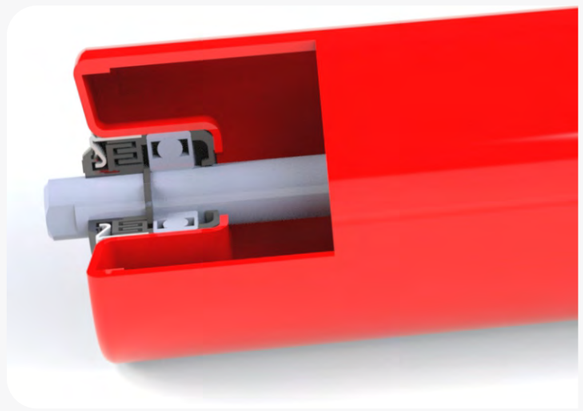
❶Pipe
❷Bearing Housing
❸Shaft
❹Inner Lip Seal
❺Bearing
❻Circlip
❼Labyrinth Seal
❽Labyrinth Seal
❾Dust Cover
❿End Cap



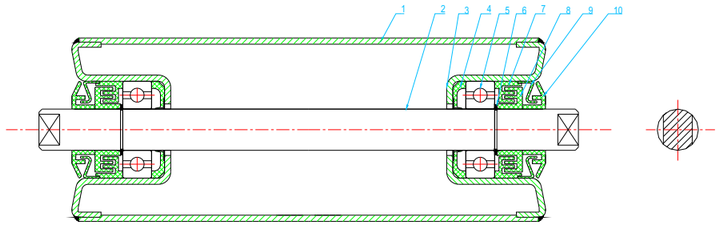
✓Low Total Indicator Run-out (T.I.R)
✓Low rotational resistance
✓End cap to tube welds protected from rubber belt wear
✓Highly-effective labyrinth seals
✓Dust Proof & Water Proof
✓Designed and manufactured for a long, trouble-free life
✓Maintenance-free, high-quality sealed ball bearing

JOYROLL® Roller Sealing System





Structural Feature & Technology



1. Pipe 2. Shaft 3. Bearing House 4. Inner Seal 5. Bearing
6. Circlip 7. Labyrinth Seal 8. Labyrinth Seal 9. Dust Cover 10. End Cap

Pipe

- ❑High precision longitudinal seam-welded steel pipe, materials S235JR(EN 10025-2),St37-2 (DIN 17100)
- ❑Remove internal and external welding bars and uniform wall thickness ensure the roller good dynamic balance
- ❑Good out of roundness of pipe ensure the roller have small T.I.R
- ❑The pipe is cut and machined using automatic CNC machines, that guarantee the tolerances precision
- ❑Roller surface treatment is electrostatic powder coating, thickness of coating approx. 80-120 μ.

Shaft

- ❑Cold-drawn round steel bar, materials S235JR(EN 10025-2),St37-2 (DIN 17100)
- ❑High precision diameter tolerance, seat IT6 acc. to EN ISO 286-1, perfect match with bearings.
- ❑Cut and machined by automatic numerically controlled machines
- ❑Precise positioning of circlip groove ensure roller have very small axial movement.
- ❑Galvanized shaft are available.

Bearing House

- ❑Made of high quality cold-rolled steel plate, materials DC01(EN 10130), St12(DIN 1623)
- ❑High precision, smooth and no burr, bearing fit tolerance standard ISO M7
- ❑Perfect concentricity ensure the roller low T.I.R

Bearing

- ❑Deep-groove ball bearings, tolerance class P5 (DIN 620)
- ❑C4 radial clearance provides for optimum roller operation
- ❑Bearings are filled with lithium base grease throughout its service life
- ❑Nylon cage advantage: self-lubricating, abrasion resistance and low heat by friction, low noise, long service life
- ❑A variety of brands are available (HRB,ZWZ,LYC,SKF,FAG,TIMKEN,NSK,NTN etc.)

Sealing System

- ❑The system comprises of inner seal, labyrinth seal, galvanized metal dust cover, protective cover
- ❑Inner lip seal prevent the pipe internal rusting entering the bearing, material is Nylon.
- ❑Labyrinth seal have two parts, female labyrinth seal and male labyrinth seal, both material are Nylon or POM, especially effective against the intrusion of outside contaminants
- ❑Labyrinth seal filled with lithium lubricating grease, maintenance-free throughout its service life
- ❑The labyrinth system can be fitted with a rubber friction ring to prevent the intrusion of water

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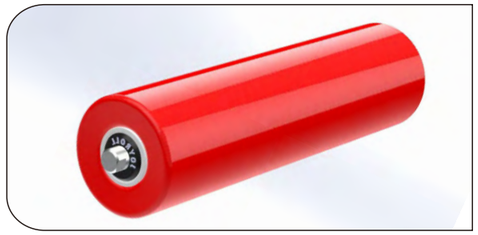
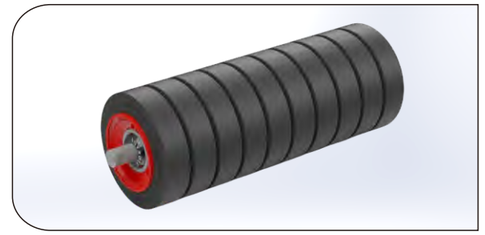
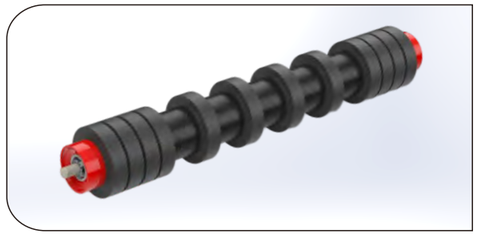
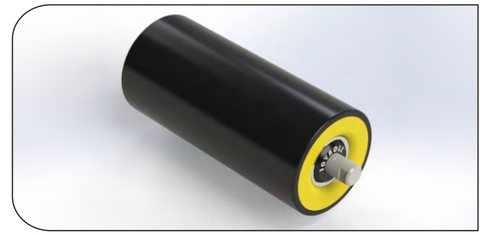
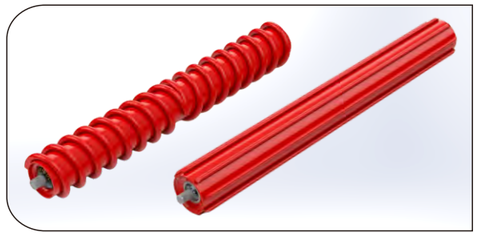
Idler Roller Style

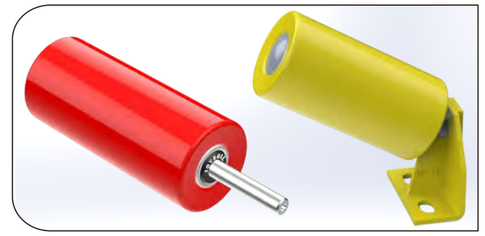

Carry Roller / Return Roller

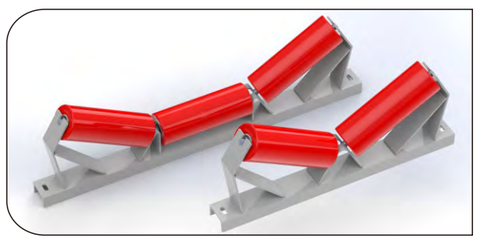

Impact Roller

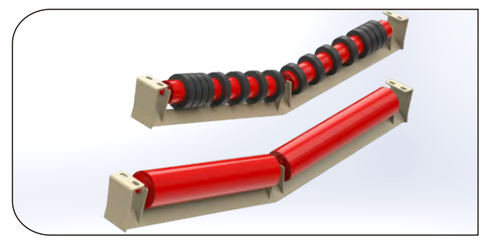

Rubber Disc Roller

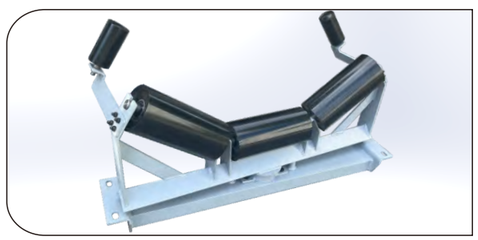

HDPE Roller

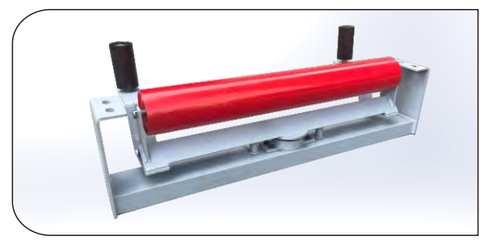

Spiral Roller / Beater Roller


Wing Roller

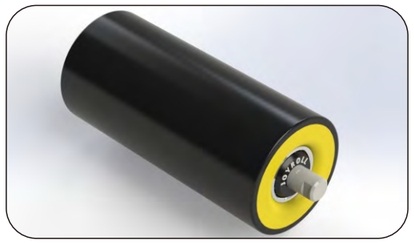

Trough Idler

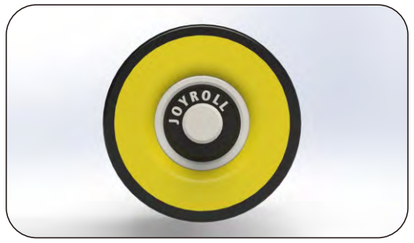

V Return Idler


Self-Aligning Carry Idler


Self-Aligning Return Idler

Composite Roller (HDPE/UHMW-PE)





HDPE (High-Density Polyethylene) rollers have become a preferred choice in conveyor systems across various industries, offering numerous advantages over traditional steel rollers. Their unique properties make them ideal for specific applications, ensuring efficiency, durability, and sustainability.

Key Features of HDPE Rollers

1. **Lightweight Design:** HDPE conveyor rollers are significantly lighter than steel rollers, reducing the overall weight of the conveyor system. This makes installation and maintenance easier and more cost-effective.
2. **Superior Corrosion Resistance:** HDPE rollers are highly resistant to rust and corrosion, making them perfect for use in wet, humid, or chemically aggressive environments. This feature is particularly beneficial in industries such as mining, chemicals, and food processing.
3. **Low Noise Operation:** The inherent properties of HDPE material help in significantly reducing operational noise. This is a crucial advantage in workplaces where noise reduction is a priority, contributing to a quieter and more comfortable working environment.
4. **Energy Efficiency:** The lightweight nature and low friction properties of HDPE rollers contribute to energy savings during operation, making them an eco-friendly and cost-effective choice.
5. **Exceptional Durability:** HDPE rollers are highly resistant to impacts, wear, and abrasion, ensuring a longer lifespan even in the most demanding and harsh environments.
6. **Eco-Friendly Material:** HDPE is a recyclable material, offering a sustainable alternative to traditional materials. This makes HDPE rollers an environmentally responsible choice for modern industries.

Applications of HDPE Rollers

- **Mining and Quarrying:** HDPE idler rollers are ideal for handling abrasive and corrosive materials, making them a reliable choice in mining and quarrying operations.
- **Food Industry:** HDPE rollers are non-toxic and easy to clean, making them widely used in food processing conveyors where hygiene and safety are paramount.
- **Chemical Industry:** The chemical resistance of HDPE rollers makes them perfect for handling corrosive materials, ensuring long-term reliability in chemical processing environments.
- **Marine Environments:** HDPE rollers are exceptionally suited for marine environments where exposure to moisture and salt is a significant concern, providing reliable performance and durability.

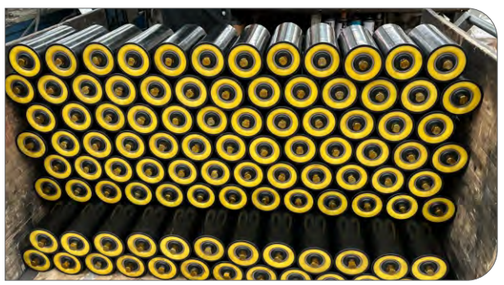
Why Choose HDPE Rollers?

HDPE rollers offer a combination of lightweight design, corrosion resistance, low noise operation, energy efficiency, and exceptional durability. These features make them an excellent choice for industries looking to enhance the efficiency and longevity of their conveyor systems while also prioritizing sustainability.

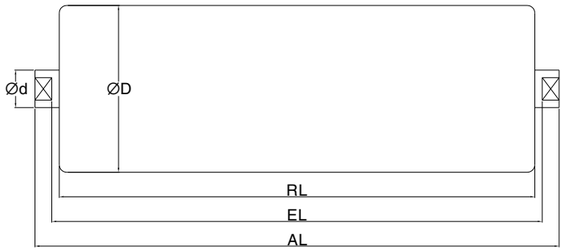
By opting for HDPE rollers, industries can benefit from reduced maintenance costs, improved operational efficiency, and a lower environmental impact. Whether in mining, food processing, chemical handling, or marine applications, HDPE rollers provide a reliable and sustainable solution for modern conveyor systems.

Common Sizes Available:

Shell Diameter mm	Shaft Diameter (mm)						
	20	25	30	35	40	45	50
	6204	6205/6305	6306	6307	6308	6309	6310
89	✔	✔					
102	✔	✔					
108	✔	✔					
114	✔	✔					
127	✔	✔	✔				
133	✔	✔	✔	✔			
140		✔	✔	✔			
152		✔	✔	✔	✔	✔	✔
159		✔	✔	✔	✔	✔	✔
165		✔	✔	✔	✔	✔	✔
178			✔	✔	✔	✔	✔
194			✔	✔	✔	✔	✔



STEEL ROLLER



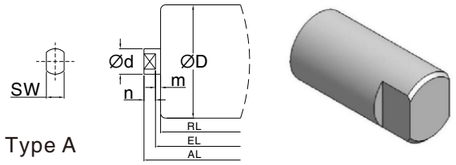
Roller Diameter and Bearing Type

Roller Diameter ØD(mm)	Standard Thick. (mm)	Bearing Type					
		20	25	25	30	35	40
		6204	6205	6305	6306	6307	6308
51	3	●					
63.5	3	●					
76	3	●					
89	3	●	●	●	●		
102	3.5	●	●	●	●		
108	3.5	●	●	●	●		
114	3.5	●	●	●	●		
127	4	●	●	●	●	●	●
133	4	●	●	●	●	●	●
140	4	●	●	●	●	●	●
152	4.5		●	●	●	●	●
159	4.5		●	●	●	●	●
165	5				●	●	●
178	5				●	●	●
194	6						●

Roller Length (mm)

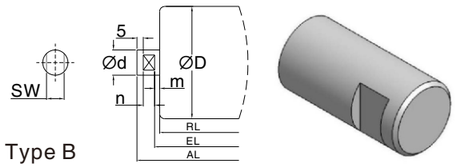
Belt Width (mm)			
400	500	250	160
500	600	315	200
650	750	380	250
800	950	465	315
1000	1150	600	380
1200	1400	700	465
1400	1600	800	530
1600	1800	900	600
1800	2000	1000	670
2000	2200	1100	750
2200	2500	1250	800

Shaft End Type and Dimensions



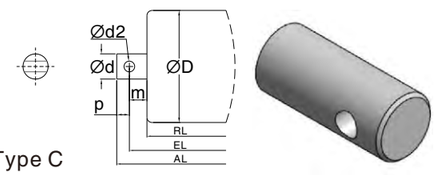
Type A

Shaft Diameter Ød (mm)	Bearing Type	SW	m	n
20	6204	15	4	9
25	6205	18	4	12
25	6305	18	4	12
30	6306	22	4	12
35	6307	27	4	12
40	6308	32	4	12



Type B

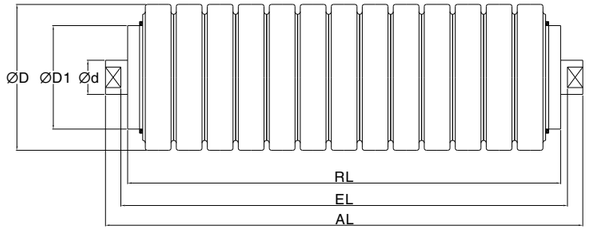
Shaft Diameter Ød (mm)	Bearing Type	SW	m	n
20	6204	15	4	9
25	6205	18	4	12
25	6305	18	4	12
30	6306	22	4	12
35	6307	27	4	12
40	6308	32	4	12



Type C

Shaft Diameter Ød (mm)	Bearing Type	Ød2	m	P
20	6204	8.5/10.5	14/16	10/12
25	6205	10.5/12.5	16/20	12/15
25	6305	10.5/12.5	16/20	12/15
30	6306	12.5/15	20/24	15/16
35	6307	15	24	16
40	6308	15	24	16

IMPACT ROLLER



Impact Roller Diameter and Bearing Type

Rubber Ring Diameter ØD	Steel Roller Diameter ØD1	Bearing Type					
		20	25	25	30	35	40
		6204	6205	6305	6306	6307	6308
89	60/63.5	●	●				
108	60/63.5	●	●				
120	60/63.5	●	●				
133	60/63.5	●	●				
133	89	●	●	●	●		
159	89	●	●	●	●		
159	108		●	●	●	●	●
180	108			●	●	●	●
194	108			●	●	●	●
194	133			●	●	●	●
219	133				●	●	●

Impact Roller Length (mm)

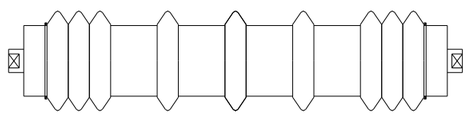
Belt Width (mm)			
400	500	250	160
500	600	315	200
650	750	380	250
800	950	465	315
1000	1150	600	380
1200	1400	700	465
1400	1600	800	530
1600	1800	900	600
1800	2000	1000	670
2000	2200	1100	750
2200	2500	1250	800

RUBBER DISC RETURN ROLLER

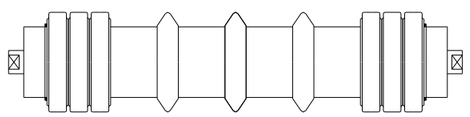
Disc Return Roller Length (mm)

Belt Width (mm)		
400	500	250
500	600	315
650	750	380
800	950	465
1000	1150	600
1200	1400	700
1400	1600	800
1600	1800	900
1800	2000	1000
2000	2200	1100
2200	2500	1250

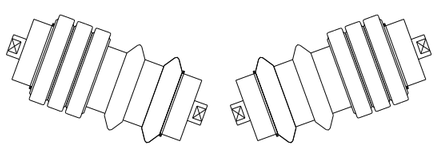
Type A



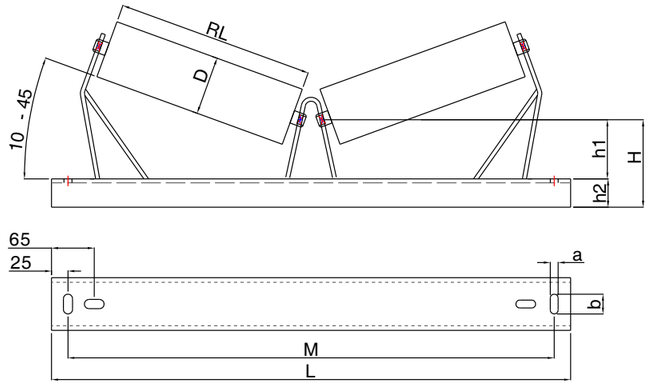
Type B

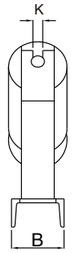


Type C



CONVEYOR IDLER (2 Roller Type)





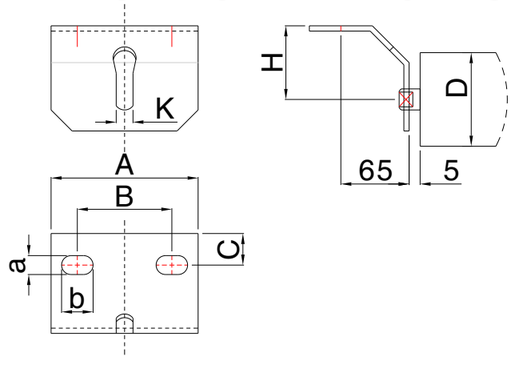
K=15 For SW 14
K=16 For SW 15
K=19 For SW 18

Hot Rolled Channel Steel
B×h2=63×40
B×h2=80×43
B×h2=100×48

a x b=14 x 30 for below BW1000, a x b=18 x 30 for over BW1000
Surface Treatments for Idlers Frame: electrostatic powder coating, hot galvanizing

Belt Width (mm)	ØD	RL	M	L	h1
400	63.5	250	640	690	75
	89				75
	108				85
500	63.5	315	740	790	75
	89				75
	108				85
	133				100
650	63.5	380	890	940	75
	89				75
	108				85
	133				100
800	63.5	465	1090	1140	75
	89				75
	108				85
	133				100

RETURN ROLLER BRACKETS



A	B	a x b	C
90	50	13 x 20	20
145	90	18 x 30	30

ØD	H
63.5	70
89	
108	
133	100
159	

K	SW
15	14
16	15
19	18
23	22
33	32

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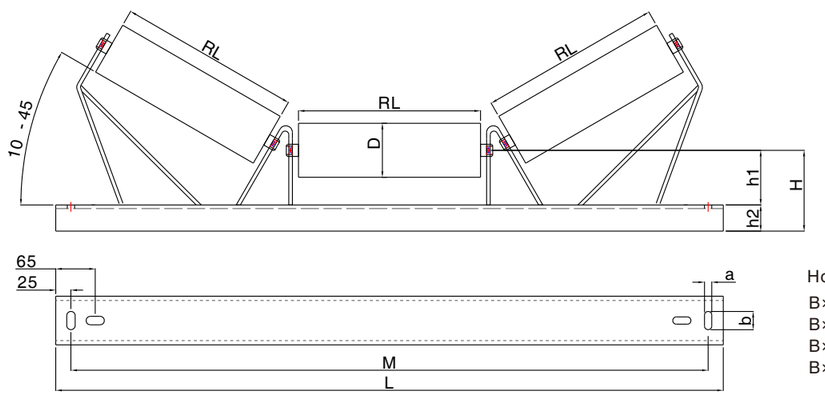
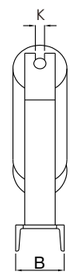
CONVEYOR IDLER (3 Roller Type)





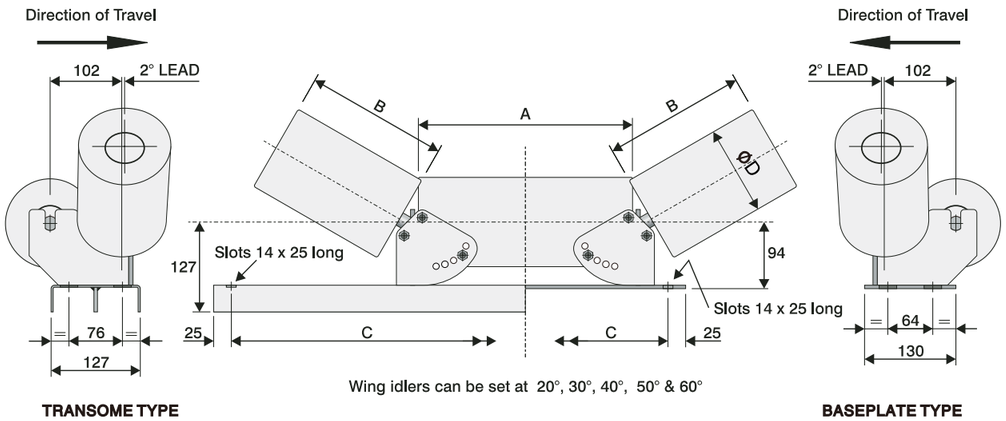
K=15 For SW 14
K=16 For SW 15
K=19 For SW 18
K=23 For SW 22
K=33 For SW 32

Hot Rolled Channel Steel
B×h2=63×40
B×h2=80×43
B×h2=100×48
B×h2=120×53
B×h2=140×58
B×h2=160×63
B×h2=180×68
B×h2=200×73

a x b=14 x 30 for below BW1000, a x b=18 x 30 for over BW1000
Surface Treatments for Idlers Frame: electrostatic powder coating, hot galvanizing

Belt Width (mm)	ØD	RL	M	L	h1
400	89	160	640	690	75
	108				85
500	89	200	740	790	75
	108				85
	133				100
650	89	250	890	940	75
	108				85
	133				100
800	89	315	1090	1140	75
	108				85
	133				100
1000	89	380	1290	1340	75
	108				85
	133				100
	159				130
1200	108	465	1540	1590	85
	133				100
	159				130
1400	133	530	1740	1790	100
	159				130
1600	133	600	1990	2040	100
	159				130
1800	133	670	2190	2240	100
	159				130
2000	133	750	2440	2490	100
	159				130
	194				160

ADJUSTABLE ANGLE TROUGHING IDLER SETS



Wing idlers can be set at 20°, 30°, 40°, 50° & 60°

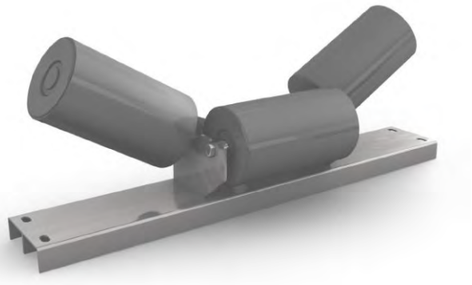
TRANSOME TYPE **BASEPLATE TYPE**

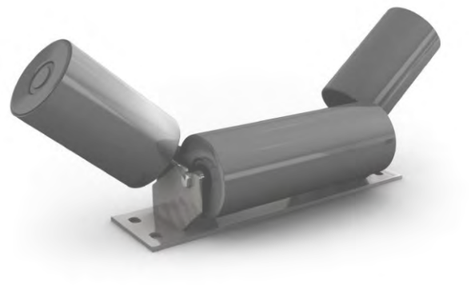
Troughing Idlers Sets Dimensions

Belt Width	A	B	C,Hole Centres		ØD
			Transome	Baseplate	
mm	mm	mm	mm	mm	mm
300	152	127	584	254	101.6 108 127 133
350	152	127	584	254	
400	152	178	635	305	
450	203	178	686	305	
500	203	203	737	330	
600	305	203	838	406	
650	356	203	889	483	
750	356	254	991	483	
800	406	254	1041	533	
900	508	254	1143	635	
1000	558	279	1240	685	

Picking Idlers Sets Dimensions

Belt Width	A	B	C,Hole Centres		ØD
			Transome	Baseplate	
mm	mm	mm	mm	mm	mm
750	457	203	991	584	101.6 108 127 133
800	508	203	1041	635	
900	610	203	1143	737	
1000	711	203	1240	838	
1050	762	203	1295	889	
1200	914	203	1448	1041	
1400	1067	203	1600	1194	
1500	1219	203	1753	1346	





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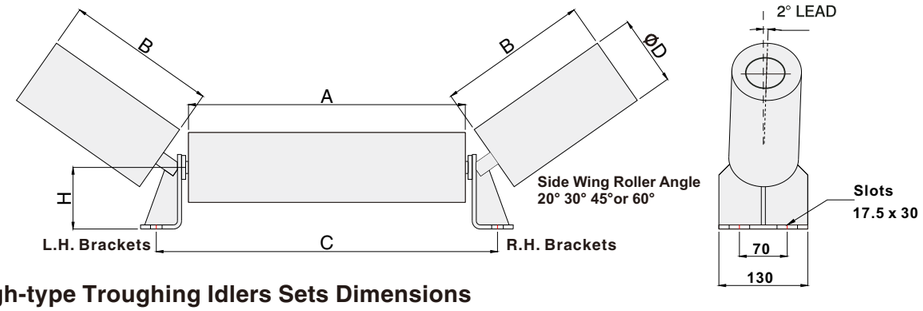
INTERTROUGH-TYPE TROUGHING IDLER SETS

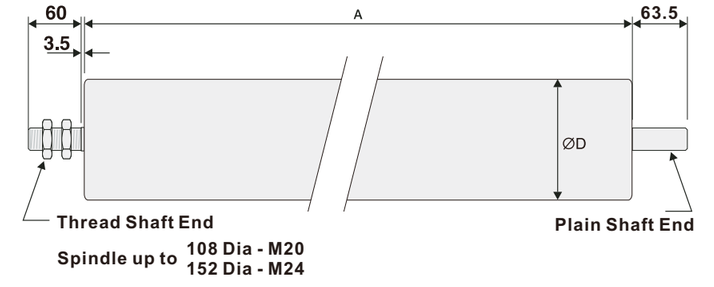


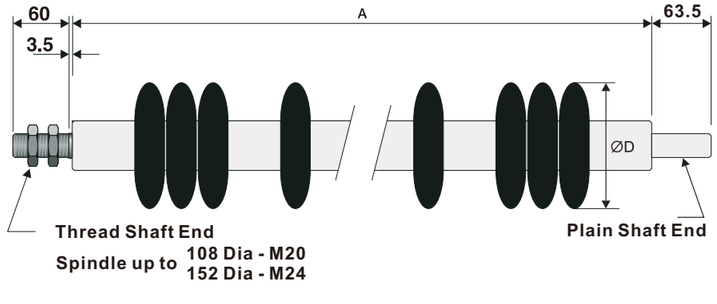
Intertrough-type Troughing Idlers Sets Dimensions

Belt Width	A	B	C	H	ØD
mm	mm	mm	mm	mm	mm
600	305	200	406	92	101.6 108 127 133
650	305	200	406	92	
750	379	200	480	92	
800	379	200	480	92	
900	529	200	630	92	
1000	639	200	740	92	
1200	863	200	1008	92	

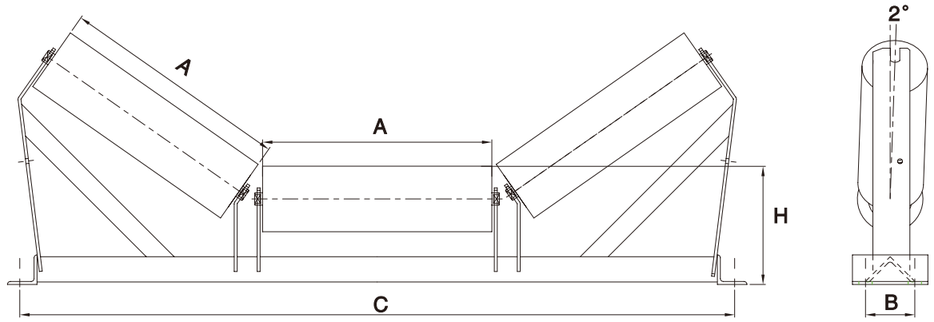
RETURN ROLLERS

Belt Width	A	ØD
mm	mm	mm
300	432	63.5 76 101.6 108 127 133 152
350	432	
400	483	
450	533	
500	584	
600	686	
650	737	
750	838	
800	889	
900	991	
1000	1092	
1050	1143	
1200	1295	
1400	1448	
1500	1600	



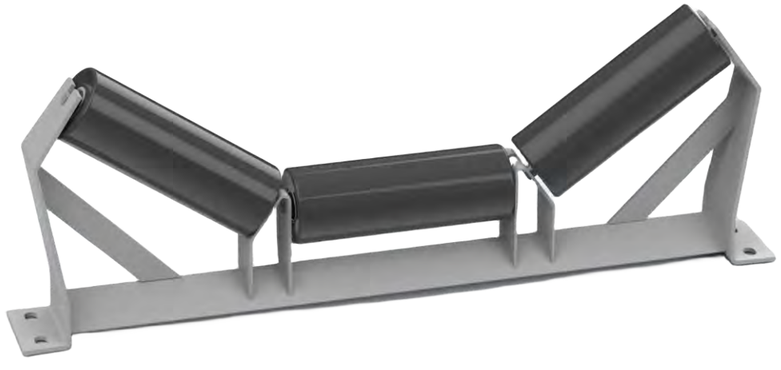


FIXED ANGLETROUGHING IDLER SETS



Side roller angle can be 25°, 35°and 45°, also available in tubular transome.
Surface Treatments for Idlers Frame: electrostatic powder coating, hot galvanizing.

Belt Width	A	B	C	ØD 101.6	ØD 108	ØD 127	ØD 133	ØD 152.4	ØD 159	ØD 168.3
mm	mm	mm	mm	H mm	H mm	H mm	H mm	H mm	H mm	H mm
400	160	75	640	200	200	225	225			
500	200	75	740	200	200	225	225			
600	240	75	840	200	200	225	225	275	275	290
650	250	75	890	200	200	225	225	275	275	290
750	295	75	990	200	200	225	225	275	275	290
800	315	75	1040	200	200	225	225	275	275	290
900	350	75	1140	200	200	225	225	275	275	290
1000	380	75	1240	200	200	225	225	275	275	290
1050	410	75	1300	200	200	225	225	275	275	290
1200	465	100	1450	215	215	240	240	275	275	290
1350	530	100	1650	215	215	240	240	275	275	290
1400	530	100	1700	215	215	240	240	275	275	290
1500	575	100	1800	215	215	240	240	275	275	290
1600	600	100	1900			240	240	275	275	290
1800	670	100	2100			240	240	275	275	290
2000	750	100	2300			240	240	275	275	290



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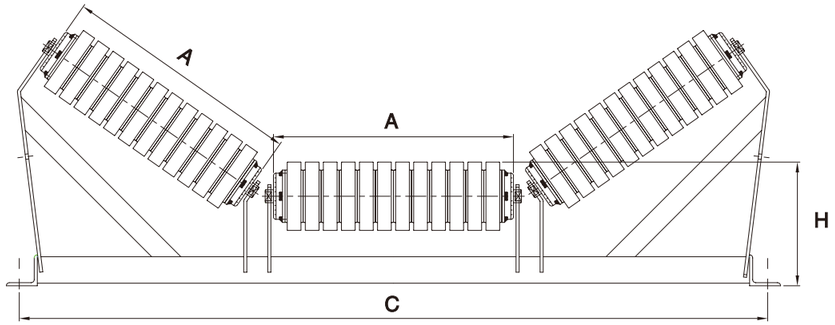
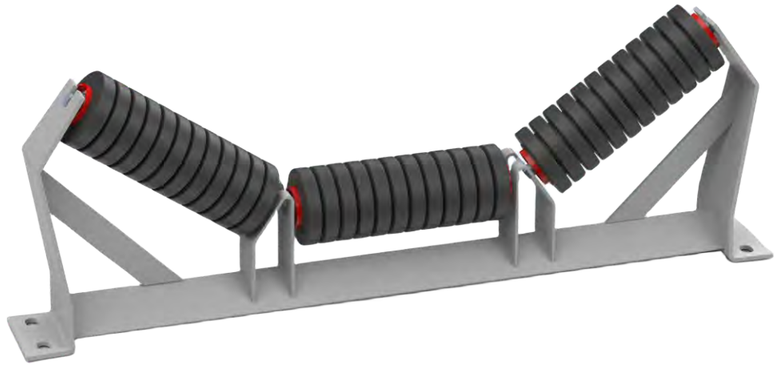
CONVEYOR IDLERS / BS 2890

FIXED ANGLE TROUGHING IMPACT IDLER SETS

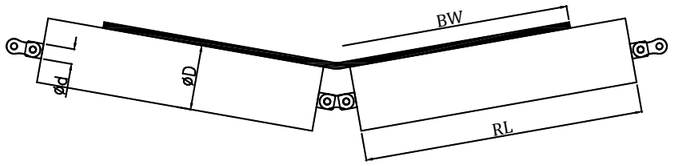


Side roller angle can be 25°, 35°and 45°, also available in tubular transome.
Surface Treatments for Idlers Frame: electrostatic powder coating, hot galvanizing.

Belt Width	A	B	C	ØD 101.6	ØD 108	ØD 127	ØD 133	ØD 152.4	ØD 159	ØD 168.3
mm	mm	mm	mm	H mm	H mm	H mm	H mm	H mm	H mm	H mm
400	160	75	640	200	200	225	225			
500	200	75	740	200	200	225	225			
600	240	75	840	200	200	225	225	275	275	290
650	250	75	890	200	200	225	225	275	275	290
750	295	75	990	200	200	225	225	275	275	290
800	315	75	1040	200	200	225	225	275	275	290
900	350	75	1140	200	200	225	225	275	275	290
1000	380	75	1240	200	200	225	225	275	275	290
1050	410	75	1300	200	200	225	225	275	275	290
1200	465	100	1450	215	215	240	240	275	275	290
1350	530	100	1650	215	215	240	240	275	275	290
1400	530	100	1700	215	215	240	240	275	275	290
1500	575	100	1800	215	215	240	240	275	275	290
1600	600	100	1900			240	240	275	275	290
1800	670	100	2100			240	240	275	275	290
2000	750	100	2300			240	240	275	275	290

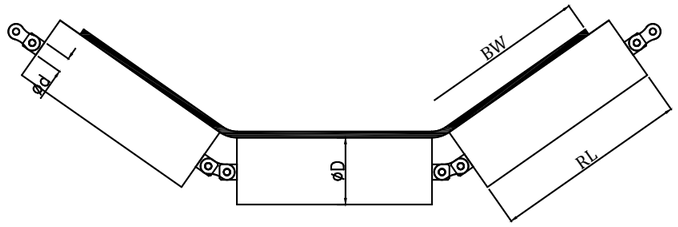


GL2, for upper and return set with two rollers



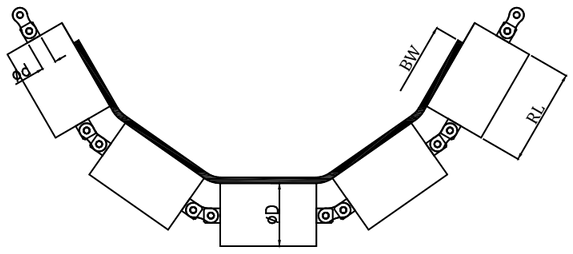
BW	500	650	800	1000	1200	1400	1600	1800	2000	2200	2400	2600
ΦD	89-102-108-114-127-133-140-152-159-165-178-194											
RL	315	380	465	600	700	800	900	1000	1100	1250	1400	1500

GL3, for upper and impact set with three rollers



BW	500	650	800	1000	1200	1400	1600	1800	2000	2200	2400	2600
ΦD	89-102-108-114-127-133-140-152-159-165-178-194											
RL	200	250	315	380	465	530	600	670	750	800	900	950

GL5, for upper and impact set with five rollers



BW			800	1000	1200	1400	1600	1800	2000	2200	2400	2600
ΦD	89-102-108-114-127-133-140-152-159-165-178-194											
RL			165	205	250	290	340	380	420	460	500	540

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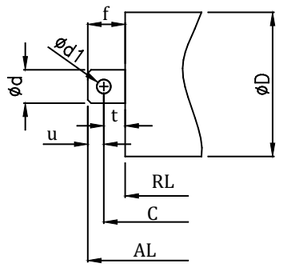
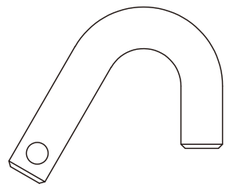
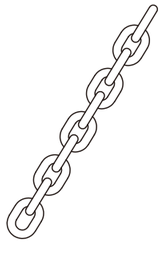
GARLAND ROLLERS



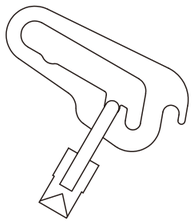
Roller Diameter ΦD				
89-102-108-114-127-133-140-152-159-165-178-194				
Φd	20	25	30	40
u	10	12	16	16
t	14	16	20	22
f	24	28	36	38
Φd1	8.3	10.3	14.5	16.5



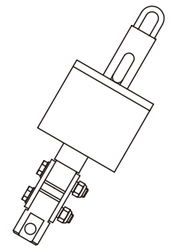
Hook



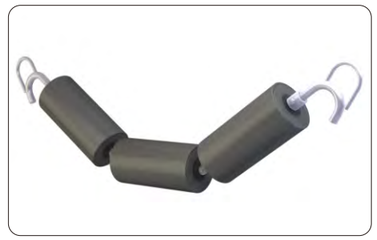
Chain

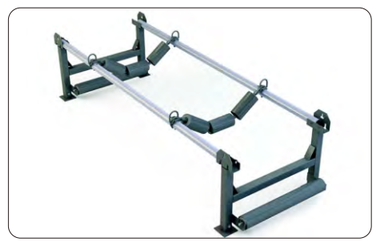


Quick Release Suspension

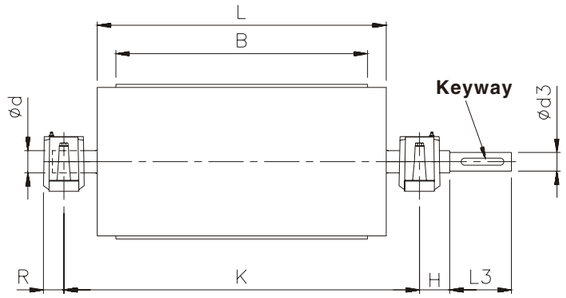


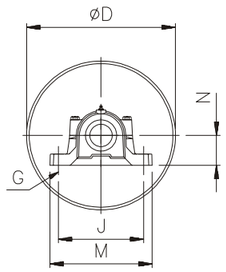
Rubber Buffer



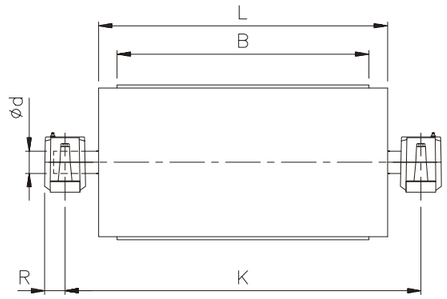


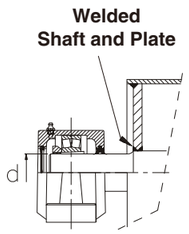
DRIVE PULLEY

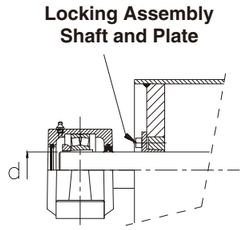




TAIL AND BEND PULLEY







Pulley Diameter ØD	Belt width B	Pulley Length L
159	400	500
194	500	600
219	650	750
250	800	950
270	1000	1150
320	1200	1400
400	1400	1600
500	1600	1800
630	1800	2000
800	2000	2200
1000		
1250		

Diameter At Bearing Ød	Distance Center - Center Bearings K	H	R	J	M	N	G	Bearing House Type	Bearing
40	L+180	50	43	170	205	60	M12	SNL 509	22209EK
50	L+180	55	48	210	255	70	M16	SNL 511	22211EK
60	L+180	60	55	230	275	80	M16	SNL 513	22213EK
70	L+180	70	60	260	315	95	M20	SNL 516	22216EK
80	L+190	75	70	290	345	100	M20	SNL 518	22218EK
90	L+200	85	80	320	380	112	M24	SNL 520	22220EK
100	L+210	95	88	350	410	125	M24	SNL 522	22222EK
110	L+230	100	93	350	410	140	M24	SNL 524	22224EK
115	L+240	105	95	380	445	150	M24	SNL 526	22226EK
125	L+250	110	103	420	500	150	M30	SNL 528	22228EK
135	L+270	115	110	450	530	160	M30	SNL 530	22230EK
140	L+280	118	118	470	550	170	M30	SNL 532	22232EK

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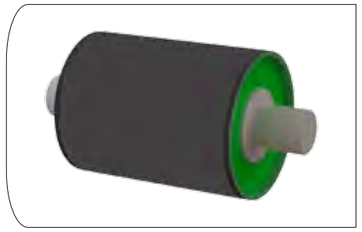
CONVEYOR PULLEY

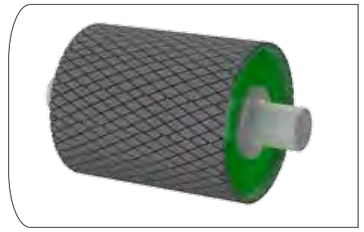
RUBBER LAGGING

Smooth

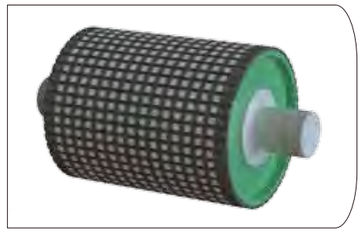


Chevron Groove

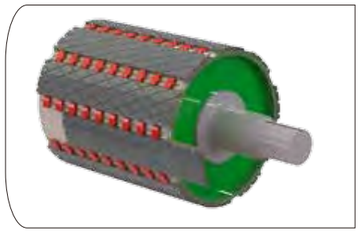
Diamond Groove



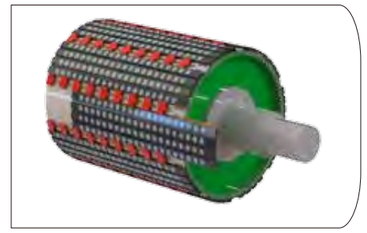
Ceramic



Replaceable Diamond



Replaceable Ceramic



Pulley laggings use on a variety of pulleys that provides a cost-effective and most effective solution to correct a belt slippage, increase friction and prevent material build-up, along with additional long term system benefits. Joyroll's laggings with rubber or ceramic tiles embeddedinto rubber afford excellent grip between belt and pulley lagging in both directions; what's more, ceramic pulley lagging provides the solution that conventional rubber lagging fails to correct a belt slippage and/or lagging wears prematurely.

Feature and Benefits

- ❑Reducing energy consumption
- ❑Increasing productivity
- ❑High coefficient of friction
- ❑Improving belt traction
- ❑Eliminating belt slippage
- ❑No residue on pulley
- ❑Increasing belt and pulley life
- ❑Minimizing system downtime
- ❑Reducing wear from abrasive materials.

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NOTES

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