



CONSTROMECH
ENGINEERING SOLUTION



SSCC CATALOG

Submerged Scraper Chain Conveyor
Catalogue

www.constromechsolution.com

Submerged Scraper Chain Conveyor (SSCC)

A robust and reliable system designed for continuous ash and slag handling from boilers and furnaces. The conveyor operates with scraper chains submerged in water, ensuring effective cooling, sealing, and dust-free operation. Built for heavy-duty performance, it offers low maintenance, high durability, and efficient material discharge, making it ideal for power plants, steel plants, and other industrial applications.



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About CMECH

Established in 2018, **Constromech Engineering Solution** is a fast-growing engineering company dedicated to delivering innovative material handling solutions for Power Plants, Steel Plants, Cement Plants, and other heavy industries.

With offices in Bhilai (Chhattisgarh), Constromech specializes in the design, manufacturing, and supply of Bucket Elevators, Conveyors, Submerged Scraper Conveyors, and their critical spares.

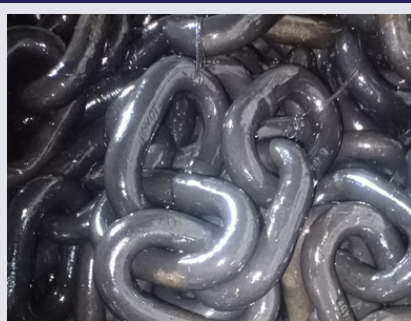
Our focus on quality, reliability, and timely delivery ensures maximum efficiency and long service life for every installation. By combining engineering expertise with customer-centric service, Constromech continues to build a strong global presence and long-term partnerships with leading industrial clients.



Surface Finish: 1 Self Colour With Anti Rust Oil



Surface Finish: 2 Electrophoresis



Surface Finish: 3 Blackening

CMECH Round Link Chain

A heavy-duty, wear-resistant chain designed for continuous and reliable conveying in Submerged Scraper Conveyors, Bucket Elevators, and Drag Chain Systems. Engineered for high strength and long service life, it ensures smooth operation even in abrasive, high-temperature, or wet environments.

Technical Parameter

Welding Type

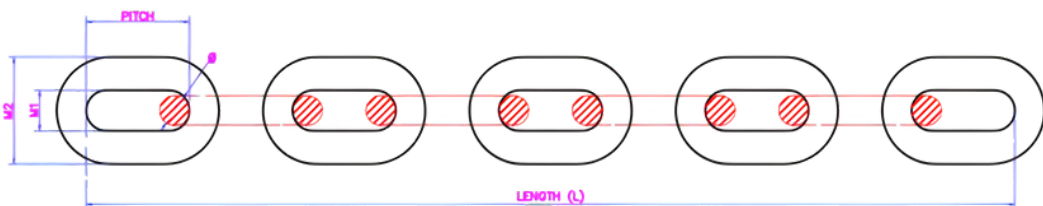
1. Electric Resisting Weld
2. Flash Butt Weld

Material Type

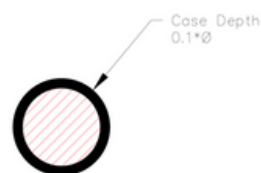
- **CMECH-20L:** Low-alloy Case Hardening Steel.
- **CMECH-25D:** Manganese-Vanadium Alloy Steel.
- **CMECH-S620:** Nickel-Chromium-Molybdenum Case Hardening Steel.
- **CMECH-54SM:** High-strength Nickel-Chromium-Molybdenum Alloy Steel.
- **CMECH-A17P:** Nickel-Chromium-Molybdenum Case Hardening Steel.

CMECH Round Link Chain

Details & Dimensions With Specific Breaking Load



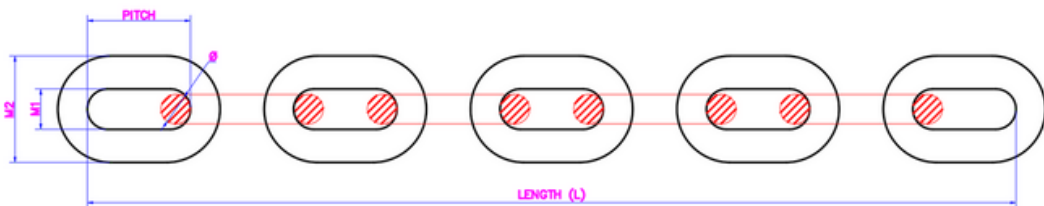
- tolerance 10%
- 30 mm \varnothing = 0,12 d, 36-42 mm \varnothing = 0,11 d
- ≥ 30 mm \varnothing = 0,05 d
- 30 mm \varnothing = 0,08 d, 36-42 mm \varnothing = 0,07 d
- CD = case hardening depth 6) ≥ 30 mm \varnothing = tolerance 20%



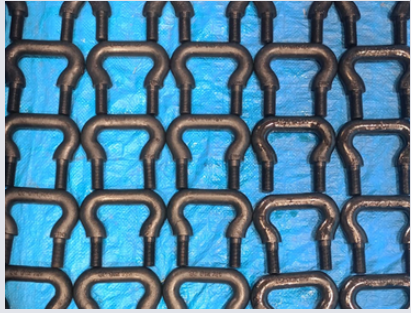
$\varnothing \times$ PITCH (mm)	Weight (kg/m)	M1 Inside Width Min (mm)	M2 Outside Width Max (mm)	25D (KN)	20L (KN)	A17P (KN)	54SM (KN)	S620 (KN)
19 × 75.0	7.6	22	63	141	119	227	210	198
20 × 56.0	9	24	72	157	132	251	232	220
20 × 70.0	8.2	27	72	157	132	251	232	220
22 × 86.0	9.8	26	74	190	160	304	281	266
23 × 64.0	12	27.6	83	207	174	332	307	290
23 × 80.0	11	31	83	207	174	332	307	290
26 × 73.0	15	31.2	94	265	223	425	392	371
26 × 91.0	14	35	94	265	223	425	392	371
26 × 100.0	13.5	31	87	265	223	425	392	371
28 × 78.0	18	33.6	101	308	258	492	455	431

CMECH Round Link Chain

Types & Dimensions With Specific Break



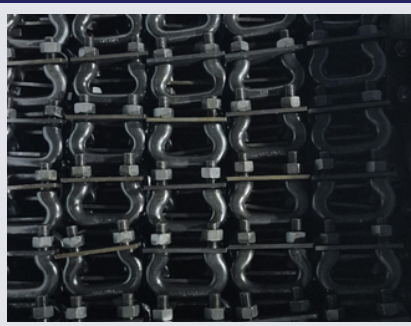
Ø x PITCH (mm)	Ø x PITCH (mm)	M1 Inside Width Min (mm)	M2 Outside Width Max (mm)	25D (KN)	20L (KN)	A17P (KN)	54SM (KN)	S620 (KN)
28 × 98.0	16.5	36	101	308	258	492	455	431
30 × 84.0	20	36	108	353	296	565	523	494
30 × 105.0	19	39	108	353	296	565	523	494
30 × 120.0	17.8	36	102	353	296	565	523	494
33 × 92.0	25	43	119	427	359	684	633	598
33 × 115.0	22.5	43	119	427	359	684	633	598
34 × 136.0	23.8	39	113	453	381	726	672	635
36 × 101.0	29	43.2	130	508	428	814	753	712
36 × 126.0	26.5	47	130	508	428	814	753	712
38 × 144.0	30	44	127	567	476	907	839	794
39 × 109.0	34	51	140	597	502	956	884	836
39 × 136.0	31	51	140	597	502	956	884	836
42 × 118.0	40	50	151	692	582	1108	1025	970
42 × 147.0	36	55	151	692	582	1108	1025	970



Surface Finish: 1 Self Colour With
Anti Rust Oil



Surface Finish: 2 Painted



Surface Finish: 3 Blackening

CMECH Shackle

The CMECH Shackle is a high-strength connector designed to ensure secure fastening and reliable jointing in conveyor, chain, and material handling systems. Engineered for durability, the CMECH Shackle is suitable for heavy-duty operations and harsh environments where safety, toughness, and precision are paramount.

Technical Parameter

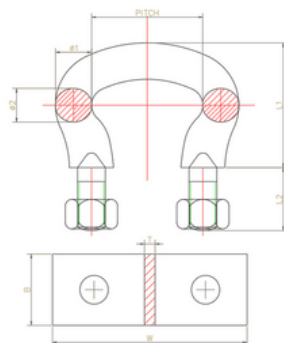
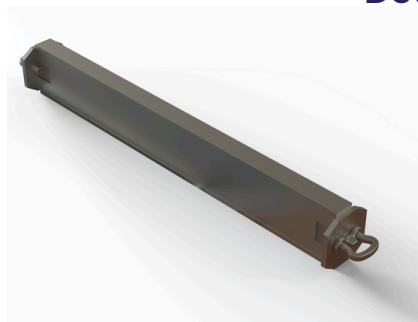
DIN Standard

1. **DIN 745**
2. **DIN 5699**
3. **LD & LDP**

Material Type

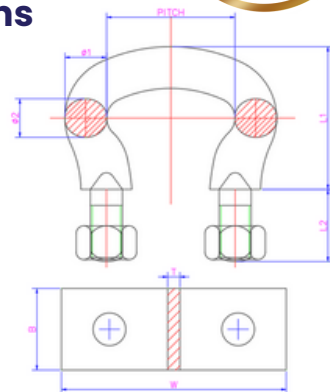
- **C-45 With IS2062 Plate & Gr-8.8 Nut**
- **20Mn With IS2062 Plate & Gr-8.8 Nut**

CMECH Round Link Chain Shackle Details & Dimensions



Pitch (mm)	Size(mm)	Plate (mm)			Shackle(mm) DIN 5699			
		W	B	T	Ø2	Ø1	L1	L2
35	10 × 35	65	30	5	10	12	43	25
45	13 × 45	75	30	5	13	15	53	30
56	16 × 56	95	40	6	16	18	64	35
63	18 × 63	110	40	6	18	21	71	40
70	20 × 70	120	50	6	20	23	80	45
80	23 × 80	130	50	6	23	26	89	45
91	26 × 91	150	60	8	26	29	99	55
105	30 × 105	165	60	10	30	34	114	55
126	36 × 126	200	70	10	36	40	134	65
136	39 × 136	220	80	12	39	44	146	75
147	42 × 147	230	80	12	42	47	157	75

CMECH Round Link Chain Shackle Details & Dimensions



Pitch (mm)	Size(mm)	Plate (mm)			Shackle(mm) DIN 745			
		W	B	T	Ø2	Ø1	L1	L2
45	13 x 45	75	30	5	11.5	14	40	25
56	16 x 56	95	40	6	15	18	50	32
63	18 x 63	110	40	6	18	21	60	40
70	20 x 70	120	50	6	20	23	68	45
80	23 x 80	130	50	6	23	26	74	45
91	26 x 91	150	60	8	26	29	86	55
105	30 x 105	165	60	8	30	34	100	55
126	36 x 126	200	70	10	36	40	118	70
147	42 x 147	220	70	10	42	46	136	70

CMECH COUPLER

High Strength Construction: Made from premium alloy steel for superior wear resistance and durability.

Flexible Operation: Utilizes a precision-engineered chain link assembly to absorb shock loads and compensate for minor angular, parallel, or axial misalignment.

Easy Maintenance: Simple design allows quick assembly/disassembly without the need to move connected equipment.

Versatility: Suitable for various drive systems, including conveyors and bucket elevators.

Long Service Life: Hardened components and robust lubrication design ensure extended operating life under continuous duty.



Type-1 Bolting Coupler

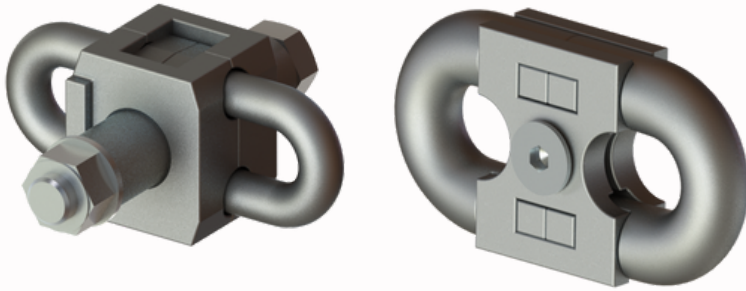


Type-2 Pin Coupler

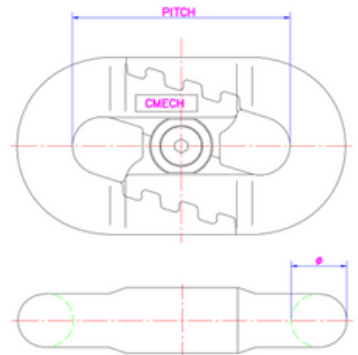
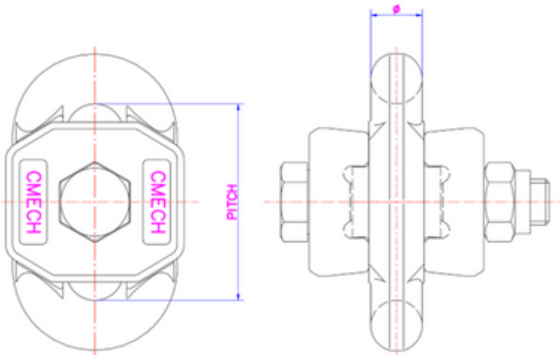


Type-3 Split-Pin Coupler

CMECH COUPLER



Type-4 U-Link Coupler



CMECH Sizes (Model ASH)

14 x 50
16 x 64
19 x 75
22 x 86
26 x 100
30 x 120
34 x 126
34 x 136
38 x 144

CMECH Sizes (Model ADN)

14 x 50
16 x 64
19 x 75
22 x 86
26 x 100
30 x 120
34 x 126
34 x 136
38 x 144



Surface Finish:
1 Self Color With Anti Rust
Oiling Coupler



Model : TDS CONNECTOR



Model : TDS CONNECTOR

CMECH Bar Connector/Bar Attachment

The CMECH Bar Connector is a precision-engineered mechanical link designed to connect Scraper bars, drag bars, or flight bars to conveyor chains in heavy-duty material handling systems. It ensures high-strength load transfer, easy installation, and reliable performance in harsh industrial conditions.

Key Features:

Robust Construction: Manufactured from high-grade alloy steel for superior tensile strength and wear resistance.

Secure Connection: Ensures firm locking of scraper/flight bars to round link or forged link chains, preventing loosening under dynamic loads.

Ease of Assembly: Simple and quick installation with minimal downtime, suitable for field maintenance.

Heavy-Duty Design: Withstands high impact and continuous operation in demanding environments such as coal handling, steel plants, power plants, and cement plants.

Corrosion Protection: Available with surface treatments such as galvanizing, black oxide, or phosphate coating for enhanced service life.

Material Options:

Standard: CMECH-20L, CMECH-25D, CMECH-S620

Optional: CMECH-54SM, CMECH-A17P for case-hardened applications requiring extra toughness.

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Type-1 Pocket Wheel Type



Type-2 Tri-Plated Type



Type-3 Segmented Collar Type

CMECH Sprocket Assembly & Sprocket Tooth

The CMECH Sprocket Assembly is a heavy-duty drive component designed to ensure smooth and reliable power transmission in bucket elevators, chain conveyors, and submerged scraper conveyors. Precision-engineered for perfect chain engagement, it offers high wear resistance, optimum load transfer, and long service life even under harsh operating conditions.

Key Features:

Precision Machined: Perfect pitch accuracy for smooth chain engagement and reduced wear.

Segmented Design (Optional): Available in split or segmented construction for easy replacement without dismantling the shaft or chain.

High Strength Materials: Machined from alloy steel for superior tensile strength and fatigue resistance.

Heavy-Duty Hub & Bore: Designed for keyway or shrink-fit mounting with optional taper-lock bush for easy assembly.

Dynamic Balancing: Ensures vibration-free operation at high torque.

Custom Sizes: Available for Round Link Chains (DIN 764/766), Forged Link Chains, or Bucket Elevator Belts as per CEMA/DIN standards.

CMECH Sprocket Tooth

The CMECH Sprocket Tooth is a replaceable wear component of the sprocket assembly, designed for maximum chain life and minimal maintenance cost.

Key Features:

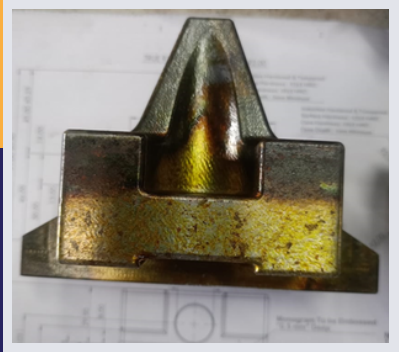
Segmented or Individual Tooth Type:

Allows quick replacement of worn teeth without removing the complete sprocket.

Heat Treated Surface: Case-hardened or induction-hardened for extreme wear resistance.

Material Options: Alloy Steel

Profile Accuracy: Precisely cut tooth profile ensures low noise, smooth engagement, and extended chain life.

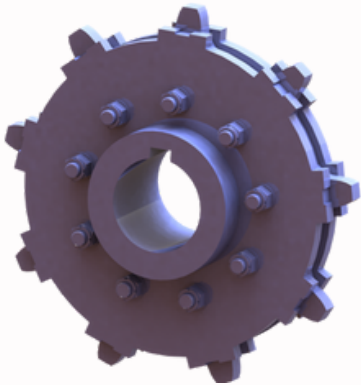
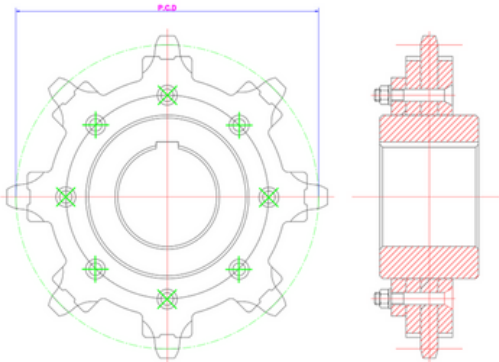


Type-1 Vertical Bolting Type

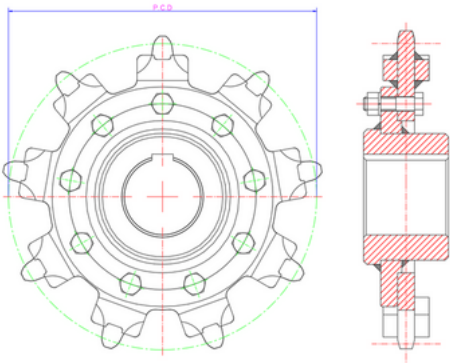


Type-2 Horizontal Bolting Type

CMECH Sprocket Assembly & Sprocket Tooth



Type-1 Tri-Plated Type

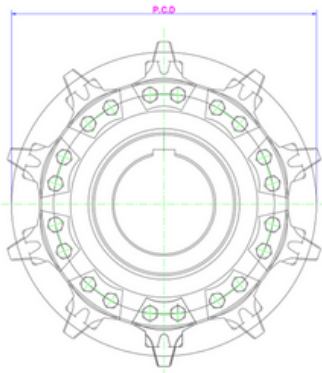


Type-2 Segmented Collar Type

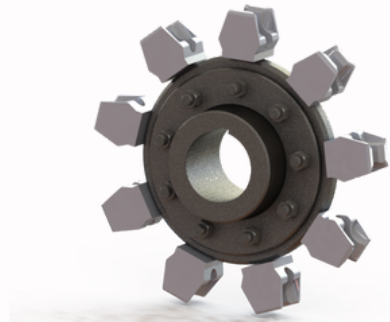
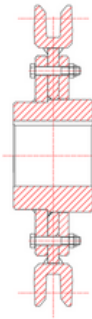
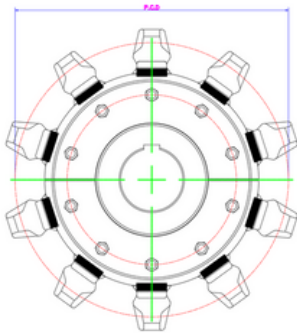
P.C.D	Chain Size	Number of teeth	Weight (in KG)	
			Tri-Plated Type	Collar Type
384	19 x 75	8	51	32
432	19 x 75	9	70	42
479	19 x 75	10	90	52
574	19 x 75	12	125	77
315	20 x 70	7	29	22

P.C.D	Chain Size	NO. of teet h	Weight (in KG)		P.C.D	Chain Size	NO. of teet h	Weight (in KG)	
			Tri-Plated Type	Collar Type				Tri-Plated Type	Collar Type
359	20 x 70	8	48	29	538	30 x 105	8	142	120
403	20 x 70	9	60	36	605	30 x 105	9	182	140
447	20 x 70	10	72	43	615	30 x 120	8	208	160
386	22 x 86	7	54	41	691	30 x 120	9	280	190
441	22 x 86	8	68	48	646	34 x 126	8	220	175
495	22 x 86	9	100	52	726	34 x 126	9	295	200
550	22 x 86	10	127	55	697	34 x 136	8	292	190
410	23 x 80	8	65	51	783	34 x 136	9	380	220
461	23 x 80	9	80	72	646	36 x 126	8	255	190
511	23 x 80	10	95	85	726	36 x 126	9	310	220
466	26 x 91	8	100	75	738	38 x 144	8	320	--
524	26 x 91	9	128	80	829	38 x 144	9	370	--
582	26 x 91	10	146	90	697	39 x 136	8	300	--
513	26 x 100	8	130	120	783	39 x 136	9	395	--
576	26 x 100	9	155	135	753	42 x 147	8	430	--
					847	42 x 147	9	450	--

CMECH Sprocket Assembly & Sprocket Tooth



Type-3 Horizontal Bolting Type



Type-4 Pocket Wheel Type

P.C.D	Chain Size	No. Of tooth	Weight (in KG)
615	30 x 120	8	190
691	30 x 120	9	210
767	30 x 120	10	290
697	34 x 136	8	220
783	34 x 136	9	260
869	34 x 136	10	300

CMECH Sprocket Assembly & Sprocket Tooth

P.C.D	Chain Size	No. Of Tooth	Weight (in KG)
441	22 x 86	8	55
495	22 x 86	9	72
550	22 x 86	10	80
472	26 x 92	8	85
530	26 x 92	9	90
588	26 x 92	10	110
554	30 x 108	8	140
622	30 x 108	9	170
690	30 x 108	10	210
646	34 x 126	8	205
726	34 x 126	9	230
805	34 x 126	10	260
697	34 x 136	8	220
783	34 x 136	9	245
869	34 x 136	10	280

CMECH SCRAPER BAR



THE **CMECH SCRAPER BAR** IS A HEAVY-DUTY FLIGHT BAR SPECIALLY DESIGNED FOR SUBMERGED SCRAPER CONVEYORS (SSC), DRAG CHAIN CONVEYORS, AND OTHER BULK MATERIAL HANDLING SYSTEMS.

IT PROVIDES EFFICIENT MATERIAL CONVEYING AND CONTINUOUS CLEANING OF THE CONVEYOR TROUGH, ENSURING SMOOTH OPERATION AND MINIMAL SPILLAGE EVEN UNDER EXTREME WORKING CONDITIONS.

KEY FEATURES:

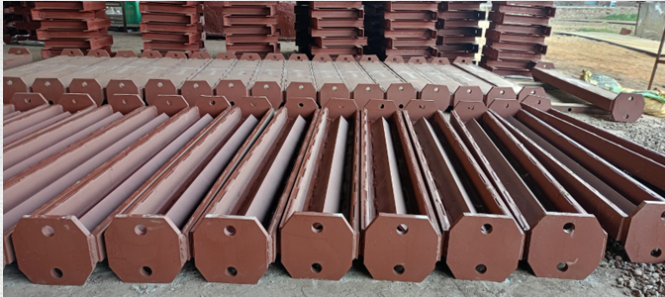
ROBUST CONSTRUCTION: FABRICATED FROM HIGH-STRENGTH STRUCTURAL STEEL TO WITHSTAND CONTINUOUS IMPACT AND ABRASIVE WEAR.

PRECISION ALIGNMENT: DESIGNED TO MAINTAIN PERFECT CONTACT WITH THE CHAIN AND CONVEYOR FLOOR, ENSURING EFFECTIVE MATERIAL SCRAPING AND REDUCED CARRYBACK.

WEAR-RESISTANT DESIGN: HARD WEAR LINERS CAN BE ADDED TO EXTEND SERVICE LIFE IN HIGHLY ABRASIVE MATERIALS LIKE COAL, ASH, OR CLINKER.

CUSTOM LENGTH & PROFILE: AVAILABLE IN FLAT, ANGLED, OR BOX-TYPE DESIGNS BASED ON CONVEYOR SIZE AND DUTY REQUIREMENTS.

RELIABLE CONNECTION: COMPATIBLE WITH CMECH BAR CONNECTORS FOR SECURE AND QUICK ATTACHMENT TO ROUND LINK OR FORGED LINK CHAINS.



TYPE-1 TDS CONNECTOR TYPE

TYPE-2 SHACKLE TYPE

TYPE-3 POCKET ATTACHMENT TYPE

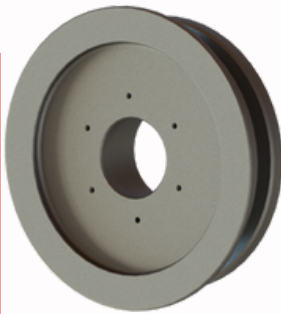
Mail Id: info@constromech.in
Contact No.: +91 8815946458

CMECH WHEELS ASSEMBLY

The **CMECH Wheels Assembly** is a critical guiding and load-bearing component used in Submerged Scraper Conveyors (SSC), Drag Chain Conveyors, and Bucket Elevator systems. Designed for smooth chain travel and long-lasting performance, it ensures proper alignment, reduces friction, and improves overall conveyor efficiency.



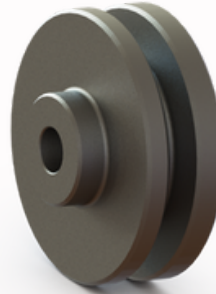
CMECH Wheels Assembly



Type-1 SOI Wheel



Type-2 Tension Wheel



Type-3 Snub Wheel



Type-4 Return Wheel



Key Features:

Heavy-Duty Construction:

Engineered from high-grade cast steel or Forged Alloy Steel for excellent strength and impact resistance.

Precision Machining: Accurately machined bore, hub, and tread guarantee perfect chain engagement and smooth rotation.

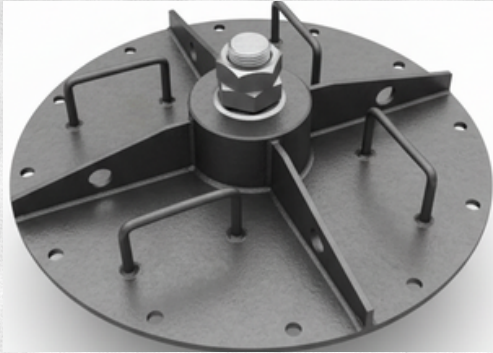
Ni-Hard or Alloy Bushings for superior wear resistance.

Anti-friction Bearings or **bronze bushings** available depending on operating conditions.

Optimized Design: Wheel profiles are customized to match **Round Link Chains, Forged Link Chains, or Bucket Elevator Belts**, ensuring **low wear and high reliability**.

Surface Hardening (Optional): Induction hardened or flame hardened treads for maximum wear life in abrasive environments.

CMECH SUBMERGE OVERHANGING IDLER



The **CMECH Wheels Assembly** is a critical guiding and load-bearing component used in Submerged Scraper Conveyors (SSC), Drag Chain Conveyors, and Bucket Elevator systems. Designed for smooth chain travel and long-lasting performance, it ensures proper alignment, reduces friction, and improves overall conveyor efficiency.

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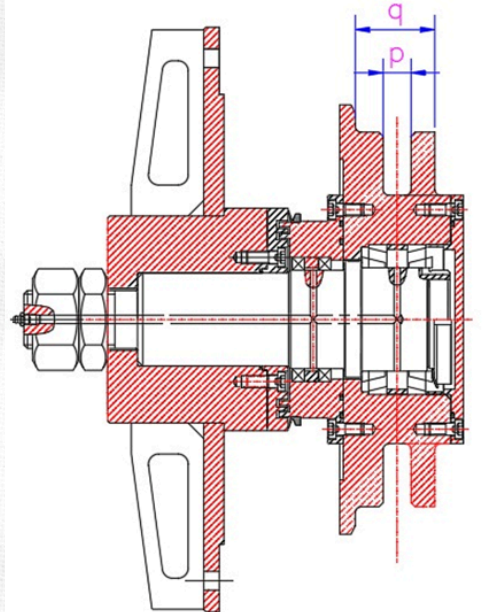
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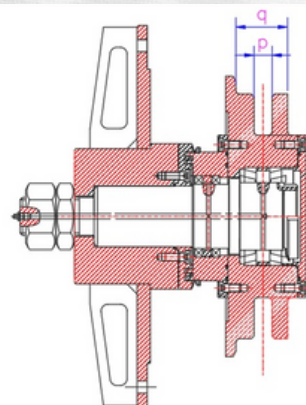
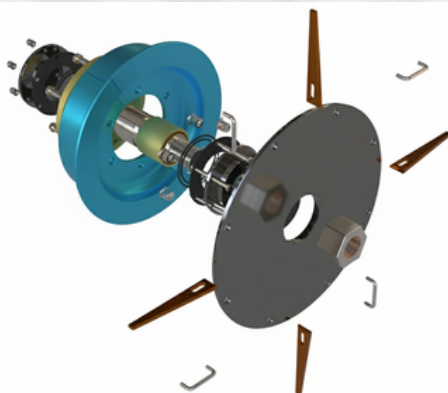
Anti-friction Bearings or **bronze bushings** available depending on operating conditions.

Optimized Design: Wheel profiles are customized to match Round Link Chains, Forged Link Chains, or Bucket Elevator Belts, ensuring low wear and high reliability.

Surface Hardening (Optional): Induction hardened or flame hardened treads for maximum wear life in abrasive environments.



SOI Wheel Assembly



P.C.D	Chain Ø	dimensions in mm		Weight (in KG)
		p	q	
400	19	24	83	100
400	22	27	92	112
400	26	32	107	112
566	30	36	113	150
560	34	42	127	185
566	36	42	136	195
650	42	50	155	240
511	30	36	113	130

All-in-One Maintenance Schedule Table – Roundlink Chain SSC (Bottom Ash)				
Frequency	Running Time (hrs)	Downtime	Task Type	Detailed Tasks
Daily	8–12 hrs	No	Visual/Operator	<ul style="list-style-type: none">- Check chain slack and build-up- Observe noise/vibration- Check scraper paddle condition- Check motor amps & gearbox temp- Monitor submerging tank water level
Weekly	~120 hrs	No	Minor Preventive	<ul style="list-style-type: none">- Clean around housing- Check chain tension visually- Check paddle alignment- Spot cracks/loose bolts
Monthly	~500 hrs	Partial (≤2 hrs)	Preventive	<ul style="list-style-type: none">- Grease bearings and chain (MoS2)- Adjust chain tension- Flush tank (if ash buildup)- Check proximity switches- Check gearbox oil level
Quarterly	~1500 hrs	Partial (≤4 hrs)	Functional Inspection	<ul style="list-style-type: none">- Inspect sprocket teeth profile- Measure chain elongation- Check paddle and weld wear- Shaft coupling torque check- Inspect ash slurry seals
Half-Yearly	~3000 hrs	Yes (Scheduled)	Component Wear Check	<ul style="list-style-type: none">- Chain hardness test- Replace gearbox oil (standard oil)- Measure shaft run-out- Perform NDT (Dye Pen or UT)- Compare chain elongation log
Yearly	~6000 hrs	Yes (Full shutdown)	Overhaul	<ul style="list-style-type: none">- Replace chain if elongation >2%- Replace worn sprockets (hook >20%)- Recondition/replace paddles- Replace/clean bearings- Anti-corrosion painting- Full PLC sensor calibration
Condition-Based	As Triggered	As Required	Predictive	<ul style="list-style-type: none">- Install IoT sensors (vibration, chain tension)- Real-time alerts- Replace components based on AI insights
Gearbox Oil Change	3000 hrs (Standard) 6000 hrs (Synthetic)	Yes (1–2 hrs)	Lubrication	<ul style="list-style-type: none">- Drain and refill oil- Clean breather- Check seal leaks
Chain Replacement Criteria	6000–8000 hrs	Yes	Replacement	<ul style="list-style-type: none">- Elongation >2%- Pin/bushing wear- High noise or vibration
Sprocket Replacement	6000–10000 hrs	Yes	Replacement	<ul style="list-style-type: none">- Hooking >20%- Tooth wear or bending
Bearing Replacement	4000–5000 hrs	Yes	Replacement	<ul style="list-style-type: none">- Overheating (>90°C)- Noise or vibration
Scraper Bar Check	5000–6000 hrs	Yes	Replacement	<ul style="list-style-type: none">- Thickness loss >25%- Misalignment/deformation



GLOBAL REACH AND CONTACT

Constromech Engineering Solution has established a strong presence not only across India but also in key international markets including Russia, Africa, Kazakhstan, and Turkey. Our commitment to engineering excellence and reliable solutions has made us a trusted partner worldwide.

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