

# Cement Industry Chain

*Conveying quality*



**RENOLD**

*Superior Chain Technology*

# Renold Cement Chain

## Unique quality and safety

### Leading edge technology

Renold provides practical cost effective solutions, with a commitment of value through quality. This is achieved by continuous investment in people, process technology and manufacturing.

### Consistent reliability

Renold's 100 years of experience in the design and manufacture of power transmission products, to the highest specifications, with proven performance in diverse industries worldwide, underwrites the guaranteed quality and the assurance of reliability.

### Package solutions

One stop for your drive systems, including roller and conveyor chain, gears, motors, couplings, variators and fabricated bases.

### Service excellence and care

Renold offers a unique level of service excellence and customer care. Our experienced applications engineers will select the optimum solution with the aid of the latest computer and design technology. Renold is the name for service, care and peace of mind.

### Special solutions and innovations

Renold is recognised throughout the industry for its capability to create specific solutions to customers' unique requirements. International companies and industries from steel to food processing to escalators to textile machinery have chosen Renold to solve their problems.



### Local and international availability

The Renold organisation stretches world-wide.

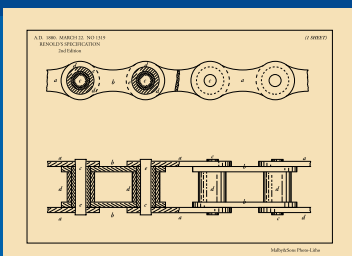
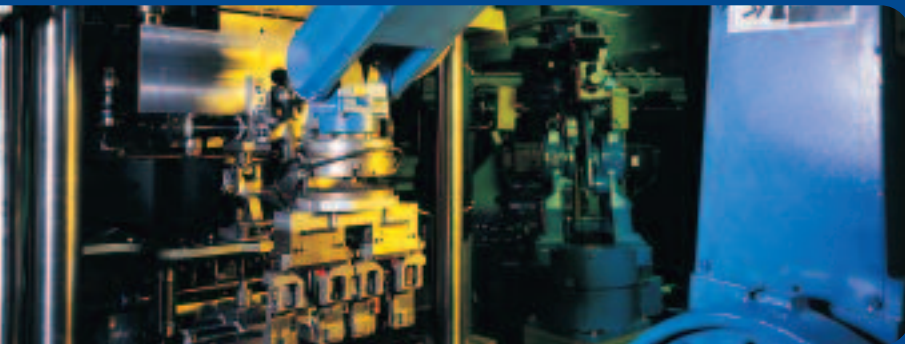
- 17 National Sales Companies
- Over 70 Overseas Distributors offering the comprehensive Renold range of power transmission products, directly or through local distributor networks

### Approvals and Quality Assurance

Renold's chain factories have ISO 9001:2000 certification. The roller chain manufacturing sites also have ISO 14001:1996 certification.

The gear, clutch and couplings sites all have ISO 9001:1994 certification.

We also manufacture to the specifications required by API, BAe, CAA, LONDON UNDERGROUND, ROLLS-ROYCE and JAGUAR.



Original patent drawing  
1880 for bush roller chain

# Cement industry

## Conveyor chain value through quality

### Renold cement chain

- Supreme performance under high and shock loads
- Major suppliers to many original equipment manufacturers
- All Renold Chain's manufacturing and assembly processes are monitored by Statistical Process Control (SPC) in conformance with ISO 9000 (BS 5750) Quality Systems
- Renold chain has proven reliability in cement works around the world
- Excellent value for money

### Product description

As applications are often specific, Renold offers a full bespoke design to customers' requirements.

As standard, Renold provides:

- Excellent fatigue life
- Consistent reliability
- Full technical service

Options available on request include:

- Lubrication options
- Wide range of attachments
- Wide range of pin fixing methods

### Key features

- Consistent overall tolerances make it ideal for conveying systems requiring precise alignment
- Maximum chain strength and resistance to wear are achieved by strict control of the material specification, and by using state of the art heat treatment processes
- Special materials selected for the unique combination of demands from the cement industry
- Fatigue life is improved by maintaining precise fits and tolerances between the pins, bushes and side plates
- Chain and sprocket life are optimised by the rigid control of pitch accuracy, resulting in excellent gearing, lower friction and reduced wear
- Bush and roller life are maximised by controlling the concentricity of these components and careful selection and control of the heat treatment process
- Breaking loads exceed the minimum international standards
- Strict control of inner and outer plate clearances ensures effective lubricant penetration

### Function

Renold cement chains are used on:

- Bucket elevators
- Reclaim conveyors
- Apron feeders
- Hot clinker conveyors
- Scrapers
- Crusher feeders
- Drying kilns

In fact, wherever chains are required in cement works.

### Chain types

Bucket elevator



Reclaimer



Hot clinker conveyor



Apron feeder



# Cement industry

## The range

### Renold ultimate endurance

Renold has been supplying chain to the cement industry for many years, and can be found in various types of equipment throughout the different processes of cement manufacture.

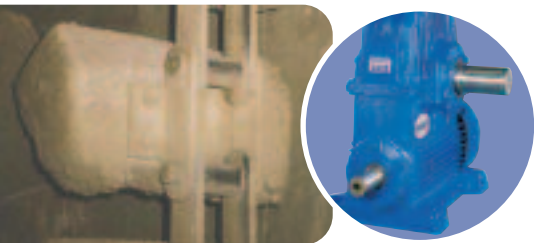
### Bucket elevator

Bucket elevators are used in various processes in the cement industry to raise materials.

The size and type of chain will depend on the height and duty of the elevator, but output can reach 2000 T/hr.

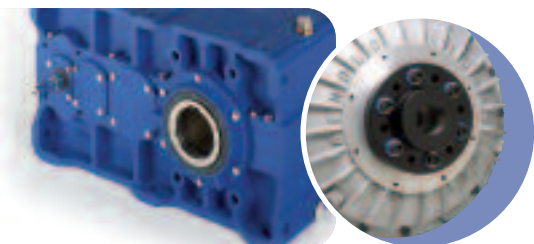
TW Series heavy-duty worm gear units are typically used to drive bucket elevators with a Hydrastart soft start coupling to control acceleration under start up conditions.

Sprag clutch holdback devices are also fitted to the headshaft to prevent runback.



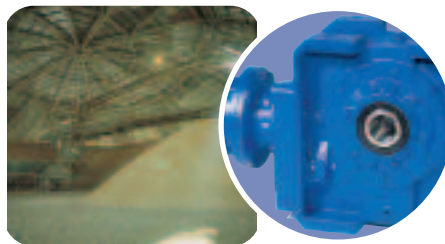
### Crusher and grinding mills

Drives for processing raw materials in the crushing & grinding section commonly use products such as HC Series helical and bevel helical gear units, PM rubber-in-compression couplings and Hydrastart soft start couplings.



### Reclaim conveyor

Reclaim conveyors are used to move raw material, usually stocked in bulk on the ground in sheds or silos. The reclaim conveyor is usually a twin strand scraper conveyor with the bottom strand used to scrape the material. Reclaim conveyor drives are covered by our range of PM motorised gear units including wormgear, helical worm and helical bevel helical types.



### Apron feeder chain

These conveyors are usually situated under hoppers, and are used to control feed material from the hopper for processing. Material can be loaded into the bunker from an appreciable height and straight onto the conveyor. In these arduous conditions, all components, particularly the chains, have to be of extremely robust construction. The conveyor consists of two or more strands of solid bearing pin chain, bolted to fabricated apron slats. They are driven at a very slow speed intermittently to ensure regulation of material flow.



### Crusher feeder

This type of equipment is comparable to the apron feeder, but in this application the apron is subject to very high impact loads. Special design features in Renold chain have increased crusher feeder chain life by up to 3 times. The TW Series wormgear range is ideally suited to shock load conditions used with the PM flexible coupling.



### Hot clinker conveyor

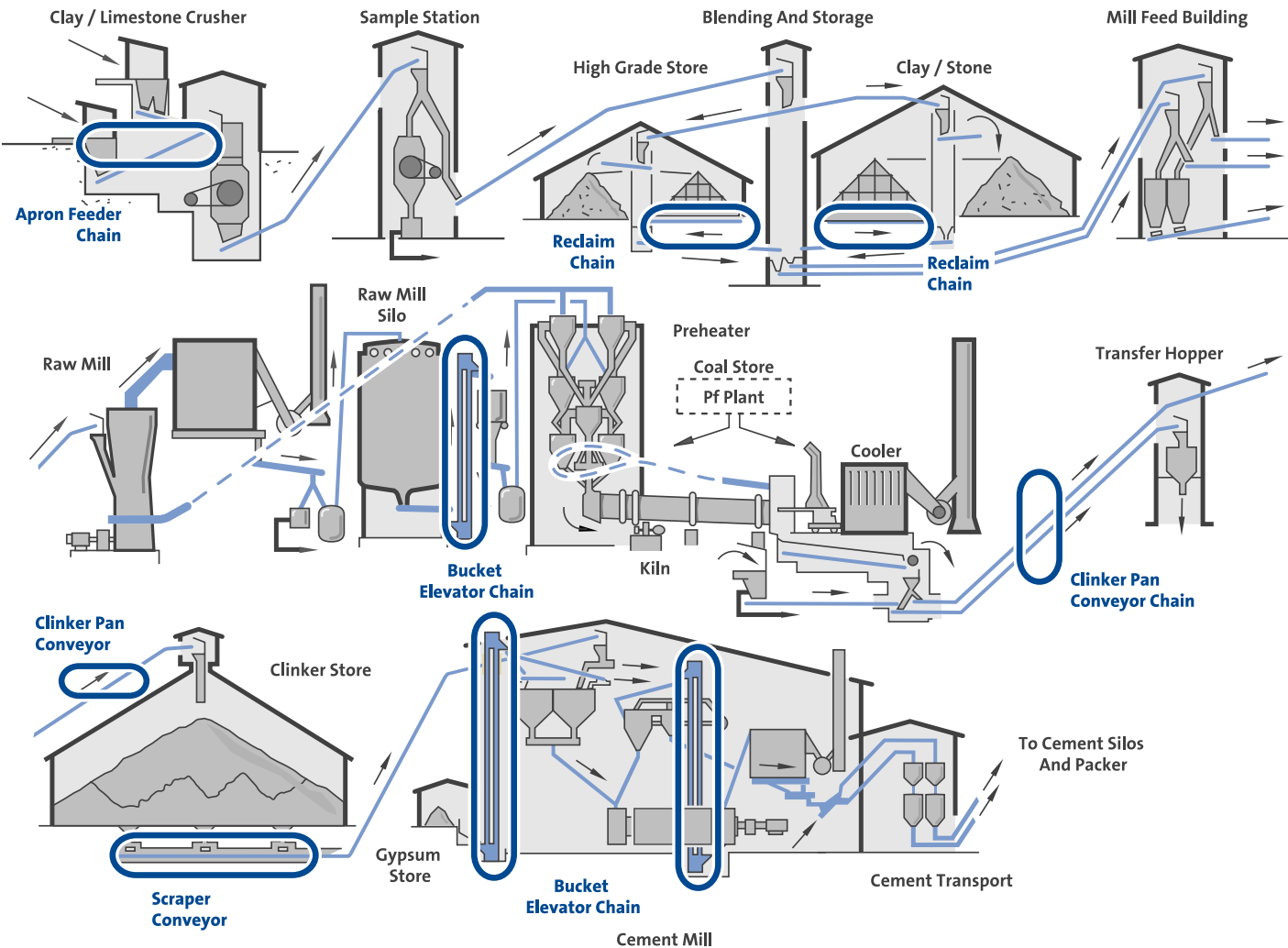
Used to transport hot clinker from the kiln exit to the clinker store. The chains tend to be long pitch and have outboard rollers.

A typical layout consists of two chains, each 1200kN breaking load, 250mm pitch with staybar bearing pins. Overlapping buckets are bolted between the chains. Chains can be supplied with a grease gun lubrication in the bearing pin ends and in the outboard rollers. This provides improved life and a significantly quieter operation. Sprag clutch holdbacks fitted with torque arm restraints are the perfect solution for restraining back driving of the conveyor.





# Cement industry



# Cement industry

## Cement mill bucket elevators

### Experience

With over 100 years experience in designing and manufacturing chain products for tough industrial applications, you can be assured that Renold chains have optimum design features. Renold Chain engineers are well aware of the rugged requirements to be met to assure the long service life of cement mill elevator chains. Years of testing in Renold Chain's R&D facility ensures trouble free operation in the field.

### Wear resistance

Pins and bushes (knuckles) are made from alloy steel for maximum wear life and toughness. Pins are through hardened and induction hardened to provide maximum wear resistance. The pins and bushes are also centerless ground to improve wear life and provide ideal fit between mating parts.

### Fatigue life

All chain parts are designed to provide maximum fatigue life. Plates are through hardened for maximum strength without sacrificing necessary toughness. The full round design of pins and bushes eliminates stress risers in plate holes to maximise fatigue life. The plate hole size and finish are closely controlled to assure optimum press fit and fatigue life.



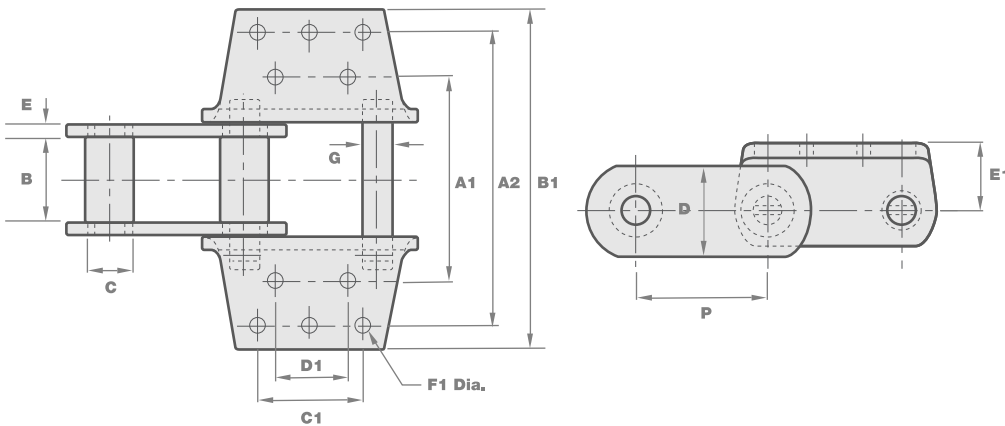
# Cement industry

## Bucket elevator chain

### Bucket elevator chains

Chains assembled with pins staggered in pairs.

- Pins and bushes induction hardened and ground
- High specification alloy steels
- Closely controlled tolerances



### Bucket elevator chain

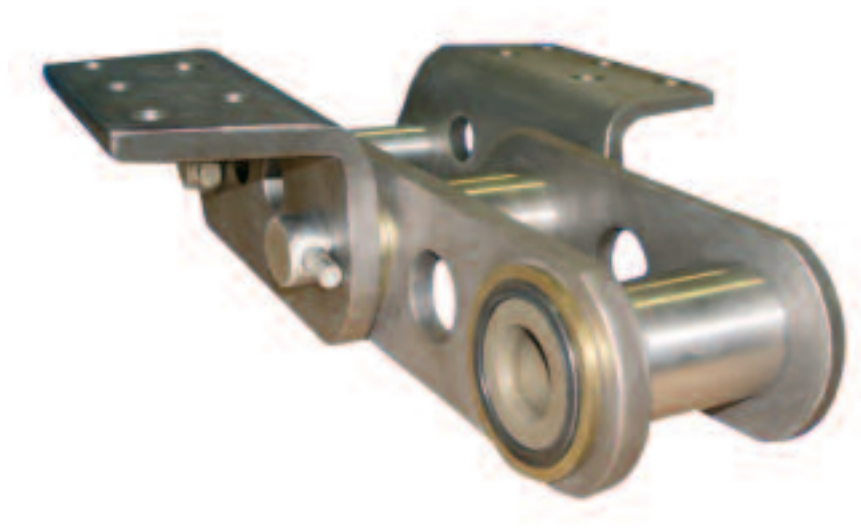
Dimensions (mm)

Renold Chain No	Pitch (inch)	Inside Width	Plate Thickness inner/outer	Plate Height	Bush/Roller Diam.	Pin Diam.							Type Att. No. of Holes	Tensile Strength Avg. kN	
	P	B	E	D	C	G	A1	A2	B1	C1	D1	E1	F1		
B.43201/90	3.940	19.050	5.000/4.000	40.000	31.800	-	76.000	-	102.000	60.000	-	32.000	10.500	K-2 - 4 holes	68
B.43252/90	4.920	25.400	7.000/5.000	55.000	47.600	-	105.000	-	174.000	90.000	-	31.000	14.500	K-2 - 4 holes	136
B.69002	4.920	44.000	7.000/6.000	50.000	42.000	19.000	140.000	-	182.000	85.000	-	45.000	18.000	K-2 - 4 holes	220
B.69003	5.320	55.000	12.000/10.000	70.000	60.000	25.000	180.000	-	245.000	100.000	-	55.000	19.000	K-2 - 4 holes	590
6956-PB	6.000	76.200	12.700	76.200	44.450	25.400	-	184.150	242.888	63.500	-	47.625	17.463	K-24 - 4 holes	642
6867-R	6.000	76.200	12.700	82.550	44.450	25.400	177.800	304.801	355.601	88.900	88.900	63.500	14.288	K-44 - 8 holes	756
6866-R	6.000	63.500	12.700	76.200	60.325	31.750	-	160.338	249.238	57.150	-	60.325	17.475	K-2 - 4 holes	742
6869-R	6.000	94.456	15.875	101.600	60.325	31.750	228.600	330.201	381.001	114.300	69.850	76.200	17.475	K-44 - 8 holes	1045
6969-R	6.000	94.463	15.875	101.600	63.500	38.100	228.600	330.201	381.001	114.300	69.850	76.200	17.475	K-44 - 8 holes	1223
B.43325/95	6.300	50.500	10.000/8.000	60.000	50.000	-	138.000	-	215.000	120.000	-	40.000	18.500	K-2 - 4 holes	272
6864-R	7.000	94.463	15.875	101.600	60.325	31.750	228.600	330.201	381.001	139.700	95.250	76.200	17.475	K-443 - 10 holes	1045
6874	7.000	101.600	15.875	114.300	69.850	44.450	241.300	342.901	393.701	139.700	95.250	79.375	17.475	K-443/K-44 - 10 holes	1734
6875-R	7.000	95.250	15.875	101.600	63.500	38.100	228.600	330.201	381.001	139.700	95.250	76.200	17.475	K-443/K-44 - 10 holes	1223
B.43405/95	7.800	50.500	10.000/8.000	60.000	50.000	-	138.000	-	195.000	160.000	-	50.000	18.500	K-2 - 4 holes	272
B.43207/95	7.800	30.100	10.000/12.000	70.000	50.000	-	160.000	-	207.000	160.000	-	50.000	18.500	K-2 - 4 holes	385
B.69001	9.840	58.000	14.000/12.000	80.000	63.300	-	240.000	-	330.000	147.000	-	60.000	24.700	K-2 - 4 holes	600
B.60602	9.840	76.000	16.000/16.000	120.000	85.000	-	240.000	-	300.000	147.000	-	95.000	22.000	K-2 - 4 holes	1000
B.60904	9.840	76.000	16.000	120.000	85.000	44.000	210.000	-	270.000	180.000	-	95.000	22.000	K-3 - 3 holes	883
B.98055	9.840	58.000	14.000/12.000	80.000	63.500	32.860	240.000	-	330.000	147.000	-	60.000	22.000	K2 - 4 holes	590

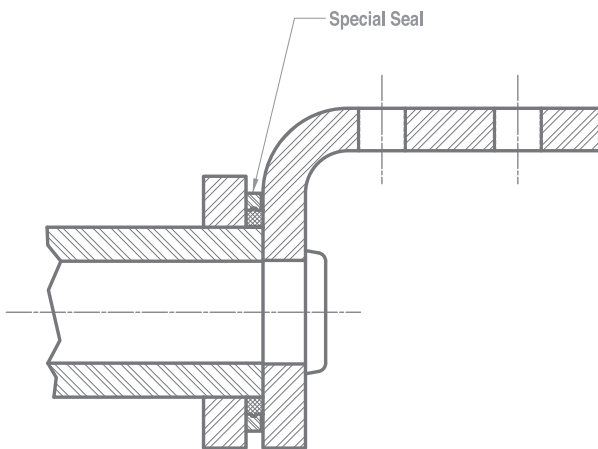
# Seal joint bucket elevator chain

## Seal joint bucket elevator chain

- The majority of elevator chains are available with the sealed joint feature
- The sealing method both seals in lubricant and seals out debris
- Wear life can be increased dramatically through use of this chain type



Cross section view showing seal detail.



## Sealed joint bucket elevator chain

Dimensions (mm)

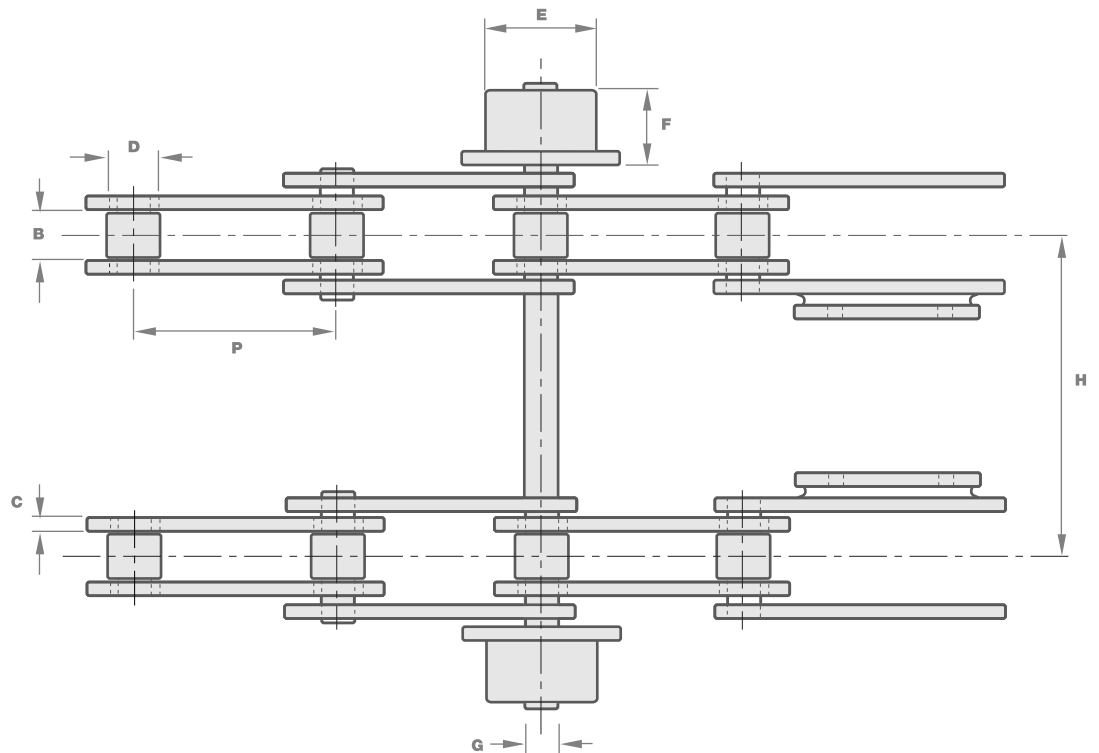
Renold Chain No	Pitch (inch)	Inside Width	Plate Thickness inner/outer	Plate Height	Bush/Roller Diam.	Pin Diam.								Type Att. No. of Holes	Tensile Strength Avg. kN
	P	B	E	D	C	G	A1	A2	B1	C1	D1	E1	F1		
6956-SJ-PB	6.000	76.200	12.700	76.200	44.450	25.400	-	184.150	242.890	63.500	-	47.630	17.460	K-24 - 4 holes	642
6875-R-SJ	7.000	95.250	15.880	101.600	63.500	38.100	228.600	330.200	391.320	139.700	95.250	76.200	17.480	K-443/K-44 - 10 holes	1223



# Hot clinker conveyor chain

## Hot clinker conveyor chain

- Grease gun lubrication option
- Sealed bearings
- Fully heat treated components
- Optimum interference fits



## Hot clinker conveyor chain

Dimensions (mm)

Ref No.	Pitch	Inside Width	Plate Depth	Plate Thickness	Bush Diam.	OB Roller Diam.	OB Roller Width	Bearing Pin Diam.	Breaking Load kN per strand	Chain Centres
	P	B		C	D	E	F	G		H
171045*	250.000	59.700	100.000	12.000	53.980	139.700	96.520	35.920	600	1280
171209**	250.000	87.800	120.000	16.000	60.000	136.000	82.000	40.900	1200	1123
6982PB**	250.000	76.200	114.300	12.700	60.000	125.000	79.000	34.950	915	965
2373-5	304.800	104.780	88.900	15.880	82.550†	152.400	90.000	41.280	955	1473

\* Staybars at 2 pitch spacing

\*\* Staybars at 4 pitch spacing

† Gearing roller

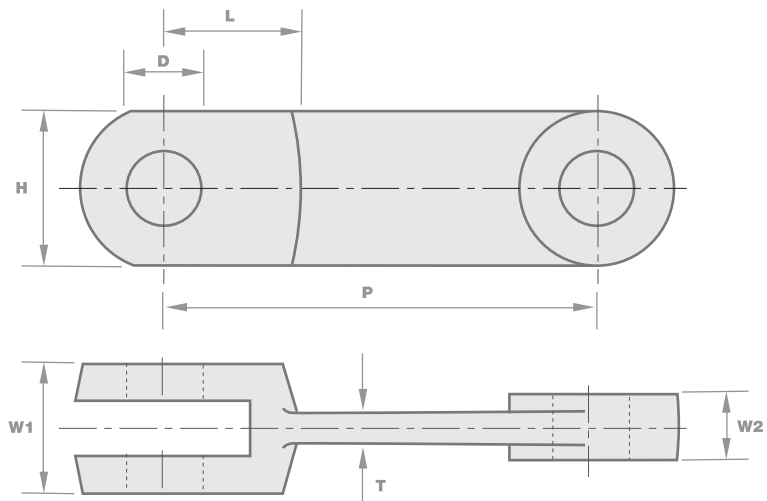
# Cement industry

## Cranked forged chain

### Cranked forged chain

A full range of welded scraper flights is available.

- Drop forged alloy steel
- High tensile strength
- Accurately machined links



### Cranked forged chain

Dimensions (mm)

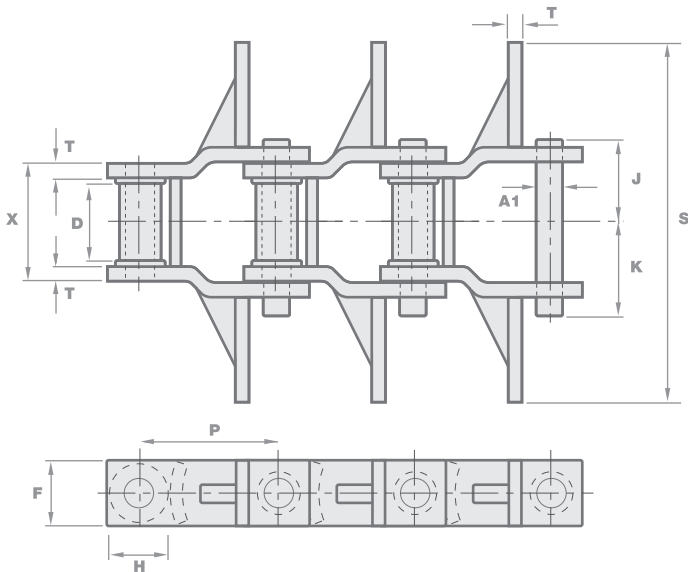
Reference No.	Pitch	Plate Height					Hole Diam	Mass (kg)	Tensile Strength Avg. kN
	P	H	W1	W2	T	L	D		
171835	102	36	28	12	7.600	32	14	0.440	150
171836	142	50	42	20	11.000	46	25	1.260	300
171837	142	50	62	30	16.500	55	25	2.100	450
171838	142	50	62	30	16.500	55	25	2.100	600
171839	216	72	58	25	18.000	60	35	4.600	582
171840	260	75	70	31	20.000	79	32	5.650	700

# Cement industry

## Heavy duty welded steel drag chain

### Heavy duty welded steel drag chain

- All chains are designed with press fit pins to allow greater pin loading and to prevent movement
- All chain parts are heat treated
- All chains supplied with coupling pin and cotter assembled
- HF suffix indicates hardfacing of plates, face plates and wings. Hardfacing is recommended
- Maximum recommended operating temperature is 530°C
- All chains have induction hardened pins



### Heavy duty welded steel drag chain

Dimensions (mm)

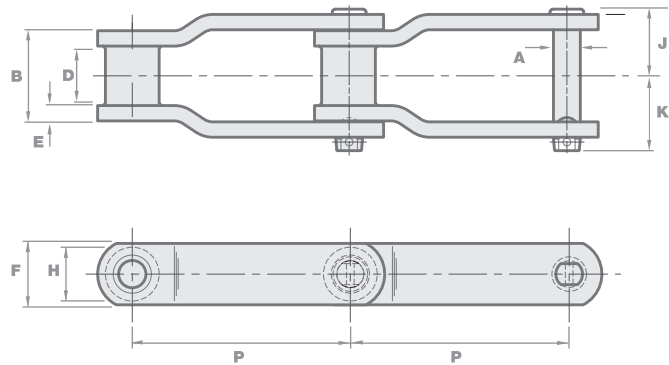
Renold Chain No	Pitch	Base Chain Mass Avg. (kg/m)	Tensile Strength Avg. kN	Pin Diam.	Sprocket Width	Plate Thickness	Plate Height	Bush Diam.	CL to Pin Head	CL to Pin End	Outside Width	Flight Width
	P			A1	D	T	F	H	J	K	X	S
W S-5157-H	6.050	33.934	801	28.575	76.200	15.875	63.500	44.450	80.963	93.663	117.475	203-356
W S-6067-HHF	9.000	40.185	1023	31.750	92.075	19.050	63.500	63.500	96.441	107.156	141.288	254-508
W S-6267-HHF	9.000	40.333	934	34.925	92.075	19.050	63.500	63.500	97.631	107.163	141.300	254-508
W S-5121-HHF	9.000	52.686	1397	31.750	92.075	28.575	63.500	63.500	122.238	127.000	160.338	254-762
W S-5221-HHF	9.000	52.984	1357	34.925	92.075	28.575	63.500	63.500	122.250	127.000	160.351	254-762
W S-6121-HHF	9.000	53.579	1397	31.750	92.075	28.575	63.500	63.500	121.444	127.000	160.351	254-762
W S-6221-HHF	9.000	53.877	1357	34.925	92.075	28.575	63.500	63.500	122.250	127.000	160.351	254-762

# Cement industry

## Type W welded steel chains

### Type W chains

- PermaWeld chains are normally of offset-type construction
- The pins have a press fit into side bars, thus eliminating unnecessary wear due to pin movement
- Accurate punching of pin holes and automated machine welding and assembly of the barrels to side bars assures high quality and dimensional control
- Steels of medium carbon grades are used for pins and side bars and may be heat treated to produce greater strength and wearability
- Barrels are of carburizing grades of carbon steel which may be case hardened



### Type W chains for drives and conveyors

Dimensions (mm)

Chain No.	Pitch	Mass kg/m	Tensile Strength Avg. kN	Pin Diam.	Sprocket Thickness Max	Plate Thickness	Plate Height	Bush Diam.	CL to Pin Head	CL to Pin End	Outside width at Inner plate
	P			A	D	E	F	H	J	K	B
W-78	2.609	6.251	107	12.700	28.575	6.350	28.575	22.225	36.116	40.084	50.800
W-78P	2.609	6.251	133	12.700	28.575	6.350	28.575	22.225	36.116	40.081	50.800
W-82	3.075	7.442	116	14.288	31.750	6.350	31.750	26.988	38.497	43.259	57.150
W-82P	3.075	7.442	156	14.288	31.750	6.350	31.750	26.988	38.506	43.256	57.150
W-82XHD	3.075	13.097	205	19.050	31.750	9.525	38.100	34.925	45.641	53.578	63.500
W-182	3.075	12.353	205	19.050	28.575	9.525	38.100	34.925	42.466	50.403	57.150
W-124	4.000	12.353	205	19.050	41.275	9.525	38.100	41.275	49.606	56.744	71.438
W-124P	4.000	12.353	267	19.050	41.275	9.525	38.100	41.275	49.606	56.744	71.450
WS-784	4.000	4.911	107	12.700	28.575	6.350	28.575	22.225	36.119	40.081	50.800
WS-784P	4.000	4.911	133	12.700	28.575	6.350	28.575	22.225	36.119	40.081	50.800
W-124HD	4.063	20.241	374	22.225	41.275	12.700	50.800	41.275	55.959	62.706	76.200
W-124HDP	4.063	20.241	400	22.225	41.275	12.700	50.800	41.275	55.956	62.713	76.200
W-134	4.063	24.855	458	25.400	41.275	12.700	63.500	41.275	56.744	62.706	76.200
W-134P	4.063	24.855	498	25.400	41.275	12.700	63.500	41.275	56.744	62.713	76.200
W-111	4.760	12.204	205	19.050	57.150	9.525	38.100	36.513	56.753	63.897	85.725
W-111P	4.760	12.204	267	19.050	57.150	9.525	38.100	41.275	56.744	63.907	85.725
W-106	6.000	9.972	165	19.050	41.275	9.525	38.100	34.925	49.609	56.753	71.438
W-106P	6.000	9.972	260	19.050	41.275	9.525	38.100	34.925	49.606	56.744	71.450
W-106HD	6.000	12.204	222	19.050	41.275	12.700	38.100	31.750	56.356	63.500	77.788
W-110	6.000	9.674	205	19.050	47.625	9.525	38.100	31.750	51.991	59.134	76.200
W-110P	6.000	9.674	267	19.050	47.625	9.525	38.100	36.513	51.994	59.131	76.200
W-132	6.050	19.497	374	25.400	73.025	12.700	50.800	41.275	74.216	82.550	111.125
W-132P	6.050	19.497	445	25.400	73.025	12.700	50.800	41.275	74.219	82.550	111.125
W-132HD	6.050	22.920	467	25.400	73.025	15.875	50.800	41.275	80.566	88.900	117.475
W-132HDP	6.050	22.920	534	25.400	73.025	15.875	50.800	41.275	80.569	88.900	117.475
WS-150	6.050	23.515	374	25.400	73.025	12.700	63.500	44.450	74.219	82.550	111.125
WS-150P	6.050	23.515	445	25.400	73.025	12.700	63.500	44.450	74.219	82.550	111.125
WS-157	6.050	29.022	556	28.575	69.850	15.875	63.500	44.450	80.963	92.075	117.475
WS-157P	6.050	29.022	623	28.575	69.850	15.875	63.500	44.450	80.975	92.075	117.475
WS-855PB	6.050	27.534	667	28.575	69.850	14.288	63.500	44.450	76.994	89.694	112.713



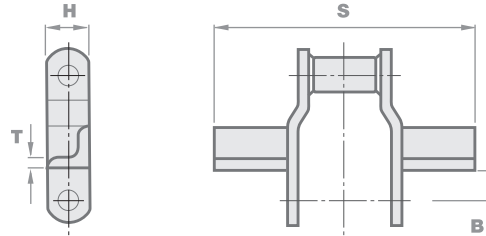
# Cement industry

## Attachments for Type W welded steel chains

### Wing attachments

Dimensions (mm)

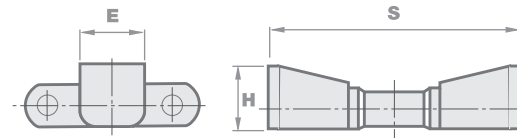
Chain No.	Mass kg/m	B	H	S	T
W-78	9.376	19.050	28.575	152.400	6.350
W-82	7.888	19.050	31.750	165.100	6.350
W-124	17.116	30.163	38.100	215.900	6.350
W-132	26.939	38.100	50.800	314.326	12.700



### Cradle attachments style B

Dimensions (mm)

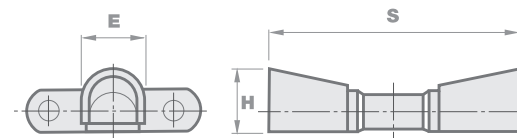
Chain No.	S	H	E
W-132	279.401	76.200	63.500
W-132	330.201	76.200	76.200
W-132HD	330.201	76.200	63.500



### Cradle attachments style C

Dimensions (mm)

Chain No.	S	H	E
W-124	203.200	63.500	60.325
W-132	279.401	82.550	101.600
W-132	330.201	88.900	101.600
W-132HD	336.551	88.900	101.600



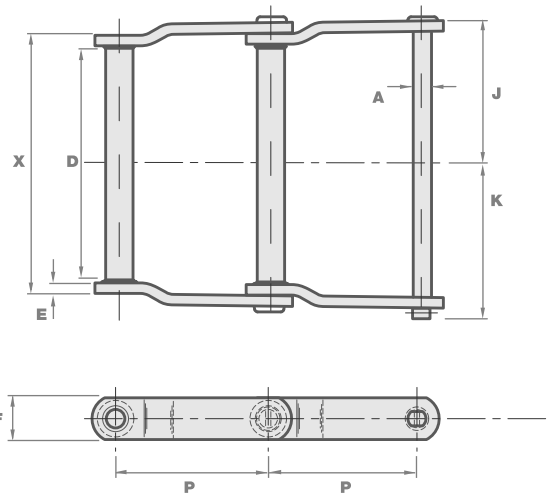
Special attachments are available to customers requirements.

# Cement industry

## Type WD PermaWeld drag chains

### Type WD PermaWeld drag chain

- Type WD PermaWeld drag chains are furnished with heat treated pins and formed steel barrels
- The barrels are shaped to provide maximum conveying capacity, shock resistance, toughness and higher yield strength in bending than many comparable cast and other welded links
- Precise press fits of the pins in the side bars and single flats milled on the pin ends prevent unnecessary wear due to pin movement
- Pins and side bars are made of medium carbon steels
- Barrels are of carburizing grade steels which are case-hardened to file hard levels on the heat treated chains
- Accurately punched holes and assembly procedures assure dimensional control
- The flexibility of welded construction provides a wider range of attachment links than is normally offered for similar cast chains



### Type WD PermaWeld drag chains

Dimensions (mm)

Chain No.	Pitch (inch)	Mass kg/m	Tensile Strength Avg. kN	Pin Diam Max	Sprocket Thickness	Plate Thickness	Plate Height	CL to Pin Head	CL to Pin End	Outside width at Inner plate
	P			A	D	E	F	J	K	X
WD-102	5.000	15.478	227	19.050	161.925	9.525	38.100	113.903	121.047	196.850
WD-102P	5.000	15.478	267	19.050	161.925	9.525	38.100	113.894	121.057	196.850
WD-104	6.000	11.758	227	19.050	104.775	9.525	38.100	83.741	90.885	136.525
WD-104P	6.000	11.758	267	19.050	104.775	9.525	38.100	83.744	90.881	136.525
WD-110	6.000	16.074	227	19.050	228.600	9.525	38.100	147.241	154.385	263.526
WD-110P	6.000	16.074	267	19.050	228.600	9.525	38.100	147.244	154.382	263.526
WD-120	6.000	26.939	311	22.225	222.250	12.700	50.800	150.019	156.369	260.351
WD-120P	6.000	26.939	400	22.225	222.250	12.700	50.800	150.013	156.363	260.351
WD-112	8.000	13.544	227	19.050	228.600	9.525	38.100	147.241	154.385	263.526
WD-112P	8.000	13.544	267	19.050	228.600	9.525	38.100	147.244	154.382	263.526
WD-116	8.000	20.985	227	19.050	330.201	9.525	44.450	194.866	202.010	358.776
WD-116P	8.000	20.985	307	19.050	330.201	9.525	44.450	194.869	202.007	358.776
WD-122	8.000	22.771	311	22.225	222.250	12.700	50.800	150.013	156.369	260.351
WD-122P	8.000	22.771	400	22.225	222.250	12.700	50.800	150.013	156.363	260.351
WD-480	8.000	25.450	311	22.225	282.576	12.700	50.800	181.769	188.119	323.851
WD-480P	8.000	25.450	400	22.225	282.576	12.700	50.800	181.763	188.113	323.851
WD-480HP	8.000	27.980	449	25.400	282.576	12.700	50.800	181.763	188.113	323.851
WD-480XHD	8.000	31.255	378	25.400	282.576	15.875	50.800	188.119	194.469	330.201
WD-480XHDP	8.000	31.255	543	25.400	282.576	15.875	50.800	188.113	194.463	330.201

# Cement industry

## Attachments for Type WD chains

### Attachments for Type WD chains

The flexibility of welded construction provides a wide range of attachment links. These attachments have wearing areas that may be easily heat treated. This may be done by induction hardening processes with accurate control of both areas covered and depth of hardening without adversely affecting nearby sections of the link.

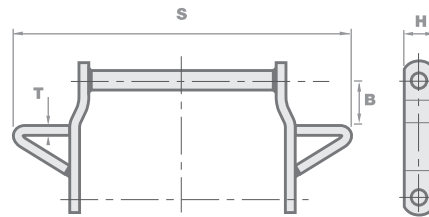
Type WD attachment links are fabricated by welding shaped bar stock parts to the plain link, creating WD attachments that are strong and durable. The greater flexibility in design and manufacturing of the welded chain permits rapid production of the attachments for special purposes.



### Wing attachments

Dimensions (mm)

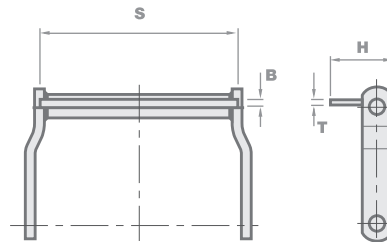
Chain No.	Mass kg/m	B	H	S	T
WD-102	22.325	50.800	38.100	365.126	9.525
WD-104	17.413	57.150	38.100	304.801	9.525
WD-110	21.729	57.150	38.100	431.801	9.525
WD-112	17.860	57.150	38.100	431.801	9.525
WD-116	27.683	63.500	44.450	558.801	9.525
WD-480	36.017	63.500	50.800	558.801	12.700



### Attachments style C

Dimensions (mm)

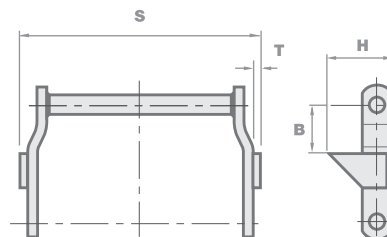
Att	Chain No.	Mass kg/m	B	H	S	T
C1	WD-102	19.497	9.525	57.150	177.800	9.525
	WD-104	14.139	9.525	57.150	127.000	9.525
	WD-110	20.836	9.525	57.150	254.001	9.525
	WD-112	17.116	9.525	57.150	254.001	9.525
	WD-116	25.599	9.525	60.325	330.201	9.525
	WD-122	25.897	12.700	50.800	254.001	12.700
C3	WD-110	22.325	12.700	57.150	254.001	12.700
	WD-480	34.231	12.700	76.200	355.601	12.700
C4	WD-102	23.515	9.525	95.250	177.800	9.525
	WD-104	16.520	9.525	95.250	127.000	9.525
	WD-110	25.599	9.525	95.250	254.001	9.525
	WD-112	20.688	9.525	95.250	254.001	9.525
	WD-116	33.338	9.525	123.825	330.201	9.525
	WD-480	43.161	12.700	127.000	355.601	12.700



### Attachments style RR

Dimensions (mm)

Att	Chain No.	Mass kg/m	B	H	S	T
RR	WD-102	17.860	50.800	57.150	235.744	9.525
	WD-104	13.246	63.500	57.150	175.419	9.525
	WD-110	18.455	63.500	57.150	302.419	9.525
	WD-112	15.330	114.300	57.150	302.413	9.525
	WD-116	22.622	82.550	66.675	397.670	9.525
	WD-480	28.576	82.550	76.200	369.094	12.700



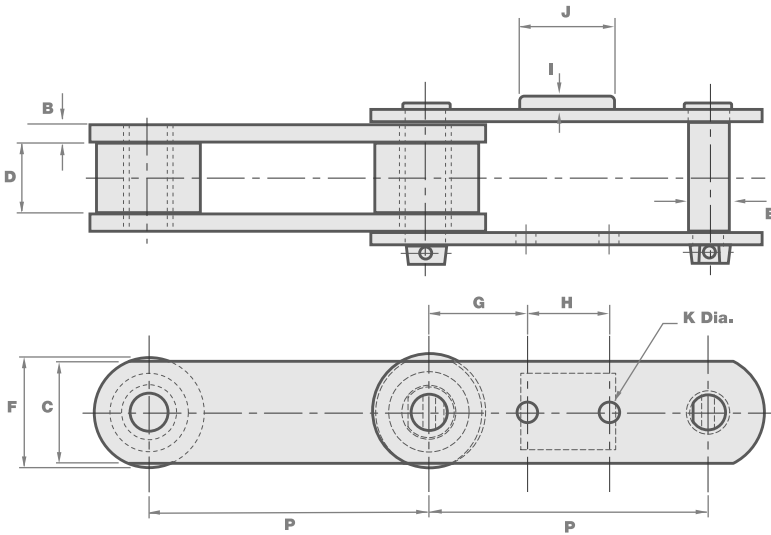
Special attachments are available to customers requirements.





# Cement industry

## Reclaimer system chain



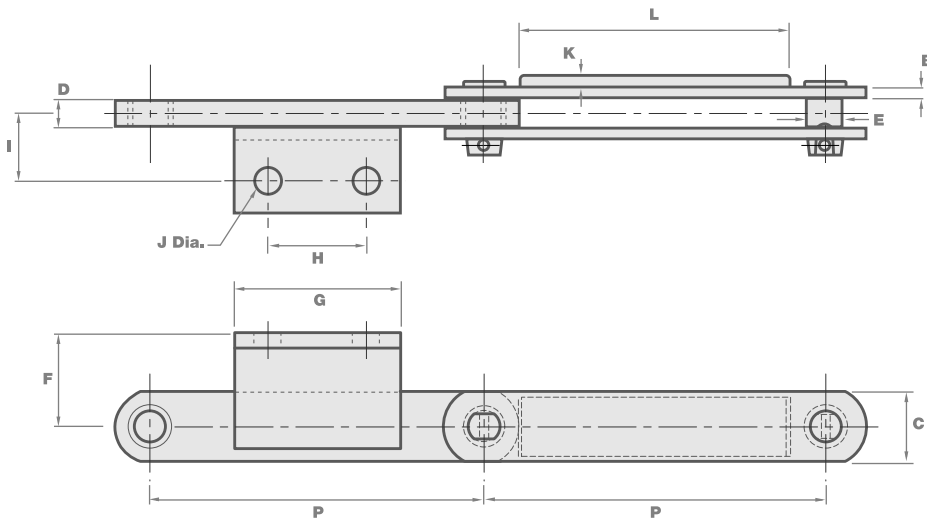
Dimensions (mm)

Chain No.	Pitch	Plate Thickness	Plate Height	Inside Width	Pin Diam.	Roller/Bush Diam.						Tensile Strength Avg. kN
	P	B	C	D	E	F	G	H	I	J	K	
4248-PB Steel Block	254.001	19.050	76.200	38.100	38.100	-	76.200	101.600	12.700	127.000	26.988	1012
3965-R STR	304.801	15.875	101.600	69.850	38.100	114.300	107.950	44.45 & 44.45 3 Holes	12.700	101.600	22.225	1254
6863-A Steel Knuckle	304.801	15.875	88.900	69.850	31.750	50.800	109.538	101.600	-	-	11.113	1025

# Cement industry

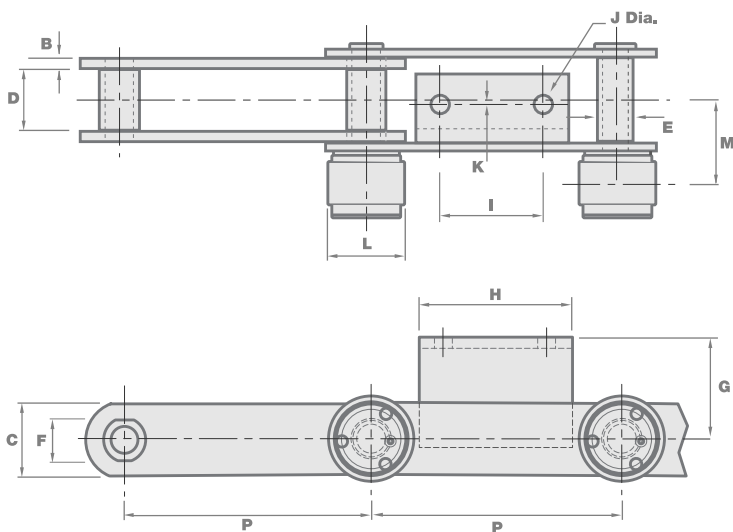
## Reclaimer system chain

### Reclaimer system chain



Dimensions (mm)

Chain No.	Pitch	Plate Thickness	Plate Height	Plate Width	Pin Diam.	Platform Height	Platform Length	Hole Centres	Transverse Pitch	Hole Diameter	Wear Pad Thickness	Wear Pad Width	Tensile Strength Avg. kN
	P	B	C	D	E	F	G	H	I	J	K	L	
4207-PB	203.200	9.525	50.800	19.050	19.050	98.425	127.000	76.200	64.294	17.463	9.525	152.400	301
4984-PB	250.000	9.525	69.850	41.275	34.925	109.538	150.813	90.488	70.644	21.431	9.525	196.850	519
4209-PB	304.801	9.525	63.500	25.400	31.750	82.550	152.400	88.900	60.325	23.813	9.525	241.300	475
4211-PB	304.801	12.700	76.200	38.100	38.100	82.550	152.400	88.900	60.325	23.813	9.525	241.300	748
4200	315.000	12.700	82.550	38.100	41.275	109.935	190.500	130.175	75.010	20.638	12.700	234.950	990
B.69004	315.000	12.000	80.000	66.000	36.000	50.000	122.000	200.000	150.000	22.000	11.000	100.000	590



Dimensions (mm)

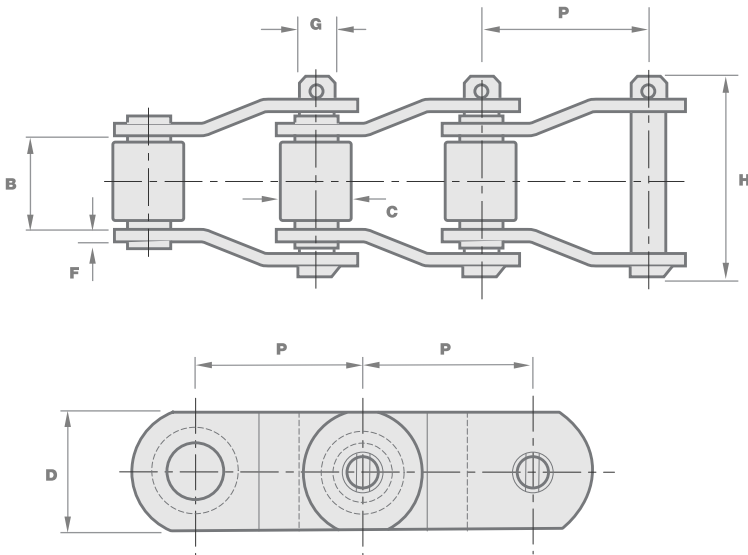
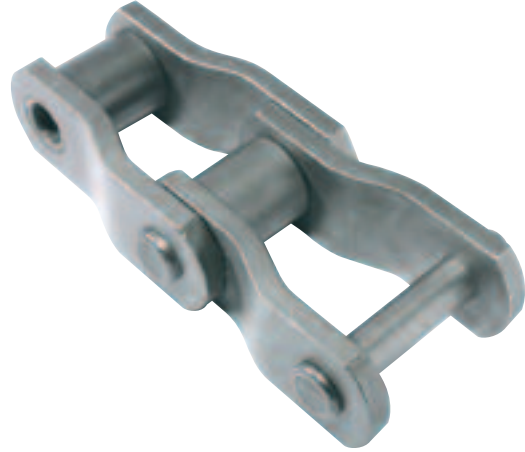
Chain No	Pitch	Plate Thickness	Plate Height	Inside Width	Pin Diam.	Roller/Bush Diam.	Platform Height	Platform length	Hole Centres	Hole Diam.	Transverse Centres	OB Roller Diam.	Tensile Strength Avg. kN
	P	B	C	D	E	F	G	H	I	J	K	L	
6196-PB	250.000	9.530	63.500	54.770	28.550	40.000	100.000	177.800	119.860	21.030	17.860	90.000	352
3241-PB	315.000	12.700	82.550	65.090	34.930	50.000	119.860	190.500	130.180	21.830	5.160	100.000	690
3240-PB	315.000	12.700	69.850	45.240	31.750	44.450	119.860	190.500	130.180	20.640	7.940	100.000	470

# Cement industry

## Cranked link chain

### Cranked link chain

- High specification materials
- Heat treated components
- Precise pitch control



### Cranked link chain

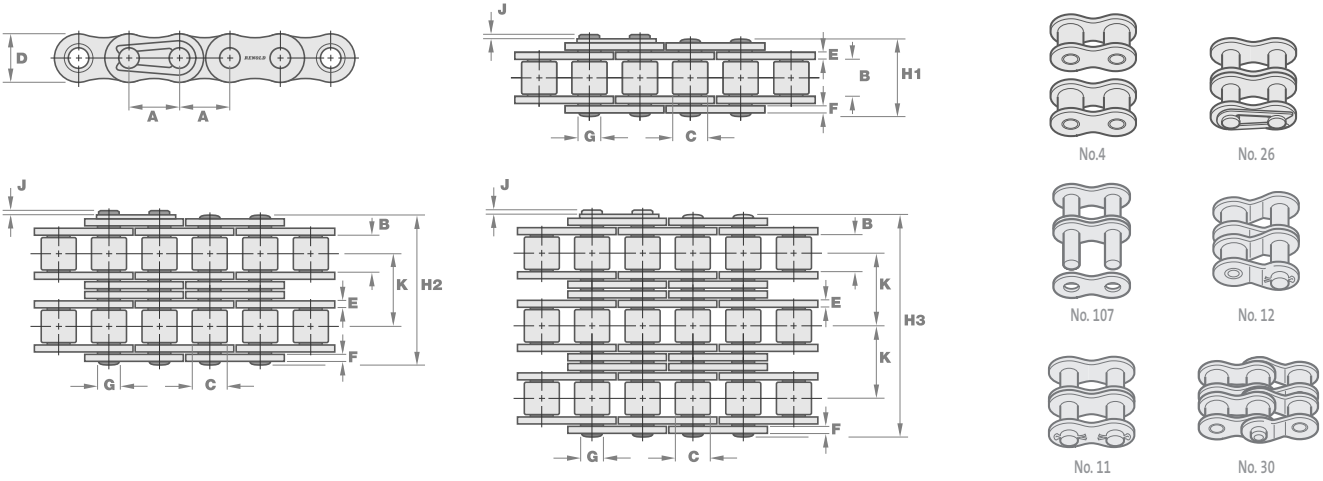
Dimensions (mm)

Renold Chain No	Pitch (mm)	Inside Width	Roller Diam	Plate Height	Plate Thickness	Pin Diam	Pin Length	Weight kg/m	Tensile Strength Avg. kN
	P	B	C	D	F	G	H		
IS2065	50.800	31.750	28.575	39.243	7.938	15.062	73.819	11.307	290
JS882	66.270	28.580	22.225	28.575	6.350	11.113	62.706	5.356	115
JS1031	78.105	38.100	31.750	38.100	7.938	15.875	83.344	10.861	214
JS3075	78.105	38.100	31.750	42.863	9.525	16.434	89.694	13.390	334
JS3011	77.902	39.690	41.275	57.150	9.525	19.050	89.694	19.490	490
JS3514	88.900	38.100	44.450	57.150	12.700	22.250	102.394	25.739	623
JS4014	103.200	49.210	44.450	57.150	12.700	22.250	111.919	22.912	623
JS4106	103.200	49.210	44.450	57.150	12.700	22.250	111.919	23.207	312
JS1245A	103.454	49.210	45.244	60.325	14.288	23.800	121.444	27.822	756
JS4121	103.886	49.210	47.625	69.850	14.288	25.349	118.269	35.707	934
JS4522	114.300	52.390	57.130	76.200	14.288	27.915	125.413	37.195	978
JS5031	127.000	69.850	63.500	88.900	15.875	31.750	146.844	53.561	1245
1605AAA	127.000	65.090	63.500	88.900	19.050	34.925	161.925	64.720	1512
JS6042	152.400	76.200	76.200	101.600	19.050	38.100	174.625	69.034	1868

# Cement industry

## Renold BS transmission chain

### Renold BS transmission chain



### BS simplex transmission chain

Dimensions (mm)

Renold Chain No	ISO No	Pitch (inch)	Pitch (mm)	Inside Width Min	Roller Diam Max	Plate Height Max	Plate Width Outer Max	Plate Width Max	Pin Diam Max	Pin Length Max	Con Link Extra Max	Trans Pitch Nom	ISO606 Tensile Strength Min	Weight kg/m	Connecting links						
															No. 4	No. 107	No. 11	No. 26	No. 12	No. 69	No. 87
		A	A	B	C	D	E	F	G	H	J	K	(N)†								
110082	16B-1	1.000	25.400	17.020	15.880	21.080	4.120	3.100	8.280	34.900	2.200	-	60000	2.800	✓	✓	-	✓	✓	-	-
110102	20B-1	1.250	31.750	19.560	19.050	26.420	4.620	3.610	10.190	39.800	2.700	-	95000	3.850	✓	✓	-	✓	✓	-	-
110122	24B-1	1.500	38.100	25.400	25.400	33.400	6.100	5.080	14.630	52.600	6.800	-	160000	7.450	✓	✓	✓	-	✓	-	-
110147	28B-1	1.750	44.450	30.990	27.940	37.080	7.620	6.350	15.900	64.200	6.800	-	200000	9.350	✓	✓	✓	-	✓	-	-
110166	32B-1	2.000	50.800	30.990	29.210	42.290	7.110	6.350	17.810	63.400	8.000	-	250000	10.100	✓	✓	✓	-	✓	-	-
110206	40B-1	2.500	63.500	39.300	39.370	52.960	8.130	8.130	22.890	78.200	9.500	-	355000	16.500	✓	✓	✓	-	✓	-	-
180709	3.000	76.200	45.720	48.260	66.040	12.190	10.160	29.240	29.240	99.100	10.500	-	560000	25.800	✓	✓	✓	-	✓	-	✓

### BS duplex transmission chain

Dimensions (mm)

Renold Chain No	ISO No	Pitch (inch)	Pitch (mm)	Inside Width Min	Roller Diam Max	Plate Height Max	Plate Width Outer Max	Plate Width Max	Pin Diam Max	Pin Length Max	Con Link Extra Max	Trans Pitch Nom	ISO606 Tensile Strength Min	Weight kg/m	Connecting links						
															No. 4	No. 107	No. 11	No. 26	No. 12	No. 69	
		A	A	B	C	D	E	F	G	H2	J	K	(N)†								
114082	16B-2	1.000	25.400	17.020	15.880	21.080	4.120	3.100	8.280	66.800	2.200	31.880	106000	5.500	✓	✓	-	✓	✓	-	-
114102	20B-2	1.250	31.750	19.560	19.050	26.420	4.620	3.610	10.190	76.700	2.700	36.450	170000	7.800	✓	✓	-	✓	✓	-	-
114122	24B-2	1.500	38.100	25.400	25.400	33.400	6.100	5.080	14.630	101.300	6.800	48.360	280000	14.800	✓	✓	✓	-	✓	-	-
114147	28B-2	1.750	44.450	30.990	27.940	37.080	7.620	6.350	15.900	123.700	6.800	59.560	360000	18.600	✓	✓	✓	-	✓	-	-
114166	32B-2	2.000	50.800	30.990	29.210	42.290	7.110	6.350	17.810	122.000	8.000	58.550	450000	20.100	✓	✓	✓	-	✓	-	-
114206	40B-2	2.500	63.500	39.300	39.370	52.960	8.130	8.130	22.890	150.500	9.500	72.290	630000	16.500	✓	✓	✓	-	✓	-	-
180721	3.000	76.200	45.720	48.260	66.040	12.190	10.160	29.240	29.240	190.400	10.500	91.210	1000000	51.000	✓	✓	✓	-	✓	-	✓

### BS triplex transmission chain

Dimensions (mm)

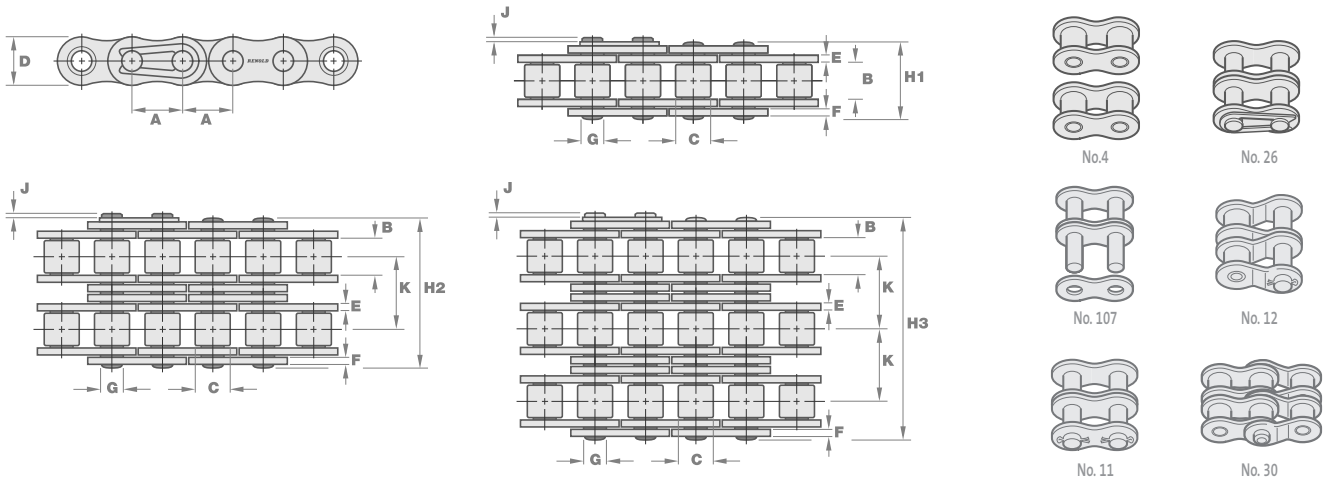
Renold Chain No	ISO No	Pitch (inch)	Pitch (mm)	Inside Width Min	Roller Diam Max	Plate Height Max	Plate Width Outer Max	Plate Width Max	Pin Diam Max	Pin Length Max	Con Link Extra Max	Trans Pitch Nom	ISO606 Tensile Strength Min	Weight kg/m	Connecting links					
															No. 4	No. 107	No. 11	No. 26	No. 12	
		A	A	B	C	D	E	F	G	H3	J	K	(N)†							
116082	16B-3	1.000	25.400	17.020	15.880	21.080	4.120	3.100	8.280	98.600	2.200	31.880	160000	8.150	✓	✓	-	✓	✓	-
116102	20B-3	1.250	31.750	19.560	19.050	26.420	4.620	3.610	10.190	113.200	2.700	36.450	250000	11.650	✓	✓	-	✓	✓	-
116122	24B-3	1.500	38.100	25.400	25.400	33.400	6.100	5.080	14.630	149.700	6.800	48.360	425000	22.250	✓	✓	✓	-	✓	-
116147	28B-3	1.750	44.450	30.990	27.940	37.080	7.620	6.350	15.900	183.300	6.800	59.560	530000	28.000	✓	✓	✓	-	✓	-
116166	32B-3	2.000	50.800	30.990	29.210	42.290	7.110	6.350	17.810	180.500	8.000	58.550	670000	30.000	✓	✓	✓	-	✓	-
116206	40B-3	2.500	63.500	39.300	39.370	52.960	8.130	8.130	22.890	222.800	9.500	72.290	950000	48.900	✓	✓	✓	-	✓	-
180739	3.000	76.200	45.720	48.260	66.040	12.190	10.160	29.240	29.240	281.600	10.500	91.210	1500000	76.200	✓	✓	✓	-	✓	-



# Cement industry

## Renold ANSI transmission chain

### ANSI transmission chain



### ANSI simplex transmission chain

Dimensions (mm)

Renold Chain No	ISO No	Pitch (inch)	Pitch (mm)	Inside Width Min	Roller Diam Max	Plate Height Max	Plate Width Outer Max	Plate Width Max	Pin Diam Max	Pin Length Max	Con Link Extra	Trans Pitch Nom	ISO606 Tensile Strength Min	Weight kg/m	Connecting links				
															No. 4	No. 107	No. 11	No. 26	No. 12
		A	A	B	C	D	E	F	G	H	J	K	(N)†						
119103	100-1	1.250	31.750	18.900	19.050	30.170	4.060	4.060	9.540	39.700	4.200	-	87000	4.200	✓	✓	✓	✓	✓
119123	120-1	1.500	38.100	25.230	22.230	36.200	4.800	4.800	11.110	49.300	5.300	-	125000	5.700	✓	✓	✓	✓	✓
119143	140-1	1.750	44.450	25.230	25.400	42.230	5.610	5.610	12.710	52.900	5.200	-	170000	7.800	✓	✓	✓	✓	✓
119163	160-1	2.000	50.800	31.550	28.580	48.260	6.350	6.350	14.290	63.100	6.500	-	223000	10.400	✓	✓	✓	✓	✓
119183	180-1	2.250	57.150	35.480	35.710	54.300	7.110	7.110	17.460	70.600	7.900	-	281000	13.940	✓	✓	✓	✓	✓
119203	200-1	2.500	63.500	37.850	39.670	60.330	8.130	8.130	19.850	76.900	9.000	-	347000	17.300	✓	✓	✓	✓	-
119243	240-1	3.000	76.200	47.350	47.620	72.390	9.800	9.800	23.800	94.400	10.500	-	500000	25.000	✓	✓	✓	✓	-

### ANSI duplex transmission chain

Dimensions (mm)

Renold Chain No	ISO No	Pitch (inch)	Pitch (mm)	Inside Width Min	Roller Diam Max	Plate Height Max	Plate Width Outer Max	Plate Width Max	Pin Diam Max	Pin Length Max	Con Link Extra	Trans Pitch Nom	ISO606 Tensile Strength Min	Weight kg/m	Connecting links				
															No. 4	No. 107	No. 11	No. 26	No. 12
		A	A	B	C	D	E	F	G	H1	J	K	(N)†						
115083	80-2	1.000	25.400	15.750	15.880	24.130	3.250	3.250	7.940	61.900	3.000	29.290	111200	5.500	✓	✓	✓	✓	✓
115103	100-2	1.250	31.750	18.900	19.050	30.170	4.060	4.060	9.540	75.400	4.200	35.760	174000	8.400	✓	✓	✓	✓	✓
115123	120-2	1.500	38.100	25.230	22.230	36.200	4.800	4.800	11.110	94.700	5.300	45.440	250000	11.000	✓	✓	✓	✓	✓
115143	140-2	1.750	44.450	25.230	25.400	42.230	5.610	5.610	12.710	101.800	5.200	48.870	340000	15.500	✓	✓	✓	✓	✓
115163	160-2	2.000	50.800	31.550	28.580	48.260	6.350	6.350	14.290	121.600	6.500	58.550	446000	20.600	✓	✓	✓	✓	✓
115183	180-2	2.250	57.150	35.480	35.710	54.300	7.110	7.110	17.460	136.500	7.900	65.840	562000	27.720	✓	✓	✓	✓	-
115203	200-2	2.500	63.500	37.850	39.670	60.330	8.130	8.130	19.850	148.500	9.000	71.550	694000	34.400	✓	✓	✓	✓	-
115243	240-2	3.000	76.200	47.350	47.620	72.390	9.800	9.800	23.800	182.200	10.500	87.830	1000000	50.000	✓	✓	✓	✓	-

### ANSI triplex transmission chain

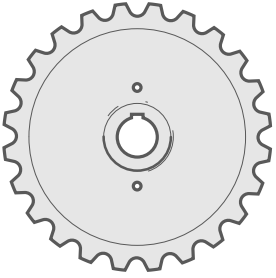
Dimensions (mm)

Renold Chain No	ISO No	Pitch (inch)	Pitch (mm)	Inside Width Min	Roller Diam Max	Plate Height Max	Plate Width Outer Max	Plate Width Max	Pin Diam Max	Pin Length Max	Con Link Extra	Trans Pitch Nom	ISO606 Tensile Strength Min	Weight kg/m	Connecting links				
															No. 4	No. 107	No. 11	No. 26	No. 12
		A	A	B	C	D	E	F	G	H1	J	K	(N)†						
117083	80-3	1.000	25.400	15.750	15.880	24.130	3.250	3.250	7.940	91.200	3.000	29.290	166800	8.300	✓	✓	✓	-	✓
117103	100-3	1.250	31.750	18.900	19.050	30.170	4.060	4.060	9.540	111.200	4.200	35.760	261000	12.600	✓	✓	✓	-	✓
117123	120-3	1.500	38.100	25.230	22.230	36.200	4.800	4.800	11.110	140.200	5.300	45.440	375000	16.700	✓	✓	✓	-	✓
117143	140-3	1.750	44.450	25.230	25.400	42.230	5.610	5.610	12.710	150.700	5.200	48.870	510000	23.100	✓	✓	✓	-	✓
117163	160-3	2.000	50.800	31.550	28.580	48.260	6.350	6.350	14.290	180.200	6.500	58.550	669000	31.000	✓	✓	✓	-	✓
117183	180-3	2.250	57.150	35.480	35.710	54.300	7.110	7.110	17.460	202.300	7.900	65.840	843000	41.500	✓	✓	✓	-	✓
117203	200-3	2.500	63.500	37.850	39.670	60.330	8.130	8.130	19.850	229.000	9.000	71.550	1041000	51.200	✓	✓	✓	-	✓
117243	240-3	3.000	76.200	47.350	47.620	72.390	9.800	9.800	23.810	270.100	10.500	87.830	1500000	75.000	✓	✓	✓	✓	-

# Cement industry Sprockets

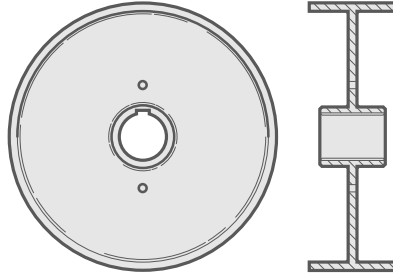
## Plate sprocket

Tooth: 23  
Pitch: 105mm  
Finish: machine cut and induction hardened teeth



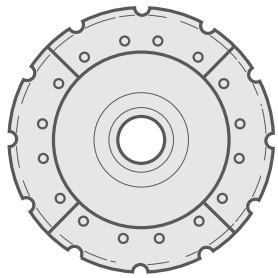
## Drum

Dia: 680mm  
Width: 200mm  
Pitch: 105mm  
Finish: welded hoop



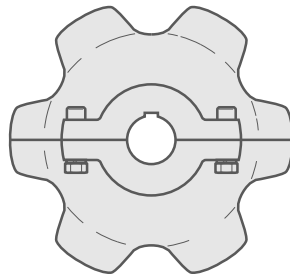
## Segmental sprocket

Tooth: 12  
Pitch: 200mm  
Finish: machine cut and induction hardened teeth - four segments



## Split sprocket

Tooth: 6  
Pitch: 250mm  
Finish: flame cut and flame hardened teeth



# Cement industry

## Renold products for the cement industry

### PM series

This series of gear units is available as a

- single worm unit - type PW
- helical/worm unit - type PH
- helical/bevel/helical unit - type PB

The range offers the ultimate in versatility and durability with a modern compact design allowing direct mounting of standard IEC and NEMA motors.

Available in 6 sizes with power capacities up to 84kW and gear ratios from 5:1 to 333:1.

- Motorised and speed reducer types available
- Case design allows variable mounting options, foot, flange and shaft mounting available
- Long life synthetic lubrication



### PM couplings

Heavy duty industrial couplings providing exceptional protection against severe shock load and vibration.

- Intrinsically fail-safe ensuring continuous operation of the driveline
- Control of resonant torsional vibration achieving low vibratory loads in the driveline with optimum stiffness characteristics
- Zero backlash eliminating torque amplification through pre-compression of the rubber elements



### HC series

State of the art heavy duty helical/bevel helical units using case hardened and ground gears throughout. 14 sizes available with power capacities up to 11,000kW.

- Motorised and speed reducer types for all applications
- Versatility within the range allows for underdriven and vertical mounting from the same unit
- Foot, shaft and flange mounted types available
- Custom made units, designed specifically for customer's applications, are available
- Available as, single, double, triple and quadruple reduction



### SMX<sup>TRA</sup>

Shaft Mount Helical Gear Units available with hollow output bore, available in 12 sizes with 5 ratio options per size. Power capacities up to 235kW.

- Options include integral hold backs, motor mounting platforms and parallel shaft sleeve diameter reducing bushes
- Input and output shaft enhanced sealing available
- Interchangeable, allowing fast and easy replacement
- Parallel and taper bore options, easy removal for repair



### Flexible heavy duty gear couplings gearflex

Single and double arrangement, standard and heavy duty series types up to 60,000kW (80,000HP) capacity.

- AGMA standard - interchangeable and cost effective
- Crowned and barrelled teeth for optimum contact and long life
- Mill motor, sheer pin and telescopic designs available, giving design stability for all demanding operations



### Hydrastart

Fluid soft start couplings available in many sizes and types up to 700kW (950HP) capacity.

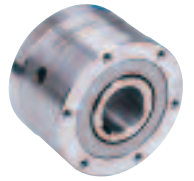
- Flexible couplings and vee pulley designs as standard for design flexibility
- Soft start allowing the motor to accelerate unloaded
- Reduces motor size and drive package cost
- Delay fill version - extending acceleration time and further reducing start-up torque



### Sprag clutch

Anti-runback clutch used on holdback, indexing and over-running applications

- No backlash, giving positive action
- Long life means low maintenance costs
- Enhanced performance from optimised sprag profile design
- Compact design, yet high torque
- Interchangeability means no re-engineering



### Sprockets

Renold provide a full range of fabricated or machined conveyor and transmission sprockets. They can be either of one piece design, split or with bolt-on tooth segments. Teeth can be flame hardened if required.



### TW series

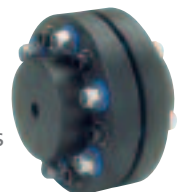
Worm gear units for arduous applications with 10" to 28" centre distances. Power capacities up to 500kW.

- Available as single and double reduction units
- Variety of unit types enables flexibility with mounting positions - underdriven, overdriven, vertical, shaft mounted and agitator types available
- Unique Holroyd tooth form provides high efficiency and long product life
- Interchangeable external dimensions with many other deleted makes
- Enhanced sealing options available on all sizes for hostile environments
- Heavy duty design suitable for high torque applications



### Pinflex

- Heavy duty pin and buffer coupling suitable for shock load conditions
- Polyurethane buffers reliable/flexible and temperature resistant



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