pewag

pewag conveyor chains

and components

English EN

Content

conveyor chains and components

Customer satisfaction is our primary operating principle. Our customers benefit from our metallurgical expertise, our many years of experience in a wide variety of industries, and our unfailing commitment to the highest quality standards.

Technical changes and misprints are subject to alteration.
Printing on environmentally friendly paper.

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We are part of the **pewag group**

pewag conveyor technique is part of an internationally operating group of companies. Our success story goes back to the year 1479.

WHAT DRIVES US

Through our entrepreneurial spirit - shaped by the joy of innovation - we strive to offer the best solutions for the market. Today and in the future.

The high quality of our brands, products and services, as well as the passionate commitment of our employees are our most valuable assets to exceed customer expectations and to live up to our corporate responsibility towards people and environment.

LEADING TO EXCELLENCE

striving for excellence in QUALITY

The values of the pewag group brands are demonstrated by our first-class quality and continuous innovation. You can rely on us.

striving for excellence in RESPONSIBILITY

Our goal is CO_2 neutral production by 2030. We live sustainable and fair partnerships and an open way of working together. We take on social as well as environmental responsibility.

striving for excellence in ENTREPRENEURSHIP

Through the specific expertise of each individual and decentralized responsibilities, we ensure healthy growth and a sustainably successful future.

striving for excellence in TECHNOLOGY

We ensure our technological strength by striving for quality, continuous improvement and innovation of our products and production processes.

FROM AUSTRIA....

1479
First documentary mention of the forge

1787
Foundation of the chain forge in Kapfenberg

1803
Foundation of the location in Graz

1836
Establishment of an iron casting plant in Brückl

1912
Production of the first pewag snow chain

2009
pewag develops into an international group of companies

2021
Extensive investment in renewable energies. Goal: CO_2-neutral production by 2030

....ACROSS THE GLOBE

50
Sales and other locations

45
Sales partners

18
Production sites

15+
Brands

5
Continents

100+
Countries

IN A SUSTAINABLE WAY

Social Excellence

The corporate ethics of the pewag group are based on our clear commitment to universal human rights. As a globally active group of companies, we bear a social and corporative responsibility. This applies in particular to our employees. Their occupational safety and health protection are our top priority. We promote their personal and professional development and foster a culture of open, honest, non-discriminatory and team-oriented exchange based on transparent communication. We apply the same standards in our dealings with customers, suppliers and other business partners.

Environmental Excellence

We are committed to a careful and sustainable approach to the environment. This applies to all areas and activities of our group of companies. For us, it is a matter of course to use resources as efficiently as possible and to ensure this also in the future through new environmentally friendly and efficient processes. We are continuously working to optimize the durability and recyclability of our products. In this context, one of our core concerns is to continuously improve our energy efficiency and thus reduce energy consumption in the long term. The energy we use comes from renewable energy sources and is already partly generated by ourselves.

WHAT DEFINES US

Snow and forestry chains

Hoist and conveyor chains

Do-it-yourself

Engineering

Lifting solutions

Tire protection chains

Our Expertise.

Our international brands have an extensive and diverse range of products and services.

The portfolio ranges from traction chains for tires, tire protection chains for mining vehicles over a wide range of technical chains and innovative lifting solutions up to products for the do-it-yourself area as well as forming technology.

Our Network.

With over 50 locations on five continents, the pewag group forms a global platform of product specialists, partners and suppliers.

This community is strengthened by a large network of external experts from science, research and development and a wide range of brands and companies within the group.

Our Experience.

Based on centuries of experience, genuine craftsmanship and innovative technologies we process the highest quality materials with the claim to offer the best solutions on the market.

What unites us as people within the pewag group is the strong ambition for continuous development.

Start Learning Today!

pewag academy

Knowledge For You.

What You Learn

Discover cutting-edge products and the advanced technologies that drive their performance, quality, and durability! At pewag academy, we equip customers, partners, and employees with expert knowledge on installation, safety inspections, and maintenance. We offer valuable insights into key topics like sustainability, cybersecurity, and more. Join us to explore how these innovations are shaping the future and elevate your expertise!

Interactive & Engaging

pewag academy offers a wide range of exciting courses available in both e-learning and blended learning formats. Our experts use a dynamic mix of multimedia teaching methods and innovative didactics to create a truly lasting learning experience. From e-learning to immersive virtual reality, our courses deliver specialized knowledge in an engaging and interactive way. Ready to explore and learn more?

ISO Certified

We ensure the highest quality of teaching materials, validated through our ISO 29993 certification for learning services outside formal education. This certification guarantees that our courses meet international standards for excellence and effectiveness. You can trust that our programs are designed to provide valuable, practical knowledge that enhances both professional and personal development.

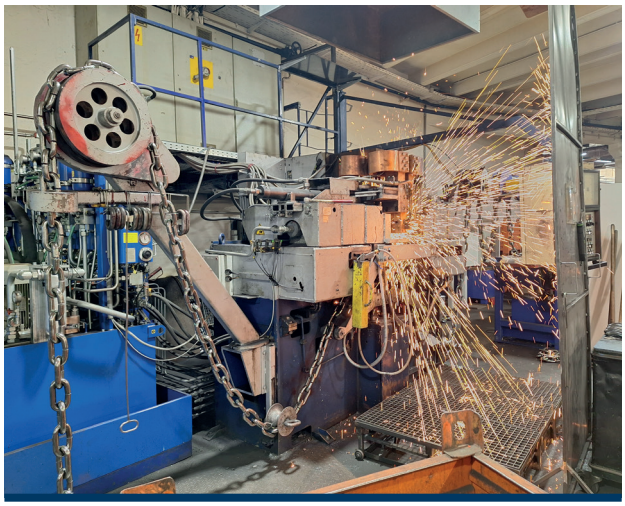
Contact us for more information: academy@pewag.com

chain production and development

Content

pewag chains in production.

Manufactured on state-of-the-art chain production machines, our chains achieve high dimensional accuracy and tight tolerances, ensuring smooth operation in demanding chain drive applications. An environmentally friendly continuous heat treatment provides uniform hardness and strength for every link. Comprehensive testing and development capabilities, supported by numerous test benches and inspection systems, guarantee consistent performance and long service life.



1. Wire bending and welding

2. Chain calibration, tensile testing, continuous quality control

3. Heat treatment

4. Surface treatment

5. Finishing and packaging

6. Storage and delivery

A new era of chains.

For decades, chains have been produced using the same method: by cutting wire rod or rod steel, bending the round steel to the desired link shape and welding the links together using energy-intensive processes like resistance or flash-butt welding.

The limiting factors of this conventional technology are the shape of the chain links (round) as well as the weldability of the steel grade, which very much depends upon the carbon content and alloying elements.

pewag hero, an innovative friction-welded chain, goes beyond these limits and opens the door to a new world of chains.

Friction welding is a well-established “joining technology” which has been used by aviation and automotive industries for decades. pewag is the first chain producer to apply and refine the friction welding process for the production of the next generation of chains.

Friction-welded chains are produced from forged steel components, unlike round steel chains that start from drawn steel wire or rolled bars. The use of forged components offers the ability to increase the section modulus in areas of high stress or wear and eliminates the risk of tension cracks, which can occur during the bending process of round steel chains.

Friction welding is not a welding process in the traditional sense. Heat is generated through mechanical friction between the chain link components until the material plasticises. Lateral force is applied to exactly fuse the components to a whole chain link.

the next generation of chains

Advantages of friction welding & pewag hero chain.

Melt-free technique
- no grain-growth
- very small heat-affected zone (near zero residual stresses)

Clean joining
- impurities between the contact surfaces are removed by the plasticised working mass and are forced out during the joining of the forged components.

No material limits
- even conventionally non-weldable steel grades, for example a 50 CrV_4 steel which offers excellent wear resistance, can be joined

No shape limits
- every chain application has its special demands – the use of forged components can address critical factors like adding wear volume in the interlink section or legs of the link to drastically improve wear life of the chain

No pairing process needed
- due to the high production quality every strand has the same length with a very small tolerance.
- each strand with the same number of links can be installed parallel to each other.
- production tolerance of 0.05 % for matched chains.

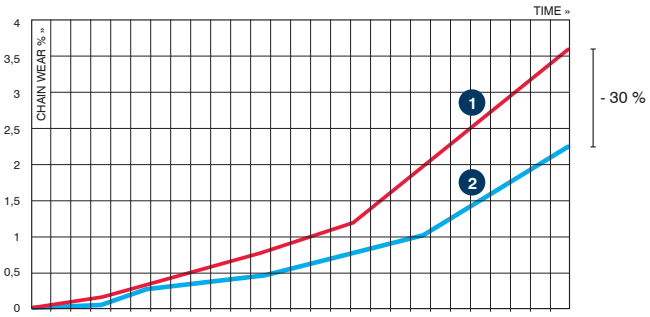
Longer chain strands are possible
- because of the friction welding process, the pewag hero chain can be delivered with longer chain strands compared to conventional round link chains. For example, the standard length of pewag hero chain is double the standard length of round link chains.

Longer lifespan & easy change
- case hardened and in many different dimensions, the pewag hero is running over all different types of toothed and plain wheels, which are also used for round links chains. This has the advantage that changing from round-steel chain to pewag hero chain – for example at existing installations – is quite easy and also cost effective.
- the bigger wear volume leads to a significantly longer lifespan compared to round steel chains.
- this results in: lower maintenance costs, lower operating cycles and lower downtime costs.

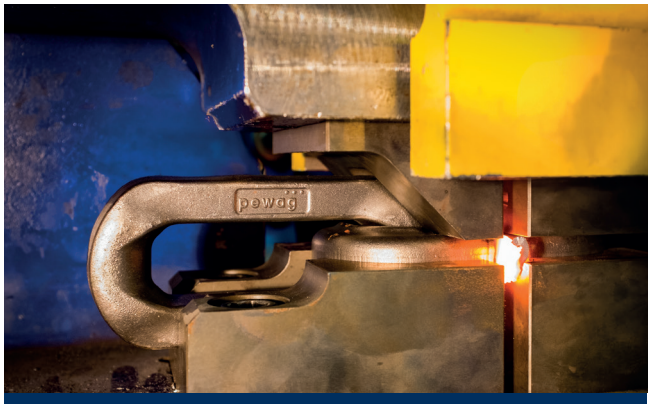
The friction welded pewag hero chain can be used for different applications such as conveyors or bucket elevators.

A Reduced surface pressure
B Geometric shape depending on application. Increased interlink wear volume

Reduced surface pressure



Cement bucket elevator:
1 round steel chain 26 x 100, E 10
2 pewag hero chain 26 x 100, E 10



Chain friction welding

Friction welding – form follows function.

Friction welding is a tried-and-tested ‘joining technology’ that has been used by the aviation and automotive industries for decades. The method also allows for the joining of lightweight construction materials such as aluminium with high- strength steels.

With conventional welding techniques, the joining of materials with highly different welding points is not possible, which is why mechanical joining methods have to be applied to achieve this goal. With friction welding, such materials can be joined without any problems and without having to compromise when it comes to weld stability or having to accept a higher weight.

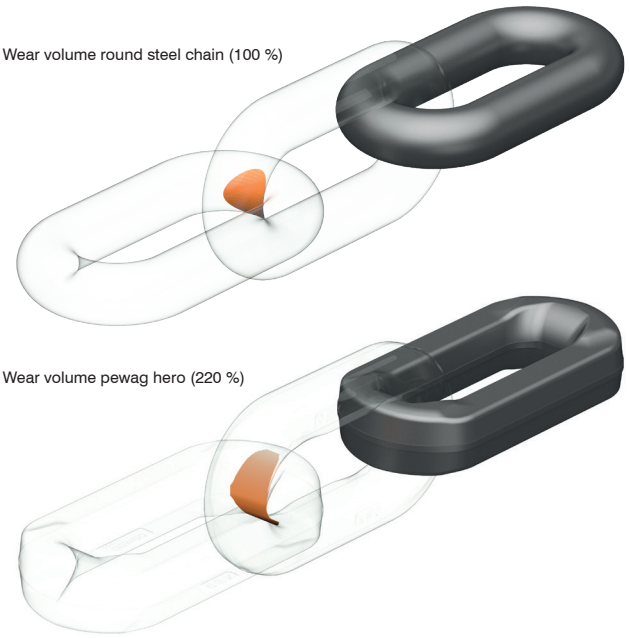
pewag is the first chain manufacturer worldwide to have taken up the innovative technology of friction welding and refined it for the manufacture of the next generation of chains. Unlike conventional round steel chains, the friction-welded chain does not start out as wire rod or rod steel, but consists exclusively of forged parts. By using forged components, the risk of tension cracks, which are a typical byproduct of the cold-bending process of round steel chains, is eliminated. As such, friction welding is not a conventional welding technique. In friction welding, heat is generated through mechanical friction between the links to be joined, which causes the material to plasticise.

A defined lateral force is applied to fuse the components to a whole chain link with precise pitch and strand lengths therefore the pairing operation is no longer required.

Compared to round steel chains, the pewag hero chains offer the following advantages thanks to their design.

220 % wear volume – 30 % longer life.

The load-specific geometry of the pewag hero chain has an increased interlink contact area and more than twice the wear volume of a conventional chain. This leads to significantly reduced contact and maximum stress, better performance and an approximately 30 % longer lifespan.

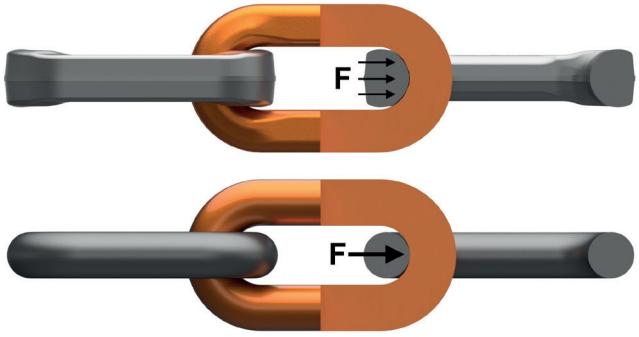


220 % wear volume – 30 % longer life

Reduced surface pressure.

The geometry of traditional round steel chains provides a small interlink contact area and subsequent high stresses

- evenly distributed force
- less force per mm²
- lower maintenance cost
- longer operating cycles
- lower downtime cost



Reduced surface pressure

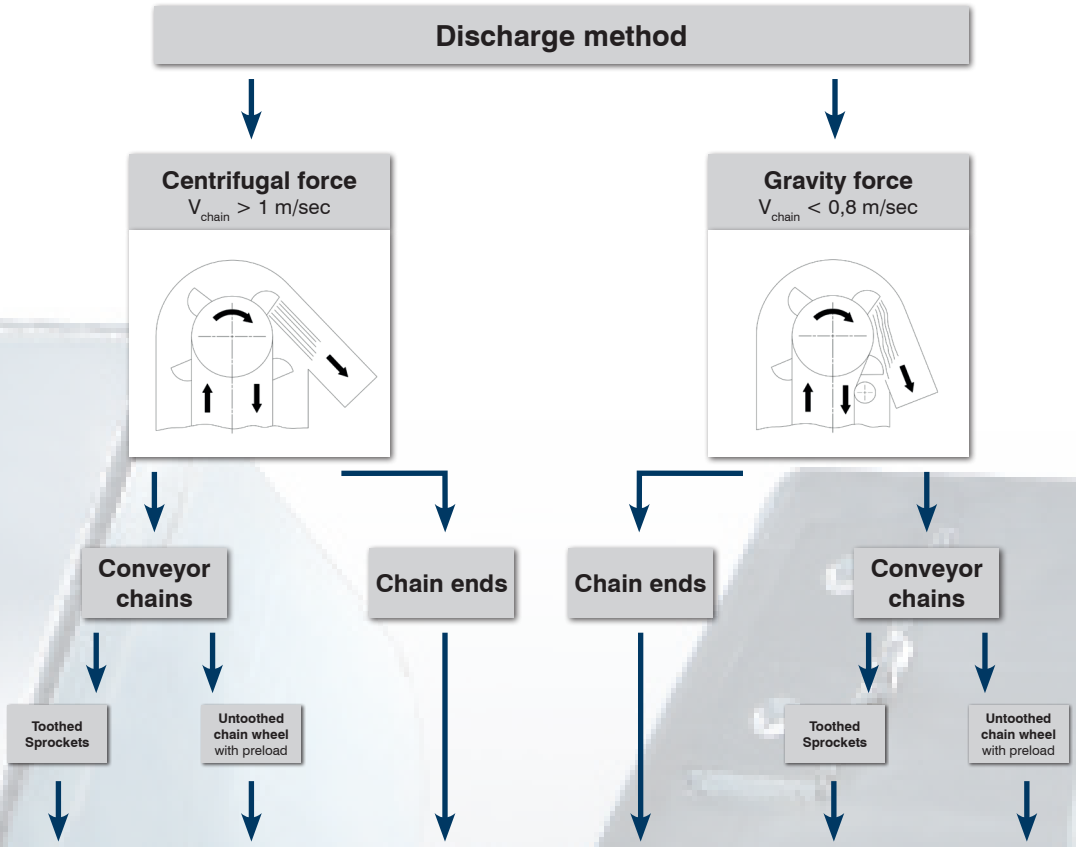
Bucket elevator and scraper conveyor systems

Content

Bucket elevator configurator

Our bucket elevator configurator supports you in selecting the ideal system for your individual conveying requirements. Depending on the discharge method, bucket elevators can be configured for centrifugal or gravity discharge applications. Gravity discharge systems are designed for lower operating speeds and feature laterally mounted buckets, while centrifugal discharge systems offer greater flexibility in bucket mounting options.

A range of chain system solutions is available to suit different operating conditions. Customers can select between chain strand or chain end designs as well as suitable sprocket and bucket attachments configurations, ensuring reliable operation, efficient power transmission, and durable performance for a wide variety of bulk material handling applications.



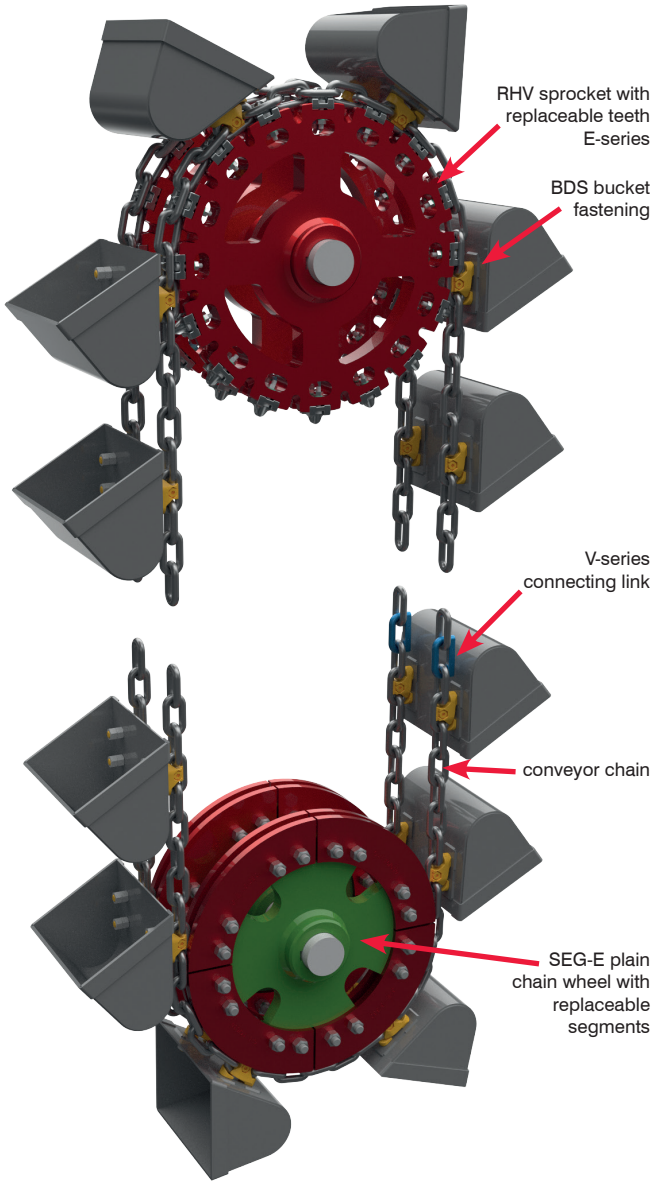
Chain	- round steel - hero	- round steel - hero	chain ends	chain ends	round steel	round steel
Connecting links	v-series	v-series	chain shackle	chain shackle	v-series	v-series
Bucket attachment	- BDS - BDDS	- BDS - BDDS			- SDS - SDD	- SDS - SDD
Bucket	- Rear mounted (style L and M)			- Side mounted (style N)		
Drive wheel	- RHV-(A) - IR	- SEG-E - KS - KSE	- SEG-E - KS - KSE	- SEG-E - KS - KSE	- RHV-(A) - IR	- SEG-E - KS - KSE
Tail wheel	- SEG-E				SEG-E	
Idler wheel	-	-	-	- U-series - SEG-E	- U-series - SEG-E	- U-series - SEG-E

pewag chain solutions for bucket elevators

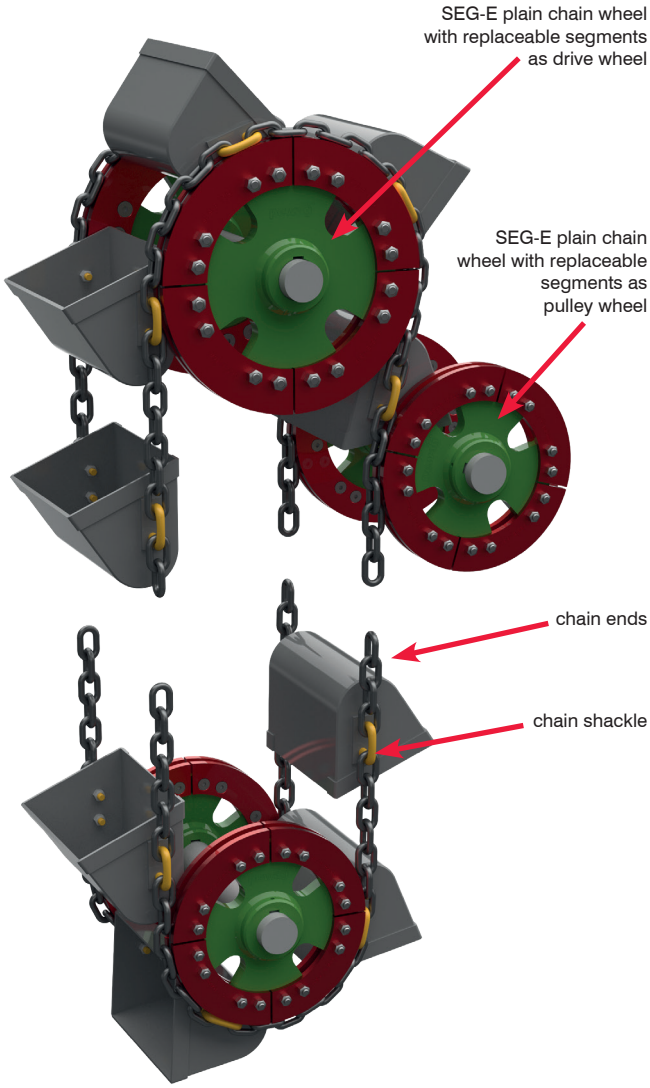
Bucket elevators are the backbone of vertical conveying. They operate under high tensile loads while ensuring smooth bucket guidance and accurate discharge at every cycle. Chain performance directly influences plant availability and maintenance intervals.

Pewag offers a complete portfolio of chain solutions for bucket elevators, including precision-manufactured friction welded and round steel chains built for strength, dimensional accuracy, and extended lifetime. Our systems prove themselves every day in heavy-duty environments such as cement, fertilizer, and plaster.

From individual components to coordinated chain assemblies, we provide everything required for reliable, continuous vertical transport.



An example of a bucket elevator with centrifugal discharge, conveyor chains and positive-locking drive.

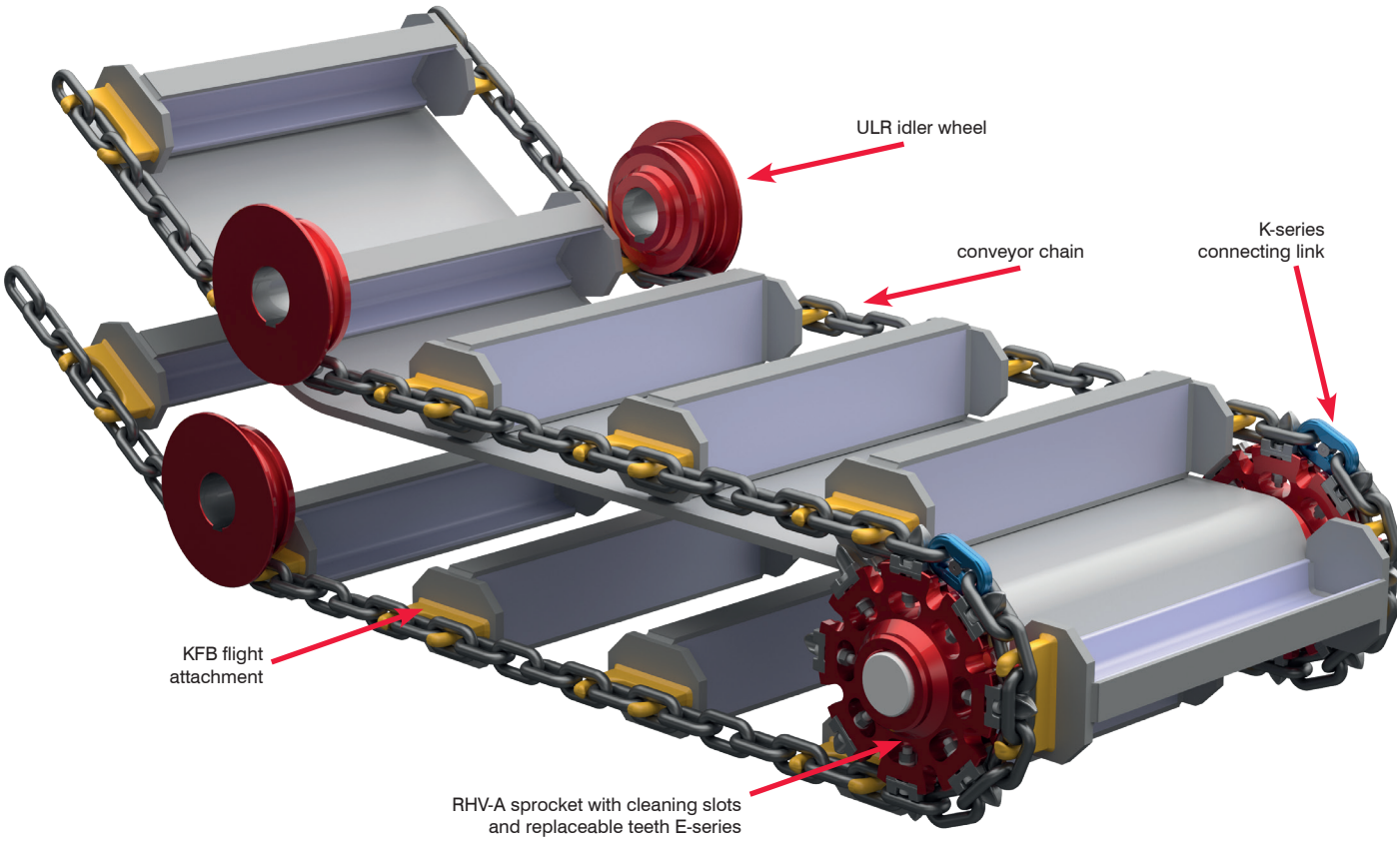


An example of a bucket elevator with gravity discharge, chain ends with chain shackles and force-locking drive

pewag chain solutions for scraper conveyors

In scraper conveyors, bulk material is moved continuously over long horizontal or slightly inclined distances. The chain is permanently exposed to abrasive fines, high drag forces, and demanding operating conditions – reliability is crucial to prevent unplanned downtime.

pewag supplies robust conveyor chains and components specifically developed for scraper applications. Our friction welded and round steel chains provide high wear resistance, excellent fatigue strength, and long service life in industries such as mining, agriculture and power generation.
Whether you require replacement parts or a perfectly matched system, we deliver solutions that keep your material moving efficiently.



An example of a scraper conveyor with KFB flight attachment, conveyor chains and positive-locking drive.

pewag – high quality Conveyor Chains

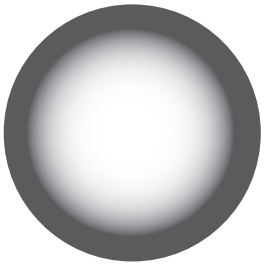
pewag conveyor chains are made from fine-grained, non-ageing special CrNi-, CrNiMo-, MnCr-alloyed steel.
By ensuring optimum heat treatment pewag maintains high quality standards.

pewag conveyor chains have consistently high core quality which gives resistance to shock loadings and ensures maximum breaking loads and excellent fatigue strength can be achieved.

Case hardened conveyor chains can be used for operating temperatures of up to 200 °C (392 °F) without loss of surface hardness.

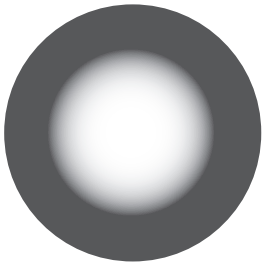
The chains are manufactured with very close production tolerances to ensure a smooth, parallel run over the sprockets. All round steel chains and components are matched in terms of strength and uniform hardness, to minimize the wear and provide the greatest possible wear life and maximum chain life, to guarantee a long lasting chain system.

An extensive range of pewag conveyor chains up to 38 mm, chain connecting links, chain sprockets, guide wheels, flight bars with flight attachments provide the optimum design for bucket and scraper conveyors in the bulk industry.



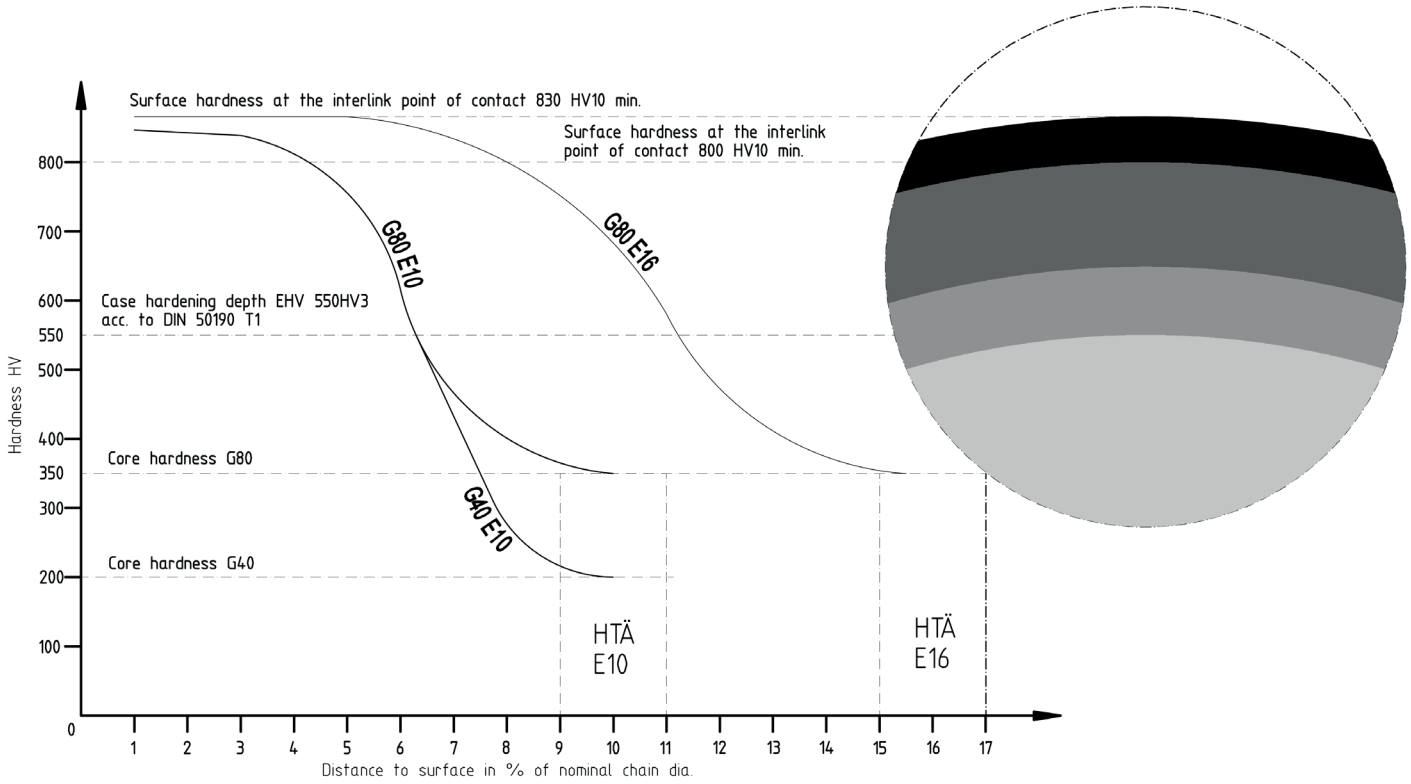
E10

Quality grade G80 E10
Carburizing depth E10
= 0,10 x chain diameter



E16

Quality grade G80 E16
Carburizing depth E16
= 0,16 x chain diameter



Conveyor chains and components availability matrix

	chains			chain connecting links		chain wheels			scraper attachments			bucket attachments		
chain dimension	hero chain	hero-V chain	round steel chain	K-series	V-series	E-series	toothed chain wheels	plain chain wheels	KFB	FDD	SDS	SDD	BDS	BDDS
14 x 50	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	-	✓	-
16 x 64	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	-	✓	-
19 x 75	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	-	✓	✓
22 x 86	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
26 x 100	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
30 x 120	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓
34 x 136	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓
38 x 144	✓	✓	✓	✓	-	✓	✓	✓	✓	-	-	-	-	-

*All standard components (except for SDS and SDD) and chain wheels are compatible with hero and round steel chains.
Upon request, we offer special versions of SDS and SDD attachments for hero chains.

Products with this symbol are designed for bucket elevators

Products with this symbol are designed for scraper conveyors

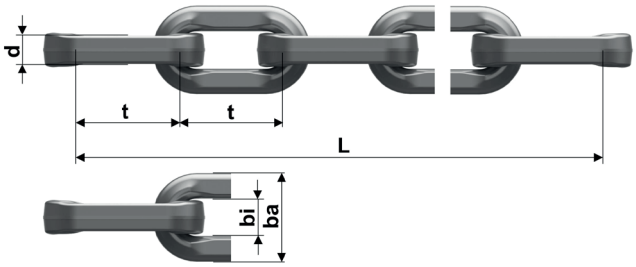
Matrix with pitch circle diameter for toothed wheels (pcd)

	number of teeth											
chain dimension	5	6	7	8	9	10	11	12	13	14	15	16
7 x 22	72	85	99	113	127	141	155	168	182	196	210	224
8 x 24	78	93	108	123	138	153	168	184	198	214	229	244
8 x 31 9 x 31 10 x 31 11 x 31	101	120	140	159	179	198	218	237	257	277	296	316
10 x 35	114	136	158	180	202	223	246	268	290	312	334	356
10 x 38	124	147	171	195	219	243	267	291	315	339	363	387
10 x 50	162	193	224	255	287	319	350	382	413	445	476	508
13 x 45	147	175	203	231	259	288	316	344	373	401	430	458
13 x 65	211	251	292	333	374	414	455	496	537	578	619	660
14 x 50	163	194	225	256	288	320	351	383	414	446	477	509
16 x 64	208	248	288	329	369	409	450	490	530	571	611	652
16 x 80	260	310	359	410	460	510	560	611	661	712	762	813
19 x 75	244	291	338	385	432	480	527	574	622	669	717	764
22 x 86	280	334	388	441	496	550	604	658	713	767	821	875
26 x 100	325	388	451	513	576	639	702	765	829	892	955	1.018
30 x 120	390	465	541	616	691	767	843	918	994	1.070	1.146	1.222
34 x 136	443	527	613	698	784	869	955	1.041	1.127	1.213	1.299	1.385
38 x 144	469	559	649	739	830	920	1.011	1.102	1.193	1.284	1.375	1.467

pewag hero friction-welded chain

G80 E (case-hardened)

pewag hero – chains are made from CrNiMo-special alloyed steel and are suitable for high-capacity bucket elevators and scraper conveyors with high dynamic and static loads. The combination of increased wear volume and reduced surface pressure results in a significant increase of the chain life of approx. 30 %. The pewag hero chain fits on conventional wheels and sprockets. Pairing is not required due to the high manufacturing precision.



Surface finish: blank, shot peened, waxed

Chain d x t [mm]	bi min [mm] welded link on the weld	ba max [mm] welded link on the weld	Weight [kg/m]	Chain length [links]	Standard length L [mm]	PF proof load [kN]	BF breaking load [kN]	pewag article
22 x 86	28,3	73,9	9,90	239	20.554	155	304	4122518
26 x 100	33,5	86,0	14,20	167	16.700	215	425	4125291
30 x 120	38,7	99,8	18,69	95	11.400	285	566	4122261
34 x 136	43,5	113,3	23,70	71	9.656	360	710	4138432
38 x 144	48,4	129,7	30,00	59	8.496	460	910	4140072

Technical data
Chain length "L" production tolerance = +0,3 / -0,15 % = 0,45 % total; this means that the difference between chain lengths of 10 m is max. 45 mm. Chain length production tolerance Δ S of matched chain lengths is 0,05 % or max. 3 mm for two or multiple chain strand conveyors.

Example of the order
16 pcs. pewag hero 22x 86 6580 G80 E BK L= 239 links = 20.554 mm supplied as matched pairs.

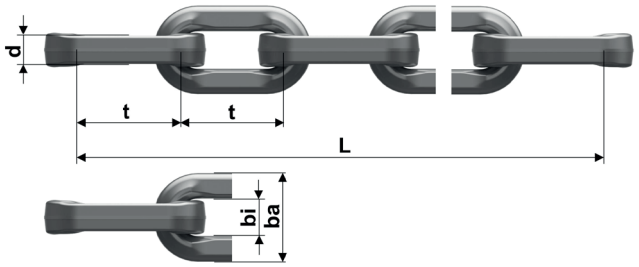
Material	CrNiMo, alloy steel
Breaking stress [N/mm²]	400
Proof stress [N/mm²]	200
Breaking elongation approx. [%]	2
Surface hardness [HV 10][1)] / inner link curve	min. 800
Core hardness [HV]	ca. 300
Surface	blank, shot peened, waxed
Marking	batch number on the forgings
Chain length production tolerance	0,05 % for matched chains, double and multiple chain strand conveyors
Chain length "L" production tolerance	+0,30 / -0,15 % = 0,45 %
Remark	manufactured of forgings in friction welding process

pewag hero-V friction-welded chain

G100 (through hardened)

pewag hero-V – chains are made from CrNiMo-special alloyed steel and are suitable for different applications.
The reduced surface pressure results in a significant increase of the chain load capacity.

The pewag hero chain fits on conventional wheels and sprockets. Pairing is not required due to the high manufacturing precision.



Surface finish: blank, shot peened, waxed

Chain d x t [mm]	bi min [mm] welded link on the weld	ba max [mm] welded link on the weld	Weight [kg/m]	Chain length [links]	Standard length L [mm]	PF proof load [kN]	BF breaking load [kN]
hero-V 22 x 86	28,3	73,9	9,90	239	20.554	380	760
hero-V 26 x 100	33,5	86,0	14,20	167	16.700	533	1,065
hero-V 30 x 120	38,7	99,8	18,69	95	11.400	708	1,415
hero-V 34 x 136	43,5	113,3	23,70	71	9.656	908	1.815
hero-V 38 x 144	48,4	129,7	30,00	59	8.496	1.135	2.270

Technical data
Chain length "L" production tolerance = +0,3 / -0,15 % = 0,45 % total; this means that the difference between chain lengths of 10 m is max. 45 mm. Chain length production tolerance Δ S of matched chain lengths is 0,05 % or max. 3 mm for two or multiple chain strand conveyors.

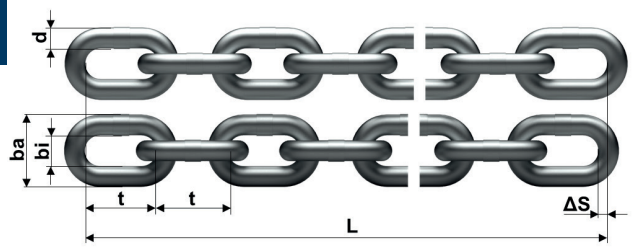
Example of the order
16 pcs. pewag hero-V 22x 86 6580 BK L= 239 links = 20.554 mm supplied as matched pairs.

Material	CrNiMo, alloy steel
Breaking stress [N/mm²]	1.000
Proof stress [N/mm²]	630
Breaking elongation approx. [%]	10
Surface hardness [HV 10]1) / inner link curve	min. 360
Surface	blank, shot peened, waxed
Marking	batch number on the forgings
Chain length production tolerance	0,05 % for matched chains, double and multiple chain strand conveyors
Chain length "L" production tolerance	+0,30 / -0,15 % = 0,45 %
Remark	manufactured of forgings in friction welding process

pewag round steel chains

Conveyor chains

Round steel chains made from CrNi or CrNiMo special alloy steels are designed for use in bucket and scraper conveyors operating under high dynamic and static loads. They are supplied as matched pairs to ensure precise parallel alignment of the chain links.



Surface finish: polished and waxed

						Proof load			Breaking load			
Chain d x t [mm]	Chain width bi min. [mm]	Chain width ba max. [mm]	Weight [kg/m]	Standard length Links	Standard length L [mm]	G40 E10 [kN]	G80 E10 [kN]	G80 E16 [kN]	G40 E10 [kN]	G80 E10 [kN]	G80 E16 [kN]	Art-No
14 x 50	16,3	47	4,1	215	10.750	39			78			4028761
							74			128		4026454
								65			130	4096378
16 x 64	20	55	5,3	167	10.688	50			100			4028762
							96			160		4026354
								84			168	4096379
19 x 75	22	63	7,4	143	10.725	71			142			4028763
							135			227		4141329
								117			234	4096380
22 x 86	26	74	9,9	119	10.234	95			190			4028764
							182			304		4026356
								190			315	4119587
26 x 100	31	87	13,8	83	8.300	128			255			4025921
							255			425		4026357
								265			432	4119586
30 x 120	36	102	18,7	47	5.640	171			342			4025922
							340			566		4026358
								350			580	4119590
34 x 136	39	113	23,8	35	4.760	250			500			4025923
							425			710		4026457
								420			670	4119589
38 x 144	44	127	30	29	4.176		545			910		4025264
								520			850	4119588

Further dimensions and qualities on request.

Quality grade	G40 E10	G80 E10	G80 E16
Breaking stress [N/mm2]	250	400	420*
Proof stress [N/mm2]	125	240	210**
Breaking elongation approx. [%]	2	2	2
Surface hardness at interlink HV 10	800	800	830
Carburizing depth HTÄ ... d +/- 0,01d	0,10 [1]	0,10 [2]	0,16 [3]
Case hardening depth EHT 550 HV 3 ... d min.	0,063 [4]	0,06 [5]	0,11 [6]
Material incl. d = 22 mm: CrNi-alloyed Material from d = 26 mm: CrNiMo-alloyed	-	-	-

Proof/Breaking load tolerance -10 % permissible depending on the batches

Technical Datas

- Chain length "L" production tolerance = +0,3 / -0,15 % = 0,45 % total; this means that the difference between chain lengths of 10 m is max. 45 mm.
- Chain length production tolerance Δ S of matched chain lengths is 0,05 % or max. 3 mm for two or multiple chain strand conveyors
- G40 E10 grade chains can only be used with non-toothed systems.

Stress at breaking force [N/mm²]:
* 14 Ø, 16 Ø, 19 Ø – 420; 22 Ø, 26 Ø, 30 Ø - 400; 34 Ø, 38 Ø - 370
Stress at manuf. test force [N/mm²]:
** 14 Ø, 16 Ø, 19 Ø – 210; 22 Ø, 26 Ø, 30 Ø - 250; 34 Ø, 38 Ø - 230
Carburizing depth HTÄ after macroetching:
[1] 30 Ø, 34 Ø - 0,09 d;
[2] 30 Ø, 34 Ø - 0,09 d; 38 Ø - 0,08 d
[3] 14 Ø, 16 Ø, 19 Ø, 22 Ø, 26 Ø - 0,16 d; 30 Ø - 0,14 d; 34 Ø – 0,13d
38 Ø – 0,12d

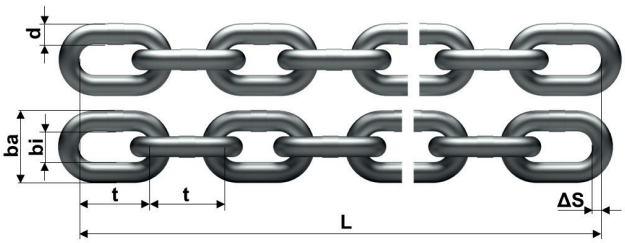
Case hardening depth EHT 550 HV 3:
[4] 30 Ø, 34 Ø - 0,05 d;
[5] 30 Ø, 34 Ø - 0,05 d; 38 Ø - 0,04 d
[6] 14 Ø, 16 Ø, 19 Ø, 22 Ø, 26 Ø - 0,11 d; 30 Ø 34 Ø - 0,09 d; 38 Ø - 0,08 d

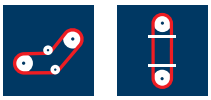
pewag round steel chains

Factory-standard chains

Round steel chains for conveyors with low conveying capacities and service hours, e.g. agricultural applications or cleaning scraper conveyors under belt conveyors etc;

Surface finish: up to chain diameter 11 mm natural black - oiled, polished and waxed or as specified by the customer.





					Proof load			Breaking load			
Chain d x t [mm]	Chain width bi min. [mm]	Chain width ba max. [mm]	Length 11 x t Tolerance [mm]	Weight [kg/m]	G40 E10 [kN]	G80 [kN]	G80 E10 [kN]	G40 E10 [kN]	G80 [kN]	G80 E10 [kN]	Art-No
8 x 31	11	28	341 + 1,1/-0,3	1,26		50			80		4027032
9 x 31	11,8	31	341 + 1,1/-0,3	1,67		63			100		4027262
10 x 31	11,8	33	341 + 1,1/-0,3	2,1		80			125		4027031
10 x 35	14	36	385 + 1,7/-0,9	2,1		79			125		4025487
							38			64	4087380
10 x 38	12,5	34	418 + 1,9/-0,55	1,97			38			64	4029840
10 x 50	14	36	550 + 3,9/-2,2	1,8			33			63	4129256
11 x 31	12,8	37,2	341 + 1,5/-0,8	2,7		95			150		4097374
16 x 80	22,4	56	880 + 6,2/-3,5	4,7	50			100			4028785

Further dimensions and qualities on request.
Upon request, we can also manufacture round steel chains according to customer specifications: dimensions and quality grade.

Technical Datas

- Chain length "L" production tolerance = +0,3 / -0,15 % = 0,45% total; this means that the difference between chain lengths of 10 m is max. 45 mm.
- Chain length production tolerance Δ S of matched chain lengths is 0,05 % or max. 3 mm for two or multiple chain strand conveyors.
- Chain length tolerance Δ S of matched chain ends max. 0,5 mm.

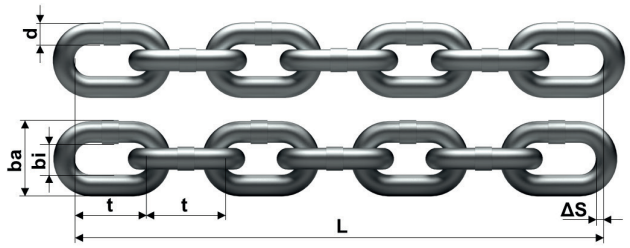
Tolerance

- for nominal diameter d: ca. +/- 0,4 % for 1x pitch t: ca. 1,93%
- for measured length 11 x t: ca. 0,45 % divided into +2/3 and -1/3

Example of the order

- 50 pcs. chains WN - A 8 x 31 G80 L = 281 links, supplied as matched pairs

pewag chain ends



Chain ends acc. to DIN 764

Chain ends made from Mn-, MnCr-, or CrNi-alloyed steel are designed for use in DIN bucket elevators with chain shackles or in scraper conveyors with BM attachments. The chain ends are connected to the next larger pitch chain shackle for use in friction drive systems.

Surface finish: polished and waxed
Available lengths: 5, 7, 9, 11, or 13 chain links

Dimensions acc. to DIN 764

				Proof load		Breaking load			
Chain d x t [mm]	Chain width bi min. [mm]	Chain width ba max. [mm]	Weight [kg/m]	G40 E10 [kN]	G80 E10 [kN]	G40 E10 [kN]	G80 E10 [kN]	Chain shackle plain [1] [mm]	Chain shackle toothed [1] [mm]
10 x 35	14	36	2	20	33	40	55	45	35
13 x 45	18	47	3,5	31,5	55,8	63	93	56	45
16 x 56	22	58	5,2	50	84	100	140	63	56
18 x 63	24	65	6,5	63	107	125	178	70	63
20 x 70	27	72	8,2	80	132	160	220	80	70
23 x 80	31	83	11	100	174	200	290	91	80
26 x 91	35	94	14	125	223	250	371	105	91
30 x 105	39	108	19	170	296	340	494	126	105
33 x 115	43	119	22,5	200	359	400	599	126	-
36 x 126	47	130	26,5	250	427	500	712	147	126

Further dimensions and qualities on request.
[1] Recommended chain shackle acc. to DIN for wheels.

Quality grade	G40 E10	G80 E10
Breaking stress [N/mm²]	250	350
Proof stress [N/mm²]	125	210
Breaking elongation approx. [%]	2	2
Surface hardness at interlink HV 10	750	750
Carburizing depth HTÄ ... d +/- 0,01d	0,10 [1]	0,10 [1]
Case hardening depth EHT 550 HV 3 ... d min.	0,06 [2]	0,06 [2]
Material incl. d = 22 mm: CrNi-alloyed Material from d = 26 mm: CrNiMo-alloyed	-	-

Proof/Breaking load tolerance -10 % permissible depending on the batches

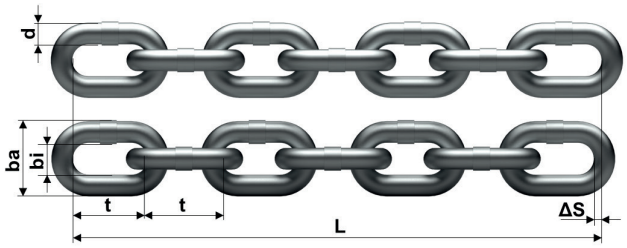
Technical Datas

- Tolerance type A: calibrated, as matched chain ends, for chain sprockets
- Tolerance type B: non-calibrated, as matched chain ends, for plain chain wheels
- Chain length tolerance Δ S of matched chain ends max. 0,5 mm

Carburizing depth HTÄ after macroetching:
[1] 30 ø –36 ø – 0,09 d

Case hardening depth EHT 550 HV 3:
[2] 30 – 36 ø – 0,05 d

pewag chain ends



Chain ends acc. to DIN 766

Chain ends made from Mn-, MnCr-, or CrNi-alloyed steel are designed for use in DIN bucket elevators with chain shackles or in scraper conveyors with BM attachments. The chain ends are connected to the next larger pitch chain shackle for use in friction drive systems.

Surface finish: polished and waxed
Available lengths: 5, 7, 9, 11, or 13 chain links

Dimensions acc. to DIN 766

				Proof load		Breaking load			
Chain d x t [mm]	Chain width bi min. [mm]	Chain width ba max. [mm]	Weight [kg/m]	G40 E10 [kN]	G80 E10 [kN]	G40 E10 [kN]	G80 E10 [kN]	Chain shackle plain [1] [mm]	Chain shackle toothed [1] [mm]
10 x 28	12	36	2,3	20	33	40	55	45	-
13 x 36	15,6	47	3,8	31,5	55,8	63	93	56	-
16 x 45	19,2	58	5,8	50	84	100	140	63	-
18 x 50	21,6	65	7,3	63	107	125	178	70	-
20 x 56	24	72	9	80	132	160	220	80	-
23 x 64	27,6	83	12	100	174	200	290	91	-
26 x 73	31,2	94	15	125	223	250	371	105	-
30 x 84	36	108	20	170	296	340	494	126	-
33 x 92	39,6	119	25	200	359	400	599	126	-
36 x 101	43,2	130	29	250	427	500	712	147	-

Further dimensions and qualities on request.
[1] Recommended chain shackle acc. to DIN for wheels.

Quality grade	G40 E10	G80 E10
Breaking stress [N/mm²]	250	350
Proof stress [N/mm²]	125	210
Breaking elongation approx. [%]	2	2
Surface hardness at interlink HV 10	750	750
Carburizing depth HTÄ ... d +/- 0,01d	0,10 [1]	0,10 [1]
Case hardening depth EHT 550 HV 3 ... d min.	0,06 [2]	0,06 [2]
Material incl. d = 22 mm: CrNi-alloyed Material from d = 26 mm: CrNiMo-alloyed	-	-

Proof/Breaking load tolerance -10 % permissible depending on the batches

Technical Datas

- Tolerance type A: calibrated, as matched chain ends, for chain sprockets
- Tolerance type B: non-calibrated, as matched chain ends, for plain chain wheels
- Chain length tolerance Δ S of matched chain ends max. 0,5 mm

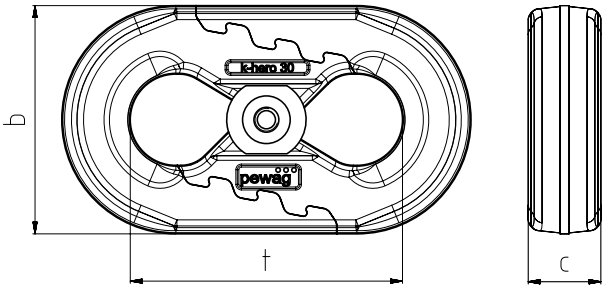
Carburizing depth HTÄ after macroetching:
[1] 30 ø –36 ø – 0,09 d

Case hardening depth EHT 550 HV 3:
[2] 30 – 36 ø – 0,05 d

pewag K-series connecting links

K-series connecting links are designed for use with round steel and hero chains. They share the same advanced technological features and high wear resistance as the corresponding chains. Please ensure that the couplings are assembled and installed according to the instructions provided in the packaging. These couplings are intended for use as vertical links only and can operate over sprockets, as well as over plain or grooved wheels.

Surface finish: sandblasted and waxed

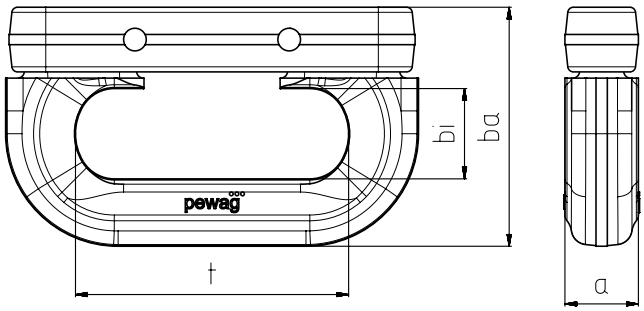


K-series connecting links	for chain	d [mm]	t [mm]	b [mm]	c [mm]	Weight [kg/pc.]	pewag article
	22 x 86	22	86	74	24	1,2	4028442
	26 x 92	26	92	88,5	31	1,9	4090001
	26 x 100	26	100	87,4	28	1,9	4028645
	30 x 120	30	120	100,6	32	2,9	4028455
	34 x 126	34	126	117	40	4,4	4027673
	34 x 136	34	136	114,6	36,6	4,2	4028497
	38 x 144	38	144	127	41	5,6	4027271

pewag V-series connecting links

V-series connecting links are designed for use with round and hero chains. They share the same advanced technological characteristics and high wear resistance as the corresponding chains. Please ensure that the connecting links are assembled and installed in accordance with the provided instructions. These connecting links are used as vertical links in bucket elevators with back-mounted buckets. For positive discharge bucket elevators, the connecting links must be installed as horizontal links.

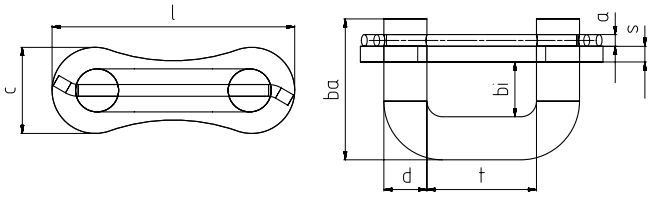
Surface finish: sandblasted and waxed



V-series connecting links	for chain	d [mm]	t [mm]	a [mm]	bi [mm]	ba [mm]	Pin [mm]	Weight [kg/pc.]	pewag article
	14 x 50	14	50	14,5	16	46	4x14	0,3	4027808
	16 x 64	16	64	16,5	20	54	5x16	0,4	4027908
	19 x 75	19	75	20,6	22	65	5x20	0,7	4027705
	22 x 86	22	86	24	29,2	78,2	6x24	1,1	4028429
	26 x 100	26	100	26	35	89,7	8x26	1,6	4028634
	30 x 120	30	120	32,4	36	105,4	10x32	2,7	4028430
	34 x 136	34	136	36,7	45,2	118,7	12x36	4,2	4028431

pewag VG connecting links

Connecting links with closing plate and locking pin are designed for use with factory-standard chains and operate over pocket wheels as vertically mounted chain links. They provide the same breaking load as the corresponding G80-grade chains.



VG connecting links

for chain d x t	d	t	ba	bi	c	s	a	l	Weight approx. [kg/pc.]	pewag article
	[mm]									
8 x 31 + 9 x 31	9	31	31	11	16,5	4	3	62	0,07	4030009
10 x 31 + 11 x 31	11	31	36	13	19,5	5	3	73	0,13	4104523

Any other sizes on request.

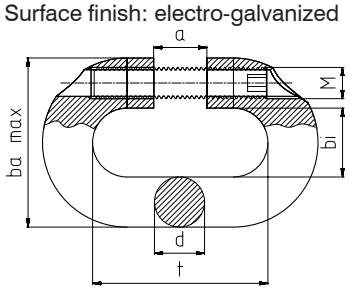
Scope of delivery
- Connecting link
- 1 pcs. closing plate
- 1 pcs. locking pin

Example of the order
100 pcs. connecting links
VG 8 x 31

pewag screw connecting links

Connecting link for chains; run over sprockets and/or pocket wheels depending on the chain pitch; recommended assembly as vertical mounted chain links; breaking load approx. 1,5 times of the proof load.

Surface finish: electro-galvanized



Screw VG connecting links

for chain d x t	d	t	ba max	bi min	a	M	Weight approx. [kg/pc.]	pewag article
	[mm]							
16 x 80	16	80	56	22	17	M10	0,37	4029989

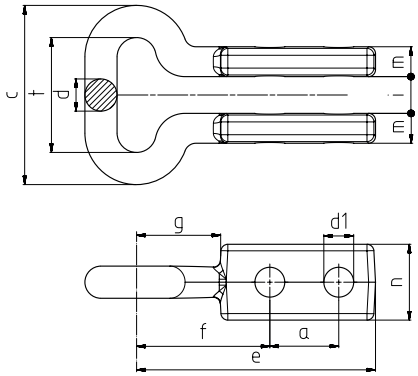
Any other sizes on request.

Scope of delivery
- Screw connecting link
- Grub screw DIN 913

Example of the order
100 pcs. ScrewVG 16x80

pewag BM flight attachments

Flight attachments are designed for use with chain ends and for bolting flight bars. The parts are forged, quenched and tempered, with inductively hardened interlink contact areas (hardening depth 0.1 × d, surface hardness min. 600 HV10). They operate over chain sprockets, pocket wheels, and plain chain wheels with or without a groove.



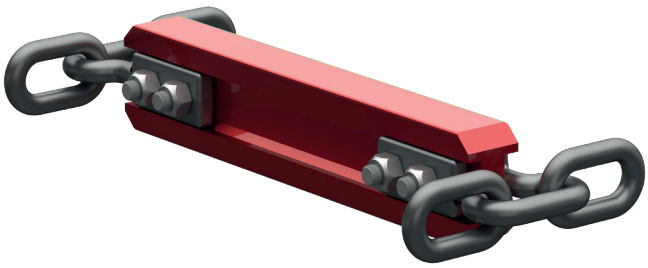
BM flight attachments

for chain d x t	d	t	i	m	c	e	f	g	a	n	d1	Weight approx. [kg/pc.]	pewag article
	[mm]												
8 x 31*	8	31	21	10	47	62	30	11	20	20	9	0,18	4026795
10 x 35	10	35	12	10	55	82	40	30	30	22	8,5	0,25	4026623
13 x 45	13	45	15	12	71	100	50	34	35	28	12,5	0,5	4026276
14 x 50	14	50	16	13	78	104	58	36	30	33	13	0,6	4027684
16 x 56	16	56	20	16	88	130	70	45	40	32	17	0,8	4030097
18 x 63	18	63	19	20	99	125	65	45	40	35	17	1,2	4030934

Any other sizes on request.
* Only through-hardended.

Scope of delivery
Only light attachment without mounting parts

Example of the order
100 pcs. flight attachments BM 10 x 35



pewag chain shackles DIN 745

Chain shackles are suitable for connecting chain ends according to DIN 764 and DIN 766, as well as for attaching buckets in bucket elevators in accordance with DIN 15251. For friction drive systems, the DIN standard recommends using the next larger pitch chain shackle. Chain shackles should only be used in combination with distance plates. All shackles are drop-forged, with machined threads and collars.

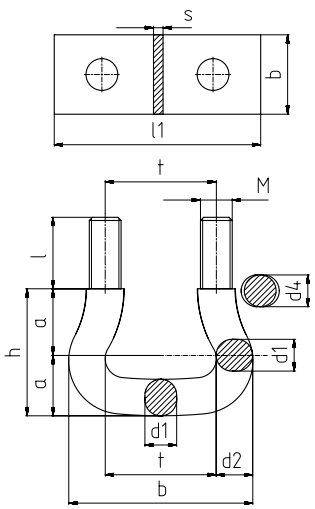
Shackles C45vi: Through-hardened to a strength of approx. 1100 N/mm²; interlink contact areas inductively hardened, surface hardness min. 600 HV10.

Surface finish: waxed

The specified breaking load is only achieved when using the distance plate.

Chain shackles DIN 745	t	a	b	d1	d2	d4	M	h	l	Weight*	Min. breaking load C45vi	Distance plate			Weight	pewag article
												l1	b	s		
	[mm]									[kg/pc.]	[kN]	[mm]			[kg/pc.]	
	45	20	73	11,5	14	12,5	M 10	40	25	0,15	76	75	30	5	0,08	3002467
	56	25	92	15	18	16,5	M 12	50	32	0,32	115	95	40	6	0,17	3002473
	63	30	105	18	21	20	M 16	60	40	0,55	145	110	40	6	0,18	3002468
	70	34	116	20	23	23	M 20	68	45	0,86	179	120	50	6	0,25	3002464
	80	37	132	23	26	25	M 20	74	45	1,08	237	130	50	6	0,27	3002463
	91	43	149	26	29	29	M 24	86	55	1,65	303	150	60	8	0,5	3002465
	105	50	173	30	34	31	M 24	100	55	2,2	403	165	60	8	0,56	3002469
	126	59	206	36	40	37	M 30	118	70	3,95	580	200	70	10	0,97	3002470
	147	68	239	42	46	42	M 30	136	70	5,5	790	230	80	12	1,15	3002466

* Incl. 2 pcs. hex. nuts without distance plate.
** Quality G80 E10 vi on request.



Scope of delivery
- Chain shackle
- 2 pcs. hex. nuts DIN 934
- 1 pcs. distance plate (upon request)

Quality grade	C45vi
Proof stress [N/mm²]	125
Breaking stress [N/mm²]	280
Surface hardness HV 10 min.	600
Hardening depth HTÄ …d min.	0,1 x d*
Hardening depth at interlink EHT 550 … d min.	0,06 x d*
Hardening depth EHT 550 HV 3 ... d min.	0,06

* Chain shackle dia. d1.

pewag chain shackles DIN 5699

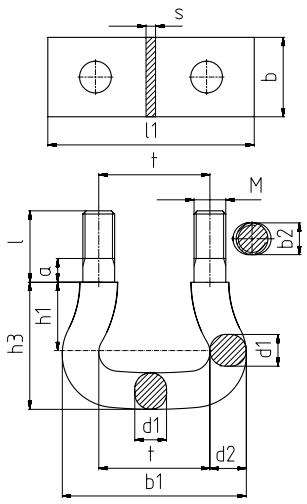
These chain shackles provide higher breaking loads compared to standard chain shackles in accordance with DIN 745, ensuring increased operational safety. When replacing DIN 745 chain shackles with DIN 5699 versions in existing bucket elevators with side-mounted buckets, please note that the chain center distance will increase.

Surface finish: waxed

The specified breaking load is only achieved when using the distance plate.

Chain shackles DIN 5699	t	a	b1	b2	d1	d2	M	h1	h3	l	Weight*	Min. breaking load C45vi	Distance plate				pewag article
													l1	b	s	Weight [kg/pc.]	
	[mm]										[kg/pc.]	[kN]	[mm]				
	35	8	59	11	10	12	M10	23	43	25	0,14	54	65	30	5	0,07	3002476
	45	8	75	13	13	15	M12	28	53	30	0,26	88	75	30	5	0.08	3002477
	56	10	92	17	16	18	M14	34	64	35	0,34	129	95	40	6	0,17	3002474
	63	10	105	20	18	21	M16	37	71	40	0,6	170	110	40	6	0,21	3002460
	70	12	116	23	20	23	M20	42	80	45	0,87	207	120	50	6	0,25	3002471
	80	12	132	25	23	26	M20	47	89	45	1,12	269	130	50	6	0,27	3002462
	91	14	149	29	26	29	M24	52	99	55	1,86	339	150	60	8	0,56	3002472
	105	14	173	31	30	34	M24	60	114	55	2,56	458	165	60	8	0,62	3002459
	126	18	206	37	36	40	M30	71	134	65	4,4	646	200	70	10	0,97	3002475
	147	22	241	42	42	47	M36	81	157	75	7,3	887	230	80	12	1,73	3002478

* Incl. 2 pcs. hex. nuts without distance plate.
** Quality G80 E10 vi on request.



Scope of delivery
- Chain shackle
- 2 pcs. hex. nuts DIN 934
- 1 pcs. distance plate (upon request)

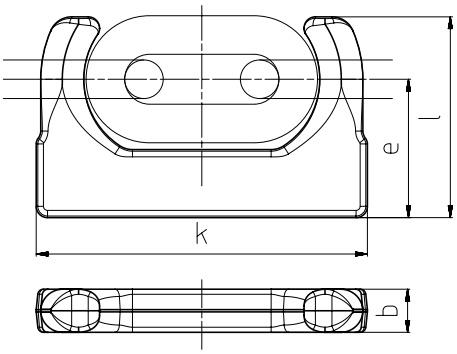
Quality grade	C45vi
Proof stress [N/mm²]	125
Breaking stress [N/mm²]	280
Surface hardness HV 10 min.	600
Hardening depth HTÄ …d min.	0,1 x d*
Hardening depth at interlink EHT 550 … d min.	0,06 x d*
Hardening depth EHT 550 HV 3 ... d min.	0,06

* Chain shackle dia. d1.

pewag KFB flight attachments

Flight attachments are designed for severe service in two-strand and multi-strand chain conveyors, these flight attachments run over chain sprockets and plain chain wheels, with or without grooves. Made from forged MnCr steel and case-hardened for exceptional wear resistance. Welding surfaces are prepped for attachment to the flight bar. Features simple assembly and disassembly on the slack chain and are suitable for reverse operation.

Surface finish: sandblasted and waxed



Recommended welding additive
Böhler DMO-IG (EN ISO 21952-A: G MoSi; AWS A5.28: ER70S-A1 (ER80S-G)) or similar additives

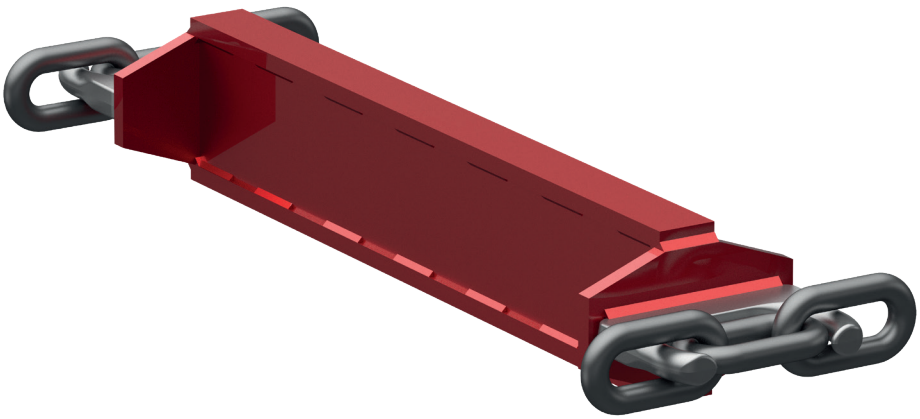
Scope of delivery
Flight attachment

Example of the order
100 pcs. flight attachments KFB 22 x 86

KFB flight attachments

for chain d x t	k	b	e	l	Weight approx. [kg/pc.]	pewag article
	[mm]					
14 x 50*	115	16	51	74	0,5	4143045
16 x 64	135	19	59	83	0,8	4026630
19 x 75	156	21	69	100	1,2	4026230
22 x 86	182	25	80	116	2	4026151
26 x 100	220	30	92	135	3,4	4027088
30 x 120	252	35	110	160	5,3	4025751
34 x 136	292	38	122	177	7,8	4029159
38 x 144	318	43	118	180	8,5	4027697

* Available on request



pewag FDD flight attachments

Designed for demanding operating conditions, these plug-in flight attachments are suitable for double-strand and multi-strand chain conveyors. They run over sprockets and smooth idler wheels, with or without grooves. Each attachment features two bolts made of forged MnCr-alloyed, case-hardened steel, welded into a steel plate for high wear resistance.

To fit, insert the plug-in flight into the vertical chain links and secure it with the scraper bar, tightening the lock nuts or hex bolts to the specified torque.

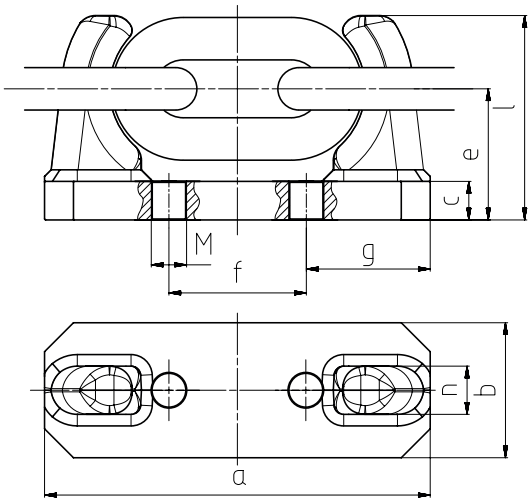
Surface finish: sandblasted and waxed

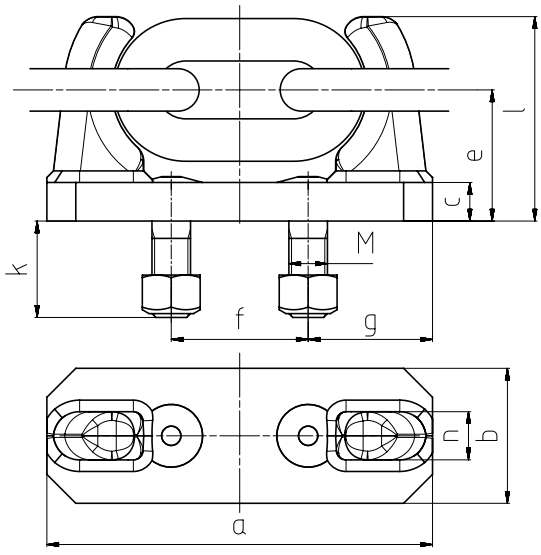
Scope of delivery
- 1 pcs. Flight attachment
- 2 pcs. locking nut DIN 980-8 (for FDD with threaded pins)

Example of the order
100 pcs. flight attachments FDD 22 x 86

FDD with threaded holes

FDD with threaded pins





FDD flight attachments

for chain d x t	a	b	c	e	f	g	k	l	n	M	Weight approx. [kg/pc.]	pewag article (with threaded holes)	pewag article (with threaded pins)
	[mm]												
14 x 50	117	40	12	38	45	36	26	61,5	15	M12	0,7	4030600	3002540
16 x 64*	150	50	15	48	52	49	35	76	19	M16	1,2	4026827	4027973
19 x 75*	175	60	20	58	65	55	50	90	21	M20	2	4142976	4030967
22 x 86	200	70	20	68	71	64,5	50	106	25	M20	3	4026304	4031193
26 x 100	235	80	20	72	85	75	49	116	30	M20	4,5	4031180	4033895
30 x 120	280	90	25	85	98	91	55	136	35	M24	6,7	4142934	4030148

* Available on request

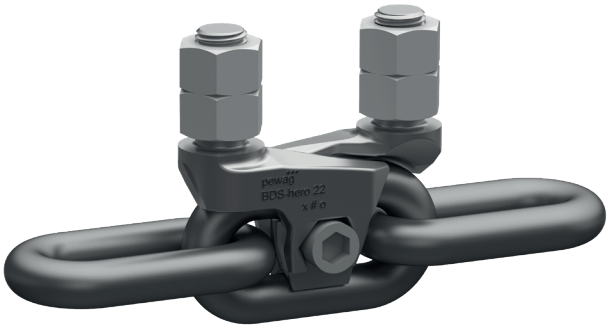
pewag BDS-series bucket attachments

Designed for use with hero and round steel chains, chain sprockets and plain segmented chain wheels. Suitable for back-mounted buckets, allowing simple assembly and disassembly on the chain.

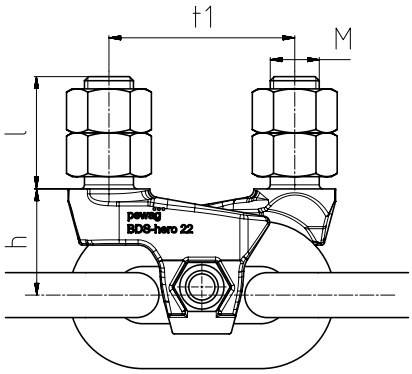
Each attachment consists of two identical forged halves, including bolts, and is heat-treated for durability. Mounting dimensions conform to standard shackles, enabling conversion of existing chain ends and shackle systems. Existing buckets and chain wheels can typically be reused.

Provides higher operational safety, as the BDS attachment does not transmit chain pull. No wear parts – fully reusable.

Surface finish: sandblasted and waxed



BDS-series bucket attachments



for chain d x t	M	h	l	t1	Weight approx.	pewag article
		[mm]			[kg/pc.]	
14 x 50	M14	34	35	56	0,5	4026518
16 x 64	M16	37	40	63	0,7	4026519
19 x 75	M20	47	45	80	1,2	4026520
22 x 86	M24	52	55	91	2	4028417
26 x 100	M24	60	55	105	2,5	4027758
30 x 120	M30	70	65	126	4,2	4028418
34 x 136	M36	81	75	147	6,5	4028419

Scope of delivery
- 2 pcs. pre-assembled BDS clamp halves (with hex. socket head cap screw DIN 912-8.8 and locking nut DIN 980-8)
- 4 pcs. hex nuts DIN 934-8

Example of the order
80 pcs. bucket attachments BDS 22 x 86

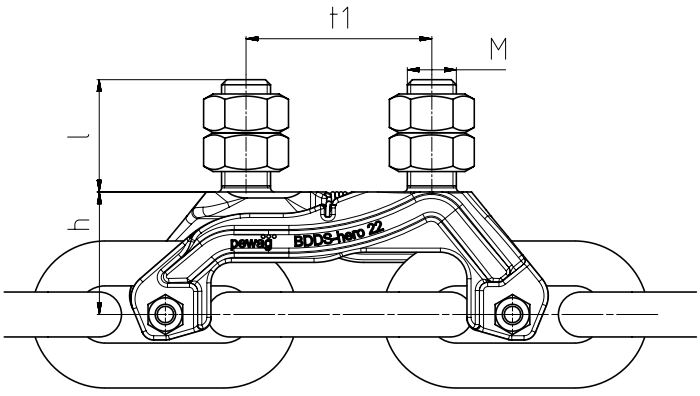
pewag BDDS-series bucket attachments

Designed for use with hero and round steel chains, chain sprockets and plain segmented chain wheels. Suitable for back-mounted buckets, enabling simple assembly and disassembly on the chain.

The BDDS attachment features high wear resistance, with hardened surfaces at the chain contact points. Mounting dimensions correspond to standard shackles, allowing conversion of existing chain ends and shackle systems. Existing buckets and chain wheels can generally be reused. Provides enhanced operational safety, as the BDDS attachment does not transmit chain pull.

Surface finish: sandblasted and waxed

BDDS-series bucket attachments



for chain d x t	M	h	l	t1	Weight approx. [kg/pc.]	pewag article
		[mm]				
19 x 75	M20	53	45	80	1,6	4027214
22 x 86	M24	60	55	91	2,6	4029081
26 x 100	M24	71	55	105	4,1	4029045
30 x 120	M30	84	65	126	7	4029082
34 x 136	M36	96	75	147	9	4029083

Scope of delivery
- 2 pcs. pre-assembled BDDS clamp halves (with hex. bolt DIN 931-8.8 and locking nut DIN 980-8)
- 4 pcs. hex nuts DIN 934-8.

Example of the order
80 pcs. bucket attachments BDD-S 22 x 86

pewag SDS bucket and flight attachments

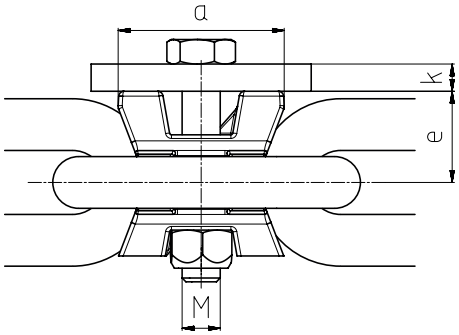
Designed for use with round steel chains and side-mounted buckets, compatible with RHV sprockets and plain segmented chain wheels. Allows simple assembly and disassembly on the chain.

Each attachment consists of two forged and case-hardened halves. Mounting dimensions allow conversion of existing chain ends and shackle systems, while existing chain wheels and buckets can generally be reused.

Provides enhanced operational safety, as the SDS attachment does not transmit chain pull.

Surface finish: waxed

SDS bucket and flight attachments

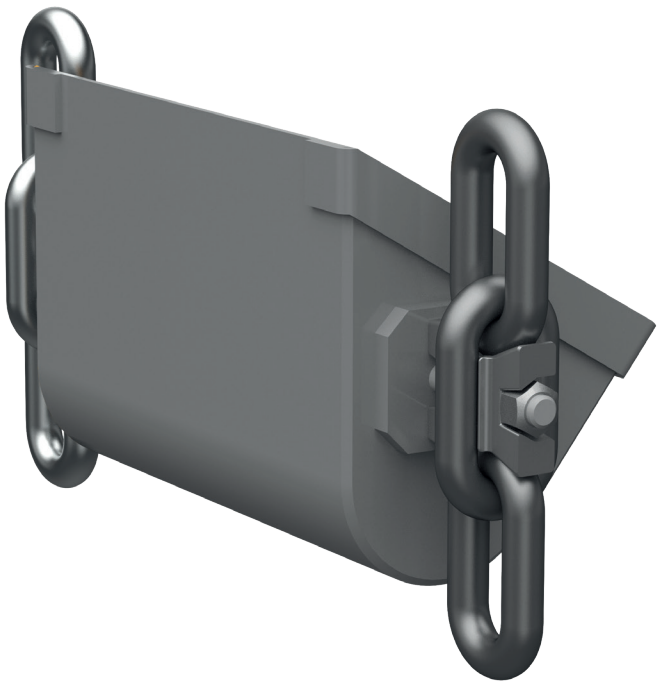


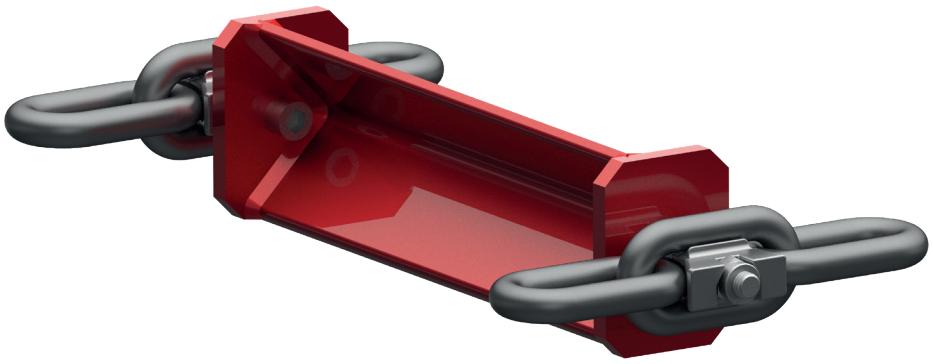
for chain d x t	M	a	k**	e*	Weight approx.	pewag article
		[mm]			[kg/pc.]	
14 x 50	M10	40	10	34	0,2	4025506
16 x 64	M12	51	10	37	0,5	4026540
19 x 75	M14	61	10	33,5	0,7	4026473
22 x 86	M16	70	15	52	1	4026513
26 x 100	M20	80	15	60	1,3	4026474
30 x 120	M20	100	15	71	1,8	4026475

* Any other sizes and dimensions "e" on request.
** Recommended plate thickness.

Scope of delivery
- 2 pcs. SDS-halves
- 1 pc. hex. bolt DIN 931-8.8 (bolt length has to be specified)
- 1 pc. locking nut DIN 980-8.
- Distance plate (upon request) Size should be specified

Example of the order
80 pcs. bucket attachments SDS 22 x 86 with mounting bolt and nut

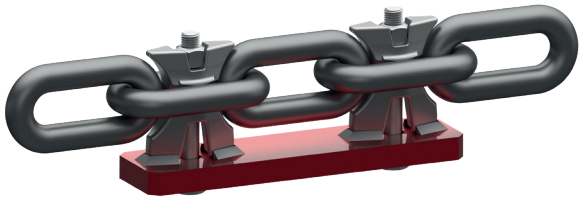




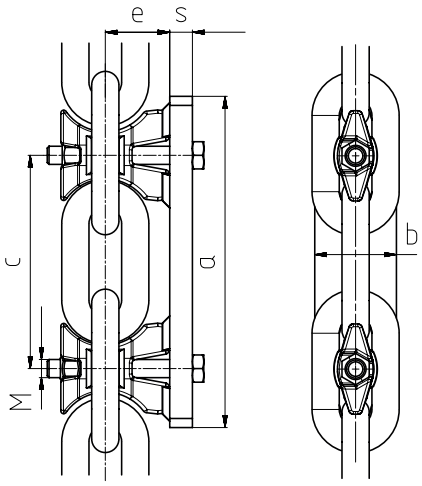
pewag SDD bucket attachments

Bucket attachment suitable for round steel chains and for side mounted buckets, runs over sprockets RHV and plain segmented chain wheels; simple assembly and disassembly on the chain; 4 halves, forged and case hardened, 2 halves welded to plate, existing chain end and shackle system can be converted, same chain wheels and buckets can usually be used. Higher service safety because the SDD attachment does not have to transmit any chain pull.

Surface finish: waxed

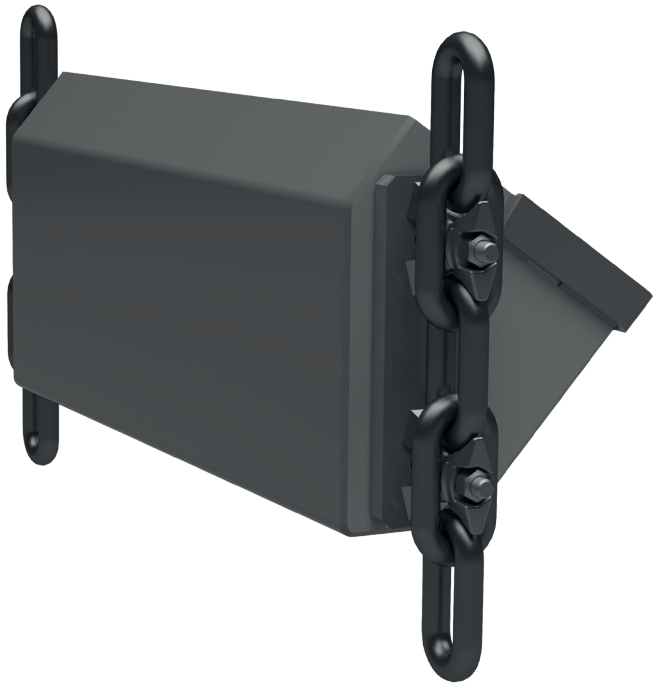


SDD bucket attachments



for chain d x t	M	e	a	b	c	s	Weight approx. [kg/pc.]	pewag article
		[mm]						
22 x 86	M16	52	265	70	170	15	5,5	4026543
26 x 100	M20	60	300	80	196	20	7	4026544
30 x 120	M20	71	365	90	235	25	10	4026545
34 x 136	M24	81	410	100	268	30	14	4026546

* Any other sizes and dimensions "e" on request.



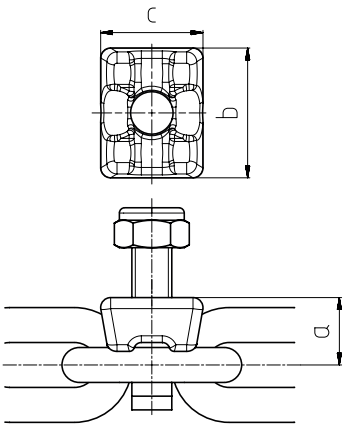
Scope of delivery
- 2 pcs. SDD-halves welded to plate
- 2 pcs. locking SDD-halves
- 2 pcs. hex. bolts DIN 931-8.8 (Bolt length has to be specified)
- 2 pcs. locking nuts DIN 980-8.

Example of the order
80 pcs. bucket attachments SDD 22 x 86 with mounting bolts and nuts

pewag SG flight attachments

Designed to be bolted directly onto the flight bar, these attachments run over pocket wheels on horizontally mounted chain links.

Surface finish: electro galvanized (gzn)

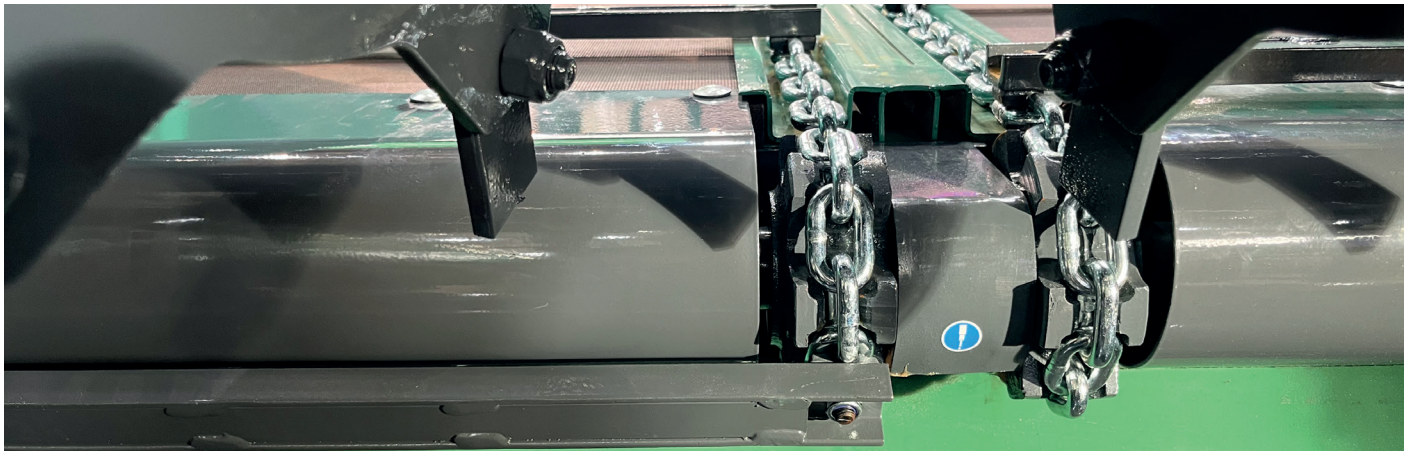


SG flight attachments

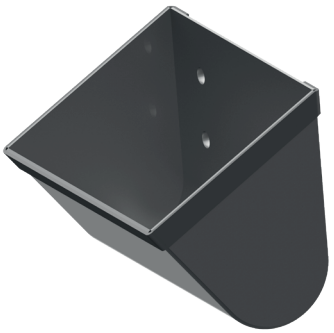
for chain	Screw	a	b	c	Weight approx. [kg/pc.]	pewag article
			[mm]			
8 x 24	M8 x 35	14	29	21	0,1	4028860
8 x 31	M10 x 40	16	31	25	0,1	4027936
10 x 31	M10 x 40	19,5	36	30	0,2	4025404

Scope of delivery
- 1 pcs. intermediary fitting piece (drop-forged)
- 1 pcs. highly durable special T-head bolt
- 1 pcs. locking nut DIN 980-8
- 1 pcs. lock washer

Example of the order
200 pcs. flight attachments SG 8 x 31



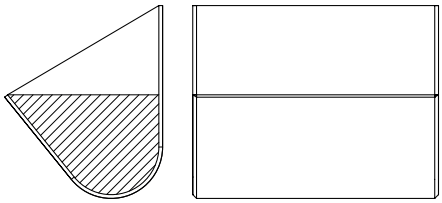
pewag buckets acc. to DIN 15234



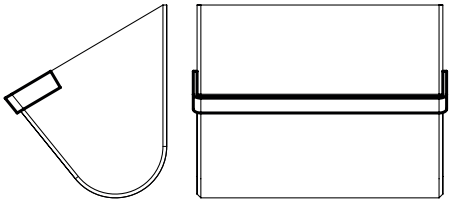
Steel elevator buckets of welded construction can be manufactured according to DIN standards or to any design specified by the customer. They are suitable for handling heavy powders, coarse grains, and lumpy materials such as sand, cement, gravel, and coal. Buckets made from cast polymer materials are also available for medium-duty operating conditions.

Bucket attachment with shackles (DIN 15236-4)

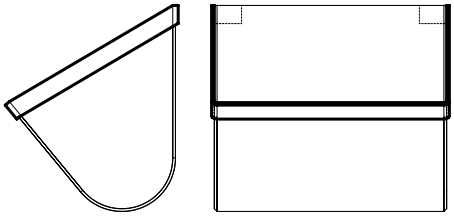
hatched aera = bucket capacity



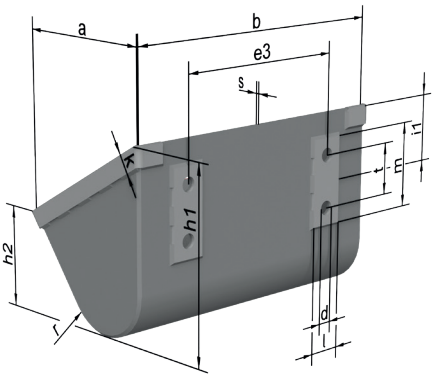
Style A (without reinforcement)



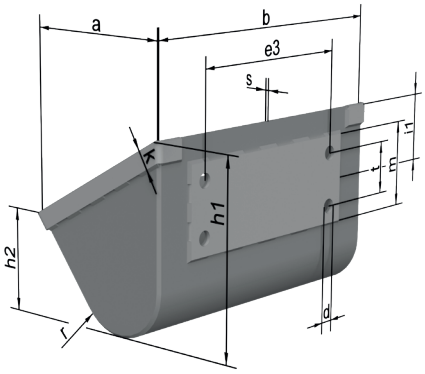
Style B (with reinforcement front edges)



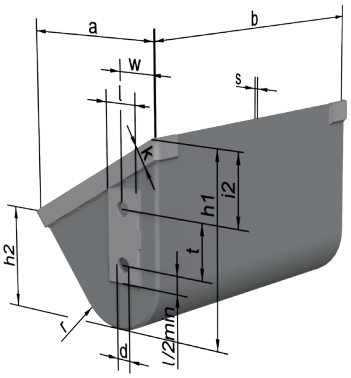
Style C (with reinforcement edges on 3 sides)



Style L (with rear wall strips)



Style M (with rear wall plate)



Style N (with side mounted attachment)

Width					Weight of a bucket style A kg = sheet metal gauge						Bucket capacity F x b	Bucket attachment: dimensions DIN 15236-4								
b	a	h1	h2	r								t	d [1]	e_3	i_1	m	$L_{min.}$	w	v [2]	i_2
		[mm]			2	3	4	5	6	8	[l]					[mm]				
160	140	180	95	45	1,38	2,08					1,5	56	15	100	67	95	40	36	6	67
160	160	200	106	50	1,59	2,39	3,18				1,9	56	15	100	75	95	40	40	6	75
200	160	200	106	50	1,85	2,8	3,76				2,4	63	17	125	75	110	40	40	6	75
250	180	224	118	56	2,49	3,77	4,96				3,7	63	17	160	85	110	40	45	8	85
250	200	250	132	63		4,36	5,82	7,27			4,6	63	17	160	95	110	40	50	8	95
315	200	250	132	63		5,09	6,82	8,59			5,8	70	21	200	95	120	50	50	8	95
400	224	280	150	71		7,03	9,4	11,8			9,4	80	21	250	106	130	50	56	10	106
500	250	315	170	80			12,8	16,1	19,4		14,9	91	25	315	118	150	60	63	10	118
630	280	355	190	90			17,6	22,1	26,6		23,5	105	25	400	132	165	60	70	10	132
800	315	400	212	100				30,6	36,9	49,6	37,3	126	31	500	150	200	70	80	10	150
1000	355	450	236	112				42	50,3	67	58,3	126	31	630	170	200	70	90	10	170
1250	400	500	265	125					68,5	91,9	92,0	147	37	800	190	230	80	100	12	190

[1] Bore hole dia. for chain shackle acc. to DIN 5699 and BDS bucket attachment.
[2] Max. thickness of rear wall strips L or rear wall plate M.

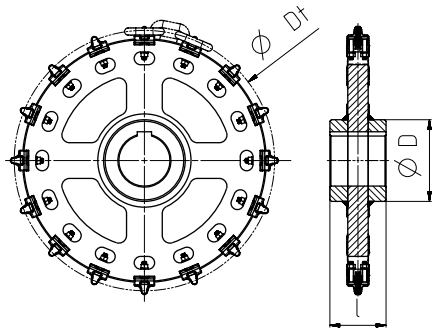
Example of the order
50 pcs. buckets C630 x 280 x 5 L91 DIN 15234

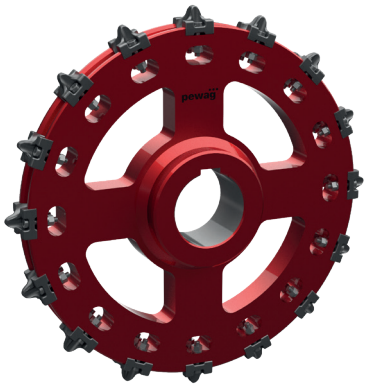
pewag RHV-(A) chain sprockets

Toothed chain wheels are designed for use with hero and round steel chains. They feature replaceable and adjustable individual teeth made from MnCr-alloyed steel, case-hardened for high wear resistance. The sprockets are welded steel fabrications, and any number of teeth or hub design can be supplied.

Keyways are machined in the hubs of matched wheels to ensure precise alignment of the teeth.
Hub design, bore diameter, and key size can be customized according to customer requirements. Shimplates can be fitted under the teeth to adapt the pitch circle diameter of the sprocket when the chain lengthens due to wear at the interlink points, ensuring smooth chain operation and maximum use of the case-hardened layer.
Maintenance: Shimplates and new teeth can be mounted without disassembling the chain.

Chain sprockets RHV-A: with cleaning slots are recommended for scraper conveyors.





RHV

RHV-A

RHV(-A) chain wheels

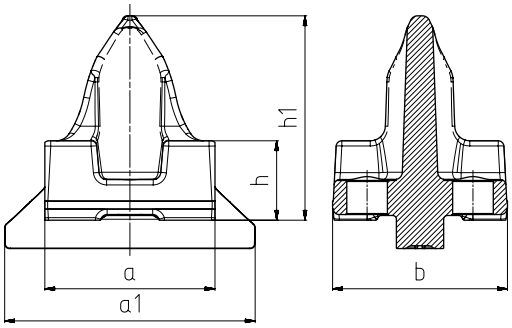
Type	for chain d x t	No. of teeth	pcd - ∅ Dt [mm]	Weight approx. [kg/pc.]
RHV 14/8-50	14 x 50	8	256	10
RHV 14/9-50		9	288	13
RHV 14/10-50		10	319	17
RHV 14/12-50		12	383	27
RHV 16/8-64	16 x 64	8	327	17
RHV 16/9-64		9	369	26
RHV 16/10-64		10	409	36
RHV 16/12-64		12	490	54
RHV 19/8-75	19 x 75	8	384	33
RHV 19/9-75		9	432	43
RHV 19/10-75		10	479	56
RHV 19/12-75		12	574	86
RHV 22/8-86	22 x 86	8	440	47
RHV 22/9-86		9	495	62
RHV 22/10-86		10	549	82
RHV 22/12-86		12	659	134
RHV 26/8-100	26 x 100	8	512	72
RHV 26/9-100		9	575	100
RHV 26/10-100		10	639	137
RHV 26/12-100		12	766	190
RHV 30/8-120	30 x 120	8	615	118
RHV 30/9-120		9	691	160
RHV 30/10-120		10	767	205
RHV 30/12-120		12	919	280
RHV 34/8-136	34 x 136	8	697	194
RHV 34/9-136		9	783	230
RHV 34/10-136		10	869	327
RHV 34/12-136		12	1041	450
RHV 38/8-144	38 x 144	8	738	240
RHV 38/9-144		9	829	341

Any other number of teeth and sizes on request.
Hub length and hub diameter can be specified by the customer.

pewag E-series teeth for RHV(-A)

The teeth are compatible with hero and round steel chains. Each tooth is made from MnCr-alloyed steel, case-hardened for high wear resistance, with a surface hardness of 800 HV10. The individual teeth can be adjusted with shimplates to adapt the pitch circle diameter of RHV(-A) sprockets for chains that have lengthened due to wear at the interlink points, ensuring continued smooth running of the chain.

Surface finish: sandblasted and waxed



E-Series teeth

for chain d x t	a	a1	b	h	h1	Screw	Weight approx. [kg/pc.]	pewag article
			[mm]					
14 x 50	40	40	43	19	36	M 8 x 40	0,22	4144208
16 x 64	48	48	50	23	46	M 10 x 50	0,4	4144210
19 x 75	58	88	58	26	58	M 14 x 60	0,6	4144211
22 x 86	68	101	70	30	80	M 16 x 70	1,1	4143974
26 x 100	76	117	78	36	94	M 18 x 70	1,5	4144213
30 x 120	90	133	93	42	108	M 20 x 90	2,5	4144214
34 x 136	105	152	107	48	120	M 24 x 100	4,5	4144215
38 x 144	110	161	113	54	139	M 24 x 110	5,5	4144216

Scope of delivery

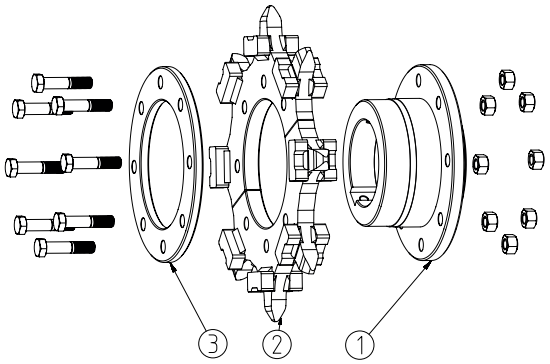
- Individual teeth E-Series
- Mounting parts
  * Mounting parts: hex. socket head cap screw DIN 7984 - 8.8; spring washer DIN 127 and hex. nut DIN 934 - 8. Individual teeth with shimplates the screw length has to be advised

pewag IR chain sprockets

Sprockets are welded steel fabrications, available either as a single-piece design or with replaceable tooth segments for drive and tail sections. They are case-hardened for high wear resistance.

Fabricated steel sprockets can be supplied for any medium or long pitch chains with any number of teeth. Hub design, bore diameter, and key size can be customized according to customer requirements.

IR sprocktes in segmented version consist of: wheel body (1), IR segments (2), counter disc (3) and screw connection.

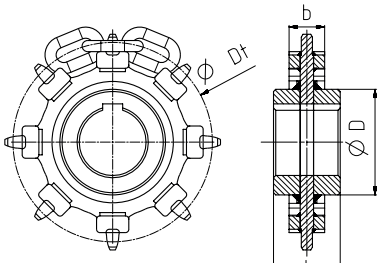


IR-SEG sprocket with replaceable tooth segments

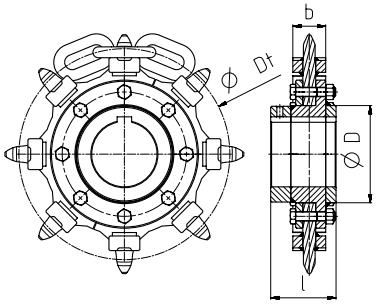
IR sprocket

IR-SEG sprocket

IR(-SEG) sprocket



IR



IR-SEG

Type	for chain d x t	No. of teeth	pcd - Ø Dt	b	Weight approx.
			[mm]		[kg/pc.]
IR 10/6-38	10 x 38	6	147	32	3,5
IR 10/8-38		8	195	32	4,6
IR 10/10-38		10	243	32	9,7
IR 14/6-50	14 x 50	6	193	42	6,2
IR 14/8-50		8	256	42	12
IR 14/10-50		10	320	42	17
IR 14/12-50		12	383	42	19
IR 16/6-64	16 x 64	6	247	50	14
IR 16/8-64		8	328	50	27
IR 16/10-64		10	409	50	35
IR 16/12-64		12	490	50	55
IR 19/6-75	19 x 75	6	290	55	25
IR 19/8-75		8	384	55	43
IR 19/10-75		10	479	55	53
IR 19/12-75		12	575	55	97
IR 22/6-86	22 x 86	6	332	65	38
IR 22/8-86		8	441	65	75
IR 22/10-86		10	550	65	105
IR 22/12-86		12	659	65	142

Any other number of teeth and sizes on request.
Hub length and hub diameter can be specified by the customer.

Scope of delivery

- Chain sprocket IR ... , in one piece, case hardened and with machined hub
- Chain sprocket IR ... -Seg, machined hub, 2 pcs. case hardened tooth segments, counter plate with mounting bolts and nuts

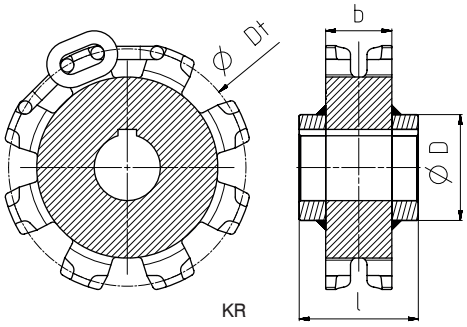
Example of the order

2 pcs. chain sprockets IR 16/10-64 -Seg ready to install
for chain 16 x 64, Number of teeth z = 10
Offset hub: length l = 130, length l1 = 50
Hub bore dia. = 100 H7 and keyway acc. to DIN 6885

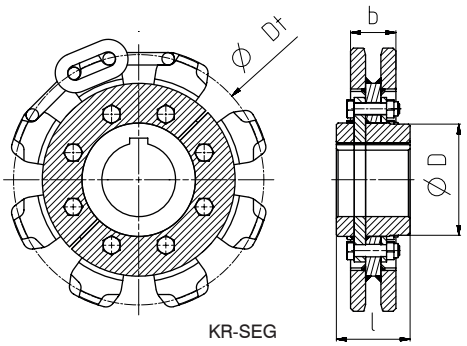
pewag KR pocket wheels

Pocket wheels are welded steel fabrications, available either as a single-piece design or with replaceable pocket segments for drive, guide, and tail sections. They are case-hardened for high wear resistance.

Fabricated steel pocket wheels can be supplied for any chain pitch-tooth combination, with any number of pockets. Hub design, bore diameter, and key size can be customized according to customer requirements.

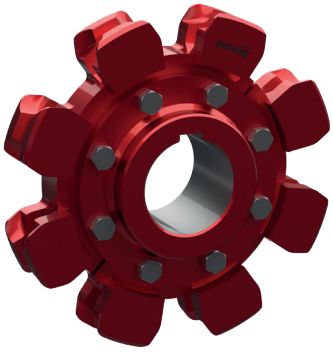


KR



KR-SEG


KR pocket wheel


KR-SEG pocket wheel

KR(-SEG) pocket wheels

Type	for chain d x t	No. of teeth	pcd - Ø Dt	b	Weight approx.
			[mm]		[kg/pc.]
KR 10 / 5 - 38	10 x 38	5	124	40	4,8
KR 10 / 6 - 38		6	147	40	6,3
KR 14 / 5 - 50	14 x 50	5	162	60	9,9
KR 14 / 6 - 50		6	194	60	14
KR 14 / 8 - 50		8	257	60	27
KR 14 / 10 - 50		10	320	60	42
KR 16 / 8 - 64	16 x 64	8	329	70	57
KR 16 / 9 - 64		9	368	70	69
KR 19 / 8 - 75	19 x 75	8	385	70	82
KR 19 / 10 - 75		10	479	70	78
KR 22 / 8 - 86	22 x 86	8	440	80	70
KR 22 / 10 - 86		10	549	80	105
KR 26 / 8 - 100	26 x 100	8	513	105	227
KR 26 / 10 - 100		10	639	105	321
KR 34 / 7 - 136	34 x 136	7	612	150	381

Any other number of teeth and sizes on request.
Hub length and hub diameter can be specified by the customer.

Scope of delivery

- Pocket wheel KR …, in one piece, case hardened and with machined hub
- Pocket wheel KR ... -Seg, machined hub, 2 pcs. case hardened segments, counter plate with mounting bolts and nuts

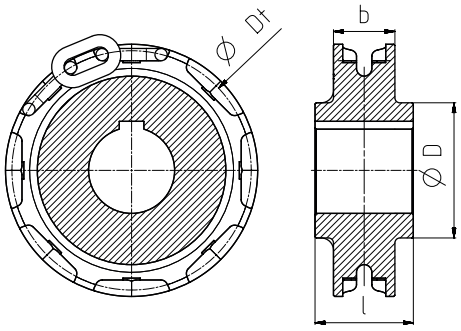
Example of the order

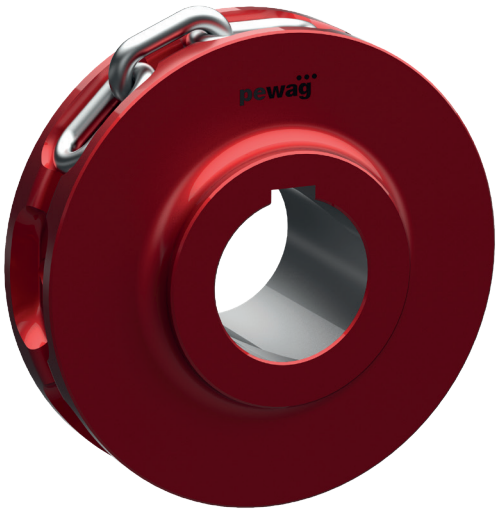
2 pcs. pocket wheels KR 19/10-75-Seg ready to install for chain 19 x 75, Number of teeth z = 10
Offset hub: length l = 150, length l1 = 50
Hub bore dia. = 100 H7 and keyway acc. to DIN 6885

pewag TR pocket wheels

Pocket wheels are welded steel fabrications, available either as a single-piece design or with replaceable pocket segments for drive, guide, and tail sections. They are case-hardened for high wear resistance.

Fabricated steel pocket wheels can be supplied for any chain pitch-tooth combination, with any number of pockets. Hub design, bore diameter, and key size can be customized according to customer requirements.





TR pocket wheel

TR pocket wheels

Type	for chain d x t	No. of teeth	pcd - Ø Dt	b	Weight approx.
			[mm]		[kg/pc.]
TR 7/5-22	7 x 22	5	72	34	0,7
TR 7/6-22		6	85	34	1
TR 7/7-22		7	99	34	2
TR 8/5-24	8 x 24	5	78	38	1
TR 8/6-24		6	93	38	1,5
TR 8/7-24		7	108	38	2
TR 8/8-24		8	123	38	2,5
TR 9/5-27	9 x 27	5	88	45	1,5
TR 9/6-27		6	104	45	2
TR 9/7-27		7	122	45	2,5
TR 9/8-27		8	138	45	3
TR 10/7-28	10 x 28	7	126	50	4
TR 10/8-28		8	144	50	5
TR 10/9-28		9	161	50	7
TR 10/10-28		10	179	50	8,5
TR 11/6-31	11 x 31	6	120	55	4
TR 11/7-31		7	140	55	5,5
TR 11/8-31		8	159	55	8
TR 11/9-31		9	179	55	10,5
TR 13/6-36	13 x 36	6	139	60	6,5
TR 13/7-36		7	162	60	10,5
TR 13/8-36		8	185	60	11
TR 13/9-36		9	208	60	13
TR 13/10-36		10	230	66	20

Any other number of teeth and sizes on request.

Material
CrMo-alloyed steel, through hardened
MnCr-alloyed steel, case hardened

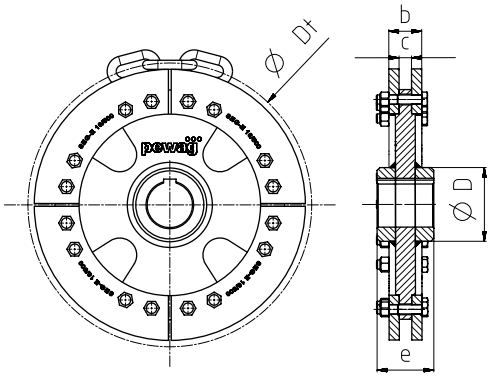
Scope of delivery
Pocket wheel machined, material has to be specified

Example of the order
4 pcs. pocket wheels TR 10/12-28 for chain 10 x 28, No. of teeth z = 12
Hub length central = 80 mm (40 + 40)
Hub bore dia = 50 H7 and keyway acc. to DIN 6885

pewag SEG-E plain segmented chain wheels

Plain segmented chain wheels are designed for use with hero and round steel chains, as well as chain ends according to DIN 764 and DIN 766.

SEG-E Features:
Steel hub with cleaning slots, welded steel fabrication
Replaceable hardened steel segments, highly wear-resistant, surface hardness min. 700 HV10 Bore diameter and key size can be customized according to customer requirements, SEG-E plain segmented chain wheels are suitable as drive and tail units.



SEG-E plain segmented chain wheel

SEG-E
Plain segmented chain wheels

Type	for chain diameter	pcd - Ø Dt	e	b	c	No. of segments	Weight approx. [kg/pc.]
		[mm]					
SEG-E 13/500	13 + 14	500	100	48	18	8	50
SEG-E 16/500	16	500	100	58	22	8	52
SEG-E 16/630		630	160	58	22	8	115
SEG-E 16/710		710	160	58	22	8	165
SEG-E 16/800		800	190	58	22	8	290
SEG-E 20/500	19 + 20	500	100	68	28	8	56
SEG-E 20/630		630	160	68	28	8	120
SEG-E 20/710		710	160	68	28	8	170
SEG-E 23/630	22 + 23	630	160	80	30	8	125
SEG-E 23/710		710	160	80	30	8	170
SEG-E 23/800		800	160	80	30	8	225
SEG-E 23/900		900	190	80	30	8	280
SEG-E 23/1000		1000	200	80	30	8	350
SEG-E 26/710	26	710	160	94	34	8	180
SEG-E 26/800		800	160	94	34	8	240
SEG-E 26/900		900	190	94	34	8	310
SEG-E 26/1000		1000	200	94	34	8	375
SEG-E 30/900	30	900	190	110	40	8	300
SEG-E 30/1000		1000	200	110	40	8	395
SEG-E 30/1250		1250	220	110	40	8	640
SEG-E 36/1250	36	1250	220	116	46	8	680

Any other sizes on request.

Example of the order
2 pcs. drive-plain segmented chain wheels SEG-E 23/800 for chain 22 x 86, pitch circle dia. = 800 mm
Hub length central e = 160 mm (80 + 80)
Hub bore dia. = 150 H7 and keyway acc. to DIN 6885

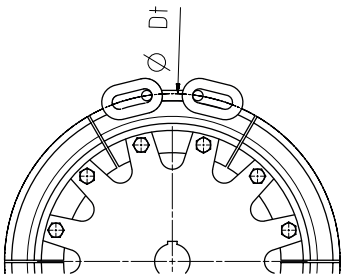
pewag KS plain segmented chain wheels

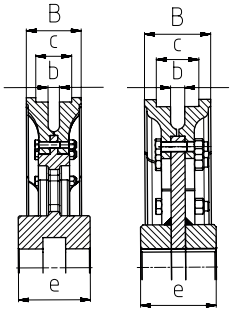
Designed for use with hero and round steel chains or chain ends (DIN 764 / DIN 766).

Replaceable segments made from highly resistant chilled cast iron (400–450 HB30); long service life; replaceable without removing the chain.

Suitable for back- and side-mounted buckets (with DIN 5699 shackles).

Hubs: Gray cast GGN (no cleaning slots) or steel STN (with cleaning slots); bore diameter and key size customizable.





cast hub (GGN) steel hub (STN)

KS steel hub (STN)

KS cast hub (GGN)

KS
plain segmented chain wheels

Type	for chain diameter	pcd - Ø Dt	b	c	B	e	No. of segments	Weight approx. [kg/pc.]
		[mm]						
KS 13/500*	13 + 14	500	18	52	90	100	8	54
KS 16/500*	16	500	22	62	100	100	8	54
KS 16/630*		630	22	62	120	160	12	120
KS 16/710		710	22	62	130	160	12	175
KS 16/800		800	22	96	132	160	12	240
KS 20/500*	19 + 20	500	28	80	118	100	8	60
KS 20/630*		630	28	80	130	160	12	125
KS 20/710*		710	28	80	130	160	12	180
KS 23/630	22 + 23	630	30	90	140	160	12	130
KS 23/710*		710	30	90	140	160	12	180
KS 23/800*		800	30	90	140	160	12	245
KS 23/900		900	30	95	145	190	16	325
KS 23/1000		1000	30	104	140	200	16	415
KS 26/710	26	710	34	114	164	160	12	200
KS 26/800*		800	34	110	160	160	12	250
KS 26/900*		900	34	110	170	190	16	335
KS 26/1000		1000	36	120	180	200	16	430
KS 30/900*	30	900	40	116	176	190	16	345
KS 30/1000*		1000	40	125	185	200	16	435
KS 30/1250*		1250	40	125	185	220	16	700
KS 36/1250*	34 + 36	1250	46	135	200	220	16	730

Any other sizes on request.
* For this wheel sizes, type KS segments without flange can be supplied with gray cast hub GGN or steel hub STN

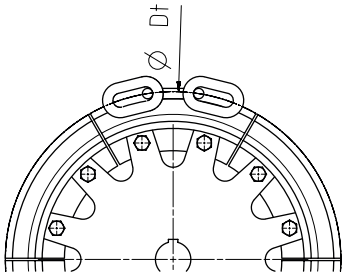
pewag KSE plain segmented chain wheels

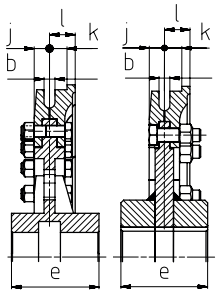
Designed for use with hero, round steel chains, or chain ends (DIN 764 / DIN 766).

Drive and tail wheels with replaceable segments made from highly resistant chilled cast iron (400–450 HB30); long service life; segments replaceable without demounting the chain.

Suitable for side-mounted buckets.

Hubs: Gray cast GGN (no cleaning slots) or steel STN (with cleaning slots); maximum bore diameter limited for GGN; bore diameter and key size customizable.





cast hub (GGN) steel hub (STN)

KSE steel hub (STN)

KSE cast hub (GGN)

KSE plain segmented chain wheels

Type	for chain diameter	pcd - Ø Dt	b	e	j	k	l	No. of segments	Weight approx. [kg/pc.]
		[mm]							
KSE 13/500	13 + 14	500	17	100	23	27	42	8	56
KSE 16/500	16	500	20	100	28	33	47	8	58
KSE 16/630		630	20	160	28	32	47	12	130
KSE 16/710		710	21	160	32	45	65	12	185
KSE 16/900		900	20	190	28	32	47	16	310
KSE 20/500	19 + 20	500	25	100	33	39	58	8	62
KSE 20/630		630	26	160	35	47	62	12	135
KSE 20/710		710	26	160	35	47	67	12	190
KSE 20/900		900	26	190	35	47	67	16	315
KSE 20/1000		1000	26	200	32	50	68	16	350
KSE 23/630	22 + 23	630	30	160	40	50	70	12	140
KSE 23/710		710	30	160	40	52	70	12	190
KSE 23/800		800	30	160	40	52	70	12	245
KSE 23/1000		1000	30	200	40	52	70	16	370
KSE 26/630	26	630	32	160	45	55	80	12	145
KSE 26/710		710	32	160	45	55	80	12	200
KSE 26/900		900	32	190	45	54	84	16	325
KSE 26/1000		1000	32	200	45	58	88	16	390
KSE 26/1250		1250	32	220	46	62	92	16	630
KSE 30/710	30	710	36	160	50	65	80	12	205
KSE 30/800		800	36	160	50	65	80	12	260
KSE 30/1000		1000	36	200	53	65	80	16	415
KSE 30/1250		1250	36	220	53	65	80	16	650
KSE 36/1250	34 + 36	1250	44	220	63	78	98	16	690

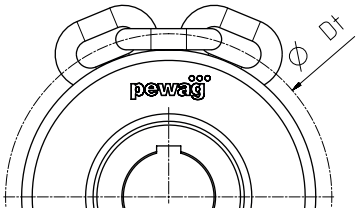
Any other sizes on request.

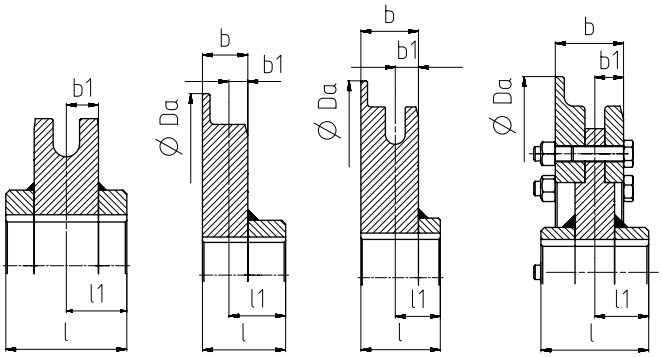
Example of the order

2 pcs. drive-plain segmented chain wheel KSE 23/800 for chain 22 x 86, pitch circle dia. = 800 mm
Hub length central e = 160 mm (80 + 80)
Hub bore dia. = 150 H7 and keyway acc. to DIN 6885

pewag plain tail and idler wheels

Plain tail and idler wheels UK, UL, ULR and ULS are designed for scraper and bucket conveyor. They are welded steel constructions with case-hardened chain contact surfaces, providing exceptional wear resistance. Available in any external or pitch circle diameter. Hub design, bore diameter, and keyway dimensions can be customized to meet customer specifications.





UK UL ULR ULS

UK - grooved chain wheel

UL - plain flanged chain wheel

ULR - grooved and flanged chain wheel

ULS - grooved and flanged chain wheel with replaceable segments

Plain tail and idler wheels

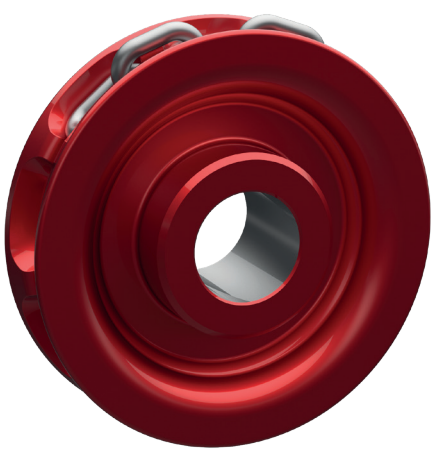
Type	for chain d x t	pcd - Ø Dt	Da	b	b1	l*	Correspon-ding No. of teeth
		[mm]					
U ... 10/147	10 x 38	147	175	45	14,7	65	6
U ... 10/195		195	225	45	14,7	65	8
U ... 14/256	14 x 50	256	280	60	22	90	8
U ... 14/288		288	310	60	22	90	9
U ... 14/319		319	345	60	22	90	10
U ... 14/383		383	410	60	22	90	12
U ... 16/328	16 x 64	328	360	70	24,5	100	8
U ... 16/369		369	400	70	24,5	100	9
U ... 16/409		409	440	70	24,5	100	10
U ... 16/490		490	520	70	24,5	100	12
U ... 19/384	19 x 75	384	420	80	29,5	120	8
U ... 19/432		432	465	80	29,5	120	9
U ... 19/479		479	515	80	29,5	120	10
U ... 22/440	22 x 86	440	480	95	34,5	130	8
U ... 22/495		495	540	95	34,5	130	9
U ... 22/550		550	595	95	34,5	130	10
U ... 26/513	26 x 100	513	560	105	40	155	8
U ... 26/576		576	630	105	40	155	9
U ... 30/615	30 x 120	615	675	125	47	160	8
U ... 30/691		691	750	125	47	160	9
U ... 34/697	34 x 136	697	760	140	52	180	8
U ... 34/783		783	850	140	52	180	9

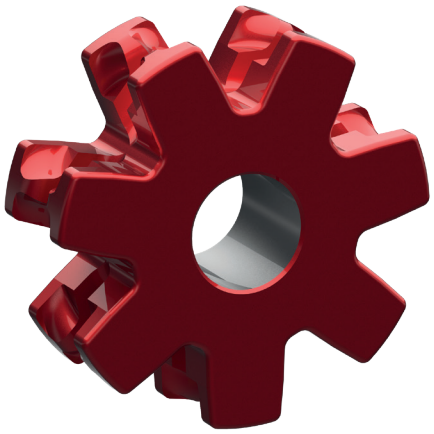
Any other sizes and dimension on request.
* Hub length and hub diameter can be specified by the custome.

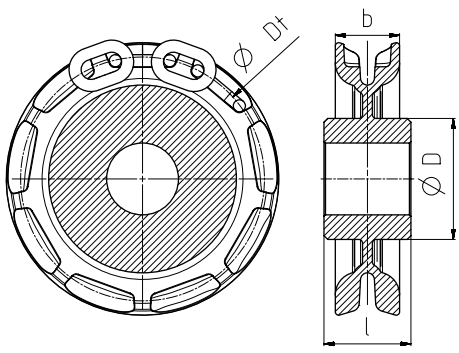
Example of the order
2 pcs. idler wheels ULR 22/550
for chain 22 x 86, pitch circle dia. = 550 mm
Offset hub: length l = 150 mm, length l1 = 100 mm Hub bore dia. = 80 H7 and keyway acc. to DIN 6885

pewag toothed chain wheels in various cast qualities

Available on request with various hub designs or without a machined bore. All dimensions can be supplied. Sprockets are fully customized to match the chain geometry and heat treatment.

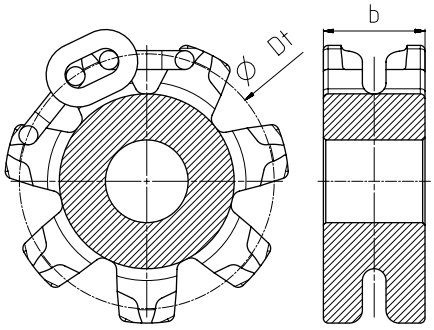






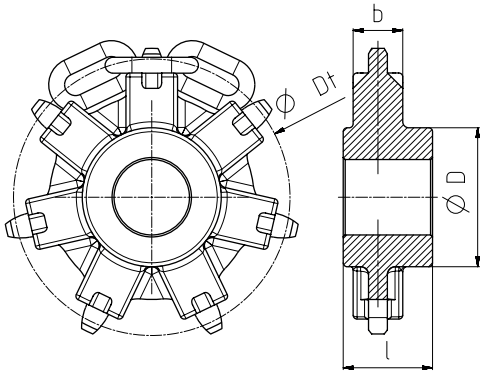
TR GG

Example of the order
4 pcs. pocket wheels TR 8/9-31 GS 52 for chain 8 x 31, No. of teeth z = 9
Hub bore dia = 50 H7
keyway acc. to DIN 6885



KR GG

Example of the order
4 pcs. pocket wheels KR 10/10-38 GS 52 E for chain 10 x 38, No. of teeth z = 10
Hub bore dia = 50 H7
keyway acc. to DIN 6885



IR GG

Example of the order
4 pcs. chain sprockets IR 10/10-38 GS 52 E for chain 10 x 38, No. of teeth z = 10
Hub bore dia = 50 H7
keyway acc. to DIN 6885

pewag custom solutions with industrial chains

pewag chains for military and scrap facilities

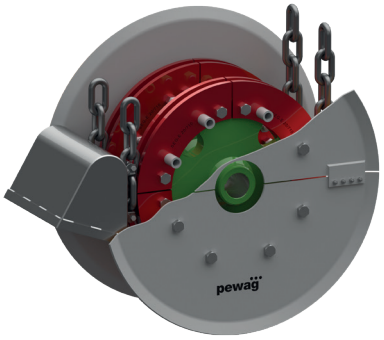
We supply customized chains designed for use in scrap metal recycling plants and demining equipment. These chains are manufactured with a lightly case-hardened surface, and their high tensile strength ensures an excellent service life. Chain dimensions and detailed design parameters are defined by the customer

pewag profiled chain for demining equipment

pewag typhoon impact chain for recycling plants

pewag custom chain wheels

We offer the possibility to manufacture chain wheels precisely according to the specific requirements and drawings of our customers.



Chain wheel with guide disc

Sprocket for special tube conveyor systems

TR pocket wheel for hero chain

SEG-E with countersunk screws

RHV-A sprocket with replaceable tooth segments

IR chain wheel from a single piece of material

Service Instructions

Content

Wear measurement instruction for hero chain

When measuring the actual dimensions, make sure that the chain links are straight and tensioned!

Conveyor / Elevator mark:	
Chain dimension:	
Inspection date:	
Delivery note no.:	

1. Nominal hero dimensions:

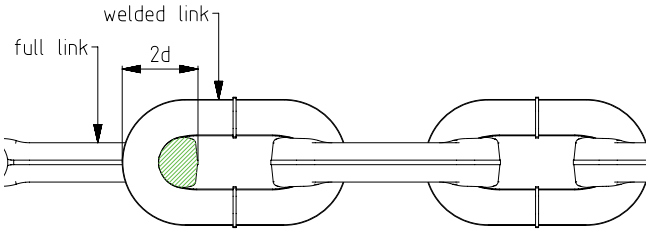
hero chain [mm]	$2d_{nom.}$ [mm]	$t_{nom.}$ [mm]
22 x 86	44,4	86
26 x 100	50,2	100
30 x 120	60	120
34 x 136	68	136
38 x 144	76,6	144

2. Wear measurement methods:

Method 1 (2d – measurement)
2d - total of welded link and full link diameter

Wear rate calculation:

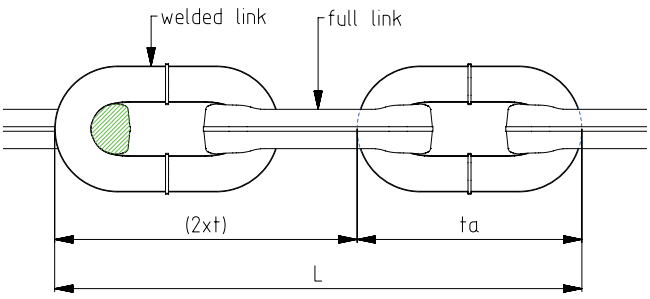
$$\frac{2d_{nom} - 2d_{actual}}{t_{nom}} \times 100 = \text{wear in [\%]}$$



Method 2 (3-link – measurement)
L - outside measurement over 3 links
ta - outside measurement over 1 link

Wear rate calculation:

$$\left(\frac{L - ta}{2t_{nom}} - 1\right) \times 100 = \text{wear in [\%]}$$



Annotation: The nominal values may deviate from the actual values. To get exact wear rate results, take the actual "$2d_{nom}$" and "t_{nom}" values as a basis for the calculation

3. Take the actual dimensions

2d (method 1) or L-ta (method 2)

During the measuring take care that the chain links are straightened and under tension

Left Side

	$2d_{actual}$	L	ta	% wear
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				

Right Side

	$2d_{actual}$	L	ta	% wear
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				

Recommendations:
- Shim plates should be fitted on the RHV(-A)-chain wheels, when the chain is lengthened at a wear rate of approx. 2,5 %.
- The replacement of the chain is recommended at a wear rate of approx. 5 %.
- For friction drive systems the chain replacement is recommended at a wear rate of approx. 5%.

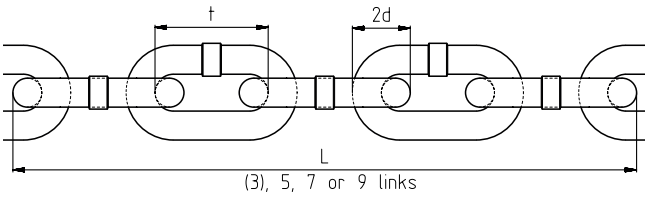
Wear measurement instruction for round steel chains

When measuring the actual dimensions, make sure that the chain links are straight and tensioned!

Conveyor / Elevator mark:	
Chain dimension:	
Inspection date:	
Delivery note no.:	

1. Nominal Round steel chain dimensions:

round steel chain [mm]	$2d_{nom.}$ [mm]	$t_{nom.}$ [mm]
14 x 50	27,7	50
16 x 64	32	64
19 x 75	37,8	75
22 x 86	43,6	86
26 x 100	51,4	100
30 x 120	60,1	120
34 x 136	67,9	136
38 x 144	75,7	144



L – actual chain lenght over 3, 5, 7 or 9 links

2d – actual dimension over two chain diameters

t – nominal pitch of the chain

2. Wear measurement methods:

Method 1 of wear measurement
(3, 5, 7, 9 – links measurement)

Actual lengthening of the pitch due to wear:

$$t_w = \frac{L - 2d_{actual}}{(3),5,7 \text{ or } 9 \text{ links}}$$

t_w - actual calculated pitch

$$\left(\frac{t_w}{t_{nom}} - 1 \right) x\ 100 = wear\ in\ [\%]$$

Method 2 (2d measurement)
$2d_{actual}$ – actual dimensions over 2 chain diameters
$2d_{nom}$ - nominal dimensions over 2 chain diameters

$$\frac{2d_{nom} - 2d_{actual}}{t_{nom}} x\ 100 = wear\ in\ [\%]$$

3. Take the actual dimensions

L (method 1) or 2d (method 2)

During the measuring take care that the chain links are straightened and under tension

Left Side

	$2d_{actual}$	L	t_w	% wear
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				

Right Side

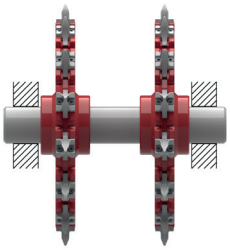
	$2d_{actual}$	L	t_w	% wear
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				

Recommendations:

- Shim plates should be fitted on the RHV-chain wheels, when the chain is lengthened at a wear rate of approx. 2,5%.
- The replacement of the E10 chain is recommended at a wear rate of approx. 3,5%, for E16 chain, when it is 5% worn
- For friction drive systems the chain replacement is recommended at a wear rate of approx. 5%.

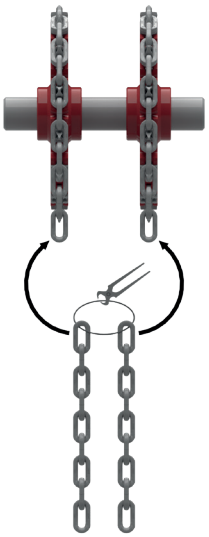
Assembly of the drive and tail wheels

Pay attention to maintaining the correct chain center distance; Drive, guide and tail shafts must be installed parallel and all the wheels must be in line.



Recommended assembly of the chain lengths

- Connect individual chain lengths with connecting links
- Install the connected chain lengths into the conveyor trough
- Connect into an endless loop
- Assemble the flight attachments and flight bars
- Tension the assembled system

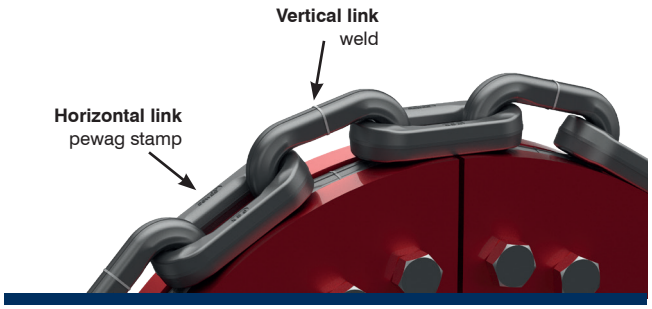


The chain lengths are supplied bundled in pairs. In order to avoid mixing up of the chain lengths, the wire for the bundling should only be opened in the course of the assembly; the chain lengths must be assembled in the conveyor lying parallel, this is the only way to guarantee that chain loops will be of the same length; if the chain lengths are mixed before installation the final links of every chain lengths are marked with the chain length number and are colour coded.

It is possible to get the chain lengths perfectly matched with the chain length numbers resp. the colour marking; during the assembly of the chain lengths please take care that the welds of the vertical chain links point to the wheel center. The position of the other links can be as required.

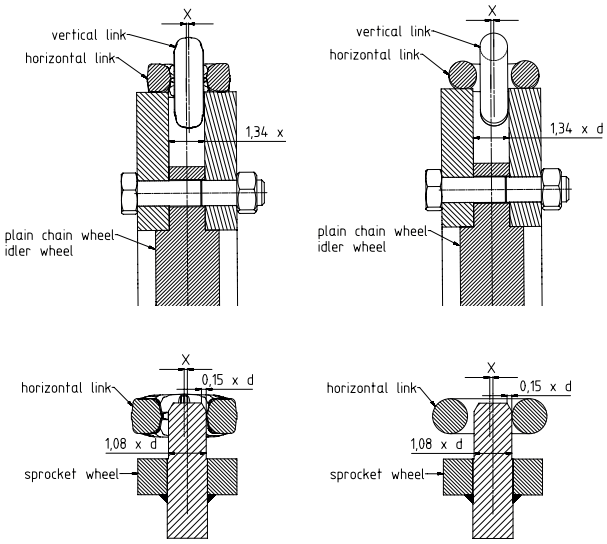
Assembly of hero chain strands

When installing a hero chain, please note that one horizontal link must be a solid forged link (marked with pewag).



Maximum axial offset of the chain

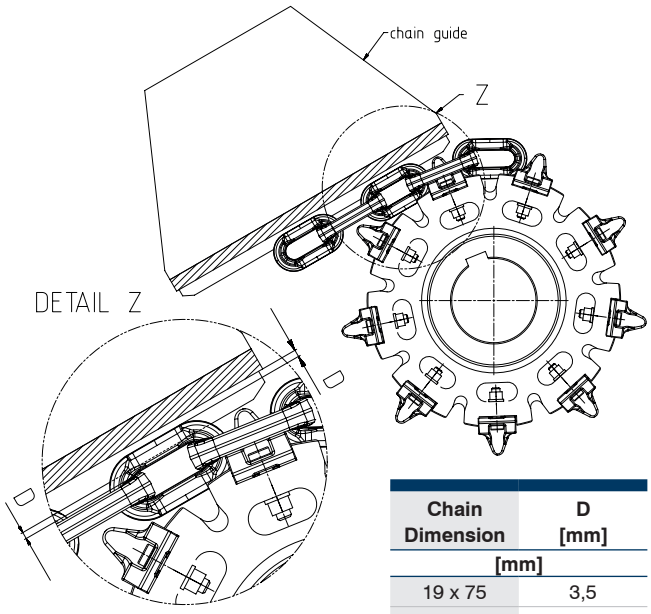
It must be insured that the maximum axial offset "X" of the chain relatively to the axis of the chain wheels is not exceeded. The maximum permissible axial offset depends on the groove width of the plane chain wheels.



chain diameter "d"	maximum axial offset "X" for hero chain	maximum axial offset "X" for round steel chain
	[mm]	
14		2
16		2,5
19		3
22	2,8	3
26	2,8	3,5
30	3,4	4
34	4,2	4,5

Minimum clearance between chain guides and chain

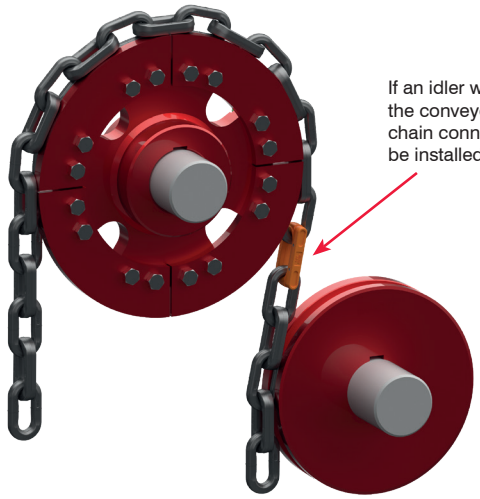
Make sure, that the clearance "D" is maintained between existing vertical chain guides over chain wheels and the circum radii of the chain.



Chain Dimension	D [mm]
[mm]	
19 x 75	3,5
22 x 86	4
26 x 100	4,5
30 x 120	5,5
34 x 136	6
38 x 144	6,5

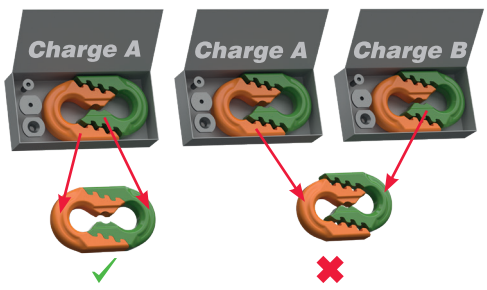
Mounting of V-series chain connecting link

Connecting links V-series can be mounted as vertical or horizontal chain links. Locking lash and connecting link with the same ID-numbers must be used. Locking lash must be mounted on the connecting link showing the marking outside. The locking lash is secured with roll pins. It's not permissible to mount any attachment to the V-series connecting link.



Mounting of K-series chain connecting link

When unboxing and assembling the K-Series connecting link, do not join halves from different boxes.



Chain connecting links K-series can only be mounted as vertical chain links for all conveyors and chain systems.

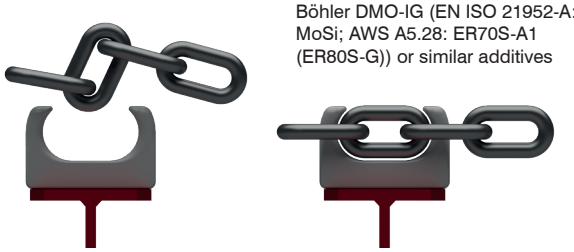
Tighten the countersunk screw to the tightening torque shown in the table below. The screw may only be used once.

Type	Counter-sunk screw DIN 7991 8.8	Tightening torque $\mu = 0{,}14$	Tightening torque $\mu = 0{,}14$
d x t	[mm]	[Nm]	[Lbf ft]
22 x 86	M 8 x 25	17	12
26 x 100	M 8 x 25	17	12
30 x 120	M 10 x 30	35	24
34 x 136	M 10 x 35	35	24
38 x 144	M 10 x 40	35	24

Mounting of KFB chain attachments

The KFB flight attachment should be welded centrally at the end of the flight bars. Keep the attachment square to the flight bar and pay attention to maintaining the tolerance for the chain center when welding.
Installation of the flight bar/attachment assemblies is carried out with the chain loop slack. Push together the chain links in horizontal or vertical and install the flight bars at the required flight spacing.

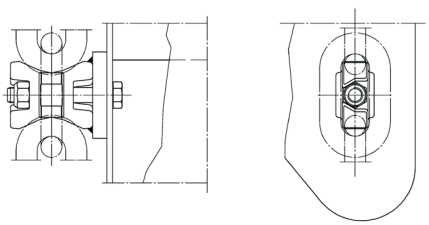
Recommended welding additive:
Böhler DMO-IG (EN ISO 21952-A: G MoSi; AWS A5.28: ER70S-A1 (ER80S-G)) or similar additives



Mounting of SDS/SDD chain attachments

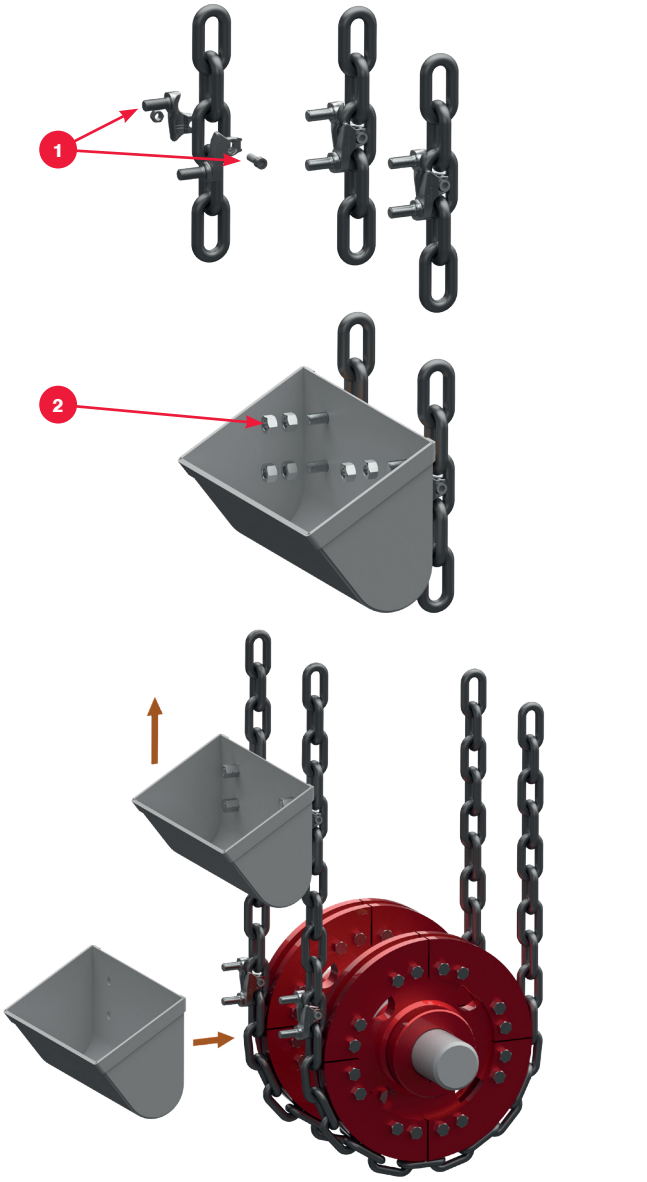
Weld on SDS/SDD with distance plate on bucket/scrapper side wall, pay attention to correct position and alignment. Install the buckets/scrappers on the vertical chain links in the required bucket spacing, insert 2nd SDS/SDD-locking halves and tighten the attachment bolts to the specified torque.

Recommended welding additive:
Böhler DMO-IG (EN ISO 21952-A: G MoSi; AWS A5.28: ER70S-A1 (ER80S-G)) or similar additives



Mounting of BDS bucket attachments

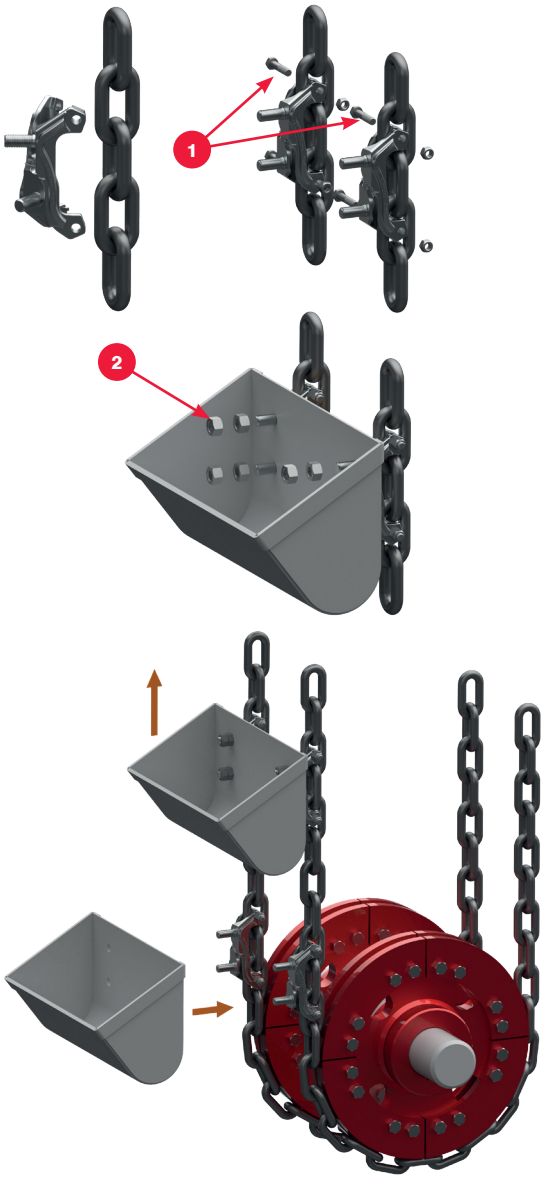
Bolt the BDS halves onto a vertical chain link at the required spacing, aligning them with parallel bolts and the center of the chain link. Tighten the BDS fastening cap screw to the required torque. Screw the buckets together using hex nuts and secure with a lock nut.



Type	Thread diameter	Tightening torque Pos1 (μ = 0,14)	Tightening torque Pos2 (μ = 0,14)
d x t	[mm]	[Nm]	[Nm]
BDS 14x50	M14	49	135
BDS 16x64	M16	85	210
BDS 19x75	M20	135	425
BDS 22x86	M24	210	730
BDS 26x100	M24	210	731
BDS 30x120	M30	425	1450
BDS 34x136	M36	425	2450

Mounting of BDDS bucket attachments

Bolt the BDDS halves onto a vertical chain link at the required spacing, aligning them with parallel bolts and the center of the chain link. Tighten the BDDS fastening cap screw to the required torque. Screw the buckets together using hex nuts and secure with a lock nut.



Type	Thread diameter	Tightening torque Pos1 (μ = 0,14)	Tightening torque Pos2 (μ = 0,14)
d x t	[mm]	[Nm]	[Nm]
BDDS 19x75	M20	72	425
BDDS 22x86	M24	72	730
BDDS 26x100	M24	310	731
BDDS 30x120	M30	430	1450
BDDS 34x136	M36	610	2450

Chain shackles

Chain shackles are connected with the chain ends to form an endless chain loop. Chain shackles should be used together with distance plates. All nuts must be tighten to the enclosed specified torque and secured with safety plates, spring washers or counter nuts to reduce the possibility of loose nuts.

Chain tension for bucket elevators

The chain tension must be checked regularly. Untoothed conveyor chain systems + chain shackle systems require a weight pretensioned tail station. Basically, the chain tension should only be as high as it really necessary for trouble-free operation. Both chain loops must be equally tensioned. Excessive tensioning will increase the chain wear and reduce the chain life time.

Conveyor chains and components

Pay attention to a uniform charging over the full width of the buckets/scrappers. Both chain loops must be equally loaded due to conveying material and chain tractive forces. Asymmetric loading on the chain loops lead sooner or later to an increase in pitch due to wear and to slanting conveyor. Chains should be protected against overloading or blocking against coarse material by means of suitable safety clutches, shear pins etc. At specific intervals the chains, connecting links, attachments and chain wheels should be checked for damage, corrosion or unusual wear.

All screw connections should be checked for tight fit and retightened as necessary. When the chain is replaced, the chain connecting links must also be replaced.
No welding should be carried out on chains, connecting links or case hardened components.

The conveying speed should be adjusted to the conveying capacity so that a maximum loading of the flight bars or buckets is achieved.

The chain tension must be checked regularly, especially during commissioning of new chains to check the elongation of the chain due to wear.

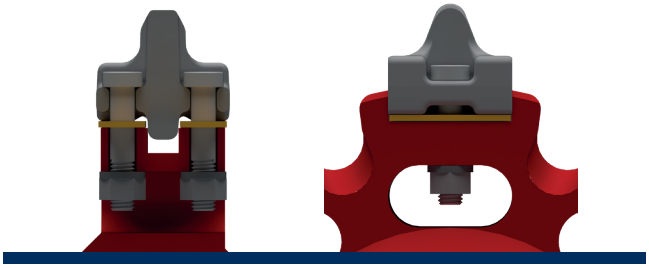
Scraper conveyors designed with long sections of unsupported chains require very high pretensioning loads.
This can be avoided by supporting the chain with guide rails.

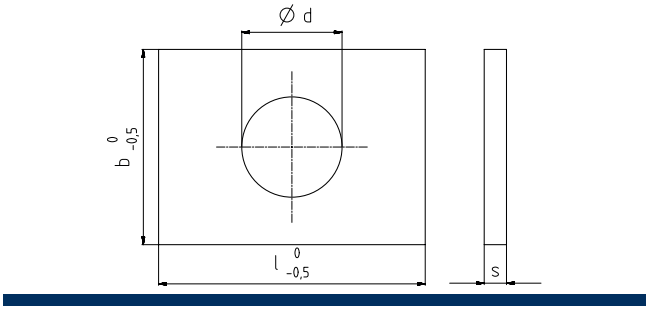
Densely packed material may cause the chain to disengage from sprockets or idler rollers. To prevent this strong rigid chain guide assemblies should be located before, after and around the contact points of changes in chain travel.

Adjusting the chain drive system

The pitch circle dia. of the sprocket RHV(-A) is adapted with shimplates to the individual teeth. Shimplates and new teeth can be installed without disassembling the chain. The thickness of the shimplates can only be determined by measuring the chain lengthened due to wear. As soon as the case hardened layer is worn off the wear will increase rapidly. Chains and sprocket teeth will wear out under normal operating conditions at the same time.

Shimplates should be fitted when the chain is lengthened due to wear by approx. 2,5 %. The replacement of chain with quality grade E10 is recommended by a chain wear of approx. 3,5 % and E16 by 5 %. For friction drive systems the chain replacement should be carried out by an interlink wear of approx. 5 %. If both chain loops wear out equally the max. chain wear per link dia. of approx. 1/5 of the new link dia. is admissible. As soon as the vertical links run onto the groove base of the chain wheels the segments should be replaced.





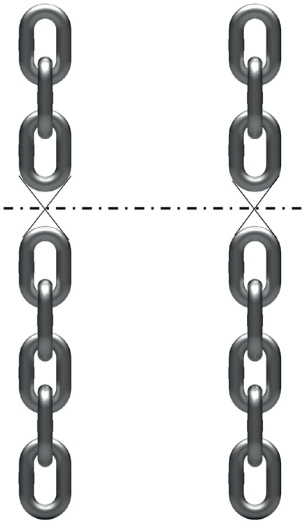
Type	l	b	d	Tightening torque (μ = 0,14)	Tightening torque (μ = 0,14)
E-series		[mm]		[Nm]	[Lbf/ft.]
14 x 50	39	15	8.5	25	18
16 x 64	47	20	11	49	35
19 x 75	57	20	15	135	98
22 x 86	67	25	17	210	152
26 x 100	75	30	19	300	217
30 x 120	89	30	21	425	307
34 x 136	104	40	25	730	528
38 x 144	104	40	25	730	528

Shortening of the chain

In the course of the initial assembly it may be necessary to shorten the chain in order to obtain the exact required chain length of the make-up lengths, or as chain elongates due to wear.

If chain shortening is necessary an even number of chain links (2, 4, 6, and so on) must be cut out from both chain loops. Links must be cut out with a cutting disc or a burner.

Pay attention not to damage or overheat the neighboring links.



Thread size	Nm	Lbf/ft.
M6	10	7
M8	25	18
M10	49	35
M12	85	62
M14	135	98
M16	210	152
M18	300	217

Thread size	Nm	Lbf/ft.
M20	425	307
M22	580	420
M24	730	528
M27	1.100	796
M30	1.450	1.049
M33	1.900	1.136
M36	2.450	1.772

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