

iwis

wir bewegen die welt



NEW

Accumulation chains for more efficient conveyor systems

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CHAIN & DRIVES
COMPLETE BEARINGS
& POWER TRANSMISSION

SERVICE & SUPPORT

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General information

Our brands

The iwis **JWIS** and **ELITE** brands include an impressive portfolio of accumulation chains, meaning that you can find the perfect chain for your application. **JWIS** accumulation chains excel through their **outstanding precision** and **load-bearing capacity**. In addition to the standard conveyor chains, the range includes a wide selection of conveyor chains that are suited to your application. You can also enjoy the advantages of **maintenance-free** accumulation chains in the form of our MEGAlife chains.

Typical areas of application for **JWIS**®-chains:

- Electronics industry and circuit board manufacture
- Packaging and food industries
- Conveyor systems
- Wood, glass and ceramics industry
- Medical technology
- ... and many other industry segments

ELITE accumulation chains pass through special heat and surface treatment stages. These give them **enhanced wear resistance**. In addition to our high-carbon steel variants, the ELITE range also contains stainless steel accumulation chain designs.

Typical areas of application for **ELITE**®-chains:

- Feed and automation technology
- Warehousing technology
- Conveyor and materials handling technology
- Medical technology
- Electronics industry and circuit board manufacture
- ... and many other sectors of industry

But whichever brand you choose, you know that iwis will always supply you with a **high-end product**. If you are uncertain about which product is best suited for your application, please do not hesitate to contact us for advice tailored to your requirements.

Initial lubrication

iwis offers various lubrication processes for its accumulation chains. At the same time, iwis uses various lubrication procedures and lubricants in order to achieve the best possible initial lubrication for every application. Alongside the **immersion bath method** using a top-class initial lubricant, it is also possible to choose **inline lubrication** with IPW wax. This has the following benefits:

- The wax prevents penetration by contaminants, particles, fibres or dust
- Thanks to the inline method, the lubricant is only applied where it is actually needed
- The outside of the accumulation roller remains dry – and therefore so do the transported goods
- There are no drips because lubrication is always performed with the optimum quantity of lubricant



For further information, see our flyer **Lubrication Solutions**.



Relubrication

The regular maintenance and relubrication of iwis accumulation chains are vital in order to reduce wear at chain drives and increase their service life.

The maintenance and lubrication intervals depend on the equipment's operating conditions. It is important to define regular intervals and adhere to them. **This is because around two thirds of all chain failures can be avoided with proper relubrication.** Appropriate initial lubrication and relubrication are therefore the vital factors for ensuring long chain service lives, as the individual bearing joints between the chain links act like sliding bearings as they pivot and rotate. More especially, appropriate relubrication can reduce the influence of the track rollers on the drive's energy requirements by more than 30%.

Inadequate lubrication coupled with soiling cause the chain's performance capability to fall to as little as 20% of the nominal value and thus reduce service life more than any other factor. Our relubricants and lubrication systems are optimally designed for use with accumulation chains. Having conducted numerous trials on specially developed test rigs and collaborated closely with well-known lubricant manufacturers, iwis has the expertise to answer all your chain lubrication questions.

Areas of application

Accumulation chains from iwis can be used in many areas of conveyor technology:

- For linking together production and assembly lines
- In warehouses and logistic hubs
- In various materials handling systems
- Circuit board manufacture
- Medical technology
- Wood, glass and ceramics industry

They also contribute to the reliable transport of a huge range of workpieces, pallets, containers, crates, etc. In some cases, the speed at which the conveyed goods are transported can be significantly increased by attaching an acceleration guide. As a result, accumulation chains are also suitable for applications with faster cycle times.



Variants

Types

ML	MEGAlife maintenance-free accumulation chains
CF	Stainless steel accumulation chains
CF b.dry	Stainless steel accumulation chains with an optimized articulated link

Types

VR	Version with offset rollers
LR	Double-pitch accumulation chain
OS	Standard version without side washers
M	Standard version with side washers

Range of accumulation roller materials

- Hardened accumulation rollers
- Stainless steel accumulation rollers
- Nickel-plated accumulation rollers
- Plastic accumulation rollers

Support roller fixings

iwis is able to fix the support rollers to the accumulation chain pins in a number of ways:

Fixing using two-point riveting

This is a standard riveting process used for chain production. This fixing method prevents the side support rollers from detaching from the pin, while still allowing them to rotate freely. This type of a riveting is primarily used for ELITE products.

Fixing using four-point riveting

By affixing a total of four oblique elements at each pin end, this riveting method provides improved protection against the loss of the side support roller. This is one of the standard fixing methods used for JWIS accumulation chains.

Fixing with washer

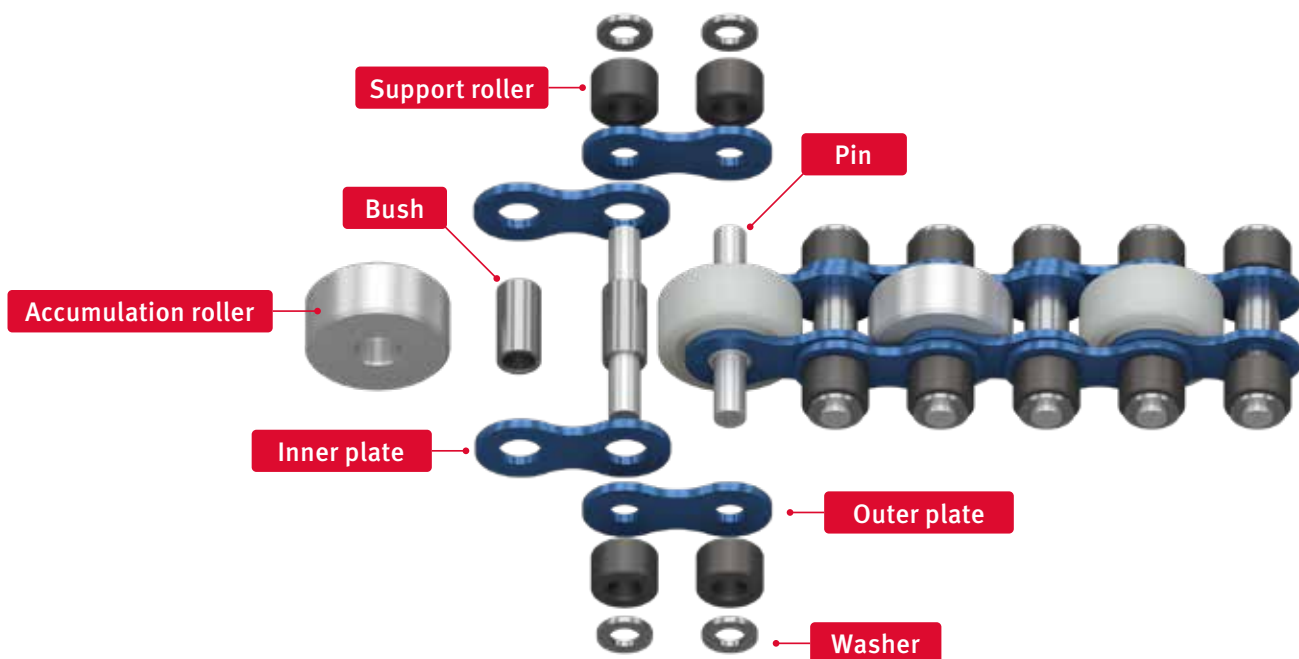
Because they are fixed in place with an additional washer, the side-mounted support rollers do not drift, even on chains with exceptionally long service lives. This type of a fixing is available for JWIS products.

Note: To find out which options are available for your desired chain type, contact us for personalized advice!



Efficiency and reliability for every application

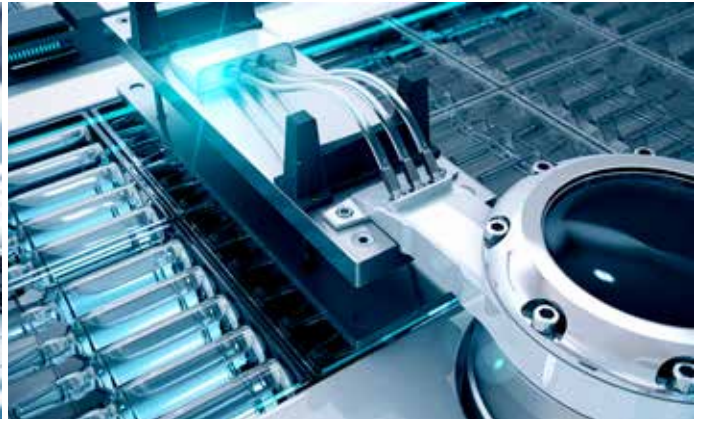
On the one hand, accumulation chains must ensure that no damage occurs to your goods and products. On the other, they must be efficient and durable in operation in order to ensure the economic viability of your systems and meet the challenges of ever more extensive globalisation coupled with the demand for almost immediate availability. With its JWIS® and elite® brands, iwis offers a wide product portfolio that contains the right chains for a vast range of applications.



Design and function of accumulation chains

Accumulation chains are primarily used in conveyor systems to transport a range of products gently and carefully in mesh boxes or crates, on pallets or as individual parts. In these solutions, the conveyed goods can rest and accumulate on the transport rollers while the chain continues to run harmlessly underneath them.

- 1. Accumulation rollers** are usually located at every second chain bush and the conveyed goods are transported over them. Some accumulation chain variants have offset transport rollers mounted at each chain bush to ensure optimum load distribution.
- 2. Support rollers** are mounted at the two outside edges of the accumulation chain. They mesh with the sprocket in order to transfer force and also support the chain profile.
- 3. Chain plates** transfer the chain tension force from link to link. Their manufacture therefore demands the greatest care and precision.
- 4. Bushes:** One special feature of the JWIS accumulation chains is the slightly protruding bushes mounted in the chain's inner links in order to prevent contact corrosion between the inner links and outer plates.
- 5. Pins** not only have to pass on the chain's tensile force from link to link but must also transfer the weight of the workpieces through to the support rollers. That is why JWIS pins undergo a special heat treatment to ensure a high load-bearing capacity.
- 6. Fixing with washer:** Because they are fixed in place with an additional washer, the side-mounted support rollers do not drift, even on chains with exceptionally long service lives.



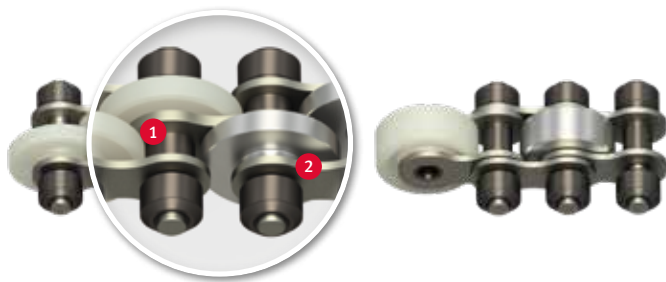
Product overview

PREMIUM QUALITY

MEGALife accumulation chains

Equipped with maintenance-free iwis low-friction support rollers with nickel-plated plates and pins, low-friction sintered-metal accumulation rollers and a special bearing design, these chains are mainly used in the electronics, food, wood, glass and ceramics industries as well as in medical technology, conveyor systems in the automotive industry and all applications where relubrication is difficult or impossible.

„Outstanding wear resistance – even in extreme conditions!“

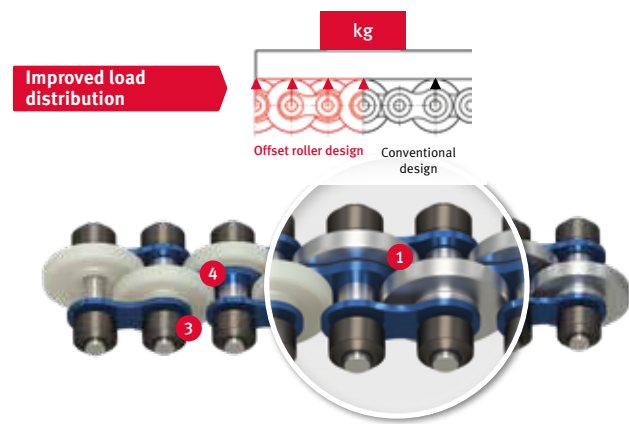


- 1 Special bearing design with sintered metal bushes.
- 2 Nickel-plated plates and pins with environmentally friendly lubricant-surfaces ensure lower maintenance costs and reduced system downtimes.

TOP PRODUCT

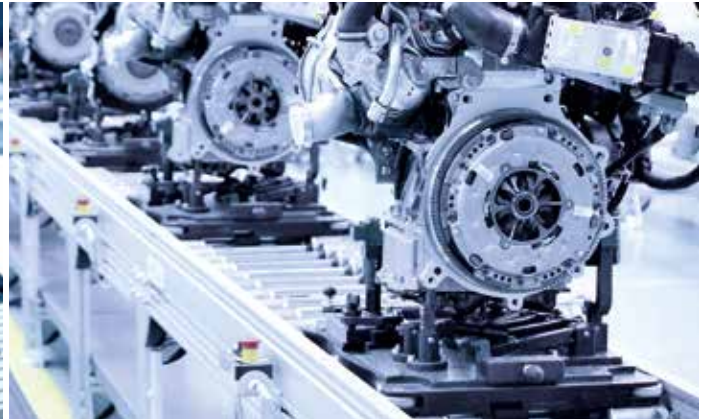
Accumulation chains with offset rollers

In this exclusive generation of JWIS accumulation chains, the accumulation rollers are arranged on each pin in an offset pattern rather than as one wide roller on every second pin. As a result, all the pins help absorb the transport load and transfer this load to double their number of low-friction support rollers. This has a very positive effect on chain guides.



- 1 The offset location of the accumulation roller ensures optimum load distribution as well as improved support and smoother transport of the conveyed material.
- 2 Offset transport rollers reduce the local load on the chain guides components by 50%. As a result, plastic guides, for example, can be used with loads weighing up to twice as much as previously.
- 3 Sintered-metal, low-friction support rollers
- 4 Special bearing design

We offer chains with offset support rollers in our JWIS standard design as well as in our MEGALife maintenance-free range



RELIABLE AND EFFICIENT

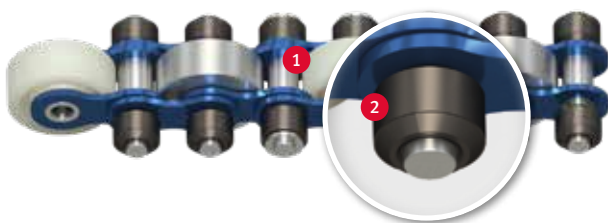
JWIS accumulation chains

Selected JWIS accumulation chains have external low-friction support rollers on both sides. These mesh with the sprocket teeth in order to transmit power and also help support the chain profile. One particular feature of these chains are the slightly protruding bushes in the inner link **1** which prevent contact corrosion between the inner link and the outer plate.

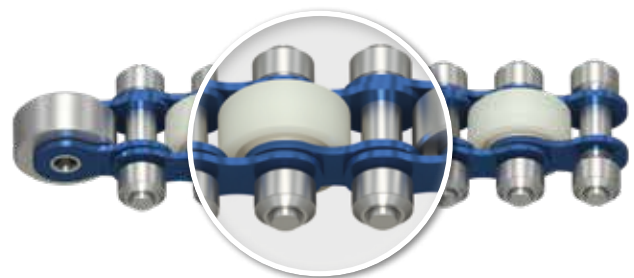
EXPERTISE AND EFFICIENCY IN ONE

b.smart accumulation chains

The **b.smart** accumulation chains are designed for use in most standard conveyor applications and developed for optimised material transport. You too can benefit from these robust, long-lasting **b.smart** accumulation chains – proven **JWIS** quality at an attractive price!



All 1/2" and 3/4" JWIS accumulation chains are fitted with low-friction sintered-metal track rollers **2** that guarantee consistent and extremely light running and are not slowed down by lubricant. You can therefore use conveyor systems that are 30% longer without any need to modify the drive motors. Alternatively, if the system length remains unchanged, smaller drive units can be fitted. There is also less strain on the chain and drive, meaning that the service life of the system as a whole is extended.



Optimum relubrication

The service life of a chain depends to a very great extent on whether the lubricant is topped up correctly and adequately. As the chain bearing oscillates, the initial lubricant is gradually used up at a rate that depends on the specific operating conditions. A lack of lubricant causes dry friction, which in turn leads to the formation of fretting corrosion and increased chain wear. That is why it is essential to choose the right lubricant and lubrication method in order to ensure effective relubrication.

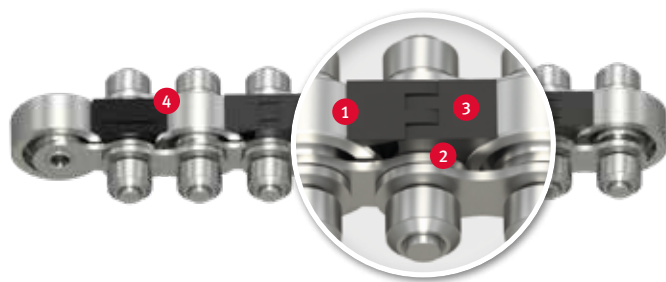


Product overview

ABSOLUTELY RELIABLE

Protection for fingers and parts

iwis is able to supply accumulation chains with finger and parts protection that contributes to the safety of both personnel and material. In these chains, the gaps between transport rollers are optimally covered. This prevents small parts from becoming trapped in the gaps and jamming the rollers and/or chain link. The cover also provides protection against the intentional or accidental insertion of fingers during conveyor operation and represents an active accident-protection measure that responds to increasing workplace safety requirements.



With link joint

- A single parts
- Completely surrounds the pin

Without link joint

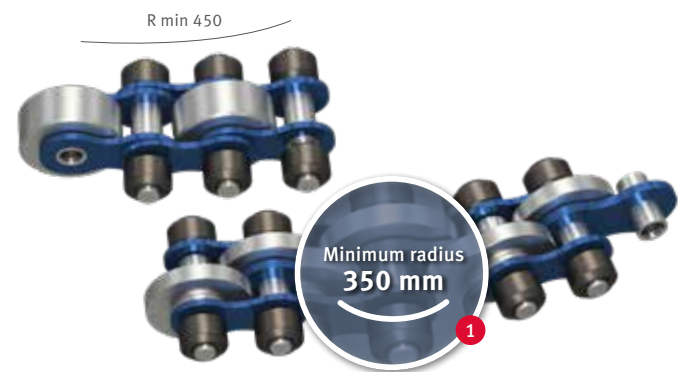
- Highly suitable for reversible operation
- Easy to assemble



EXTREMELY FLEXIBLE

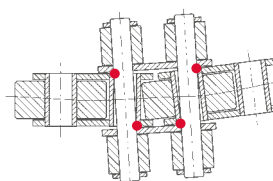
Side bow accumulation chains

The JWIS side bow accumulation chain is the perfect solution for flexible changes of direction with **very small bend radii of 350 mm or more**. To achieve this, iwis has modified the design of an accumulation chain with offset rollers ¹. The geometry of the joint at the bush and pin has been adapted to ensure the optimum transmission of the load between bush and pin even during radial chain travel. This distributes any point loads ² that arise and improves chain performance.



Standard solution

Our solution



• Contact points



— Contact along continuous lines



VOLTAGE PROTECTION

ESD-compatible accumulation chains

The use of non-conductive materials can lead to problems during conveyor operation. High static voltages may build up due to the fact that the transported goods are electrically insulated when lying on the accumulation chain. On the one hand, the high voltages can cause damage to electrical components. On the other, the chain and the components on it attract dirt more quickly if they have a static charge. That is why iwis offers accumulation chains made from ESD-compatible materials. We would be delighted to advise you regarding the choice of a product that is suitable for you.



CUSTOMER-SPECIFIC

Special solutions and innovations

No two applications are the same. That is why our accumulation chains have to meet so many different requirements. If no accumulation chain in the portfolio meets the specific needs of a given application, iwis will work with you to develop a product that is perfect for your requirements. Many innovative solutions have already been designed in the past. Here some examples:

Accumulation rollers with groove and O-ring

For the damage-free transport of components in automotive applications.

Pins extended on one side

A special accumulation chain with pins that were lengthened on one side was manufactured to transport trays.

Accumulation rollers with combined polyurethane/polyamide

Because the standard plastic was too hard for a customer application used to transport sensitive goods, we developed a hybrid transport roller. On the outside, this has a soft, gentle polyurethane running surface. At the same time, the roller core is made from polyamide for enhanced wear resistance in the roller bore.



A WORD ABOUT FRICTION

How accumulation chains reduce friction in conveyor systems

What is friction – and where does it come from?

Friction occurs between two bodies or objects. It is mainly due to unevennesses in the touching surfaces. Friction is the cause of frictional force, which is itself dependent on two factors: the coefficient of friction and the normal force. The normal force acts perpendicularly to the frictional force – and a higher normal force also means a higher frictional force.

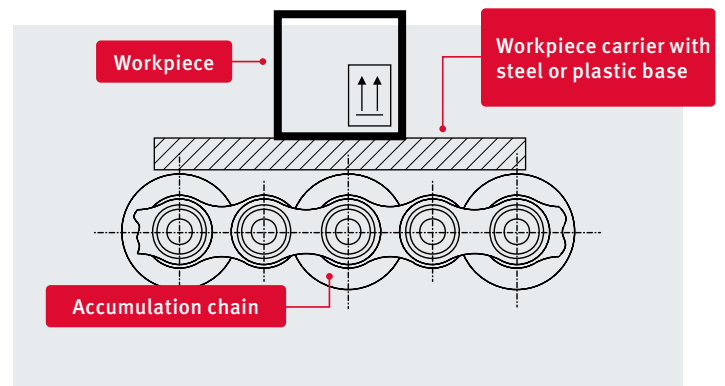
As soon as two bodies move relative to one another, losses occur due to friction: These manifest themselves as heat in the component or conveyor system.

$$F_{\text{friction}} = F_{\text{normal force}} * \text{coefficient of friction}$$

For its part, the coefficient of friction is dependent on many different factors, for example the material pairing, the surface roughness, the lubrication and temperature as well as the presence of dirt and particles due to the process.

Where does friction occur in accumulation chains?

In the chain, friction occurs between the pin, the bush and the support or accumulation roller. However: Friction is not always unwanted. The accumulation chain transports the workpiece carrier and friction is required in order to accelerate this. The rule is therefore as follows: As much friction as necessary, but as little as possible.

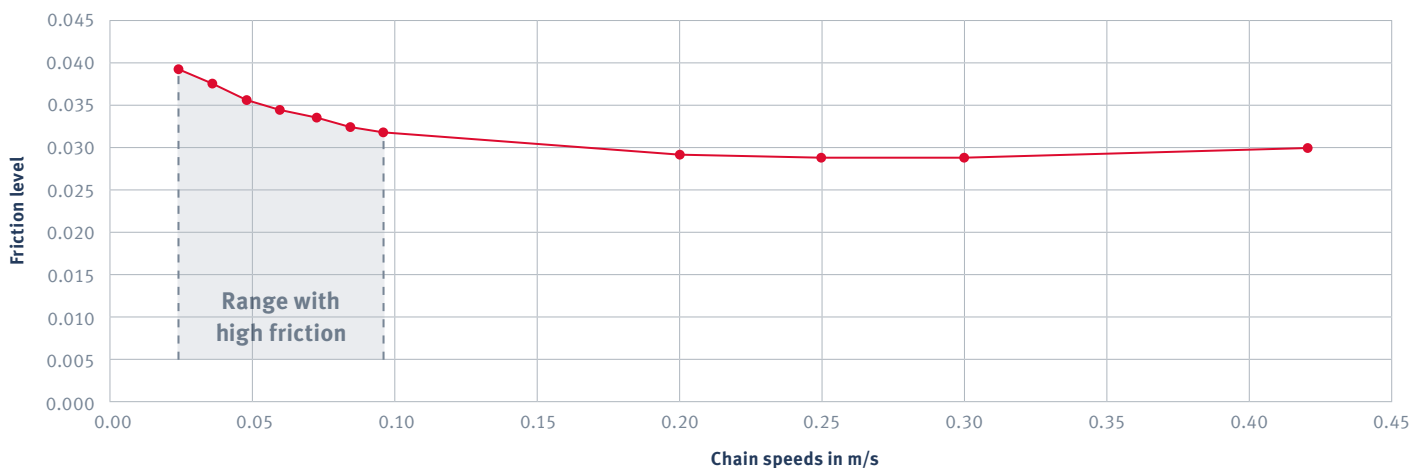


Losses due to friction occur at the following chain drive components: Chain, chain tensioner, chain guide, sprocket, workpiece carrier and transported goods.

Reducing the friction in accumulation chains

The speed at which an accumulation chain travels has an influence on the friction: Friction increases sharply at speeds of under 0.1 m/s – tests have shown friction levels up to 30 % higher

at these speeds. The **conveyor speed** should therefore also be taken into account when designing the system.



A WORD ABOUT FRICTION

Reducing the energy consumption of accumulation chains...

...through correct installation

Correct installation of the chain ensures that no unnecessary energy is wasted during system operation. This means that the sprockets and guides must be aligned and that the chain must be tensioned correctly.

By contrast, incorrect installation leads to an axial and/or angular chain track offset, increased friction between the plates and the sprocket and guides as well as increased tension force at the chain. In turn, higher forces lead to more friction – and therefore to greater wear.

...through lubrication and maintenance

Failure to lubricate and maintain the chain also leads to increased friction and power consumption, increases noise emissions throughout the entire system and can dramatically accelerate wear. For lubrication to be effective, the lubricant must penetrate the link joint, which is where the friction arises. It may also be necessary to clean the chain first. To be clear: The level of friction when the components are dry is approximately 400% higher than when they are optimally lubricated. If relubrication is not possible, then we recommend using a maintenance-free MEGALife chain.

In tests, our IP4 lubricant has achieved exceptionally low levels of friction. It is particularly well suited for users who want to reduce the energy consumption of their systems. When IP4 is chosen, the level of friction is approximately 25% lower than when IPW is used. IPW is a particularly good solution when goods are transported at high speeds and when accumulation chain applications involve steep upward gradients.

Note: The level of friction in new accumulation chains is initially higher than in ongoing operation. However, tests have shown that this value falls by up to 10% during the first 12 hours. If the chain is inadequately maintained/lubricated, the level of friction may increase again over its service life.

...through brushes and the CLA system

Good to know: In accumulation chain systems, brushes free the guide components from contaminants which may increase friction if left unremoved in permanent operation. Our CLA (Chain-Lubrication-Application) system ensures uniform lubrication in the chain drive, can reduce friction in permanent operation and is suitable for both accumulation and roller chains.



Cleaning brushes lengthen the chain's service life.



The CLA lubrication system: efficient, accurate and economical.



Read more
main iwis® catalogue.



Product lines

JWTS® Accumulation chains

Characteristics

- Reliable transportation of various workpieces and workpiece carriers
- Enables continuous conveying, accumulation, singulation, and acceleration
- Gentle transportation and optimum support for the material being conveyed
- Highest precision in the manufacturing of components

Highlights

Sintered low-friction support rollers

Sintered and lubricated low-friction rollers are extremely smooth-running and ensure lower energy requirements in the drive. This allows longer drive distances to be achieved with smaller drive units. In addition, the low-friction rollers contribute to a longer service life of the entire system.

Wide range of variants for every application:

- Standard accumulation chains
- Double-pitch accumulation chains
- Accumulation chains with offset rollers
- Sidebow accumulation chains

Accumulation chains

iwis reference	Pitch		Chain width				Width	Accumulation roller diameter	Loading capacity per roller	Rollers		Pin	Weight
	p mm	B mm	e mm	b1 mm	b2 max. mm	b4 max. mm				b mm	d1 mm		

with plastic conveyor rollers (SFK) with and without washers (Types M/OS)

L85SFK (OS)	12,70	27	18,7	7,75	11,35	14,5	7,55	16,0	6	8,51	4,45	0,802
M127SFK (OS)	19,05	40	27,5	11,75	15,62	19,55	11,0	24/26/28	10	12,07	5,72	1,550
M127SFK (M)*	19,05	40	27,5	11,75	15,62	19,55	11,0	24/26/28	10	12,07	5,72	1,742
M127SFK (M)	19,05	43	29,0	11,75	15,62	19,55	11,0	24/26/28	10	12,07	5,72	1,646
M127SFK (M)	19,05	48	31,5	11,75	15,62	19,55	11,0	24/26/28	10	12,07	5,72	1,920
M1611SFK (M)*	25,40	65	44,9	17,02	25,45	32,0	16,5	38,5	25	15,88	8,28	4,104

iwis reference	Pitch		Chain width				Width	Accumulation roller Diameter	Loading capacity per roller	Rollers		Pin	Weight
	p mm	B mm	e mm	b1 mm	b2 max. mm	b4 max. mm				b mm	d1 mm		

with hardened steel conveyor rollers (SFS) with and without washers (Types M/OS)

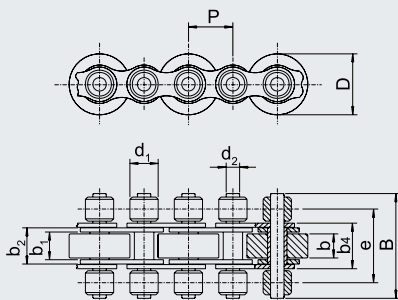
L85SFS (OS)	12,70	27	18,7	7,75	11,35	14,5	7,55	16,0	8	8,51	4,45	1,220
M127SFS (OS)	19,05	40	27,5	11,75	15,62	19,55	11,0	24/26/28	15	12,07	5,72	2,592
M127SFS (M)*	19,05	40	27,5	11,75	15,62	19,55	11,0	24/26/28	15	12,07	5,72	2,688
M127SFS (M)	19,05	43	29,0	11,75	15,62	19,55	11,0	24/26/28	15	12,07	5,72	2,688
M127SFS (M)	19,05	48	31,5	11,75	15,62	19,55	11,0	24/26/28	15	12,07	5,72	2,880
M1611SFS (M)*	25,40	65	44,9	17,02	25,45	32,0	16,5	38,5	30	15,88	8,28	6,552
D1611SFS (M)*	25,40	99	76,9	17,02	25,45	63,4	16,5	38,5	30	15,88	8,28	11,584

*Chains without light running rollers

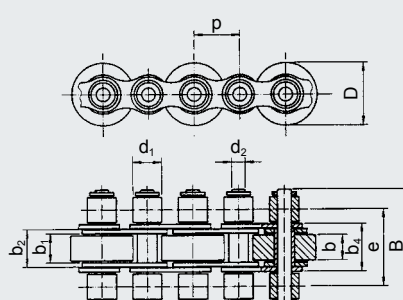
The specified loads for plastic rollers apply at room temperature. For other operating conditions, we will be happy to advise you.



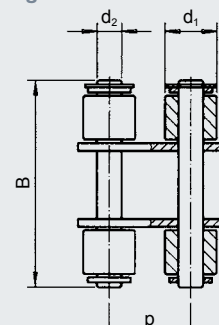
Design OS | without side washers



Design M | with side washers



Connecting link



iwis® Accumulation chains

iwis reference	Pitch	Chain width					Width	Conveyer roller	Loading capacity per roller	Rollers	Pin		Weight
		p mm	B mm	e mm	b1 mm	b2 max. mm					b4 max. mm	b mm	

Standard accumulation chains with plastic or steel accumulation rollers in double-pitch design (Design LR)

LR165SFK*	25,4	30,7	20,0	7,75	11,30	14,65	7,5	24	6	8,52	4,45	0,792
LR247SFK	38,1	48,0	31,5	11,75	15,62	19,55	11,0	24/35	10	12,07	5,72	1,20
LR247SFS	38,1	48,0	31,5	11,75	15,62	19,55	11,0	24/35	15	12,07	5,72	2,016
LR3211SFK*	50,8	67,9	44,9	17,02	25,45	32,0	16,5	38,5/50	25	15,88	8,28	2,764
LR3211SFK*	50,8	67,9	44,9	17,02	25,45	32,0	16,5	38,5/50	30	15,88	8,28	5,236

*Chains without light running rollers

iwis reference	Pitch	Chain width					Accumulation roller diameter	Loading capacity per roller	Weight
		p mm	B mm	b mm	b4 mm	e mm			

Accumulation chains with offset accumulation rollers (Design VR)

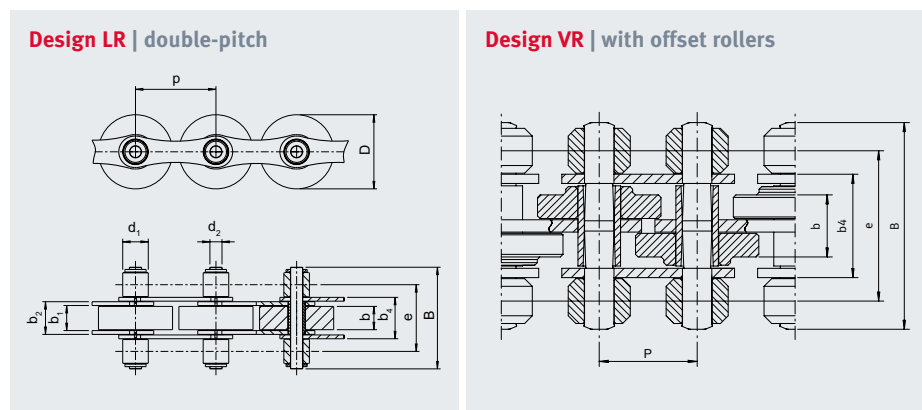
L88SFK	12,70	27	9,2	14,50	18,7	16	6	0,85
L88SFS	12,70	27	9,2	14,50	18,7	16	8	1,40
M120SFK	19,05	40	11,7	19,55	29,0	24 / 26 / 27 / 28	10	1,80
M120SFK	19,05	45	11,7	19,55	31,5	24 / 26 / 27 / 28	10	1,80
M120SFS	19,05	40	11,7	19,55	29,0	24 / 26 / 27 / 28	15	2,80
M120SFS	19,05	45	11,7	19,55	31,5	24 / 26 / 27 / 28	15	2,80

iwis reference	Pitch	Chain width					Accumulation roller diameter	Loading capacity per roller	Weight
		p mm	B mm	b mm	b4 mm	e mm			

Side bow Accumulation chains (Design VR)

L88SFS-SB	12,70	27	9,2	15,0	18,7	16	8	1,10
L88SFK-SB	12,70	27	9,2	15,0	18,7	16	8	0,80
M120SFK-SB	19,05	40	11,7	20,1	29,0	24,0 / 26,0 / 27,0 / 28,0	10	1,80
M120SFS-SB	19,05	40	11,7	20,1	29,0	24,0 / 26,0 / 27,0 / 28,0	15	2,80

SFK – with plastic conveyer rollers | SFS – with hardened steel conveyer rollers



iwis® MEGAlife accumulation chains



Characteristics

- Maintenance-free accumulation chains for applications where lubrication is not possible or only limited
- Ensures a clean and dry environment as no lubricant leaks out
- Special connecting link design with bushes made of sintered metal
- Maintenance-free accumulation rollers (other accumulation rollers possible).
- Sintered MEGAlife low-friction rollers
- Nickel-plated links and pins
- Also available with offset rollers

- Temperature range from -40°C to +150°C (for steel accumulation rollers). At elevated operating temperatures, evaporation losses must be expected, which can occur even when the chain is stationary and can limit the service

Highlights

- Excellent wear resistance, even in extreme environments
- Very easy to disassemble
- Reduced maintenance costs
- Less downtime of the equipment
- Environmentally friendly, as the surface is lubricant-free
- Suitable for clean room conditions

iwis reference	Pitch		Chain width				Width	Accumulation roller diameter	Loading capacity per roller	Rollers		Pin	Weight
	p mm	B mm	e mm	b1 mm	b2 max. mm	b4 max. mm				b mm	mm		

Design with plastic conveyor rollers (SFK) with and without side-mounted washers (Design M/OS)

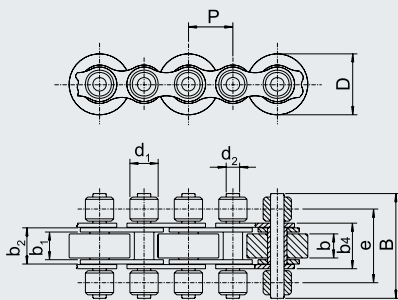
L85SFK-ML (OS)	12,70	27	18,7	7,75	11,30	14,50	7,55	16 / 17	6	8,51	4,45	0,802
M127SFK-ML (OS)	19,05	40	27,5	11,75	15,62	19,55	11,0	24 / 26 / 28	10	12,07	5,72	2,30
M127SFK-ML (M)	19,05	40	27,5	11,75	15,62	19,55	11,0	24 / 26 / 28	10	12,07	5,72	2,30
M127SFK-ML (M)	19,05	43	29,0	11,75	15,62	19,55	11,0	24 / 26 / 28	10	12,07	5,72	2,30
M127SFK-ML (M)	19,05	48	31,5	11,75	15,62	19,55	11,0	24 / 26 / 28	10	12,07	5,72	2,30

iwis reference	Pitch		Chain width				Width	Accumulation roller diameter	Loading capacity per roller	Support rollers	Pin		Weight
	p mm	B mm	e mm	b1 mm	b2 max. mm	b4 max. mm					b mm	mm	

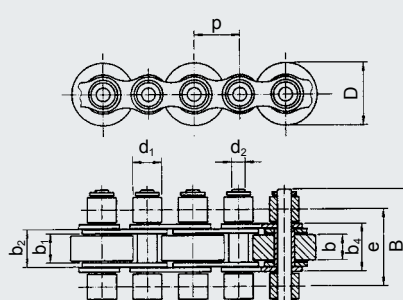
Design with hardened steel conveyor rollers (SFS) with and without side-mounted washers (Design M/OS)

L85SFS-ML (OS)	12,70	27	18,7	7,75	11,30	14,50	7,55	16 / 17	8	8,51	4,45	1,223
M127SFS-ML (OS)	19,05	40	27,5	11,75	15,62	19,55	11,0	24 / 26 / 28	15	12,07	5,72	3,10
M127SFS-ML (M)	19,05	40	27,5	11,75	15,62	19,55	11,0	24 / 26 / 28	15	12,07	5,72	3,10
M127SFS-ML (M)	19,05	43	29,0	11,75	15,62	19,55	11,0	24 / 26 / 28	15	12,07	5,72	3,10
M127SFS-ML (M)	19,05	48	31,5	11,75	15,62	19,55	11,0	24 / 26 / 28	15	12,07	5,72	3,10

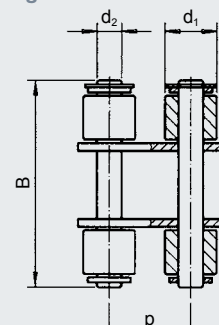
Design OS | without side-mounted washers



Design M | with side-mounted washers



Connecting link



JWIS® MEGAlife accumulation chains

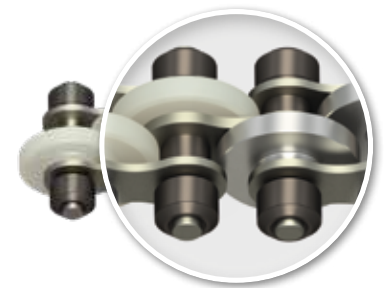
iwis reference	Pitch	Chain width				Accumulation roller diameter	Loading capacity per roller	Weight
	p mm	B mm	b mm	b4 mm	e mm	mm	kg	kg/m

Version with offset rollers (Design VR)

L88SFK-ML	12,70	27	9,2	14,50	18,7	16	6	0,85
L88SFS-ML	12,70	27	9,2	14,50	18,7	16	8	1,40
M120SFK-ML	19,05	40	11,7	19,55	29,0	24,0 / 26,0 / 27,0 / 28,0	10	1,80
M120SFK-ML	19,05	45	11,7	19,55	31,5	24,0 / 26,0 / 27,0 / 28,0	10	1,80
M120SFS-ML	19,05	40	11,7	19,55	29,0	24,0 / 26,0 / 27,0 / 28,0	15	2,80
M120SFS-ML	19,05	45	11,7	19,55	31,5	24,0 / 26,0 / 27,0 / 28,0	15	2,80
M120SFS-ML	19,05	45	10,5 ⁽¹⁾	19,55	29	24,0 / 26,0 / 27,0 / 28,0	15	2,80

SFK – with plastic conveyor rollers | SFS – with hardened steel conveyor rollers

Note: If your desired chain variant is not listed, please ask us for individual advice!



JWIS® Accumulation chains in triplex design

iwis reference	Pitch	Width between inner plates	Pin Ø	Pin-length	Inner link width	Width over outer plates	Roller Ø	Rollers width	Roller width Ø	Accumulation roller width	Transverse pitch	Loading capacity per roller	Weight per meter
	p mm	b1 min. mm	d2 max. mm	b4 max. mm	b2 max. mm	b5 max. mm	d1 max. mm	b9 mm	d5 mm	b8 mm	pt mm	kg	q kg/m

Versions with steel conveyor rollers (SFS)

TR88SFS	12,70	7,75	4,45	44,25	11,35	42,25	8,52	7,60	20,00	13,00	23,84	8,00	
TR127SFS	19,05	11,68	5,72	61,70	15,76	58,40	12,07	11,50	28,00	18,00	38,85	15,00	4,75

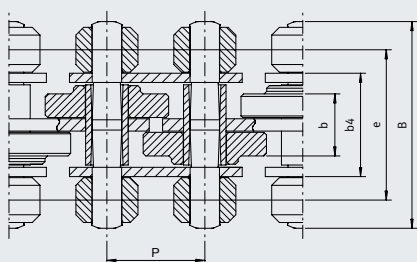
Version in b.smart quality

TR127SFS-b.smart	19,05	11,68	5,72	61,70	15,75	58,40	12,07	11,50	28,00	18,00	38,85	15,00	
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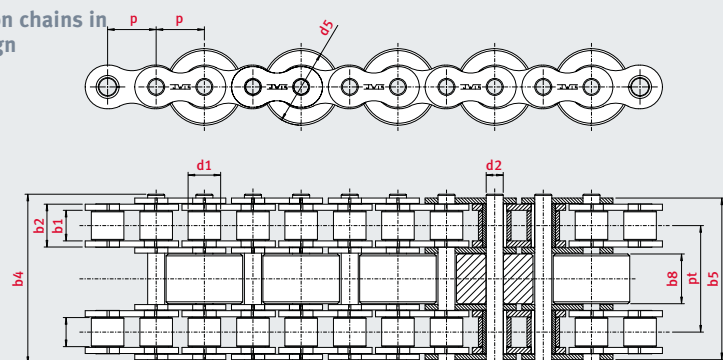
Versions in MEGAlife maintenance-free

TR85SFS-ML	12,70	7,75	4,45	44,25	11,30	42,25	8,52	7,65	17,00	13,00	27,84	8,00	
TR127SFS-ML	19,05	11,68	5,72	61,70	15,76	58,40	12,07	11,60	28,00	18,00	38,85	15,00	4,75

MEGAlife accumulation chains with offset rollers



Accumulation chains in triplex design



JWIS® Stainless steel versions

CF Stainless steel accumulation chains

NEW

iwis is able to supply accumulation chains manufactured from stainless steel for applications involving particularly aggressive media or with particularly stringent room cleanliness requirements. The new corrosion-free CF chains are manufactured from austenitic stainless steel, making them extremely reliable, fatigue- and corrosion-resistant. They are therefore ideal for applications in the food and beverages industry, for example.

Characteristics

- Chains fully manufactured from corrosion-resistant stainless steel
- Outstanding iwis quality
- Excellent price/performance ratio

Highlights

- Seamless bushes for increased impact resistance and quiet running
- Suitable for applications with
 - aqueous or vapour environments
 - strict cleaning requirements
 - aggressive media

- CF stainless steel chains provide higher corrosion resistance in the standardised salt spray test than other chains commonly found on the market.

NEW

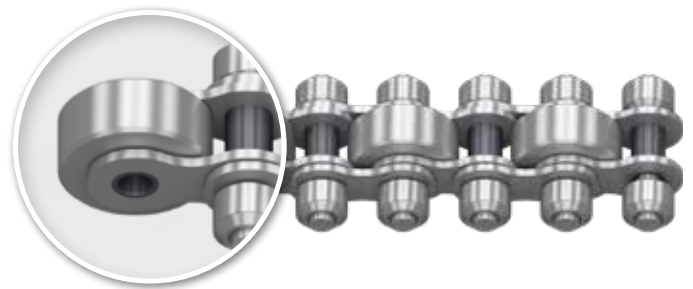
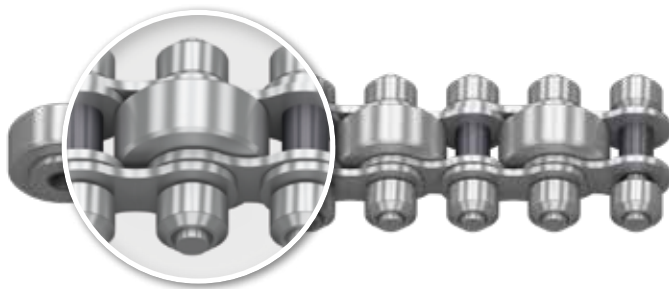
b.dry Maintenance-free stainless steel chains

The JWIS b.dry chain represents a combination of the high-quality, corrosion free CF stainless steel chain and an optimised articulated chain link.

iwis has thus succeeded in manufacturing a chain for aggressive environments that is also maintenance-free and suitable for dry running.

The secret behind the b.dry chain lies in the newly developed bushes. These are made from a special high-performance polymer with unique properties. This makes the chains stronger, more wear-resistant and more corrosion-resistant, while also permitting a significantly longer service life than comparable chains.

As a result, the service life in the dry state is increased by a factor of two and, in the case of chains that have benefited from initial lubrication, by as much as a factor of four.



JWIS® smart Accumulation chains

Characteristics

- Standard design
- The economic design for standard applications
- Simpler, more reliable transportation of a wide range of workpiece carriers.
- Available with plastic and steel rollers

The loads specified for plastic rollers are valid at room temperature. We would be delighted to advise you regarding other operating conditions.

Highlights

- Robust
- Durable
- Cost-effective





Product lines

ELITE® Accumulation chains

Features

- Reliable transport of various workpieces and carriers
- Enables continuous conveying, buffering, singulating, and accelerating
- ELITE chain plates with optimum geometry are precisionformed and heat-treated.

Highlights

- In order to prolong their service life and guarantee smooth running, ELITE accumulation chains are treated with a special high-viscosity, high-adhesion chain oil before leaving our factory. The special application process ensures that only a thin film of oil remains on the outside of the chain.

ELITE® Accumulation chains

iwis reference	Pitch	Width between inner plates	Pin Ø	Pin length	Total width inner link	Width over outer plates	Roller Ø	Width of outer roller	Conveyer roller Ø	Width over conveyer roller	Plate thickness	Height inner plate	Transverse pitch	Max. load per conveyer roller	Max. chain load	Weight per meter	Bearing area
	p mm	b1 min. mm	d2 mm	b4 mm	b2 mm	b5 mm	d1 mm	b9 mm	d5 mm	b8 mm	Ti/To mm	h2 max. mm	pt mm	N	N	q kg/m	f cm ²

with plastic rollers

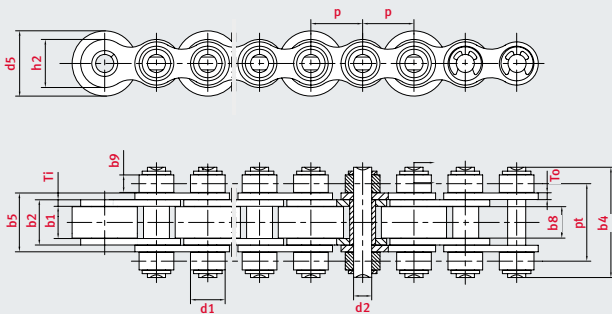
ES1-1-27-K16	12,70	7,75	4,45	27	11,30	14,50	8,51	4,3	16	7,2	1,60/1,50	11,81	19,1	20	1780	0,9	0,50
ES1-1-27-K16-CF	12,70	7,75	4,45	27	11,30	14,50	8,51	4,3	16	7,2	1,60/1,50	11,81	19,1	20	1070	0,9	0,50
ES2-1-40-K28	19,05	11,68	5,72	40	15,62	19,55	12,07	7,5	28	11,0	1,85/1,85	16,13	27,0	90	2890	1,9	0,89
ES2-1-43-K26	19,05	11,68	5,72	43	15,36	19,55	12,07	8,8	26	11,0	1,85/1,85	16,13	29,2	90	2890	2,0	0,88
ES2-1-43-K28	19,05	11,68	5,72	43	15,36	19,55	12,07	8,8	28	11,0	1,85/1,85	16,13	29,2	90	2890	2,0	0,88
ES2-1-48-K24	19,05	11,68	5,72	48	15,36	19,55	12,07	11,1	24	11,0	1,85/1,85	16,13	31,5	90	2890	3,3	0,88
ES2-1-48-K24-CF	19,05	11,68	5,72	48	15,62	19,55	12,07	11,1	24	11,0	1,85/1,85	16,13	31,5	90	1730	3,3	0,89
ES3-1-65-K38	25,40	17,02	8,28	65	25,45	32,0	15,88	12,5	38	16,8	4,00/3,00	21,08	45,0	220	6000	4,8	2,11
ES3-1-65-K38-CF	25,40	17,02	8,28	65	25,45	32,0	15,88	12,5	38	16,8	4,00/3,00	21,08	45,0	220	4200	4,8	2,11

with steel rollers

ES1-1-27-S16	12,70	7,75	4,45	27	11,10	14,50	8,51	4,1	16	7,2	1,60/1,50	11,81	19,1	50	1780	1,1	0,50
ES1-1-27-S16.8-CF	12,70	7,75	4,45	27	11,10	14,50	8,51	4,1	16,8	7,2	1,60/1,50	11,81	19,1	20	1070	1,1	0,50
ES1-1-27-S16-CF	12,70	7,75	4,45	27	11,10	14,50	8,51	4,1	16	7,2	1,60/1,50	11,81	19,1	20	1070	1,1	0,50
ES2-1-40-S28	19,05	11,68	5,72	40	15,62	19,55	12,07	7,5	28	11,0	1,85/1,85	16,13	27,0	140	2890	3,0	0,89
ES2-1-43-S26	19,05	11,68	5,72	43	15,36	19,55	12,07	8,8	26	11,0	1,85/1,85	16,13	29,2	140	2890	3,2	0,88
ES2-1-43-S28	19,05	11,68	5,72	43	15,36	19,55	12,07	8,8	28	11,0	1,85/1,85	16,13	29,2	140	2890	3,2	0,88
ES2-1-43-S28-CF	19,05	11,0	5,72	43	15,36	19,60	12,07	8,8	28	11,0	2,00/2,00	16,13	29,2	90	1850	3,0	0,89
ES2-1-48-S24	19,05	11,68	5,72	48	15,36	19,55	12,07	11,1	24	11,0	1,85/1,85	16,13	31,5	140	2890	3,3	0,88
ES2-1-48-S28	19,05	11,68	5,72	48	15,62	20,0	12,07	11,1	28	11,0	1,85/1,85	16,13	29,2	140	2890	3,2	0,89
ES2-1-48-S24-CF	19,05	11,40	5,72	48	15,36	19,55	12,07	11,1	24	11,0	1,85/1,85	16,13	31,5	90	1850	3,3	0,88
ES3-1-65-S38	25,40	17,02	8,28	65	25,45	32,0	15,88	12,5	38	16,8	4,00/3,00	21,08	45,0	280	6000	6,4	2,11
ES2-3-68-S24	19,05	11,40	5,72	68	15,36	19,55	12,07	11,1	24	11,0	1,85/1,85	16,13	52,0	140	2890	4,6	1,76

CF = stainless steel versions

ELITE accumulation chains with steel accumulation rollers



ELITE® Accumulation chains with finger and parts protection

With the new accumulation chain version, fitted with the 100% protective tab between the accumulation rollers, covering the gap in the inner link area.

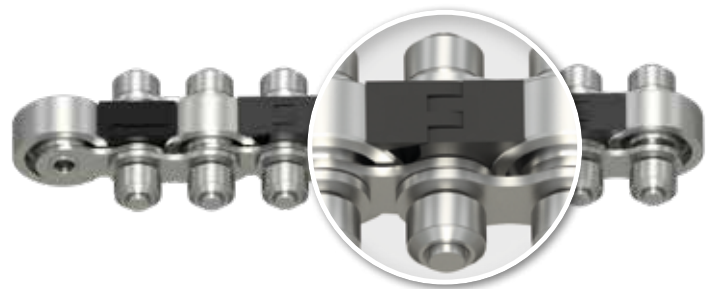
This feature offers 100% protection against particles falling through the gap, leading to jamming of the accumulation rollers; it also prevents the risk of fingers accidentally getting „caught“ in that area.

iwis reference	Pitch	Width between inner plates	Pin Ø	Pin length	Total width inner link	Width over outer plates	Roller Ø	Width of outer roller	Conveyor roller Ø	Width over conveyor roller	Plate thickness	Height inner plate	Transverse pitch	Max. load per conveyor roller	Max. chain load	Weight per meter	Bearing area
	p mm	b1 min. mm	d2 mm	b4 mm	b2 mm	b5 mm	d1 mm	b9 mm	d5 mm	b8 mm	Ti/To mm	h2 max. mm	pt mm	N	N	q kg/m	f cm ²
EST1-1-27-K16	12,70	7,75	4,45	27	11,30	14,50	8,51	4,3	16	7,2	1,60/1,50	11,81	19,1	20	1250	0,9	0,50
EST1-1-27-S16	12,70	7,75	4,45	27	11,30	14,50	8,51	4,3	16	7,2	1,60/1,50	11,81	19,1	50	1250	1,2	0,50
EST1-1-27-K16-CF	12,70	7,75	4,45	27	11,10	14,50	8,51	4,3	16	7,2	1,60/1,50	11,81	19,1	20	1070	0,9	0,50
EST2-1-43-K26	19,05	11,68	5,72	43	15,36	19,55	12,07	8,8	26	11,0	1,85/1085	16,13	29,2	90	2250	2,0	0,88
EST2-1-43-S26	19,05	11,68	5,72	43	15,36	19,55	12,07	8,8	26	11,0	1,85/1,85	16,13	29,2	140	2250	3,2	0,88
EST3-1-65-S38	25,40	17,02	8,28	65	25,45	32,0	15,88	12,5	38	16,8	4,00/3,00	21,08	45,0	280	6000	4,8	2,11

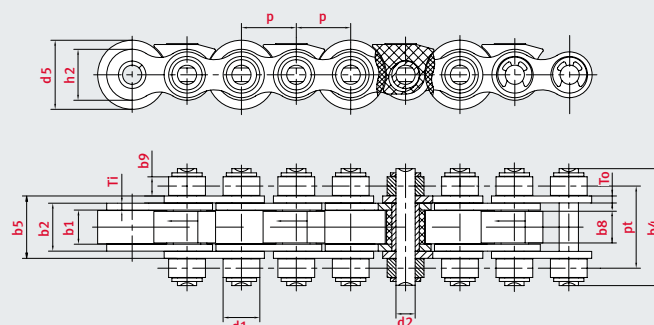
S = Steel conveyor roller / K = Plastic conveyor roller / CF = Stainless steel chain

Advantages

- 100% cover protection without effecting the articulation of the chain through the drive
- No possibility of clips coming loose and falling into the system, due to the unique patented design
- Stable execution of the clip
- No jamming of the chain through the drive
- The clip causes no accumulation roller wear
- Self-adjusting clip after articulation through the drive
- No abrasion or wear caused to the product or pallet transported
- Protective grid prevents foreign objects from falling between the rollers and causing large-area wear.
- Electrically conductive plastic components



Accumulation chains with finger and parts protection



ELITE® Accumulation chains triplex version

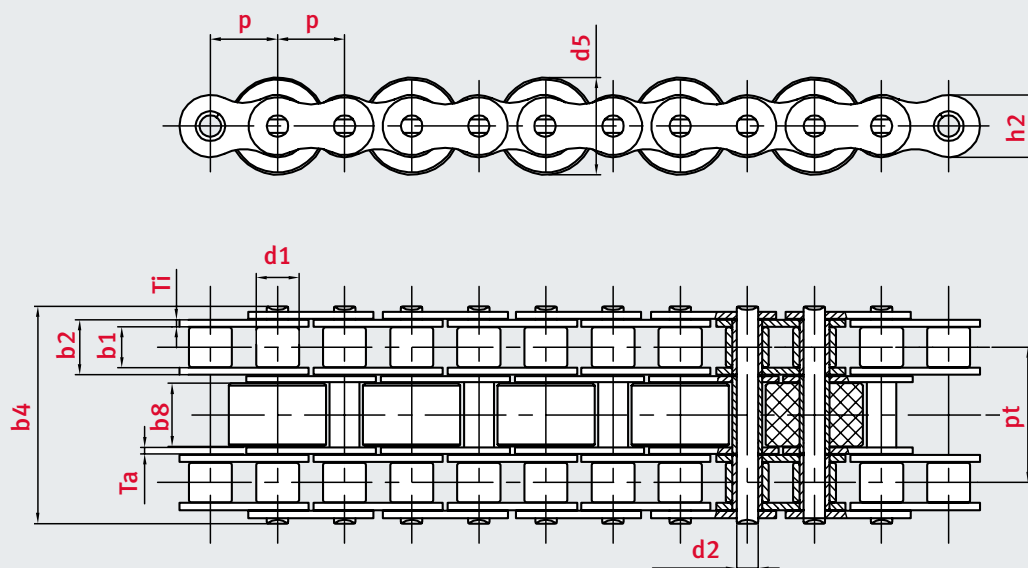
For systems in harsh environments or with very long conveying distances where increased chain tension forces are expected, the ELITE accumulation chain in triplex design is suitable. The additional links allow for the absorption of higher chain tension

forces compared to standard accumulation chains. The following ELITE accumulation chains in triplex design are available with plastic or steel accumulation rollers.

iwis reference	Pitch	Width between inner plates	Pin Ø	Pin length	Total width inner link	Width over outer plates	Roller Ø	Width of outer roller	Conveyor roller Ø	Width over conveyor roller	Plate thickness	Height inner plate	Transverse pitch	Max. load per conveyor roller	Max. chain load	Weight per meter	Bearing area
	p mm	b1 min. mm	d2 mm	b4 mm	b2 mm	b5 mm	d1 mm	b9 mm	d5 mm	b8 mm	Ti/To mm	h2 max. mm	pt mm	N	N	q kg/m	f cm²
ESR1-3-45-S17	12,70	7,75	4,45	44,9	11,30	39,72	8,51	7,75	17	12,4	1,60/1,60	11,8	27,84	80	36	2,29	174,75
ESR1-3-45-K17	12,70	7,75	4,45	44,9	11,30	39,72	8,51	7,75	17	12,4	1,60/1,60	11,8	27,84	32	36	1,78	174,75
ESR3-3-62-S28	19,05	11,68	5,72	61,5	15,62	54,65	12,07	11,68	28	17,5	1,88/1,98	16,1	38,90	210	50	4,92	312,60
ESR3-3-62-K28	19,05	11,68	5,72	61,5	15,62	54,65	12,07	11,68	28	17,5	1,88/1,98	16,1	38,90	135	50	3,10	312,60

S = Steel conveyor roller | K = Plastic conveyor roller

ELITE accumulation chain triplex version



ELITE® Double Speed chains

Double Speed chains work on a different principle from accumulation chains; rather than accumulation resulting from an idling transport roller, the transport roller is deliberately turned on the guide.

Turning the roller doubles the conveying speed, which means faster movement of goods and materials in the competitive world of modern industrial manufacturing.

iwis reference	Pitch	Width between inner plates	Pin Ø	Pin length	Roller-Ø	Support rollers-width	Conveyer roller Ø	Width over conveyer roller	Plate thickness	Height inner plate	Max. chain load	Weight per meter	Bearing area
	p mm	b1 min. mm	d2 mm	b4 mm	d1 mm	b9 mm	d5 mm	b8 mm	Ti/To mm	h2 max. mm	N	q kg/m	f cm²

without finger and parts protection

DS C2030 S183	19,05	16,0	3,28	24,0	11,91	4,0	18,3	8,0	1,50/1,30	8,2	8,9	1,05	0,52
DS C2030 K183	19,05	16,0	3,28	24,0	11,91	4,0	18,3	8,0	1,50/1,30	8,2	8,9	0,56	0,52
DS C2040 S246	25,40	21,7	3,96	31,0	15,88	5,7	24,6	10,3	1,50/1,50	11,7	13,8	2,56	0,86
DS C2040 K246	25,40	21,7	3,96	31,0	15,88	5,7	24,6	10,3	1,50/1,50	11,7	13,8	0,89	0,86
DS C2050 S306	31,75	27,2	5,08	39,5	19,05	7,1	30,6	13,0	2,03/2,03	15,0	21,8	4,06	1,38
DS C2050 K306	31,75	27,2	5,08	39,5	19,05	7,1	30,6	13,0	2,03/2,03	15,0	21,8	1,80	1,38
DS C2060H S366	38,10	32,5	5,94	49,8	22,23	8,5	36,6	16,2	3,25/3,25	18,1	31,8	5,83	1,93
DS C2060H K366	38,10	32,5	5,94	49,8	22,23	8,5	36,6	16,2	3,25/3,25	18,1	31,8	2,25	1,93
DS C2080 S490	50,80	43,2	7,92	66,2	28,58	11,0	49,0	21,5	5,00/4,00	24,1	56,7	10,50	3,45
DS C2080 K490	50,80	43,2	7,92	66,2	28,58	11,0	49,0	21,5	5,00/4,00	24,1	56,7	4,20	3,45

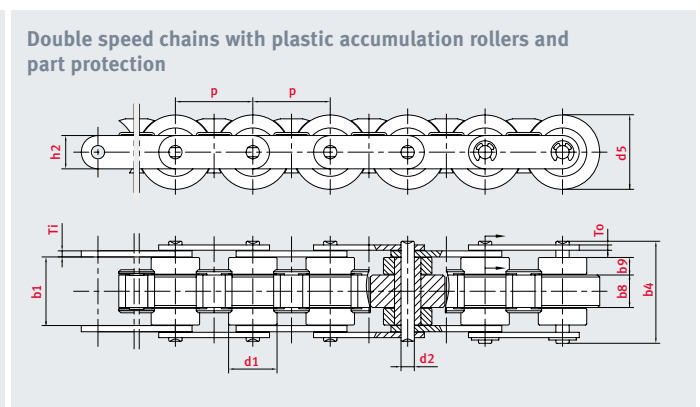
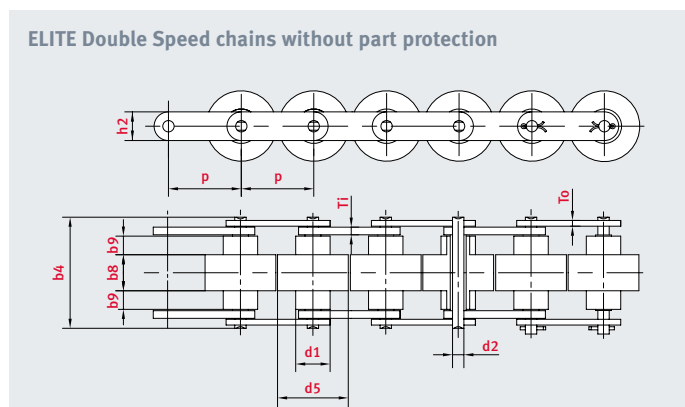
S = Steel conveyor roller | K = Plastic conveyor roller

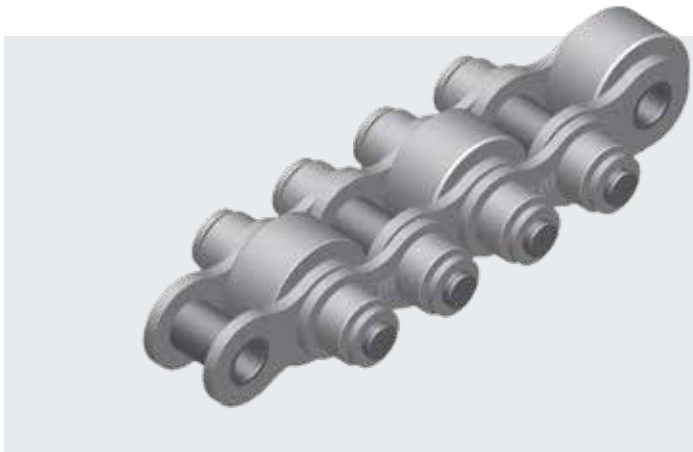
iwis reference	Pitch	Width between inner plates	Pin Ø	Pin length	Roller-Ø	Support rollers-width	Conveyer roller Ø	Width over conveyer roller	Plate thickness	Height inner plate	Max. chain load	Weight per meter	Bearing area
	p mm	b1 min. mm	d2 mm	b4 mm	d1 mm	b9 mm	d5 mm	b8 mm	Ti/To mm	h2 max. mm	N	q kg/m	f cm²

with plastic rollers and parts protection

DST C2030 S183	19,05	16,0	3,28	24,0	11,91	4,0	18,3	8,0	1,50/1,30	8,2	8,9	1,1025	0,52
DST C2030 K183	19,05	16,0	3,28	24,0	11,91	4,0	18,3	8,0	1,50/1,30	8,2	8,9	0,610	0,52
DST C2040 S246	25,40	21,7	3,96	31,0	15,88	5,7	24,6	10,3	1,50/1,50	11,7	13,8	2,688	0,86
DST C2040 K246	25,40	21,7	3,96	31,0	15,88	5,7	24,6	10,3	1,50/1,50	11,7	13,8	1,020	0,86
DST C2050 S306	31,75	27,2	5,08	39,5	19,05	7,1	30,6	13,0	2,03/2,03	15,0	21,8	4,263	1,38
DST C2050 K306	31,75	27,2	5,08	39,5	19,05	7,1	30,6	13,0	2,03/2,03	15,0	21,8	2,010	1,38
DST C2060H S366	38,10	32,5	5,94	49,8	22,23	8,5	36,6	16,2	3,25/3,25	18,1	31,8	6,120	1,93
DST C2060H K366	38,10	32,5	5,94	49,8	22,23	8,5	36,6	16,2	3,25/3,25	18,1	31,8	2,550	1,93

S = Steel conveyor roller | K = Plastic conveyor roller





Recommended working load

Chain type	Recommended max. working load [N]
L 88 SF	1500
L 85 SF	2300
M 120 SF	2500
M 127 SF	4000
M 1611 SF	5000
D 1611 SF	10000

Important information

Maintenance

As for every roller chain, the „bearing points“ of the accumulation chain are also subject to natural wear. The correct tension, good guidance and effective relubrication are needed to reduce this and therefore increase the service life of the chain.

An accumulation chain works perfectly at up to 2% extension caused by wear with the provision that it is constantly retensioned. Approximately 5% of the actual chain tensioning force occurring can be used as a guide value for pretensioning.

Accumulation chains are given extremely effective initial lubrication in the works. The lubricant is used up in the course of time and effective and regular relubrication is necessary. During this process, care must be taken that the lubrication is undertaken at the correct points (= bearing points) and that the lubricant is able to creep.

Chain Design

Important criteria when selecting an accumulation chain are:

- Loading on the accumulation rollers from the weight of the material being conveyed on them. The load-bearing strength per roller is stated in the tables. If the contact surface for the material being conveyed is uneven, it is necessary to estimate how many free rollers are actually load-bearing
- Loading on the chain from tensile forces occurring in operation. The most important influencing dimensions are the weight of the material conveyed and the friction factors. The following tensile forces occur in accumulation chains:
 - from friction resistance between roller and chain pin
 - from friction resistance between accumulation rollers and chain bush when in accumulating operation
 - from roller resistance when rolling the runners on to the chain guides and when rolling the conveyed materials on to the accumulation rollers.

Rough determination of the chain tensioning force F per chain strand:

$$F = \frac{\mu \cdot 9,81 \cdot Q \cdot 1,4}{n} \quad [\text{N}]$$

μ = friction value 0.08-0.3 depending on:

- Material pairing: Steel/steel or plastic/steel
- Condition of the friction surfaces: dry or lubricated
- Degree of contamination of the friction surfaces

Q = Total weight conveyed [kg]

n = Number of chain strands

The formula is valid for even distribution of the weight loading over the chain strands. If the conveyed material is not in full contact because of unevenness, an estimate has to be made as to what percentage of the length in contact is actually effective. The tensile strength per chain strand is correspondingly higher.

Max. conveyor length: Depending on loading 25 – 30 m, parallel and exact guidance must be ensured.



Tools and accessories

At iwis, we are happy to go the extra mile when it comes to service – with chain tools and our own sprocket production facility at our Wilnsdorf site. Our portfolio includes not only chain breaking tools for removing rivets and separating our JWIS and ELITE accumulation chains, but also special cleaning brushes which are particularly useful for removing deposits in the guide system.

Our sprocket production facility uses a combination of innovative and proven manufacturing processes: We manufacture sprockets and plate wheels to DIN specifications as well as special sprockets based on your own specifications, drawings or sample parts.

Chain tool **SWIS**[®]

To disassemble accumulation chains M120SF and M127SF with a pitch of of $\frac{3}{4}$ " it is recommended to use the following disassembly tool.



Material number: 40000646

Chain tool **ELITE**[®]

Simple breaking tools for roller, leaf and accumulation chains in solid quality to use on site. For LL/AL leaf chains suitable only to a limited extent. Available for roller, leaf and accumulation chains with a pitch from 6.35 mm up to 1 1/2".



For more in-depth information see ELITE Catalog

Cleaning brushes

The processes involved in many applications cause deposits to accumulate around the chain and, in particular, in the accumulation chain guides. iwis has developed the solution to this problem in the form of additively manufactured brushes.

These brushes can take the place of a standard inner link and specifically help to remove particles from guide components. This prevents large deposits of dirt from accumulating. These brushes can be manufactured for all chain sizes.



Cleaning brushes for SFK L85SF and M127SF



Accumulation Sprockets

Our aim is always to meet your specific product demands quickly and reliably. With our machine pool at our Wilsdorf site, we combine state-of-the-art and proven production methods to process your orders quickly and effectively. Reduced delivery times are just one of our advantages having our own production plant.

It also permits customer-tailored components according to your specifications, drawings or sample parts. Most of the sprockets we handle for our customers are made from alloyed and unalloyed heat-treated steels. We can also use special materials on request.

Chain type	Teeth	Tip circle	Pitch circle	Tooth width	Total tooth width	Hub diameter	Hub length	Pilot bore
	z	$\varnothing dk$ mm	$\varnothing d0$ mm	$bf1$ mm	$bf2$ mm	dn mm	L mm	$\varnothing d1$ mm
SFK ES1-1-27-16	15	66,0	61,1	3,8	23,0	41	39	15
SFK ES1-1-27-16	17	73,6	69,11	3,8	23,0	49	39	15
SFK ES2-1-40-28	15	99,8	91,63	7,0	34,8	59	56	20
SFK ES2-1-40-28	17	111,5	103,67	7,0	34,8	71	56	20
SFK ES2-1-40-28	15	99,8	91,63	7,0	34,8	59	56	20
SFK ES2-1-40-28	17	111,5	103,67	7,0	34,8	71	56	20
SFK ES2-1-43-28	15	99,8	91,63	8,3	37,5	59	56	20
SFK ES2-1-43-28	17	111,5	103,67	8,3	37,5	71	56	20
SFK ES2-1-48-28	15	99,8	91,63	10,9	42,4	59	56	20
SFK ES2-1-48-28	17	111,5	103,67	10,9	42,4	71	56	20
SFK ESR1-3-45-17	15	66,0	61,1	6,0	33,8	40	45	15
SFK ESR1-3-45-17	17	73,6	69,11	6,0	33,8	48	45	15
SFK ESR2-3-62-28	15	99,8	91,63	11,1	50,1	59	65	20
SFK ESR2-3-62-28	17	111,5	103,67	11,1	50,1	71	65	20

