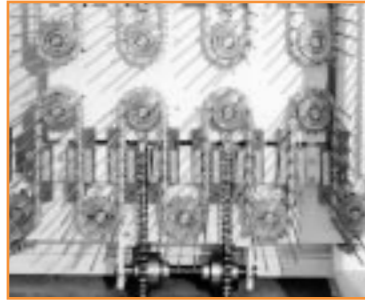


iwis ketten
Joh. Winkhofer & Söhne GmbH & Co. KG
bewegen die welt



7

Special chains

JWTS

gallon
INDUSTRIAL TECHNOLOGY

Special chains

Plate chains

Problem/Initial situation → IWIS solution

Secure and smooth transportation and storage of workpieces and workpiece carriers using very narrow curved track.

IWIS high performance roller chain with a special plate pressed in full contact on one side with precision.
Patent applied for.

Highlights

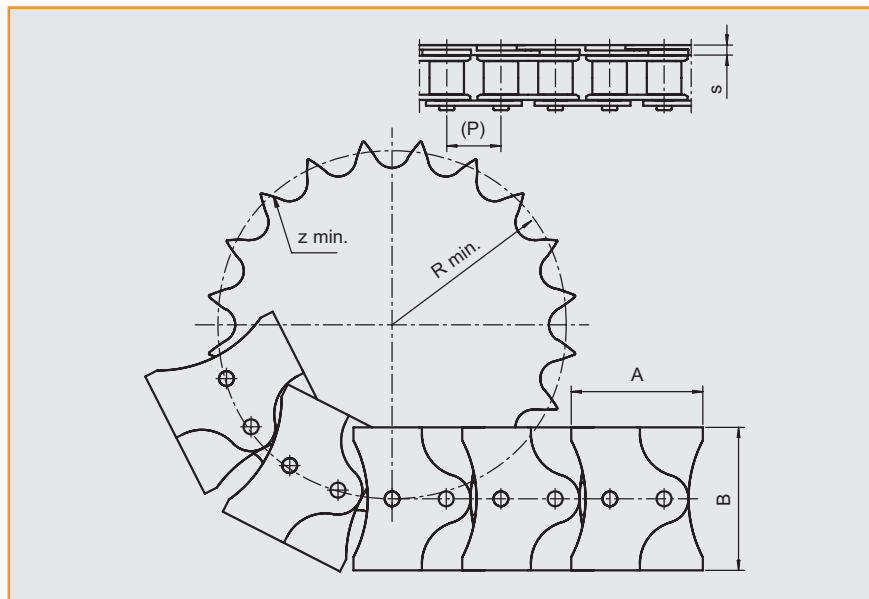
- Plates pressed directly on to chain pins guarantee an absolutely flat transport track with no steps
- Optimum seal for the functioning areas of the chain
- High rigidity and reliability in transportation
- Extremely narrow radii of curvature are possible via specially designed plate shape
- No risk of injury
- Use of DIN chain wheels
- Compatibility with IWIS plate chain used to date
- Also available in a form suitable for food industry use

Industrial uses/ Areas of application

- Conveyor technology
- General engineering
- Packaging and food industry
- Medical technology and pharmaceutical industry
- Linking machines and automation
- Storage and buffer systems

... and everywhere where smooth and reliable conveying through very narrow bends is necessary.

IWIS chain no.	P (mm)	S (mm)	A (mm)	B (mm)	R min. (mm)	z min.
M 127	19,05	3,4	46	50	60	20



7
SPECIAL CHAINS

Special chains

Transfer chains

Conveying, transporting, stop-start conveying of single parts, pallets ...

Problem/Initial situation → IWIS solution

Open transport chains:

- Prone to interference from foreign bodies and small parts
- Often cause operational breakdowns
- Increased risk of injury
- Damage to material being conveyed
- Adherence of dirt and dust

The TF chains:

IWIS high performance roller chains with wear-resistant highly resistant plastic support brackets
Exclusive to IWIS

Highlights

- Functional areas of the chain are completely sealed, basic chain protected from penetration by foreign bodies
- Gentle transportation when free sensitive materials
- Precisely fitting cover prevents the risk of injury and operational breakdowns
- Chain is completely clean on the outside, therefore no dust is bonded to it.
- Initial lubrication with extremely high adhesion to the base chain - standard

Technical features

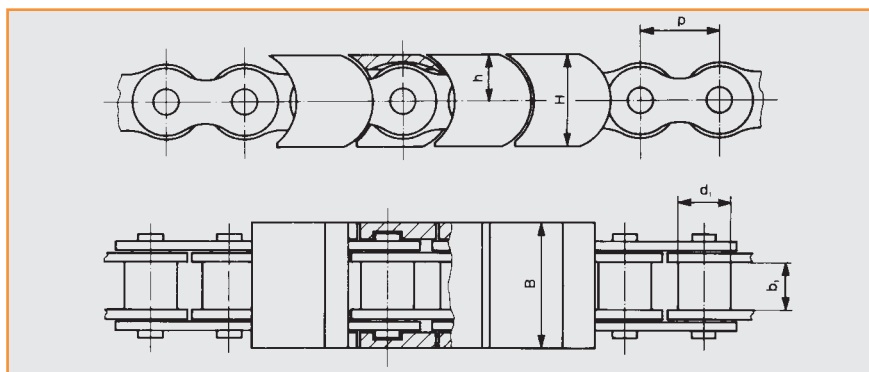
- Supporting bracket: Made of polyacetal resin
- Temperature range for use: 40°C to 100°C, up to 140°C for brief periods
- High wear resistance if the material being conveyed has a smooth surface
- Good chemical resistance
- Shore hardness to DIN 53505: 85
- Anti-static on request.

Industrial uses/ Areas of application

- General engineering
- Transport and storage technology
- Packaging and food industry
- Electronics and printed circuit board industry
- Electrical and household equipment
- Medical technology and pharmaceutical industry
- Wood, glass and ceramics processing
- Chemical and process technology
- Printing and paper

IWIS chain no.	DIN/ISO no. Basic chain	Pitch p (mm)	Breaking strength IWIS F _b (N)	Permissible weight load per chain strand (N)	Weight (kg/m)	Width B (mm)	Height H (mm)	Carrier Attachment h (mm)	max. load per plastic Attachment (N)
L 85 TF	08 B-1	12,7	22.000	6250	0,82	19,8	15,2	8,0	12
M 106 TF	10 B-1	15,875	27.500	8000	1,18	24,8	17,5	9,5	26
M 127 TF	12 B-1	19,05	34.000	9750	1,59	29,8	19,8	11,0	43

... and everywhere where gentle transportation is required.



Special chains

Transfer chains

Chain wheels

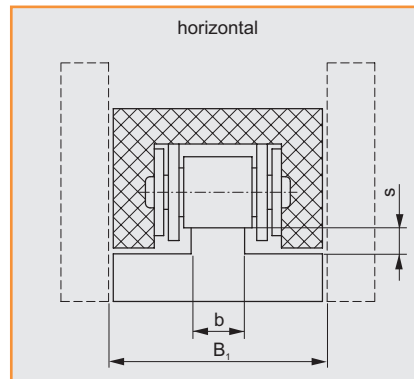
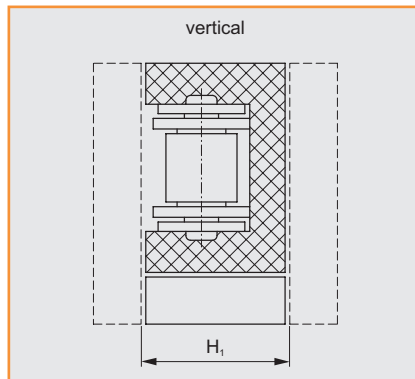
Standard chain wheels for chains to DIN 8187. For number of teeth $z > 18$ chain is completely protected in the deflection zone

Chain guidance

7
SPECIAL CHAINS

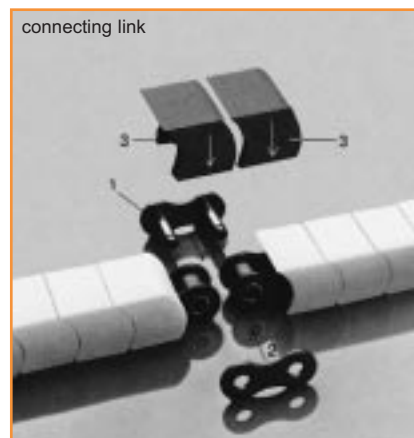
IWIS chain no.	B_1	b	h	H_1
L 85 TF	20	7,5	3,1	15,4
M 106 TF	25	9,5	3,1	17,7
M 127 TF	30	11,3	2,9	20,0

Versions installed



Connecting link

The ends of the chain are connected with a pin block (1) which has a separate plug-in plate (2) pushed on to it. The two supporting brackets (3) can be clipped on over the chain rivets by pushing down the chain in the right way. No locking spring is required. The relevant 2 supporting brackets are black in colour to make it easy to find the connecting link



Special design of basic chain

- Nickel-plated
- CR-corrosion resistant
- MEGAlife - maintenance-free

Connecting link
Same dimensions as chain

Special chains

Grip chains

Gripping, retracting, transporting soft foils

Problem/Initial situation → IWIS solution

Reliable feeding, transporting and positioning of thin-walled materials with a large area

IWIS high performance chains with wear- and corrosion-resistant clamping elements
Patent applied for.

Highlights

- Material to be transported is fed through in the best possible way because of the unique swivelling technique of the gripper
- Precise positioning of the material to be conveyed via reliable clamping
- Chain and clamping element with corrosion protection as standard
- Differing levels of spring force allow an extremely wide range of materials to be gripped gently
- Provided with initial lubrication, approved for use in the food industry, as standard

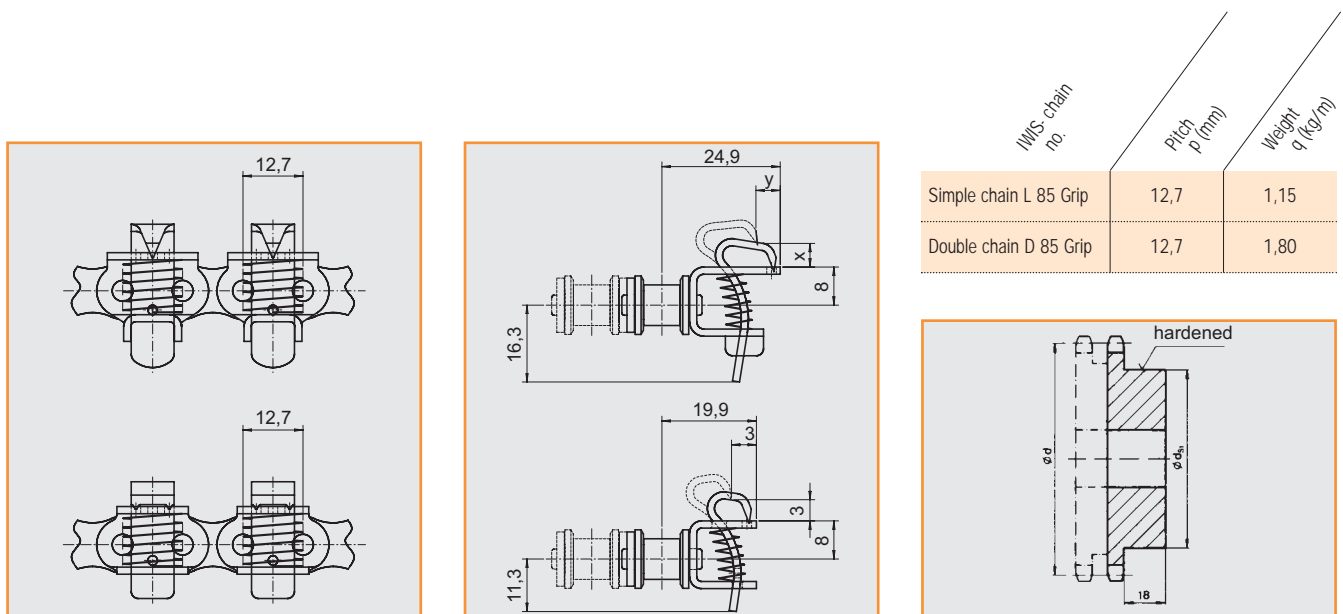
Technical features

- Single or double chain
1/2 x 5/16 inch to DIN 8187-1/ ISO 606
- Gripper with 1 or 2 tips, special design on request
- Retaining force is dependent on material conveyed and spring design
 - Differing number of coils and wire spring diameters obtainable
- The gripper opens by running against a control disc (e.g. chain wheel hub) which causes it to swivel out of the way to the outside

Industrial uses/ Areas of application

- Packaging industry, especially foil packaging
- Electronics industry and manufacture of printed circuit boards
- Feeding in thin-walled sheet, plastics and other hard materials

... and everywhere where plate and sheet type materials are drawn in or off, transported or positioned, e.g. for punching, welding, filling, coating, cutting, stretching, shaping, sealing etc.



Dimensions x and y dependent on the spring used, on request

Special chains

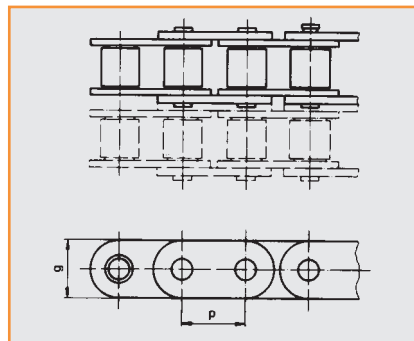
Pallet transporting chains

Roller chains with straight side plates for transporting a wide range of material

Material to be transported can be positioned throughout because of the straight side plates. Dimensions and figures not stated correspond to those for IWIS chains M 128 A SL or D 128 A to DIN 8188.

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SPECIAL CHAINS

IWIS chain no.	Pitch P (mm)	g (mm)	Breaking strength F_b IWIS-mean (N)	Weight ρ (kg/m)
Single strand chain M 128 AG	19,05	18,0	42.000	1,75
Double strand chain D 128 AG	19,05	18,0	84.000	3,50



Special chains

Side bow chains

Transporting, conveying, pulling on curved shape tracks

Problem/Initial situation → IWIS solution

- Transporting and conveying on curved shaped tracks
- Chains twisting when the shafts are at an angle to each other
- Change in the position of the material being transported e.g. from the horizontal to the vertical

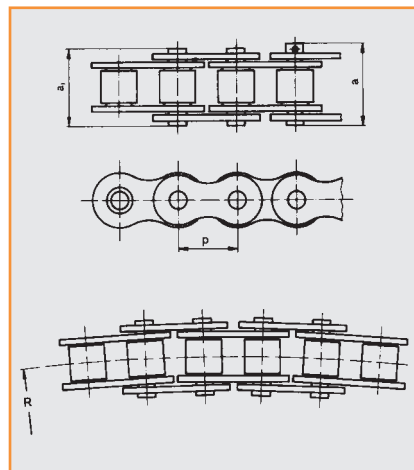
IWIS high performance chains with specially designed chain link. Exclusive to IWIS.

Dimensions not stated correspond to those for IWIS chains to DIN 8188, american standard.

Highlights

- Instead of being in contact with the line, the chain link is in overall contact throughout the curved area.
- Very narrow radii of curvature are possible because of symmetrical, tapered pins
- By using IWIS straight and bent side plates suitable for universal use as conveyor chains

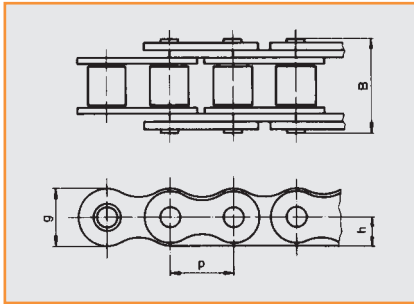
IWIS chain no.	Pitch p (mm)	a ₁ (mm)	Outer width a (mm)	Minimum radius R (mm)	Breaking strength IWIS F _a (N)	Max. permissible chain pull power			
						Continuous (N)	Transient (N)	Weight (Kg/m)	Connecting links available
L 85 A-SB	12,7	16,8	17,8	425	10.000	600	1500	0,65	2, 4, 8
M 106 A-SB	15,875	21,0	22,3	500	18.000	900	2500	1,00	2, 4, 8
M 128 A-SB	19,05	26,3	27,7	750	26.000	1200	3700	1,50	2, 4, 8



Special chains

Anti back bend chains

Chain which is only flexible on one side for pushing lightweight loads and bridging short gaps without guides

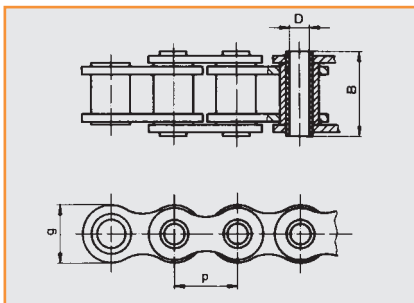


IWIS chain no.	Pitch p (mm)	g (mm)	h (mm)	B (mm)	Weight (kg/m)
M 128 A SL anti-back bend chain	19,05	18,0	9	30	1,96

The principal dimensions correspond to IWIS chain M 128 A SL to DIN 8188
Smallest chain wheel: 10 teeth

Hollow pin chain

Simple fixing of attachments and transverse struts



IWIS chain no.	Pitch p (mm)	g (mm)	B (mm)	D (mm)	Breaking strength IWIS (N)	Weight (kg/m)
M 128 HB	19,05	18,0	25,5	6	36.500 ¹⁾	1,23

¹⁾ Breaking strength without pins inserted 34,500 N

Special bush chain in accordance with roller chain $\frac{3}{4} \times \frac{1}{2}$ inch to DIN 8188-1
Hollow pins can be arranged at any desired interval

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SPECIAL CHAINS

Special chains

Tube transport chains

Problem/Initial situation → IWIS solution

Gentle support and reliable transportation for thin-walled hollow bodies through several processing stations (cleaning, painting, drying ...)

IWIS high performance chains - roller chains with rust-resistant, easy to change attachments (exclusive to IWIS)

Highlights

- Change the transport bars in the system without difficulty using the special iwis tool
- Not necessary to dismantle the chain
- Adapter and bars made of high alloy, corrosion-resistant steels with good elastic characteristics
- Long life in comparison with hollow pin chains thanks to the use of the iwis standard roller chain
- Large standard of range of bar lengths
- Different shapes for bar ends - nipples made of aluminium or plastic are also available
- Freely selectable distance between the bars
- 3/4 inch chain also available in curved side design (M 128 ASB)

Technical features

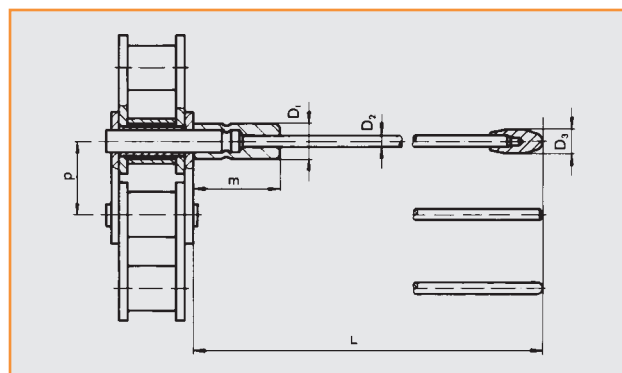
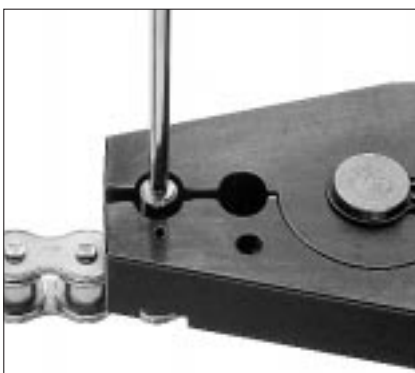
- The bars are pinched on to the extended pins of the base chain using an adapter and secured by fins to prevent twisting
- The bar can be changed quickly and easily if a repair is needed by breaching open the adapter with the IWIS special tool (see illustration)

Industrial uses/ Areas of application

Everywhere where tubes and other thin-walled hollow bodies (cans) are transported, cleaned, painted, dried ...

IWIS chain no.	Pitch p (mm)	L max. (mm)	D ₁ (mm)	m (mm)	D ₂ (mm)	D ₃ (mm)
L 85 SL	12,7	300	8,0	22,0	4,0	8,0
M 106 SL	15,875	300	8,0	22,0	4,0	8,0
M 127 SL	19,05	300	8,0	22,0	4,0	8,0
M 128 ASB	19,05	300	8,0	22,0	4,0	8,0

Please state the length L in any enquiry or order.



Special chains

Can transport chains/Pin oven chains

Problem/Initial situation → IWIS solution

Safer transport of thin-walled hollow bodies at high speeds and subject to the influences of differing temperatures and media.

Extremely wear-resistant IWIS high performance chains with specially adjusted bars and variable protective heads

7

Highlights

- Extremely long life and reliable roller chain with integrated hollow pins every seventh pitch
- Simple to change transport bars in the line
- Non-drip high temperature lubricant which evaporates without leaving a residue and is approved for use in the food industry
- Predefined fracturing points in the bars prevents damage within the line if there is a collision

Technical features

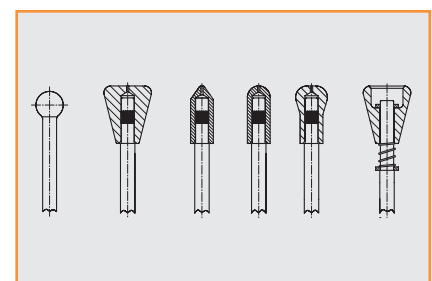
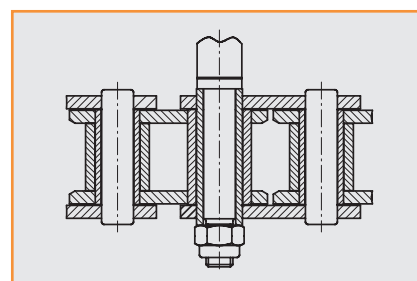
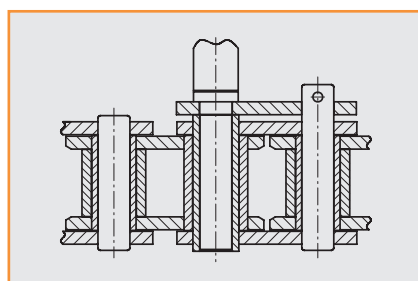
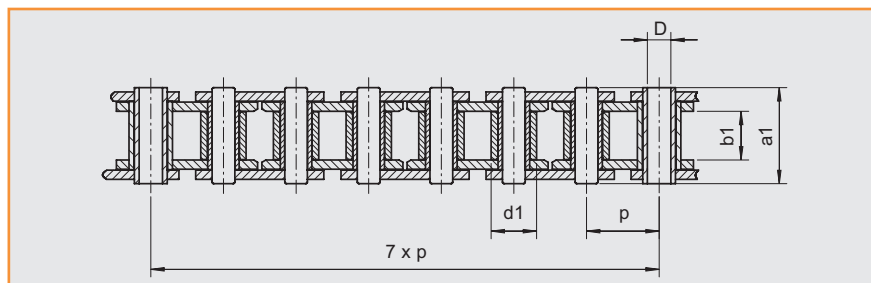
- The transport bars are inserted in the hollow pins at defined intervals using retaining nuts or split pins
- Precise alignment of the chain wheels and good guidance of the chains increases the length of service life
- The chain should be brushed clean before re-lubrication at the correct points

Industrial uses/ Areas of application

- Everywhere where cans or other thin-walled hollow bodies are transported, painted, dried ...

SPECIAL CHAINS

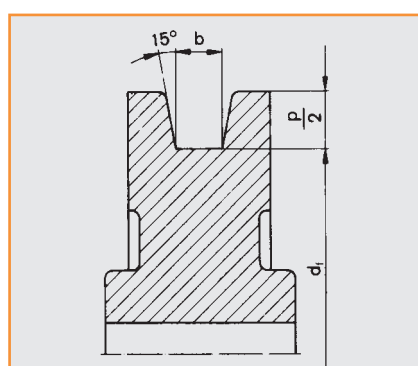
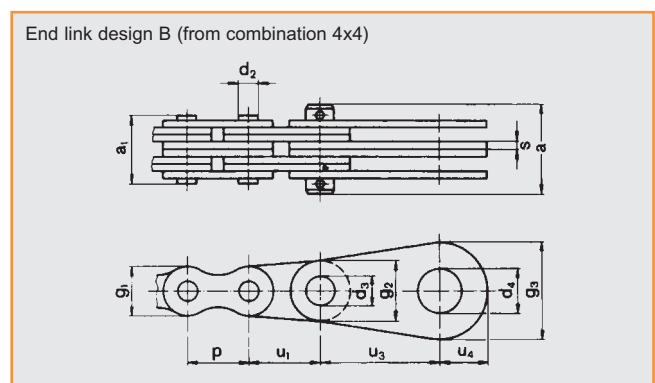
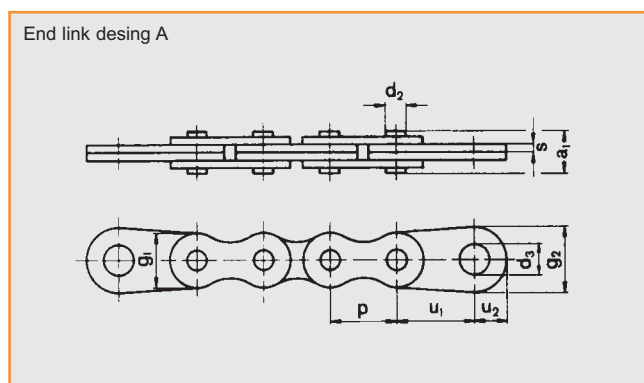
IWIS chain no.	ISO no.	Pitch p x Inner Width	Breaking Load F _b (N)	Roller d _r (mm)	Hollow pin Diameter D (mm)	Inner Width b _i (mm)	Pin Length max. a ₁	Weight (kg/m)
M 128A SL	12A-1	$\frac{3}{4} \times \frac{1}{2}$ "	36.500	11,91	6,0	12,7	26,7	1,23



Leaf chains

IWIS Designation	p (inch)	p (mm)	Pitch	Plate combination	Arrangement	Breaking load F_b IWIS mean (N)	Breaking area f (cm ²)	Weight q (kg/m)	Bearing pin diameter d_2 (mm)	a_1 (mm)	Overall width a (mm)	End link dimensions								
												Plate height g_1 (mm)	Plate thickness s (mm)	d_3 (mm)	d_4 (mm)	g_2 (mm)	g_3 (mm)	u_1 (mm)	u_2 (mm)	u_3 (mm)
FL 522	-	8,0	2 x 2	≡	6.000	0,05	0,15	2,31	5,6	-	6,3	1,0	6,2	-	16,0	-	15,0	10,0	-	-
FL 523	-	8,0	2 x 3	≡	8.000	0,05	0,19	2,31	6,7	-	6,3	1,0	6,2	-	16,0	-	15,0	10,0	-	-
FL 623 ¹⁾	$\frac{3}{8}$	9,525	2 x 3	≡	12.000	0,08	0,32	3,31	8,3	-	8,1	1,2	6,2	-	16,0	-	15,0	10,0	-	-
FL 623 b ¹⁾	$\frac{1}{8}$	9,525	2 x 3	≡	21.000	0,20	0,46	3,31	10,9	-	8,2	2,0	6,2	-	18,0	-	20,0	11,0	-	-
FL 823 b	$\frac{1}{2}$	12,70	2 x 3	≡	30.000	0,18	0,65	4,45	12,4	-	10,8	2,0	8,2	-	18,0	-	20,0	11,0	-	-
FL 834 a	$\frac{1}{2}$	12,70	3 x 4	≡	28.000	0,17	0,42	3,68	13,1	-	9,1	1,5	8,2	-	18,0	-	20,0	11,0	-	-
FL 834 b	$\frac{1}{2}$	12,70	3 x 4	≡	45.000	0,27	0,91	4,45	16,5	-	10,8	2,0	8,2	-	18,0	-	20,0	11,0	-	-
FL 845 a	$\frac{1}{2}$	12,70	4 x 5	≡	38.000	0,24	0,67	3,68	16,9	25	9,1	1,6	8,2	12,2	18,0	25,0	20,0	11,0	30,0	15,0
FL 845 b	$\frac{1}{2}$	12,70	4 x 5	≡	52.000	0,32	1,00	4,45	19,0	25	10,8	1,8	8,2	12,2	18,0	25,0	20,0	11,0	30,0	15,0
FL 866 a	$\frac{1}{2}$	12,70	6 x 6	≡	51.000	0,36	0,88	3,68	21,7	28	9,1	1,6	8,2	12,2	18,0	25,0	20,0	11,0	30,0	15,0
FL 866 bd	$\frac{1}{2}$	12,70	3 x 3 ²⁾	≡	67.000	0,40	1,17	4,45	20,6	28	10,8	1,5	8,2	12,2	18,0	25,0	20,0	11,0	30,0	15,0
FL 1044 bd	$\frac{5}{8}$	15,875	2 x 2 ²⁾	≡	64.000	0,37	1,12	5,08	16,8	28	13,7	1,8	10,4	16,2	20,0	35,0	25,0	12,0	45,0	21,0
FL 1066 bd	$\frac{5}{8}$	15,875	3 x 3 ²⁾	≡	93.000	0,55	1,68	5,08	24,0	35	13,7	1,8	10,4	16,2	20,0	35,0	25,0	12,0	45,0	21,0
FL 1266 bd	$\frac{3}{4}$	19,05	3 x 3 ²⁾	≡	115.000	0,76	2,18	5,72	30,0	40	14,9	2,2	10,4	16,2	20,0	35,0	25,0	12,0	45,0	21,0
FL 1644 d	1	25,40	2 x 2 ²⁾	≡	160.000	1,00	2,92	8,28	28,0	40	20,8	3,0	12,2	18,2	25,0	40,0	30,0	15,0	50,0	24,0
FL 1666 d	1	25,40	3 x 3 ²⁾	≡	231.000	1,50	4,35	8,28	41,0	50	20,8	3,0	12,2	18,2	25,0	40,0	30,0	15,0	50,0	24,0

¹⁾ Straight side plates



Example for the design of a deflection roller

Inner roller width

$$b = a_1 \cdot 1,15$$

Minimum base diameter:

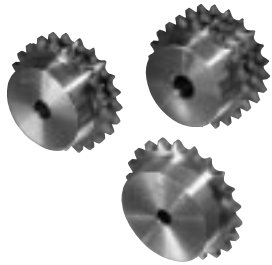
$$d_{f \min} = p \cdot 5$$

Where possible fit relatively large diameter

IWIS leaf chains are manufactured from precision IWIS chain parts to DIN 8187.

The chain selection will be determined by the size and frequency of shock loading and the appropriate national lifting regulations.

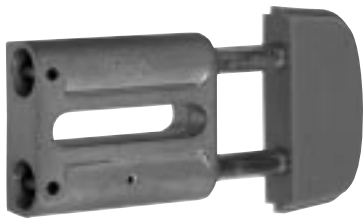
Range of accessories



Chain wheels

For single, double and triple roller and/or bush chains to DIN 8187/8188/8181/8154 and IWIS works standard. Teeth to DIN 8196. Chain wheels with hub or as disc wheel in steel or cast steel materials.

Standard numbers of teeth $z = 10$ to $z = 95$ with rough or finished drilling. On request, chain wheels can also be manufactured to drawings, with a material specification or heat treatment. You will find detailed information in our separate brochure.



Chain tensioner

A chain works perfectly up to a stretch caused by wear of 2% max. if it is continuously retensioned. If this is not the case, the return strand begins to sag and the chain begins to run in an uneven way which promotes further wear.

We recommend installing IWIS chain tensioners to prevent this and increase the length of life of the chain drive. You will find detailed information in our separate brochure.



Chain lubricants

IWIS chains are provided with high quality initial lubrication as standard which guarantees the maximum length of life with normal use and care. We supply chains with proven special lubricants for special applications such as high or low temperatures, wear- or corrosion-protection, effects of dust, dry lubrication, approval for food use etc. IPW, the new initial lubricant based on wax offers

excellent wear protection. The IWIS chain special lubricant „VP6 - Kombi superplus“ was developed for continuing maintenance (top-up lubrication). „VP6 - Kombi superplus“ is available in spray cans (contents approx. 400 ml).



Chain tools

A tool set consisting of anvil, fork, punch, plate pusher device, rivet plate, prism insert, set of bushes and rivet can be used for dismantling and riveting the chains. „Single pin-extractors“ are available for dismantling works standard chains with $1/2$ inch pitch and „Universal pin-extractors“ for roller and bush chains with a pitch of 8 mm

to $3/4$ inch. We recommend the „IWIS pin extracting machine“ for $3/8 - 3/4$ inch pitch (illustration) for long term use in the workshop. You will find detailed information in our separate brochure.

Chain fabrication lengths

The following lengths can be supplied: 5 m, 10 m, 10 feet, 25 feet and adjusted lengths, open or closed.

Chains with an uneven number of links are given a permanently riveted, cranked double link C and a straight plug-in link E or S (cranked links should be avoided wherever possible because they may reduce the breaking strain of

the chain by up to approximately 20%).

If a precisely parallel run should be necessary, important particularly in chains with opposite cam or angled side plates, chain strands can be manufactured and supplied with their lengths harmonised precisely with each other, bundled together or marked accordingly.

Pairs of chains, sets of chains and chains which cannot be supplied in one piece are provided with labels. The chain strands are marked with letters, part sections with consecutive numbers.

Example: Part section „A 02“ is fitted on to the end of part section „A 01“, „B 02“ on to the end of „B 01“ etc.