



# WATER TREATMENT CHAINS

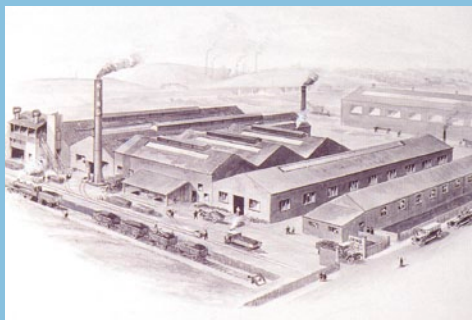


 *Linking you to EXCELLENCE since 1926*

## JOHN KING



# JOHN KING & COMPANY



Climax Works 1930's



Chain Assembly 1960's



New Climax Works 2000's

## Company History and Qualifications

The John King Company was established in Leeds, England in 1926. Early success was achieved in the manufacture of mechanical handling equipment for the rapid mechanisation of the coal industry. In these early days conveyor chain was generally of cast link construction. The Company therefore has unrivalled experience in the production of highest quality cast link chains in ductile irons and steel under the "Climax Quality Brand". JOHN KING are undoubtedly the world leaders in this range of conveying chains.

Although cast link chains remain an important part of the JOHN KING programme, the company has progressively expanded the product range to encompass chains of other constructions and manufacturing techniques including Welded steel chains, engineered steel chains, forged fork link chains and Engineering plastic chains.

Today JOHN KING offer the widest range of conveyor chains of any manufacturer which makes them unique in being able to offer an infinite number of chain types in a variety of materials and constructions for a multiplicity of industry mechanical handling applications.

In recent years it has been JOHN KING's strategy to develop the Company into a global business. This has seen the establishment, in addition to the main factory in England, distribution Companies in North and South America, Africa, South East Asia and Central Europe. Our objective is to provide best service in supply of high quality chain and sprockets Worldwide.

All products are manufactured within the dictates of the Company's quality management according to ISO 9000 establishing consistent and high quality products and ensuring performance reliability and extended service life.

## CONTENTS

Water and waste water components – non metallic range **03** | Non metallic chain and sprockets **04** | Channel flights **04** | 700 Series Collector Chains (720) **05** | 700 Series Collector Chain Attachment (720) **05** | Hollow Pin Chains for Travelling Screens **06** | Collector Drive Chains (PM 78) **07** | JKB6729 **07** | S810 Collector Chains **08** | JKS810 Collector Chains with F4 Attachment **08** | Traveling Water Screen Chains **09** | JKB5879, JKB5833 **10** | Forged Link Standard Series **11** | Forged Link Double Series **12** | Pin styles **13** | Flight attachment options **14**

## Water and waste water components – non metallic range



### Typical applications

Three Shaft Rectangular Clarifiers removing bottom sludge only. Typical in water treatment plants and or combined with inclined plate or tube settler applications. Four Shaft Rectangular Clarifiers removing bottom sludge to a sludge hopper at the influent end of the clarifier combined with skimming floating surface scum discharging via a scum pipe.

### DAF tanks

Dissolved Air Flotation with two separate systems 'Top & bottom' for sludge removal and surface skimming of floating scum up an inclined beaching plate.

### Grit bucket collectors

Typically five shaft collectors for grit removal with pivoting nonmetallic buckets to elevate and discharge via a chute.

### CSB spacer block

Specifically for use with SCF and HSF channel flights the unit acts as a spacer between chain attachment paddles and C section flight. Hole positions to cover both F2 and F22 styles. Generally cast from Acetal co-polymer material.

### CLR return shoe

- 1 From UHMW-PE for standard rectangular systems (Also available in heat treated iron to be used in conjunction with metallic chain).

### CCS carrying shoe

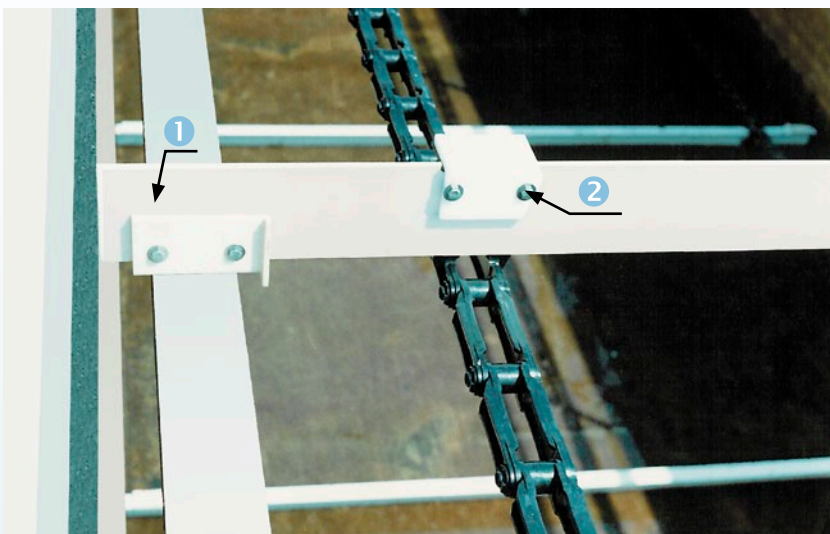
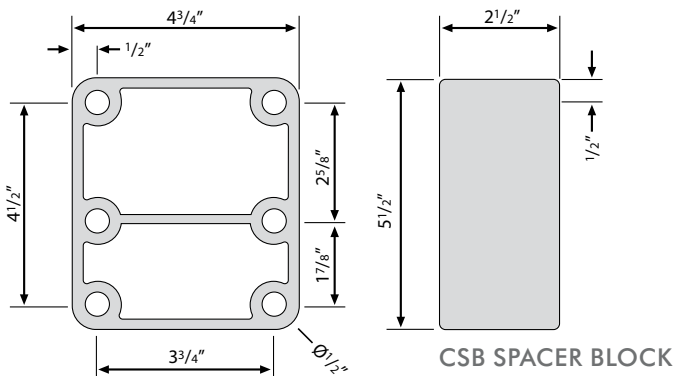
- 2 for low friction contact on conveying strand wearstrip.

### CLR and CCS shoe material options

- UHMW Polyethylene
- Polyurethane
- Cast Nylon
- Polypropylene
- Cast Iron

### Wearstrip

From UHMW polyethylene 3/8" (10 mm) to 3/4" (20 mm) thick at widths as required by application.





# Water Treatment Chains

## Non metallic chain and sprockets

### Shear pin sprocket

11 tooth PM78/11T/sp sprocket to a unique and proven design offers effective overload protection to the drive. (Contact engineering for full information).

### Chain tensioner

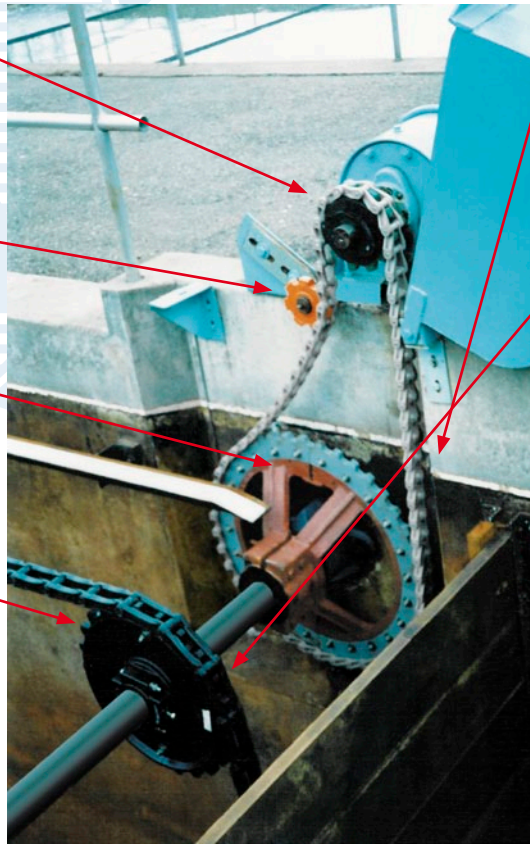
offers simple slideway take up as pitch extension and resulting chain elongation develops over service life.

### Combination sprockets

UHMWP Tooth profile and offset cast iron hub to allow clearance over wall mounted bearing unit. PM78/40T being a typical sprocket configuration.

### Sprockets

Standard diameters at 23 tooth and 17 tooth (19, 21 and 25 tooth also available). In cast nylon or UHMW polyethylene. Configured with the Hunter style tooth form known as double life profile with chain saver rims. Split construction or solid construction. (Can be used with metallic and non metallic chains).



### Non metallic chain

PM78 2.609" drive chain manufactured from Acetal material with 304 SS chain pins with knurled feature for positive retention, combined with easy extraction.

### Non metallic screen

CHAIN 720S is the latest generation collector chain, lightweight, corrosion resistant and proven to deliver excellent service life over an extended period. Links are manufactured in Kings 'in house' plastics division subject to the dictates of ISO9000. Manufactured from Acetal Engineering Plastic PM720S includes the unique T head snap in pin design which obviates the need for separate and vulnerable pin retainers. Chain saver sidebars extend service life of chain and sprockets.

## Channel flights

### HSF high strength channel flights

High strength version operates to a maximum of 22 feet. Ideal for high sludge loading and specialist applications such as DAF surface skimmers. Larger cross section minimises deflection on heavier applications. Flights contain UV inhibitors for degradation avoidance.

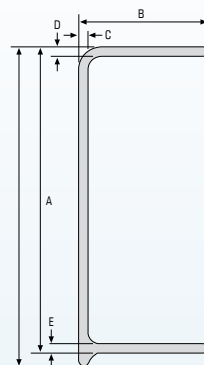
### Channel flights SCF standard duty channel flights

C section construction of an isothalic polyester with standard or high glass content dependent on applicational demand.

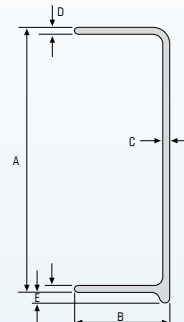
### EDF extreme duty channel flights

This extreme duty flight gains its high strength and rigidity from the unique structural form. Designed for operation in tanks of up to 36 feet and extreme service requirements. The profile obviates the need for spacer blocks (CSB).

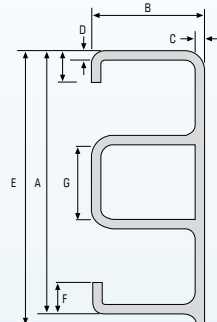
Series	A	B	C	D	E	F	G
	inches						
SCF6	5.25	2.50	0.125	0.188	0.188		
SCF7	7.125	2.50	0.125	0.188	0.188		
HSF8	7.125	3.00	0.188	0.219	0.042		
EDF8	7.125	3.00	0.25	0.25	7.438	0.875	2.00



HSF CHANNEL FLIGHT

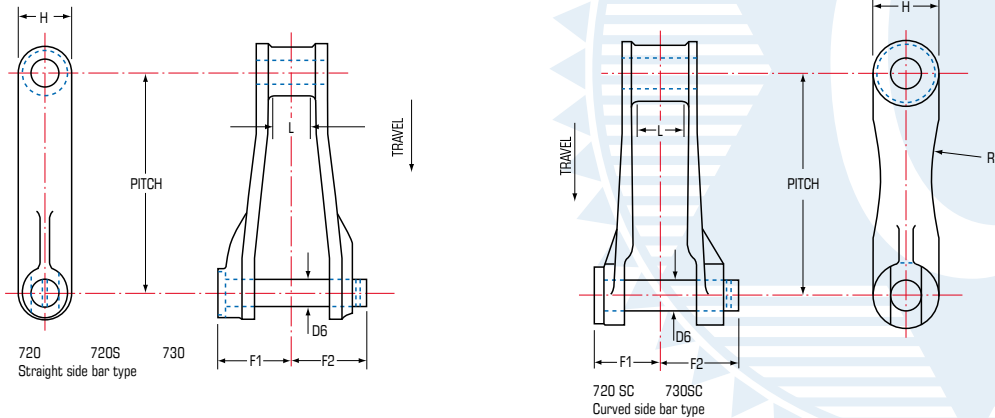


SCF CHANNEL FLIGHT



EDF CHANNEL FLIGHT

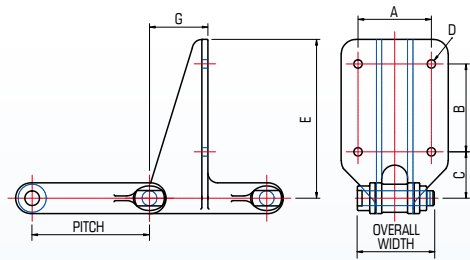
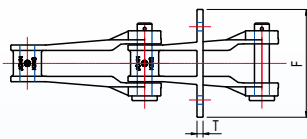
## 700 Series Collector Chains (720)



### 700 Series Collector Chains (720)

Chain Number	Pitch	F1	F2	D6	L	H	Radius of side bar sprocket flanges	Number of Links in 10 Ft	Ultimate Tensile Strenght	Average Weight
	P						R			
	inches									
720	6.00	1.69	1.81	0.69	1.13	1.50	—	20	22,000	4.2
720S	6.00	2.00	2.00	0.75	1.13	1.56	—	20	30,000	5.1
720SC	6.00	1.69	2.13	0.75	1.13	1.59	10.00	20	30,000	6
730	6.00	1.69	2.13	0.75	1.13	1.75	—	20	30,000	6
730SC	6.00	1.69	2.13	0.75	1.13	1.75	10.13	20	30,000	6
WH720S	6.00	1.719	1.719	0.75	1.13	1.56	—	—	—	5.7
SS720	6.00	1.69	1.81	0.69	1.13	1.50	—	20	22,000	4.2
PM720S	6.00	1.719	1.719	0.75	1.13	1.56	—	—	—	5.7

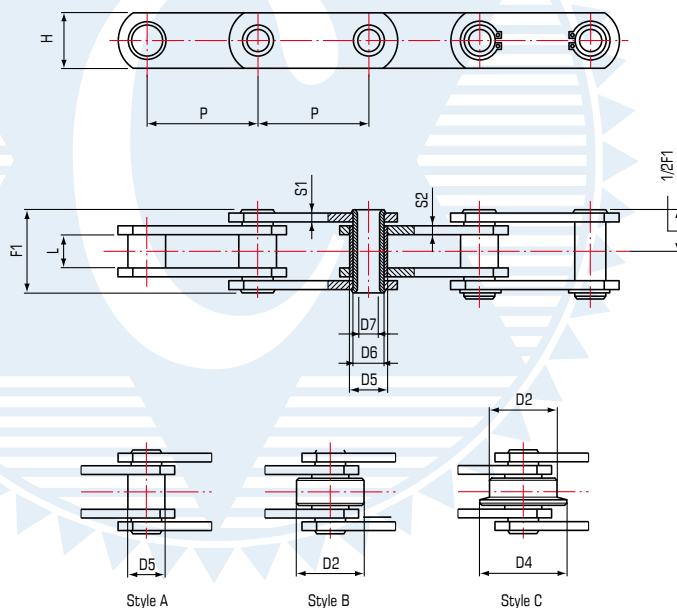
## 700 Series Collector Chain Attachment (720)



### Collector Chain Attachment Details

Chain Number	Material	Pitch	Overall Width	A	B F22-6	B F22-8	C	D	E F22-6	E F22-8	F F22-6	F F22-8	G	T	Ultimate Tensile Strength	Rated Working Load	Weight
															lbs	lbs	lbs
720	CS	6.00	3.50	3.75	2.625	4.50	2.375	0.375	6.125	8.125	5.50	5.50	3.00	0.313	27,500	4,025	11.80
720S	CS	6.00	4.00	3.75	2.625	4.50	2.375	0.375	6.125	8.125	5.375	5.50	3.00	0.313	37,500	4,425	13.30
720SC	CS	6.00	3.82	3.75	2.625	4.50	2.375	0.375	6.125	8.125	5.375	5.625	3.00	0.313	37,500	4,425	14.00
730SC	CS	6.00	3.82	3.75	2.625	4.50	2.375	0.375	6.125	8.125	5.375	5.625	3.00	0.313	37,500	4,425	15.60
NOTE: F2 ATTACHMENT ALSO AVAILABLE ON CS CHAINS																	
WH720S	WS	6.00	3.438	3.75	2.625	4.50	2.375	0.375	6.00	7.875	5.00	5.50	3.00	0.25	42,500	5,300	10.70
SS720	SS	6.00	3.50	3.75	2.625	4.50	2.375	0.563	6.188	7.875	5.50	5.625	3.00	0.25	42,500	5,300	13.10
PM720S	PM	6.00	3.438	3.75	2.625	4.50	2.375	0.375	6.125	7.875	5.50	5.625	3.00	0.313	6,000	2,600	1.34

# Water Treatment Chains



## Hollow Pin Chains for Travelling Screens

John King produce a range of Hollow pin chains where the hollow pin affords a ready facility for fixing attachments to the outer plates through the hollow pin. The attachment can be bolted up tight against the hollow pin rivet or left in a free manner to pivot. This series has therefore become a preferred option for screen applications.

The chain is generally with combinations of stainless steel, zinc plated components, acetal copolymer rollers or a combination of the 3 options. Data on tensile strengths applies to the standard zinc plated chain. Refer to technical for stainless steel or variations on this standard.

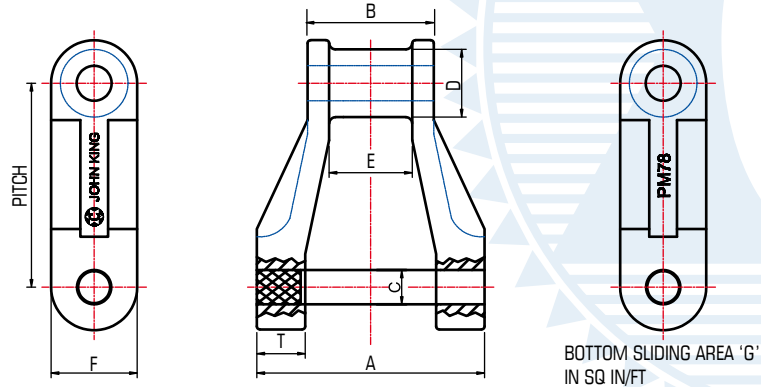


### Hollow Pin Chains for Travelling Screens

Chain Number	P	Breaking Load		Average Weight	Rollers			Bushings Outside Diameter	Over-All	Between Sidebars	Sidebars			Pins Diameter	Hollow Pin Diameter	
					D2	D4	Flange thickness				Thickness		Height			
	mm	kN	kN*	kg/m	mm											D6
HP27/0508/P	50.8	27	54	3.50	31.75	40	5	17	37	15	4	4	25	14	10.2	
HP27/0635/P	63.5	27	54	3.13	31.75	40	5	17	37	15	4	4	25	14	10.2	
HP27/0762/P	76.2	27	54	2.88	31.75	40	5	17	37	15	4	4	25	14	10.2	
HP27/0889/P	88.9	27	54	2.71	31.75	40	5	17	37	15	4	4	25	14	10.2	
HP27/1016/P	101.6	27	54	2.58	31.75	40	5	17	37	15	4	4	25	14	10.2	
HP27/1270/P	127.0	27	54	2.39	31.75	40	5	17	37	15	4	4	25	14	10.2	
HP27/1524/P	152.4	27	54	2.27	31.75	40	5	17	37	15	4	4	25	14	10.2	
HP55/0762/P	76.2	55	110	6.93	47.5	60	6	23	45	19	5	4	40	19	13.2	
HP55/0889/P	88.9	55	110	6.35	47.5	60	6	23	45	19	5	4	40	19	13.2	
HP55/1016/P	101.6	55	110	5.91	47.5	60	6	23	45	19	5	4	40	19	13.2	
HP55/1270/P	127.0	55	110	5.30	47.5	60	6	23	45	19	5	4	40	19	13.2	
HP55/1524/P	152.4	55	110	4.89	47.5	60	6	23	45	19	5	4	40	19	13.2	
HP55/1778/P	177.8	55	110	4.60	47.5	60	6	23	45	19	5	4	40	19	13.2	
HP55/2032/P	203.2	55	110	4.39	47.5	60	6	23	45	19	5	4	40	19	13.2	
HP110/1016/P	101.6	110	200	12.14	66.7	82	9	33	58	26	7	5	50	26.9	20.2	
HP110/1270/P	127.0	110	200	11.21	66.7	82	9	33	58	26	7	5	50	26.9	20.2	
HP110/1524/P	152.4	110	200	10.91	66.7	82	9	33	58	26	7	5	50	26.9	20.2	
HP110/1778/P	177.8	110	200	9.46	66.7	82	9	33	58	26	7	5	50	26.9	20.2	
HP110/2032/P	203.2	110	200	8.92	66.7	82	9	33	58	26	7	5	50	26.9	20.2	
HP110/2286/P	228.6	110	200	8.50	66.7	82	9	33	58	26	7	5	50	26.9	20.2	
HP110/2540/P	254.0	110	200	8.10	66.7	82	9	33	58	26	7	5	50	26.9	20.2	
HP160/1524/P	152.4	160	320	22.18	88.9	114	10.5	38	78	38	8	8	60	32	22.5	
HP160/1778/P	177.8	160	320	20.18	88.9	114	10.5	38	78	38	8	8	60	32	22.5	
HP160/2032/P	203.2	160	320	18.68	88.9	114	10.5	38	78	38	8	8	60	32	22.5	
HP160/2540/P	254.0	160	320	16.60	88.9	114	10.5	38	78	38	8	8	60	32	22.5	
HP160/3048/P	304.8	160	320	15.19	88.9	114	10.5	38	78	38	8	8	60	32	22.5	

\* Breaking Load with HT Link Plates

## Collector Drive Chains (PM78)



### Collector Drive Chains

Chain Number	Material	Pitch	Overall Width	Allowable Sprocket Face	Side Bar Width	Length of Bearing	Pins	Roller Diameter	T	G	Rated Working Load	Ultimate Tensile Strenght	Weight
			A	E	F	B	C	D					
		inches										lbs	
PM78	PM	2.609	2.970	1.100	1.14	1.630	0.425	0.875	N/A	11.50	1,750	4,000	1.40
PM82	PM	3.075	3.240	1.125	1.50	2.000	0.250	1.250	N/A	13.70	2,100	5,000	2.20
SS78/C	SS	2.609	2.563	1.125	1.25	2.609	0.500	0.875	1/4	N/A	2,500	24,000	3.80

ALL 700 SERIES COLLECTOR CHAINS ARE 'OFFSET' CONSTRUCTION AND AVAILABLE IN VARIOUS MATERIAL GRADES

CS – Cast Steel as King JK/WRI wear resistant grade or 304SS stainless steel with 420SS pin.

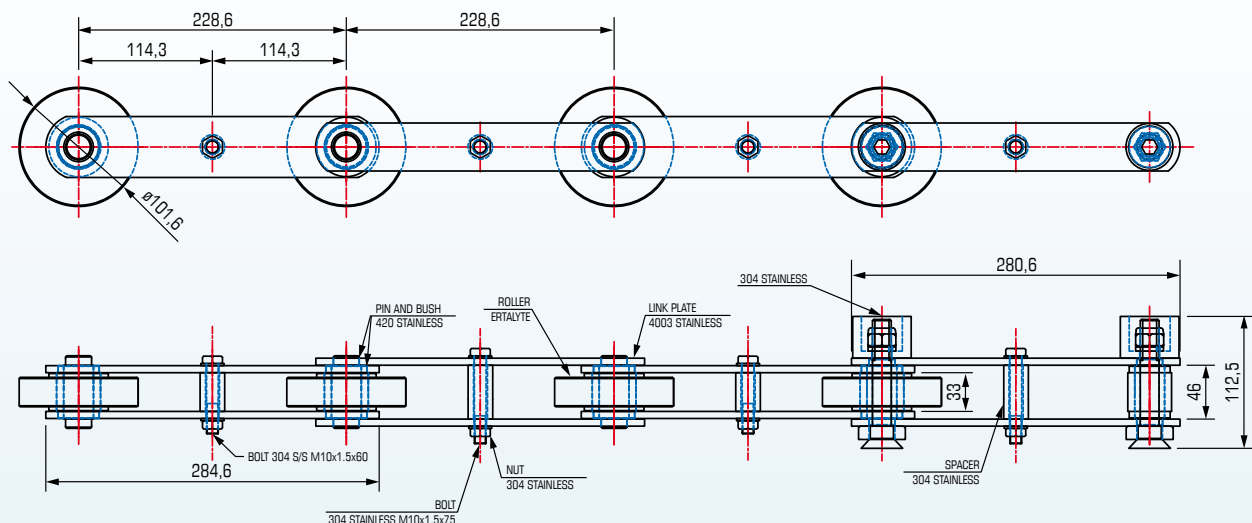
WS – Welded Steel with heat treated carbon steel plates and through hardened pin and bush.

PM – Acetal Co-Polymer engineering plastic. PM720S with moulded pin PM78 and PM82 with 304SS pin.

SS – Conventional engineered construction with 304SS stainless steel sideplates and 420SS heat treated pins and bushes.

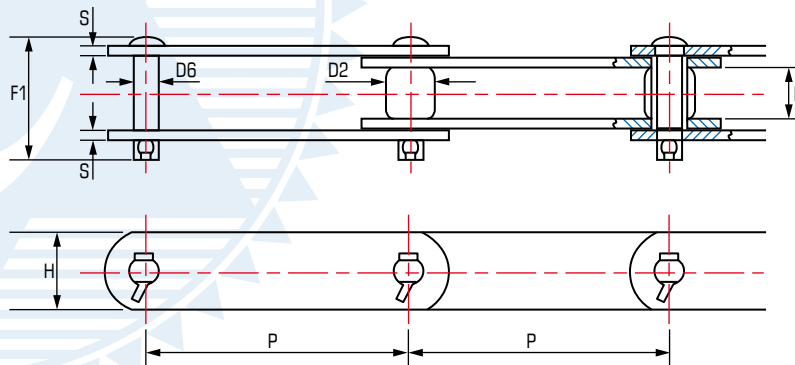
Specifications can be varied to suit customers particular requirements.

## JKB6729



# Water Treatment Chains

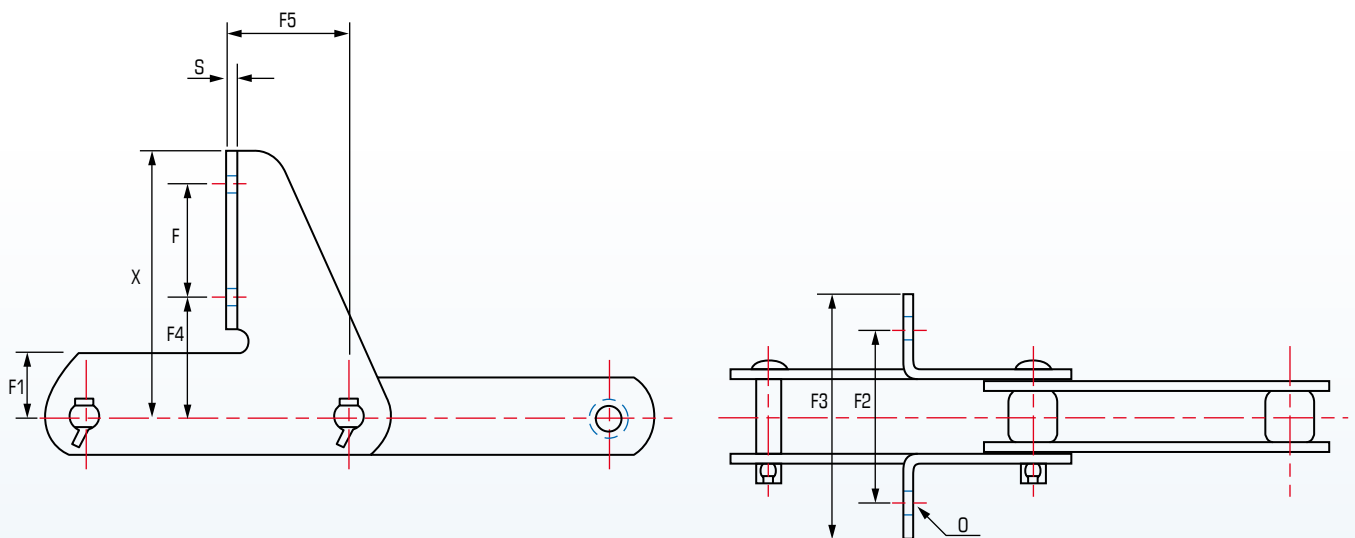
## JKS810 Collector Chains



### JKS810 Collector Chains

Chain Number	Available Ultimate Strength	Pitch	Pin Diameter	Width Between Sidebars	Side Plates Height	Side Plates Thickness	Overall	Side Plates Thickness	Ultimate Tensile Strength	Weight
		P	D6	L	H	S	F1	S		
	kg	mm							lbs	lbs/ft
JKS810	10.00	152.40	22.20	22.00	33.00	4.50	11.30	4.50	???	3.2

## JKS810 Collector Chains with F4 Attachment



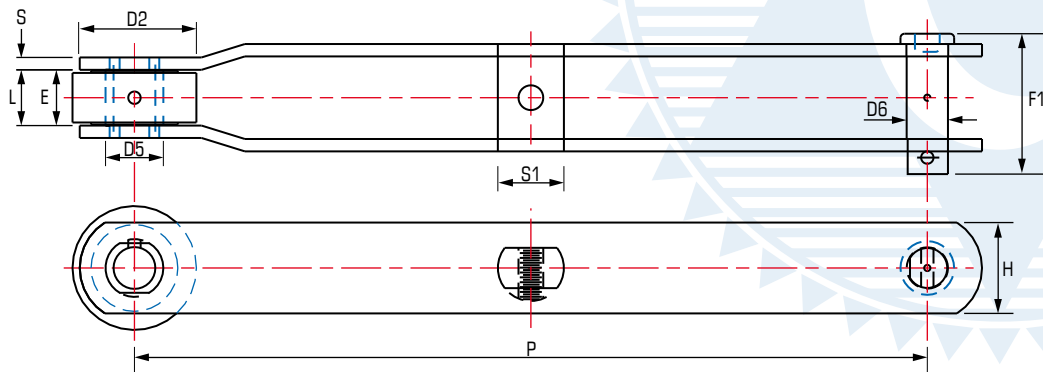
### JKS810 Collector Chains Attachment

Attachment Style	Chain Number	Attachment									Additional Weight per Attachment
		F2	F3	F5	X	F	F4	F1	O	S	
		mm									kg/att.
SF4	JKS810	100	140	76	155	65	70	22	14	4.5	3.2

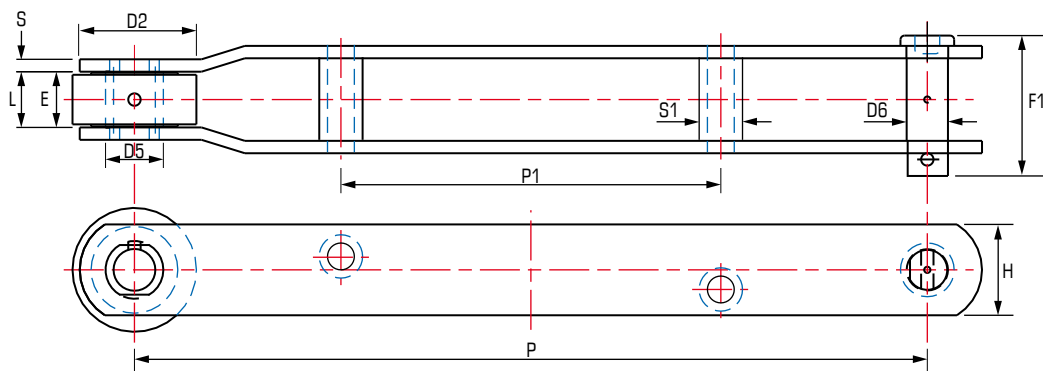


## Traveling Water Screen Chains

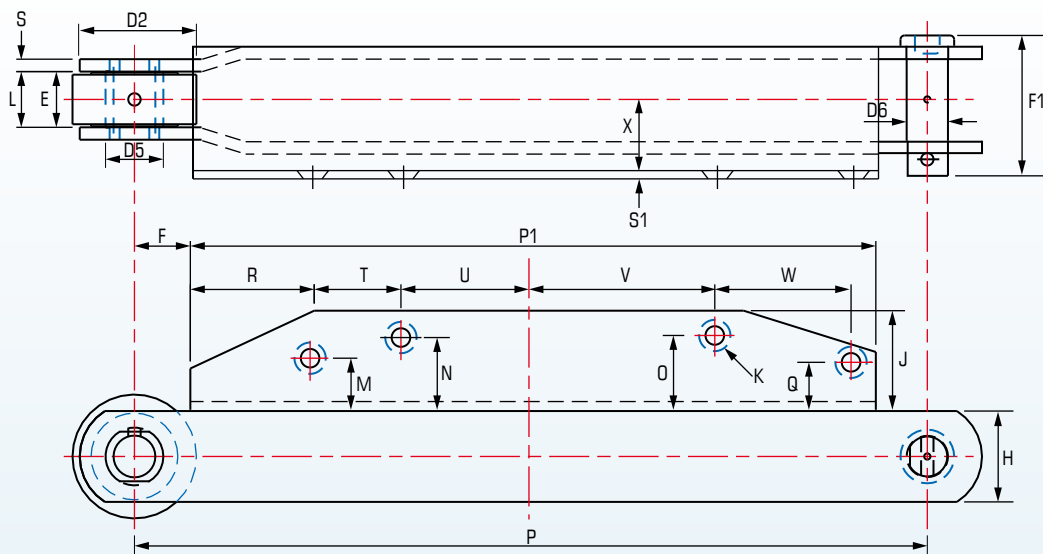
### JKR2929, JKR2929H (STYLE A)



### JKR1960, JKR1960H (STYLE B)



### JKR3260, JKR3260H (STYLE C)

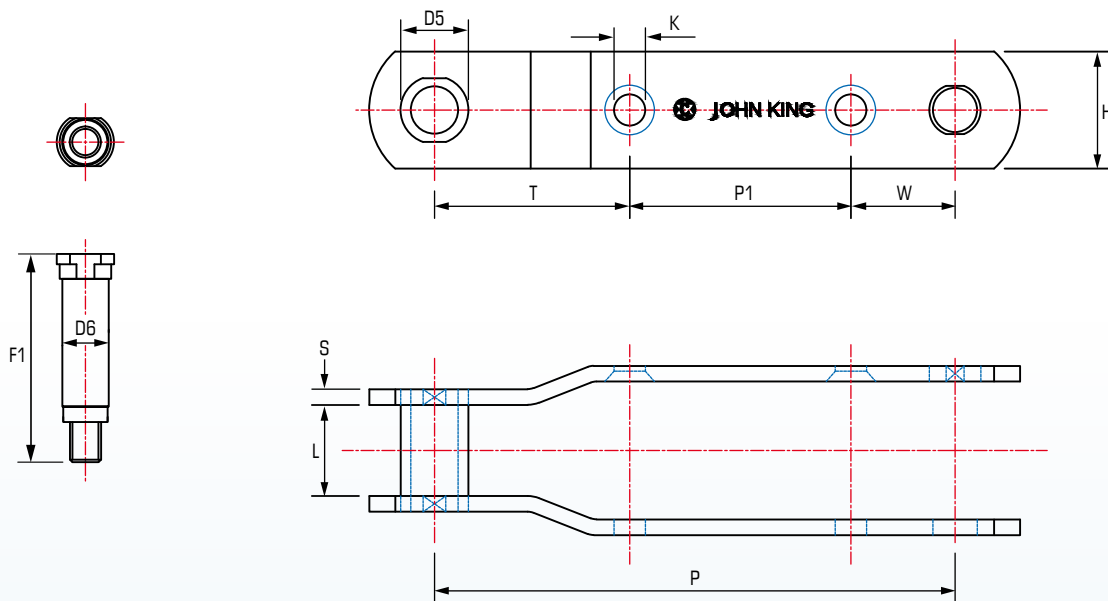


# Water Treatment Chains

## Traveling Water Screen Chains

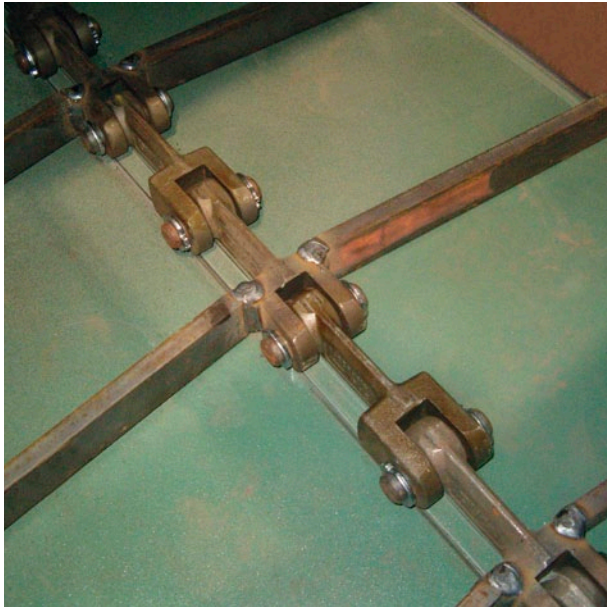
Chain Number	Style	Pitch	Roller		Bushing	Bushing Attachment	Pin	Between Width	Sidebar		Overall Width		Ultimate Tensile Strenght	Approx. Weight	
			Outside Diameter	Length	Diameter	Diameter	Diameter		Height	Thickness					
		P	D2	E	D5	S1	D6	L	H	S	F1	P1			
		inches											lbs	lbs/ft	
JKR2929	A	24.00	3.75	1.63	1.75	2.00	1.25	1.69	2.75	0.38	4.25	–	66,000	12.3	
JKR2929H	A	24.00	3.75	1.63	1.75	1.94	1.25	1.69	2.75	0.50	4.75	–	88,000	15.1	
JKR1960	B	24.00	4.00	1.50	1.75	1.31	1.21	1.56	3.00	0.38	3.63	11.50	75,000	12.3	
JKR1960H	B	24.00	4.00	1.50	1.75	1.31	1.21	1.56	3.00	0.50	4.13	11.50	100,000	15.4	
JKR3260	C	24.00	3.75	1.63	1.75	–	1.25	1.69	2.75	0.38	4.19	–	57,000	15.8	
JKR3260H	C	24.00	3.75	1.63	1.75	–	1.25	1.69	2.75	0.50	4.75	–	75,000	18.6	
Bushing Attachment															
P1	S1	J	M	N	O	Q	R	S1	U	V	W	F	X	Z	K
inches															
20.75	0.25	3.00	1.56	2.19	2.25	1.44	5.38	2.75	3.88	5.63	4.13	1.75	2.38	4.00	0.53
20.75	0.25	3.00	1.56	2.19	2.25	1.44	5.38	2.75	3.88	5.63	4.13	1.75	2.63	5.00	0.53

## JKB5879, JKB5883



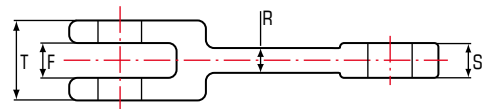
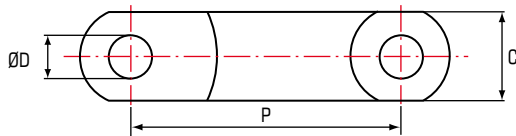
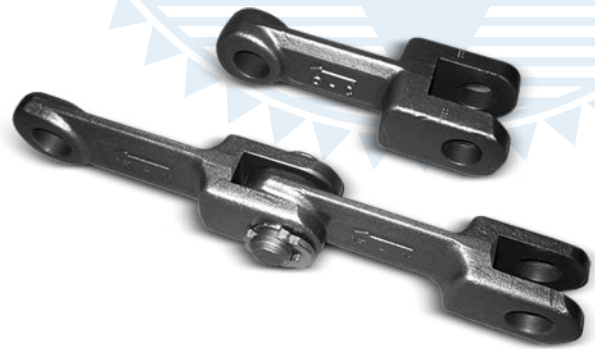
## JKB5879, JKB5833

Chain Number	Pitch	Bushing	Pin	Between Width	Sidebar		Overall Width					Ultimate Tensile Strenght	Approx. Weight
		Diameter	Diameter		Height	Thickness							
	P	D5	D6	L	H	S	F1	K	T	P1	W		
	mm												lbs
JKB5879	200.00	26.00	17.80	35.00	45.00	6.00	80.00	12.00	75.00	85.00	40.00	40,000	4.05
JKB5883	200.00	18.00	11.80	28.00	35.00	5.00	66.00	12.00	75.00	85.00	40.00	24,000	2.80



## Forged Link Standard Series

This series represents the leading product within the John King programme. Forged fork link chain has proven to be one of the most reliable conveying mediums offering a combination of versatility, strength and abrasion resistance. These chains, originally of European origin, are now established worldwide. With a wide variety of materials, heat treatments and flight formats the chain is proven in both drag and enmasse handling.



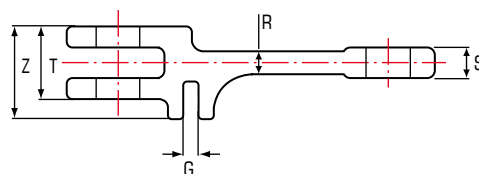
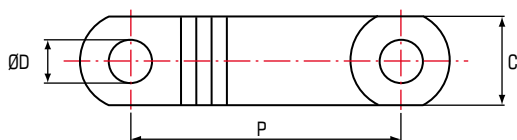
### Forged Link Standard Series

Chain Number	P	T	C	S	F	R	Bolt Hole Diameter	Breaking Loads			Weight
								TN	CN	CD	
							D	kN			kg/m
JKF 10160	101.6	24	36	8	10	6	14	110	120	210	3.50
JKF 10160R	101.6	30	36	13	14	9	14	180	195	330	4.80
JKF 12514	125	30	36	13	14	10	16	163	175	290	4.40
JKF 14214	142	30	40	13	14	9	18	180	195	330	4.90
JKF 14218	142	42	50	19	20	11	25	290	320	550	9.40
JKF 14222	142	54	50	25	27	16	25	370	400	655	12.20
JKF 14226	142	62	50	28	30	15	25	440	470	790	13.60
JKF 16018	160	46	46	22	24	15	22	320	342	560	9.30
JKF 16025	160	50	53	23	25	13	25	370	400	655	10.80
JKF 20025	200	60	50	25	27	18	25	380	410	670	11.30
JKF 20028	200	66	60	30	32	20	30	500	540	900	16.70
JKF 21640	216	64	72	26	28	20	35	585	630	1035	20.10
JKF 22040	220	64	72	26	28	20	35	585	630	1035	20.30
JKF 22050	220	58	75	28	30	25	32	710	760	1260	19.10
JKF 22060	220	71	75	31	33	21	35	735	790	1300	22.90
JKF 25040	250	70	75	32	34	18	32	735	860	1430	18.80
JKF 26035	260	65	75	31	33	20	32	840	900	1480	19.80
JKF 26040	260	70	75	31	33	20	32	840	900	1480	21.00
JKF 26045	260	78	75	35	37	20	32	930	1000	1650	21.80



## Forged Link Double Series

For double strand assemblies John King have a range of links following the standard format but with a forged "double clevis" into which a scraper can be mounted. The flight blade can be retained by either a U bolt or standard fasteners. The chain allows for some built in clearance between strands which obviates any potential problems that may be associated with mismatch. Double strand allows for improved discharge particularly relevant in conveying sticky materials.



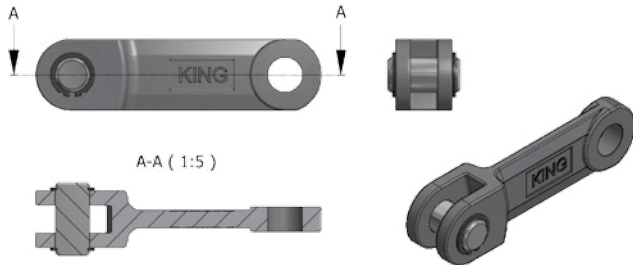
### Forged Link Double Series

Chain Number	P	T	C	S	Z	G	Bolt Hole Diameter	Breaking Loads			Weight
								TN	CN	CD	
							D	kN			kg/m
JKF 142182	142	42	50	19	70	13	25	290	320	550	11.80
JKF 142262	142	62	50	28	87	13	25	440	470	790	16.70
JKF 160252	160	50	53	23	82	13	25	370	400	655	13.60
JKF 175402	175	72	60	30	95	16	30	540	580	955	20.30
JKF 200252	200	60	50	25	81	12	25	380	410	670	13.00
JKF 200402	200	70	60	30	95	13	30	540	580	955	19.30
JKF 250252	250	60	50	25	81	12	25	380	410	670	12.00
JKF 250402	250	70	60	30	95	13	30	540	580	955	17.70
JKF 250602	250	100	70	45	140	21	35	975	1050	1720	35.20

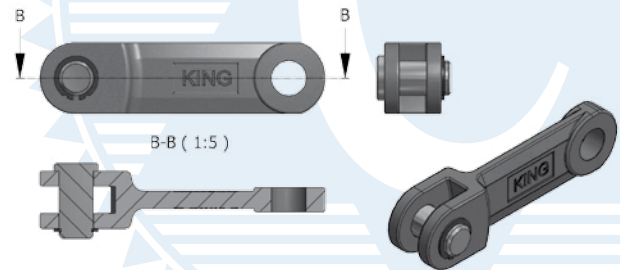
Attachment hole positions and sizes can be varied to meet customer requirements. Dimensions in metric measure.

## Pin styles

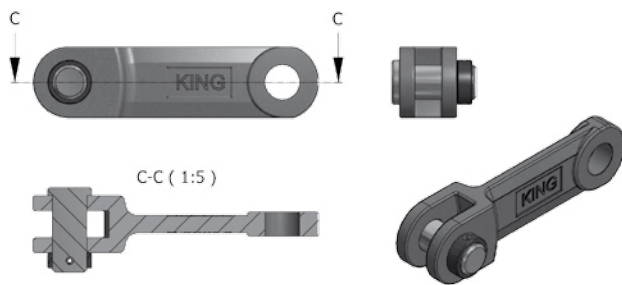
**Type 22 – Standard double circlip**



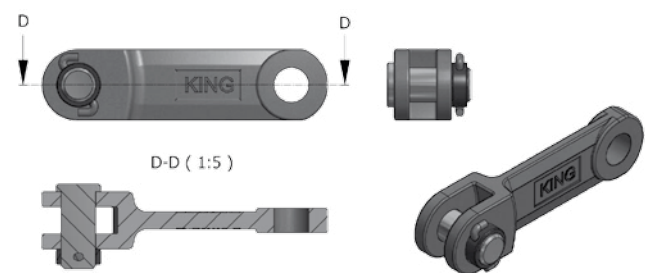
**Type HD/22 – Headed pin with standard circlip**



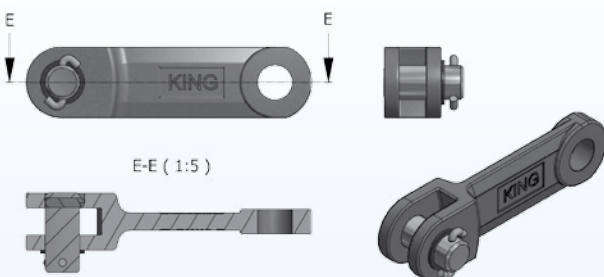
**Type HD/45/28RP – Headed pin with collar and roll pin retention**



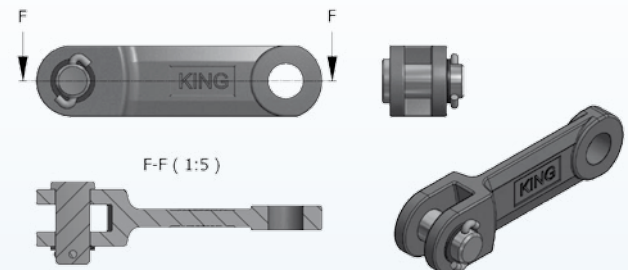
**Type HD/45/28S – Headed pin with collar and S cotter retention**



**Type SN/28S – Antirotation snub pin washer and S cotter retention**



**Type HD/28S – Headed pin with washer and S cotter retention**

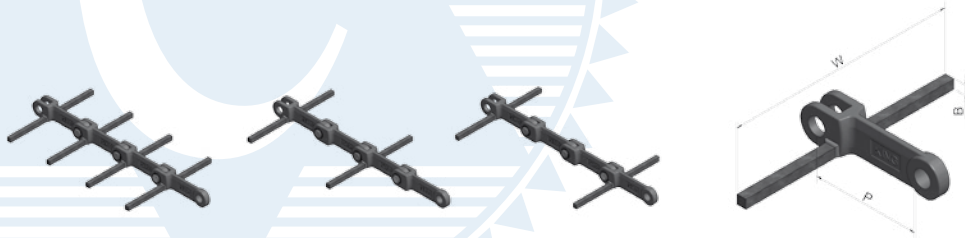


Note: Where S cotters are employed split cotters can be used as an alternative.

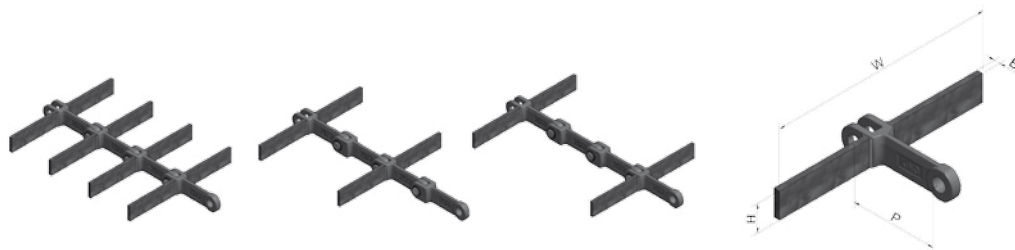


## Flight attachment options

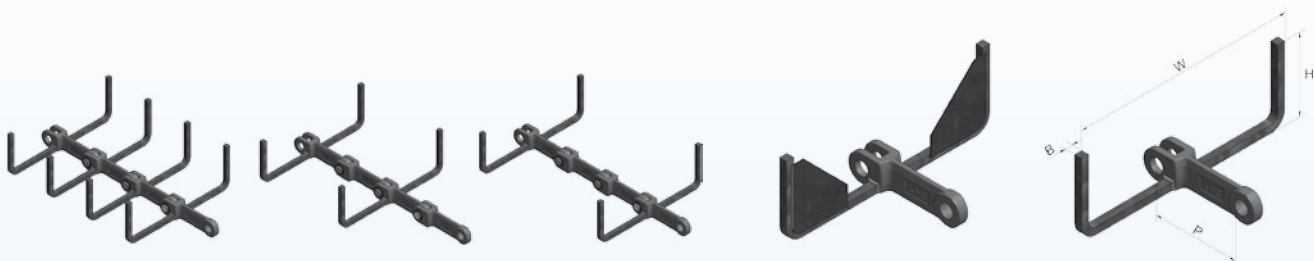
### B Type Flight Attachments for Horizontal Conveying



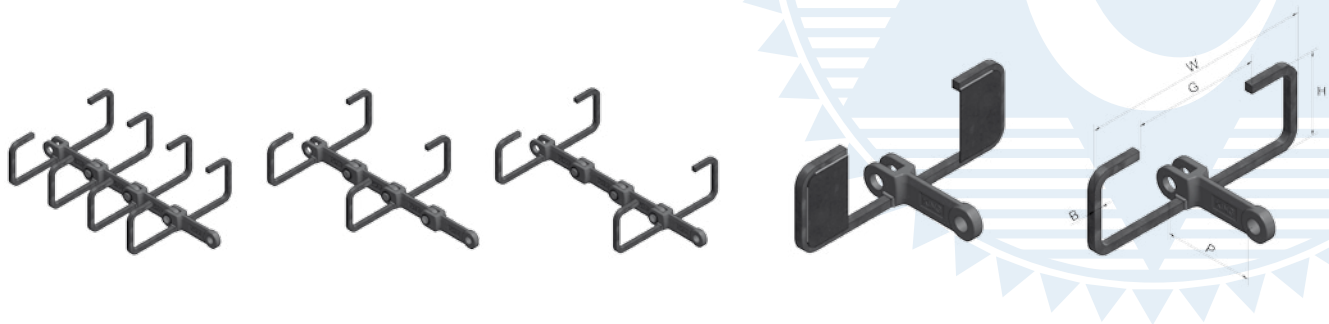
### T Type Attachments for Horizontal and Slightly Inclined Conveying



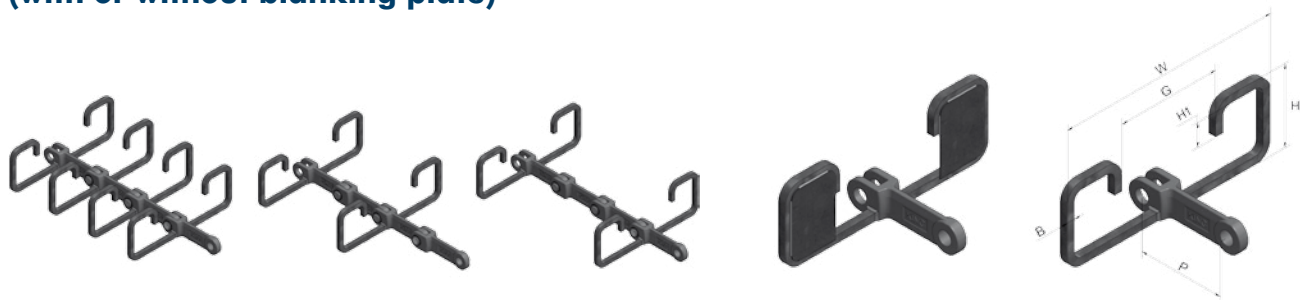
### U Type Attachments for Horizontal and Inclined Conveying (with or without blanking plate)



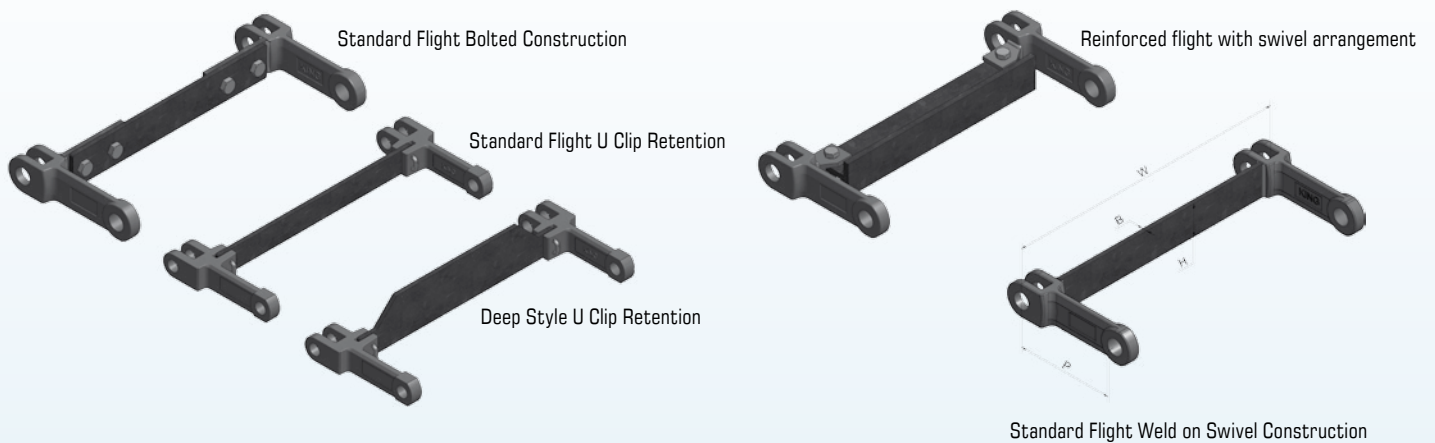
## C Type Attachments for Horizontal, Inclined and Vertical Conveying (with or without blanking plate)



## OO Type Attachments for Horizontal and Inclined Conveying (with or without blanking plate)



## Double Series Flight Options I Format





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