JOHN KING

Conveyor Chains & Sprockets Worldwide

Forged Fork Link Chains.

Material Processing Solutions Since 1926.

Get in Touch With Us

John King Chains Limited
Lancaster Business Park, Sherburn-in-Elmet, LS25 6NS, UK
ENGLAND

or **Call Us** by Phone
+44 1977 681 910

Chains | Sprockets | Wear Rails | Design & Feasibility | Precision Engineering | Laser Cutting & Fabrication | Site Service | BulkMaster Conveyors | Lubrication

From Survey to Drawing to Production to Installation Your integrated supply partner.

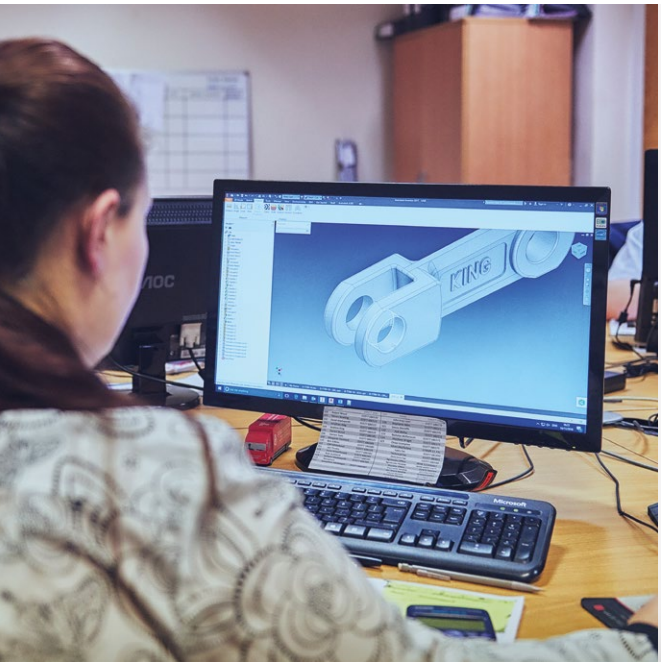
In the aggressive environment of incineration and steam raising there is an ongoing requirement for refurbishment and replacement of plant and equipment in all areas of the process. John King Group is a combined business uniquely equipped to serve the industry with a full spectrum of essential engineering services to ensure customers equipment is in best condition in order to maintain essential processes.

Inspection, Survey and Consultation.

As part of the supply package qualified engineers will come to site and inspect items of plant and equipment to establish and report on the condition. Subsequent consultation generally includes means for improvement such as: materials employed, design, construction, implementation, additional operation and maintenance advice.

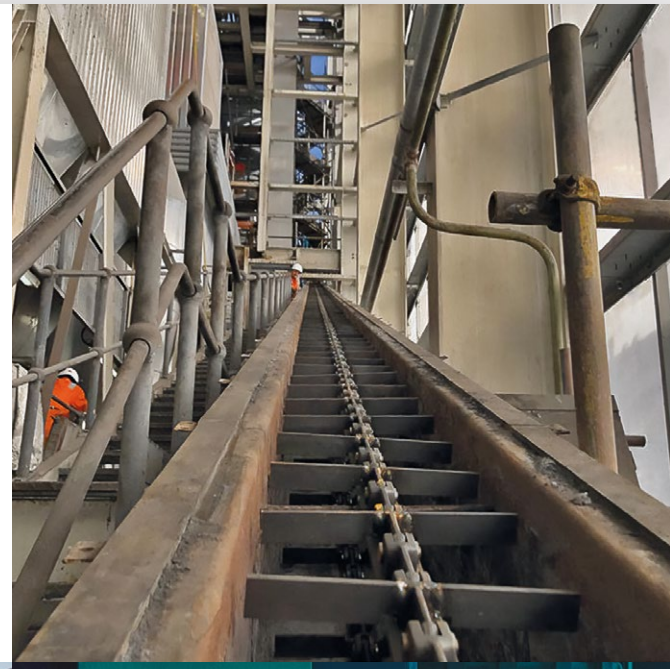
Industry Leading Steel Processors.

With decades of in-house experience in metal processing and fabrication, we use the latest technology and techniques to deliver quality, bespoke solutions for our clients. From laser cutting to punching, bending and welding our skilled team will deliver a high quality solution that is both on time and in budget.



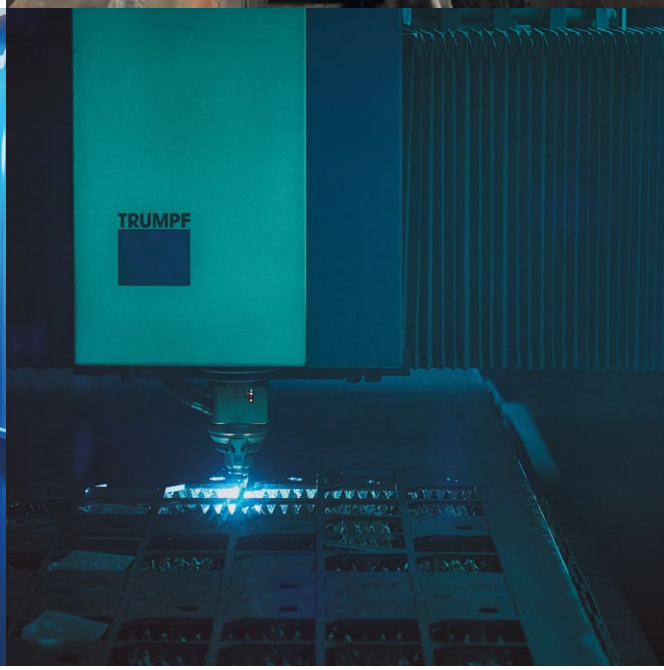
Design and Drawing Service.

Design and technical drawing is part of our service. We create the technical drawing directly from our site survey or work with you to create a full design brief to meet your fabrication needs. We will support you in developing and improving the plant and equipment.



Fully Integrated Installation.

Our site service team comprising experienced mechanical fitters and fabricators will install all types of mechanical handling equipment, metal fabrications and equipment at your premises in the agreed timescale with a high degree of competence whilst operating under strict safety protocol.



The Undisputed Kings of Laser Profiling and Fabrication.

FROM SURVEY TO DRAWING TO PRODUCTION – THE ONE STOP SHOP

John King Laser was established in 2007 primarily to service the mechanical handling division. It was well understood that the available capacity surpassed that of in-house requirements and the business model from the outset was to sell laser cut, formed and fabricated parts to a wide variety of customers producing a wide range of machinery and equipment.

More recently John King Laser has been able to support the groups site service division where bespoke fabrications have been required.

The laser division has remained autonomous from the start whilst critically benefitting as part of the Group structure in investing in new technology to give the division a distinct advantage in efficiency and quality of products produced. The recent installation of the newest and probably best laser capacity in the country is testament to this.

Manufacturing Capabilities.

The 2020s business is a lean enterprise working from a modern manufacturing facility employing best production techniques including fibre laser technology, plasma for thicker material sections, CNC machining and robotics. Group structure provides the internal resource to implement production management systems that ensures highest quality, consistent and competitive products produced in a safe environment. All manufacturing is conducted within the dictates of ISO 9001 to the latest 2015 standard to ensure quality objectives are monitored and maintained.

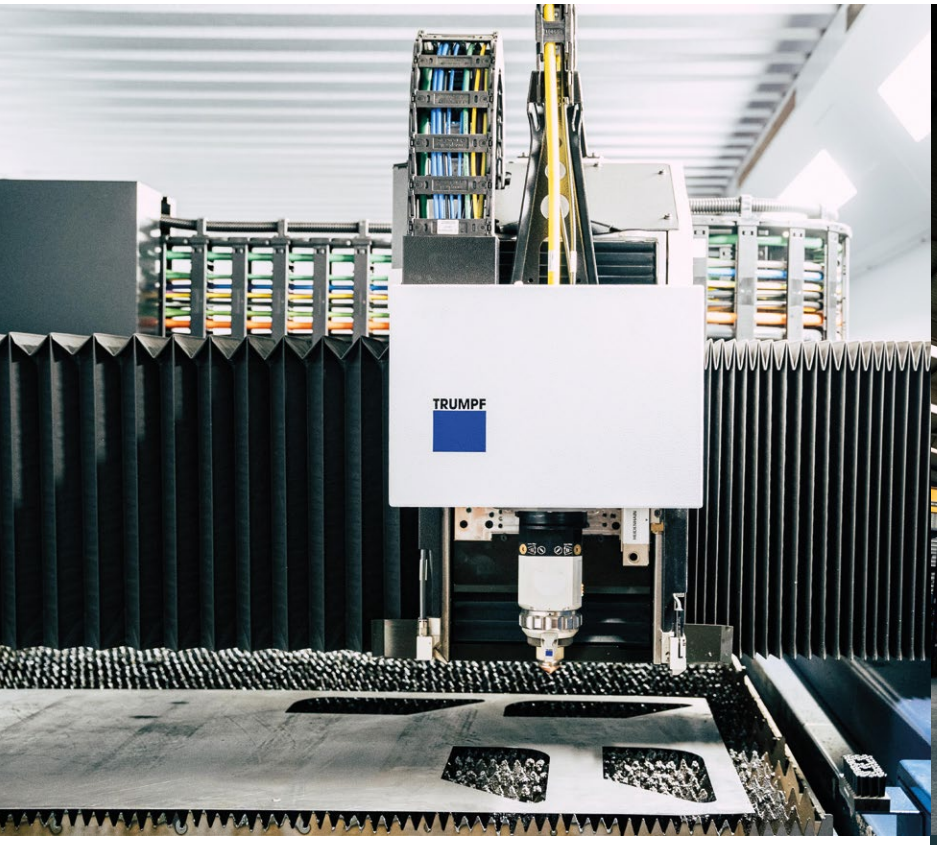
LASER CUTTING CAPABILITIES

- **Mild and carbon steel up to 25 mm.**
- **Stainless steel up to 15 mm.**
- **Aluminium up to 12 mm.**

FLAME CUTTING AND PLASMA CUTTING CAPABILITIES

- **Machine bed size of 4 m x 2.5 m.**
- **Flame cutting up to 110 mm.**
- **Plasma cutting up to 30 mm.**

Hyperperformance Plasma HPR 260XD Hypertherm cutting technology combining high speeds and rapid process cycling with virtually dross free cutting up to 32 mm.



Trulaser 3040 Fibre laser with increased 4000 x 2000 bed size including integrated lift master and plate storage tower for unrivalled efficiency in parts production.

Press Technology.

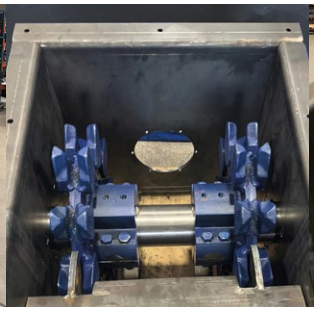
In support of our impressive range of flatbed processing capabilities we operate CNC Synchro press brake machines capable of pressing parts with capacities up to and including 220 tons and 4000 mm in length. With smaller machines with 2000 mm gap and 100 mm stroke for smaller parts in higher volume production.

Welding and Fabrication.

Our welding and fabrication capacity includes a high level of skill in both internal and external projects. This enables John King's laser and fabrication division to offer an all-encompassing manufacturing service. The site service division will thereafter take charge of the installation as required.

Ash hopper during fabrication as a direct replacement to an existing unit.

Replacement conveyor sections reproduced on a like for like basis.



A new precipitator dust conveyor during manufacture and prior to entering the paint shop.

Chute sections to make up a full arrangement ready for site service installation.

Site Services
The Complete Supply Package.

Bulk handling experts you can rely on.

The John King Site Service Division employ a highly skilled team of engineers solely dedicated to the **service and maintenance of bulk material handling equipment** which includes – installing, servicing and maintaining all aspects of mechanical handling equipment and related plant and machinery.

The market demands **high quality chains** and **expert installation. John King Chains uniquely offer both.** Make the most of it.

- **Secure optimum reliability of your equipment** through **best quality chains** and **conveyor component** spares.
- Take advantage of **the quickest deliveries of conveyor spares** of any manufacturer in the market.
- Let **the conveyor specialist** look after your equipment to ensure **optimum performance** and **service life.**
- Allow us to highlight technical improvement **to enhance performance of your existing equipment.**
- Enter into **a professional partnership** to develop a service strategy tailored to suit your needs.

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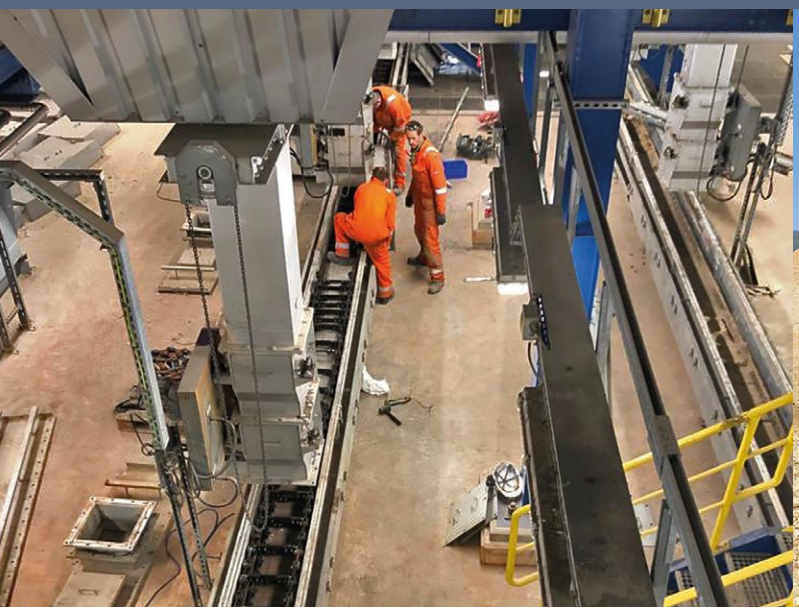
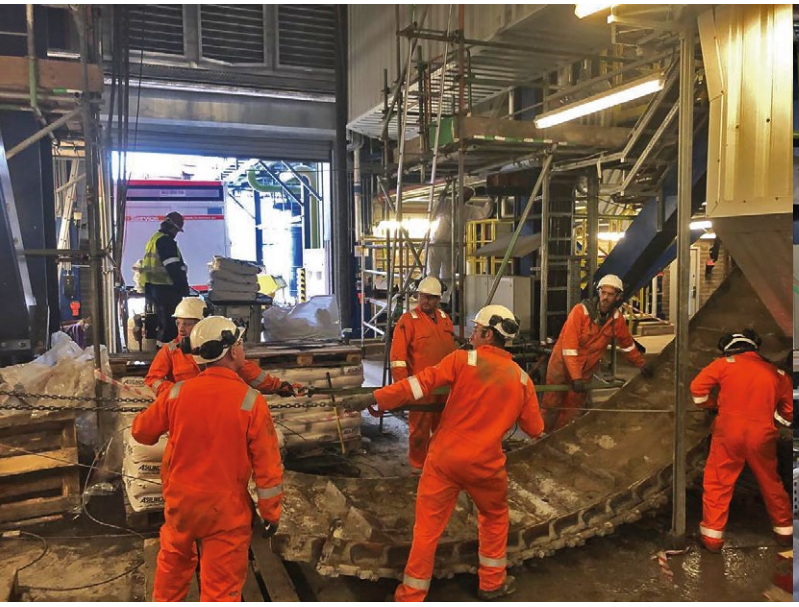
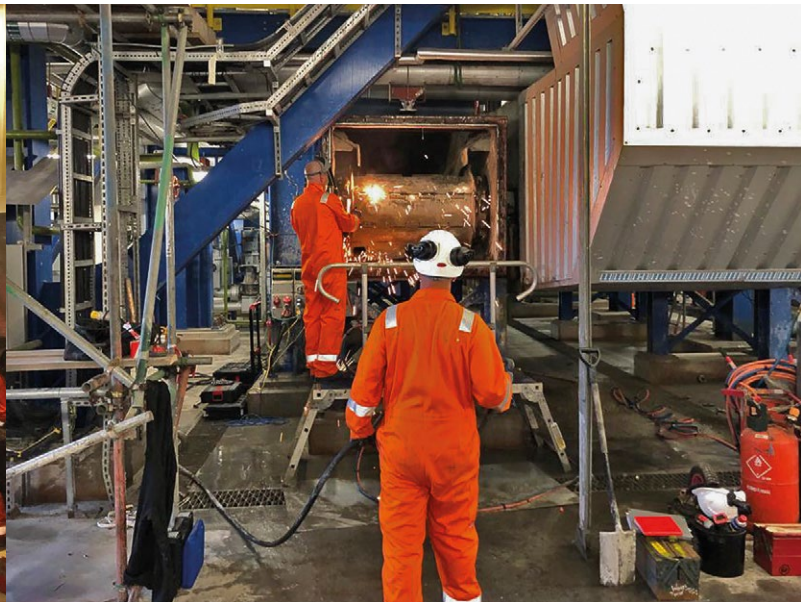






Site Services Scope of Supply.

- **Inspection and maintenance** of all mechanical handling equipment by specialist engineers
- **Trouble shooting** and problem solving within mechanical handling equipment.
- **Supply of high quality conveyor chain** and related conveyor spares.
- **Specialist in supply of heat resistant components.**
- **In house laboratory** for material and heat treatment analysis with full metallurgical support.
- **Manufacture and installation of all types of fabrications** from pre-hardened plate, stainless steels or standard materials.
- **Replacement of sections or full conveyors and elevators** including manufacture and installation.
- **Design and construction of complete bulk handling equipment** including installation service.
- **Repair and maintenance** of all related plant and equipment.

Safety at Work.

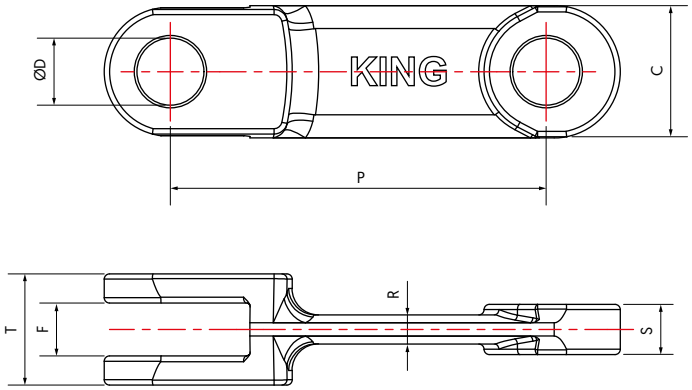
We are committed to providing and maintaining a healthy and safe environment for all employees and to protect the safety of contractors, customers, visitors and all other persons affected by our operations.

This is achieved by assessing all significant risks, designing safe systems of work and eliminating hazards where reasonably practicable. **This being encapsulated within the company HSE policy and enshrined in the everyday culture of our business.**

Forged Link Standard Series.

JKF 14218

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 versality, 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

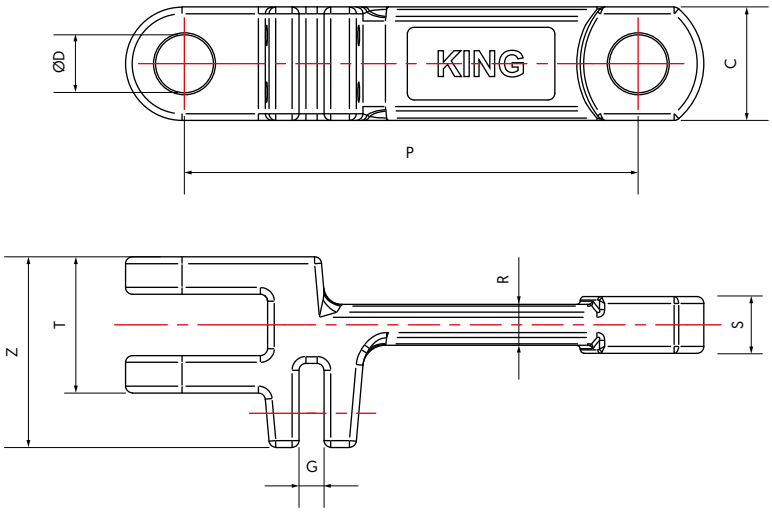
Chain Number	P	T	C	S	F	R	Bolt Hole Diameter	Breaking Loads			Weight
							D	TN*	CN*	CD*	
	mm							kN			kg/m
JKF 10160	101.6	24	36	9	10	6	14	110	120	210	3.50
JKF 10160R	101.6	30	36	13	14	9	14	180	195	330	4.80
JKF 12514	125	30	36	13	14	10	16	163	175	290	4.40
JKF 14214	142	32	41	14	15	9	18	180	195	330	4.90
JKF 14218	142	42	50	19	20	12	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	16	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

* For further information on materials refer pages 16-17.

Forged Link Double Series.

JKF 200402

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

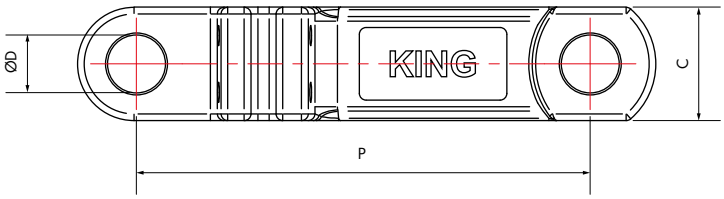
Chain Number	P	T	C	S	Z	G	Bolt Hole Diameter	Breaking Loads			Weight
							D	TN*	CN*	CD*	
	mm							kN			kg/m
JKF 142182	142	42	50	19	70	13	25	290	320	550	11.80
JKF 142262	142	62	50	28	87	13	25	440	470	790	16.70
JKF 160252	160	50	53	23	82	13	25	370	400	655	13.60
JKF 175402	175	72	60	30	95	16	30	540	580	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

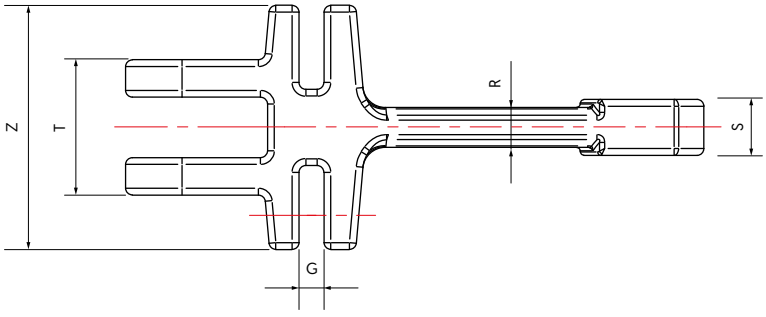
Attachment hole positions and sizes can be varied to meet customer requirements.
* For further information on materials refer pages 16-17.

Forged Link Triple Series.

JKF 142183

Where extra wide flights are required the John King triple link is available allowing, in conjunction with the double on perimeters, three chain strands up to 3100 mm overall. In addition the "Double slot" allows for a versatile means or flight retention for both steel & plastic options. Retention can be either U clips or standard fasteners.





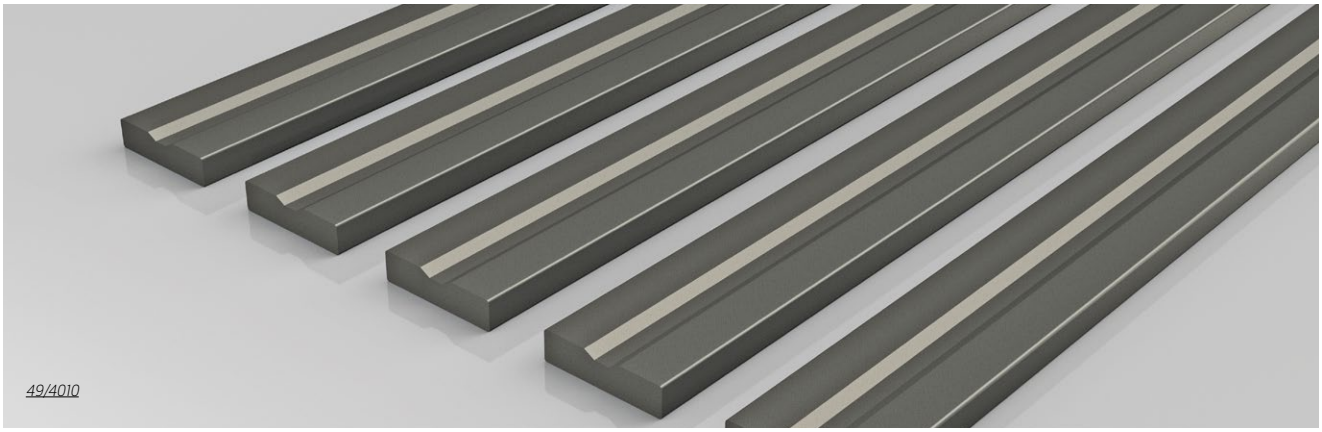
Attachment hole positions and sizes can be varied to meet customer requirements.
* For further information on materials refer pages 16-17.

Forged Link Triple Series

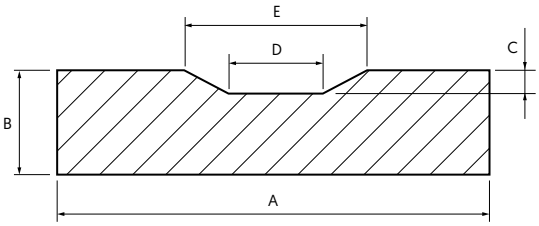
Chain Number	P	T	C	S	Z	G	Bolt Hole Diameter	Breaking Loads			Weight
							D	TN*	CN*	CD*	
	mm							kN			kg/m
JKF 142183	142	42	50	19	92	13	25	290	320	550	14.20
JKF 142263	142	62	50	28	112.3	13	25	440	470	790	19.80

High Manganese Wear Rail

The standard recommendation for forged chain wear rail is manganese steel, an austenitic structure, offering unique work hardening properties. In its rolled condition it offers a hardness value of 200-220 Bnh increasing up to 600 Bnh if the optimum conditions prevail.



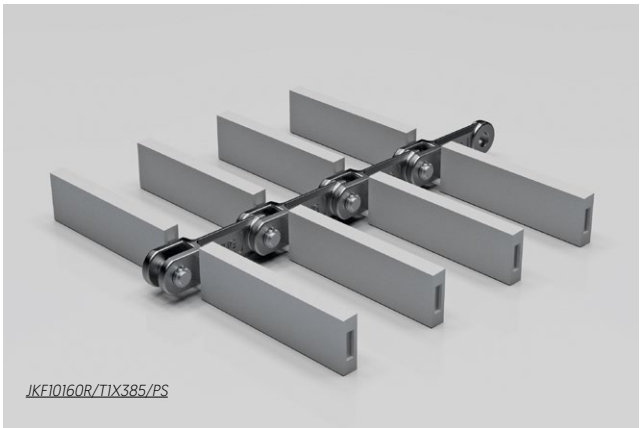
49/4010



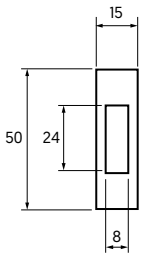
Material	DIN	Hardness	Standard Length
120mn12	1.3401	200-220 Bnh	3000mm -0/+5

High Manganese Wear Rail						
John King References	A	B	C	D	E	Weight
	mm					kg/m
49/25X10	25.0	10.0	2.0	5.0	12.0	1.83
49/40X10	40.0	10.0	2.0	5.0	12.0	3.01
49/50X10	50.0	10.0	2.0	5.0	12.0	3.82
49/60X10	60.0	10.0	2.5	6.0	16.0	4.45
49/60X12	60.0	12.0	2.5	6.0	16.0	5.50
49/60X20	60.0	20.0	3.0	6.0	16.0	9.15

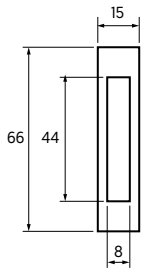
Plastic Sleeves for Standard Forged Chains



JKF10160R/T1X385/PS



10160
10160R

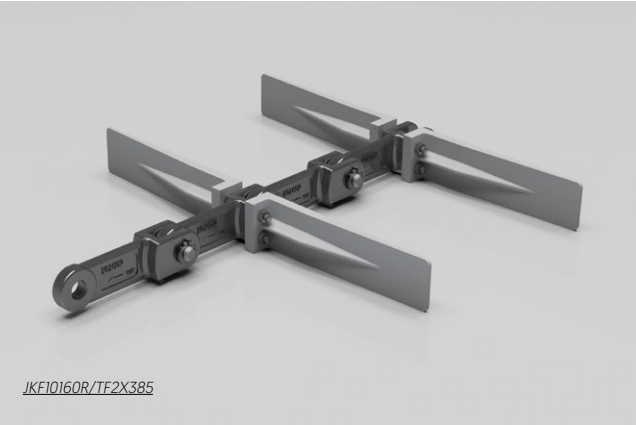


14218
14226

All measurements in mm.

Flight Material: Extruded UHMW Polyethylene.

Engineering Plastic Flight - TUFFLEX® with Unique Mounting Arrangement (Patent Pending)



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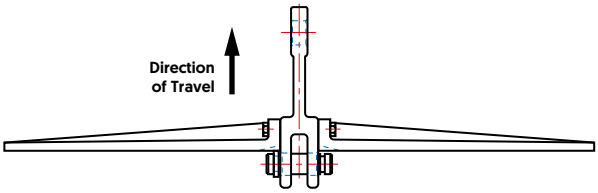


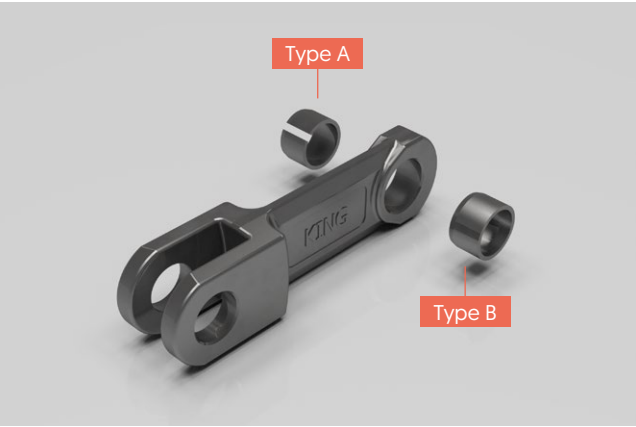
Engineering Plastic Flight – TUFFLEX®		
Flight number	Max. Width	
	inches	mm
10160R	15.50	395
14218	29	740
14226	30	760

Flight Material: High Impact Resistant Engineering Plastic (For options refer to our technicians).

Bushing

Type SN2

Flush style antirotation pin



Links can be machined to accommodate liner bushes. These can be in solid or split form.
Material options include heat treatable Stainless Steel or Hardened Alloy Steel dependant on the wear and/or corrosion characteristics desired.

For further information on materials refer pages 16-17.

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

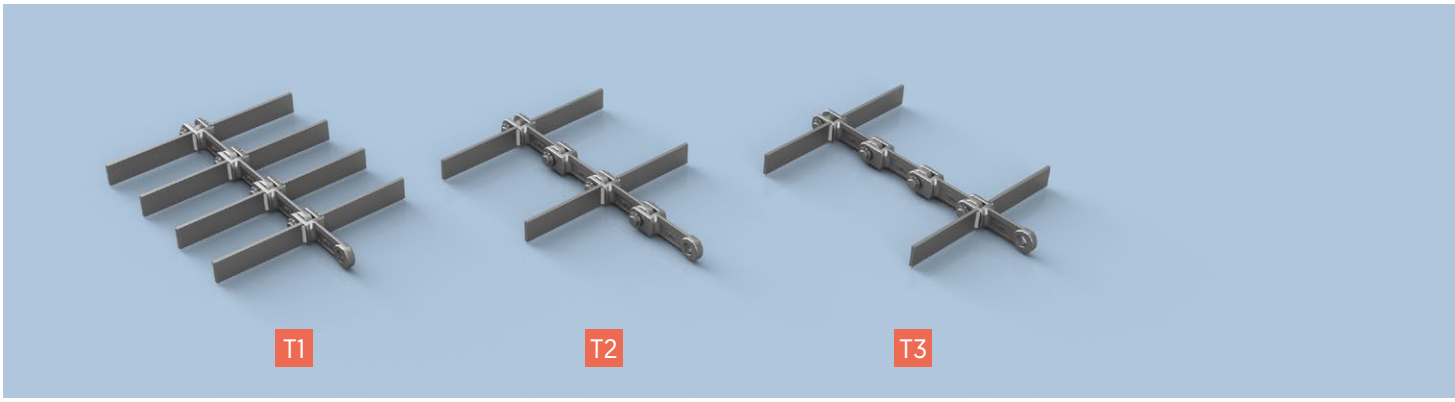
Type SN/28S
Antirotation snub pin washer
and S cotter retention

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

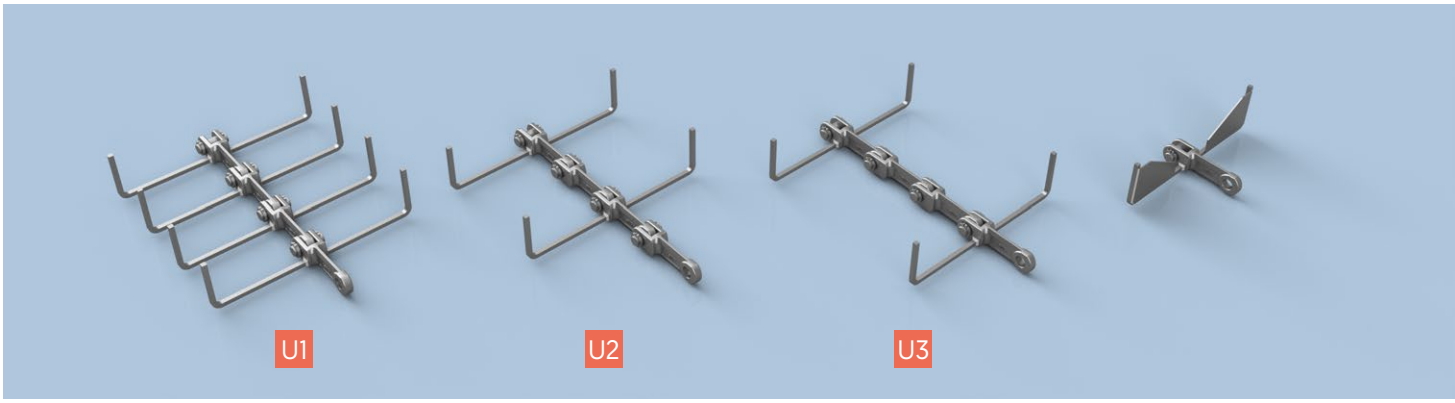
Note: **Where S cotters are employed split cotters can be used as an alternative.**

Flight attachment options to Forged Chains.

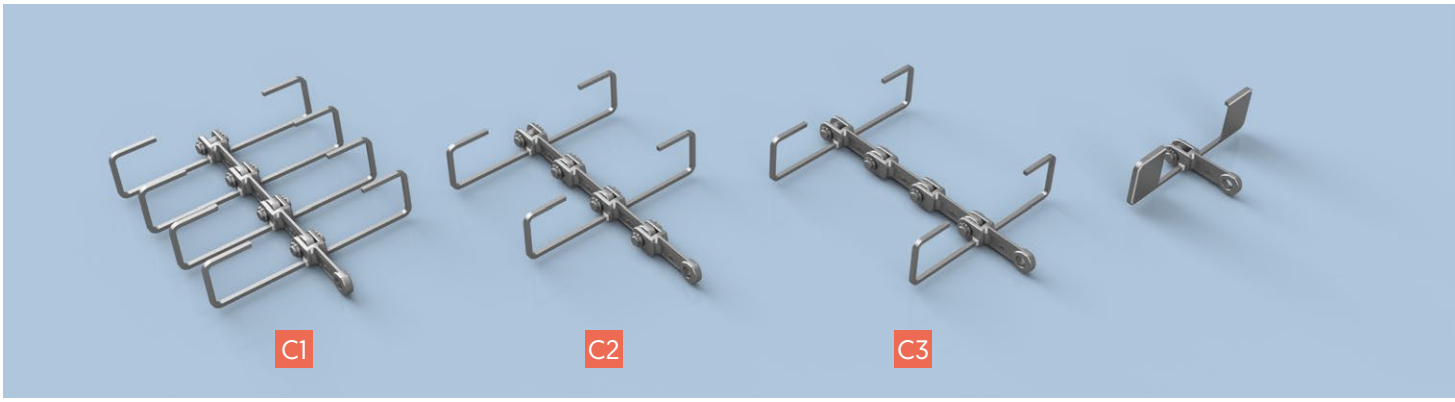
T Type Attachments for Horizontal and Slightly Inclined Conveying



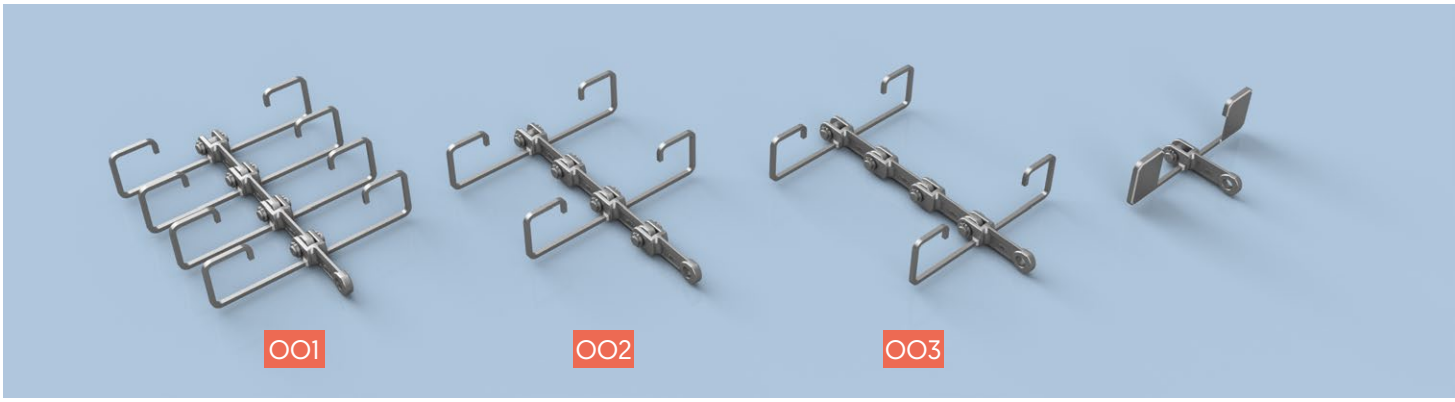
U Type Attachments for Horizontal and Inclined Conveying (with or without blanking plate)



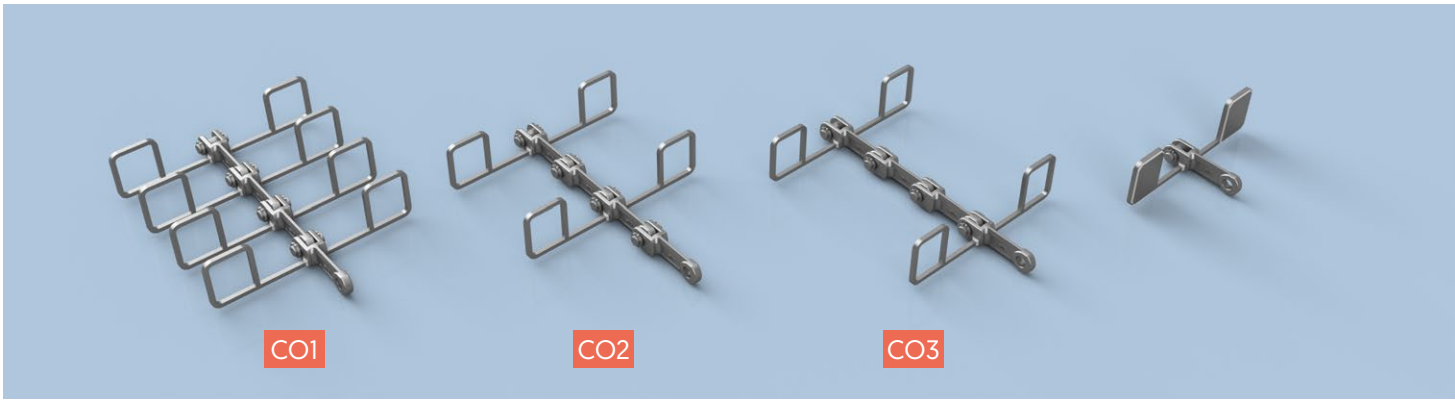
C Type Attachments for Horizontal, Inclined and Vertical Conveying (with or without blanking plate)



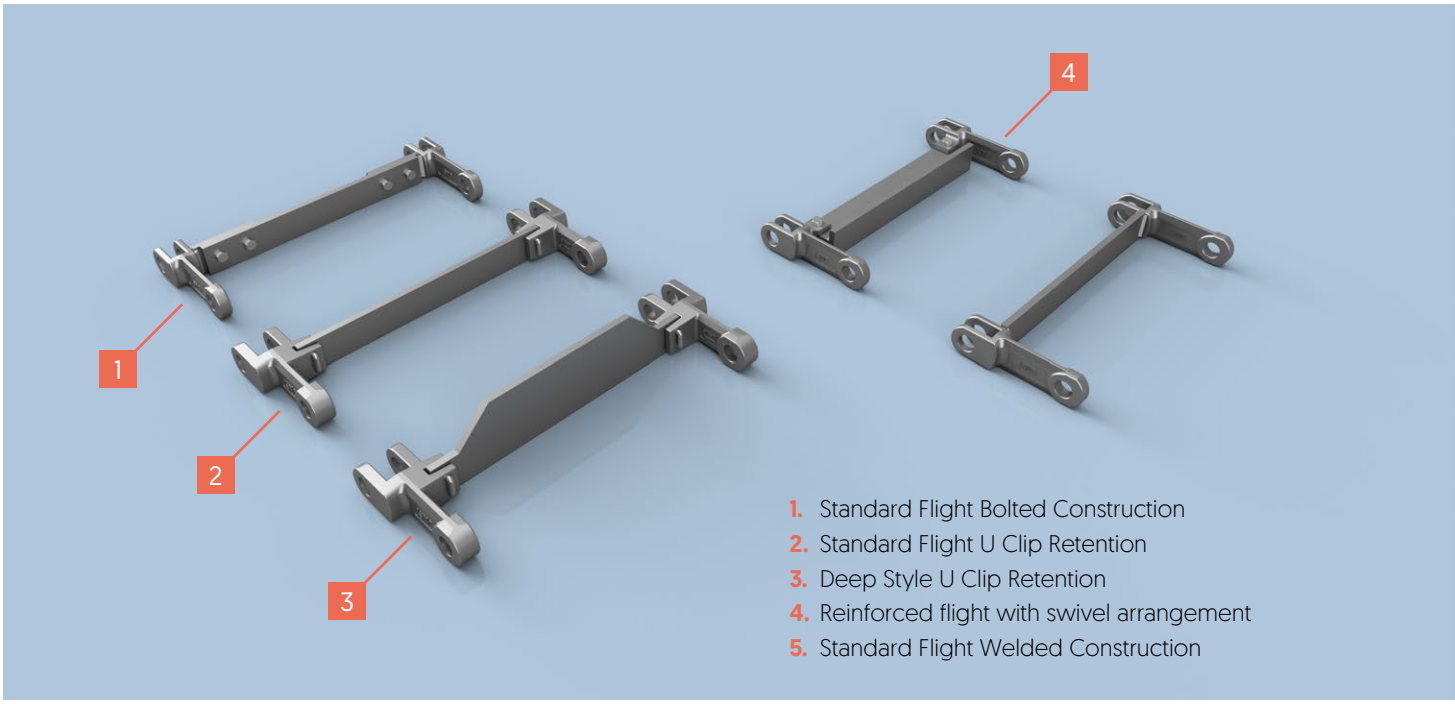
OO Type Attachments for Horizontal and Inclined Conveying (with or without blanking plate)



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



Double Series Flight Options I Format



Material specification.

King manufacture an unrivalled range of high quality forged chains. The standard is for an alloy steel forging and pin case hardened for wear resistance. Specifications can be varied dependent on the operating environment.

Drop Forged Chain Links

Material reference	JK Reference	Material No		Standard Hardening	JK Heat Treatment Designation	Standard hardening value	Standard hardening depth
		DIN	AISI				
STANDARD QUALITIES							
20CrMnTn	TN	1.8401	A29/A29M	CASE HARDENING	CH	58-62 HRC	0,8-1,0 mm
42CrMo4	CD	1.7225	4140	HARDENING AND TEMPERING	TH	1100-1300 N/mm²	
ALTERNATIVES ON REQUEST							
18MnCrB5	BN	1.7168	–	CASE HARDENING	CH	58-62 HRC	0,8-1,0 mm
20MnCr5	MN	1.7147	5120	CASE HARDENING	CH	58-62 HRC	0,8-1,0 mm
21NiCrMo4	CN	1.6523	8620H	CASE HARDENING	CH	58-62 HRC	0,8-1,0 mm
C45	C	1.0503	1045	HARDENING AND TEMPERING	TH	800-900 N/mm²	
CORROSION AND ACID RESISTANT MATERIAL							
X5CrNi 18-10 [V 2 A]	SS304	1.4301	304				
X6CrNiMoTi 17-12 2 [V 4 A]	SS316	1.4571	316				
X46Cr13	SS 420	1.4034	420	HARDENING AND TEMPERING	TH	50-52 HRC	
HEAT – RESISTANT MATERIAL							
				HEAT RESISTANCE IN AIR			
X10CrAlSi7	JK HK	1.4713		800° C MAX		420-620 N/mm²	
X15CrNiSi 20-12	JK HH	1.4828	309	1000°C MAX		500-750 N/mm²	

Chain Pins

Material reference	JK Reference	Material No		Standard Hardening	JK Heat Treatment Designation	Standard hardening value	Standard hardening depth
		DIN	AISI				
STANDARD QUALITIES	BS970 1991						
16MnCr5	590M17	1.7131	5115	CASE HARDENING	CH	58-62 HRC	0,8-1,0 mm
15NiCr13	633M13	1.5752	3310	CASE HARDENING	CH	58-62 HRC	0,8-1,0 mm
18CrNi8		1.592		CASE HARDENING	CH	58-62 HRC	0,8-1,0 mm
C45	080M46	1.0503	1045	INDUCTION HARDENING	IH	52-56 HRC	1,5-2,0 mm
				HARDENING AND TEMPERING	TH	45-50 HRC	
42CrMo4	708M40	1.7225	4140	INDUCTION HARDENING	IH	56-60 HRC	1,5-2,0 mm
				HARDENING AND TEMPERING	TH	56-60HRC	
CORROSION AND ACID RESISTANT MATERIAL							
X46Cr13	420S29	1.4034	420	HARDENING AND TEMPERING	TH	50-52 HRC	
X105CrMo17	440S49	1.4125	440	HARDENING AND TEMPERING	TH	50-55 HRC	

Circlips

Material reference	JK Reference	Material No		Standard Hardening	JK Heat Treatment Designation	Standard hardening value	Standard hardening depth
		DIN	AISI				
STANDARD QUALITIES							
DD12	P12	1.0398	621				
Ferritic – Cromweld 3Cr12	SS410	1.4003	410				
Austenitic	SS304	1.4301	303				

JKF14226/H1X380X355/BP10

JKF14226/27HD/T1X760/TP7X790

JKF14226/U2/UBA2/615

JKF14228/27HDSS/I2X548

JKF14218/A1X3/95X50X15/12L

JKF14218/DT3X505X235

Bushes

Material reference	JK Reference	Material No		Standard Hardening	JK Heat Treatment Designation	Standard hardening value
		DIN	AISI			
STANDARD QUALITIES						
C 67 S	070A72	1.1231	1070	HARDENING AND TEMPERING	TH	420-500 HV
55 SI 7		1.5026	9255	HARDENING AND TEMPERING	TH	410-500 HV
CORROSION AND ACID RESISTANT MATERIAL						
X 5 CR NI 18-10 (V 2 A)	SS304	1.4301	304			
X 6 CR NI MO TI 17-12 2 (V 4 A)	SS316	1.4571	316			
X 46 CR 13	SS420	1.4034	420	HARDENING AND TEMPERING	TH	42-49 HRC
X 7 CR NI AL 17-7	SS630	1.4568	630	PRECIPITATION HARDENING	PH	400-480 HV

Chain Flights

Material reference	JK Reference	Material No		Standard Hardening	JK Heat Treatment Designation	Standard hardening value
		DIN	AISI			
STANDARD QUALITIES						
S 235 JR	S235	1.0038	1018			
S 355 J2	S355	1.0577	1036			
C 45	080M46	1.0503	1045			
AR400	HP400	XAR400		HARDENING AND TEMPERING	TH	400 Bnh
AR500	HP500	XAR500		HARDENING AND TEMPERING	TH	500 Bnh
CORROSION AND ACID RESISTANT MATERIAL						
X 5 CR NI 18-10 (V 2 A)	SS304	1.4301	304			
X 6 CR NI MO TI 17-12-2 (V 4 A)	SS316	1.4571	316			
HEAT – RESISTANT MATERIAL						
				HEAT RESISTANCE IN AIR		
X 10 CR AL SI 7	JKHK	1.4713		MAX 800°C		
X 15 CR NI SI 20-12	JKHH	1.4828	310	MAX 1200²C		

Sprocket Segments

Material reference	JK Reference	Material No		Heat Treatment	JK Heat Treatment Designation	Maximum surface Hardness (hrc)
		DIN	AISI			
C45	080M46	1.0503	1045	INDUCTION HARDENED	IH	60 (3+2mm)
34 CR MO 4	708A37	1.7220	4135	INDUCTION HARDENED	IH	57 (3+2 mm)
42 CR MO 4	708A42	1.7225	4142	INDUCTION HARDENED	IH	61 (3+2 mm)

Idler Wheel

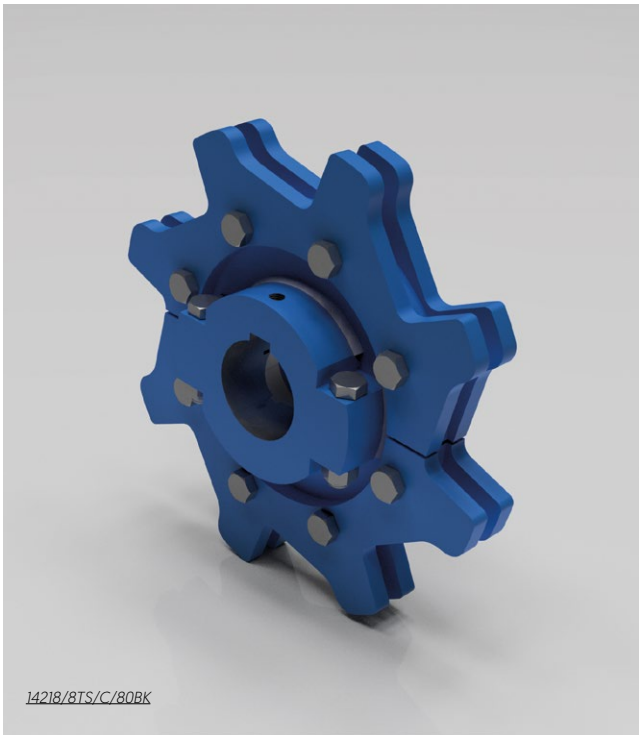
Material reference	JK Reference	Material No		Heat Treatment	JK Heat Treatment Designation	Maximum surface Hardness (hrc)
		DIN	AISI			
C45	080M46	1.0503	1045	INDUCTION HARDENED	IH	60 (3+2 mm)

Flights are robotically welded in one of three manufacturing facilities in the UK, Poland and the USA. The integrity of the welding is fundamental to best performance.

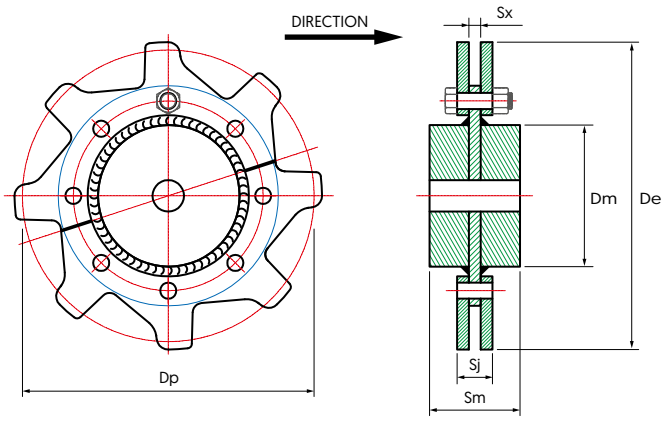
The configuration will vary dependent on the style of machine.

Segmental Sprockets & Hubs.

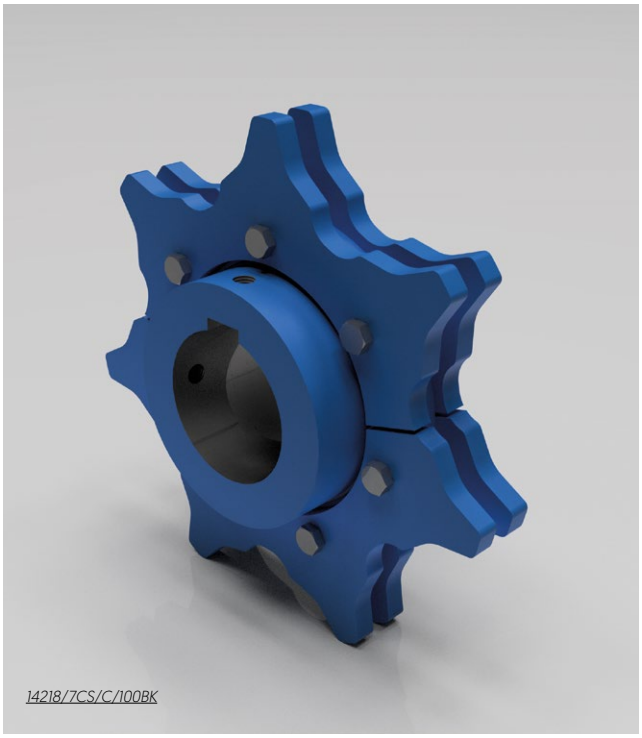
Standard Asymmetrical Pattern



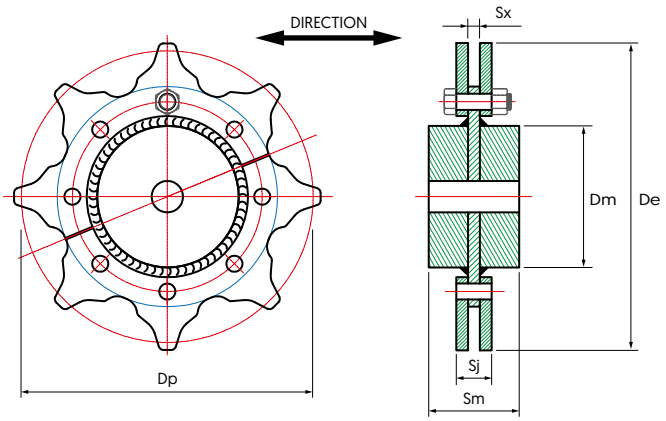
14218/8TS/C/80BK



Reversible Pattern



14218/7CS/C/100BK



Segmental Sprockets & Hubs

JK code	No of Teeth	Dp	De	Dm max	Sj	Sx	Sm
		mm					
10160 10160R*	6	203.20	216	80	34	10	90
	8	265.49	277	120	34	10	90
	10	328.78	340	160	34	10	110
	12	392.55	404	180	34	10	115
	14	456.58	468	200	34	10	140
	6	203.20	216	80	36*	12*	90
	8	265.49	277	120	36*	12*	90
	10	328.78	340	160	36*	12*	110
	12	392.55	404	180	36*	12*	115
	14	456.58	468	200	36*	12*	140
14214	6	284.00	304	80	36	12	90
	8	371.06	390	120	36	12	90
	10	459.52	480	160	36	12	110
	12	548.65	570	200	36	12	115
14218	6	284.00	304	120	45	15	95
	7	327.31	344	150	45	15	100
	8	371.06	390	180	45	15	115
	9	415.18	435	220	45	15	140
	10	459.52	480	220	45	15	140
	11	504.02	524	290	45	15	240
	12	548.64	570	290	45	15	240
	13	593.37	614	350	45	15	300
	14	638.15	660	350	45	15	300
	15	682.87	702	350	45	15	300
	16	727.90	748	350	45	15	300
14222	6	284.00	304	120	60	20	110
	8	371.06	390	180	60	20	110
	10	459.52	480	240	60	20	110
14226	6	284.00	304	120	60	20	105
	7	327.31	344	150	60	20	110
	8	371.06	390	180	60	20	115
	9	415.18	435	220	60	20	140
	10	459.52	480	220	60	20	140
	11	504.02	524	290	60	20	240
	12	548.64	570	290	60	20	240
	13	593.37	614	350	60	20	300
	14	638.15	660	350	60	20	300
	15	682.87	702	350	60	20	300
	16	727.90	748	240	60	20	300
21640	6	432.80	459	170	65	25	105
	7	498.75	525	170	65	25	105
	8	565.48	592	280	65	25	230
	9	632.71	659	350	65	25	300
	10	700.29	726	350	65	25	300
16025	6	320.00	342	150	65	25	105
	8	418.10	440	170	65	25	105
	10	517.77	540	300	65	25	250
20028	8	522.40	546	280	65	25	230
	10	647.40	672	350	65	25	300
	12	772.80	797	350	65	25	300
26040	8	679.41	709	350	82	32	300
	10	841.37	870	400	82	31	340
	12	1004.56	1035	500	82	32	400

John King have standard bolt hole detail. Bolt detail may however vary and it is recommended the buyer consults our technical department for clarification.

Branches.

John King Chains USA Inc.
Birmingham, USA
Tel. +1 205 593 4279

John King Chains Central Europe Sp. z o.o.
Nakło nad Notecią, Poland
Tel. +48 600 871 077

Cadenas John King Ltda.
Concepción, Chile
Tel. +56 41 2214948

John King Chains (SA) (PTY) Ltd.
Boksburg, South Africa
Tel. +27 11 894 3570
Fax +27 11 894 3501

John King Chains Ltd Southern Office
Dursley, UK
Tel. +44 1453 543284

John King Chains Ltd.
Rosario, Argentina
Tel. +54 9 341 214 92 42

JOHN KING

Address

John King Chains Limited
New Climax Works,
Lancaster Business Park,
Sherburn-in-Elmet, LS25 6NS, UK

Phone & Fax

Phone: +44 1977 681 910
Fax: +44 1977 681 899

Online

Email 1: general@johnkingchains.co.uk
Email 2: sales@johnkingchains.co.uk

Website: **www.johnkingchains.com**