

# Scraper conveyor with round link chains HEKO attachments, special links, SMO/SMG, EFS, DIN 5699

## HEKO attachments

- The right solution for every application
- Different options for individual requirements
- In tempered and case-hardened version
- In a natural black, galvanized or other surface finish

HEKO offers a wide range of proven fastenings for drivers, that meet the demands for maximum economy and safety. HEKO fastening elements are suitable for single or multi-strand conveyor systems. The heat treatment of the fasteners is customized to the requirements. For high tensile loads, we recommend the tempered HEKO qualities. For high wear requirements, there are several case-hardened executions for each working condition.

The conveyor chains can be used as individual components or pre-assembled endless chain strands to be delivered. Generally, there you can choose between fasteners that connects individual chains ends or those that are built into chain strands.

We are happy to help you with this Selection.



Welded scraper

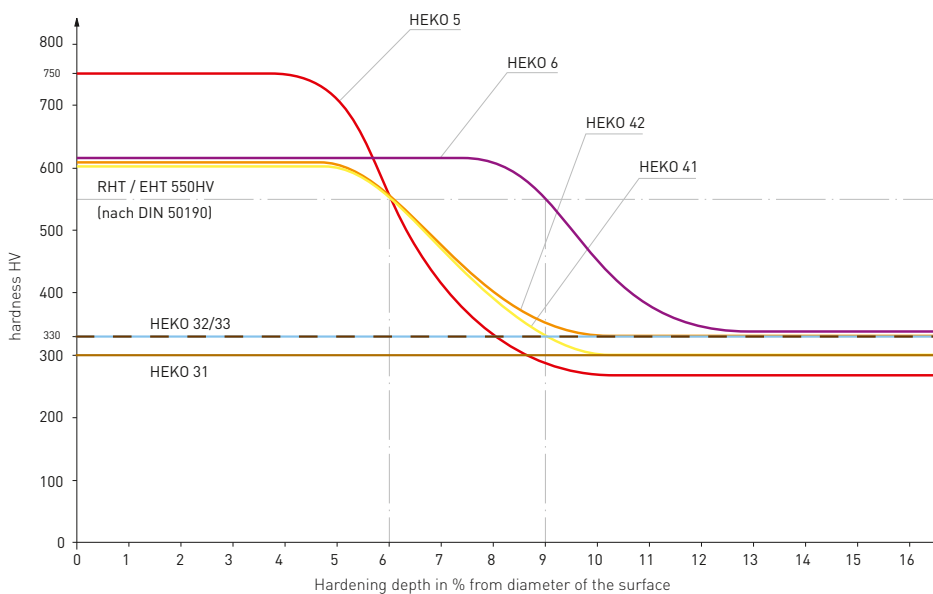
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## Technical data for attachments

### Technical data for HEKO qualities

	Tempered qualities			hardened contact area qualities		case hardened qualities	
	Tempered steel	CrNi-/CrMo-steel	CrMo-steel	tempered steel	CrMo-steel	CrNi-steel	CrMo-steel
	HEKO 31	HEKO 32	HEKO 33	HEKO 41	HEKO 42	HEKO 5	HEKO 6
Proof stress N/mm <sup>2</sup>	250	300	300	125	240	150	240
Breaking stress N/mm <sup>2</sup>	500	600	600	280	400	370 <sub>4)</sub>	450
Contact surface hardness min. joint HV 1	300	330	330	600	600	750	600
Hardening depth d min. after etching	-	-	-	0.1 <sub>1)</sub>	0.1 <sub>1)</sub>	0.1 <sub>1)</sub>	0.14 <sub>1)</sub>
Hardening depth d min. CHD <sub>2)</sub> RHT <sub>3)</sub> 550 HV 1	-	-	-	0.06	0.06	0.06	0.09

1) tolerance d-0,01d    2) CHD = case hardened depth    3) RHT = hardening depth    4) tolerance - 10% > T=105 = -20%



Hardness curve of fasteners made of tempered steel in tempered and joint-hardened version as well as case-hardened chrome-nickel alloyed stainless steels.



Automatic hardness tester [Protocolling of hardness values and hardness curve]

## Übersicht:



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**HEKO shackle  
type TS**  
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**HEKO shackle  
DIN 5699**  
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**HEKO attachment  
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**HEKO welded attachment  
for endless chains**  
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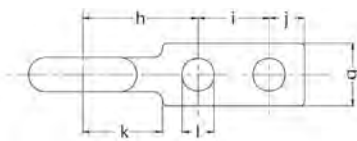
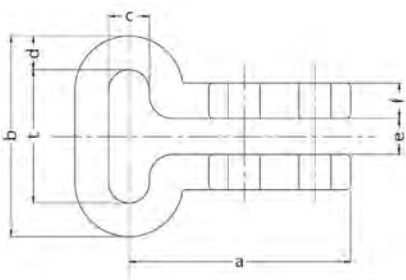
## HEKO attachment type SP for chains with dimensions acc. DIN and works standard

- Suitable for horizontal and rising conveyor systems
- Feeding in the upper and lower trough
- simple and economical attachment design

HEKO special links are suitable for double and multi-strand conveyors. They can be used with toothless, projecting toothed and pocket toothed sprockets. The scraper distance can be individually determined by varying the number of chain links. Pre-assembly by HEKO is possible. We recommend screws and nuts for fastening the scrapers 8.8 grade. A shortening of the chain loops due to wear can occur by loosening the screws and unhooking the special links.



Individual chain links or chain sections can be removed by cold cutting. Tempered and hardened versions are available in the HEKO standard range. The single ones the qualities of the attachments are precisely matched to the respective chain qualities. Special links are also available in stainless steel. The delivery of the special links takes place on request with fastening material such as screws, nuts, etc. HEKO offers suitable attachments and scraper bars in standard and special designs.



to suit chain nominal diam. x pitch (mm)	chain DIN	dimensions (mm)											suitable bolt / nuts	weight (kg/ each)	HEKO qualities*, MBK (kN)	
		a	b	c	e	f	g	h	i	j	k	l			tempered	hardened contact areas
															HEKO 33	HEKO 42
10 x 35	764	82	55	14	12	10	22	40	30	12	30	8.5	M8 x 45	0.25	94	63
13 x 45	764	100	71	18	15	12	28	50	35	15	34	12.5	M12 x 55	0.50	159	106
14 x 50	WN	104	78	17	16	13	33	58	30	16	36	13.0	M12 x 60	0.60	185	123
16 x 56	764	130	88	18	20	16	32	70	40	20	50	17.0	M16 x 75	0.90	241	160
16 x 64	WN	130	96	20	20	16	32	70	40	20	50	13.0	M12 x 75	1.00	241	160
18 x 63	764	125	99	24	19	20	35	65	40	20	45	17.0	M16 x 80	1.15	305	203
18 x 64	WN	125	100	24	19	20	35	65	40	20	45	17.0	M16 x 80	1.15	305	203
19 x 75	WN	125	113	23	20	20	35	65	40	20	45	17.0	M16 x 80	1.20	340	227
20 x 56	766	145	96	25	22	20	30	85	40	20	65	17.0	M16 x 90	1.25	376	251
20 x 70	764	145	110	27	22	20	35	85	40	20	65	17.0	M16 x 90	1.30	376	251
20 x 80	WN	124	120	23	22	20	40	68	35	21	54	18.0	M16 x 90	1.50	376	251
22 x 86	WN	140	130	26	25	20	50	80	40	20	62	18.0	M16 x 90	1.90	456	304
23 x 80	764	164	126	31	24	20	42	89	50	25	63	21.0	M20 x 90	2.00	498	332
23 x 100	WN	137	146	30	24	20	48	78	40	19	60	18.0	M16 x 90	2.15	498	332
26 x 91	764	170	143	35	31	22	45	95	50	25	65	21.0	M20 x 100	2.90	637	424

\*] stated values refer to the use of bolts and nuts grade 8.8, WN = works standard

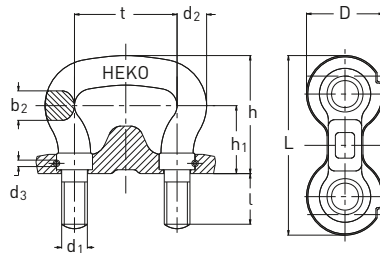
## HEKO shackle type TS and DIN 5699

HEKO chain brackets are fixed with quality nuts grade 8 and a securing element with the scraper chain bracket, used as a flight attachment forms a very stable and easy scraper design. Regarding dimension, design and quality different attachments are available for your choice. For extra high loads, we recommend the shackle

TS. Here the closing element is able to avoid that the Shackle tilts sideways on drive- or reversing wheels. In addition, the HEKO TS chain shackle has much higher breaking forces than the DIN chain bracket. The use is with pocket and internally toothed sprockets is possible. In the reversing station toothless chain rollers are used.

### HEKO chain bracket type TS

- Delivery as an endless chain strand possible
- Maximum service life and reliability with a secured TS strap



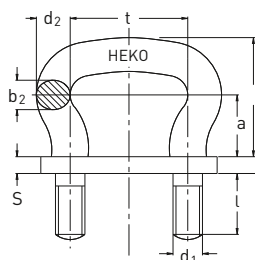
### Dimensions and qualities of HEKO chain shackles Typ TS

pitch (mm) t	to suit chain diam. x pitch/DIN	weight complete (kg/each)	dimensions (mm)									HEKO qualities, MBK (kN)	
			b <sub>2</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>1</sub>	h	h <sub>1</sub>	D	L	l	tempered HEKO 33	hardened contact areas HEKO 6
45	13 x 45 / 764	0.53	14	14	5	M12	64.5	40.5	37	75	26	159	106
56	16 x 56 / 764	0.70	16	16	5	M14	68.0	40.0	45	95	28	240	160
63	18 x 63 / 764	1.00	18	18	5	M16	74.0	43.0	50	110	34	330	220
70	20 x 70 / 764	1.45	20	20	5	M20	83.0	48.0	55	120	37	420	280
80	23 x 80 / 764	1.85	23	23	5	M20	92.0	53.0	60	130	37	540	360
91	26 x 91 / 764	2.70	26	26	6	M24	104.0	60.0	70	155	42	675	450
105	30 x 105 / 764	3.90	30	30	6	M24	118.0	68.0	80	165	42	945	630
126	36 x 126 / 764	6.10	35	35	8	M30	139.0	81.0	85	200	66	1290	860
136	39 x 136 / 764	7.60	39	38	8	M36	152.0	88.0	90	220	79	1432	955
147	42 x 147 / 764	9.00	40	40	8	M36	162.0	93.0	95	230	79	1720	1160

MBK = min. breaking load, t = pitch, d = diameter

### HEKO chain bracket type DIN 5699

- easy construction
- for chains with dimensions according to DIN 764



### Dimensions and qualities of HEKO chain shackles as per DIN 5699

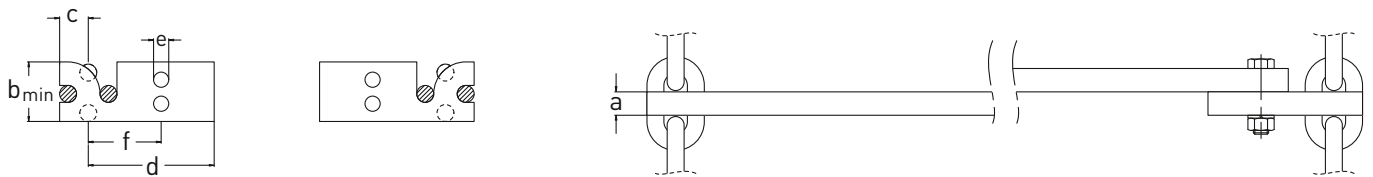
pitch (mm) t	to suit chain diam. x pitch/DIN	weight complete (kg/each)	dimensions (mm)										HEKO qualities, MBK (kN)					
			b <sub>2</sub>	d <sub>2</sub>	d <sub>1</sub>	h	a	l	L	D	S	B	tempered			hardened contact areas		
												HEKO 31	HEKO 32	HEKO 33	HEKO 41	HEKO 42	HEKO 5	
35	10 x 35 / 764	0.30	10	12	M10	43	23	13	65	30	12	10.5	78	94	94	54	74	68
45	13 x 45 / 764	0.45	13	15	M12	53	28	18	75	30	12	13.0	132	159	159	88	119	110
56	16 x 56 / 764	0.77	16	18	M14	64	34	23	95	40	12	15.0	201	241	241	129	175	162
63	18 x 63 / 764	1.13	18	21	M16	71	37	25	110	40	15	17.0	254	305	305	170	230	213
70	20 x 70 / 764	1.60	20	23	M20	80	42	30	120	50	15	21.0	314	376	376	207	280	259
80	23 x 80 / 764	1.96	23	26	M20	89	47	30	130	50	15	21.0	415	498	498	269	364	337
91	26 x 91 / 764	3.10	26	29	M24	99	52	35	150	60	20	25.0	530	637	637	339	458	424
105	30 x 105 / 764	3.90	30	34	M24	114	60	35	165	60	20	25.0	706	848	848	458	620	574
126	36 x 126 / 764	6.25	36	40	M30	134	71	45	200	70	20	31.0	1017	1221	1221	646	875	810
136	39 x 136 / 764	9.50	39	44	M36	146	76	50	220	80	25	37.0	1194	1433	1433	771	1027	950
147	42 x 147 / 764	10.33	42	47	M36	157	81	50	230	80	25	37.0	1385	1662	1662	887	1200	1110

MBK = min. breaking load, t = pitch, d = diameter; Further chain shackles as per DIN 745 or others on request.

## Heko plug in attachment type EFS

In addition to the design of conveyor systems with chain ends and special driver attachments there is the possibility of using endless chain strands. This variant has the advantage that the carrier distances can be selected variably. It can also the entraining system is constantly adapted to changing feeding conditions. On request the carrier attachments can be manufactured according to individual specifications.

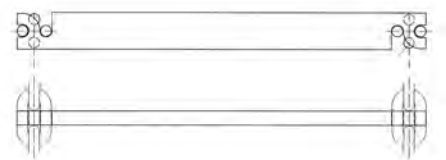
- Only suitable with pocket toothed chain wheels
- Suitable scrapers can be delivered as well
- As one-piece or to screw on



### HEKO plug in attachment type EFS

to suit chain nominal diam. x pitch (mm) d x t	DIN chain	dimensions (mm)					
		a	b <sub>min</sub>	c	e	f	d
14 x 50	WN	20	50	25	13	50	70
16 x 64	WN	30	55	28	17	70	90
19 x 75	WN	35	65	32	17	75	95
22 x 86	WN	40	75	37	21	85	105
26 x 91	764	35	95	47	21	90	110
30 x 105	764	40	110	55	21	95	120

Further dimensions and qualities on request, WN = works standard



## Heko plug in attachment type SMO

- Fast assembly with endless chain strands
- Variable scraper distances possible
- Can be used in reverse operation
- Long service life for extreme requirements
- Installation with a non- tensioned chain
- Good support through 2-link connection
- No transmission of the chain tension force to the carrier
- Case hardened
- Well weldable
- welding consumables: MAG: DIN 8559 / SG3,  
E: DIN 1913E 5154 B10 or similar filler materials



### Technical data and qualities HEKO plug-in attachments

	hardened contact area qualities	
	MnCr-steel	
	<b>HEKO 5S</b>	
Proof stress N/mm <sup>2</sup>	-	
Breaking stress N/mm <sup>2</sup>	-	
Contact surface hardness min. joint HV 1	700	
Hardening depth d min. after etching	0.07 <sup>1)</sup>	
Hardening depth d min. CHD <sub>2</sub> 550 HV 1	0.04	

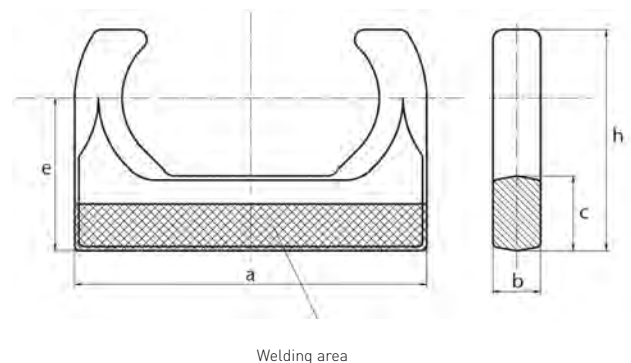
1) tolerance d-0,01d      2) CHD = case hardening depth



### Heko plug in attachment type SMO Forged without head plate

to suit chain nominal diam. x pitch (mm) d x t	dimensions (mm)					weight (kg/each)
	a	b	c	e	h	
14 x 50	110	16	25	50	73	0.5
16 x 64	135	19	30	59	83	0.8
19 x 75	156	21	36	69	100	1.2
22 x 86	182	25	40	80	115	2.0
26 x 100	214	30	45	92	135	3.3
30 x 108	240	33	55	110	160	5.0
30 x 120	252	35	55	110	160	5.3
34 x 126	272	38	60	122	177	7.0
34 x 136	282	38	60	122	177	7.2
38 x 144	309	43	68	137	199	9.5

Further dimensions and qualities on request.



## Heko plug in attachment type SMG

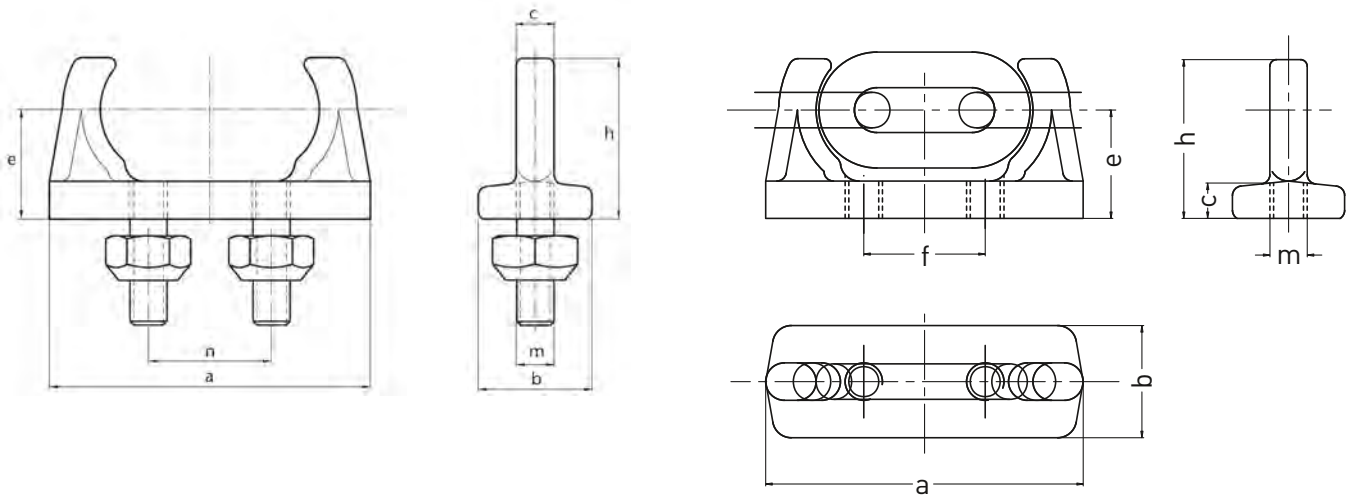
- Fast assembly with endless chain strands
- Variable scraper distances possible
- Can be used in reverse operation
- Long service life for extreme requirements
- Installation with a non-tensioned chain
- Good support through 2-link connection
- No transmission of the chain traction to the carrier
- Case hardened
- Plug attachments are screwed to the scraper
- Damaged scratches can be easily replaced, the plug drivers can continue to be used



### HEKO Plug-In attachment type SMG

to suit chain nominal diam. x pitch (mm) d x t	dimensions (mm)							weight (kg/each)
	a	b	c	e	h	m	n	
14 x 50	112	40	12	38	45	M12	57	0.7
16 x 64	145	50	15	48	52	M16	76	1.2
19 x 75	175	60	21	58	90	M20	65	2.0
22 x 86	200	70	25	68	106	M20	71	3.0
26 x 100	235	80	30	72	116	M20	85	4.5
30 x 120	280	90	35	85	136	M24	98	6.7
34 x 136	320	100	38	98	155	M27	110	10.0

Additional dimensions and qualities on request.

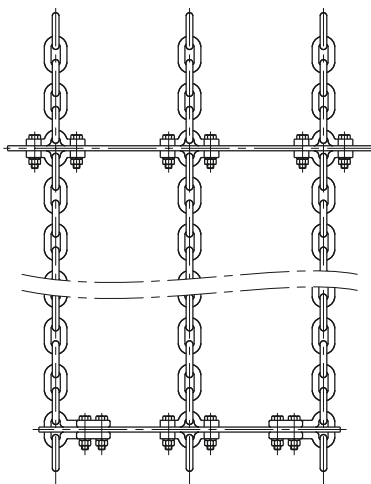




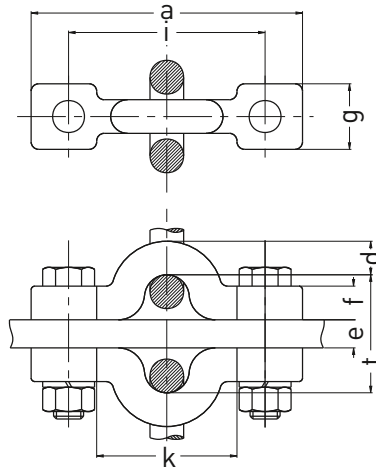
## HEKO mounting halves, type BG 22

HEKO carrier fasteners type BG 22 are drop-forged, high-strength tempered and highly wear-resistant hardened in the chain contact points. They are used in one or multi-strand systems for the middle scraper to give the complete band more stiffness. They can be used in single or double-strand systems together with pocket-toothed sprockets, in the case of special designs of the scrapers also with internally toothed sprockets.

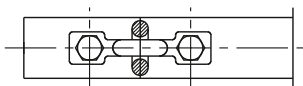
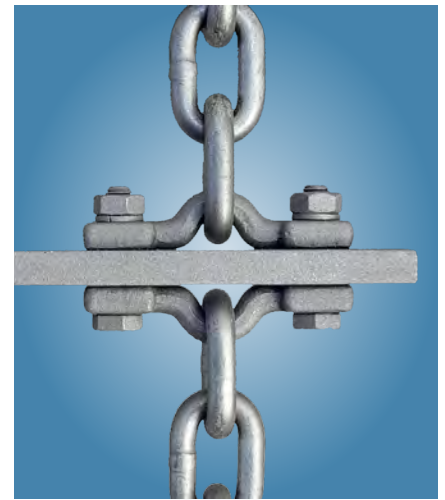
The mounting halves have 2 holes each and a pair is made with 2 screws and Nuts of quality class 8.8 or 12.9 screwed to the driver.



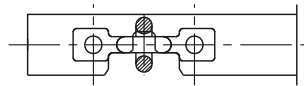
Split scraper bar attachment for triple strand chain



Split scraper bar attachments



Arrangement for pocket toothed chain wheels



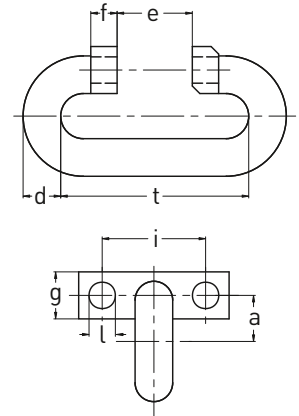
Arrangement for wheels with projecting teeth or toothless wheels

To suit chain nominal diam. x pitch (mm) d x t	DIN chain	weight (kg/each)	suitable bolt / nut	dimensions (mm)						case hardened HEKO qualities, MBK (kN)	
				a	e	f	g	i	k	HEKO 41	HEKO 42
10 x 35	764	0.30	M10 x 45	95	12	10	22	70	45	29	47
10 x 50	762	0.35	M10 x 60	95	27	10	22	70	45	29	47
18 x 63	764	0.80	M16 x 70	145	15	18	35	105	75	95	153
18 x 64	764	0.90	M16 x 75	145	16	18	35	105	75	95	153
20 x 70	764	1.00	M16 x 75	150	15	20	35	110	80	118	188
20 x 100	762	1.10	M16 x 110	150	45	20	35	110	80	118	188

Further dimensions and qualities on request. MBK = min. breaking load

## HEKO fasteners, type BGQ

HEKO fasteners type BGQ are used in single and multi-strand systems. It is driven by sprockets with projecting or pocket teeth. The BGQ links are available in forged and welded versions. The chain contact points of the chain links are hardened to be highly wear-resistant. The transverse mounting tabs have 2 holes each carrier attachment. The BGQ type fasteners are also in other steel grades and dimensions available.



To suit chain nominal diam. x pitch (mm) d x t	DIN chain	weight (kg/each)	suitable bolt / nut	dimensions (mm)						hardened contact area qualities, MBK [kN]		
				a	e	f	g	i	l	HEKO 21	HEKO 42	HEKO 5
13 x 65	762	0.30	M12 x 60	26.0	25	10	18	30	12.5	66	106	98
16 x 80	762	0.50	M14 x 70	31.0	30	10	20	40	14.5	100	160	148
20 x 100	762	0.85	M14 x 80	30.5	40	14	25	50	14.5	157	251	232
23 x 120	WN	1.30	M20 x 90	34.5	50	15	30	54	17.0	207	332	307

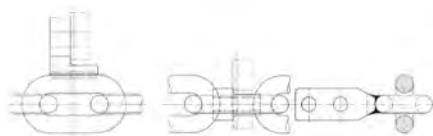
Further dimensions and qualities on request. MBK = min. breaking load; WN = works standard

## HEKO welded attachments for endless chain strands

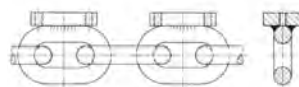
### Examples of interchangeable screwed and welded Scraper attachments for endless chain strands

In addition to the design of conveyor systems with chain end and special scraper attachments, there is the possibility of use of endless chain strands. This variant has the advantage that the carrier distances can be

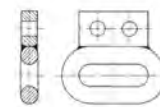
chosen variably. In addition, the driver system can be adjusted to changing conditions again and again. Below are some mounting examples for drivers listed for use with endless chain strands. If desired, the carrier fastenings can be changed individual details can be produced.



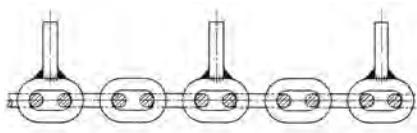
Welded attachment for inside and pocket toothed wheels in double-strand installation for bolting a scraper



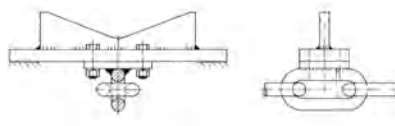
Welded on attachment for bolting exchangeable hangers used in slaughterhouses



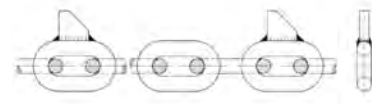
Welded on attachment for various applications



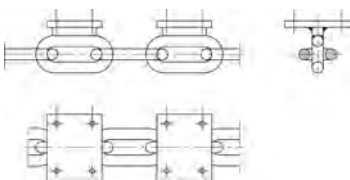
Welded on attachment for bulk material used in plastic waste handling



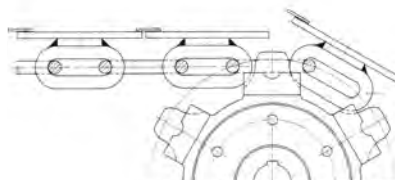
Attachments used in forest industry



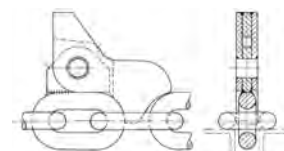
Attachment used in underfloor conveyor to push trolleys



Attachment for apron conveyor



Attachment for apron conveyor



Attachment with notch for reversing operation