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FOR EUROPE



HanSol
Handling Solutions GmbH

CLAMPS FOR LIFTING SOLUTIONS

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ABOUT US

The most demanding lifting operations and adverse environmental conditions combined with durability, safety and ease of maintenance: For loads to be lifted, weighing between 500 and 150,000 kilograms!

For over 80 years, more than 500,000 lifting clamps sold by the American lifting clamp pioneer J.C. RENFROE have met these requirements worldwide. It is therefore not surprising that Renfro lifting clamps are among the most reliable and market leading clamps worldwide.

More than convinced of the advantages and customer benefits of RENFROE products, RUD Ketten, as the world's pre-vailing manufacturer of lifting and lashing technology, founded a sales subsidiary specialising in this product area for the European market. The resulting HanSol GmbH benefits from its parent company's huge expertise and experience in the field of lifting technology and load handling equipment and,

with its comprehensive sales network, enables it to be even closer to its customers.

The standard product range on offer includes the most common lifting clamps with different lifting capacities for vertical and horizontal lifting operations. But the HanSol team of experts is also at your disposal for very special or particularly heavy loads.

In close cooperation with the J.C. RENFROE engineers, we develop solutions for our customers' highly individual requirements.

Just give us a call, we look forward to hearing from you:

Tel. +49 7361 97 53 380
contact@hansol-group.com

RENFROE LIFTING CLAMPS

Founded in the USA in the 1930s, Caldwell Inc. acquired JC Renfro in 2013. Perfectly complementing its product range, a new giant for load handling equipment „Made in USA“ was created.

The innovative strength that has been further boosted as a result has so far resulted in over 50 different types of clamps. Quality and variety. All from a single source.

What makes Renfro lifting clamp solutions so unique:

Benefits of RENFROE clamps
in the standard design:

- **Lightweight design**
- **Ergonomic and easy operation**
- **Compact**
- **RFID chip for simplified inspection and documentation**
- **Supplied with corresponding documentation (operating manual and declaration of conformity)**
- **Suitable for sheets with a surface hardness of up to 363 HV10 (341 HB / 37Rc)**

Top features of RENFROE clamps:

- High guaranteed load cycle
- Safety factor of all clamps at least 3:1 (Design Category B)
- Clamp models available with additional push-button lock
- Life-long guarantee on the clamp bodies
- All individual parts are interchangeable (including spacers, which are usually welded by other manufacturers)
- Spare parts supply also ensured for older RENFROE models
- Gripping cam for each clamp also available in stainless steel (against contact corrosion)

Special solutions on request.



THE RIGHT CLAMP

The right clamp for every lifting operation - safety and durability made easy.

Our 5-point principal provides easy orientation.

1

Material hardness

Note the material hardness!

< 363HV10 (material possibly too soft?)

> 363HV10 (material possibly too hard?)

2

Application

How should loads be moved?

Vertical / Vertical + 90° / Vertical + 180° /
Horizontal / Special Applications

3

Jaw opening

Which jaw opening is required?

Check the material thickness!

4

Environment

What is the prevailing ambient temperature?

Application area -20 °C to +100 °C (ambient and load).

Under which conditions will the clamp be used?

Note Design Category A, B, C (see next page).

5

Technical properties

Which clamp size is required?

Is the clamp required with or without teeth
(damaging / not damaging)?



CLASSIFICATION

The DESIGN CATEGORY indicates both the safety factor of the clamp and the respective area of application for which the clamp is designed in this context.

When classifying clamps in the USA, a distinction is first made between two categories: „design category“ and „service class“.

These are defined according to the safety standard ASME B30.20-2018 and the design guideline ASME BTH-1, which in turn are the counterpart to DIN EN 13155.

DESIGN CATEGORY

A

2-FOLD
SAFETY FACTOR (WLL 2:1)

- For predominantly identical loads
- Number of lifting operations are approximately known
- No difficult or extreme ambient conditions
- For slow lifting operations and minimal shock loads

REINFROE CLAMPS

B

3-FOLD
SAFETY FACTOR (WLL 3:1)

- For varying loads
- Number of lifting operations are not known
- Unknown or difficult ambient conditions
- For fast lifting operations and dynamic WLL

C

6-FOLD
SAFETY FACTOR (WLL 6:1)

- For varying and very heavy loads
- For forging and forming work
- Unknown and very difficult ambient conditions
- For fast lifting operations, many shock and dynamic WLL

The clamp classification always consists of a letter (A, B or C) and a number between 0 and 4.

Even if US standards are not applied everywhere, leading global manufacturers use this classification for quick and easy information on the area of application, safety factor and guaranteed load cycles.

SERVICE CLASS

0

0 - 20.000
Load cycles

1

> 20.000 – 100.000
Load cycles

2

> 100.000 – 500.000
Load cycles

3

> 500.000 – 2.000.000
Load cycles

4

> 2.000.000
Load cycles

The SERVICE CLASS indicates how many load cycles the manufacturer must guarantee for the corresponding clamp type when used correctly.



MODEL L

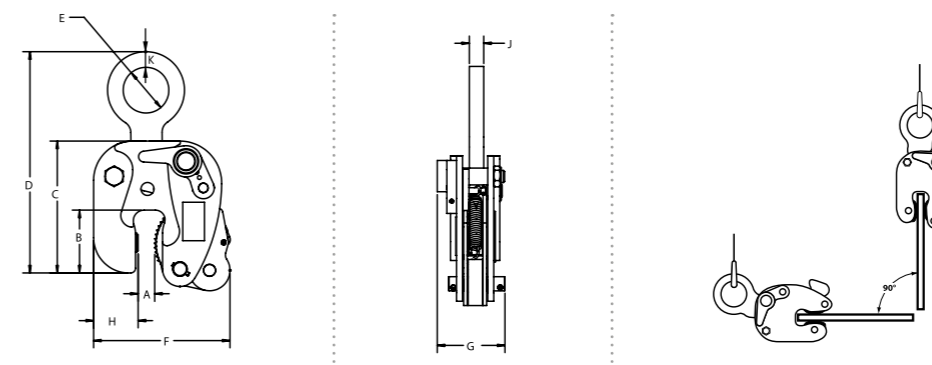
LOCKING TYPE

Suitable up to 90° lateral WLL. Each clamp is tested for 2 x WLL, provided with a serial number, and is delivered with a certificate and CE-marking. Safety factor 3:1.

Suitable up to a sheet surface hardness of 363 HV 10 (341 HB / 37 RC). Made of high strength steel. Each clamp is given a RFID transponder as standard, for simplified inspection and documentation. L-vertical clamps are equipped with a lever for locking the open and closed position. Area of application temperature: -20 °C to 100 °C (ambient and load temperature). The L-clamps are compact and easy to operate. The construction design of the L-clamps allows simple repair and maintenance.



VERTICAL + 90°



Type	Mat. no.	W.L.L.	Kg	T (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K (mm)
L 0,5 t	8505240	0,5 t	1,99	214	0-16	51	124	206	29	114	62	35	13	14.3
L 1 t	8505241	1 t	2,26	214	0-19	51	124	206	29	114	62	35	13	14.3
L 2 t	8505242	2 t	8,86	339	0-25	84	175	318	60	184	92	60	16	20.6
L 3 t	8505243	3 t	14,69	428	0-25	84	254	414	92	216	97	70	19	25.4

MODEL LJ

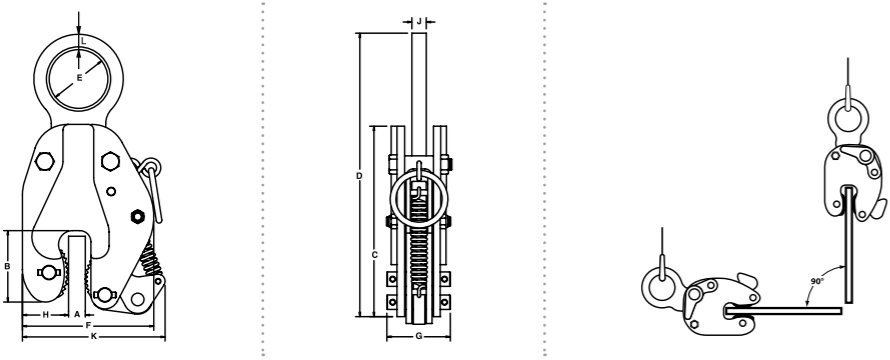
LOCKING TYPE

The MODEL LJ is a vertical lifting clamp capable of turning a plate from horizontal to vertical and back through the same ninety-degree arc.

It is small and easy to handle in capacities through three tons. Each clamp is given a RFID transponder as standard, for simplified inspection and documentation. The Model LJ incorporates a “Lock Closed” feature, which facilitates attaching the clamp to the plate.



CLASS
B 4



Type	Mat. no.	W.L.L.	Kg	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K (mm)	L (mm)
LJ 0,5 t	8505231	0,5 t	4,1	0-19	66,8	168,3	260,3	57,2	127,0	60,3	47,6	12,7	127,0	17,8
LJ 1 t	8505233	1 t	6,8	0-19	80,1	209,5	341,3	66,7	149,3	73,0	52,4	15,9	163,5	19,6
LJ 2 t	8505234	2 t	11,8	0-25,4	92,1	228,6	401,6	82,6	184,2	82,3	73,0	19,0	193,7	25,4
LJ 3 t	8505235	3 t	15,4	0-31,2	108,0	273,05	457,2	92,1	208,0	92,1	76,2	19,0	212,7	25,4

VERTICAL + 90° +
SIDE PULL

C L A S S

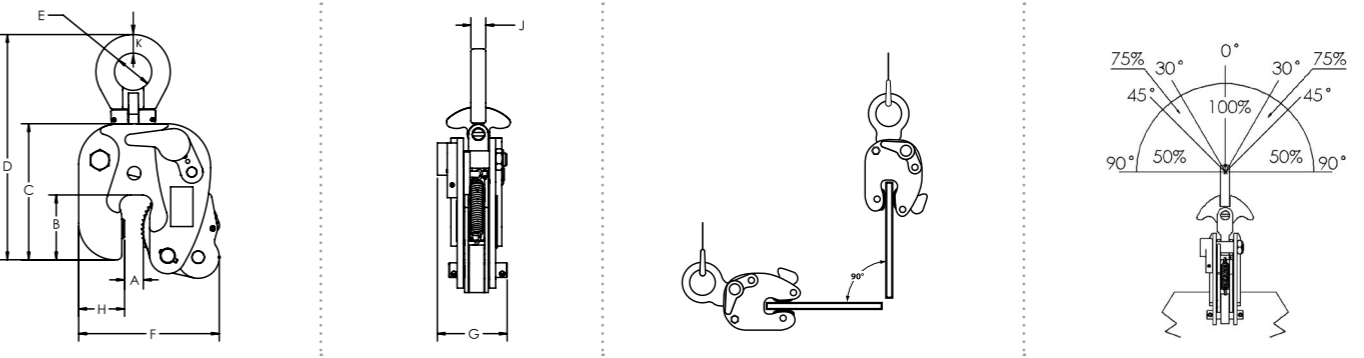
B 3

MODEL LP

LOCKING TYPE

Suitable up to 90° lateral and transverse WLL, with universal carrying ring. Each clamp is tested for 2 x WLL, provided with a serial number, and is delivered with a certificate and CE-marking.

Safety factor 3:1. Suitable up to a sheet surface hardness of 363 HV 10 (341 HB / 37 RC). Made of high strength steel. Each clamp is given a RFID transponder as standard, for simplified inspection and documentation. LP-vertical clamps are equipped with a lever for locking the open and closed position. Area of application temperature: -20 °C to 100 °C (ambient and load temperature). The LP-clamps are compact and easy to operate. The construction design of the LP-clamps allows simple repair and maintenance.



Type	Mat. no.	W.L.L.	Kg	T (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K (mm)
LP 0,5 t	8505248	0,5 t	2,17	232	0-16	51	124	223	29	114	62	35	13	12.7
LP 1 t	8505249	1 t	2,45	232	0-19	51	124	223	29	114	62	35	13	12.7
LP 2 t	8505250	2 t	8,86	336	0-25	84	175	318	60	184	92	60	19	23.8
LP 3 t	8505251	3 t	16,15	427	0-25	84	254	413	92	216	97	70	19	27.0

MODEL LA

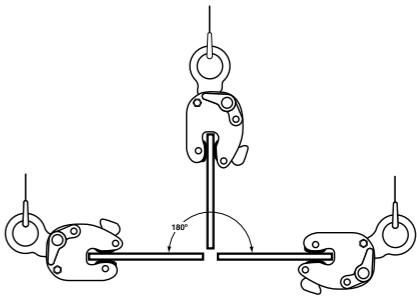
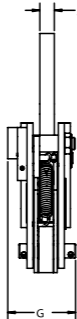
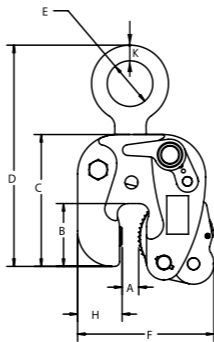
With
push-button
lock

C L A S S
B 3

LOCKING TYPE

Suitable up to 180° lateral WLL. Each clamp is tested for 2 x WLL, provided with a serial number, and is delivered with a certificate and CE-marking. Safety factor 3:1.

Suitable up to a sheet surface hardness of 363 HV 10 (341 HB / 37 RC). Made of high strength steel. Each clamp is given a RFID transponder as standard, for simplified inspection and documentation. LA-vertical clamps are equipped with a lever for locking the open and closed position. This clamp also has a push-button lock as an additional safety feature, which prevents the lever from being opened accidentally, for example when turning loads. Area of application temperature: -20 °C to 100 °C (ambient and load temperature). The LA-clamps are compact and easy to operate. The construction design of the LA-clamps allows simple repair and maintenance.



Type	Mat. no.	W.L.L.	Kg	T (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K (mm)
LA 0,5 t	8505244	0,5 t	1,99	214	0-16	51	124	206	29	114	62	35	13	14.3
LA 1 t	8505245	1 t	2,26	214	0-19	51	124	206	29	114	62	35	13	14.3
LA 2 t	8505246	2 t	8,27	339	0-25	84	175	318	60	184	92	60	16	20.6
LA 3 t	8505247	3 t	14,69	428	0-25	84	254	414	92	216	97	70	19	25.4

VERTICAL + 180° +
SIDE PULL

MODEL JPA

With
push-button
lock

C L A S S
B 4

LOCKING TYPE

The Model JPA is a vertical lifting clamp capable of turning a single plate or member from horizontal to vertical to horizontal through a 180 degree arc. This clamp also has a push-button lock as an additional safety feature, which prevents the lever from being opened accidentally, for example when turning loads. Each clamp is given a RFID transponder as standard, for simplified inspection and documentation.

Permits side loading of lifting shackle to 90 degrees by derating of clamp's rated capacity. Refer to Figure 1 for derated capacities. Model JPA incorporates a pivoting shackle that permits side loading of the lifting shackle at 100 percent of rated capacity from vertical to 30 degrees, 75 percent of rated capacity between 30 and 45 degrees and 50 percent of rated capacity between 45 and 90 degrees.

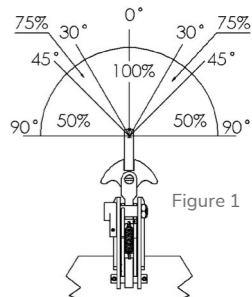
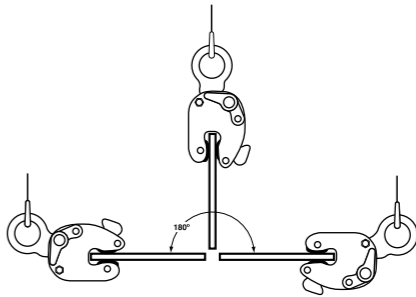
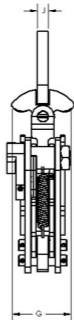
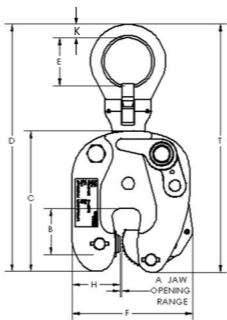


Figure 1

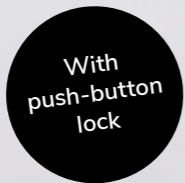
Type	Mat. no.	W.L.L.	Kg	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K (mm)
JPA 0,5 t	8505227	0,5 t	5,44	0-16	69,85	165,10	304,80	60,33	142,88	82,55	57,15	12,70	17,46
JPA 1 t	8505228	1 t	9,1	0-19	85,73	196,85	349,25	66,68	177,80	88,90	66,68	15,80	19,00
JPA 2 t	8505229	2 t	18,1	0-25	92,08	241,30	441,33	88,90	222,25	114,30	76,20	19,05	27,00
JPA 4 t	8505230	4 t	22,7	4,8-32	111,13	292,10	511,18	88,90	234,95	114,30	82,55	38,10	27,00

MODEL LPA

LOCKING TYPE

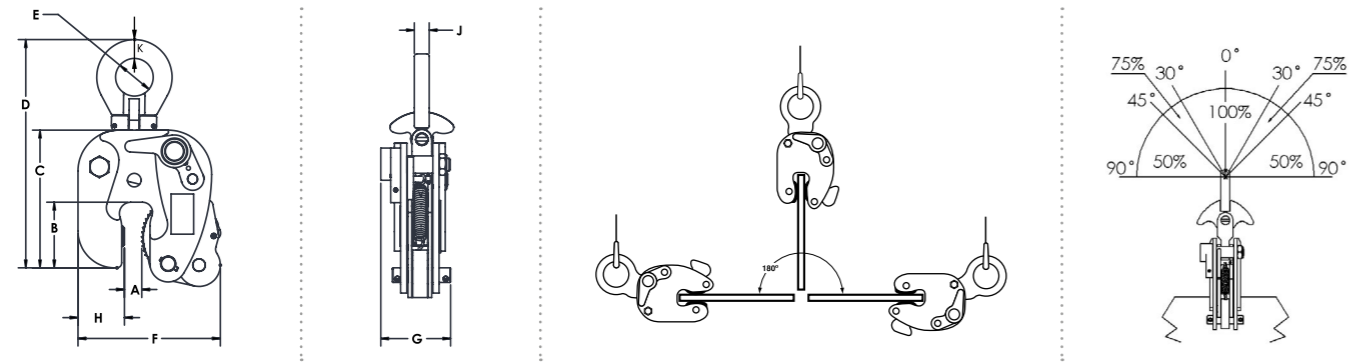
Suitable up to 180° lateral and transverse WLL, with universal carrying ring. Each clamp is tested for 2 x WLL, provided with a serial number, and is delivered with a certificate and CE-marking. Safety factor 3:1.

Suitable up to a sheet surface hardness of 363 HV 10 (341 HB / 37 RC). Made of high strength steel. Each clamp is given a RFID transponder as standard for simplified inspection and documentation. LPA-vertical clamps are equipped with a lever for locking the open and closed position. This clamp also has a push-button lock as an additional safety feature, which prevents the lever from being opened accidentally, for example when turning loads. Area of application temperature: -20 °C to 100 °C (ambient or load temperature). The LPA-clamps are compact and easy to operate. The construction design of the LPA-clamps allows simple repair and maintenance.



CLASS

B 3



Type	Mat. no.	W.L.L.	Kg	T (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K (mm)
LPA 0,5 t	8505252	0,5 t	2,17	232	0-16	51	124	223	29	114	62	35	13	12.7
LPA 1 t	8505253	1 t	2,45	232	0-19	51	124	223	29	114	62	35	13	12.7
LPA 2 t	8505254	2 t	8,77	336	0-25	84	175	318	60	184	92	60	19	23.8
LPA 3 t	8505255	3 t	16,15	427	0-25	84	254	413	92	216	97	70	19	27.0

MODEL SCPA

LOCKING, SCREW TYPE

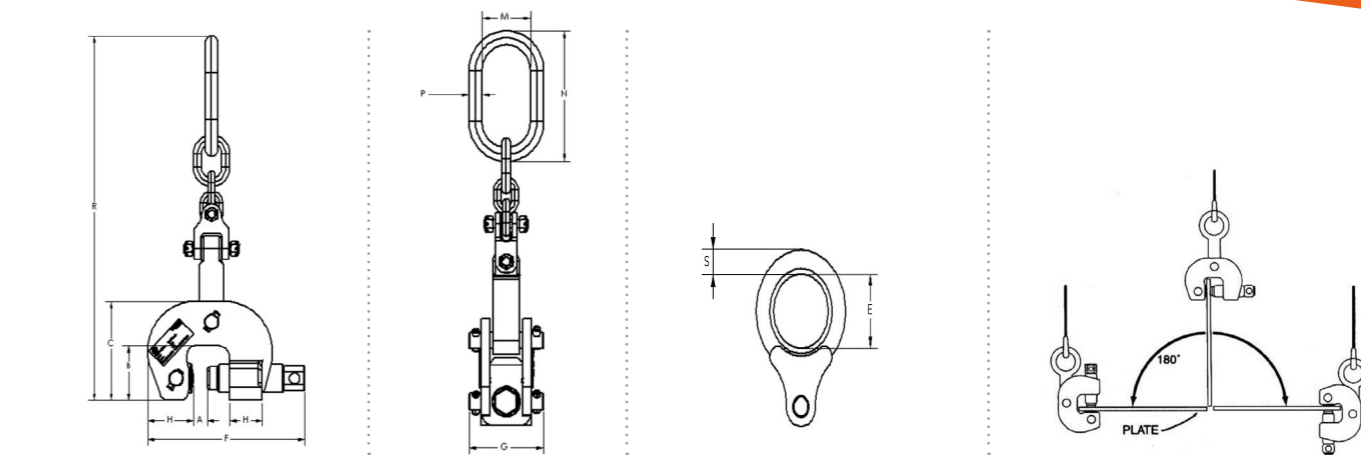
The SCPA clamp is capable of handling steel plate from horizontal to vertical to horizontal through a 180 degree arc and may be used for handling plate at rolling and forming machines. Each clamp is given a RFID transponder as standard, for simplified inspection and documentation.

These clamps feature a spring loaded pivoting cam jaw that “cams in” when a load is applied to the lifting shackle. Clamp is capable of handling plate horizontally when used in pairs or sets of pairs, or in a tripod arrangement. Pivoting shackle assembly, as shown, is available on capacities 3 tons and larger.



CLASS

B 4



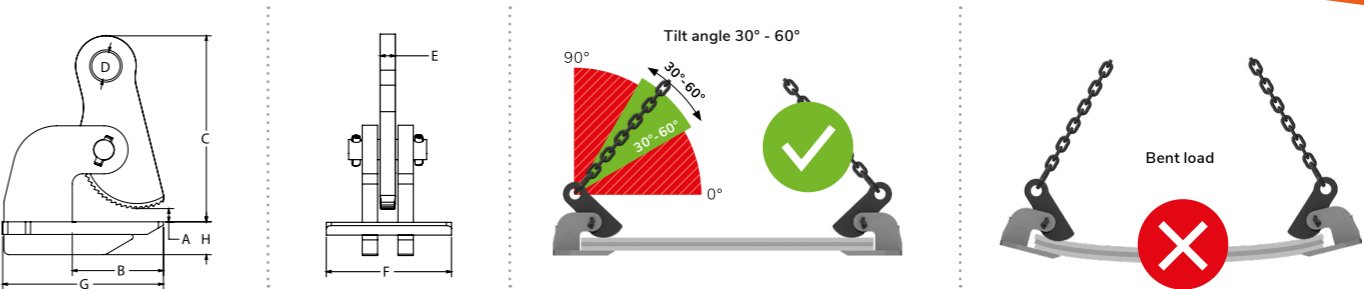
Type	Mat. no.	W.L.L.	Kg	A (mm)	B (mm)	C (mm)	E (mm)	F (mm)	G (mm)	H (mm)	M (mm)	N (mm)	P (mm)	R (mm)	S (mm)
SCPA 0,5 t	8505477	0,5 t	3,62	0-19	60,33	114,30	44,50	168,28	60,33	47,63	---	---	---	309,56	14,29
SCPA 1,5 t	8505479	1,5 t	6,8	0-32	73,03	139,70	51,00	214,31	85,73	60,33	---	---	---	360,36	17,46
SCPA 3 t	8505480	3 t	10,9	0-51	79,38	146,05	---	274,64	103,19	71,44	76,2	152,40	19,00	542,93	---

MODEL LHC

LOCKING TYPE

Each LHC-horizontal lifting clamp is tested for 2 x WLL, provided with a serial number, and is delivered with a certificate and CE-marking. Safety factor 3:1.

Suitable up to a sheet surface hardness of 363 HV 10 (341 HB / 37 RC). Made of high strength steel. Each clamp is given a RFID transponder as standard, for simplified inspection and documentation. Area of application temperature: -20 °C to 100 °C (ambient and load temperature). The LHC-clamps are compact and easy to operate. The construction design of the LHC-clamps allows simple repair and maintenance.



Type	Mat. no.	W.L.L.	Kg	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
LHC 0,25 t	8505272	0,25 t	1,1	0-25,4	60,3	127	25,4	12,7	57,15	101,6	9,65
LHC 0,5 t	8505273	0,5 t	5	0-50,38	111,3	235	35	12,7	123,8	196,8	15,88
LHC 0,75 t	8505274	0,75 t	7,2	0-50,38	111,3	235	35,8	19	136,6	196,8	19
LHC 1,5 t	8505275	1,5 t	9,8	0-50,38	115,8	235	35,8	19	155,7	201,7	25,4
LHC 3 t	8505276	3 t	9,1	0-50,38	114,3	235	35,8	19	155,7	201,7	41,4
LHC 4 t	8505277	4 t	17,7	0-76,2	177,8	312,7	35,8	25,4	165,1	263,6	55,62

MAINTENANCE SET FOR LPA / LA / LP / L *

consisting of:

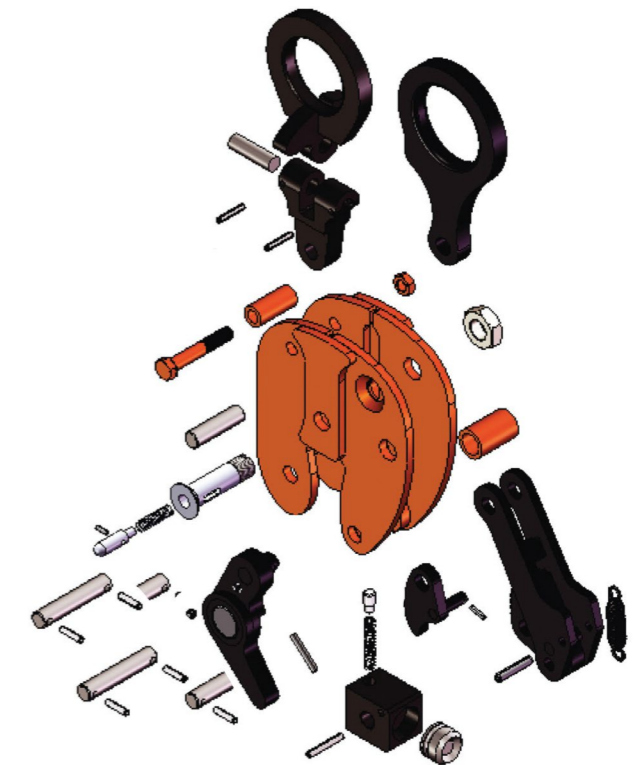
- Spring
- Body Bolt & SPCR Sleeves
- Cam Assembly
- Lock Assy
- Cam Pin
- Swivel Jaw



MAINTENANCE SET FOR JPA *

consisting of:

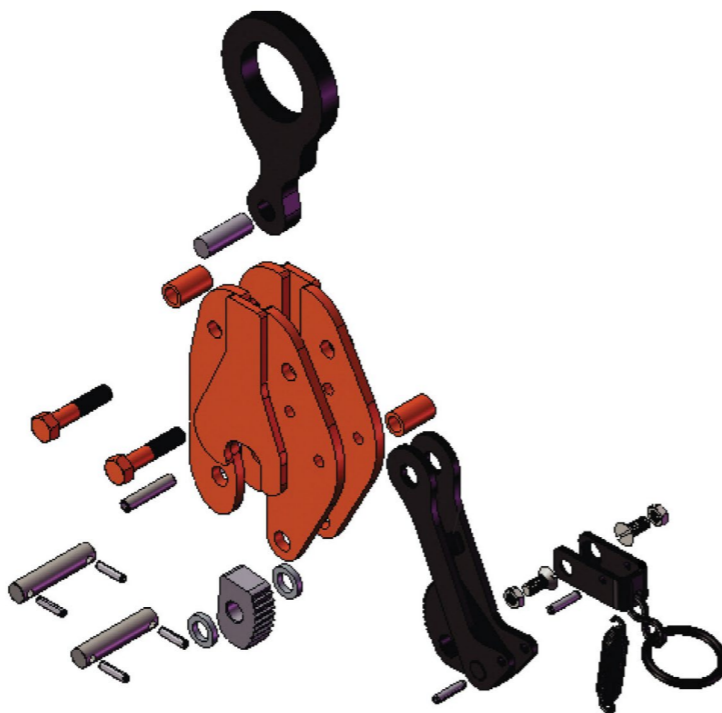
- Body Bolt & Spacer Sleeve
- Shackle Pin
- Aux Lock Housing & Sleeve
- Cam Pin
- Swivel Jaw Pin
- Swivel Jaw Pin Spring Kit
- Swivel Jaw Housing
- Swivel Jaw
- Lock Spring
- Cam Assembly
- Lock Assembly



MAINTENANCE SET FOR LJ *

consisting of:

- Body Spacer Sleeve
- Body Bolt
- Cam Assembly
- Lock Assembly
- Cam, Cam Jaw Pin
- Jaw Attachment Pin
- Cam Jaw
- Lock Spring
- Lock Ring & S Hook



MAINTENANCE SET FOR SCPA *

consisting of:

- Shackle Pin & Cam Jaw Pin
- Screw Cup
- Cam Jaw Kit
- Screw



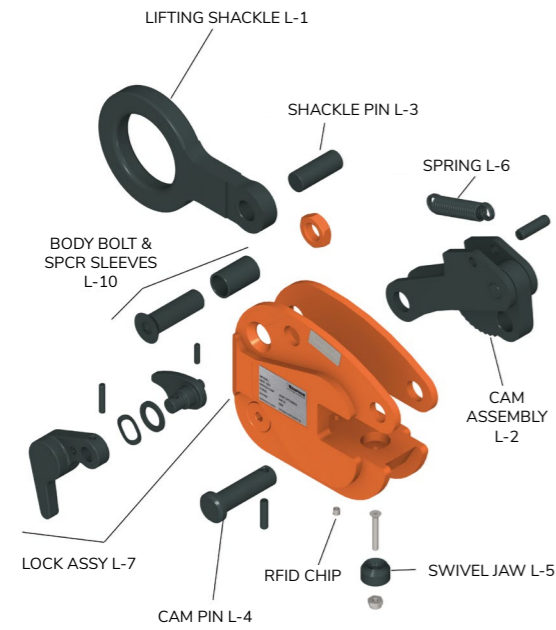
MAINTENANCE SET FOR LHC *

consisting of:

- Gripping Cam
- Cam Pin



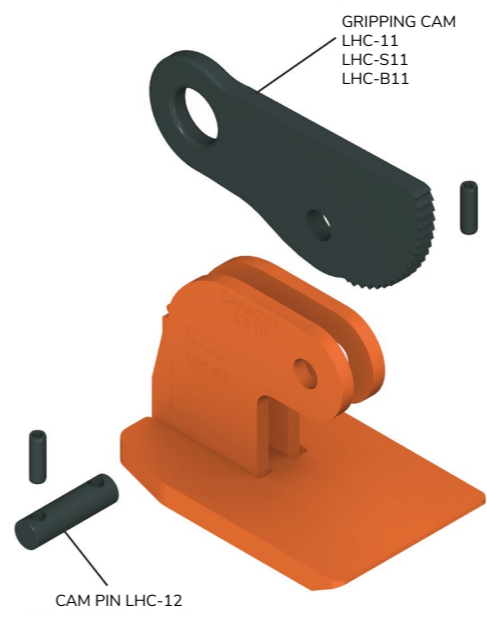
MODEL L



MODEL LP



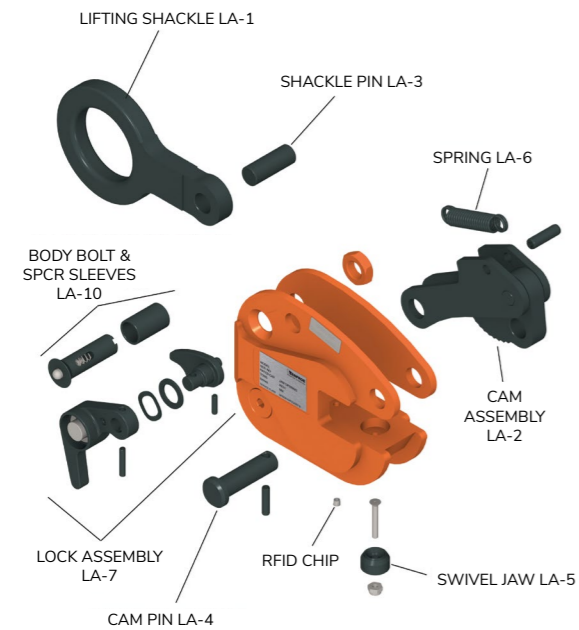
MODEL LHC



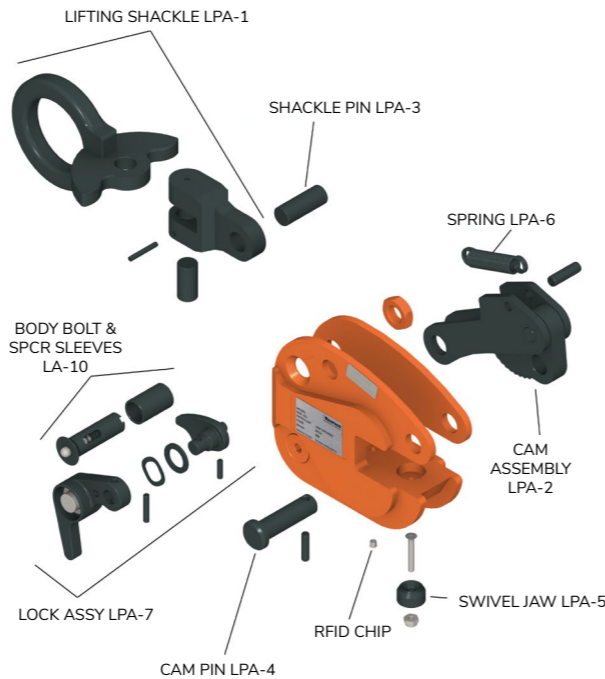
MODEL LJ



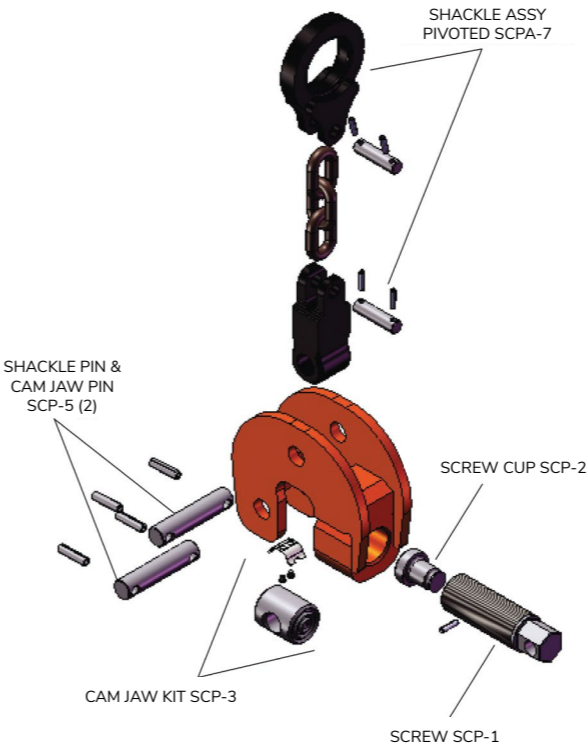
MODEL LA



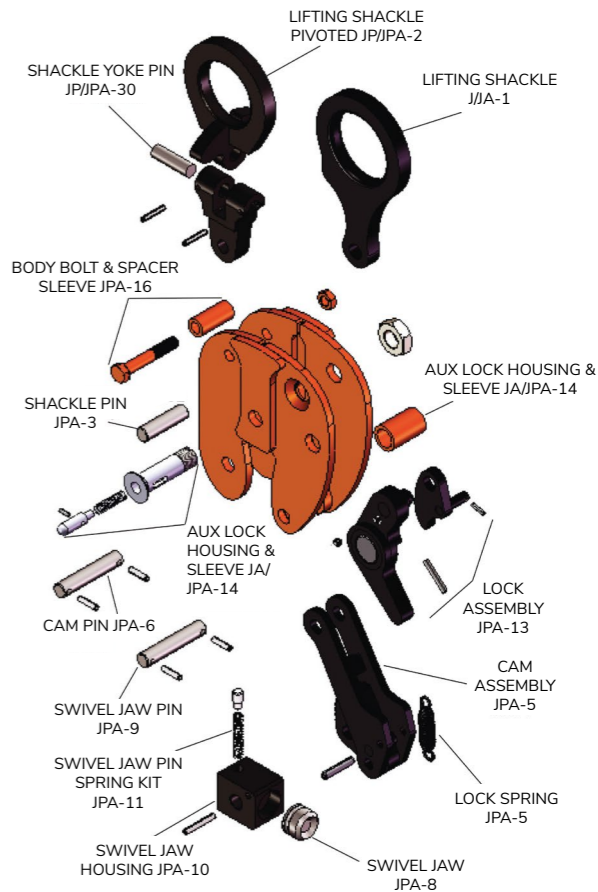
MODEL LPA



MODEL SCPA



MODEL JPA





HANSOL GmbH
Friedensinsel
73432 Aalen, Germany

Phone: +49 7361 97 53 380
contact@hansol-group.com

www.hansol-group.com

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