

# **DLH** online

## **pewag**

**Stainless Steel Chain System  
Welded and Mechanical Assembly  
Chain Slings and Pump Lifting Chains**






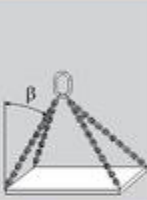





## TECHNICAL DATA

Stress at load capacity limit:	125 N/mm <sup>2</sup>
Breaking stress:	500 N/mm <sup>2</sup>
Material:	1.4571 (AISI 316 Ti) and 1.4404 (AISI 316 L)
Surface finish:	Chain: Bright polished Components: Pickled and blasted

## LOAD CAPACITIES

The load capacities shown are the **WORKING LOAD LIMITS** of the various sling types, stated according to the standard (Uniform Load) method of rating.

Safety factor 4	Single leg chain slings		2 leg chain slings				3 + 4 leg chain slings		Endless chain slings	Basket chain slings		
												
Angle of inclination	-	-	up to 45°	45°-60°	up to 45°	45°-60°	up to 45°	45°-60°	-	up to 45°	0°-45°	
Load factor	1	0.8	1.4	1	1.12	0.8	2.1	1.5	1.6	1.4	2.1	
Code	d	Load capacity [tonnes]										
WOX 5	5mm	0.50	0.40	0.70	0.50	0.56	0.40	1.05	0.75	0.80	0.70	1.05
WOX 6*	6mm	0.75	0.60	1.00	0.75	0.80	0.60	1.60	1.12	1.20	1.00	1.60
WOX 7	7mm	1.00	0.80	1.40	1.00	1.12	0.80	2.10	1.50	1.60	1.40	2.10
WOX 8*	8mm	1.25	1.00	1.70	1.25	1.40	1.00	2.65	1.80	2.00	1.70	2.65
WOX 10	10mm	2.00	1.60	2.80	2.00	2.24	1.60	4.25	3.00	3.20	2.80	4.25
WOX 13	13mm	3.20	2.56	4.50	3.20	3.55	2.56	6.70	4.75	5.12	4.50	6.70
WOX 16	16mm	5.00	4.00	7.10	5.00	5.60	4.00	10.00	7.50	8.00	7.10	10.00

\* Available in welded construction only.

If the chain slings are used in severe conditions (e.g. high temperature, asymmetric load distribution, edge load, impact/shock loads) the maximum load capacity values in the table must be reduced by the load factors shown in the table on page 5.




Please also note the user information on this topic.

If chains are looped around a beam or other round shaped loads, the load diameter should be a minimum of 3 times the chain pitch. For smaller load diameters the WLL of the chains must be reduced by 50%.

When combining with other systems using different materials e.g. Duplex, 1.4462 (AISI 318LN), other limitations may result such as the reduction of the maximum working temperature to 350°C, as the material can easily become magnetised. These factors must be considered when combining with other systems.

For high temperature applications we recommend using the Inox welded system in preference to the mechanical system.

## DEMANDING CONDITIONS

Temperature	-40°C – 400°C	above 400°C – 600°C	600°C – 700°C
Load factor (welded)	1	0.75	0.5
Load factor (mechanical)	1	not permissible	not permissible
Asymmetric load distribution	The WLL has to be reduced by at least 1 leg. In case of doubt only consider 1 leg as load-bearing.		
Edge load	R = larger than 2 x chain dia. 	R = larger than chain dia. 	R = smaller than chain dia. 
Load factor	1	0.7	0.5
Shock	slight shocks	medium shocks	strong shocks
Load factor	1	0.7	not permissible




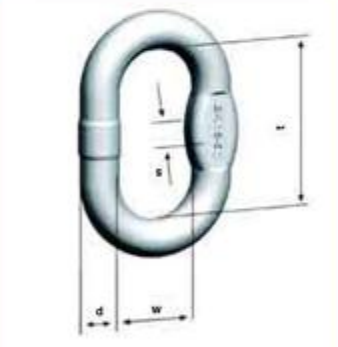


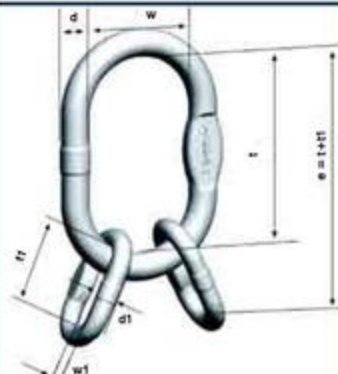
## WINNER INOX G5 SLING CHAINS

WOX Stainless steel lifting chain	Code	Nominal-diameter d [mm]	Standard delivery length [m]	Pitch t [mm]	Inside width b1 min. [mm]	Outside width b2 max. [mm]	WLL [tonnes]	Breaking force [kN]	Weight [kg/m]
	WOX 5	5	50	16	7.5	18.5	0.50	20	0.56
	WOX 6	6	50	18	8.7	21.6	0.75	30	0.83
	WOX 7	7	50	21	9.5	25.2	1.00	40	1.10
	WOX 8	8	50	24	11.7	27.7	1.25	50	1.46
	WOX 10	10	50	30	13.5	36	2.00	80	2.20
	WOX 13	13	50	39	17.5	46.8	3.20	125	3.80
	WOX 16	16	50	48	21.5	54.6	5.00	200	5.70

## WINNER INOX G5 COMPONENTS

AWI Master link	Code	WLL 0-45° <sup>2</sup> [tonnes]	Can be used on DIN 15401 spec. hook	d [mm]	t [mm]	w [mm]	s [mm]	Weight [kg/pc.]	Master link for chain Ø	
									1 leg [mm]	2 leg [mm]
	AWI 8	0.45	Nr. 0.5	8	60	35	-	0.08	4	4
	AWI 10	0.70	Nr. 1.6	10	80	50	10	0.14	5	5
	AWI 13	1.05	Nr. 2.5	13	110	60	10	0.34	6+7	6
	AWI 16	1.40	Nr. 2.5	16	110	60	14	0.53	8	7
	AWI 18	2.00	Nr. 5	19	135	75	14	0.92	10	8
	AWI 22	3.20	Nr. 6	23	160	90	17	1.60	13	10
	AWI 26	5.00	Nr. 8	27	180	100	20	2.46	16	13
	AWI 32	7.10	Nr. 10	33	200	110	26	4.14	-	16
	AWI 36	10.50	Nr. 16	36	260	140	29	6.22	-	-

BWI Transition link	Code	WLL 0-45° [tonnes]	d [mm]	t [mm]	w [mm]	s [mm]	Weight [kg/pc.]	For chain dia. [mm]
	BWI 5	0.32	5	26	13	-	0.01	4
	BWI 7	0.75	7	36	16	-	0.03	5+6
	BWI 9	1.00	9	44	20	-	0.07	7
	BWI 10	1.25	10	44	20	-	0.09	8
	BWI 13	2.00	13	54	25	10	0.17	10
	BWI16	3.20	17	70	34	14	0.36	13
	BWI 20	5.00	20	85	40	-	0.68	16
	BWI 22	6.40	23	115	50	17	1.16	-
	BWI 26	10.00	27	140	65	20	1.92	-

VWI Quad master link assembly	Code	Consisting of	WLL 0-45° [tonnes]	Can be used on DIN 15401 spec. hook	e [mm]	d [mm]	t [mm]	w [mm]	d1 [mm]	t1 [mm]	w1 [mm]	Weight [kg/pc]
	VWI 4	AWI10 + 2 BWI9	0.70	1.6	124	10	80	50	9	44	20	0.28
	VWI 5	AWI13 + 2 BWI10	1.05	2.5	154	13	110	60	10	44	20	0.52
	VWI 6	AWI18 + 2 BWI13	2.00	5	189	19	135	75	13	54	25	1.26
	VWI 7/8	AWI22 + 2 BWI16	3.20	6	230	23	160	90	16	70	34	2.32
	VWI 10	AWI26 + 2 BWI20	5.00	8	265	27	180	100	20	85	40	3.82
	VWI 13	AWI32 + 2 BWI22	7.10	10	315	33	200	110	23	115	50	6.46
	VWI 16	AWI36 + 2 BWI26	10.50	16	400	36	260	140	27	140	65	10.06

# PEWAG WINNER INOX G5 STAINLESS STEEL

VAWI Enlarged quad master link assembly for chain & wire ropes	Code	Consisting of	WLL 0-45° [tonnes]	Can be used on DIN 15401 spec. hook	e	d	t	w	d1	t1	w1	Weight [kg/pc.]
					[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
	VAWI 6	AWI 18 + 2 AWI 13	1.60	2.5	245	19	135	75	13	110	60	1.60
	VAWI 7	AWI 18 + 2 AWI 16	2.10	5	245	19	135	75	16	110	60	1.98
	VAWI 8	AWI 22 + 2 AWI 18	3.00	6	295	23	160	90	19	135	75	3.44
	VAWI 10	AWI 26 + 2 AWI 22	4.80	8	340	27	180	100	23	160	90	5.66
	VAWI 13	AWI 32 + 2 AWI 26	7.10	10	380	33	200	110	27	180	100	9.06
	VAWI 16	AWI 36 + 2 AWI 32	10.50	16	460	36	260	140	33	200	110	14.50

CWI Connex connecting link (max. working temp. 400°C)	Code	WLL 0-45° [tonnes]	e	c	s	d	b	g	Weight [kg/pc.]
			[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
	CWI 5	0.50	36	7	10	7	34	13	0.05
	CWI 7	1.00	54	9	13	9	51	17	0.12
	CWI 10	2.00	73	13	18	13	70	25	0.33
	CWI 13	3.20	92	17	23	17	86	29	0.70
	CWI 16	5.00	104	21	28	21	105	37	1.22


HSWI Eye sling hook	Code	WLL 0-45° [tonnes]	e	h	a	d1	d2	g1	b	Weight [kg/pc.]
			[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
	HSWI 5	0.50	80	20	14	21	8	22	66	0.25
	HSWI 7	1.00	104	28	19	24	11	29	90	0.60
	HSWI 10	2.00	125	33	29	31	14	33	108	1.20
	HSWI 13	3.20	155	43	34	39	17	43	134	2.10
	HSWI 16	5.00	175	50	41	46	23	48	154	3.50


VLWI Shortener	Code	WLL 0-45° [tonnes]	e	a	d	d1	g	Weight [kg/pc.]
			[mm]	[mm]	[mm]	[mm]	[mm]	
	VLWI 5/6	0.75	80	52	16	26	8	0.18
	VLWI 7/8	1.25	111	68	22	34	11	0.47
	VLWI 10	2.00	133	86	27	40	12	0.87
	VLWI 13	3.20	169	108	32	52	16	1.85
	VLWI 16	5.00	204	134	38	64	20	3.40






## WINNER INOX G5 SPARE PARTS


<b>CBHWI</b> Connex load bolt and retainer	Code	For Connex
	CBHWI 5	CWI 5
	CBHWI 7	CWI 7
	CBHWI 10	CWI 10
	CBHWI 13	CWI 13
	CBHWI 16	CWI 16

<b>SFGWI</b> Stainless steel safety latch set	Code	For Hook
	SFGWI 5	HSWI 5
	SFGWI 7	HSWI 7
	SFGWI 10	HSWI 10
	SFGWI 13	HSWI 13
	SFGWI 16	HSWI 16

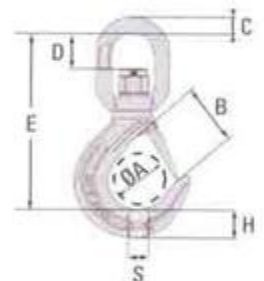
<b>TKWI</b> Stainless steel ID tag	Code	Description
	TKWI	Universal tag without attachment link for single and multi leg slings

<b>MGWI</b> Attachment link for TKWI tag	Code	Description
	MGWI S	Small attachment link (5mm dia. x 30mm IL x 10mm IW)
	MGWI L	Large attachment link (8mm dia. x 60mm IL x 35mm IW)

## OTHER STAINLESS STEEL CHAINS & COMPONENTS

<b>K Type G50</b> Stainless steel short link chain to DIN 766-A	Code	Nominal-diameter	Standard delivery length [m]	Pitch [mm]	Inside width min. [mm]	Outside width max. [mm]	Breaking force [kN]	Weight [kg/m]
		[d]						
	K 4x16	4	50	16	6	15	12.5	0.34
	K 5x18.5	5	50	18.5	6.5	18	20	0.52
	K 6x18.5	6	50	18.5	7.4	21	30	0.80
	K 7x22	7	50	22	8.3	29	40	1.07
	K 8x24	8	50	24	9.2	27	50	1.41
	K 9x27	9	50	27	11	31	64	1.80
	K 10x28	10	50	28	12.8	35.5	80	2.30
	K 13x36	13	50	36	16.5	46	125	3.88

<b>K Type</b> Stainless steel long link chain to DIN 5685 - Untested	Code	Nominal-diameter	Standard delivery length [m]	Pitch [mm]	Inside width min. [mm]	Outside width max. [mm]	Breaking force [kN]	Weight [kg/m]
		[d]						
	K 4x32	4	50	32	7.2	16	0.80	0.28
	K 5x35	5	50	35	9	20	1.25	0.44
	K 8x52	8	50	52	14.4	31	1.60	1.13

<b>STSH</b> Eye swivel hook	Code	WLL 0-45°	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	H [mm]	S [mm]	Weight [kg/pc.]
		[tonnes]								
	STSH 5	0.50	40	31	12	25	140	21	19	0.76
	STSH 7	1.00	45	42	14	30	181	28	23	0.12
	STSH 10	2.00	48	49	16	35	224	36	29	0.33
	STSH 13	3.20	68	55	28	65	292	44	36	0.70





## PCWI STAINLESS STEEL PUMP CHAINS

pewag pump chains type PCWI in welded systems are, because of their construction and range of components, suitable for submersible pumps and breathers in fresh and waste water environments. Every chain sling is tested and serialized and supplied with identification tag and a test certificate.

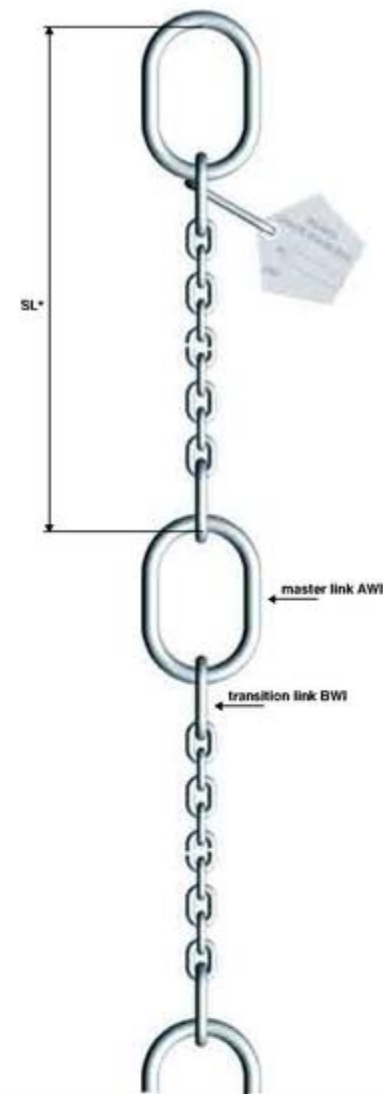
Master links are situated at the beginning, at segment distances of approximately 1 metre and at the end of each assembly to allow the user to lift up, lower or lock the pump chain in stages. See page 11.

Additional to standard design, custom made variations are also possible:

- Two legged system with "Y" for pumps equipped with 2 eye screws
- Alternative end fittings, like eye hooks, joining links or shackles
- Available with additional stabilization chain
- Variation on standard segment length, also in different sections possible
- Special constructions
- Stainless steel hoist chains for pump stations by request

For joining pumps and chains, we suggest safety shackles type CLS (see page 12).

When ordering, please request desired total length of chain or number of segments and specify the kind of end fitting (for example master link). Total length conforms a multiple of segment length plus pitch of end fitting.



Type	WLL	Master link	Dimensions AWI	Transition link	Dimensions BWI	Chain type	SL* Number of links	Segment length L*	Length of master links/end links	Weight SL*
[mm]	[kg]		[mm]		[mm]			[mm]	[mm]	[kg]
PCWI 5	500	AWI 10	10x80x50	BWI 7	7x36x16	WOX 5x16	53	1000	80	0,68
PCWI 6	750	AWI 13	13x110x60	BWI 7	7x36x16	WOX 6x18	45	992	110	1,05
PCWI 7	1000	AWI 13	13x110x60	BWI 9	9x44x20	WOX 7x21	37	975	110	1,33
PCWI 8	1250	AWI 16	17x110x60	BWI 10	10x44x20	WOX 8x24	33	990	110	1,83
PCWI 10	2000	AWI 18	19x135x75	BWI 13	13x54x25	WOX 10x30	25	993	135	2,91
PCWI 13	3200	AWI 22	23x160x90	BWI 16	17x70x34	WOX 13x39	17	963	160	4,84
PCWI 16	5000	AWI 26	27x180x100	BWI 20	20x85x40	WOX 16x48	13	974	180	7,38

\* SL consisting of 1AWI/2BWI/WOX/links in standart length of approx. 1000 mm



Application picture



Application picture



## PCWI STAINLESS STEEL PUMP CHAINS

Type	WLL	Master link code	AWI pieces	Transition code	Link BWI pieces	code	chain links/segment	number of segments	segment length L1 [mm]	sling length L [m]
5	500	AWI 10	101	BWI 7	200	WOX 5	53	100	1000	100,08
6	750	AWI 13	101	BWI 7	200	WOX 6	45	100	992	99,31
7	1000	AWI 13	101	BWI 9	200	WOX 7	37	100	975	97,61
8	1250	AWI 16	101	BWI 10	200	WOX 8	33	100	990	99,11
10	2000	AWI 18	101	BWI 13	200	WOX 10	25	100	993	99,435
13	3200	AWI 22	101	BWI 16	200	WOX 13	17	100	963	96,46
16	5000	AWI 26	51	BWI 20	100	WOX 16	13	50	974	48,88

Tag TKWI G5 [drw.:17860(...)]

front side of tag  
back side of tag  
no. of chain legs  
year of production  
sling no.

DIMENSIONS WITHOUT TOLERANCE ACCORDING TO ISO 2768-m

THIS DESIGN IS THE PROPERTY OF PEWAG AND IS ONLY ALLOWED TO BE USED BY EXPRESS PERMISSION AND LICENCE FROM PEWAG

PROJECT	SURFACE	SCALE : 1:5	WEIGHT :
CAD	DATE	NAME	
DRAWN	19.01.12	KSE	
CHKD			
RELSO			

DRG No. 7896-4

REPLACING 7896-3

REPLACED BY


\* Master links are positioned at each end and approx. every 1 metre along the sling length. Refer to drawing below for full details of master link spacing.

## STAINLESS STEEL PUMP HANDLE CLAMP

A simple and cost effective component used for the connection and captivation of a pump chain to the pump. Especially useful when the pump lifting handle is of a width which restricts the use of standard size shackles. WLL up to 2 tonnes and pump handle max width of 50mm. The PH clamp can be used with or without shackles (supplied seperately).

SSPHC Stainless steel pump handle clamp	Code	WLL
		[tonnes]
	SSPHC 1	1.00
	SSPHC 2	2.00
	SSPHC 2A*	2.00
	*Modified to accept CLS2T shackle (provided)	

## 316 STAINLESS STEEL SHACKLES

CLS Chain link shackle	Code	WLL	Body d1	Pin d2	Inside L	Jaw w	a	b	c	Weight
		[tonnes]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/pc.]
	CLS 1 T	1.00	9.5	12.5	42	20	25	2	15	0.15
	CLS 2 T	2.00	16	19	65	32	40	3	22	0.55
	CLS 3.2 T	3.20	19	22	77	38	45	4	28	1.00
	CLS 5 T	5.00	22	25	88	44	55	4	29	1.90
	CLS 6 T	6.00	25	28	103	51	65	4	34	2.30
	<p>CLS shackles are of a unique design which allows them to be made captive without the need for welding. The shackle features an extended load pin &amp; split pin ensuring that the shackle load pin can not work loose even under vibration.</p>									

SSDA Screw pin D-Shackle with A-Type pin	Code	WLL	Body d1	Pin d2	Inside L	Jaw w	Weight
		[tonnes]	[mm]	[mm]	[mm]	[mm]	[kg/pc.]
	SSD 1 A	1.00	10	11	32	17	0.14
	SSD 2 A	2.00	12	16	41	20	0.26
	SSD 3 A	3.00	16	20	52	26	0.54
	SSD 4 A	4.00	20	22	62	32	1.05
	SSD 5 A	5.00	22	26	72	36	1.46

SSDE Safety pin D-Shackle with E-Type pin	Code	WLL	Body d1	Pin d2	Inside L	Jaw w	Weight
		[tonnes]	[mm]	[mm]	[mm]	[mm]	[kg/pc.]
	SSD 0.35 E	0.35	6	6	25	13	0.05
	SSD 0.5 E	0.5	8	8	32	16	0.08
	SSD 0.8 E	0.8	9.5	10	38	19	0.14
	SSD 1 E	1.00	11	12	44	22	0.21
	SSD 1.25 E	1.25	12.7	12	52	26	0.33
	SSD 1.8 E	1.80	14.3	16	58	29	0.59
	SSD 2.8 E	2.80	16	20	64	32	0.76
	SSD 3.3 E	3.30	19	22	76	38	1.18
	SSD 4.5 E	4.50	22	24	88	44	1.75
	SSD 5 E	5.00	25.4	27	100	50	2.60


SSBE Safety pin Bow Shackle with E-Type pin	Code	WLL	Body d1	Pin d2	Inside L	Jaw w	Bow B	Weight
		[tonnes]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/pc.]
	SSB 0.28 E	0.28	6	6	28	13	19	0.05
	SSB 0.4 E	0.40	8	8	35	16	25	0.08
	SSB 0.6 E	0.60	9.5	10	38	19	28	0.15
	SSB 0.8 E	0.80	11	12	46	22	33	0.22
	SSB 1 E	1.00	12.7	12	52	26	38	0.35
	SSB 1.5 E	1.50	14.3	16	60	29	43	0.64
	SSB 2.5 E	2.50	16	20	68	32	50	0.80
	SSB 3.0 E	3.00	19	22	76	38	58	1.25
	SSB 4.0 E	4.00	22	24	88	44	66	1.82
	SSB 4.5 E	4.50	25.4	27	100	50	76	2.70



## PH HIGH TENSILE STAINLESS STEEL D-SHACKLES

SSDPHA Screw pin D-Shackle with A-Type pin	Code	WLL	Body d1	Pin d2	Inside L	Jaw w	Weight
		[tonnes]	[mm]	[mm]	[mm]	[mm]	[kg/pc.]
	SSDPH 1 A	1.00	8	10	32	16	0.09
	SSDPH 2 A	2.00	10	12.7	40	20	0.15
	SSDPH 3 A	3.00	12.7	16	50	25	0.35
	SSDPH 5 A	5.00	16	19	64	32	0.55
	SSDPH 7 A	7.00	19	22.2	76	38	1.00
	SSDPH 9 A	9.00	22.2	25.4	88	44	1.90
	SSDPH 11 A	11.00	25.4	28.6	102	51	2.90
	SSDPH 13 A	13.00	28.6	31.8	114	57	3.10
	SSDPH 15 A	15.00	31.8	34.9	128	64	4.35
SSDPH 18 A	18.00	34.9	38	140	70	5.30	


SSDPHAL Screw pin D-Shackle with AL-Type extended safety pin	Code	WLL	Body d1	Pin d2	Inside L	Jaw w	Weight
		[tonnes]	[mm]	[mm]	[mm]	[mm]	[kg/pc.]
	SSDPH 1 AL	1.00	8	10	32	16	0.09
	SSDPH 2 AL	2.00	10	12.7	40	20	0.15
	SSDPH 3 AL	3.00	12.7	16	50	25	0.35
	SSDPH 5 AL	5.00	16	19	64	32	0.55
	SSDPH 7 AL	7.00	19	22.2	76	38	1.00
	SSDPH 9 AL	9.00	22.2	25.4	88	44	1.90
	SSDPH 11 AL	11.00	25.4	28.6	102	51	2.90
	SSDPH 13 AL	13.00	28.6	31.8	114	57	3.10
	SSDPH 15 AL	15.00	31.8	34.9	128	64	4.35
SSDPH 18 AL	18.00	34.9	38	140	70	5.30	


SSDPHB Screw pin D-Shackle with B-Type countersunk pin	Code	WLL	Body d1	Pin d2	Inside L	Jaw w	Weight
		[tonnes]	[mm]	[mm]	[mm]	[mm]	[kg/pc.]
	SSDPH 1 B	1.00	8	10	32	16	0.09
	SSDPH 2 B	2.00	10	12.7	40	20	0.15
	SSDPH 3 B	3.00	12.7	16	50	25	0.35
	SSDPH 5 B	5.00	16	19	64	32	0.55
	SSDPH 7 B	7.00	19	22.2	76	38	1.00
	SSDPH 9 B	9.00	22.2	25.4	88	44	1.90
	SSDPH 11 B	11.00	25.4	28.6	102	51	2.90
	SSDPH 13 B	13.00	28.6	31.8	114	57	3.10
	SSDPH 15 B	15.00	31.8	34.9	128	64	4.35
SSDPH 18 B	18.00	34.9	38	140	70	5.30	


SSDPHE Safety pin D-Shackle with E-Type safety pin	Code	WLL	Body d1	Pin d2	Inside L	Jaw w	Weight
		[tonnes]	[mm]	[mm]	[mm]	[mm]	[kg/pc.]
	SSDPH 1 E	1.00	8	10	32	16	0.09
	SSDPH 2 E	2.00	10	12.7	40	20	0.15
	SSDPH 3 E	3.00	12.7	16	50	25	0.35
	SSDPH 5 E	5.00	16	19	64	32	0.55
	SSDPH 7 E	7.00	19	22.2	76	38	1.00
	SSDPH 9 E	9.00	22.2	25.4	88	44	1.90
	SSDPH 11 E	11.00	25.4	28.6	102	51	2.90
	SSDPH 13 E	13.00	28.6	31.8	114	57	3.10
	SSDPH 15 E	15.00	31.8	34.9	128	64	4.35
SSDPH 18 E	18.00	34.9	38	140	70	5.30	

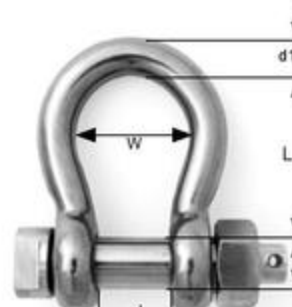


## PH HIGH TENSILE STAINLESS STEEL BOW SHACKLES

SSBPHA Screw pin Bow Shackle with A-Type pin	Code	WLL	Body d1	Pin d2	Inside L	Jaw J	Inside Bow W	Weight
		[tonnes]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/pc.]
	SSBPH 0.8 A	0.8	8	10	32	16	24	0.09
	SSBPH 1.5 A	1.5	10	12.7	40	20	30	0.16
	SSBPH 2.5 A	2.5	12.7	16	50	25	38	0.37
	SSBPH 4 A	4	16	19	64	32	48	0.58
	SSBPH 5.5 A	5.5	19	22.2	76	38	57	1.05
	SSBPH 7.5 A	7.5	22.2	25.4	88	44	66	1.99
	SSBPH 9 A	9	25.4	28.6	102	51	76	3.05
	SSBPH 11 A	11	28.6	31.8	114	57	86	3.26
	SSBPH 13 A	13	31.8	34.9	128	64	95	4.57
	SSBPH 15 A	15	34.9	38	140	70	105	5.57

SSBPHAL Screw pin Bow Shackle with AL-Type extended safety pin	Code	WLL	Body d1	Pin d2	Inside L	Jaw J	Inside Bow W	Weight
		[tonnes]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/pc.]
	SSBPH 0.8 AL	0.8	8	10	32	16	24	0.09
	SSBPH 1.5 AL	1.5	10	12.7	40	20	30	0.16
	SSBPH 2.5 AL	2.5	12.7	16	50	25	38	0.37
	SSBPH 4 AL	4	16	19	64	32	48	0.58
	SSBPH 5.5 AL	5.5	19	22.2	76	38	57	1.05
	SSBPH 7.5 AL	7.5	22.2	25.4	88	44	66	1.99
	SSBPH 9 AL	9	25.4	28.6	102	51	76	3.05
	SSBPH 11 AL	11	28.6	31.8	114	57	86	3.26
	SSBPH 13 AL	13	31.8	34.9	128	64	95	4.57
	SSBPH 15 AL	15	34.9	38	140	70	105	5.57


SSBPHB Screw pin Bow Shackle with B-Type countersunk pin	Code	WLL	Body d1	Pin d2	Inside L	Jaw J	Inside Bow W	Weight
		[tonnes]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/pc.]
	SSBPH 0.8 B	0.8	8	10	32	16	24	0.09
	SSBPH 1.5 B	1.5	10	12.7	40	20	30	0.16
	SSBPH 2.5 B	2.5	12.7	16	50	25	38	0.37
	SSBPH 4 B	4	16	19	64	32	48	0.58
	SSBPH 5.5 B	5.5	19	22.2	76	38	57	1.05
	SSBPH 7.5 B	7.5	22.2	25.4	88	44	66	1.99
	SSBPH 9 B	9	25.4	28.6	102	51	76	3.05
	SSBPH 11 B	11	28.6	31.8	114	57	86	3.26
	SSBPH 13 B	13	31.8	34.9	128	64	95	4.57
	SSBPH 15 B	15	34.9	38	140	70	105	5.57


SSBPH E Safety pin Bow Shackle with E-Type safety pin	Code	WLL	Body d1	Pin d2	Inside L	Jaw J	Inside Bow W	Weight
		[tonnes]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/pc.]
	SSBPH 0.8 E	0.8	8	10	32	16	24	0.09
	SSBPH 1.5 E	1.5	10	12.7	40	20	30	0.16
	SSBPH 2.5 E	2.5	12.7	16	50	25	38	0.37
	SSBPH 4 E	4	16	19	64	32	48	0.58
	SSBPH 5.5 E	5.5	19	22.2	76	38	57	1.05
	SSBPH 7.5 E	7.5	22.2	25.4	88	44	66	1.99
	SSBPH 9 E	9	25.4	28.6	102	51	76	3.05
	SSBPH 11 E	11	28.6	31.8	114	57	86	3.26
	SSBPH 13 E	13	31.8	34.9	128	64	95	4.57
	SSBPH 15 E	15	34.9	38	140	70	105	5.57




# STAINLESS STEEL ACCESSORIES

## 316 STAINLESS STEEL TURNBUCKLES

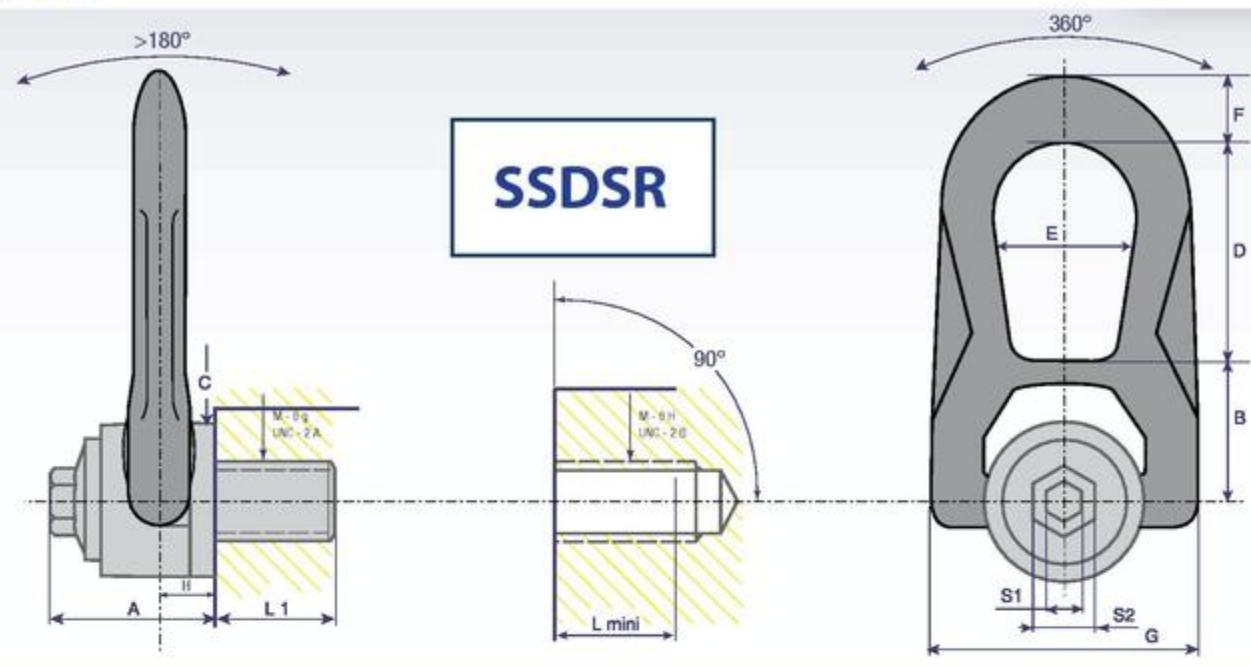
SSTBEE Closed body turnbuckle with eye to eye end fittings	Code	WLL	Thread	E	T	Length Min L	Length Max L	Weight
		[kg]	[unf]	[mm]	[mm]	[mm]	[mm]	[kg/pc.]
	SSTBEE 03	200	1/4"	6.35	5	120	190	0.05
	SSTBEE 04	325	5/16"	8	6.5	143	221	0.10
	SSTBEE 05	500	3/8"	9.53	7.8	177	277	0.19
	SSTBEE 06	700	7/16"	11.1	9.5	193	301	0.27
	SSTBEE 07	825	1/2"	12.7	11.5	221	363	0.43
	SSTBEE 08	1325	5/8"	14.3	13.5	279	435	0.93
	SSTBEE 10	1325	5/8"	16	15	303	459	0.96
	SSTBEE 12	1825	3/4"	19.05	17.5	346	517	1.49
	SSTBEE 14	2500	7/8"	22.2	21.5	383	580	2.52
	SSTBEE 16	3300	1"	25.4	23.5	452	691	3.47
	SSTBEE 19	4300	1 1/8"	28.58	27.5	510	780	3.71
	SSTBEE 22	5500	1 1/4"	32	31	557	841	4.27
SSTBEE 26	6600	1 3/8"	35	33.5	628	952	10.16	

SSTBFF Closed body turnbuckle with fork to fork end fittings	Code	WLL	Thread	P	J	Length Min L	Length Max L	Weight
		[kg]	[unf]	[mm]	[mm]	[mm]	[mm]	[kg/pc.]
	SSTBFF 03	200	1/4"	6	6.2	135	205	0.08
	SSTBFF 04	325	5/16"	8	7.9	165	240	0.17
	SSTBFF 05	500	3/8"	9.5	9.9	200	300	0.28
	SSTBFF 06	700	7/16"	11	10.9	220	330	0.40
	SSTBFF 07	825	1/2"	12	12.7	260	390	0.61
	SSTBFF 08	1325	5/8"	14	13.5	325	480	1.26
	SSTBFF 10	1325	5/8"	16	15.8	345	500	1.43
	SSTBFF 12	1825	3/4"	19	17.8	400	570	2.42
	SSTBFF 14	2500	7/8"	22	22	450	640	3.58
	SSTBFF 16	3300	1"	25	25	520	760	5.34
	SSTBFF 19	4300	1 1/8"	28	28.2	585	855	5.62
	SSTBFF 22	5500	1 1/4"	32	31.5	635	920	7.71
SSTBFF 26	6600	1 3/8"	35	34.8	715	1040	14.09	

SSTBFE Closed body turnbuckle with fork to eye end fittings	Code	WLL	Thread	P	T	E	J	Length Min L	Length Max L	Weight
		[kg]	[unf]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/pc.]
	SSTBFE 03	200	1/4"	6	6.2	6.35	5	127	197	0.07
	SSTBFE 04	325	5/16"	8	7.9	8	6.5	154	232	0.14
	SSTBFE 05	500	3/8"	9.5	9.9	9.53	7.8	189	289	0.24
	SSTBFE 06	700	7/16"	11	10.9	11.1	9.5	207	316	0.33
	SSTBFE 07	825	1/2"	12	12.7	12.7	11.5	244	376	0.52
	SSTBFE 08	1325	5/8"	14	13.5	14.3	13.5	300	456	1.09
	SSTBFE 10	1325	5/8"	16	15.8	16	15	325	380	1.20
	SSTBFE 12	1825	3/4"	19	17.8	19.05	17.5	373	544	1.95
	SSTBFE 14	2500	7/8"	22	22	22.2	21.5	415	610	3.05
	SSTBFE 16	3300	1"	25	25	25.4	23.5	485	724	4.41
	SSTBFE 19	4300	1 1/8"	28	28.2	28.58	27.5	548	818	4.36
	SSTBFE 22	5500	1 1/4"	32	31.5	32	31	595	879	5.99
SSTBFE 26	6600	1 3/8"	35	34.8	35	33.5	672	996	12.12	

## SSDSR STAINLESS STEEL DOUBLE SWIVEL RING

(HIGH TENSILE)



Code	WLL [tonnes]	S.F.	Thread Size	Thread Length L1 [mm]	Torque Setting [N.m]	S1	S2	A	B	C	D	E	F	G	H	Weight [kg/pc.]
SSDSR M8	0.3	5	M8 (x1.25)	16	6	6		32	30	30	39	28	13	53	9.5	0.30
SSDSR M8H	0.3	5	M8 (x1.25)	16	6		13	30	30	30	39	28	13	53	9.5	0.30
SSDSR M10	0.5	5	M10 (x1.50)	16	10	8		34	30	30	39	28	13	53	9.5	0.30
SSDSR M10H	0.5	5	M10 (x1.50)	16	10		17	31	30	30	39	28	13	53	9.5	0.30
SSDSR M12	0.8	5	M12 (x1.75)	19	15	10		33	30	30	39	28	13	53	9.5	0.30
SSDSR M12H	0.8	5	M12 (x1.75)	19	15		19	30	30	30	39	28	13	53	9.5	0.30
SSDSR M14H	1	5	M14 (x2)	29	30		21	44	40	42	54	38	17	77	13	0.90
SSDSR M16H	1.5	5	M16 (x2)	26	50		24	44	40	42	54	38	17	77	13	0.90
SSDSR M18H	1.5	5	M18 (x2.5)	30	70		27	44	40	42	54	38	17	77	13	1.00
SSDSR M20H	1.6	5	M20 (x2.5)	30	100		30	43	40	42	54	38	17	77	13	1.00
SSDSR M22H	2	5	M22 (x2.5)	42	120		34	62	55	60	83	55	25	117	19	2.50
SSDSR M24H	2.7	5	M24 (x3)	42	160		35	62	55	60	83	55	25	117	19	2.60
SSDSR M27H	2.8	5	M27 (x3)	42	200		41	62	55	60	83	55	25	117	19	2.70
SSDSR M30H	3	5	M30 (x3.5)	47	250		45	62	55	60	83	55	25	117	19	2.80

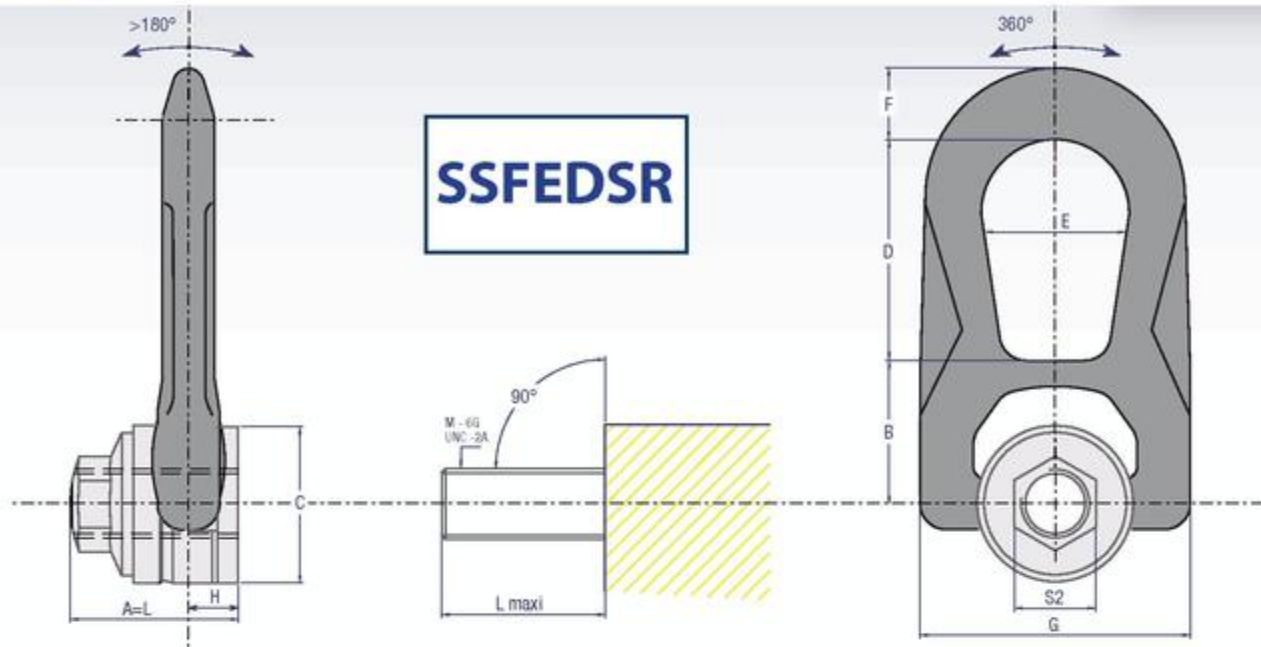
## LOAD CAPACITIES

Method Of Lifting								
Number Of Legs	1	2	1	2	2	2	3+4	3+4
Angle Of Inclination	0° [tonnes]	0° [tonnes]	90° [tonnes]	90° [tonnes]	0-45° [tonnes]	45-60° [tonnes]	0-45° [tonnes]	45-60° [tonnes]
SSDSR M8	0.30	0.60	0.30	0.60	0.40	0.30	0.60	0.30
SSDSR M8H	0.30	0.60	0.30	0.60	0.40	0.30	0.60	0.30
SSDSR M10	0.50	1.00	0.50	1.00	0.70	0.50	1.10	0.50
SSDSR M10H	0.50	1.00	0.50	1.00	0.70	0.50	1.10	0.50
SSDSR M12	0.80	1.60	0.80	1.60	1.10	0.80	1.70	0.80
SSDSR M12H	0.80	1.60	0.80	1.60	1.10	0.80	1.70	0.80
SSDSR M14H	1.00	2.00	1.00	2.00	1.40	1.00	2.10	1.00
SSDSR M16H	1.50	3.00	1.50	3.00	2.10	1.50	3.20	1.50
SSDSR M18H	1.50	3.00	1.50	3.00	2.10	1.50	3.20	1.50
SSDSR M20H	1.60	3.20	1.60	3.20	2.20	1.60	3.40	1.60
SSDSR M22H	2.00	4.00	2.00	4.00	2.80	2.00	4.20	2.00
SSDSR M24H	2.70	5.40	2.70	5.40	3.80	2.70	5.70	2.70
SSDSR M27H	2.80	5.60	2.80	5.60	3.90	2.80	5.90	2.80
SSDSR M30H	3.00	6.00	3.00	6.00	4.20	3.00	6.30	3.00



## SSFEDSR STAINLESS STEEL FEMALE DOUBLE SWIVEL RING

(HIGH TENSILE)



Code	WLL	S.F.	Thread Size	L max. [mm]	Torque Setting [N.m.] Footlbs	S	A	B	C	D	E	F	G	H	Weight [kg/pc.]
SSFEDSR M8	0.3 t	5	M8 (x1.25)	43	6	30	43	42	45	54	38	17	76	13	0.90
SSFEDSR M10	0.5 t	5	M10 (x1.50)	43	10	30	43	42	45	54	38	17	76	13	0.90
SSFEDSR M12	0.8 t	5	M12 (x1.75)	43	15	30	43	42	45	54	38	17	76	13	0.90
SSFEDSR M14	1 t	5	M14 (x2)	43	30	30	43	42	45	54	38	17	76	13	0.90
SSFEDSR M16	1.5 t	5	M16 (x2)	43	50	30	43	42	45	54	38	17	76	13	0.90
SSFEDSR M18	1.5 t	5	M18 (x2.5)	47	70	45	62	55	60	83	55	25	117	19	2.60
SSFEDSR M20	1.6 t	5	M20 (x2.5)	47	100	45	62	55	60	83	55	25	117	19	2.60
SSFEDSR M22	2 t	5	M22 (x2.5)	47	120	45	62	55	60	83	55	25	117	19	2.60
SSFEDSR U516	500 lbs	5	UNC 5/16"-18	45	7 FL	20	45	42	45	54	38	17	76	13	0.90
SSFEDSR U038	1000 lbs	5	UNC 3/8"-16	45	8 FL	20	45	42	45	54	38	17	76	13	0.90
SSFEDSR U050	1750 lbs	5	UNC 1/2"-13	45	12 FL	20	45	42	45	54	38	17	76	13	0.90
SSFEDSR U058	2200 lbs	5	UNC 5/8"-11	45	40 FL	20	45	42	45	54	38	17	76	13	0.90
SSFEDSR U075	3300 lbs	5	UNC 3/4"-10	62	80 FL	24	62	55	60	83	55	25	117	19	2.60
SSFEDSR U078	4400 lbs	5	UNC 7/8"-9	62	100 FL	24	62	55	60	83	55	25	117	19	2.60

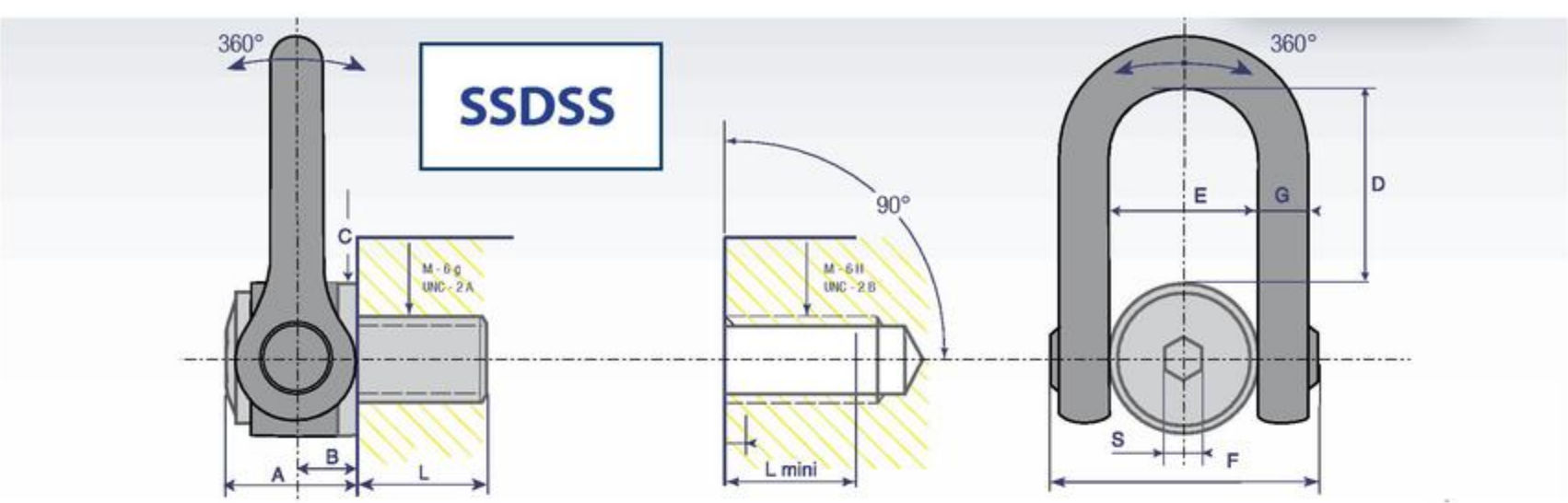
## LOAD CAPACITIES

Method Of Lifting								
Number Of Legs	1	2	1	2	2	2	3+4	3+4
Angle Of Inclination	0° [tonnes]	0° [tonnes]	90° [tonnes]	90° [tonnes]	0-45° [tonnes]	45-60° [tonnes]	0-45° [tonnes]	45-60° [tonnes]
SSFEDSR M8	0.30	0.60	0.30	0.60	0.40	0.30	0.60	0.30
SSFEDSR M10	0.50	1.00	0.50	1.00	0.70	0.50	1.10	0.50
SSFEDSR M12	0.80	1.60	0.80	1.60	1.10	0.80	1.70	0.80
SSFEDSR M14	1.00	2.00	1.00	2.00	1.40	1.00	2.10	1.00
SSFEDSR M16	1.50	3.00	1.50	3.00	2.10	1.50	3.20	1.50
SSFEDSR M18	1.50	3.00	1.50	3.00	2.10	1.50	3.20	1.50
SSFEDSR M20	1.60	3.20	1.60	3.20	2.20	1.60	3.40	1.60
SSFEDSR M22	2.00	4.00	2.00	4.00	2.80	2.00	4.20	2.00

# STAINLESS STEEL ACCESSORIES

## SSDSS STAINLESS STEEL DOUBLE SWIVEL SHACKLE

(HIGH TENSILE)



Code	WLL	S.F.	Thread Size	Thread Length L1 [mm]	Torque Setting [N.m.] <small>Footlbs</small>	S	A	B	C	D	E	F	G	Weight [kg/pc.]
SSDSS M30	3.5 t	5	M30 (x3.5)	45	250	19	61	31	70	104	73	145	29	5.20
SSDSS M33	3.5 t	5	M33 (x3.5)	50	250	19	61	31	70	104	73	145	29	5.20
SSDSS M36	5 t	5	M36 (x4)	54	320	19	61	31	70	104	73	145	29	5.20
SSDSS M36x3	5 t	5	M36 (x3)	54	320	19	61	31	70	104	73	145	29	5.20
SSDSS M39	5 t	5	M39 (x4)	54	320	19	61	31	70	104	73	145	29	5.40
SSDSS M42	6 t	5	M42 (x4.5)	63	400	19	61	31	70	104	73	145	29	5.40
SSDSS M42x3	6 t	5	M42 (x3)	63	400	19	61	31	70	104	73	145	29	5.40
SSDSS M45	6 t	4	M45 (x4.5)	63	400	19	61	31	70	104	73	145	29	5.70
SSDSS U100	6000 lbs	5	UNC 1"-8	40	200 FL.	3/4"	61	31	70	104	73	145	29	5.20
SSDSS U125	7500 lbs	5	UNC 1 1/4-7	45	200 FL.	3/4"	61	31	70	104	73	145	29	5.20
SSDSS U138	7500 lbs	5	UNC 1 3/8-6	54	300 FL.	3/4"	61	31	70	104	73	145	29	5.20
SSDSS U150	11000 lbs	5	UNC 1 1/2-6	61	300 FL.	3/4"	61	31	70	104	73	145	29	5.40

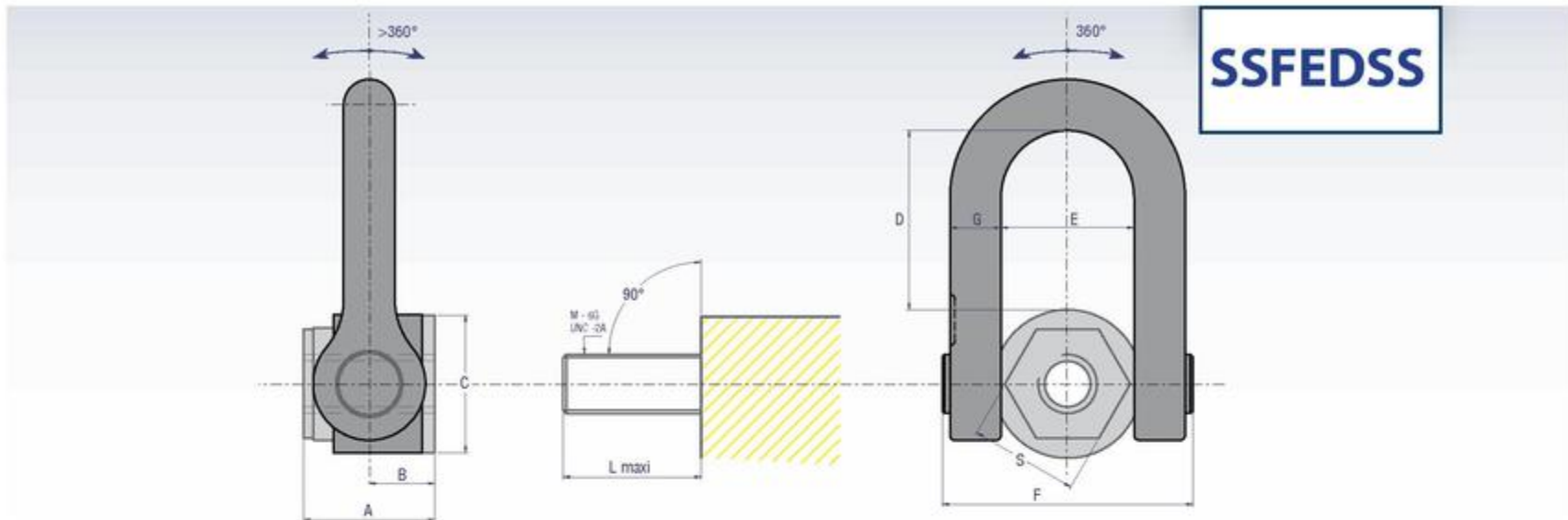
## LOAD CAPACITIES

Method Of Lifting								
Number Of Legs	1	2	1	2	2	2	3+4	3+4
Angle Of Inclination	0° [tonnes]	0° [tonnes]	90° [tonnes]	90° [tonnes]	0-45° [tonnes]	45-60° [tonnes]	0-45° [tonnes]	45-60° [tonnes]
SSDSS M30	3.5	7	3.5	7	4.9	3.5	7.3	3.5
SSDSS M33	3.5	7	3.5	7	4.9	3.5	7.3	3.5
SSDSS M36	5	10	5	10	7	5	10.5	5
SSDSS M36x3	5	10	5	10	7	5	10.5	5
SSDSS M39	5	10	5	10	7	5	10.5	5
SSDSS M42	6	12	6	12	8.4	6	12.6	6
SSDSS M42x3	6	12	6	12	8.4	6	12.6	6
SSDSS M45	6	12	6	12	8.4	6	12.6	6
SSDSS U100	6000 lbs	12000 lbs	6000 lbs	12000 lbs	8400 lbs	6000 lbs	12600 lbs	6000 lbs
SSDSS U125	7500 lbs	15000 lbs	7500 lbs	15000 lbs	10500 lbs	7500 lbs	15750 lbs	7500 lbs
SSDSS U138	7500 lbs	15000 lbs	7500 lbs	15000 lbs	10500 lbs	7500 lbs	15750 lbs	7500 lbs
SSDSS U150	11000 lbs	22000 lbs	11000 lbs	22000 lbs	15400 lbs	11000 lbs	23100 lbs	11000 lbs



## SSFEDSS STAINLESS STEEL FEMALE DOUBLE SWIVEL RING

(HIGH TENSILE)



Code	WLL	S.F.	Thread Size	L max. [mm]	Torque Setting [N.m.] Footlbs	S	A	B	C	D	E	F	G	Weight [kg/pc.]
SSFEDSS M24	2.7 t	5	M24 (x3)	66	160	50	66	31	70	104	73	145	29	5.40
SSFEDSS M27	2.8 t	5	M27 (x3)	66	200	50	66	31	70	104	73	145	29	5.40
SSFEDSS M30	3.5 t	5	M30 (x3.5)	66	250	50	66	31	70	104	73	145	29	5.40
SSFEDSS M33	3.5 t	5	M33 (x3.5)	66	250	50	66	31	70	104	73	145	29	5.40
SSFEDSS M36	5 t	5	M36 (x4)	66	320	50	66	31	70	104	73	145	29	5.40
SSFEDSS U100	6000 lbs	5	UNC 1"-8	66	125 FL.	50	66	31	70	104	73	145	29	5.4
SSFEDSS U125	7500 lbs	5	UNC 1"1/4-7	66	200 FL.	50	66	31	70	104	73	145	29	5.4
SSFEDSS U138	7500 lbs	5	UNC 1"3/8-6	66	300 FL.	50	66	31	70	104	73	145	29	5.40

## LOAD CAPACITIES

Method Of Lifting								
Number Of Legs	1	2	1	2	2	2	3+4	3+4
Angle Of Inclination	0° [tonnes]	90° [tonnes]	0° [tonnes]	90° [tonnes]	0-45° [tonnes]	45-60° [tonnes]	0-45° [tonnes]	45-60° [tonnes]
SSFEDSS M24	2.7	5.4	2.7	5.4	3.8	2.7	5.7	2.7
SSFEDSS M27	2.8	5.6	2.8	5.6	3.9	2.8	5.9	2.8
SSFEDSS M30	3.5	7	3.5	7	4.9	3.5	7.3	3.5
SSFEDSS M33	3.5	7	3.5	7	4.9	3.5	7.3	3.5
SSFEDSS M36	5	10	5	10	7	5	10.5	5
SSFEDSS U100	6000 lbs	12000 lbs	6000 lbs	12000 lbs	8400 lbs	6000 lbs	12600 lbs	6000 lbs
SSFEDSS U125	7500 lbs	15000 lbs	7500 lbs	15000 lbs	10500 lbs	7500 lbs	15750 lbs	7500 lbs
SSFEDSS U138	7500 lbs	15000 lbs	7500 lbs	15000 lbs	10500 lbs	7500 lbs	15750 lbs	7500 lbs

# User Guide For Pewag Inox Stainless Steel Chain Slings









## User guide for assembly, use, storage and maintenance of pewag winner inox chain slings.

### GENERAL

pewag lifting accessories can be used for general lifting purposes covering a wide range of designs, loads and slings. Detailed information of all chain, components and chain slings are given in this catalogue and follows the Uniformed Load Method of Rating as standard. In addition, there is also an alternative method of rating the capacity of chain slings (Trigonometric Method). This method should only be used where the weight and distribution of the load and the angles of the sling legs are known, and when the lift has been carefully planned and is supervised by a competent person. In such applications please contact our technical department, as the information given in this catalogue does not include details on chain sling rating using this alternative method of rating!

Chain slings shall be used only by trained personnel. If properly used, pewag chain slings have a long service life and offer a high degree of safety. Personal injury and damage to property can only be prevented by proper use. It is therefore highly important that you read and understand this user information and act in a responsible and forward-thinking manner when using lifting equipment.

### LIMITATIONS ON USE

When modifying or repairing pewag winner inox chain slings use only pewag supplied original parts (e.g. bolts, safety pins, screws, etc.).

The shape of the slings must not be modified – e.g. by bending, grinding, separating individual parts, drilling, etc. Avoid heating of the chains to more than 700°C. Do not remove any safety components, such as latches, safety pins, safety catches, etc. Do not apply any surface coatings to pewag chain slings, i.e. do not subject them to hot galvanizing or electrogalvanizing. Dipping or removing the coating with chemicals is also dangerous and must be agreed upon by pewag.

If required please contact our technical department who will be pleased to provide information.

### RESTRICTIONS OF USE

#### Due to hazardous or dangerous conditions (see table on page 4 of catalogue)

##### Effects of temperature

Reduction of the load capacity caused by high temperatures, as stated on page 4, ceases once the chain and/or lifting component returns to room temperature. pewag winner inox lifting accessories may not be used outside the temperature range stated. If this has nevertheless been the case, do not use the chain slings and remove them from service.

##### Effects of acids, caustics and chemicals

See Values For Resistance In Different Media on page 25.

##### Working load limit

The working load limits in this catalogue and those on the chain sling have been determined on the basis that the loading of the chain sling is symmetrical and there are no particularly hazardous conditions. Such hazardous conditions would be offshore applications, the lifting of people and potentially dangerous loads, such as liquid metals, corrosive or caustic substances or nuclear material. If the chain sling is to be used for such purposes, the extent of the risk is to be assessed by an expert and the safe working load be adjusted accordingly.

##### Inspection and tests

Before using any lifting equipment for the first time, it should be ensured that:

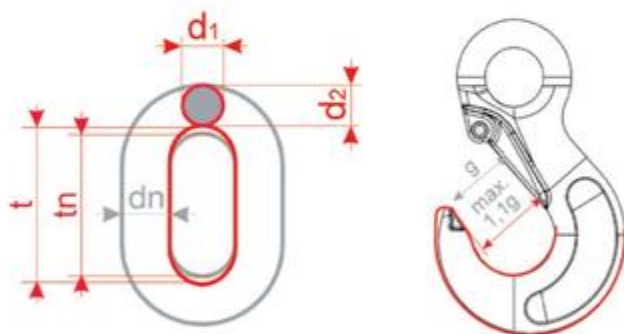
- The chain sling corresponds exactly to the order;
- The inspection certificate or certificate of conformity has been supplied;
- Marking and load capacity stated on the chain sling correspond to the information given on the inspection certificate or certificate of conformity;
- All particularities of the chain sling have been entered into a register of lifting equipment, if required;
- Instructions for the proper use of chain sling has been supplied and read and understood by personnel.

Check the chain slings before each use for visible damage or signs of wear. In case of doubt or damage do not use the chain slings and have them inspected by a competent person.



## Elimination criteria following visual inspection

- Broken part
- Missing or illegible marking of the chain sling, i.e. identification data and/or load capacity data
- Deformation of suspension or sling parts or the chain itself
- Elongation of the chain. The chain must be discarded if  $t > 1,05 t_n$
- Wear is determined as the mean value of two measurements of diameters  $d_1$  and  $d_2$  carried out at a right angle (see picture). The chain must be discarded if 
$$d_m = \frac{d_1 + d_2}{2} \leq 0,9 d_n$$
- Cuts, notches, grooves, surface cracks, excessive corrosion, discoloration due to heat, signs of subsequent welding, bent or twisted links or other flaws.
- Cracks: Chains with cross-cracks that are visible to the naked eye must be discarded.
- Missing or non-functional safety device (safety catches if fitted) as well as signs of widening or twisting of hooks, i.e. noticeable enlargement of the opening or other forms of deformation. The enlargement of the opening must not exceed 10% of the nominal value.



### Maximal approved dimensional change:

Designation	Dimensions	Admissible deviation
chain	dm	-10%
	t	+5%
links	d	-10%
	t	+10%
hooks	e	+5%
	d2 and h	-10%
	g	+10%
CWI	Halves loose	no changing admissible
	Bolt	-10%
	e	+5%
	c	-10%
Shackles	Bolt	no change admissible
	e	-15%
	d, d1, d2 and M	-10%

## Repair

pewag lifting accessories and chain slings should only be repaired by qualified personnel using genuine pewag parts.

## Documentation

Records of inspections, and in particular their findings, as well as details of repairs carried out must be kept on file during the entire service life the chain sling.

## Storage

pewag chain slings should be stored in cleaned and dried condition and protected from corrosion, e.g. lightly lubricated.

## CORRECT USE OF PEWAG WINNER INOX CHAIN SLINGS

### Angle of inclination – sling points

Select slinging points and chain sling type in such a way that the angles of inclination of all chain strands (legs) lie within the data given on the CE marked plate. All angles of inclination should preferably be the same. Avoid angles of inclination of less than 15°, because of the high risk of load instability. Never use chain slings with the angle of inclination exceeding 60°.

### Edge load – protection of load and chain

The maximum load capacity of pewag chain slings was defined under the assumption that the individual chain legs are pulled straight under load, i.e. that they do not run over edges. In the case of edge loading, load protection (packing) should to be used to avoid damage. For correct and incorrect use see below mentioned illustrations.



If chains are guided over edges without proper protection, their load capacity is reduced. For the corresponding load factors please refer to the table on page 4.

But if chains looped at a beam or other round shaped loads the diameter should be minimum twice or 3 times the chain pitch. For smaller diameters the WLL of the chains must be reduced by 50%.



## Impact

The maximum load capacity of pewag chain slings are defined under the assumption that the load on the individual chain strands (legs) is applied without any impact or shock loading. In cases of possible impact/shock, the load factors on page 10 must be taken into consideration.

## Impact/shock is defined as follows:

- Slight impact: created, for example, when accelerating the lifting or lowering movement
- Medium impact: created, for example, when the chain slips when adjusting to the shape of the load
- Heavy impact: created, for example, when the load falls into the unloaded chain

## Vibrations

pewag winner inox chains and accessories are rated according to regulations for 20,000 load cycles. At high dynamic forces there may nevertheless be a risk of damage to the chain and accessories. According to the employer's liability insurance association Metall Nord Süd this risk may be prevented if the stress at load capacity limit is reduced by using a larger chain dimension.

## Symmetrical loading:

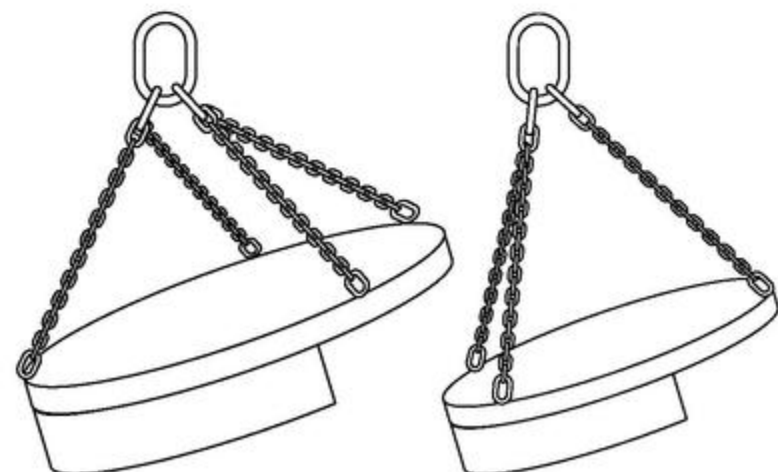
The load capacities of pewag chain slings are defined with the assumption that the load of the individual chain strands (legs) is symmetrically distributed. Lifting of the load then leads to identical angles of inclination, and the individual strands (legs) are symmetrical to each other.

The load can still be considered symmetrical when the following conditions are met:

- The load is smaller than 80% of the stated load capacity (WLL)
- The chain sling leg angles to the vertical are all not less than 15°
- The angles to the vertical of all chain legs are identical or deviate max. 15° from each other
- In the case of three and four strand sling chains, the corresponding plan angles are within 15° of each other.

## Example of asymmetry

If all of the listed parameters are not met, load is considered to be asymmetric and an expert must be called in to assess the lifting process. In case of doubt, only one chain strand (leg) should be considered as load-bearing. For the corresponding load capacity please refer to the load capacity table.



The majority of the load is carried by 1 strand (leg)

The majority of the load is carried by 2 strand (legs)

## Use of pewag chain slings for other than the intended purposes

Use chain sling only for the intended purpose. In cases where not all individual strands (legs) are used simultaneously or where several sling chains are used at the same time, please refer to the load capacity table to find out the load capacity. In case of doubt or as an alternative, change the load capacity according to the following rating tags of the following table.

Type of sling chain	Number of individual strands used	Use factor in relation to the load capacity given on the tag
two-stranded (2-leg)	1	1/2
three- and four-stranded (3/4-leg)	2	2/3
three- and four-stranded (3/4-leg)	1	1/3
2 x single-stranded (single leg)	2	1,4 up to 45°
2 x two-stranded (2 leg)	3 or 4	1,5 from 0-45° and 45°-60°

Hang any individual strands (leg) that you do not use, back into the master link to prevent hazards caused by freely swinging chains or unintended hooking.

Before using several chain slings at the same time, make sure that the crane hook is big enough for all the master rings. Make sure that the master rings cannot fall out of the hook during lifting. No angles of inclination of more than 45° are allowed. Use only chain slings of the same nominal thickness and grade at the same time.



# RESISTANCE

## VALUES FOR RESISTANCE IN DIFFERENT MEDIA

Material no.	DIN-shortname	Cr %	Ni %	Mo %	Ti
1.4571 (AISI 316 Ti)	X6 CrNiMoTi 17 12 2	16,5 - 18,5	10,5 - 13,5	2,0 - 2,5	Addition
1.4404 (AISI 316 L)	X2 CrNiMo 18 10	16,0 - 18,0	10,0 - 13,0	2,0 - 2,5	-

Corroding media	Concentration %	Temperature °C	Resistance
Atmosph. corrosion*			0
Benzine		20 / boiling	0
Formic - acid HCOOH	10-50	20 boiling	0 1
	80	20 boiling	0 3
Ammonia NH4OH		20 / boiling	0
Ammoniumnitrat NH4NO3	hydrous, cold saturated solvent	20 / boiling	0
Chloride	hydrous solvent	20	1-3 P
Acetit-acid CH3COOH	10	20	0
	10-50	boiling	0
	80	boiling	1 P
Fatty-acid (oil)		150	0
Hydrofluoric acid	10	20	2 P
	40	20	3
Tannic-acid	50	20 / boiling	0
Potassium hydroxide KOH	hot saturated	120	1 S
Lime milk Ca(OH)2 (Calciumhydroxid)		20 / boiling	0
Seawater		20	0 P
		boiling	1
Phosphor-acid H3PO4	1	20	0
	50	boiling	1
	80	boiling	2
	concentrated	boiling	3
Nitric acid HNO3	1-90	20	0
	50	boiling	1

Corroding media	Concentration %	Temperature °C	Resistance
Hydrochloric acid HCl	0,2-0,5	20	0 P
	1	50	1 P
		20	0 P
Sulfuric acid H2SO4	2	50	1 P
		20-50	1 P
	0,1	boiling	0
1	20	0	
	80	1	
	boiling	1	
	5	20	0
	10	50	1
		boiling	2
		20	0
50		1	
80	80	2	
	boiling	2	
Trichlorethylene CHCl:CCl2		20 / boiling	0 P

\* The complete resistance depends on kind, composition and the water-content of the atmosphere and is in industrial areas and near the coast considerably less than in the highlands or in dry regions.

0 = completely resistant  
 1 = practically resistant  
 2 = little resistant  
 3 = theoretically non-resistant  
 P = pitting  
 S = stress corrosion



# **DLH online**

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