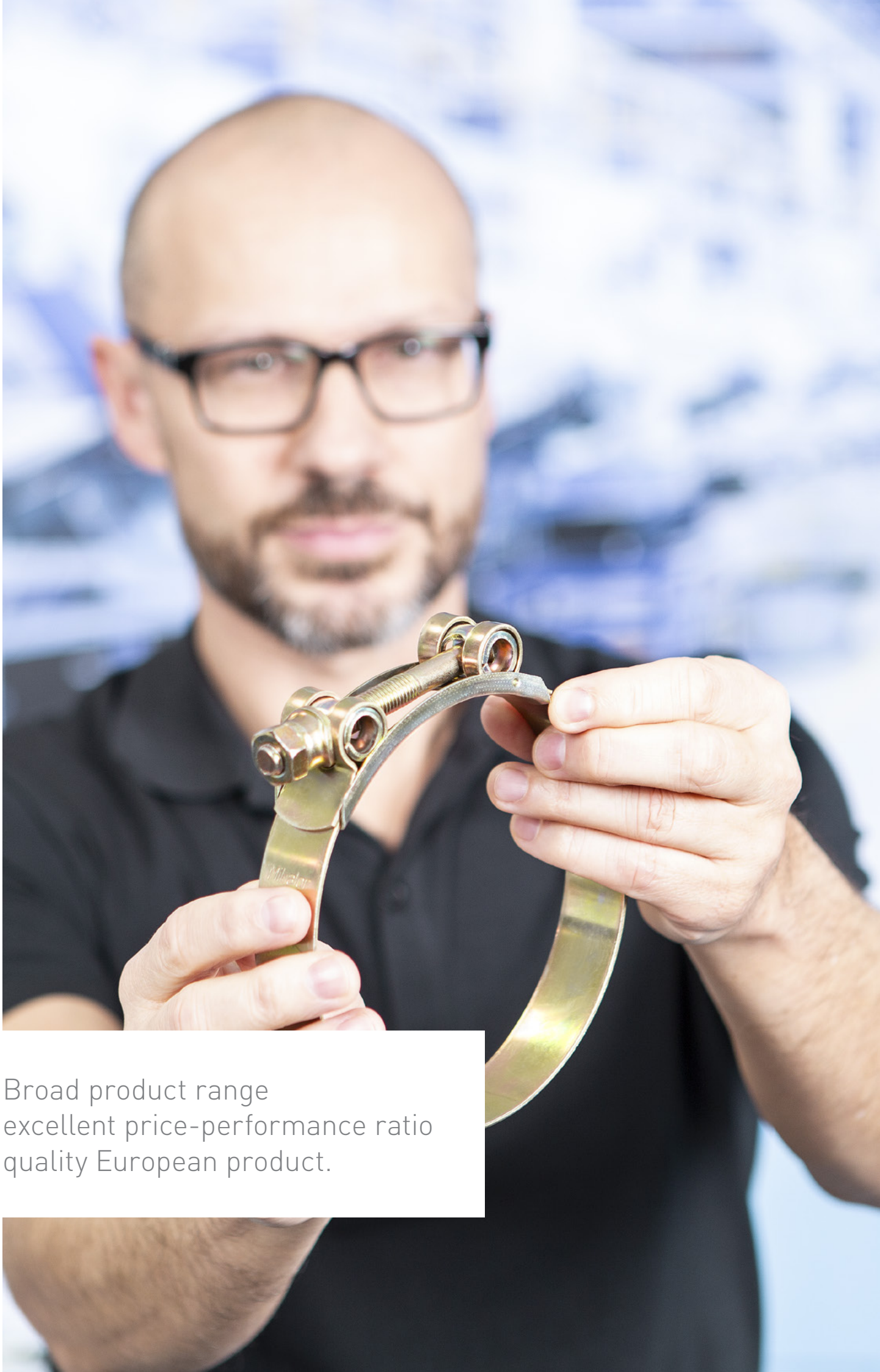




Mikalor

Hose clamps



Broad product range
excellent price-performance ratio
quality European product.

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Mikalor

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BENEFITS

Mikalor

The broad product range
- available from stock

Bossard's broad range of in-stock products includes different designs of hose clamps made of different materials. There are appropriate products for all applications in all industries – everything from a single source, from the same manufacturer, of a consistent quality and with a high level of availability.

If the range of in-stock products does not include clamps required, Mikalor is able to manufacture custom clamps tailored precisely to customer requirements – requests easily satisfied!

Top quality with excellent
price-performance ratio

Quality has its price, that's beyond dispute. But Mikalor products from the Bossard range prove that top products do not need to be expensive. It is crucial here that product quality does not suffer. Mikalor hose clamps are subject to rigorous quality testing.

When a hose connection inadvertently becomes loose, cost-intensive damage often results – one more reason not to make savings in the wrong place!



Fully manufactured in Europe

Mikalor products are fully developed and manufactured in Europe, meaning a concentrated level of expertise is available to customers. In-house research and development, in-house prototype and tool production, and in-house production lines ensure compliance to uniform quality standards.

Thanks to short communication and logistics paths, immediate responses and reactions are also possible in exceptional circumstances – proximity which pays off!

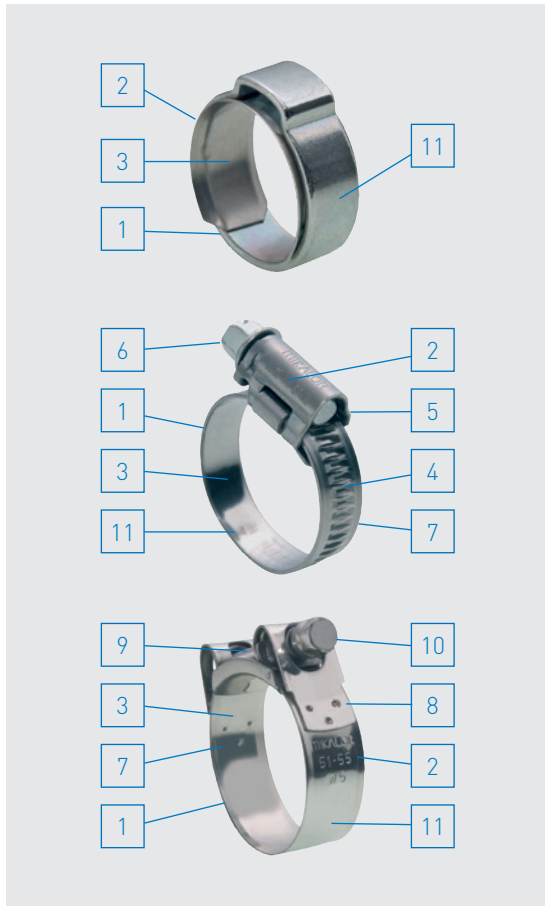
Mikalor and Bossard

Mikalor and Bossard have been collaborating for more than 30 years now with the goal of fully satisfying the high expectation level of customers. The strengthened collaboration between the two ISO 9001 and 14001 certified partners, brings with it addition customer benefits:

- The perfect combination of product, engineering and logistics, also for hose clamps
- Broad range of in-stock products
- Countless production capabilities
- Pricing in line with the market
- Short response times

TECHNICAL INFORMATION

Mikalor



Production characteristics of hose clamps

1. Rounded edges prevent damage to the hose
2. Marking of the tensioning range enables correct application
3. Smooth inner surfaces of the band protect the hose
4. Special band stamping enables the screw to engage perfectly
5. Compact, strongly secured housings increase reliability
6. Heavy-duty screws with combination drive permit the use of different fitting tools
7. Variants as per DIN 3017
8. High-tensile spot welding transfers high tension force
9. Folding bridges simplify fitting and removal of the clamp
10. Non-detachable bridge parts and nuts simplify maintenance work
11. Premium quality materials comply with the RoHS Ordinance (see Page 22)

Materials

	Standard	DIN	AISI	EN	AFNOR	UNI
W1	Screw	1.0213		Steel Qst-36-3 zinc-plated		
	Band and housing	1.0935		steel Zinc-plated		
W2	Screw	1.0213		Steel Qst-36-3 zinc-plated		
	Band and housing	1.4016		X6Cr17		
W3	Screw	1.4016	430	X6Cr17	Z8 C 17	X8Cr 17
	Band and housing	1.4016	430	X6Cr17	430 S 17	X8Cr 17
W4	Screw	1.4301	304	X5CrNi1810	Z7CN 18-09	X5 CrNi1810
	Band and housing	1.4301	304	X5CrNi1810	304 S 16 / 304 S 31	X5 CrNi1810
W5	Screw	1.4571	316	X6CrNiMo17.12.2	Z6CNDT 17-12 / 320 S 31	X6 CrNiMo 17 12
	Band and housing	1.4401	316	[X5CrNiMo17.12.2]	[Z7 CDN 17-12-02]	[X5 CrNiMo 17 12]

Subject to change without notice. Please refer to your local Bossard E-Shop for the current assortment and dimensions.
Other variants upon request.

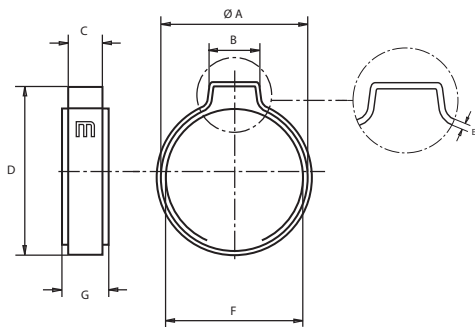


1-ear clips are the cost-effective solution for simple, permanent hose connections for compressed air and liquid applications. Use of ear clips with inner ring is recommended when using sensitive hoses.

1-ear clips with inner ring are intended for fitting once. With the right tools (BN 20578 and BN 20579, see Page 20), 1-ear clips can be mounted easily, quickly and reliably.

1-ear clips with inner ring

○ **BN 20553 / W1** | Steel St 34 (DIN 2393 C), zinc plated, ○ **BN 20560 / W4** | Stainless steel A2 (AISI-304)



Ø d		A	B	C	D	E	F	G		
min.	max.	mm	mm	mm	mm	mm	mm	mm		
7.5	8.5	9.3	5.5	6,0	13,0	0,8	8.5	7.8	100	○○
8.2	9.5	10.3	6.0	6,0	14,0	0,8	9.5	7.8	100	○○
9.0	10.5	11.3	6.5	6,5	15,0	0,8	10.5	7.8	100	○○
10.0	11.5	12.3	7.0	6,5	16,0	0,8	11.5	7.8	100	○○
10.5	12.5	13.3	7.5	6,5	17,0	0,8	12.5	7.8	100	○○
11.5	13.5	14.3	8.0	7,0	18,5	1,0	13.5	7.8	100	○○
12.5	14.5	15.3	8.0	7,0	19,5	1,0	14.5	8.8	100	○
13.0	15.3	16.3	8.5	7,0	20,5	1,0	15.3	8.8	100	○○
14.0	16.3	17.5	9.0	7,0	22,0	1,0	16.3	8.8	100	○
15.0	17.3	18.5	9.5	7,0	23,0	1,0	17.3	8.8	100	○○
16.0	18.3	19.5	9.5	7,5	24,0	1,0	18.3	9.8	100	○
17.0	19.3	20.5	10.0	7,5	25,0	1,0	19.3	9.8	100	○

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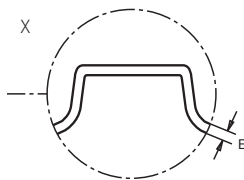
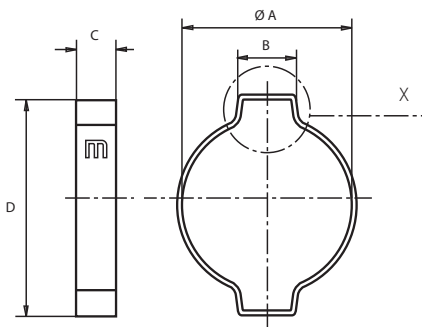



2-ear clips are identical in application to 1-ear clips but have a higher retention force and produce constant all-round pressure. Rounded edges prevent damage to the hose.

2-ear clips are intended for fitting once. With the right tools (BN 20578 and BN 20579, see Page 20), 2-ear clips can be mounted easily, quickly and reliably.

2-ear clips

○ **BN 20552 / W1** | Steel St 34 (DIN 2393 C), zinc plated, ○ **BN 20559 / W4** | Stainless steel A2 (AISI-304)



Ø d		A	B	C	D	E		
min.	max.	mm	mm	mm	mm	mm		
5	7	7.3	4.3	6.0	11.0	0.6	100	○○
7	9	9.3	4.8	6.0	13.5	0.8	100	○○
9	11	11.3	5.3	6.5	17.0	0.8	100	○○
10	12	12.3	5.5	6.5	18.0	0.9	100	○
11	13	13.3	5.8	6.5	19.0	0.9	100	○○
13	15	15.3	6.3	7.0	21.5	1.0	100	○○
14	17	17.5	6.6	7.0	24.0	1.2	100	○○
15	18	18.5	7.0	7.5	25.0	1.2	100	○○
17	20	20.5	7.6	7.5	27.0	1.2	100	○○
18	21	21.5	7.9	8.0	28.0	1.2	100	○○
20	23	23.5	8.5	8.0	31.0	1.3	100	○○
22	25	25.5	9.1	8.5	33.0	1.4	100	○
23	27	27.5	9.4	8.5	35.0	1.4	100	○
25	28	28.5	10.0	9.0	36.0	1.4	100	○
28	31	31.5	10.6	9.0	39.0	1.4	100	○
31	34	34.5	11.0	9.5	42.0	1.4	100	○
34	37	37.5	11.5	9.5	46.0	1.6	100	○
37	40	40.5	12.0	10.0	49.0	1.6	100	○
40	43	43.5	12.5	10.0	53.0	1.6	75	○
43	43	46.5	13.0	10.5	56.0	1.6	75	○

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Other variants upon request.

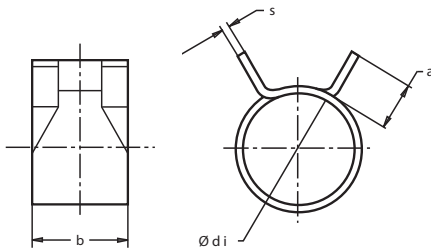


"AML" spring clips are designed for applications with uniform pressure distribution. With their retightening effect, they are also particularly suitable for use with hoses exposed to high temperature fluctuations.

Spring clips can be used repeatedly. They are fitted by hand or with standard pliers.

"AML" spring clips

○ BN 20554 / W1 | steel zinc-plated



Ø d mm	Ø di mm	b mm	a ±0,05 mm	s mm		
6	5,5 ±0,10	7	3	0,5	500	○
7	6,4 ±0,10	7	3	0,5	500	○
8	7,4 ±0,15	8	3	0,6	500	○
9	8,4 ±0,15	8	3,5	0,6	500	○
10	9,3 ±0,20	8	3,5	0,7	500	○
11	10,3 ±0,20	8	4	0,7	500	○
12	11,1 ±0,20	8	4	0,7	500	○
14	12,9 ±0,20	8	4	0,8	500	○
15	13,5 ±0,20	8	4,5	0,8	500	○
17	15,6 ±0,20	8	4,5	0,8	500	○
20	18,4 ±0,40	8	3,2	0,8	500	○

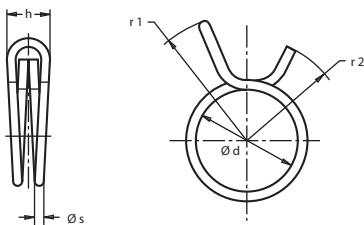


"AAL" dual wire clips are a low-cost solution for different applications. They are specially suited to applications in the low pressure range and for spiral hoses with short diameters.

Spring clips can be used repeatedly. They are fitted by hand or with standard pliers.

"AAL" dual wire clips

○ BN 20555 / W1 | steel zinc-plated



Ø d			r1	r2	h max.	Ø s		
min.	ideal	max.	mm	mm	mm	mm		
7.3	7.6	7.8	10.7	8.2	5.5	1.0	1000	○
7.8	8.1	8.3	10.7	8.3	5.5	1.0	1000	○
8.3	8.6	8.8	10.9	8.6	5.5	1.0	1000	○
8.8	9.1	9.3	11.0	9.0	5.5	1.0	1000	○
9.3	9.6	9.9	11.8	9.0	5.5	1.0	1000	○
9.8	10.1	10.4	13.5	10.5	6.3	1.2	1000	○
10.4	10.7	11.0	14.8	11.4	6.3	1.2	1000	○
11.0	11.3	11.6	14.8	11.9	6.3	1.2	1000	○
11.6	11.9	12.3	16.4	12.4	7.3	1.5	500	○
12.1	12.8	13.1	17.2	13.7	7.3	1.5	500	○
12.9	13.3	13.6	17.0	14.0	7.3	1.5	500	○
13.6	14.0	14.4	18.0	14.5	7.3	1.5	500	○
14.4	14.8	15.1	19.6	16.0	8.4	1.8	500	○
14.8	15.5	15.9	21.0	16.4	8.4	1.8	500	○
15.9	16.4	16.8	22.0	16.6	8.4	1.8	500	○
16.8	17.3	17.7	21.3	16.5	8.4	1.8	500	○
17.7	18.2	18.7	22.7	17.7	9.9	2.0	500	○
18.7	19.2	19.6	23.3	18.0	9.9	2.0	500	○
19.6	20.2	20.6	24.0	18.5	9.9	2.0	500	○

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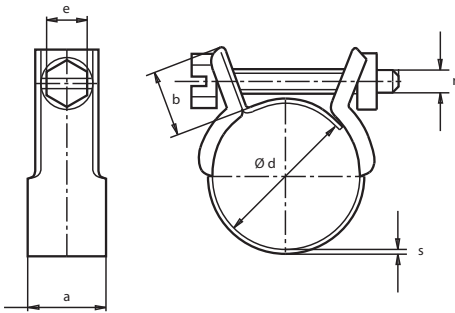



“Normal” single clips are suitable for general-purpose use in the low pressure range. The steel grade used (in accordance with strength category 6.6) enables perfect adaptation to the hose.

Spring clips can be used repeatedly. The combination drive of the screw enables fitting with different tools. Use of the flexible BN 20577 screwdriver (Page 20) is recommended for inaccessible places.

“Normal” single clips

○ **BN 20556 / W1** | Screw: Steel cat. 6.6, zinc-plated, nut: steel 6, zinc-plated, Band: Steel St 02Z (1.0226)



Ø d mm	r mm	e mm	a mm	b mm	s mm	M _A max. Nm*	p max bar*	
6	M3	5	8,4	9	0.5	0.4	15.0	100 ○
8	M3	5	9	9	0.5	0.4	14.0	100 ○
9	M4	6	10	10	0.5	1.0	15.0	100 ○
9.5-10	M4	6	10	10	0.5	1.0	14.0	100 ○
10-11	M4	6	10	10	0.5	1.0	13.0	100 ○
12-13	M4	6	10	10	0.5	1.0	12.5	100 ○
13-14	M4	6	10	10	0.5	1.0	12.5	100 ○
14-15	M4	6	10	10	0.5	1.0	12.0	100 ○
15-17	M4	6	10	10	0.5	1.0	12.0	100 ○
16-18	M4	6	10	10	0.5	1.0	11.5	100 ○
18-20	M4	6	10	10	0.5	1.0	10.5	100 ○
19-21	M4	6	10	10	0.5	1.0	10.5	100 ○
20-22	M4	6	10	10	0.5	1.0	10.5	100 ○
22-25	M4	6	10	10	0.5	1.0	9.5	100 ○
23-26	M4	6	10	10	0.5	1.0	9.0	100 ○
25-28	M4	6	10	10	0.5	1.0	8.5	100 ○
26-29	M4	6	10	10	0.5	1.0	8.5	100 ○
29-32	M4	6	10	10	0.5	1.0	8.0	100 ○

The maximum application pressure can vary depending on the type of hose used.

Subject to change without notice. Please refer to your local Bossard E-Shop for the current assortment and dimensions.
Other variants upon request.

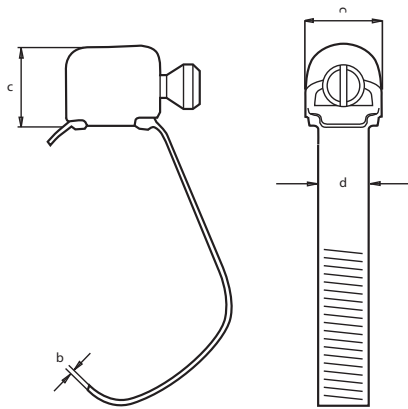



Open worm drive hose clips are especially suited for assembly later on without the hose already attached having to be removed. They can also be used in confined spaces thanks to their compact shape.

They are fitted with standard screwdrivers.

Open worm drive hose clips

○ **BN 20557 / W2** | Screw and housing: Steel Qst 34-3, zinc-plated | Band: Stainless steel A2 X8CR 17



$\emptyset d$ mm	a mm	b mm	c mm	d mm	M_A max. Nm*	p max bar*	
7-11	7.5	0.4	7	5	1.5	35	100 ○
11-19	7.5	0.4	7	5	1.5	35	100 ○

The maximum application pressure can vary depending on the type of hose used.

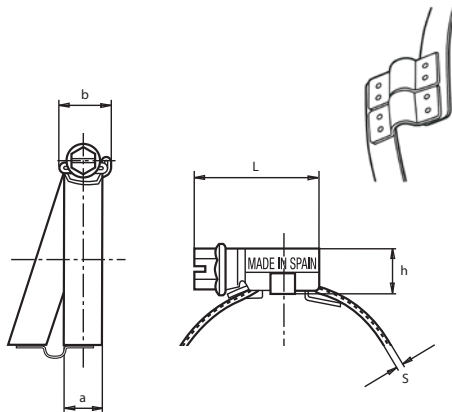



Worm drive hose clips with dual bridges have been developed specially for the ventilation area of spiral hoses. They are also able to cope with the toughest of demands thanks to their AISI-304 stainless steel design. If so requested by the customer, worm drive hose clips can also be supplied in zinc-coated steel (W2 variant) with single bridge.

The combination drive of the screw enables fitting with different tools. Use of the flexible BN 20577 screwdriver (Page 20) is recommended for inaccessible places.

Worm drive hose clips with dual bridges

○ **BN 20572 / W4** | Screw: AISI-304 (Stainless steel A2), Band and housing: X5CrNi1810



$\varnothing d$ mm	a	+0.3 -0.2	b Max.	L mm	h mm		
50-70	9		14	25.6	10	100	○
60-80	9		14	25.6	10	100	○
70-90	9		14	25.6	10	100	○
80-100	9		14	25.6	10	50	○
100-120	9		14	25.6	10	25	○
120-140	9		14	25.6	10	25	○
140-160	9		14	25.6	10	25	○

The maximum application pressure can vary depending on the type of hose used.

Medium pressure

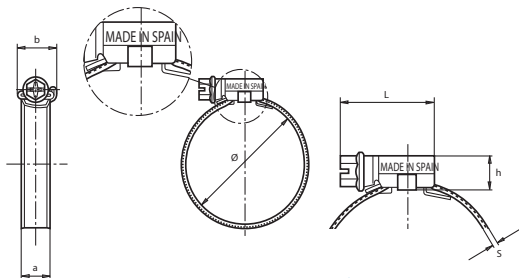



Thanks to their unique housing design, "ASFA-L" hose clamps have excellent technical properties whilst retaining their compact shape. The cold stamped outer side of the band, the smooth inner side of the band and the rounded edges prevent any damage to the hose.

The different material variants enable usage tailored perfectly to different requirements. ASFA-L Schlauchschellen entsprechen der "ASFA-L" hose clamps comply with standard DIN 3017 and RoHS Ordinance EU 2002/95/EC.

"ASFA-L" hose clamps

- **BN 20564 / W1** | Screw: steel Qst 36-3, zinc plated, Band and housing: Steel S/EN 10292, zinc plated
- **BN 1367 / W2** | Screw: steel Qst 36-3, vz, Band and housing: X6Cr17
- **BN 20567 / W3** | Screw: X6Cr17, Band and housing: X6Cr17
- **BN 949 / W4** | Screw: AISI-304 Cu (Stainless steel A2), Band and housing: X5CrNi1810
- **BN 20568 / W5** | Screw: AISI-316 Cu (Stainless steel A4), Band and housing: X5CrNiMo 17.12.2



$\varnothing d$ mm	L max.	$+0.1$ s 0	h max.	$+0.3$ a -0.2	b max.	M_A max. Nm*	p max bar*		
8-12	18.0	0.6	9.5	7.5	11.5	1.5	40	100	●●
8-16	22.1	0.6	10	9	14	3.0	45	100	●●●●
12-22	22.1	0.6	10	9	14	3.0	45	100	●●●●
16-27	23.6	0.7	10	9	14	3.5	42	100	●●●●
20-32	23.6	0.7	10	9	14	3.5	36	100	●●●●
25-40	25.6	0.7	10	9	14	4.0	32	100	●●●●
30-45	25.6	0.7	10	9	14	4.0	28	100	●●●●
32-50	25.6	0.7	10	9	14	4.0	24	100	●●●●
40-60	25.6	0.7	10	9	14	4.0	19	100	●●●●
50-70	29.6	0.7	10	9	14	4.0	17	100	●●●●
60-80	29.6	0.7	10	9	14	4.0	15	100	●●●●
70-90	29.6	0.7	10	9	14	4.0	13	100	●●●●
80-100	29.6	0.7	10	9	14	4.0	11	100	●●●●
90-110	29.6	0.7	10	9	14	4.0	10	100	●●●●
100-120	29.6	0.7	10	9	14	4.0	9	100	●●●●
110-130	29.6	0.7	10	9	14	4.0	8	100	●●●●
120-140	29.6	0.7	10	9	14	4.0	7	100	●●●●
130-150	29.6	0.7	10	9	14	4.0	6	100	●●●●
140-160	29.6	0.7	10	9	14	4.0	5	100	●●●●

Subject to change without notice. Please refer to your local Bossard E-Shop for the current assortment and dimensions.
Other variants upon request.

The maximum application pressure can vary depending on the type of hose used.

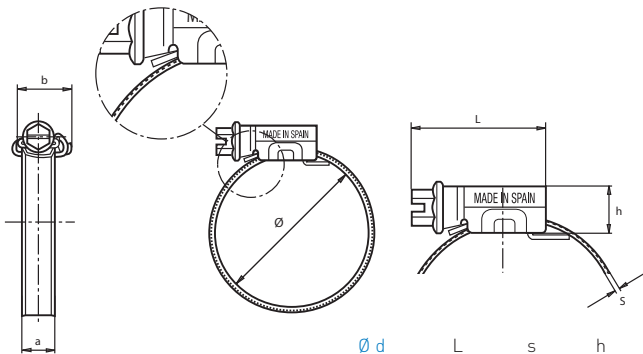


“ASFA-S” hose clamps unite robust band and innovative housing design to take up high torques. The cold stamped outer side of the band, the smooth inner side of the band and the rounded edges prevent any damage to the hose.

The different material variants enable usage tailored perfectly to different requirements. “ASFA-S” hose clamps comply with standard DIN 3017 and RoHS Ordinance EU 2002/95/EC.

hose clamps ASFA-S

- **BN 20565 / W1** | Screw: steel Qst 36-3, zinc plated, Band and housing: S/EN 10292, vzb
- **BN 1368 / W2** | Screw: steel Qst 36-3, zinc plated, Band and housing: X6Cr17
- **BN 20569 / W3** | Screw: X6Cr17, Band and housing: X6Cr17
- **BN 950 / W4** | Screw: AISI-304 Cu (Stainless steel A2), Band and housing: X5CrNi1810
- **BN 20570 / W5** | Screw: AISI-316 Cu (Stainless steel A4), Band and housing: X5CrNiMo 17.12.2



Ø d mm	L max.	s +0.10	h	a +0.4 -0.2	b max.	M _A max. Nm*	p max bar*		
16-27	29.6	0.8	11	12.2	18	4.2	45	50	●●●●
20-32	29.6	0.8	11	12.2	18	5.2	45	50	●●●●
25-40	29.6	0.8	11	12.2	18	5.2	40	50	●●●●
30-45	29.6	0.8	11	12.2	18	5.2	35	50	●●●●
32-50	29.6	0.8	11	12.2	18	6.0	35	50	●●●●
40-60	29.6	0.8	11	12.2	18	6.0	30	50	●●●●
50-70	31.6	0.8	11	12.2	18	6.8	25	50	●●●●
60-80	31.6	0.8	11	12.2	18	6.8	20	50	●●●●
70-90	31.6	0.8	11	12.2	18	6.8	17	50	●●●●
80-100	31.6	0.8	11	12.2	18	6.8	14	25	●●●●
90-110	31.6	0.8	11	12.2	18	6.8	12	25	●●●●
100-120	31.6	0.8	11	12.2	18	6.8	10	25	●●●●
110-130	31.6	0.8	11	12.2	18	6.8	8	25	●●●●
120-140	34.6	0.8	11	12.2	18	6.8	7	25	●●●●
130-150	34.6	0.8	11	12.2	18	6.8	6	25	●●●●
140-160	34.6	0.8	11	12.2	18	6.8	5	25	●●●●
150-170	34.6	0.8	11	12.2	18	6.8	4	25	●●●●
160-180	34.6	0.8	11	12.2	18	6.8	3	25	●●●●
170-190	34.6	0.8	11	12.2	18	6.8	2	10	●●●●
180-200	34.6	0.8	11	12.2	18	6.8	2	10	●●●●
190-210	34.6	0.8	11	12.2	18	6.8	1.8	10	●●●●
200-220	34.6	0.8	11	12.2	18	6.8	1.8	10	●●●●
210-230	34.6	0.8	11	12.2	18	6.8	1.6	10	●●●●
220-240	34.6	0.8	11	12.2	18	6.8	1.6	10	●●●●

Subject to change without notice. Please refer to your local Bossard E-Shop for the current assortment and dimensions. Other variants upon request.

The maximum application pressure can vary depending on the type of hose used.

High pressure

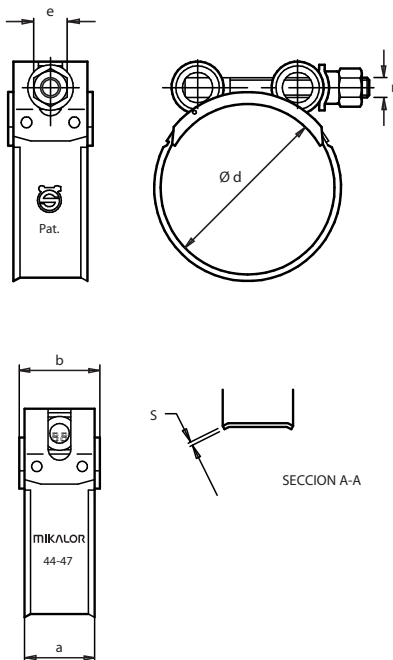



“Super” joint bolt clamps have been specially developed for high pressure loads. The interlocking system comprises of a rotatable screw (strength category 8.8) and a hexagonal nut. The band with chamfered edges prevents damage to the hose.

Standard tools can be used for fitting.

“Super” joint bolt

○ **BN 20566 / W1** | Screw: steel 8.8, zinc plated yellow, Band and bridge: steel zinc plated yellow



Ø d mm	r	e	a	b	s	M _A max. Nm*	p max bar*		
17-19	M5	8	18 ^{+0,20}	19,8	0,6	4,5	48	50	○
20-22	M5	8	18 ^{+0,20}	19,8	0,6	4,5	48	50	○
23-25	M5	8	18 ^{+0,20}	19,8	0,6	4,5	45	50	○
26-28	M5	8	18 ^{+0,20}	19,8	0,6	4,5	45	50	○
29-31	M6	10	20 ^{+0,30}	22	0,8	8	42	50	○
32-35	M6	10	20 ^{+0,30}	22	0,8	8	42	50	○
36-39	M6	10	20 ^{+0,30}	22	0,8	8	40	50	○
40-43	M6	10	20 ^{+0,30}	22	0,8	8	40	50	○
44-47	M7	11	22 ^{+0,20}	24,5	1,2	16	44	50	○
48-51	M7	11	22 ^{+0,20}	24,5	1,2	16	44	50	○
52-55	M7	11	22 ^{+0,20}	24,5	1,2	16	40	50	○
56-59	M7	11	22 ^{+0,20}	24,5	1,2	16	40	50	○
60-63	M7	11	22 ^{+0,20}	24,5	1,2	16	36	50	○
64-67	M7	11	22 ^{+0,20}	24,5	1,2	16	36	25	○
68-73	M8	13	24 ^{+0,40}	26,5	1,5	25	28	25	○
74-79	M8	13	24 ^{+0,40}	26,5	1,5	25	28	25	○
80-85	M8	13	24 ^{+0,40}	26,5	1,5	25	28	25	○
86-91	M8	13	24 ^{+0,40}	26,5	1,5	25	20	25	○
92-97	M8	13	24 ^{+0,40}	26,5	1,5	25	20	25	○
98-103	M8	13	24 ^{+0,40}	26,5	1,5	25	20	25	○
104-112	M8	13	24 ^{+0,40}	26,5	1,5	25	12	25	○
113-121	M8	13	24 ^{+0,40}	26,5	1,5	25	12	25	○
122-130	M8	13	24 ^{+0,40}	26,5	1,5	25	12	25	○
131-139	M10	17	26 ^{+0,50}	29	1,7	50	9	25	○
140-148	M10	17	26 ^{+0,50}	29	1,7	50	9	25	○
149-161	M10	17	26 ^{+0,50}	29	1,7	50	9	25	○
162-174	M10	17	26 ^{+0,50}	29	1,7	50	6	10	○
175-187	M10	17	26 ^{+0,50}	29	1,7	50	6	10	○
188-200	M10	17	26 ^{+0,50}	29	1,7	50	6	10	○
201-213	M10	17	26 ^{+0,50}	29	1,7	50	3	10	○
214-226	M10	17	26 ^{+0,50}	29	1,7	50	3	10	○
227-239	M10	17	26 ^{+0,50}	29	1,7	50	3	10	○
240-252	M10	17	26 ^{+0,50}	29	1,7	50	3	10	○

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Other variants upon request.

The maximum application pressure can vary depending on the type of hose used.



The "Supra" joint bolt clamp is the logical enhancement of the "Super" clamp. The folding bridge enables fitting and removal of hoses. The bridge parts are non-detachable. Chamfered edges prevent damage to the hose.

The different material variants enable usage tailored perfectly to different requirements.

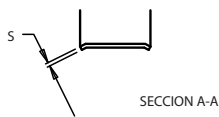
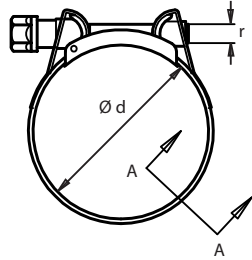
"Supra" hose clamps comply with standard DIN 3017 and RoHS Ordinance EU 2002/95/EC.






































"Supra" joint bolt clamp

○ **BN 13907 / W2** | Screw: steel Qst 36-3, zinc plated, Band and housing: X6Cr17

○ **BN 8765 / W4** | Screw: AISI-304 Cu (Stainless steel A2), Band and housing: X5CrNi1810

○ **BN 20571 / W5** | Screw: AISI-316 Cu (Stainless steel A4), Band and housing: X5CrNiMo 17.12.2



$\varnothing d$ mm	r	e mm	a mm	b mm	s	M_A max. Nm*	p max. bar*		
17-19	M6	8	18 $\pm 0,20$	19,8	0,6	10	40	50	
19-21	M6	8	18 $\pm 0,20$	19,8	0,6	10	40	50	
21-23	M6	8	18 $\pm 0,20$	19,8	0,6	10	40	50	
23-25	M6	8	18 $\pm 0,20$	19,8	0,6	10	40	50	
25-27	M6	8	18 $\pm 0,20$	19,8	0,6	10	40	50	
27-29	M6	8	18 $\pm 0,20$	19,8	0,6	10	40	50	
29-31	M7	11	20 $\pm 0,30$	22	0,8	12	35	50	
31-34	M7	11	20 $\pm 0,30$	22	0,8	12	35	50	
34-37	M7	11	20 $\pm 0,30$	22	0,8	12	35	50	
37-40	M7	11	20 $\pm 0,30$	22	0,8	12	35	50	
40-43	M7	11	20 $\pm 0,30$	22	0,8	12	35	50	
43-47	M7	11	20 $\pm 0,30$	22	0,9	12	35	50	
47-51	M7	11	20 $\pm 0,30$	22	0,9	16	30	50	
51-55	M7	11	20 $\pm 0,30$	22	0,9	16	30	25	
55-59	M7	11	20 $\pm 0,30$	22	0,9	16	30	25	
59-63	M7	11	20 $\pm 0,30$	22	0,9	16	30	25	
63-68	M7	11	20 $\pm 0,30$	22	0,9	16	30	25	
68-73	M8	13	25 $\pm 0,40$	27,5	1	30	20	25	
73-79	M8	13	25 $\pm 0,40$	27,5	1	30	20	25	
79-85	M8	13	25 $\pm 0,40$	27,5	1	30	20	25	
85-91	M8	13	25 $\pm 0,40$	27,5	1	30	15	25	
91-97	M8	13	25 $\pm 0,40$	27,5	1	30	15	25	
97-104	M8	13	25 $\pm 0,40$	27,5	1	30	15	25	
104-112	M8	13	25 $\pm 0,40$	27,5	1	30	10	25	
112-121	M8	13	25 $\pm 0,40$	27,5	1	30	10	25	
121-130	M8	13	25 $\pm 0,40$	27,5	1	30	10	25	
130-140	M10	15	28 $\pm 0,40$	31	1,2	45	6	10	
140-150	M10	15	28 $\pm 0,40$	31	1,2	45	6	10	
150-162	M10	15	28 $\pm 0,40$	31	1,2	45	6	10	
162-174	M10	15	28 $\pm 0,40$	31	1,2	45	3	10	
174-187	M10	15	28 $\pm 0,40$	31	1,2	45	3	10	
187-200	M10	15	28 $\pm 0,40$	31	1,2	45	3	10	
200-213	M10	15	28 $\pm 0,40$	31	1,2	45	3	10	
213-226	M10	15	28 $\pm 0,40$	31	1,2	45	3	10	
226-239	M10	15	28 $\pm 0,40$	31	1,2	45	3	10	
239-252	M10	15	28 $\pm 0,40$	31	1,2	45	3	10	

Subject to change without notice. Please refer to your local Bossard E-Shop for the current assortment and dimensions. Other variants upon request.

The maximum application pressure can vary depending on the type of hose used.


Assortment box



The practical assortment box is an indispensable assistant for maintenance work. Dividing tensioning ranges into separate compartments enables quick and efficient work. The right tool is of course also ready to hand in the assortment box.


2-ear clips

○ BN 20583 / W1

Art.	∅ 5-7	∅ 7-9	∅ 9-11	∅ 11-13	∅ 13-15	∅ 15-18	∅ 17-20	∅ 20-23	∅ 22-25	Tools	
3520341	50	50	50	50	50	50	30	25	20	BN 20579	○


2-ear clips

○ BN 20584 / W4

Art.	∅ 5-7	∅ 7-9	∅ 9-11	∅ 11-13	∅ 13-15	∅ 15-18	∅ 17-20	∅ 20-23	∅ 22-25	Tools	
3520340	50	50	50	50	50	50	30	25	20	BN 20579	○


hose clamps ASFA-L

○ BN 20575 / W1

Art.	∅ 8-16	∅ 12-22	∅ 16-27	∅ 20-32	∅ 25-40	∅ 30-45	∅ 32-50	∅ 40-60	∅ 50-70	Tools	
3511302	60	40	40	20	20	20	10	10	6	BN 20577	○


hose clamps ASFA-L

○ BN 2119 / W2

Art.	∅ 8-16	∅ 12-22	∅ 16-27	∅ 20-32	∅ 25-40	∅ 30-45	∅ 32-50	∅ 40-60	∅ 50-70	Tools	
1450948	60	40	40	20	20	20	10	10	6	BN 20577	○

hose clamps ASFA-L

○ BN 20576 / W4

Art.	∅ 8-16	∅ 12-22	∅ 16-27	∅ 20-32	∅ 25-40	∅ 30-45	∅ 32-50	∅ 40-60	∅ 50-70	Tools	
3511303	60	40	40	20	20	20	10	10	6	BN 20577	○

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P-Clip



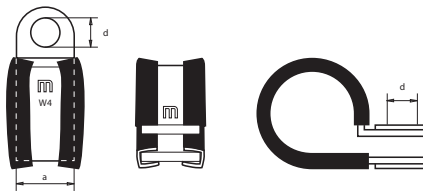
P-clips are retaining clips made of zinc-plated steel and with a black EPDM lining. The rubber profile ensures tight fit, reduces the risk of injury, prevents vibration and protects against seepage. The band has strengtheners near the punched hole.

P-clips are used to attach pipes, hoses and cables.

Retaining clips P-Clip

○ **BN 20574 / W1 AGD** | Band: Steel zinc plated, Lining: EPDM

○ **BN 20573 / W4 AGID** | Band: AISI 304, Lining: EPDM



	Band width a	12	15	20
	Hole diameter d	5.3	6.4	8.4
	For screw	M5	M6	M8
	Ø			
5	200	○○		
6	200	○○	200 ○○	
7	200	○○	200 ○○	
10	200	○○	200	
11				100 ○○
12	200	○○	200 ○○	100 ○○
13	200	○○	200 ○○	100 ○○
14	200	○○	200 ○○	100 ○○
15	200	○○	200 ○○	100 ○○
16	200	○○	200 ○○	100 ○○
17	200	○○	200 ○○	
18	200	○○	200 ○○	100 ○○
19	200	○○	200 ○○	100 ○○
20	200	○○	200 ○○	100 ○○
21	100	○○	100 ○○	50 ○○
22	100	○○	100 ○○	50 ○○
23	100	○○	100 ○○	50 ○○
24	100	○○		50 ○○
25	100	○○	100 ○○	50 ○○
26	100	○○	100 ○○	
27	100	○○		50 ○○
28	100	○○	100 ○○	50 ○○
30			100 ○○	50 ○○
32			100 ○○	50 ○○
34			100 ○○	50 ○○
35			100 ○○	50 ○○
36				50 ○○
37			100 ○○	
38			100 ○○	50 ○○
40			100 ○○	50 ○○

Ordering example:
 Ø=25, a=12
 BN 20574 25/12

Subject to change without notice. Please refer to your local Bossard E-Shop for the current assortment and dimensions.
 Other variants upon request.

Tools

Flexible screwdriver

○ [BN 20577](#)



The flexible screwdriver simplifies fitting in places difficult to access. Suitable for screw and worm drive hose clips models Normal, ASFA-L and ASFA-S.

Name	Art.		
Flexible screwdriver	3512424	1	○

Ear clip pliers (for frontal fastening)

○ [BN 20578](#)



The lateral pliers always enable frontal fitting as well as sideways fitting, and are used when space is at a premium.


Name	Art.		
Ear clip pliers	3512424	1	○

Ear clip pliers (for lateral fastening)

○ [BN 20579](#)



The lateral pliers always enable frontal fitting as well as sideways fitting, and are used when space is at a premium.

Name	Art.		
Ear clip pliers	3511292	1	○

Subject to change without notice. Please refer to your local Bossard E-Shop for the current assortment and dimensions.
Other variants upon request.

EXAMPLES

Other delivery options

The CT range

CT stands for constant tension. In the inner ring or at the clamping screw, integrated spring systems maintain a uniform tension force, even when subject to extreme temperature and pressure fluctuations.



For the automotive industry

Extra-strong DIN 3021-compliant spring band clamps, special exhaust pipe clamps, inner rings coated with black Teflon and worm drive hose clips are just a few examples of the many custom Mikalor clamps deployed across the globe in automotive engineering.



Titanium worm drive hose clips

Thanks to their extremely low weight, high compressive strength and high resistance to corrosion, worm drive hose clips are used in high-performance engines— on land, in water and in the air.



Clamps for special customer requirements

Mikalor also makes clamps to customer drawings. These types of clamps must satisfy very precise and specific requirements. All in a day's work for Mikalor.



Subject to change without notice. Please refer to your local Bossard E-Shop for the current assortment and dimensions. Other variants upon request.

Certificate of Conformity

RoHS

RoHS (Restriction of the use of certain hazardous substances) is EC Directive 2002/95/EC for restricting the use of certain hazardous substances in electronic and electrical equipment.

Given the proliferation of disposable electronic products, the purpose is to banish problematic components from these products. Furthermore, the components and modules used must themselves be free of these substances.

Fastening elements from Mikalor are RoHS-conformant based on test procedure DIN EN 15205 (2007/02).

PFOS

October 2006 saw the European Parliament's decision to restrict the use of PFOS (perfluorooctane sulphonates) to just a few application areas. EU Directive 2006/122/EC of the European Parliament and the Council became effective on December 27th 2006 with its publication in the official journal of the European Union (2006/L372).

This EU Directive prohibits the introduction and use of perfluorooctane sulphonates (PFOS).

Perfluorooctane sulphonates are not used in the galvanic zinc plating process deployed by Mikalor

WEEE

WEEE (Waste Electrical and Electronic Equipment) is EC Directive 2002/96/EC aimed at reducing the increasing volume of electronic scrap made up of electronic and electrical equipment no longer used.

The goal is prevention, reduction and environmentally-friendly disposal of electronic scrap under the responsibility of manufacturers.

Fastening elements from Mikalor are free of the substances listed in Article 4 of EU RoHS Directive 2002/95/EC.

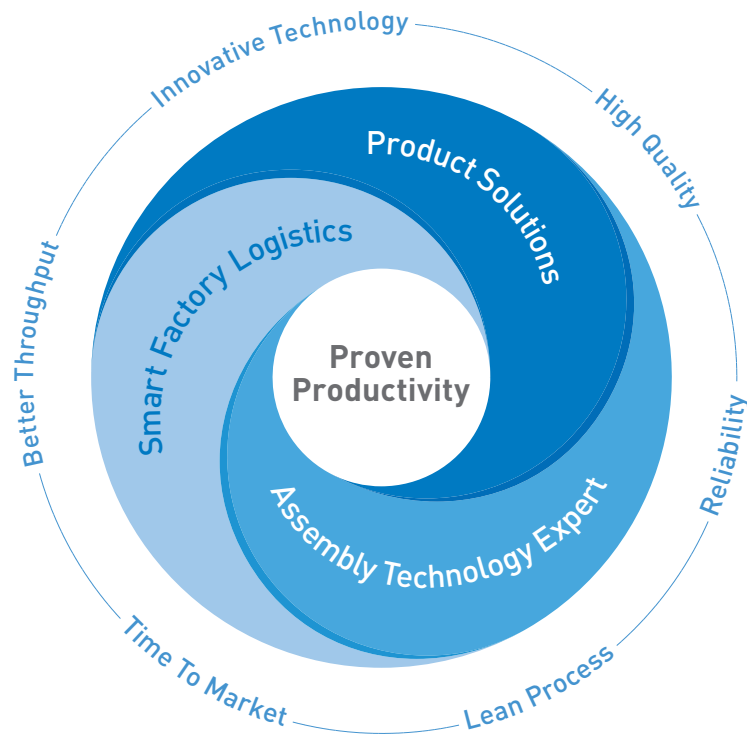
REACH

A new chemical law became effective on June 1st 2007 in REACH. This law transfers to manufacturers and importers of chemicals the responsible for safe handling of their substances.

Under the terms of Article 7, Section 1 of the REACH Ordinance, products are only subject to mandatory registration when they contain chemicals which are released. This is not the case for Mikalor hose clamps. Even fastening elements with corrosion protection layers having a sacrificial coating to protect the component do not fall under mandatory registration..

PROVEN PRODUCTIVITY – A PROMISE TO OUR CUSTOMERS

The strategy for success



From years of cooperation with our customers we know what achieves proven and sustainable impact. We have identified what it takes to strengthen the competitiveness of our customers. Therefore we support our customers in three strategic core areas.

Firstly, when finding optimal **Product Solutions**, that is in the evaluation and use of the best fastening part for the particular function intended in our customers' products.

Second, our **Assembly Technology Expert** services deliver the smartest solutions for all possible fastening challenges. Our services cover from the moment our customers developing a new product, to

assembly process optimization as well as fastening technology education for our customers' employees.

And thirdly, optimising our clients' productions in a smart and lean way with **Smart Factory Logistics**, our methodology, with intelligent logistics systems and tailor-made solutions.

Understood as a promise to our customers, "Proven Productivity" contains two elements: Firstly, that it demonstrably works. And secondly, that it sustainably and measurably improves the productivity and competitiveness of our customers.

And this for us is a philosophy which motivates us every day to always be one step ahead.

www.bossard.com