

Camloc Quick-Operating Fasteners



in 4 minutes 37 seconds you get to know how to
read the catalog and select your quarter turn



Are parts in stock?

Need help how to select a quarter turn?

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General Information	A-2
Important Information	A-3 - A-4
General Installation Instructions for 1/4-Turn Fasteners	A-5
Overview Quick-Operating Fasteners	A-6

1/4-Turn Fasteners

5F Series	B-1 - B-4
99F Series	C-1 - C-3
50F Series (900 N Tensile Strength)	D-1 - D-6
50F Series (3.700 N Tensile Strength)	E-1 - E-6
2600 / 2700 Series	F-1 - F-11
D4002 Series	G-1 - G-11
991F Series	H-1 - H-5

One-Piece Fasteners

V936F Series	I-1 - I-2
713F Series	J-1 - J-2

Push Button Fasteners

15F Series	K-1 - K-3
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Push-Turn Fasteners

715F Series	L-1 - L-3
716F Series	M-1 - M-3
717F Series	N-1 - N-3
PT10 Series	O-1 - O-4

Pawl Latches

V964L Series	P-1 - P-2
V965L Series	Q-1 - Q-2

Index

Advantages of the Camloc 1/4-Turn Fastener

- Secure quick release fastener system
- Locking and unlocking by a quarter turn
- Long life - high number of operating cycles
- Hand or tool-operated
- Easy to use and fast operation reduces assembly costs
- Camloc fasteners are standardised worldwide
- Wide range of sizes
- Stud assemblies are captive in the panel
- Tolerance compensating
- Vibration-resistant

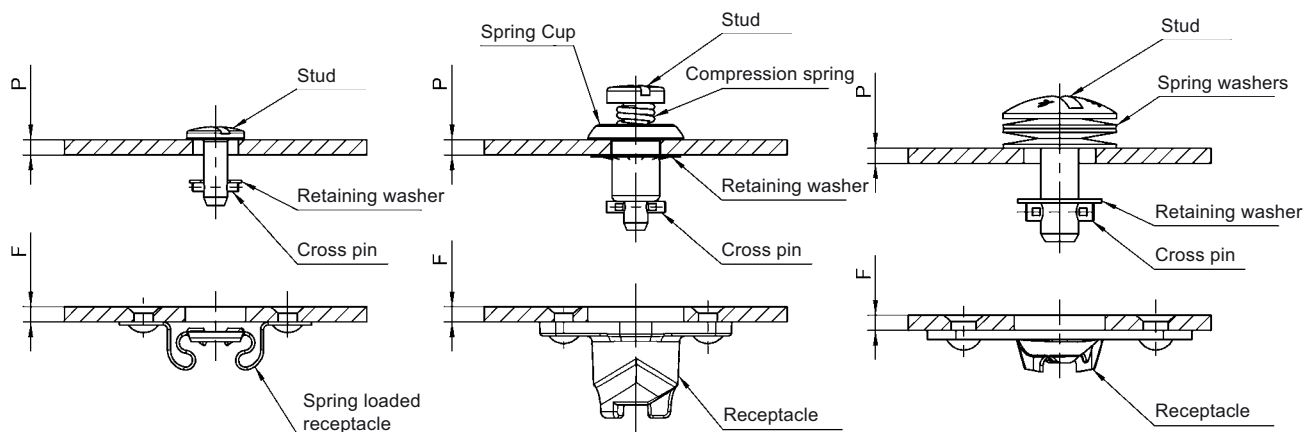


Components

The 1/4-turn fastener consists of a stud, retaining ring and receptacle.

¼ turn fasteners require a spring element in the joint to enable them to work correctly. Depending upon the fastener type and mounting requirements the spring element can be part of the stud assembly or incorporated in the receptacle.

Stud assemblies with snap-in grommets are available on some series giving a captive assembly without the need for a retaining washer.



Design Principles

Quarter-turn fasteners connect components under an elastic preload.

The spring element to produce the preload can be part of the stud or receptacle.

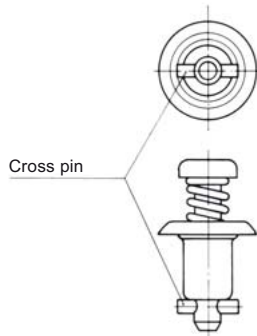
Fastener tensile loads specified in the catalogue are reached after overcoming the spring element generated preload.

Unlike threaded fasteners, Camloc fasteners do not rely on the elasticity of joint and fastener materials to accomplish preload. The stud assembly or receptacle is designed with a spring element which allows repeated application of controlled preload with assured reliability over an high number of cycles.

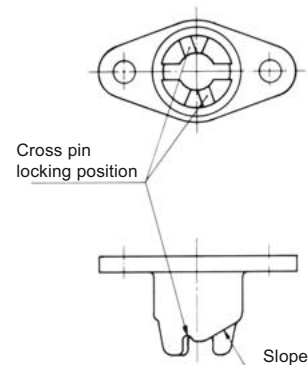
How it Operates

When the stud assembly is rotated, the stud cross pin rides up the cam causing a controlled joint preload to be applied. This action is accomplished by rotating the stud 90°. At this point a positive mechanical stop is reached and the cross pin falls into the locking detent. Excellent resistance to vibration induced loosening is assured.

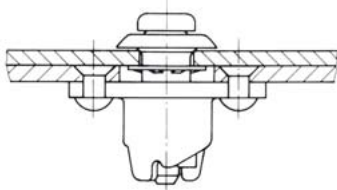
Stud Assembly



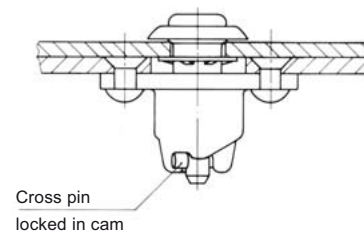
Receptacle



Unlocked



Locked

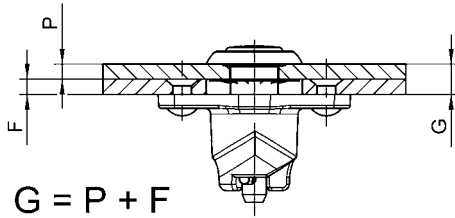


Lock and unlock the stud by a quarter turn.

For general installation instructions please refer to the next page.



Selecting the Fastener

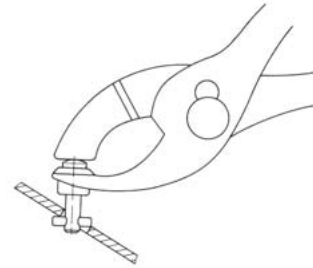
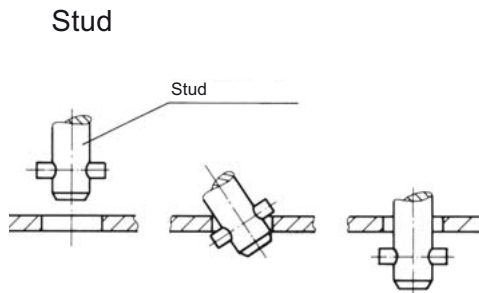


P = panel thickness (stud assembly)

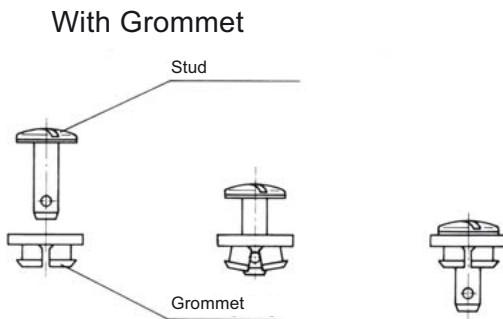
F = frame thickness (receptacle)

G = total thickness, consisting of P + F as well as possible gaskets, paint thickness or gaps.
This dimension gives the stud length number in the corresponding series tables.

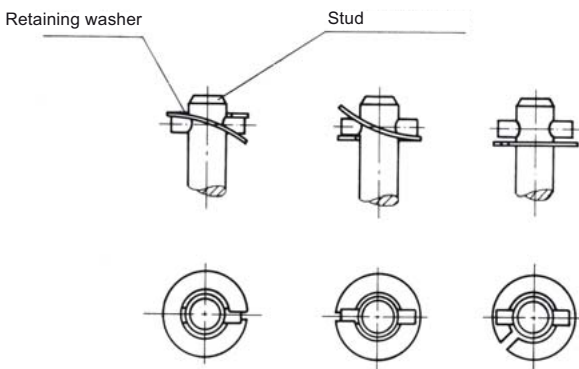
Installation



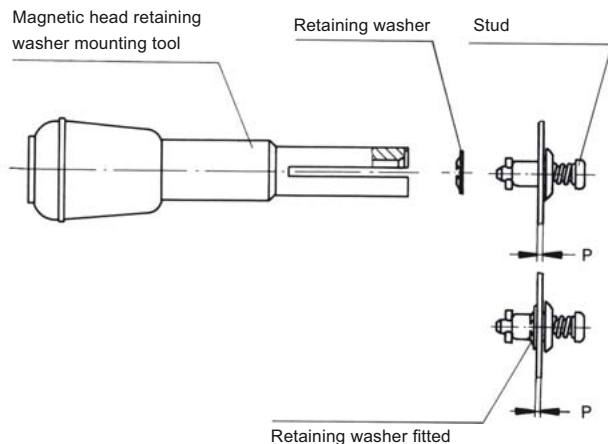
For short, spring-loaded stud assemblies, the use of 4P3-1 pliers is recommended.



With retaining washer (slotted)



With retaining washer



Overview Quick-Operating Fasteners

Series	Max. Tensile Strength*	Working Load*	Slotted Head	Cross Recess Head	Hex Head	Hex Recess Head	Fixed Wing Head	Offset Fixed Wing Head	Folding Bail Handle	Pages
5F	670 N	450 N	X	X						B1-B4
99F	700 N	480 N	X							C1-C3
50F	900 N	650 N	X	X	X	X	X	X	X	D1-D6
2600	1.330 N	900 N	X	X			X			F1-F11
2700	1.330 N	900 N	X	X						F1-F11
50F	3.700 N	2.600 N	X	X	X	X	X	X	X	E1-E6
D4002	4.700 N	3.100 N	X	X		X	X		X	G1-G10
991F	10.000 N	7.000 N			X	X	X	X	X	H1-H5
V936F	300 N	200 N	X							I1-I2
715F	700 N	600 N	X							L1-L3
716F	1.400 N	1.200 N	X							M1-M3
PT10	1.200 N	800 N	X	X						O1-O4
717F	3.000 N	2.500 N	X							N1-N3

Series	Max. Tensile Strength*	Working Load*	Plastic Star Form Head	Plastic Wing Head	Square Head	Knurled Head	Plastic Triangular Head	Folding Wing Head	Push Button	Pages
50F	900 N	650 N	X	X						D1-D6
2600	1.330 N	900 N	X	X		X	X			F1-F11
50F	3.700 N	2.600 N	X	X	X					E1-E6
991F	10.000 N	7.000 N						X		H1-H5
15F	1.330 N	930 N							X	K1-K3
V936F	300 N	200 N				X				I1-I2
715F	700 N	600 N				X				L1-L3
716F	1.400 N	1.200 N				X				M1-M3
PT10	1.200 N	800 N		X						O1-O4
717F	3.000 N	2.500 N				X				N1-N3

* Load limitations within series are possible. Please check the footnotes on the relevant catalogue pages.

Features

Max. tensile strength 670 N, working load 450 N.
 Plastic washer stud assembly to protect decorative surfaces.
 Spring loaded receptacle.

Selection Instructions

1. Select stud assembly and receptacle, page B-2 und B-4.
2. Select retaining washer or grommet, page B-3.
3. Select stud length number from total thickness G using the formula and table below (e.g. V5S5-*AGV).

Determining the stud length number:

With retaining washer
 $G = P + F$



With Grommet
 $G = P + F + 1,4$




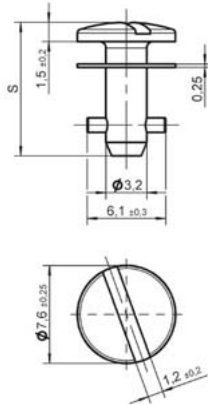

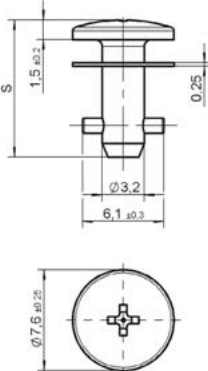
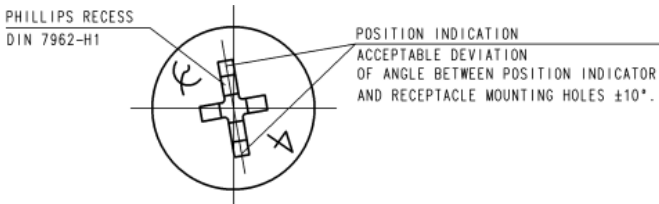
Stud Length Table

Total Thickness G	Stud Length No. When Using Receptacles
0,50 - 0,90	1
0,90 - 1,30	2
1,30 - 1,65	3
1,65 - 2,05	4
2,05 - 2,40	5
2,40 - 2,80	6
2,80 - 3,20	7
3,20 - 3,55	8
3,55 - 3,95	9
3,95 - 4,30	10
4,30 - 4,70	11
4,70 - 5,10	12
5,10 - 5,45	13
5,45 - 5,85	14
5,85 - 6,20	15
6,20 - 6,60	16
6,60 - 7,00	17
7,00 - 7,35	18
7,35 - 7,75	19
7,75 - 8,15	20
8,15 - 8,50	21

Other lengths on request.

■ Preferred dash-lengths

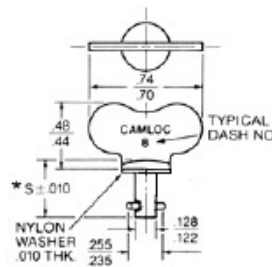


Style	Dimensions	Materials / Finish	°C	Part No.
Slotted Recess Head 	 S = 6,70 + (0,38 x length no.)	Steel / zinc-plated, CrVI-free, clear passivation with plastic washer (PA6)	100	V5S5- *AGV
		Steel / nickel-plated with plastic washer (PA6)	100	5S27-*
Cross Recess Head 	 S = 6,70 + (0,38 x length no.)	Steel / zinc-plated, CrVI-free, clear passivation with plastic washer (PA6)	100	V5S21- *AGV
		Stainless steel with stainless steel washer (tensile strength 470 N max.)	200	5S15-*
Phillips Recess Head  S = 6,70 + (0,38 x length no.)		Stainless steel with stainless steel washer (tensile strength 470 N max.)	200	V5S35- *BP

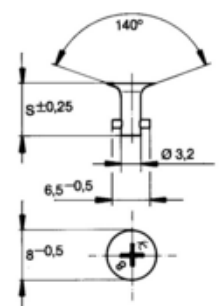
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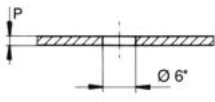

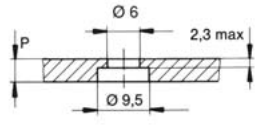
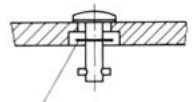
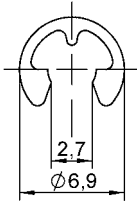
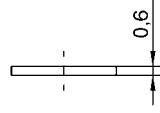
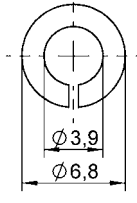
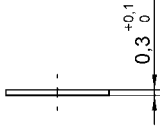
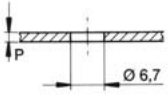
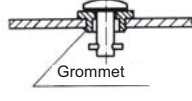
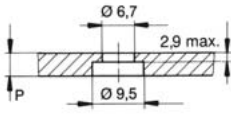
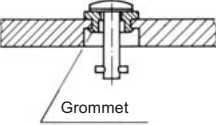
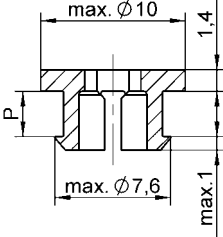
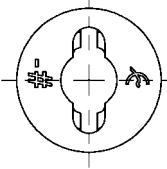
5S10- *AGV




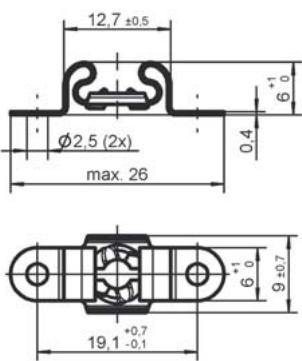
5S7- *C



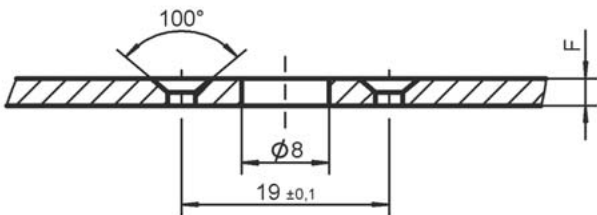
* Length no. from Table, page B-1.
For installation dimensions see page B-3.

Installation Dimensions	Accessories	Material / Finish	Panel Thickness P	Part No.						
<p>Retaining Washer Panel Thickness P up to 2,3</p>   <p>Retaining washer Installation: See page A-5</p> <p>Panel thickness P over 2,3</p>   <p>Retaining washer Installation: See page A-5</p> <p>* For P up 1,4 : Ø 5,6 for installation without retaining washer</p>	<p>Retaining washer</p>   <p>Retaining washer</p>  	<p>Steel/zinc-plated, CrVI-free, clear passivation</p> <p>Stainless steel</p>		<p>V5W3-1AG</p> <p>5S3-2</p>						
<p>Snap-In Grommet Panel thickness P up to 2,9</p>   <p>Grommet</p> <table border="1"><tr><th>P max</th><th>G min</th></tr><tr><td>1,4</td><td>2,0</td></tr><tr><td>2,9</td><td>3,5</td></tr></table> <p>Panel thickness P over 2,9</p>   <p>Grommet</p>	P max	G min	1,4	2,0	2,9	3,5	<p>Grommet</p>  	<p>Plastic (PA6) black</p>	<p>to 1,4</p> <p>1,8 - 2,9</p>	<p>5S72-5-1AA</p> <p>5S72-9-1AA</p>
P max	G min									
1,4	2,0									
2,9	3,5									



Style	Dimensions	Materials / Finish	°C	Part-No.
Type 1 Rivet / Screw Mounting 		Steel / zinc flake coated	180	V5R2-1AK7
		Stainless steel	200	5R2-3

Receptacle Installation Instructions

Dimensions
<p>Rivet / Screw Mounting</p> 



Features

Max. tensile strength 700 N, working load 480 N.

Increased grip range.

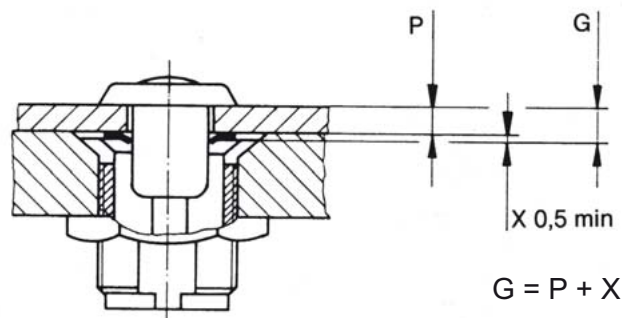
Externally threaded receptacles for use in castings or on panels with a retaining nut (see page C-3).

Encapsulated design, splash-proof.

Selection Instructions

1. Select stud assembly and receptacle, page C-2 and C-3.
2. Select hex nut for receptacle, if necessary, page C-3.
3. Select stud retaining washer, page C-2.
4. Select stud length number from total thickness G using the formula and table below (e.g. 99S10-01AG).


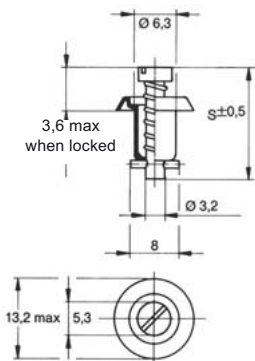
Determining the stud length number:



Total Thickness G	Stud Length No.
0,5 - 1,5	01
1,5 - 3,0	03
3,0 - 4,5	05
4,5 - 6,0	07
6,0 - 7,5	09
7,5 - 9,0	11
9,0 - 10,5	13
10,5 - 12,0	15
12,0 - 13,5	17
13,5 - 15,0	19

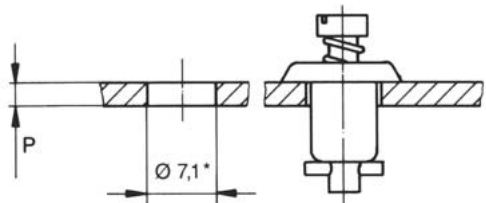
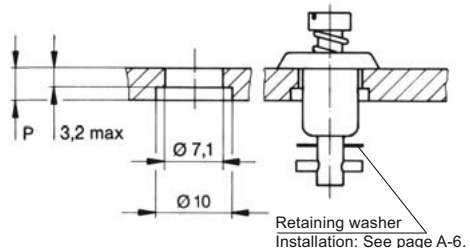
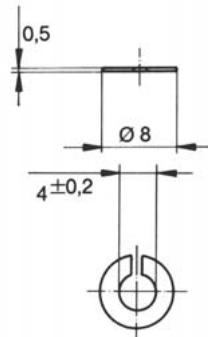
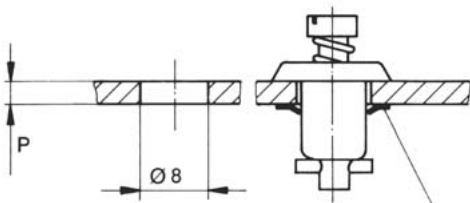
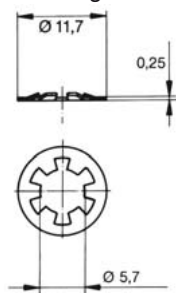
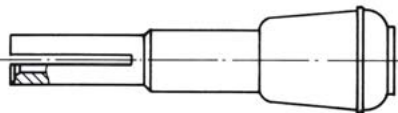
Other lengths on request.

■ Preferred dash-lengths


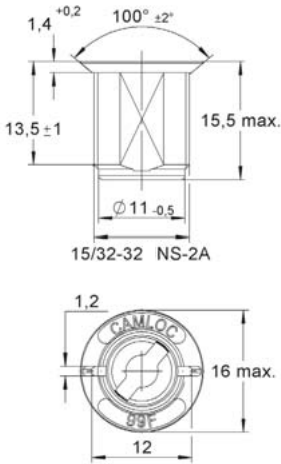

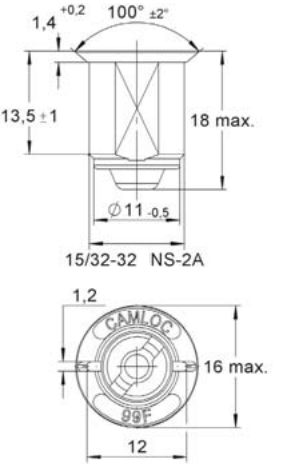
Style	Dimensions	Materials / Finish	°C	Part No.
Slotted Recess Head 	 <p>$S = 15,5 + (0,76 \times \text{length no.})$</p>	Steel / zinc-plated, CrVI-free, clear passivation	100	V99S10-*AG

* Length no. from Table, see page C-1.

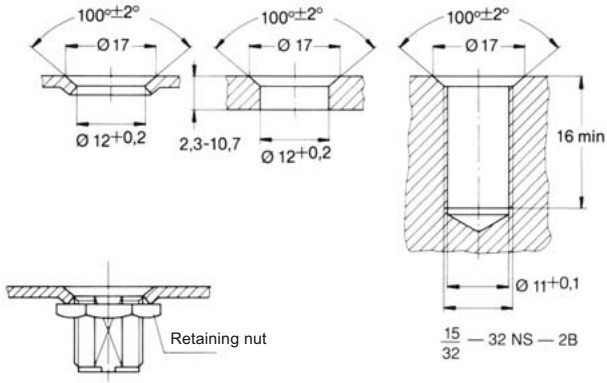
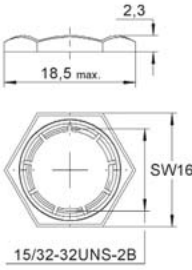
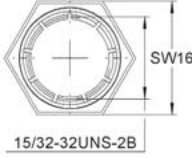
Stud Installation Instructions

Installation Dimensions	Accessories	Materials / Finish	Part No.
Panel Thickness P 0,5 - 3,2  <p>* For P up to 1,65 m Ø 6,5 for installation without retaining washer</p>	Retaining washer	Stainless steel	2600-SW
Panel Thickness P over 3,2  <p>Retaining washer Installation: See page A-6.</p>		Stainless steel	
Panel Thickness P 0,50 - 4,75  <p>Retaining washer Installation: See page A-6.</p>	Retaining washer	Steel / zinc-plated, CrVI-free, transparent passivated	99W10-01A1
		Stainless steel	V2600-LW-7
	Mounting tool for retaining washer V2600-LW-7 and 99W10-01A1		T98-1



Style	Dimensions	Materials / Finish	°C	Part No.
Open 		Zinc die casting / zinc-plated, CrVI-free, clear passivation	100	99R10-01A1
Encapsulated 		Zinc die casting / zinc-plated, CrVI-free, clear passivation Capsule: Stainless steel	100	99E10-01

Receptacle Installation Instructions

Installation Dimensions	Accessories	Materials / Finish	Part No.
 <p>Retaining nut</p> <p>Installation torque 3 Nm</p>	Retaining nut  Tap 	Steel / zinc-plated, CrVI-free, clear passivation	99N10-01A1 15/32-32 NS-2B

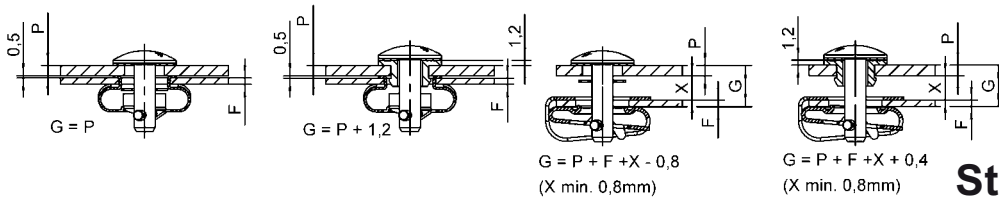


Features

- Max. tensile strength 900 N, working load 650 N.
- Stud assembly incorporates a plastic washer to protect decorative surfaces.
- Snap-in or clip-on spring loaded receptacle.
- Snap-in grommet for quick stud installation without a retaining washer.

Selection Instructions

- Select stud assembly and receptacle, page D-2 to D-4 and D-6.
- Select retaining washer or grommet, page D-5.
- Select stud length number from total thickness G using the formula and table below (e.g. 50E21-*AGV).




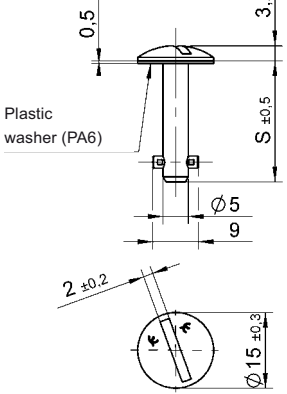

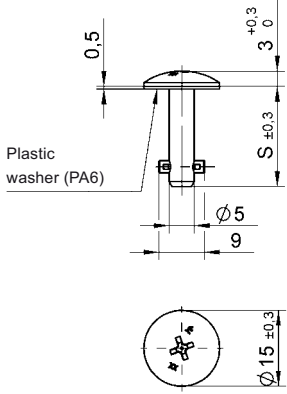

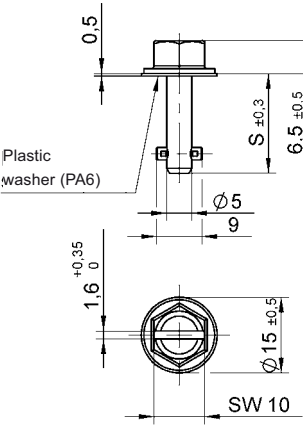
Stud Length Table

Total Thickness G	Stud Length No. when using Receptacles Type 1 F= 1,0 - 2,1	Total Thickness G	Stud Length No. when using Receptacles Type 2 F= 2,1 - 3,0	Total Thickness G	Stud Length No. when using Receptacles Type 3
0,50 - 1,10	5	0,50 - 1,10	7	2,30 - 2,90	5
1,10 - 1,70	6	1,10 - 1,70	8	2,90 - 3,50	6
1,70 - 2,30	7	1,70 - 2,30	9	3,50 - 4,10	7
2,30 - 2,90	8	2,30 - 2,90	10	4,10 - 4,70	8
2,90 - 3,50	9	2,90 - 3,50	11	4,70 - 5,30	9
3,50 - 4,10	10	3,50 - 4,10	12	5,30 - 5,90	10
4,10 - 4,70	11	4,10 - 4,70	13	5,90 - 6,50	11
4,70 - 5,30	12	4,70 - 5,30	14	6,50 - 7,10	12
5,30 - 5,90	13	5,30 - 5,90	15	7,10 - 7,70	13
5,90 - 6,50	14	5,90 - 6,50	16	7,70 - 8,30	14
6,50 - 7,10	15	6,50 - 7,10	17	8,30 - 8,90	15
7,10 - 7,70	16	7,10 - 7,70	18	8,90 - 9,50	16
7,70 - 8,30	17	7,70 - 8,30	19	9,50 - 10,10	17
8,30 - 8,90	18	8,30 - 8,90	20	10,10 - 10,70	18
8,90 - 9,50	19	8,90 - 9,50	21	10,70 - 11,30	19
9,50 - 10,10	20	9,50 - 10,10	22	11,30 - 11,90	20
10,10 - 10,70	21	10,10 - 10,70	23	11,90 - 12,50	21
10,70 - 11,30	22	10,70 - 11,30	24	12,50 - 13,10	22
11,30 - 11,90	23	11,30 - 11,90	25	13,10 - 13,70	23
11,90 - 12,50	24	11,90 - 12,50	26	13,70 - 14,30	24
12,50 - 13,10	25	12,50 - 13,10	27	14,30 - 14,90	25
13,10 - 13,70	26	13,10 - 13,70	28	14,90 - 15,50	26
13,70 - 14,30	27	13,70 - 14,30	29	15,50 - 16,10	27
14,30 - 14,90	28	14,30 - 14,90	30	16,10 - 16,70	28
14,90 - 15,50	29	14,90 - 15,50	31	16,70 - 17,30	29
15,50 - 16,10	30	15,50 - 16,10	32	17,30 - 17,90	30

Other lengths on request.


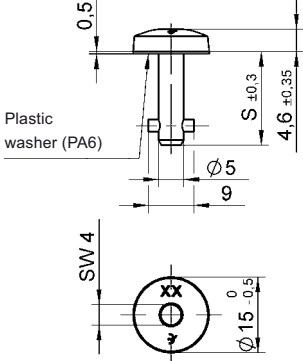

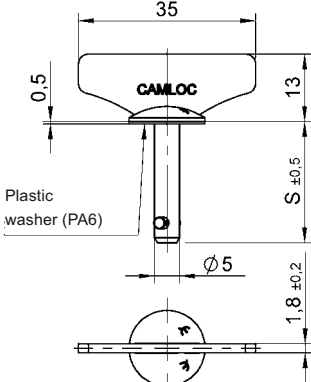

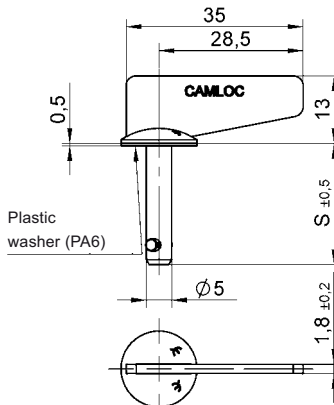
■ Preferred dash-lengths



Style	Dimensions	Materials / Finish	°C	Part No.
<p>Slotted Recess Head</p> 	 <p>S = 11,40 + (0,6 x length no.)</p>	<p>Steel / zinc-plated, CrVI-free, clear passivation with plastic washer (PA6)</p> <p>Stainless steel with plastic washer (PA6)</p>	<p>80</p> <p>80</p>	<p>50E21-*AGV</p> <p>50E21-*S</p>
<p>Cross Recess Head</p> 	 <p>S = 11,40 + (0,6 x length no.)</p>	<p>Steel / zinc-plated, CrVI-free, clear passivation with plastic washer (PA6)</p> <p>Average Lead Time : 12 weeks</p>	<p>80</p>	<p>50E70-*AGV</p>
<p>Hex Head Slotted Recess</p> 	 <p>S = 11,40 + (0,6 x length no.)</p>	<p>Steel / zinc-plated, CrVI-free, clear passivation with plastic washer (PA6)</p> <p>Average Lead Time : 12 weeks</p>	<p>80</p>	<p>50E90-*AGV</p>


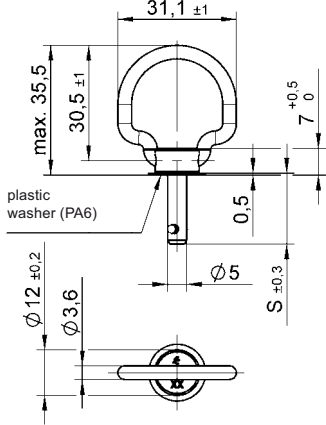

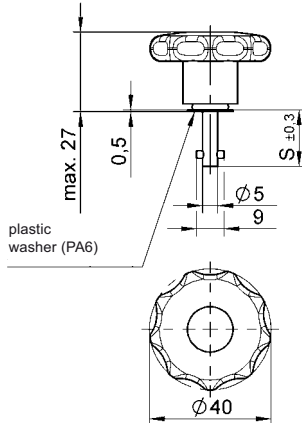

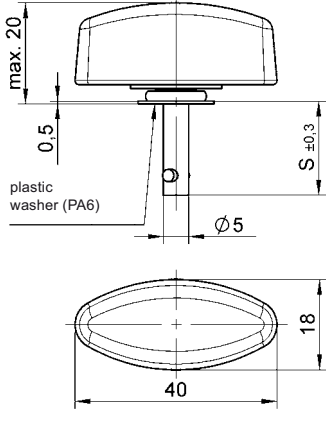
* Length no. from Table, see page D-1.



Style	Dimensions	Materials / Finish	°C	Part No.
<p>Hex Recess Head</p> 	 <p>$S = 11,40 + (0,6 \times \text{length no.})$</p>	<p>Steel / zinc-plated, CrVI-free, clear passivation with plastic washer (PA6)</p> <p>Average Lead Time : 12 weeks</p>	80	50E60-*AGV
<p>Fixed Wing Head</p> 	 <p>$S = 11,40 + (0,6 \times \text{length no.})$</p>	<p>Steel / zinc-plated, CrVI-free, clear passivation with plastic washer (PA6)</p> <p>Stainless steel with plastic washer (PA6)</p>	80	50E21-*WAGV 50E21-*WS
<p>Offset Fixed Wing Head</p> 	 <p>$S = 11,40 + (0,6 \times \text{length no.})$</p>	<p>Steel / zinc-plated, CrVI-free, clear passivation with plastic washer (PA6)</p> <p>Average Lead Time : 12 weeks</p>	80	50E21-*W0AGV

* Length no. from Table, see page D-1.




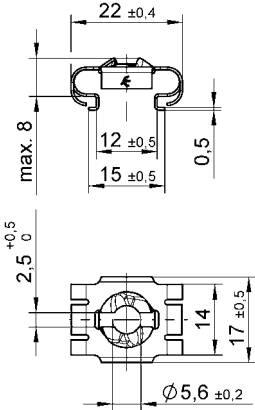

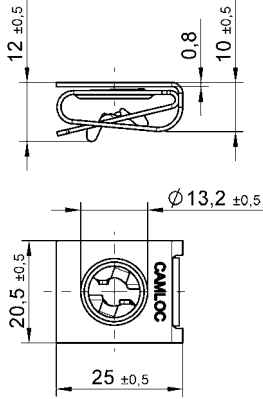
Style	Dimensions	Materials / Finish	°C	Part No.
Folding Bail Handle 180° 		Steel / zinc-plated, CrVI-free, clear passivation with plastic washer (PA6)	80	50E18-*AGV
Plastic Star Form Head 		Steel / zinc-plated, CrVI-free, clear passivation with plastic head and plastic washer (PA6)	- 40 up to + 60	50E80-*AGV
Plastic Wing Head 		Steel / zinc-plated, CrVI-free, clear passivation with plastic head and plastic washer (PA6)	- 40 up to + 60	50E82-*AGV
		Stainless steel with plastic head and plastic washer (PA6)	- 40 up to + 60	50E80-*CP
		Stainless steel with plastic head and plastic washer (PA6)	- 40 up to + 60	50E82-*CP
		Average Lead Time : 12 weeks		
		Average Lead Time : 12 weeks		
		Average Lead Time : 12 weeks		

* Length no. from Table, see page D-1.

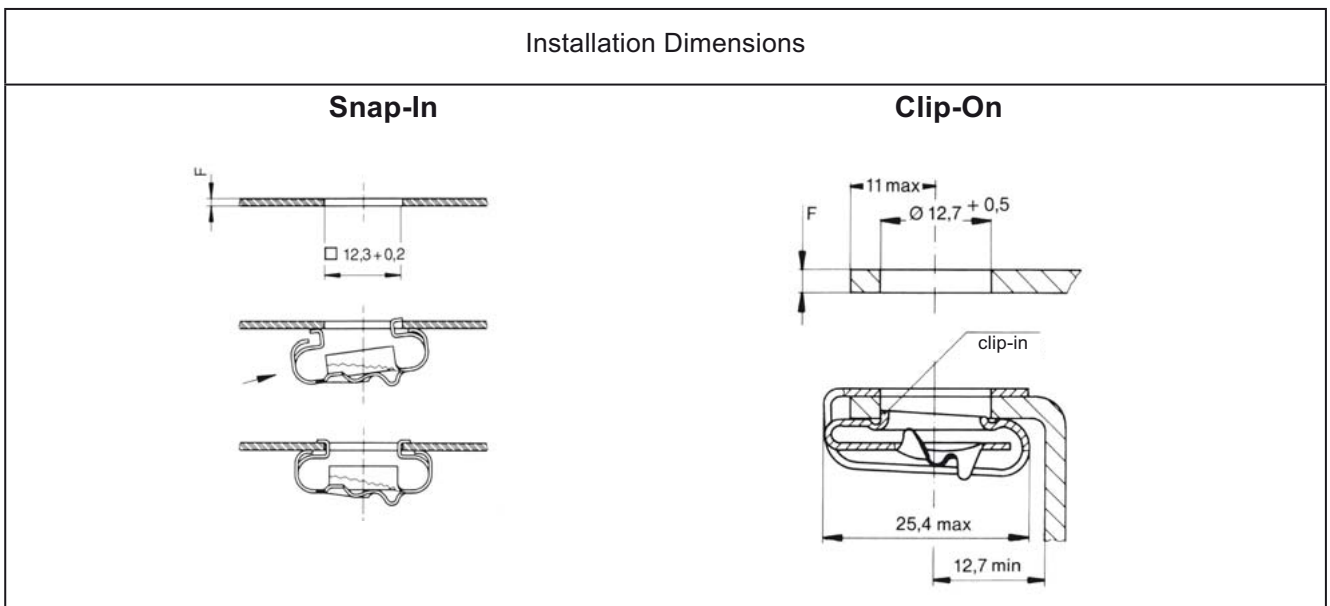


Style	Dimensions	Materials / Finish	P	Part No.
<p>Snap-In Grommet</p> <p>Grommet</p>	<p>Grommet</p>	<p>Plastic (PA6) / natural colour</p> <p>Working temperature: -40°C + 100°C</p>	Up to 1,60	50S12-0-1AA
			1,70- 2,80	50S12-1-1AA
			2,90 - 4,00	50S12-2-1AA
			4,10 - 5,30	50S12-3-1AA
			5,40 - 6,65	50S12-4-1AA
<p>Retaining Washer</p> <p>Retaining washer Installation: see page A-5.</p>	<p>Retaining washer</p> <p>Retaining washer</p> <p>Retaining washer</p>	<p>Stainless steel</p> <p>Stainless steel</p> <p>Plastic (PA6) / natural colour</p> <p>Working temperature: -40°C + 120°C</p> <p>ADVANTAGE: Plastic retaining washer can be assembled without tooling</p>		4002-SW-SS
				50E2-3BP
				50W204-01K
<p>*For P up to 2mm Ø 8 +0,2 for installation without retaining washer</p>				



Style	Dimensions	Materials / Finish	Panel Thickness P	°C	Part No.
Snap-In 		Spring steel / zinc-flake coated	F = 1,0 - 2,0	170	50E20-1AK7 (Type 1)
		Spring steel / zinc-flake coated	F = 2,1 - 3,0	170	50E20-2AK7 (Type 2)
Clip-On 		Spring steel / zinc-flake coated	F = 0,8 - 5,6	170	V50R4-2-1AK7 (Type 3)

Receptacle Installation Instructions



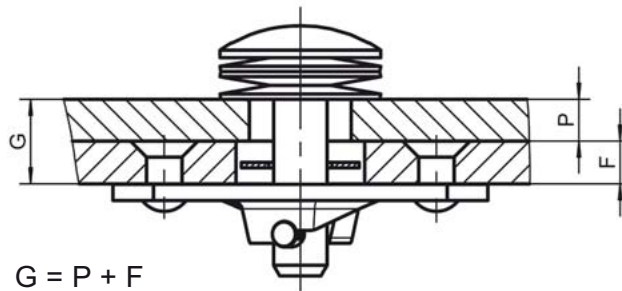


Features

- Max. tensile strength 3.700 N, working load 2.600 N.
- Small fastener giving high tensile load.
- Flat receptacle.
- High preload.

Selection Instructions

1. Select stud assembly and receptacle, page E-2 to E-4 and E-6.
2. Select retaining washer, page E-5.
3. Select stud length number from total thickness G using the formula and table below (e.g. 50E8-*AGV).



Stud Length Table


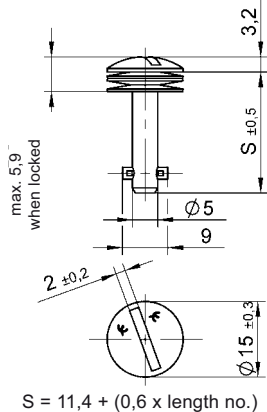

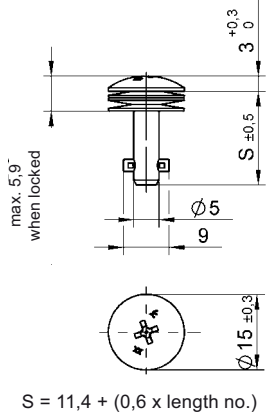

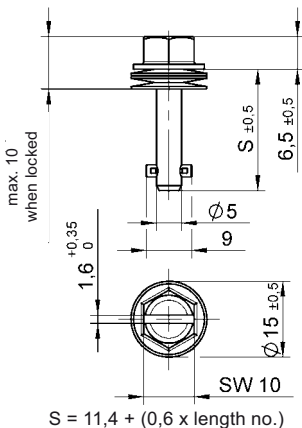
Total Thickness G	Stud Length No.
0,50 - 1,10	2
1,10 - 1,70	3
1,70 - 2,30	4
2,30 - 2,90	5
2,90 - 3,50	6
3,50 - 4,10	7
4,10 - 4,70	8
4,70 - 5,30	9
5,30 - 5,90	10
5,90 - 6,50	11
6,50 - 7,10	12
7,10 - 7,70	13
7,70 - 8,30	14
8,30 - 8,90	15
8,90 - 9,50	16
9,50 - 10,10	17
10,10 - 10,70	18

Total Thickness G	Stud Length No.
10,70 - 11,30	19
11,30 - 11,90	20
11,90 - 12,50	21
12,50 - 13,10	22
13,10 - 13,70	23
13,70 - 14,30	24
14,30 - 14,90	25
14,90 - 15,50	26
15,50 - 16,10	27
16,10 - 16,70	28
16,70 - 17,30	29
17,30 - 17,90	30
17,90 - 18,50	31
18,50 - 19,10	32
19,10 - 19,70	33
19,70 - 20,30	34
20,30 - 20,90	35

Other lengths on request.

■ Preferred dash-lengths


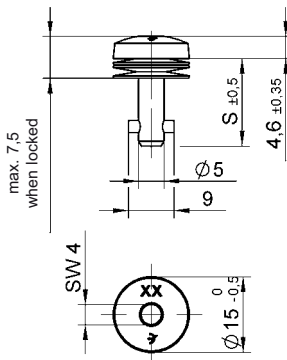

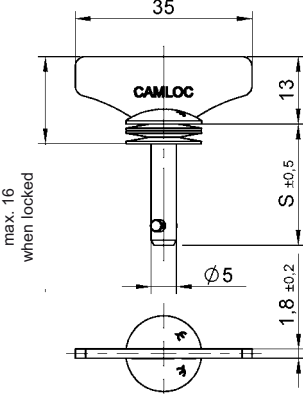

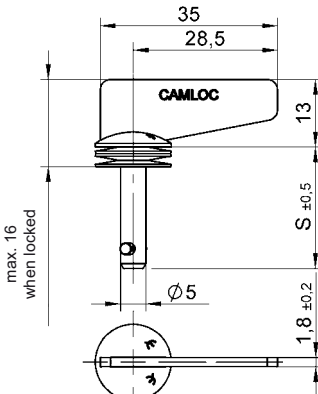


Style	Dimensions	Materials / Finish	°C	Part No.
Slotted Recess Head 	 <p>S = 11,4 + (0,6 x length no.)</p>	Steel / zinc-plated, CrVI-free, clear passivation Stainless steel ¹⁾	120 200	50E8-*AGV 50E8-*S
Cross Recess Head 	 <p>S = 11,4 + (0,6 x length no.)</p>	Steel / zinc-plated, CrVI-free, clear passivation also available in stainless steel without certs Average Lead Time : 12 weeks	120	50E71-*AGV
Hex Head Slotted Recess 	 <p>S = 11,4 + (0,6 x length no.)</p>	Steel / zinc-plated, CrVI-free, clear passivation also available in stainless steel without certs Average Lead Time : 12 weeks	120	50E91-*AGV

* Length no. from Table, page E-1.

¹⁾Max. tensile strength 2.600 N, working load 1.700 N.


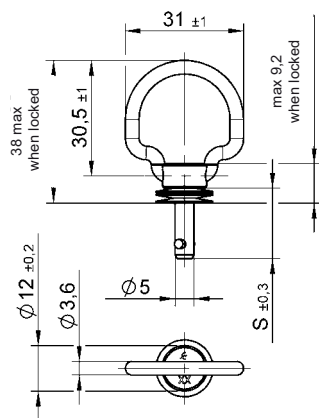

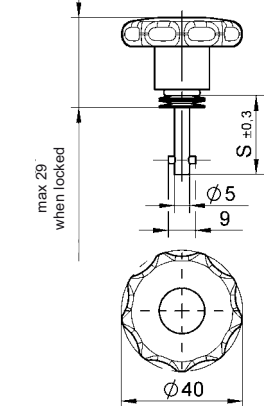

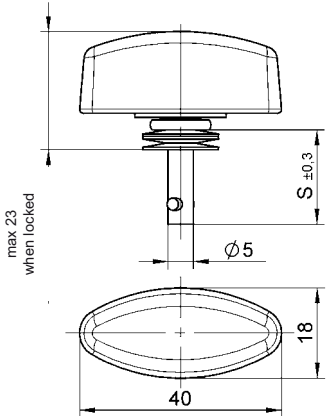

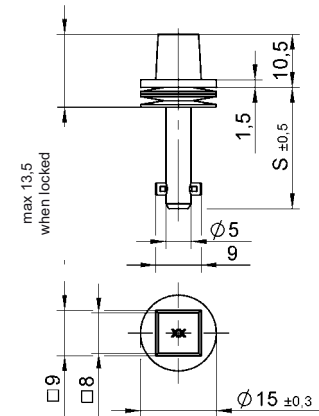


Style	Dimensions	Materials / Finish	°C	Part No.
<p>Hex Recess Head</p> 	 <p>$S = 11,4 + (0,6 \times \text{length no.})$</p>	<p>Steel / zinc-plated, CrVI-free, clear passivation</p> <p>also available in stainless steel</p> <p>Average Lead Time : 12 weeks</p>	120	<p>50E61-*AGV</p> <p>50E61-*BP</p>
<p>Fixed Wing Head</p> 	 <p>$S = 11,4 + (0,6 \times \text{length no.})$</p>	<p>Steel / zinc-plated, CrVI-free, clear passivation</p> <p>Stainless steel ¹⁾</p>	120 200	<p>50E8-*WAGV</p> <p>50E8-*WS</p>
<p>Offset Fixed Wing Head</p> 	 <p>$S = 11,4 + (0,6 \times \text{length no.})$</p>	<p>Steel / zinc-plated, CrVI-free, clear passivation</p> <p>Average Lead Time : 12 weeks</p>	120	50E8-*W0AGV

* Length no. from Table, page E-1.

¹⁾ Max. tensile strength 2.600 N, working load 1.700 N.

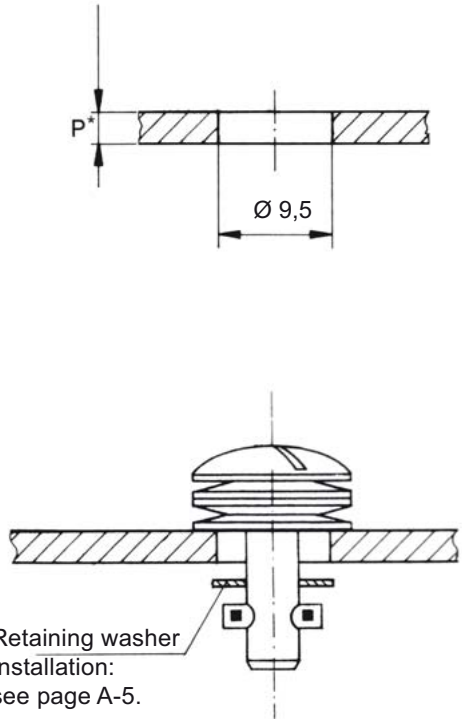
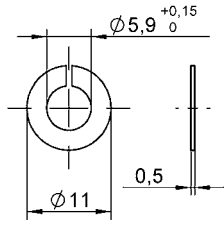
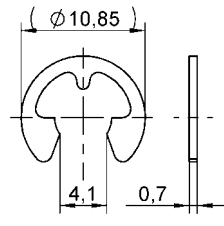
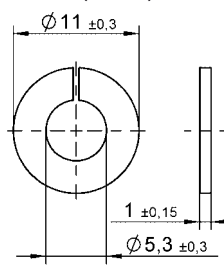


Style	Dimensions	Materials / Finish	°C	Part No.
Folding Bail Handle 180° 		Steel / zinc-plated, CrVI-free, clear passivation Average Lead Time : 12 weeks	120	50E19-*AGV
Star Form Head 		Steel / zinc-plated, CrVI-free, clear passivation with plastic knob (PA 6) Stainless steel ¹⁾ with plastic knob Average Lead Time : 12 weeks	-40 up to +60 -40 up to +60	50E81-*AGV 50E81-*CP
Wing Head 		Steel / zinc-plated, CrVI-free, clear passivation with plastic knob (PA 6) Stainless steel ¹⁾ with plastic knob Average Lead Time : 12 weeks	-40 up to +60 -40 up to +60	50E83-*AGV 50E83-*CP
Square Head 		Steel / zinc-plated, CrVI-free, clear passivation also available in stainless steel without certs Average Lead Time : 12 weeks	120	50E7-*AGV

* Length no. from Table, page E-1.


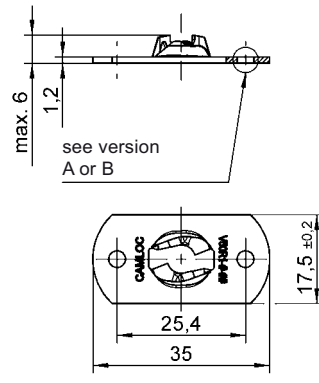

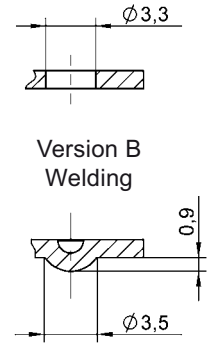
¹⁾ Max. tensile strength 2.600 N, working load 1.700 N.



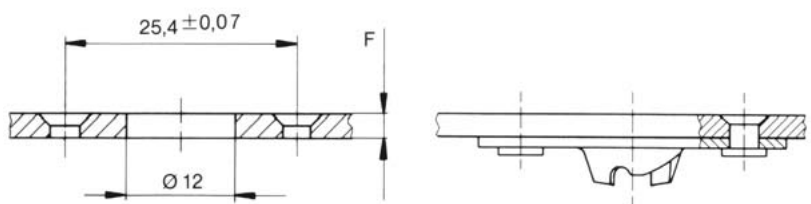
Installation Dimensions	Accessories	Material / Finish	Part No.
 <p>Retaining washer Installation: see page A-5.</p>	<p>Retaining washer (loose)</p> 	<p>Stainless steel</p>	<p>4002-SW-SS</p>
	<p>Retaining washer (fixed)</p> 	<p>Stainless steel</p>	<p>50E2-3BP</p>
	<p>Retaining washer (loose)</p> 	<p>Plastic (PA6) / natural colour</p> <p>Working temperature: -40°C + 120°C</p> <p>ADVANTAGE: Plastic retaining washer to be assembled without tooling.</p>	<p>50W204-01K</p>

*For P up to 2 mm Ø 8^{+0,2} for installation without retaining washer



Style	Dimensions	Materials / Finish	°C	Part No.
Rivet- / Screw or Weld Mounting 	 <p>see version A or B</p> <p>Version A Rivet/Screw Mounting</p>	Rivet / Screw Mounting Steel / zinc-plated, CrVI-free, clear passivation	120	V50R1-1-1AGV
		Stainless steel	200	V50R1-1-1BP
Press in 	 <p>Version B Welding</p>	Welding Steel / zinc-plated	-	V50R1-1-2AZ
		Steel / oil coated	-	V50R1-1-2AR
		only to be used together with special studs: 3240S01 3808S01		3240R01-1EN

Receptacle Installation Instructions

Installation Dimensions
<p align="center">Rivet- / Screw or Weld Mounting</p> 



Features

Max. tensile strength 1.330 N, working load 900 N.

Small fastener giving a high tensile load.

Wide range of stud head styles and receptacles.

Selection Instructions

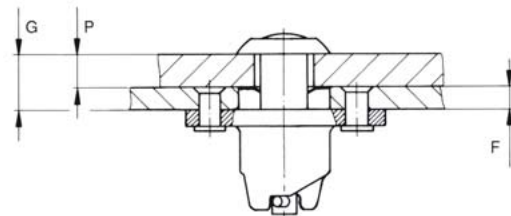
1. Select stud assembly and receptacle, page F-3 up to F-5, F-7 up to F-10.
2. Select stud accessories (retaining washer, gasket), page F-6 and F-7.
3. Select hex nut for receptacle, if necessary, page F-11.
4. Select stud length number from total thickness G using the formula and table on page F-2 (e.g. V26S01-*AGV).

Determining the stud length number when using receptacle:

Type 1 + 3*

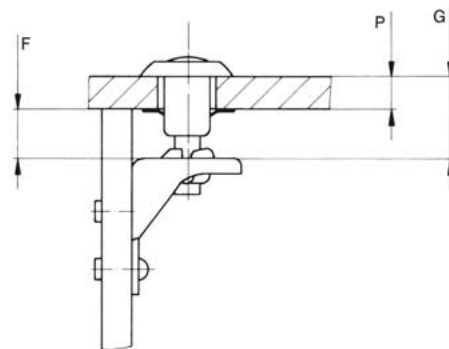
$$G = P + F$$

* For Type 3: G = 9,9 mm min.



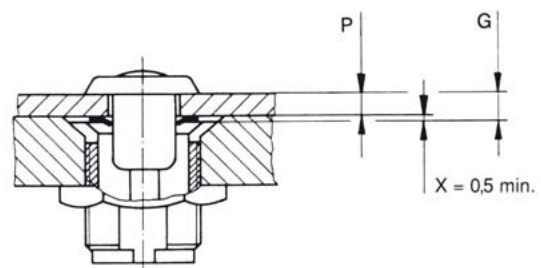
Type 2

$$G = P + F \text{ (0,75 min.)}$$



Type 4

$$G = P + X \text{ (0,5 min.)}$$






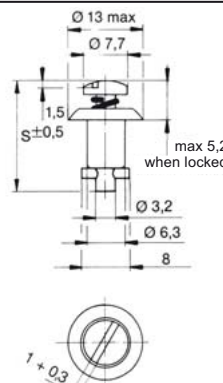

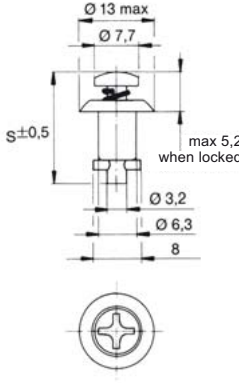

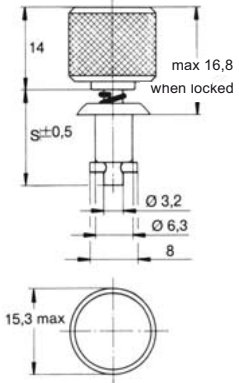

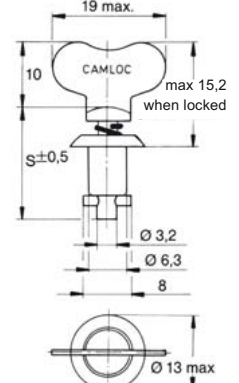
2600/2700 Series Stud Length Table

Total Thickness G	Stud Length No. When Using Type 1 Receptacles	Total Thickness G	Stud Length No. When Using Type 2 + 4 Receptacles	Total Thickness G	Stud Length No. When Using Type 3 Receptacles
0,75 - 1,50	1	0,75 - 1,50	2	9,90 - 10,65	1
1,50 - 2,30	2	1,50 - 2,30	3	10,65 - 11,40	2
2,30 - 3,05	3	2,30 - 3,05	4	11,40 - 12,20	3
3,05 - 3,80	4	3,05 - 3,80	5	12,20 - 12,95	4
3,80 - 4,60	5	3,80 - 4,60	6	12,95 - 13,70	5
4,60 - 5,35	6	4,60 - 5,35	7	13,70 - 14,50	6
5,35 - 6,10	7	5,35 - 6,10	8	14,50 - 15,25	7
6,10 - 6,85	8	6,10 - 6,85	9	15,25 - 16,00	8
6,85 - 7,60	9	6,85 - 7,60	10	16,00 - 16,75	9
7,60 - 8,40	10	7,60 - 8,40	11	16,75 - 17,50	10
8,40 - 9,15	11	8,40 - 9,15	12	17,50 - 18,30	11
9,15 - 9,90	12	9,15 - 9,90	13	18,30 - 19,05	12
9,90 - 10,65	13	9,90 - 10,65	14	19,05 - 19,80	13
10,65 - 11,40	14	10,65 - 11,40	15	19,80 - 20,60	14
11,40 - 12,20	15	11,40 - 12,20	16	20,60 - 21,35	15
12,20 - 12,95	16	12,20 - 12,95	17	21,35 - 22,10	16
12,95 - 13,70	17	12,95 - 13,70	18	22,10 - 22,85	17
13,70 - 14,50	18	13,70 - 14,50	19	22,85 - 23,60	18
14,50 - 15,25	19	14,50 - 15,25	20	23,60 - 24,40	19
15,25 - 16,00	20	15,25 - 16,00	21	24,40 - 25,15	20
16,00 - 16,75	21	16,00 - 16,75	22	25,15 - 25,90	21
16,75 - 17,50	22	16,75 - 17,50	23	25,90 - 26,65	22
17,50 - 18,30	23	17,50 - 18,30	24	26,65 - 27,40	23
18,30 - 19,05	24	18,30 - 19,05	25	27,40 - 28,20	24
19,05 - 19,80	25	19,05 - 19,80	26	28,20 - 28,95	25
19,80 - 20,60	26	19,80 - 20,60	27	28,95 - 29,70	26
20,60 - 21,35	27	20,60 - 21,35	28	29,70 - 30,50	27
21,35 - 22,10	28	21,35 - 22,10	29	30,50 - 31,25	28
22,10 - 22,85	29	22,10 - 22,85	30	31,25 - 32,00	29
22,85 - 23,60	30	22,85 - 23,60	31	32,00 - 32,75	30
23,60 - 24,40	31	23,60 - 24,40	32	32,75 - 33,50	31
24,40 - 25,15	32	24,40 - 25,15	33	33,50 - 34,30	32
25,15 - 25,90	33	25,15 - 25,90	34	34,30 - 35,05	33
25,90 - 26,65	34	25,90 - 26,65	35	35,05 - 35,80	34
26,65 - 27,40	35	26,65 - 27,40	36	35,80 - 36,60	35
27,40 - 28,20	36	27,40 - 28,20	37	36,60 - 37,35	36
28,20 - 28,95	37	28,20 - 28,95	38	37,35 - 38,10	37
28,95 - 29,70	38	28,95 - 29,70	39	38,10 - 38,85	38
29,70 - 30,50	39	29,70 - 30,50	40	38,85 - 39,60	39
30,50 - 31,25	40	29,70 - 30,50	40	39,60 - 40,40	40

Other lengths on request.

■ Preferred dash-lengths


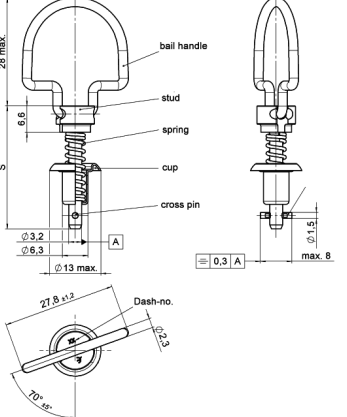
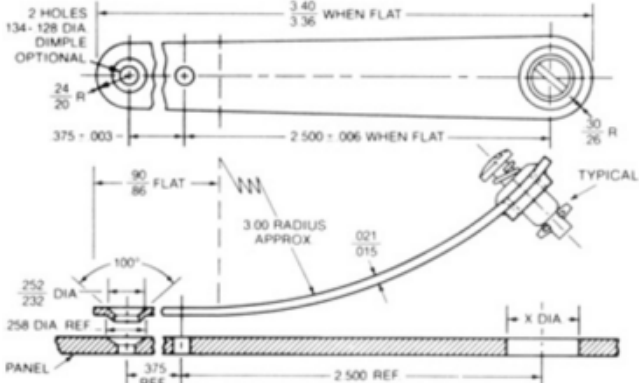
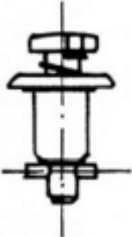
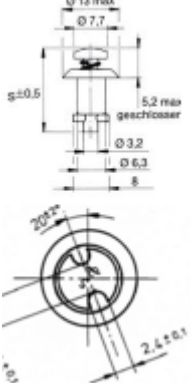


Style	Dimensions	Materials / Finish	°C	Part No.
Slotted Recess Pan Head 	 <p>S = 18,54 + (0,76 x length no.)</p>	Steel / zinc-plated, CrVI-free, clear passivation	120	V26S01-*AGV
		Steel / chrome-plated	120	26S38-*
		Stainless steel ¹⁾	200	2600-*S
		Steel / nickel-plated	120	26S42-*
Cross Recess Pan Head 	 <p>S = 18,54 + (0,76 x length no.)</p>	Steel / zinc-plated, CrVI-free, clear passivation	120	V26S02-*AGV
		Steel / nickel-plated	120	26S39-*
		Stainless steel ¹⁾	200	26S51-*
Knurled Head 	 <p>S = 16,76 + (0,76 x length no.)</p>	Steel / chrome-plated	120	26S34-*
		Steel/zinc-plated, CrVI-free, clearpassivation	120	26S34-* -1AGV
		Steel/zinc-plated, CrVI-free, clearpassivation with slot	120	26S34-* -2AGV
Average Lead Time : 12 weeks				
Fixed Wing Head 	 <p>S = 18,54 + (0,76 x length no.)</p>	Steel / zinc-plated, CrVI-free, clear passivation	120	V26S04-*AGV
		Stainless steel ¹⁾	200	2600-*SW


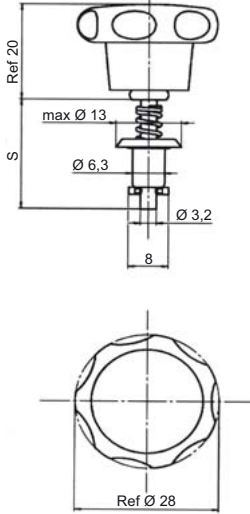

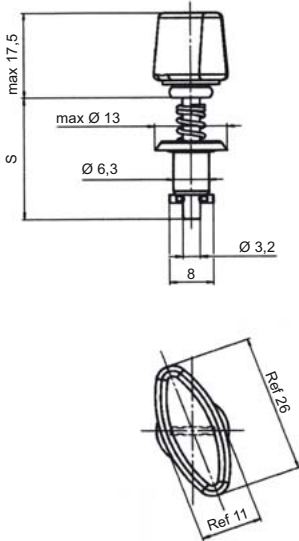

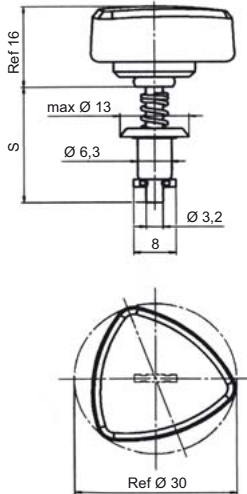
* Length no. from Table, page F-2.

¹⁾ Max. Tensile strength 1.000 N, working load 700 N.


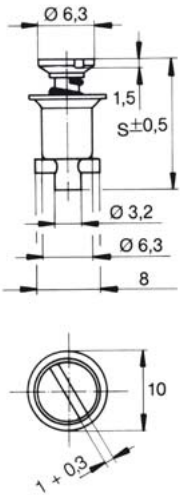

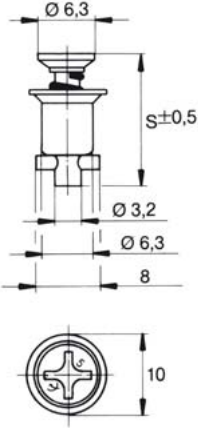


Style	Dimensions	Materials / Finish	°C	Part No.
<p>180° Folding Bail Handle</p> 		<p>Steel / zinc-plated, CrVI-free, clear passivation</p> <p>Average Lead Time : 12 weeks</p>	<p>120</p>	<p>V26S22-*AGV</p>
<p>ejector spring</p> 		<p>cadmium plated gold chromate</p> <p>Average Lead Time when nog in stock: 42 weeks very expensive part, not for industrial customers</p>	<p>232</p>	<p>2600-ES</p>
<p>tamper proof Head</p> 		<p>steel / nickel plated</p>	<p>120</p>	<p>1593S01-*AE</p>

* Length no. from Table, page F-2.

Style	Dimensions	Materials / Finish	°C	Part No.
<p>Star Form Head</p> 		<p>Steel / zinc-plated, CrVI-free, clear passivation with plastic knob (PA6)</p> <p>Note: Not to be used with encapsulated receptacles</p> <p>Average Lead Time : 12 weeks</p>	-40 up to +60	V26S06- *AGV
<p>Wing Head</p> 		<p>Steel / zinc-plated, CrVI-free, clear passivation with plastic knob (PA6)</p> <p>Note: Not to be used with encapsulated receptacles</p> <p>Average Lead Time : 12 weeks</p>	-40 up to +60	V26S07- *AGV
<p>Triangular Head</p> 		<p>Steel / zinc-plated, CrVI-free, clear passivation with plastic knob (PA6)</p> <p>Note: Not to be used with encapsulated receptacles</p> <p>Average Lead Time : 12 weeks</p>	-40 up to +60	V26S08- *AGV

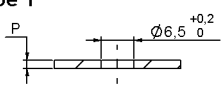
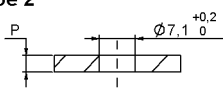
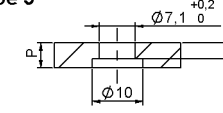
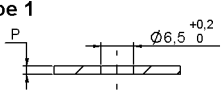
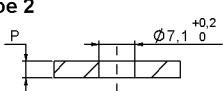
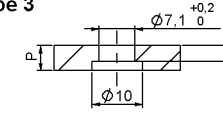
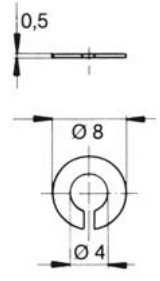
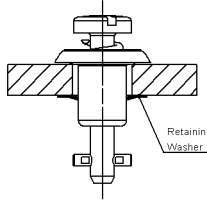
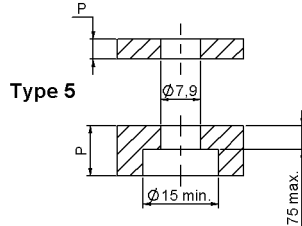
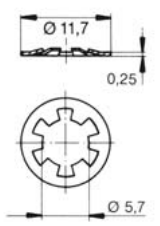
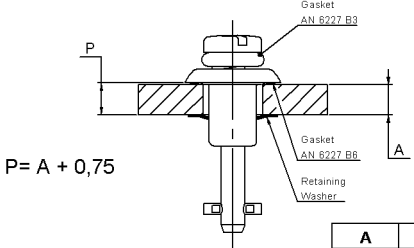
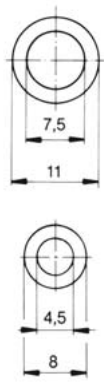


Style	Dimensions	Materials / Finish	°C	Part No.
<p>Slotted Recess Flush Head</p> 	 <p>S = 14,73 + (0,76 x length no.)</p>	<p>Steel / zinc-plated, CrVI-free, clear passivation</p> <p>Stainless steel ¹⁾</p>	<p>120</p> <p>200</p>	<p>V27S01-*AGV</p> <p>2700-*S</p>
<p>Cross Recess Flush Head</p> 	 <p>S = 14,73 + (0,76 x length no.)</p>	<p>Steel / zinc-plated, CrVI-free, clear passivation</p>	<p>120</p>	<p>V27S02-*AGV</p>

* Length no. from Table, page F-2.

¹⁾Max. Tensile strength 1.000 N, working load 700 N.


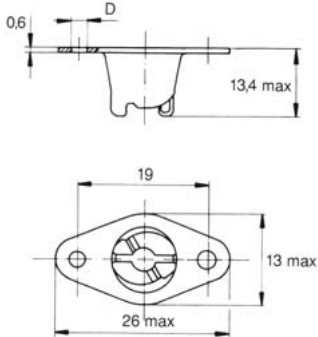

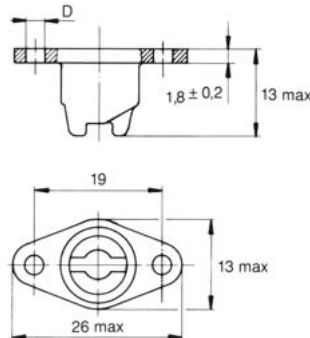

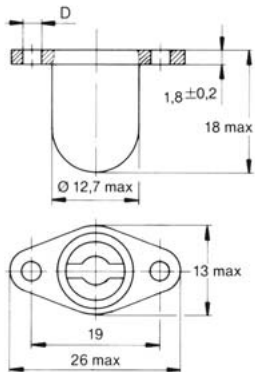


Installation Dimensions	Accessories	Material / Finish	Part No.								
<p>Stud Retention up to Dash No. 4 without Retaining Washer Floating Type</p> <p>Type 1  $\phi 6,5^{+0,2}_0$</p> <p>Type 2  $\phi 7,1^{+0,2}_0$</p> <p>Type 3  $\phi 7,1^{+0,2}_0$ $3,20 \text{ max.}$ $\phi 10$</p> <table border="1" data-bbox="550 593 790 705"> <thead> <tr> <th>P</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>$\leq 1,65$</td> <td>1</td> </tr> <tr> <td>$1,65 < P \leq 3,2$</td> <td>2</td> </tr> <tr> <td>$> 3,2$</td> <td>3</td> </tr> </tbody> </table> <p>4P3-1 installation pliers, see F-8</p>	P	Type	$\leq 1,65$	1	$1,65 < P \leq 3,2$	2	$> 3,2$	3	<p>-</p> <p>4P3-1 installation pliers, see page F-7</p>	<p>-</p>	<p>-</p>
P	Type										
$\leq 1,65$	1										
$1,65 < P \leq 3,2$	2										
$> 3,2$	3										
<p>Stud Retention from Dash No. 4 with Retaining Washer Floating Type</p> <p>Type 1  $\phi 6,5^{+0,2}_0$</p> <p>Type 2  $\phi 7,1^{+0,2}_0$</p> <p>Type 3  $\phi 7,1^{+0,2}_0$ $3,20 \text{ max.}$ $\phi 10$</p> <table border="1" data-bbox="550 1041 790 1153"> <thead> <tr> <th>P</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>$\leq 1,65$</td> <td>1</td> </tr> <tr> <td>$1,65 < P \leq 3,2$</td> <td>2</td> </tr> <tr> <td>$> 3,2$</td> <td>3</td> </tr> </tbody> </table> <p>4P3-1 installation pliers, see F-8</p>	P	Type	$\leq 1,65$	1	$1,65 < P \leq 3,2$	2	$> 3,2$	3	<p>Retaining washer</p>  <p>4P3-1 installation pliers, see page F-7</p>	<p>Stainless steel</p>	<p>2600-SW</p>
P	Type										
$\leq 1,65$	1										
$1,65 < P \leq 3,2$	2										
$> 3,2$	3										
<p>Stud Retention with Retaining Washer Fixed installed</p> <p>Type 4  $\phi 7,9$</p> <p>Type 5  $\phi 15 \text{ min.}$ $4,75 \text{ max.}$</p> <table border="1" data-bbox="598 1512 774 1601"> <thead> <tr> <th>P</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>$\leq 4,75$</td> <td>4</td> </tr> <tr> <td>$> 4,75$</td> <td>5</td> </tr> </tbody> </table> <p>4P3-1 installation pliers, see F-8 T98-1 installation tool, siehe F-8</p>	P	Type	$\leq 4,75$	4	$> 4,75$	5	<p>Retaining washer</p> 	<p>Stainless steel</p> <p>Not for chrome-plated parts</p>	<p>V2600-LW-7</p>		
P	Type										
$\leq 4,75$	4										
$> 4,75$	5										
<p>Series 2600 Sealed only for Recess Types Slotted or Cross only in combination with Retaining Washer V2600-LW-7</p>  <p>$P = A + 0,75$</p> <table border="1" data-bbox="598 1960 774 2049"> <thead> <tr> <th>A</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>$\leq 4,00$</td> <td>4</td> </tr> <tr> <td>$> 4,00$</td> <td>5</td> </tr> </tbody> </table> <p>4P3-1 installation pliers, see F-8 T98-1 installation tool, siehe F-8</p>	A	Type	$\leq 4,00$	4	$> 4,00$	5	<p>Gaskets</p> 	<p>Rubber (100°C)</p> <p>Rubber (100°C)</p>	<p>AN6227-B6</p> <p>AN6227-B3</p>		
A	Type										
$\leq 4,00$	4										
$> 4,00$	5										


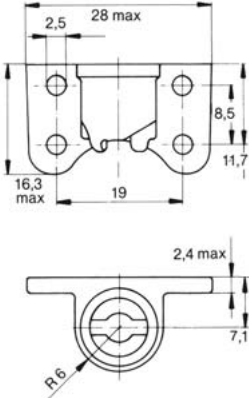

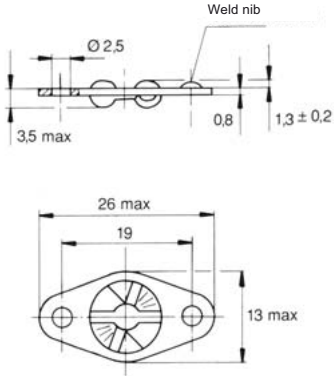


Installation Dimensions	Accessories	Material / Finish	Part No.								
<p>Stud Retention up to Dash No. 4 without Retaining Washer Floating Type</p> <table border="1" data-bbox="549 607 791 719"> <thead> <tr> <th>P</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>≤ 1,65</td> <td>1</td> </tr> <tr> <td>1,65 < P ≤ 3,2</td> <td>2</td> </tr> <tr> <td>> 3,2</td> <td>3</td> </tr> </tbody> </table> <p>4P3-1 installation pliers, see below</p>	P	Type	≤ 1,65	1	1,65 < P ≤ 3,2	2	> 3,2	3	-	<p>Note: Dash "4" stud and smaller are self-captivating</p>	-
P	Type										
≤ 1,65	1										
1,65 < P ≤ 3,2	2										
> 3,2	3										
<p>Stud Retention from Dash No. 5 with Retaining Washer Floating Type</p> <table border="1" data-bbox="549 1048 791 1160"> <thead> <tr> <th>P</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>≤ 1,65</td> <td>1</td> </tr> <tr> <td>1,65 < P ≤ 3,2</td> <td>2</td> </tr> <tr> <td>> 3,2</td> <td>3</td> </tr> </tbody> </table> <p>4P3-1 installation pliers, see below</p>	P	Type	≤ 1,65	1	1,65 < P ≤ 3,2	2	> 3,2	3	<p>Retaining washer</p>	<p>Stainless steel</p> <p>Note: Retaining rings are required for stud length dash numbers "5" and up</p>	2600-SW
P	Type										
≤ 1,65	1										
1,65 < P ≤ 3,2	2										
> 3,2	3										
<p>Stud Retention with Retaining Washer Fixed installed</p> <table border="1" data-bbox="596 1509 769 1599"> <thead> <tr> <th>P</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>≤ 4,75</td> <td>4</td> </tr> <tr> <td>> 4,75</td> <td>5</td> </tr> </tbody> </table> <p>4P3-1 installation pliers, see below T98-1 installation tool, see below</p>	P	Type	≤ 4,75	4	> 4,75	5	<p>Retaining washer</p>	<p>Stainless steel</p> <p>Steel / nickel-plated</p>	<p>V2600-LW-7</p> <p>V27W01-1AN</p>		
P	Type										
≤ 4,75	4										
> 4,75	5										
	<p>Stud Installation pliers</p>		4P3-1								
	<p>V2600-LW-7 and V27W01-1AN retaining washer installation tool</p>		T98-1								


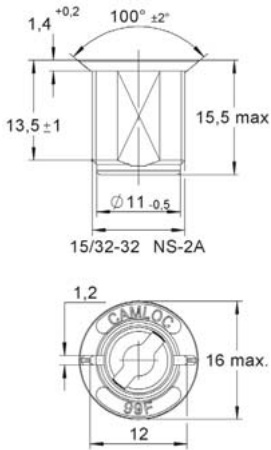

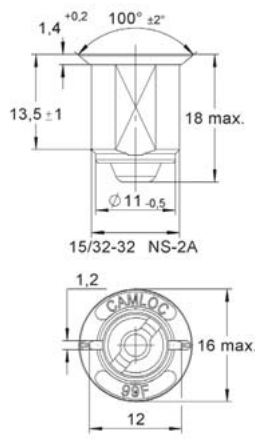


Style	Dimensions	Materials / Finish	D	°C	Part No.
Type 1 Lightweight 		Steel / zinc-plated, CrVI-free, clear passivation	2,6	120	V26R6-1AGV
Type 1 Cast 		Hard bronze / zinc-plated, CrVI-free, clear passivation	2,5	120	V212-12-1FGV
		Hard bronze / zinc-plated, CrVI-free, clear passivation	3,3	120	V212-12-2FGV
		Stainless steel	2,5	200	212-12S
Type 1 Narrow Width 		Hard bronze / zinc-plated, CrVI-free, clear passivation	2,5	120	V212-12N-1FGV
Type 1 Encapsulated 		Hard bronze / zinc-plated, CrVI-free, clear passivation	2,5	120	26R16-1FGV
		Capsule: Steel / zinc-plated, CrVI-free, clear passivation	Stainless steel	2,5	150



Style	Dimensions	Materials / Finish	°C	Part No.
<p>Type 2 Side Mounting</p> 		<p>Aluminium / anodized</p> <p>Average Lead Time : 22 weeks</p>	175	26R1-1
<p>Type 3 Rivet / Screw or Weld Mounting</p> 		<p>Rivet/Screw Mounting Steel/zinc-plated, CrVI-free, clearpassivation</p> <p>Stainless steel</p> <p>Welding Stainless steel</p> <p>This receptacle is recommended from total thickness P+F> 10mm</p>	<p>120</p> <p>200</p> <p>-</p>	<p>V312-12AGV</p> <p>312-12S</p> <p>312-12WS</p>



Style	Dimensions	Materials / Finish	°C	Part No.
Type 4 Single Hole Mounting 		Zinc die cast / zinc-plated, CrVI-free, clear chromate	100	99R10-01A1
Type 4 Single Hole Mounting Encapsulated 		Zinc die cast / zinc-plated, CrVI-free, clear chromate Capsule: Stainless steel	100	99E10-01



Installation Dimensions
Type 1 + 3 Receptacles Hole Pattern
Type 2 Receptacle Hole Pattern (Side Mounting)

Installation Dimensions	Accessories	Materials / Finish	Part No.
Installation Options Type 4 Receptacle 	Retaining nut Tap	Steel / zinc-plated, CrVI-free, clear chromate	99N10-01A1 15/32-32NS-2B



Features

Max. tensile strength 4.700 N, working load 3.100 N.

Small fastener for high tensile load.

Large range of stud assemblies with fixed and floating receptacles

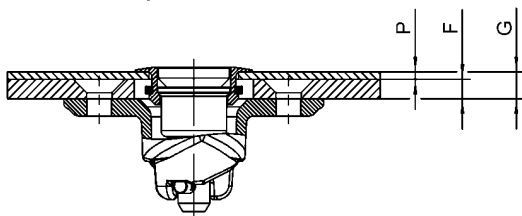
Selection Instructions

1. Select stud assembly, page G-4 and G-5, grommet and snap-on retaining ring, page G-7 and receptacle, page G-8 and G-9.
2. Select retaining washer, page G-6, for studs from length no. 5.
3. Select stud length number from total thickness G using the formula and the table on page G-2 and G-3 (e.g. D 4002-*AGV).

Determining the stud length number when using receptacle:

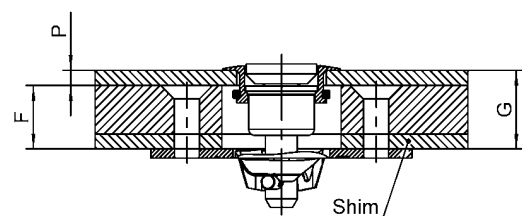
Standard version

Type 1 + 2



$$G = P + F$$

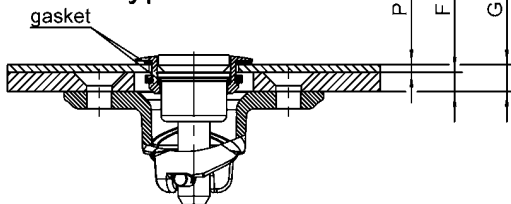
Type 3



$$G = P + F (8,9 \text{ min.})$$

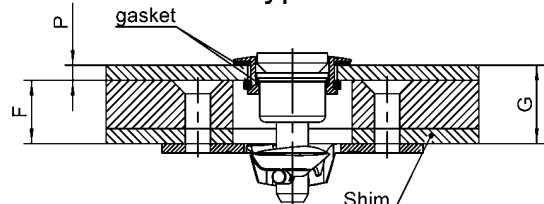
Sealed version

Type 1 + 2



$$G = P + F + 0,75$$

Type 3



$$G = P + F (8,9 \text{ min.}) + 0,75$$



When Using the Following Grommet and Receptacles:

Flush Mounting Grommets
D4002-G-AGV D4002-H-AGV
4002-GS 4002-HS

Total Thickness G	Stud Length No. When Using Type 1 Receptacles	Total Thickness G	Stud Length No. When Using Type 2 Receptacles	Total Thickness G	Stud Length No. When Using Type 3 Receptacles
0,50 - 1,30	-	0,50 - 1,30	-	8,90 - 9,65	2
1,30 - 2,05	-	1,30 - 2,05	2	9,65 - 10,40	3
2,05 - 2,80	2	2,05 - 2,80	3	10,40 - 11,20	4
2,80 - 3,55	3	2,80 - 3,55	4	11,20 - 11,95	5
3,55 - 4,30	4	3,55 - 4,30	5	11,95 - 12,70	6
4,30 - 5,10	5	4,30 - 5,10	6	12,70 - 13,50	7
5,10 - 5,85	6	5,10 - 5,85	7	13,50 - 14,20	8
5,85 - 6,60	7	5,85 - 6,60	8	14,20 - 15,00	9
6,60 - 7,30	8	6,60 - 7,30	9	15,00 - 15,75	10
7,30 - 8,15	9	7,30 - 8,15	10	15,75 - 16,50	11
8,15 - 8,90	10	8,15 - 8,90	11	16,50 - 17,30	12
8,90 - 9,65	11	8,90 - 9,65	12	17,30 - 18,00	13
9,65 - 10,40	12	9,65 - 10,40	13	18,00 - 18,80	14
10,40 - 11,20	13	10,40 - 11,20	14	18,80 - 19,55	15
11,20 - 11,95	14	11,20 - 11,95	15	19,55 - 20,30	16
11,95 - 12,70	15	11,95 - 12,70	16	20,30 - 21,10	17
12,70 - 13,50	16	12,70 - 13,50	17	21,10 - 21,85	18
13,50 - 14,20	17	13,50 - 14,20	18	21,85 - 22,60	19
14,20 - 15,00	18	14,20 - 15,00	19	22,60 - 23,40	20
15,00 - 15,75	19	15,00 - 15,75	20	23,40 - 24,15	21
15,75 - 16,50	20	15,75 - 16,50	21	24,15 - 24,90	22
16,50 - 17,30	21	16,50 - 17,30	22	24,90 - 25,65	23
17,30 - 18,00	22	17,30 - 18,00	23	25,65 - 26,40	24
18,00 - 18,80	23	18,00 - 18,80	24	26,40 - 27,20	25
18,80 - 19,55	24	18,80 - 19,55	25	27,20 - 27,95	26
19,55 - 20,30	25	19,55 - 20,30	26	27,95 - 28,70	27
20,30 - 21,10	26	20,30 - 21,10	27	28,70 - 29,50	28
21,10 - 21,85	27	21,10 - 21,85	28	29,50 - 30,20	29
21,85 - 22,60	28	21,85 - 22,60	29	30,20 - 31,00	30
22,60 - 23,40	29	22,60 - 23,40	30	31,00 - 31,75	31
23,40 - 24,15	30	23,40 - 24,15	31	31,75 - 32,50	32
24,15 - 24,90	31	24,15 - 24,90	32	32,50 - 33,30	33
24,90 - 25,65	32	24,90 - 25,65	33	33,30 - 34,05	34
25,65 - 26,40	33	25,65 - 26,40	34	34,05 - 34,80	35
26,40 - 27,20	34	26,40 - 27,20	35		
27,20 - 27,95	35				

Other lengths on request.

■ Preferred dash-lengths



When Using the Following Grommet and Receptacles:

Plus Flush Mounting Grommets


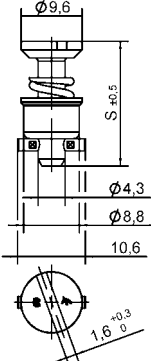

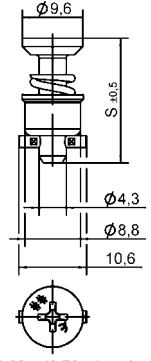

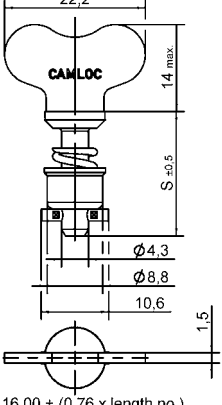
D4002-N-AGV D4002-O-AGV D4002-P-AGV
4002-NS 4002-OS D4002-P-BP

Total Thickness G	Stud Length No. When Using Type 1 Receptacles	Total Thickness G	Stud Length No. When Using Type 2 Receptacles	Total Thickness G	Stud Length No. When Using Type 3 Receptacles
0,50 - 1,30	1	0,50 - 1,30	2	8,90 - 9,65	3
1,30 - 2,05	2	1,30 - 2,05	3	9,65 - 10,40	4
2,05 - 2,80	3	2,05 - 2,80	4	10,40 - 11,20	5
2,80 - 3,55	4	2,80 - 3,55	5	11,20 - 11,95	6
3,55 - 4,30	5	3,55 - 4,30	6	11,95 - 12,70	7
4,30 - 5,10	6	4,30 - 5,10	7	12,70 - 13,50	8
5,10 - 5,85	7	5,10 - 5,85	8	13,50 - 14,20	9
5,85 - 6,60	8	5,85 - 6,60	9	14,20 - 15,00	10
6,60 - 7,30	9	6,60 - 7,30	10	15,00 - 15,75	11
7,30 - 8,15	10	7,30 - 8,15	11	15,75 - 16,50	12
8,15 - 8,90	11	8,15 - 8,90	12	16,50 - 17,30	13
8,90 - 9,65	12	8,90 - 9,65	13	17,30 - 18,00	14
9,65 - 10,40	13	9,65 - 10,40	14	18,00 - 18,80	15
10,40 - 11,20	14	10,40 - 11,20	15	18,80 - 19,55	16
11,20 - 11,95	15	11,20 - 11,95	16	19,55 - 20,30	17
11,95 - 12,70	16	11,95 - 12,70	17	20,30 - 21,10	18
12,70 - 13,50	17	12,70 - 13,50	18	21,10 - 21,85	19
13,50 - 14,20	18	13,50 - 14,20	19	21,85 - 22,60	20
14,20 - 15,00	19	14,20 - 15,00	20	22,60 - 23,40	21
15,00 - 15,75	20	15,00 - 15,75	21	23,40 - 24,15	22
15,75 - 16,50	21	15,75 - 16,50	22	24,15 - 24,90	23
16,50 - 17,30	22	16,50 - 17,30	23	24,90 - 25,65	24
17,30 - 18,00	23	17,30 - 18,00	24	25,65 - 26,40	25
18,00 - 18,80	24	18,00 - 18,80	25	26,40 - 27,20	26
18,80 - 19,55	25	18,80 - 19,55	26	27,20 - 27,95	27
19,55 - 20,30	26	19,55 - 20,30	27	27,95 - 28,70	28
20,30 - 21,10	27	20,30 - 21,10	28	28,70 - 29,50	29
21,10 - 21,85	28	21,10 - 21,85	29	29,50 - 30,20	30
21,85 - 22,60	29	21,85 - 22,60	30	30,20 - 31,00	31
22,60 - 23,40	30	22,60 - 23,40	31	31,00 - 31,75	32
23,40 - 24,15	31	23,40 - 24,15	32	31,75 - 32,50	33
24,15 - 24,90	32	24,15 - 24,90	33	32,50 - 33,30	34
24,90 - 25,65	33	24,90 - 25,65	34	33,30 - 34,05	35
25,65 - 26,40	34	25,65 - 26,40	35		
26,40 - 27,20	35				

Other lengths on request.

■ Preferred dash-lengths


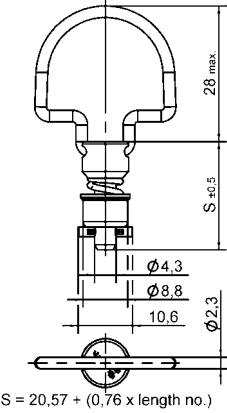

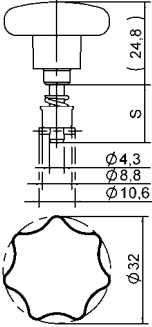

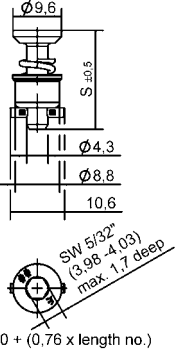


Style	Dimensions	Materials / Finish	°C	Part No.
Slotted Recess Head 	 $S = 16,00 + (0,76 \times \text{length no.})$	Steel / zinc-plated, CrVI-free, clear passivation Stainless steel 1)	120 200	D4002-*AGV D4002-*BP
Cross Recess Head 	 $S = 16,00 + (0,76 \times \text{length no.})$	Steel / zinc-plated CrVI-free, clear passivation Stainless steel 1)	120 200	D40S5-*AGV D40S5-*BP
Fixed Wing Head 	 $S = 16,00 + (0,76 \times \text{length no.})$	Steel / zinc-plated, CrVI-free, clear passivation Stainless steel 1)	120 200	D4002-*WAGV D4002-*WBP

* Length no. from Table, page G-2 and G-3

1) Max. tensile strenght 3.300 N, working load 2.200 N


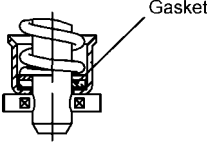

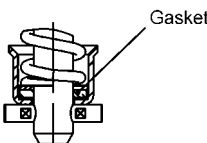


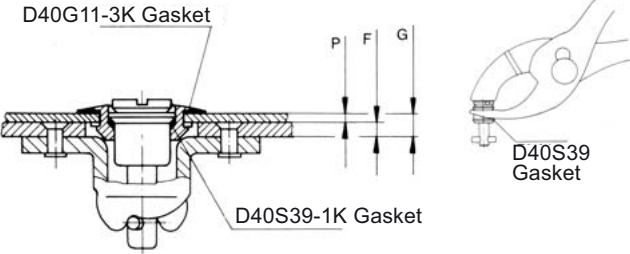
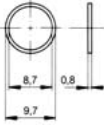
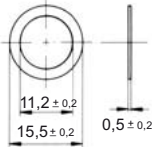
Style	Dimensions	Materials / Finish	°C	Part No.
180° Folding Bail Handle 	 <p>$S = 20,57 + (0,76 \times \text{length no.})$</p>	Steel / zinc-plated, CrVI-free, clear passivation Average Lead Time : 14-16 weeks	120	D40S47-*AGV
Star Form Head 	 <p>$S = 16,00 + (0,76 \times \text{length no.})$</p>	Steel / zinc-plated, CrVI-free, clear passivation Average Lead Time : 14-16 weeks	-40 up to +60	D40E22-*AGV
Hex Recess Head 	 <p>$S = 16,00 + (0,76 \times \text{length no.})$</p>	Steel / zinc-plated, CrVI-free, clear passivation Stainless steel 1) Average Lead Time : 14-16 weeks	120 200	D40E28- *AGV D40E28-*BP

* Length no. from Table, page G-2 and G-3

1) Max. tensile strenght 3.300 N, working load 2.200 N

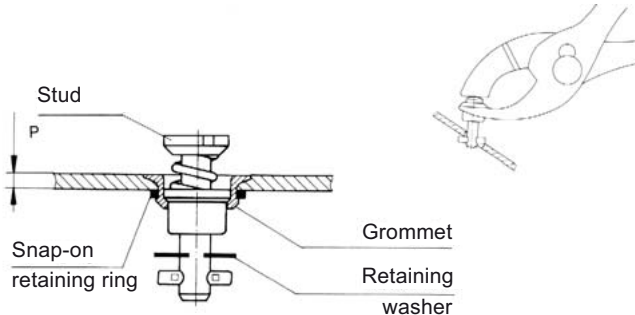
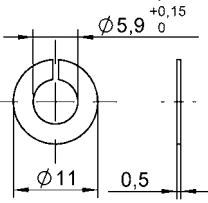
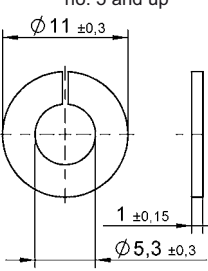

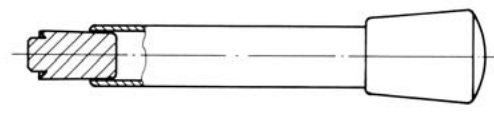
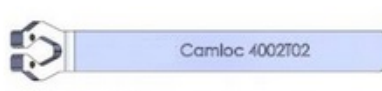
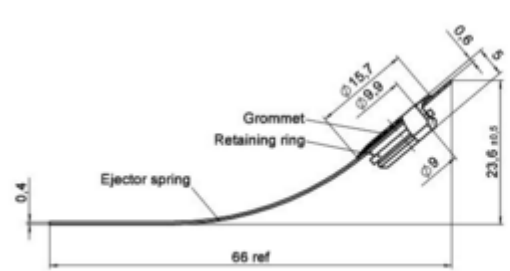
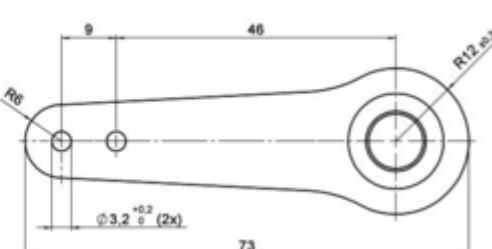


Style	Dimensions	Materials / Finish	°C	Part No.
<p>Sealed Slotted Recess Head</p> 	 <p>Additional required gasket see page G-4</p>	<p>Steel / zinc-plated, CrVI-free, clear passivation</p> <p>Gasket: Rubber</p> <p>Available in Stud Length no. 4 and above</p> <p>Average Lead Time : 14-16 weeks</p>	100	D4002I-*AGV
<p>Sealed Cross Recess Head</p> 	 <p>Additional required gasket see page G-4</p>	<p>Steel / zinc-plated, CrVI-free, clear passivation</p> <p>Gasket: Rubber</p> <p>Available in Stud Length no. 4 and above</p> <p>Average Lead Time : 14-16 weeks</p>	100	D40S5I-*AGV


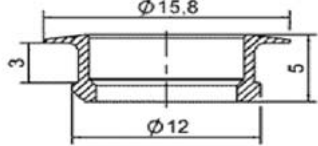

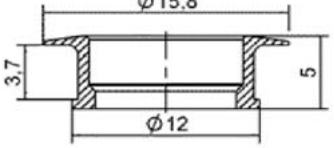

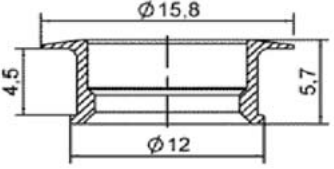

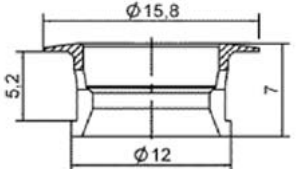

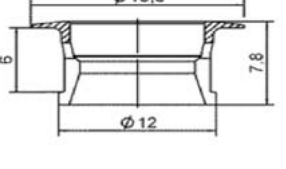

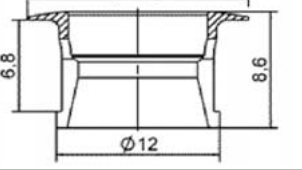

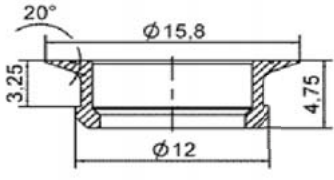

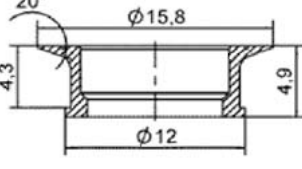
Installation Dimensions	Accessories	Materials / Finish	Part No.
<p>Gasket to be ordered in addition to the sealed stud assembly</p> 	<p>Gasket</p>  <p>Gasket</p> 	<p>Plastic / (PA6)</p> <p>EPDM black</p>	<p>D40S39-1K</p> <p>D40G11-3K</p>


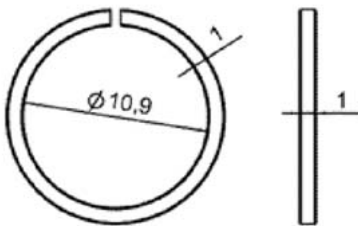
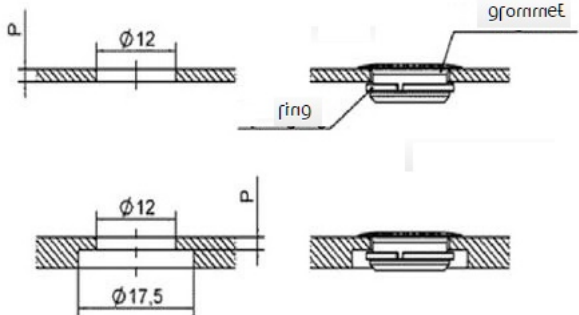
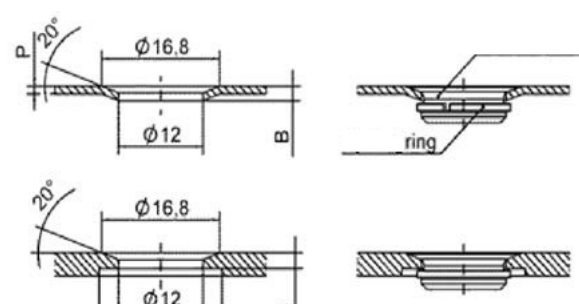
* Length no. from Table, page G-2 and G-3



Installation Dimensions	Accessories	Materials / Finish	Part No.
 <p>4P3-1 installation pliers, see below</p>	<p>retaining ring loose on stud use for stud length no. 5 and up</p>  <p>retaining ring loose on stud use for stud length no. 5 and up</p> 	<p>Stainless steel</p> <p>Plastic</p>	<p>4002-SW-SS</p> <p>50W204-01K</p>
	<p>Stud installation pliers</p>		<p>4P3-1</p>
	<p>R4G-* and V40G26-* snap-on retaining ring installation tool</p>		<p>T26</p>
	<p>4002-SW-SS retaining washer installation tool</p>		<p>4002T02-1BP</p>
		<p>stainless steel ejector spring</p>	<p>V40G50-1-1BP</p>



Style	Dimensions	Materials/ Finish	°C	Part no.
Plus Flush Mounting For Panel Thickness up to 1,65 		Steel/ zinc-plated CrVI-free, clear passivation stainless steel	120 200	D4002-N-AGV 4002-NS
Plus Flush Mounting For Panel Thickness from 1,65 to 2,40 		Steel/ zinc-plated CrVI-free, clear passivation stainless steel	120 200	D4002-O-AGV 4002-OS
Plus Flush Mounting For Panel Thickness from 2,40 to 3,20 		Steel/ zinc-plated CrVI-free, clear passivation stainless steel	120 200	D4002-P-AGV 4002-P-BP
Plus Flush Mounting For Panel Thickness from 3,20 to 3,95 		Steel/ zinc-plated CrVI-free, clear passivation stainless steel	120 200	D4002-R-AGV D4002-R-BP
Plus Flush Mounting For Panel Thickness from 3,95 to 4,75 		Steel/ zinc-plated CrVI-free, clear passivation stainless steel	120 200	D4002-S-AGV D4002-S-BP
Plus Flush Mounting For Panel Thickness from 4,80 to 5,60 		Steel/ zinc-plated CrVI-free, clear passivation stainless steel	120 200	D4002-T-AGV D4002-T-BP
Flush Mounting For Panel Thickness up to 1,65 		Steel/ zinc-plated CrVI-free, clear passivation stainless steel	120 200	D4002-G-AGV 4002-GS
Flush Mounting For Panel Thickness from 1,65 to 2,18 		Steel/ zinc-plated CrVI-free, clear passivation stainless steel	120 200	D4002-H-AGV 4002-HS

Style	Dimensions	Materials/ Finish	Part no.
		Steel/ zinc-plated, CrVI-free, clear passivation stainless steel stainless steel/ non-magnetic	R4G-3 V40G26-1BP V40G26-1N
		Grommet plus Flush Part no.	P_{max}
		D4002-N-AGV / 4002-NS D4002-O-AGV / 4002-OS D4002-P-AGV / D4002-P-BP D4002-T-AGV / D4002-T-BP	1,65 2,40 3,20 5,60
		Grommet Flush Part no.	P_{max} B_{max}
		D4002-G-AGV / 4002-GS D4002-H-AGV / 4002-HS	1,65 1,88 2,18 2,97


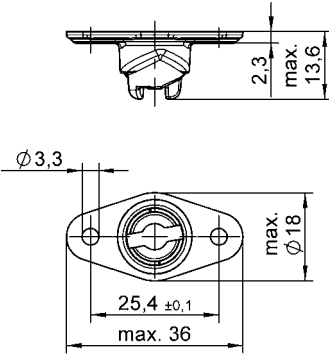

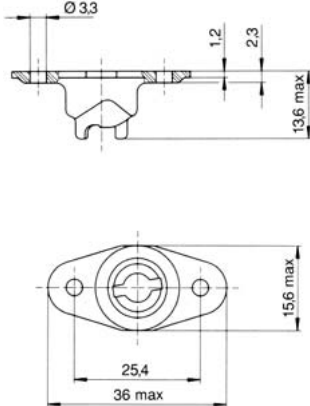

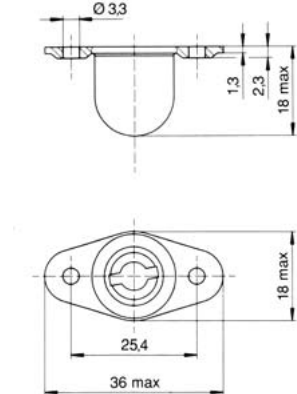
installation of grommet with help of the tool T26




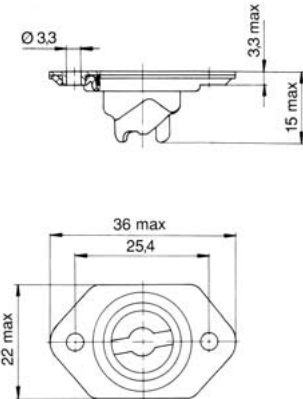

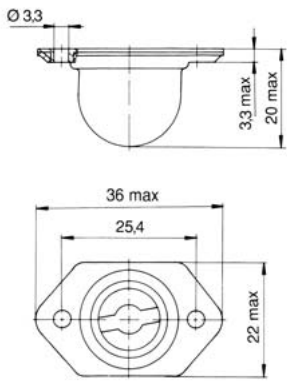

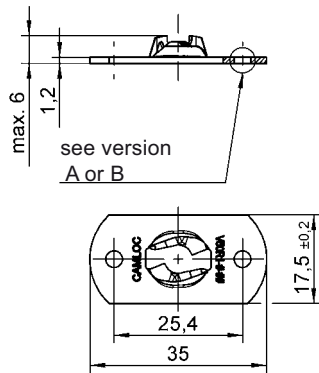
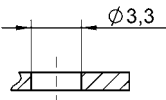
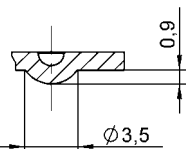
installation of stud with tool 4P3-1
installation of 4002-SW-SS with
tool 4002T02-1BP




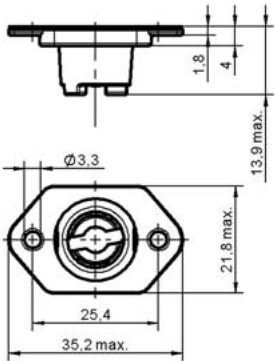

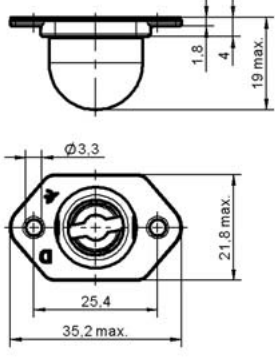

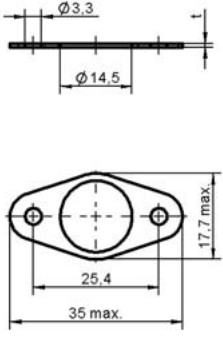


Style	Dimensions	Materials / Finish	°C	Part No.
Type 1 Cast 		Hard bronze / zinc-plated, CrVI-free, clear passivation Stainless steel	120 200	D214-16FGV 214-16S
Type 1 Cast Narrow Width 		Hard bronze / zinc-plated, CrVI-free, clear passivation	120	D214-16NFGV
Type 1 Cast Encapsulated 		Hard bronze / zinc-plated, CrVI-free, clear passivation Capsule: Brass / zinc-plated, CrVI-free, clear passivation	150	D40R12-1FGV



Style	Dimensions	Materials / Finish	°C	Part No.
Type 2 Float up to 0,75 mm (Cast Receptacle) 		Hard bronze / zinc-plated, CrVI-free, clear passivation Cage: Steel / zinc-plated, CrVI-free, clear passivation	120	D244-16-FGV
		Stainless steel	200	244-16S
Type 2 Float up to 0,75 mm Encapsulated 		Hard bronze / zinc-plated, CrVI-free, clear passivation Capsule: Steel / zinc-plated, CrVI-free, clear passivation	120	D244-16C-FGV
		Stainless steel	200	244-16SC
Type 3 Flat Rivet / Screw or Weld Mounting 		Rivet / Screw Mounting (A) Hard bronze / zinc-plated, CrVI-free, clear passivation	120	V50R1-1-1AGV
		Stainless steel	200	V50R1-1-1BP
		Welding (B) Steel / zinc-plated	-	V50R1-1-2AZ
		Steel/oil-coated	-	V50R1-1-2AR
				
Version B 				



Style	Dimensions	Materials / Finish	°C	Part No.
<p>Type 2 Float up to 0,75 mm (Torlon)</p> 		Torlon, base plate: Stainless steel	120	V244-16TS1
<p>Type 2 Float up to 0,75 mm (Torlon) Encapsulated</p> 		Torlon. base plate: Stainless steel	120	V244-16TS1C
<p>Shim</p> 		<p>Aluminum t=0,8mm</p> <p>Aluminum t=1,5mm</p> <p>to be used with: D214-16FGV 214-16 S D214-16 NFGV D40R12-1FGV</p>	<p>175</p> <p>175</p>	<p>D40W02-1DR</p> <p>D40W02-2DR</p>



Installation Dimensions

Types 1, 2 and 3 Receptacle Hole Pattern





Features

Max. tensile strength 10.000 N, working load 7.000 N.

High tensile strength and preload.

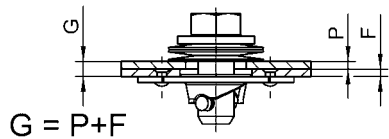
Typical applications:

Commercial vehicles, coaches, agricultural machinery, chemical engineering, heating systems etc.

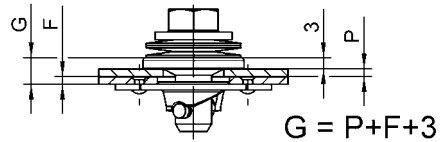
1. Select stud assembly and receptacle, pages H-2, H-3 and H-5.
2. Sealed: Also select rubber gasket and buffer plate, page H-4.
3. Select retaining washer, page H-4.
4. Select stud length number from total thickness G using the formula and table below (e.g. 991S01-*AGV).

Determining the stud length number when using:

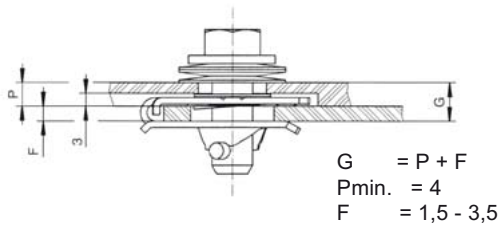
Rivet, Screw and Weld Mounting Receptacle



Sealed Stud Assemblies



Clip-On Receptacle




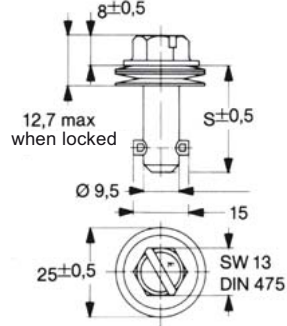

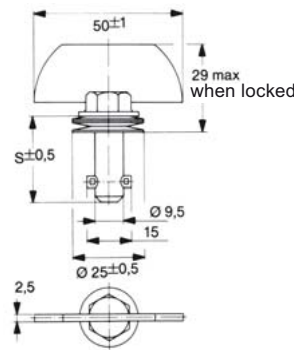

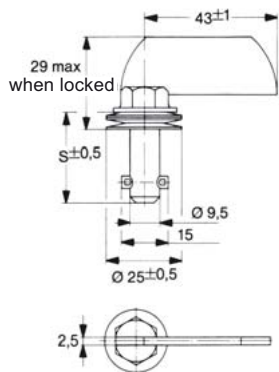

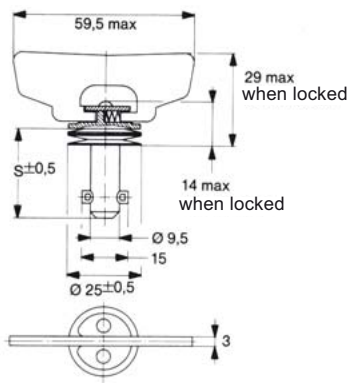
Stud Length Table

Total Thickness G	Stud Length No.	Total Thickness G	Stud Length No.	Total Thickness G	Stud Length No.
0,90 - 1,65	1	13,85 - 14,60	18	26,80 - 27,55	35
1,65 - 2,40	2	14,60 - 15,35	19	27,55 - 28,30	36
2,40 - 3,15	3	15,35 - 16,15	20	28,30 - 29,10	37
3,15 - 3,95	4	16,15 - 16,90	21	29,10 - 29,85	38
3,95 - 4,70	5	16,90 - 17,65	22	29,85 - 30,60	39
4,70 - 5,45	6	17,65 - 18,40	23	30,60 - 31,35	40
5,45 - 6,20	7	18,40 - 19,20	24	31,35 - 32,15	41
6,20 - 7,00	8	19,20 - 19,95	25	32,15 - 32,90	42
7,00 - 7,75	9	19,95 - 20,70	26	32,90 - 33,65	43
7,75 - 8,50	10	20,70 - 21,45	27	33,65 - 34,40	44
8,50 - 9,25	11	21,45 - 22,25	28	34,40 - 35,20	45
9,25 - 10,05	12	22,25 - 23,00	29	35,20 - 35,95	46
10,05 - 10,80	13	23,00 - 23,75	30	35,95 - 36,70	47
10,80 - 11,55	14	23,75 - 24,50	31	36,70 - 37,45	48
11,55 - 12,30	15	24,50 - 25,25	32	37,45 - 38,25	49
12,30 - 13,10	16	25,25 - 26,05	33	38,25 - 39,00	50
13,10 - 13,85	17	26,05 - 26,80	34		

Other lengths on request.

■ Preferred dash-lengths


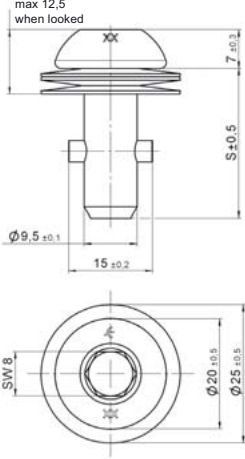

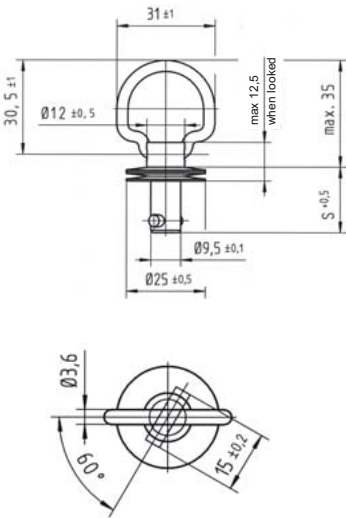


Style	Dimensions	Materials / Finish	°C	Part No.
Hex Head Slotted Recess 	 <p>S = 16,26 + (0,76 x length no.)</p>	Steel / zinc-plated, CrVI-free, clear passivation Stainless steel ¹⁾	120 200	991S01- *-1AGV 991S01- *-1BP
Fixed Wing Head 	 <p>S = 16,26 + (0,76 x length no.)</p>	Steel / zinc-plated, CrVI-free, clear passivation	120	991S02- *-1AGV
Offset Fixed Wing Head 	 <p>S = 16,26 + (0,76 x length no.)</p>	Steel / zinc-plated, CrVI-free, clear passivation Average Lead Time : 12 weeks	120	991S03- *-1AGV
180° Folding Wing Head 	 <p>S = 16,26 + (0,76 x length no.)</p>	Steel / zinc-plated, CrVI-free, clear passivation	120	991S05- *-1AGV

* Length no. from Table, see page H-1.

¹⁾ Max. tensile strength 7.000 N, working load 4.500 N.



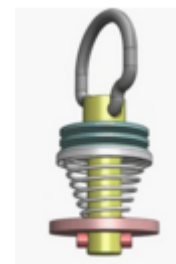
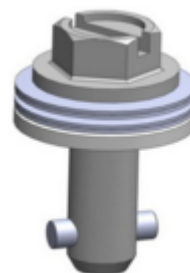
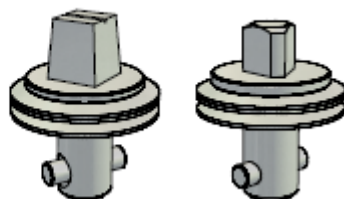
Style	Dimensions	Materials / Finish	°C	Part No.
<p>Hex Recess Head</p> 		<p>Steel / zinc-plated, CrVI-free, clear passivation</p> <p>consult us for this part in stainless</p> <p>Average Lead Time : 12 weeks</p>	120	991S30-*AGV
<p>Folding Bail Handle 180°</p> 	 <p>S = 15,03 + (0,76 X length no.)</p>	<p>Steel / zinc-plated, CrVI-free, clear passivation</p> <p>Average Lead Time : 12 weeks</p>	120	991S2991-*AGV

* Length no. from Table, see page H-1.

consult us for parts in stainless steel and steel zinc plated with plastic knob, railway head or triangle head styles

for soft panels: such as plastic covers
1655S01-*AGV

with lift spring
991S2991H-AGV




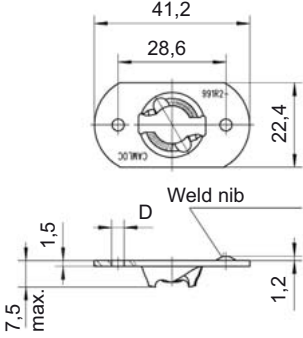

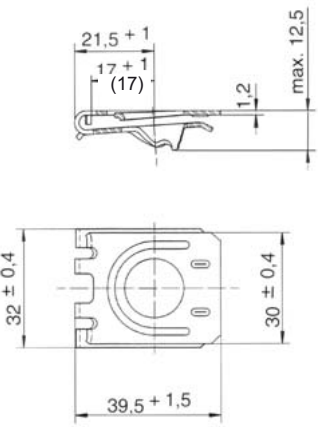


Installation Dimensions	Accessories	Material / Finish	Part No.
	Retaining washer 	Stainless steel	991W04-1BP
	Slotted retaining washer 	Stainless steel	991W02-1BP

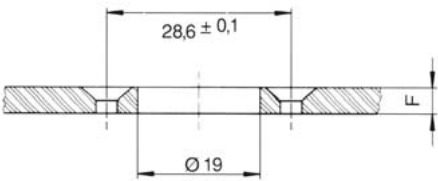
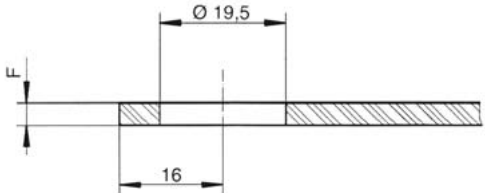
Sealed Stud Assemblies

Installation Dimensions	Accessories	Material / Finish	Part No.
	Buffer plate 	Stainless steel	991W03-1BP
	Rubber gasket 	NBR black (100°C max.)	991S17-1K

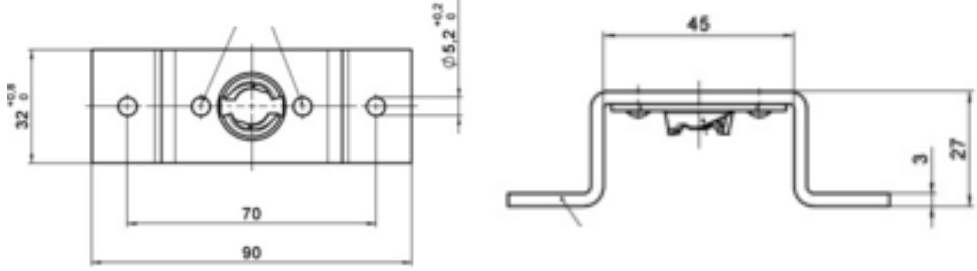
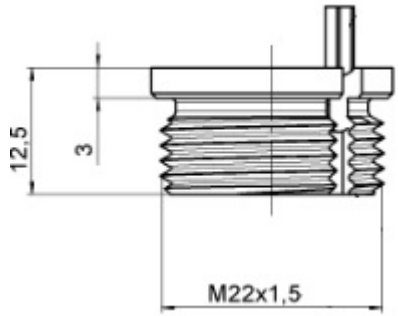
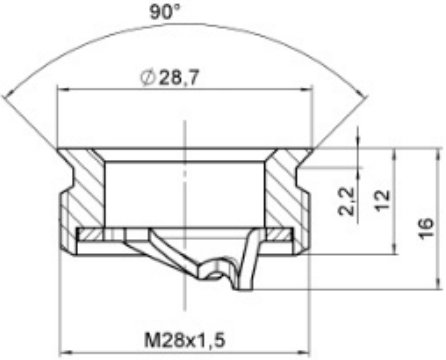


Style	Dimensions	Materials / Finish	Mounting Ø	°C	Part No.
Rivet / Screw Mounting 		Rivet / Screw Mounting Steel / zinc-plated, CrVI-free, clear passivation AGV = 240 hours salt spray	3,3	120	991R2-1AGV
		Steel / zinc-plated, CrVI-free, clear passivation	4,1	120	991R2-3AGV
		Stainless steel	3,3	200	991R2-1BP
		Stainless steel	4,1	200	991R2-3BP
		Welding Steel / zinc-plated	-	-	991R2-2AZ
		Steel / oil coated zinc/nickel 720 hours salt spray test	-	-	991R2-2AR 991R2-3ASNv
Clip-On 		Steel/zinc-plated, zinc flake coated Frame thickness F = 1,5mm - 35mm F = 3,5-6mm		150	991R6-1AK7 991R6-2AK7

Receptacle Installation Instructions

Installation Dimensions	
Rivet / Screw or Welded Mounting 	Clip-On 



Style	Dimensions	Materials / Finish	°C	Part No.
<p>bracket mounted</p> 		<p>Steel/zinc-plated, CrVI-free, clearpassivation</p>	120	1655R02-1AGV
<p>Threaded</p> 		<p>brass</p> <p>installed flush</p> <p>smaller forces apply,</p> <p>different stud style to be selected</p> <p>pricing is expensive</p>	120	3140R01-1M
<p>Threaded</p> 		<p>Stainless steel</p> <p>smaller forces apply</p> <p>different stud style to be selected</p> <p>can be mounted flush in a blind hole or flush in a plate with thickness of 5mm with nut</p>	120	<p>3257R01-1BP</p> <p>3257S11-1BP</p>



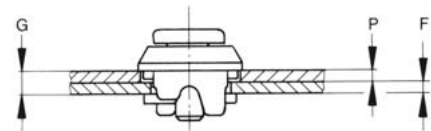
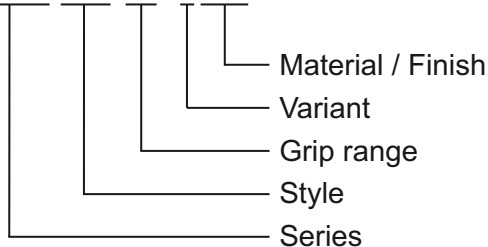
Features

Max. tensile strength 300 N, working load 200 N.
 Same hole shape for panel and frame.
 Available in slotted recess or knurled head styles .
 Fastener position indication by stud slot.
 Stud assembly captive in the panel.
 Vibration resistant.
 Grip ranges from 2,0 mm to 4,6 mm.
 Lock and unlock by a quarter turn.
 Typical applications are in electro-mechanical and electronic equipment.
 Quick installation without tools.

Part no. example


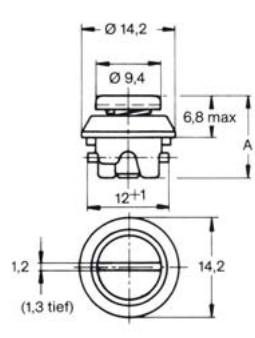

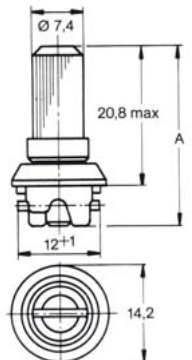
Knurled head for 3,3 mm to 4,6 mm grip range.

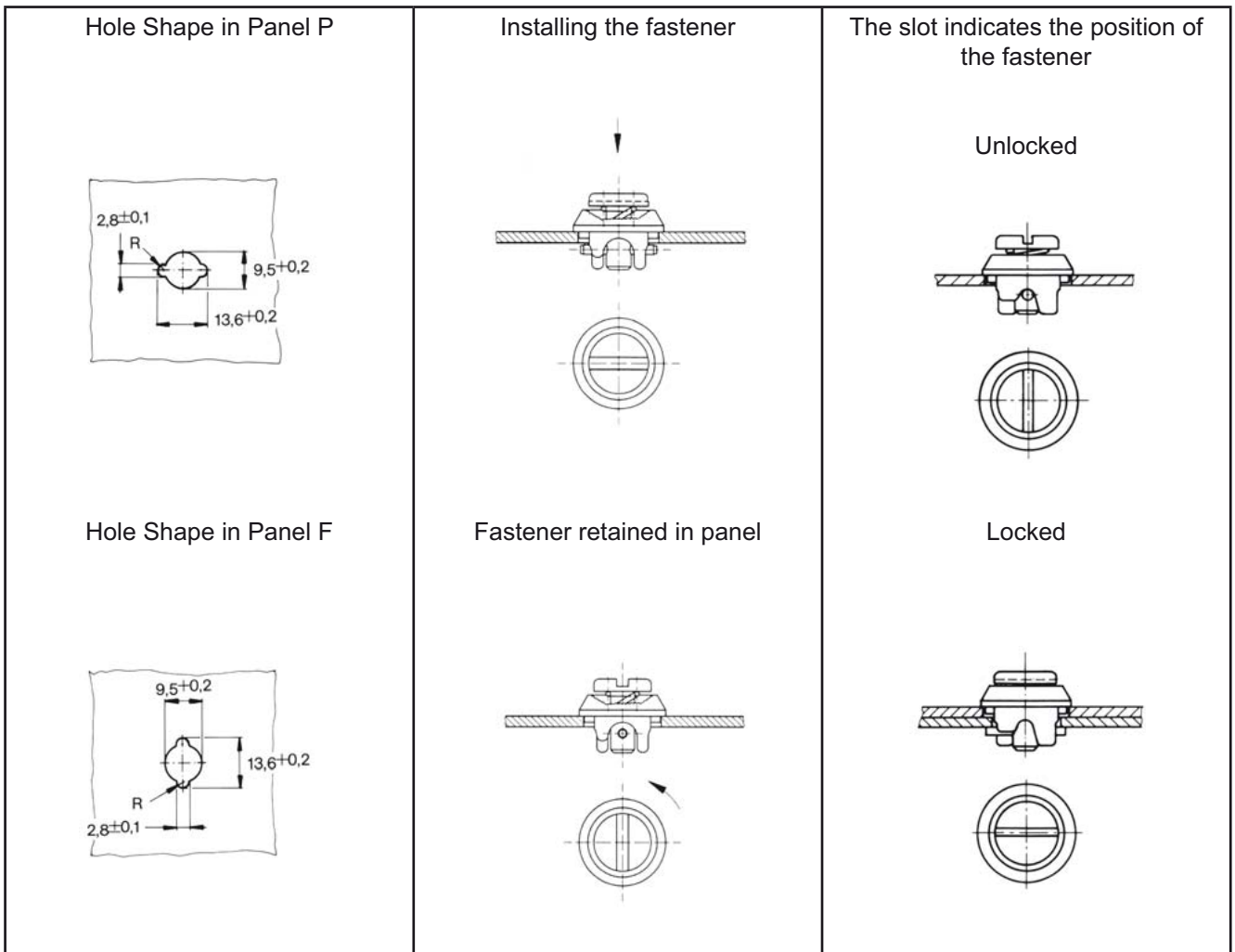
V936 S11 -4 -1 AA



$$G = P + F$$

$$P_{min} = 1,2 \text{ mm}$$

Style	Dimensions	Materials / Finish	A	Grip Range G	°C	Part No.
Slotted Recess Head 		Stud, spiral pin: Steel / zinc-plated, CrVI-free, clear chromate Compression spring: Stainless steel Casing: Zinc die casting / zinc-plated, CrVI-free, clear chromate	12,3 ^{±0,3}	2,0 - 3,2	100	V936S05-3-1AA
			14,8 ^{±0,3}	3,3 - 4,6	100	V936S05-4-1AA
Knurled Head 		Stud, Casing: Zinc die casting / zinc-plated, CrVI-free, clear chromate Compression spring: Stainless steel Spiral pin: Steel / zinc-plated, CrVI-free, clear chromate	26,4 ^{±0,3}	2,0 - 3,2	100	V936S11-3-1AA
			28,9 ^{±0,3}	3,3 - 4,6	100	V936S11-4-1AA



Features

This fastener fastens panels in electrical switch cabinets (e.g. 19"-equipment) to modular bars.

Selection Instructions

The dimensions of the front panel and the modular bar as well as the colour determine the final design of the fastener.

To enable us to offer you the custom-tailored fastener, we need your drawings with the dimensions and tolerances of:

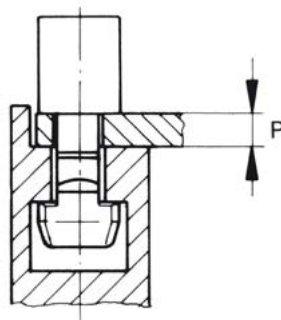
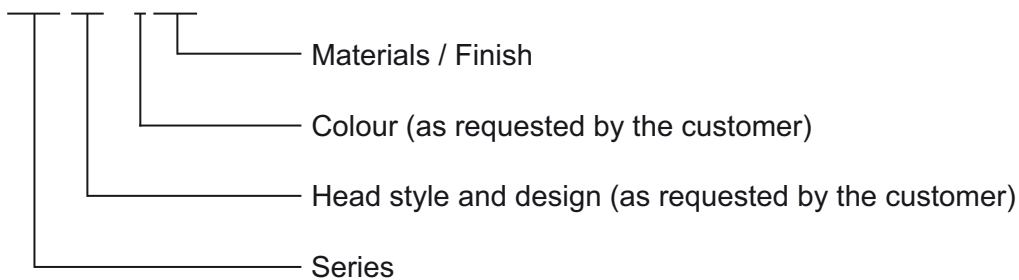
1. the front panel
2. the shape of the modular bar
3. the colour, if necessary

In addition, please send us samples of your modular bar and front panel.


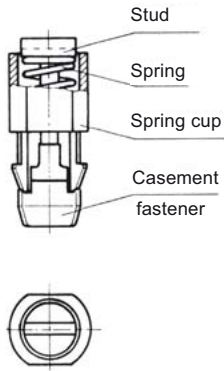

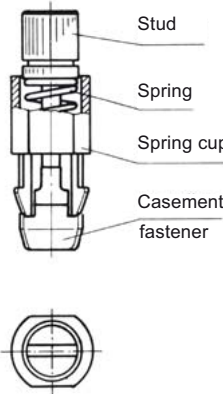
Part no. example

One-piece fastener

713 S* - * AE

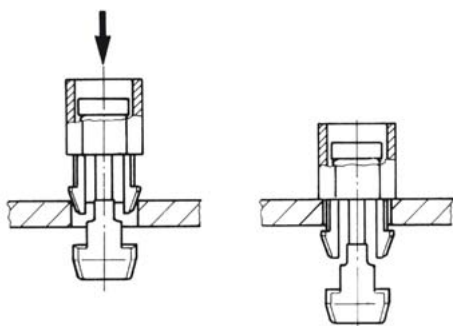
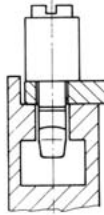

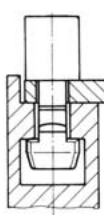
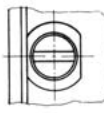




Style	Dimensions	Materials / Finish	°C	Part No.
Slotted Recess Head 		Spring cup: Plastic (POM) Stud: Steel / nickel-plated Spring: Steel / zinc-plated, CrVI-free, clear chromate Casement fastener: Zinc die casting / zinc-plated, CrVI-free, clear chromate	-25 up to +90	713S* - *AE
Knurled Head 		Spring cup: Plastic (POM) Stud: Steel / nickel-plated Spring: Steel / zinc-plated, CrVI-free, clear chromate Casement fastener: Zinc die casting / zinc-plated, CrVI-free, clear chromate	-25 up to +90	713S* - *AE

* Design and colour as requested by the customer.

Due to the various front panel thickness, hole shapes and modular bar shapes, it is not possible to offer one standard design. We will individually issue the final part number only after determining the front panel and modular bar dimensions and the colour.

Dimensions	Fastener Position
Installing the Fastener 	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Unlocked   </div> <div style="text-align: center;"> Locked   </div> </div> <p style="text-align: center;">To lock push stud and turn 90°C.</p> <p style="text-align: center;">The slot indicates the position of the fastener.</p>
<ol style="list-style-type: none"> 1. Insert fastener with spring cup into hole. 2. Push stud until snap-in hooks lock in. 	





Features

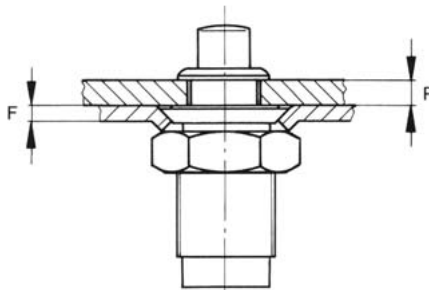
Max. tensile strength 1.330 N, working load 930 N.

Quick opening and closing by a push of the finger.

Easy installation with single hole mounting.

Selection Instructions

1. Select stud assembly, page K-2 and receptacle, page K-3.
2. Select retaining washer, page K-2 and retaining hexnut, page K-3, if necessary.
3. Select stud length number from Panel thickness P using the table below, insert into stud part number * (e.g. 15S1-*-1AD).




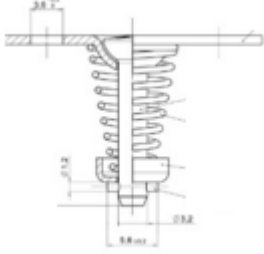
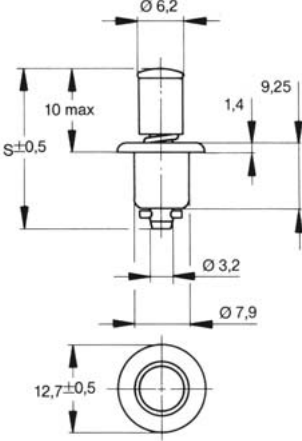
Stud Length Table

Panel Thickness P	Stud Length No.
0,7 - 2,3	1
2,3 - 3,8	3
3,8 - 5,3	5
5,3 - 6,9	7
6,9 - 8,4	9
8,4 - 9,9	11
9,9 - 11,4	13
11,4 - 13,0	15

Other lengths on request.

■ Preferred dash-lengths

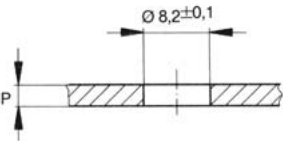
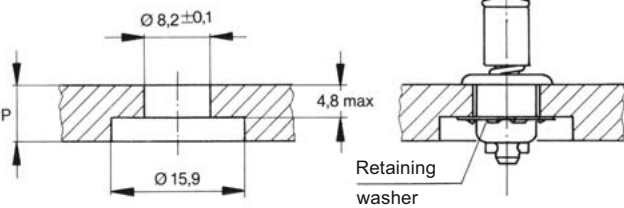
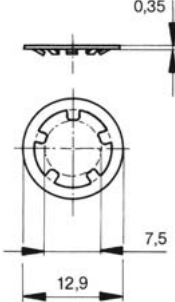
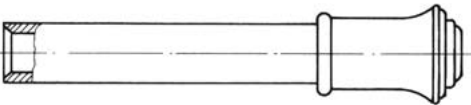


Style	Dimensions	Materials / Finish	°C	Part No.
 	 $S=22,4 + (0,76 \times \text{length no.})$	Steel / nickel-plated (this is standard)	120	15S1- *-1AD
		Steel / zinc-plated CrVI-free, clear passivation	120	15S1- *-1AJ
		steel zinc plated, invisible stud		V15S20- *1AGV


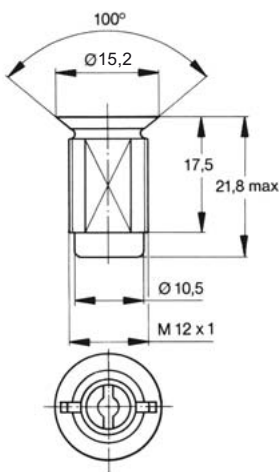
* Length no. from Table, see page K-1.

Other lengths and surfaces can be ordered upon request.

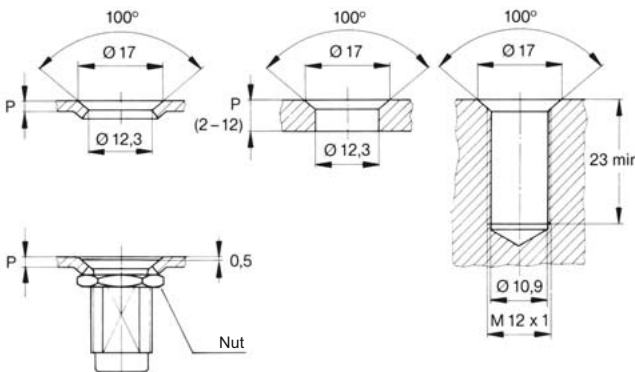
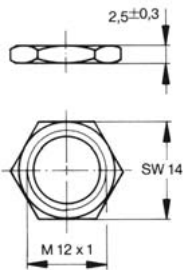
Stud Installation Instructions

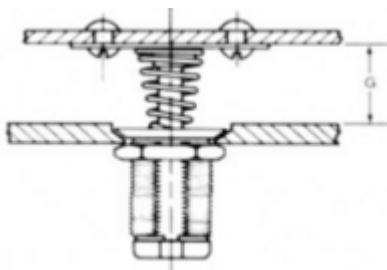
Installation Dimensions	Accessories	Materials / Finish	Part No.
<p>Panel thickness up to 4,8</p>  <p>Panel thickness from 4,8 + up</p> 	<p>Retaining washer</p> 	Stainless steel	15S11-1CJ
	<p>Installation Tool for 15S11-1CJ retaining washer</p>		T107-1



Style	Dimensions	Materials / Finish	°C	Part No.
		Zinc die casting / zinc-plated CrVI-free, clear passivation	120	V15R13-1-1AB

Receptacle Installation Instructions

Installation Dimensions	Accessories	Materials / Finish	Part No.
	<p>Hex Nut</p> 	Steel / zinc-plated, CrVI-free, clear passivation	V15R14-1-1AB



standard holes = 3,6mm ; can also be welded





Features

- Max. tensile strength 700 N, working load 600 N.
- Easy and economic clip-in installation for stud and receptacle.
- Also suitable for automatic installation.
- 1/4 turn to open - close by a push of the finger.
- Due to their small size they are particularly suited for use in electrical engineering and electronics.

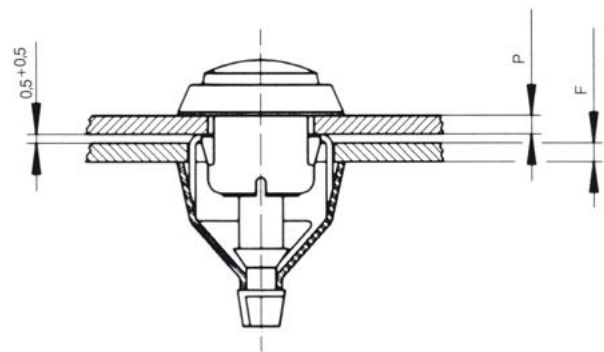
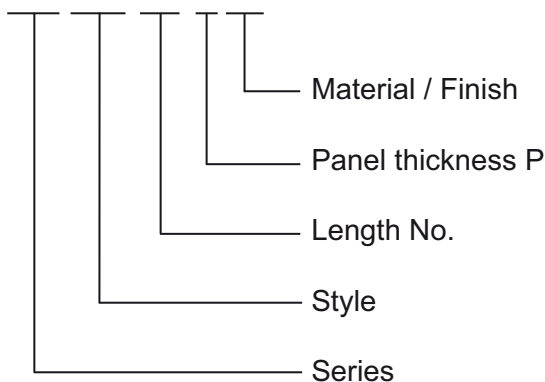
Selection Instructions

- Select stud assembly according to panel thickness P, page L-2 and spring clip according to frame thickness F, page L-3.
- Select stud length number from panel thickness G using the table below, insert into stud part number * (e.g. 715S12-* -1BP).

Part no. example

Stud, slotted recess head

715 S12 -07 -3BP




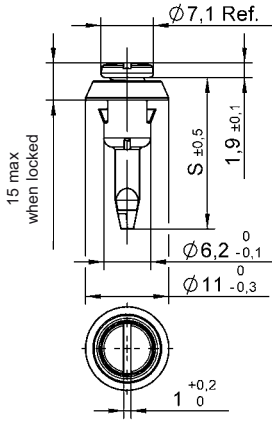

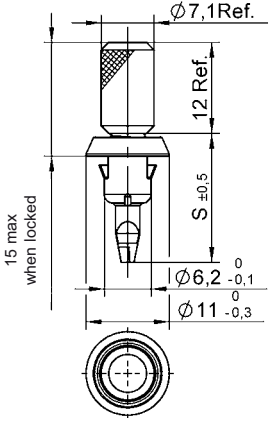
Stud Length Table

Panel Thickness P	Slotted Recess Head Stud Length No.	Knurled Head Stud Length No.	Panel Thickness P	Slotted Recess Head Stud Length No.	Knurled Head Stud Length No.
0,50 - 1,25	5	5	6,50 - 7,25	13	-
1,25 - 2,00	6	6	7,25 - 8,00	14	-
2,00 - 2,75	7	7	8,00 - 8,75	15	-
2,75 - 3,50	8	8	8,75 - 9,50	16	-
3,50 - 4,25	9	9	9,50 - 10,25	17	-
4,25 - 5,00	10	10	10,25 - 11,00	18	-
5,00 - 5,75	11	-	11,00 - 11,75	19	-
5,75 - 6,50	12	-	11,75 - 12,50	20	-

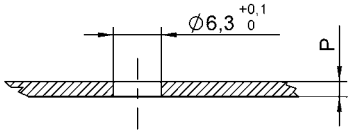
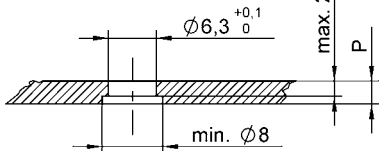
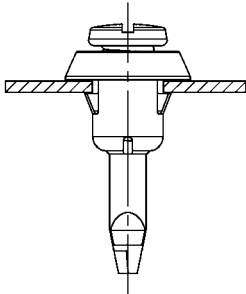
Other lengths on request.

■ Preferred dash-lengths


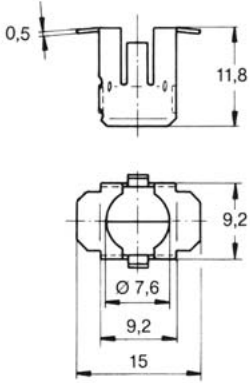


Style	Dimensions	Materials / Finish	Panel Thickness P	°C	Part No.
Slotted Recess Head 	 <p>S = 13,25 + (0,75 x length no.)</p>	Stainless steel Spring cup: Plastic (POM) / black	0,5 - 1,0 1,0 - 1,5 1,5 - 2,0	-25 up to +90	715S12- *-1BP 715S12- *-2BP 715S12- *-3BP
Knurled Head 	 <p>S = 13,25 + (0,75 x length no.)</p>	Stainless steel Spring cup: Plastic (POM) / black	0,5 - 1,0 1,0 - 1,5 1,5 - 2,0	-25 up to +90	715S13- *-1BP 715S13- *-2BP 715S13- *-3BP

Stud Installation Instructions


Installation Dimensions	
Panel up to 2 mm	
Panel over 2 mm	
	



Style	Dimensions	Materials / Finish	Frame Thickness F	°C	Part No.
Receptacle 		Stainless steel	0,5 - 1,0	-25 up to +90 (See stud assembly)	715R02-1BP
			1,0 - 1,5		715R02-2BP
			1,5 - 2,0		715R02-3BP
			2,0 - 2,5		715R02-4BP

Installation Instructions

Installation Dimensions



Features

- Max. tensile strength 1.400 N, working load 1.200 N.
- Easy and economic clip-in installation for stud and receptacle.
- Also suitable for automatic installation.
- 1/4 turn to open – close with a push of the finger.

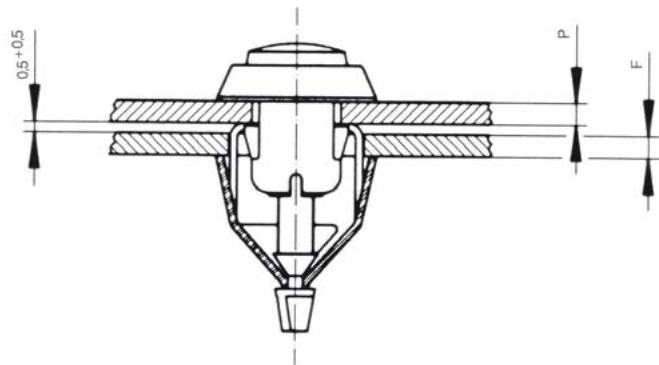
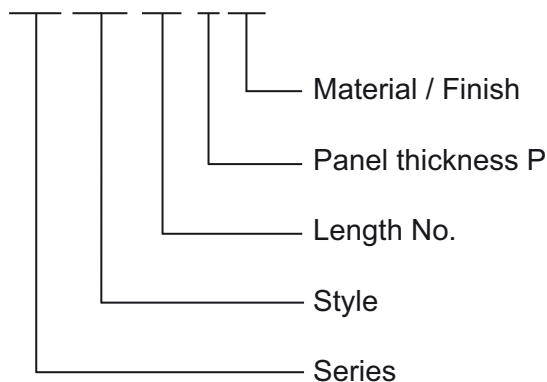
Selection Instructions

- Select stud assembly according to panel thickness P, page M-2 and spring clip according to frame thickness F, page M-3.
- Select stud length number from panel thickness P using table below, insert into stud part number * (e.g. 716S12-* -1BP).

Part no. example

Stud, slotted recess head

716 S12 -03 -2BP




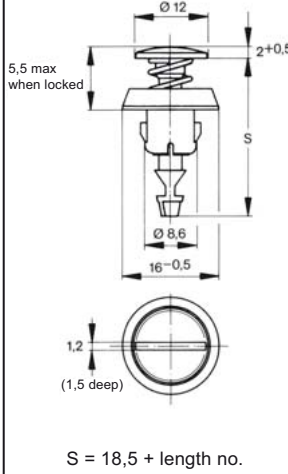

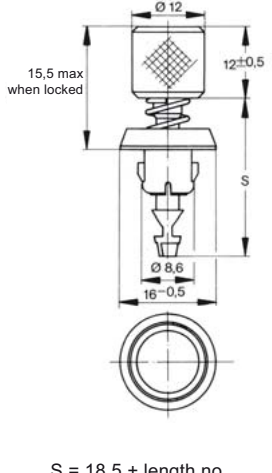
Stud Length Table

Panel Thickness P	Stud Length No.
1,0 - 2,0	02
2,0 - 3,0	03
3,0 - 4,0	04
4,0 - 5,0	05
5,0 - 6,0	06
6,0 - 7,0	07
7,0 - 8,0	08
8,0 - 9,0	09
9,0 - 10,0	10

Other lengths on request.

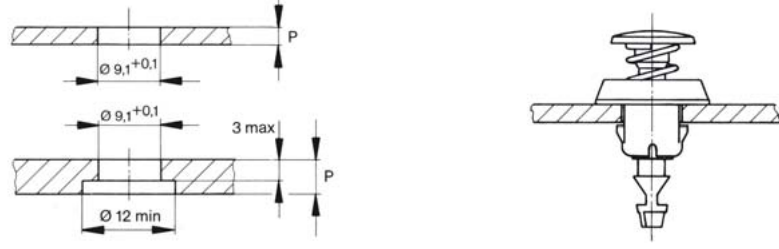
■ Preferred dash-lengths




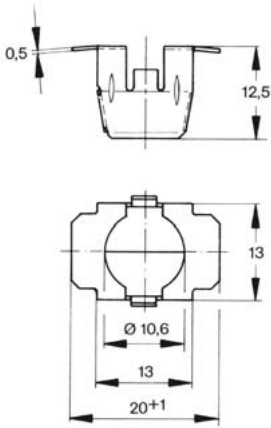
Style	Dimensions	Materials / Finish	Panel Thickness P	°C	Part No.
Slotted Recess Head 		Stainless steel Spring cup: Plastic (POM)/black	0,5 - 1,0	-25 up to +90	716S12- *-1BP
			1,0 - 1,5		716S12- *-2BP
			1,5 - 2,0		716S12- *-3BP
			2,0 - 2,5		716S12- *-4BP
			2,5 - 3,0		716S12- *-5BP
Knurled Head 		Stainless steel Spring cup: Plastic (POM)/black	0,5 - 1,0	-25 up to +90	716S13- *-1BP
			1,0 - 1,5		716S13- *-2BP
			1,5 - 2,0		716S13- *-3BP
			2,0 - 2,5		716S13- *-4BP
			2,5 - 3,0		716S13- *-5BP

* Length no. from Table, page M-1.

Stud Installation Instructions

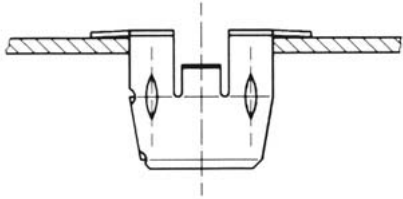
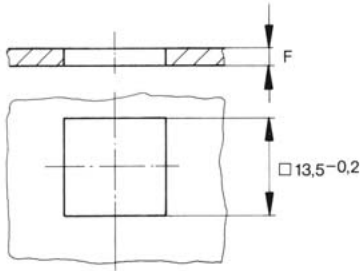
Installation Dimensions	
Panel up to 3 mm	
Panel over 3 mm	



Style	Dimensions	Materials / Finish	Frame Thickness F	°C	Part No.
Spring Clip 		Stainless steel	1,0 - 1,5	-25 up to +90 (See stud assembly)	720R01-1B
			1,5 - 2,0		720R01-2B
			2,0 - 2,5		720R01-3B
			2,5 - 3,0		720R01-4B

Installation Instructions

Installation Dimensions



Features

- Max. tensile strength 3.000 N, working load 2.500 N.
- Robust design - high strength.
- Stud assembly with protective, compensating and retaining washers.
- Rivet or screw mounting spring receptacle.
- 1/4 turn to open - close by a push of the finger.

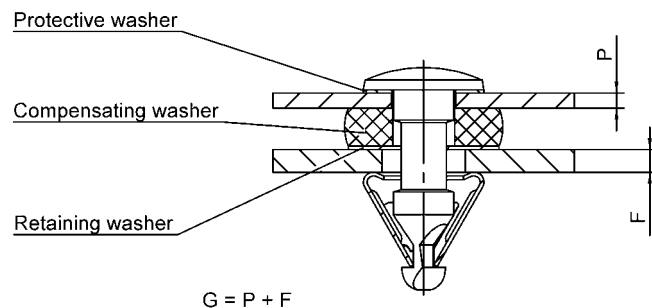
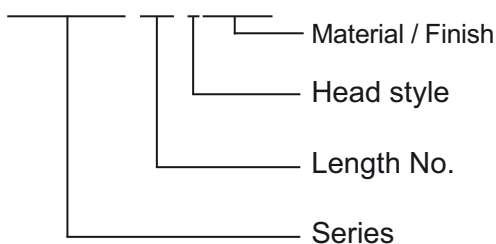
Selection Instructions

1. Select stud assembly and spring clip, page N-2 and N-3.
2. Select compensating and retaining washers, page N-2.
3. Select stud length number from grip range G using the table below, insert into stud part number * (e.g. 717S01-* -1AGV).

Part no. example

Spring clip, rivet / screw mounting

717 S01 -2 -1AGV




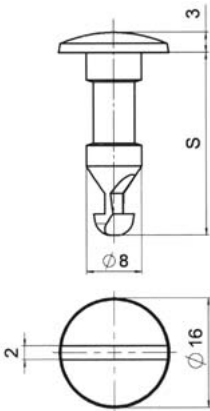

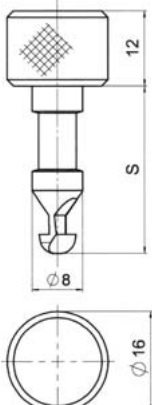
Stud Length Table

Griprange G	Stud Length No.
1,0 - 3,0	1
3,0 - 5,0	2
5,0 - 7,0	3
7,0 - 9,0	4
9,0 - 11,0	5
11,0 - 13,0	6

Other lengths on request.

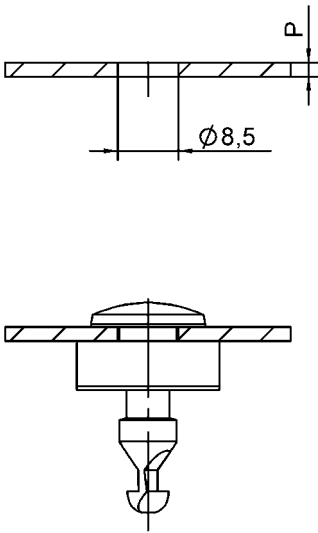
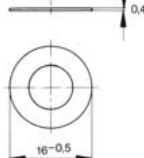
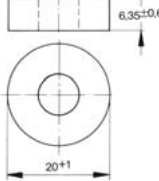

■ Preferred dash-lengths




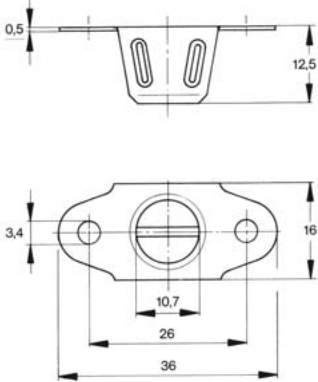
Style	Dimensions	Materials / Finish	°C	Part No.
<p>Slotted Recess Head</p> 	 <p>S = 20,5 + (2 x length no.)</p>	Steel/ zinc-plated CrVI-free, clear passivation	-40 up to +100	717S01- *-1AGV
<p>Knurled Head</p> 	 <p>S = 20,5 + (2 x length no.)</p>	Steel/ zinc-plated CrVI-free, clear passivation	-40 up to +100	717S01- *-2AGV

* Length no. from Table, see page N-1.

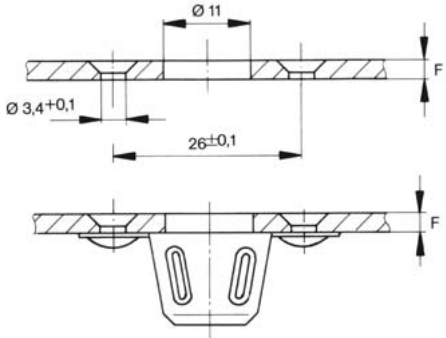
Stud Installation Instructions

Style	Dimensions	Materials / Finish	°C	Part No.
	<p>Protective washer</p> 	Plastic (PA6) / natural colour	-40 up to +100	717W02-1K
	<p>Compensating washer</p> 	Plastic (PU-foam) / anthracite	-40 up to +100	717W03-1K
	<p>Retaining washer</p> 	Plastic (PA6) / natural colour	-40 up to +100	717W01-1K



Style	Dimensions	Materials / Finish	°C	Part No.
Rivet / Screw Mounting 		Steel / zinc flake coated	-40 up to 100	717R01-1AK7

Installation Instructions

Installation Dimensions




Features

- Max. tensile strength 1.200 N, working load 800 N.
- 1/4 turn to open, close with a push of the finger
- Wide grip range
- Tool or hand operated
- Fast installation of snap-in spring receptacle.
- No tools required for the installation of the stud and washer.
- Tool operated stud has combination recess.

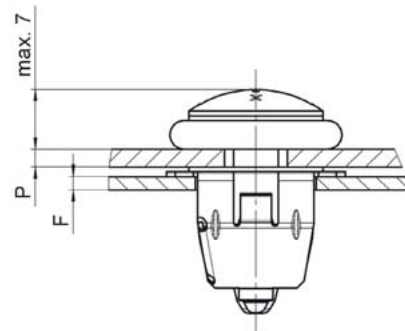
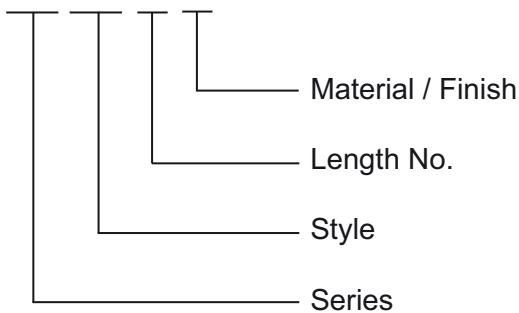
Selection Instructions

1. Select stud assembly according to panel thickness P, page O-2 and spring clip according to frame thickness F, page O-4.
2. Select Compensating washer and Retaining washer, page O-3.
3. Select stud length number from panel thickness P using the formula and table below (e.g. 720S01-*B).

Part no. example

Stud, slot-cross recess


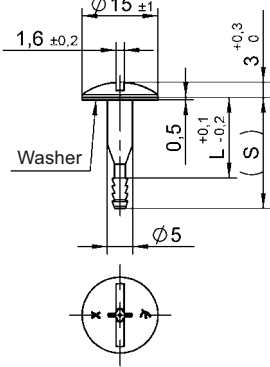

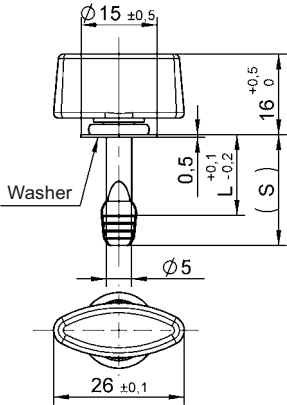
720 S01 -1 B



Panel Thickness P	Slot-Cross Recess Length No.	Wing Head Stud Length No.	Dimension L +0,1/-0,2	Dimension (S)
1,00 - 4,00	1	1	16	21
4,00 - 7,00	2	2	19	24
7,00 - 10,00	3	3	22	27

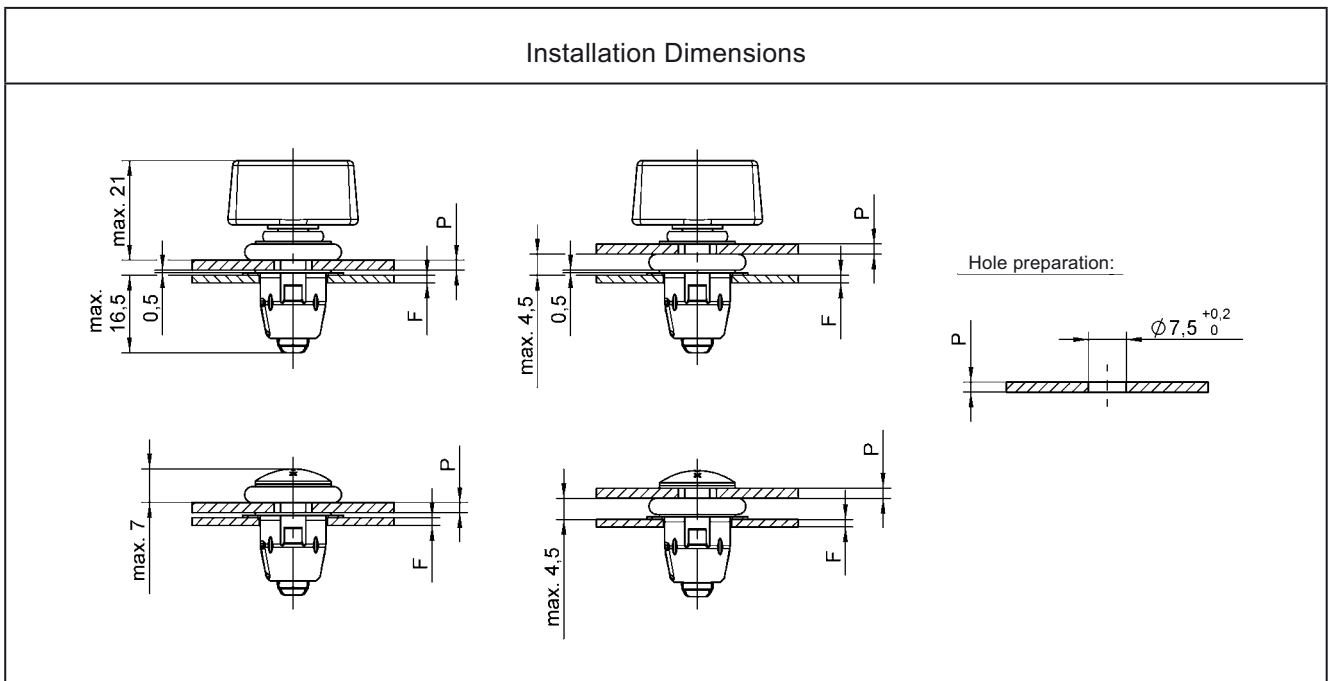
■ Preferred dash-lengths




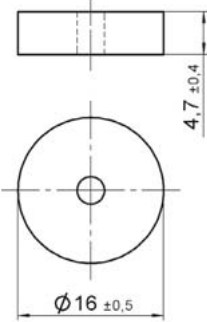

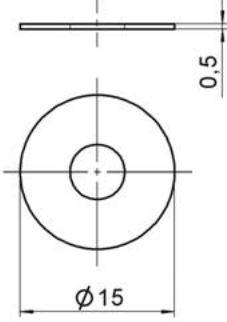
Style	Dimensions	Materials / Finish	°C	Part No.
Slot-Cross Recess Head 	 <p>L + (S) see table page O-1</p>	Stainless steel Washer: PA6 natural	-20 up to +70	720S01-*B
Wing Head 	 <p>L + (S) see table page O-1</p>	Stainless steel Knob: PA6 black Washer: PA6 natural	-20 up to +70	720S02-*B

* Length no. from Table, see page O-1.

Stud Installation Instructions

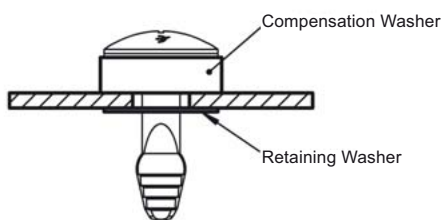




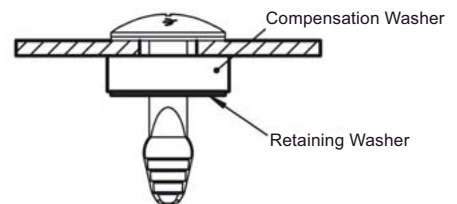
Style	Dimensions	Materials / Finish	°C	Part No.
Compensating Washer 		PU - Elastomer yellow	-20 up to +70	720W01-2K
Retaining Washer 		Polyamid natural	-20 up to +70	50E15-1K

Mounting Instructions


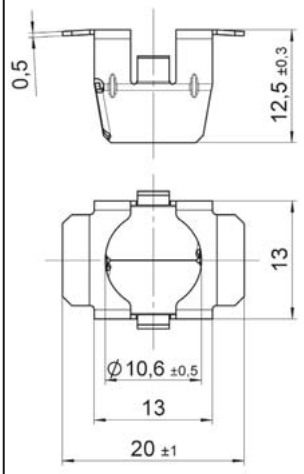
A



B

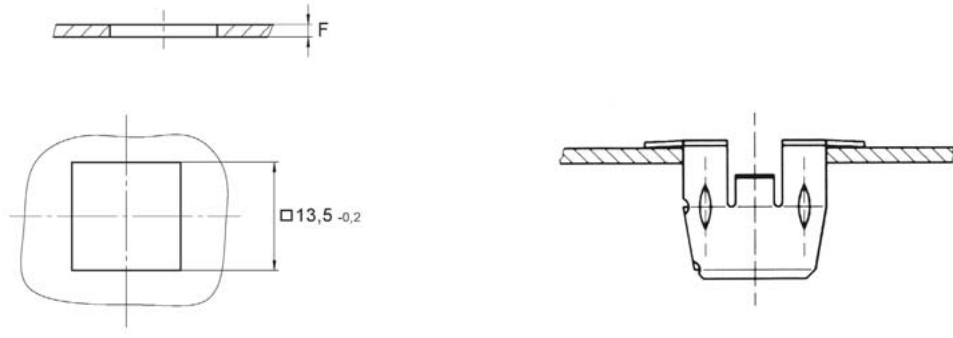




Style	Dimensions	Materials / Finish	Frame Thickness F	°C	Part No.
Spring Clip 		Stainless steel	1,0 - 1,5	-20 up to +70	720R01-1B
			1,5 - 2,0		720R01-2B
			2,0 - 2,5		720R01-3B
			2,5 - 3,0		720R01-4B

Installation Instructions

Installation Dimensions





www.anemo.eu

Camloc 
Traditionally Innovative

Pawl Latches





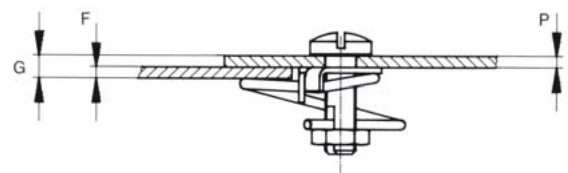
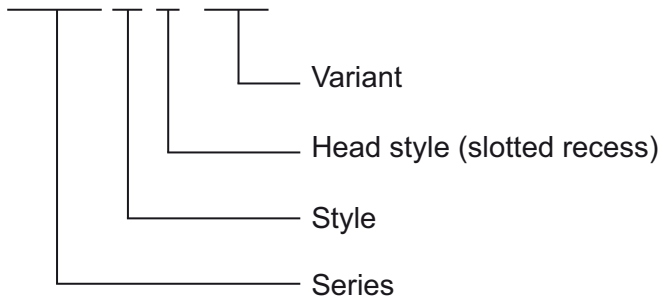
Features

- Wide grip range (total thickness G up to 15 mm).
- Suitable for a large range of applications.
- Easy installation with single-hole mounting.
- Either tool-operated (slotted recess head) or hand-operated (fixed wing head).
- Clockwise locking 3/4 turn maximum.


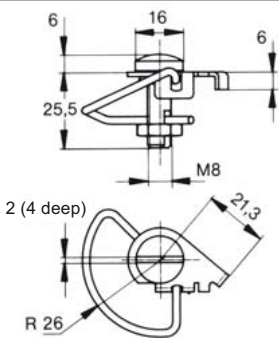

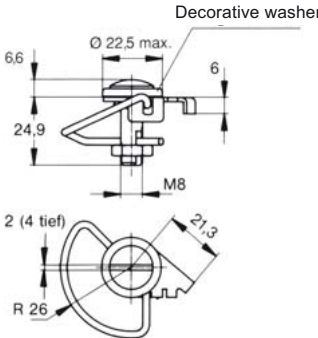

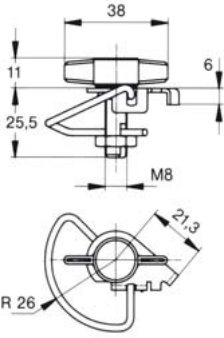
Part no. example

Pawl Latches, slotted recess head, with decorative washer.

V964L 01 -1 -2AG

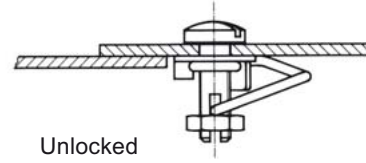
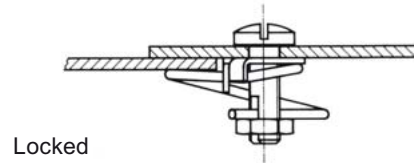
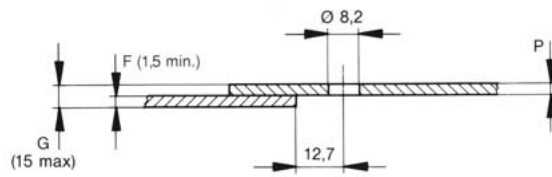


$$G = P + F$$

Style	Dimensions	Materials / Finish	°C	Part No.
Slotted Recess Head 		Stud: Steel / zinc-plated CrVI-free, clear passivation Spring: Stainless steel	120	V964L01-1-1AG
Slotted Recess Head with Decorative Washer 		Stud: Steel / zinc-plated CrVI-free, clear passivation Spring: Stainless steel	120	V964L01-1-2AG
Fixed Wing Head 		Stud: Steel / zinc-plated CrVI-free, clear passivation Spring: Stainless steel Wing: Plastic (POM) black	-40 up to +100	V964L01-2-1AG



Installation Dimensions





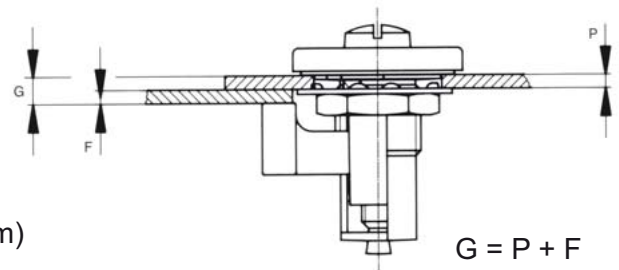
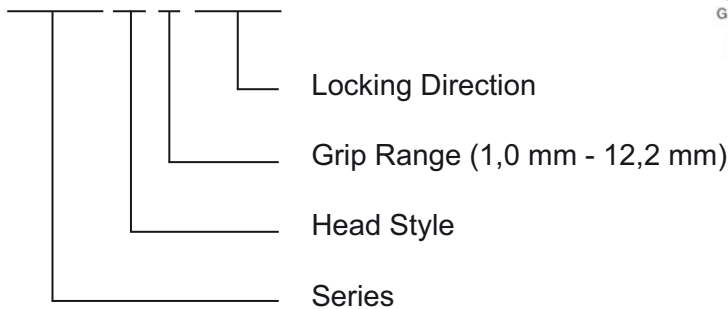
Features


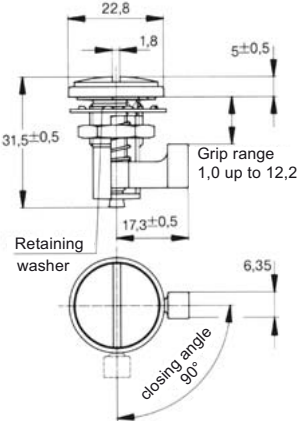

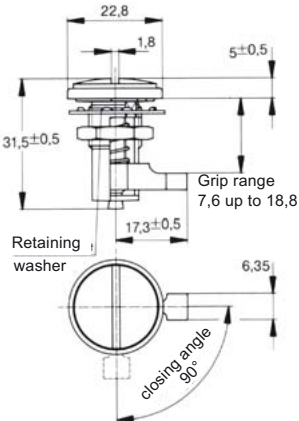
- Variable grip fastener. Available in two grip ranges from 1,0 mm to 18,8 mm.
- Tool or hand operated head styles available.
- Single hole mounting - low installation cost.
- Clockwise locking as standard.
- Counterclockwise locking fasteners upon request.

Part no. example


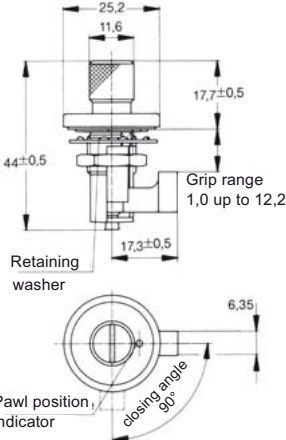

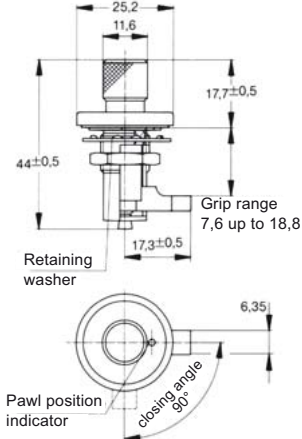
Pawl Latches, Flat head.
Grip range 1,0 mm - 12,2 mm.

V965L 23 -1 R1AG

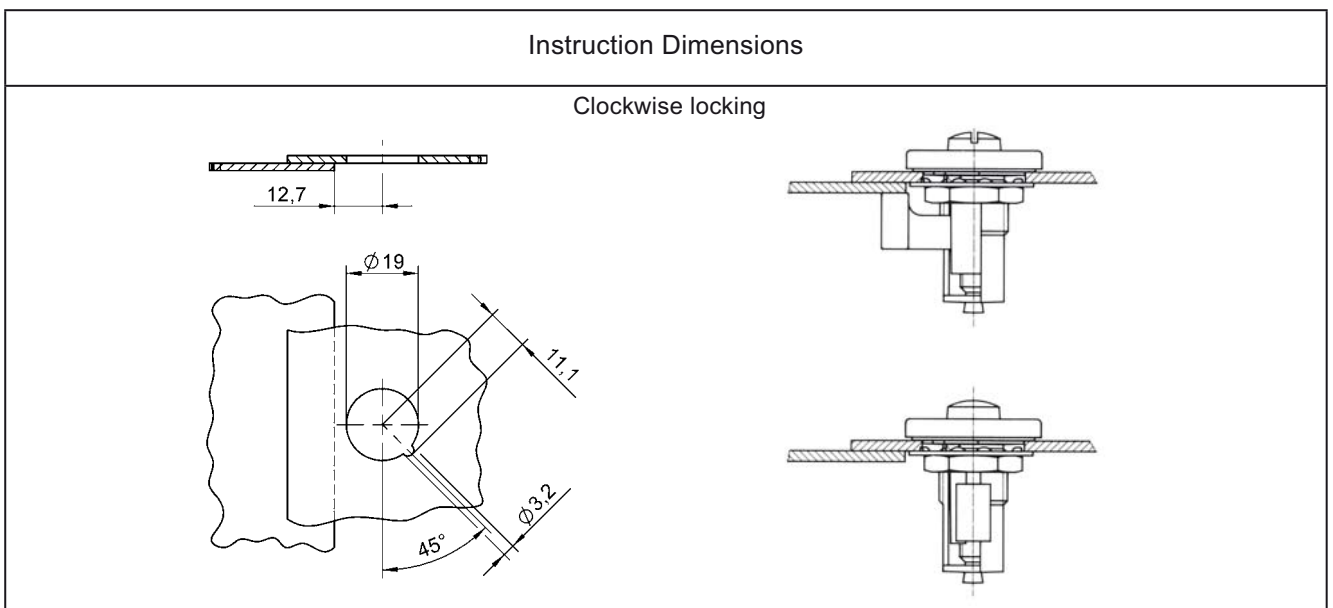


Style	Dimensions	Materials / Finish	°C	Part No.
Flat Head Grip Range 1,0 up to 12,2 		Steel / zinc-plated CrVI-free, clear passivation	-40 up to +100	V965L23-1R1AG V965L23-1L1AG
Flat Head Grip Range 7,6 up to 18,8 		Steel / zinc-plated CrVI-free, clear passivation	-40 up to +100	V965L23-2R1AG V965L23-2L1AG



Style	Dimensions	Materials / Finish	°C	Part No.
Knurled Head Grip Range 1,0 up to 12,2 		Steel / zinc-plated CrVI-free, clear passivation Left turn	-40 up to +100	V965L1-1R1AG V965L1-1L1AG
Knurled Head Grip Range 7,6 up to 18,8 		Steel / zinc-plated CrVI-free, clear passivation Left turn	-40 up to +100	V965L1-2R1AG V965L1-2L1AG

Pawl Latches Installation Instructions



High repeatability
guaranteed exact clamping tension load
clear on-off indication

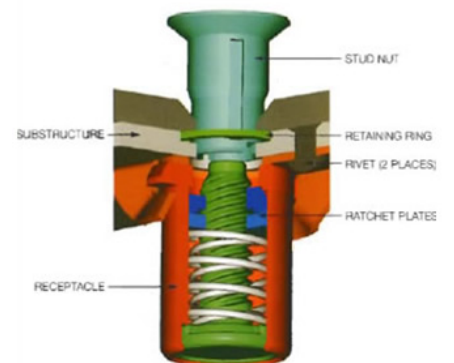


Adam & Eve fasteners
push pull fasteners
plastic one piece fasteners
auto lock quarter turns



2383 panel fasteners for
side loads (expensive)

Locking Mechanism Design Principle:
Spring Loaded Ratchet Plate



Typical Installation

Spring-loaded ratchet design insures positive locking action and vibration resistance without relying on prevailing torque. Spring(s) nullify effects of resonant vibrations.



Part No.	Page	Part No.	Page	Part No.	Page
15/32-32NS-2B	C3,F11	50E7-*AGV	E4	716S12- *-2BP	M2
15S1- *-1AD	K2	50E70-*AGV	D2	716S12- *-3BP	M2
15S1- *-1AJ	K2	50E71-*AGV	E2	716S12- *-4BP	M2
15S11-1CJ	K2	50E8-*AGV	E2	716S12- *-5BP	M2
212-12S	F8	50E8-*S	E2	716S13- *-1BP	M2
214-16S	G9	50E8-*W0AGV	E3	716S13- *-2BP	M2
244-16S	G10	50E8-*WAGV	E3	716S13- *-3BP	M2
244-16SC	G10	50E8-*WS	E3	716S13- *-4BP	M2
2600-*S	F3	50E80-*AGV	D4	716S13- *-5BP	M2
2600-*SW	F3	50E80-*CP	D4	717R01-1AK7	N3
2600-SW	C2,F6,F7	50E81-*AGV	E4	717S01- *-1AGV	N2
26R1-1	F9	50E81-*CP	E4	717S01- *-2AGV	N2
26R16-1FGV	F8	50E82-*AGV	D4	717W01-1K	N2
26R18-1-1AA	F8	50E82-*CP	D4	717W02-1K	N2
26S34-*	F3	50E83-*AGV	E4	717W03-1K	N2
26S38-*	F3	50E83-*CP	E4	720R01-1B	M3,O4
26S39-*	F3	50E90-*AGV	D2	720R01-2B	M3,O4
26S42-*	F3	50E91-*AGV	E2	720R01-3B	M3,O4
26S51-*	F3	50S12-0-1AA	D5	720R01-4B	M3,O4
2700-*S	F5	50S12-1-1AA	D5	720S01-*B	O2
312-12S	F9	50S12-2-1AA	D5	720S02-*B	O2
312-12WS	F9	50S12-3-1AA	D5	720W01-2K	O3
4002-GS	G8	50S12-4-1AA	D5	991R2-1AGV	H5
4002-HS	G8	50W204-01K	D5,E5, G7	991R2-1BP	H5
4002-NS	G8	5R2-3	B4	991RZ-2AR	H5
4002-OS	G8	5S15-*	B2	991R2-2AZ	H5
4002-SW-SS	D5,E5,G7	5S3-2	B3	991R2-3AGV	H5
4P3-1	F7,G7	5S72-5-1AA	B3	991R2-3BP	H5
50E15-1K	O3	5S72-9-1AA	B3	991R6-1AK7	H5
50E18-*AGV	D4	713S*-*AE	J2	991S01- *-1AGV	H2
50E19-*AGV	E4	715R02-1BP	L3	991S01- *-1BP	H2
50E20-1AK7	D6	715R02-2BP	L3	991S02- *-1AGV	H2
50E20-2AK7	D6	715R02-3BP	L3	991S03- *-1AGV	H2
50E21-*AGV	D2	715R02-4BP	L3	991S05- *-1AGV	H2
50E21-*S	D2	715S12- *-1BP	L2	991S17-1K	H4
50E21-*W0AGV	D3	715S12- *-2BP	L2	991S2991-*AGV	H3
50E21-*WAGV	D3	715S12- *-3BP	L2	991S30-*AGV	H3
50E21-*WS	D3	715S13- *-1BP	L2	991W02-1BP	H4
50E2-3BP	D5,E5	715S13- *-2BP	L2	991W03-1BP	H4
50E60-*AGV	D3	715S13- *-3BP	L2	991W04-1BP	H4
50E61-*AGV	E3	716S12- *-1BP	M2	99E10-01	C3,F10



Part No.	Page
99N10-01A1	C3,F11
99R10-01A1	C3,F10
991R2-2AR	H5
99W10-01A1	C2
AN6227-B3	F6
AN6227-B6	F6
D214-16FGV	G8
D214-16NFGV	G9
D244-16-FGV	G10
D244-16C-FGV	G10
D4002-*AGV	G4
D4002-*BP	G4
D4002-*WAGV	G4
D4002-*WBP	G4
D4002-N-AGV	G8
D4002-O-AGV	G8
D4002-P-AGV	G8
D4002-P-BP	G8
D4002-G-AGV	G8
D4002-H-AGV	G8
D4002I-*AGV	G6
D40E22-*AGV	G5
D40E28-*AGV	G5
D40G11-3K	G6
D40R12-1FGV	G9
D40S39-1K	G6
D40S47-*AGV	G5
D40S5-*AGV	G4
D40S5I-*AGV	G6
D40S5-*BP	G4
R4G-3	G8
T107-1	K2
T26	G7
T98-1	C2,F7
V15R13-1-1AB	K3
V15R14-1-1AB	K3
V212-12-1FGV	F8
V212-12-2FGV	F8
V212-12N-1FGV	F8
V2600-LW-7	C2,F6,F7
V26R6-1AGV	F8

Part No.	Page
V26S01-*AGV	F3
V26S02-*AGV	F3
V26S04-*AGV	F3
V26S06-* -1AGV	F4
V26S07-* -1AGV	F4
V26S08-* -1AGV	F4
V27S01-*AGV	F5
V27S02-*AGV	F5
V27W01-1AN	F7
V312-12AGV	F9
V40G26-1BP	G8
V40G26-1N	G8
V50R1-1-1AGV	E6,G10
V50R1-1-1BP	E6, G10
V50R1-1-2AR	E6,G10
V50R1-1-2AZ	E6,G10
V50R4-2-1AK7	D6
V5R2-1AK7	B4
V5S21-*AGV	B2
V5W3-1AGV	B3
V5S5-*AGV	B2
5S27-*	B2
V936S05-3-1AA	I1
V936S05-4-1AA	I1
V936S11-3-1AA	I1
V936S11-4-1AA	I1
V964L01-1-1AG	P1
V964L01-1-2AG	P1
V964L01-2-1AG	P1
V965L1-1R1AG	Q2
V965L1-2R1AG	Q2
V965L23-1R1AG	Q1
V965L23-2R1AG	Q1
V99S10-*AG	C2

Disclaimer :

Parts listed are subject to technical changes. All dimensions in mm. All information is correct to the best of our knowledge at the time of printing. No liability for disadvantages caused by printing errors or false application.