



## Features

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

High tensile strength and preload.

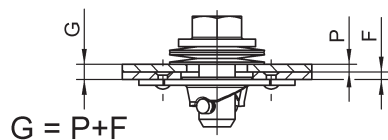
Typical applications:

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).

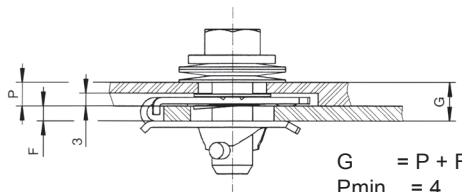
## Determining the stud length number when using:

### Rivet, Screw and Weld Mounting Receptacle



$$G = P + F$$

### Clip-On Receptacle

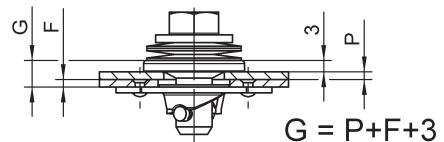


$$G = P + F$$

$$P_{min.} = 4$$

$$F = 1,5 - 3,5$$

### Sealed Stud Assemblies



$$G = P + F + 3$$

Click here:

[Quarter Turn Installation \(991F Series\)](#)


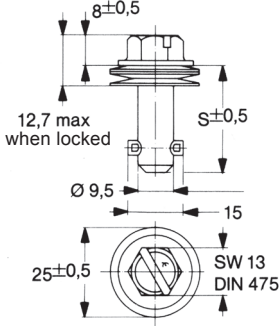
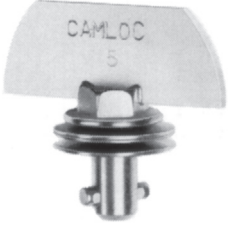
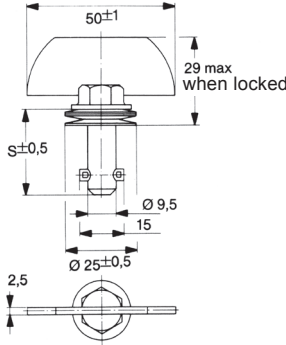
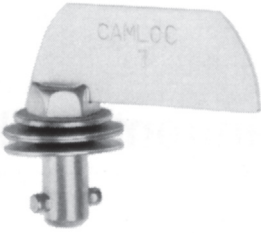
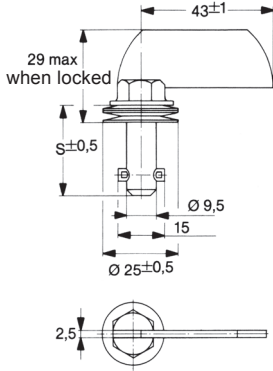

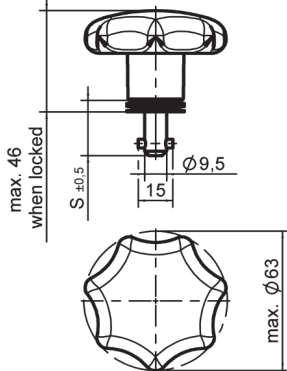
(Youtubelink)



## Stud Length Table


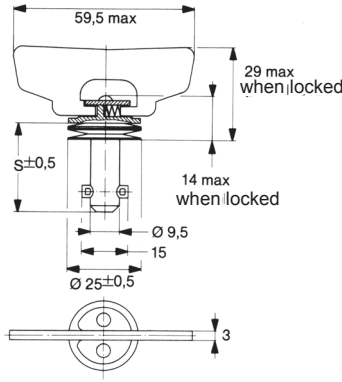

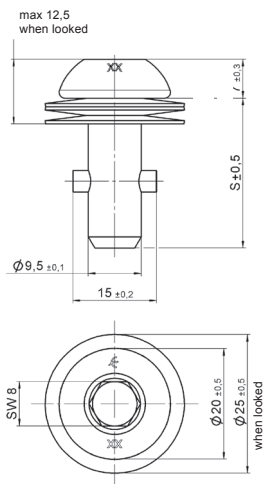

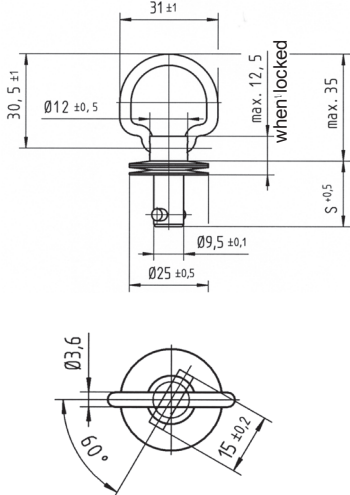
Total Thickness G	Stud Length No.	Total Thickness G	Stud Length No.	Total Thickness G	Stud Length No.
0,90 - 1,65	1	13,85 - 14,60	18	26,80 - 27,55	35
1,65 - 2,40	2	14,60 - 15,35	19	27,55 - 28,30	36
2,40 - 3,15	3	15,35 - 16,15	20	28,30 - 29,10	37
3,15 - 3,95	4	16,15 - 16,90	21	29,10 - 29,85	38
3,95 - 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.

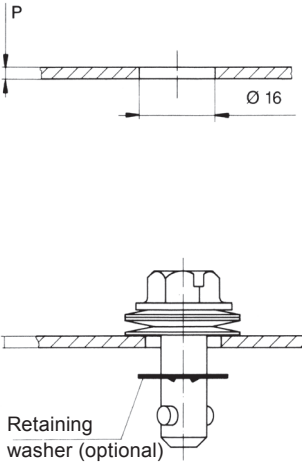
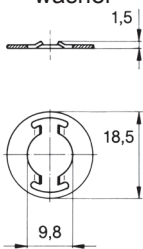
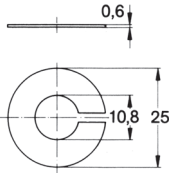
Style	Dimensions	Materials / Finish	°C	Part No.
<p><b>Hex Head Slotted Recess</b></p> 	 <p><math>S = 16,26 + (0,76 \times \text{length no.})</math></p>	<p>Steel / zinc-plated, CrVI-free, clear passivation</p> <p>Stainless steel <sup>1)</sup></p>	<p>120</p> <p>200</p>	<p><b>991S01- *-1AGV</b></p> <p><b>991S01- *-1BP</b></p>
<p><b>Fixed Wing Handle</b></p> 	 <p><math>S = 16,26 + (0,76 \times \text{length no.})</math></p>	<p>Steel / zinc-plated, CrVI-free, clear passivation</p> <p>Stainless steel <sup>1)</sup></p>	<p>120</p> <p>200</p>	<p><b>991S02- *-1AGV</b></p> <p><b>991S02- *-1BP</b></p>
<p><b>Offset Fixed Wing Handle</b></p> 	 <p><math>S = 16,26 + (0,76 \times \text{length no.})</math></p>	<p>Steel / zinc-plated, CrVI-free, clear passivation</p> <p>Stainless steel <sup>1)</sup></p>	<p>120</p> <p>200</p>	<p><b>991S03- *-1AGV</b></p> <p><b>991S03- *-1BP</b></p>
<p><b>Star Form Handle Plastic</b></p> 	 <p><math>S = 16,26 + (0,76 \times \text{length no.})</math></p>	<p>Steel / zinc-plated, CrVI-free, clear passivation</p>	<p>-40 up to +60</p>	<p><b>991S04- *-1AGV</b></p>

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

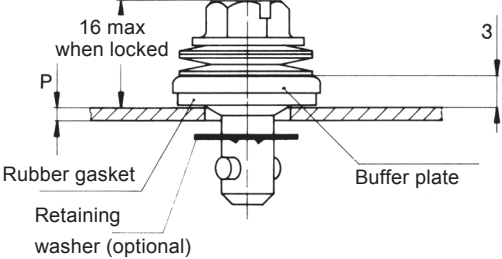
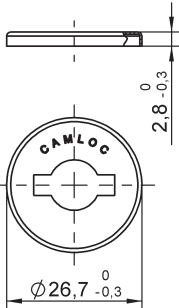
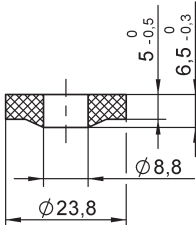
<sup>1)</sup> Max. tensile strength 7.000 N, working load 4.500 N.


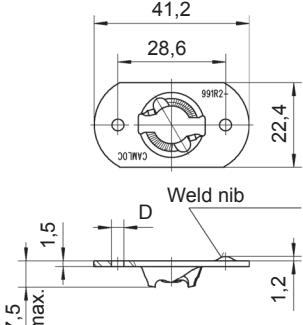

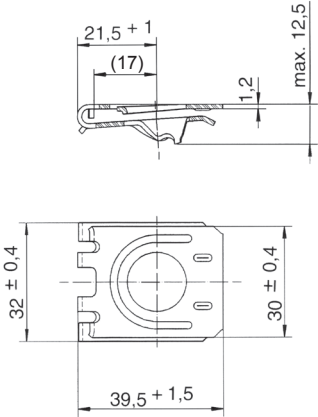
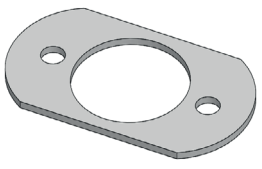
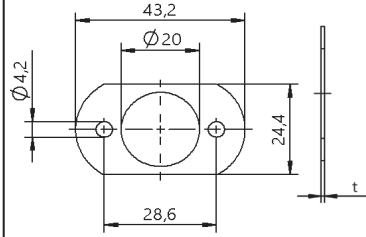
Style	Dimensions	Materials / Finish	°C	Part No.
<b>Folding Wing Handle 180°</b>  	 <p>S = 16,26 + (0,76 x length no.)</p>	Steel / zinc-plated, CrVI-free, clear passivation	120	<b>991S05- *-1AGV</b>
<b>Hex Recess Head</b>  		Steel / zinc-plated, CrVI-free, clear passivation	120	<b>991S30-*AGV</b>
<b>Folding Bail Handle 180°</b>  	 <p>S = 15,03 + (0,76 X length no.)</p>	Steel / zinc-plated, CrVI-free, clear passivation	120	<b>991S2991-*AGV</b>

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

Installation Dimensions	Accessories	Material / Finish	Part No.
 <p>Retaining washer (optional)</p>	<p>Retaining washer</p>  <p>Slotted retaining washer</p> 	<p>Stainless steel</p> <p>Stainless steel</p>	<p><b>991W04-1BP</b></p> <p><b>991W02-1BP</b></p>

**Sealed Stud Assemblies**

Installation Dimensions	Accessories	Material / Finish	Part No.
 <p>Rubber gasket</p> <p>Retaining washer (optional)</p> <p>Buffer plate</p>	<p>Buffer plate</p>  <p>Rubber gasket</p> 	<p>Stainless steel</p> <p>SBR/NBR or alternative SBR/NR black (100°C max.)</p>	<p><b>991W03-1BP</b></p> <p><b>991S17-1K</b></p>

Style	Dimensions	Materials / Finish	Mounting Ø	°C	Part No.
<b>Rivet / Screw Mounting</b>  		<b>Rivet / Screw Mounting</b> Steel / zinc-plated, CrVI-free, clear passivation	3,3	120	<b>991R2-1AGV</b>
		Steel / zinc-plated, CrVI-free, clear passivation	4,1	120	<b>991R2-3AGV</b>
		Stainless steel	3,3	200	<b>991R2-1BP</b>
		Stainless steel	4,1	200	<b>991R2-3BP</b>
		<b>Welding</b> Steel / zinc-plated	-	-	<b>991R2-2AZ</b>
		Steel / oil coated	-	-	<b>991R2-2AR</b>
<b>Clip-On</b>  		Steel / zinc-plated, zinc flake coated  Frame thickness F= 1,5mm - 3,5mm		150	<b>991R6-1AK7</b>
<b>Distance Plate*</b>  		POM schwarz/ t=0,8	4,2	100	<b>991W120-08K</b>
		POM schwarz/ t=1,0	4,2	100	<b>991W120-10K</b>
		POM schwarz/ t=1,5	4,2	100	<b>991W120-15K</b>
		POM schwarz/ t=2,0	4,2	100	<b>991W120-20K</b>

\* If you have slightly different clamping thicknesses in an application, it is possible to compensate them with our distance plates, which are fixed under the retaining cam. This makes it possible to use only one stud length.

## Receptacle Installation Instructions

