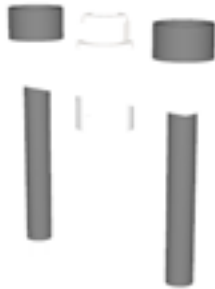
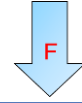


GC89_F

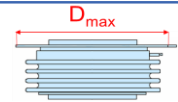
BAR CLAMP FOR HOCKEY PUK DEVICES



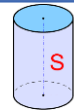
$$F = 12 \text{ kN} \div 24 \text{ kN}$$



$$D_{max} = 76 \text{ mm}$$



$$S = 2 \div 136 \text{ mm}$$



$$T_{op} = -30 \div 230 \text{ }^{\circ}\text{C}$$



Scan this QR code to download this datasheet

To display 3D images correctly, please use the last version of Acrobat PDF Reader <https://get.adobe.com/it/reader/>
 (Once the application has started, click the Options button and then select: "Trust this document one time only",
 then click on the 3D image and wait until the upload is complete)

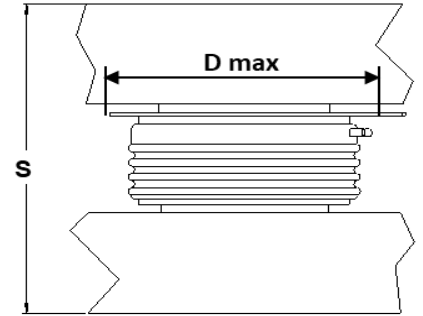
Characteristic	Unit	Types	Testing conditions	Values		
				Min	Typ	Max
F	Clamping Force	kN		12		24
ΔF	Clamping Force tolerance	%				$\pm 10\%$
V _{INS}	Insulation Voltage	V	50 Hz, RMS, 60 s		3000	
D _s	Surface creepage distance	mm			28	
D _a	Air strike distance	mm			20,3	
m	Mass	g	GC89S...F	590		720
			GC89B...F	980		1150
	Insulating Material		Polyphenylene Oxide			PPO
			Polyphenylene Sulfide			PPS
	UL Files		PPO			E121562
			PPS			E95746
T _{op}	Operating temperature range	°C	PPO	-30		110
			PPS	-30		230
CTI	Comparative Tracking Index	V	PPO	According to UL746	225,0	
			PPS	According to IEC112/3rd	250,0	
	Flammability	mm	PPO	UL94 V-1 Flame class rating	1,5	
				UL94 V-0 Flame class rating	6,0	
			PPS	UL94 V-0 Flame class rating	1,6	

ORDERING INFORMATION TABLE

Use this part numbering system to order

GC89	B	N	B	A	24	F	S	H	X	L	0
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	

(1) Construction type:	B = with reaction bar
	S = without reaction bar
(2) Insulator position:	N = on load bar
	R = on reaction bar
(3) Insulator code:	_ = no insulating cup
	other : see table below
(4) Bolt code:	_ = no bolt
	1 = only D8 special washers, no bolts
	other : see table below
(5) Clamping force (in kN):	12 kN ÷ 24 kN, with step of 1 kN
(6) Special accessories	blank = no accessories
	S = extra bar spacer (*)
(7) Insulating cup material	0 = standart PPO insulating cup
	H high temperature PPS insulating cup
(8) Bolt steel type	0 = standard 8.8 steel bolts
	X = A2 stainless steel bolts (**)
(9)-(10) Bars thickness	00 = standart bars thickness (20 mm)
	L0 = low preofile bars thickness (15 mm)
	01 = load bar (20 mm)- reaction bar (15 mm)
	0F = load bar (20 mm)- reaction bar (15 mm) with 5.5 mm aux holes
	LF = load bar (15 mm)- reaction bar (15 mm) with 5.5 mm aux holes



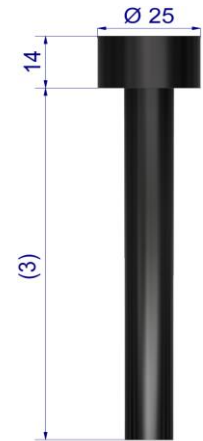
S : Total thickness of the assembly to be clamped
D max : Max inner diameter allowable

 (*) Needed to reduce S_{Min} if a lower allowed clearance is required

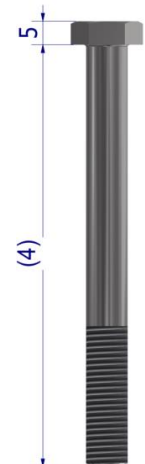
(**) Suggested for high current applications, magnetic sensitive applications or any application working in very high E.M. fields

Type GC89BN...F: suggested insulator/bolt types

Allowed clearance S		Insulator choice		Bolt choice		Max height
S_{Min} [mm]	S_{Max} [mm]	(3)	Ins. Length [mm]	(4)	Bolt Length [mm]	T [mm]
2	16	Z	34	U	70	92
7	21	Z	34	V	75	97
12	26	A	50	W	80	102
22	36	A	50	Y	90	112
32	46	B	70	Z	100	122
42	56	B	70	A	110	132
52	66	B	70	B	120	142
56	76	C	95	C	130	158
66	86	C	95	D	140	168
76	96	C	95	E	150	178
86	106	D	120	F	160	188
96	116	D	120	G	170	198

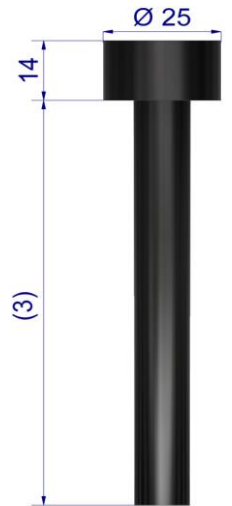

Type GC89BR...F: suggested insulator/bolt types

Allowed clearance S		Insulator choice		Bolt choice		Max height
S_{Min} [mm]	S_{Max} [mm]	(3)	Ins. Length [mm]	(4)	Bolt Length [mm]	T [mm]
2	16	Z	34	U	70	104
7	21	Z	50	V	75	109
12	26	A	50	W	80	114
22	36	A	50	Y	90	124
32	46	A	50	Z	100	134
42	56	B	70	A	110	144
52	66	B	70	B	120	154
56	76	C	95	C	130	164
66	86	C	95	D	140	174
76	96	C	95	E	150	184
86	106	D	120	F	160	194
96	116	D	120	G	170	204



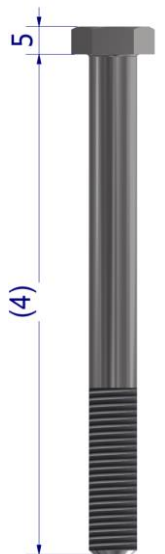
Type GC89SN...F: suggested insulator/bolt types

Allowed clearance S		Insulator choice		Bolt choice		Max height
S _{Min} [mm]	S _{Max} [mm]	(3)	Ins. Length [mm]	(4)	Bolt Length [mm]	T [mm]
2	16	Z	34	U	70	78
7	21	Z	34	V	75	83
12	26	A	50	W	80	88
22	36	A	50	Y	90	98
32	46	B	70	Z	100	108
42	56	B	70	A	110	118
52	66	B	70	B	120	128
56	76	C	95	C	130	138
66	86	C	95	D	140	148
76	96	C	95	E	150	158
86	106	D	120	F	160	168
96	116	D	120	G	170	178

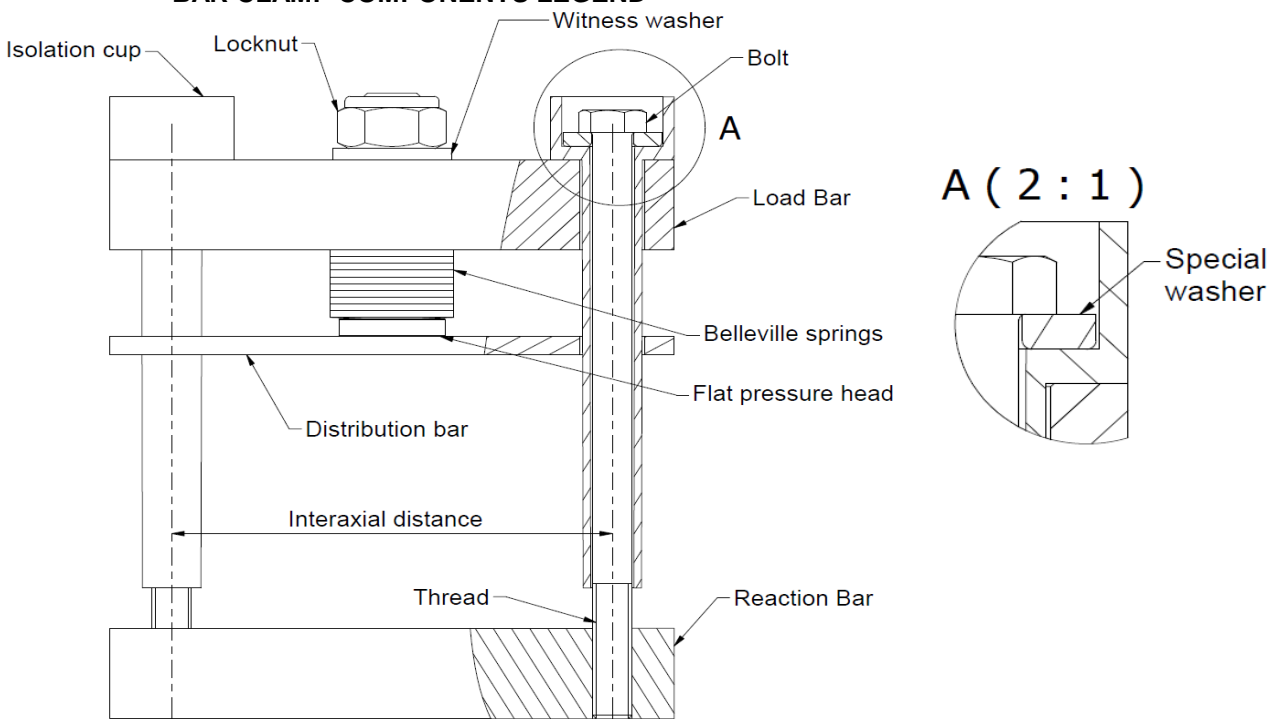


Type GC89SR...F: suggested insulator/bolt types

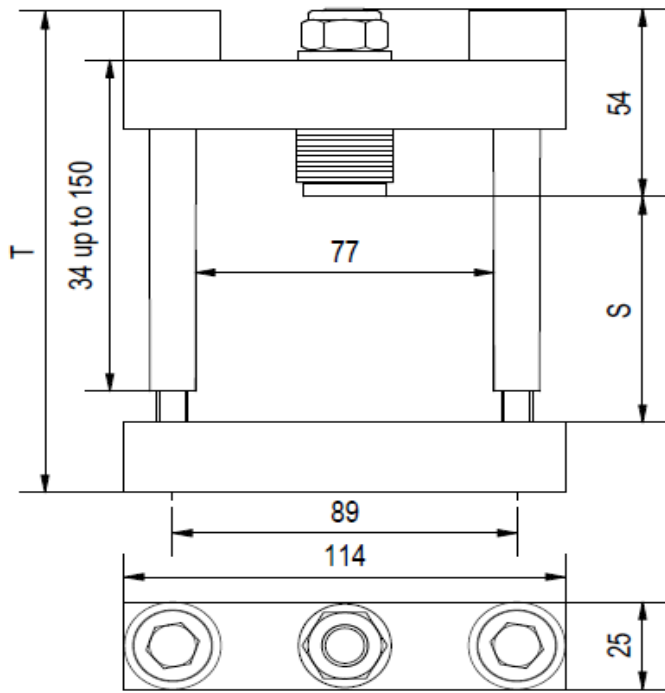
Allowed clearance S		Insulator choice		Bolt choice		Max height
S _{Min} [mm]	S _{Max} [mm]	(3)	Ins. Length [mm]	(4)	Bolt Length [mm]	T [mm]
22	36	Z	34	U	70	104
27	41	Z	34	V	75	109
32	46	A	50	W	80	114
42	56	A	50	Y	90	124
52	66	B	70	Z	100	134
62	76	B	70	A	110	144
72	86	B	70	B	120	154
76	96	C	95	C	130	164
86	106	C	95	D	140	174
96	116	C	95	E	150	184
106	126	D	120	F	160	194
116	136	D	120	G	170	204



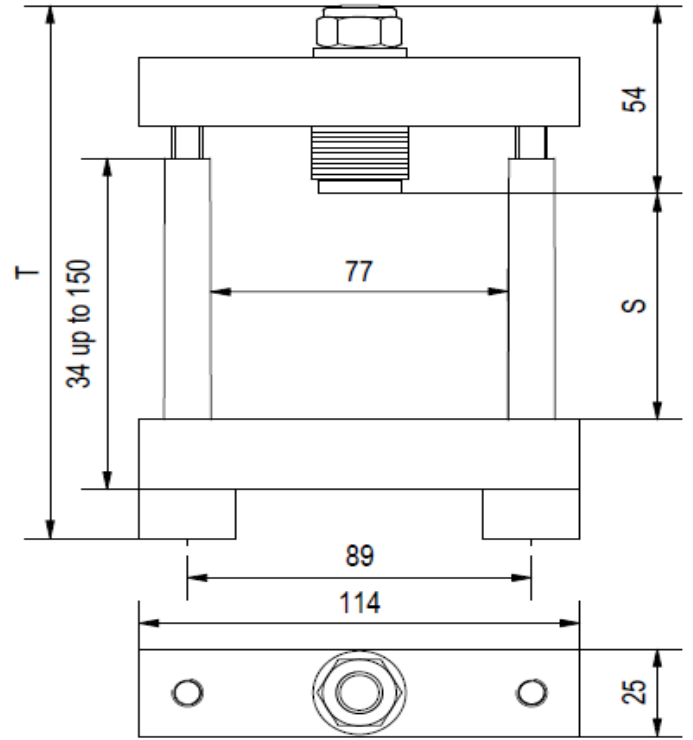
BAR CLAMP COMPONENTS LEGEND



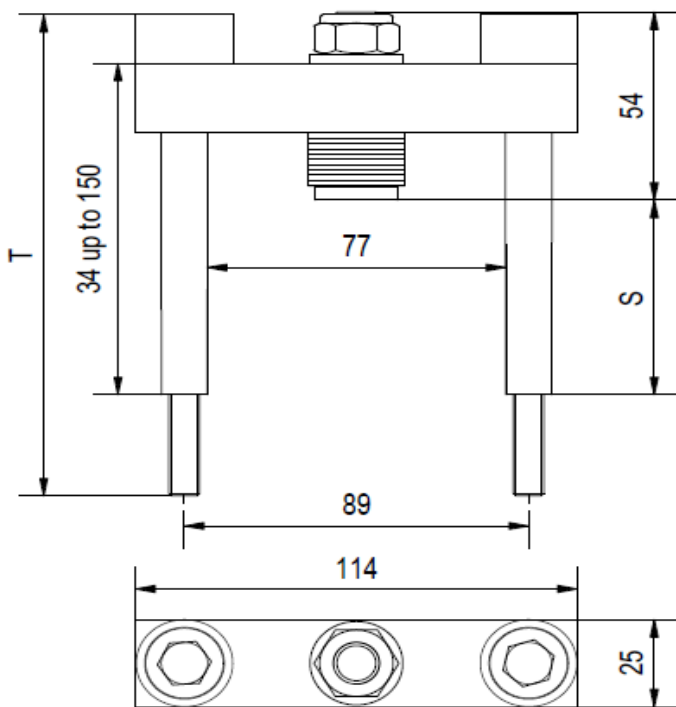
BAR CLAMP OUTLINES



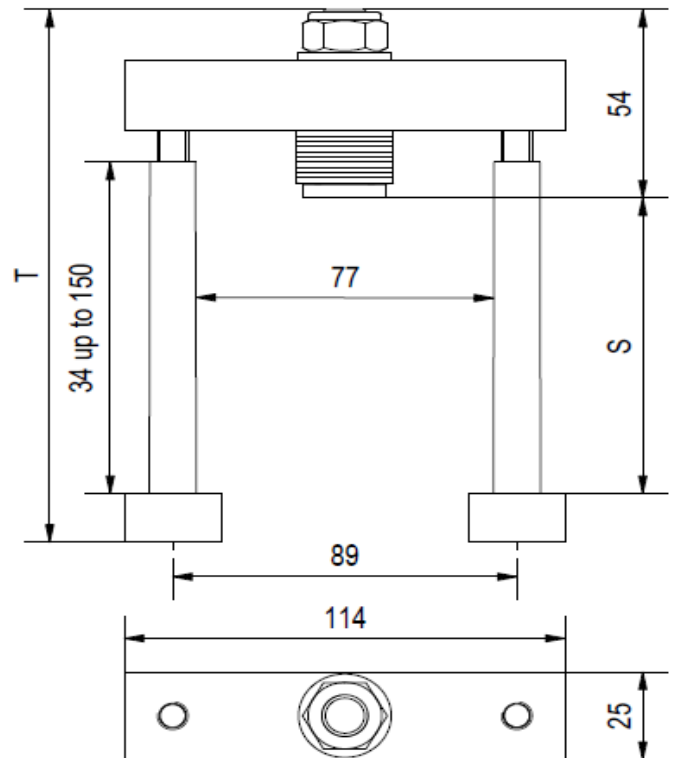
GC89BN...F



GC89BR...F



GC89SN...F



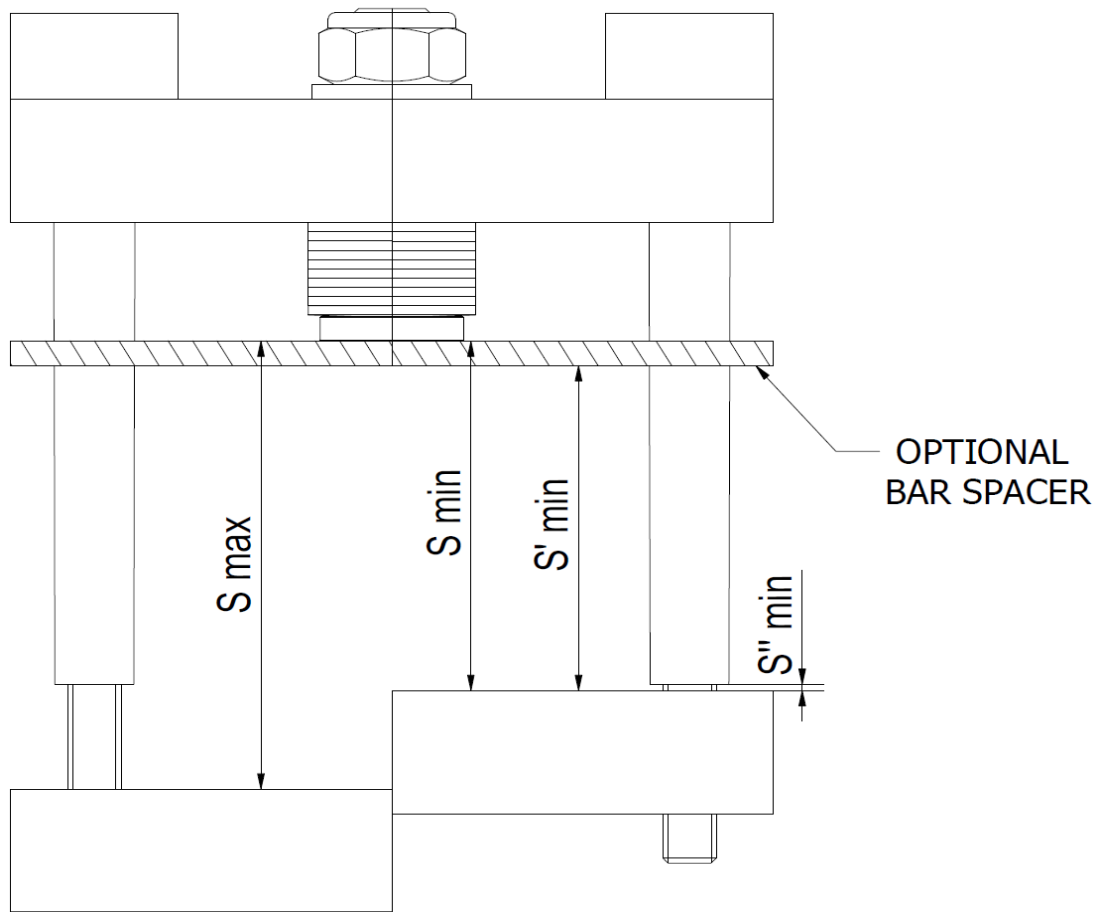
GC89SR...F

Dimensions in mm - Tolerances according to ISO 2768 MK

Step files of clamp structures may be downloaded at [www.gpsemi.it/stepfiles/GC89_F\(file step\).zip](http://www.gpsemi.it/stepfiles/GC89_F(file step).zip)

or using this QR



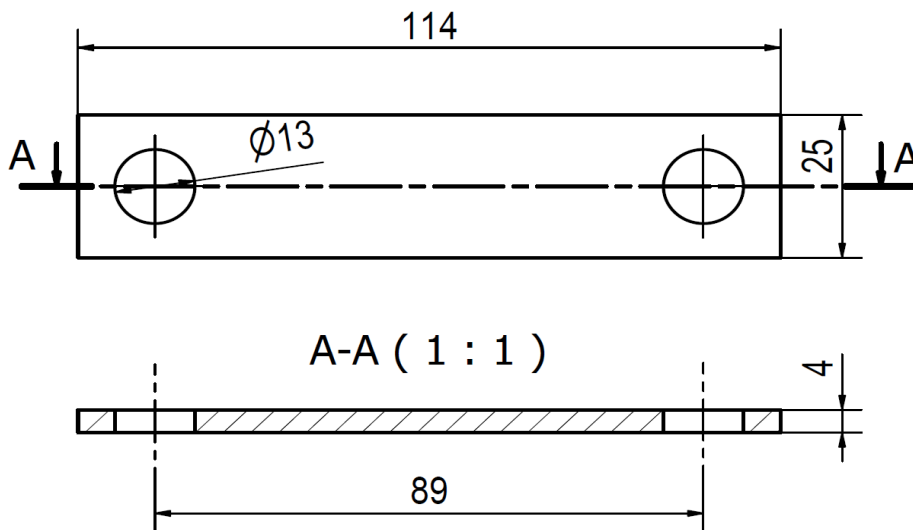


$S''_{min} = 1 \text{ mm}$ (minimum clearance between insulator and reaction bar)

SPECIAL ACCESSORIES

The following special accessories are available on request (see ordering information table)

Bar spacer



Dimensions in mm - Tolerances according to ISO 2768 MK

In the interest of product improvement Green Power Solutions reserves the right to change any specification given in this data sheet without notice.