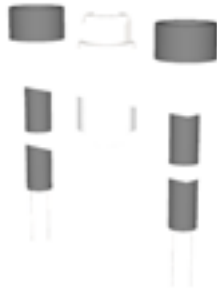
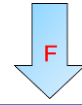


GC89_R

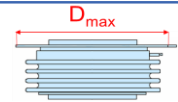
BAR CLAMP FOR HOCKEY PUK DEVICES



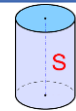
$$F = 12 \text{ kN} \div 24 \text{ kN}$$



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



$$S = 0 \div 129 \text{ mm}$$



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



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)

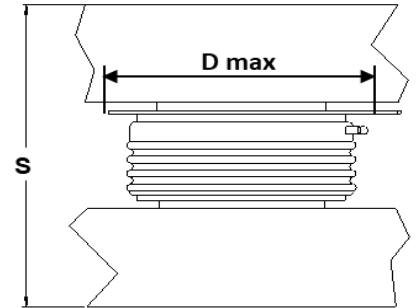
Characteristic	Unit	Types	Testing conditions	Values		
				Min	Typ	Max
F	Clamping Force	kN		12		24
ΔF	Clamping Force tolerance	%				$\pm 10\%$
V_{INS}	Insulation Voltage	V	50 Hz, RMS, 60 s		3000	
D_s	Surface creepage distance	mm			28	
D_a	Air strike distance	mm			20,3	
m	Mass	g	GC89S...R	730		860
			GC89B...R	1120		1290
	Insulating Material		Polyphenylene Oxide			PPO
			Polyphenylene Sulfide			PPS
	UL Files		PPO			E121562
			PPS			E95746
T_{op}	Operating temperature range	$^{\circ}\text{C}$	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	R	S	H	X	L
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	

(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) Bars thickness	0 = standart bars thickness (20 mm) L = low profile bars thickness (15 mm)



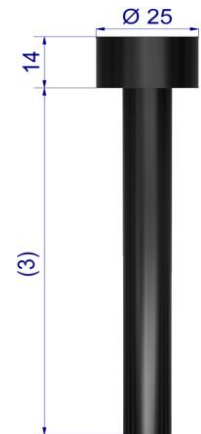
S: Total thickness of the assembly to be clamped
D max: Max inner diameter allowable

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

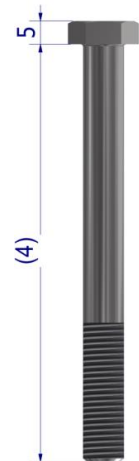
(**) Suggested for high current applications, magnetic sensitive applications or any application working in very high E.M. fields

Type GC89BN...R: 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]
0	10	A	50	W	80	102
6	20	A	50	Y	90	112
16	30	B	70	Z	100	122
26	40	B	70	A	110	132
36	50	B	70	B	120	142
40	60	C	95	C	130	158
50	70	C	95	D	140	168
60	80	C	95	E	150	178
70	90	D	120	F	160	188
80	100	D	120	G	170	198
90	110	D	120	H	180	208
100	120	E	150	I	190	218

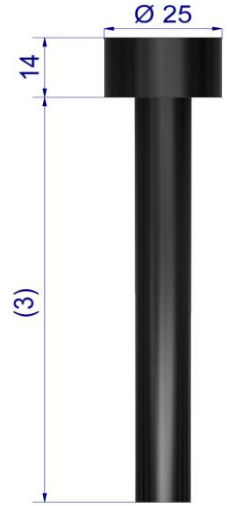

Type GC89BR...R: suggested insulator/bolt types

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]
0	10	A	50	W	80	102
6	20	A	50	Y	90	112
16	30	A	50	Z	100	122
26	40	B	70	A	110	132
36	50	B	70	B	120	142
40	60	C	95	C	130	158
50	70	C	95	D	140	168
60	80	C	95	E	150	178
70	90	D	120	F	160	188
80	100	D	120	G	170	198
90	110	D	120	H	180	208
100	120	E	150	I	190	218



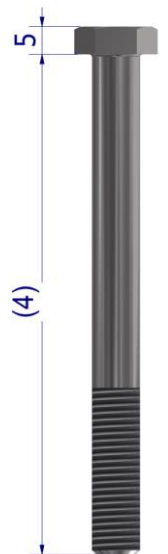
Type GC89SN...R: suggested insulator/bolt types

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]
0	14	Z	34	V	75	83
5	19	A	50	W	80	88
15	29	A	50	Y	90	98
25	39	B	70	Z	100	108
35	49	B	70	A	110	118
45	59	B	70	B	120	128
49	69	C	95	C	130	138
59	79	C	95	D	140	148
69	89	C	95	E	150	158
79	99	D	120	F	160	168
89	109	D	120	G	170	178
99	119	D	120	H	180	188

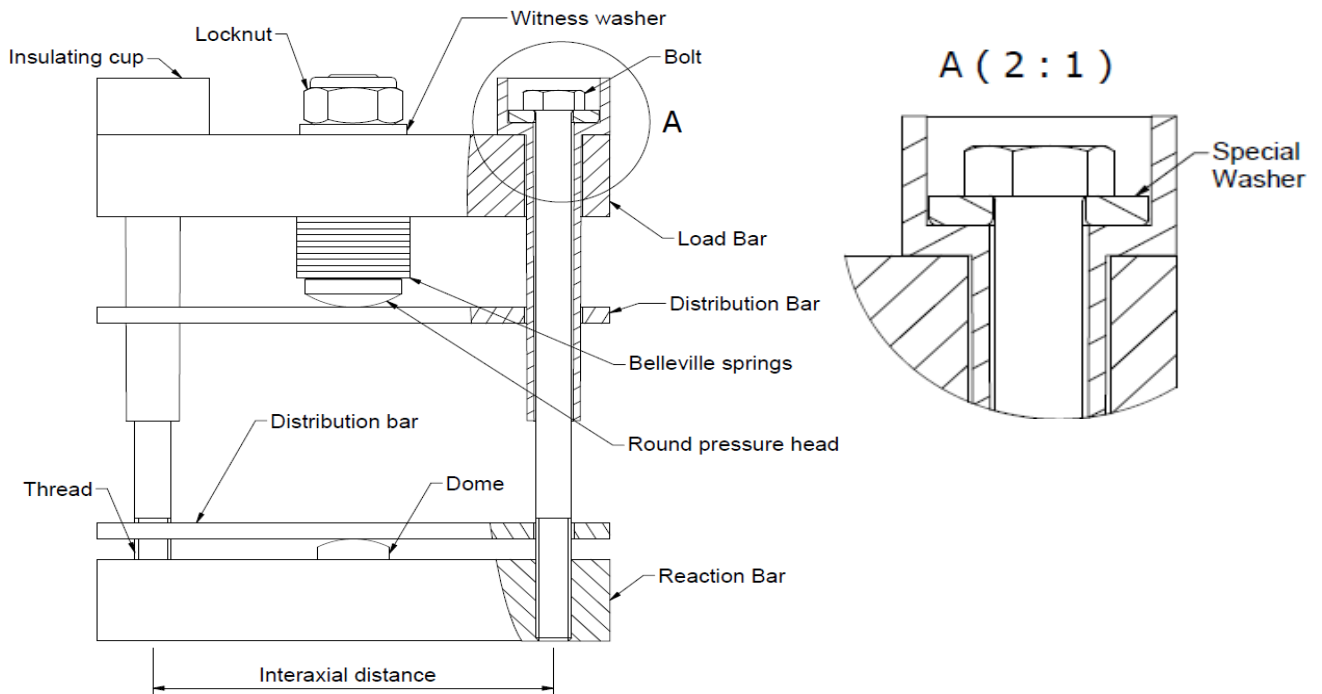


Type GC89SR...R: suggested insulator/bolt types

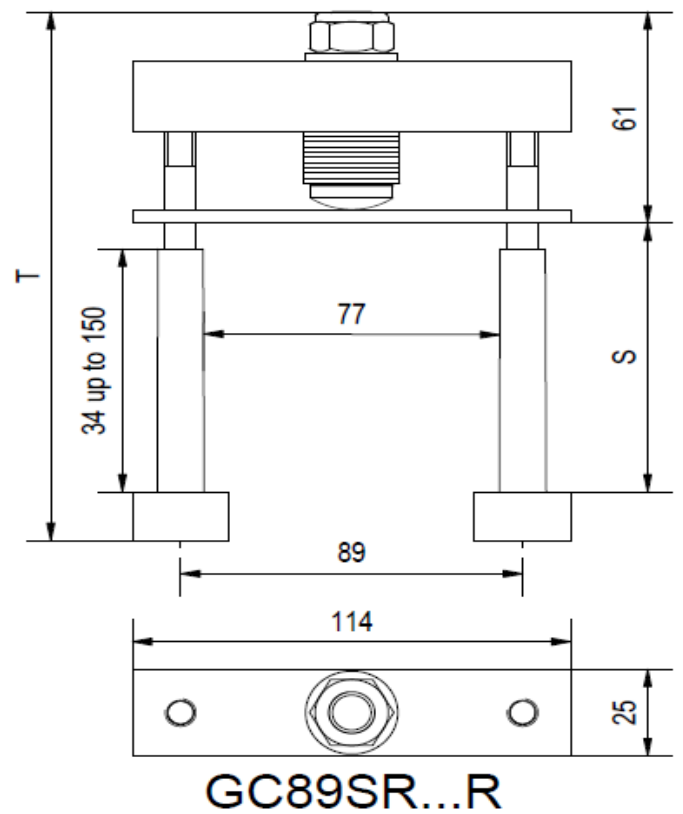
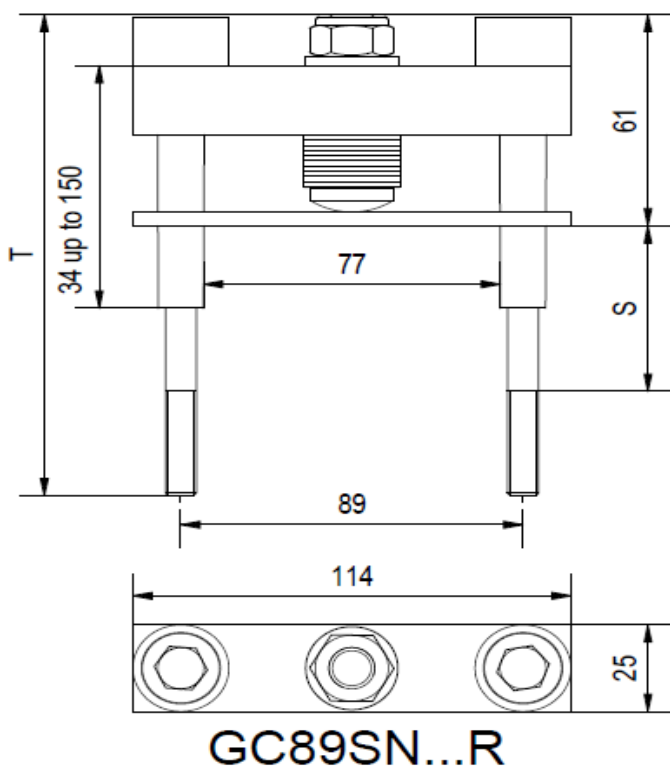
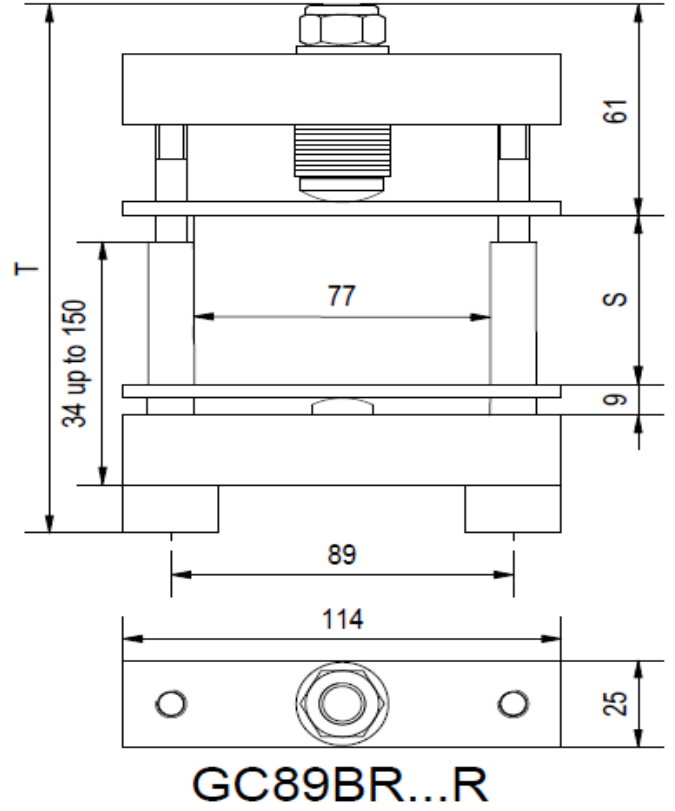
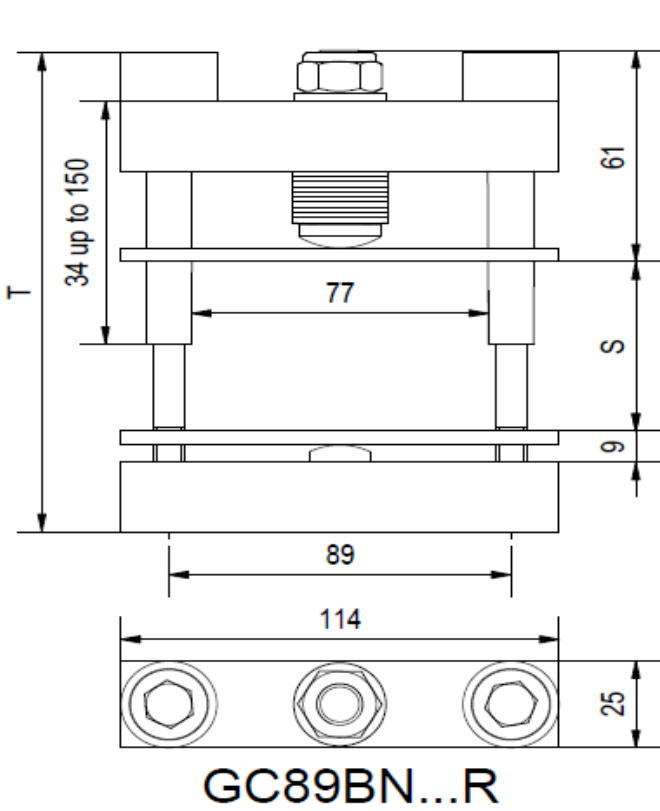
Allowed clearance S		Insulator choice		Bolt choice		Max height
S _{Min} [mm]	S _{Max} [mm]	(3)	Ins. Length [mm]	(4)	Bolt Length [mm]	T [mm]
15	29	Z	34	U	70	106
20	34	Z	34	V	75	111
25	39	A	50	W	80	116
35	49	A	50	Y	90	126
45	59	B	70	Z	100	136
55	69	B	70	A	110	146
65	79	B	70	B	120	156
69	89	C	95	C	130	172
79	99	C	95	D	140	182
89	109	C	95	E	150	192
99	119	D	120	F	160	202
109	129	D	120	G	170	212



BAR CLAMP COMPONENTS LEGEND



BAR CLAMP OUTLINES

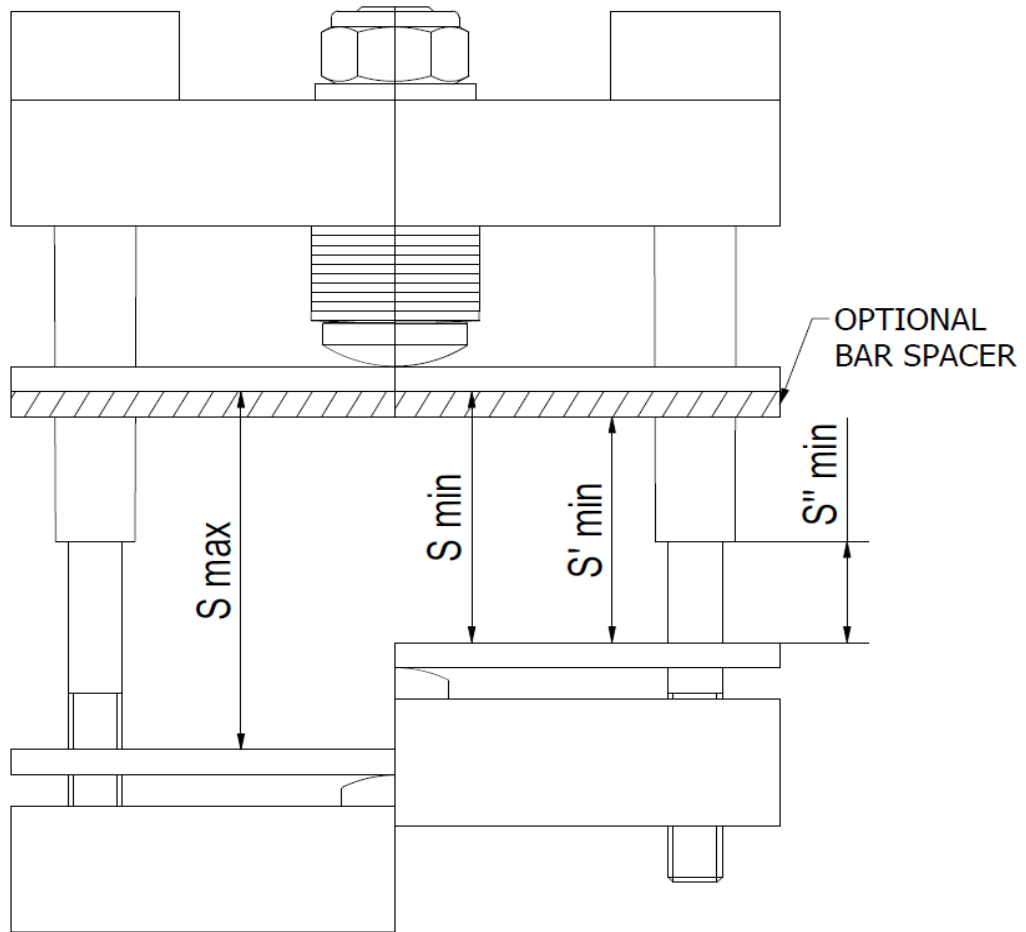


Dimensions in mm - Tolerances according to ISO 2768 MK

Step files of clamp structures may be downloaded at [www.gpsemi.it/stepfiles/GC89_R\(file step\).zip](http://www.gpsemi.it/stepfiles/GC89_R(file step).zip)

or using this QR



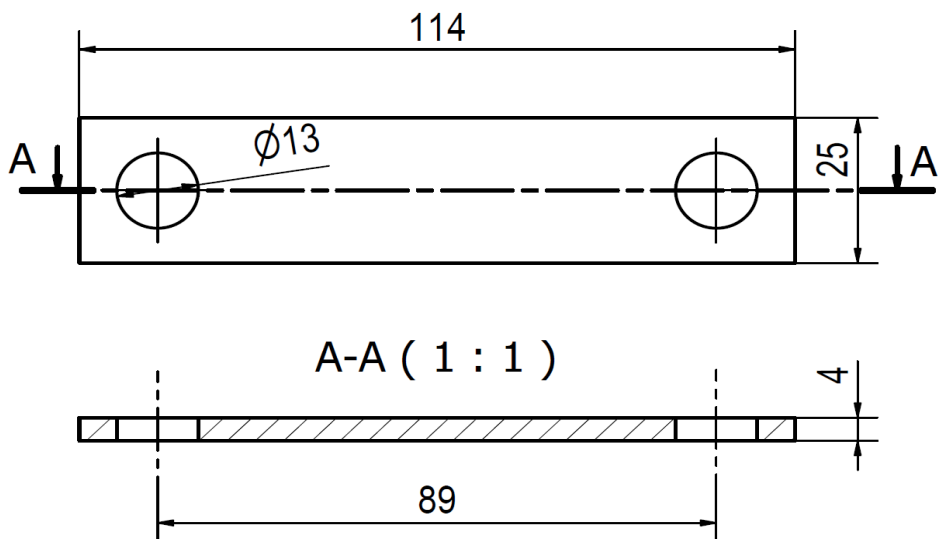


$S''_{min} = 1 \text{ mm}$ (minimum clearance between insulator and distribution bar)

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.