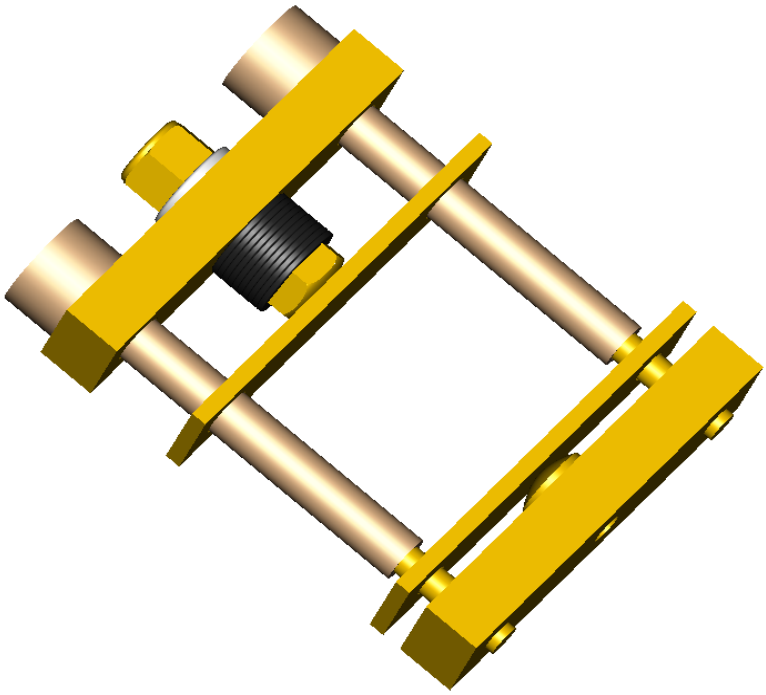
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GC89…R

BAR CLAMP FOR HOCKEY PUK DEVICES

Clamping total thikness of assembly from 11mm to 119mm
Pre-loaded to the specific clamping force (12 ÷ 24 kN)
Maximum device diameter: 76mm
Surface passivation to provide extra protection
Hexagon head bolt partially threaded M8x1.25, UNI5737, 8.8 steel
Various lengths of bolts and insulators
Round shaped clamping head for optimal clamping force application
Four styles available
User friendly clamping force indicator
UL94 certified insulation material

Parameter	Unit	Types	Testing conditions	Notes	Values		
					Min	Typ	Max
Weight	g	GC89S…R			730		860
		GC89B…R			1120		1290
Clamping Force*	kN	GC89…12R				12	
		GC89…16R				16	
		GC89…20R				20	
		GC89…24R				24	
Clamping Force tolerance						± 10%	
Insulation Voltage	V_{RMS}		1 min			3000	
Insulating Material				Noryl ® **			
UL File				E121562			
Max. working temperature	°C				-30		110
Creepage distance:	mm					28	
Clearance distance:	mm					20.3	
Storage temperature	°C				-40		110
Flammability	mm			UL94 V-1 Flame class rating		1.5	
	mm			UL94 V-0 Flame class rating		8.00	
	mm			CSA Flammability		1.00	

* Other clamping forces available: contact factory

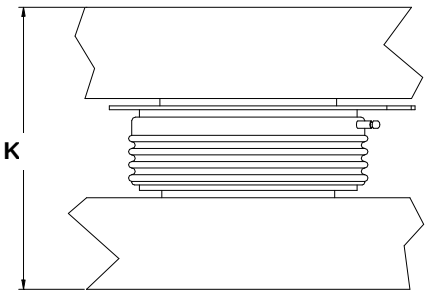
** Noryl ® is a registered trade mark of General Electric

ORDERING INFORMATION TABLE

Clamps can be ordered using the following part numbering system

GC89	B	N	B	A	20	R	S
	(1)	(2)	(3)	(4)	(5)		(6)

(1) Construction type:	B = with double bar
	S = with single bar
(2) Insulator position:	N = upper side
	R = lower side
(3) Insulator code:	see table below
(4) Bolt code:	see table below
(5) Clamping force (in kN):	12
	16
	20
	24
(6) Special accessories	blank = no accessories
	S = extra bar spacer
	D = pressure disc in place of pressure bar



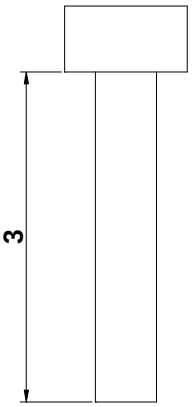
K: Total thickness of the assembly to be clamped

For thicknesses $S'_{Min} < K < S_{Min}$ an additional 4mm thick bar spacer is needed (see list of special accessories)

Type GC89BN…R: suggested insulator/bolt types

Allowed clearance S			Insulator choice		Bolt choice		Max height
S'_{Min} [mm]**	S_{Min} [mm]	S_{Max} [mm]	(3)	Ins. Length [mm]	(4)	Bolt Length [mm]	T [mm]
11	15	30	A	50	Z	100	115
21	25	40	A	50	A	110	125
31	35	50	B	70	B	120	135
41	45	60	B	70	C	130	145
51	55	70	C	95	D	140	155
61	65	80	C	95	E	150	165
71	75	90	C	95	F	160	175

** with additional bar spacer only



Type GC89BR…R: suggested insulator/bolt types

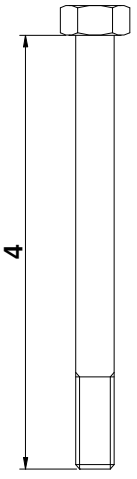
Allowed clearance S			Insulator choice		Bolt choice		Max height
S'_{Min} [mm]**	S_{Min} [mm]	S_{Max} [mm]	(3)	Ins. Length [mm]	(4)	Bolt Length [mm]	T [mm]
11	15	30	A	50 ***	Z	100	129
21	25	40	A	50	A	110	139
31	35	50	A	50	B	120	149
41	45	60	B	70	C	130	159
51	55	70	B	70	D	140	169
61	65	80	B	70	E	150	179
71	75	90	C	95	F	160	189

** with additional bar spacer only *** For S_{Max}

Type GC89SN…R: suggested insulator/bolt types

Allowed clearance S			Insulator choice		Bolt choice		Max height
S'_{Min} [mm]**	S_{Min} [mm]	S_{Max} [mm]	(3)	Ins. Length [mm]	(4)	Bolt Length [mm]	T [mm]
20	24	39	A	50	Z	100	110
30	34	49	B	70	A	110	120
40	44	59	B	70	B	120	130
50	54	69	C	95	C	130	140
60	64	79	C	95	D	140	150
70	74	89	C	95	E	150	160
80	84	99	D	120	F	160	170

** with additional bar spacer only

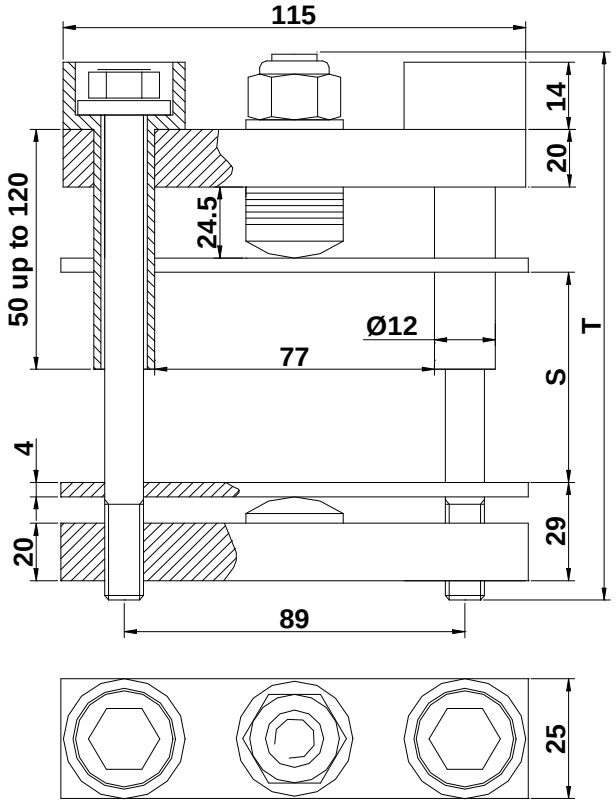


Type GC89SR…R: suggested insulator/bolt types

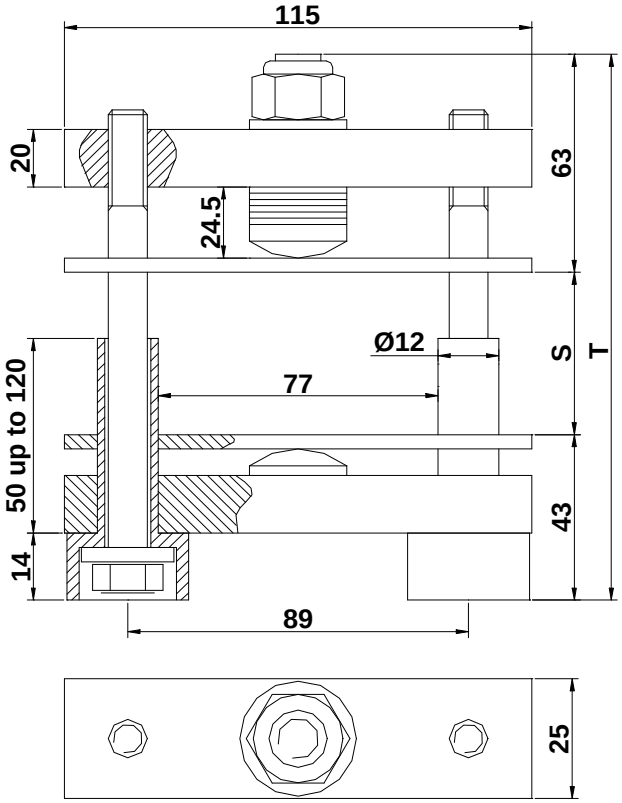
Allowed clearance S			Insulator choice		Bolt choice		Max height
S'_{Min} [mm]**	S_{Min} [mm]	S_{Max} [mm]	(3)	Ins. Length [mm]	(4)	Bolt Length [mm]	T [mm]
40	44	59	B	70	Z	100	129
50	54	69	B	70	A	110	139
60	64	79	B	70	B	120	149
70	74	89	C	95	C	130	159
80	84	99	C	95	D	140	169
90	94	109	D	120	E	150	179
100	104	119	D	120	F	160	189

** with additional bar spacer only

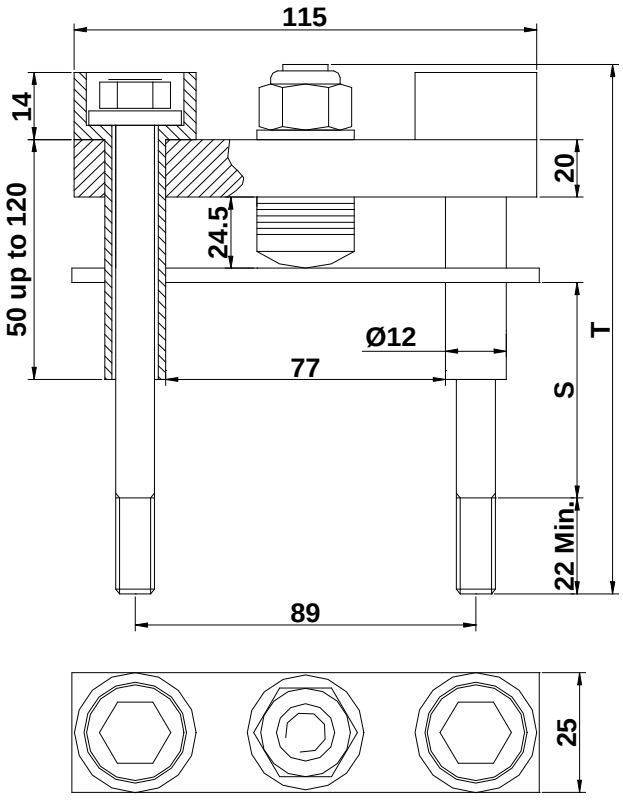
BAR CLAMP OUTLINES



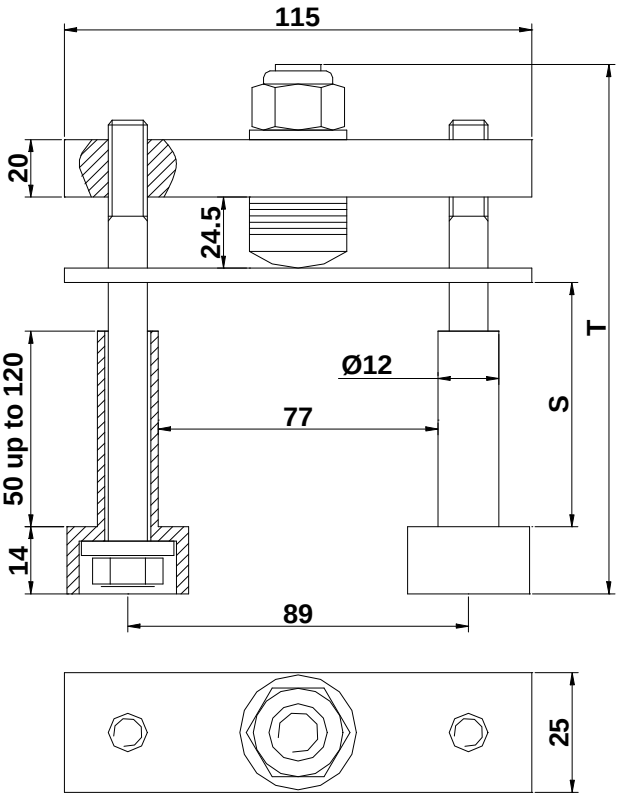
GC89BN...R



GC89BR...R

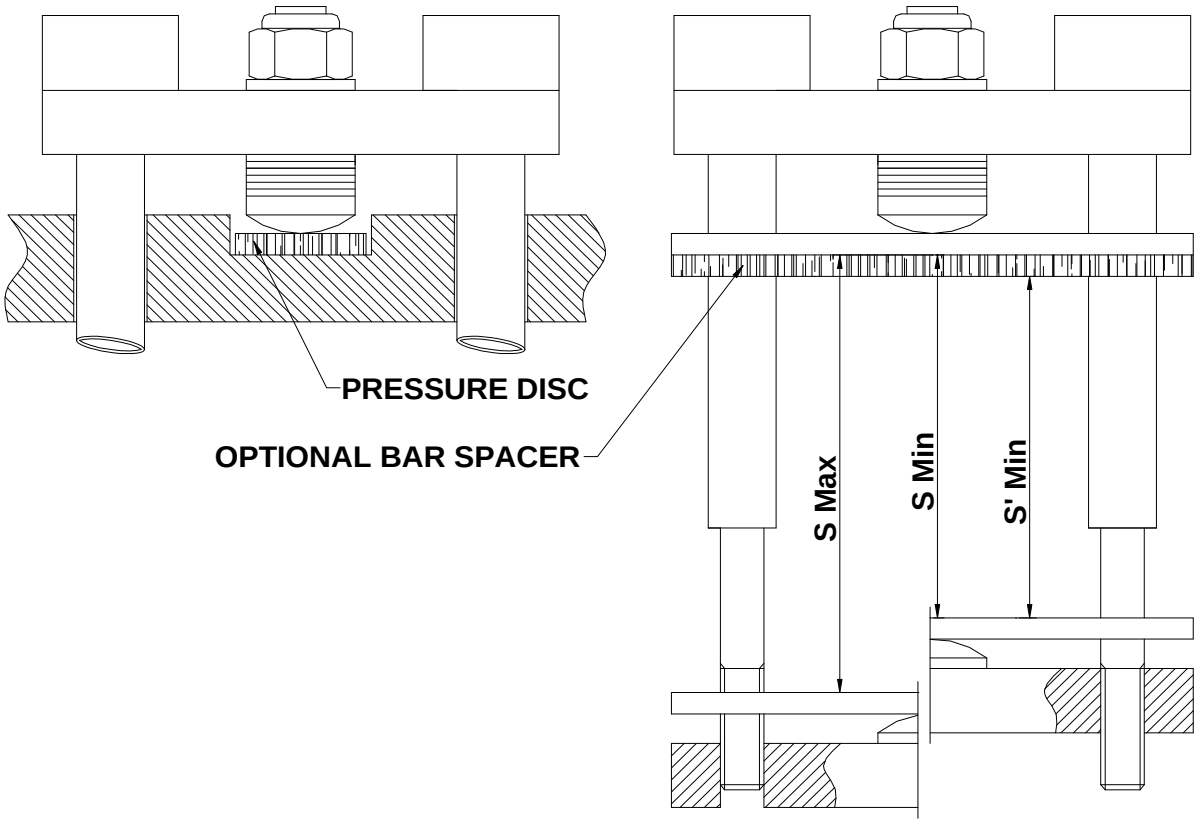


GC89SN...R



GC89SR...R

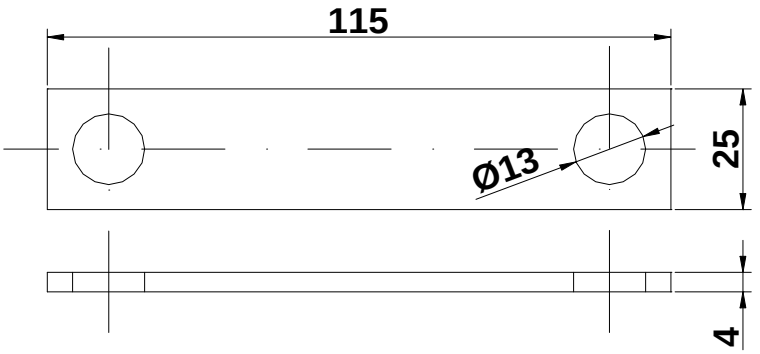
Dimensions in mm - Tolerances according to ISO 2768 MK



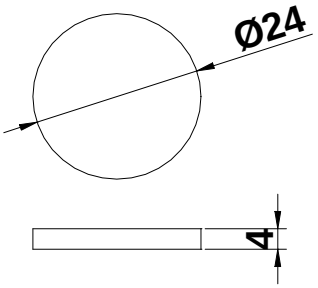
SPECIAL ACCESSORIES

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

Bar spacer



Pressure disc
Useful for grooved heatsink
Suggested groove diameter 27mm +/- 0.5



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.