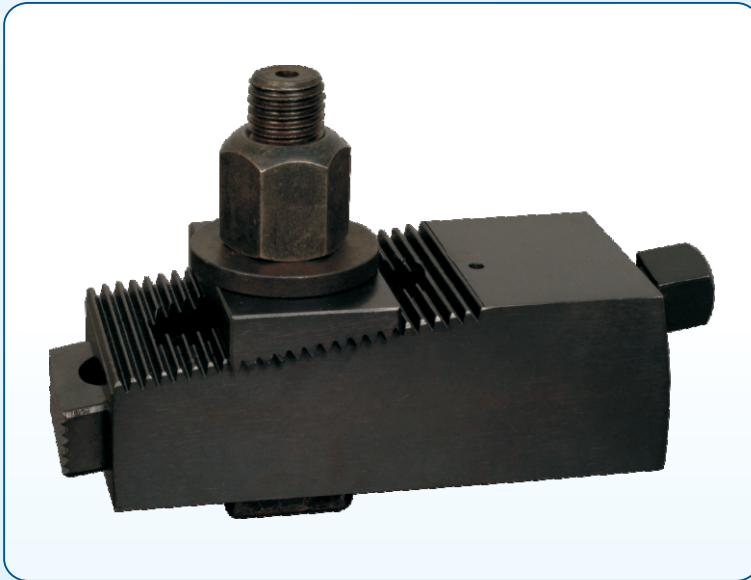


CLAMPING DEVICES



CLATI ENGINEERING SYSTEMS

DOWNHOLD MILLING CLAMP

Type: CES- DMC

To secure work-piece requiring higher cutting forces

Angular sliding jaw provides pull-down and side clamping forces.

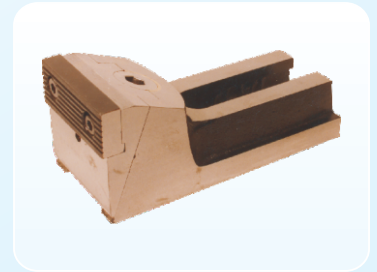
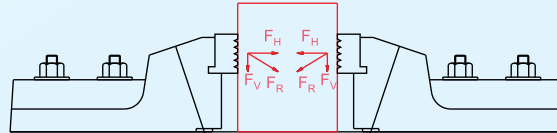
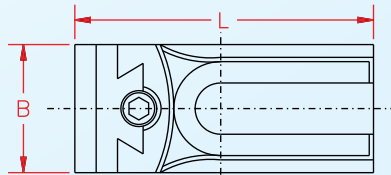
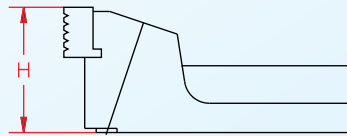
Material: Body and jaw seating - high tensile S.G.Iron, jaw - heat treated steel, blackened.

Applications: In tool room and machine shop for planing, milling, plano-milling, jig boring, shaping machines and on VTLs. Also useful as clamping element in the design of fixtures.

Supplied without T- bolt/ stud.

Set consisting of T- bolts, Hex hi-nut, Plain washer (thick) for particular slot supplied as optional.

Type	Size	Slot width	Clamping force approx. kg	Weight kg.
DMC-1	58Bx55Hx138L	18	1500	1.500
DMC-2	78Bx80Hx190L	26	3000	4.100
DMC-3	120Bx135Hx250L	35	4500	14.150



LEVER CLAMP

Type: CES- LC

For Angular clamping/medium duty applications.

Vertical down thrust and horizontal clamping force available simultaneously with the operation of leverage screw.

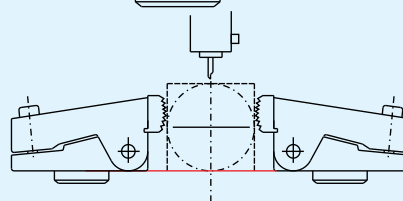
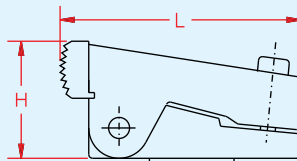
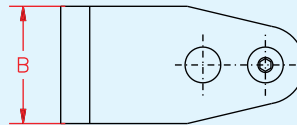
Clamping force adjustable by leverage action

Material: Body - high tensile S.G. Iron, enameled. Base and jaw - Medium carbon steel heat treated and blackened.

Applications: Suitable for side clamping of big castings, flanges and regular work-pieces on milling, shaping, drilling, plano-milling, machines. Popular with tool designers as clamping element in the design of fixtures.

Supplied with T-nut of desired size

Type	Size (without T-nut)	Suitable for T-slot	Wt.(without T-Nut)
LC-1	61Bx57x110L	14 to 28mm	1.850kg



SIDE THRUST CLAMP :

Type: CES- STC

Most suited for clamping longer work-pieces from the sides, particularly on plano-millers. It offers horizontal and down-thrust forces while turning clamping screw on.

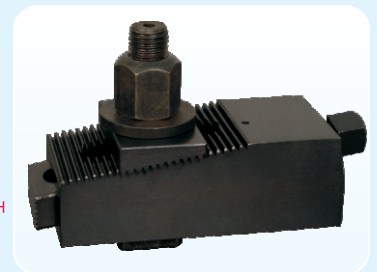
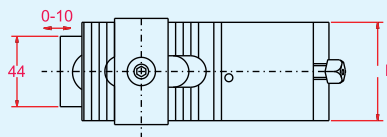
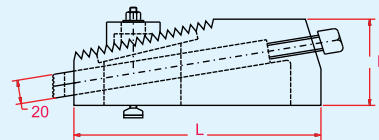
Material: Steel heat treated and blackened.

Applications: Side clamping on large milling/ plano-milling machines.

Supply : Device supplied with hi-tensile forged T-bolt of desired size

Suitable for T-Slot: 18mm to 36mm

Type	Dimensions L x B x H	Jaw	Wt.(without bolt) kg
CES-STC-1	150 x 65 x 52	20T x 44 W	3.00



Ordering Method : For T-slot size 22mm device shall be designated as type CES-STC-1/ 22 and so on

THICK PLATE CLAMP

Type: CES- TPC

Forward and downward forces hold work-piece firmly parallel to bed leaving no gap between work and bed surface.

Low height design suitable to hold thick plates from sides for machining top of plate in one setting.

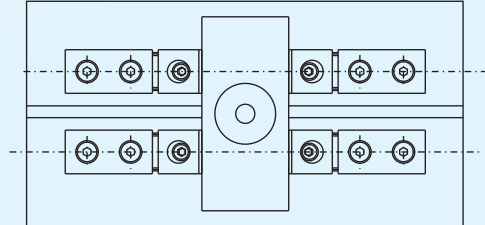
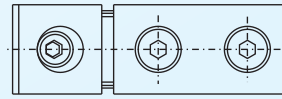
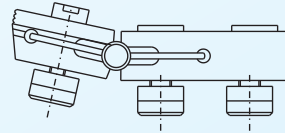
More than one pair employed to hold longer/wider work-piece.

Material: Body and jaw-Medium carbon steel, jaw heat treated and blackened.

Applications: Side holding of thick plates on milling, shaping, planing, plano-milling, drilling, jig boring machines. Suitable for use in design of clamping fixtures.

Supplied with screws and T- nuts of respective sizes.

Type	Suitable for T-Slot	Overall size (without T-nut)	Clamping force kg(approx)	Weight (without T-Nut)
TPC-1	8 or 10	24Bx12Hx82L	500	0.140kg
TPC-2	12 or 14	29Bx15Hx112L	700	0.280kg
TPC-3	16 or 18	39Bx19Hx134L	1000	0.750kg
TPC-4	20 or 22	49Bx24Hx195L	1500	1.400kg



COMPOSITE TAPER CLAMP

Type: CES- CTC

Low type wedge action side clamp for thick plate holding.

Tightening of screw moves both the jaws offering forward and downward forces, holding the work-piece parallel to bed.

Low height design suitable to hold thick plates from sides for machining entire top surface in one setting without obstruction.

Due to split jaw design cylindrical/slightly irregular work-pieces can be clamped effectively.

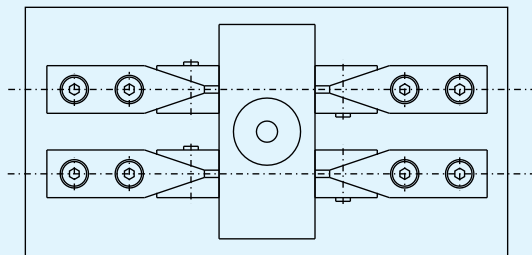
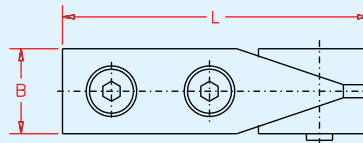
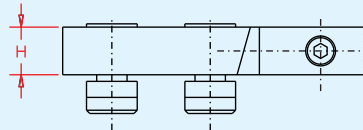
More than one pair employed to hold longer/wider work-piece.

Material: Body and jaw-medium carbon steel, jaw heat treated and blackened.

Applications: Side holding of thick plates on milling, shaping, planing, plano-milling, drilling, jig boring machines. Suitable for use in design of clamping fixtures.

Supplied with screws and T- nuts of respective sizes.

Type	Suitable for T-Slot	Overall size (without T-nut)	Clamping force kg(approx)	Weight (without T-Nut)
CTC - 1	8 or 10	24Bx12Hx75L	400	0.150kg
CTC - 2	12 or 14	29Bx15Hx100L	600	0.300kg
CTC - 3	16 or 18	39Bx19Hx115L	750	0.470kg
CTC - 4	20 or 22	49Bx24Hx160L	900	1.200kg



SLOT CLAMP

Type: CES- SC

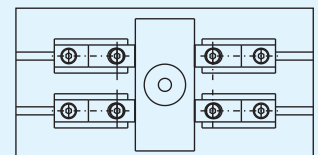
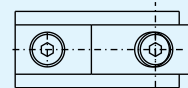
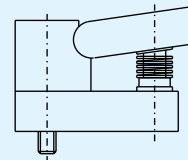
Low type direct action edge-touch side clamp for thin plate holding.

Major part of clamp body occupied inside T-slot to achieve low height advantage.

Jaw applies clamping force on edge of thin plate, exerting forward and downward forces, avoiding top of surface holding.

Material: Body and jaw-medium carbon steel, jaw heat treated and blackened.

Applications: suitable for holding of thin plates and work-pieces of thickness 3mm and above from sides for machining on milling, planing, plano-milling machines.



Type	Suitable for T-Slot	Overall size (without T-Nut)	Weight
SC-10	10	15Bx21Hx41L	0.055
SC-12	12	20Bx24Hx42L	0.100
SC-14	14	23Bx27Hx51L	0.140
SC-16	16	25Bx31Hx52L	0.180
SC-18	18	29Bx35Hx54L	0.230
SC-20	20	32Bx38Hx60L	0.320
SC-22	22	35Bx43Hx68L	0.520

STEPLESS HEIGHT CLAMP

Type: CES- SHC-MAXI/ SHC-MINI

Instant clamping action suitable for vertically acting forces.

Quick action clamping achieved by flicking of eccentric action clamping lever through 90°.

Clamping pad offers vertically down-thrust on the work.

Clamping pad swinging through 360°, offers job location at any place of operation.

Height adjusting cylinders type CES-HAC can be used to increase the height range.

Material: Heat treated steel, blackened.

Applications: suitable for top clamping on machines with T- slots, on pallets with tapped holes and a part of instant clamping element of fixture.

Requires clamping at minimum of two points on job.

Supplied with T-nut of 14 x M12 size



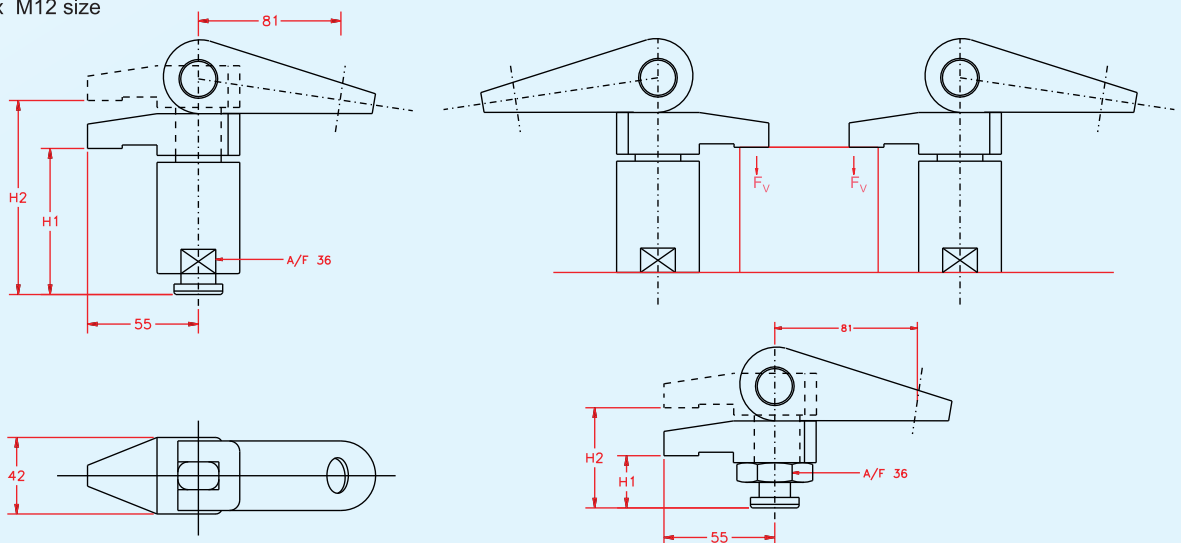
SHC-MINI



SHC-MAXI

Type	H ₁ - H ₂ MM	Weight (without T-nut)
SHC - 25	25-30	1.000kg
SHC - 30	30-35	1.150kg
SHC - 35	35-40	1.225kg
SHC - 40	40-45	1.245kg
SHC - 45	45-50	1.275kg

Type	H ₁ - H ₂ MM	Weight (without T-nut)
SHC-70	70-105	1.400kg
SHC-100	100-135	1.650kg



HEIGHT ADJUSTABLE CYLINDERS(For SHC - Mini & Maxi)

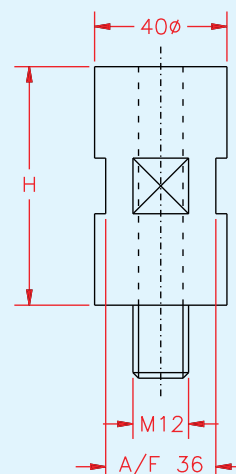
Type: CES- HAC

Basic height of clamps can be increased by adding HAC of desired size.

Material: Heat treated steel, blackened.

Any other sizes supplied on request.

Type	Height mm	Hole size mm	Weight kg
HAC-35	35	M12	0.350
HAC-70	70	M12	0.650
HAC-100	100	M12	0.950
HAC-140	140	M12	1.350



CLATI ENGINEERING SYSTEMS

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