

unison
UNISON CLAMPING DEVICES



The Art of Clamping

ONE POINT SOURCE FOR CLAMPING ELEMENTS,
DEVICES AND FIXTURE ACCESSORIES



MODULAR FIXTURING SYSTEM

While considering the relative merits of dedicated fixtures and modular fixtures, it is assumed that small-lot production is being done with interest in reducing (1) set up time (2) tooling expenses (3) tooling lead-time. Whether dedicated tooling or the all-modular approach is used, a proven way to reduce machine set-up time is to use an accurate grid pattern for locating fixtures, vices and other accessories.

ADVANTAGES OF DEDICATED TOOLING

The all modular approach generally makes some sacrifices in terms of (1) rigidity and strength (2) ease and speed in loading the workpiece or (3) overall compactness of the fixtures.

Modular accessories are designed for maximum versatility in a wide range of applications. At times, a clamp or locator made from all modular components may consist of more than one component coupled together with some overall loss in rigidity versus a one piece custom detail used in a dedicated fixture. Rigidity in an all-modular set up often comes at the expense of overall compactness. As a result a larger working envelope may be required to accommodate modular fixture.

ADVANTAGES OF THE ALL MODULAR APPROACH

Modular accessories are designed for maximum versatility in a wide range of applications. At times, a clamp or locator made from all modular components may consist of more than one component coupled together with some loss in rigidity versus a one piece custom detail used in modular fixtures.

ECONOMIC EVALUATION

Since the accessories can be used again the effective cost gets considerably reduced when using modular fixtures. After use for production, the fixture can be dismantled and stored for future use. For manufacturing of dedicated fixture, a lot of skilled machining will be involved, whereas in assembling of modular fixtures, time to assemble a fixture when components are available is very much less.

In Europe and U.S.A. modular fixturing systems are used by most of the industries.

ROLE OF UNISON CLAMPING DEVICES

We are manufacturing most of the products, which can be used in both dedicated fixturing as well as modular fixturing. We are continuously adding many products in our manufacturing range.

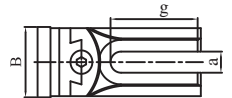
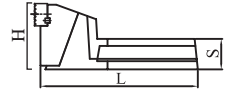
Many of our products are made as per IS/DIN standards. We are testing all incoming raw materials and there is inspection at each stage.

SIDE ACTING CLAMPS

RIGID CLAMP

FEATURES

- For machining of large objects with side clamping.
- Precise Dovetail assures positive compound forward & downward force.
- Side clamping keeps full surface free for complete machining operation in one setting.
- High clamping force sustains heavy cutting forces.
- Mechanical height limit is useful for attaining constant clamping pressure.
- Can be supplied with T bolts & Allen key if ordered.



APPLICATIONS

- Suitable to use on milling, planning, shaping, lathes, etc.
- Very useful in fixture building for fast clamping & unclamping.
- It is useful for job heights more than 60 mm.

MATERIAL

- Mild S. G. I. o
- Chrome Plated

FINISH

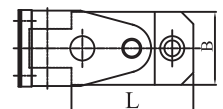
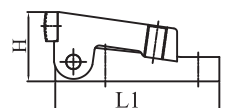
- Paint

Model No.	a	L	B	H Min.	H Max.	g	s	Approx. Force kN	Allen key	T-Slot	Weight gms	
UGRC-18	18	135	60	55	70	75	28	20	10	8	12 to 18	1500
UGRC-26	26	190	80	100	115	120	30	30	15	12	20 to 26	3850
UGRC-36	32	255	100	135	170	135	80	50	25	16	28 & above	14250

HINGE CLAMP

FEATURES

- For machining of large objects where entire surface is to be machined.
- Can be used for clamping jobs having uneven & unmachined side faces.
- To fix the job rigidly, long base plate with two T-Nuts is used.
- This avoids reduction of clamping pressure due to slippage.
- Radial serrated Jaw assures firm clamping.



APPLICATIONS

- Suitable to use on milling, shaping, drilling machines & surface grinders etc.
- Could be used in the construction of fixtures.
- It is useful to clamp the job having height more than 60 mm.
- Side faces need not be machined.

MATERIAL

- Main body made of S. G. Iron, clamping Jaw & Base plate made of Hardened Steel.

FINISH

- Blackdized & Powder coated

Model No.	T-Slot	L	L1	B	H	Height of Job	Force Max. kN	Weight gms
UGHC 14 to 24	14 to 24	100	135	60	65	More than 60 mm	15	7.5

PLATE CLAMP

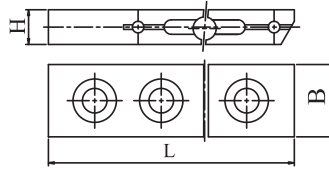
FEATURES

- Low height & side clamping, leaving the entire top surface free for machining.
- Effective & positive clamping of flat jobs like plates, flats irrespective of the size.
- Spherical washer is used in plate clamp to avoid it from swivelling.
- Springs are provided for quick release of clamping force & jaws.
- Due to low height it is suitable for clamping work piece with small



contact area e. g. Plates, flats.

- Useful for clamping the job whose height is five mm more than the thickness of Plate clamp.
- Develops a high tightening force.



APPLICATIONS

- Suitable to use on milling, shaping, planing machine etc.

MATERIAL

- Made of Hardened steel

FINISH

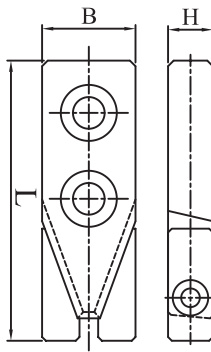
- Blackodized.

Model No.	T-Slot	L	B	H	Allen. key	Approx Force kN		Weight gms
UGPC-8	8	85	25	12	5	10	5	250
UGPC-10	10	85	25	12	6	10	5	280
UGPC-12	12	115	30	15	8	15	7.50	500
UGPC-14	14	115	30	15	10	15	7.50	500
UGPC-16	16	135	40	20	10	20	10	1000
UGPC-18	18	135	40	20	12	20	10	1000
UGPC-20	20	200	50	25	12	30	15	2250
UGPC-22	22	200	50	25	16	30	15	2250

COMPOUND SLIDE CLAMP

FEATURES

- These are also low height side clamps which leave the entire surface free for machining.
- Effective & rigid clamping of flat job is done irrespective of the size of the job.
- Applies wedge type action thereby exerting equal side downward pressure with maximum clamping force.
- Quick clamping & unclamping.
- Can be used for clamping jobs of H + 1 mm
- This clamp is more useful than plate clamp due to full serration of the jaws to clamp thin material.
- No need of machined side faces.



APPLICATIONS

- It is suitable to use on milling, planing machines & where high clamping force is required.

MATERIAL

- Made of Hardened Steel.

FINISH

- Blackodized.

Model No.	T-Slot	L	B	H	Allen. key	Approx Force kN		Weight gms
UGPC-8	8	75	25	12	5	10	5	250
UGPC-10	10	75	25	12	6	10	5	280
UGPC-12	12	110	30	15	8	15	7.50	500
UGPC-14	14	110	30	15	10	15	7.50	500
UGPC-16	16	115	40	20	10	20	10	1000
UGPC-18	18	115	40	20	12	20	10	1000
UGPC-20	20	160	50	25	12	30	15	1750
UGPC-22	22	160	50	25	16	30	15	1750

THIN PLATE CLAMP

FEATURES

- The entire body goes in T slot & only clamping jaw remains above the bed level.
- Useful to hold the thin plates from 5 to 9 mm thickness & clamp positively due to its very low height.
- Main body is made of brass to save the machine bed from rusting & damage. Clamping jaw is made of heat treated steel for strength & durability.
- suitable for jobs which require low to medium clamping force.



APPLICATIONS

- Suitable to use on milling, drilling machines for positive holding of thin Plates.

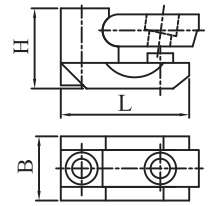
MATERIAL

- Main body made of brass, clamping jaw made of hardened steel.

FINISH

- Blackodized.

Model No.	T-Slot	L	B	H	Allen. key	Approx Force kN		Weight gms
UGPC-12	12	40	20	25	5	6	3.00	100
UGPC-14	14	43	23	28	5	7	3.50	125
UGPC-16	16	47	23	28	6	8	4.00	175
UGPC-18	18	50	29	35	6	10	5.00	225



ECCENTRIC SIDE CLAMP

FEATURES

- Rapid clamping & unclamping of work piece by operating a cam handle
- Smooth spiral cam locks positively. In view of side clamping & low profile of the clamp, it is possible to do machining operation in one setting over the whole area of the workpiece without moving the clamp.
- Downward & forward action of the jaw ensures the positive clamping of the workpiece.



APPLICATIONS

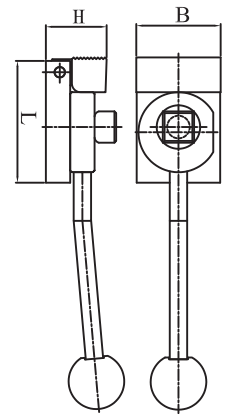
- It can be used in the construction of fixtures as standard, fast clamping & unclamping element to simplify the clamping system.
- Used on drilling, milling, cutting machines for light operations.

MATERIAL

- Made of Hardened Steel.

FINISH

- Blackodized.



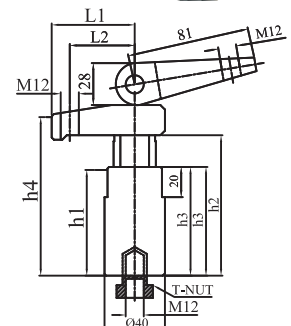
Model No.	Jaw movement mm	L	B	H	T-Slot	Approx max. kN	Weight gms
UGESC 62	4	62	48	38	12 to 18	7	900

TOP ACTING CLAMPS

DOWN THRUST CLAMP

FEATURES

- Rapid clamping & unclamping by hand and with positive down thrust by means of threaded spindle and with eccentric lever.
- Easy and quick clamping of work piece by swivelling away the clamping pad.
- Occupies very little space due to its compact construction.
- Clamping height can be steplessly adjusted.
- To increase the clamping height, separate support cylinder UGDTC/HC- 35 or UGDTC/HC- 70 are available.
- Spring is provided for quick release of clamping pad.
- All matching cylindrical parts precisely ground.
- Useful for mass production where clamping/declamping is to be done within a fraction of second.
- Eccentric lever gives clamping stroke of 1.5 mm to clamping pad which results in downward thrust of 10 kN.



APPLICATIONS

- Used as standard clamping element in the construction of fixtures. Also due to fast clamping & unclamping with positive downward force it is widely used on machine tool pallets, NC machine etc. with or without T-nut.
- On any T slotted table or with hole having M 12 threading on any machine.

MATERIAL

- Made of Hardened Steel.

FINISH

- Blackodized.

Model No.	T-Slot	Job Height which would be clamped min. h1/Max. h4	h3	h2	I1	I2	Dio of Cylinder	Maxi.Ht. of Clamp	Pressure KN ↓	Spanner Required	Weight gms	
UGDTC105	14 to 18	70	105	72	93-128	55	43	40	140	10	36A/F	1400
UGDTC135	14 to 18	100	135	98	123-158	55	43	40	170	10	36A/F	1700

Model No.	H	D	Spanner Required	Weight gms
UGDTC/HC - 35	35	40	36A/F	250
UGDTC/HC - 70	70	40	36A/F	500

LOW DOWN THRUST CLAMP

FEATURES

- Full 360° range facilitates easy loading and unloading of workpiece.
- With the aid of support lugs/self aligning pads even small height jobs can be clamped.

APPLICATIONS

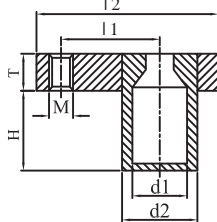
- Can be used for clamping of jobs from top where side clamping is likely to deform the component.
- Useful for jigs and fixtures.
- Can be mounted in the fixture plates.

MATERIAL

- Heat treated steel.

FINISH

- Precision ground, blackodized.



Model No.	I1	I2	H	d1	d2	T	M
UGLDT C - 50	43	77	31	19	28	20	M 12

STEPLESS UNIVERSAL CLAMP

FEATURES

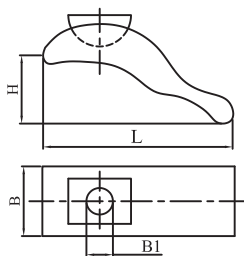
- It is top clamping type, rugged and easy to use.
- Required clamping height can be adopted quickly without any supports due to its shape.
- Swivelling half piece assures perfect clamping.
- It eliminates loose packing and bad clamping.
- We supply T bolts. Hex nut & Plain washer along with this clamp.
- Also can be supplied without T bolts.

APPLICATIONS

- Suitable to use where limited machine table space is available.
- Suitable for dies & press tools where required.
- Suitable to use on milling, shaping, planing machine, press shops, plastic moulding etc.

MATERIAL

- Main body made of S. G. Iron T Bolts & Hex nut toughened to class 8.8.



FINISH

- Yellow passivated & power coated.

Model No.	T-Slot	B1	Clamping height H	B	L	T-Bolt	Hex Nut	Plain Washer Washer	W/Assembly
UGSUC-12	12	17	0-50	50	138	UFTB12125	UFHN1218	UEPW 12	1500
UGSUC-14	14	17	0-50	50	138	UFTB14125	UFHN1218	UEPW 12	1500
UGSUC-16	16	17	0-65	50	138	UFTB16160	UFHN1624	UEPW 16	1500
UGSUC-18	18	17	0-65	50	138	UFTB18160	UFHN1624	UEPW 16	1500
UGSUC-16	16	21	0-75	60	175	UFTB16160	UFHN1624	UEPW 16	2740
UGSUC-18	18	21	0-75	60	175	UFTB18160	UFHN1624	UEPW 16	2740
UGSUC-20	20	21	0-85	60	175	UFTB20200	UFHN2030	UEPW 20	2770
UGSUC-22	22	21	0-85	60	175	UFTB22200	UFHN2030	UEPW 20	2800
UGSUC (s-w/o T-bolt)	-	17	-	50	138	-	-	-	1300
UGSUC (s-w/o T-bolt)	-	21	-	60	175	-	-	-	2100

SUPPORT ELEMENTS

UNIVERSAL STEP BLOCK

FEATURES

- Universal step blocks are used to obtain required supporting heights.
- By using 3 sizes by 3 different ways we can obtain different heights.
- Combination sizes.
 - 50 - 100 gives min. 22 to max. 79 mm
 - 50 - 210 gives min. 22 to max. 104 mm
 - 100 - 210 gives min. 38 to max. 168 mm
 - 210 - 210 give min. 60 to max. 208 mm
- Teeth profile is such that there is positive locking & faces remain parallel.



APPLICATIONS

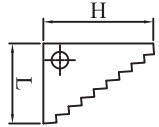
- Suitable to use as supporting blocks on any machine.

MATERIAL

- S. G. Iron with high tensile strength.

FINISH

- Power coated.



Model No.	Adjustable Height Min.	Adjustable Height Max.	L	B	H	Weight gms.
UEUSB 50	22	50	24	30	33	100
UEUSB 100	38	107	40	30	66	300
UEUSB 210	69	208	73	30	131	1100

SCREW JACK

FEATURES

- Screw Jack is stable robust and free from wear and tear..
- The height adjustment are made through threaded spindles which is selflocking.
- Threads are trapezoidal.
- Holding plate fixes the position of adjustable height block Horizontally or vertically.
- Space required is minimum .
- Tommy bar is an auxiliary tool for easy mounting and adjustment under load.

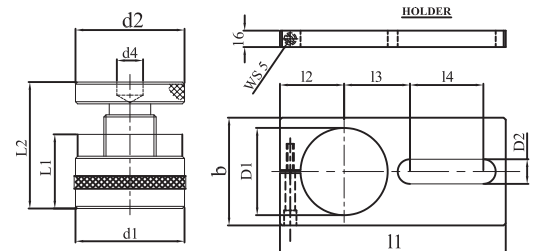


APPLICATIONS

- Screw Jack is frequently used for supporting work piece.

FINISH

- Blackodized.



Model No.	d1	d2	d3	d4	L1	L2	b	D1	D2	I1	I2	I3	I4
USJ 40	31	32	20	-	40	50	40	32	18.5	175	30	35	90
USJ 50	50	50	30	12	50	75	60	50	20.5	190	38	46	90
USJ 75	50	50	30	12	75	100	60	50	20.5	190	38	46	90
USJ 100	68	65	40	12	100	140	80	70	24.5	210	48	46	90
USJ 140	80	70	50	12	140	210	80	70	24.5	210	48	46	90

ADJUSTABLE HEIGHT PLATE

FEATURES

- Required supporting height is achieved instantaneously with quick adjustment of plates.
- Required extra height could be achieved by stacking the blocks.
- Economical & saves time & human fatigue in getting required spacers every time.
- Compact, safe & reliable supporting system.
- Used with or without exact height setter.

APPLICATIONS

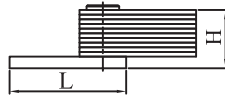
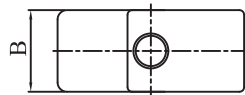
- Suitable to use any machine as supporting height block or spacer.

MATERIAL

- Made of steel.

FINISH

- Blackodized.



Model No.	Single Plate Thickness	H	B	L	Weight gms.
UEAHP 225	2	25	35	50	350
UEAHP 250	2	50	35	50	650
UEAHP 275	2	75	35	50	1000
UEAHP 2100	2	100	50	60	2200
UEAHP 2125	2	125	50	60	2900
UEAHP 2150	2	150	50	60	3400
UEAHP 425	4	25	50	60	600
UEAHP 450	4	50	50	60	1100
UEAHP 475	4	75	50	60	1600
UEAHP 4100	4	100	60	75	3000
UEAHP 4150	4	150	60	75	3950
UEAHP 4200	4	200	60	75	6400

EXACT HEIGHT SETTER

FEATURES

- Quick lifting & lowering of adjustable height plates.
- Smooth sliding movement.
- Compact & wedge type construction.
- Heat treated steel for strength & durability.

APPLICATIONS

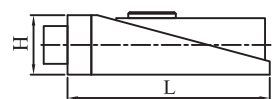
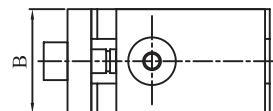
- For accurate and fine adjustment of supporting height. It is used along with adjustable height plate.

MATERIAL

- Made of Hardened Steel.

FINISH

- Blackodized.



Model No.	Suitable to Plate Thickness	H	B	L	Weight gms.
UEEHS 220	2	20	30	60	175
UEEHS 425	4	25	35	85	400

PARALLELS

FEATURES

- Parallels are used to support workpiece for various machine operations. They can be used for different height combinations. Matched pair ensure equal height support.

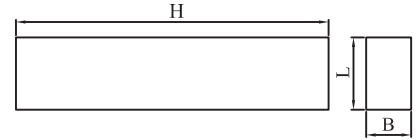


MATERIAL

- Hardened steel.

FINISH

- Ground.
- Uses heat - treated steel for strength and durability. Dimensions as per IS 4241 :1990.
- Supplied in pairs in suitable attractive wooden boxes.



Size	Parallelism	Weight kg/pair
5 X 10 X 100 10 X 20 X 125 15 X 30 X 150 20 X 40 X 200	0.010	0.580 1.400 2.600 4.500
25 X 50 X 250 30 X 60 X 300	0.012	7.00 8.600
40 X 80 X 350 50 X 100 X 400	0.020	17.600 32.200

FIXTURE ACCESSORIES

SELF ALIGNING PAD-Male Thread

FEATURES

- Useful for clamping the job from top or bottom
- The ball swivels and provides contact with no damage to surface.

MATERIAL

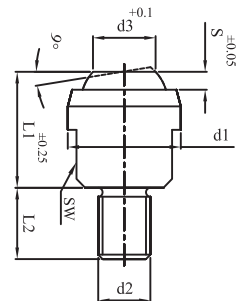
- Body Steel.
- Ball : Hardened bearing quality.

FINISH

- Body, Blackodized. Ball hardened.

NOTE

- These self-aligning pads serve as stops, supports & thrust elements in Jigs & Fixtures. They can also be fitted to existing clamping elements.
- These pads are useful for holding components firmly on machines, While eliminating chances of vibration / chatter which may be induced due to insufficient clamping forces exerted due to point contact.



With Male Thread Type C (Plain) or F (Serrated)										
Model No		d1	d2	d3 (ref)	L1	L2	A/F	S	Max load capacity kN (for static load only)	Weight gms.
Type C	Type F									
SAPMT-C M6	SAPMT-F M6	13	M6	7.2	13	8	13	2	10	12
SAPMT-C M8	SAPMT-F M8	13	M8	7.2	13	8	11	2	10	13
SAPMT-C M10	SAPMT-F M10	20	M10	10.5	18	10	17	3	25	40
SAPMT-C M12	SAPMT-F M12	20	M12	10.5	18	12	17	3	25	40
SAPMT-C M16	SAPMT-F M16	30	M16	20	27	16	27	3	90	100
SAPMT-C M20	SAPMT-F M20	50	M20	34.5	35	20	41	6.5	165	520

SELF ALIGNING PAD-Female Thread

FEATURES

- Useful for clamping the job from top or bottom
- The ball swivels and provides contact with no damage to surface.

MATERIAL

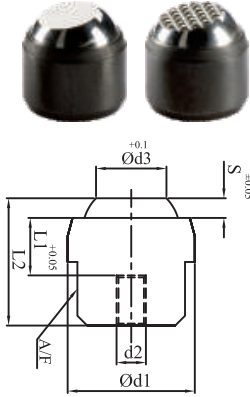
- Body Steel.
- Ball : Hardened bearing quality.

FINISH

- Body, Blackodized. Ball hardened.

NOTE

- These self-aligning pads serve as stops, supports & thrust elements in Jigs & Fixtures. They can also be fitted to existing clamping elements.
- These pads are useful for holing components firmly on machines, While eliminating chances of vibration / chatter which may be induced due to insufficient clamping forces exerted due to point contact.



With Female Thread Type C (Plain) or F (Serrated)								
Model No		d1	d2	d3 (ref)	L1	L2	A/F	Max load capacity kN (for static load only)
Type C	Type F							
SAPFT-C M3	SAPFT-F M3	13	M3 x 0.5	7.2	5.9	11	11	2
SAPFT-C M4	SAPFT-F M4	20	M4 x 0.7	10.5	10.2	15	17	3
SAPFT-C M5	SAPFT-F M5	30	M5 x 0.8	20.0	15.6	24	27	3

ADJUSTABLE SELF ALIGNING PAD

FEATURES

- Useful for clamping the job from top or bottom
- The ball swivels and provides contact with no damage to surface.

MATERIAL

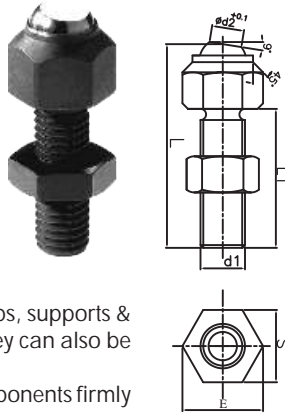
- Body Steel.
- Ball : Hardened bearing quality.

FINISH

- Power coated & Blackodized.

NOTE

- These self-aligning pads serve as stops, supports & thrust elements in Jigs & Fixtures. They can also be fitted to existing clamping elements.
- These pads are useful for holing components firmly on machines, While eliminating chances of vibration / chatter which may be induced due to insufficient clamping forces exerted due to point contact.
- Can be adjusted to variations in different heights.

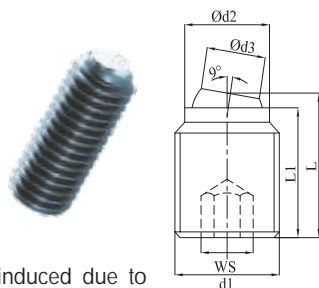


With Male Thread Type C (Flat) or F (Serrated)									
Model No		S	d1	L	L1	Ø d2	E	Ø BALL	Max load capacity kN (for static load only)
Type C	Type F								
SAPA-C M8	SAPA-F M8	13	M8	36.6	25	5.8	14.5	8.5	8
SAPA-C M10	SAPA-F M10	17	M10	45.7	30	8.6	19	12	8
SAPA-C M12	SAPA-F M12	17	M12	50.7	35	8.6	19	12	15
SAPA-C M16	SAPA-F M16	24	M16	60.7	40	10.5	27	16	25
SAPA-C M20	SAPA-F M20	24	M20	77.3	50	20	33	25	90

BALL ENDED THRUST SCREW

APPLICATIONS

- These Ball ended thrust screw serves as stops, supports & thrust elements in Jigs & Fixtures. They can also be fitted to existing clamping elements.
- These pads are useful for holding components firmly on machines, While eliminating chances of vibration/chatter which may be induced due to



insufficient clamping forces exerted due to point contact.

MATERIAL

- Body Steel.
- Body Blackodised, Ball Hardened.

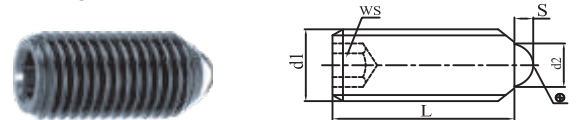
BALL ENDED THRUST SCREW WITH TYPE C (PLAIN) OR F (SERRATED)						
Model No.		d1	d3	L	L1	WS
Type C	Type F					
BETSF-C 810	BETSF-F 810	M 8	4.5	10	9	4
BETSF-C 816	BETSF-F 816		4.5	16	15	4
BETSF-C 820	BETSF-F 820		4.5	20	19	4
BETSF-C 825	BETSF-F 825		4.5	25	24	4
BETSF-C 830	BETSF-F 830		4.5	30	29	4
BETSF-C 1012	BETSF-F 1012	M 10	6.0	12	10.9	5
BETSF-C 1016	BETSF-F 1016		6.0	16	14.9	5
BETSF-C 1020	BETSF-F 1020		6.0	20	17.9	5
BETSF-C 1025	BETSF-F 1025		6.0	25	23.9	5
BETSF-C 1030	BETSF-F 1030		6.0	30	28.9	5
BETSF-C 1035	BETSF-F 1035		6.0	35	33.9	5
BETSF-C 1040	BETSF-F 1040	6.0	40	38.9	5	
BETSF-C 1216	BETSF-F 1216	M 12	7.2	16	14.4	6
BETSF-C 1220	BETSF-F 1220		7.2	20	18.4	6
BETSF-C 1225	BETSF-F 1225		7.2	25	23.4	6
BETSF-C 1230	BETSF-F 1230		7.2	30	28.4	6
BETSF-C 1240	BETSF-F 1240		7.2	40	38.4	6
BETSF-C 1250	BETSF-F 1250	7.2	50	48.4	6	
BETSF-C 1620	BETSF-F 1620	M 16	10.7	20	18.4	8
BETSF-C 1625	BETSF-F 1625		10.7	25	23.4	8
BETSF-C 1635	BETSF-F 1635		10.7	35	33.4	8
BETSF-C 1640	BETSF-F 1640		10.7	40	38.4	8
BETSF-C 1650	BETSF-F 1650		10.7	50	48.4	8
BETSF-C 2030	BETSF-F 2030	M 20	13.5	20	28.0	10
BETSF-C 2040	BETSF-F 2040		13.5	40	38.0	10
BETSF-C 2050	BETSF-F 2050		13.5	50	48.0	10
BETSF-C 2060	BETSF-F 2060		13.5	60	58.0	10

SPRING PLUNGERS

- Spring plungers are used for variety of applications.
- Used in Jigs & Fixtures.
- Machine tool buildings, welding fixture.
- Plastic moulding machines, etc.
- These all are used wherever the return of job to the position is required.
- These are also required for wiper motors & limit switches.

Type 1203

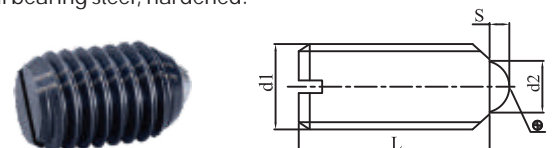
- With internal Hexagon & Ball plunger
- Body : Steel, Black passivated
- Spring : Stainless steel 302.
- Ball : Ball bearing steel, hardened.



Model No.	d1	d2 (Ball dia.)	L	S	WS	Spring load		
						F1 N _≅	F2 N _≅	gms
UEBSHSP 512	M 5	3	14	0.9	2.5	8	14	1.2
UEBSHSP 615	M 6	3.2	15	1.0	3	11	18	1.8
UEBSHSP 818	M 8	4.2	18	1.5	4	18	31	3.9
UEBSHSP 1023	M 10	6.3	23	2.0	5	24	35	8.1
UEBSHSP 1226	M 12	8.0	26	2.5	6	26	49	13
UEBSHSP 1633	M 16	9.5	33	3.5	8	41	86	32

Type 1204

- With Slotted head & ball type plunger
- Body : Steel, Black passivated
- Spring : Stainless steel 302
- Ball : Ball bearing steel, hardened.

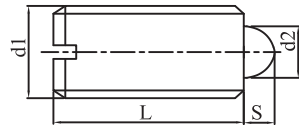
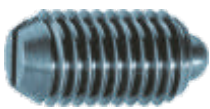


Model No.	d1	d2 (Ball dia.)	L	S	Spring load		Wt gms
					F1 N	F2 N	
UEBSSP 409	M 4	2.5	9	0.8	8.5	14	0.4
UEBSSP 512	M 5	3.0	12	0.9	8	14	1.0
UEBSSP 614	M 6	3.2	14	1.0	11	18	1.7
UEBSSP 816	M 8	4.5	16	1.5	18	31	3.5
UEBSSP 1019	M 10	6.3	19	2.0	24	45	6.6
UEBSSP 1222	M 12	8.0	22	2.5	26	49	11
UEBSSP 1624	M 16	9.50	24	3.5	41	86	23

Model No.	d1	d2	L	S	WS	Spring load		
						F1 N	F2 N	gms
UEGSP 518	M5	2.4	18	2.3	1.5	6	19	1.3
UEGSP 620	M6	2.7	20	2.5	2	6	19	2.5
UEGSP 822	M8	3.5	22	3.0	2.5	10	39	6
UEGSP 1022	M10	4.0	22	3.0	3	10	39	9
UEGSP 1228	M12	6.0	28	4.0	4	12	53	16
UEGSP 1632	M16	7.5	32	5.0	5	45	100	35

Type 1205

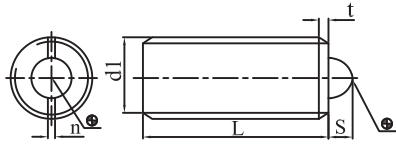
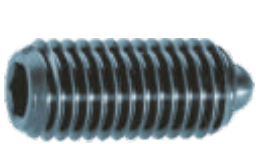
- With Slotted head & pin type, Plunger Body : Steel, Black passivated
Spring : Stainless steel 302, Plunger pin : EN8, Black



Model No.	d1	d2 (Pin dia.)	L	S	Spring load		Wt gms
					F1 N	F2 N	
UESSP 512	M 5	2.4	12	2.0	5.0	13.0	0.9
UESSP 614	M 6	2.7	14	2.0	6.0	17.0	1.5
UESSP 816	M 8	3.8	16	2.0	16.0	33.0	3.5
UESSP 1019	M 10	4.5	19	2.5	19.0	42.0	7.0
UESSP 1222	M 12	6.2	22	3.5	22.0	57.0	10.0
UESSP 1624	M 16	8.5	24	4.5	38.0	78.0	24.0

Type 1206

- With internal hexagon & pin type plunger. slot at plunger end for adjustment.
Body : Steel, Black passivated.
Spring : Stainless steel 302, Plunger pin : EN8, Black



EYE BOLTS

FEATURES

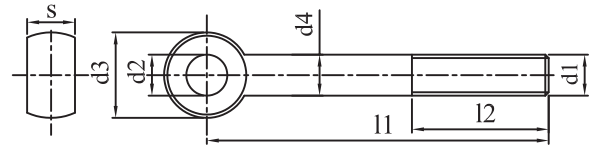
- High strength fully machined & toughened.
- Renamed hole for smooth movement.

MATERIAL

- Steel 8.8

FINISH

- Blackoized.



Product Code	d1	l1	l2	d2	d3	S 0.2	d4	Wt gms
191180	M 6	50	32	6	14	7	6.0	50
191290		75						65
192170	M 8	50	32	8	18	9	8.0	75
192280		75						100
193160	M 10	50	40	10	20	12	10.00	120
193270		75		1500				
194260	M 12	75	40	12	25	14	10.8	170
194370		100						200
194480		130						230

CLAMPING KIT

FEATURE

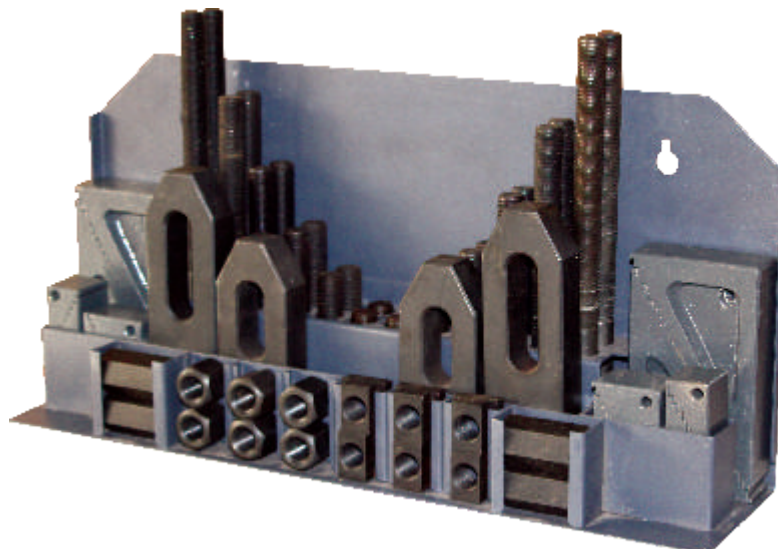
- Clamping Kit contains all the most important elements required for quick clamping & locating the work piece on tables having T slot.

MATERIAL

- Materials for individual items as per details available elsewhere.

FINISH

- Blackodized & Yellow Passivated.



For contents of clamping kit box
Please turn overleaf.

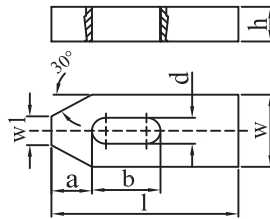
MODEL	CK - 1210	QTY	CK - 1412	QTY	CK - 1612	QTY	CK - 1812	QTY	CK - 1816	QTY	CK - 2016	QTY	CK - 2216	QTY
T-NUTS	UFTN 1210	6	UFTN 1412	6	UFTN 1612	6	UFTN 1812	6	UFTN 1816	6	UFTN 2016	6	UFTN 2216	6
CLAMPING STUDS	UFCS 1065 UFCS 1080 UFCS 10100 UFCS 10125 UFCS 10160 UFCS 10200	4 4 4 4 4 4	UFCS 1265 UFCS 1280 UFCS 12100 UFCS 12125 UFCS 12160 UFCS 12200	4 4 4 4 4 4	UFCS 1265 UFCS 1280 UFCS 12100 UFCS 12125 UFCS 12160 UFCS 12200	4 4 4 4 4 4	UFCS 1265 UFCS 1280 UFCS 12100 UFCS 12125 UFCS 12160 UFCS 12200	4 4 4 4 4 4	UFCS 1680 UFCS 16100 UFCS 16125 UFCS 16150 UFCS 16175 UFCS 16200	4 4 4 4 4 4	UFCS 1680 UFCS 16100 UFCS 16125 UFCS 16150 UFCS 16175 UFCS 16200	4 4 4 4 4 4	UFCS 1680 UFCS 16100 UFCS 16125 UFCS 16150 UFCS 16175 UFCS 16200	4 4 4 4 4 4
FLANGE NUTS	UFFHN 1015	6	UFFHN 1218	6	UFFHN 1218	6	UFFHN 1218	6	UFFHN 1624	6	UFFHN 1624	6	UFFHN 1624	6
EXTENSION NUTS	UFEN 1030	4	UFEN 1236	4	UFEN 1236	4	UFEN 1236	4	UFEN 1648	4	UFEN 1648	4	UFEN 1648	4
STRAP CLAMP	UPSC 1060 UPSC 1080 UPSC 10100	2 2 2	UPSC 1265 UPSC 12100 UPSC 12125	2 2 2	UPSC 1265 UPSC 12100 UPSC 12125	2 2 2	UPSC 1265 UPSC 12100 UPSC 12125	2 2 2	UPSC 1675 UPSC 16125 UPSC 16160	2 2 2	UPSC 1675 UPSC 16125 UPSC 16160	2 2 2	UPSC 1675 UPSC 16125 UPSC 16160	2 2 2
STEP BLOCKS	UEUSB 50 UEUSB 100 UEUSB 200	2 2 2	UEUSB 50 UEUSB 100 UEUSB 200	2 2 2	UEUSB 50 UEUSB 100 UEUSB 200	2 2 2	UEUSB 50 UEUSB 100 UEUSB 200	2 2 2	UEUSB 50 UEUSB 100 UEUSB 200	2 2 2	UEUSB 50 UEUSB 100 UEUSB 200	2 2 2	UEUSB 50 UEUSB 100 UEUSB 200	2 2 2
TOTAL FOR ACCESSORIES		52		52		52		52		52		52		52

Clamping Elements

STRAP CLAMP IS 4292-1984/DIN 6314-1980

MATERIAL

- Heat treated steel blackened / yellow passivated



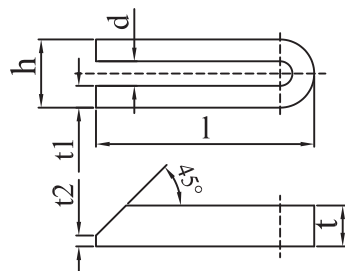
MODEL NO.	FOR BOLTS OF	d	l	a	b	h	w	w1	weight kg
UPSC 860	M 8	9	60	13	22	12	25	10	0.110
UPSC 1080	M10	11	80	15	30	16	30	12	0.220
UPSC 12100	M12	14	100	21	40	20	40	14	0.490
UPSC 12125	M12	14	125	21	50	20	40	14	0.600
UPSC 16125	M16	18	125	26	45	25	50	18	1.000
UPSC 16160	M16	18	160	26	65	25	50	18	1.200
UPSC 20160	M20	22	160	30	60	30	60	22	1.830
UPSC 20200	M20	22	200	30	80	30	60	22	2.290
UPSC 24200	M24	26	200	30	80	40	70	26	3.400
UPSC 24250	M24	26	250	35	105	40	70	26	3.850
UPSC 30250	M30	33	250	45	100	40	80	34	4.980
UPSC 30315	M30	33	315	45	130	50	80	34	7.840

OPEN-ENDED STRAP CLAMP

IS 4293-1984/DIN 6315B-1980

MATERIAL

- Heat treated steel blackened.

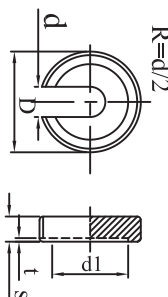


MODEL NO.	FOR BOLTS OF	d	l	t	t1	t2	h appr.	weight kg
UPOESC 880	M 8	9	80	15	8	4	25	0.150
UPOESC 10100	M10	11	100	20	10	5	31	0.300
UPOESC 12125	M12	14	125	25	12	6	38	0.570
UPOESC 12160	M12	14	160	25	12	6	38	0.730
UPOESC 12200	M12	14	200	25	12	6	38	0.910
UPOESC 16160	M16	18	160	30	16	8	50	1.080
UPOESC 16200	M16	18	200	30	16	8	50	1.360
UPOESC 16250	M16	18	250	30	16	8	50	1.700
UPOESC 20200	M20	22	200	40	20	10	62	1.800
UPOESC 20250	M20	22	250	40	20	10	62	3.020
UPOESC 20315	M20	22	315	40	20	10	62	3.830
UPOESC 24200	M24	26	200	40	20	10	66	2.400
UPOESC 24250	M24	26	250	40	20	10	66	3.050
UPOESC 24315	M24	26	315	40	20	10	66	3.830
UPOESC 30250	M30	33	250	50	20	12	74	3.720
UPOESC 30315	M30	33	315	50	20	12	74	4.750
UPOESC 30400	M30	33	400	50	20	12	74	6.100

C WASHER IS4291-1996/DIN 6372-1972

MATERIAL

- Steel Heat treated blackdized.

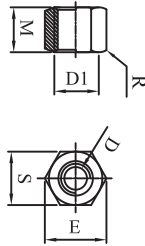


MODEL NO.	FOR BOLTS OF	D	d	d1	s	Weight gms
UECW 8	M8	28	8.4	21	7	22
UECW 10	M10	34	10.5	25	8	40
UECW 12	M12	40	13	30	9	58
UECW 16	M16	56	17	37	12	165
UECW 20	M20	64	21	45	14	230
UECW 24	M24	75	25	52	16	320
UECW 30	M30	90	31	65	18	-

HEX NUT DIN 6330-1991 (height 1.5d)

MATERIAL

- Steel quality 8.8 Yellow passivated

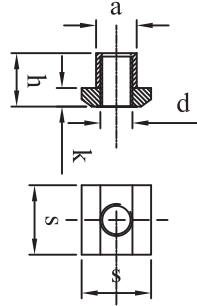


MODEL NO.	D	M	D1	S	E	Weight gms
UFHN 812	M8	12	9	13	15	9.6
UFHN 1015	M10	15	11.5	17	19.6	21
UFHN 1218	M12	18	14	19	21.9	31.5
UFHN 1624	M16	24	18	24	27.7	61
UFHN 2030	M20	30	22	30	34.5	120
UFHN 2436	M24	36	26	36	41.6	206
UFHN 3045	M30	45	32	46	53.1	419

T NUT IS 2015 1977/ DIN 508-1991

MATERIAL

- Steel quality 8.8 Yellow passivated

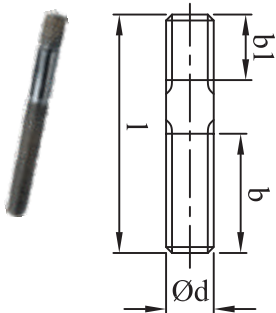


MODEL NO.	T-SLOT SIZE	a	d	h	k	S	Weight gms
UFTN 86	8	7.6	M6	10	6	13	8
UFTN 108	10	9.6	M8	12	6	15	14
UFTN 1210	12	11.6	M10	14	7	18	22
UFTN 1412	14	13.6	M12	16	8	22	34
UFTN 1612	16	15.6	M12	18	9	25	56
UFTN 1816	18	17.6	M16	20	10	28	68
UFTN 2016	20	19.6	M16	24	12	32	107
UFTN 2220	22	21.6	M20	28	14	35	155
UFTN 2824	28	27.6	M24	36	18	44	330
UFTN 3630	36	35.6	M30	44	22	54	750

CLAMPING STUD IS 13178-1991/ DIN 6379-1991

MATERIAL

- Heat treated steel 8.8 Yellow passivated
- Note :Studs combined with T-nuts (IS:2015) Hex Nut (DIN 6330) and plain washer (DIN 6340) become complete clamping studs



MODEL NO.	b	b1	l	d	weight gms
UFCS 840	20	11	40	M8	15
UFCS 850	25	11	50	M8	15
UFCS 865	40	11	65	M8	20
UFCS 880	55	11	80	M8	25
UFCS 8100	63	11	100	M8	30
UFCS 1050	25	13	50	M10	25
UFCS 1065	40	13	65	M10	32
UFCS 1080	50	13	80	M10	40
UFCS 10100	63	13	100	M10	50
UFCS 10125	75	13	125	M10	65
UFCS 10160	100	13	160	M10	80
UFCS 10200	125	13	200	M10	100
UFCS 1250	25	15	50	M12	35
UFCS 1265	35	15	65	M12	50
UFCS 1280	50	15	80	M12	60
UFCS 12100	63	15	100	M12	70
UFCS 12125	75	15	125	M12	90
UFCS 12160	100	15	160	M12	115
UFCS 12200	125	15	200	M12	140
UFCS 12250	160	15	250	M12	180
UFCS 12315	180	15	315	M12	225

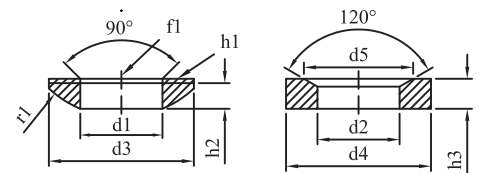
MODEL NO.	b	b1	l	d	weight gms
UFCS 1665	40	19	65	M16	85
UFCS 1680	50	19	80	M16	105
UFCS 16100	63	19	100	M16	130
UFCS 16125	75	19	125	M16	160
UFCS 16160	100	19	160	M16	210
UFCS 16200	125	19	200	M16	280
UFCS 16250	160	19	250	M16	325
UFCS 16315	180	19	315	M16	425
UFCS 2080	32	27	80	M20	185
UFCS 20100	45	27	100	M20	230
UFCS 20125	70	27	125	M20	255
UFCS 20160	100	27	160	M20	330
UFCS 20200	125	27	200	M20	470
UFCS 20250	160	27	250	M20	510
UFCS 20315	190	27	315	M20	640
UFCS 20400	250	27	315	M20	815
UFCS 24100	45	35	100	M20	290
UFCS 24125	63	35	125	M24	380
UFCS 24160	100	35	160	M24	470
UFCS 24200	125	35	200	M24	580
UFCS 24250	160	35	250	M24	725
UFCS 24315	200	35	315	M24	920
UFCS 24400	250	35	400	M24	1160
UFCS 24630	315	35	630	M24	1850

SPHERICAL WASHER WITH CONICAL SEAT IS 4297-1996 TYPE A/DIN 6319-1991

IS 4297-1996 TYPE A/DIN 6319-1991

MATERIAL

- Steel heat treated blackended

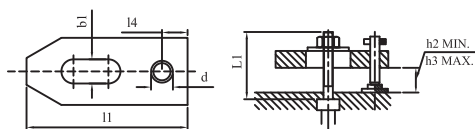


MODEL NO.	FOR BOLTS	d1	d2	d3	d4	d5	f1	h1	h2	h3	h4	r1	weight gms
UESWCS 8	M8	8.4	9.6	17	17	14.5	0.5	0.6	3.2	3.5	5	12	2.5 3.5
UESWCS 10	M10	10.5	12	21	21	18.5	0.5	0.8	4	4.2	6.3	15	5 6.7
UESWCS 12	M12	13	14.2	24	24	20	0.5	1.1	4.6	5	8.0	17	5 6.7
UESWCS 16	M16	17	19	30	30	26	0.5	1.3	5.3	6.2	9.3	22	12.7 18
UESWCS 20	M20	21	23.2	36	36	31	0.5	2	6.3	7.5	11.5	27	22 31
UESWCS 24	M24	25	28	44	44	37	0.8	2.4	8.2	9.5	15	32	43 61

STRAP CLAMP WITH GRUB SCREW & THRUST PAD

MATERIAL

- Material steel heat treated Yellow passivated



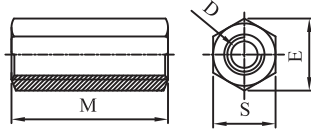
MODEL NO.	b1	h2	h3	l1	d	l2	S	weight gms
UPSTSC 12125	14	10	71	100	M12	15	3	590
UPSTSC 16160	18	12	90	125	M16	20	3	1220

EXTENSION NUT

UNISON STANDARD (Height 3d)

MATERIAL

- Steel quality 8.8 Yellow passivated.

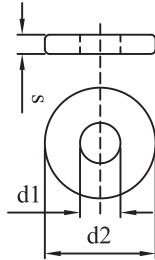


MODEL NO.	D	M	S	E	Weight gms
UFEN 824	M8	24	13	15	19
UFEN 1030	M10	30	17	19.6	42
UFEN 1236	M12	36	19	21.9	64
UFEN 1648	M16	48	24	27.7	120
UFEN 2060	M20	60	30	34.5	240
UFEN 2472	M24	72	36	41.5	400
UFEN 3090	M30	90	46	53.1	840

PLAIN WASHER DIN 6340-1987

MATERIAL

- Steel quality 8.8 Yellow passivated.



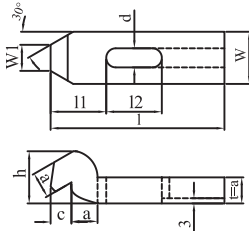
MODEL NO.	FOR BOLTS OF	d1	d2	s	weight gms
UEPW 8	M8	8.4	23	4	10
UEPW 10	M10	10.5	28	4	16
UEPW 12	M12	13	35	5	35
UEPW 16	M16	17	45	6	60
UEPW 20	M20	21	50	6	100
UEPW 24	M24	25	60	8	170
UEPW 30	M30	31	68	10	226

HEEL STRAP CLAMP

IS 4293-1984/DIN 6316-1980

MATERIAL

- SG Iron tensile strength 750/850 N/mm² Powder Coated.

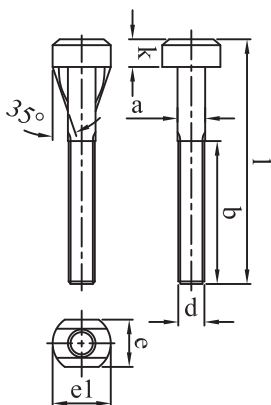


MODEL NO.	FOR BOLTS OF	h	d	l	l1	l2	c	a	W	W1	weight gms
UPHSC 10100	M10	30	11	100	32	32	12	15	30	15	0.300
UPHSC 12125	M12	40	14	125	40	40	16	20	40	20	0.680
UPHSC 16160	M16	50	18	160	49	50	20	25	50	25	1.500
UPHSC 20200	M20	60	22	200	55	70	24	30	60	30	2.500
UPHSC 24250	M24	80	26	250	72	80	32	40	70	35	4.900

T-BOLTS IS 2014-1996/DIN 787-1991

MATERIAL

- Heat treated steel quality 8.8 upto T-slot 20 Heat treated steel quality 10.9 above T-slot 22 Finish yellow pssivated / blackened. 'a' dimension is average Note : T-bolts when combined with hex nuts (DIN 6330) and plain washers (DIN 6340) become complete clamping bolts.



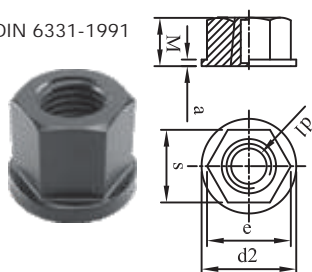
MODEL NO.	T-SLOT SIZE	l	a	b	d	e	e1	k	weight gms
UFTB 850	8	50	7.6	35	M8	13	16	6	25
UFTB 865	8	65	7.6	35	M8	13	16	6	32
UFTB 880	8	80	7.6	50	M8	13	16	6	40
UFTB 1050	10	50	9.6	30	M10	15	19	6	40
UFTB 1065	10	65	9.6	45	M10	15	19	6	50
UFTB 1080	10	80	9.6	50	M10	15	19	6	60
UFTB 10100	10	100	9.6	60	M10	15	19	6	70
UFTB 1250	12	50	11.6	35	M12	18	25	7	60
UFTB 1265	12	65	11.6	40	M12	18	25	7	65
UFTB 1280	12	80	11.6	55	M12	18	25	7	75
UFTB 12100	12	100	11.6	65	M12	18	25	7	90
UFTB 12125	12	125	11.6	75	M12	18	25	7	120
UFTB 12160	12	160	11.6	80	M12	18	25	7	145
UFTB 12200	12	200	11.6	120	M12	18	25	7	165
UFTB 12250	12	250	11.6	150	M12	18	25	7	185
UFTB 1450	14	50	13.6	35	M12	22	28	8	70
UFTB 1465	14	65	13.6	40	M12	22	28	8	80
UFTB 1480	14	80	13.6	55	M12	22	28	8	100
UFTB 14100	14	100	13.6	65	M12	22	28	8	110
UFTB 14125	14	125	13.6	75	M12	22	28	8	120
UFTB 14160	14	160	13.6	80	M12	22	28	8	150
UFTB 14200	14	200	13.6	120	M12	22	28	8	180
UFTB 14250	14	250	13.6	150	M12	22	28	8	220
UFTB 1665	16	65	15.6	45	M16	25	32	9	140
UFTB 1680	16	80	15.6	55	M16	25	32	9	160
UFTB 16100	16	100	15.6	65	M16	25	32	9	186
UFTB 16125	16	125	15.6	80	M16	25	32	9	205
UFTB 16160	16	160	15.6	100	M16	25	32	9	264
UFTB 16200	16	200	15.6	100	M16	25	32	9	315
UFTB 16250	16	250	15.6	150	M16	25	32	9	380

UFTB 16315	16	315	15.6	180	M16	25	32	9	440
UFTB 1865	18	65	17.6	45	M16	28	36	10	160
UFTB 1880	18	80	17.6	55	M16	28	36	10	185
UFTB 18100	18	100	17.6	65	M16	28	36	10	203
UFTB 18125	18	125	17.6	65	M16	28	36	10	235
UFTB 18160	18	160	17.6	100	M16	28	36	10	280
UFTB 18200	18	200	17.6	125	M16	28	36	10	330
UFTB 18250	18	250	17.6	150	M16	28	36	10	430
UFTB 18315	18	315	17.6	180	M16	28	36	10	530
UFTB 2080	20	80	19.6	55	M20	32	40	12	290
UFTB 20100	20	100	19.6	65	M20	32	40	12	340
UFTB 20125	20	125	19.6	85	M20	32	40	12	390
UFTB 20160	20	160	19.6	110	M20	32	40	12	470
UFTB 20200	20	200	19.6	125	M20	32	40	12	50
UFTB 20250	20	250	19.6	150	M20	32	40	12	670
UFTB 20315	20	315	19.6	190	M20	32	40	12	800
UFTB 2280	22	80	21.6	55	M20	35	45	14	330
UFTB 22100	22	100	21.6	60	M20	35	45	14	400
UFTB 22125	22	125	21.6	85	M20	35	45	14	428
UFTB 22160	22	160	21.6	100	M20	35	45	14	500
UFTB 22200	22	200	21.6	125	M20	35	45	14	570
UFTB 22250	22	250	21.6	150	M20	35	45	14	680
UFTB 22315	22	315	21.6	190	M20	35	45	14	820
UFTB 24100	24	100	23.6	70	M24	40	50	16	540
UFTB 24125	24	125	26.3	85	M24	40	50	16	640
UFTB 24160	24	160	23.6	110	M24	40	50	16	770
UFTB 24200	24	200	23.6	125	M24	40	50	16	900
UFTB 24250	24	250	23.6	150	M24	40	50	16	1040
UFTB 24315	24	315	23.6	190	M24	40	50	16	1270
UFTB 28100	28	100	27.6	70	M24	44	56	18	650
UFTB 28125	28	125	27.6	75	M24	44	56	18	720
UFTB 28160	28	160	27.6	110	M24	44	56	18	800
UFTB 28200	28	200	27.6	125	M24	44	56	18	950
UFTB 28250	28	250	27.6	150	M24	44	56	18	1120
UFTB 28315	28	315	27.6	160	M24	44	56	18	1350
UFTB 28400	28	400	27.6	250	M24	44	56	18	1500

FLANGE NUT IS 7795-1975 / DIN 6331-1991

MATERIAL

- Steel quality 8.8 Yellow passivated



MODEL NO.	d1	a	d2	e	M	s	weight gms
UFFHN 812	M8	3.5	18	15.0	12	13	12
UFFHN 1015	M10	4.0	22	18.5	15	16	22
UFFHN 1218	M12	4.0	25	20.8	18	18	31
UFFHN 1624	M16	5.0	31	27.7	24	24	69
UFFHN 2030	M20	6.0	37	34.6	30	30	127
UFFHN 2436	M24	6.0	45	39.98	36	36	230

INFORMATION ON STRENGTH OF THREADED PRODUCTS

Thread	Strength Class	M8	M10	M12	M16	M20	M24	M30
Pitch		1.25	1.50	1.75	2.00	2.50	3.00	3.50
Nuts								
Hardness HRC	8.8	22 - 30						
T-bolts, Studs								
Hardness HRC	8.8	22 - 30				24 - 34		
	10.9	32 - 39						
TIGHTENING VALUES								
Permissible torque normal ring spanner & torsional force	Nm	80	90	100	125	150	185	240
	km	53	48	45	43	42	43	43
Required lever length (mm) with normal manual force.	8.8	85	125	215	490	870	1350	
	10.9	90	175	300	700	1200		

Continuous efforts for product development may necessitate changes in these details without notice.

UNISON CLAMPING DEVICES

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