

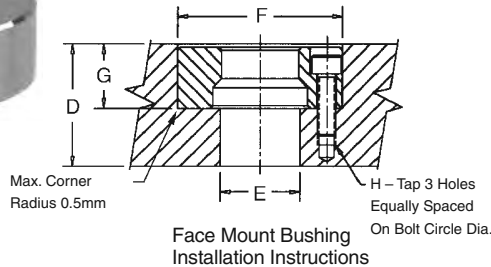


Stainless Steel Receiver Bushings

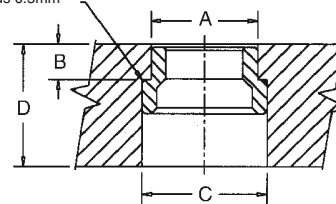
Two styles of receiver bushings are available. Installed bushings should be approximately 0.3mm below subplate surface.



Face Mount



Max. Corner
Radius 0.5mm



Back Mount

Generally, the face mount receiver bushing is utilized in blind hole applications (Slip Fit).

The back mount receiver bushing is used in through hole applications (Light Press Fit).

Installation Dimensions

Face Mount

Shank Dia. (mm)	Face Mount Part Number	Actual O.D. -0.01 -0.02	Clearance Drill Diameter E	Bore +0.010 +0.003 F	Depth +0.025 -0.025 G	Tap Size & Depth ¹ H	Bolt Circle Diameter 3 PL Equally Spaced	Min. Subplate Thickness D
13	49556SS	35	13.5	35	11.91	M4x0.7 x 7	25	20
16	49557SS	37	21.0	37	11.91	M4x0.7 x 7	29	20
20	49551SS	45	21.0	45	16.21	M5x0.8 x 9	35	25
25	49552SS	55	25.5	55	20.32	M6x1.0 x 10	42	30
30	49553SS	60	30.5	60	22.15	M6x1.0 x 11	48	35
35	49554SS	70	40.0	70	22.99	M8x1.25 x 17	56	40
50	49555SS	92	55.0	92	31.50	M10x1.5 x 18	75	50

¹Cap Screws Supplied with Face Mount Bushings.

Back Mount

Shank Dia. (mm)	Back Mount Part Number	Actual O.D. +0.04 +0.03 A	Depth +0.025 -0.025 B	C-Bore ±0.15 C	Min. Subplate Thickness D
13	49566SS	20	6.92	26	20
16	49567SS	22	7.24	29	20
20	49561SS	28	8.74	33	25
25	49562SS	35	10.54	41	25
30	49563SS	42	10.95	49	30
35	49564SS	48	12.50	55	35
50	49565SS	67	15.75	76	45

Stainless Steel Liner Bushings for Fixture Plates



Locating repeatability will determine if one primary and one secondary or two primary liners are needed. With two primary liners, repeatability of ±0.013 mm can be maintained if the two holes for receiver bushings are held to a centerline distance of ±0.005 mm tolerance.

Note on Installation of Press Fit Liners & Back Mount Style Receiver Bushings:

To alleviate the possibility of binding the shank in the bore, the maximum interference fit between bore and bushing O.D. should not exceed 0.013 mm.

Liner Dimensions

Shank Diameter (mm)	Fixture Plate Thickness +0.13 -0.13	Primary Liner		Secondary Liner		Liner O.D. +0.00 -0.01
		Part Number	I.D.	Part Number	I.D.	
13	13	49755SS	13.01	49855SS	13.04	19.040
—	20	49756SS	—	49856SS	—	19.040
16	20	49757SS	16.01	49857SS	16.04	25.042
—	25	49758SS	—	49858SS	—	25.042
20	20	49751SS	20.01	49851SS	20.04	35.042
—	25	49752SS	—	49852SS	—	35.042
25	20	49761SS	25.01	49861SS	25.04	35.042
—	25	49762SS	—	49862SS	—	35.042
30	20	49771SS	30.01	49871SS	30.04	45.042
—	25	49772SS	—	49872SS	—	45.042
35	20	49781SS	35.01	49881SS	35.04	45.042
—	25	49782SS	—	49882SS	—	45.042
—	40	49783SS	—	49883SS	—	45.042
—	50	49784SS	—	49884SS	—	45.042
50	20	49791SS	50.01	49891SS	50.04	63.546
—	25	49792SS	—	49892SS	—	63.546
—	40	49793SS	—	49893SS	—	63.546
—	50	49794SS	—	49894SS	—	63.546

Accessories

Tapered Caps and Plugs

Keep debris out of your subplate's receiver bushings when not in use. Polyethylene caps snap in and out easily.



Packaged
10 per
pack.

Receiver Bushing Diameter	Part Number
13	49201
16	49202
20	49203
25	49204
30	49205
35	49206
50	49207



Lifting Handles

For easy handling of fixture plates up to 500 lbs.

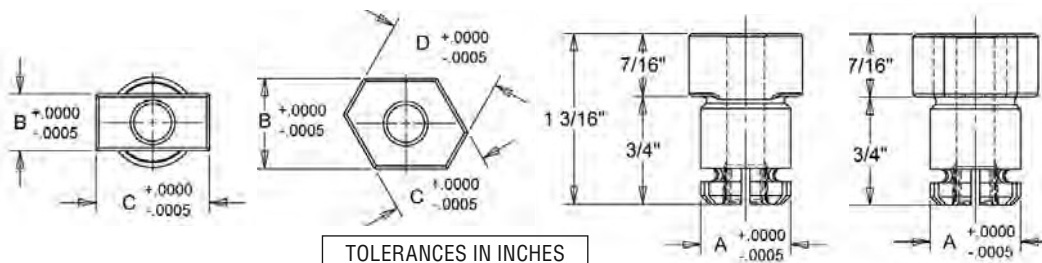
Part Number	Length	Ht.	W	Mounting Distance
33701	107mm	36mm	.38 Kg	93.47mm

Multi-Slot Sine Fixture Keys



Locate subplates or fixture plates to slotted machine tables without having to slot the plate. Available in sizes from 12mm to 32mm slots.

Part Number	Shank Size A	Key Width				Recommended Hole Dia.
		B	C	D	Wt. (lbs)	
39525	16	10	20	—	0.04	16mm Shank Size 16.01 +/-0.01
39526	16	12	22	—	0.04	16mm Shank Size 16.01 +/-0.01
39527	16	14	16	18	0.04	16mm Shank Size 16.01 +/-0.01
39528	20	24	28	32	0.09	20mm Shank Size 20.01 +/-0.01



Fast Acting Ball Lock® Shanks

Ball Lock® Shank Diameter (mm)	Fixture Plate Thickness (mm)	FAST ACTING BALL LOCK® SHANKS			
		Shank with Thumb Screw		Shank with Adjustable Handle	
		Part Number		Part Number	
		Assembly	T-Screw	Assembly	Handle
13	13	49655-S	43971	49655-H	34360
—	20	49656-S	43972	49656-H	34361
16	20	49657-S	43974	49657-H	34365
—	25	49658-S	43975	49658-H	34365
20	20	49651-S	43974	49651-H	34365
—	25	49652-S	43975	49652-H	34365
25	20	49661-S	43977	49661-H	34378
—	25	49662-S	43978	49662-H	34379
30	20	49671-S	43980	49671-H	34385
—	25	49672-S	43980	49672-H	34385
35	20	49681-S	43985	49681-H	34393
—	25	49682-S	43985	49682-H	34393



Thumb Screw

- Fast acting thumb screws 2 1/2 turns. No tools needed.



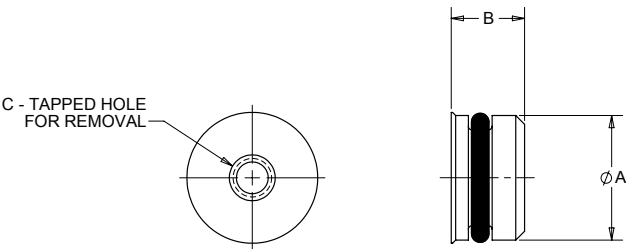
Adjustable Handle

- Handle can be moved out of the work area to avoid interference.

Receiver Bushing Plugs



- Material: Aluminum
- Finish: Blue Anodize
- O-Ring Included
- Prevent chips and coolant from accumulating inside receiver bushings that are not in use
- Eliminates the need to clean out receiver bushings in between setups
- Flush mount design does not protrude above subplate surface
- Durable aluminum construction provides better resistance to hot chips than comparable plastic plugs
- Tapped hole for easy removal



Bushing Dia. (mm)	Plug Part Number	A (mm)	B (mm)	C	Extraction Tool Part No.
13	49231	13	8	M4 x 0.7	49208
16	49232	16	8	M4 x 0.7	49208
20	49233	20	8	M4 x 0.7	49208
25	49234	25	10	M4 x 0.7	49208
30	49235	30	11	M4 x 0.7	49208
35	49236	35	14	M6 x 1.0	49209
50	49237	50	17	M6 x 1.0	49209



Quick Change Kits

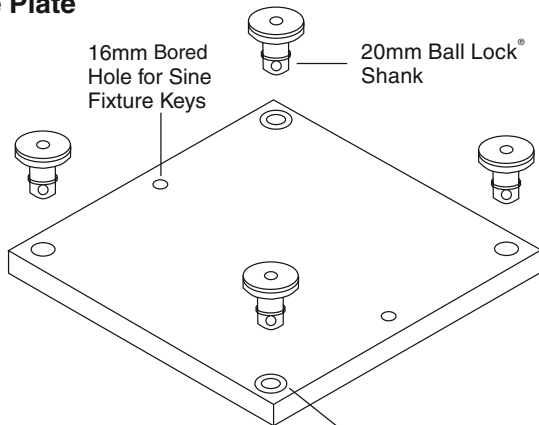


The Jergens Ball Lock® Quick Change Kits speed fixture changeover in all types of manufacturing operations. Each kit includes two aluminum fixture plates with 2 primary liner bushings installed; one steel subplate with receiver bushings installed, and four 20mm Ball Lock® shanks with working loads of 3000 lbs. each. While one fixture plate is on the machine, the operator can load parts on the other. This minimizes downtime for true set-up reduction. To enable the subplate to be mounted on a slotted table without the need to indicate the subplate, sine fixture keys can be used. The sine fixture key reamed holes are oriented parallel to the receiver bushings on the subplate and to the liner bushings on the fixture plate. These also allow the fixture plate to be mounted on a toolroom mill without the need to indicate it. This is extremely useful when machining location points on your fixture.

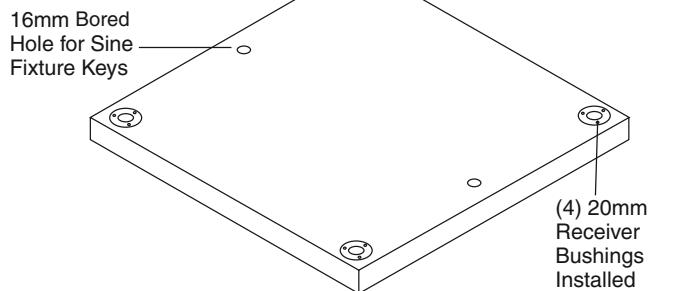
Jergens
BALL LOCK®
MOUNTING SYSTEM

Everything You Need to Change Fixtures in Less Than One Minute

Aluminum Fixture Plate



Steel Subplate



Quick Change Kits

Part Number	Kit Includes
59002	2 - 58715 (400x400x20) aluminum fixture plates with 20mm liner bushings installed 1 - 59101 (400x400x25) steel subplate with receiver bushings installed 4 - 20mm Ball Lock® Shanks (49651)

Custom Kits Available

Jergens manufactures ready to use kits including Ball Lock® subplate and fixture plates.

For a special kit tailored to your CNC machine, please provide:

Name and Type of Machine _____

Travel of Machine Table (x, y, z) _____

Dimensions of Machine Table (x and y) _____

Maximum Weight allowed on Machine Table _____

T-slot Width and Center to Center Distance _____

Features of the Jergens Zero Point Mounting System

- Positioning and clamping in one operation
- High repeatability and accuracy
- Low cost solution for quick pallet changing

Typical applications for the Jergens Zero Point System:

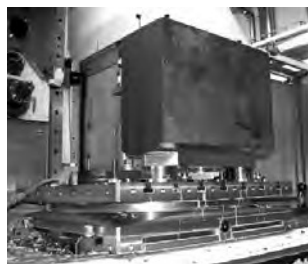
- Milling
- Assembly
- Welding
- Injection Molding
- Grinding
- Measuring



Jergens
ZPS
ZERO.POINT.SYSTEM



Pull Studs can also be installed directly into the workpieces, making 5-sided processing possible.



Best results with large and heavy workpieces.



Jergens Zero Point clamping systems are made exclusively of rust-free materials and so are ideally suited for use in the food-service area as well as in the pharmaceutical and chemical industry.



Through different dimensions, the advantage of the Zero Point clamping system are optimally used.

Pull Studs and Engagement Screws

Pages 49–50

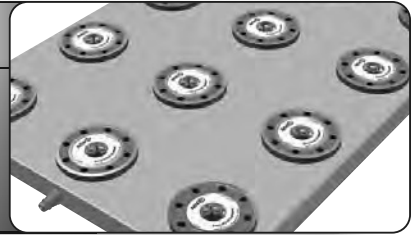
- Pull Studs: Hardened Stainless Steel for hydraulic and pneumatic clamping modules.
- Screws: For installation and surface mounting clamping modules.



Clamping Modules

Pages 52–54

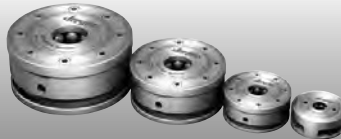
- Machine tables
- Plates
- 4-axis/5-axis machining
- Columns
- Pallets



Surface/Mounted Clamping Modules

Pages 56–57

- For large & heavy workpieces
- Pull Studs installed directly into workpiece



Flange Type Module with Centering & Cover Rings

Page 58–59

- Used to fasten surface-mounted clamping modules on the machine table
- Hydraulic release with or without blowout



Manual ZPS

Page 60

- Ideal when pneumatic and hydraulic connections are not available.



Pre-Engineered Subplates and Fixture Plates

Pages 61–65

- 2 and 4 module subplates
- 2 and 4 stud fixture plates

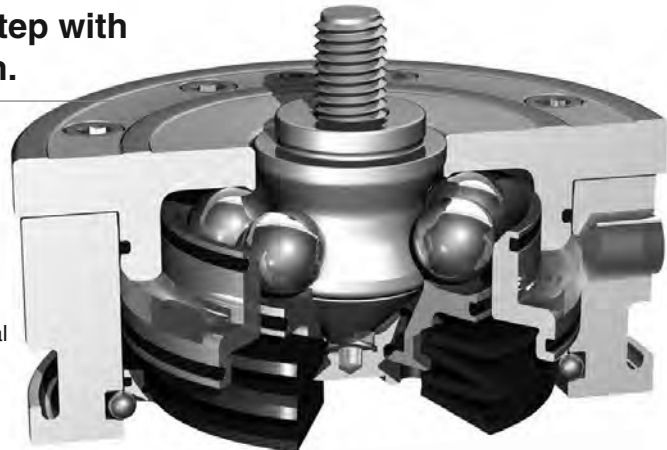


Jergens' Zero Point Mounting System – Cut Set-up Times by Up to 90%.

**Fix, Position and Clamp in a Single Step with
Jergens' Zero Point Mounting System.**

Jergens is proud to introduce the best-engineered Zero Point Mounting System (ZPS) on the market. This revolutionary technology cuts set-up time by up to 90% by combining fixing, positioning and clamping in a single operation. Available with either pneumatic or hydraulic release, these positive locking locating modules allow operators to quickly change out large and small machine fixtures with extreme accuracy and minimal effort. Other features include:

- Repeatability <0.005mm (0.0002")
- Minimizes set-up time
- Hardened stainless (AISI 440B) steel construction
- Integrated safety system
- Compact design
- Positive locking
- High retaining force

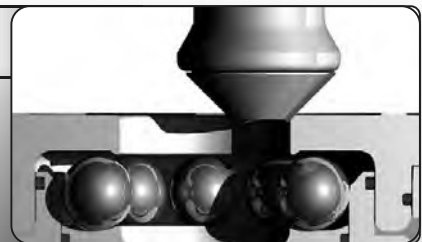


Smart Features for Process Improvement

Reduce set-up times and increase both accuracy and repeatability with design features exclusive to the Jergens ZPS:

Self Guiding

The self-guiding, tapered profile of the mounting stud allows heavy plates to be installed more easily.



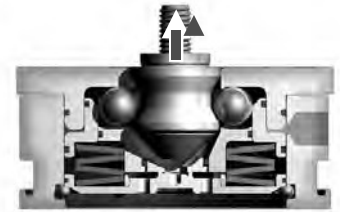
Alignment

Unique design eliminates the need for perfect lifts on entry and exit.



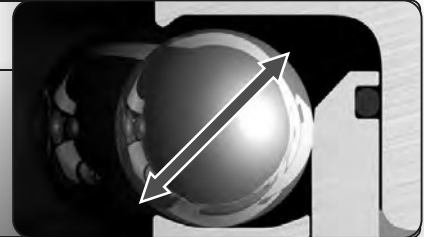
Mechanical Locking System

Experience high holding force without the need to maintain hydraulic pressure.



Large Ball Diameter

Provides increased strength and even load distribution.



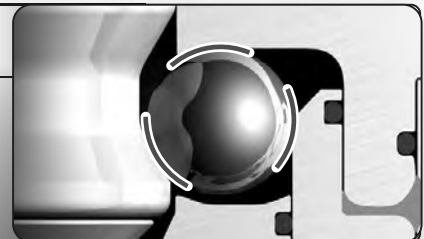
No Ball Cage

Free movement of the bearing balls reduces friction.



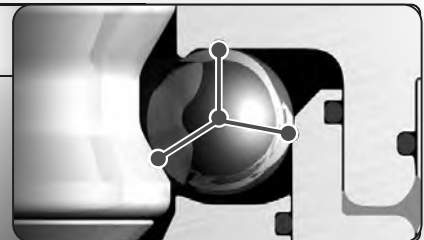
Form Fit Ball Channel

Tapered contact areas eliminate point loads and reduce failures.



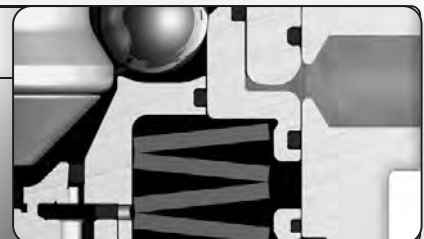
Three-Point Load Distribution

Equal load spacing optimizes force distribution.



Integrated Safety System

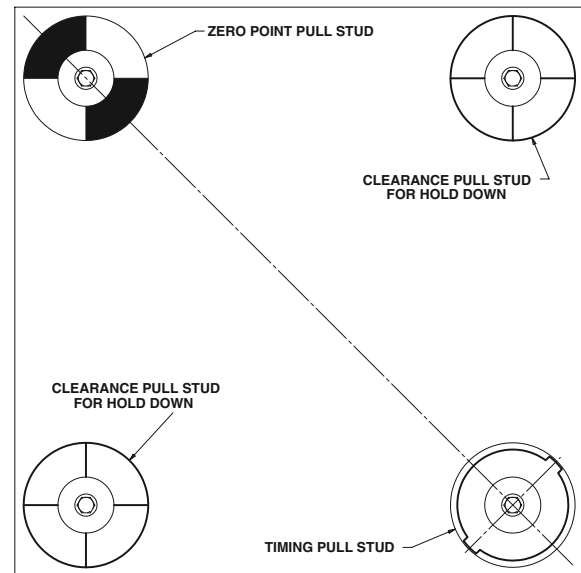
Process-sure clamping module can always be opened, eliminating the need to forcibly remove modules if a failure should occur.



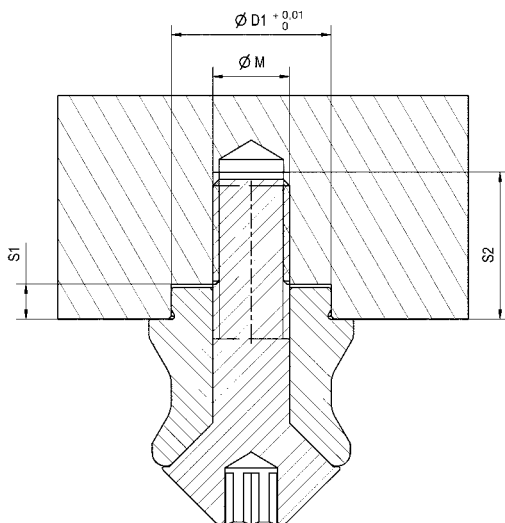
Clamping and Positioning

On each fixture use:

- 1 – Zero Point Pull Stud
- 1 – Timing Pull Stud
- The Zero Point and Timing Stud should be perpendicular
- Use any combination of clearance and/or protection Pull Stud



Dimensions for machining pull stud mountings



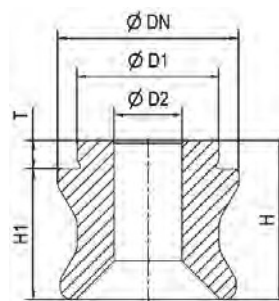
Size	ØD1	ØM	S1	S2
K5	10	M6 x 1.0	2.5	12
K10	15	M8 x 1.25	3.5	16
K20	25	M12 x 1.75	5.5	23
K40	25	M16 x 2.0	5.5	30

Figure:
Shown with Pull Stud and engagement screw

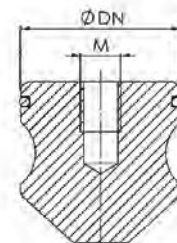
Pull Studs

K5 Modules

Hardened Stainless Steel, for hydraulic and pneumatic clamping modules



Zero Point Timing Clearance



Protection Pull Stud

Part Number	Size	Description	ØDN	ØD1	ØD2	H	H1	M	T	Wt. (g)	Engagement Screw PN
306019	K5	Zero Point Stud	15.0	10	6	12.7	10.2	—	2.5	15	306092
306035	K5	Timing Stud	15.0	10	6	12.7	10.2	—	2.5	15	306092
306050	K5	Clearance Stud	14.8	10	6	12.7	10.2	—	2.5	15	306092
306076	K5	Protection Plug	14.8	—	—	10.2	—	M 6	8.0	12	—

K10 Modules

Hardened Stainless Steel, for hydraulic and pneumatic clamping modules

Part Number	Size	Description	ØDN	ØD1	ØD2	H	H1	M	T	Wt. (g)	Engagement Screw PN
303610	K10	Zero Point Stud	22.0	15	8	19	16	—	3	30	303578
303636	K10	Timing Stud	22.0	15	8	19	16	—	3	30	303578
304519	K10	Clearance Stud	21.8	15	8	19	16	—	3	30	303578
304535	K10	Protection Plug	21.8	—	—	16	—	M 8	12	30	—

K20 Modules

Hardened Stainless Steel, for hydraulic and pneumatic clamping modules

Part Number	Size	Description	ØDN	ØD1	ØD2	H	H1	M	T	Wt. (g)	Engagement Screw PN
303149	K20	Zero Point Stud	32.0	25	12	28	23	—	5	110	303222
303156	K20	Timing Stud	32.0	25	12	28	23	—	5	110	303222
303164	K20	Clearance Stud	31.8	25	12	28	23	—	5	110	303222
303172	K20	Protection Plug	31.8	—	—	23	—	M8	16	110	—

K40 Modules

Hardened Stainless Steel, for hydraulic and pneumatic clamping modules

Part Number	Size	Description	ØDN	ØD1	ØD2	H	H1	M	T	Wt. (g)	Engagement Screw PN
303180	K40	Zero Point Stud	40.0	25	16	34	29	—	5	180	303230
303198	K40	Timing Stud	40.0	25	16	34	29	—	5	180	303230
303206	K40	Clearance Stud	39.8	25	16	34	29	—	5	180	303230
303214	K40	Protection Plug	39.8	—	—	29	—	M8	20	180	—

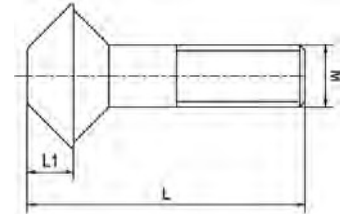
Engagement Screws For Pull Studs

Strength class 10.9

For installation and surface mounted clamping modules



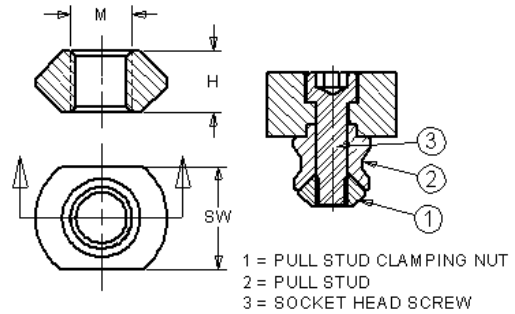
Part Number	Size	M	L	L1	Wt. (g)
306092	K5	M6 x 1.0	25	3.4	18
303578	K10	M8 x 1.25	37	6.0	30
303222	K20	M12 x 1.75	54	9.0	70
303230	K40	M16 x 2.0	69	10.0	130



Pull Stud Clamping Nuts



Part Number	Size	M	SW	H	Wt. (g)
429969	K5	M6 x 1.0	10	6	3
429985	K10	M8 x 1.25	14	8	8
430009	K20	M12 x 1.75	21	14	26
430025	K40	M16 x 2.0	28	17	50



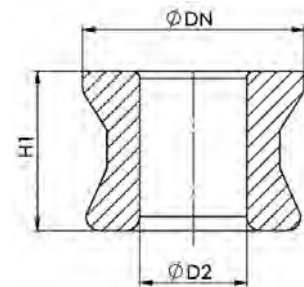
Floating Pull Stud

Hardened for hydraulic and pneumatic clamping modules



Part Number	Size	ØDN	ØD2	H1	Wt. (g)
340059	K10	21.8	12.0	16	25
305912	K20	31.8	15.5	23	80
426882	K40	39.8	20.0	29	160

Note: The floating pull stud is supported by bearings so that it is axially mobile and is used when large distance and angle tolerances between the stud holes have to be compensated. The stud has only a holding function and does not take on any lateral load.

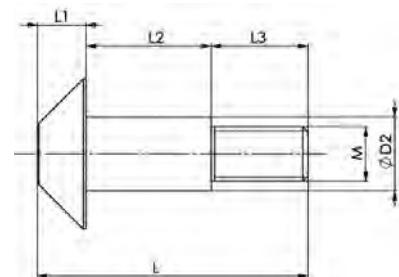


Engagement Screw For Floating Pull Stud

Strength class 10.9



Part Number	Size	ØD2	M	L	L1	L2	L3	Wt. (g)
340034	K10	11.0	M8 x 1.25	35	6	16.1	12.9	24
305938	K20	13.5	M10 x 1.5	50	9	23.1	17.9	55
426908	K40	17.0	M12 x 1.75	59	10	29.1	19.9	100

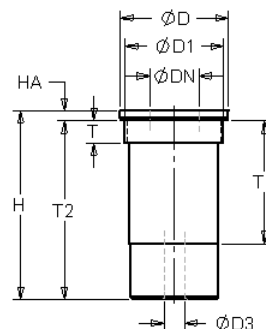


K2 Installation Clamping Module



The compact size of the Jergens Mini ZPS Module is perfect for applications where space is limited and accuracy and speed of changeover time is required.

- Mechanical Lock / Pneumatic Unlock
- Opening operating pressure: min. 6 bar - max. 14 bar (87psi - 203psi)
- Repeatability <0.02 mm (0.0008 in)
- Installation Diagrams Available by Request



Part Number	Size	Pull-in Locking Force up to N / (lbs)	Holding Force N / (lbs)	D	DN	D1	D2	D3	H	HA	T	T1	T2	Net Weight (kgs)
427286	K2	235 / (53)	6000 / 1349	22	10	M20 x 1.5	18	M5	38.5	2.05	4.5	25	36.45	0.048

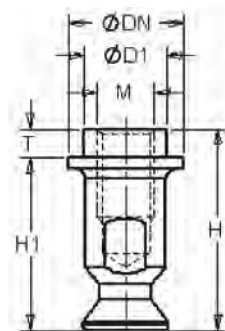
K2 Pull Stud

Hardened for pneumatic clamping module

- Installation Diagrams Available by Request



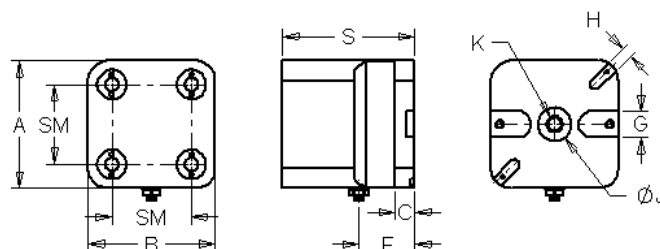
Part Number	Size	Version	DN	D1	H	H1	M	T	Net Weight (kgs)
427302	K2	Zero Point Stud	10	7.14	17.5	15	M5 x 0.8	2.5	0.004
427328	K2	Timing Stud	10	7.14	17.5	15	M5 x 0.8	2.5	0.004
427344	K2	Clearance Stud	9.95	7.14	17.5	15	M5 x 0.8	2.5	0.004



4-Way Clamping Station Pneumatic

Aluminum body, anodized

Repeatability <0.02 mm (0.0008 in)



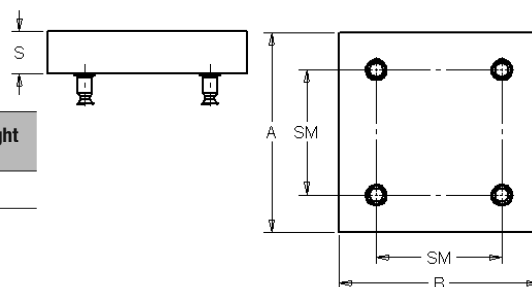
Part Number	Size	Opening	Pull-in Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	A	B	C	G	H	J dia.	K	S	SM	Net Weight (kgs)
533034	K2	Pneumatic	4 x .235 / (53)	4 x 6 / (1349)	96	96	15	20	8	25	M12	100	60	2.4

K2 Machineable Block

High-strength aluminum, anodized



Part Number	Size	A	B	S	SM	Net Weight (kgs)
533059	K2	96	96	20	60	0.53



Threaded Clamping Modules (K5)

Screw-In Version

Hydraulic Unlocking

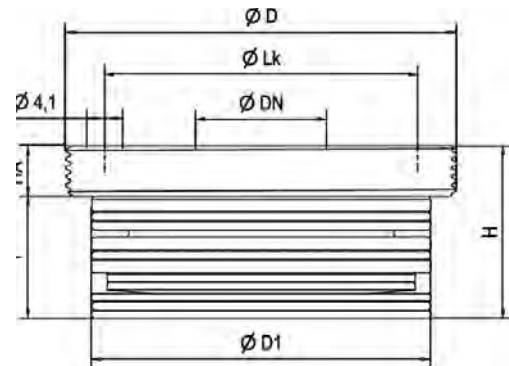
Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



With a small footprint for installation in base plates, machine tables, clamping profiles, columns and towers, swivel bridges, machine pallets and clamping pallets.

- Installation diagrams on request



Hardened Stainless Steel

Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	ØD	ØDN	ØD1	H	HA	ØLK	T	g
480244	K5	5 / (1100)	13 / (2900)	M45 x 1	15	39	19.8	5.8	36	14	300

All linear dimensions in (mm)

Note: Threaded clamping module with a low installation height of 19.8 mm and an installation diameter of 45 mm (M45 x 1).

Hydraulic supply and pressure is only needed for unclamping (min. 50 bar / 725psi, max. 60 bar / 870psi). The threaded clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. Further more, there are no cumbersome lines or dangers of leakage. The contact surface is the upper surface of the housing. The hydraulic design has 1 connection: 1 x unclamping

Screw-in Version

Pneumatic Unlocking

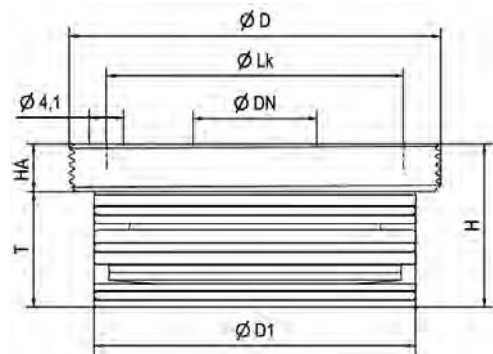
Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



With a small footprint for installation in base plates, machine tables, clamping profiles, columns and towers, swivel bridges, machine pallets and clamping pallets. Pneumatic modules are optimally suited for use in the food, pharmaceutical and chemical industries, as well as in oil-free applications.

- Installation diagrams on request



Hardened Stainless Steel

Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	ØD	ØDN	ØD1	H	HA	ØLK	T	g
480343	K5	1.5 / (330)	13 / (2900)	M45 x 1	15	39	19.8	5.8	36	14	300

All linear dimensions in (mm)

Note: Threaded clamping module with a low installation height of 19.8 mm and an installation diameter of 45 mm (M45 x 1).

Pneumatic pressure is needed for unclamping (min 8 bar / 116 psi, max 12 bar / 175 psi). For **clamping** process pneumatic pressure of min 5 bar / 75 psi, max 6 bar / 90 psi is required briefly in order to achieve defined pull-in force. The threaded clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. Further more, there are no cumbersome lines or dangers of leakage. The pneumatic design has 2 connections: 1 x unclamping / 1 x clamping.

Installation Clamping Modules (K10, K20, K40)

Hydraulic Unlocking

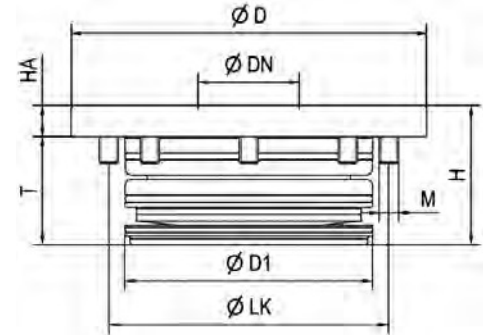
Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



With a small foot-print for installation in base plates, machine tables, clamping profiles, columns and towers, swivel bridges, machine pallets and clamping pallets.

- Installation diagrams on request



Hardened Stainless Steel

Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	Blow out	ØD	ØDN	ØD1	H	HA	ØLK	M	T	Kg
480228	K10	10 / (2250)	25 / (5620)	Yes	78	22	50	30	7	60	M5	23	0.45
480186	K20	20 / (4500)	55 / (12350)	Yes	112	32	78	44	10	88	M6	34	1.40
480525	K40	40 / (9000)	105 / (23600)	Yes	148	40	102	57	15	118	M8	42	3.40

All linear dimensions in (mm)

Note: Threaded installation clamping modules have high holding and pull-in forces with very small installation dimensions.

Hydraulic supply and pressure is only needed for unclamping (min. 50 bar / 725psi, max. 60 bar / 870psi). The threaded clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. Further more, there are no cumbersome lines or dangers of leakage. The contact surface is the upper surface of the housing. The hydraulic design has 1 connection: 1 x unclamping

Pneumatic Unlocking

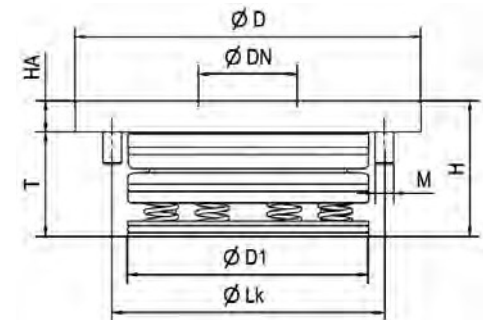
Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



With a small footprint for installation in base plates, machine tables, clamping profiles, columns and towers, swivel bridges, machine pallets and clamping pallets.

- Installation diagrams on request



Hardened Stainless Steel

Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	Blow out	ØD	ØDN	ØD1	H	HA	ØLK	M	T	Kg
480202	K10	8 / (1800)	25 / (5620)	Yes	78	22	50	30	7	60	M5	23	0.45
480160	K20	17 / (3800)	55 / (12350)	Yes	112	32	78	44	10	88	M6	34	1.40
480541	K40	30 / (6700)	105 / (23600)	Yes	148	40	102	57	15	118	M8	42	3.40

All linear dimensions in (mm)

Note: The installation clamping modules have high holding and pull-in forces with very small installation dimensions.

Pneumatic pressure is needed for unclamping (min 8 bar/ 116 psi, max 12 bar/ 175 psi). For **clamping** process pneumatic pressure of min 5 bar / 75 psi, max 6 bar / 90 psi is required briefly in order to achieve defined pull-in force. The installation clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. Further more, there are no cumbersome lines or dangers of leakage. The pneumatic design has 2 connections: 1 x unclamping / 1 x clamping.

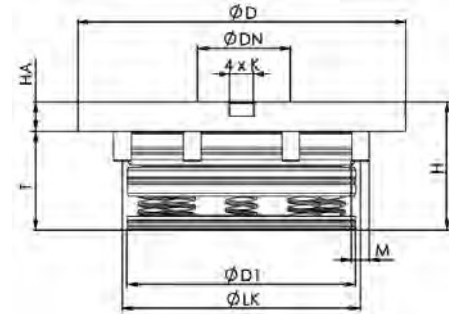
Installation Clamping Modules (K10.3, K20.3) with Indexing Low Pressure Pneumatic Unlocking

Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



With a small footprints for installation in base plates, machine tables, clamping profiles, columns and towers, swivel bridges, machine pallets and clamping pallets



Part Number	Size	Pull-in Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	Unclamp Pressure	Blow Out	D	DN	D1	H	HA	K	LK	M	T	Net Weight (kgs)
511139	K10.3	10 / (2250)	25 / (5620)	72 psi (5 bar)	Yes	112	22	78	35	10	8x5	88	M6	25	1.4
511154	K20.3	17 / (3800)	55 / (12350)	66 psi (4.5 bar)	Yes	138	32	102	49	15	10x5	115	M6	34	2.6

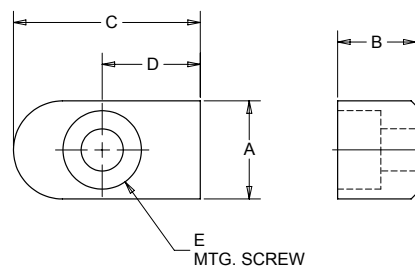
All linear dimensions in (mm)

Note: The installation clamping modules have high holding and pull-in forces with very small installation dimensions. Pneumatic pressure is needed for unclamping (min 4.5 bar/ 66 psi). The installation clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. Further more, there are no cumbersome lines or dangers of leakage.

The pneumatic design has 1 connection for unclamping and 1 optional connection for blowout.

Clamping Module Indexing Keys

- For use with clamping modules with indexing feature
- Used in combination with pull stud to prevent rotation of tooling in single module applications
- Steel, Case Hardened
- Mounting Screw Included



Part No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Wt. (g)
48835	8h6	8	9.5	5	M3 x 0.5	6
48836	10h6	8	19	10	M4 x 0.7	15

Installation Clamping Module (K5.3, K10.3, K20.3)

Low Pressure Pneumatic Unlocking

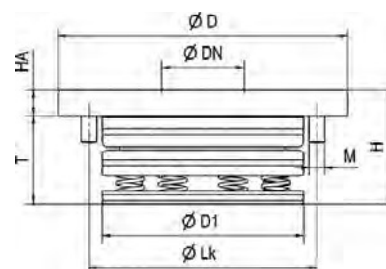
Cover and piston hardened.

Repeatability < 0.005mm (0.0002")



Zero-point clamping system for set-up-time-optimized clamping. The compact size makes it ideal for light duty machining applications as well as non-machining applications like assembly fixtures and test stands.

- Installation diagrams on request



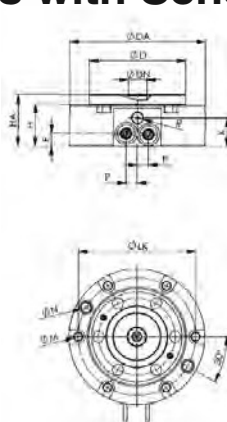
Part Number	Size	Pull-in Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	Min. Unclamp Pressure	Blow Out	D	DN	D1	H	HA	LK	M	T	Weight (kg)
560601	K5.3	1.5 / (330)	13 / (2900)	72 psi (5 bar)	Yes	78	15	54.5	29	8	62	M4	21	0.5
511097	K10.3	10 / (2250)	25 / (5620)	72 psi (5 bar)	Yes	112	22	78	35	10	88	M6	25	1.4
511113	K20.3	17 / (3800)	55 / (12350)	66 psi (4.5 bar)	Yes	138	32	102	49	15	115	M6	34	2.6

All linear dimensions in (mm)

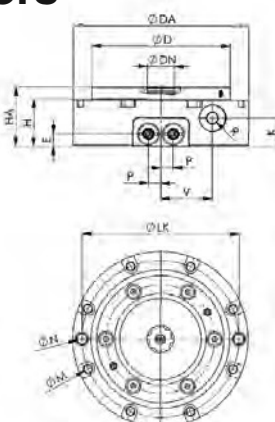
Note: The installation clamping module has high holding, pull-in and locking forces. This is opened pneumatically (1) and mechanically locked through spring force. Subsequent uncoupling of the pressure lines is possible at all times (module is tensioned pressure-free). The clamping module with blowout and support control has two connections: 1x pneum. opening (1), 1x pneum. blow-out and support control (3). (The pneumatic blow-out and support control can optionally be connected.)

* Please observe the installation instructions.

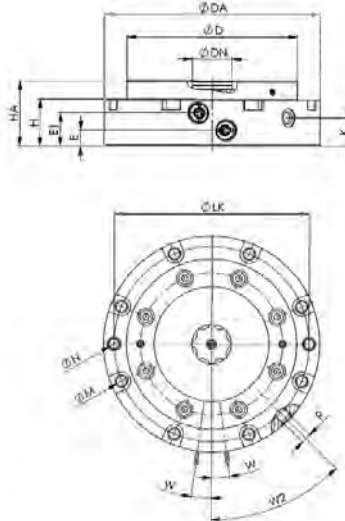
Clamping Modules with Sensors



563765



553720



553721

Part Number	Size	Pull-in Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	DA	D	DN	E	E1	H	HA	K	LK	M	NH7	P	R	V	W	W2	Net Weight (kgs)
563765	5.3	1.5 / (330)	13 / (2900)	110	78	15	10.5	—	34	42	23	95	6.6	8	9	G1/8	—	—	—	1.2
553720	10.3	10 / (2250)	25 (5620)	142	112	22	10	—	38	48	23	127	6.6	8	10	G1/8	41.5	—	—	2.6
553721	20.3	17 (3800)	55 (12350)	175	138	32	13	27	38	53	23	158	8.4	8	—	G1/8	—	7.5°	45°	5

All linear dimensions in (mm)

Surface/Mounted Clamping Modules (K5)

Hydraulic Unlocking

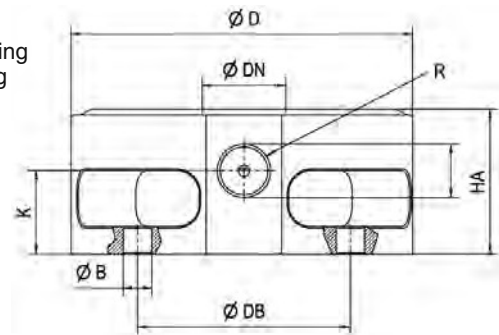
Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



For mounting on machine tables, clamping profiles, columns and towers, measuring machines, assembly stations.

- Installation diagrams on request



Stainless Steel

Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	ØB	ØD	ØDB	ØDN	HA	K	R	g
480566	K5	5 / (1100)	13 / (2900)	5.8	62	54	15	26	15	G1/8	300

All linear dimensions in (mm)

Note: Hydraulic supply and pressure is only needed for unclamping (min. 50 bar / 725psi, max. 60 bar / 870psi). The installation clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. The contact surface is the upper surface of the housing. The hydraulic design has 1 connection: 1 x unclamping

Pneumatic Unlocking

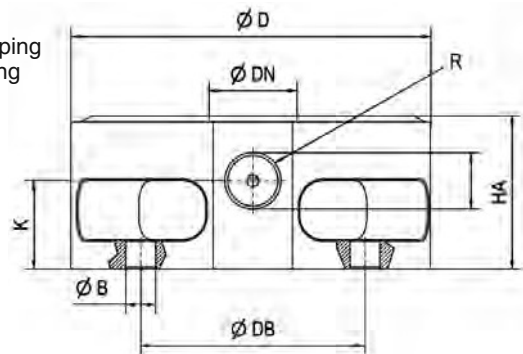
Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



For mounting on machine tables, clamping profiles, columns and towers, measuring machines, assembly stations.

- Installation diagrams on request



Hardened Stainless Steel

Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	ØB	ØD	ØDB	ØDN	HA	K	R	g
480582	K5	1.5 / (330)	13 / (2900)	5.8	62	54	15	26	15	G1/8	300

All linear dimensions in (mm)

Note: Pneumatic pressure is needed for unclamping (min 8 bar / 116 psi, max 12 bar / 175 psi). For **clamping** process pneumatic pressure of min 5 bar / 75 psi, max 6 bar / 90 psi is required briefly in order to achieve defined pull-in force. The installation clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. The pneumatic design has 2 connections: 1 x unclamping / 1 x clamping.

Surface/Mounted Clamping Modules (K10, K20, K40)

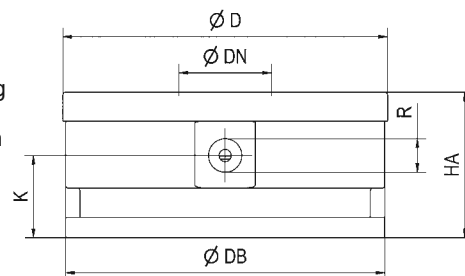
Hydraulic Unlocking

Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



For mounting on machine tables, clamping profiles, columns and towers, measuring machines, assembly stations in connection with **clamping bracket** on page 58.



Hardened Stainless Steel

Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	Blow out	ØD	ØDB	ØDN	HA	K	R	Kg
480608	K10	10 / (2250)	25 / (5620)	Yes	78	77.5	22	30	16.50	G1/8	0.90
480624	K20	20 / (4500)	55 / (12350)	Yes	112	110.0	32	50	28.25	G1/4	2.70
480640	K40	40 / (9000)	105 / (23600)	Yes	148	146.0	40	62	32.50	G1/4	3.80

All linear dimensions in (mm)

Note: Hydraulic supply and pressure is only needed for unclamping (min. 50 bar / 725psi, max. 60 bar / 870psi). The installation clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. Further more, there are no cumbersome lines and no danger of leakage. The contact surface is the upper surface of the housing. The hydraulic design has 1 connection: 1 x unclamping

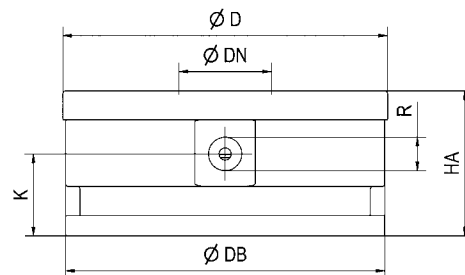
Pneumatic Unlocking

Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



For mounting on machine tables, clamping profiles, columns and towers, measuring machines, assembly stations in connection with **clamping bracket** on page 58.



Hardened Stainless Steel

Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	Blow out	ØD	ØDB	ØDN	HA	K	R	Kg
480665	K10	8 / (1800)	25 / (5620)	Yes	78	77.5	22	30	16.5	G1/8	0.9
480681	K20	17 / (3800)	55 / (12350)	Yes	112	110	32	50	28.25	G1/4	2.6
480707	K40	30 / (6700)	105 / (23600)	Yes	148	146	40	62	32.5	G1/4	6.4

All linear dimensions in (mm)

Note: Pneumatic pressure is needed for unclamping (min 8 bar / 116 psi, max 12 bar / 175 psi). For **clamping** process pneumatic pressure of min 5 bar / 75 psi, max 6 bar / 90 psi is required briefly in order to achieve defined pull-in force. The installation clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. The pneumatic design has 2 connections: 1 x unclamping / 1 x clamping.

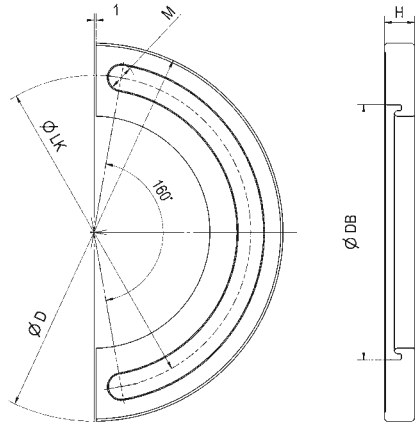
Clamping Bracket for Surface/Mounted Clamping Modules

Black Nitrided



Clamping flanges are used to fasten raised/mounted clamping modules on the machine table. See pages 56–57.

- Special clamping flanges for various T-slot tables
- Clamping flange and housing manufactured as a single piece



Stainless Steel

Part Number	Size	Pieces Per Module	ØD	ØDB	H	ØLK	M	g
426825	10	2	114	77.5	7.75	94	8.5	180
426833	20	2	164	110.0	13.00	136	11.0	400
426841	40	2	202	146.0	16.00	172	13.0	550

All linear dimensions in (mm)

Flange Type Installation Modules with Centering and Cover Rings



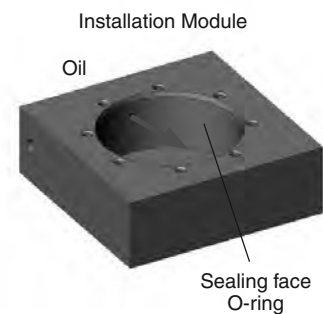
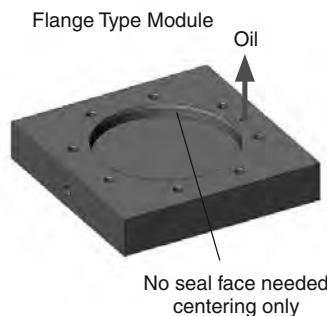
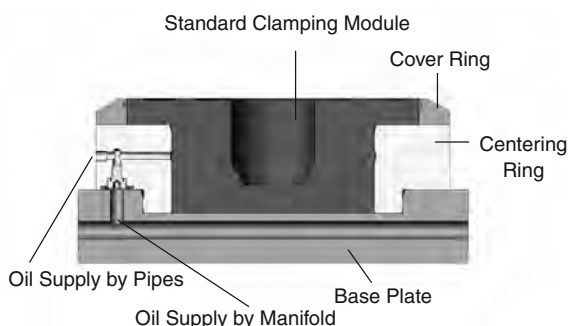
Features:

- Oil supply by pipes or manifolds
- Integrated centering
- Provided as assembled unit

Benefits:

- Simple design and manufacturing of adaptor plate
- Weight saving due to less thickness for adaptor plate
- Easy to adapt to existing mounting angles and cubes

Installation comparison

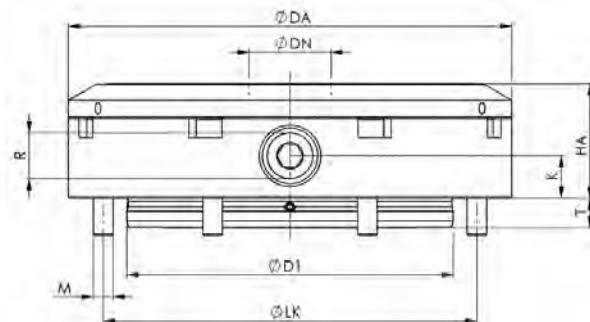


Flange Type Installation Modules with Centering and Cover Rings

Hydraulic Release

Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



Hardened Stainless Steel

Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	Blow out	ØDA	ØDN	ØD1	HA	K	ØLK	M	R	T	Kg
480301	K10	10 / (2250)	25 / (5620)	Yes	100	22	67	24	9	90	M5	G1/8	5.9	1.35
480269	K20	20 / (4500)	55 / (12350)	Yes	136	32	100	35	13	124	M6	G1/8	8.9	3.76
480723	K40	40 / (9000)	105 / (23600)	Yes	180	40	120	45	15	163	M8	G1/8	11.9	4.97

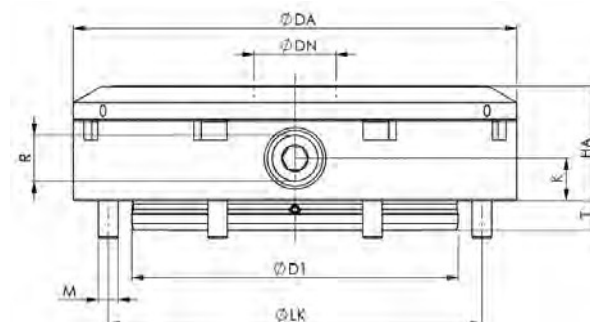
All linear dimensions in (mm)

Note: Combines features of the Threaded Module and Raised/Mounted module. Especially designed when installation space is limited and base plate or angle plate has relatively thin dimensions. The positioning of the module is simple and accurate when using the precision flange diameter. Hydraulic supply is possible by manifolds or pipes/hoses. Hydraulic supply and pressure is only needed for unclamping (min. 50 bar / 725psi, max. 60 bar / 870psi). The module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. The hydraulic design has 1 connection: 1 x unclamping.

Pneumatic Release

Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



Hardened Stainless Steel

Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	Blow out	ØDA	ØDN	ØD1	HA	K	ØLK	M	R	T	Kg
480327	K10	8 / (1800)	25 / (5620)	—	100	22	67	24	9	90	M5	G1/8	5.9	1.35
480285	K20	17 / (3800)	55 / (12350)	—	136	32	100	35	13	124	M6	G1/8	8.9	4.97
480749	K40	30 / (6700)	105 / (23600)	—	180	40	120	45	15	163	M6	G1/8	11.9	4.97

All linear dimensions in (mm)

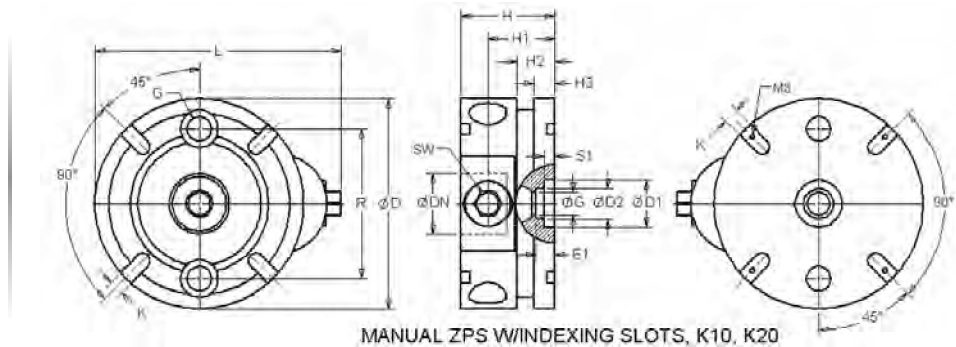
Note: Combines features of the Threaded Module and Raised/Mounted module. Especially designed when installation space is limited and base plate or angle plate has relatively thin dimensions. The positioning of the module is simple and accurate when using the precision flange diameter. Pneumatic supply is possible by manifolds or pipes/hoses. Pneumatic pressure is needed for unclamping (min 8 bar / 116 psi, max 12 bar / 175 psi). For **clamping** process pneumatic pressure of min 5 bar / 75 psi, max 6 bar / 90 psi is required briefly in order to achieve defined pull-in force. The installation clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. The pneumatic design has 2 connections: 1 x unclamping / 1 x clamping.

Manual ZPS

Ideal when Pneumatic and Hydraulic connections are not available

The manual ZPS modules provide locating and clamping with single bolt actuation. The indexing slots on the face of the modules allow workpieces to be indexed in 90° increments. Indexing slot plugs are available for applications where only specified slots are needed.

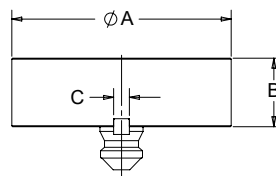
- Mechanical clamping and unclamping
- Quenched and tempered steel
- Repeatability 0.01 mm (0.0004 in.)
- Single Hex Drive Actuation
- Flexible Mounting & Placement
- Two Sizes Available – K10 & K20
- Eliminates Need for Air or Hydraulic Connection



Part Number	Size	Pull-in / Locking Force kN / (lbs)	Holding Force kN / (lbs)	Tightening Torque Nm / (ft. lbs)	D	D1 +0.01/-0	D2	DN	E1	G	H ±.01	H1	H2	H3	K F6	L	R	S1	SW	Weight (Kgs)
559775	K10	6 (1349)	25 (5620)	30 (22.1)	78	15	—	22	4,5	M8	32	22	—	—	8	93	50	—	10	1.03
564071	K20	10 (2248)	55 (12364)	30 (22.1)	112	25	16	32	10,0	M12	50	35.5	20	11	8	132	80	5,5	13	3.30

Machinable Blanks

- Compatible with manual clamping modules and clamping modules with indexing feature
- Designed to be modified for accepting various parts and clamping systems
- Material: Low carbon steel or aluminum
- Includes (1) Zero Point Stud & (1) Indexing Key Installed

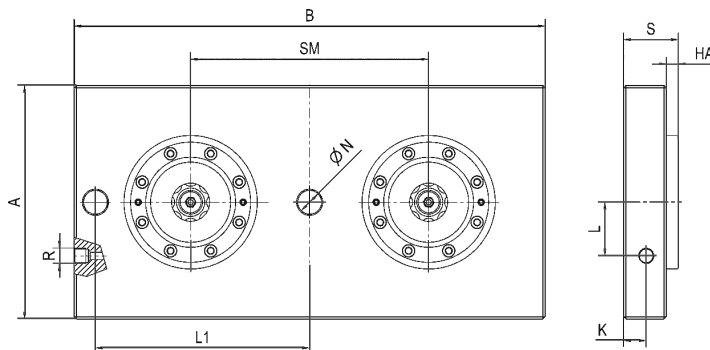


Part No. Aluminum	Wt. (kg)	Part No. Steel	Wt. (kg)	Pull Stud Size	A (mm)	B (mm)	C (mm)
300000	0.93	300001	2.7	K10	112	35	8h6
300002	1.4	300003	4.1	K20	138	35	10h6
300004	1.4	300005	4.1	K20	138	35	8h6

2-Way Clamping Station

Hydraulic Unlocking

Repeatability < 0.005 mm (0.0002")



Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	A	B	HA	K	L	L1	ØN	R	S	SM	Kg
303289	20	2 x 20 / (2 x 4500)	196	396	10	19	45	180	20	G1/4	46	200	21.9
303297	40	2 x 40 / (2 x 9000)	296	546	15	26	57	250	25	G1/4	61	320	59.5

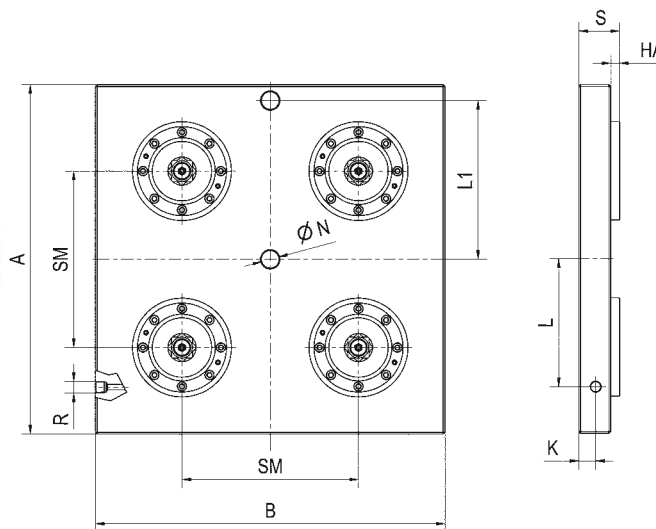
All linear dimensions in (mm)

Note: On request, we can incorporate mounting holes to your requirements in the base plate. Other dimensions, gauges and number of clamping module layouts on request.

4-Way Clamping Station

Hydraulic Unlocking

Repeatability < 0.005 mm (0.0002")



Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	A	B	HA	K	L	L1	ØN	R	S	SM	Kg
303321	20	4 x 20 / (4 x 4500)	396	396	10	18	148	180	20	G1/4	46	200	44.0
303339	40	4 x 40 / (4 x 9000)	546	546	15	26	217	250	25	G1/4	61	320	110.0

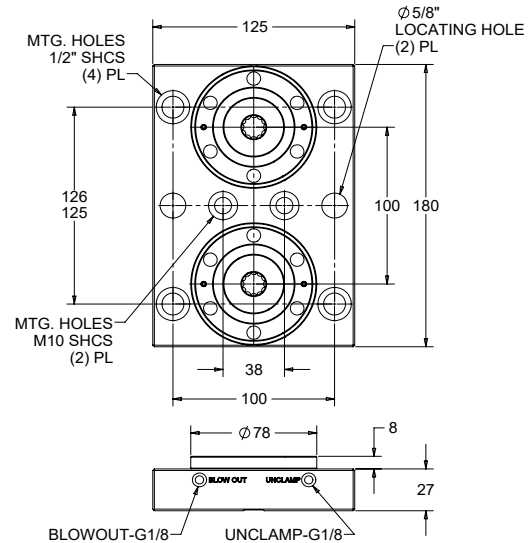
All linear dimensions in (mm)

Note: On request, we can incorporate mounting holes to your requirements in the base plate. Other dimensions, gauges and number of clamping module layouts on request.

Zero Point Subplates – K5.3

- Includes K5.3 low pressure pneumatic clamping modules installed
- Plate material: Fremax 15 Steel or Equiv.
- Includes porting for Blowout function
- Includes quick connect fittings
- Repeatability < 0.005 mm (0.0002")
- Custom designs available on request

Part No.	Wt. (kg)
30110	4.6



Part No.	Wt. (kg)
30111	8.4

