

TOX®-FinePress

Benchtop presses 2 – 57 kN

Data sheet 60.10
2019/05



Toggle Presses KF

2.5 – 25 kN

Changing the force-travel-characteristic

A change in the characteristic of force and travel is possible by simple repositioning of the toggle lever.

Caution: Changing the toggle lever position results in a change of the max. press force and the max. stroke (see tables).

Optional accessories:

- Ergonomic side grip ZEH
- Electric counter ZEZ, long life battery operated
- Return stroke lock ZR-L
- Travel sensor ZW-K
- Tool fixture ZA. Also available with 3-in-1 tool clamping concept, with or without force sensor, or as type ZF with fine micrometer adjustment for precise setting of the bottom dead center
- Connection of optional electrical accessories is made easy due to the default interface included in scope of delivery
- More accessories:
 - Pressing monitor
 - Mounting of slide tables according to frame type

Ordering example:

KFS 008 + options e. g.

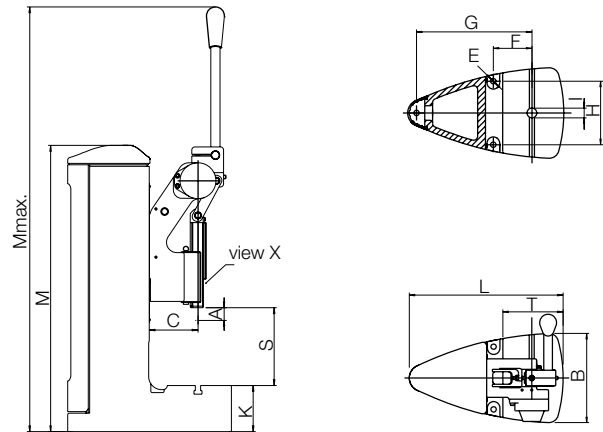
_____ max. press force
 _____ Toggle Press

+ ZR-L2.002

_____ Return stroke lock

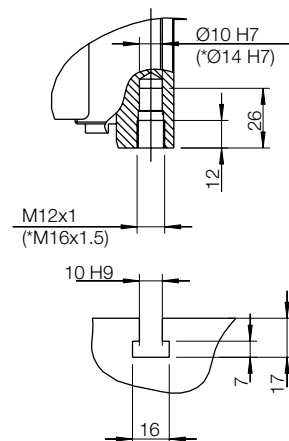
+ ZEZ 001

_____ Counter



View X

*For presses KFS/L/W 025/033



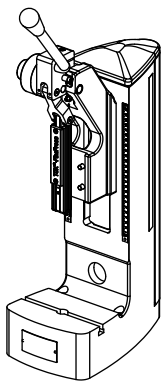
For frame size W > 8 kN,
 two T-slots, spaced 100 mm

Please order all other accessories and controls separately.
 The press heads of this series are available separately.

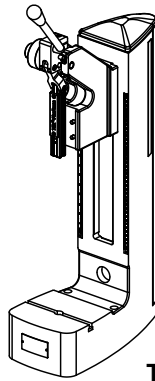
Type	Max. press force kN	max. allow. handle pull force N	Max. stroke A* mm	Return force N	BxT	C	ØE	F	G	H	Table bore ØI ^{H7}	K	L	M M _{max.}	S	Weight kg	Max. deflec- tion**	Moy allow. moment Nm***
Toggle Presses with standard frame size type S																		
KFS 002	2.5	50	42	30	110x 90	90	9	72	203	76	20	55	260	465 709	70-200	22.5	0.05	25
KFSU 008	(4) 8	220	(55.7) 23.1	(26) 60	130x110	95	9	78	214	94	20	80	285	535 751	70-220	32	0.10	25
KFSU 025	(16) 25	220	(60) 25.3	(5) 35	185x120	95	11	79	236	130	20	90	319	555 991	65-200	45	0.25	25
Toggle Presses with increased open height type L																		
KFLU 008	(4) 8	220	(55.7) 23.1	(26) 60	150x125	120	9	94	263	110	20	95	339	674 886	70-340	45.5	0.10	25
KFLU 025	(16) 25	220	(60) 25.3	(5) 35	200x180	165	11	120	330	144	20	115	439	800 1231	70-415	83.5	0.45	25
Toggle Presses with increased throat depth type W																		
KFWU 008	(4) 8	220	(55.7) 23.1	(26) 60	200x200	300	13.5	145	500	100	20	150	624	745 961	210-360	103	0.20	25

*Stroke at lever angle 90° **Press head in uppermost position ***Ram in bottom dead center () = for alternative toggle lever position Dimensions in mm

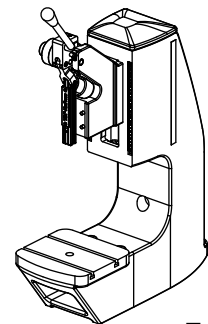
C = Throat depth
E = Mounting bore
S = Open height, adjustable



Type S



Type L



Type W

Rack and Pinion Presses ZF

2.5 – 4 kN

The Rack and Pinion Presses transmit the pull force on the lever into a high force at the ram. Constant press force throughout the entire working stroke.

With stop screw for precise end of stroke adjustment.

Optional accessories:

- Ergonomic side grip ZEH
- Electric counter ZEZ, long life battery operated
- Return stroke lock
- Travel sensor ZW-Z
- Tool fixture ZA. Also available with 3-in-1 tool clamping concept, with or without force sensor
- Connection of optional electrical accessories is made easy due to the default interface included in scope of delivery
- More accessories:
 - Pressing monitor
 - Mounting of slide tables according to frame type

Ordering example:

ZFS 004 + options e. g.

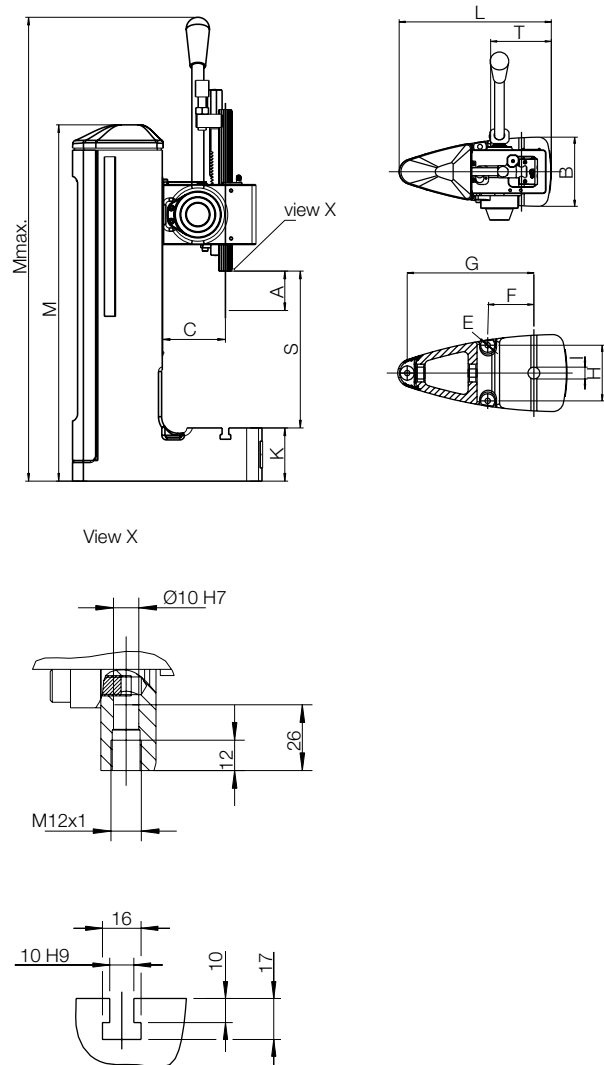
_____ max. press force
 _____ Rack and Pinion Press

+ ZR-L2.002

_____ Return stroke lock

+ ZEZ 001

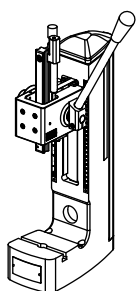
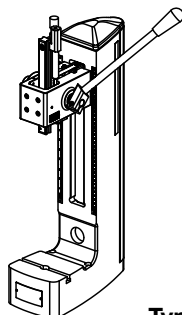
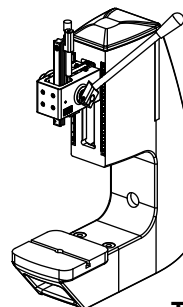
_____ Counter



Please order all other accessories and controls separately.
 The press heads of this series are available separately.

Type	Max. press force kN	Max. allowable handle pull force N	Max. stroke over lever rotationA	Return force N	BxT	C	ØE	F	G	H	Table bore ØI ^{H7}	K	L	M M _{max.}	S	Weight kg	Max. deflection*	Moy allow. moment Nm**
Rack and Pinion Presses with standard frame size type S																		
ZFS 002	2.5	200	60/228°	60	110x90	90	9	72	203	76	20	55	260	465 522	55-190	22	0.05	25
ZFS 004	4	300	80/218°	60	130x110	95	9	78	214	94	20	80	285	535 690	80-230	33	0.05	25
Rack and Pinion Presses with increased open height type L																		
ZFL 004	4	300	80/218°	60	150x125	120	9	94	263	110	20	95	339	674 830	85-355	47	0.05	25
Rack and Pinion Presses with increased throat depth type W																		
ZFW 004	4	300	80/218°	60	200x200	300	13.5	145	500	100	20	150	624	745 900	225-370	104	0.05	25
*Press head in uppermost position				**Ram in bottom dead center														Dimensions in mm

C = Throat depth
 E = Mounting bore
 S = Open height, adjustable


Type S

Type L

Type W

Pneumatic Presses PF

2 – 57.5 kN

The TOX®-Pneumatic Cylinder features the latest seal technology for smooth, trouble-free operation. These seals provide a more reliable operation than pneumatic cylinders with flat seals.

- Adjustable end position damping
- Clean plumbing. Air connections integrated on frame
- Stroke adjustment over entire travel

Optional accessories

- Electric counter ZPZ, long life battery operated incl. pressure switch
- Travel sensor ZW-P
- Home position sensor ZOT mounted on tie rods
- End position sensor ZUT with stroke adjustment. No sensor adjustment required if stroke is adjusted
- Tool fixture ZA. Also available with 3-in-1 tool clamping concept, with or without force sensor
- Connection of optional electrical accessories is made easy due to the default interface included in scope of delivery
- More accessories:
 - Pressing monitor
 - Mounting of slide tables according to frame type

Ordering example:

PFL 004 + options e. g.

- Max. press force
- Pneumatic Press

+ ZUT 000

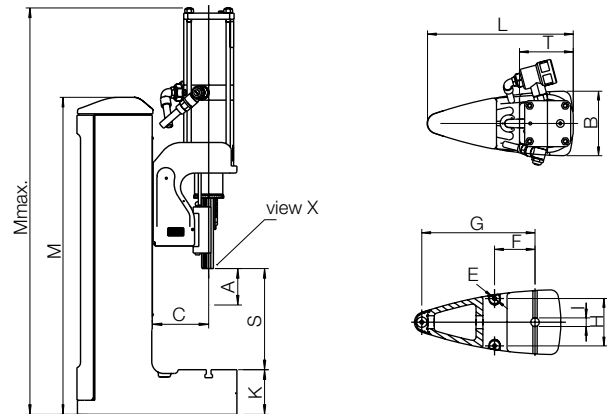
- End position sensor

+ ZPZ 001

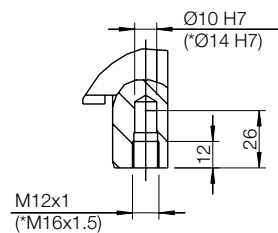
- Counter

+ STP 03-10

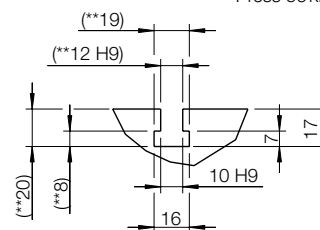
- 2-hand safety controls



View X
*Presses > 13.5 kN



**Press 56 kN



For frame size W > 8 kN two T-slots, spaced 100 mm

Please order all other accessories and controls separately.
The press heads of this series are available separately.

Type	Max. press force** kN	Max. stroke A	Max. return force kN at 6 bar	BxT	C	ØE	F	G	H	Table bore ØI ^{H7}	J	K	L	M M _{max}	S	Weight kg	Max. delec- tion*	Moy allow. moment Nm***
Pneumatic Presses with standard frame size type S																		
PFS 002	2	80	1	110x90	90	9	72	203	76	20	1/4	55	260	465 673	70-125	25	0.05	25
Pneumatic Presses with increased open height type L																		
PFL 004	4.0	80	1	150x125	120	9	94	263	110	20	1/4	95	339	674 1167	100-295	51	0.15	25
PFL 008	8.5	80	4	150x125	120	9	94	263	110	20	1/2	95	339	674 919	70-270	57	0.20	25
PFL 013	13.5	80	4	200x180	165	11	120	330	144	20	1/2	115	439	800 1189	75-370	96	0.50	25
PFL 022	22.5	80	11	200x180	165	11	120	330	144	20	1/2	115	439	800 1048	90-370	116	0.45	70
PFL 056	57.5	80	11	260x220	240	13.5	178	487	190	30	1/2	160	614	860 1549	95-385	227	0.85	70
Pneumatic Presses with increased throat depth type W																		
PFW 004	4.0	80	1	200x200	300	13.5	145	500	100	20	1/4	150	624	745 1237	240-310	107	0.20	25
PFW 008	8.5	80	4	200x200	300	13.5	145	500	100	20	1/2	150	624	745 989	210-285	114	0.25	25

*Press head in uppermost position

**at 6 bar air pressure (max. operating pressure 6 bar, min. 2.5 bar)

***Ram in bottom dead center

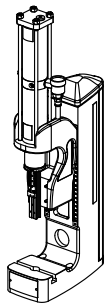
Dimensions in mm

C = Throat depth

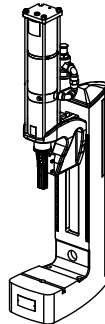
E = Mounting bore

J = Connection [inch]

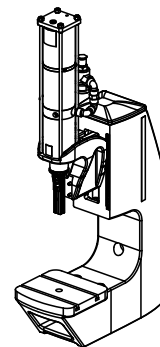
S = Open height, adjustable



Type S



Type L



Type W

Pneumatic Presses with manual approach PFH

8.5 – 57.5 kN

Pneumatic Presses with hand lever toggle mechanism for 54mm approach stroke and max. 6mm power stroke. From 8.5 – 57.5kN, high precision, no guide adjustment required, non-rotating ram.

- In compliance with the EC type examination certificate
- Clean plumbing. Air connections integrated on frame
- Fine stroke adjustment during power stroke (6mm)
- Return force/tool weight is infinitely adjustable
- Default interface for easy connection of electrical components
- Controls completely integrated on frame, including air servicing unit
- The hand lever can be mounted on left side too for all models

Function:

The press ram is moved forward over a toggle mechanism by pulling on the hand lever. Pressing the start button on the lever, after a limit switch is tripped, results in a 6mm long pneumatic power stroke. Releasing the lever or the start button ends the power stroke.

Optional accessories

- Electric counter ZPZ, long life battery operated incl. pressure switch
- Travel sensor ZW-PH
- Tool fixture ZA. Also available with 3-in-1 tool clamping concept, with or without force sensor
- More accessories:
 - Pressing monitor
 - Mounting of slide tables according to frame type

Ordering example:

PFHL 008 + options e.g.

_____ Max. press force
 _____ Pneumatic Press with manual approach frame

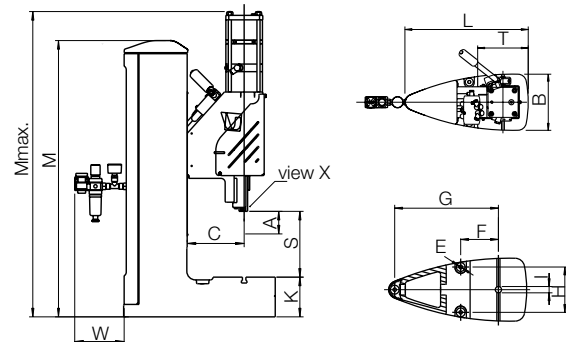
+ ZAK-K08

_____ Tool fixture with force sensor

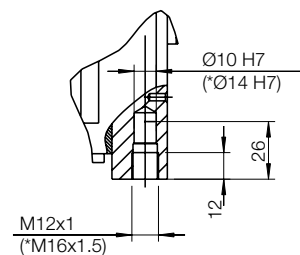
+ ZPZ 001

_____ Counter

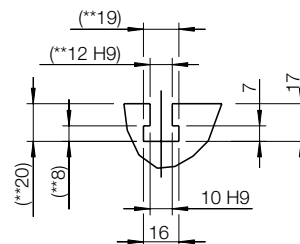
Please order all other accessories and controls separately. The press heads of this series are available separately.



*Presses > 13.5 kN



**Press 56 kN



For frame size W > 8 kN two T-slots, spaced 100 mm

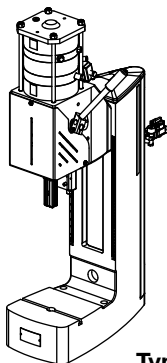
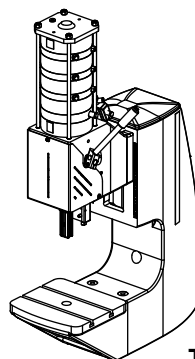
Type	Max. press force** kN	Max. stroke A	Max. re- turn force N**	BxT	C	ØE	F	G	H	Table bore Ø I ^{H7}	J	K	L	M M _{max.}	S	W	Weight kg	Max. de-flec- tion*	Moy allow. moment Nm***
Pneumatic Presses with increased open height type L																			
PFHL 008	8.5	60	85	150x125	120	9	94	263	110	20	1/4	95	339	674 860	30-265	144	61	0.10	25
PFHL 013	13.5	60	85	200x180	165	11	120	330	144	20	1/4	115	439	800 999	35-375	105	95	0.20	25
PFHL 022	22.5	60	73	200x180	165	11	120	330	144	20	1/4	115	439	800 999	25-330	105	120	0.35	70
PFHL 056	57.5	60	73	260x220	240	13.5	178	487	190	30	1/4	160	614	860 1273	55-340	101	232	0.70	70

Pneumatic Presses with increased throat depth type W

PFHW 008	8.5	60	85	200x200	300	13.5	145	500	100	20	1/4	150	624	745 945	205-285	—	115	0.20	25
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*Press head in uppermost position **at 6 bar air pressure (max. operating pressure 6 bar, min. 2.5 bar) ***Ram in bottom dead center Dimensions in mm

C = Throat depth
E = Mounting bore
J = Connection [inch]
S = Open height, adjustable

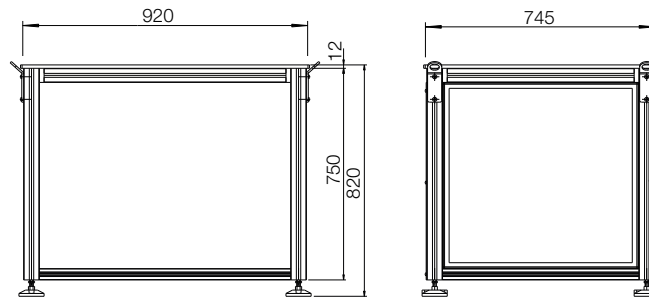
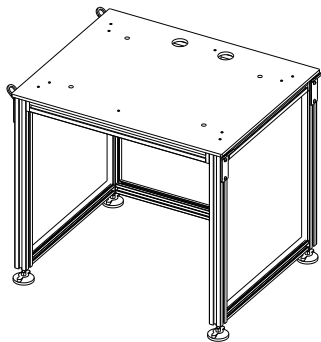

Type L

Type W

Accessories

Universal base FinePress UUF 1-045.100

Base as frame construction made of aluminium profiles with housing. Table board made of steel (RAL 7035 light grey). Meets latest ergonomic guidelines for maximum operator comfort.

Max. load 900kg, with swivel casters mounted 500kg.



Order no.

- UUF 1-45 Standard base with steel top and leveling feet

Option Swivel casters

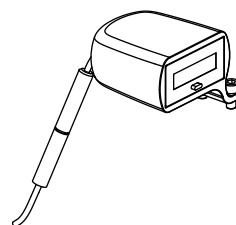


Order no. option

- ZUUF 1-45 R Swivel casters

Counter

With the help of the electric counter type ZEZ and the pneumatic counter type ZPZ, the production quantities can be displayed on the eight digit display. The counters can be easily mounted on any press. The electrical counter is powered by a long life battery. **No external power supply required!**

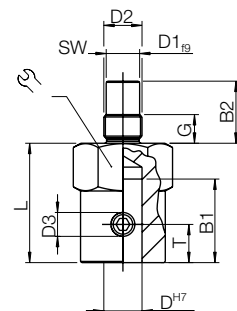
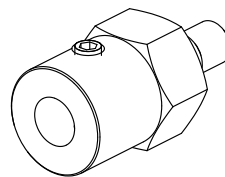


Order no.

- ZEZ 001 Electric counter for manual presses
- ZPZ 001 Pneumatic counter for pneumatic presses

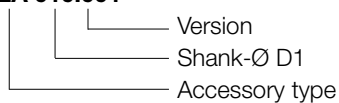
Tool fixture ZA

This simple tool fixture is screwed into the ram thread. It centers the tool via the precision bore D and provides fixation of the tool using a set screw. Other tool fixtures with different bore sizes D are available on request.



Ordering example:

ZA 010.001



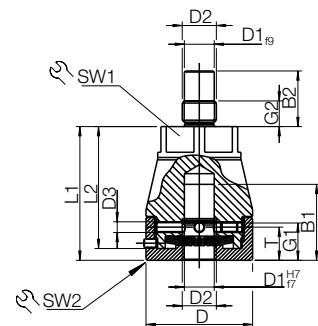
Type	B1	B2	D	D1	D2	D3	G	L	SW	T
ZA 10.10.000	25	26	10	10	M12x1	M8	10	35	30	10
ZA 10.12.000	30	26	12	10	M12x1	M8	10	45	30	12
ZA 14.10.000	25	26	10	14	M16x1.5	M8	12	35	30	10
ZA 14.20.000	45	26	20	14	M16x1.5	M10	12	60	41	20

Dimensions in mm

3 in 1 – the perfect tool fixture concept for long term investment

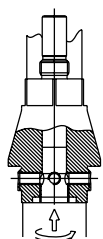
In most conventional small presses, the tool is mounted directly on the press ram and is held in place with a set screw. If the thread in the set screw bore is damaged, the ram has to be replaced, which is expensive. **Therefore, TOX® PRESSOTECHNIK has developed the 3 in 1 solution for:**

- ① Cylindrical threaded centering pilot
- ② Cylindrical clamping shank without threads
- ③ Clamping shank per DIN 9859, with set screw mount



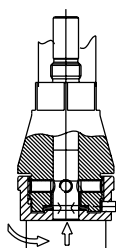
Caution: Press force must be carried over the entire surface ØD!

Choice ①



The tool can be inserted directly into the threaded pilot bore.

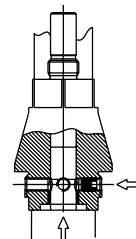
Choice ②



Clamping disc elements provide high radial clamping forces for a strong connection.

Advantage: No damage to tool fixture. Zero clearance and detachable. Tool weight max. 4 kg.

Choice ③



Conventional set screw clamping is also possible for existing tooling.

Advantage: Prevents damage to ram.

Type	B1	B2	D	D1	D2	D3	G1	G2	L1	L2	SW1	SW2	T
ZA 010.001	32	26	38	10	M12x1	M5	13	10	54	51	24	36	13
ZA 014.001	33	26	50	14	M16x1.5	M5	17	12	62.5	57	32	46	15.5

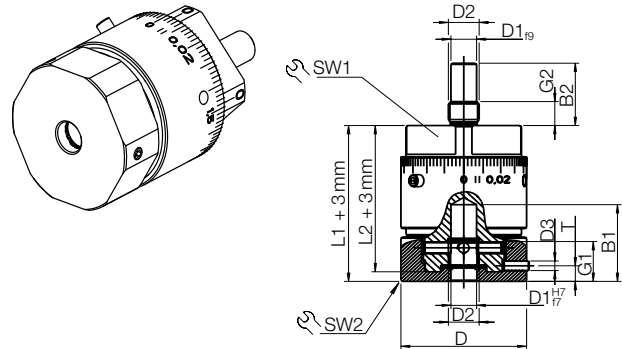
SW 46 has a height of 11 mm. A suitable open end wrench type CZG (8mm) can be found in TOX® data sheet 80.100.

Dimensions in mm

3 in 1 Tool fixture ZF with fine adjustment for Toggle Presses

Micrometer adjustment for end of stroke

Toggle Presses reach their maximum force at the bottom dead center. The micrometer fine adjustment allows for precise stroke adjustment in a 1/100mm range. This tool fixture offers three tool mounting possibilities ①, ②, ③ (see page 11).



Type	Press force	B1	B2	D	D1	D2	D3	G1	G2	L1	L2	SW1	SW2	T
ZF 001	≤ 25 kN	32	26	49	10	M12x1	M5	18	10	61	58	36	46	13
ZF 002	≥ 25 kN*	33	26	54	14	M16x1.5	M5	17	12	66,5	61	36	46	15,5

* Note thread size

Dimensions in mm

Slide table ZHST

- Integrated end of stroke dampening for smooth operation
- Can be integrated into fully automated production lines
- Tool weight max. 40 kg
- Can be used with all presses up to 150 kN (except Type PFS 002)

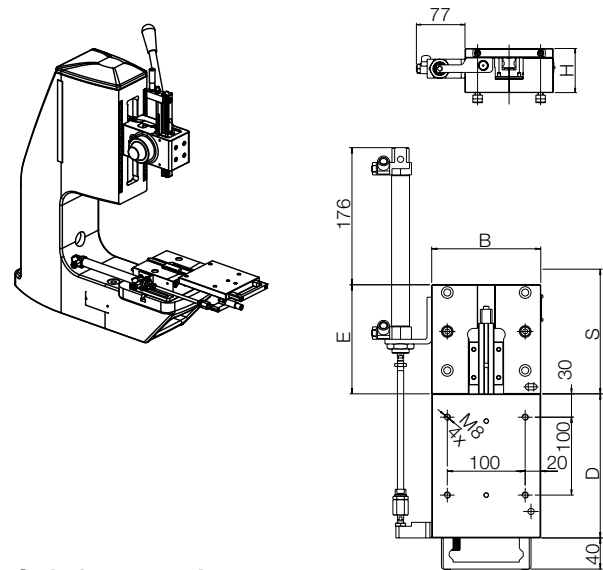
Technical details

- Precision linear ball rail guide
- Self-locking in working position
- Pneumatic cylinder for automatic operation (optional)
- Adjustable positive stop

Special accessories

To be ordered separately for slide table ZHST 080.160 P:

- End position sensors for pull and push cylinders order no. ZHSP 001.000



Ordering example:

ZHST 080.160 P

└ Pneumatic drive
└ Slide table

+ ZHSP 001.000

└ Position sensor

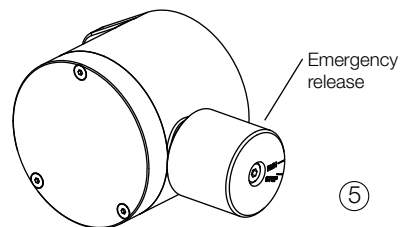
Type	Max. Load	Travel S	Pressure area B x E	Table height H	Flange depth E	Slide length D	Pull / push force at 6 bar
ZHST 080.160	150 kN	160	140 x 140	70	140	185	
ZHST 080.160 P	150 kN	160	140 x 140	70	140	185	150 N

Dimensions in mm

Return stroke lock ZR-L

- ① Home position of the press.
- ② At this position of the return stroke, the lock is activated again.
- ③ First ratchet position: Loose workpieces can still be aligned.
- ④ Ratchet position in end position: The return stroke lock is released after the ram reaches the selected end position. This guarantees the process repeatability and therefore a constant usage. The locking function can be set to any position within the stroke.
- ⑤ The emergency knob releases the locking function in any position.

Order no. ZR-L 2.002

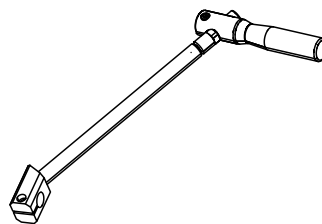


This option can be mounted on any Toggle or Rack and Pinion Press.

Ergonomic side grip ZEH

Ergonomic grip can be mounted and rotated anywhere along the hand lever.

Order no. ZEH 018



Hand lever extension 150 mm

Intended solely to reduce the required manual force, not to increase the press force.

Order no. HH 018.150