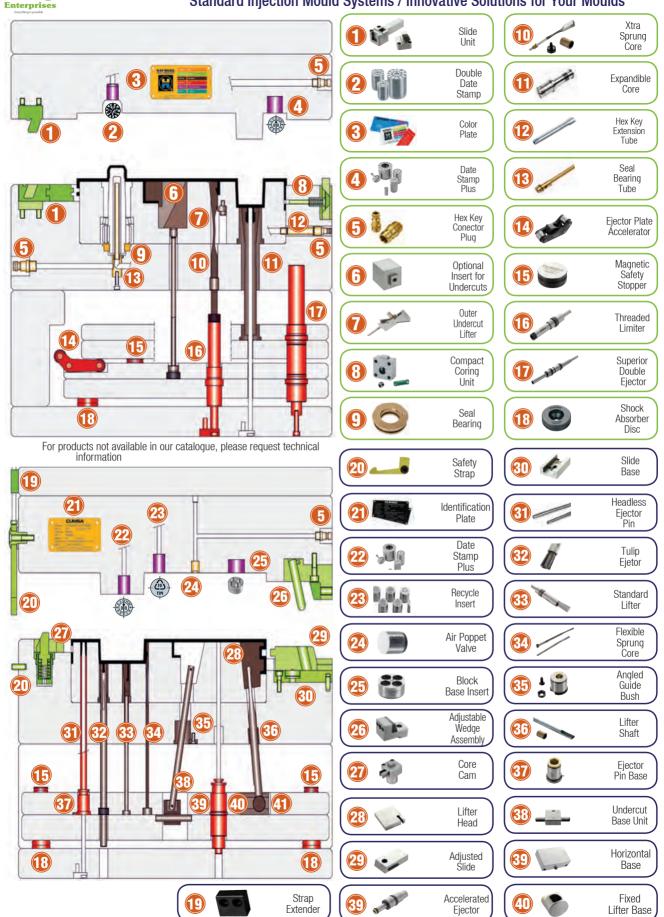




STANDARD MOULD ACCESSORIES

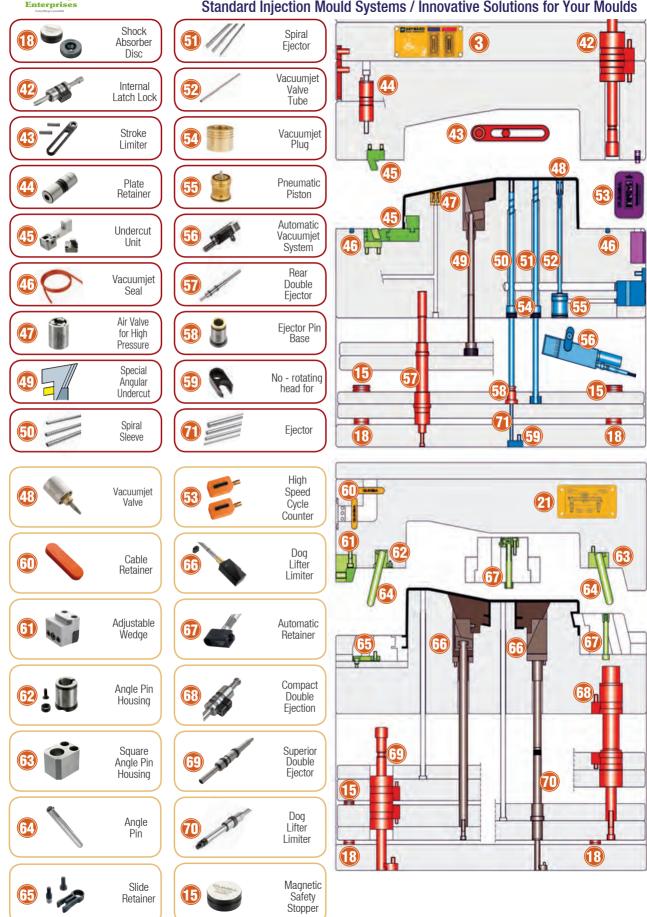


Standard Injection Mould Systems / Innovative Solutions for Your Moulds





Standard Injection Mould Systems / Innovative Solutions for Your Moulds



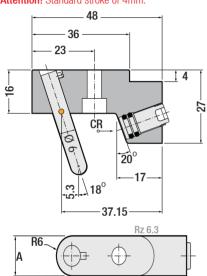


Mini Guide

It is consisted of angular pin and locking thrust wedge. While mould is closed, it can be easily adjusted with allen key. All machining is made 90° to the parting line. Parts can be replaced from the parting line.

 $\begin{tabular}{ll} \textbf{Material:} & 1.2312 \\ \approx 1.080 & \text{N/mm}^2. \\ \textbf{Patented System} \end{tabular}$

Attention! Standard stroke of 4mm.



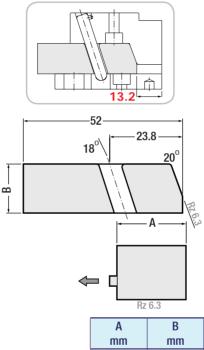
Α	CR
mm	(N)
12	50.000
20	90.000

Mini Slide

It is ready for machining, it comes with adjustment tolerances. It is only necessary to machine the cavity area.

Material: 1.2344 Hardness: 44 ± 2 HRC Patented System

Attention! Machining reference is 13.2

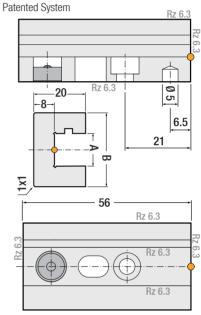


Α	В
mm	mm
12.5	12
12.5	16
20.5	12
20.5	16

Mini Base

An unique unit hardened and ground with the adjustment tolerances. Has various assembly posibilities and it is also easy to change, with magnetic retainer. Minimum space required for installation.

Material: 1.2510 Hardness: 54 ± 2 HRC



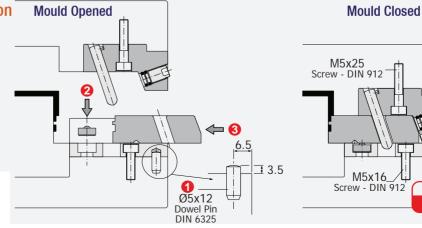
A mm	B mm
12.5	28
20.5	36

Max. 0.6

ATTENTION!

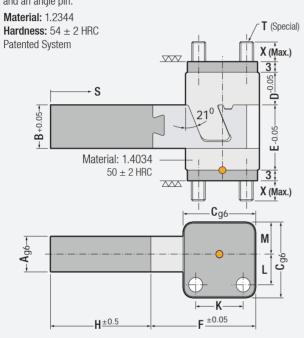
Installation & Operation Examples

- **1-** Determine the position of MB (mini base) and mount it.
- **2-** Place the magnetic retainer into hole.
- 3- Insert MC (mini slide).
- **4-** While mould is closed, please adjust MC (mini slide) up to 0.6mm maximum.



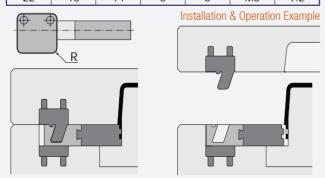
Slide Unit

Ideal to de-mold external details. Compact unit with strokes up to 5mm. Slider is made from two different inserts, allowing flexibility regarding the molding feature. All machining can be made 90° to parting line. Easy to change molding inserts due to fixing method. Incorporates a slide retainer and an angle pin.



Α	В	C	D	Е	F	Н
8.2	12	20	10	18	28	32
12.2	16	26	12	24	37.5	36
16.2	20	32	16	30	46.5	40

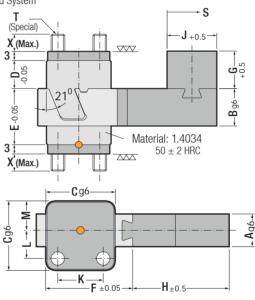
K	L	M	R	S	T	Х
12.5	8.25	8	3.75	3	M4	6.2
17	10.5	11	4.5	4	M5	7.2
22	13	14	5	5	M6	9.2



Undercut Unit

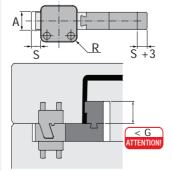
Inverse movement regarding normal units, ideal for de-moulding internal detail. Compact unit with strokes up to 5mm. Slider is made from two different inserts, allowing flexibility regarding the molding feature. All machining can be made 90° to parting line. Incorporates a slide retainer and an angle pin.

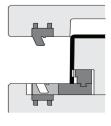
Material: 1.2344 Hardness: 54 ± 2 HRC Patented System



Α	В	С	D	Е	F	G
8.2	12	20	10	18	24.5	12
12.2	16	26	12	24	32.5	16
16.2	20	32	16	30	41	20

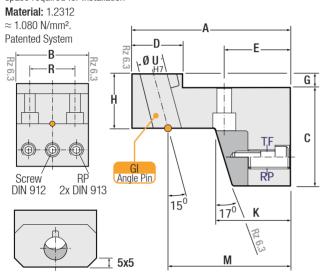
Н	J	K	L	M	S	R	T	Х
32	16	12.5	8.25	8	3	3.75	M4	6.2
36	20	17	10.5	11	4	4.5	M5	7.2
50	25	22	13	14	5	5	M6	9.2





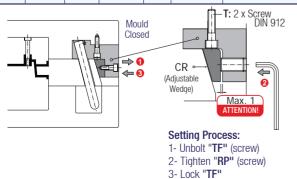
Adjustable Wedge Assembly (Heel Unit)

It is unit of core / slide system starting motion. Adjustable with the mold closed. All machining is made 90° to the parting line. Parts can be replaced from the Parting Line. Hardened steel pre-adjusted for immediate use. Hardened wear plate. Two outer screws force the heel against the slide forming the shut off, while the central screw locks it into position. Minimum space required for installation



Α	В	С	D	Е	G	Н
60	30	35	25	23	6	23
60	40	35	25	23	6	23
75	40	49	30	32	7	27
86	48	57	35	36	8	32

K	М	R	TF	U	RP	CR (N)
29	43.7	17	M6x25	10	081015	180.000
29	43.7	22	M6x25	10	101015	320.000
39	58	22	M8x30	12	101020	320.000
44	65	28	M8x35	16	121025	480.000

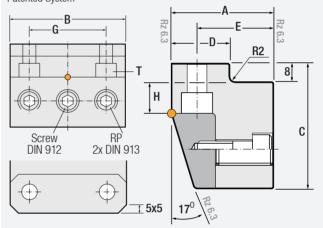


Adjustable Wedge

(Heel Unit)

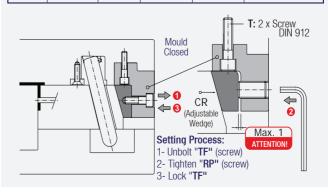
Adjustable with the mold closed. All machining is made 90° to the parting line. Parts can be replaced from the Parting Line. Hardened steel pre-adjusted for immediate use. Hardened wear plate. Interchangeable parts. Allows the slide to be adjusted with the mold closed. Two outer screws force the heel against the slide forming the shut off, while the central screw locks it into position. Minimum space required for installation

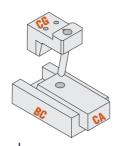
Material: 1.2312 \approx 1.080 N/mm². Patented System



Α	В	C	D
40	38	40	25
45	48	49	28
52	60	52	32
52	68	52	32
52	75	56	32

Е	G	Н	Т	RP	CR (N)
30	22	12	M8x30	101020	320.000
35	28	16	M10x35	121025	480.000
40	35	16	M10x35	141030	750.000
40	45	16	M10x35	141030	750.000
40	50	16	M10x35	141030	750.000



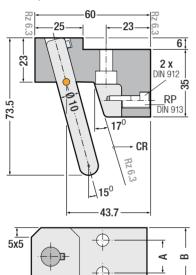


Adjustable Wedge Assembly (Heel Unit & Including Pin)

It is consisted of angular pin and locking thrust wedge. While mould is closed, it can be easily adjusted with allen key. All machining is made 90° to the parting line. Parts can be replaced from the parting line. Angle pin included in CG - SET. Hardened steel pre-adjusted for immediate use. Hardened wear plate.

Material: 1.2312 \approx 1.080 N/mm². Patented System

Attention! Standard stroke of 12mm.



	22	40
CR (N)	RP (Screw)	Angle Pin
180.000	081015	GI.010075
320.000	101015	GI.010075

Α

17

В

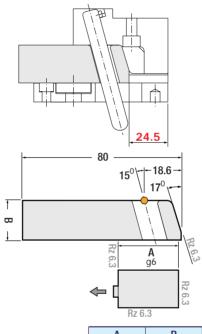
30

Adjusted Slide

Interchangeable and completly adjusted, only requires the part detail to be machined. Its rectangular shape simplifies machining. Angular hole is drilled on slide.

 $\begin{tabular}{ll} \textbf{Material:} & 1.2344 \\ \textbf{Hardness:} & 42 \pm 2 \ \text{HRC} \\ \textbf{Patented System} \\ \end{tabular}$

Attention! Machining reference is 24.5

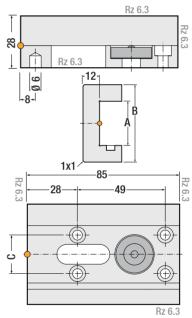


Α	В
32	20
32	24
42	20
42	24

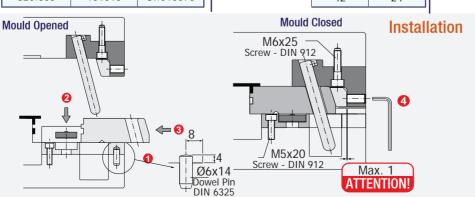
Slide Base

The slide retainer is built into the set.
Different hardness and materials between CA
and BC to guarantees smooth movements.
Interchangeable parts. Parts can be replaced from
the Parting Line. Hardened and ground, with the
correct adjusting tolerances. Incorporates a
magnetic Retainer (RM) which must be installed
after the slide adjustment and allows fixing the
slide movement where needed. Minimum space
required for installation.

Material: 1.2510 Hardness: 54 ± 2 HRC Patented System



Α	В	С
32	56	21.5
42	66	26.5



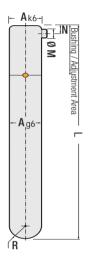
- **1-** Determine the position of BC (slide base) and mount it.
- **2-** Place the magnetic retainer into hole.
- **3-** Determine the position of CA (adjusted slide).
- **4-** While mould is closed, please adjust CA (adjused slide) up to 1 mm maximum.

Angle Pin

This item can be fitted to any of the corresponding Cumsa sets (CG, GR & BG). Several diameters and lengths of angle pins.

Attention! When ordering, indicate the desired "L" dimension

Material: 1.7242 Hardness: 60 ± 2 HRC



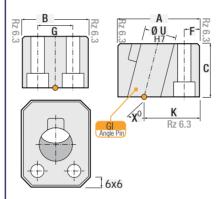
Α	Bushing / Adjustment Area
10	≈ 25
12	≈ 30
16	≈ 35
20	≈ 40
24	≈ 45
28	≈ 50

M	N	L (Length)			R
4	4	075	090	105	5
4	4	095	110	130	6
4	4	115	135	160	8
6	6	140	165	190	10
6	6	170	195	220	12
6	6	200	225	250	14

Square Angle Pin Housing

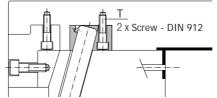
This is similar to the round Angle Pin Housing (GR) but allows the fitting of angle pins from 15° or 20°. This unit is bigger than the GR to allow for the greater angles and it requires a square pocket to be machined in the mould base. All machining is made 90° to the parting line. Parts can be replaced from the Parting Line. Minimum space required for installation.

Material: 1.2312 \approx 1.080 N/mm². Patented System



Α	В	С	F
42	30	30	7.5
50	40	36	9
55	40	40	9
65	50	45	12
42	30	30	7.5
50	40	36	9
55	40	40	9
65	50	45	12

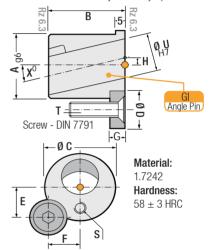
G	K	T	U	Х
15	28	M6x35	Ø 16	
22	34	M8x40	Ø 20	15 ⁰
22	38	M8x45	Ø 24	10
26	45	M10x50	Ø 28	
15	28	M6x35	Ø 16	
22	34	M8x40	Ø 20	20 ⁰
22	38	M8x45	Ø 24	20
26	45	M10x50	Ø 28	



Angle Pin Housing

This unit incorporates a predrilled hole for the angle pin which eliminates the need to angularly drill the mould base. The mould base only needs to be drilled from the front to accept this unit. The unit comes in either 10° or 15°.

All drilling is made 90° to the parting line. Parts can replaced from the Parting Line. Minimum space required for installation. Several diameters and lengths of angle pins.



Α	В	С	D	Е
18	26	22	12	10.8
22	28	26	16	11
28	34	32	16	13
34	40	38	20	17
42	45	46	20	19.5
46	50	50	20	21
18	26	22	12	10.8
22	28	26	16	11
28	34	32	16	13
34	40	38	20	17
42	45	46	20	19.5
46	50	50	20	21

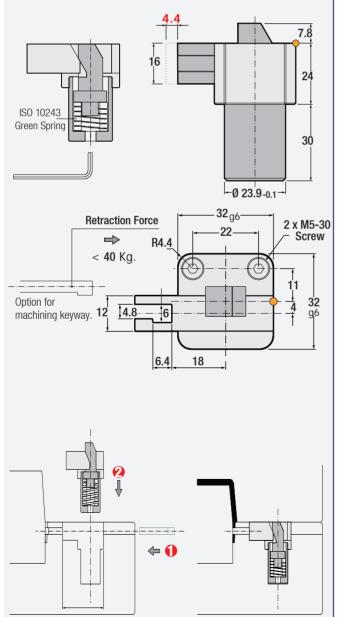
F	G	Н	S	T	U	X_0
7.5		3.8	M5x5	M5x16	10	
11	6	4	M6x6	M6x16	12	
13		5	IVIOXO	IVIOXIO	16	10 ⁰
17		5.5			20	10
19.5	8	6	M8x6	M8x20	24	
21		7			28	
7.5		3.8	M5x5	M5x16	10	
11	6	4	MAX	M6x16	12	
13		5	M6x6	IVIOXIO	16	15 ⁰
17		5.5			20	15
19.5	8	6	M8x6	M8x20	24	
21		7			28	

Core Cam

Mechanism to make lateral holes, automatic retention for the core insert. Requires very small area for installation. Reduces costs in machining and fitting. Reduces mould production time. Machining for installation is easier due to always being at 90° to parting line. Offers a standard solution to the mould makers.

Material: 1.2344Attention! StandardHardness: 52 - 54 HRCstroke of 4.4mm.

Max. working temperature: 150°.



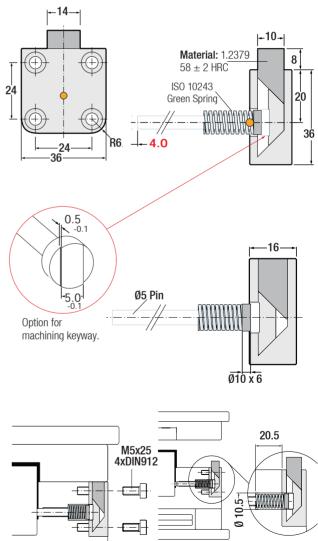
Compact Coring Unit

This unit uses the open and close movement of the mould to make lateral holes in wall sections of plastic parts. Easy to assemble and remove from the mould.Reduces costs in machining and fitting.Reduces mould production time. Machining for installation is easier due to always being at 90° to parting line. Offers a standard solution to the mould makers.

Requires very small area for installation.

Material:1.2344Attention!StandardHardness:52 - 54 HRCstroke of 4.0mm.

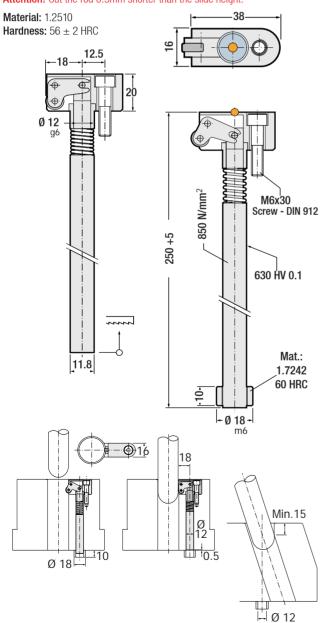
Max. working temperature: 150°.



Automatic Retainer

This retainer for large slides is actuated by the angle pin, ensuring smooth and easy movement with no excess force required. Reduces costs in machining and fitting. No need for complex retaining systems or expensive hydraulic systems. Retention of cam slides up to 2000 Kg. Offers a standard solution to the mould makers.

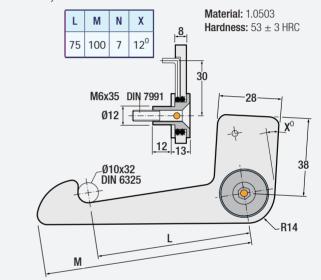
Attention! Cut the rod 0.5mm shorter than the slide height.

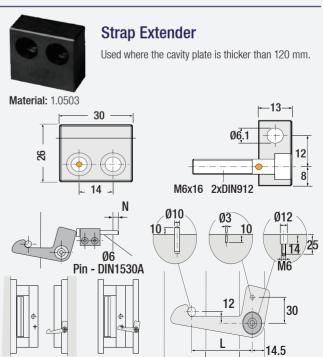


Safety Strap

Keeps the mould closed when it is not in the machine.

The mould is unlocked automatically, when mounted on the machine. Minimum space required for installation. Guarantees automatic opening and closing of the mould when loaded or unloaded from the machine.

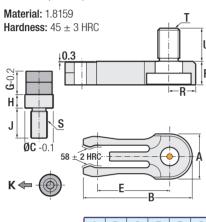




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Slide Retainer

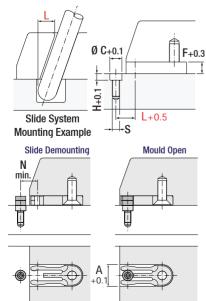
Incorporates a mechanical stopper.
The fixing pin has rollers to avoid wear on friction surfaces. Less machining for installation compared to similar products on the market.
Minimum space required for installation.



Α	В	С	Е	F	G
16	38	8	25	7.6	7.6
20	48	10	32	8.7	8.6
24	57	12	37.5	9.6	9.6

Н	J	K	N	R	S	Т	U
4	10	8 Kg.	7	8	M5	M6	9
5	11	14 Kg.	8	10	M6	M8	12
6	12	18 Kg.	9	12	M8	M10	15

K: Force to release the retainer.

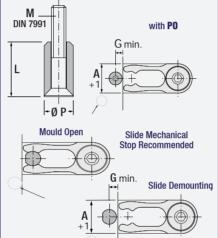


Optional Dowel Pin for Slide Retainer

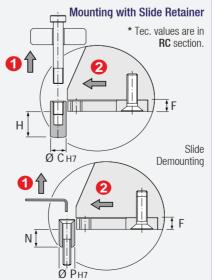
Optional method for holding the Slide Retainer, that simplifies the disassembling.

This item must be ordered separately.

Material: 1.3505Hardness: 60 ± 2 HRC



L	M	N	Р
12	M3x20	7.5	6
15	M4x25	10	8
20	M5x30	13	10
25	M6x35	16	12
34	M8x50	23	16



Slide Retainer

Less machining for installation compared to similar products on the market.

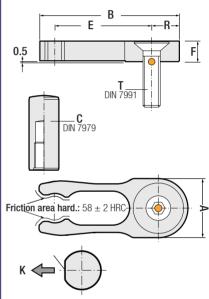
Minimum space required for installation.

Reduces costs in tool downtime.

Offers a standard solution to the mould makers.

Material: 1.8159

Hardness: $45 \pm 3 \text{ HRC}$



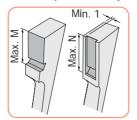
K: Force to release the retainer.

Slot depths should be: F = +0.30 mm.

Α	В	С	Е	F
12	30	6x20	21	4.7
16	40	8x20	28	5.7
20	50	10x24	34	7.7
24	60	12x32	42	9.7
32	80	16x40	56	11.7
32	80	16x40	56	15.7

G	Н	K	R	T
4	16	5 Kg.	6	M5x16
5	15	7 Kg.	8	M6x20
6	17	14 Kg.	10	M8x25
7	23	21 Kg.	12	M10x30
9	27	28 Kg.	16	M12x35
9	25	38 Kg.	16	M12x50

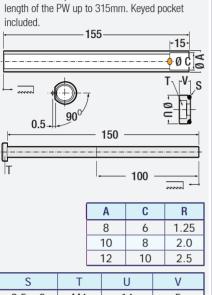
After setting core, please machining 0.1mm from end section to make ejector effortlessly.



Sprung Core

Minimum space required for installation, only needs the space of an ejector. No milling, grinding or hardening other than the machining of detail needed. Machining for installation is easier due to always being at 90° to parting line. No need for complex mechanical systems. The opening of the sprung cores is a radial movement. Due to this, at the edge of the stroke, the opening is 3.5mm (0.138"), 4.5mm (0.177") and 5.5mm (0.217"), depending on the model (K dimension in the catalogue).

Correctly installed sprung cores (following our catalogue installation instructions) can produce more than 1 million parts. (welding is not recommended on any of the sprung core products & we only recommend using Balinit C coating, other coatings are not recommended as they can reduce the sprung core life) **Material:** 1.8159 **Hardness:** 45 ± 3 HRC **Max. working temperature:** 150°.

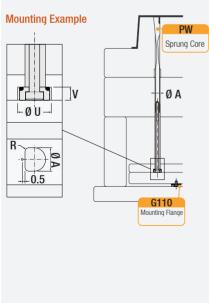


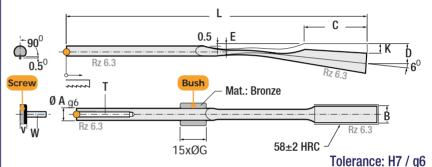
Retractable Core Extension

Standard extension. Flat for key position included.

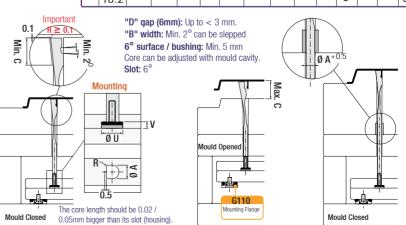
Hardened and ground to size. Enables a standard

S	Т	U	V
9.5 x 2	M4	14	5
11.5 x 2	M5	16	6
14.5 x 2.5	M6	20	8





Α	В	С	D	Е	G	K	L	M	N	R	T	U	٧	W
	4.2	22	9		-	3.5	125	16	18		~			_
_	6.2	30	10	3.5	12	4.5	175	20	26	1.25	M4 x	12	5	14
6	8.2	22	9	3.5	-	3.5	125	16	18	5	36	12		M4 x 16
	0.2	30	10		12	4.5	175	20	26					
	8.2	25	11.5		-		140	18	21					
	10.2	25	11.5		-		140	10	21		M5			M5
8	10.2	30	11.2	4.5	12	4.5	175	20	26	2.0	×	14	6	×
	12.2	25	11.5		-		140	18	21		36			16
	12.2	30	11.2		12		175	20	26					
	14.2										M6			Ĭ
10	16.2	30	13.6	5.5	16	5.5	175	20	26	2.5	×	18	8	M6 ×
	18.2										36			16



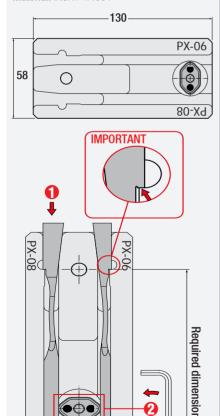
"PX" Cutting Jig

Enables accurate fine tuning in the height of the PX. Simplifies the measuring and cutting of the shaft of the PX. Easier to cut larger quantities of PX at a time.

How to use the PX Cutting Jig?

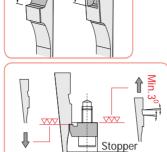
- **1-** Insert the PX into the corresponding slot, for 6 or 8mm. shank. Ensure that the shape of the PX head is adjusted in the housing support.
- **2-** Use an allen key to select the correct option: flat \blacksquare or \blacksquare round.
- **3-** Cut the PX to the required dimension.

Material: INOX / 1.4034



After setting core, please machining 0.1mm from end section to make ejector effortlessly.

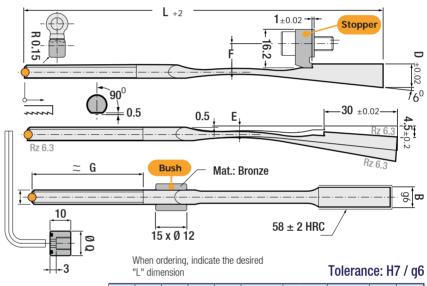
Min. 1



Xtra Sprung Core

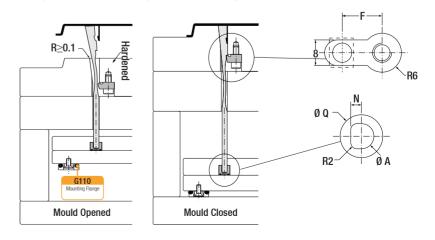
The stopper simplifies the adjustment and allows a longer lifetime guarantee. Completely adjusted to fit an H7 housing, radiuses already made on the head of the sprung core. Simple fixing system due to its external thread.

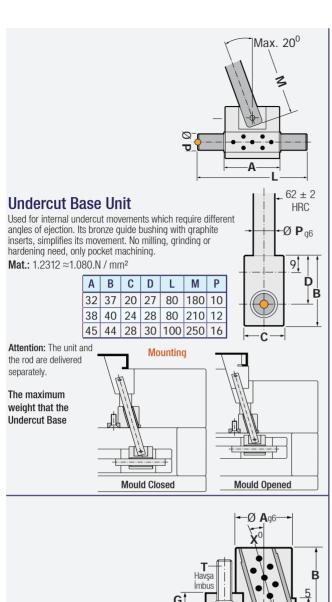
Available in three lengths. Jig to guarantee the part is cut at the exact length (supplied separately). **Material:** 1.8159 **Hardness:** 45 ± 3 HRC **Max. working temperature:** 150° .

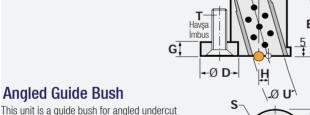


ſ	Λ	A B D E		_	L=	175	L	=250	L=	=325	N	0	
	Α	D	ט	E	'	G	Bush	G	Bush	G	Bush	IN	ų
	6	6.2	10	3.5	12.5	60	-	80	-	80	-	2.5	12
	6	8.2	10	3.5	12.5	60	-	80	-	80	-	2.5	12
	8	10.2	11.2	4.5	13.5	60	-	80	-	80	-	3.5	14
	8	12.2	11.2	4.5	13.5	60	-	80	-	80	-	3.5	14

As other ejector, it is operated with ejector plates. Especially, it is ideal to remove small lugs.







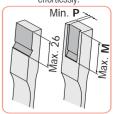
blocks, which only requires a straight drilled hole for fitting. It does not require oil grooves due to the graphite-bronze insert.

Material: 1.7242 Hardness: 58 ± 3 HRC

Α	В	С	D	Е	G	Н	T	U	X ⁰
30	34	34	16	20	6	0	M6x16	10	
34	38	38	20	24	8	0	MOVOO	12	5 ⁰
40	40	44	20	27	8	0	M8x20	16	
30	34	34	16	20	6	7	M6x16	10	
34	38	38	20	24	8	8.5	M8x20	12	10 ⁰
40	40	44	20	27	8	8.5	IVIOXZU	16	
30	34	34	16	20	6	7	M6x16	10	
34	38	38	20	24	8	8.5	M8x20	12	15 ⁰
40	40	44	20	27	8	8.5	IVIOXZU	16	
30	34	34	16	20	6	7	M6x16	10	
34	38	38	20	24	8	8.5	M8x20	12	20 ⁰
40	40	44	20	27	8	8.5	IVIOXZU	16	

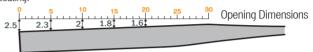
"S": Demounting screw hole.

After setting core, please machining from end section to "P" due to make ejector effortlessly.

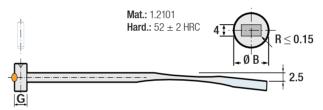


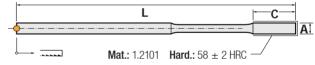
Flexible Sprung Core

Thanks to its parallel walls, this core allows undercuts to be released in compact areas (only 4mm. thickness). Include a simple system for adjustment. A new feature to this product is that it ejects first then releases the undercut. Minimum space required for installation, only needs the space of an ejector. No milling, grinding or hardening other than the machining of detail needed. All drilling is 90° to the parting line. Available with and without Balinit C® coating

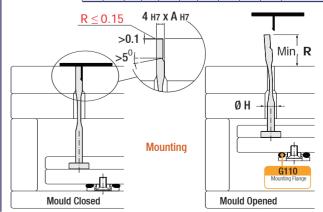


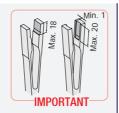
The opening of the sprung cores is a radial movement. Due to this, at the edge of the stroke, the opening is 2.5mm (0.098").





Α	В	C	G	Н	L	M	N	P	R	Balinit C		
4	8	24	6	6	0	12	1/	0.8	30	•		
5	0	24	O	6	150	12	14	0.6	30	•		
6	12					7						•
8	14	30	8	9	200	18	20	1.0	36	•		
10	16	30	0	11	7(10				•		
12	18			13						•		
6	12			7						-		
8	14	30	0	9	200	18	20	1.0	36	-		
10	16	30	80 8	11	2(10	20	1.0	30	-		
12	18			13						-		





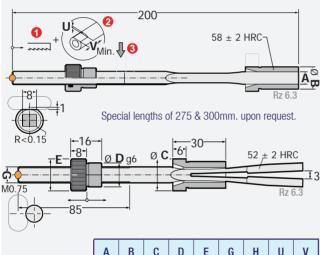
Double Ejector

Two separte movements in one component. Minimum space required for installation, only needs the space of an ejector.

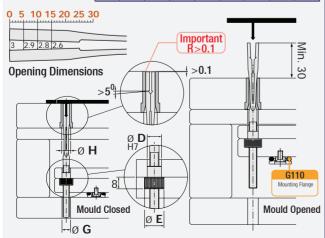
No milling, grinding or hardening other than the machining of detail needed. No need for complex mechanical systems. Useful to release small undercuts, this ejector is pre-adjusted and height adjustable. Easy to install, machining is 90° to parting line. The Balinit C® coating offers smooth action.

Material: 1.2101 Hardness: 45 ± 3 HRC Max. working temperature: 150° .

Every Ejector is adjusted individually with its bushing, with a tolerance g6/H7 between them. For this reason, it is important to keep track of both pieces in pairs while handling and installing. The opening of the sprung cores is a radial movement. Due to this, at the edge of the stroke, the opening is 2.5mm.



Α	В	С	D	Е	G	Н	U	٧
6	12	14	10	14	6	10		10
8	14	16	12	16	8	12	0.5	10
10	16	18	14	18	8	14	0.5	15
12	16	18	16	20	8	15		15

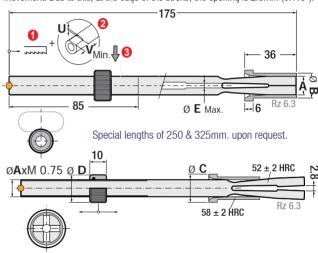


Tulip Ejector

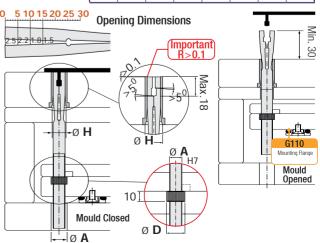
Four separte movements in one component. Useful to release small undercuts, this ejector is pre-adjusted and height adjustable. Cilindrical machining and made 90° regarding the parting line. No milling, grinding or hardening other than the machining of detail needed. The Balinit C® coating offers smooth action. Minimum space required for installation, only needs the space of an ejector.

Material: 1.2101 Hardness: 45 ± 3 HRC Max. working temperature: 150° .

Every Ejector is adjusted individually with its bushing, with a tolerance g6/H7 between them. For this reason, it is important to keep track of both pieces in pairs while handling and installing. The opening of the sprung cores is a radial movement. Due to this, at the edge of the stroke, the opening is 2.8mm (0.110").



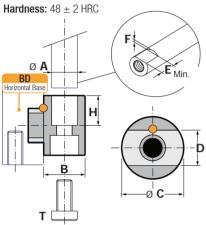
	Α	В	С	D	Е	Н	U	٧
	6	10	12	12	-	9		10
I	8	12	14	14	2	11	0.5	10
	10	14	16	16	3	13	0.5	10
I	12	16	18	18	4	15		15
l	16	20	22	22	8	19	1.0	20



Fixed Lifter Base

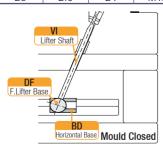
Keyed pocket for the lifter shaft. Minimum space required in the ejector plates. "DA" Allows easy adjustment of the lifter shaft height. "VI" (Lifter Shaft) may be used as ejector.

Material: INOX 1.4034



Α	В	С	D
6	12	20	11.5
8	12	20	11.5
10	16	24	13.5
12	16	24	13.5
16	20	32	19
20	25	38	21
25	31	48	28

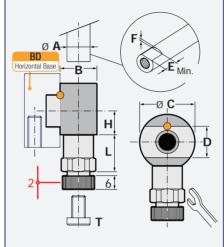
E	F	Н	Т
12	0.5	10	M4 x 12
12	0.5	10	M5 x 12
14	0.5	12	M6 x 16
14	1.0	12	M8 x 16
18	1.5	16	M8 x 22
21	1.5	19	M10 x 25
26	2.0	24	M12 x 35



Adjustable Lifter Base

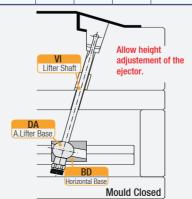
Keyed pocket for the lifter shaft. Minimum space required in the ejector plates. Allows easy adjustment of the lifter shaft height.

Material: INOX 1.4034 Hardness: 48 ± 2 HRC



Α	В	C	U
6	10	20	11.5
8	12	20	11.5
10	16	24	13.5
12	18	24	13.5

E	F	Н	L	T
15	0.5	9.0	14	M4 x 40
15	0.5	8.5	14	M5 x 40
17	0.5	10.2	16	M6 x 40
17	1.0	9.6	16	M8 x 40



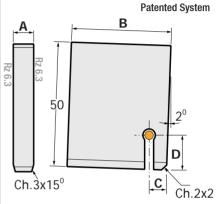
Lifter Head

Lifter Head hardened and ground to size.

No need for threads or dowel pins to attach the Lifter Head to the Lifter Shaft.

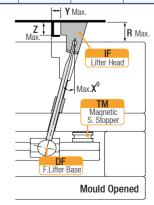
Offers a standard solution to the mould makers.

Material: 1.2344 Hardness: 45 ± 2 HRC



Α	В	C	D
6.2	40	6	12
8.2	40	7	14
10.2	44	8	16
12.2	44	9	18

R	Χ	Υ	Z
40	5	3.5	36
38	10	6.7	35
38	15	10.2	34
37	20	13.5	32

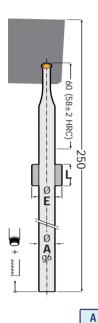


Lifter Shaft

Lifter shaft includes oilless bushing.

No need for threads or dowel pins to attach the Lifter Head to the Lifter Shaft.

Offers a standard solution to the mould makers.



Material: 1.3505 Patented System

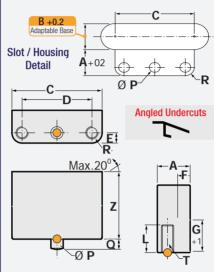
٧

Adaptable Base

Cam slide for internal lifters.

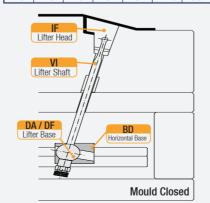
Different hardness and materials between base and limiter guarantees smooth movements. Minimum space required for installation.

Material: 1.2311 Hardness: 45 ± 2 HRC



Α	С	D	Е	F
12	36	28	4	4.8
14	66	42	4	6.3
16	40	30	5	6.3
20	60	44	5	8.3
25	72	56	7	10.3
31	90	74	8	13.3

G	L	Р	Q	R	Т	Z
11.5	10	5	5	4	M5	28
11.5	10	5	5	4	M5	38
13.5	12	6	5	5	M6	32
19	15	6	5	5	M6	40
21	18	8	5	6	M8	46
28	18	10	8	8	M10	58

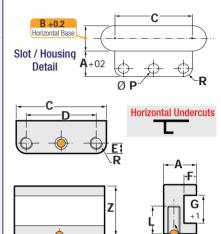


Horizontal Base

Cam slide for internal lifters.

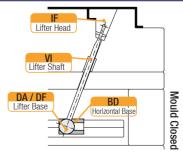
Different hardness and materials between base and limiter quarantees smooth movements. Minimum space required for installation.

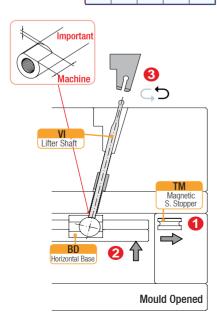
Material: 1.2311 Hardness: 45 ± 2 HRC



Α	С	D	Е	F
12	36	28	4	4.8
14	66	42	4	6.3
16	40	30	5	6.3
20	60	44	5	8.3
25	72	56	7	10.3
31	90	74	8	13.3

G	L	Р	Q	R	T	Z
11.5	10	5	5	4	M5	20
11.5	10	5	5	4	M5	22
13.5	12	6	5	5	M6	24
19	15	6	5	5	M6	32
21	18	8	5	6	M8	38
28	18	10	8	8	M10	48





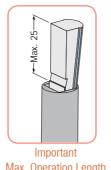
Ε 10 15 0.5 12

14 10

20 0.5 14

8 12 20 0.5 12

12 16 20 1.0 14



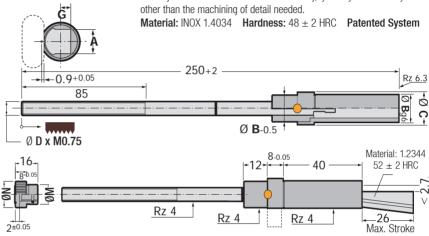
Max. Operation Length

Standard Lifter

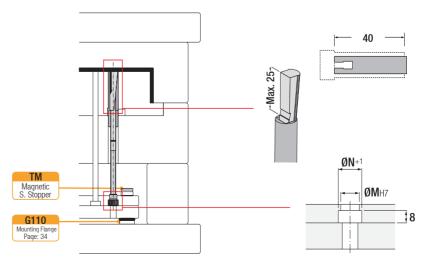
Compact unit for the release of small undercuts.

The unit is completely pre adjusted and easy to install. The space required for installation is reduced due to the vertical movement perpendicular to the ejector plates.

Minimum space required for installation, only needs the space of an ejector. Mechanical solution. No milling, grinding or hardening



Α	В	С	D	G	M	N	R
6.2	10	12	6	3.4	12	16	1.25
8.2	12	14	6	4	12	16	1.25
10.2	14	16	8	4.2	14	18	2
12.2	16	18	8	4.2	14	18	2



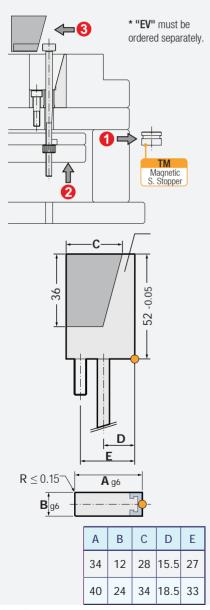
Vertical Lifter Block

They are used along with mechanic Vertical Lifters, in profile block vertical lifting.

Material: 1.2842 Hardness: 56 ± 2 HRC

Usage: Removal process of profile block (according to technical drawing detail).

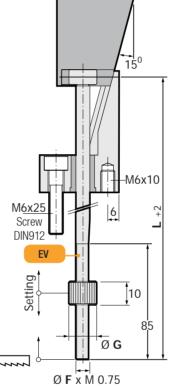
- 1- Pull "TM" (Magnetic Stopping) safety disc.
- **2-** Push ejector plate forward.
- 3- Remove lifter housing.



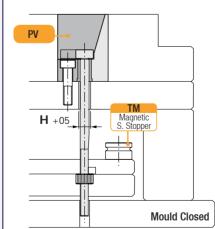
Vertical Lifter

Reduces costs in machining and fitting. Reduces costs in tool downtime. All machining are made in a 90° position. Less space required compared to conventional solutions. Offers a standard solution to the mould makers.

Material: 1.2344 **Hardness:** 50 ± 2 HRC Patented System



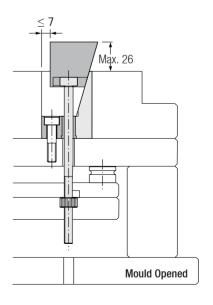
150	
	-
M6x25 Screw DIN912	
EV	
Setting	
Ø G 85	
Ø F x M 0.75	-



y.		
١	1	/.

When ordering, indicate the desired "L" dimension after the reference.

F	G	Н	I	-
6	12	6.5	150	225
12	18	12.5	150	225



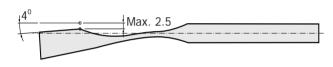
Custom-Made Sprung Cores

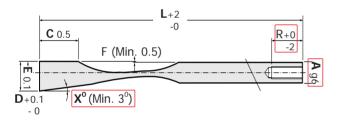
Special sprung cores to suit your dividual requirements.

If no other Cumsa undercuts product is compatible, this is your solution. Delivery time from 6 to 8 weeks.

Different strokes and undercut dimensions are available.

Hardness: 45 ± 3 HRC **Material:** 1.8159









The dimensions A, R and X° will be determined by Cumsa depending on the head dimensions required by the customer.

Custom-Made Sprung Cores

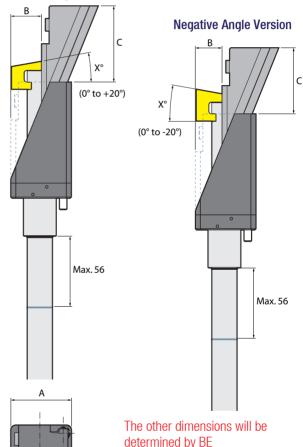
	В	С	D	Е	F	L	Pcs.
Custom nade							
Custoroduce							

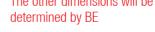
Custom-Made Angular Dog Lifters

This unit allows to use the advantages of the DB reference in angled parts. To order this part just fill the Ordering Table provided. Once we receive the required dimensions we will send to you a 3D file for your approval.

Material: 1.2311 Gas Nitrided ≈ 840Hv.

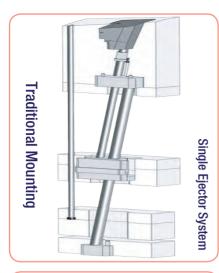
Positive Angle Version





Custom-Made Angular Dog Lifters

	Α	В	+X ⁰	-X ⁰	Pcs.
nade	44				
Custom diduction	48				
Cr. Sto	54				



Automatic Dog Lifter

Designed to function with just one set of ejector plates, saving machining costs and reducing the size of the mould. Undercuts of up to 26mm with just 56mm stroke. This innovative system gives the capability of designing their own insert.

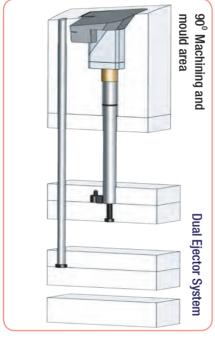
Material: PKT-117 Hardness: 42 ± 2 HRC. Gas Nitrided \approx 840Hv.

Dog Lifter Limiter

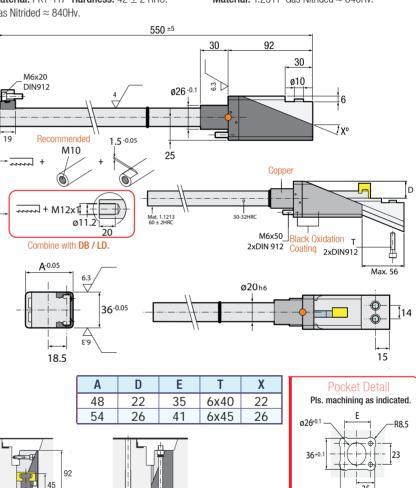
In single ejector plate systems.

Limits the stroke of a lifter with respect to the ejector stroke. Enables two stage ejection with only one ejector plate. All movements are 90° to the parting line. Minimum space required for installation.

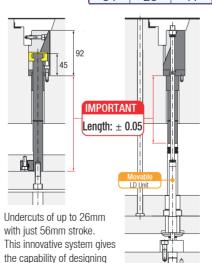
Material: 1.2311 Gas Nitrided \approx 840Hv.



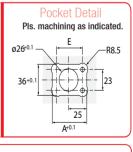


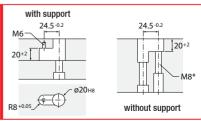


separately



their own insert.





Copyright © Balambigai Enterprises

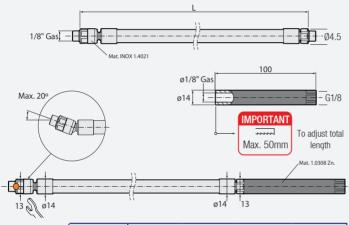


"DR" Cooling Hose

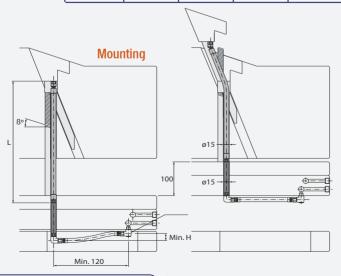
Cooling Hose for 90° "DR" Lifters.

The swivel coupling prevents the hose from bending excessively when demolding the undercut.

Maximum cooling fluid temperature 50°C.



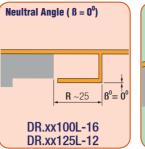
Вo		H							
D.	DR.xx-8 DR.xx12		DR.xx16	DR1.xx20					
0 °	10	10	10	10					
+1°~+9°	10	10	10	15					
+10° ~ +20°	10	15	20	25					
>+20°	15	20	25	30					

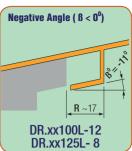


Important

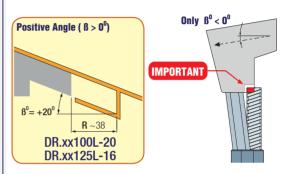
Please indicate the required L dimension when ordering; the length will be rounded up to the next multiple of 25mm.

Double Rack Lifter (DR) Selection Table





Designed according to the colour system in the table!



ßo	DR.xx-	100L - 8	DR.xx-1	100L-12	DR.xx-	100L-16	DR.xx-	100L-20
ID.	S (-B°) S (+B°)		S (-B°) S (+B°)		S (-ß⁰)	$S(-\beta^0)$ $S(+\beta^0)$		S (+B°)
0	14	1.0	21.2		28	3.6	36.4	
1	14	14	21.1	21.3	28.5	28.8	36.1	36.6
2	13.9	14.1	21.1	21.4	28.3	28.9	25.9	36.8
3	13.9	14.1	21	21.5	28.2	29.1	35.7	37.1
4	13.9	14.1	20.9	21.5	28.1	29.2	35.4	37.3
5	13.8	14.2	20.8	21.6	27.9	29.4	35.2	37.5
6	13.8	14.2	20.7	21.7	27.8	29.5	35	37.8
7	13.8	14.3	20.7	21.8	27.7	29.7	34.8	38.1
8	13.7	14.3	20.6	21.9	27.5	29.8	34.6	38.3
9	13.7	14.3	20.5	22	27.4	30	34.4	38.6
10	13.7	14.4	20.4	22	27.2	30.2	34.2	38.8
11	13.6	14.4	20.4	22.1	27.1	30.3	33.9	39.1
12	13.6	14.4	20.3	22.2	27	30.5	33.7	39.4
13	13.6	14.5	20.2	22.3	26.8	30.7	33.5	39.7
14	13.5	14.5	20.1	22.4	26.7	30.8	33.3	40
15	13.5	14.6	20.1	22.5	26.6	31	33.1	40.3
16	13.5	14.6	20	22.6	26.5	31.2	32.9	40.6
17	13.4	14.6	19.9	22.7	26.3	31.4	32.7	40.9
18	13.4	14.7	19.8	22.8	26.2	31.6	32.5	41.2
19	13.4	14.7	19.8	22.9	26.1	31.8	32.3	41.6
20	13.3	14.8	19.7	23	25.9	32	32.1	41.9

Object Position / Mounting & Demounting Measurement Table:

Stroke	F	G	Н	J	K	М	N	S	T	W	Υ	Z
DR16	10	4.6	4.5	3	2.35	3	2.8	2.5	M5	6	9	M4
DR22	13	5.6	5.6	4.2	3.7	4.2	3.5	2.5	M6	8	12	M4
DR28	16	7.5	7.5	5	5.4	4.8	4.8	2.5	M8	8	13.5	M4
DR34	16	10.5	8	7	7	5	6	4	M8	8	16	M4
DR40	20	11	11	7	8	7	7	4	M10	10	20	М6
DR46	25	13	13	8	8	9	9	5	M12	10	24	M6

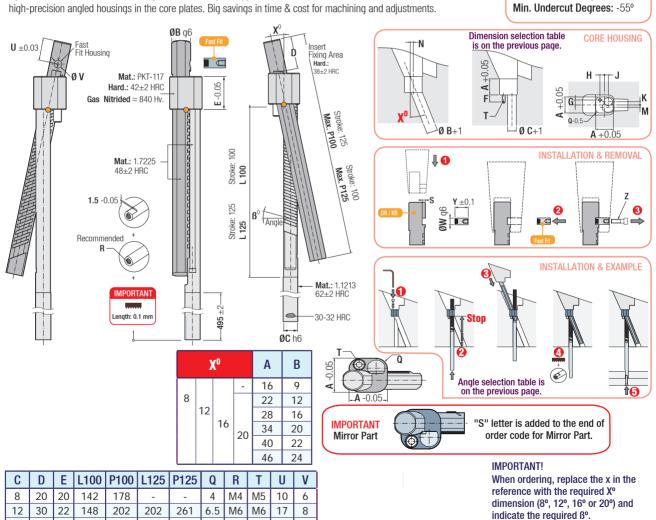


Double Rack Lifter System

De-moulding strokes from 14mm to 60mm. Significant reduction to the ejection stroke. "Mirror" parts available for 1+1 cavities moulds.

In Mounting: Fast delivery of the required draft. Vertical function maximizing strength. Complete flexibility for the moulding insert dimension. Eliminates the need for high-precision angled housings in the core plates. Smaller and less expensive injection machine required. Possibility to produce angles bigger than $\pm 20^{\circ}$ upon request. Eliminates the need for high-precision angled housings in the core plates. Big savings in time & cost for machining and adjustments.

Stroke (Value): 14mm.
Undercut Width (Value): 70mm.
Ejection Stroke: 100mm.
Mechanism Type: Mechanical
Cooling Available: Yes
Max. Undercut Degrees: +35°



170

40

36

42 | 46 | 175

214

227

244

258

194.5

188.5

204

201

266

264

284

289

8.5 M8 M8 23 8

10.5 M10

10.5 M12 M10

10.5 M16 M12

M8 23 8

20 10

10

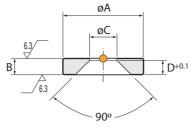
14 36 28 152.5

16 36 34 160.5

20

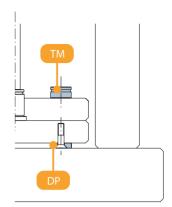
Ejector Foot

This unit is fixed through both ejector plates in conjunction with the spacer discs to provide support to the plates. These are fixed to the ejector plates so eliminating machining in the back plates. Easy installation by using just one screw.



ø22 ≤60N

Α	В	С	D
20	5	6.5	3.5
25	5	8.5	4.4
28	6	12	5.5



Magnetic Safety Stopper

Magnetic Area

Magnetic Area

A-0.1

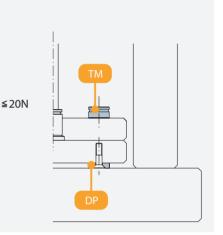
Magnetic Area

A

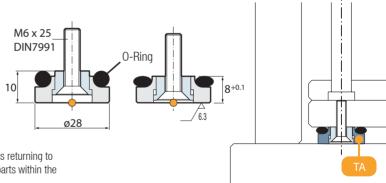
10

12.5

It can be easily removed to release the grip on the pins when required.

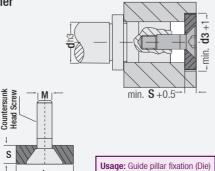


Shock Absorber Disc



Used to minimize the vibrations caused by the ejector plates returning to position. The main advantage is the increase in the life of parts within the ejector frame through the reduction of damage and wear.



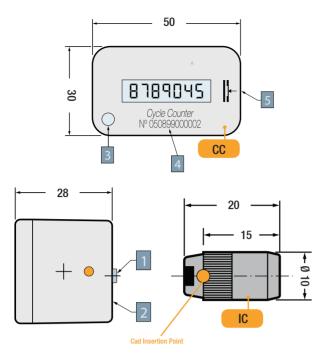


Support washer (Mould)

★ Reliable product used for guide pillar with centre collar mountings min. d3 + 1

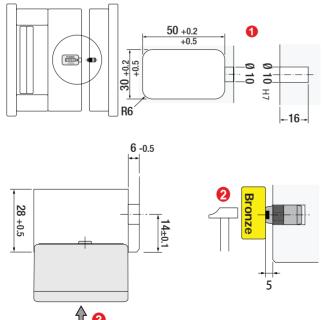
★ It can also be used to support for ejector plates in injection moulds / etc.

Ø d3	Pillar Diameter d	Flange S	Screw M
22	Ø 15 / 16		
25	Ø 19 / 20	5.5 mm	
32	Ø 24 / 25	111111	
40	Ø 32 / 30	7.5	M8 x 20
50	Ø 38 / 40	0.5	
60	Ø 48 / 50	9.5 mm	
73	Ø 60 / 63		
93	Ø 80	12	M12 x 20



- 1 Security Switch
- 4 Unique Part Number
- 2 Magnetic Fixing
- 5 IC Position Indicator
- Total + Partial (Reset & Setting Up)

Reset & Setting Up	Cycles / Min.
Suitable	Up to 500



High Speed Cycle Counter

The Counter is expected to last 3 to 5 years, if it worked 24hour 7day / 12 month. The Counter battery starts working when it is installed in the mould. When the Counter is removed from its placement, a capital "E" (error) is shown on the screen, which you cannot delete.

This mechanism only activates after the first 25 consecutive shots. In case you want to know the injected pieces during mould testing, you can install the Counter and remove it with tape before the 25th shot, then the Counter will go back to 0. As it has 7 numbers, it can count up to 9.999.999 parts.

To check exact total life time of the mould. To ensure that how many shots a determined mould made when our sourced. To predict preventive maintenance. Available with partial reset. The unique part no for each counter gives a guarantee to the mould makers and a planning aid for maintenance to the mould makers. Any tampering with the unit is shown in the screen.

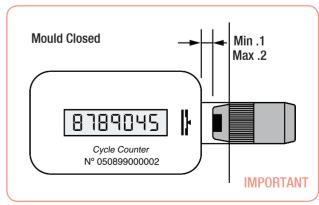
This unit contains an electronic circuit which counts the number of cycles made by the mould.

Mounting instructions:

- 1 Please machine housing in a way that as determined in technical drawing.
- 2 Please hammer Counter Pin (IC) of Counter to housing with bronze hammer.
- 3 Please insert Counter unit (CC) its housing.

Working temperature:

We recommend the Cycle Counter be placed at zones under 60 °C (140°F).



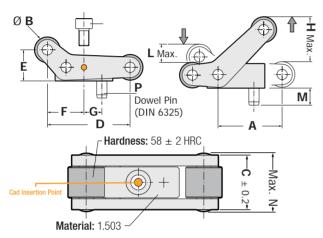
Ejector Plate Accelerator

This item allows increased movement of a second ejector plate within a normal ejector stroke. Simple mechanical double ejection system.

Minimum space required for installation.

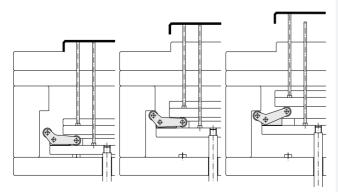
Avoids complex systems like others currently available in the market. In small and medium moulds with standard ejectors, 1 piece is sufficient. In more larger moulds and systematic moulds according to their configurations, dual Ejector Plate Accelerator can be used.

In a symmetric manner, generally 4 pieces.



Α	В	С	D	Е	F	G
20	8	13.2	25.8	9.4	11.4	6
25	10	16	32.3	11.8	14.3	7
37.5	15	22	48.5	17.7	21.5	10.5
50	20	30	64.6	23.6	28.6	14

H Max.	L Max.	M	N	ØР	T	Max. Force
11.6	4.4	5	15	2.5 x10	M3 x12	125 Kg.
15	5.7	6	18.5	3 x12	M4 x16	250 Kg.
23.5	9.1	8	25	4 x16	M6 x25	350 Kg.
32	12.5	10	34	5 x20	M8 x30	800 Kg.

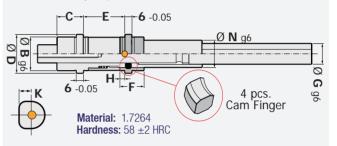


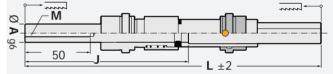
NOTE: It is recommended two piece to be used reciprocatively in ejector system in mould applications.

Superior Double Ejector

The rear plates stop and the upper plates continue for the full ejection stroke. Thanks to the assembly of the units away from the center of mold but within the ejector frame the space required for installation is drastically reduced leaving more space for other mechanisms. Also works as the ejector guide pins and bushes, having the possibility of eliminating the need to install extra items.

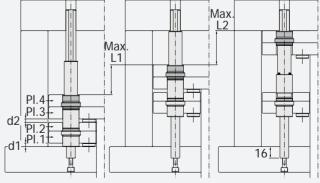
Maximum working temperature 150°C.





	Α	В	С	D	Е	F	G	Н
	14	26	22	30	34	20	16	4
ĺ	16	30	27	34	44	23	18	6

J	K	L	M	N	L1	L2
125	7.2	243	M6	21	42	48
152	8	314	M8	24	54	80

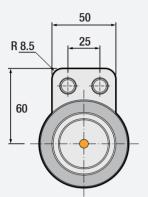


Standard Ejector Plate Combination

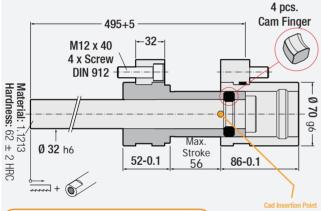
Size	D	X.14	1262	2
mm	1	2	3	4
d1	5	5	5	5
Pl.1	17	17	17	17
Pl.2	9	12	12	12
d2	13	10	5	5
Pl.3	12	12	17	17
Pl.4	9	9	9	12

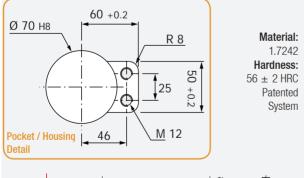
Size		DX.163027								
mm	1	2	3	4	5	6	7	8	9	
d1	5	5	5	5	0	0	0	0	0	
PI.1	22	22	22	22	27	27	27	27	27	
PI.2	12	12	17	17	17	17	17	22	22	
d2	5	5	5	5	5	5	10	0	0	
PI.3	27	27	22	22	22	22	17	22	22	
PI.4	17	22	12	17	12	17	12	12	17	

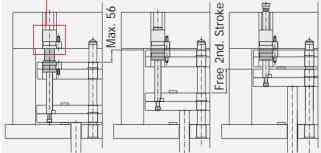
Compact Double Ejection



Developed for medium / large moulds. The upper ejector plate stops when reaching the core plate, and the rear plate continues until it reaches the upper plate. As the assembly of the units is not in the center of the mold, but within the ejector frame, the space required for installation is drastically reduced. Double ejection up to 56mm.



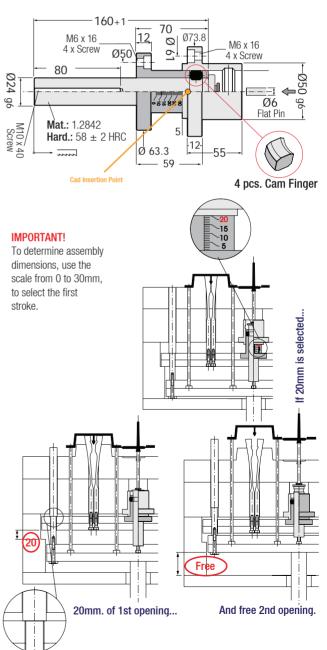




Two-Stage Ejector System

This unit divides the ejection travel in two predefined steps. Useful to obtain automatic ejector strokes in moulds with sprung cores and collapsible cores units. Only round pockets needed to install the part. Double ejector stroke up to 30mm.

Material: 1.7243 Hardness: 58 ± 2 HRC

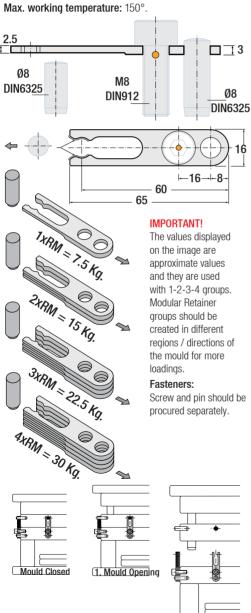


Modular Retainer

more use is needed.

Useful for moulds that require delayed opening of parting line. Resistance can be increased by adding clips. No pocket machining required as needed with other similar products on the market. Minimum space required for installation. Reduces costs compared to conventional mechanisms. 4 pieces can be used on same surface max. The system should be distributed to different areas if the

Material: 1.8159 Hardness: 45±3 HRC

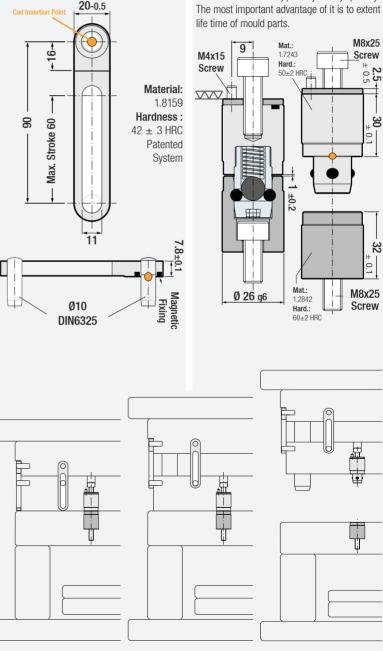


Stroke Limiter

Stroke mechanical limiter for PR - Plate Retainer. When PR coded product is used dual opening systems with stripper limit stroke of bearing plate which is opened first in 1st group. Possibility to reduce the max. opening - 60mm. Then 2nd group's opening is engaged.

Plate Retainer

PR - Guarantees that the second opening stays closed until the first is completely open. 50 Kg. opening load required per unit (Minimum of 2 parts required). Possibility to change inner spring from the parting line. Also protects mould affecting from vibrations and impacts by reducing speed tension and absorbing pinking during opening. The most important advantage of it is to extent life time of mould parts.

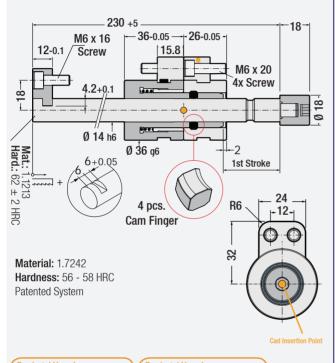


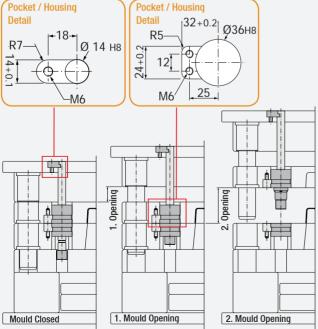
2. Mould Opening

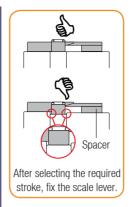
Internal Latch Lock

Controls two stage opening of the tool. Internal mechanism. Reduced space required for installation. Developed for small / medium tools.

Can also be used to control two sets of ejection plates for two stage ejection.



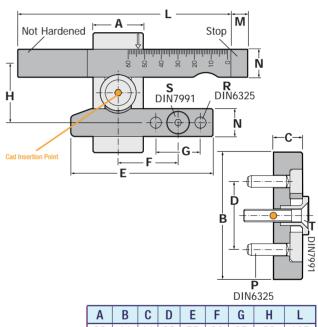




Latch Lock

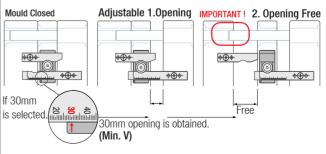
Designed for two steps opening moulds. The gradual scale allows selection of the first opening. The priority of opening depends on position of assembly. More accurate first plate opening compared to other conventional systems. Scale lever indicates opening of the first plate. Reduces costs compared to conventional mechanisms.

Material: 1.2842 **Hardness:** 55 ± 3 HRC (friction area) Patented System



Α	В	C	D	Е	F	G	Н	L
22	66	16	38	75	30	25	32	105
36	86	19	46	102	43	32	42.7	153
42	106	24	56	124	51	40	50.2	190

M	N	P (x2)	R (x4)	S (x2)	T	V	Scale
10	15	6x20	6x30	M6x30	M6x35	10	40
12	20	8x24	8x36	M8x35	M8x40	11.5	60
15	24.5	10x30	10x40	M10x40	10x45	14	80



Threaded Limiter

Threaded Limiter (LR) is mounted and fixed to mould rear mounting / bearing plate (H5 A). Movable bush part of the unit is inserted into the ejector plates.

Limits the stroke of a threaded lifter with respect to the ejector stroke.

Enables two stage ejection with only one ejector plate. All movements are 90° to the parting line.

Fine tread part of AL also can be used as joint Hardness: 58±2 HRC Max. working temperature: 150° Material: 1.7243 adapter for PW - Sprung Cores & PS - Standard Lifters. PW / PS / DL 218 +2 -Sprung Core Standard Lifter Dog Lifter 2 pcs. 8 ± 0.05 Cam 88 Ø 10 -0.05 Finger 16 4.5 LR.081620 3.5 PX / ED / EE Xtra Sprung Core Double Ejector / Tulip Ejector as per request В $L1 \leq 40$ $L2 \le 40$ M5x16 M4 x 10 Ø 20 g6 M5 x 10 16 M6 x 10 AL M8 x 10 Ø 19.8 ± 0 24 x M0.75 12 8 -0.05 22 -21 10 70 Cumsa Dog Lifter L1 L2 L1 **8**+0.2

Threaded Limiter Adapter

positioning of LR.

In Addition:

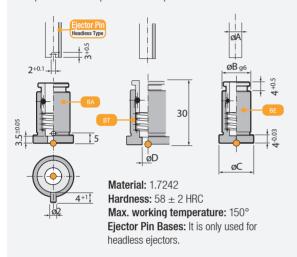
Allows the use of the **LR** for internal threads.

It is a dual different threaded adapter providing

Copyright © Balambigai Enterprises

Ejector Pin Base (for headless ejector pins)

The ejector base unit is an automatic unit which holds the ejector pin in position until the top is actuated. The pins can be taken out from the front of the tool. Enables quick replacement of ejectors, ejector sleeve and moulding inserts without taking the mould from the press. There is no requirement for strip down when repair or maintenance is needed.



	ì				
Α	В	С	CR(N)		
3	11	15	≥ 2550	Material:	
4	12	16	≥ 2550	Brass	→ CR
5	13	17	≥ 3800	4	'_
					6.3/
		_			1 A.

	Δ	Δ	Λ	۸	ΛR	Δ	A B	A B	С	D	
	А	Б	-	BA	BT						
	6	14	18	3.5	4.2						
	8	16	20	5.5	6.2						
	10	18	22	7	7						
	12	20	24	9	9						
	emove		Insert a Ne								

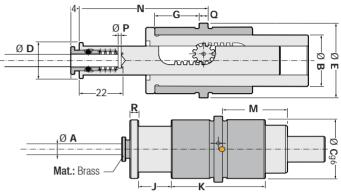
12 20 24 9 9 Remove Ejector Pin State of the Augustian State of th

Accelerated Ejector

Allows to increase the stroke of selected ejectors within the tool. It is easy to install due to its cylindrical shape and possible to automate conventional tools Enables 8mm. / 15mm. / 20 mm. additional stroke on one ejector pin. Only round pockets needed to install the part. Possible to key. Enables quick replacement of the ejector pin.

 $\label{eq:material: 1.7225} \mbox{Hardness: } 54 \pm 2 \mbox{ HRC} \\ \mbox{Max. working temperature: } 150^{\circ}$

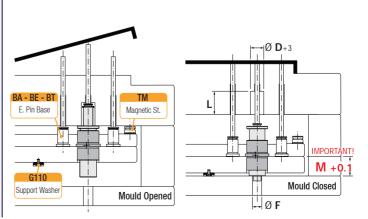
Patented System



Α	В	С	D	Е	F	G
3	16	20	12.5	22	13	14
4	16	20	12.5	22	13	14
5	24	30	16	34	16	20
6	24	30	16	34	16	20
8	24	30	17	34	17	20
10	30	36	21.5	40	21	28
12	30	36	21.5	40	21	28

J	K	L	M	N	Р	Q	R
8	32	22	17	37	-	4	3
8	32	22	17	37	1	4	3
15	44	36	27	57	2	4	3
15	44	36	27	57	2	4	3
15	44	36	27	57	2	4	3
20	62	46	34	78	2	6	4
20	62	46	34	78	2	6	4

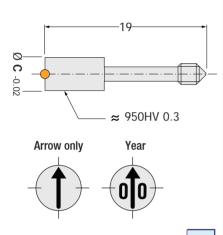
When the internal bushing of this piece gets in contact with the plate, the mechanism starts working. From that point, the ejector of the **AE** goes at double stroke. The maximum extra is:



High Temperature Insert for Date Stamp

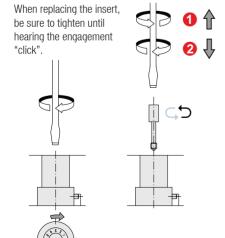
Due to fact that the insert is adjustable / removable from the front of the mould, there is no need to remove the tool from the machine or disassemble the mould.

Material: 1.2344 Nitrided



C 4.7 6.7

IMPORTANT!

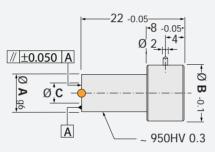


High Temperature Date Stamp

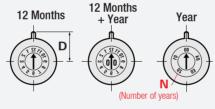
High temperature date stamp. Designed for injection mold tools which operate in high temperature environments,

like: Zamak, Zinc, Polyester, Bakelite, etc.. Possibilty to change annual insert.

Material: 1.2344 Nitrided + Inconel 2.4669 Max. working temperature: 450°



Possibilty to change annual insert.



Α	В	С	D	N
8	12	4.7	11	5
12	16	6.7	12	8

Α	В	С	D	N
8	12	4.7	11	5
12	16	6.7	12	8

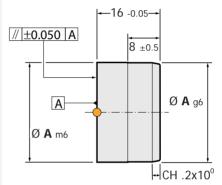
Α	В	С	D	N
8	12	4.7	11	5
12	16	6.7	12	8

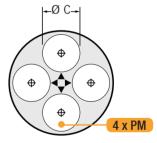
Block Base Insert

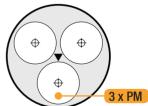
Wide range of diameters. Possibility of 3 or 4 information's. Only a H7 pocket required for assembly. No downtime when changing inserts. Guarantee that the insert will be replaced due to internal mechanism.

Material: INOX 1.4034 Hardness: 51 ± 3 HRC

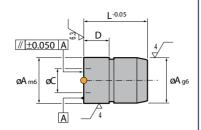
Max. working temperature: 150°







Α	С	Ε	#PM
16	6.5	8	3
18	6.5	8	4
22	8.7	10	3
25	8.7	10	4
28	11.5	12	3
32	11.5	12	4



Date Stamp Plus

Possibility for cooling circuits below the date stamp as they are removed from the front (with the EF). Inner insert is always at the same level as the body of the date stamp. Exact outer number positioning, Ideal clamping area.

Material: INOX 1.4034 Hardness: 51 ± 3 HRC

Max. working temp.: 150°

Removal Jig Set

Removal Jig Set for the Date Stamps

Α	С	D	L	N
4.0	2.2	5.5	12	4
5.0	3.0	5.5	12	4
6.0	3.2	8.0	20	5
8.0	4.7	8.0	20	5
10	5.7	8.0	20	6
12	6.7	8.0	20	8
16	8.7	8.0	20	10
20	10.7	8.0	20	10

Options:



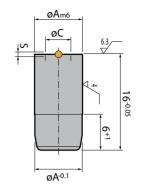


12 Months 12 Months

+ Year



Blank



Xtra Date Stamp

This is a permanent date stamp where only the central year insert is changed. The month is changed by using a screwdriver. Completely stainless. Only a H7 pocket required for assembly.

Material: INOX 1.4034 Hardness: 51 ± 3 HRC

Max. working temp.: 100°

Α	С	Е	N	S
6.0	3.2	4	5	0.25
8.0	4.7	6	5	0.25
10	5.7	8	6	0.35
12	6.7	10	8	0.35







12 Months 12 Months + Year

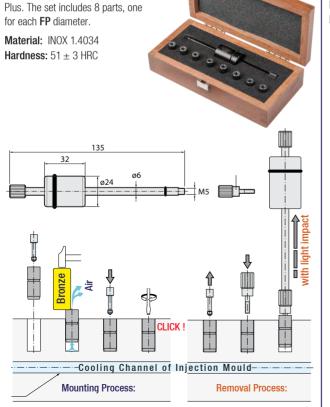


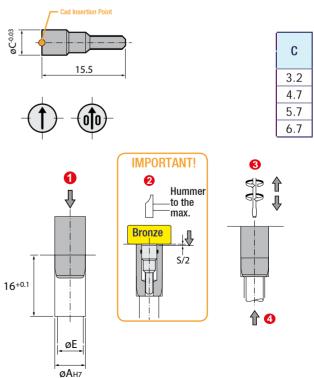


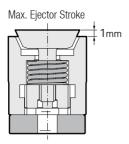
Xtra Insert for Date Stamp

Due to fact that the insert is adjustable / removable from the front of the mold, there is no need to remove the tool from the machine or disassemble the mould.

Material: INOX 1.4034 Hardness: 51 ± 3 HRC



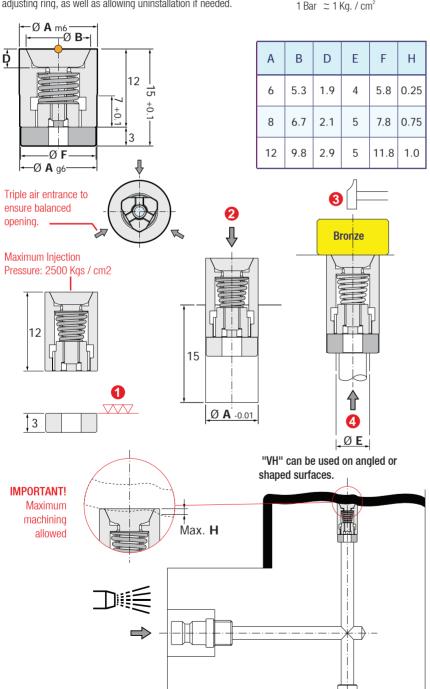




Air Valve for High Pressure

Developed for high injection pressures and high speed cycles. Incorporates an internal stopper to sustain injection loads, preventing the system to block. Keyed unit to allow the installation in angled or shaped surfaces. Easy installation thanks to its adjusting ring, as well as allowing uninstallation if needed.

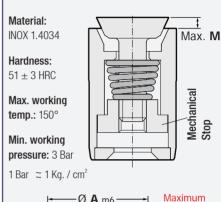
Material: INOX 1.4034 Hardness: 51 ± 3 HRC Max. working temp.: 150° Working pressure: 2-10 Bar

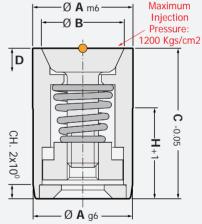


Air Poppet Valve

Manufactured completely from stainless steel this unit has the advantage of high airflow.

Helps part ejection with air. Recommended working under 150°C (302°F). Above that temperature, steel starts dilatation, so the resort introduced on the Air Valve would lose efficiency. If so, the plastic material could go in and the Air Valve would be damaged.

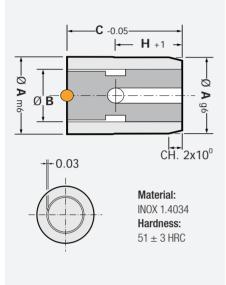




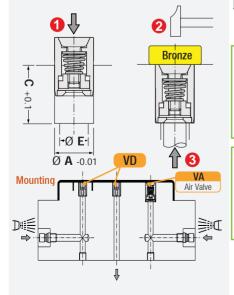
ı	Order	Α	В	C	D	Е	Н	M
	VA.050412	5	3	12	1.5	4	7	2.5
	VA.065212	6	5.2	12	1.5	4	7	0.95
	VA.086512	8	6.5	12	1.5	4	7	0.95
	VA.100812	10	8	12	2	8	7	0.95
	VA.121012	12	10	12	2.5	10	7	0.95
	VA.161320	16	13	20	3	12	12	1.55
	VA.201720	20	17	20	3.5	16	12	1.55
	.,,							

Double Air Valve

An effective method of semi pneumatic ejection, for moulds with ribs (in thin walled mould) or areas forming gas traps or vacuum conditions. Helps part ejection with air. Allows venting.



Α	В	С	Е	Н
8	5	12	4	7
10	6	12	5	7
12	8	12	7	7
16	10	20	9	12

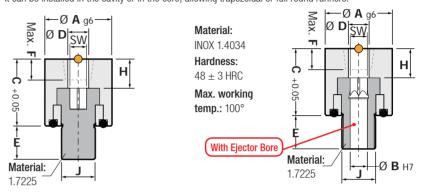


Sprue Adjuster

It is suitable to use on high injection pressure and fast / mass production stamps. This unit allows runner shut off directly from the parting line.

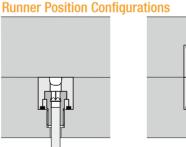
Two models are available, depending if an ejector pin is required or not.

It can be installed in the cavity or in the core, allowing trapezoidal or full round runners.

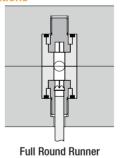


Α	C	D	Е	F	Н	J	SW
12	14	4	6	3	5	M6	3
16	16	5	8	5	7	M8	4
20	18	6	10	6	9	M10	5

Α	В	С	D	Ε	F	Н	J	SW
12	3	14	4	6	3	5	M6	3
16	4	16	5	8	5	7	M8	4
20	5	18	6	10	6	9	M10	5



Trapezoidal Runner



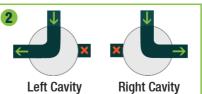


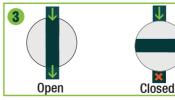


 \downarrow

Closed



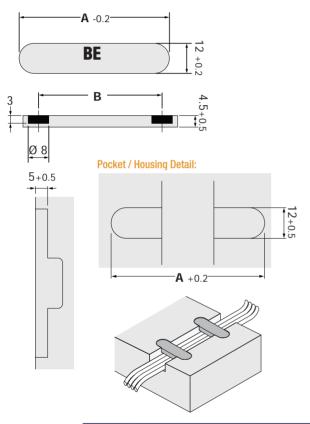




Cable Retainer Cap - Magnetic

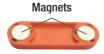
(Magnetic & does not require extra hole)

Especially in hot runner moulds, it keeps the diffused cables clean and smooth in channel. The product is a magnetic material, it is self adhesive, and there is no need to drill and tap extra holes. We recommend keeping maximum mould temperature under 80°C. Because, plastic and even magnets can be affected and broke down due to high temperature.



Α	В	Material	Max.Temp.	
40	28	ABS + NfFeB	80°C	
/0	48	ABS +	80°C	
60		NfFeB	80°C	



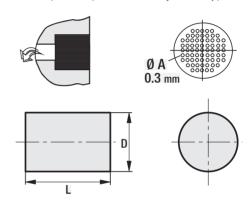


Gas Venting Filter for Diecasting

(Aluminium & Zamak moulds)

It is designed / produced with heat treated and large discharge poles. It is a specially designed and highly productive product for Diecasting Moulds & Injection Moulds.

The service life of the product is longer than the equivalent products. You can minimize product replacement times by increasing productivity levels.



D (Ø)	L (mm)	A (Pore pcs.)
3.0	10	40
4.0	10	40
5.0	10	90
6.0	10	90
8.0	10	200
10	10	340
12	10	340
16	15	340
20	15	550

It is resistant to high temperature and pressure.

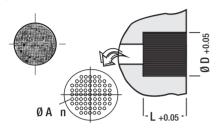






Sintered Gas Venting Filter

With its sintered & multi-pores structure, it is a special product which discharges compressed gas in injection moulds. Sintered Gas Venting Filters are used for optimum venting of the mould cavity. It is a high quality, stainless product which does not leave marks on injected objects and can resist high pressures.



D	L	Α	n		D
1.6		6.	6.5		
2.0	5		/ 400		9.0
2.5	כ	-	250 /		10
3.6		0.03	2		12.5
4.1	9		0		15
5.0	10		880		20

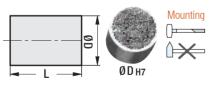
D	L	Α	n
6.5	5		
9.0)		880
10	10)5	ά
12.	5 10	0.05	
15			1200
20			12





Sintered Gas Venting Filter with Steel Casing

- External surface grinded.
- Sintered structure.



Material: Stainless Sintered Steel Filter Fineness: 10 Microns Tension: 300 N / mm²

Resistance: Weak bases - Organic acids,

Plastic melts - Synthetic resins

D	L
4	
6	10
8	
10	12

D	L
12	12
16	14
20	15
28	15

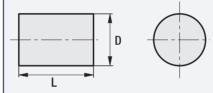


Gas Venting Filter - Yellow Wired

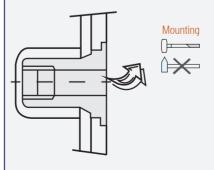
In injection moulds, it drains unwanted gas created by melted raw material fast via wide channels. Does not resist to very high pressures, can dent. It can leave a mark on objects in stamp. It is mostly suitable to be used inner parts. It can be used in metal injection moulds which do not require very high temperature. It is an economical product.

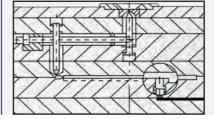
In Mounting: Please use copper / rubber hammer. Do not make any mechanic or polishing / levelling process on filter unit, since this would clog up the pores.

In Production: Never touch Venting Filters on operating moulds by hand.



D	L
3.0	8
4.0	10
5.0	10
6.0	10
8.0	10
10	10
12	10
16	10





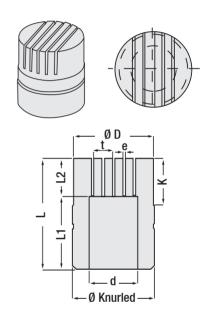




Air Venting Valve for Blow Moulding

It is used in blow mouldings for optimum ventilation to mould cavity. Due to the air channels of valve being parallel and wide, it drains the air in mould rapidly, also air chamber inside of the unit acts as a pool in drainage of the air. If the burrs become on the product that should be cleaned instantly. Those burrs causes adhesion to pores. For cleaning, the compressed air or cleaning spray can be used.

Mounting: It provides tight keep and inside the safe of hole thanks to its knurled outer part.



Order	STV. 0610	STV. 0810	STV. 1010	STV. 1210
D	6	8	10	12
L	10	10	10	10
d	4.3	5.7	6.1	8.1
t	2.0	2.0	2.0	2.0
е	0.3	0.3	0.3	0.3
K	4.0	4.5	4.5	4.5
L1	7.0	6.5	7.0	7.0
L2	3.0	3.5	3.0	3.0
Knurled	6.1	8.1	10.1	12.1

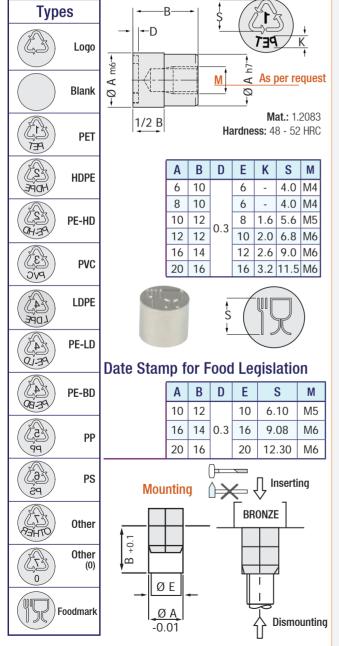


Recycling Date Stamp

(Plastic raw material data, definition & recycling stamps)

Text and Definition Characters: It is for precise sign / mark and definition of plastic raw material that is inlaid in 0.2 depth (conical graduated) processing on moulds in production according to diameters. In Addition, it facilitates to recognize raw material that is about to break.

Stamp: It is compatible with DIN 6120 single symbol, ISO 1043-1 normal sign / mark and international codes.



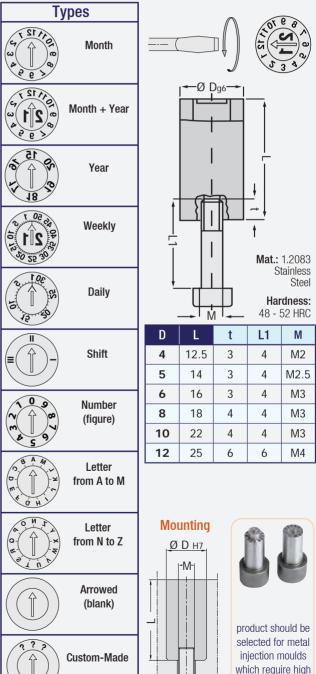


Date Stamp - Screwed

The Date Stamps which are mostly preferred for medium and small dimensional moulds.

Easy to mount and can be mounted on tools such as Ejector Pins.

Rotary inner hub of Date Stamps can be adjusted as limitless (worm gear). Mounting is completed by pressing on inner hub arrow and pulling with screw from lower part. **We offer wide range of options with our affordable prices.**



temp.

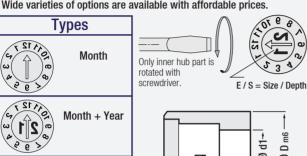


Date Stamp

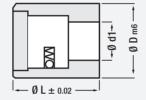
Standard Models

It is suitable to be used in all injection mould systems. Only a hole as product diameter (H7 - Reamed) is sufficient for mounting to mould. Mounting: Drill a suitable hole in the desired part of mould and place Date Stamp into it (with bronze or rubber hammer). Making a tight hole (not to rotate date stamp) is useful.

Wide varieties of options are available with affordable prices.



Year



E

3.5

3.5

4.0

6.0

8.0

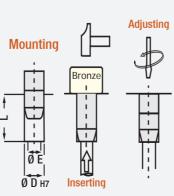
10

12

14

16

2 2 2 3 3	Weekly					
			D	L	d1	S
300	Daily		4	6	2	0.2
武 []			5	8	2.5	0.2
15.50		П	6	8	3.5	0.2
	Shift		8	10	4.5	0.2
= ()-)			10	10	4.8	0.2
			12	12	6.0	0.25
100	Number		16	14	7.8	0.35
v()%)	(figure)		20	14	9.7	0.35
\$ 5 9			25	25	12.7	0.35
8 A M	Letter					



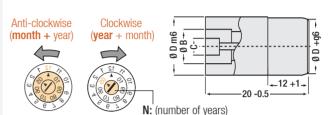




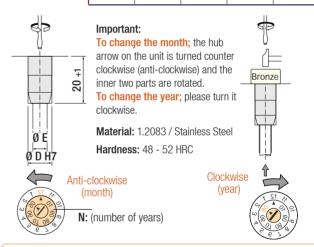
Multi-Date / Double Date Stamp

Two different Date Stamps, with a unit as months + years.

This Guvenal product reducing needs and area required for cost and two different Date Stamp, shows two different criteria on one unit. Its standard model is as 12 month + 6 year, in other words is not required any change along 6 years. The length of all Date Stamps are same (20 mm).



D	В	С	Е	N	
8	5.5	3	6	5	
10	6	3	10	6	
12	8	4	10	6	
16	10.5	5.3	12	10	
20	12	6	16	12	_



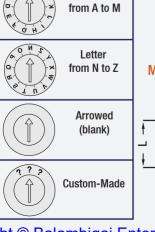
Mini Screwdriver Set **Date Stamp Adjusting Kit**



Mini Screwdriver Series:

6 pcs. rotary head set;

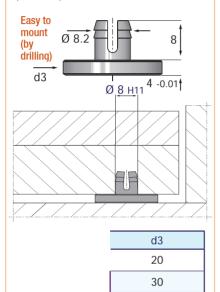
- + 4 pcs, 1.5 2 2.5 3 head mini screwdriver.
- + 2 pcs, PH0 PH1 phillips head mini screwdriver.
- * Chrome vanadium steel.
- * Blackened stainless ends.
- * Ergonomic handles.
- * Upper part of handle is rotary head.





Ejector Plate Thrust - Support

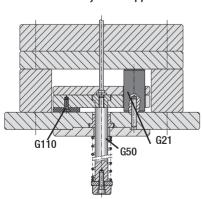
For using inside of the mould, this supports can be put under the plates. By drilling a hole (8mm / H11), flexible claws on product are opened inside of the hole and is retained. It can be easily removed during an impact. Thus, symmetry is provided in mounting and repetition of plates.





Mounting Flange

In-mould mounting kit & Support washer





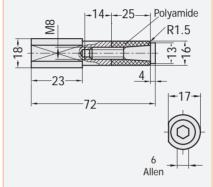
Friction Puller (Parting Locks)

This simple friction puller provides great benefit in "3-plate moulds" that average gravitation force and plate accuracy are sufficient.

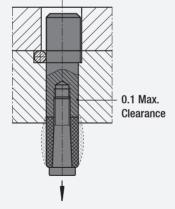
Similarly, it can be used as brake with stopping purpose between plates.

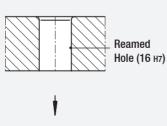
For example; if it is desired to wait or postpone opposite / counter parts motions or to avoid collision of hard detrimental plates, it provides suitability for use.

Maximum operating temperature: 120°C Polyamide extrusion (tightening) holes ends should be left with radius. Please do not lubricate the extrusion surfaces.



Mounting Example









Friction Puller (Parting Locks)

You can provide optimal parting line control to desired plate group in mould with this simple part. Life time is approx. 50.000 stamps.

It provides mounting and dismantling easiness and being cost effective.

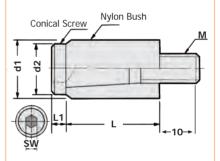
It is also used in small / medium dimensional moulds, beside two stepped moulds or side cores.

According to Mould Weights:

- BE.12 4pcs / up to 100 kg.
- BE.16 4pcs / up to 500 kg.
- BE.20 4pcs / up to 1000 kg.
- Over 1000 kg; BE.20 6pcs should be used minimum.

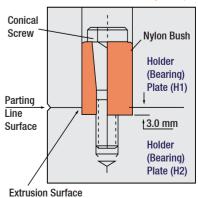
Polyamide puller holes in moulds should be reamed and hole tolerance should be ± 0.1 mm. Polyamide extrusion (tightening) holes ends should be left with radius. Please do not lubricate the extrusion surfaces.

Maximum operating temperature: 80°C



Order	d1	d2	M	SW	L1	L
BE.10	10	8.5	M5	4	3	18
BE.12	12	11	M6	5	3.5	20
BE.13	13	11	M6	5	3.5	20
BE.16	16	14	M8	6	4	25
BE.20	20	16	M10	8	5	30





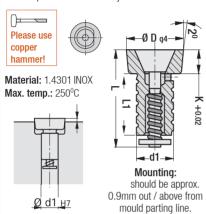


Venting Valve for High Pressure

- Metal Injection gas venting & pneumatically activated ejector.
- 2º conical head / mounting with special reamer.

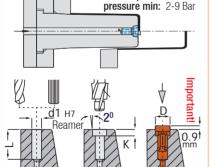
Mounting: It should be provided with special reamer **(VHR)** and should be approx. 0.9mm out / above from mould parting line.

It is compatible with metal injection moulds.

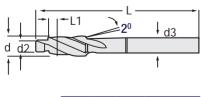


D	d1	K	L1	L
8	6	5	8	16
12	8	5	13	21
16	10	6	14	22

Compressor air



Special Reamer for "VHV" Valve



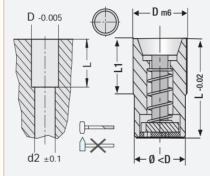
d	d2	d3	L1	L
8	6	10	5	69
12	8	12	5	100
16	10	12	6	122

"in vacuumed objects"

Air Venting Valve

It is the most suitable method for dissolving vacuum during injection. In wide and narrow walled objects; it continues to discharge compressed air by vacuum in mould. All casing and machined surfaces have been produced from stainless steel.

In comparison with PHV (pinned type), the shorter length is advantageous.



Compressor air pressure min: 3-10 Bar Mat.: 1.4034 Hardn.: 52-55 HRC Max. temp.: 150^o

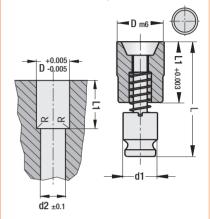
D	L	L1	d2
6	12	7	3.5
8	15	9	5
10	20	13	6
12	25	15	8
16	30	17.5	8
20	30	19	10
25	30	19	12
30	30	27.5	15

"in high and deep objects"



Air Venting Valve with Pin

It is the most efficient air venting product. It is especially ideal for deep and large moulds. In mounting; please use the copper or rubber hammer and bronze wedge.



Compressor air pressure min: 2-9 Bar

Mat.: 1.4031 Hardn.: 52-55 HRC Max. temp.: 1500

D	L	L1	d1	d2	R
8	28	11	6	7	01
10	28	11	7	8	01
12	30	11	8	9	02
16	43	20	10	14	02
18	43	20	10	14	03
20	43	20	10	16	03
25	60	20/28	16	16	04



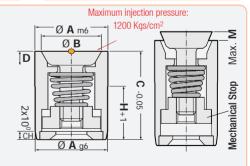
Air Venting Valve

Material: INOX 1.4034

Operating air pressure: 1.5 - 6 Bar

 $1 \text{ BAR} \approx 1 \text{ Kg.} / \text{cm}^2$

Α	В	С	D	Н	M
5	3	12	1.5	7	2.5
6	5.2	12	1.5	7	0.95
8	6.5	12	1.5	7	0.95
10	8	12	2	7	0.95
12	10	12	2.5	7	0.95
16	13	20	3	12	1.55
20	17	20	3.5	12	1.55

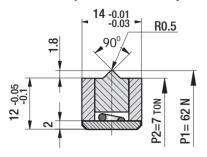


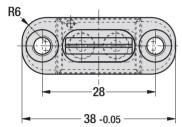
"CHV" Air Venting Valves produced from stainless steel. It provides high air discharge. Also, the conical ejector rises and helps the product exit from mould. The operating temperature under 150°C is recommended. In higher temperature than 150°C; steel starts to expand and melt plastic raw material gets into valve and prevents operation.

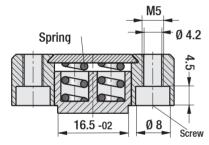


Slide Retainer

Contact linkage line in core / slide systems







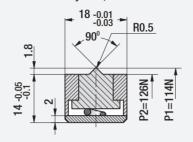
Maximum temperature: 100°C

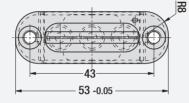
Material: 1.2343 Hardness: 54 ± 2 HRC

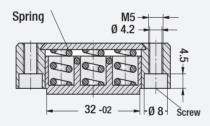


Slide Retainer

It lifts the core / slide without the holder in slide system, self-contained unit







Maximum temperature: 100° C

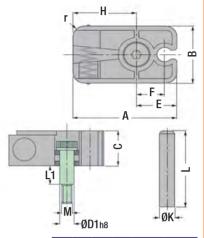
Material: 1.2343 Hardness: 54 ± 2 HRC



Slide Retainer Pinned & Lock

Precise, with lock, align and pin

The body of MTS...M can not be deadlock with retainer screws, need some hole or cavity to limitless motions. This unit is for limitless motions.



		54	32	20	21	12	.7	33	
		86	45	30	33	20	.3	53	
K	D1	L	L1		r	M		ax. Slide ight (kgf)	
6	6	30	6		5	M5		10	

CE

16 **9.1**

M6

20

38 19 16

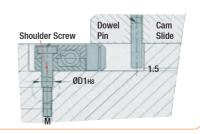
40

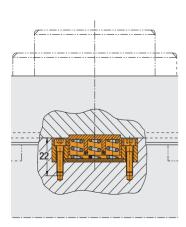
10 | 10 | 60 | 10 | 10 | M8

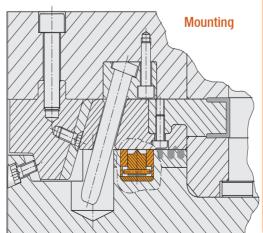
"Kgf." value: It is max. load value required to emerge slide / core block from slide retainer. When slide / core is opened, pin gets into the retainer. "MTS..M" designed with over-travel, to avoid the damage by the wrong settle of the travel. Operation continues even though there are mistakes (misalignments).

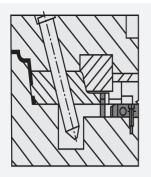
Mounting Procedure:

- 1. To remove Slide Retainer body from housing again, a dowel pin (extractor) hole should be opened on mould.
- 2. The distance between pin centre on the Slide Retainer and screw centre on Slide Retainer during mounting are precise (F), it should be calculated and adjusted well (must be in the same direction).
- 3. Please prefer a model with more force than the ultimate load requires for MTS..M / MBT that is suitable for your mould, this is important for safety.







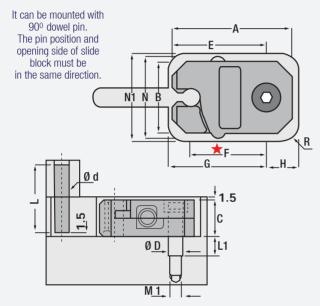




Slide Retainer - Pinned & Lock

Precise, with lock, align, pin and spring

The body of "MTB" can not be deadlock with retainer screws, need some hole or cavity to limitless motions. This unit is for limitless motions.

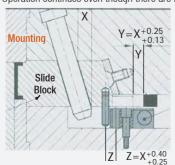


MTB can be used as "Latch Lock" mentality if there is no any special request on the system of the mould closing.

Α	В	С	Е	★F	N	G	Н
38	19	16	31.5	24.89	24	34.5	10
54	32	20	43	34.93	36.5	46	14.5
86	45	30	67	53.98	49.5	70	22.5

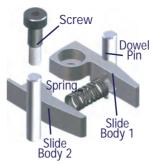
N1	R	D	L1	M1	d/L	Max. Slide Weight (kgf)
25.5	8	6	8.5	M5X11	6x30	10
38	10	8	10.5	M6X14	8x40	20
51	12	10	17	M8X18	10x60	40

Practice: When slide / core is opened, pin gets into the retainer. "MTB" designed with over-travel, to avoid the damage by the wrong settle of the travel. Operation continues even though there are mistakes (misalignments).



 \bigstar = Dimension is important.

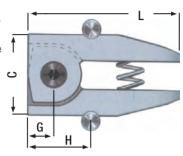
Important: The distance from the center of the dowel pin to the center of the shoulder screw is crucial / critical. The dowel pin installed in the slide positively locks into the retainer until disengaged by the mould closing motion. Designed with a efficient lead-in at the housing opening so the dowel pin will lead-in the housing even if there is a slight misalignment between the retainer and the pin.





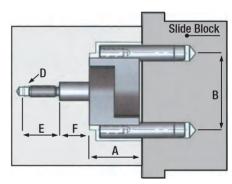
Slide Retainer with Latch

Screw (F) added to hole should not be in too deep. After slide body locks itself, it should be operated smoothly. Therefore, don't tight the screw too much. When dowel pin is on core / slide, the body is fixed on mould, also core sliding distance should be calculated precisely and then should be mounted.



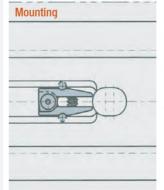
Max. temp.: 1000

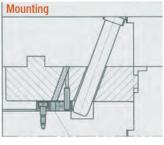
Especially, it can be preferred in alloy material moulds.



Α	В	С	E	F
10	21.5	18	9.5	5.1
12	25.5	22	11	6.1
16	31.5	28	11	8.1

G	Н	L	D	Max. Retaining	Dowel Pin
7	17.5	40	M5		10
7.5	18	43	M6	Ø 6 - 30	15
9.5	20.5	50	M6		25





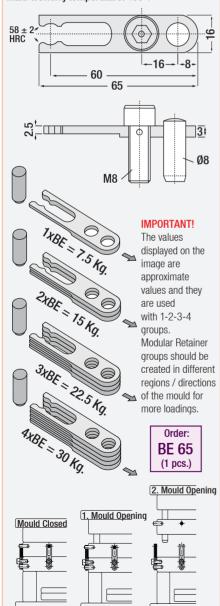


Modular Retainer

Economic Type

Useful for moulds that require delayed opening of parting line. Resistance can be increased by adding clips. There is no need to machining pocket / housing. Minimum space required for installation. Reduces costs compared to conventional mechanisms. 4 pieces can be used on same surface max. The system should be distributed to different areas if the more use is needed.

Material: 1.8159 Hardness: 45 ± 3 HRC Max. working temperature: 150° .





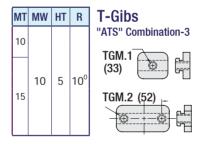
Core Blade - Undercut Release System

Application Guidelines:

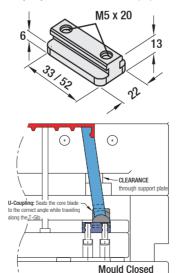
- Typical angle is 5-10°, though users report success at greater angles with guides installed.
 Contact Engineering for application review.
- Guided Ejection is recommended, and if there is less than half of the Core Blade bearing in the insert, lifter guide plates should be added.
- Recommended clearance is 0.025 0.038 mm where permissible.
- Core insert material should be at least 10 HRC higher in hardness than the Core Blade, and for maximum longevity consider coatings or treatments for increased lubricity or hardness.
- Locking angles can be designed to accept molding pressure, and non-standard sizes or pre-roughed Core Blades can be provided by accessing www.procomps.com.

Flat Core Blades

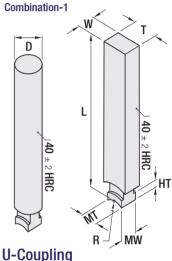
L	T	W	D
250	10.25	10.25	10
250	10.25	20.25	15
250	15.25	15.25	
400	15.25	30.25	
250	20.25	10.25	
400	20.25	20.25	
400	30.25	15.25	



Sliding angle movement limit: 10 - (33) / 30 - (52)

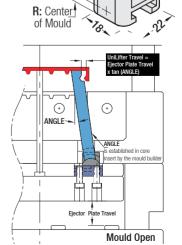


Core Blades



Combination-2

25



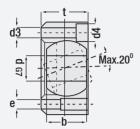
Copyright © Balambigai Enterprises

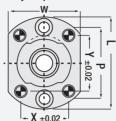


Spherical Guide Bush for Inclined Pin

Guide Bush unit transmitting angle motion. It offers easy installation for desired Inclined Pin design in large moulds. Angle adjustment can be done between 0^{0} and 20^{0} .

Max. operating temp.: 170^o





d	L	w	t	b
8	44	28	17	14
10	46	30	20	16
12	50	32	22	18
16	58	45	29	25
20	65	50	33	28
25	78	57	38	33
30	86	65	43	37
35	98	72	49	40
40	106	77	53	44
45	118	85	57	48

_			_		_	
р	е	Х	у	d3	d4	M
32	5	20	28	6	10	M5
34	5	22	28	6	10	M5
36	6	22	30	7	11	M6
45	6	30	35	7	11	M6
52	6	35	40	7	11	M6
62	8	40	50	9	15	M8
70	8	48	55	9	15	M8
78	8	52	60	11	18	M10
84	8	55	65	11	18	M10
96	8	59	72	11	18	M10

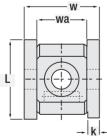
Inclined Pin Holder Unit

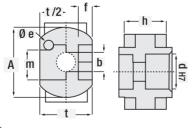


- Mountable to the ejector plate. It is mounted by machining to ejector plate of mould.
- Self-lub. system is greased up to 300° in unit.

Mat.: C45

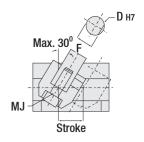
Slide parts: Bronze + Graphite





d	w	L	wa	k	h	Α	t	f	m	b	е
8	24	25	12	6	13	20	16	5	7.5	5	3
10	28	32	14	7	17	20	16	4	8.5	6	3
12	31	40	17	7	20	25	20	5	10	7	4
16	36	45	21	7.5	24	30	24	6	13	9	6
20	43	45	28	7.5	24	40	30	8	17	11	6
25	48	50	33	7.5	26	45	35	9.5	22	14	6
30	55	60	38	8.5	30	50	38	9	27	14	6
35	64	70	44	10	34	55	40	10	31	14	8
40	72	80	50	11	38	60	43	11.5	36	18	8



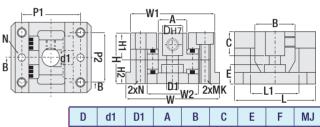


Inclined Ejector Pin Unit

It moves the Inclined / Angle Pin Systems in the desired angle.

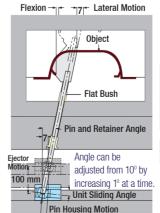
It provides important contribution to production period. The product parting from moulds with this unit is more economical compared with similar systems.

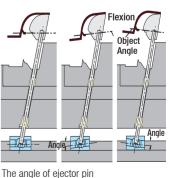
- The heat resistance of unit in mould is 300c (with self lubricating bearing system), unit can lubricate itself.
- Operating angle of ejector pin can be inclined up to 10° 20° 30°C.
- It can be fastened to ejector plates via dowel pins and screws during mounting. The position of the centre block can be adjusted according to the length of pin specified. Please make this adjustment when centre block and pin are attached and removed easily.



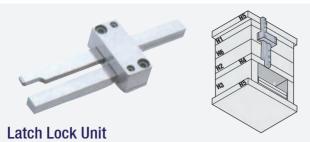
D	d1	D1	Α	В	С	Е	F	MJ
8	7	4.5	11	20	8	10	7	M4
10	7	5.5	15	25	10	12.5	9	M5
12	10	7	17	25	12	15	11	M6
16	12	9	22	30	16	15	14.5	M8
20	14	11	26	40	20	16	18	M10
25	16	14	32	45	25	17	22.5	M12
30	18	14	38	50	30	17	27	M12
35	20	14	45	60	35	18	32	M12
40	25	18	55	70	40	19	36	M16
45	30	18	60	80	45	24	40	M16

Н	H1	H2	L	L1	W	W1	W2	P1	P2	MK	N	Stroke
22	12.5	5	32	20	33	30	19	24	20	M3	3	10
27	15.5	5	45	25	45	40	25	32	30	M4	4	18
32	18	7	50	30	57	51	31	39	35	M6	6	20
36	20	8	65	40	65	58	38	46	40	M6	6	25
42	23	11	80	50	80	72	44	56	55	M8	8	30
50	28	15	90	55	93	85	52	66	65	M10	10	35
55	30	15	100	60	101	93	60	74	70	M10	10	40
62	35	15	120	75	120	110	70	85	80	M12	10	45
70	40	15	135	85	130	120	80	95	90	M12	10	50
80	45	15	150	95	140	130	90	105	110	M12	10	55

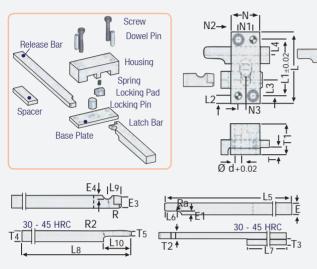




should be determined acc. to the angle of the product in mould.



The unit is heat-treated. Safe and reliable with its double sided lock system. It is for two-stage (stripper plate) moulds. The unit can easily mounted due to its compact design. Opening priority of plates relates to the mounting direction of unit. During mounting, after selecting desired stroke, the other Latch Bar is secured.



Parallel Mounting of Latch Lock Unit:

- Install the Housing parallel to the parting line face.
- Adjust or cut Latch Bar to required length.
- Open hole positions of screws, tight Latch Bar with screw on their position.
 Complete adjusting position with compatible parts, form the dowel holes and fix the Latch Bar.
- Cut the Release Bar in required length and install it perpendicular to the mould. Make the overhang length "L" of each release bar the same for equal of release points on each sliding.
- * At least 2 Latch Lock Units are required, which are respectively mounted at outer surfaces (center of the mould). Units must be mounted symmetrically in such a way as to prevent tilting of the plate.

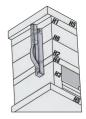
IMPORTANT:

The operation test should be performed for your mould exactly. Please check motion sequence of bars and stripper plate. Fine adjustment is necessary. You should repeat this procedure until both Latch Locks work together exactly. The moving parts can be lubricated.

			L	L1	L2	L3	L ₂	1	L5	L	6	L7	L8	L9	L10	N
			55	43	6	12	2 12	2 1	50	1	2	40	100	14	28	24
			67	53	7	15	5 14	1 2	00	1	6	50	150	18	36	32
N1	N2	N3	d	Е	E1	E3	E4	R	R	a	Т	T1	T2	Т3	T4	T5
12	6	6	5	13	4	13	4	5	5)	5	24	6	5.5	11.5	6
16	8	8	6	16	5	18	5	6	6)	6	32.	5 10	6.5	16.5	10
/loui	founting and mould opening positions:															
	1	1			T	T			T	T						

Lateral mounting view





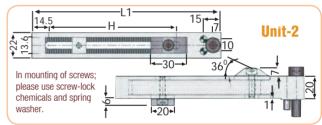
Latch Lock (Mould Plate Parting Combination)

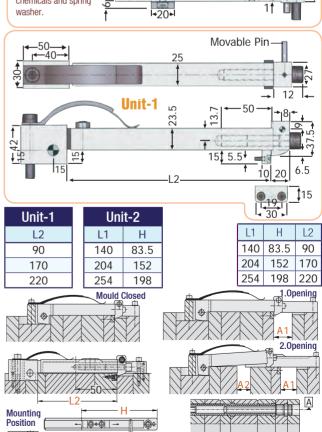
In this combinaion system; Unit-2 consist of fixed and Unit-1 is consist of movable group. While mould is opened, movable 1.Unit (Unit-1 with leaf spring) is moved on fixed Unit-2 on sliding. While pin of leaf spring group (Unit-1) is passed over elevation on fixed group (Unit-2), hook is released and 2. stripper group of mould starts to open. One of the products always used to move of free plates, such as those for the removing, is the BOX. It is composed by a supporting bar, determining the stroke of the plate to be moved, and a lever which properly positioned, allows the drag and release.

Both units should be parting well-timed. Incorrect mounting causes tapering and bending pf movable plate or breaking of unit lever.

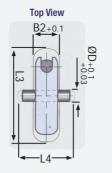
Units should be adjusted before mould is closed, open mould and control movable plate and movements of levers (fine adjustment is required).

Please apply it until released / movable levers are fully operating with each other with leaf spring and locks. Then released lever will become centred / linked with Unit-1. While these operations continue, please lubricate movable parts of units with thin grease oil. In mounting, impacts and strokes of plate should be considered. During and after mounting, screws and other fasteners should be controlled. In part replacement; first, it should be started by dismantling Unit-1.



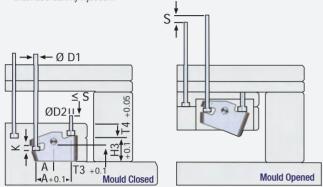




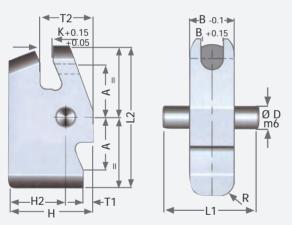


Accelaration Rocker for Ejector

- It is used in case that Ejector Plate requires stroke more than normal stroke distance.
- By fitting an Ejector Pin to the product **(IHS)**, repulsion / ejection can be extended during injection.



Accelaration Rocker (mechanical swing system) increasing stroke distance of ejector that it is fastened.



D	D2	В	B1	B2	В3	Α	A1	T1	T2
4	4	3	8	8.5	4	10	20	2	10
8	8	6	16	16.5	8	21	42	4	21
8	8	8	16	16.5	8	21	42	4	21

Т3	T4	D1	L1	L2	L3	L4	Н	H2	Н3	K	R	S
4	4	3	16	26	31	23	19	14	16	3	4	2.5
8	8	6	36	56	63	45	34	23	27	5	8	7.6
8	8	8	36	56	63	45	34	23	27	5	8	7.6





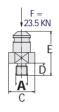
Automatic Ejector Coupling

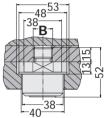
Reliable Return of the Ejector Pins & Reliable Ejection of the Mouldings.

- Rapid and simple mounting (even within existing moulds).
- Engages in any position and disengages only after ejection has taken place.
- Can be used on any injection moulding machine with a hydraulic or mechanical ejector.
- Mounting times are very short, since the mould can be adjusted before it is fitted into the machine.
- For rapid and economic operation, up to 25-30 strokes per minute.

Material: 1.7147 Hardness: 60 HRC





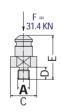


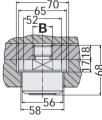
Light Duty / F = 23.5 KN

А	С	D	Е	В
M10 x 1.5				
M12 x 1.75	26	20		N/14 v 1 F
M14 x 2.0	20	20	55	M16 x 1.5
M16 x 2.0				

Heavy Duty



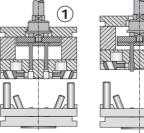


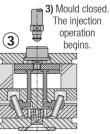


Heavy Duty / F = 31.4 KN

Α	С	D	Е	В
M16 x 2.0				M16 x 1.5
M18 x 2.5				M18 x 1.5
M20 x 2.5	25	25	/ 0	M20 x 1.5
M24 x 3.0	35		68	M24 x 1.5
M27 x 3.0				M27 x 1.5
M30 x 3.5				M30 x 1.5







- The ejector plate is returned to the stop. Return screw and ejector screw disengage. Over theremainder of the closure movement, the jaws move without obstacle.
- 2) Mould in ejector position. The side splits are extended, the return pin is latched to the return coupling by means of balls.

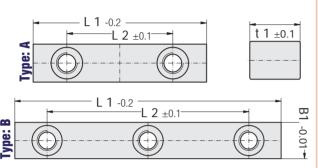


Support Slide for Core Position

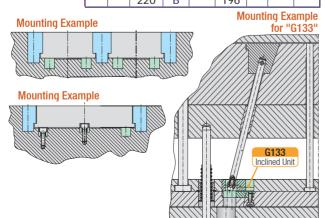
It can be used also as Bottom Support Plate for Core Guide Block or Guide Block for Inclined Ejector Pin Unit (G133).

Milled, precision ground, perpendicularity controlled and opened fitting holes.

Material: 1.2842 Hardness: 58 + 2 HRC



B1	t1	L1	Туре	t3	L2	D1	D2	D3	
		50	Α		30				
		60	Α		40				
	11	70	В		50				
	11	75	В		60				
		80	В		60				
12		90	В	5.7	70	10	5.3	M6	
		100	В		80				
		120	В		100				
	16	140	В		120				
		160	В		140				
		180	В		160				
		100	Α		76				
		120	Α		96			M8	
18	16	140	В	6.8	116	11	6.4		
		160	В		136				
		180	В		156				
		140	В		116				
		160	В		136				
24	21	180	В	6.8	156	11	6.4	M8	
		200	В		176				
	-	220	В		196				



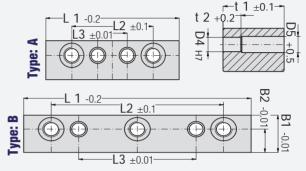


Support Slide for Core Position Side Guide

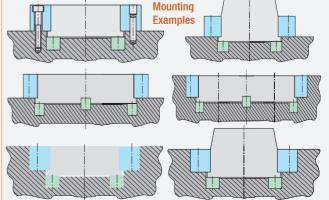
Milled, precision ground, perpendicularity controlled and opened fitting holes.

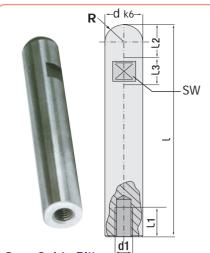
Material: 1.2842 **Hardness:** 58 + 2 HRC





B1	t1	L1	Туре	B2	t2	t3	L2	L3	D1	D3	D4	D5
		50	Α		-		30	10				
		60	Α		-		40	20				
15	11	70	В	9	-	5.7	50	30	10	M6	4	-
13	11	75	В	7	-	5.7	60	40	10	IVIO	4	
		80	В		-		60	40				
		90	В		-		70	50				
		80	Α				56	32				
18 22		100	В		12	6.8	76	52			6	
	22	120	В	11			96	72	11	M8		7
		140	В				116	92				
		160	В				136	112				
		100	Α				68	36				
		120	Α				88	56				9
24	36	140	В	15	12	9.0	108	76	15	M10	8	
		160	В				128	96				
		180	В				148	116				
		120	Α				80	40				
		140	Α				100	60				
30	50	160	В	18	18	11	120	80	18	M12	10	11
		180	В				140	100				
		200	В				160	120				





Core Guide Pillar (Inclined & Threaded)

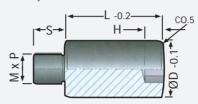
It is compatible to use at injection moulds, angled guide pillar positioning, core systems as cam pin. **GTH** mould pillars are polished with surface polishing machine at final stage of production (after grinding).

d	ι	l1	l2	l3	d1	R	SW
	40						
	50						
8	63	10	10	8	M.5	4	7
	80						
	100						
	50						
10	63	12	10	9	M.6	5	8
10	80	12	10	7	IVI.O)	0
	100		12				
	50						
	63					6	
12	80	12		9	M.6		10
	100						
	125						
	63						
	80						
16	100	15	15	12	M.8	8	13
10	125	15	15	12	IVI.O	0	13
	160						
	200						
	63			15			
	80				M.		
	100						
20	125	20	16			10	16
	160				10		
	200						
	250						
	80						
	100						
25	125	20	20	15	M.	12.5	21
∠5	160	20	20	15	12	12.5	21
	200						
	250						
	100						
30 32	125				M. 16	15	
	160	25	25	5 18			27
	200	1	25			16	
	250	1					



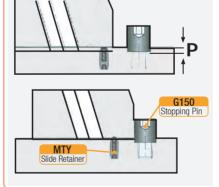
Stopping Pin for Core Slide Core Slide, Ejector Pin

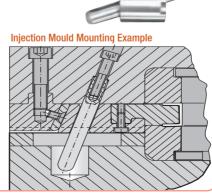
Stopping Pin is a product which is pratical and easy to mount.



MxP	SW
M6 x 1.0	5
M10 x 1.5	8
M12 x 1.75	10
M16 x 2.0	14

D	L	Н	S	Р
10	40	4	10	15
16	40	5	15	15
20	40	6	28	15
25	40	9	24	15



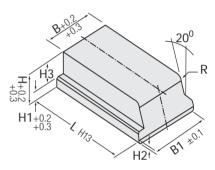




Angular Core Slide

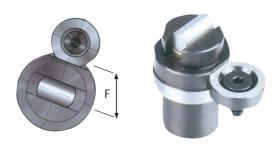
G149 ready for machining. The only thing to be done is to machine cavity surfaces.

Milled, precision ground and 20⁰ inclined angular has been given to cavity surface. All edge corner are chamfered. Slide has been machined as T-Slot.



Mat.: 1.2344 **Hardn.:** 42 - 45 HRC

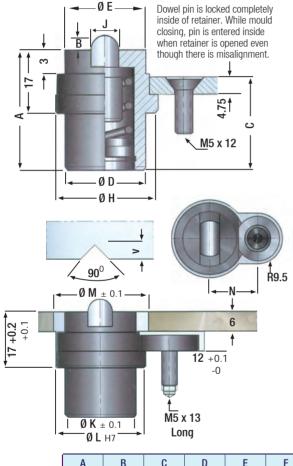
Н	L	В	B1	도	H2	НЗ	R
		20	26				
12	40	25	31	4	1.5	8	1.5
12	40	40	46	4	1.5	٥	1.5
		63	69				
		20	26				
16	50	25	31	4	1.5	12	1.5
10	30	40	46	4	1.3	12	1.5
		63	69				
		40	46				
20	63	63	69	5	2	2 15	2
		80	86				
		40	46			20	
25	71	63	69	5	2		2
		80	86				
		63	71				
32	100	80	88	6	3	26	3
		100	108				
		63	71				
40	100	80	88	6	3	34	3
		100	108				
		80	90				
50	112	100	110	8	4	42	4
		125	135				
		80	90				
63	112	100 110 8 4	55	4			
	H	125	135				



Slide Retainer - Pinned & Round

Small, Round, Easy to Mount, Self-Contained Design and Line Contact Engagement.

- Three different sizes with retaining ratings loadings for 48, 88, and 176 N. **Material:** 1.2767 **Hardness:** 52 HRC **Max. Temp.:** 120°C



Α	В	C	D	E	F
27.43	1.83	20.2	15.75	16	9.52
33.53	3.07	26.29	18.8	19	10.67
32	3.78	24.76	22.1	22	11.86

Н	22 4.8 2		K	L	M	N	Kgf.
22	4.8	2.3	15.87	22	24	17	4.5
25	6.35	3.9	19.05	25	27	18.2	9
28	7.92	4.9	22.23	28	30	19.4	18

Note: It provides mounting facility to mould, thanks to its robust, small and round structure.

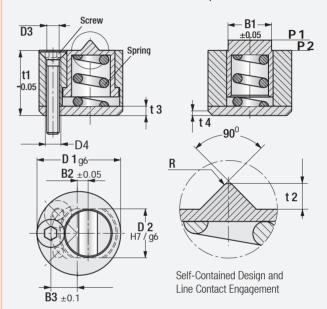




Slide Retainer - Round Type

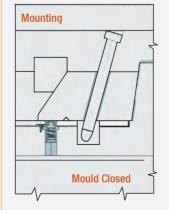
MTC Slide Retainers are operated without Dowel Pin and also can lift the core / slide without Slide Retainer. Easy mounting due to round structure.

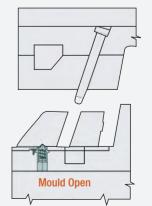
Material: 1.2767 Hardness: 52 HRC Max. Temp.: 100°C



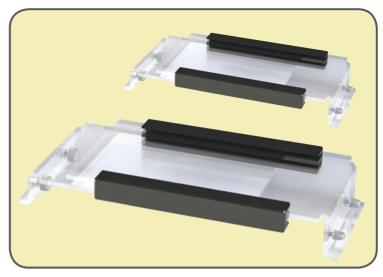
D1	B1	B2	В3	t1	t2	t3
13	6.6	1.4	4.3	10	1.0	1.6
18	9.6	2.0	6.0	14	1.8	2.0
27	14.4	3.0	9.0	21	2.8	3.0

t4	D2	D3	D4	R	P1	P2	Screw (DIN7991)
0.35	7	2.2	M3	0.35	28 Nw	34 Nw	M2 x 16
0.50	10	3.2	M4	0.50	38 Nw	42 Nw	M3 x 50
0.50	15	4.3	M5	0.75	38 Nw	92 Nw	M4 x 25

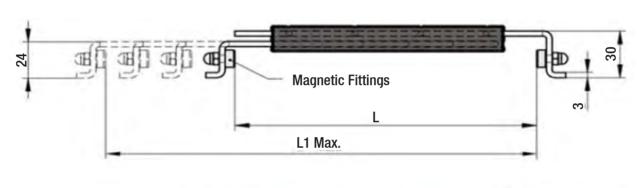


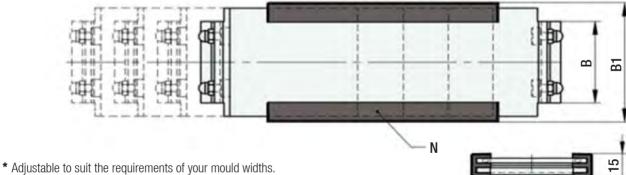






Adjustable Ejector Plate Cover Security and Protection Mechanism for Ejector Plate





- * Efficient and reliable protection againts pollution or falling plastic parts.

L - L1 Max.	N	B1	В
		78	56
156 - 218	2	98	76
		118	96
		88	66
	2	98	76
246 - 396		108	86
		118	96
		138	116
		118	96
446 - 596	2	138	116
		158	136
		178	156

Material:

PC (Polycarbonate)

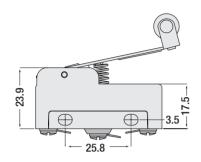
Operating Temperature: Max. 110⁰C

* Consider sizes (L - L1 max.) specified in the table for safety.



Micro Limit Switch with Long Roller

Movement Limit Switches for Ejector Plate, Stripper Plate and Side Lifters



Technical Specifications / All "MN2" types have similar specifications:

 Mechanical Life
 : 500.000 Opening-Closing min. (60rpm)

 Electrical Life
 : 100.000 Opening-Closing min. (30rpm)

 Operating Temperature
 : - 15 / +125°C

 Protection Class
 : IP20 - IP40

 Operating Voltage (Ue)
 : 440V AC

 Operating Current (Ie)
 : 10A

 Isolation Voltage (Ui)
 : 660V

Impact Resistance Voltage: 2.5kV Short Circuit Breaking Capacity .: 1 kA Operating Frequency (f): 50 Hz

Isolation Resistance: 10 M Ω min. (500V DC)

Usage Class: AC15

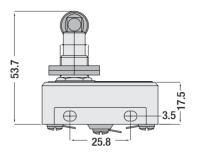
Dielectric Resistance: 1.500V AC (for 1 minute)

Pollution Degree: 3



Micro Limit Switch with Dome Roller

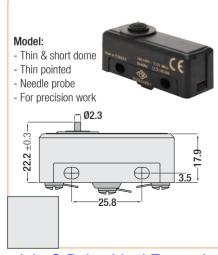
Movement Limit Switches for Ejector Plate, Stripper Plate and Side Lifters



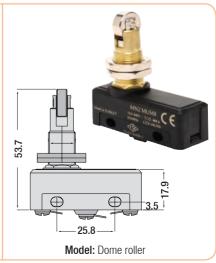
All "MN2" types have similar specifications:

- Product variety for wide application areas.
- Long life and high contact reliability.
- Standard mounting holes.
- It ensures all movable parts such as Ejector Group / Ejector Plate, Stripper Plate, Side Lifters etc. operating with injection machine in a harmony.
- Switch cables will be provided by the user.
- Min. 8 x 8mm cable slots are recommended.
- Please do switch connection according to the contact scheme specified in the catalogue.
- * Please contact with Guvenal for different types of Limit Switch.

Contact Structure	Contact Scheme	Sensor Type	Sensor Material	
		Lever Long Roller		
	- 0 NO	Dome Roller		
Changable Contact	COM 1— 2 NC 0— 3 NO	Dome Roller	Metal	
Oontact	0 110	Dome		
		Dome		



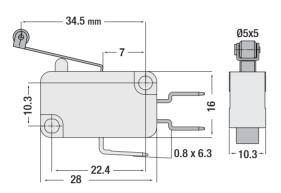






Micro Limit Switch with Long Plastic Roller

Movement Limit Switches for Ejector Plate, Stripper Plate and Side Lifters



Technical Specifications / All "MK1MIP" types have similar specifications:

Mechanical Life : 10.000.000 Opening-Closing min.(60rpm)

Electrical Life : 100.000 Opening-Closing min.(30rpm)

Operating Temperature: : - 15 / +125°C

Isolation Resistance: 10 M Ω min. (500V DC)

Usage Class: AC15 - AC3

Dielectric Resistance: 1.500V AC (for 1 minute)

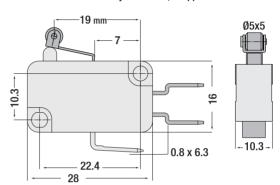
Pollution Degree: 3

Standard: TS EN 60947-5-1

CE

Micro Limit Switch with Short Plastic Roller

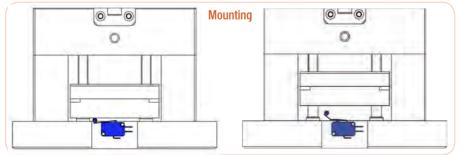
Movement Limit Switches for Ejector Plate, Stripper Plate and Side Lifters



All "MK1MIP" types have similar specifications:

- Compact design.
- Product variety for wide application areas.
- Long life switches & high contact reliability.
- Material having "VO" feature which increases product reliability.
- It ensures all movable parts such as Ejector Group / Ejector Plate, Stripper Plate, Side Lifters etc. operating with injection machine in a harmony.
- Switch cables will be provided by the user.
- Min. 8 x 8mm cable slots are recommended.
- Please do switch connection according to the contact scheme specified in the catalogue.

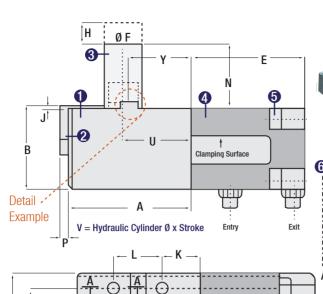
Contact	Contact	Sensor	Sensor
Structure	Scheme	Type	Material
Changable Contact	NO 4 — 1 COM	Lever Roller	Plastic





* Please contact with Guvenal sales dept. for different types of Limit Switches

External Side Lifter Unit with Hydraulic Piston



M

D

C

Model			HPM	.096	HPN	N.126	
Type Dim.	300	100	300	100	300	100	300
Α	48 mm	64	mm	86 mm		126	6 mm
В	39.8 mm	60	60 mm		mm	86	mm
C	49.6 mm	70	70 mm		mm	126	6 mm
D	23.2 mm	32.6	32.6 mm		mm	60.0	6 mm
E	70 mm	106	106 mm		mm	118	3 mm
F	16 mm	20	20 mm		mm	38	mm
G	3 mm	4 n	4 mm		nm	8	mm
G1	8.0 mm	7.9	7.9 mm		9.9 mm		9 mm
H (max)	10 mm	7.5 mm	7.5 mm 12.7 mm 10		10.7 mm 17.9 mm		22.6 mm
J	J<0	J<	<0	J<0		J<0	1.37 mm
K	17 mm	21	mm	33 mm		39 mm	
L	-	24	mm	30	mm	50 mm	
M	37 mm	50	mm	74	mm	94 mm	
N (*)	80 mm	92.5 mm	87.4 mm	90.3 mm	82.1 mm	78 mm	69 mm
P (*)	6 mm	10	mm	1.5 mm	2.0 mm	9	mm
R	6.5 mm	8.5	mm	10.5	mm	13	mm
S	11 mm	15	15 mm		mm	20	mm
T	31 mm	48	48 mm		mm	61	mm
U	24.5 mm	33.5	33.5 mm		43.5 mm		5 mm
V	25 x 25 mm	32 x 3	80 mm	40 x 4	10 mm	40 x 50 mm	
Y	26 mm	33	mm	48	mm	64	mm

H (max): Lever movement of External Lifter with Hydraulic Piston.(*): Values given on table are approximate values.

During application, in order to provide the correct combination, do not hesitate to contact engineers in our company.

Mounting and Technical Support:

balambigaienterprises@gmail.com



If J>0: On mould surface which system will be mounted: A discharge will be performed in dimensions of "D+2mm x (A+P)+3mm x J+1mm"

ØS

Practice Area

"Lifter Slide Pin"

Recommended

per request by user.

"Lifter Slide Pin" Recommended Practice Dimensions Area

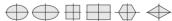
Dim.	Descriptions	Minimum	Maximum
Α	Form Depth	< 5	> 20
В	Burr Cutting Practice Length	5	12
С	Form Pin Bearing Clearance	0.03	0.1
D	Burr Cutting Practice Angle	5	10

Definition & Purpose: It is an important support component which contribute mould production process in order to obtain details in type of round, square etc. on plastic part with Side Lifter. According to Side Lifter with Cam System and Ejector Group supported (jiggle) Lifter designs:

*It reduces design process. *Material cost decreases because it gives steel size advantage from 50mm minimum up to 250mm in mould sizes according to the product design. *Since detail machining of Side Lifter is reduced to 90%, it provides advantage from Cnc machining duration. *It supports mould assembly / practice process. *Thanks to its automatic locking design, reverse resistance is in maximum level during 2nd press of injection. * Die marking problem is minimum or none with the feature of using as a hidden lifter / core.

Terms of Use: According to the details and sizes of moulds;

1 - It is used to obtain one or more similar profiles which are specified with examples below to be obtained male or female side of the mould as blind or full hole within the range of stroke 7.00 - 22.60 mm.

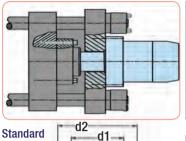


- **2** While lifter / core hydraulic working stroke distance is not interfered, in obligatory cases, it should be made without distributing hydraulic.
- 3 Mounting details of system should be process according to the dimensions specified in the catalogue, +0.05/+0.1 maximum.
- **4** When vibration occurs in hydraulic during mould trials, system should be fixed to the mould by using details on hydraulic side surfaces and Guvenal GTH clamps.
- 5- During trials and production phases, before opening injection machine clamp, form slide pin or steel should be separated from plastic detail by pulling back hydraulic.

Hydraulic piston app. pressure: Max. 160 Bar **Max. temp.:** 160°C



Hydraulic Cylinder - Round Type



S

M

(O)

L2

Strokes:

L1

50

100

160

200

250

Dimension	Formula	Unit
Force (Newton)	F	N
Length	S	m
Speed (Stroke)	V	m/s
Pressure	р	bar
Area (Piston)	Α	m2
Volume	V	m3
Flow Rate	Q	m3/s
Efficiency	ή	-
Performance	P	kW



Cylinder Force:

 $F(N) = p(bar) \times A(cm^2) \times 10$ A = Effective piston area

Required Flow Rate: Q (L / min.) = A (cm²) x $v(\frac{m}{s})$ x 6

Repulse and Return Speed:

 $v(\frac{m}{e}) = \frac{Q(L/min.)}{A(cm^2)} \times \frac{1}{6}$ A (cm²) Q = Flow Rate

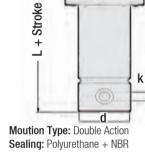
Required Pump Capacity:

 $P(kW) = \frac{Q(L / min.) \times p(bar)}{1} \times \frac{1}{1}$ n = Pump Efficiency

Hydraulic Cylinders: Used in injection moulds for waste water and for other cores / lifters. Piston motion is provided with joints in injection machine.

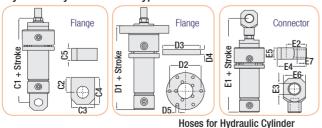
Operating: Hydraulic Oil

Max. Operating Pressure: 160 Bar Max. Operating Temp.: $-20 / +80^{\circ}$ Stroke Inaccuracy: ± 0.3 mm Shaft: C45 / Hard Chrome Coated



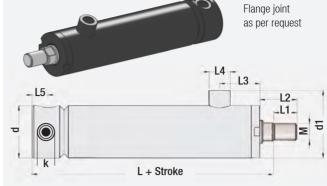
d	d1	d2	S	M	k	L	L1	L2	L3
50	50	80	22	M.16 x 1.5	1/4	160	22	35	20
60	60	95	28	M.20 x 1.5	1/4	194	31	46	25
75	70	125	36	M.27 x 2.0	3/8	208	39	55	25
95	85	130	45	M.33 x 2.0	3/8	235	47	65	30
115	109	160	56	M.42 x 2.0	1/2	244	60	80	30
145	130	195	70	M.48 x 2.0	1/2	276	67	90	37

Hydraulic Cylinders Joint Types:





Hydraulic Cylinder - Tube Type



d	d1	M	k	L	L1	L2	L3	L4	L5
50	65	M.16 x 1.5	1/4	125	22	35	40	20	15
60	75	M.20 x 1.5	1/4	152	31	46	43	20	21
75	90	M.27 x 2.0	3/8	163	39	55	50	25	23
95	110	M.33 x 2.0	3/8	209	47	65	60	20	29
115	135	M.42 x 2.0	1/2	211	60	80	82	30	27
145	165	M.48 x 2.0	1/2	229	67	90	82	30	30

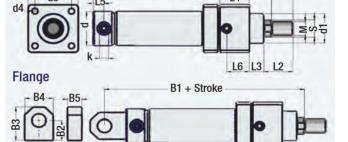
As per request (for all Hydraulic Cylinders):

For too hot environments (180°C), special piston with Viton Felt, single action (spring converter) and special pistons of which shaft material and dimensions can vary can be produced.



Hydraulic Cylinder Square Type

-L1-

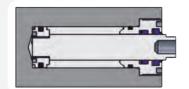


L + Stroke

d	d1	d2	d3	d4	S	M	k
50	43	70	51	M.10	25	M.20 x 1.5	1/4
60	62	78	56	M.10	28	M.20 x 1.5	1/4
75	70	95	70	M.10	36	M.27 x 2.0	3/8
95	85	115	90	M.12	45	M.33 x 2.0	3/8

L	L1	L2	L3	L4	L5	L6	B1	B2	В3	В4	B5
170	30	41	20	42	15	31.5	200	30	50	40	20
178	26	39	25	49	21	26	208	30	55	50	25
189	39	51	30	59	22.5	28	229	40	70	60	30
235	47	65	30	68	29	41	280	45	80	70	35



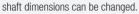




Hydraulic Piston - Square Type

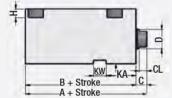
Bottom Slotted (KW type) & with 4-Fastening Holes from Upper Side

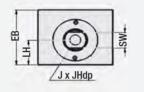
It has a compact design. It is at the forefront with strong bearing system. It has 100mm stroke maximum which displays perfect performance in narrow zones (production can be done as per request). The systems which require low stroke are delivered from our stock. As per request: For too hot environments (180°C),



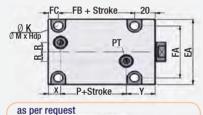








Operating:



0

0



Max. Operating Pressure: 140 Bar

Stroke Inaccuracy:

± 0.3mm

Shaft:

C45 / Hard Chrome Coated

Piston Tube:

Nodular Cast Iron Sealing:

	1					Polyure	ethane	+ NBR	
Α	В	С	CL	D	EA	EB	FA	FB	
64	54	10	7	20	70	56	56	24	
65	55	10	7	25	80	62	62	23	
71	60	11	8	28	94	74	74	27	
80	67	13	10	36	114	89	90	32	

Н	J	JH	K	KA	KW	KT	LH	M	OB
9	M12 x1.75	15	9	28	12	3.5	25	14	25
11	M16 x 2	20	11	28	12	3.5	29	18	30
13	M20 x 2.5	25	14	29	14	4	34	20	35
15	M27 x 3	35	16	31	16	4.5	42	23	40

0	Р	PT	R	SW	Х	Υ
M16 x 1.5	14	1/4"	10	17	12	28
M20 x 1.5	15	1/4"	10	22	12	28
M20 x 1.5	18	1/4"	10	22	12.5	29.5
M27 x 2	20	3/8"	10	30	16	31

Hydraulic Piston - Square Type

Compact Design & with 4-Fastening Holes from Front Side

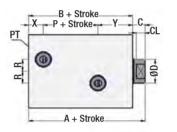
As per request: For too hot environments (180°C), shaft dimensions can be changed.

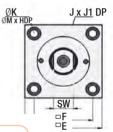


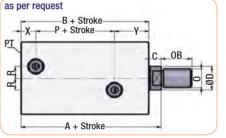


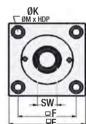
Ø 32 - Ø 63

Series









Α	В	С	CL	D	Е	F	Н	J
64	54	10	7	20	62	47	6.5	M12 x 1.75
65	55	10	7	25	70	52	9	M16 x 2
71	60	11	8	28	80	58	11	M20 x 2.5
80	67	13	10	36	94	69	13	M 27 x 3
95	78	17	14	45	114	86	15	M 30 x 3.5

J1	K	IVI	0	OR	P	PI	К	SW	Х	Y
15	6.5	11	M16 x 1.5	25	14	1/4"	10	17	12	28
20	9	14	M20 x 1.5	30	15	1/4"	10	22	12	28
25	11	18	M20 x 1.5	35	18	1/4"	10	22	12.5	29.5
35	14	20	M27 x 2	40	20	3/8"	10	30	16	31
35	16	23	M33 x 2	45	27	3/8"	15	36	18	33

As per request: Piston fasteners and pressed hose are provided.



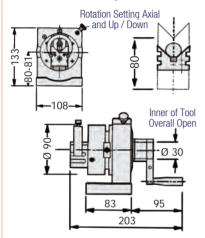




Pin & Punch Former Tool

Forming tool / apparatus for mould ejector pins and EDM tools (with mounting on the grinding machine workbench).

"V" Bearing Length: 30mm Rotation Centreline Height: 15mm



d1: Pin clamping diameter = \emptyset 4 - \emptyset 30 mm

L: Pin clamping length = min. 22 mm

"V" Bearing: Up / down motion = 25 mm

"V" Bearing: One way motion = 12.5 mm

"V" Bearing: Total motion = 25 mm Equipment surface and angle / scale

hardness: 63 HRC

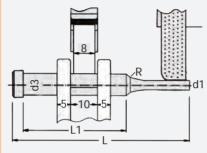
Chuck dividing head angle: $24 \text{ Pcs. } 15^{\circ} \pm 5^{\circ}$

Wheel diameter: 200 mm Total weight: 9 Kg.

Wheel Dresser Tool: Refer to "page 178 for other info

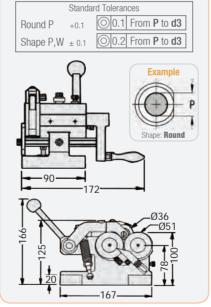


Pin & Punch Former Tool



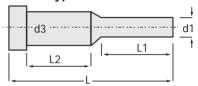
- * It can be put on the grinding machine workbench for form grinding pins, punches or EDM tools.
- * Pin clamping diameter: Ø1.5mm x Ø25mm
- * Pins etc. can be ground by putting among precision rollers of Former Tool without checking the center, the center is determined automatically.
- * Thanks to rigid clamping system, extended grinding length is within 5 - 35mm.

Total weight: 6.6 Kg.



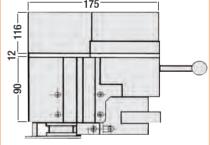


Pin & Punch Former Tool Motor Type

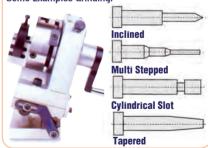


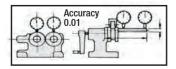
Information:

Pin clamping length (L): 20 - 120 mm Minimum clamping length (L2) .. : 22 mm Pin grinding length **(L1)** : 5 - 35 mm Pin clamping dia. (d3): \emptyset 2 ~ 25 mm Pin grinding dia. (d1): \emptyset 0.5 ~ 25 mm Grinding accuracy: 0.01 mm Motor Speed: 130 RPM Motor (1 phase): 120 V / 50 Hz / 25 W Pin bearing roller speed: 60 Hz Step ovality accuracy: 25.4 mm Tool clamping dimensions ...: 175 x 218 x 90 mm **Total weight**: 7.1 Kg.



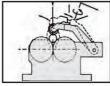
Some Examples Grinding:







Insert pin into housing Tighten screw of lever.



When pin is placed between precision rollers, center is found automatically.



After equipment is mounted to Before starting grinding, ensure by turning lever.



grinding machine, start grinding that all fasteners are tightened.

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