INNOBIZ Certification System Ver.3 ISO 9001

Since1989

www.qdcmico.co.kr

Q. D. C. System

Quick Die Change System

CESEHSA soluciánes

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MICO

MICO Myoungjin Provides the Products All Certified.

MICO Myoungjin

CEO's Message

MICO
Myoungjin

MICO Myoungjin has had the honor to be in partnership with your company for years since the establishment in November 1, 1989.

MICO Myoungjin is a reliable and innovative general equipment company that provides a quick, accurate, safe and easy die change system for the equipments, including a press, an injection molding machine, a die casting, and a forging press.

Main products include the quick die change system (QDC System), the mold rack, the die opening/closing turnover machine, and the mold moving cart.

Paying attention to the voice of customer, MICO Myoungjin is endeavoring to meet the customer's needs based on the "Quality First" philosophy.

Management Philosophy

Challenge to the innovation that develops the intelligent, functional and durable QDC systems

Business Policy

Listening to the voice of the customer

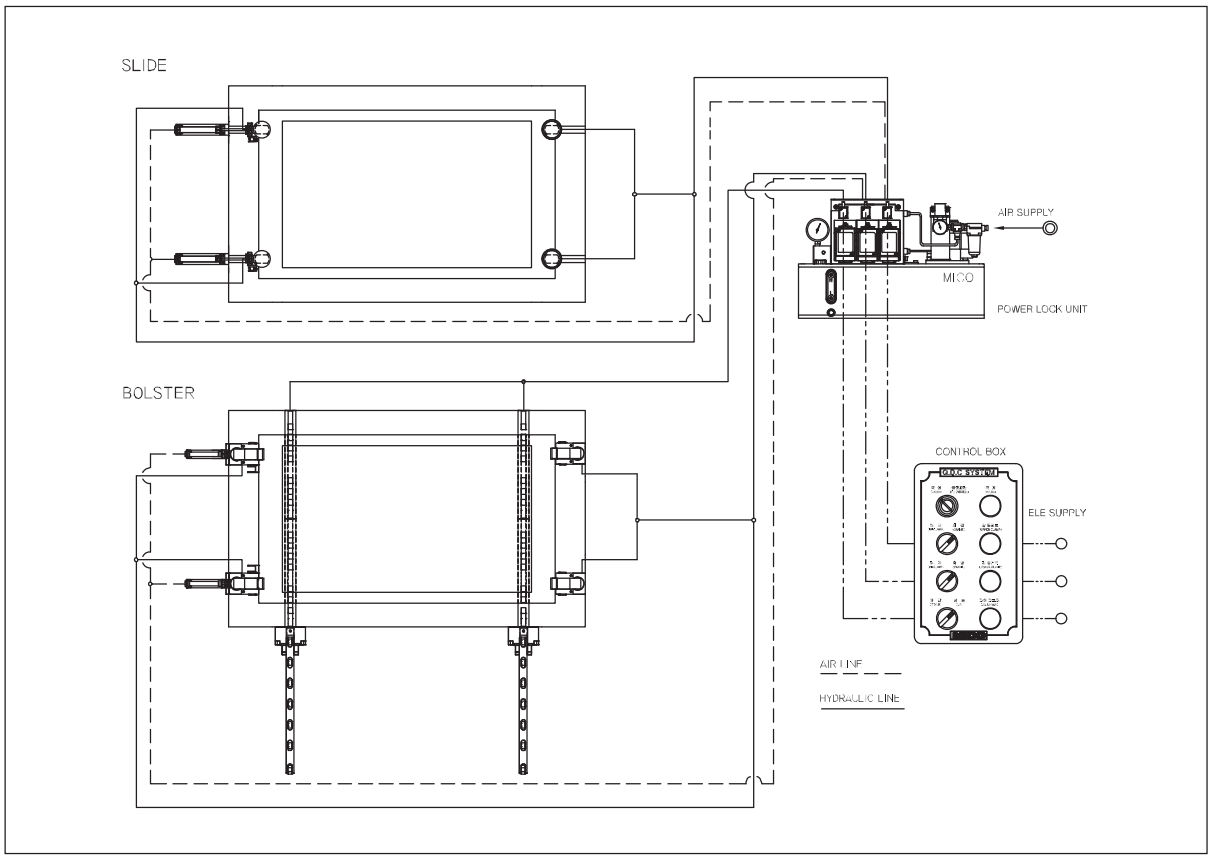
Company Motto

With a 'Can Do' belief, MICO Myoungjin will lead in the QDC systems that satisfy the customer with the best quality.

Myoung Hyo LEE
CEO

Contents

MICO Myoungjin provides a quick, accurate, safe and easy QDC system for the equipments, including a press, an injection molding machine, a die casting, and a forging press.



Selection of Clamp

The total clamping force (ΣFc), which is 10-20% of the machine power, divided by the number of clamp (N) is the unit clamping force (Fc).

$$FC = \frac{\Sigma FC}{N} \quad (ton)$$

BOLT SIZE	M16	M18	M20	M24	M30	M38
Clamping Force (ton)	3	4	6	10	15	20

Estimated maximum clamping force per a bolt

(Re.) Bolt material = S45C, σy = 50 kgf/mm2
Clamping Force = 0.55σy Wrench Manipulation Force = 50 kgf

Duration to Maintain the Clamping Force

A non-leak valve in the power lock unit maintains the pressure more than 50% to clamp a mold even in a power or air supply failure.

Basic Type	Ltype Check	AHPC-20
45hrs	240hrs	350hrs

Clamping Time

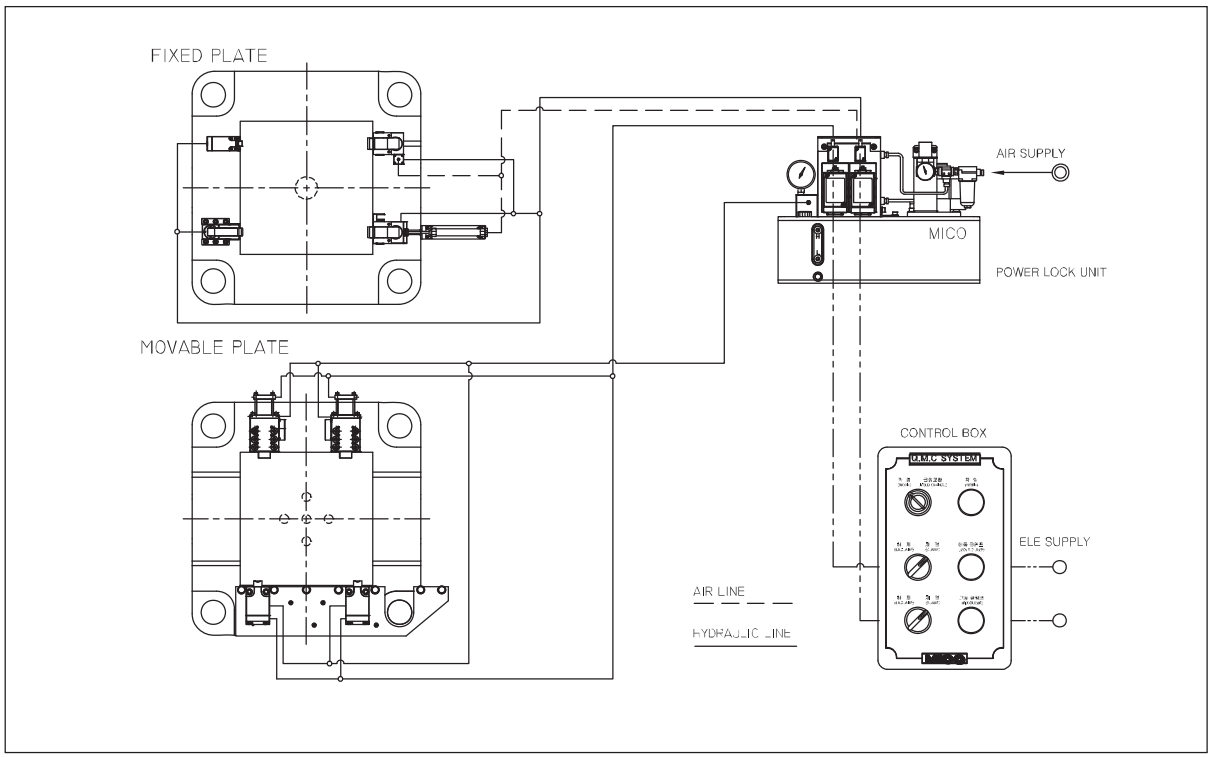
$$t = \frac{\Sigma V \times 60}{0.7 \sim 0.8 \times Qf} + 1(sec)$$

t : Clamping time
ΣV : Cylinder volume in clamping
Qf : Pump discharge (ml/min)

Safe Circuit

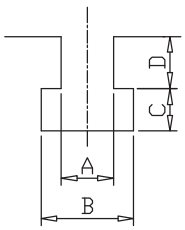
- A pressure switch in the power lock unit is activated if the hydraulic pressure falls below a certain level in a circuit.
- An interlock circuit connected with the basic circuit maintains the safety to detect the failure.
- A non-leak valve in the power lock unit maintains the pressure.
- An interlock circuit between a bottom clamp and a die lifter holds the slide in place during the operation of a die lifter.
- A standard system equips with a hydraulic pressure gauge for a visual inspection.

- **Functionality:** The system components are highly durable to stand against vigorous operation conditions, including a high speed, vibration, a high temperature, and humid.
- **Economic Efficiency:** An automatic change system allows changing a large-sized mold within several minutes.
- **Safety:** Together with a safety control device, a non-touch clamp and a mechanical lock clamp eliminate risks that may occur during the manual operation.



INJECTION & DIE-CASTING MACHINE

Injection Molding M/C		Clamp		T-Groove			
Capacity	Mold Opening Force	Type/Capacity	Type/Capacity	A	B	C	D
~100TON	8 TON	TM 2.5 x 8	LY 2 x 8	22 $^{+0.5}_{0}$	37 $^{+3}_{0}$	22 $^{+2}_{0}$	22 $^{+2}_{0}$
~150TON	10 TON		LY 4 x 8				
~250TON	16 TON	TM 4 x 8					
~350TON	24 TON	TM 6 x 8	LY 6 x 8	28 $^{+0.5}_{0}$	46 $^{+4}_{0}$	20 $^{+2}_{0}$	28 $^{+2}_{0}$
~550TON	40 TON	TM 10 x 8	LY 10 x 8				
~850TON	64 TON	TM 16 x 8	LY 16 x 8	32 $^{+0.5}_{0}$	53 $^{+4}_{0}$	24 $^{+2}_{0}$	28 $^{+2}_{0}$
~1250TON	100 TON	TM 16 x 12	LY 25 x 8				



Example: For an injection molding machine with a capacity of 550 ton
The mold opening force is 40 ton, which requires 8 TM clamps for 10 ton, or 8 LY clamps for 10 ton.

Internal and External Preparations for the Operation of a QDC System

- Internal Preparation
  Completely stop the operation of the associated machines, including a press, an injection molding machine, a die casting machine, and a QDC system.
- External Preparation
  Use a moving cart to transport and place a mold drawn from a mold rack to an injection molding machine, and prepare a turnover machine necessary for the mold repair.

Auto Clamp LY Type

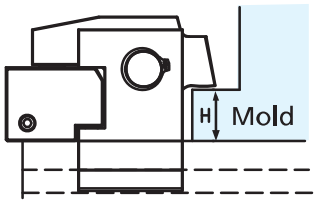
Designation

LY ❶-❷-❸ H

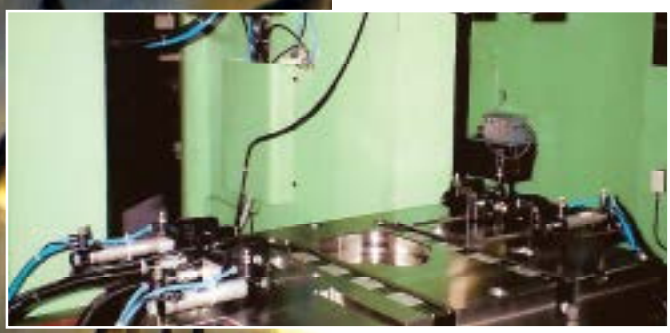
① Nominal Clamping Force	
2	2 tons
4	4 tons
6	6 tons
10	10 tons
16	16 tons

② Installation	
T	Movable with T Bold
F	Fixed with Bolster

③ Mold Height: H (mm)



Auto Clamp SLY Type



* An LY type clamp can be used with an air cylinder attached.

Features

- There are two LY type clamps: movable with T-groove bolt, and fixed with bolster.
- As the cylinder part is separate from the lever part, an equal force is applied to T-groove. The grooves are evenly worn down, with an allowable tolerance in clamping.
- Usable for the mold that has no U-groove
- The pressure is primarily increased from the operating pressure in proportion to the cylinder area, and secondarily by the lever.

Specifications

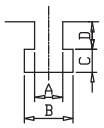
Item \ Type	LY2	LY4	LY6	LY10	LY16	LY25
Internal Pressure (kgf/cm²)	275					
Maximum Operating Pressure (kgf/cm²)	185					
Commercial Clamping Force (ton)	2	4	6	10	16	25
Stroke (mm)	5	5	7	8	8	10
Required Flow Rate (ml)	6.8	12.5	25.8	59	80.5	112.5
Operating Temperature (°C)	-5~60°C					
Weight (kgf)*	3	4.8	9	15.1	23.5	43

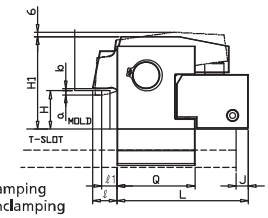
* Weight at H = 50 mm

Profiles & Dimensions

◆ Groove

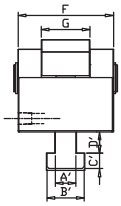
Indicate the dimension of T-groove as D±0.1 where the tolerance = 0.1 mm



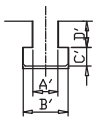


a : Stroke in clamping
b : Stroke in unclamping

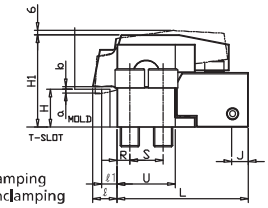
LY-T Type



◆ Clamp T-Groove

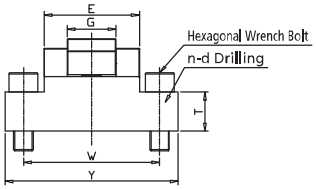


A' = A(Minimum) -0.5
B' = B-2
C' = C-1
D' = D(Minimum) +0.2



a : Stroke in clamping
b : Stroke in unclamping

LY-F Type



Type \ Mold Height H	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	a	b	F	G	L	I	I_1	J	R	S	T	U	W	Y	n-d	Q
LY 2	Mold Height : H'	61			71		81														2	3	66	30	79	18	14	15	16	–	30	31	90	115	2-16	45
LY 4			78				88		98		108										2	3	78	40	104	21	16	20	21	–	33	46	110	144	2-22	61
LY 6				95						105		115		125		135					2.5	4.5	98	50	134	25	18	25	30	–	40	60	140	180	2-26	80
LY 10					120								130		140		150				3	5	108	55	158	28	20	32	16	34	50	68	140	172	4-22	87
LY 16						138						148		158		168		178			3	5	138	60	195	32	22	38	20	45	55	85	180	220	4-29	108
LY 25										168					202				238		4	6	156	70	240	41	25	50	28	48	65	106	204	250	4-33	126

* Above specifications are subject to change without notice for further improvement in quality.

◆ For a Heavy & Large Injection Molding Machine

Injection Molding M/C	100TON	150TON	250TON	350TON	450-550TON	650-850TON	1300TON	1600TON	3000TON
Clamp	LY 2T	LY 4T	LY 4T	LY 6T	LY 10T	LY 16T	LY 16T	LY 16T	LY 25T
Q'ty	8 EA	8 EA	8 EA	8 EA	8 EA	8 EA	12 EA	16 EA	16 EA

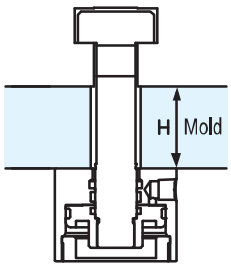
Auto Clamp SY Type

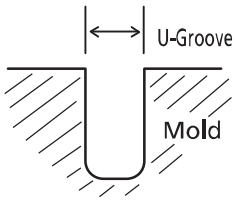
Designation

SY ❶ T - ❷ H

① Nominal Clamping Force	
2	2 tons
4	4 tons
6	6 tons
10	10 tons
16	16 tons

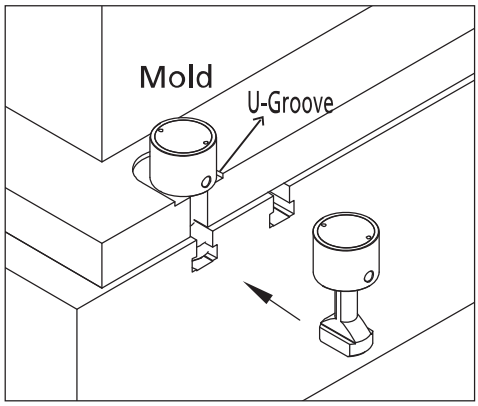
② Total Height in Clamping: H (mm)





Auto Clamp SSY Type

* An SY type clamp can be used with an air cylinder attached.



Features

- Generally used in press mainly when the slide area and a mold are small.
- Use T-groove to easily change a mold.
- mold shall have U-groove.
- Use a horseshoe block to adjust the clamping height of a non-standard mold.
- Customization is available for the specific conditions of mold and press.

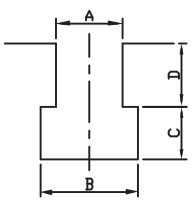
Specifications

Item \ Type	SY2	SY4	SY6	SY10	SY16
Internal Pressure (kgf/cm²)	275				
Maximum Operating Pressure (kgf/cm²)	185				
Commercial Clamping Force (ton)	2.0	4.2	6.0	10.5	16.8
Stroke (mm)	5	5	7	8	8
Required Flow Rate (ml)	5.6	11.7	24.2	46.7	74.8
Operating Temperature (°C)	-5~60°C				
Oil	Common Hydraulic Oil				
Weight (kgf)*	1.2	2.2	3.5	6.3	12.2

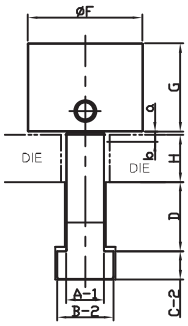
* Weight at H = 100 mm

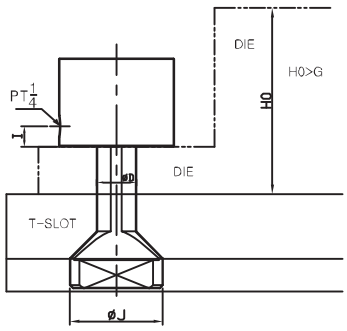
Profiles & Dimensions

T-Groove



* Indicate the dimension of T-groove and U-groove.





TYPE \ Item	a	b	d	F	G	N	I	J	Min K	Min M	Flow Rate (mℓ)	
											UNCLAMP	CLAMP
SY 2	2	3	18	58	49	10	12	38	8	12	5.6	4.3
SY 4	2	3	25	73	56	17.5	13	59	10	17	11.7	7.5
SY 6	2.5	4.5	30	88	64	17.5	15	64	14	20	24.2	15.6
SY10	3	5	40	108	77	20	15	79	17	28	46.7	29.2
SY16	3	5	50	146	86	20	15	89	20	32	74.8	46.7

* Above specifications are subject to change without notice for further improvement in quality.

Auto Clamp KV Type

Features
(Clamp with a Built-in Valve)

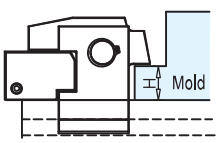
- A Check Valve built in a cylinder, It keeps the clamping pressure for itself
- The clamping pressure is safety maintained up for 100 hour for itself even if the hydraulic hose and piping are damaged
- A perfect double acting clamp
- Be reduced un-clamping times

Designation

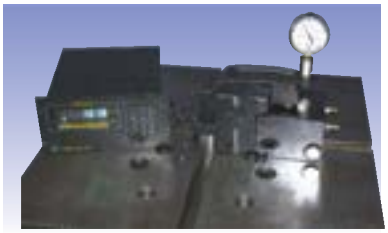
KV ❶ - ❷ H

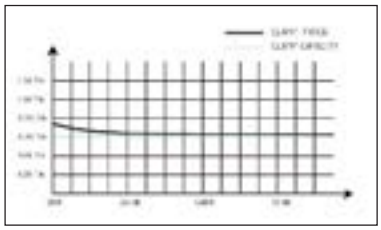
Nominal Clamping Force	
4	4 tons
6	6 tons
10	10 tons
16	16 tons
25	25 tons

Mold Height: H (mm)

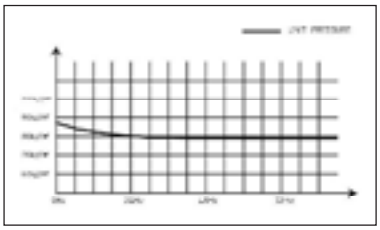


KV 10 ton clamp keeps the clamping pressure for itself



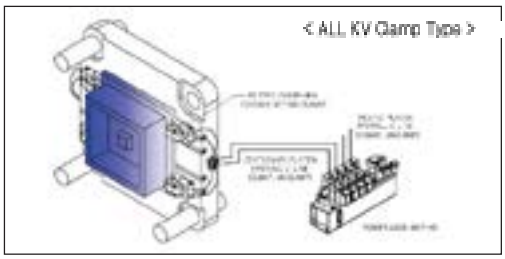


(After The hydraulic hose was removed, The clamp pressure lost)

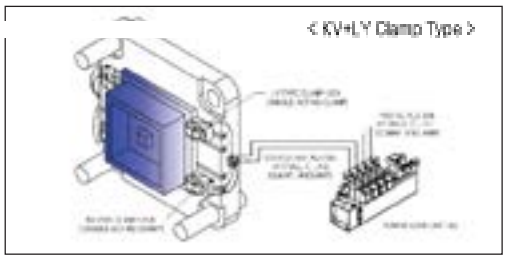


(After The hydraulic power was removed, The clamp pressure lost)

"The Safety which is Perfect"



- The new perfect safety Clamp
- The good safety for Big Injection machines and press machines
- For the safety of worker and mold, machine



- The Type which is reduced a price
- When The Hydraulic hose is damaged, It can keep the clamping pressure for itself

Specifications

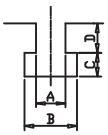
Item \ Type	KV4	KV6	KV10	KV16	KV25
Internal Pressure (kgf/cm²)	275				
Maximum Operating Pressure (kgf/cm²)	185				
Commercial Clamping Force (ton)	4	6	10	16	25
Stroke (mm)	5	7	8	8	10
Required Flow Rate (ml)	12.5	25.8	59	80.5	112.5
Operating Temperature (°C)	-5~60°C				
Weight (kgf)*	4.8	9.8	15.1	25.4	38

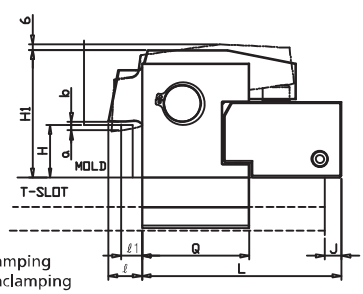
* Weight at H = 50 mm

Profiles & Dimensions

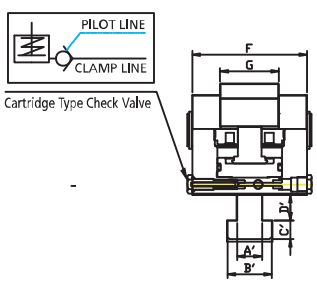
Groove

Indicate the dimension of T-groove as D±0.1 where the tolerance = 0.1 mm





a : Stroke in clamping
b : Stroke in unclamping



Typ \ Mold Height H	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	a	b	F	G	L	ℓ	ℓ1	J	Q
KV 4				78					88		108										2	3	78	40	124	21	16	20	61
KV 6				86					115		125		125								2.5	4.5	98	50	149	25	18	25	80
KV10			120						130		140		150		160						3	5	108	55	171	28	20	32	87
KV12			120						130		140		150		160						3	5	108	55	171	28	20	32	87
KV16					135								145		155		165		175		3	6	138	60	208	32	22	38	108
KV25							168									178			188		4	6	156	70	254	41	25	50	126

* Above specifications are subject to change without notice for further improvement in quality.

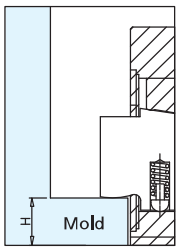
Auto Clamp TK Type

Designation

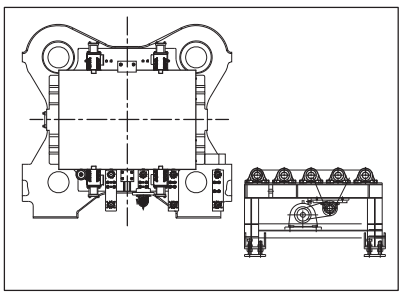
TK ❶ T - ❷ H

① Nominal Clamping Force	
16	16 tons
25	25 tons
40	40 tons

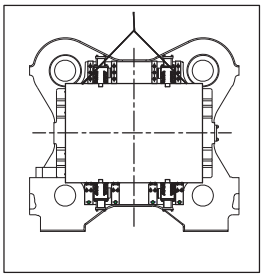
② Total Height in Clamping: H (mm)



How to Change a Mold



< Using a Cart >



< Using a Hoist >

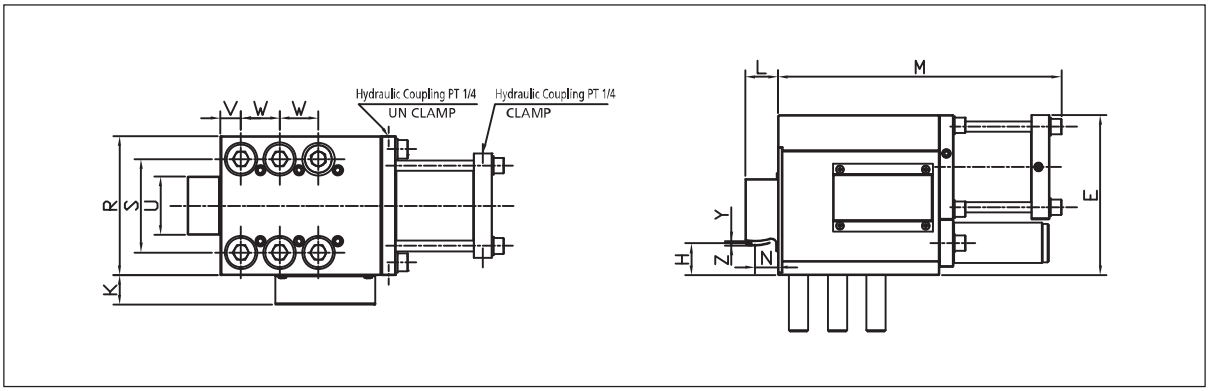
Features

- Mainly used in a heavy and large injection molding machine. A high clamping force is safely maintained even if there is no hydraulic pressure.
- The lever is stuck out of the clamp body in clamping, and retracted into the clamp body in unclamping.
- A mold shall be standardized.
- Use a hoist or cart to change a mold.

Specifications

Item \ Type		TK16	TK24	TK40
Clamping Force (ton)	(Hydraulic 140kg/cm³)	5 TON	8 TON	14 TON
Retention Force (ton)	(Hydraulic 140kg/cm³)	15 ton (max. 20 ton)	25 ton (max. 31 ton)	40 ton (max. 50 ton)
	(Hydraulic 0kg/cm³)	2 TON	3 TON	5 TON
Forward Stroke (mm)		4.5	4.5	5.5
Clamp Stroke (mm)		2	2	2.5
Safe Stroke (mm)		2.5	2.5	3
Required Flow Rate (ml)		284	460	859

Profiles & Dimensions



Item \ Type	E	L	M	N	R	S	U	V	W	K	X	Y	Z	H
TK16	H+140	30	300	20	145	65	98	22	39	5	M20	2	2.5	MIN40
TK25	H+170	30	355	20	175	76	118	27	49	47.5	M24	2	2.5	MIN50
TK40	H+200	33	420	25	215	90	145	32	60	53.5	M30	2.5	3	MIN50

*Above specifications are subject to change without notice for further improvement in quality.

◆ For a Heavy & Large Injection Molding Machine

Injection Molding M/C	1000TON	2000TON	2500TON
Clamp	TK16T	TK25T	TK40T
Q'ty	8EA	8EA	8EA

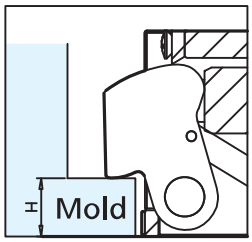
Auto Clamp TM Type

Designation

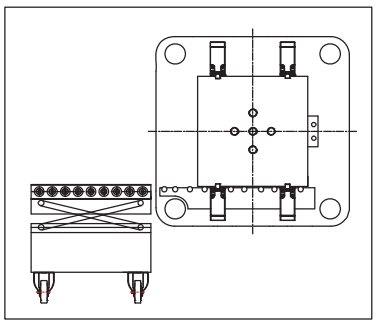
TK ❶ T - ❷ - H

① Nominal Clamping Force	
1	1 tons
2.5	2.5 tons
4	4 tons
6	6 tons
10	10 tons
16	16 tons

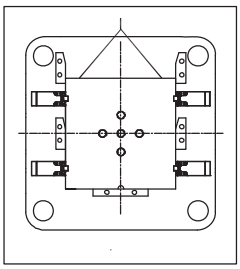
② Total Height in Clamping: H (mm)



How to Change a Mold



<Using a Cart>



<Using a Hoist>

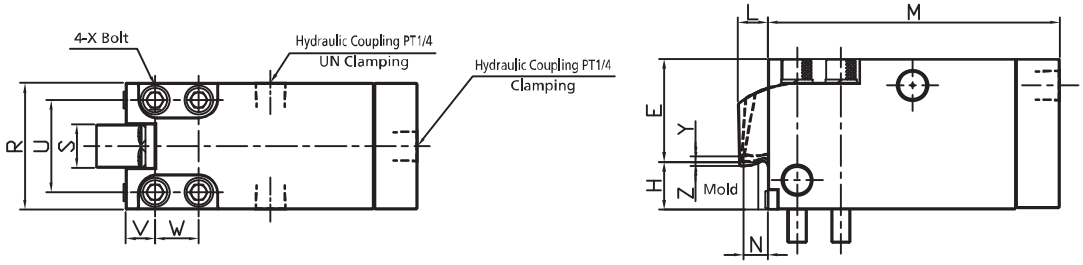
Features

- A high clamping force is safely maintained even if there is no hydraulic pressure.
- Suitable for light and small injection molding machine
- A mold shall be standardized.
- Use a hoist or cart to change a mold.

Specifications

Item \ Type		TM1	TM2.5	TM4	TM6	TM10	TM16
Clamping Force (ton)		1	2.5	4	6.3	10	196
Retention Force (ton) (Hydraulic 0kg.cm²)		0.05	0.1	0.16	0.25	0.4	0.6
Forward Stroke (mm)		3.5	4	4	4	4.5	4.5
Clamp Stroke (mm)		2	2	2	2	2	2
Safe Stroke (mm)		1.5	2	2	2	2.5	2.5
Unclamping Hydraulic (kg/cm²)		30	30	30	30	30	30
Flow Rate	Clamping (cc)	15	41	92	163	298	520
	Unclamping (cc)	6	11	28	48	87	143

Profiles & Dimensions



Item \ Type	E	L	M	N	R	S	U	V	W	Y	Z	X	H
TM 1	42	11	118	9	52	18	38	12	18	2	1.5	M8	MIN20
TM2.5	56	16	145	12	78	27	58	17	22	2	2	M10	MIN30
TM 4	76	19	177	14.5	88	35	68	20	26	2	2	M12	MIN30
TM 6	90	21	197	15	108	45	84	22	30	2	2	M14	MIN35
TM10	112	25	236	19	135	55	106	30	36	2	2.5	M18	MIN40
TM16	137	32	285	20	182	72	135	40	50	3	3	M24	MIN40

* Above specifications are subject to change without notice for further improvement in quality.

◆ For a Light & Small Injection Molding Machine

Injection Molding M/C	100TON	150TON	250TON	350TON	550TON	850TON
Clamp	TM1T	TM2.5T	TM4T	TM6T	TM10T	TM16T
Q'ty	8EA	8EA	8EA	8EA	8EA	8EA

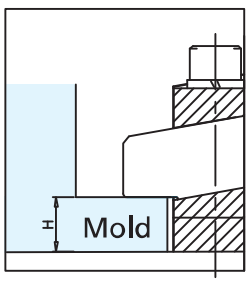
Auto Clamp GS Type

Designation

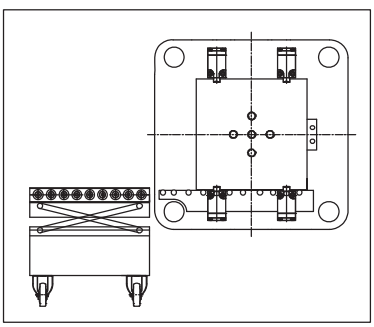
GS ❶ T - ❷ H

① Nominal Clamping Force	
4	4 tons
6	6 tons
10	10 tons

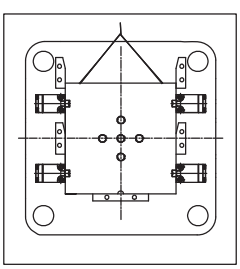
② Mold Height : H (mm)



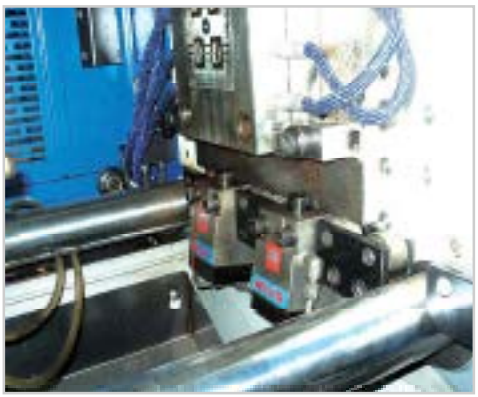
How to Change a Mold



<Using a Cart>



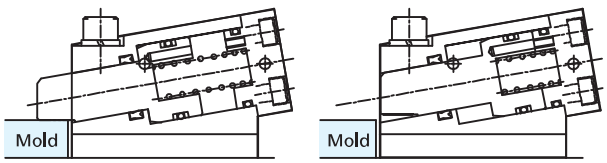
<Using a Hoist>



Features

- A high clamping force is safely maintained even if there is no hydraulic pressure.
- Suitable for medium and small injection molding machine
- A mold shall be standardized.
- Use a hoist or cart to change a mold.

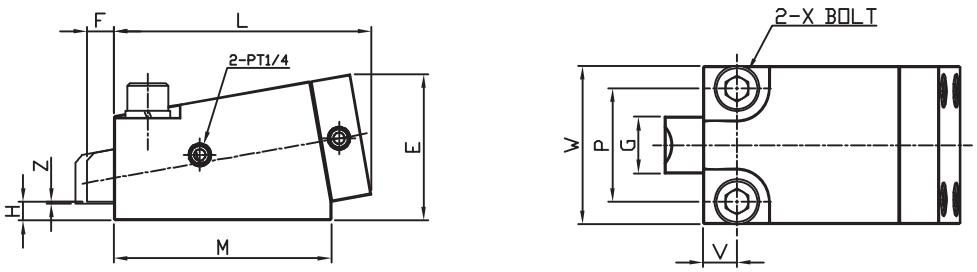
Structure



Specifications

Item \ Type	GS4	GS6	GS10
Clamping Force (ton)	4	6	10
Retention Force (ton) (Hydraulic 0kg/cm²)	0.2	0.25	0.3
Forward Stroke (mm)	4	4.8	5.6
Clamp Stroke (mm)	2.7	.9	3.5
Safe Stroke (mm)	1.3	1.9	2.4
Hydraulic Pressure in Unclamping (kg/cm²)	30	30	30

Profiles & Dimensions



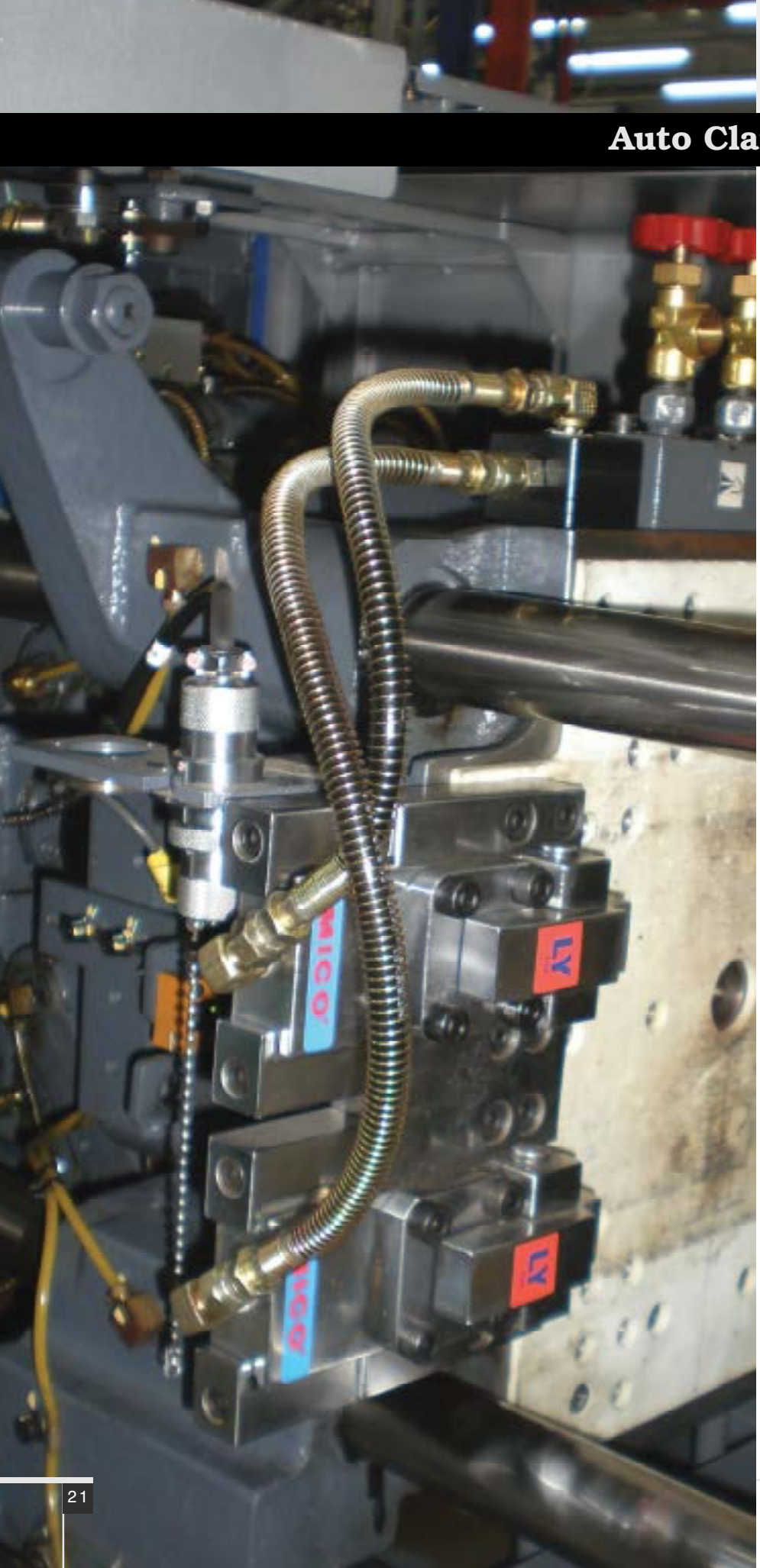
Item \ Type	E	L	G	H	L	M	P	V	W	X	Z
GS 4	100	15	40	30	149	129	62	22	90	16	2.7
GS 6	130	16	50	35	172	148	76	25	110	20	2.9
GS10	160	17	60	40	200	167	90	28	130	22	3.5

* Above specifications are subject to change without notice for further improvement in quality.

◆ For a Medium & Small Injection Molding Machine

Injection Molding M/C	150TON	350TON	450-550TON
Clamp	GS4T	GS6T	GS10T
Q'ty	8EA	8EA	8EA

Auto Clamp LYS Type

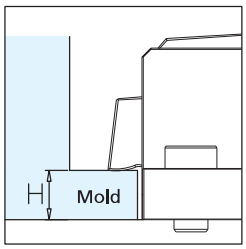


Designation

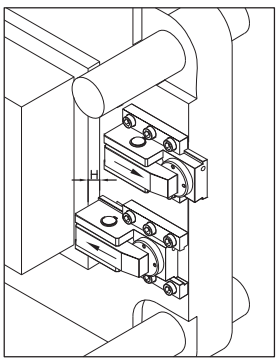
LYS ❶ T - ❷ - H

① Nominal Clamping Force	
4	4 tons
6	6 tons
10	10 tons

② Mold Height : H (mm)



Bolting



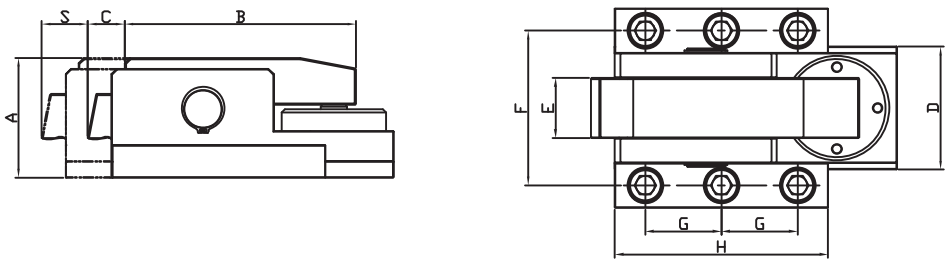
Features

- Mainly used for a non-standard mold in the injection molding machine without T-groove.
- A guide block allows the clamp moving forward/backward for an easy operation.
- Like LY type, the pressure is primarily increased by the cylinder, and secondarily by the lever.
- Durable and safe

Specifications

Item \ Type	LYS 4	LYS 6	LYS 10
Internal Pressure (kgf/cm²)	275		
Maximum Operating Pressure (kgf/cm²)	185		
Commercial Clamping Force (ton)	4	6	10
Stroke (mm)	5	7	8
Required Flow Rate (ml)	14	28	65
Operating Temperature (°C)	-5~60°C		
ST	80	100	120
Oil	Common Hydraulic Oil (ISO VG 32-56)		

Profiles & Dimensions



Item \ Type	A	B	C	D	E	F	G	H	S
LYS 4	105	188	21	75	40	100	40	115	75
LYS 6	110	245	22	96	50	125	55	145	100
LYS10	140	288	29	113	55	150	70	190	100

*Above specifications are subject to change without notice for further improvement in quality.

◆ For a Medium Injection Molding Machine

Injection Molding M/C	250TON	350TON	450-550TON
Clamp	LYS4T	LYS6T	LYS10T
Q'ty	8EA	8EA	8EA

Auto Clamp AFSY Type

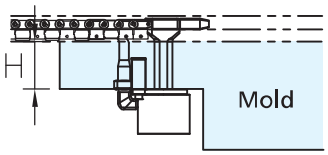
Designation

AF ❶ ❷ T - ❸ - ❹ S

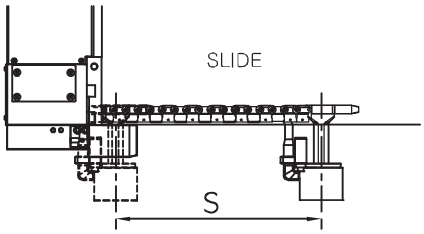
① MODEL
LY
SY

② Nominal Clamping Force	
4	4 tons
6	6 tons
10	10 tons

③ Mold Height : H (mm)



④ Stroke: S (mm)



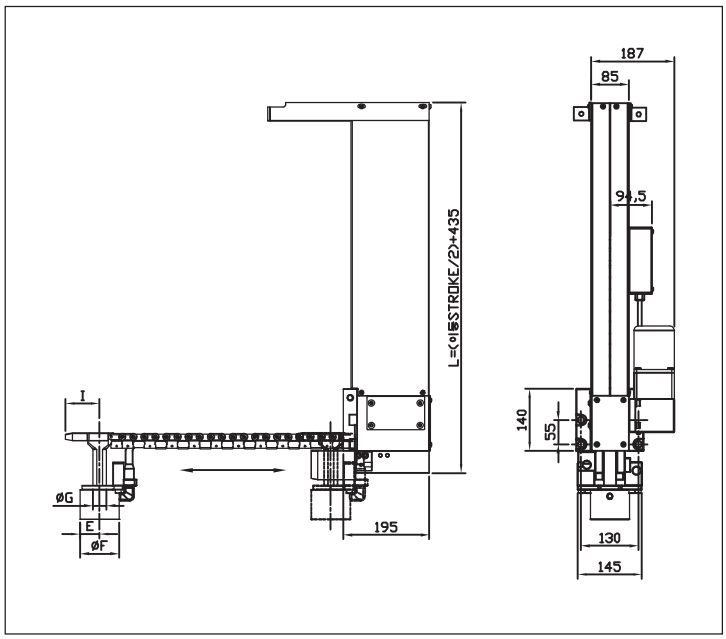
Features

- AFSY type auto clamp is a semi-auto SY clamp attached with a chain, an air cylinder and a small motor, which allows automatic forward and backward movements. No operator is needed to operate this movable slide clamp.
- A compact design that introduces a hydraulic hose and a proximity switch cable built into a chain to eliminate the interference of a feed bar from a transfer line.
- A slide roller chain in a movable part prevents the damage by the vibration of press.
- Mainly used in a large press to clamp a mold in place regardless of the mold size.

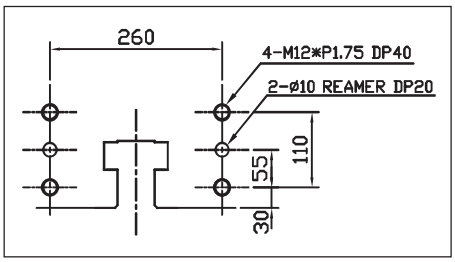
Specifications

Small-Sized Motor Driven System			
Item \ Type	AFSY 4	AFSY 6	AFSY 10
Internal Pressure (kgf/cm²)	275		
Maximum Operating Pressure (kgf/cm²)	185		
Commercial Clamping Force (ton)	4.2	6.0	10.5
Unclamping (Kgf/cm²)	3.7	3.7	3.9
Required Flow Rate (ml)	19.9	29.4	49.6
Operating Temperature (°C)	-5~60°C		
Oil	Common Hydraulic Oil (ISO VG 32-56)		

Profiles & Dimensions



Bolt Hole



Item \ Type	E	ØF	ØG	I	J	K	O	P	Q
AFSY 4	42	73	25	30	30	100	38	103	38
AFSY 6	49	88	30	32	30	100	45	118	45
AFSY 10	59	108	40	40	40	105	55	138	55

* Above specifications are subject to change without notice for further improvement in quality.

Auto Clamp NSY Type

Features

- A hydraulic driven rod swing system
- A compact design that introduces a special CAM for swing
- The swing angle is adjustable by an angle control device at 15 degrees interval.
- Hydraulic driven cylinder allows a wide range of tolerance in the mold height.
- A CAM is activated in the stroke of a hydraulic cylinder to swing a clamp rod. A Hydraulic cylinder with minimum output reduces the unclamping time and protects a swing CAM.

Designation

- Please refer to the TN type.

Specifications

Item \ Type	NSY 2	NSY 4	NSY 6	NSY10	NSY16
Commercial Clamping Force (ton)	2	4	6	10	16
Clamp Rod Internal Force (ton)	4	6	10	15	22
Clamp Stroke	4	5	5	6	6
Safety Stroke	2.5	2.5	2.5	3	3
Internal Pressure (kgf/cm^2)	275				
Maximum Operating Pressure (kgf/cm^2)	185				
Operating Temperature (°C)	-5~60°C				
Oil	Common Hydraulic Oil (ISO VG 32~56)				

Auto Clamp TN Type

Features

- An air driven rod swing system
- A CAM increases the cylinder output to enhance the tensile and retention forces of a clamp rod. TB-N type has a built-in spring in an air cylinder to tightly clamp a mold even if the air supply is stopped while the press in pause.
- An interlock circuit is equipped with a limit switch that verifies the clamping/unclamping.
- Each part allows an easy maintenance.

Designation

TN ❶ T - ❷ - ❸ - ❹ - ❺ - ❻ - A

① Nominal Clamping Force	
4	4 tons
6	6 tons
10	10 tons

② Built-In Spring	
T	No
S	Yes

③ Bolt Hole	
No Symbol	DRILL
T	TAP

④ Total Height in Clamping: L (mm)

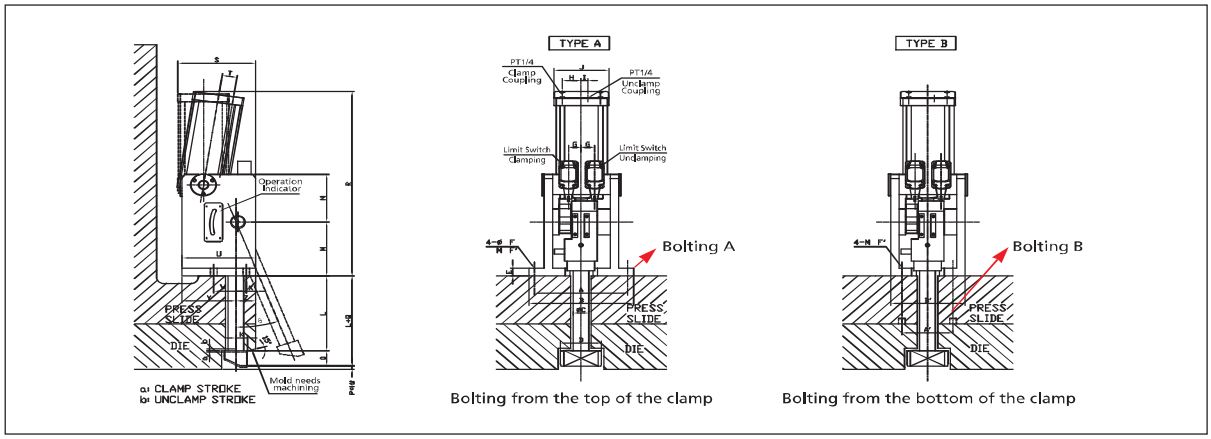
⑤ Rotation Angle: ø (°)

⑥ A or B (TYPE)

Designation

Item \ Type		TN 4T (SPRING NO)	TN 4S (SPRING YES)	TN 6T (SPRING NO)	TN 6S (SPRING YES)	TN 10T (SPRING NO)	TN 10S (SPRING YES)
Mold Tensile Force	Pressure 5kg / cm²	1.4 ton	2.0 ton	2.2 ton	3.1 ton	3.5 ton	5.0 ton
Mold Retention Force	Pressure 5kg / cm²	2.9 ton	4 ton	5 ton	7 ton	8 ton	11 ton
	Pressure 5kg / cm²	——	1.5 ton (Spring Force)	——	2 ton (Spring Force)	——	3 ton (Spring Force)
Clamp Rod Internal Force		6 ton		5 ton		15 ton	
Clamp Stroke		3 mm		3 mm		3.5 mm	
Swing Angle	Standard	Ø : 0° ~ 20°		Ø : 0° ~ 20°		Ø : 0° ~ 20°	
	Quasi-Standard	Ø : 20° ~ 50° (TR-R Only)		Ø : 20° ~ 50° (TR-R Only)		Ø : 20° ~ 50° (TR-R Only)	
Air Pressure	Rated	5kg / cm²		5kg / cm²		5kg / cm²	
	Maximum	7kg / cm²		7kg / cm²		7kg / cm²	
Operating Temperature		-10 ~ 70°C		-10 ~ 70°C		-10 ~ 70°C	

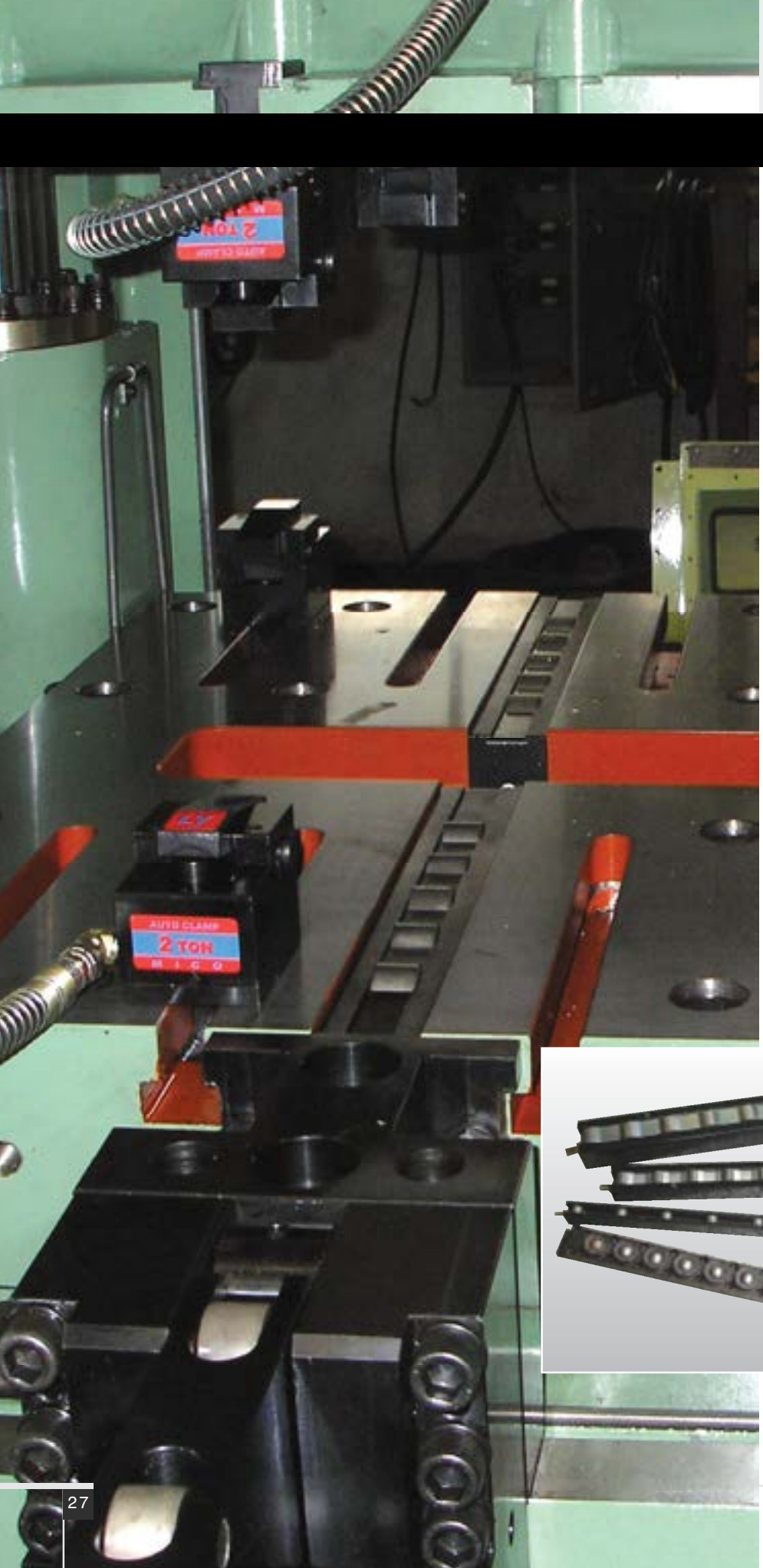
Profiles & Dimensions



Item / Type	a	b	A	A'	B	B'	C	D	E	F	P	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
TN 4	3	0.5	130	80	150	110	ø22	ø50	15	ø11	M10	/	30.5	/	80	20	User Defined	90	82	25	5 over	L+ 25	290/353	126	25	110	/	20	20	76	34
TN 6	3	1	160	105	180	145	ø28	ø60	16	ø11	M10	26	39	7	96	15~25		105	30	30	5 over	L+ 30	343/425	148	29	135	9	40	25	90	45
TN 10	3.5	1	200	110	225	178	ø34	ø75	20	ø14	M12	27.5	47	18	118	20~35		135	40	40	5 over	L+ 40	412/465	171	31	158	19	50	20	115	43

*Above specifications are subject to change without notice for further improvement in quality.

Die Lifter



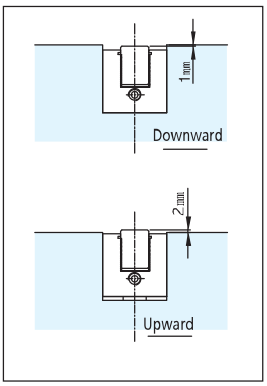
Designation

DL 50 ❶ - ❷ L

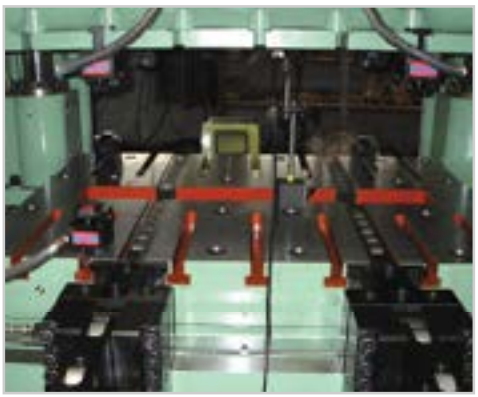
① Rolling System	
Roller	R
Ball	B

② Total Length of Die Lifter: L (mm)
300~3400
Please see the table for the dimension.

Operation



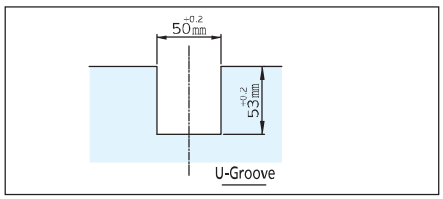
DL50 Type



Features

- A mold can move on a roller by the force less than 1/100 of the mold load.
- The scrap protection cover is attached around a roller.
- The protection bushing with a specially treated surface protects the bearing in a roller.
- An integral bar has a remarkable durability, and allows an easy maintenance.
- A hydraulic cylinder moves upward by hydraulic, and downward by self-weight.
- A roller attached to a bar rises about 2mm fom the surface of a bolster, and a mold moves upward as shown in Fig. on the previous page.

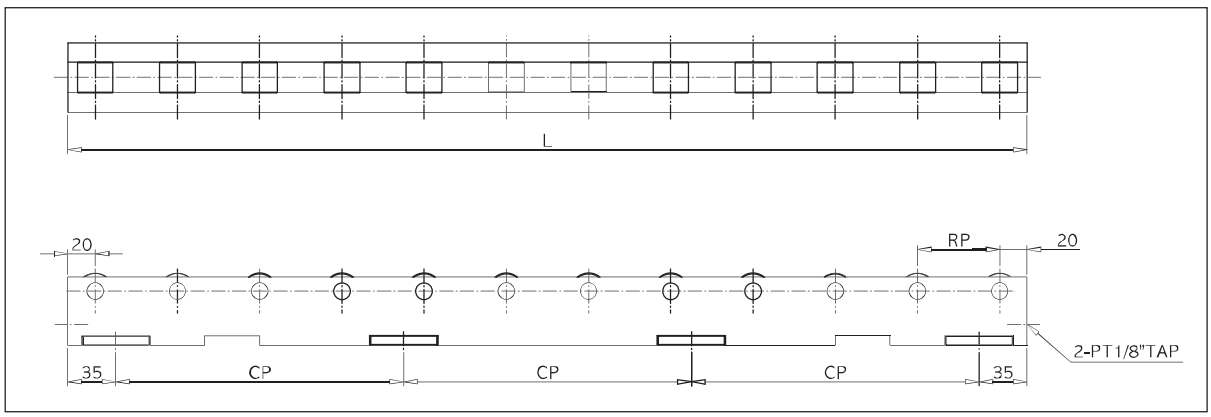
Bolster U-Groove



Specifications

CYLINDER	
Internal Pressure (kgf/cm²)	275
Maximum Operating Pressure (kgf/cm²)	185
Operating Temperature (°C)	-5~60°C
Oil	Common Hydraulic Oil(ISO VG 32~56)

Profiles & Dimensions



DIE LIFTER 50 TYPE SPECIFICATION			
L (mm)	NUMBER OF CYLINDER 'A'	NUMBER OF ROLLER 'B'	CAPACITY AT 185kgf/㎠
300	2	5	940kg
400	2	7	940kg
500	3	8	1410kg
600	3	10	1410kg
700	4	12	1880kg
800	4	13	1880kg
900	5	15	2350kg
1000	5	17	2350kg
1100	6	18	2820kg
1200	6	20	2820kg
1300	7	22	3290kg

*CYLINDER PITCH 'CP'=L-(35*2)/A-1
*ROLLER PITCH 'RP'=L-(20*2)/B-1

1.allowable load of roller : 1000kg/1ea
2.for a die lifter with 'L' greater than 1400, combine2~3 die lifters.

* For a die lifter with L greater than 1800, combine 2 die lifters with ½ L by 200 mm (Specifications are as follows).

Auto Clamp & Other Product





MICO

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