

# MAS\*/MATS\* series

## Pneumatic Swing Clamping Cylinder



### Order example:

<b>MAS</b>	<b>L</b>	<b>—</b>	<b>40</b>	<b>×</b>	<b>90</b>
MODEL	SWIVEL DIRECTION		PISTON $\phi$		ANGLE
MAS	R: CW		25		0°
MASD	L: CCW		32		45°
MATS	P: Nonswing		40		60°
MATSD			50		90°
			63		180°

Note: MATS and MATSD produced by order

### Note:

It is necessary to use a device having F.R.L.\* function for these pneumatic swing cylinders in order to effectively remove moisture, lubricate and extend the use life of the cylinder.

\*F: Filters R: Regulators L: Lubricators

### Application:

When machining a workpiece by means of a machine tool, a pneumatic swing clamping cylinder will be your best choice if the placing and taking of the workpiece are not allowed to be interfered by the clasper.

### Function:

This cylinder belongs to a pull cylinder of which the total stroke is equal to the sum of a swing stroke and a clamping stroke, and is usually used within the clamping stroke.

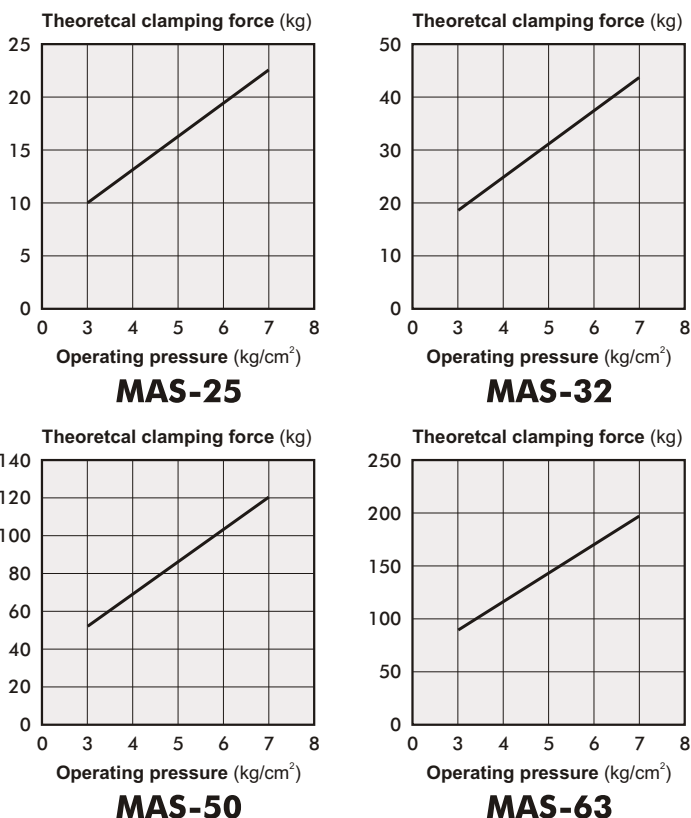
### Type:

This swing cylinder belongs to a double-acting type which is operated mainly in a downward pressing manner, including clockwise swing and counterclockwise swing; standard angle is 90°, and optional angles include 0°, 45°, 60°; clamping means includes single arm or double arms; the mounting manner includes square base type, threaded type and flange type for manifold mounting with O-ring seal.

### Material:

This material of the main body is aluminum alloy.

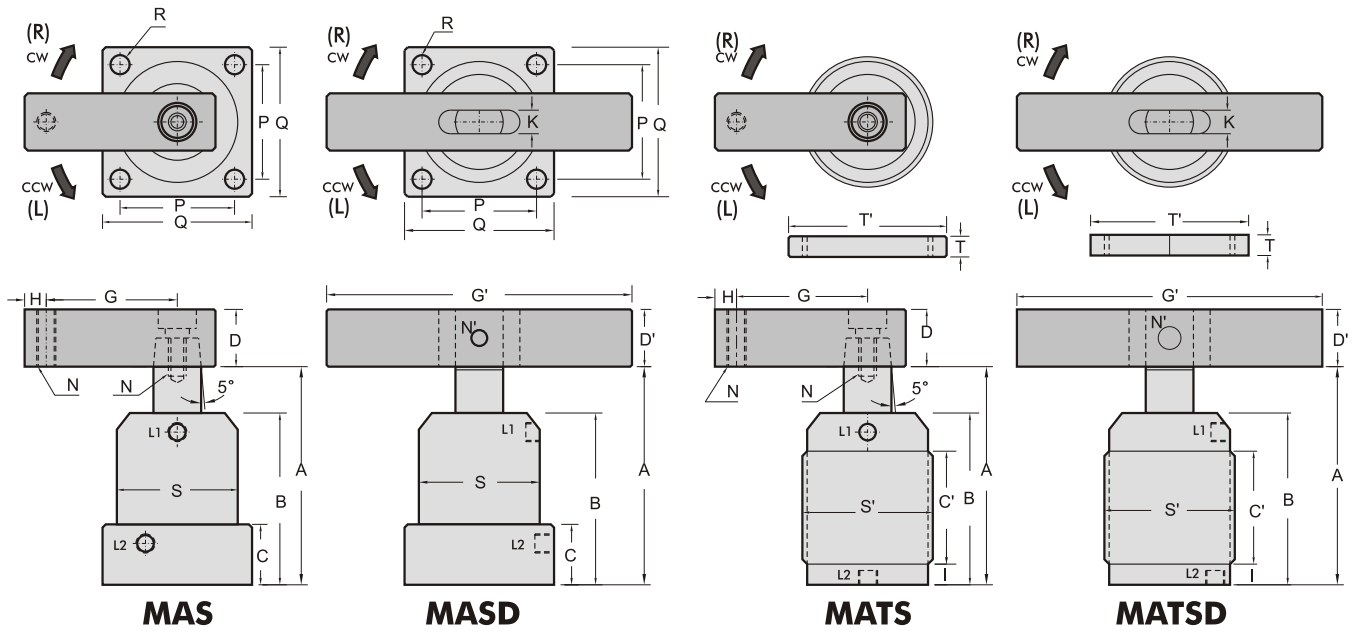
### Schematic view showing a theoretical clamping force under different pneumatic pressure:



# MAS\*/MATS\* Max. operating pressure 7kg/cm<sup>2</sup>



**Pneumatic Swing Clamping Cylinder** Double-acting, operating pressure 4-6 kg/cm<sup>2</sup> **Mindman**



Flange type	MAS-25	MAS-32 MASD-32	MAS-40 MASD-40	MAS-50 MASD-50	MAS-63 MASD-63
Threaded type (produced by order)	MATS-25	MATS-32 MATSD-32	MATS-40 MATSD-40	MATS-50 MATSD-50	
Max. operating pressure	7kg/cm <sup>2</sup>				
Normal operating pressure	4-6kg/cm <sup>2</sup>				
Cylinder operating	Double-acting				
Swivel angle	90° (60° 45° 0°) ±2° / *180° ±2°				
Swivel stroke (mm)	12/*21	12/*21	12/*21	14/*21	14/*21
Clamping stroke (mm)	14/*5	14/*5	15/*6	15/*8	15/*8
Piston-φ (mm)	25	32	40	50	63
Piston rod-φ (mm)	14	16	16	20	20
Theoretical force (5kg/cm <sup>2</sup> )	16kg	30kg	50kg	85kg	140kg
A (unclamp) (mm)	95.5	102.5	106	113	119
B (mm)	66.5	71	75	80	86
C (mm)	23	23	26	26	30
C' (mm)	35	40	45	50	
D (mm)	□16	□19	□19	□25.4	□25.4
D' (mm)		□19	□19	□22	□22
G (mm)	30	50	50	70	70
G' (mm)		100	100	120	120
H (mm)	8	9	9	10	10
I (mm)	7	9	9	9	
K (mm)		9	9	10	10
L1 (clamp) L2 (unclamp)	M5×0.8	PT 1/8	PT 1/8	PT 1/8	PT 1/8
N (mm)	M6×1	M8×1.25	M8×1.25	M10×1.5	M10×1.5
N' (mm)		φ 8	φ 8	φ 8	φ 8
P (mm)	31	44	48	55	64
Q (mm)	40	54	58	68	80
R (mm)	φ 4.5	φ 6.5	φ 6.5	φ 8.5	φ 8.5
S (mm)	φ 35	φ 50	φ 55	φ 60	φ 75
S' (mm)	M40×1.5	M50×1.5	M55×1.5	M65×1.5	
T (× 2 pcs) (mm)	9	11	11	12	
T' (mm)	φ 58	φ 70	φ 75	φ 85	