

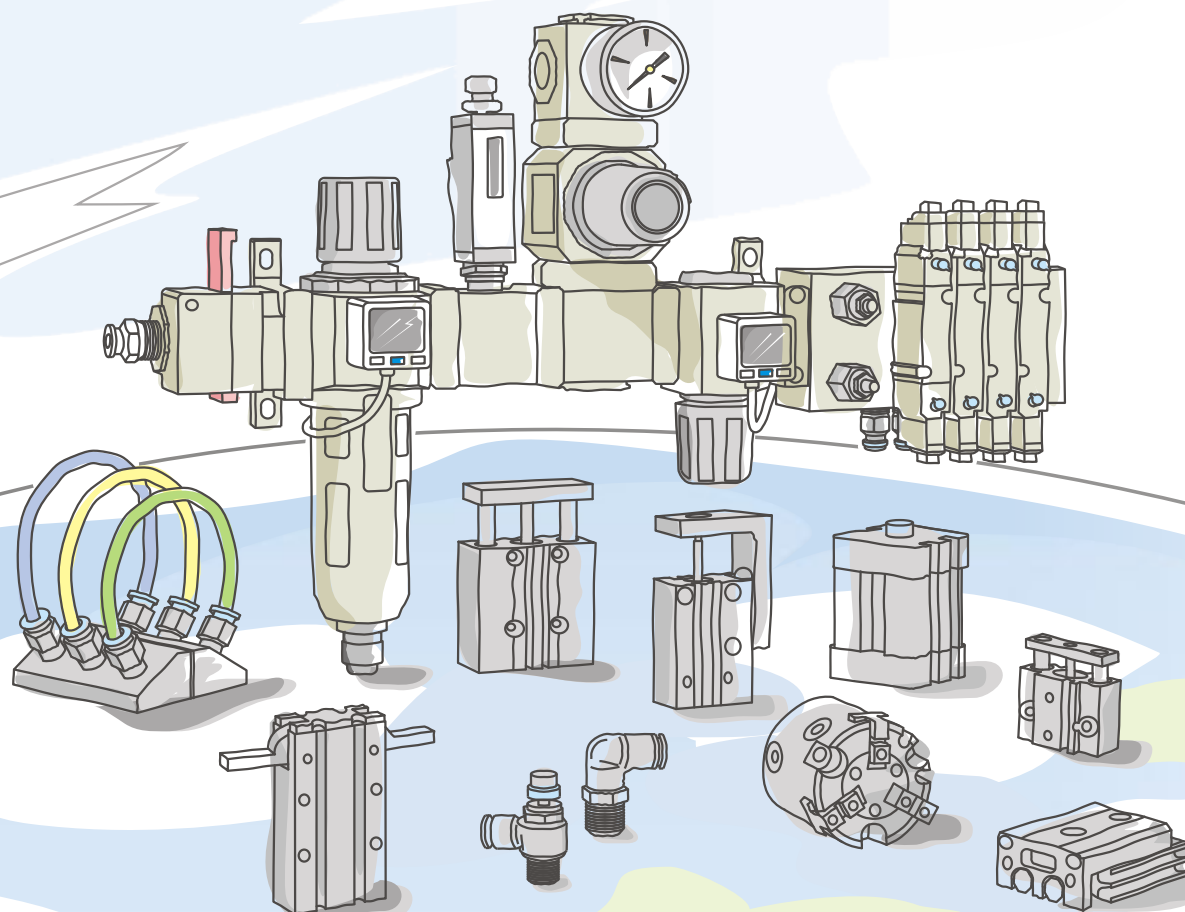


# PRODUCTS GUIDE

Progressive Quality Advancement & Exceeding Customers' Demands

## *Your True Partner*

Continual product research & design  
100% quality test  
Complete product range  
Comprehensive customer service  
On-time delivery  
Competitive pricing



## COMPANY PROFILE

### About MINDMAN

Mindman had been raising investment efficiency in productive facilities and professionals to expand its production capacity. Efficient automated production line and technical management lowers the cost of production, therefore makes Mindman products competitive worldwide.

Their well organized management keeps advancing their quality of products, and put into effect in the quality control. In 1999, their advanced product was certified by ISO-9001 that made their products international qualification. Currently, Mindman's products are exported to more than 65 countries worldwide, with major destination covering America, Japan, Europe, Southeast Asia, Middle East and so on.

#### Business Line :

Manufacture and sale for varieties of pneumatic equipments.

**Year Established :** 1979

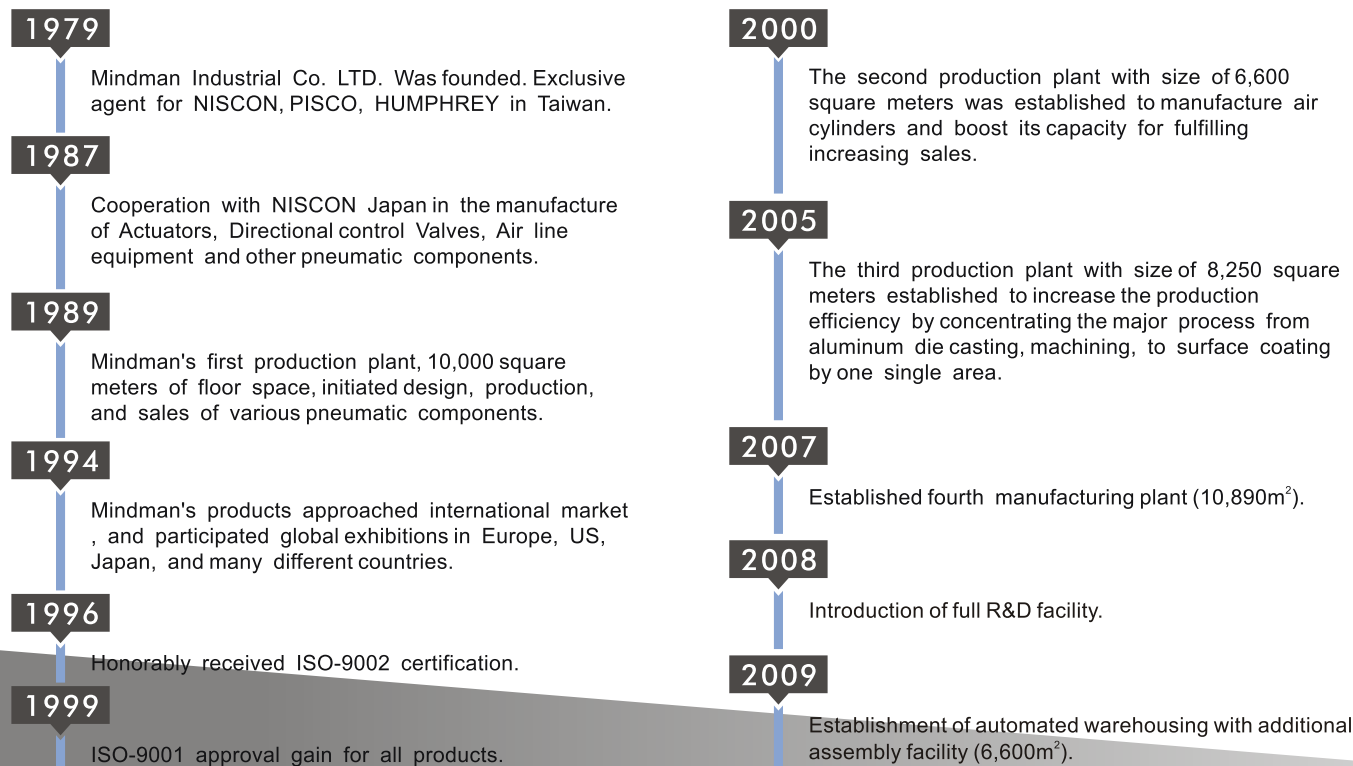
**Capital :** USD 7,800,000

**Employees :** 480 people

**President :** CHING-CHENG HUANG

**Plant size :** 59,000m<sup>2</sup>

### Development of MINDMAN



FACTORY 1



FACTORY 2



FACTORY 3



FACTORY 4



FACTORY 5



# Mindman supplies wide variety of pneumatic equipment supporting all industrial activity.

## Food industry

- » Food machinery
- » Packaging machinery
- » Water purifier

## Transportation

- » Air conveyor

## Textile industry

- » Pneumatic spinning
- » Automatic loom

## Instrument

- » Liquid instrument

## Medical equipment

- » Dentistry equipment
- » Life support system

## Marine development

- » Air supply system
- » Pump

## Industry machinery

- » Automatic assembly machinery
- » CNC machinery
- » Woodworking machinery
- » Package machinery

## Home appliances

- » Air curtain
- » Air conditioner

## New area

- » Fuel cell

## Semiconductor industry

- » Substrate conveyor
- » Mounter

## Agriculture

- » Air cleaner
- » Fruit sorting machine

## Shipbuilding industry

- » Explosion-proof equipment
- » Hovercraft

## Automobile industry

- » Car wash machinery
- » Air suspension
- » Air brake

## Leisure industry

- » Air rifle
- » Air mattress

## Chemical industry

- » Liquid state gas
- » Gas tank
- » Process control

## Pneumatic equipment

- » Air grinder
- » Air driver

## Mining industry

- » Air drill
- » Air supply system
- » Jet cooler



MINDMAN INDUSTRIAL CO., LTD.

<http://www.mindman.com.tw>



TA PHONE TRADING CO., LTD.

<http://www.taphone.com.tw>



WAY FU INDUSTRIAL CO., LTD.

<http://www.wayfu.com.tw>



**PISCO®**

PISCO TAIWAN

<http://www.pisco.co.jp>



**UNIMEC**  
FLUID-Technik

UNITECH HYDRO-PNEUMATIC CO., LTD.

<http://www.unimec.com.tw>



Related Enterprise



- In addition to Rc thread, G / NPT also available.
- Port size: #100: M3, #156: 1/8", #180: 1/8", #188: 1/4", #220: 1/4", #260: 1/4", #300: 3/8", #460: G1/2", #500: 1/2", #510: 1/2", #600: 3/4", 1".

#### Multi connector system

**MVB-180**  
**MVB-220**  
**MVB-300**



#### Direct operated type

**MVDY-100**



#### NAMUR

**MVSN-220**  
**MVSN-300**



#### Direct operated type

**MVDC-220**



**MVSC/D-180**  
**MVSC-220**  
**MVSC-260**



**MVSC-300**  
**MVSC-460**



**MVSE-260**  
**MVSE-300**  
**MVSE-500**  
**MVSE-510**  
**MVSE-600**



**MVSE-510**  
**MVSE-600**



**ISO-1** **MVSI-260**  
**MVSI-450**  
**MVSI-510**



**MVSY-100**  
**MVSY-156**  
**MVSY-188**



**MVSF-100**



**MVSZ-100**



Type	3 / 2	5 / 2	5 / 3 (C/P/R)	Pilot operate	Direct operate	Grommet lead	DIN connector	Medium
MVSC/D 180	● (NC/NO)	●	●	●		●	●	Air
220	● (NC/NO)	●	●	●		●	●	
MVSC 260		●	●	●		●	●	
300	● (NC/NO)	●	●	●		●	●	
460	● (NC/NO)	●	●	●		●	●	
MVSE 260		●	●	●		●	●	
300		●	●	●		●	●	
500		●		●		●	●	
510		●		●			●	
600		●		●			●	
MVSF 100	● (NC/NO)	●	●	●		●		
260		●	●	●		●	●	
MVSI 450		●		●		●	●	
510		●		●			●	
MVSN 220		●	●	●		●	●	
300		●	●	●		●	●	
MVSY 100		●	●	●		●		
156		●	●	●		●		
188		●	●	●		●		
MVSZ 100		●				●		
MVDC 220	● (NC)				●	●	●	
MVDY 100	● (NC)				●	●		



## 2 / 2 SOLENOID VALVE

Type	Pilot operate	Direct operate	Fluid							Material		Port size	
			Water / Air	Hot water	Steam	Light oil	Heavy oil	Gas	Vaccum	Body	Seal		
MRB	●		●							Brass	N/J/V	1/8"~1/4"	
MRC	●		●									1/8"~3/8"	
MYA	●		●	●							T	3/8"~1/2"	
MYS	●			●	●								
MGA	●		●	●									
MGS	●			●	●								
MED	●		●							Forged brass	N	1/4"~1/2"	
MGD	●		●								N/J/V	3/8"~2"	
MEP	●		●								N	3/8"~1/2"	
MUST	●		●			●		●	●		Precision die cast S.S.#303	N/V	1/8"~3/8"
MUD	●		●	●		●		●	●	Forged brass	N	1/8"~3/8"	
MUA		●	●						●			1/4"~3/8"	
MUDC		●	Hydrochloric acid, suifuric acid							PVC	N	1/4"~1/2"	
MSUS		●	●	●	●	●				Precision die cast S.S.#316		1/8"~1"	
MUAO		●	●			●				Brass / Bronze		1/4"~1/2"	
MUW	●		●			●				Forged brass			3/8"~2"
MUG		●						●	●				
MUAW		●	●										
MUS		●	●	●	●	●		●					P
MUW-NO		●	●						●	N		3/8"~2"	
MSUW		●	●						●	Precision die cast S.S.#316	N/V	1/2"~2"	
MSUW-F		●	●			●				FC20	N	1 1/4"~4"	
MUS-F		●	●										
MUPS		●	●	●	●	●				Forged brass	P	1/2"~1"	
MBS		●	●			●		●	●		N/J/V/T	1/8"~1/4"	
MCS		●	●			●		●	●			1/4"~3/4"	
MWA	●		●			●		●		Brass	N/J/V	3/8"~2"	
MWH	●						●						
MWS	●			●	●					Forged brass	N/J/V/Z	1/8"~3/4"	
MZS		●	●	●	●	●		●					
MJS		●	●			●		●	●	Brass	N/J/V	—	
MJR		●	●			●		●	●				
MPD	●		●							PA (Nylon)	N/J/V	1/2"~1"	
MPK	●		●										



## 3 / 2 SOLENOID VALVE

MCT		●	●			●		●	●	Brass	N/V	1/4"~3/4"
MJT		●	●			●		●	●	Brass	N/J/V	—
MRJ		●	●			●		●	●	Brass	N/J/V	—
MUT	●		●			●		●	●	Forged brass	N/V	1/8"~3/8"
MUSC		●	●			●		●	●	Precision die cast S.S.#303	N/J/V	1/8"~3/8"
MZT		●	●	●	●	●		●		Forged brass	N/V/Z	1/8"~3/4"

NOTE: Seal-code N: NBR, P: PTFE, J: EPDM, V: VITON, T: TEFLON



Type	5 / 2		3 / 2		
	4A1	4A2	3A1		3A2
	Spring return	Double acting	Spring return	NC	Double acting
MVAA-	150	●	●	●	●
	180	●	●	●	●
	220	●	●	●	●
	260	●	●	●	●
	300	●	●	●	●
	460	●	●	●	●

## PILOT VALVE

### MVAA series



## SHUTOFF VALVE

### MVHT series

(2/2, 3/2)

Combined with air unit MA\*\*300, MA\*401 series as a module product.



### EPA series

Variety of push type / Spool with spring return or detented



### ACT series



## MECHANICAL VALVE

### MVMB

220—3/2, 5/2  
250—2/2, 3/2  
300—5/2

Variety of push type / Spool with spring return or detented



## HAND VALVE

### MVHA series

(2/2, 3/2, 5/2)

TAC mini type / Push button or toggle operation / Spring return or detented



## HAND LEVER VALVE

### MVHB series

(5/2, 5/3)

Detented type



### MVMC

210—3/2

Variety of push type / Spool with spring return or detented



## MECHANICAL VALVE

### MVMA

260, 300—5/2  
Roller lever / Spring return



## HAND VALVE

### MVHF-3P-NC MVHF-3P-NO



### MVHF-3V MVHF-5V



### MVHF-5P



## MINIATURE PILOT ACTUATOR

### MVHF-AP3 MVHF-AP6A



## MOUNTING BRACKET

### MVHF-LB



## VALVE ACTUATORS MANUAL PUSH BUTTON

### MVHF-PB2 / PB5



## HAND VALVE

### MVHD series

220—5/2

Push-pull type



## ROTARY HAND LEVER VALVE

### MVHC series

(4/3)

Detented type



## HAND SLIDE VALVE

### MVHS series

(2/2)

Pressure relieve / Detented type



## FOOT PEDAL VALVE

### MVFA series

(3/2, 4/2)

Spool with spring return & lock mechanism available.



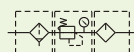
## AIR UNITS

MACP200 (40  $\mu$  m)  
MACP200L (40  $\mu$  m)  
MACP300 (5  $\mu$  m)  
MACP300L (5  $\mu$  m)  
MACP302 (5  $\mu$  m)  
MACP310 (40  $\mu$  m)  
MACP400 (40  $\mu$  m)  
MACP401 (40  $\mu$  m)  
MACP402 (40  $\mu$  m)  
MACP403 (40  $\mu$  m)  
MACP410 (40  $\mu$  m)  
MACP500 (40  $\mu$  m)



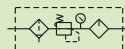
## AIR UNITS

MACT300 (5  $\mu$  m)  
MACT300L (5  $\mu$  m)  
MACT302 (5  $\mu$  m)  
MACT310 (40  $\mu$  m)  
MACT400 (40  $\mu$  m)  
MACT401 (40  $\mu$  m)  
MACT402 (40  $\mu$  m)  
MACT403 (40  $\mu$  m)  
MACT410 (40  $\mu$  m)  
MACT500 (40  $\mu$  m)



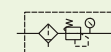
## AIR UNITS

MACC300 (5  $\mu$  m)



## F.R. UNIT

MAFR100 (40  $\mu$  m)  
MAFR200 (40  $\mu$  m)  
MAFR200L (40  $\mu$  m)  
MAFR300 (5  $\mu$  m)  
MAFR300L (5  $\mu$  m)  
MAFR302 (5  $\mu$  m)  
MAFR310 (40  $\mu$  m)  
MAFR400 (40  $\mu$  m)  
MAFR401 (40  $\mu$  m)  
MAFR402 (40  $\mu$  m)  
MAFR403 (40  $\mu$  m)  
MAFR410 (40  $\mu$  m)  
MAFR500 (40  $\mu$  m)



## FILTER

MAF200 (40  $\mu$  m)  
MAF200L (40  $\mu$  m)  
MAF300 (5  $\mu$  m)  
MAF300L (5  $\mu$  m)  
MAF302 (5  $\mu$  m)  
MAF310 (40  $\mu$  m)  
MAF400 (40  $\mu$  m)  
MAF401 (40  $\mu$  m)  
MAF402 (40  $\mu$  m)  
MAF403 (40  $\mu$  m)  
MAF410 (40  $\mu$  m)  
MAF500 (40  $\mu$  m)  
MAF900 (50  $\mu$  m)  
MAF901 (50  $\mu$  m)



## FILTER ELEMENT

E001 (0.01  $\mu$  m)  
E03 (0.3  $\mu$  m)  
E5 (5  $\mu$  m)  
E20 (20  $\mu$  m)  
E40 (40  $\mu$  m)



## REGULATOR

MAR100  
MAR200  
MAR300  
MAR301  
MAR302  
MAR310  
MAR400  
MAR401  
MAR402  
MAR403  
MAR410  
MAR500  
MAR510  
MAR900  
MAR901



## LUBRICATOR

MAL200  
MAL200L  
MAL300  
MAL300L  
MAL302  
MAL310  
MAL400  
MAL401  
MAL402  
MAL403  
MAL410  
MAL500  
MAL510  
MAL900



## AUTO DRAINER

MAD400  
MAD401  
MAD401H  
MAD500  
MAD500M  
MAD501  
MAD501H



## PRECISION REGULATOR

MAIR100 (1/8")  
MAIR200 (1/4")



## HAND-HELD REGULATOR

MAR300LK



## DIGITAL CONDENSATION REMOVAL TIMER

MBS  
MCS  
MBD



## FILTER FOR TURBINE TYPE

MWA-300  
MWC-1000  
MWC-4000



## SOFT START-UP VALVE

MAVS400



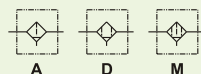
## AUTO DRAIN VALVE

MADV300  
MADV400  
FMRF300

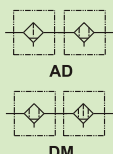


## AIR / MIST / MICROMIST FILTER

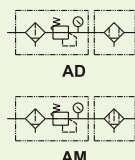
MAF300LD (0.3  $\mu$  m)  
MAF300LM (0.01  $\mu$  m)  
MAF302D (0.3  $\mu$  m)  
MAF302M (0.01  $\mu$  m)  
MAF401A (5  $\mu$  m)  
MAF401D (0.3  $\mu$  m)  
MAF401M (0.01  $\mu$  m)



MAFF401AD (5+0.3  $\mu$  m)  
MAFF401DM (0.3+0.01  $\mu$  m)



MAFRF401AD (5+0.3  $\mu$  m)  
MAFRF401AM (5+0.01  $\mu$  m)



MATFR401 (5+0.3+0.01  $\mu$  m)



## PNEUMATIC PRESSURE SWITCH

MP10  
MP20  
MP25  
MP30  
MP41  
MP42  
MP1  
MPS



## PRESSURE GAUGE

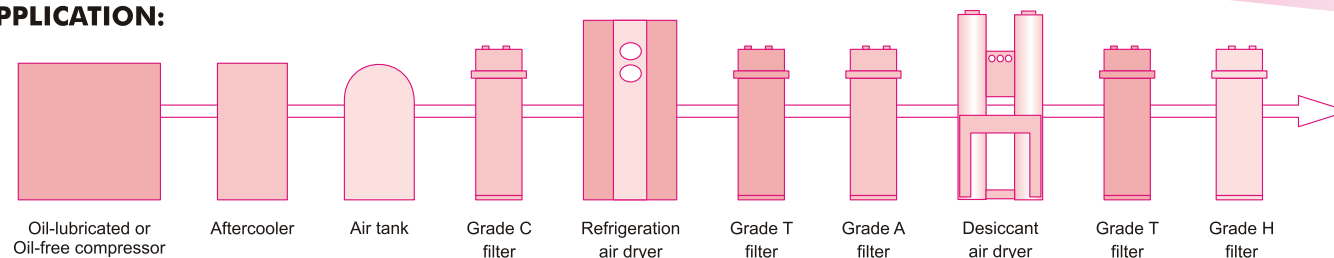
MP23  
MPG-60  
PG



- Both of MA\*\*410, MA\*\*310, MAL510 and MAR510 series are in #316 stainless steel.
- In addition to Rc thread, G / NPT also available.
- Port size: (Rc)
 

#100-M5	#200-1/8", 1/4"
#300-1/4", 3/8"	#302-1/4", 3/8", 1/2"
#310-1/4", 3/8"	#400-1/4", 3/8", 1/2"
#401-1/4", 3/8", 1/2"	#402-3/8", 1/2", 3/4"
#403-1/4", 3/8", 1/2"	#410-3/8", 1/2", 3/4"
#500-3/4", 1"	#510-3/4", 1"
#900-1 1/2"	#901-2"



**APPLICATION:****REFRIGERATION COMPRESSED AIR DRYER****M2E series**

08SG~10SG    125S~250S  
10GP~100GP    300S~1500S

- Logic controller, complete auto functioning and standard wiring.
- Complete automatic, no adjustment is required.
- Axial fan motor low noise, high speed, large flow and static pressure. CE certified, IP54.
- Condenser and pre-cooler 2 in 1 design with same fan motor.
- With filter strainer prevent oil vapor on fins, easy maintenance.
- Pre-set type pressure switch (HPS & LPS) is used for better stability and fewer malfunctioning .
- Reset type high/low pressure trip switch (HPSM/LPSM) is prevent compressor from overloading.

**HEATLESS DESICCANT****MHD series**

10~1000

- For different P.D.P. requirement we design 4min/10 min cycle mode.  
10 minute cycle produce -42°C.  
4 minute cycle produce -72°C.  
(outlet concentrations of 1 ppb @ 7kgf/cm<sup>2</sup> )
- Standard Purge Economizer (25%~100% ) is able to match purge air use to the demand on the dryer.
- Tower design saves 98% of the heat of adsorption helps to minimize purge air required -13.5% minimum purge air use, the lowest in the industry.

**REFRIGERATION COMPRESSED AIR DRYER**

Type	M2E-																									
	08SG	10SG	10GP	15GP	25GP	40GP	60GP	75GP	100GP	125S	150S	175S	200S	250S	300S	350S	400S	500S	600S	700S	800S	900S	1000S	1250S	1500S	
Max. capacity (Nm³/min)	0.8	1.2	1.2	2.4	3.6	5.5	8.1	10.6	15	18	22	27	30	36	43	50	61	72	79	93	116	125	134	155	180	
Connection (inch)	1/2"Rc	3/4"Rc	3/4"Rc	1"Rc	1-1/2"Rc	1-1/2"Rc	2"Rc	2"Rc	2"Rc	3"FL	3"FL	3"FL	3"FL	4"FL	4"FL	4"FL	4"FL	5"FL	5"FL	6"FL	6"FL	6"FL	8"FL	8"FL	8"FL	
Ref. comp. (kw)	0.26	0.5	0.5	0.65	0.95	1.2	1.9	2.6	2.6	3.6	4.2	4.7	6.5	7.0	6.3	7.0	9.3	11.0	12.5	13.5	16.9	21.9	21.9	27.4	27.4	
Operating current (A)	1.2	2.4	2.4	3	4.3	5	7.5	3.5	3.5	5	6.4	7.6	9.8	10.2	7.7	8.5	13.7	15.4	17.5	18.4	26.1	28.3	28.3	36.6	36.6	
Full-load current (A)	1.5	2.75	2.75	3.35	4.9	5.7	8.7	4	4	5.7	7.3	8.6	11.0	12.2	10.6	11.9	17.1	19.8	22.7	23.2	32.2	37.2	37.2	47.4	47.4	
Pictures																										



## STANDARD CYLINDERS

### MCQA series

(Japan type)  
Bore size :  $\phi 40 \sim \phi 200$   
Double acting

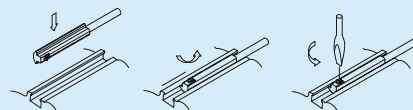


### MCQI2 series

(ISO-6431 / VDMA24562 Profile type)  
Bore size :  $\phi 32 \sim \phi 100$   
Double acting

- With four grooves on the tube for sensor switch to be inserted into, position can be adjusted as needed.

#### Installation of sensor switch:



### MCQV / MCQV2 series

(ISO-6431 / VDMA24562 Tie rod type)  
Bore size :  $\phi 32 \sim \phi 160$   
Double acting



### MCQN series

(NFPA type)  
Bore size :  $\phi 1 \frac{1}{2} \sim \phi 4$   
Double acting



## AIR/OIL CONVERTER

### MCQA-AH series

Bore size :  $\phi 40 \sim \phi 150$

- Consider cylinder thrust force is about 70%(50% high speed) of theoretical force.
- Displacement is suggested about 50% of total volume.
- Max. oil ascending speed is about 200mm / sec
- Recommend ISO VG32 equivalent oil.
- Oil is feeded not exceeding 80% of total volume.
- Installed vertically and above actuator cylinder.



### MCB series

Bore size :  $\phi 20 \sim \phi 125$



### MCBQV2 series

Bore size :  $\phi 32 \sim \phi 100$   
Double acting



### MCBQV series

Bore size :  $\phi 125$

### MCBQI2 series

Bore size :  $\phi 32 \sim \phi 100$

### MCQV2L series

#### End lock type

Bore size :  $\phi 63, \phi 80$



## CYLINDER KITS

- We can supply your company with full cylinder assembly kits which meet NFPA, ISO-VDMA and JIS internationally recognizable standards.
- Assembly kits include all necessary components to enable rapid assembly and despatch in order that you can meet your customers delivery schedules.
- Piston rod, tie rod and tubes are also available.

#### Series: Component parts & Repair kits

**MCQA** Standard cylinders

**MCQN** Standard cylinders (inch)

**MCQV2** ISO-VDMA Standard cylinders

**MCQI2** ISO-VDMA Standard profile cylinders



#### ● NON-LUBRICATION:

Designs of oil-filled alloy special housing and bushing provide the needed self-lubrication of piston rod.

#### ● HIGH QUALITY-LONG SERVICE LIFE:

Hard anodized aluminum cylinder tubes resist corrosion and abrasion.

#### ● NON-STANDARD TYPE:

Non-standard type is also available. For example, Stroke out of specification, dust cap, rod front end dimension variation etc.

#### ● ISO-VDMA STANDARD SPECIFICATION:

Conformance to ISO-6431 & VDMA-24562 specification.  
Unified design, most parts of each type are interchangeable within the spec.

#### ● CYLINDER MOUNTINGS:

Available with a comprehensive selection of mountings for fixed or flexible installation.

- In addition to Rc thread, G, NPT, also available.

#### ● COMPONENT KITS AVAILABILITY:

Available with separate supply of component kits, tube, rod, and tie rod to be able to assemble locally and enhance the delivery prospect.



- Light weight & space saving.
- Easy installation.
- Easy dismantling for maintenance.
- High quality & long service life.
- Easy mounting of sensor switch.
- Single / Double rod, adjustable stroke, internal / External thread as your requirement.
- With or without magnet.

### MCJQ series

Bore size :  $\phi 12 \sim \phi 100$  (Double acting)



### MCJQ2 series

Bore size :  $\phi 12 \sim \phi 25$  (Double acting)



### MCJI series (ISO-21287)

Bore size :  $\phi 20 \sim \phi 63$  (Double acting)



### MCJT series

Bore size :  
 $\phi 12 \sim \phi 50$  (Single acting)  
 $\phi 12 \sim \phi 100$  (Double acting)



### MCJS series

Bore size :  $\phi 12 \sim \phi 50$  (Single acting)  
 $\phi 12 \sim \phi 100$  (Double acting)



## MULTI-MOUNT CYLINDERS

### MCFA series

Bore size :  $\phi 6 \sim \phi 32$  (Double acting)



### MCFB series

Bore size :  $\phi 6 \sim \phi 10$  (Double acting)



## CYLINDER KITS

- MCJQ** Compact cylinders & Repair kits
- MCJI** Compact cylinders & Repair kits
- MCJT** Compact cylinders & Repair kits
- MCJS** Repair kits



### MCMA series

(Japan type)

Bore size :  $\phi 16 \sim \phi 32$  (Single acting)

Bore size :  $\phi 16 \sim \phi 40$  (Double acting)



### MCMB series

Bore size :  $\phi 20 \sim \phi 40$   
(Single / Double acting)

#### MCKMB series

**No-rotation type**

Bore size :  $\phi 40$   
(Double acting)

#### MCMBL series

**End lock type**

Bore size :  $\phi 40$   
(Double acting)



### MCMI series

(ISO-6432 Spec.)

Bore size :  $\phi 8 \sim \phi 25$  (Single / Double acting)



### MCMBRA/B series

Bore size :  $\phi 20 \sim \phi 40$   
(Double acting)



### MCMOC series

**Non-rotation type**

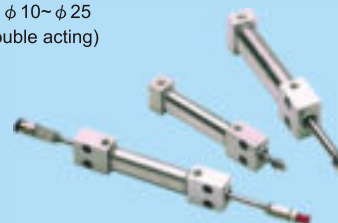
Bore size :  $\phi 8 \sim \phi 25$   
(Single / Double acting)



### MCMOB series

**Non-rotation type**

Bore size :  $\phi 10 \sim \phi 25$   
(Single / Double acting)



## PEN CYLINDERS

### MCMJ series

Bore size :  $\phi 6 \sim \phi 16$   
(Single / Double acting)



### MCMJ1 series

Bore size :  $\phi 4$   
(Single acting)



### MCMJP series

Bore size :  $\phi 6 \sim \phi 10$   
(Double acting)



### MCMJPB/S series

Bore size :  $\phi 6 \sim \phi 15$   
(Single acting)



## ROUND CYLINDERS

### MCCG series

Bore size :  $\phi 20 \sim \phi 63$   
(Double acting)

### MCCN series

Bore size :  $\phi 3/4 \sim \phi 2 1/2$   
(Double acting)



## CYLINDER KITS

**Series:** Component parts & Repair kits

- MCMA** Miniature cylinders
- MCMB** Miniature cylinders
- MCKMB** Miniature cylinders
- MCMI** ISO-6432 / non-pivot type Miniature cylinders
- MCMJ** Pen cylinders
- MCCG** Round cylinders
- MCCN** Round cylinders



### ● NON-LUBRICATION:

Designs of oil-filled alloy, special housing and bushing provide the needed self-lubrication of piston rod.

### ● HIGH QUALITY-LONG SERVICE LIFE:

Stainless cylinder tubes resist corrosion and abrasion.

### ● CYLINDER MOUNTINGS:

Available with a comprehensive selection of mountings for fixed or flexible installation.

### ● ACTING TYPE: ( for MCMA )

In addition to MCMA-11 (standard type), also available with MCMA-13, -15 (single acting), MCMA-21-SDW (dual rod type), MCMA-27-SDJ (stroke adjustable type).

### ● ISO-6432 STANDARD SPECIFICATION: ( for MCMI )

Unified design, most parts of each type are interchangeable among each other.

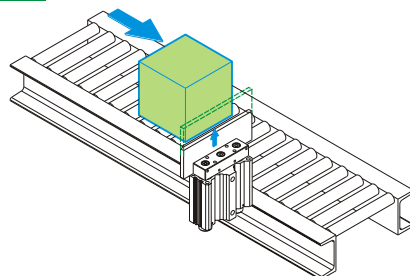
### ● In addition to Rc thread, G, NPT, also available.





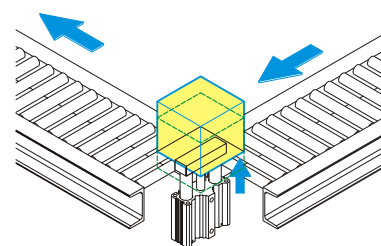
- Several uses:**
- S-Stopper cylinder: Takes very high lateral loadings as such can stop very wide and heavy objects.
  - L-Lift cylinder: Large bearing area enables heavy off-set loads to be applied.
  - P-Pusher cylinder: Long strokes available with extremely rigid guidance, precise movement of load is possible.

### S Stopper cylinder



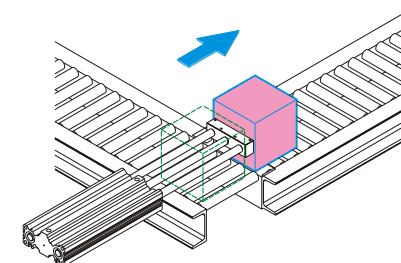
Tough type of stopping a large-load work carrier at a fixed point, and for the straggle of a number of work carriers, etc.

### L Lift cylinder



Special design which stands the large one-sided load. Lifts the work carrier at a fixed point not changing the posture.

### P Pusher cylinder



Long strokes available, the highly precise pushing work transfers and places a work carrier and changes the direction.

### TWIN-GUIDE CYLINDER

#### MCGA series

Bore size :  $\phi 20 \sim \phi 80$  (Double acting)

- Strong cylinder suitable for heavy load, for stopping work carriers of various sizes at a fixed position, and for stacking many work carriers, etc.
- The strong and thick guide rods sustain the unbalanced load.
- Designed for right-angled turn, positioning, and lifting on the conveyor line.



#### PUSH TYPE

##### MCGA-23 / 63 series

Bore size :  $\phi 20 \sim \phi 80$  (Double acting)

- Long stroke type of the anti-turn Accuracy, improved by integrating the Guides and Cylinder.
- Linear Bush Bearing type available for high accuracy in the high speed work.
- On the Link Bar at the top, Many thread holes for mounting attachments are provided for easy mounting.
- Lift type of long stroke is available by replacing the Link Bar with table plate.
- Port thread BSP. NPT. are also available.



#### MCGB series

Bore size :  $\phi 12 \sim \phi 32$  (Double acting)

- The long experience provided the following feature in pursuit of accuracy, durability and handiness.
- Connection from 2 direction and 3-type fixing (pierced hole bolt, back tapped hole, bottom tapped hole), and the miniature sensor switch recessed in the cylinder body.
- A special packing absorbs the shock sound at the end of the stroke.



#### MCGJ series

Bore size :  $\phi 12 \sim \phi 100$  (Double acting)

- Make use of air to drive the push and pull of rod can achieve the effect of highly accurate operation.
- Bore sizes  $\phi 12 \text{mm} \sim \phi 100 \text{mm}$  are available for various needs.
- 2 up to 6 reed switch with / without contact point type can be available as per actual need.
- Piston rod is made of wear-resistant stainless or carbon steel.



#### MCGS series

Bore size :  $\phi 6 \sim \phi 63$  (Double acting)

- Multi-ports as standard enabling both direction mounting.
- Non-rotating accuracy  $\pm 0.1^\circ$  ( $\phi 6$ ,  $\phi 10$ )
- Embedding type sensors.
- The sensor cable will be in the same direction as the piping tube if vertical type sensor switch (Angle cable) is used.
- Magnetic as standard.



#### MGT\* series

Bore size :  $\phi 20 \sim \phi 63$  (Double acting)

- MGTK(X): Light duty type, MGTB(U): Heavy duty type.
- The guiding units can be assembled to cylinders in conformity ISO 6431/6432 standard.
- Antirotation is guaranteed by two steel guide stems, which moment is support by four oilless bush in MGTK(X) series by four linear bearing in MGTU series and four brass bush in MGTB series.
- Easy to install, also reducing machine design work and cost.



#### MCGD series

Bore size :  $\phi 12 \sim \phi 32$  (Double acting)

- The user may use as plate slide type or body slide type according to his requirement.
- The air cylinder and the guide are designed as compact makes the air cylinder working more smoothly and showing the characteristics of its high-strength and high-stiffness.
- The recessed groove for sensor switch keeps space saving and interference is avoided.
- The body and plate are reserved many holes and threads for mounting. It is suitable for various mounting requirement.





**DUAL-ROD CYLINDER****MCDA series**Bore size :  $\phi 6 \sim \phi 32$  (Double acting)

- A thin and compact dual rod cylinder unit with high precision guiding for picking and placing.
- Standardization of high lateral load resistance and highly accurate slide bearing & linear bush bearing.
- High Anti-roll accuracy & double thrust.

**DUAL-ROD SLIDE CYLINDER****MCDB series**Bore size :  $\phi 10 \sim \phi 32$  (Double acting)

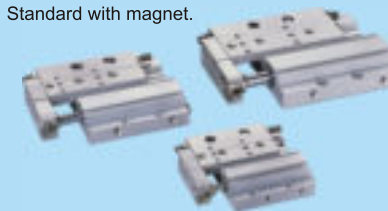
- A thin and compact dual rod cylinder unit with high precision guiding for picking and placing.
- High Anti-roll accuracy & double thrust.
- The user may use as plate slide type or body slide type according to his requirement.
- Provided with shock absorbers to absorb impact to noise.

**SLIDE CYLINDER****MCSS series**Bore size :  $\phi 6 \sim \phi 25$  (Double acting)

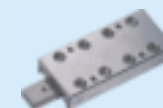
- Work table and air cylinder are integrated compactly. Air slide table is ideal for precise assembly.
- Grooves on the body for sensor switch to be inserted into.

**LOW PROFILE SLIDE CYLINDER****MCSF series**Bore size :  $\phi 8 \sim \phi 20$  (Double acting)

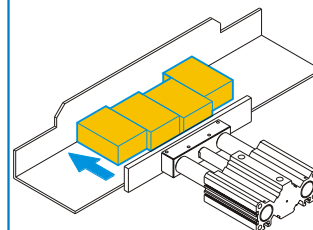
- Parallel design of guide and cylinder creates a slim and compact slide.
- Grooves on the body for sensor switch to be inserted into.
- Standard with magnet.

**COMPACT SLIDE****MCSH series**Bore size :  $\phi 6 \sim \phi 20$  (Double acting)

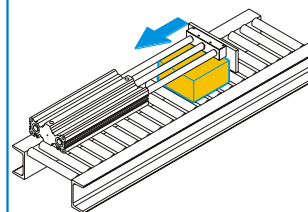
- The use of an endless track linear guide produces a table cylinder having excellent rigidity, linearity and non-rotating accuracy.

**CROSSED ROLLER SLIDE RAIL SET****MGRV series****MGRVP series****MGRVG series****MGRD series****MGRDP series****MGBV series****MGBD series****SLIDE TABLE****MGRA series****MGRB series****MGRC series****MGRM series****MGRH series****MGRS series****MULTI-PURPOSE****TRIPLE-GUIDE CYLINDER****MCG3 series**Bore size :  $\phi 63, \phi 80$  (Double acting)

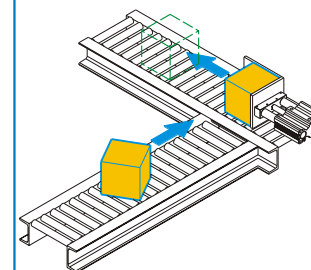
- Three guide rods equally spaced in the aluminum body provide more space saving and eliminate the directionality of the unbalanced load.
- Conveyor line's productivity increases.
- By connecting with the rotary actuator, can be used as a Automatic turn lifter.

**Arranges in line**

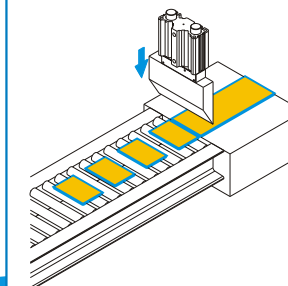
Can move loads into a parallel position from different start points.

**Draws in**

Can move high loads consistently on the inward stroke of the cylinder.

**Corrects misalignment**

Repositions uneven loads.

**Cuts sheets**

Can be use as the power source for cutting sheets on a shearing machine.



## ROTARY ACTUATOR

### MCRA series

Bore size :  $\phi 63$  (Double acting)

- Body size made more compact than ever.
- Functional design and clean appearance.
- Rail type mounting allows switch position to be adjusted very easily.



### MCRB series

Bore size :  $\phi 16 \sim \phi 32$  (Double acting)

- The swing motion with twin-piston and rack-pinion driving.
- Adjustable swing angle ( $0^\circ \sim 190^\circ$ ), three body mounting mode.



### MRTH / MRTF series

Bore size :  $\phi 40, \phi 63, \phi 80$

- The body is manufactured in anodized aluminium alloy, and has been designed looking at the harmonious aesthetic development.
- Pinion and rack produced from carbon steel reduces backlash within the mechanism.
- Rotation adjustment screw.



### MCRQ series

Bore size :  $\phi 15 \sim \phi 40$  (Double acting)

- Operating range of table is  $0^\circ \sim 190^\circ$  by angle adjusting screw.
- Compact design using double rack and single pinion.
- Hollow shaft standard for wiring and piping.
- Possible to fit shock absorbers as stops.



### MCRQ-S series

Bore size :  $\phi 15, \phi 20, \phi 25$  (Double acting)

- **4 to 10 times more allowable kinetic energy** (compared with internal shock absorber type)
- **Total length shortened**  
Longitudinal mounting space is reduced because there is no protrusion from adjustment bolts or internal shock absorbers.



## MINI-ROTARY ACTUATOR

### MCRJ series

Bore size :  $\phi 6, \phi 8$  (Double acting)

- Rack and pinion type / with external stoppers.
- Mounting from 3 directions.
- Piping and wiring are same directions.



## SWING CLAMP CYLINDERS

### MCKC series

Bore size :  $\phi 16 \sim \phi 32$

- Ultra compact, light weight and space saving cylinder.
- Ideal for use in machinery where space is limited and incorporating sensor groove which enables flush fitting of sensors.



### MTAS / MTAD series

Bore size :  $\phi 25 \sim \phi 63$

- These swing clamps are used when it is required to keep the fixture workpiece area free of straps and clamping components for unrestricted workpiece loading and unloading.
- This pneumatic clamping element is a pull type cylinder. There are five standard sizes, and for each size two versions of standard clamping arms, mounting of these clamping arms at any angle within  $360^\circ$ .



### MAS\* series

### MATS\* series

Bore size :  $\phi 25 \sim \phi 63$

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.



## CLAMP CYLINDERS

### MCKA series

Bore size :  $\phi 40 \sim \phi 63$

- Using anodized aluminum alloy barrel ensures better abrasion and corrosion proof.
- Use unlubricated bush seals for durable service life.



### MCKB series

Bore size :  $\phi 32$

- Lever-type air cylinder for grasp use. Compact and light design suitable for limited space application (ex. CNC machining tool).
- Four sides of sensor switch installation available. Control is simplified.



## GRIPPERS

### MCHA series

- Available with a comprehensive selection of bore size ( $\phi 12 \sim \phi 32$ ) for the various needs.
- The highly accurate, air-driven open closed work.



## COMPACT TYPE 3-FINGER GRIPPERS

### MCHK series

Stroke : 20, 30, 50 mm



## PARALLEL GRIPPERS

### MCHH series

Bore size :  $\phi 20 \sim \phi 40$



## 180° ANGULAR GRIPPERS

### MCHW series

Bore size :  $\phi 20 \sim \phi 50$



## PARALLEL GRIPPERS

### MCHB series

- Available with a comprehensive selection of bore size ( $\phi 12 \sim \phi 32$ ) for the various needs.
- The highly accurate, air-driven open closed work.



## LOWER HEIGHT of THREE JAW GRIPPERS

### MCHG series

Body diameter :  $\phi 50 \sim \phi 160$

### MCHG2 series

Bore size :  $\phi 16 \sim \phi 125$

### MCHG2L series

Bore size :  $\phi 16 \sim \phi 80$



## LOWER HEIGHT PARALLEL GRIPPERS

### MCHQ series

Body diameter : 64 ~ 160



## 180° ANGULAR GRIPPERS CAM STYLE

### MCHY series

Bore size :  $\phi 10 \sim \phi 25$



## PARALLEL GRIPPERS

### MCHC series

Bore size :  $\phi 10 \sim \phi 25$

- Gripper design with high rigidity rail integrated structure.
- Enhance mounting positioning preciseness:
  1. Body thickness tolerance  $\pm 0.05\text{mm}$
  2. Mounting hole at body end to ensure mounting precision.
- Enhance precision, may apply to high precision machinery.
- Sensor switch designed to be embedded into the body.



## THROUGH CENTER HOLD TYPE of THREE JAW GRIPPERS

### MCHGH series

Body diameter :  $\phi 64 \sim \phi 160$



## SLIM PARALLEL GRIPPERS

### MCHU series

Bore size :  $\phi 12 \sim \phi 20$



## WIDE TYPE PARALLEL GRIPPERS

### MCHX series

Bore size :  $\phi 10 \sim \phi 32$



## LOWER HEIGHT of FOUR JAW GRIPPERS

### MCHGF series

Body diameter :  $\phi 50 \sim \phi 125$



## ROTARY GRIPPERS

### MCRH series

Bore size :  $\phi 16$

**S2** (2-Finger)

**S3** (3-Finger)

**Y** (180° Angular)







### RODLESS CYLINDERS

**MCRPL series** Bore size :  $\phi 16 \sim \phi 40$

**MCRPLF series** Bore size :  $\phi 16 \sim \phi 63$

- Magnetic piston standard.
- 50% space-savings.
- End caps with 3 air connections and adjustable cushioning.



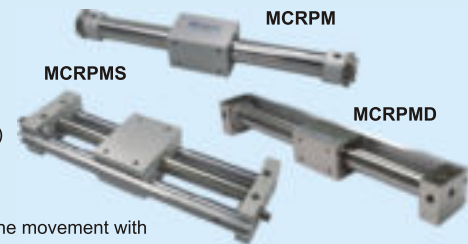
### MAGNETICALLY COUPLED RODLESS CYLINDER

**MCRPM series** (Without switch type)  
Bore size :  $\phi 20 \sim \phi 40$

**MCRPMD series** (With switch type)  
Bore size :  $\phi 20, \phi 25$

**MCRPMS series** (With / Without switch type)  
Bore size :  $\phi 20, \phi 25$

- 50 % space saving.
- Magnetic transit design. Magnetic force transmits the movement with piston side magnet and slider magnet.
- Stainless tube, light weighted and durable.
- All series are without switch types.



### WITH LINEAR GUIDE

**MCRPLK series** Bore size :  $\phi 16 \sim \phi 40$

- 50% space saving when compared to conventional cylinders.
- End caps with 3 air connections and adjustable cushioning.
- Load strength is higher than MCRPLF series (about 4 Multiple).



### BELT DRIVEN UNITS

**METB series**

Size :  $\square 42 \sim \square 80$



### ELECTRIC ACTUATOR

**MEAT series**

Size : 25



### DISTRIBUTED CONTROL SYSTEM

**MA-118\* series**

- Support start-up screen (108×64 pixels)
- Password protection, copy protection.
- 36 integrated function, pre-tested functions.
- Linking of 1024 function block is possible.
- Flexibly expandable up to 10000 points.



### INDUSTRIAL COMMUNICATION

**MA-15\*\* series**

- Auto tuner baud rate, 300~115200bps.
- 3000 VDC isolation protection.
- ESD protection.
- No external power supply (USB type)
- Fully compliant with USB 1.1 / 2.0



### REMOTE MODULES

**MA-10\*\* series**

- RS-485 Interface.
- Supports Modbus RTU / ASCII.
- Isolation voltage: 5000 VDC.
- Dual watchdog timer.
- Surge, EFT and ESD protection.



### RADIO REMOTE MODULES

**MA-3016 series**

- Frequency control: Crystal
- Low power indicator.
- Operation range: up to 100 meters.
- Supports Modbus RTU / ASCII.
- Free PC software Mindman Utility.



### TEXT PANEL

**MATP series**

- Plug-and-Play.
- Support start-up screen.
- RS-485 Interface.
- Full support MA-1188/1189 series controller.
- Resolution : 192×64 pixels.
- Dual watchdog timer.
- Brightness : 60cd/m<sup>2</sup>





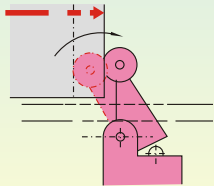
## SHOCKLESS STOPPER CYLINDERS

### MSBD series

( $\phi$  32-20,  $\phi$  50-30,  $\phi$  60-30,  $\phi$  80-40)



The built-in shock absorber softly catches and stops the work carrier. The strength of absorber can be easily adjusted, which makes the cylinder work in the best condition, conforming to the speed of the conveyor line and the weight of the work carrier.



## STOPPER CYLINDERS with ROLLER

### MSBR series

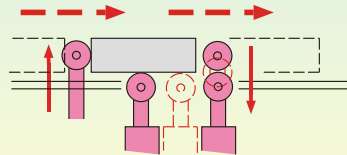
( $\phi$  20 /  $\phi$  32-20,  $\phi$  40 /  $\phi$  50-30)

### MSAR series

( $\phi$  32 /  $\phi$  50 /  $\phi$  80-30)



The top rollers with the built-in spring return in touch with the bottom of the work carrier. Automatically returns up to the original position as the work carrier pass by, and immediately works as a stopper for the next work carrier. Therefore the timing carriers does not need to be taken.



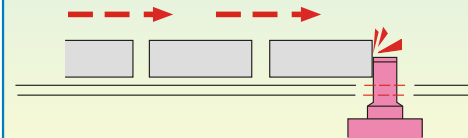
## DIRECT STOPPER CYLINDERS

### MSBS series

( $\phi$  20-10,  $\phi$  32-20,  $\phi$  50-30)



Rod and cylinder are designed for toughness against the large side load. Also suitable for the relatively slow-moving conveyor line with the heavy work carriers.



## HORIZONTAL STOPPER CYLINDERS

### MSLD series

( Shockless )

( $\phi$  50-50)



### MSLL series

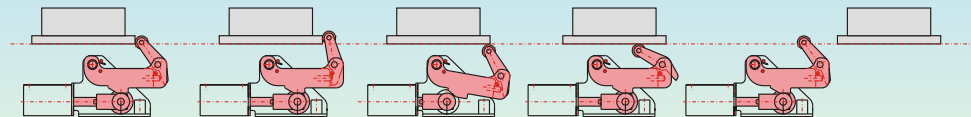
( Roller )

( $\phi$  25 /  $\phi$  40-30)



● MSLD type application

WORKS CONVEYING DIRECTION



Horizontal stopper cylinder of lower height for conveying the heavy work carriers. Suitable as a stopper cylinder for accumulating line, ageing line, and mult-stage conveyor line. Softly stops the work carriers of heavy weight and high speed.

## HORIZONTAL PUSH & PULL STOPPER CYLINDERS

### MSLP series

Push type MSLP-P

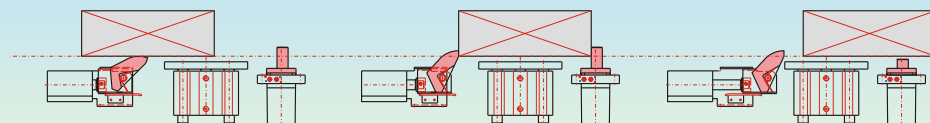
Pull type MSLP-CP

( $\phi$  32-40)



● Push type application

WORKS CONVEYING DIRECTION



Conveying pass freely from left.

Use lever to prevent from reverse direction of work when stopped by cylinder to make sure of high accuracy location.

After processing, use cylinder to push off position.



### SENSOR SWITCH

- RCA, RCB, RCD, RCE, RCE1, RCI, RCM, RCS, RDF, RDGV, RH, RK, RT series
- LN01A, LN01G, LN01H LN01P, LN32H, LN40R series



### AIR PRESS

MF\* series



### PLASTIC SILENCER

MSR\* series



### PE SILENCER

MSLE series



### BRASS SILENCER

MSL series



### SILENCER THROTTLE VALVE

MSLC / MSLC2 series



### CHECK VALVE

MJBV series



### FLOW CONTROL VALVE

MSC series



### QUICK EXHAUST VALVE

MVQE series



### SHUTTLE VALVE

MVAS series



### PU TUBE

UM / TPU series  
UML series



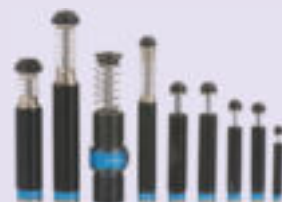
### FEMALE ROD ENDS

PHS series



### SHOCK ABSORBERS

MDSC / MDFC series



### PILOT CHECK VALVES

MPC series



### HYDRAULIC SPEED CONTROLLERS

MHR series



### COUPLER

MS\* / MP\* series



### JET COOLER

MJC series



### NO CONTACT TRANSFERT

MHPSC series



### FLOATING CONNECTOR

MFC / MFCS series



### STAINLESS FITTING

MNS\* series



### VACUUM GENERATOR

MVVA series



### BOOSTER REGULATOR

MVBA-2100 series



### BOOSTERS

MHB\* series



### POWER CYLINDERS

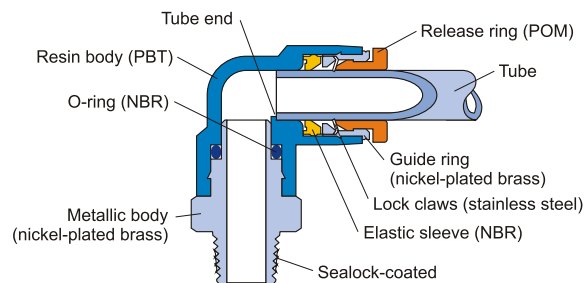
MHPD series



## Maintaining basic functions, this low-cost quick-fitting joint achieves high-cost performance.

- The Tube Fitting comes in a wide variety of tube and thread sizes.
- Even after installation the direction of the tubing can be changed freely (Elbow, Long Elbow, Universal Elbow, etc.).

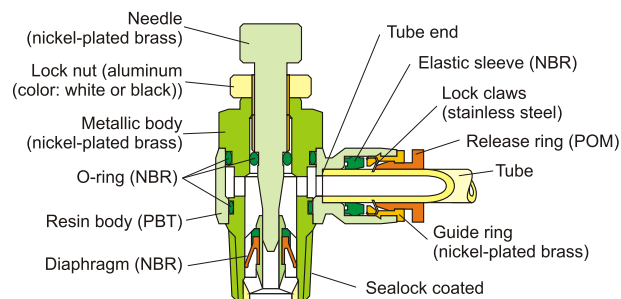
### Construction



## Maintaining basic functions, this low-cost speed controller achieves high-cost performance.

- The speed controller controls the operation speed of a driving device.
- The lead-out directions are free thanks to rotation of the resin body and joint.

### Construction



### TUBE FITTING

#### PC series



#### PU series



#### PG series



#### PL series



#### PLL series



#### PV series



#### PE series



### SPEED CONTROLLER

#### JSC series



### TUBE FITTING

#### PB series



#### PD series



#### PH series



#### PX series



#### PY series



#### PW series







**MDHB series** (Standard)  
**MDHD series** (Double end rod)  
**MDHN series** (Adjustable forward stroke)  
 Bore size :  $\phi 40 \sim \phi 150$   
 Operating pressure: 14 MPa



### With magnet

**MDMB series** (Standard)  
**MDMD series** (Double end rod)  
**MDMN series** (Adjustable forward stroke)  
 Bore size :  $\phi 40 \sim \phi 100$   
 Operating pressure: 7 MPa  
 PIS contact with us for its specifications.



**MDOC series** (Pivot)  
**MDOA series** (Front nose mounting)  
**MDOD series** (Double end rod)  
**MDON series** (Adjustable forward stroke)  
 Bore size :  $\phi 20, \phi 32$   
 Operating pressure: 3.5 MPa



**HYDRAULIC - Swing Clamp Cylinders**  
**MTHS / MTHD series**  
 Bore size :  $\phi 25 \sim \phi 63$



### COMPACT HYDRAULIC CYLINDER

**MHCB series** (Front mounting)  
**MHCQ series** (Side mounting)  
 Bore size :  $\phi 32 \sim \phi 80$



### COMPACT HYDRAULIC WITH PISTON SENSING CYLINDER

**MHCB-M series**  
 Bore size :  $\phi 32 \sim \phi 80$



### MANIFOLD TYPE HYDRAULIC CYLINDERS

**MHCBR series** Front mounting (Axial front manifold type)  
**MHCBF series** Front mounting (Axial back manifold type)  
**MHCBS series** Side mounting (Manifold type)  
 Bore size :  $\phi 20 \sim \phi 80$



### HYDRAULIC ROTARY ACTUATORS

**MRPH series**

Bore size :  $\phi 32, \phi 40$   
 Operating pressure: 3.5 MPa



### HYDRAULIC LEVER-TYPE CYLINDERS

**MHCK series**

Bore size :  $\phi 25 \sim \phi 63$   
 Operating pressure: 7 MPa



### MHS MHSD MHTS MHTSD



### MFS MDS MFT MDT



### MTC-\*\*A/B MSP-\*\*A/B





# MEMO NOTE

[illegible]

## Global Distributions

The recent information technology had been brought us closer ever. In the future, there will be no boundary between each nations. One phone call, one email, or fax, you could feel the instant reponse from our oversea staffs' service.



### Asia

China	Oman	Syria
Turkey	Korea	Pakistan
Japan	Singapore	Iran
Malaysia	Hong kong	Israel
Indonesia	Philippines	
Thailand	Sri lanka	
India	Vietnam	

### America

Canada	Brazil
Colombia	Honduras
Peru	Venezuela
Ecuador	Dominican republic
El Salvador	Chile'
U.S.A	Argentina
Mexico	Bahrain

### Europe

U.K.	Sweden	Switzerland	Macedonia
Germany	Italy	The Netherlands	
Greece	Denmark	Serbia	
Spain	France	Russian	
Czech republic	Slovenia	Croatia	
Bulgaria	Sweden	Ireland	
Poland	Ukraine	Finland	

### Oceania

Australia
New zeland

### Africa

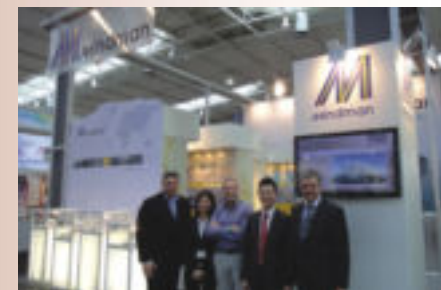
South Africa
Egypt
U.A.E
Kenya
Botswana

## Marketing Network

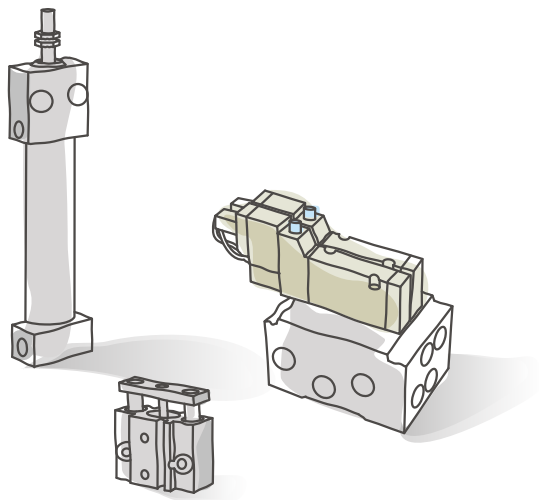
We had started to exploit our exporting market while Mindman was just established in 1989. We also enthusiastically participate all the large international exhibitions, such as ,Hannover Messe, Los Vegas fair, IFPEX Tokyo, PTC China, and so on. Attending these world-famous shows are not only to comprehend all the updating innovative products but also bring our products to the global stages.

Mindman had already extended its sales areas into Europe, Japan, Germany, USA, Australia, South Asia, Middle East, and Mainland China. Most of all, we will continue and to serve our customers with best quality, highly competitive price, on time delivery, and instant sale services.

If you have any special requirements, please do not hesitate to contact with us. Our staffs are always ready to serve you.







## **MINDMAN INDUSTRIAL CO., LTD.**

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