

# Air Sequence Valve

Model BWD



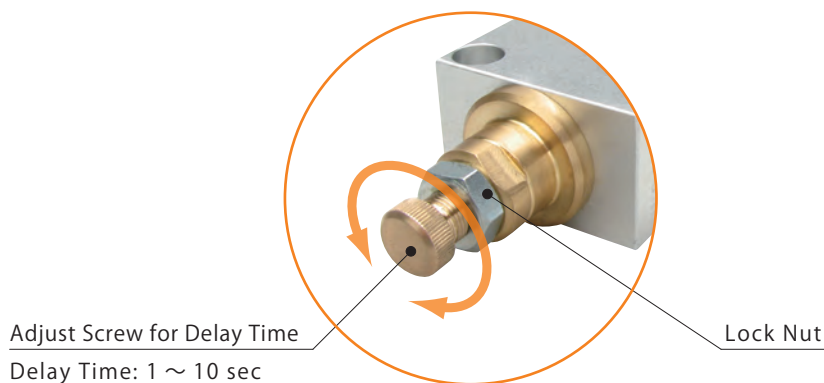
## It can actuate multiple actuators in sequence

PAT.P

Delay time : 1~10 sec Can be used without electric power & best suitable when there are limited ports.

- **Best Suited for Machining Centers**

It controls the air flow by using a check valve, flow control valve, air tank, switching valve and actuate multiple actuators in sequence. This has a compact and high performance sealing structure and can be built into fixtures for machining centers.

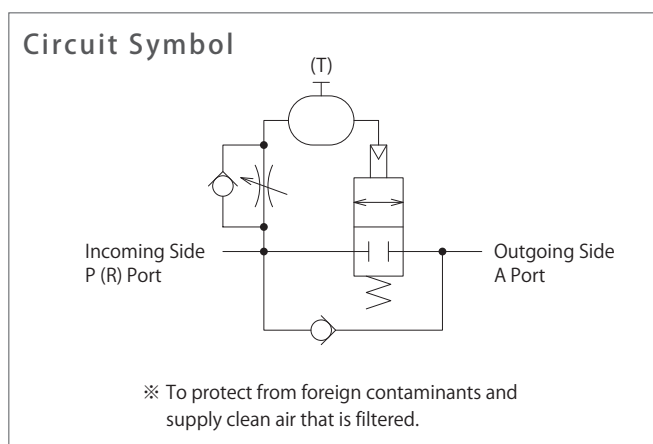


- **Electric control is not needed**

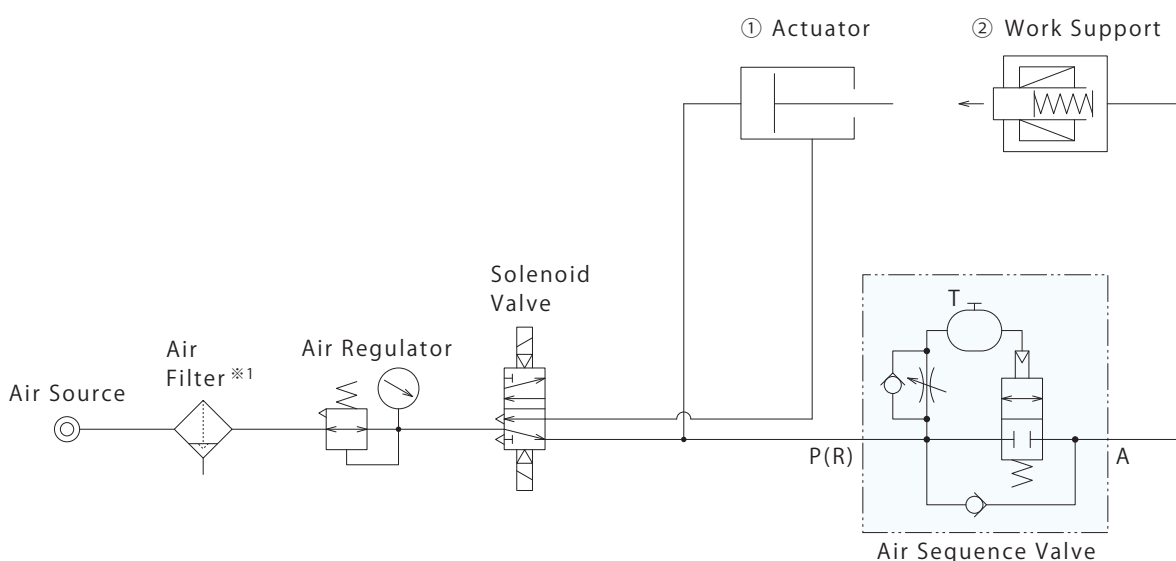
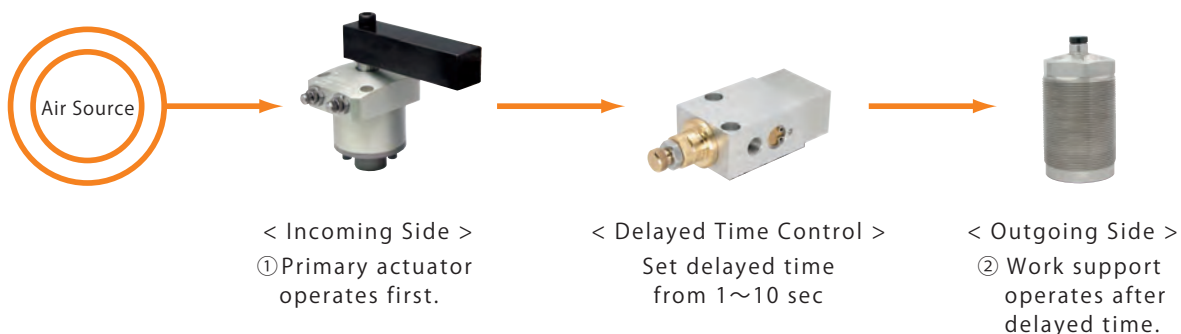
It can be installed in places where there is limited use of electricity such as explosion proof surroundings because electricity control is not required.

- **Air pilot port is not needed**

The actuators can be actuated with no air pilot port and minimum number of ports.



## Action Description



Note ※1. To protect from foreign contaminants and supply clean air that is filtered.

Operation Sequence		Remarks
When Clamping	Air ON	
	① Actuator is activated.	At this moment, ② work support is not activated.
	Switching valve operates once the tank is full with air.	Delayed Time: 1~10sec
	② Work support is activated.	
	Locking action completed.	
Machining Process		
When Releasing	Air OFF	
	① Actuator ② Work support releases at the same time.	
	Release action completed.	

High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Air Sequence Valve

BWD

Hydraulic Non-Leak Coupler

BGA/BGB

BGC/BGD

BGP/BGS

BBP/BBS

BNP/BNS

BJP/BJS

BFP/BFS

Auto Coupler

JVA/JVB

JVC/JVD

JVE/JVF

JNA/JNB

JNC/JND

JLP/JLS

Rotary Joint

JR

Hydraulic Valve

BK

BEQ

BT

BLS/BLG

BLB

JSS/JS

JKA/JKB

BM/BMG

AU/AU-M

BU

BP/JPB

BX

BEP/BSP

BH

BC

Air Hydraulic Unit

CV

CK

CP

CS

CB

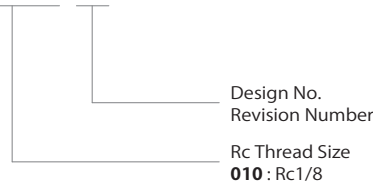
CC

AB/AB-V

AC/AC-V

Model No. Indication

**BWD 010 0**



Specifications

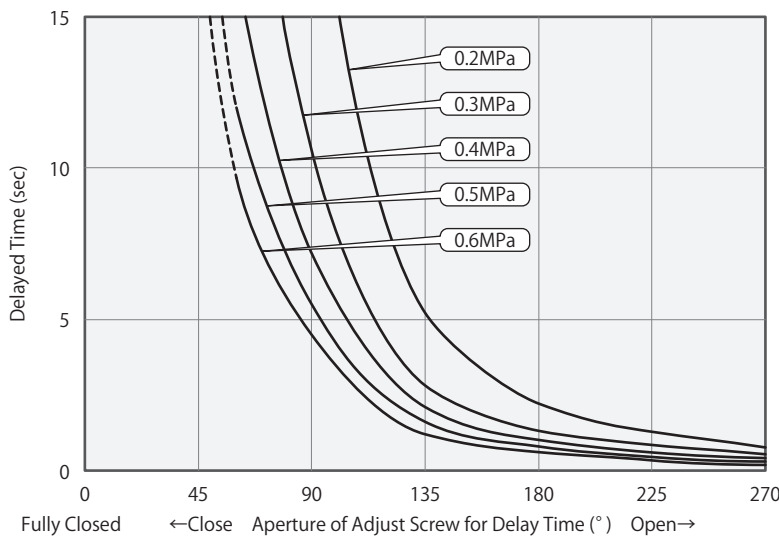
Model No.	BWD0100	
Max. Operating Pressure	MPa	0.6
Min. Operating Pressure	MPa	0.2
Withstanding Pressure	MPa	1.5
Delayed Time <sup>※1</sup> <sup>※2</sup> <sup>※3</sup> <sup>※4</sup>	sec	1 ~ 10
Min. Passage Area	mm <sup>2</sup>	4.0
Operating Temperature	°C	0 ~ 70
Usable Fluid	Dry Air	
Mass	kg	0.2

Notes

- ※1. If unused for a long period of time, the delay is longer than initial set time.
- ※2. It can extend the time delay from tank and its capacity increases by using T port.
- ※3. If actuators on outgoing side does not operate after the time delayed setting, verify setting after pressure returns to zero.
- ※4. The confirmation for delayed time should be done after fastening the lock nut of the delayed time adjusting thread.
  1. Depending upon circuit condition, the pressure of incoming side might descend during operation of outgoing actuators of switching valve.
  2. Prepare time gap of more than 5 seconds until air is supplied again after air supply stops (releases).
  3. Recommend the series connection, if the multiple valves are used in one circuit.

Performance Curve

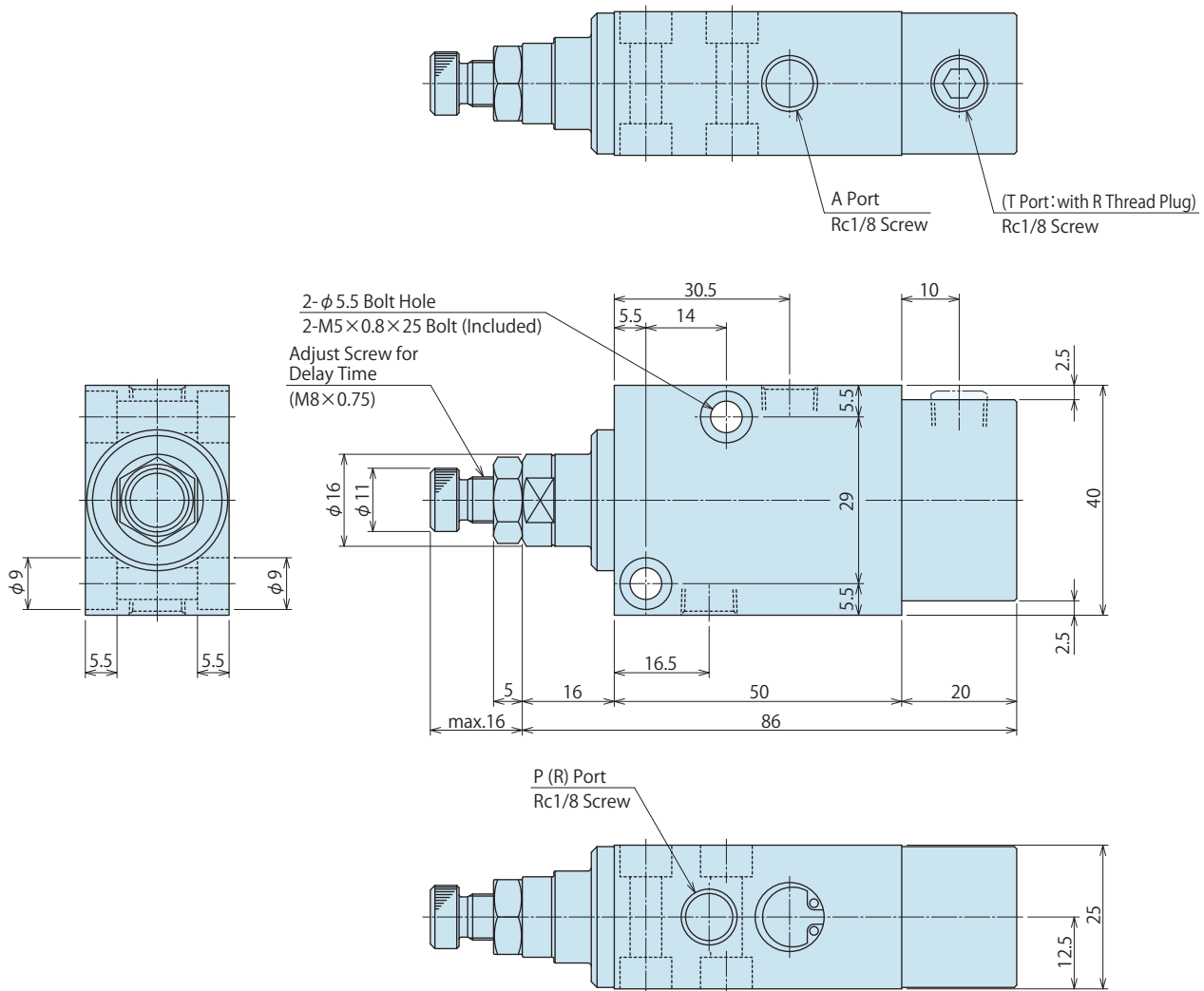
(Adjusting Screw Turn Ratio and Time Delay at Various Operating Pressures)



Notes

1. This graph shows the relationship of the delayed time adjusting thread opening degree and the delayed time.
2. Depending on the circuit condition, the actual delayed time changes. (This graph should be for referencing only.)

## External Dimensions



### Note

- Depending on the circuit condition, the actual delayed time changes.  
Do not fasten the delayed time adjusting thread too tight or do not loosen it too much.  
Components can be damaged.

High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Air Sequence Valve

BWD

Hydraulic Non-Leak Coupler

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Auto Coupler

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Hydraulic Valve

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BT

BLS/BLG

BLB

JSS/JS

JKA/JKB

BM/BMG

AU/AU-M

BU

BP/JPB

BX

BEP/BSP

BH

BC

Air Hydraulic Unit

CV

CK

CP

CS

CB

CC

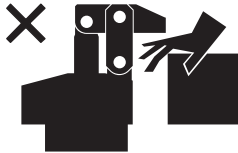
AB/AB-V

AC/AC-V

## ● Cautions

### ● Notes on Handling

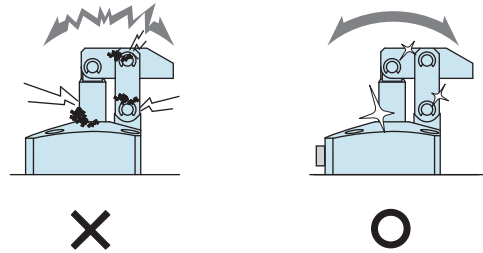
- 1) It should be handled by qualified personnel.
  - The hydraulic machine and air compressor should be handled and maintained by qualified personnel.
- 2) Do not handle or remove the machine unless the safety protocols are ensured.
  - ① The machine and equipment can only be inspected or prepared when it is confirmed that the preventive devices are in place.
  - ② Before the machine is removed, make sure that the above-mentioned safety measures are in place. Shut off the air of hydraulic source and make sure no pressure exists in the hydraulic and air circuit.
  - ③ After stopping the machine, do not remove until the temperature cools down.
  - ④ Make sure there is no abnormality in the bolts and respective parts before restarting the machine or equipment.
- 3) Do not touch clamps (cylinder) while clamps (cylinder) is working. Otherwise, your hands may be injured due to clinching.



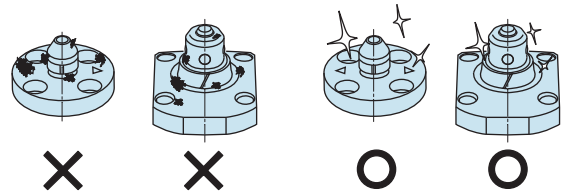
- 4) Do not disassemble or modify.
  - If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.

### ● Maintenance and Inspection

- 1) Removal of the Machine and Shut-off of Pressure Source
  - Before the machine is removed, make sure that the above-mentioned safety measures are in place. Shut off the air of hydraulic source and make sure no pressure exists in the hydraulic and air circuit.
  - Make sure there is no abnormality in the bolts and respective parts before restarting.
- 2) Regularly clean the area around the piston rod and plunger.
  - If it is used when the surface is contaminated with dirt, it may lead to packing seal damage, malfunctioning, fluid leakage and air leaks.



- 3) Please clean out the reference surface regularly (taper reference surface and seating surface) of locating machine. (VS/VT/VL/VM/VJ/VK/WVS/WM/WK/VX/VXF)
  - Location products, except VX/VXF model, can remove contaminants with cleaning functions. When installing pallets make sure there is no thick sludge like substances on pallets.
  - Continuous use with dirt on components will lead to locating functions not work properly, leaking and malfunction.



- 4) If disconnecting by couplers on a regular basis, air bleeding should be carried out daily to avoid air mixed in the circuit.
- 5) Regularly tighten nuts, bolts, pins, cylinders and pipe line to ensure proper use.
- 6) Make sure the hydraulic fluid has not deteriorated.
- 7) Make sure there is smooth action and no abnormal noise.
  - Especially when it is restarted after left unused for a long period, make sure it can be operated correctly.
- 8) The products should be stored in the cool and dark place without direct sunshine or moisture.
- 9) Please contact us for overhaul and repair.

## Cautions

[Installation Notes  
\(For Hydraulic Series\)](#)
[Hydraulic Fluid List](#)
[Notes on Hydraulic Cylinder  
Speed Control Circuit](#)
[Notes on Handling](#)
[Maintenance/  
Inspection](#)
[Warranty](#)

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## Sales Offices

## ● Warranty

### 1) Warranty Period

- The product warranty period is 18 months from shipment from our factory or 12 months from initial use, whichever is earlier.

### 2) Warranty Scope

- If the product is damaged or malfunctions during the warranty period due to faulty design, materials or workmanship, we will replace or repair the defective part at our expense.

Defects or failures caused by the following are not covered.

- ① If the stipulated maintenance and inspection are not carried out.
- ② If the product is used while it is not suitable for use based on the operator's judgment, resulting in defect.
- ③ If it is used or handled in inappropriate way by the operator.  
(Including damage caused by the misconduct of the third party.)
- ④ If the defect is caused by reasons other than our responsibility.
- ⑤ If repair or modifications are carried out by anyone other than Kosmek, or without our approval and confirmation, it will void warranty.
- ⑥ Other caused by natural disasters or calamities not attributable to our company.
- ⑦ Parts or replacement expenses due to parts consumption and deterioration.  
(Such as rubber, plastic, seal material and some electric components.)

Damages excluding from direct result of a product defect shall be excluded from the warranty.

# Sales Offices

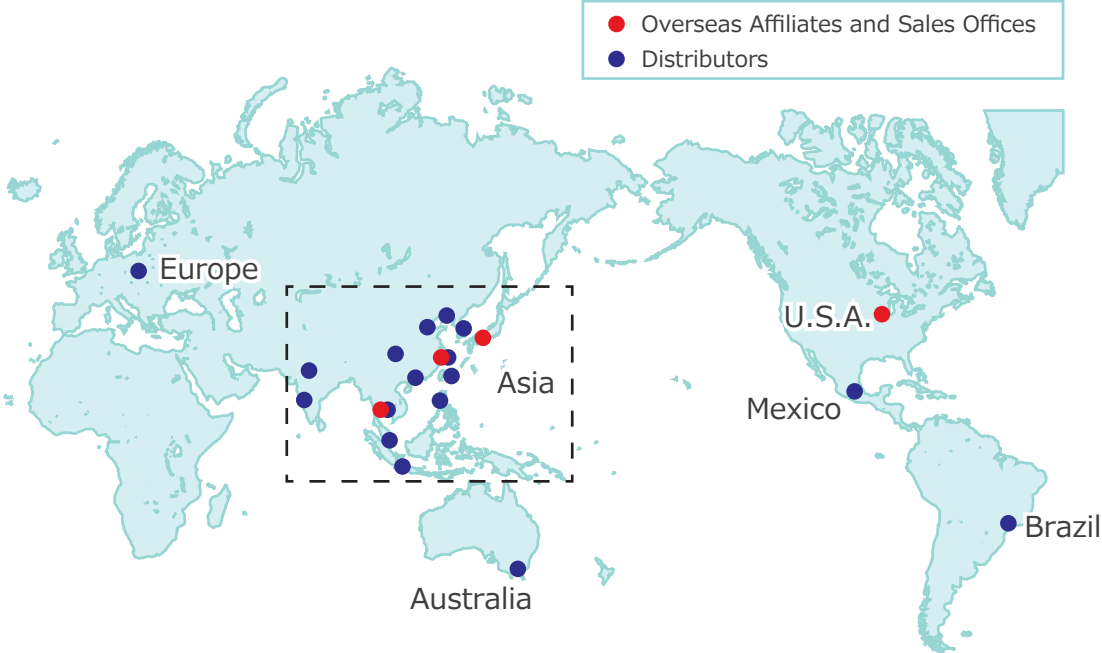
## Sales Offices across the World

Japan	<b>TEL. +81-78-991-5162</b>	<b>FAX. +81-78-991-8787</b>
Overseas Sales	KOSMEK LTD. 1-5, 2-chome, Murotani, Nishi-ku, Kobe-city, Hyogo, Japan 651-2241 〒651-2241 兵庫県神戸市西区室谷2丁目1番5号	
USA	<b>TEL. +1-630-241-3465</b>	<b>FAX. +1-630-241-3834</b>
KOSMEK (USA) LTD.	1441 Branding Avenue, Suite 110, Downers Grove, IL 60515 USA	
China	<b>TEL.+86-21-54253000</b>	<b>FAX.+86-21-54253709</b>
KOSMEK (CHINA) LTD. 考世美(上海)貿易有限公司	21/F, Orient International Technology Building, No.58, Xiangchen Rd, Pudong Shanghai 200122., P.R.China 中国上海市浦东新区向城路58号东方国际科技大厦21F室 200122	
Thailand	<b>TEL. +66-2-715-3450</b>	<b>FAX. +66-2-715-3453</b>
Thailand Representative Office	67 Soi 58, RAMA 9 Rd., Suanluang, Suanluang, Bangkok 10250, Thailand	
Taiwan (Taiwan Exclusive Distributor)	<b>TEL. +886-2-82261860</b>	<b>FAX. +886-2-82261890</b>
Full Life Trading Co., Ltd. 盈生貿易有限公司	16F-4, No.2, Jian Ba Rd., Zhonghe District, New Taipei City Taiwan 23511 台湾新北市中和區建八路2號 16F-4 (遠東世紀廣場)	
Philippines (Philippines Exclusive Distributor)	<b>TEL.+63-2-310-7286</b>	<b>FAX. +63-2-310-7286</b>
G.E.T. Inc, Phil.	Victoria Wave Special Economic Zone Mt. Apo Building, Brgy. 186, North Caloocan City, Metro Manila, Philippines 1427	
Europe (Europe Exclusive Distributor)	<b>TEL. +43-463-287587-10</b>	<b>FAX. +43-463-287587-20</b>
KOS-MECH GmbH	Schleppeplatz 2 9020 Klagenfurt Austria	
Indonesia (Indonesia Exclusive Distributor)	<b>TEL. +62-21-5818632</b>	<b>FAX. +62-21-5814857</b>
P.T PANDU HYDRO PNEUMATICS	Ruko Green Garden Blok Z- II No.51 Rt.005 Rw.008 Kedoya Utara-Kebon Jeruk Jakarta Barat 11520 Indonesia	

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Head Office	<b>TEL.078-991-5115</b>	<b>FAX.078-991-8787</b>
Osaka Sales Office	〒651-2241 兵庫県神戸市西区室谷2丁目1番5号	
Overseas Sales		
Tokyo Sales Office	<b>TEL.048-652-8839</b>	<b>FAX.048-652-8828</b>
	〒331-0815 埼玉県さいたま市北区大成町4丁目81番地	
Nagoya Sales Office	<b>TEL.0566-74-8778</b>	<b>FAX.0566-74-8808</b>
	〒446-0076 愛知県安城市美園町2丁目10番地1	
Fukuoka Sales Office	<b>TEL.092-433-0424</b>	<b>FAX.092-433-0426</b>
	〒812-0006 福岡県福岡市博多区上牟田1丁目8-10-101	

# Global Network



Asia Detailed Map



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