Pneumatic Large Expansion Locating Pin

Multi-purpose Model

Model VWH Pneumatic Double-Acting Model

VWH1000 has been newly added

VWH1000Locating Repeatability : $30 \,\mu$ mVWH2000/3000Locating Repeatability : $10 \,\mu$ m

Zero Clearance between Reference Hole and Large Expansion Locating Pin

What is Expansion Locating Pin?

Air Control High-Accuracy Locating Pin that locates a workpiece by expanding its pin diameter.

The general locating pin has some clearance between pin and workpiece hole.





Expansion locating pin has zero clearance!!

High Accuracy Suitable for Automation Setup Time Reduction Cost Reduction



The World's First Locating Mechanism

When expanded : Clearance between the pin and reference hole becomes zero to locate with high accuracy. When released : Easy to load/unload workpieces with enough clearance.



Suitable for Automation • Robot Application

High Accuracy Model **VWM** has small clearance, but has high accuracy of 3 μ m locating repeatability.



Large Expansion Model **VWH** has large clearance when released, suitable for automation such as transfer robot application. (Locating Repeatability : $10 \mu m^{\text{*}}$)



Expanded (Locating Repeatability:**10µm**[※])

%When selecting VWH1000, locating repeatability is 30 μ m .

Easy to Measure the Mounting Distance Accuracy

Able to measure the distance accuracy with the same core part on the top. $\overset{\ensuremath{\text{\%}}}{}$



When selecting VWH1000, measurement is not available.

Durability

Air blow from the inside of the cylinder comes out from the gripper gap and prevents contaminants.



Pneumatic Expansion Locating Pin V W M

VWK

Manual Expansion Locating Pin

VX

Screw Locator VXE VXF Compliance Module WRC Application Examples

Suitable for Robot Application



<Knocking in from the Loader>



	VWH Features	Application Examples	System References	Model No. Indio Specificatio	cation l ons Di	External mensions	s Cautio	ons		
	Line Up —									Locating + Clamp
										Locating
	Pneumatic	2	11				C	m12548-888		Hand • Clamp
	MAX 0.7MPa	as and						an inner		Support
			$\Lambda \rightarrow P 189$	Model V	₩H → P	173	Model	/WK	→ P 209	Valve • Coupler
	Madal/		1 71.109	Model			model			Cautions • Others
	Locating Repeatability	High Accuracy 3µm	/ Model	Multi-Purp VWH1000 VWH2000/30	ose Mode : 30μm 000 : 10μm	el	Casting Ma 10	Model	Pneumatic Expansion Locating Pin (Smaller)	
-	Control	Double Act	ion	Double	Action		Doubl	ı	VRA/VRC	
1	Method	(Air+Spring Lock / /	Air Release)	(Air Lock / /	Air Release)		(Air Lock /	ase)	Pneumatic Expansion Locating Pin (Large	
	Op. Pressure	0.35 ~ 0.7 M	IPa	0.35 ~ 0.	/ MPa		0.35 ~		VWH	
		Taper Sleeve	2	Large Clearance	Large	stroko –		teel Ball		Pneumatic Expansion
										VWM
	Action									VWK
	Description								line of Chanter	Manual Expansion Locating Pin
		Released State	Locked State	Released State	Locked S	State '	Released State	LOC	ked State	
		The taper sleeve	expands.	Large Gripp	er Expansior	ר	The steel b come out	oalls from the	e pin.	Screw Locator
1	A 11 (1	-			-					VXE
	Application Examples	Finis	hing Line / Divi	ding Operation Lin	e		Locating Casting Core Holes / First Process			Compliance
1										Module

WRC

System References

• High Accuracy + One-Touch Locating Pin

Reduces Setup Time!

• When dividing operations into different fixtures, High Accuracy Locating Pin

Prevents Deterioration of Workpiece Accuracy!

• Using with Hole Clamps enables 5-face machining,

Integrated Operation and More Compact Fixture!





VWH Features	Application Examples	System References	Model No. Indication Specifications	External Dimensions	Cautions		
						Locating	
Essential Poin	ts					Clamp	
 Workpiece 	Hole for Locat	ting	Workpie	ece Hole Diameter $\phi 5 \sim \phi 8 \pm 0.3$	Workpiece Hole Diam $\phi 9 \sim \phi 15^{+0.7}_{-0.3}$	Locating	
Workpiece hole	e diameter is ϕ 5 ~ ϕ	b15 (in 1mm increr	nents).			Hand • Clamp	
Workpiece hole	e tolerance is ± 0.3 for	$\phi 5 \sim \phi 8$, and $^{+0.7}_{-0.3}$ f	^f or φ 9∼ φ 15.				
						Cautions • Others	
						Pneumatic Expansion	
2 Workpiece	Weight					Locating Pin (Smaller)	
• Workpiece weig	ht that expansion lo	cating pin is able to	locate with	Expanding Force	Max. workpiece weig is calculated from	ght Pneumatic Expansion Locating Pin (Large Expansion Model)	
is calculated fror • Expanding force	m expanding force. e is the force with wh	ich the expansion lo	ocating pin			VWH Pneumatic Expansion	
pushes out (exp	ands) against the wo	orkpiece.				Locating Pin	
Refer to the species of expanding for	cification page for ea	ach model's calculati orkpiece weight for	on method locating.			Manual Expansion Locating Pin	
			2			VX Screw	-
					Evpanding	Direction VXE	-
3 Mounting Pl	hase of VWH-C	(Cut:For One	Direction Locat	ing)	Y - Niculi	Compliance	-
• Reference positi	on (origin) is determ	ined by VWH-D (Da	tum: for reference lo	cating).	X de la	WRC	-
• VWH-C (Cut: for so phasing is ne	one direction location cessary.	ng) locates in one di	rection (Y-axis),		¥		
When mounting	, ensure the expand	ing direction of VW	H-C (cut) is	VWH-D (Date	um) VW	'H-C (Cut)	
perpendicular to	o VWH-D (datum).			(X-axis / Y-axis) (Equivalent to Rou	kis) (Equivalent	Y-axis) t to Diamond Pin)	
					Refere	nce Surface	
4 Setting an	Additional Sea	at		e C	of Z-ax	kis	
• This model has	no seating surface	(reference surface	cowards Z-axis).	clearan c	Seat	z 1	
Please prepare	a seat separately.						
			Expansi	on Locating Pin	Base Plate		
			Work	Clamp Expansio	on locating pin is used o	nly for locating.	
5 Setting Add	ditional Workh	olding Clamp	s		<u>w</u>	'ork Clamp	
Expansion locat	ting pin has no clan	nping function.		orkpiece			
		α το стаптр workple					

Model No. Indication



Notes:

%1. It shows the locating repeatability under specific condition (when no load is applied).

- 2. Expanding force shows the calculated value when coefficient friction is μ 0.2.
- $\% 3.\;$ Exceeding allowable thrust load leads to accuracy failure and/or damages on the product.
- 1. This product locates and releases with air pressure. (Air Pressure Double-Acting Model)
 - 2. This cylinder is used only for locating and does not have a clamping function.

VWH Features	Application Examples	System References	Model No. Indication Specifications	External Dimensions	Cautions	

Relative Equation of Expanding Force and Allo



٧	vable Workpiece	e Weight for Locating	Locating + Clamp
			Locating
	Vortical Attitudo	Ft	Hand • Clamp
	Vertical Attitude		Support
		w L	Valve • Coupler
	Workpiece Weight (W) $[kg] \leq \frac{Expanding}{Expanding}$	g Force per Expansion Locating Pin (F) [N] 9.8 × Efficiency 0.25	Cautions • Others



This graph shows the relationship between thrust load and displacement. Thrust load is the static load applied perpendicular to the center axis of the VWH (Pneumatic Expansion Locating Pin).

Note :

This graph shows the thrust load (static load) applied to a single datum cylinder (VWH-D) that is not used with any other cylinders, etc.



Pneumatic Expansion Locating Pin (Smaller) VRA/VRC imatic Expansio iting Pin (Large Insion Model)

VWM

VWK

VX

VXF

VXF

Module WRC

VWH1000 0.060 0.050 WH1000-070 WH1000-050 Displacement (mm) 0.040 VWH1000-080 0.030 0.020 0.010 0 0 50 100 160 Thrust Load (N)

VWH2000

0.050mm.

ex.) In case of VWH2000-090

Requirement : When an 800N

the displacement will be about

thrust load is applied to an

expanded VWH2000-090,



VWH3000



External Dimensions

% The drawing shows the released state of VWH1000.



AS568-013(70)

Expanding Area Detail



Workpiece Hole Dimensions





C0.5 or less

Through Hole



Notes:

- *1. Identification mark is only marked on -C : Cut (for one direction locating). < > indicates the locating direction.
- *2. Do not use spring washer or toothed lock washer.
- 1. When mounting the product, use two mounting bolts (Strength Grade 12.9) and tighten them evenly. Use two jack bolts to remove the product, keeping it parallel to the mounting surface.
- 2. This product has no seat. Please prepare a seat separately.

VWH Features	Application Examples	System References	Model No. Indication Specifications	External Dimensions	Cautions	K	SMEK
🗲 Machining D)imensions for	Mounting					Locating + Clamp
		2-M5×0.8 Thread Dep	oth 9 or more				Locating Hand • Clamp
							Support
6.5		Ţ					Valve • Coupler
Air Blow Port*3	10.5						Cautions • Others
φ3	ф15н7 0 300		Notes :				Pneumatic Expansion Locating Pin (Smaller)
Z		ounting ^{%4}	※3. Prepare an a※4. There might	ir blow port choosing be foam near the flar	one port from four 🖈 age bottom dependin	r parts. g on	VRA/VRC
		Rz 6.3	roughness c ※5. Prepare the	f mounting surface, b air lock port within 🎹	ut this is not a malfun	ction.	Locating Pin (Large Expansion Model)
7.5		5 ±0.1	%6. Prepare the1. Make sure to	air release port on the check the cautions fo	e bottom within the ra	inge of ϕ 14. distance	VWH
7*5		, 14. .7 or 1	accuracy, we	orkpiece hole distance	accuracy and mount	ing phase	Pneumatic Expansion Locating Pin
	√ Rz 6.3 30°	Rz 100	before insta		/ 104.)		V W M
Air Lock Port ^{*5}		ψ					Manual Expansion Locating Pin

• External Dimensions and Machining Dimensions for Mounting

Air Release Port *6

 $\phi_{14}^{\pm 0.05} \times 6^{14}$

					(mm)					
Model No.		VWH1000-□-□-H20								
3	Workpiece Hole Diam. Code	050	060	070	080					
Workpiece Hole	Diam. (Standard Diam.) ϕ WA	$\phi_{5} \pm 0.3$	$\phi 6^{\pm 0.3}$	$\phi 7^{\pm 0.3}$	$\phi 8^{\pm 0.3}$					
Datum Diam	When Released	ϕ 4.6 or less	ϕ 5.6 or less	ϕ 6.6 or less	ϕ 7.6 or less					
Datum Diam.	When Fully Stroked	ϕ 5.3 or more	ϕ 6.3 or more	ϕ 7.3 or more	ϕ 8.3 or more					
Cylinder St	roke		2	.1						
	L	4.6	5.4	5.4	6.4					
	Μ	3.7	4.5	4.5	5.5					
	Ν	1.5	1.5	1	1					
66	When Released	4.3	5.3	6.3	7.3					
	When Fully Stroked	5.1	6.1	7.1	8.1					
	Weight g	60	60	60	60					

VXE VXF Compliance Module

VX

Screw Locator

WRC

External Dimensions Expanding Area Detail % The drawing shows the released state of VWH2000 and VWH3000. When Locked (At Full Stroke) When Released 2-Mounting Bolt (Included) 2-Thread for Jack Bolt Datum Diameter (ϕL) M5×0.8×12 M6 imes 1Û Ē Q 0 VWH-D *1 (Datum : Reference Locating) S Workpiece Hole Dimensions Blind Hole Through Hole VWH-C *1 Workpiece Hole Diameter $\phi WA^{+0.7}_{-0.3}$ (Cut: One Direction Locating) Workpiece Hole Diameter φWA + 0.7 more 3 or more 8 or Datum Diameter C0.5 or less C0.5 or less φL) \$\phi 0.02 \crime{Y}\$ φM Gripper *1 60° 7.5 ш M \sim G £ φN Т ×2 \triangleleft 4 VWH Mounting Surface ſ $\phi D_{g7} =$ Y 1-O-ring (Included) 19 W Notes : *1. The mounting direction of VWH-C (Cut) should be confirmed by 1-O-ring (Included) the direction of the gripper. Х *2. Do not use spring washer or toothed lock washer. %3. The tip of the product can be used to check the mounting distance accuracy after installed. However, it is different from the center accuracy of the gripper part (locating part), so make sure to determine the origin with an actual workpiece before machining. 1. When mounting the product, use two mounting bolts (Strength Grade 12.9) and tighten them evenly. Use two jack bolts to remove the product, keeping it parallel to the mounting surface. 2. This product has no seat. Please prepare a seat separately.

181

	VWH Features	Application Examples	System References	Model No. Indication Specifications	External Dimensions	Cautions	K	
	Machining D	Dimensions for	Mounting					Locating + Clamp
	~	Q Q Q	2-M5×0.8 Thread Dep	oth 9 or more				Locating Hand • Clamp
								Support
	W		Ť					Valve • Coupler
_	Air Blow Port ^{*4}	MC						Cautions • Others
	Z Air Lock Port *6	Ф Dн7 5 7 7 7 7 7 7 7 7 7 7 7 7 7	L 0.01 Z ounting **5 Surface /RZ 6.3 F2 100 Rz 100 r Release Port **7	Notes : %4. Prepare an a %5. There mighr roughness o %6. Prepare the %7. Prepare the %8. When the d it may lead 1. Make sure to accuracy, w before insta	air blow port choosing t be foam near the flat of mounting surface, b air lock port within III air release port on the epth of mounting hol- to insufficient expansi to check the cautions f orkpiece hole distance llation. (Refer to P.183	g one port from four A nge bottom dependin out this is not a malfun a e bottom within the ra e is not properly mach ion or damages on the for cylinder mounting e accuracy and mount 3/184.)	r parts. g on ction. inge of ϕ MD. ined, product. distance ing phase	Pneumatic Expansion Locating Pin (Smaller) VRA/VRC Pneumatic Expansion Locating Pin (Large Expansion Model) VWH Pneumatic Expansion Locating Pin VWK Manual Expansion Locating Pin VX

External Dimensions and Machining Dimensions for Mou	nting
--	-------

Extern	al Dimensions	anc		acn	Inin	gυ	Ime	nsi	ons	TOP	INIC	uni	ing									(mm)
Model No.			VWH2000-□-□-□										VWH3000-□-□-□									
3 Workpiece Hole Diam. Code			090			100			110			120		[130]	140			150	
5 Seating Height		H15	H20	H25	H15	H20	H25	H15	H20	H25	H15	H20	H25	H15	H20	H25	H15	H20	H25	H15	H20	H25
Workpiece Hole	Diam. (Standard Diam.) ϕ WA		φ9+0).7).3	φ	10 +0	.7 .3	φ	11 +0).7).3	φ	12 +0).7).3	φ	13 +0).7).3	φ	14 +0).7).3	¢	15 +0).7 0.3
Datum Diam	When Released	φ8	8.6 or	less	φŞ	9.6 or	less	φ1	0.6 or	less	φ1	1.6 or	less	φ1	2.6 or	less	φ1	3.6 oi	r less	φ1	4.6 01	r less
	When Fully Stroked	φ9.	.7 or r	nore	φ10	.7 or r	more	φ11	.7 or	more	φ12	.7 or	more	φ13	8.7 or	more	φ14	l.7 or	more	φ15	.7 or	more
Cylinder St	roke								3											3		
	Α	41.5	46.5	51.5	41.5	46.5	51.5	41.5	46.5	51.5	41.5	46.5	51.5	41.5	46.5	51.5	41.5	46.5	51.5	41.5	46.5	51.5
	В	14.5	19.5	24.5	14.5	19.5	24.5	14.5	19.5	24.5	14.5	19.5	24.5	14.5	19.5	24.5	14.5	19.5	24.5	14.5	19.5	24.5
D g7 (1	Main Body Side)								15 -	0.006 0.024									1	9-0.0	07 28	
D H7 (I	Machining Hole)								15+	0.018 0									1	9 +0.0	21	
	E		8 8																			
	F	7.5	9	9.5	7.5	9	9.5	7.5	9	9.5	7.5	9	9.5	7.5	9	9.5	7.5	9	9.5	7.5	9	9.5
	G	8°	20°	35°	8°	20°	35°	8°	20°	35°	8°	20°	35°	8°	20°	35°	8°	25°	40°	8°	25°	40°
	Н	15	20	25	15	20	25	15	20	25	15	20	25	15	20	25	15	20	25	15	20	25
	L	8.6 9.6			10.6 11.6				12.6		13.6		14.6									
	М		6.9			7.9		8.9 9.9			10.9		11.9		12.9							
	Ν		10.5			11.5			12.5			13.5			14.5			15.5			16.5	
	Q								12										1	4		
	R								33										3	7		
S									19										2	3		
W							A	\$568	3-013	(90)							AS:	568-0	16 (90)	
	AS568-013 (90)											AS568-015 (90)										
MA					6.5								7.5									
	MC		10.5 12.5									2.5										
	MD								14										1	8		
Weight g			80	100	70	80	100	70	90	100	80	90	100	80	90	100	110	120	140	110	120	140

Screw Locator VXE VXF

Compliance Module WRC

Cautions

- Notes for Design
- 1) Check Specifications
- Please use each product according to the specifications. Model VWH locates and releases with air pressure.
- 2) Notes for Circuit Design
- Please read "Circuit Reference" to assist with proper air circuit design.

Improper circuit design may lead to malfunctions and damages.

- 3) Air Supply
- Continuously supply air pressure to the air blow port. If air supply is shut off during operation, contaminants enter into the cylinder leading to malfunctions.
- 4) Prepare a Clamp Cylinder
- The expansion locating pin is a positioning cylinder and has no clamping function. Additional clamp(s) must be prepared.
- 5) Expansion Locating Pin Mounting Direction (Phase)
- The Cut (VWH-C) locates a workpiece in the direction of rotation based on the datum (VWH-D). Therefore, it is required to determine the phase of C : Cut when mounting.

When mounting the product, make sure that expanding direction of -C (Cut) is perpendicular to -D (Datum).



- 6) Reference Surface towards Z-axis
- This model has no seating. Please prepare a seat separately.
- 7) Adjusting Height of Expansion Locating Pin
- Seating height can be selected from 15mm / 20mm / 25mm. (Only 20mm can be selected for VWH1000)
- For slight adjustment of seating height and expanding part height, install a spacer (3mm or less) under the flange.



 Install a spacer block under the flange if the height of expansion locating pin is not enough.



- 8) When the workpiece is in vertical position.
- When setting a workpiece, make sure it is in proper proximity and square to the expansion locating pins.
- If it is locked out of position, the products may be damaged.
 If a workpiece may fall down when released, it is recommended to set up the latching mechanism to prevent it from falling down.
- When a workpiece is used in vertical position (hanging on the wall), the internal moving parts tend to wear out. Check the locating accuracy regularly, and if exceeding the allowable range, replace the product.

Example of Latching Mechanism



VWH Features	Application Examples	System References	Model No. Indication Specifications	External Dimensions	Cautions	

- 9) Inclination in the Z-axis direction.
- If a workpiece is tilted when loading/unloading, expanded part of expansion locating pin and workpiece hole will get stuck and the cylinder and workpiece will be damaged. Workpiece should be loaded and unloaded with less than 4/100 ~ 5/100 (approx. 2 ~ 3°) of tilt between workpiece and expansion locating pin plane.
- The product will be damaged when a workpiece is tilted during loading/unloading (especially when unloaded). Prepare guide pins (rough guides) to keep the workpiece level during loading/ unloading.



11) Distance Accuracy of VWH

Distance accuracy between VWH mounting holes (D:Datum and C:Cut) and between workpiece holes has to be determined according to the allowable offset (VWH-C:Cut).

- 12) Depth of Mounting Hole
- When the depth of mounting hole is not properly machined, it may lead to insufficient expansion or damages on the product.

	Cautions • Others
uct.	
	Pneumatic Expansion Locating Pin (Smaller)
	VRA/VRC
	Pneumatic Expansion Locating Pin (Large Expansion Model)
	VWH
	Pneumatic Expansion Locating Pin
	VWM
	VWK
	Manual Expansion Locating Pin
	VX
	Screw Locator
	VXE
	VXF
	Compliance Module
	WRC

Locating + Clamp

Hand • Clamp

Valve · Coupler

Support

- 10) Thickness around the Workpiece Hole
- Thin wall around the workpiece hole could be deformed by expanding force, and locating accuracy would not fill the specification. Please conduct trial testing before use.



Cautions

- Installation Notes
- 1) Check the fluid to use
- Please supply filtered clean dry air.
- Oil supply with a lubricator etc. is unnecessary.
- 2) Preparation for Piping

 The pipeline, piping connector and fixture circuits should be cleaned and flushed thoroughly.
 The dust and cutting chips in the circuit may lead to fluid leakage and malfunction.

- 3) Applying Sealing Tape
- Wrap with tape 1 to 2 times following the screwing direction.
 Wrapping in the wrong direction will cause leaks and malfunction.
- Pieces of the sealing tape can lead to air leaks and malfunction.
- When piping, be careful that contaminant such as sealing tape does not enter in products.
- 4) Installation / Removal of the Expansion Locating Pin
- Use all the attached hexagonal socket bolts (Strength Grade 12.9) and tighten them with torque shown in the table below. Tighten them evenly to prevent tilting of the product.

Model No.	Mounting Bolt Thread Size	Tightening Torque (N · m)				
VWH1000	M5×0.8	6.3				
VWH2000	M5×0.8	6.3				
VWH3000	M5×0.8	6.3				

- Do not use spring washer or toothed lock washer.
- There might be foam near the flange bottom depending on roughness of mounting surface, but this is not a malfunction.
- When removing the product, use two jack bolts (two mounting bolt holes) in order not to damage the installation tap. The following shows the case in which the parallel pin (hollow set) is set in the tapped hole so that the installation tap will not be damaged.





Notes :

%1. The procedure for lock operation should be "VWH (Expansion Locating Pin)" → "other actuators".

Otherwise there might be accuracy failure and/or damages on the product.

1. This circuit reference is one example. It should be prepared depending on the fixture structure.

Cautions

- Notes on Handling
- 1) It should be operated by qualified personnel.
- The hydraulic machine and air compressor should be operated and maintained by qualified personnel.
- 2) Do not operate or remove the product unless the safety protocols are ensured.
- ① The machine and equipment can only be inspected or prepared when it is confirmed that the safety devices are in place.
- ② Before the product is removed, make sure that the above-mentioned safety devices are in place. Shut off the pressure and power source, and make sure no pressure exists in the air and hydraulic circuits.
- ③ After stopping the product, do not remove until the temperature drops.
- ④ Make sure there is no trouble/issue in the bolts and respective parts before restarting the machine or equipment.
- Do not touch a clamp (cylinder) while it is working.
 Otherwise, your hands may be injured.



- 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 removing the product, make sure that the safety devices are in place. Shut off the pressure and power source and make sure no pressure exists in the air and hydraulic circuits.
- Make sure there is no trouble/issue 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.



- Regularly clean the reference surfaces (taper reference surface and seating surface) of locating products (SWT/SWQ/SWP/VRA/ VRC/VX/VXE/VXF/WVS/WVG/VWH/VWM/VWK).
- Locating products (except VRA/VRC/VX/VXE/VXF and SWR without air blow port) can remove contaminants with the cleaning function. When installing a workpiece or a pallet, make sure there are no contaminants such as thick sludge.
- Continuous use with dirt on components will lead to locating failure, fluid leakage and malfunction.



- 4) Regularly tighten pipe, mounting bolt, nut, snap ring, cylinder and others to ensure proper use.
- 5) Make sure the hydraulic fluid has not deteriorated.
- 6) Make sure there is a smooth action without an irregular noise.
- Especially when it is restarted after left unused for a long period, make sure it can be operated correctly.
- The products should be stored in the cool and dark place without direct sunshine or moisture.
- 8) Please contact us for overhaul and repair.

Warranty



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 Failure caused by the use of the non-confirming state at the user's discretion.
- ③ If it is used or operated in an 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.

Clamp

Locating

Locating

Hand • Clamp

Support

Valve • Coupler

Electric Drive • Convevor

Cautions • Others

Cautions Installation Notes Maintenance/ Inspection

Warranty

表記改定のお知らせ

Company Profile Company Profile Our Products

History

Index Search by Alphabetical Order

Sales Offices



Sales Offices across the World

JAPAN Head office	TEL. +81-78-991-5162 KOSMEK LTD. 1-5, 2-chome, Murotani, Nis	FAX. +81-78-991-8787 hi-ku, Kobe-city, Hyogo, Japan 651-2241	
Overseas Sales	〒651-2241 兵庫県神戸市西区室谷2丁目1番5号		
United States of America	TEL. +1-630-620-7650	FAX. +1-630-620-9015	
KOSMEK (USA) LTD.	650 Springer Drive, Lombard, IL 60148 USA		
MEXICO REPRESENTATIVE OFFICE	TEL. +52-442-161-2347		
KOSMEK USA Mexico Office	Av. Santa Fe #103 int 59 Col. Santa Fe Juriquilla C.P. 76230 Queretaro, Qro Mexico		
EUROPE subsidiary	TEL. +43-463-287587	FAX. +43-463-287587-20	
KOSMEK EUROPE GmbH	Schleppeplatz 2 9020 Klagenfurt am Wörthersee Austria		
CHINA	TEL. +86-21-54253000	FAX. +86-21-54253709	
KOSMEK (CHINA) LTD. 考世美(上海)貿易有限公司	Room601, RIVERSIDE PYRAMID No.55, Lane21, Pusan Rd, Pudong Shanghai 200125, China 中国上海市浦东新区浦三路21弄55号银亿滨江中心601室 200125		
INDIA branch office	TEL. +91-9880561695		
KOSMEK LTD - INDIA	F 203, Level-2, First Floor, Prestige Center	Point, Cunningham Road, Bangalore -560052 India	
THAILAND REPRESENTATIVE OFFICE	TEL. +66-2-300-5132	FAX. +66-2-300-5133	
KOSMEK Thailand Representation Office	67 Soi 58, RAMA 9 Rd., Suanluang, Suanluang, Bangkok 10250, Thailand		
TAIWAN (Taiwan Exclusive Distributor)	TEL. +886-2-82261860	FAX. +886-2-82261890	
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)	TEL. +63-2-310-7286	FAX. +63-2-310-7286	
	Victoria Wave Special Economic Zone Mt. Apo Building, Brgy. 186, North Caloocan City, Metro Manila, Philippines 1427		
G.E.I. Inc, Phil.	Victoria Wave Special Economic Zone Mt. Apo Building	g, Brgy. 186, North Caloocan City, Metro Manila, Philippines 1427	
G.E.I. Inc, Phil. INDONESIA (Indonesia Exclusive Distributor)	Victoria Wave Special Economic Zone Mt. Apo Building TEL. +62-21-29628607	FAX. +62-21-29628608	

Sales Offices in Japan

Head Office Osaka Sales Office Overseas Sales	TEL. 078-991 - 〒651-2241	- 5162 兵庫県神戸市	FAX.078-991-8787 西区室谷2丁目1番5号
Tokyo Sales Office	TEL. 048-652-	-8839	FAX. 048-652-8828
	〒331-0815	埼玉県さいた	ま市北区大成町4丁目81番地
Nagoya Sales Office	TEL. 0566-74-	-8778	FAX. 0566-74-8808
	〒446-0076	愛知県安城市	美園町2丁目10番地1
Fukuoka Sales Office	TEL. 092-433-	-0424	FAX. 092-433-0426
	〒812-0006	福岡県福岡市	博多区上牟田1丁目8-10-101

Global Network









FOR FURTHER INFORMATION ON UNLISTED SPECIFICATIONS AND SIZES, PLEASE CALL US.
 SPECIFICATIONS IN THIS CATALOG ARE SUBJECT TO CHANGE WITHOUT NOTICE.