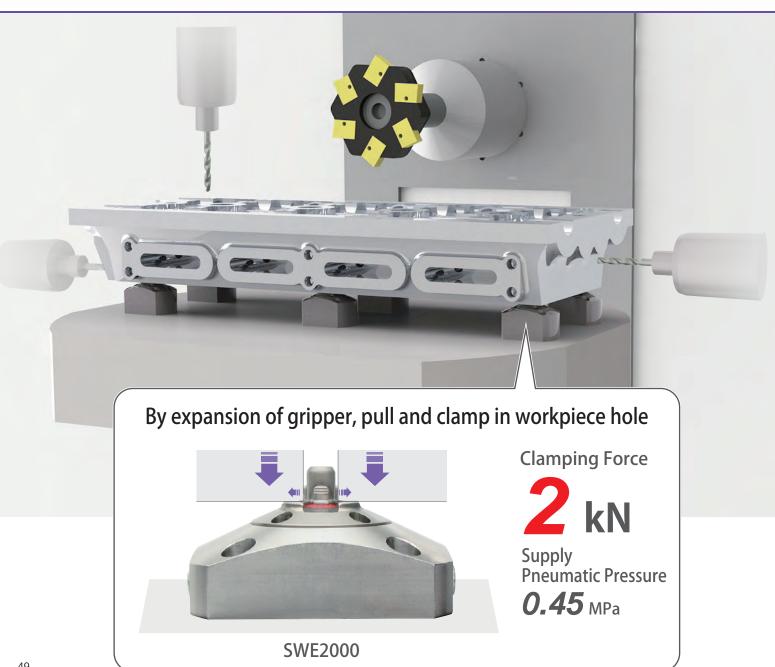
High-Power Pneumatic Hole Clamp

Model SWE



By expansion of gripper, pull and clamp in workpiece hole High clamping force which replaces hydraulics PAT.P.



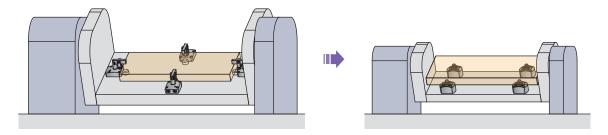
Advantages

To Workpiece

- Zero interference with 5 faces except clamping face.
- Possible to use standard length tool which provides for better precision.
- Possible to enhance cutting parameters which leads to shorter cycle times.
- Elimination of multiple setups provides better machining process and zero setup time.

To Processing Facility

- No hydraulic equipment required by using high-power pneumatic hole clamp.
- Fixture could be extremely downsized.
- Turn-table could be downsized.
- The movement of tool could be shorten.
- · For saving weight of fixture.
- Processing facility could be more simple.
- Good design for easy flow of chips and reduction in coolant usage.

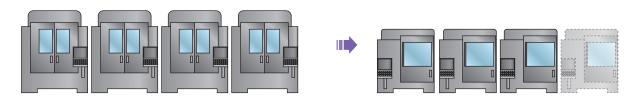


<Before> Clamping around the workpiece.

<After> Using the hole clamps.

To Processing Line

- 5 faces processing makes it possible to put process together.
- Processing line is kept small and simple.
- Possible to enhance cutting parameters which leads to shorter cycle times.



<Before> Big Machining Centers and Long Machining Lines.

<After> Smaller Machining Centers and Shorter Machining Lines.

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation
Accessories

Cautions / Others

High-Power Hydraulic Swing Clamp

LHE

High-Power Hydraulic Link Clamp

LIKE

High-Power Pneumation

SWE

High-Power Pneumatic Swing Clamp WHE

High-Power Pneumation

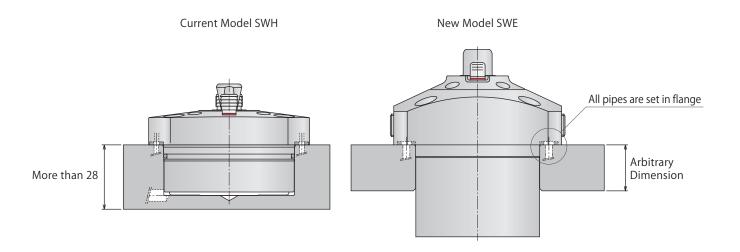
Link Clamp WCE

High-Power Pneumatic Work Support

WNC

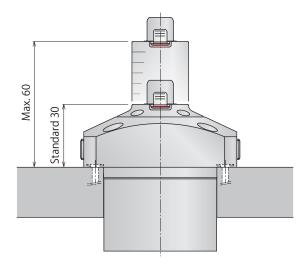
High-Power Pneumatic

- Features
 - Variable Mounting Dimensions to Suit the Process
 Able to design thinner plate since all pipes are set in flange.



Seating Surface Height Suitable to Workpiece

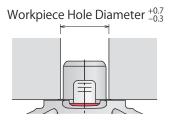
Level the height in incremental of every 5mm according to the phase of workpiece seating surface.





Hole Diameter to Suit a Variety of Workpieces

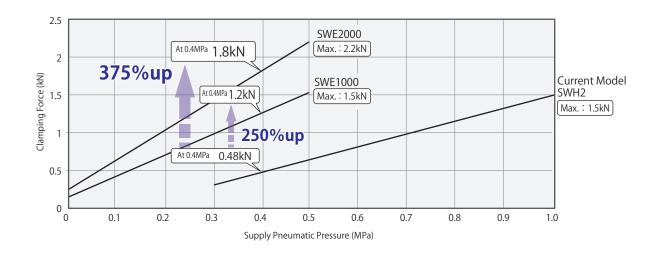
In order to suit different hole diameters and tolerances, hole diameters can be chosen in incremental of every 0.5mm.





More Powerful Clamping Force with Mechanical Lock

By mechanical lock system clamping force has extremely increased compared to our current model SWH. SWE is useful for the processing that used to require hydraulic clamping systems.



High-Power Pneumatic
Hole Clamp

SWE

High-Power Hydraulio

WHE
High-Power Pneumatic
Link Clamp
WCE

Swing Clamp

High-Power Pneumatic Work Support WNC

High-Power Pneumatic

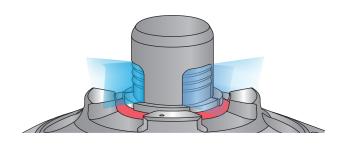
Features

Various Kinds of Protection by Cap Structure

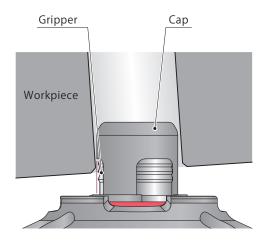
※ SWE1000 has no cap structure.



 Minimum clearance between cap and gripper prevents cutting chips from entering inside.



Small clearance leads to effective purging. Even with a little air flow it prevents coolant from entering inside.



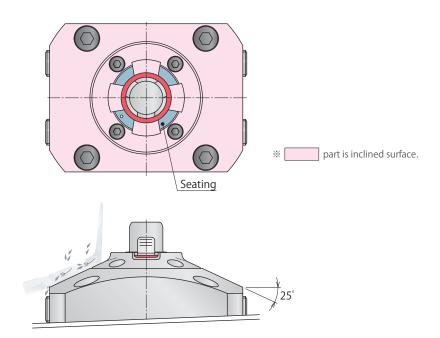
- Workpiece does not have contact with gripper.It makes loading-unloading smooth.
- Not necessary to have rough guide on fixture.

 $\ensuremath{\,\times\,}$ It differs according to the loading speed.

High-Power

Pursuit of Good Design for Efficient Swarf Management

Having smaller seating surface and wide sweep area on the flange enables easy flow of chips and reduction in coolant usage.



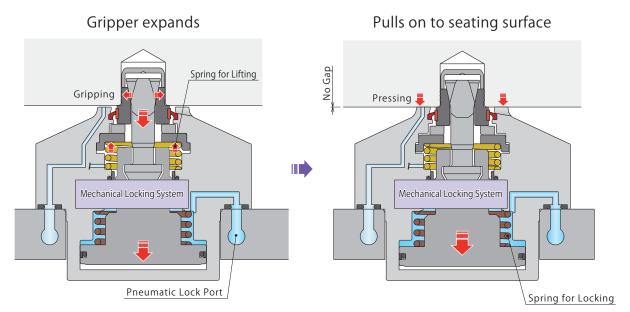
Series **Pneumatic Series** Hydraulic Series Valve / Coupler Hydraulic Unit Manual Operation Accessories Cautions / Others High-Power Hydraulio LHE High-Power Hydraulio LKE SWE Swing Clamp WHE High-Power Pneumation WCE High-Power Pneumatio Work Support

High-Power Pneumatic Pallet Clamp

Secure Clamp Action Out of Sight

Spring for lifting grips workpiece strongly and pulls it. Even when air pressure is at zero, self-lock function by spring for locking ensures safety.

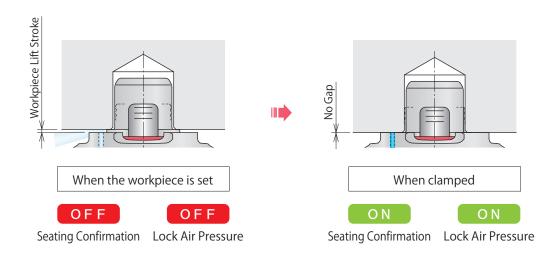
 $\ensuremath{\mbox{\%}}$ This is a simplified drawing. Actual components are different.



Features

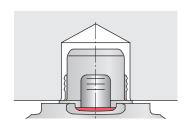
Action Confirmation of Clamping

Lift-up function allows to check the movement of pulling and lifting off the workpiece. It can be used in automated line.

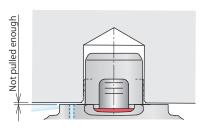


Abnormality Detection for Unpredictable Troubles

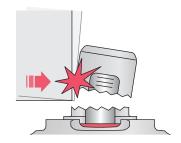
Error detection for unpredictable troubles when processing or transferring. It can be used in automated line.



The workpiece diameter with larger hole diameter than specification.

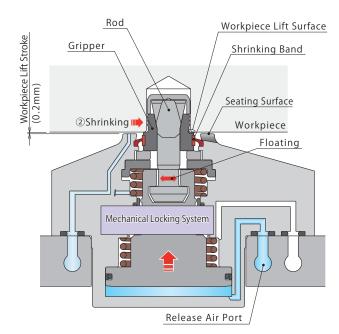


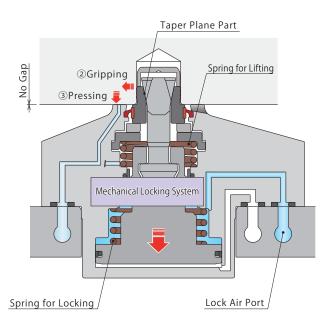
The workpiece is floated more than pull-stroke.
(Seating error)



Rod breakage due to transportation.

Action Description *This is a simplified drawing. Actual components are different.





Mechanical Locking System

by Buit-In Valve

Piston

Released State

①Air pressure is supplied to the release port.

2The rod is lifted up and the gripper shrinks. (Workpiece lift type: Gap is generated between workpiece bottom surface and seating surface.)

Air Pressu	Seat Check Detection	
Release Air Pressure	Lock Air Pressure	(Air Sensor)
ON	OFF	OFF

* Continuously supply air pressure to the air blow port and seating check port. If clamps are used without air supply, foreign substances enter into clamps resulting in clamping error.

Locked State

①Air pressure is supplied to the lock port.

2The rod descends and the gripper expands along the taper plane. (Since the gripper is lifted by spring force, it does not pull down.)

 \downarrow

3When pulling force exceeds the spring for lift up force, pulling down force works after the gripper digs into workpiece. Then, it presses workpiece onto seating surface. (Clamping force = Pressing force onto seating surface.)

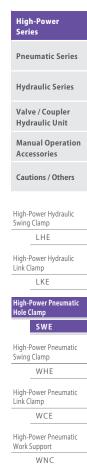
Air Pressu	re Switch	Seat Check Detection
Release Air Pressure	Lock Air Pressure	(Air Sensor)
OFF	ON	ON

Abnormality Detection State The built-in check valve function and seating check Air Vent from Air Vent Port

air pressure detect abnormal condition as follows.

- When clamping workpiece which has bigger workpiece hole diameter. (Clamping without workpiece)
- When rod or gripper is broken.
- If the piston is fully stroked when it has to stop at the bottom.
- In the case workpiece is floated more than 1mm when setting it.

Air Pressu	re Switch	Seat Check Detection
Release Air Pressure	Lock Air Pressure	(Air Sensor)
OFF	ON	OFF



High-Power Pneumatic Pallet Clamp

WVS

56

Model No. Indication

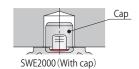


1 Body Size * Please refer to specifications, performance curve and external dimensions for details.

: Available in diameters between ϕ 6 and ϕ 9mm (No cap)

: Available in diameters between ϕ 9 and ϕ 13mm (With cap)





2 Design No.

0 : Revision number

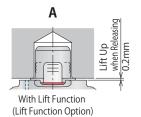
Workpiece Lifting Option

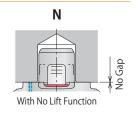
: With Lift Function (Lift Function Option)

: With No Lift Function

Note

1. When using it with expansion locating pin (model WM, WK, VL, VM, VJ, VK, VX), please choose **N**: With no lift function.





4 Workpiece Hole Diameter (Workpiece Hole Code)

Workpiece Hole Code : Workpiece Hole Diameter ϕ d $^{+0.7}_{-0.3}$

* Workpiece hole diameter should be specified in incremental of every 0.5mm from the allowable range in the list below.



Workpiece	Hole Code	060	065	070	075	080	085	090	095	100	105	110	115	120	125	130
Workpiece l	Hole Diameter ϕ d $^{+0.7}_{-0.3}$ (mm)	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	11.5	12	12.5	13
SWE1000	No Cap		Allowable Range													
SWE2000	With Cap										Allow	able F	ange			

5 Seating Height Dimension

: Standard Height (30mm) **Blank**

H Seating Height : Specifying Seating Height (In incremental of every 5mm)

	Seating Height H (mm)									
Model	Standard							60		
SWE1000	30	*		Н		Rang	je			
SWE2000	30	*	H□Range							

- ※ ★ part is standard height, and seating height dimension code is "Blank".
- * Entry example when specifying non-standard seating height. Seating Height 50mm: **H50**

H Seating Height

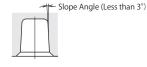
6 Shape of Workpiece Hole

Blank: Straight Hole

Т : Taper Hole * Contact us.







Taper Hole

Straight Hole (Stop Hole)

Straight Hole (Through Hole)



Specifications

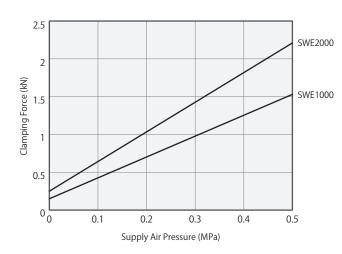
Model No.	Model No.					SWE1000							SWE2000				
	4 Workpiece Hole Code		060	065	070	075	080	085	090	090	095	100 1	05	110	115	120 1	25 130
Machine Part	Workpiece Hole Diameter ϕ d $^{+0.7}_{-0.2}$	7 mm	6	6.5	7	7.5	8	8.5	9	9	9.5	10 1	0.5	11	11.5	12 12	2.5 13
- IviaCrimie r art	Hardness							Les	tha	n H	B25	0					
Allowable Offset (Floating Clearance of Expanding Area) **1 mm									土	0.5							
Full Stroke		mm							4	.2							
Pulling Stroke	e of Machine Part	mm							1	.0							
Lifting Stroke	of Machine Part ^{**2}	mm							0	.2							
Work Lift For	ce ^{*2}	kN	0.09						0.15								
Cylinder Capacity	Release Side	cm^3	18.6 25.5							25.5							
(Empty Action)	Lock Side	cm^3	17.6 24.2														
Maximum Op	perating Pressure	MPa	0.5														
Minimum Op	erating Pressure	MPa	0.2														
Withstanding	g Pressure	MPa							0.	75							
Recommended Air Blow Pressure MPa			$0.4 \sim 0.5$ $0.2 \sim 0.3$														
Operating Te	Operating Temperature $$			0 ~ 70													
Usable Fluid			Dry Air														
Mass kg				Please refer to External Dimensions for Mass													

Notes

*1. The clamping part is an adjusting structure and the clamping operation is done by locating the work hole. The numerical value in the table shows the amount of tolerance value of one clamp.
Please consider the center distance accuracy of each clamping installation part and each workpiece hole when used with another location clamp / location cylinder, or when using more than two of these products.
*2. The lift stroke and the lift force are functions only for lifting option.

Clamping Force Curve

Model No.		SWE1000	SWE2000			
	4 Workpiece Hole Code	060 065 070 075 080 085 090	090 095 100 105 110 115 120 125 130			
	Supply Air Pressure 0.5 MPa	1.5	2.2			
Cl i	Supply Air Pressure 0.4 MPa	1.2	1.8			
Clamping Force kN	Supply Air Pressure 0.3 MPa	1.0	1.4			
TOICE KIN	Supply Air Pressure 0.2 MPa	0.7	1.0			
	Supply Air Pressure 0 MPa	0.15	0.25			
Clamping Fo	orce Calculation Formula **3 kN	$F = 2.76 \times P + 0.15$	$F = 3.92 \times P + 0.25$			
Maximum O	perating Pressure MPa	0.5	0.5			



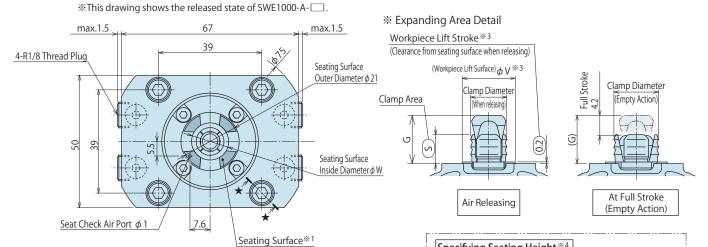
Notes

- This graph shows the relationship between clamping force and supply air pressure.
- 2. Clamping force shows the pressing force against the seating surface.
- If the hole around area of workpiece is thin, there is a case that expansion force may deform workpiece hole, and results not perform well.
- %3. F:Clamping Force (kN), P:Supply Air Pressure (MPa)

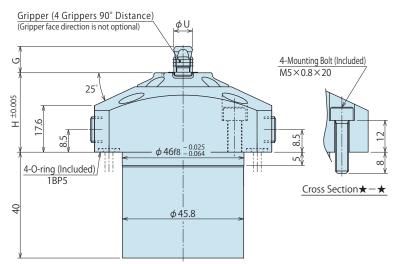
High-Power Series **Pneumatic Series** Hydraulic Series Valve / Coupler Hydraulic Unit Manual Operation Accessories Cautions / Others High-Power Hydraulic LHE High-Power Hydraulic Link Clamp LKE High-Power Pn Hole Clamp SWE Swing Clamp WHE High-Power Pneumatic Link Clamp WCE High-Power Pneumatio Work Support

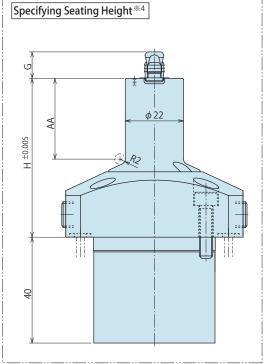
High-Power Pneumatic Pallet Clamp

External Dimensions



Seating Height:Standard



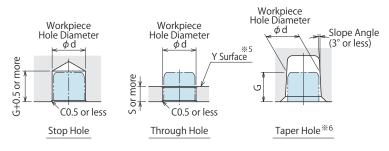


Air Release Port*2 Air Blow Port *2 Air Lock Port *2

Notes

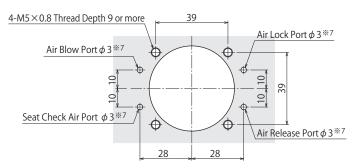
- *1. The workpiece must be resting on all seating surfaces when clamping. If this is not done the workpiece can be deformed by the clamping force.
- **2. The name of each port is marked on the flange surface of this workpiece. (LOCK: Air lock port, RELEASE: Air release port, FC: Seating check port, BLOW: Air blow port) Continuously supply air pressure to the air blow port and seating check port.
- \divideontimes 3. The numerical value is only for the workpiece lift option.
- **4. Please refer to Seating Height: Standard for dimensions that is not shown.

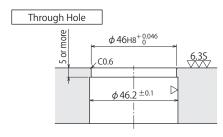
Workpiece (Pallet) Hole Dimensions

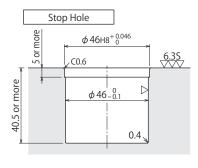


- When there is a thin wall around the workpiece hole, the
 workpiece hole could be deformed by the clamping
 operation. The clamping force does not fill the specification
 value. Please make sure to test the clamping function before
 using and adjust to the appropriate supply of pressure.
- **5. When the clamp head is sticking above the Y surface of the workpiece, please make sure there is no interference with the clamp cylinders during machining.
- **6. In the case using taper hole for holding, please use-T: workpiece hole shaper taper hole specification.

Machining Dimensions of Mounting Area







Notes

- 1. There should be no burrs at the hole contact surface.
- *7. It is not required to machine each port if removing SWE R1/8 thread plug (4 plugs) and setting air fitting and air hose directly.

Model No. Indication



- 1 Body size (When 1 is chosen)
- 2 Design No.
- 3 Method of Lifting
- 4 Workpiece Hole Diameter (Workpiece Hole Code)
- 5 Seating Height Dimension
- 6 Shape of Workpiece Hole

High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation
Accessories

Cautions / Others

High-Power Hydraulic

I HF

High-Power Hydraulic

Link Clamp

High-Power Pneumatic Hole Clamp

SWE

High-Power Pneumatic Swing Clamp

WHE

High-Power Pneumatic Link Clamp

WCE

High-Power Pneumatic

WNC

High-Power Pneumatic Pallet Clamp

WVS

WV

External Dimensions and Machining Dimensions for Mounting

External Differsions and Machining Differsions for Mounting								(mm)				
Model No.		SWE1000-□□										
4	Workpiece Hole Code	060	065	070	075	080	085	090				
Workpiece F	6 + 0.7	6.5 + 0.7	$7^{+0.7}_{-0.3}$	7.5 + 0.7	$8^{+0.7}_{-0.3}$	8.5 + 0.7	9 + 0.7					
Clamp Diameter Released Condition		5.5	6	6.5	7	7.5	8	8.5				
Clamp Diameter Empty Action		7.2	7.7	8.2	8.7	9.2	9.7	10.2				
Allowable Offset (F	±0.5											
Full Stroke	Full Stroke			4.2								
Pulling Strok	ke of Workpiece	1.0										
Workpiece L	ift Stroke ^{※10}	0.2										
	G	9	9	9	10	10	10	10				
	S	5.5	5.5	5.5	6	6	6	6				
	5.55	6.05	6.55	7.05	7.55	8.05	8.55					
	V	8.5	9	9.5	10	10.5	11	11.5				
	12	13	13	14	14	15	15					

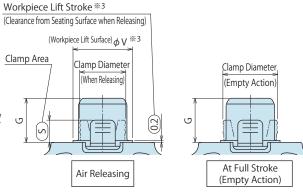
- % 9. The clamping part is an adjusting structure and the clamping operation is done by locating the workpice hole. The numerical value in the table shows the amount of tolerance value of one clamp. Please consider the center distance accuracy of each clamping installation part and each workpiece hole when used with another location clamp / location cylinder, or when using more than two of these products.
- **10. Workpiece lift function is only for lift function option.

							(mm)			
5 Seating Height Dimension	Standard Height	Specifying Seating Height								
Seating Height Dimension	Blank	H35	H40	H45	H50	H55	H60			
Н	30	35	40	45	50	55	60			
AA	-	5.5	10.5	15.5	20.5	25.5	30.5			
Mass kg	0.8	0.8	0.8	0.8	0.8	0.9	0.9			

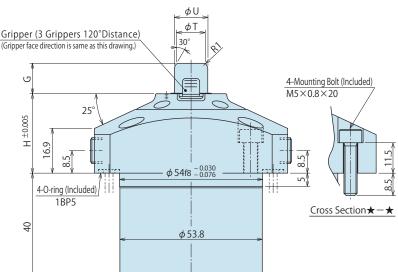
External Dimensions

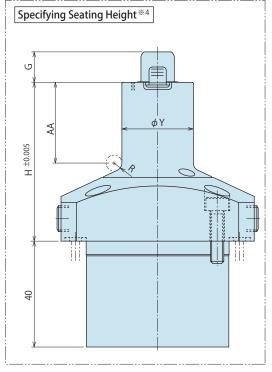
max. 1.5 max. 1.5 800 4-R1/8 Thread Plug Seating Surface Outer Diameter ϕX 26 Seating Surface Inside Diameter *φ* W Seating Surface*1 Seat Check Air Port ϕ 1 Mx

***** Expanding Area Detail



Seating Height:Standard



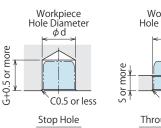


Seat Check Air Port **2 Air Release Port *2 Air Lock Port *2

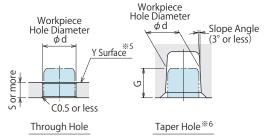
Notes

- ※1. The workpiece must be resting on all seating surfaces when clamping. If this is not done the workpiece can be deformed by the clamping force.
- %2. The name of each port is marked on the flange surface of this workpiece. (LOCK: Air lock port, RELEASE: Air release port, FC:Seating check port, BLOW:Air blow port) Continuously supply air pressure to the air blow port and seating check port.
- *3. The numerical value is only for the workpiece lift option.
- *4. Please refer to Seating Height: Standard for dimensions that is not shown.

Workpiece (Pallet) Hole Dimensions

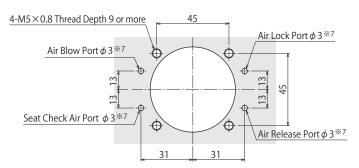


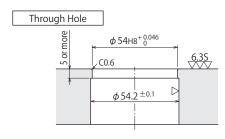
Air Blow Port ^{※2}

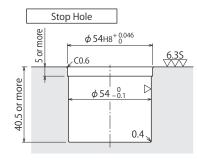


- 1. When there is a thin wall around the workpiece hole, the workpiece hole could be deformed by the clamping operation. The clamping force does not fill the specification value. Please make sure to test the clamping function before using and adjust to the appropriate supply of pressure.
- %5. When the clamp head is sticking above the Y surface of the workpiece, please make sure there is no interference with the clamp cylinders during machining.
- *6. In the case using taper hole for holding, please use -T: workpiece hole shaper taper hole specification.

Machining Dimensions of Mounting Area







Notes

- 1. There should be no burrs at the hole contact surface.
- *7. It is not required to machine each port if removing SWE R1/8 thread plug (4 plugs) and setting air fitting and air hose directly.

Model No. Indication



- 1 Body size (When 2 is chosen)
- 2 Design No.
- 3 Method of Lifting
- 4 Workpiece Hole Diameter (Workpiece Hole Code)
- 5 Seating Height Dimension
- 6 Shape of Workpiece Hole

External Dimensions and Machining Dimensions for Mounting

Extern	iai Dimensions and i	viacnin	ווט טוו	nensio	iis ior i	viount	ing			(mm)			
Model No.		SWE2000-□□											
4	Workpiece Hole Code	090	095	100	105	110	115	120	125	130			
Workpiece H	Hole Diameter φd	9 + 0.7	9.5 + 0.7	10 + 0.7	10.5 + 0.7	11 + 0.7	11.5 + 0.7	12 + 0.7	12.5 + 0.7	13+0.7			
Clamp Diameter	Released Condition	8.5	9	9.5	10	10.5	11	11.5	12	12.5			
Clamp Diameter	Empty Action	10.2	10.7	11.2	11.7	12.2	12.7	13.2	13.7	14.2			
Allowable Offset (Flo	oating Clearance of Expanding Area) ^{※8}					±0.5							
Full Stroke						4.2							
Pulling Strol	ke of Workpiece		1.0										
Workpiece L	ift Stroke ^{※9}	0.2											
	G	10	10	10	11.5	11.5	11.5	11.5	11.5	11.5			
	Mx	8	8	8	8	8	8.6	8.6	9.3	9.3			
	R	R2	R2	R2	R3	R3	R3	R3	R3	R3			
	S	4.3	4.3	4.3	5.8	5.8	5.8	5.8	5.8	5.8			
	Т	5.7	6.2	6.7	7.2	7.7	8.2	8.7	9.2	9.7			
	U	8.6	9.1	9.6	10.1	10.6	11.1	11.6	12.1	12.6			
	V	11.5	12	12.5	13	13.5	14	14.5	15	15.5			
	W	15	16	16	17	17	18	18	19	19			
	Χ	24	24	24	24	24	25	25	26	26			
	Υ	25	25	25	25	25	26	26	27	27			

Notes

8. The clamping part is an adjusting structure and the clamping operation is done by locating the workpiece hole.

The numerical value in the table shows the amount of tolerance value of one clamp. Please consider the center distance accuracy of each clamping installation part and each workpiece hole when used with another location clamp / location cylinder, or when using more than two of these products.

 \divideontimes 9. Workpiece lift function is only for lift function option.

							(mm)
5 Seating Height Dimension	Standard Height		Sp	ecifying Se	eating Heig	ght	
Seating Height Dimension	Blank	H35	H40	H45	H50	H55	H60
Н	30	35	40	45	50	55	60
AA	_	5.5	10.5	15.5	20.5	25.5	30.5
Mass kg	1.0	1.0	1.0	1.0	1.1	1.1	1.1

High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation
Accessories

Cautions / Others

High-Power Hydraulic

I HF

High-Power Hydraulic Link Clamp

LKE

High-Power Pneumatic Hole Clamp

SWE

High-Power Pneumatic Swing Clamp WHE

High-Power Pneumatic Link Clamp

WCE

High-Power Pneumatic Work Support

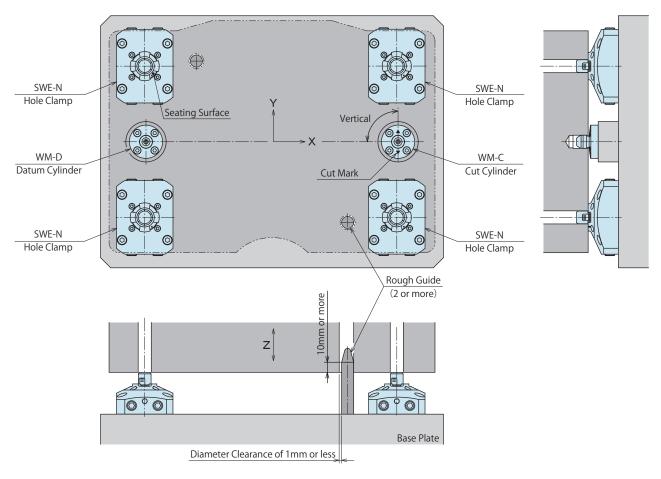
WNC

High-Power Pneumatic Pallet Clamp

net clamp

Layout Sample

**This drawing shows a combination mounting reference of SWE-N (Hole Clamp) and WM (Pneumatic Expansion Locating Pin).

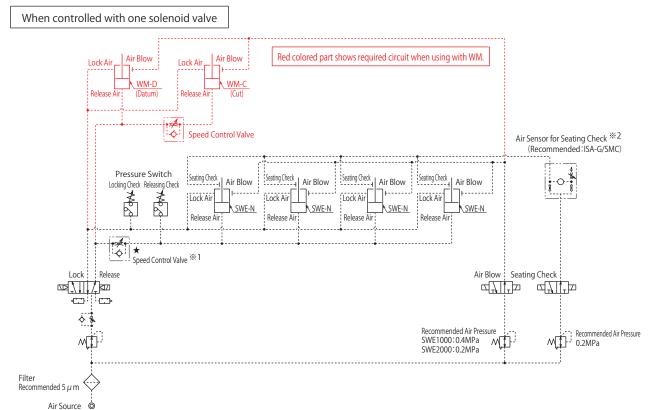


- 1. When detaching a workpiece, in order to prevent the clamping part from damage, please set up rough guide of 2 or more. Please refer to the above drawing about the length of rough guide and the diameter gap.

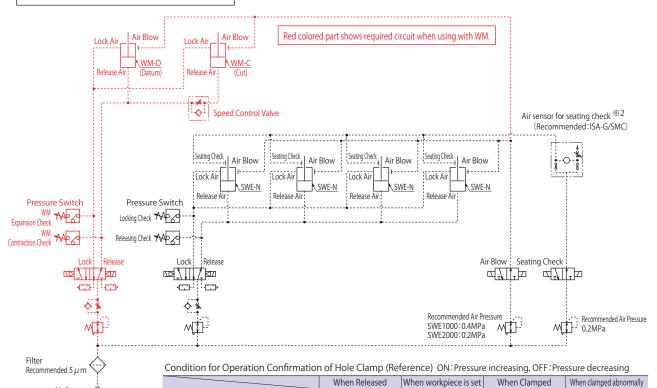
 (Use of rough guides depends on the loading / unloading condition of the workpiece.)
- 2. When using a combination of WM (Pneumatic Expansion Locating Pin) and SWE-N (Hole Clamp), please choose N:non-lift function.

Pneumatic Circuit Reference

** This drawing shows a combination circuit reference of SWE-N (Hole Clamp) and WM (Pneumatic Expansion Locating Pin).



When controlled with two solenoid valves



Notes

Air Source

※1. Please use solenoid valve to make a sequence operation that SWE (hole clamp) starts working after WM (pneumatic expansion locating pin) completes the movement. When unable to use solenoid valve, please prepare flow control valve with check valve at ★(1 piece) to adjust sequencing speed. If SWE operates before WM, there is a possibility for the equipment to be damaged due to a thrust load on SWE.

Release Detection

Lock Detection

*2. To reach required accuracy in setting air sensor, please install air sensor for individual clamp.

Air Sensor for Seating Check

Pressure Switch

- 1. Activation of WM-D (Datum) should be approximately simultaneous or earlier than the MW-C (Cut).
- *3. With lift function it shows "OFF" since there is clearance between seat surface and workpiece. Without lift function, it shows "ON" depending on set pressure of the air sensor.

ON

OFF

OFF

ON

OFF

ON(OFF)*3

OFF

ON

ON

OFF

 ON (OFF when air leaks)

OFF

High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation
Accessories

Cautions / Others

High-Power Hydraulic

Swing Clamp

High-Power Hydraulic

Link Clamp

High-Power Pneumatic Hole Clamp

SWE

High-Power Pneumatic Swing Clamp

WHE
High-Power Pneumation

Link Clamp

WCE

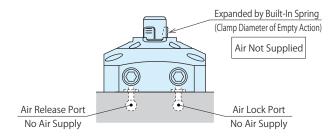
High-Power Pneumatic

WNC

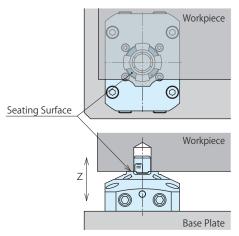
High-Power Pneumatic Pallet Clamp

Cautions

- Notes for Design
- 1) Check Specifications
- Please use each product according to the specifications.
- This product is air double action type which is clamped by air pressure / spring force and released by air pressure.
 Even when air is not supplied to either lock port or release port, built-in spring maintains locked condition (clamp diameter is expanded):
 - ① Maintains clamping force even when air pressure is at OMPa. (Refer to Clamping force curve: clamping force at supply air pressure OMPa on P.58).
 - ② When loading/unloading workpiece release air should be supplied. If release air is not supplied, workpiece contacts with gripper and it leads to breakage of clamps.

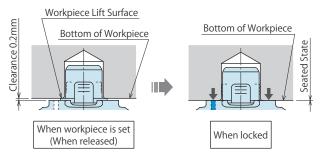


- 2) Working Reference Plate (Seating Surface) Z axis.
- The upper surface of the flange of this product is the seating surface of workpiece and locates in Z direction.



When clamping, make sure all seating surfaces touch workpiece. When the workpiece is not touching the seating surface area, please refer to external dimension chart and calculate contacting pressure with clamping force and seating area not to deform the workpiece.

- 3) The Seating Check Mechanism
- Seating check will be detected when workpiece is pressed against the seating surface by lock (clamp) action.



With lift-up function, when workpiece is set (before supplying the lock air pressure), the workpiece is lifted up by built-in spring, and there will be a clearance of 0.2mm between workpiece bottom surface and seating surface.

- 4) Clamp Installation
- The clamping part of this equipment has the adjusting mechanism (±0.5mm).

When using with two or more location clamps or cylinders, please consider the center distance accuracy of each clamping installation part and each workpiece hole.

- 5) Clamping Force
- Clamping force shows pressing force against the seating surface. Please conduct clamping test and adjust to proper pneumatic pressure before use.

When using in a state that the clamping force is insufficient, the workpiece may fall out.

6) Workpiece hole size, slope angle and workpiece hardness should be within the range of the specification.

When workpiece hole diameter is larger than specification.	The amount of the diameter expansion is insufficient and the clamping force does not satisfy the specification.
When using it with insufficient clamping force.	Leads to fall out of the workpiece.
When workpiece hole diameter is smaller than specification.	Detaching of the workpiece becomes difficult and could lead to damage.
When workpiece hole depth is shallow.	Could lead to abnormal seating and damage.
When workpiece hole taper is larger than standard.	The load concentrates on the gripper point when clamping and could lead to damage.
When workpiece hole is harder than specified.	Gripper does not dig into work enough and it cannot clamp securely.

- 7) Wall Thickness around Workpiece Hole
- Thin wall around the workpiece hole could be deformed by clamping action, and clamping force does not fill the specification. Please conduct clamping test and adjust to proper pneumatic pressure before use. If clamping force is insufficient, workpiece may fall out.

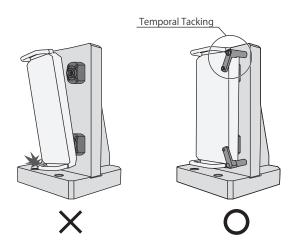


- 8) Air-Blow Port and Seating Check Port
- Using the product without air supply causes contaminants entering into a clamp which leads to malfunction of the clamp.



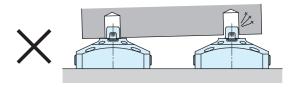
9) Release Condition

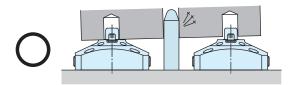
When releasing, it lifts up the workpiece which is normal.
 When using in a horizontal application, it is recommended to install a fall prevention of workpiece for temporal tacking.



10) Horizontal Locating

- When a workpiece is set, please make sure there is no lifting or slope of the workpiece. If the clamping operation is done with lifting or slope of the workpiece, it will lead to possible damage of a clamp and deformation of the workpiece hole.
- 11) Please detach a workpiece with all clamps fully released.
- When detaching a workpiece during lock or release operation, it may cause the damage of clamp or fall of workpiece.
- 12) Please set up rough guides.
- When detaching a workpiece with slope it may cause the damage of clamp or fall of workpiece.





When using the product with other location clamps / cylinders, please set rough guides considering the center distance accuracy of each mounting hole and workpiece hole of location clamp / cylinders.

Installation Notes

- 1) Check the fluid to use.
- Be sure to supply clean air that is filtered.
- Oil supply with a lubricator etc. is unnecessary.
- 2) Procedure before Piping
- The pipeline, piping connector and fixture circuits should be cleaned by thorough flushing.
 The dust and cutting chips in the circuit may lead to fluid

leakage and malfunction.

- There is no filter provided with this product to prevent foreign materials and contaminants from getting into the air circuit.
- 3) Applying Sealing Tape
- Wrap with tape 1 to 2 times following the screwing direction.
- Pieces of the sealing tape may lead to air leaks and malfunction.
- In order to prevent a foreign substance from going into the product during the piping work, it should be carefully cleaned before working.
- 4) Mounting Hole Clamp
- When mounting the product use all hexagon socket bolts (with tensile strength of 12.9) and tighten them with the torque shown in the chart below.

Model No.	Thread Size	Tightening Torque(N·m)
SWE	M5×0.8	6.3

- 5) Port Position of the Hole Clamp
- The name of each port is marked on the flange surface of the equipment. Be careful of installation direction.
 (LOCK: Air lock port, RELEASE: Air release port,
 FC: Seating check port, BLOW: Air blow port)
- 6) Use air piping of air blow circuit with outside diameter ϕ 6 (inside ϕ 4) or larger.
- In order to conduct an effective air blow, it is recommended to use air piping with outside diameter φ 6 (inside diameter φ 4) or larger.

Series

High-Power

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

High-Power Hydraulic Swing Clamp

LHE

High-Power Hydraulic Link Clamp

LKE

ligh-Power Pneumatic Hole Clamp

SWE

High-Power Pneumatic Swing Clamp

WHE

High-Power Pneumatic Link Clamp

WCE

High-Power Pneumatic Work Support

WNC

High-Power Pneumatic Pallet Clamp

Cautions

Notes on Handling

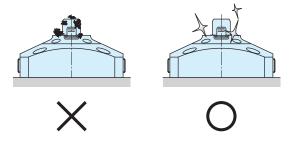
- 1) It should be handled by qualified personnel.
- The hydraulic machine and air compressor should be handled and maintained by qualified personnel.
- 2) Do not handle or remove the machine unless the safety protocols are ensured.
- ① The machine and equipment can only be inspected or prepared when 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 workpieces (pallets) or clamps while they are 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.
- Powerful spring is built in inside which is very dangerous.

Maintenance and Inspection

- 1) Please refer to P.1045 for general maintenance.
- 2) Regularly clean the clamping part and seating surface.
- There is an air blow mechanism in this product, and cutting chips and coolant can be removed. However, as it may be hard to remove clinging cutting chip and sludge etc., please confirm there is no foreign substance when workpiece is set. If operating with dirt adhering to the clamping part, it will lead to fall of workpiece due to clamping force shortage, defective operation, and air leaks etc.



Even with general cleaning on exterior of hole clamp, there may be contaminants within internal parts of the component. If necessary, please call us for repair.

If repair or modifications are carried out by anyone other than Kosmek, or without our approval or confirmation, it will void warranty.

- Continuous use will result in wear of the gripper and impairing clamping force.
 Whenever the wear is found the gripper should be replaced.
 The replacement time varies according to operating pressure,
- 4) Please contact us for overhaul and repairs.

 Powerful spring is built in inside which is very dangerous.

workpiece material and hole shape etc. Please call us.

Action Model No. Specifications External Layout Sample Features Cautions Description Indication Performance Curve Dimensions Circuit Reference

MEMO



High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

High-Power Hydraulic Swing Clamp

LHE

High-Power Hydraulic Link Clamp

LKE

High-Power Pneumation

SWE

High-Power Pneumatic Swing Clamp

WHE

High-Power Pneumatic Link Clamp WCE

High-Power Pneumatic Work Support

High-Power Pneumatic Pallet Clamp

Cautions

Notes on Handling

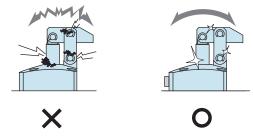
- 1) It should be handled by qualified personnel.
- The hydraulic machine and air compressor should be handled and maintained by qualified personnel.
- 2) Do not handle or remove the machine unless the safety protocols are ensured
- ① The machine and equipment can only be inspected or prepared when it 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.
- 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.



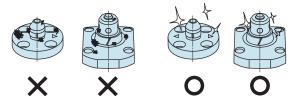
- 4) Do not disassemble or modify.
- If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.

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 makes 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.



- 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.

Installation Notes (For Hydraulic Series) Hydraulic Fluid List Notes on Hydraulic Cylinder Speed Control Circuit Notes on Handling Maintenance/Inspection 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 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.
- 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.

Pneumatic Series

High-Power Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation
Accessories

Cautions / Others

Cautions

Installation Notes (For Hydraulic Series)

Hydraulic Fluid List

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Company Profile

Company Profile

Our Products

History

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Search by Alphabetical Order

Sales Offices



Sales Offices

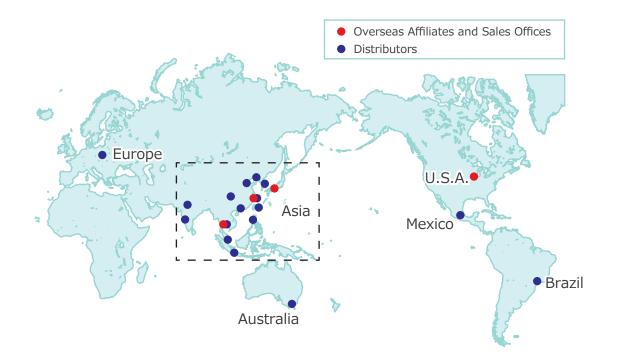
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Global Network



Asia Detailed Map





