**Pneumatic Robotic Hand** 

# High-Power Parallel Robotic Hand Gripper

**Closing Side Only** 

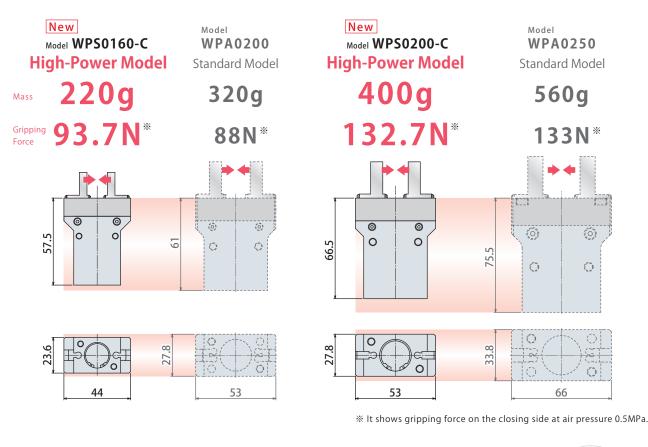
Model WPS-C



Built-in Mechanical Lock enables Powerful Gripping Force even with a Compact and Light Body PAT.

## Powerful Gripping Force

Mechanical lock allows for powerful gripping force with a more compact and lighter body than model WPA. Note: For WPS, mechanical locking works only when gripping to closing direction.



## • High Accuracy and Rigidity

The linear guide function allows for high rigidity and high accuracy opening/closing function. Repeatability :  $\pm$ 0.01mm

## • Auto Switch Capability

Easy to install and adjust auto switches for gripper detection.



	Features	Model N Indicati	Specific	ications	Performance Curve	Exter Dimens		Installation Method	Cautions P.395	<b>K</b> K	
(	🜒 Model No	o. Indicat	tion								Locating + Clamp
		016	• •	Δ							Locating
	W73		<b>0</b> - <b>C</b>			4 AI	uto Sw	vitch Type			Hand • Clamp
		1	2 3	4	5		Blank	: Without A	uto Switch		Support
	* Only 12	are mark	ked on the produ	uct			A2	: 2-Wire Reec	d Auto Switch (Cable	e: 1m)	Valve • Coupler
	•		f you need auto				A2L	: 2-Wire Reec	d Auto Switch (Cable	e: 3m)	
		·	,				A2V		Wire Reed Auto Swit		Cautions • Others
	1 Cylind	Jer Inner	r Diameter				A2VL	: L-Shaped 2-	Wire Reed Auto Swit	ch (Cable: 3m)	
	016	<b>6</b> : φ16ι	~~~~				B2	: 3-Wire Solic	d State Auto Switch	(Cable: 1m)	Pallet Gripper
		- ,					B2L		d State Auto Switch	, ,	WVA
	020	<b>0</b> : φ20ι	mm				B3C	: L-Shaped 3-W	'ire Solid State Auto Sw	itch (Cable: 1m)	Locating Pin Clamp
							B3CL	: L-Shaped 3-W	'ire Solid State Auto Sw	itch (Cable: 3m)	SWP
	- Docid	- No					B3B	: L-Shaped 2-W	'ire Solid State Auto Sw	itch (Cable: 1m)	High-Power
	2 Design	<u>A NO.</u>					B3BL	: L-Shaped 2-W	'ire Solid State Auto Sw	itch (Cable: 3m)	Pull Stud Clamp WPT
	0	: Revisio	on Number						details of auto switches. nade by Kosmek, check si	necifications	JES
							of each man			pecinica .	FA Pneumatic Hole Clamp
	3 Grippi	ing Direc	ction			5 Ni	umber	of Auto Sw	itches * Only for	4 Auto Switch	WKH
	c	: Closing					Blank	• )			Lifting Hole Clamp
	-		y only					: 1			SWJ
							J	. 1			Ball Lock Cylinder
(	C Specifica	itions									WKA
	Model No.				WPS0160-	.C	WPS	50200-C			Pneumatic Robotic Hands
-	Cylinder Inner D	Diameter <sup>%1</sup>		mm	16			20			WPW-C
	Gripping Force		Closing Side	Ν	93.7		1	132.7			WPS-C
	(Air Pressure:A	-	Opening Side	N	(10.8)		(*	17.9)			WPH WPP
	Full Stroke			mm	6			8			WPQ
	Repeatability <sup>%3</sup>	3		mm		±0.01	1				Auto Switch
	Stroke Error			mm	Opened State : -			ate:-1~+0.5			Proximity Switch JEP

Model No.			WPS0160-C	WPS0200-C	
Cylinder Inner Diameter <sup>**1</sup>		mm	16	20	
Gripping Force **2 Closing Side			93.7	132.7	
(Air Pressure : At 0.5MPa) Opening Side		Ν	(10.8)	(17.9)	
Full Stroke		mm	6	8	
Repeatability <sup>%3</sup>		mm	±0	.01	
Stroke Error		mm	Opened State : $-0.5 \sim +1$	/ Closed State : $-1 \sim +0.5$	
Allowable Gripper Length L (Air Pr	essure:at 0.5MPa) <sup>※4</sup>	mm	40	50	
Allowable Gripper Offset Distance H (Air F	Pressure:at 0.5MPa) <sup>※4</sup>	mm	15	25	
Maximum Cycle / min.			90		
Cylinder Capacity	Cylinder Capacity Closing Side		1.1	1.9	
(Clamping w/o Workpiece)	Opening Side	cm <sup>3</sup>	1.2	2.0	
Maximum Operating Pressu	ire	MPa	0.5		
Minimum Operating Pressu	re	MPa	0	.2	
Withstanding Pressure		MPa	0.75		
Operating Temperature Range			5 ~ 60		
Usable Fluid			Dry Air		
Weight		kg	0.22	0.40	

Notes : 1. Gripping force and holding force cannot be calculated from the cylinder inner diameter.

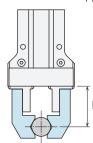
Please refer to the gripping force curve and holding force curve. %2. Gripping force indicates the calculated value based on the gripper length (L).

%2. Gripping force indicates the calculated value based on%3. Repeatability under the same condition (no load).

\*4. L : Allowable Gripper Length (mm), H : Allowable Gripper Offset Distance (mm). (Air Pressure : at 0.5MPa)

0

0



L: Allowable Gripper Length (mm)

L: Allowable Gripper Length (mm)

H: Allowable Gripper Offset Distance (mm)

High-Power Pneumatic Hole Clamp SWE High-Power Pneumatic Swing Clamp WHE High-Power Pneumatic Link Clamp WCE Pneumatic Hole Clamp SWA Pneumatic Swing Clamp WHA Double Piston

Pneumatic

Pneumatic

Link Clamp WCA

Air Flow Control Valve

Manifold

Block

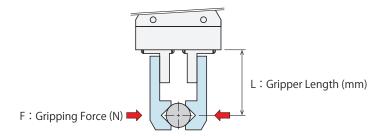
BZW

WHZ-MD

Swing Clamp

WHD

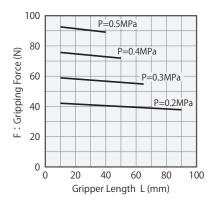
## Gripping Force Performance Curve : Closing Side



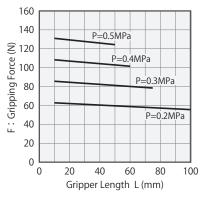
Notes:

- 1. This table and graph show the relationship among F:Gripping Force (N), L:Gripper Length (mm) and P:Air Pressure (MPa).
- 2. Operation in the non-usable range may cause deformation, galling or air leakage.
- 3. WPS is for gripping the closing side only and incapable of gripping the opening side.

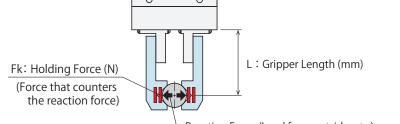
	WPS	0160	-C				
Air Pressure	Gi	ripping	Force (	N) Non-	-Usable Ra	ange (🔳)	Max. Gripper
(MPa)		Grip	per Ler	ngth L (I	nm)		Length (L)
(ivir a)	10	20	30	40	60	80	(mm)
0.5	93	91	90	89			40
0.4	76	75	74	73			50
0.3	59	58	57	57	55		65
0.2	42	42	41	41	39	38	90



	WPS0200-C							
Air Pressure	Gi	ripping	Force (	N) Non-	Usable Ra	ange (🔳)	Max. Gripper	
(MPa)		Length (L)						
(IVIF d)	10	20	40	60	80	100	(mm)	
0.5	131	129	126				50	
0.4	108	107	104	101			60	
0.3	86	85	82	80			75	
0.2	63	62	60	59	57	56	100	







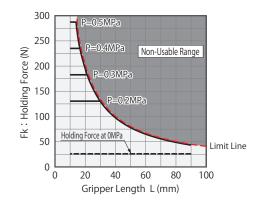
Reaction Force (Load from outside, etc.)

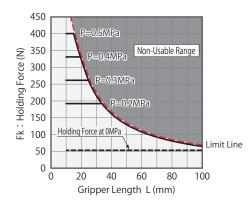
Notes :

- Holding force is the force that counters the reaction force and different from gripping force. Please keep in mind that it can produce displacement depending on lever rigidity even if the reaction force is lower than holding force. (If slight displacement is also not allowed, please keep the reaction force beyond gripping force from being applied.)
- 2. This table and graph show the relationship among Fk: Holding Force (N), L: Gripper Length (mm) and P: Air Pressure (MPa).
- 3. Operation in the non-usable range may cause deformation, galling or air leaks.
- %1. Holding force at 0MPa is the holding force when air pressure drops to 0MPa after gripping with more than the minimum operating pressure.

WPS0160-C								
Air Pressure	Н	olding	Force (N	N) Non	-Usable Ra	ange (🔳)		
(MPa)		Grip	per Ler	ngth L (I	mm)			
(IVIF d)	10	20	30	40	60	80		
0.5	287	195	130	98				
0.4	235	195	130	98				
0.3	183	183	130	98	65			
0.2	131	131	130	98	65	49		
At OMPa <sup>%1</sup>			2	6				

WPS0200-C							
Air Pressure	Н	olding	Force (I	N) Non	-Usable Ra	ange (🔳)	
(MPa)		Grip	per Ler	ngth L (I	mm)		
(IVIF d)	10	20	40	60	80	100	
0.5	400	325	163				
0.4	331	325	163	108			
0.3	262	262	163	108			
0.2	192	192	163	108	81	65	
At OMPa <sup>%1</sup>			5	3			





SWP High-Power Pull Stud Clamp WPT JES FA Pneumatic Hole Clamp WKH Lifting Hole Clamp SWJ Ball Lock Cylinder WKA eumatic botic Hands WPW-C WPS-WPA WPH WPP WPO

Support

Valve • Coupler

Cautions • Others

Pallet Gripper

Locating Pin Clamp

WVA

Auto Switch Proximity Switch JEP High-Power Pneumatic Hole Clamp SWE

High-Power Pneumatic Swing Clamp WHE

High-Power Pneumatic Link Clamp

WCE Pneumatic

Hole Clamp SWA

Pneumatic Swing Clamp WHA

Double Piston Pneumatic Swing Clamp

WHD

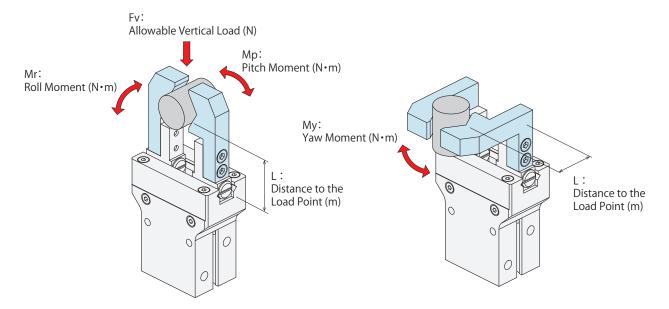
Pneumatic Link Clamp WCA

Air Flow Control Valve BZW

Manifold Block WHZ-MD

## C Allowable Load and Allowable Moment

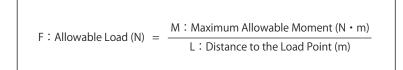
Model No.	Ev.: Allowable Vertical Load (N)	Maximum Allowable Moment (N • m)					
Model No.	Fv: Allowable Vertical Load (N)	Mp: Pitch Moment	My: Yaw Moment	Mr:Roll Moment			
WPS0160-C	141	0.67	0.67	1.77			
WPS0200-C	169	0.84	0.84	2.61			

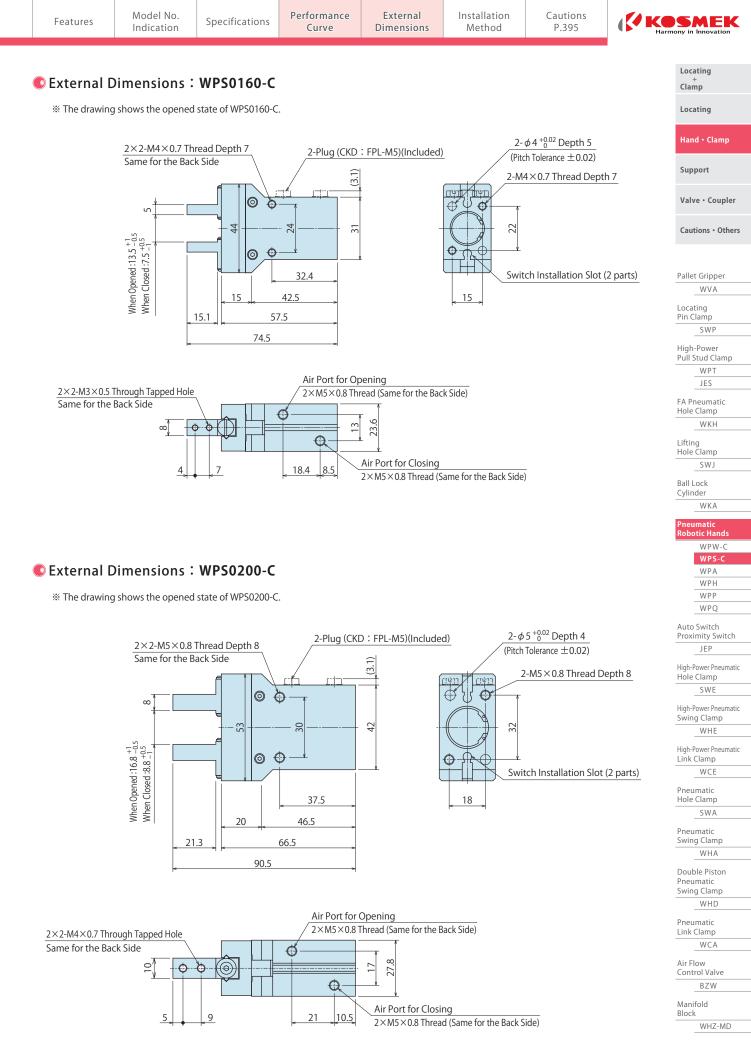


Notes:

- 1. The values on the list are the static values.
- The arrows show the direction of Fv : Allowable Vertical Load (N), Mp : Pitch Moment (N m), My : Yaw Moment (N • m) and Mr : Roll Moment (N • m).

#### • Allowable Load Calculation Formula

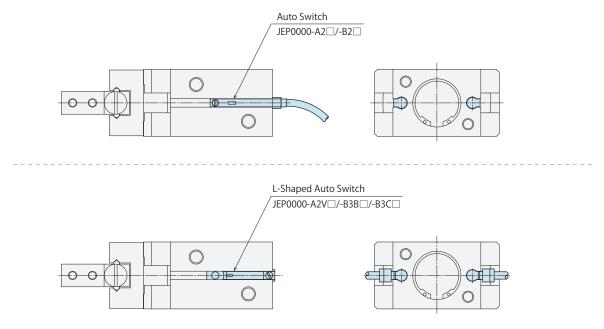




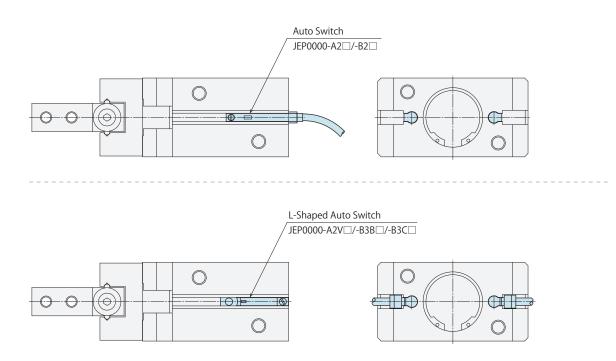
## External Dimensions : Auto Switch Installation Image (Reference)

This drawing shows the installation image of Auto Switch JEP0000-A2 , JEP0000-A2V , JEP0000-B2 , JEP0000-B3B and JEP0000-B3C .
 Adjust installation position depending on the stroke position.
 An auto switch may be stuck out of the robotic hand depending on the installation position and direction.

#### • For WPS0160-C



• For WPS0200-C



Feature	Model No. Indication	Specifications	Performance Curve	External Dimensions	Installation Method	Cautions P.395				
💿 Instal	lation Method						Locating + Clamp			
Install	<ul> <li>Installation Method and Tightening Torque</li> </ul>									
	lation Method 1】		tion Method 2】				Hand • Clamp			
Threa	ad Depth L			ising an auto switch, tch and lead wire do			Support			
$\sim$	< >	<u>ب</u>					Valve • Coupler			
	0	Thread Depth L					Cautions • Others			
		Ц					Pallet Gripper			
							WVA			
							Locating Pin Clamp			
							SWP			
							High-Power			
	φ		<b>o</b>				Pull Stud Clamp WPT			
	Ψ		LΨ				JES			
		Tightening Torque Th	read Depth L				FA Pneumatic Hole Clamp			
Model No	. Nominal×Pitch	(N • m)	(mm)				WKH			
WPS0160-	<b>·C</b> M4×0.7	2.5	7				Lifting Hole Clamp			
							SWJ			
WPS0200-	C M5×0.8	5.0	8				Ball Lock Cylinder			
							WKA			
							Pneumatic			
• Grinne	er Installation Mo	ethod and Tigh	tenina Torque				Robotic Hands WPW-C			
• onppo		ctilou ullu righ	tennig rorque				WPS-C			
							WPA			
		~					WPH			
	_						WPP WPQ			
	$\square$	$\neg \land \mid$								
	IY.						Auto Switch Proximity Switch			
							JEP			
							High-Power Pneumatic			
		No.					Hole Clamp SWE			
		0								
							High-Power Pneumatic Swing Clamp			
		0					WHE			
		0					High-Power Pneumatic			
	ll l	M Contraction of the second se					Link Clamp WCE			
	MI	-								
	Ŵ						Pneumatic Hole Clamp			
	-						SWA			

Pneumatic Swing Clamp WHA

Double Piston Pneumatic Swing Clamp WHD

Pneumatic Link Clamp WCA

Air Flow Control Valve BZW

Manifold Block WHZ-MD

Tightening Torque Model No. Nominal×Pitch (N • m) WPS0160-C M3×0.5 1.1 WPS0200-C  $M4 \times 0.7$ 2.5

Pneumatic Robotic Hand Parallel Robotic Hand Gripper

## Model WPA



# Compact Parallel Robotic Hand with High-Gripping Force Ability to Install Auto Switches for Gripper Detection

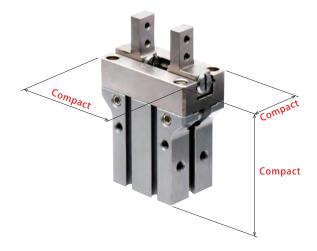
#### Wider Stroke

Wider opening and closing stroke allows for gripping various sizes of workpieces.



#### • Compact Body with High Gripping Force

It has a compact body with stable and high gripping force. Reduction in size allows for less interference and optimal space utilization.



#### High Accuracy and High Rigidity

The cross roller guide function allows for high rigidity and high accuracy opening/closing function. Repeatability: ±0.01mm

#### Long Operational Life

Solid internal features provide for excellent durability.

#### Light Weight

Reduced size and weight allows for best use of the robotic payload.

#### Auto Switch Capability

Easy to install and adjust auto switches for gripper detection.

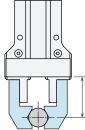
A2 : 2 A2L : 2 A2V : L- A2V : L- B2 : 3 B2L : 3 B2L : 3 B3C : L- B3CL : L- B3CL : L- B3B : L- B3B : L- B3BL : L- * Please refer to P. * When using an a of each manufac Number of Blank : 2 S : 1	Without Auto Swi 2-Wire Reed Auto S 2-Wire Reed Auto S 2-Wire Reed Auto S L-Shaped 2-Wire Ree 3-Wire Solid State A 3-Wire Solid State A L-Shaped 3-Wire Solid L-Shaped 3-Wire Solid L-Shaped 2-Wire Solid	Switch (Cable: 1m Switch (Cable: 3m ed Auto Switch (C Auto Switch (Cab Auto Switch (Cab Auto Switch (Cab d State Auto Switc d State Auto Switc d State Auto Switc of auto switches. y Kosmek, check spe	n) Cable: 1m) Cable: 3m) ble: 1m) ble: 3m) ch (Cable: 1m) ch (Cable: 1m) ch (Cable: 1m) ch (Cable: 3m) ch (Cable: 3m)	Locating Clamp Locating Hand - Clamp Support Valve - Coupler Cautions - Others Cautions - Others Cautions - Others Cautions - Others SWP High-Power Pull Stud Clamp Migh-Power Pull Stud Clamp Migh-Power Pull Stud Clamp Mert SWP Lifting Hole Clamp Hole Clamp Hole Clamp SWJ Ball Lock Cylinder
Blank : W A2 : 2 A2L : 2 A2V : L A2V : L B2 : 3 B2L : 3 B3C : L B3CL : L B3CL : L B3B : L B3B : L * Please refer to P. * When using an a of each manufac Number of Blank : 2 S : 1	Without Auto Swi 2-Wire Reed Auto S 2-Wire Reed Auto S 2-Wire Reed Auto S L-Shaped 2-Wire Ree 3-Wire Solid State A 3-Wire Solid State A L-Shaped 3-Wire Solid L-Shaped 2-Wire Solid	Switch (Cable: 1m Switch (Cable: 3m ed Auto Switch (C Auto Switch (Cab Auto Switch (Cab Auto Switch (Cab d State Auto Switc d State Auto Switc d State Auto Switc of auto switches. y Kosmek, check spe	n) Cable: 1m) Cable: 3m) ble: 1m) ble: 3m) ch (Cable: 1m) ch (Cable: 1m) ch (Cable: 1m) ch (Cable: 3m) ch (Cable: 3m)	Locating Hand - Clamp Support Valve - Coupler Cautions - Others Pallet Gripper WVA Locating Pin Clamp High-Power Pull Stud Clamp High-Power SWP High-Power Lifting Hole Clamp KH Lifting Hole Clamp SWJ Ball Lock Cylinder
Blank : W A2 : 2 A2L : 2 A2V : L A2V : L B2 : 3 B2L : 3 B3C : L B3CL : L B3CL : L B3B : L B3B : L * Please refer to P. * When using an a of each manufac Number of Blank : 2 S : 1	Without Auto Swi 2-Wire Reed Auto S 2-Wire Reed Auto S 2-Wire Reed Auto S L-Shaped 2-Wire Ree 3-Wire Solid State A 3-Wire Solid State A L-Shaped 3-Wire Solid L-Shaped 2-Wire Solid	Switch (Cable: 1m Switch (Cable: 3m ed Auto Switch (C Auto Switch (Cab Auto Switch (Cab Auto Switch (Cab d State Auto Switc d State Auto Switc d State Auto Switc of auto switches. y Kosmek, check spe	n) Cable: 1m) Cable: 3m) ble: 1m) ble: 3m) ch (Cable: 1m) ch (Cable: 1m) ch (Cable: 1m) ch (Cable: 3m) ch (Cable: 3m)	Hand • Clamp Support Valve • Coupler Cautions • Others Pallet Gripper WVA Locating Pin Clamp GWPT JES FA Pneumatic Hole Clamp WKH Lifting Hole Clamp SWJ Ball Lock Cylinder
Blank : W A2 : 2 A2L : 2 A2V : L A2V : L B2 : 3 B2L : 3 B3C : L B3CL : L B3CL : L B3B : L B3B : L * Please refer to P. * When using an a of each manufac Number of Blank : 2 S : 1	Without Auto Swi 2-Wire Reed Auto S 2-Wire Reed Auto S 2-Wire Reed Auto S L-Shaped 2-Wire Ree 3-Wire Solid State A 3-Wire Solid State A L-Shaped 3-Wire Solid L-Shaped 2-Wire Solid	Switch (Cable: 1m Switch (Cable: 3m ed Auto Switch (C Auto Switch (Cab Auto Switch (Cab Auto Switch (Cab d State Auto Switc d State Auto Switc d State Auto Switc of auto switches. y Kosmek, check spe	n) Cable: 1m) Cable: 3m) ble: 1m) ble: 3m) ch (Cable: 1m) ch (Cable: 1m) ch (Cable: 1m) ch (Cable: 3m) ch (Cable: 3m)	Support Valve - Coupler Cautions - Others Pallet Gripper WVA Locating Pin Clamp SWP High-Power Pull Stud Clamp WPT JES FA Pneumatic Hole Clamp WKH Lifting Hole Clamp SWJ Ball Lock Cylinder
A2 : 2 A2L : 2 A2V : L- A2V : L- B2 : 3 B2L : 3 B2L : 3 B3C : L- B3CL : L- B3CL : L- B3B : L- B3B : L- B3BL : L- * Please refer to P. * When using an a of each manufac Number of Blank : 2 S : 1	2-Wire Reed Auto S 2-Wire Reed Auto S 2-Wire Reed Auto S L-Shaped 2-Wire Ree 3-Wire Solid State A 3-Wire Solid State A L-Shaped 3-Wire Solid L-Shaped 2-Wire Solid L-Shaped 2-Wire Solid L-Shaped 2-Wire Solid L-Shaped 2-Wire Solid L-Shaped 2-Wire Solid 2-Shaped 2-Wire Solid L-Shaped 2-Wi	Switch (Cable: 1m Switch (Cable: 3m ed Auto Switch (C Auto Switch (Cab Auto Switch (Cab Auto Switch (Cab d State Auto Switc d State Auto Switc d State Auto Switc of auto switches. y Kosmek, check spe	n) Cable: 1m) Cable: 3m) ble: 1m) ble: 3m) ch (Cable: 1m) ch (Cable: 1m) ch (Cable: 1m) ch (Cable: 3m) ch (Cable: 3m)	Valve • Coupler Cautions • Others Pallet Gripper WVA Locating Pin Clamp SWP High-Power Pull Stud Clamp WPT JES FA Pneumatic Hole Clamp WKH Lifting Hole Clamp SWJ Ball Lock Cylinder
A2L : 2 A2V : L- A2VL : L- B2 : 3 B2L : 3 B3C : L- B3CL : L- B3BL : L- B3BL : L- * Please refer to P. * When using an a of each manufac Number of Blank : 2 S : 1	2-Wire Reed Auto S L-Shaped 2-Wire Ree 3-Wire Solid State A 3-Wire Solid State A 3-Wire Solid State A L-Shaped 3-Wire Solid L-Shaped 2-Wire Solid L-Shaped 2-Wire Solid L-Shaped 2-Wire Solid P.405 ~ P.414 for details ( auto switch not made by acturer. Df Auto Switc	Switch (Cable: 3m ed Auto Switch (C ed Auto Switch (C Auto Switch (Cab Auto Switch (Cab d State Auto Switc d State Auto Switc d State Auto Switc of auto switches. by Kosmek, check spe ches **	n) Cable: 1m) Cable: 3m) ble: 1m) ble: 3m) ch (Cable: 1m) ch (Cable: 1m) ch (Cable: 1m) ch (Cable: 3m) ch (Cable: 3m)	Cautions • Others
A2V : L- A2VL : L- B2 : 3 B2L : 3 B3C : L- B3CL : L- B3B : L- B3BL : L- * Please refer to P. * When using an a of each manufac Number of Blank : 2 S : 1	L-Shaped 2-Wire Ree L-Shaped 2-Wire Ree 3-Wire Solid State A 3-Wire Solid State A L-Shaped 3-Wire Solid L-Shaped 3-Wire Solid L-Shaped 2-Wire Solid L-Shaped 2-Wire Solid P.405 ~ P.414 for details of auto switch not made by acturer. Df Auto Switc	ed Auto Switch (C ed Auto Switch (Cab Auto Switch (Cab Auto Switch (Cab d State Auto Switc d State Auto Switc d State Auto Switc of auto switches. by Kosmek, check spe ches **	Cable: 1m) Cable: 3m) ole: 1m) ole: 3m) ch (Cable: 1m) ch (Cable: 3m) ch (Cable: 3m) ch (Cable: 3m) ch (Cable: 3m)	Pallet Gripper WVA Locating Pin Clamp SWP High-Power Pull Stud Clamp WPT JES FA Pneumatic Hole Clamp WKH Lifting Hole Clamp SWJ Ball Lock Cylinder
A2VL : L- B2 : 3 B2L : 3 B3C : L- B3CL : L- B3B : L- B3BL : L- * Please refer to P. * When using an a of each manufac Number of Blank : 2 S : 1	L-Shaped 2-Wire Ree 3-Wire Solid State A 3-Wire Solid State A L-Shaped 3-Wire Solid L-Shaped 3-Wire Solid L-Shaped 2-Wire Solid L-Shaped 2-Wire Solid P.405 ~ P.414 for details auto switch not made by acturer. Df Auto Switc	ed Auto Switch (C Auto Switch (Cab Auto Switch (Cab d State Auto Switc d State Auto Switc d State Auto Switc of auto switches. by Kosmek, check spe ches *	Cable: 3m) ole: 1m) ole: 3m) ch (Cable: 1m) ch (Cable: 1m) ch (Cable: 1m) ch (Cable: 3m) ecifications	Pallet Gripper WVA Locating Pin Clamp SWP High-Power Pull Stud Clamp WPT JES FA Pneumatic Hole Clamp WKH Lifting Hole Clamp SWJ Ball Lock Cylinder
B2 : 3 B2L : 3 B3C : L- B3C : L- B3B : L- B3BL : L- * Please refer to P. * When using an a of each manufac Number of Blank : 2 S : 1	3-Wire Solid State A 3-Wire Solid State A L-Shaped 3-Wire Solid L-Shaped 3-Wire Solid L-Shaped 2-Wire Solid L-Shaped 2-Wire Solid P.405 ~ P.414 for details of auto switch not made by acturer. Df Auto Switc	Auto Switch (Cab Auto Switch (Cab d State Auto Switc d State Auto Switc d State Auto Switc d State Auto Switc of auto switches. y Kosmek, check spe ches <sup>%</sup>	ble: 1m) ble: 3m) ch (Cable: 1m) ch (Cable: 3m) ch (Cable: 1m) ch (Cable: 3m) ch (Cable: 3m)	WVA Locating Pin Clamp SWP High-Power Pull Stud Clamp WPT JES FA Pneumatic Hole Clamp WKH Lifting Hole Clamp SWJ Ball Lock Cylinder
B2L : 3 B3C : L- B3CL : L- B3B : L- B3BL : L- B3BL : L- * Please refer to P. * When using an a of each manufac Number of Blank : 2 S : 1	3-Wire Solid State A L-Shaped 3-Wire Solid L-Shaped 3-Wire Solid L-Shaped 2-Wire Solid L-Shaped 2-Wire Solid L-Shaped 2-Wire Solid P.405 ~ P.414 for details of auto switch not made by acturer. Df Auto Switc	Auto Switch (Cab d State Auto Switc d State Auto Switc d State Auto Switc d State Auto Switc of auto switches. y Kosmek, check spe <b>:hes</b> *	ble: 3m) ch (Cable: 1m) ch (Cable: 3m) ch (Cable: 1m) ch (Cable: 3m) ch (Cable: 3m)	WVA Locating Pin Clamp SWP High-Power Pull Stud Clamp WPT JES FA Pneumatic Hole Clamp WKH Lifting Hole Clamp SWJ Ball Lock Cylinder
B3C : L- B3CL : L- B3B : L- B3BL : L- * Please refer to P. * When using an a of each manufac Number of Blank : 2 S : 1	L-Shaped 3-Wire Solid L-Shaped 3-Wire Solid L-Shaped 2-Wire Solid L-Shaped 2-Wire Solid P.405 ~ P.414 for details auto switch not made by acturer. Df Auto Switc	d State Auto Switc d State Auto Switc d State Auto Switc d State Auto Switc of auto switches. by Kosmek, check spe ches *	ch (Cable: 1m) ch (Cable: 3m) ch (Cable: 1m) ch (Cable: 3m) ecifications	Locating Pin Clamp SWP High-Power Pull Stud Clamp <u>WPT</u> JES FA Pneumatic Hole Clamp WKH Lifting Hole Clamp SWJ Ball Lock Cylinder
B3CL : L- B3B : L- B3BL : L- * Please refer to P. * When using an a of each manufact Number of Blank : 2 S : 1	L-Shaped 3-Wire Solid L-Shaped 2-Wire Solid L-Shaped 2-Wire Solid P.405 ~ P.414 for details auto switch not made by acturer. Df Auto Switc	d State Auto Switc d State Auto Switc d State Auto Switc of auto switches. 19 Kosmek, check spe ches <sup>**</sup>	ch (Cable: 3m) ch (Cable: 1m) ch (Cable: 3m) ecifications	Pin Clamp SWP High-Power Pull Stud Clamp WPT JES FA Pneumatic Hole Clamp WKH Lifting Hole Clamp SWJ Ball Lock Cylinder
B3B : L- B3BL : L- * Please refer to P. * When using an a of each manufac Number of Blank : 2 S : 1	L-Shaped 2-Wire Solid L-Shaped 2-Wire Solid P.405 ~ P.414 for details auto switch not made by acturer. Df Auto Switc	d State Auto Switc d State Auto Switc of auto switches. ny Kosmek, check spe : <b>hes</b> <sup>%</sup>	ch (Cable: 3m) ch (Cable: 1m) ch (Cable: 3m) ecifications	SWP High-Power Pull Stud Clamp UPT JES FA Pneumatic Hole Clamp WKH Lifting Hole Clamp SWJ Ball Lock Cylinder
B3BL : L- * Please refer to P. * When using an a of each manufac Number of Blank : 2 S : 1	L-Shaped 2-Wire Solid P.405 ~ P.414 for details ( auto switch not made by acturer. Df Auto Switc	d State Auto Switc of auto switches. 19 Kosmek, check spe 19 hes <sup>**</sup>	ch (Cable: 3m)	Pull Stud Clamp WPT JES FA Pneumatic Hole Clamp WKH Lifting Hole Clamp SWJ Ball Lock Cylinder
* Please refer to P. * When using an a of each manufac Number of Blank : 2 S : 1	P.405 ~ P.414 for details auto switch not made by acturer. DF Auto Switc	of auto switches. 19 Kosmek, check spe . <b>hes<sup>*</sup></b>	ch (Cable: 3m)	WPT JES FA Pneumatic Hole Clamp WKH Lifting Hole Clamp SWJ Ball Lock Cylinder
When using an a of each manufac Number of Blank : 2 S : 1	auto switch not made by acturer. Df Auto Switc 2 1	y Kosmek, check spe		FA Pneumatic Hole Clamp WKH Lifting Hole Clamp SWJ Ball Lock Cylinder
of each manufac Number of Blank : 2 S : 1	acturer. Df Auto Switc 2 1	hes*		Hole Clamp WKH Lifting Hole Clamp SWJ Ball Lock Cylinder
Blank : 2 S : 1	2 1			Lifting Hole Clamp SWJ Ball Lock Cylinder
<b>S</b> : 1	1	otion other than <mark>3</mark> E		Hole Člamp SWJ Ball Lock Cylinder
<b>S</b> : 1	1	otion other than <mark>3</mark> E		SWJ Ball Lock Cylinder
- ·	-	otion other than <mark>3</mark> B		Cylinder
« Only when selec	colling the auto switch op		Jidin.	· · · · · · · · · · · · · · · · · · ·
				Pneumatic
WPA0160	WPA0200	WPA	0250	Robotic Hands WPW-C
16	20	2	5	WPS-C
63	88	13	33	WPA WPH
73	105	15	58	WPP
8	12	10		WPQ
±	±0.01			Auto Switch Proximity Switch
tate∶-0.5~+	+1 / Closed State:	-1~+0.5		JEP
40	50	6		High-Power Pneumatic Hole Clamp
15	25	3.	5	SWE
	90			High-Power Pneumatic Swing Clamp
0.7	1.3	2.		WHE
0.8	1.6	3.		High-Power Pneumatic
	0.7		-	Link Clamp WCE
	0.2			Pneumatic
1	1.05			Hole Clamp SWA
5 ~ 60				
Di	Dry Air			Pneumatic Swing Clamp
0.17	0.32		56	WHA
	0.32	0.5		Double Piston
	8 tate:-0.5~- 40 15 0.7 0.8	8       12 $\pm 0.01$ tate: $-0.5 \sim +1$ / Closed State :          40       50         15       25         90          0.7       1.3         0.8       1.6         0.7          1.05          5 ~ 60          Dry Air	8       12       1 $\pm 0.01$ $\pm 0.01$ 1         tate: $-0.5 \sim +1$ / Closed State: $-1 \sim +0.5$ 40       50       6         15       25       3       90       6         0.7       1.3       2       0.8       1.6       3       0.7         0.7       1.3       2       0.8       1.6       3       0.7       1.0       5       60       5       7       0.2       10	8       12       16 $\pm 0.01$ $\pm 0.01$ tate : $-0.5 \sim +1$ / Closed State : $-1 \sim +0.5$ 40       50       60         15       25       35         90       0.7       1.3       2.6         0.8       1.6       3.1         0.7       1.3       2.6         0.8       1.6       3.1         0.7       5       60         0.9       0.2       5         5 ~ 60       0       0.2

\*\* 3. L : Allowable Gripper Length (mm), H : Allowable Gripper Offset Distance (mm). (Air Pressure : at 0.5MPa)

0

0

-



L: Allowable Gripper Length (mm)

L: Allowable Gripper Length (mm)

H: Allowable Gripper Offset Distance (mm)

WHD

WCA

BZW

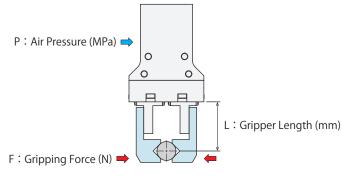
WHZ-MD

Pneumatic Link Clamp

Air Flow Control Valve

Manifold Block

## Cripping Force Performance Curve : Closing Side



Notes:

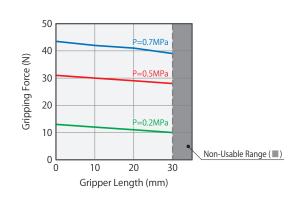
- This chart and graph show the relationship among: F:Gripping Force (N), P:Air Pressure (MPa) and L:Gripper Length (mm).
- 2. Operation in the non-usable range may cause deformation, galling or air leakage.

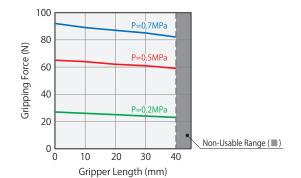
	WPA0120							
Air Pressure	ure Gripper Length L (mm)							
(MPa)	10	20	30					
0.7	42	41	39					
0.5	30	29	28					
0.2	12	11	10					

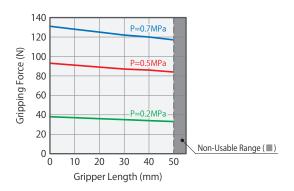
WPA0160								
Air Pressure		Gripper Length L (mm)						
(MPa)	10	20	30	40				
0.7	89	87	85	82				
0.5	64	62	61	59				
0.2	26	25	24	23				

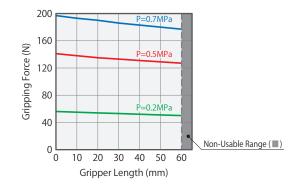
	WPA0200							
Air Pressure		Gripper Length L (mm)						
(MPa)	10	20	30	40	50			
0.7	128	125	122	120	117			
0.5	91	89	87	86	84			
0.2	37	36	35	34	33			

WPA0250							
Air Pressure		Gripper Length L (mm)					
(MPa)	10	20	30	40	50	60	
0.7	193	190	186	183	180	177	
0.5	138	135	133	131	129	127	
0.2	55	54	53	52	51	50	









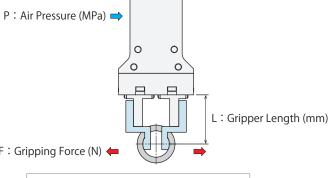
Features	Model No. Indication	Specifications	Performance Curve	External Dimensions	Installation Method	Cautions P.395	

Notes:

1. This chart and graph show the relationship among: F:Gripping Force (N), P:Air Pressure (MPa) and

L:Gripper Length (mm).

## Cripping Force Performance Curve : Opening Side



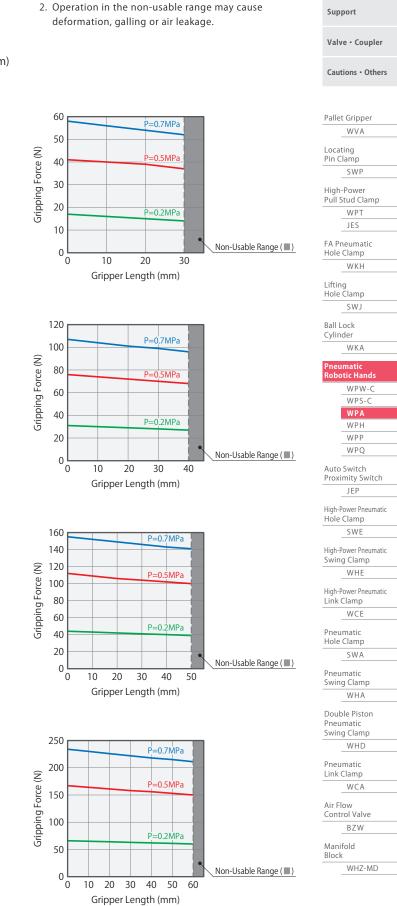
F: Gripping F	orce (N) 🗲
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WPA0120							
Air Pressure	Gri	Gripper Length L (mm)					
(MPa)	10	20	30				
0.7	56	54	52				
0.5	40	39	37				
0.2	16	15	14				

WPA0160							
Air Pressure	Gripper Length L (mm)						
(MPa)	10	20	30	40			
0.7	104	101	99	96			
0.5	74	72	70	68			
0.2	30	29	28	27			

WPA0200								
Air Pressure		Gripper Length L (mm)						
(MPa)	10	20	30	40	50			
0.7	152	149	146	143	141			
0.5	109	106	104	102	100			
0.2	43	42	41	40	39			

WPA0250								
Air Pressure		Gripper Length L (mm)						
(MPa)	10	20	30	40	50	60		
0.7	230	226	222	218	215	211		
0.5	164	161	158	156	153	150		
0.2	65	64	63	62	61	60		



Locating

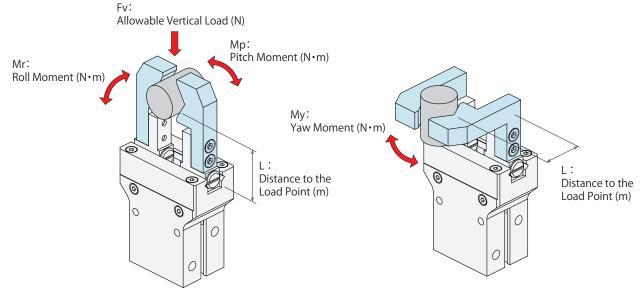
Locating

Hand · Clamp

Clamp

Model No.	Fue: Allowable Vertical Load (NI)	Maximum Allowable Moment (N • m)					
Model No.	Fv: Allowable Vertical Load (N)	Mp: Pitch Moment	My: Yaw Moment	Mr:Roll Moment			
WPA0120	79	0.28	0.28	0.63			
WPA0160	141	0.67	0.67	1.77			
WPA0200	169	0.84	0.84	2.61			
WPA0250	265	1.65	1.65	4.93			

## C Allowable Load and Allowable Moment



Notes:

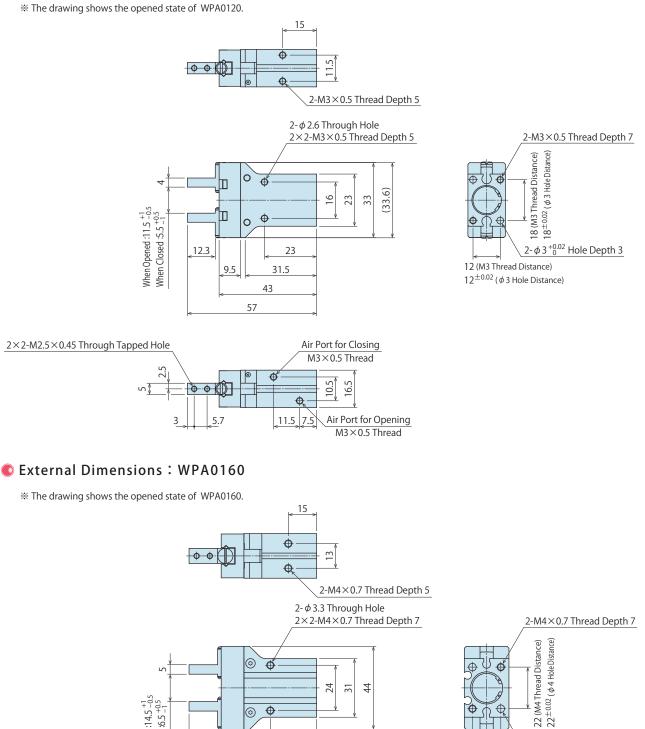
- 1. The values on the list are the static values.
- 2. The arrows show the direction of Fv : Allowable Vertical Load (N), Mp : Pitch Moment (N  $\cdot$  m), My : Yaw Moment (N  $\cdot$  m) and Mr : Roll Moment (N  $\cdot$  m).

#### • Allowable Load Calculation Formula

 $F: Allowable Load (N) = \frac{M: Maximum Allowable Moment (N \cdot m)}{L: Distance to the Load Point (m)}$ 

Features	Model No. Indication	Specifications	Performance Curve	External Dimensions	Installation Method	Cautions P.395	
							Locating
							Clamp Locating
							Hand • Clamp
							Support
							Valve • Coupler
							Cautions • Others
							Pallet Gripper
							WVALocating
							Pin Clamp SWP
							High-Power Pull Stud Clamp WPT
							JES FA Pneumatic
							Hole Clamp WKH
							Lifting Hole Clamp 
							Ball Lock Cylinder WKA
							Pneumatic Robotic Hands
							WPW-C WPS-C WPA
							WPH WPP
							WPQ Auto Switch Proximity Switch
							JEP High-Power Pneumatic
							Hole Clamp SWE
							High-Power Pneumatic Swing Clamp WHE
							High-Power Pneumatic Link Clamp WCE
							Pneumatic Hole Clamp SWA
							Pneumatic Swing Clamp WHA
							Double Piston Pneumatic Swing Clamp WHD
							Pneumatic Link Clamp WCA
							Air Flow Control Valve BZW
							Manifold Block
							WHZ-MD

#### External Dimensions : WPA0120

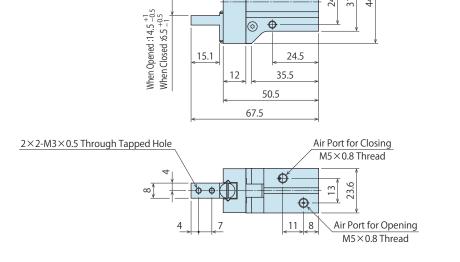


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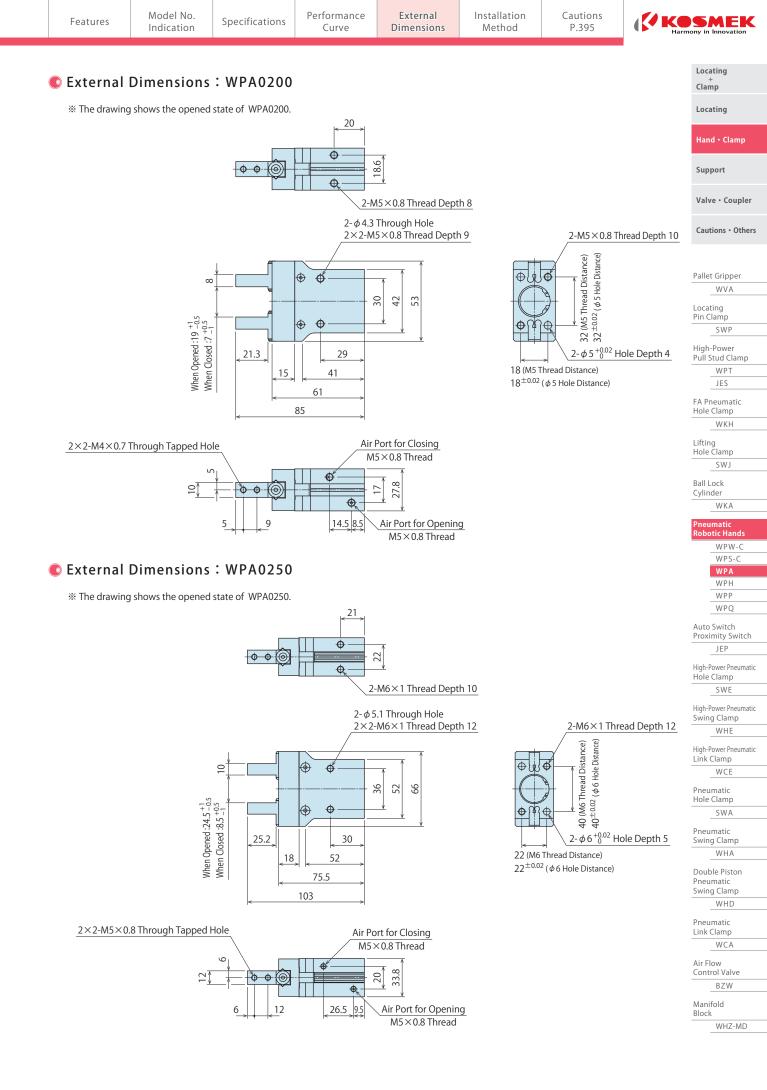
15 (M4 Thread Distance)

 $15^{\pm 0.02}$  ( $\phi$  4 Hole Distance)

2- $\phi$  4  $^{+0.02}_{0}$  Hole Depth 5

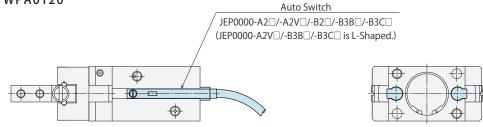


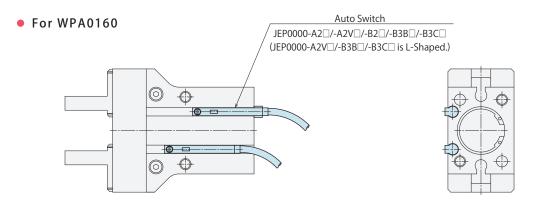
 $\odot$ Ф



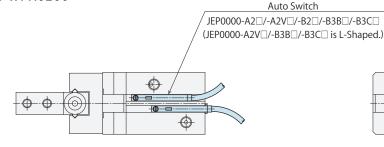
## © External Dimensions: Auto Switch Installation Image (Reference)

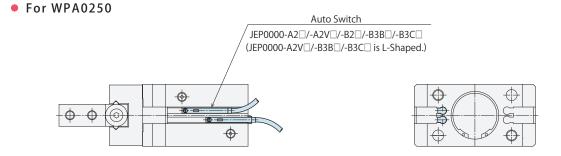
- This drawing shows the installation image of Auto Switch JEP0000-A2 and JEP0000-B2.
   Installation image of L-Shaped Auto Switch -A2V, -B3B and -B3C is different from this.
   Adjust installation position depending on the stroke position.
   An auto switch may be stuck out of the robotic hand depending on the installation position and direction.
- For WPA0120



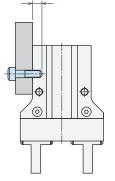


• For WPA0200





	Features	Model No. Indication	Specifications	Performance Curve	External Dimensions	Installation Method	Cautions P.395	<b>K</b>	SMEK
									Le sette s
	🜑 Installatio	on Method							Locating + Clamp
	• Tightening	Torque for C	ylinder Body	•	Tightening T	orque for Grip	oper		Locating
			Max. Threa	d Depth L ᡟ╾					Hand • Clamp
						$\bigcap$			Support
		Max. Thr	ead Depth L	$\Theta$					Valve • Coupler
		Ф							Cautions • Others
					Ŵ	A A A A A A A A A A A A A A A A A A A			Pallet Gripper
			L		N. N				WVA
				<b>•</b>					Locating Pin Clamp
									SWP
Ν	Max. Thread Depth L								High-Power Pull Stud Clamp
		-							JES
		_							FA Pneumatic Hole Clamp
									WKH



Model No.	Thread Size	Tightening Torque (N • m)	Max. Thread Depth L (mm)	
WPA0120	M3×0.5	1.1	5	
WPA0160	M4×0.7	2.5	5	
WPA0200	M5×0.8	5.0	8	
WPA0250	M6×1	7.9	10	

Tightening Torque Max. Thread Depth L Model No. Thread Size  $(N \cdot m)$ (mm) WPA0120 M2.5×0.45 0.5 4 WPA0160 M3×0.5 5 1.1 WPA0200 M4×0.7 2.5 8 WPA0250 M5×0.8 5.0 10

:h L	Ball Lock
	Cylinder
	WKA
	Pneumatic
	Pneumatic Robotic Hands
	WPW-C
	WPS-C
	WPA
	WPH
	WPP
	WPQ
	Auto Switch Proximity Switch
	JEP
	High-Power Pneumatic Hole Clamp
	SWE
	High-Power Pneumatic Swing Clamp
	WHE
	High-Power Pneumatic Link Clamp
	WCE
	Pneumatic Hole Clamp
	SWA
	Pneumatic Swing Clamp
	WHA
	Double Piston
	Pneumatic
	Swing Clamp
	WHD
	Pneumatic
	Link Clamp WCA
	WCA
	Air Flow Control Valve
	BZW
	Manifold Block
	WHZ-MD
	356

WPT JES FA Pneumatic Hole Clamp WKH Lifting Hole Clamp

SWJ

**Pneumatic Robotic Hand** 

# **Parallel Robotic Hand Gripper**

## Model WPH



## Compact Parallel Robotic Hand with High-Gripping Force Ability to Install Auto Switches for Gripper Detection

#### Wider Stroke

Wider opening and closing stroke allows for gripping various sizes of workpieces.

#### Compact Body with High Gripping Force

It is compact and has high gripping force, even with two internal cylinders. Reduction in height allows for less interference and optimal space utalization.





#### High Accuracy and High Rigidity

The cross roller guide function allows for high rigidity and high accuracy opening/closing function. Repeatability: ±0.01mm

#### Long Operational Life

Solid internal features provide for excellent durability.

#### • Light Weight

Reduced size and weight allows for best use of the robotic payload.

#### Auto Switch Capability

Easy to install and adjust auto switches for gripper detection.

Foaturos	del No. ication Speci	fications	Performance Curve	External Dimensions	Install Met		Cautions P.395			PSMEK mony in Innovation
Madal Na, Ind				_						Locating
C Model No. Ind	Ication			3 Auto	Switch Ty	/pe				Clamp
				Bla	nk : With	nout Auto S۱	witch			Locating
				A1 /	/ <b>A2</b> : 2-Wi	ire Reed Auto	Switch (Ca	ble: 1m)		Hand Clamp
WPH 01	<u> </u>	23		A1L/	/ <b>A2L</b> : 2-Wi	ire Reed Auto	Switch (Ca	ble: 3m)		Hand • Clamp
				A2	2V : L-Sha	aped 2-Wire R	eed Auto Sv	witch (C	able: 1m)	Support
	2 3	4		A2	VL : L-Sha	aped 2-Wire R	eed Auto Sv	witch (C	able: 3m)	
				B1 /	<b>B2</b> : 3-Wi	ire Solid State	e Auto Swite	ch (Cab	e: 1m)	Valve • Coupler
※ Only 1 2 are ma				B1L /	/ <b>B2L</b> : 3-Wi	ire Solid State	e Auto Swite	ch (Cab	e: 3m)	Cautions • Others
Please indicate th	e specifications of	<b>3 4</b> If you ne	eed switches.	B3	SC : L-Sha	ped 3-Wire Soli	d State Auto	Switch (0	Cable: 1m)	
_				B3	CL : L-Sha	ped 3-Wire Solie	d State Auto	Switch (0	Cable: 3m)	
1 Cylinder Inn	er Diameter			B3	<b>BB</b> : L-Sha	ped 2-Wire Solie	d State Auto	Switch (0	Cable: 1m)	Pallet Gripper WVA
<b>010</b> : Ø	10 mm			B3	BL : L-Sha	ped 2-Wire Soli	d State Auto	Switch (0	Cable: 3m)	Locating
	16 mm			Applicati	on Table					Pin Clamp
,	20 mm			Model No.		2 B1	B2□	B3C	B3B	SWP
$020$ : $\varphi$	20 mm			WPH0100		•	•			High-Power Pull Stud Clamp
				WPH0160		•		•		WPT
2 Design No.				WPH0200						JES
<b>0</b> : Rev	vision Number			% When using	an auto switch r	for details of aut not made by Kosr		ecificatior	ns of	FA Pneumatic Hole Clamp
				each manuf	facturer.					WKH
				4 Num	ber of Au	to Switch	nes*			Lifting Hole Clamp
					<b>nk</b> :2					SWJ
				Biai S						Ball Lock Cylinder
				-	: I hen requiring <mark>3</mark>	Auto Switch.				WKA
Specifications	;				5					Pneumatic Robotic Hands
Madal Na			WDU01	00	WDU01	(0)	WDU	10200		WPW-C
Model No.			WPH01	00	WPH01	00		10200		WPS-C WPA
Cylinder Inner Diameter	r	mm	10		16		2	20		WPH
Gripping Force <sup>*1</sup>	Closing Side	N	33		86		1	35		WPP WPQ
(Air Pressure : At 0.5MP	'a)									Auto Switch
Full Stroke		mm	15		20		2	20		Proximity Switch
Repeatability <sup>*2</sup>		mm			±0.0					JEP
Stroke Error		mm		pened State :		Closed State				High-Power Pneumatic Hole Clamp
Allowable Gripper Length			40		50		6	50		SWE
Allowable Gripper Offset Dista	nce H (Air Pressure:at 0	).5MPa) <sup>%3</sup> mm	20		30		2	40		High-Power Pneumatic
Maximum Cycle / min.					80					Swing Clamp WHE
Cylinder Capacity (Clampi	ng w/o Workpiece)	cm <sup>3</sup>	1.2		4.0		6	5.3		High-Power Pneumatic
Maximum Operating Pr	essure	MPa			0.7					Link Clamp WCE
Minimum Operating Pre	essure	MPa			0.15					
Withstanding Pressure		MPa			1.05					Pneumatic Hole Clamp
Operating Temperature	Range	°C			5 ~ 60	0				SWA
Usable Fluid					Dry A	ir				Pneumatic Swing Clamp

Notes: \*1. Gripping force indicates the calculated value based on the gripper length (L).

kg

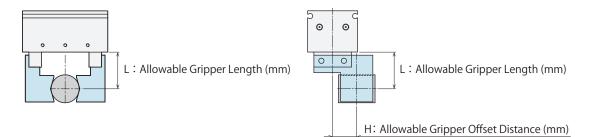
%2. Repeatability under the same condition (no load).

Weight

%3. L: Allowable Gripper Length (mm), H: Allowable Gripper Offset Distance (mm). (Air Pressure : at 0.5MPa)

0.14

0.32



358

WHA

WHD

WCA

BZW

WHZ-MD

Air Flow Control Valve

Manifold Block

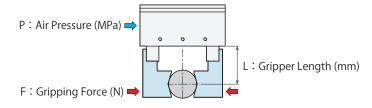
Double Piston

Pneumatic Swing Clamp

Pneumatic Link Clamp

0.7

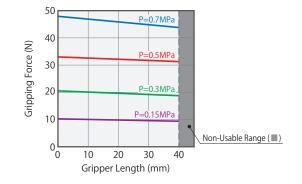
### C Gripping Force Performance Curve



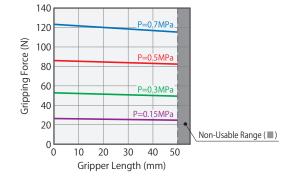
Notes:

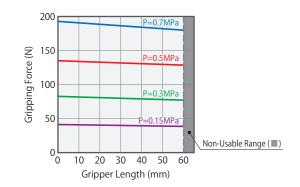
- This chart and graph show the relationship among: F:Gripping Force (N), P:Air Pressure (MPa) and L:Gripper Length (mm).
- 2. Operation in the non-usable range may cause deformation, galling or air leakage.

WPH0100								
Air Pressure		Gri	pper Ler	ngth L (m	חm)			
(MPa)	5	10	15	20	30	40		
0.7	48	47	47	46	45	44		
0.5	34	34	33	33	32	31		
0.3	21	20	20	20	19	19		
0.15	10	10	10	10	10	9		

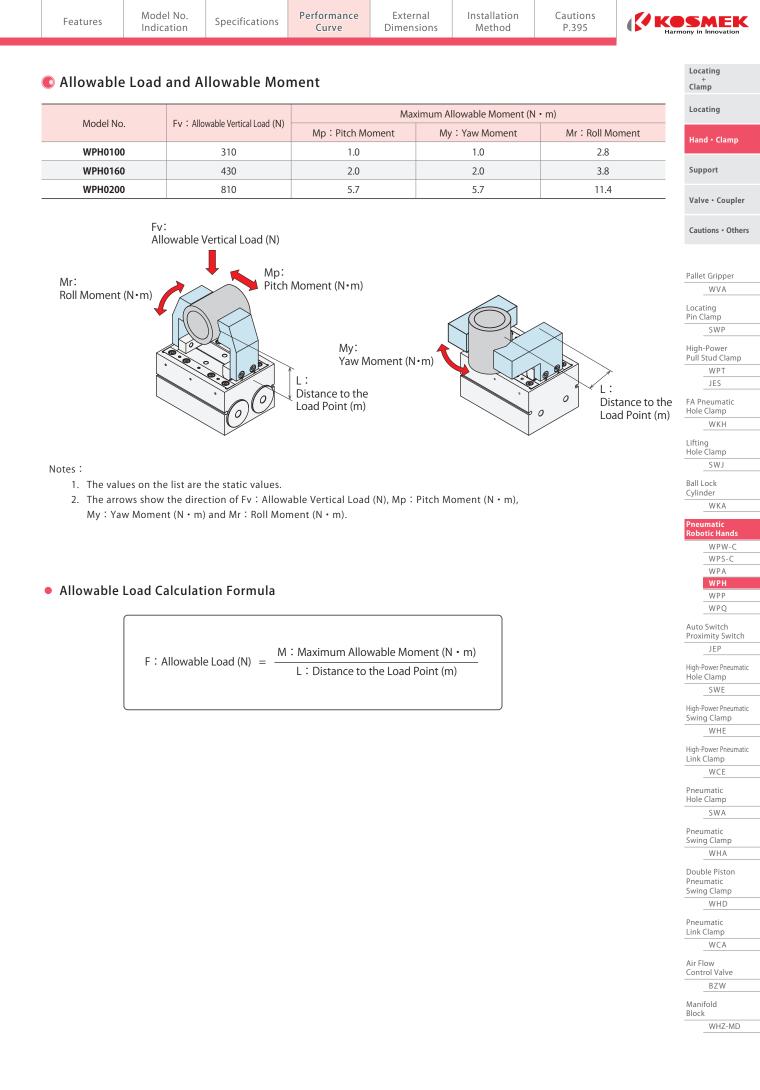


WPH0160								
Air Pressure		Gri	pper Ler	igth L (m	nm)			
(MPa)	5	10	20	30	40	50		
0.7	123	122	121	119	117	115		
0.5	88	87	86	85	84	82		
0.3	53	52	52	51	50	49		
0.15	26	26	26	25	25	25		



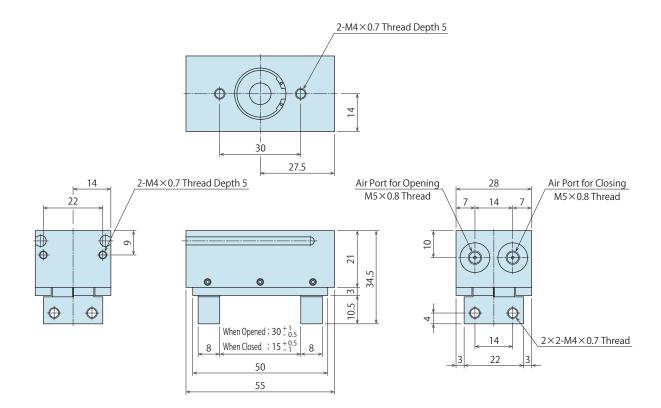


	WPH0200								
Air Pressure		Gripper Length L (mm)							
(MPa)	10	20	30	40	50	60			
0.7	192	189	187	185	182	180			
0.5	137	135	134	132	130	128			
0.3	82	81	80	79	78	77			
0.15	41	41	40	40	39	39			



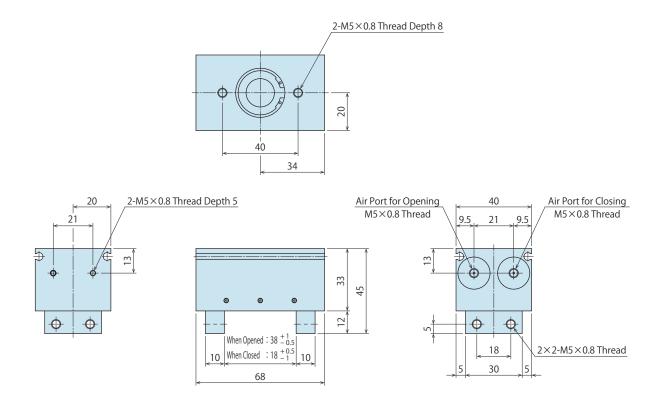
#### External Dimensions : WPH0100

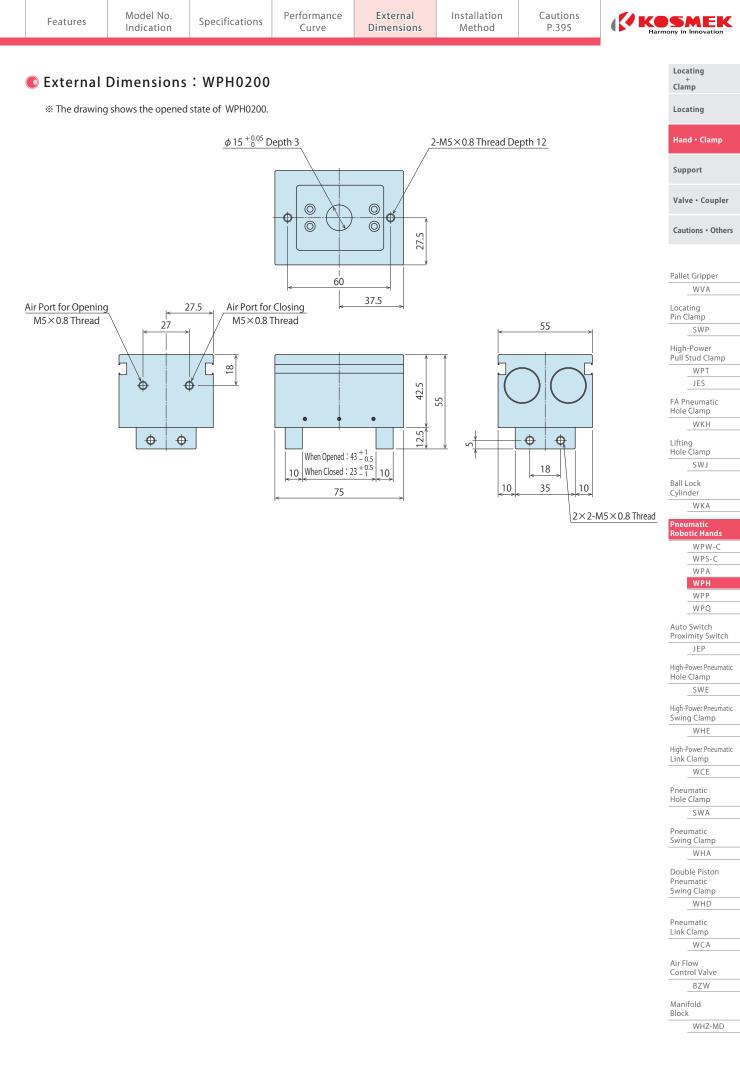
% The drawing shows the opened state of WPH0100.



#### External Dimensions : WPH0160

% The drawing shows the opened state of WPH0160.

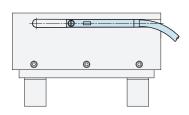


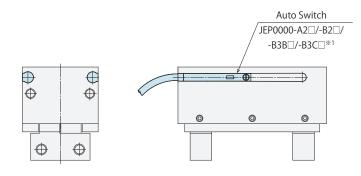


#### External Dimensions : Auto Switch

This drawing shows the installation image of Auto Switch JEP0000-A1 / A2 and JEP0000-B1 / B2.
 Installation image of L-Shaped Auto Switch -A2V , -B3B and -B3C is different from this.
 Adjust installation position depending on the stroke position.
 An auto switch may be stuck out of the robotic hand depending on the installation position and direction.

#### • For WPH0100

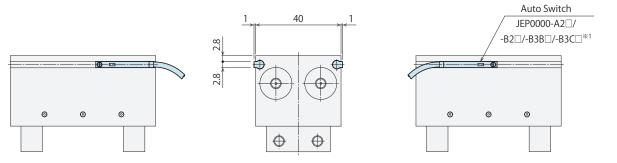




Note :

%1. External dimension of JEP0000-A2V□/-B3B□/-B3C□ is different from this.

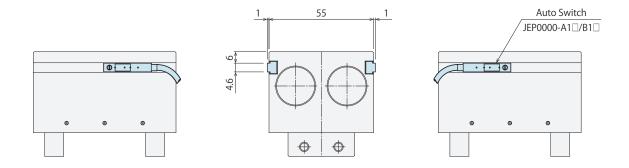
#### • For WPH0160



Note :

%1. External dimension of JEP0000-A2V□/-B3B□/-B3C□ is different from this.

#### • For WPH0200



	Features	Model No. Indication	Specificatio	Performance Curve	External Dimensions	Installati Methoo						
	🖸 Installati	on Method							Locating + Clamp			
	• Tightening Torque for Cylinder Body • Tightening Torque for Gripper											
									Hand • Clamp			
							_	~	Support			
							0		Valve • Coupler			
			Φ Φ	⊕			0.0		Cautions • Others			
							0.0.0					
	Maximum Thread Deptl	h1 1	1			4LH			Pallet Gripper			
	Maximum mieau Depu				Ŵ	VI			WVA			
					M	Y			Locating Pin Clamp			
			_						SWP			
									High-Power Pull Stud Clamp			
									WPT			
									JES			
ĺ			Tightening Torque	Max. Thread Depth L			Tightening Torque	Max. Thread Dept	FA Pneumatic th L Hole Clamp			
	Model No.	Thread Size	(N • m)	(mm)	Model No.	Thread Size	(N • m)	(mm)	WKH			
	WPH0100	M4×0.7	2.5	5	WPH0100	M4×0.7	2.5	8	Lifting			
			2.5						Hole Clamp			
	WPH0160	$M5 \times 0.8$	5.0	8	WPH0160	NI5XUX	5.0	10	SWJ			
	WPH0160 WPH0200	M5×0.8 M5×0.8	5.0	12	WPH0160 WPH0200	M5×0.8 M5×0.8	5.0	10 10	SWJ Ball Lock			
			5.0	8			5.0		SWJ Ball Lock Cylinder			
									SWJ Ball Lock Cylinder WKA			
									SWJ Ball Lock Cylinder			
									SWJ Ball Lock Cylinder WKA Pneumatic Robotic Hands WPW-C			
									SWJ Ball Lock Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C			
									SWJ Ball Lock Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA			
									SWJ Ball Lock Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C			
									SWJ Ball Lock Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH			
									SWJ Ball Lock Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP WPQ Auto Switch			
									SWJ Ball Lock Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP WPQ			
									SWJ Ball Lock Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP WPQ Auto Switch Proximity Switch			

High-Power Pneumatic Swing Clamp WHE

High-Power Pneumatic Link Clamp WCE

> Pneumatic Hole Clamp \_\_\_\_\_\_\_SWA

Pneumatic Swing Clamp WHA

Double Piston Pneumatic Swing Clamp WHD

Pneumatic Link Clamp WCA

Air Flow Control Valve BZW

Manifold Block WHZ-MD Pneumatic Robotic Hand

# **Three-Jaw Chuck**

Model WPP



# High Gripping Force with Wider Stroke Compact, Light Weight, Powerful, Solid and Durable!!

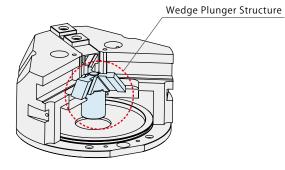
#### • Compact and Light Weight

Small footprint by reducing overall height.

#### Strong and Stable Gripping Force

High gripping force is generated by wedge plunger structure. Limiting backlash at the end of stroke enables stable and powerful gripping.





• Wider Stroke

Allowable stroke is increased by T-shape slide guide.



#### • High Rigidity

The metal guides provide for higher and excellent rigidity.

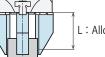
#### • Long Operational Life

The robust guide structure ensures exceptional durability.

#### Proximity Switch for Gripping Detection

The Three-Jaw Chuck design allows for easy proximity switch installation.

Features	Model N Indicati	Specifica	itions	Performa Curve		External imensions	Installat Metho		Cautions P.395		
										-	Locating
D Model No	). Indica	ition									Clamp
											Locating
WPP (	030	0 - P2	<b>S</b> -	С							Hand • Clamp
	1	2 3	4	5							Support
		on the product. P			•		,	d switches.			Valve • Couple
※ A sensor do	og is provide	ed to the product	: includi	ng <mark>3</mark> Blank	: Without F	Proximity Sw	vitch.				Cautions • Othe
1 Cylind	er Inner	Diameter			3	Proximity	y Switch	Туре			Pallet Gripper
030	) : ø30ı	mm				Blank : \	Nithout Pro	oximitv Swi	itch		WVA
040	,									ו (Length: 32mm)	Locating Pip Clamp
050										n (Length: 16mm)	Pin Clamp SWP
050						۲۷ ۰۰ - * Please refer to	,				High-Power
080	, , ,						proximity swite			specifications of	Pull Stud Clamp WPT
100					4	Number		mity Swi	itches*		JES
	i :φ1001 ; φ125ι					Number	011107	inity 500	literes		FA Pneumatic
125	: φιζσι	mm				Blank :	2				Hole Clamp WKH
							1				Lifting
2 Design	n No.					※ Only when se	lecting the prov	kimity switch op	otion <mark>3</mark> .		Hole Člamp
					-						SWJ
•											and the second sec
0	: Revisic	on Number			5	Option				_	Ball Lock Cylinder
0	: Revisio	on Number			5	-					
0	: Revisio	on Number			5	Blank :	Without (				Cylinder WKA Pneumatic
-		on Number			5	Blank :	Without C With Cent				Cylinder WKA
0 D Specificat		on Number			5	Blank :					Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C
-		on Number		WPP0300		Blank :				WPP1250	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH
Specificat	tions	on Number	mm	<b>WPP0300</b> 30		Blank : C :	With Cen	ter Pusher		<b>WPP1250</b> 125	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA
Specificat Model No. Cylinder Inner Dia	tions	on Number			WPP0400	Blank : C : WPP0500	With Cent	ter Pusher WPP0800	WPP1000		Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP
Specificat Model No. Cylinder Inner Dia Gripping Force *	tions Nameter		mm	30	<b>WPP0400</b> 40	Blank         :           C         :           WPP0500         50	With Cent <b>WPP0600</b> 60	ter Pusher WPP0800 80	<b>WPP1000</b> 100	125	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP WPQ Auto Switch Proximity Switch
Specificat Model No. Cylinder Inner Dia Gripping Force ** (Air Pressure : At	tions Nameter	Closing Side	mm N	30 187	<b>WPP0400</b> 40 335	Blank         :           C         :           WPP0500         :           50         :           537         :	With Cent <b>WPP0600</b> 60 799	ter Pusher <b>WPP0800</b> 80 1451	<b>WPP1000</b> 100 2304	125 3619	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP WPQ Auto Switch Proximity Switch JEP
Specificat Model No. Cylinder Inner Dia Gripping Force * (Air Pressure : At Full Stroke	tions <sup>tiameter</sup> *1 t 0.5MPa)	Closing Side	mm N N	30 187 211	<b>WPP0400</b> 40 335 375	Blank         :           C         :           WPP0500         :           50         :           537         :           586         :	With Cent WPP0600 60 799 848	ter Pusher <b>WPP0800</b> 80 1451 1589	WPP1000 100 2304 2383 26	125 3619 3707	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP WPQ Auto Switch Proximity Switch
Specificat Model No. Cylinder Inner Dia Gripping Force ** (Air Pressure : At Full Stroke Repeatability *2	tions <sup>tiameter</sup> *1 t 0.5MPa)	Closing Side	mm N N mm	30 187 211	<b>WPP0400</b> 40 335 375 12	Blank       :         C       :         WPP0500       :         50       :         537       :         586       :         14       :         ±0.01       :	With Cent <b>WPP0600</b> 60 799 848 16	<b>WPP0800</b> 80 1451 1589 20	WPP1000 100 2304 2383 26 ±0	125 3619 3707 32	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP WPQ Auto Switch Proximity Switch JEP High-Power Pneuma
Specificat Model No. Cylinder Inner Dia Gripping Force ** (Air Pressure : At Full Stroke Repeatability *2 Stroke Error	tions Hiameter *1 t 0.5MPa)	Closing Side Opening Side	mm N N mm mm mm	30 187 211 8	WPP0400 40 335 375 12 Openeo	Blank : C : WPP0500 50 537 586 14 ±0.01 d State : -0.4	With Cent WPP0600 60 799 848 16 5~+1 / Clos	ter Pusher <b>WPP0800</b> 80 1451 1589 20 ed State : -	WPP1000 100 2304 2383 26 ±0 1~+0.5	125 3619 3707 32 0.03	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP WPQ Auto Switch Proximity Switch JEP High-Power Pneuma Hole Clamp SWE High-Power Pneuma
Specificat Model No. Cylinder Inner Dia Gripping Force ** (Air Pressure : At Full Stroke Repeatability *2 Stroke Error Allowable Gripper Le	tions Viameter *1 t 0.5MPa)	Closing Side Opening Side Pressure : at 0.5MPa) ***	mm N N mm mm 3 mm	30 187 211 8 40	WPP0400 40 335 375 12 Opened 50	Blank : C : 50 537 586 14 ±0.01 d State : -0.3	With Cent WPP0600 60 799 848 16 5~+1 / Clos 80	ter Pusher <b>WPP0800</b> 80 1451 1589 20 ed State : - 100	WPP1000 100 2304 2383 26 ±0 1~+0.5 120	125 3619 3707 32 0.03 140	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPQ Auto Switch Proximity Switch JEP High-Power Pneuma Hole Clamp SWE
Specificat Model No. Cylinder Inner Dia Gripping Force ** (Air Pressure : At Full Stroke Repeatability *2 Stroke Error Allowable Gripper Le Allowable Gripper Offse	tions Hiameter 1 t 0.5MPa) Length L (Air Priset Distance H (Air	Closing Side Opening Side	mm N N mm mm 3 mm	30 187 211 8	WPP0400 40 3335 375 12 Openeo 50 50	Blank : C : WPP0500 50 537 586 14 ±0.01 d State : -0.9 60 60	With Cent WPP0600 60 799 848 16 5~+1 / Clos	ter Pusher <b>WPP0800</b> 80 1451 1589 20 ed State : -	WPP1000           100           2304           2383           26           ±0           1~+0.5           120           120	125 3619 3707 32 0.03	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP WPQ Auto Switch Proximity Switch JEP High-Power Pneuma Hole Clamp SWE High-Power Pneuma Swing Clamp WHE High-Power Pneuma
Specificat Model No. Cylinder Inner Dia Gripping Force ** (Air Pressure : At Full Stroke Repeatability *2 Stroke Error Allowable Gripper Offse Maximum Cycle /	tions Hameter <sup>★1</sup> t 0.5MPa) Length L (Air Pi set Distance H (Air / min.	Closing Side Opening Side Pressure : at 0.5MPa) ** ir Pressure : at 0.5MPa) *	mm N N mm mm 3 mm	30 187 211 8 40 40	WPP0400 40 335 375 12 Openeo 50 50 7	Blank : C : 50 537 586 14 ±0.01 d State : -0.9 60 60 70	With Cent WPP0600 60 799 848 16 5~+1 / Clos 80 80 80	ter Pusher <b>WPP0800</b> 80 1451 1589 20 ed State : - 100 100	WPP1000 100 2304 2383 26 ±0 1~+0.5 120 120 40	125 3619 3707 32 0.03 140 140	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP WPQ Auto Switch Proximity Switch JEP High-Power Pneuma Hole Clamp SWE High-Power Pneuma
Specificat Model No. Cylinder Inner Dia Gripping Force ** (Air Pressure : At Full Stroke Repeatability *2 Stroke Error Allowable Gripper Le Allowable Gripper Cfse Maximum Cycle / Cylinder Capacity	tions Viameter *1 t 0.5MPa) Length L (Air Pr vet Distance H (Air / min.	Closing Side Opening Side Pressure : at 0.5MPa) ** ir Pressure : at 0.5MPa) * Closing Side	mm N N M mm M mm 3 3 mm 4 *3 mm 4 *3 mm 4	30 187 211 8 40 40 40 3.3	WPP0400           40           335           375           12           Opened           50           7           8.6	Blank : C : 50 537 586 14 ±0.01 d State : -0.1 d State : -0.1 60 60 70 70 16.3	With Cent WPP0600 60 799 848 16 5~+1 / Clos 80 80 26.7	ter Pusher <b>WPP0800</b> 80 1451 1589 20 ed State : - 100 100 60.3	WPP1000 100 2304 2383 26 ±0 1~+0.5 120 120 40 122.9	125 3619 3707 32 0.03 140 140 239.2	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP WPQ Auto Switch Proximity Switch JEP High-Power Pneuma Hole Clamp SWE High-Power Pneuma Swing Clamp WHE High-Power Pneuma
Specificat Model No. Cylinder Inner Dia Gripping Force * (Air Pressure : At Full Stroke Repeatability *2 Stroke Error Allowable Gripper Offse Maximum Cycle / Cylinder Capacity (Clamping w/o Wo	tions Viameter *1 t 0.5MPa) Length L (Air Pr iet Distance H (Air / min.	Closing Side Opening Side Pressure : at 0.5MPa) ** ir Pressure : at 0.5MPa) * Closing Side Opening Side	mm N N mm mm 3 mm *3 mm *3 mm *3 mm	30 187 211 8 40 40	WPP0400 40 335 375 12 Openeo 50 50 7	Blank : C : 50 537 586 14 ±0.01 d State : -0.9 60 60 70	With Cent WPP0600 60 799 848 16 5~+1 / Clos 80 80 80 26.7 28.3	ter Pusher <b>WPP0800</b> 80 1451 1589 20 ed State : - 100 100	WPP1000 100 2304 2383 26 ±0 1~+0.5 120 120 40	125 3619 3707 32 0.03 140 140	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP WPQ Auto Switch Proximity Switch JEP High-Power Pneuma Hole Clamp SWE High-Power Pneuma Swing Clamp WHE High-Power Pneuma Link Clamp WCE Pneumatic Hole Clamp
Specificat Model No. Cylinder Inner Dia Gripping Force ** (Air Pressure : At Full Stroke Repeatability *2 Stroke Error Allowable Gripper Le Allowable Gripper Offse Maximum Cycle / Cylinder Capacity (Clamping w/o Wo Maximum Operat	tions Viameter *1 t 0.5MPa) Length L (Air Pr et Distance H (Air / min. orkpiece) ating Pressur	Closing Side Opening Side Pressure : at 0.5MPa) ** ir Pressure : at 0.5MPa) * Closing Side Opening Side re	mm N N M mm 0 mm 0 3 mm 0 *3 mm 0 *3 mm 0 Cm3 0 Cm3 0 MPa 0	30 187 211 8 40 40 40 3.3	WPP0400           40           335           375           12           Opened           50           7           8.6	Blank : C : 50 537 586 14 ±0.01 d State : -0.1 d State : -0.1 60 60 70 70 16.3	With Cent WPP0600 60 799 848 16 5~+1 / Clos 80 80 80 26.7 28.3 0.7	ter Pusher <b>WPP0800</b> 80 1451 1589 20 ed State : - 100 100 60.3	WPP1000 100 2304 2383 26 ±0 1~+0.5 120 120 40 122.9	125 3619 3707 32 0.03 140 140 239.2	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPQ Auto Switch Proximity Switch Proximity Switch Proximity Switch JEP High-Power Pneuma Hole Clamp SWE High-Power Pneuma Swing Clamp WHE High-Power Pneuma Link Clamp WCE Pneumatic Hole Clamp SWA
Specificat Model No. Cylinder Inner Dia Gripping Force ** (Air Pressure : At Full Stroke Repeatability *2 Stroke Error Allowable Gripper Le Allowable Gripper Offse Maximum Cycle / Cylinder Capacity (Clamping w/o Wo Maximum Operat	tions Viameter *1 t 0.5MPa) Length L (Air Pr iet Distance H (Air / min. orkpiece) ating Pressur ting Pressur	Closing Side Opening Side Pressure : at 0.5MPa) ** ir Pressure : at 0.5MPa) * Closing Side Opening Side re	mm   N   mm   mm   3 mm   *3 mm   *3 mm   *3 mm   *3 mm	30 187 211 8 40 40 40 3.3	WPP0400           40           335           375           12           Opened           50           7           8.6	Blank : C : 50 537 586 14 ±0.01 d State : -0.1 d State : -0.1 60 60 70 70 16.3	With Cent WPP0600 60 799 848 16 5~+1 / Clos 80 80 80 26.7 28.3 0.7 0.3	ter Pusher <b>WPP0800</b> 80 1451 1589 20 ed State : - 100 100 60.3	WPP1000 100 2304 2383 26 ±0 1~+0.5 120 120 40 122.9	125 3619 3707 32 0.03 140 140 239.2	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP Pop Auto Switch Proximity Switcl JEP High-Power Pneuma Hole Clamp SWE High-Power Pneuma Link Clamp WHE High-Power Pneuma Link Clamp WE Pneumatic Hole Clamp
Specificat Model No. Cylinder Inner Dia Gripping Force * (Air Pressure : At Full Stroke Repeatability * <sup>2</sup> Stroke Error Allowable Gripper Offse Maximum Cycle / Cylinder Capacity (Clamping w/o Wo Maximum Operat Minimum Operat	tions viameter *1 t 0.5MPa) Length L (Air Pr set Distance H (Air / min. orkpiece) ating Pressur ting Pressur ressure	Closing Side Opening Side Pressure : at 0.5MPa) ** ir Pressure : at 0.5MPa) * Closing Side Opening Side re re	mm           N           N           mm           mm           mm           3           mm           *3           cm3           cm3           cm3           cm3           cm4           MPa           MPa	30 187 211 8 40 40 40 3.3	WPP0400           40           335           375           12           Opened           50           7           8.6	Blank : C : 50 537 586 14 ±0.01 d State : -0.1 d State : -0.1 60 60 70 70 16.3	With Cent WPP0600 60 799 848 16 5~+1 / Clos 80 80 80 26.7 28.3 0.7 0.3 1.05	ter Pusher <b>WPP0800</b> 80 1451 1589 20 ed State : - 100 100 60.3	WPP1000 100 2304 2383 26 ±0 1~+0.5 120 120 40 122.9	125 3619 3707 32 0.03 140 140 239.2	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP WPQ Auto Switch Proximity Switcl JEP High-Power Pneuma Hole Clamp SWE High-Power Pneuma Swing Clamp WHE High-Power Pneuma Link Clamp WHE High-Power Pneuma
Specificat Model No. Cylinder Inner Dia Gripping Force ** (Air Pressure : At Full Stroke Repeatability *2 Stroke Error Allowable Gripper Le Allowable Gripper Offse Maximum Cycle / Cylinder Capacity (Clamping w/o Wo Maximum Operat Minimum Operat Withstanding Pre	tions viameter *1 t 0.5MPa) Length L (Air Pr set Distance H (Air / min. orkpiece) ating Pressur ting Pressur ressure	Closing Side Opening Side Pressure : at 0.5MPa) ** ir Pressure : at 0.5MPa) * Closing Side Opening Side re re	mm   N   mm   mm   3 mm   *3 mm   *3 mm   *3 mm   *3 mm	30 187 211 8 40 40 40 3.3	WPP0400           40           335           375           12           Opened           50           7           8.6	Blank : C : 50 537 586 14 ±0.01 d State : -0.1 d State : -0.1 60 60 70 70 16.3	With Cent WPP0600 60 799 848 16 5~+1 / Clos 80 80 26.7 28.3 0.7 0.3 1.05 5~60	ter Pusher <b>WPP0800</b> 80 1451 1589 20 ed State : - 100 100 60.3	WPP1000 100 2304 2383 26 ±0 1~+0.5 120 120 40 122.9	125 3619 3707 32 0.03 140 140 239.2	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP Auto Switch Proximity Switcl JEP High-Power Pneuma Hole Clamp SWE High-Power Pneuma Swing Clamp WHE High-Power Pneuma Link Clamp WE Pneumatic Hole Clamp
Specificat Model No. Cylinder Inner Dia Gripping Force ** (Air Pressure : At Full Stroke Repeatability *2 Stroke Error Allowable Gripper Le Allowable Gripper Offse Maximum Cycle / Cylinder Capacity (Clamping w/o Wo Maximum Operat Minimum Operat Withstanding Pre Operating Tempe Usable Fluid	tions viameter *1 t 0.5MPa) Length L (Air Pr set Distance H (Air / min. orkpiece) ating Pressur ting Pressur ressure	Closing Side Opening Side Pressure : at 0.5MPa) ** ir Pressure : at 0.5MPa) * Closing Side Opening Side re re	mm N Mm mm 3 mm <sup>83</sup> mm <sup>83</sup> mm <sup>83</sup> mm (mn 400 mm 400 m 100 m 100 m 100 m 100 m 100 1000 1000 100 1	30 187 211 8 40 40 40 3.3 3.7	WPP0400           40           335           375           12           Opened           50           7           8.6           9.4           0           4.0	Blank : C : WPP0500 50 537 586 14 ±0.01 d State : -0.3 60 60 70 16.3 17.7 17.7	With Cent WPP0600 60 799 848 16 5~+1 / Clos 80 80 26.7 28.3 0.7 0.3 1.05 5~60 Dry Air	ter Pusher <b>WPP0800</b> 80 1451 1589 20 ed State : - 100 100 60.3 62.8 	WPP1000 100 2304 2383 26 ±0 1~+0.5 120 120 40 122.9 128.0 	125 3619 3707 32 0.03 140 140 239.2 245.4	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPQ Auto Switch Proximity Switch Proximity Switch Proximity Switch Proximity Switch Proximity Switch Bigh-Power Pneumatic Swing Clamp WHE High-Power Pneumatic Swing Clamp WHE Double Piston Pneumatic Swing Clamp
Specificat Model No. Cylinder Inner Dia Gripping Force ** (Air Pressure : At Full Stroke Repeatability *2 Stroke Error Allowable Gripper Le Allowable Gripper Offse Maximum Cycle / Cylinder Capacity (Clamping w/o Wo Maximum Operat Minimum Operat Withstanding Pre	tions viameter *1 t 0.5MPa) Length L (Air Pr set Distance H (Air / min. orkpiece) ating Pressur ting Pressur ressure	Closing Side Opening Side Pressure : at 0.5MPa) ** ir Pressure : at 0.5MPa) * Closing Side Opening Side re re	mm           N           N           mm           mm           mm           3           mm           *3           cm3           cm3           cm3           cm3           cm4           MPa           MPa	30 187 211 8 40 40 40 3.3	WPP0400           40           335           375           12           Opened           50           7           8.6	Blank : C : 50 537 586 14 ±0.01 d State : -0.1 d State : -0.1 60 60 70 70 16.3	With Cent WPP0600 60 799 848 16 5~+1 / Clos 80 80 26.7 28.3 0.7 0.3 1.05 5~60	ter Pusher <b>WPP0800</b> 80 1451 1589 20 ed State : - 100 100 60.3	WPP1000 100 2304 2383 26 ±0 1~+0.5 120 120 40 122.9	125 3619 3707 32 0.03 140 140 239.2	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP Proximity Switc JEP High-Power Pneumath Hole Clamp SWE High-Power Pneumath Swing Clamp WHE High-Power Pneumath Swing Clamp WHE Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp
Specificat Model No. Cylinder Inner Dia Gripping Force ** (Air Pressure : At Full Stroke Repeatability ** Stroke Error Allowable Gripper Le Allowable Gripper Offse Maximum Cycle / Cylinder Capacity (Clamping w/o Wo Maximum Operat Minimum Operat Withstanding Pre Operating Tempe Usable Fluid Weight Notes : \$1.0	tions	Closing Side Opening Side Pressure : at 0.5MPa) ** ir Pressure : at 0.5MPa) * Closing Side Opening Side re re	mm           N           nm           mm	30 187 211 8 40 40 3.3 3.7 0.2 ted value ba	WPP0400 40 335 375 12 Opened 50 50 7 8.6 9.4 3 0.38 ased on the	Blank : C : WPP0500 50 537 586 14 ±0.01 ±0.01 060 0 16.3 17.7 16.3 17.7 0 0.6	With Cent WPP0600 60 799 848 16 5~+1 / Clos 80 80 80 26.7 28.3 0.7 0.3 1.05 5~60 Dry Air 0.75	ter Pusher <b>WPP0800</b> 80 1451 1589 20 ed State : - 100 100 60.3 62.8 	WPP1000 100 2304 2383 26 ±0 1~+0.5 120 120 40 122.9 128.0 	125 3619 3707 32 0.03 140 140 239.2 245.4	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPQ Auto Switch Proximity Switc JEP High-Power Pneuma Hole Clamp Swing Clamp WHE High-Power Pneuma Link Clamp WHE High-Power Pneumatic Swing Clamp WHE Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp
Specificat Model No. Cylinder Inner Dia Gripping Force ** (Air Pressure : At Full Stroke Repeatability *2 Stroke Error Allowable Gripper Le Allowable Gripper Offse Maximum Cycle / Cylinder Capacity (Clamping w/o Wo Maximum Operat Minimum Operat Withstanding Pre Operating Tempe Usable Fluid Weight Notes : *1. C	tions Jiameter *1 t 0.5MPa) Length L (Air Pr et Distance H (Air / min. orkpiece) ating Pressur ting Pressur eerature Rang Gripping fo Repeatabilit	Closing Side Opening Side Opening Side Pressure : at 0.5MPa) *: ir Pressure : at 0.5MPa) *: Closing Side Opening Side re re re re re re re re re re re re re	mm           N           N           mm           <	30 187 211 8 40 40 40 3.3 3.7 0.2 ted value battion (no load	WPP0400 40 335 375 12 Opened 50 50 7 8.6 9.4 9.4 0.38 ased on the d).	Blank : C : WPP0500 50 537 586 14 ±0.01 d State : -0.3 60 60 70 16.3 17.7 16.3 17.7 16.3 17.7 0.6 0.6 0.6	With Cent WPP0600 60 799 848 16 5~+1 / Clos 80 80 80 26.7 28.3 0.7 0.3 1.05 5~60 Dry Air 0.75 gth (L).	ter Pusher <b>WPP0800</b> 80 1451 1589 20 ed State : - 100 100 60.3 62.8 1.37	WPP1000 100 2304 2383 26 ±0 1~+0.5 120 120 40 122.9 128.0 2.35	125 3619 3707 32 0.03 140 140 239.2 245.4 245.4	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPQ Auto Switch Proximity Switch Proximity Switch Proximity Switch Proximity Switch Proximity Switch BER High-Power Pneumatic Swing Clamp WHE High-Power Pneumatic Hole Clamp Swing Clamp WHE Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHD Pneumatic Swing Clamp
Specificat Model No. Cylinder Inner Dia Gripping Force ** (Air Pressure : At Full Stroke Repeatability *2 Stroke Error Allowable Gripper Le Allowable Gripper Offse Maximum Cycle / Cylinder Capacity (Clamping w/o Wo Maximum Operat Minimum Operat Withstanding Pre Operating Tempe Usable Fluid Weight Notes : *1. C	tions Jiameter *1 t 0.5MPa) Length L (Air Pr et Distance H (Air / min. orkpiece) ating Pressur ting Pressur eerature Rang Gripping fo Repeatabilit	Closing Side Opening Side Opening Side Pressure : at 0.5MPa) *: ir Pressure : at 0.5MPa) *: Closing Side Opening Side re re re ige	mm           N           N           mm           <	30 187 211 8 40 40 40 3.3 3.7 0.2 ted value battion (no load	WPP0400 40 335 375 12 Opened 50 50 7 8.6 9.4 9.4 0.38 ased on the d).	Blank : C : WPP0500 50 537 586 14 ±0.01 d State : -0.3 60 60 70 16.3 17.7 16.3 17.7 16.3 17.7 0.6 0.6 0.6	With Cent WPP0600 60 799 848 16 5~+1 / Clos 80 80 80 26.7 28.3 0.7 0.3 1.05 5~60 Dry Air 0.75 gth (L).	ter Pusher <b>WPP0800</b> 80 1451 1589 20 ed State : - 100 100 60.3 62.8 1.37	WPP1000 100 2304 2383 26 ±0 1~+0.5 120 120 40 122.9 128.0 2.35	125 3619 3707 32 0.03 140 140 239.2 245.4 245.4	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPQ Auto Switch Proximity Switch Proximity Switch Proximity Switch Proximity Switch Clamp WHE High-Power Pneum Link Clamp WCE Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHD Pneumatic Swing Clamp WHD Pneumatic Swing Clamp
Specificat Model No. Cylinder Inner Dia Gripping Force ** (Air Pressure : At Full Stroke Repeatability *2 Stroke Error Allowable Gripper Le Allowable Gripper Offse Maximum Cycle / Cylinder Capacity (Clamping w/o Wo Maximum Operat Minimum Operat Withstanding Pre Operating Tempe Usable Fluid Weight Notes : *1. C	tions Jiameter *1 t 0.5MPa) Length L (Air Pr et Distance H (Air / min. orkpiece) ating Pressur ting Pressur eerature Rang Gripping fo Repeatabilit	Closing Side Opening Side Opening Side Pressure : at 0.5MPa) *: ir Pressure : at 0.5MPa) *: Closing Side Opening Side re re re ige	mm           N           N           mm           <	30 187 211 8 40 40 40 3.3 3.7 0.2 ted value battion (no load	WPP0400 40 335 375 12 Opened 50 50 7 8.6 9.4 9.4 0.38 ased on the d).	Blank : C : WPP0500 50 537 586 14 ±0.01 d State : -0.3 60 60 70 16.3 17.7 16.3 17.7 16.3 17.7 0.6 0.6 0.6	With Cent WPP0600 60 799 848 16 5~+1 / Clos 80 80 80 26.7 28.3 0.7 0.3 1.05 5~60 Dry Air 0.75 gth (L).	ter Pusher <b>WPP0800</b> 80 1451 1589 20 ed State : - 100 100 60.3 62.8 1.37	WPP1000 100 2304 2383 26 ±0 1~+0.5 120 120 40 122.9 128.0 2.35	125 3619 3707 32 0.03 140 140 239.2 245.4 245.4	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPQ Auto Switch Proximity Switc JEP High-Power Pneum Hole Clamp SWE High-Power Pneum Swing Clamp WHE High-Power Pneum Link Clamp WHE Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHD Pneumatic Swing Clamp
Specificat Model No. Cylinder Inner Dia Gripping Force ** (Air Pressure : At Full Stroke Repeatability *2 Stroke Error Allowable Gripper Le Allowable Gripper Offse Maximum Cycle / Cylinder Capacity (Clamping w/o Wo Maximum Operat Minimum Operat Withstanding Pre Operating Tempe Usable Fluid Weight Notes : *1. C	tions Jiameter *1 t 0.5MPa) Length L (Air Pr et Distance H (Air / min. orkpiece) ating Pressur ting Pressur eerature Rang Gripping fo Repeatabilit	Closing Side Opening Side Opening Side Pressure : at 0.5MPa) *: ir Pressure : at 0.5MPa) *: Closing Side Opening Side re re re ige	mm N N mm mm 3 mm 3 mm 43 mm 43 mm 43 mm 43 mm 40 Cm 3 Cm 3 MPa 4 MPa 4 MPa 2 Cm 4 Cm 4 Cm 4 Cm 4 Cm 4 Cm 4 Cm 4 Cm	30 187 211 8 40 40 40 3.3 3.7 0.2 ted value ba tion (no loa H : Allowab	WPP0400 40 335 375 12 Opened 50 50 7 8.6 9.4 3 9.4 0.38 ased on the d).	Blank : C : WPP0500 50 537 586 14 ±0.01 d State : -0.3 60 60 70 16.3 17.7 16.3 17.7 16.3 17.7 0.6 0.6 0.6	With Cent WPP0600 60 799 848 16 5~+1 / Clos 80 80 26.7 28.3 0.7 0.3 1.05 5~60 Dry Air 0.75 gth (L). nce (mm). (A	ter Pusher <b>WPP0800</b> 80 1451 1589 20 ed State : - 100 100 60.3 62.8 1.37	WPP1000 100 2304 2383 26 ±0 1~+0.5 120 120 40 122.9 128.0 2.35 : at 0.5MPa)	125 3619 3707 32 0.03 140 140 239.2 245.4 245.4	Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPQ Auto Switch Proximity Switch Proximity Switch Proximity Switch Bigh-Power Pneumat Swing Clamp WHE High-Power Pneumat Clamp WHE High-Power Pneumat Swing Clamp WHE Pneumatic SWA Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHD Pneumatic Swing Clamp WHD Pneumatic Swing Clamp WHD Pneumatic Swing Clamp



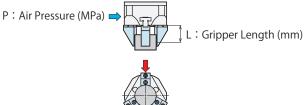
L: Allowable Gripper Length (mm)

L: Allowable Gripper Length (mm)

H: Allowable Gripper Offset Distance (mm)

WHZ-MD

## Cripping Force Performance Curve:Closing Side



F: Gripping Force (N)

WPP0300								
Air Pressure		Gri	pper Ler	igth L (m	nm)			
(MPa)	5	10	15	20	30	40		
0.7	279	263	249	235	222	208		
0.5	193	188	178	168	158	148		
0.3	116	113	107	101	95	89		

WPP0400								
Air Pressure		Gri	pper Ler	ngth L (m	וm)			
(MPa)	5	10	20	30	40	50		
0.7	494	483	442	422	401	381		
0.5	353	345	316	301	287	272		
0.3	212	207	190	181	172	163		

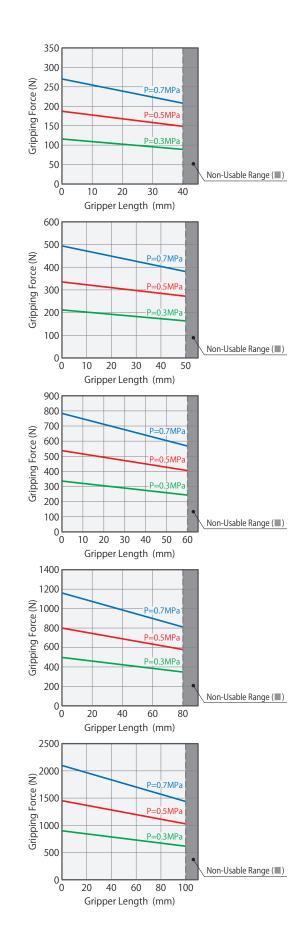
WPP0500								
Air Pressure		Gripper Length L (mm)						
(MPa)	10	20	30	40	50	60		
0.7	769	711	682	654	625	567		
0.5	549	508	487	467	446	405		
0.3	329	305	292	280	268	243		

WPP0600								
Air Pressure		Gri	pper Ler	igth L (m	nm)			
(MPa)	10	20	30	40	60	80		
0.7	1142	1068	1031	994	884	810		
0.5	815	763	739	710	631	579		
0.3	489	458	442	426	379	347		

WPP0800								
Air Pressure		Gri	pper Ler	igth L (n	nm)			
(MPa)	10	20	40	60	80	100		
0.7	2070	1955	1840	1667	1552	1437		
0.5	1478	1396	1314	1191	1109	1027		
0.3	889	838	788	714	665	616		

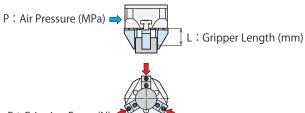
#### Notes:

- This chart and graph show the relationship among :
   F : Gripping Force (N), P : Air Pressure (MPa) and
   L : Gripper Length (mm).
- 2. Operation in the non-usable range may cause deformation, galling or air leakage.



Features	Model No. Indication	Specifications	Performance Curve	External Dimensions	Installation Method	Cautions P.395	

## Cripping Force Performance Curve : Closing Side



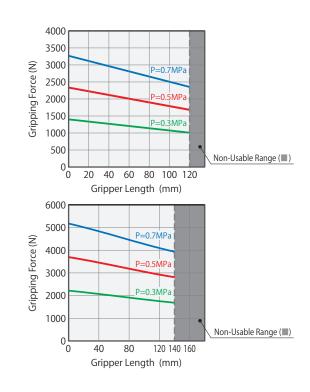
F: Gripping Force (N)

WPP1000							
Air Pressure Gripper Length L (mm)							
20	40	60	80	100	120		
3116	2977	2770	2631	2493	2354		
2226	2127	1978	1879	1780	1681		
1335	1276	1187	1128	1068	1009		
	20 3116 2226	Gri           20         40           3116         2977           2226         2127	Gripper Ler           20         40         60           3116         2977         2770           2226         2127         1978	Comparison         Comparison <thcomparison< th="">         Comparison         Comparis</thcomparison<>	20         40         60         80         100           3116         2977         2770         2631         2493           2226         2127         1978         1879         1780		

WPP1250									
Air Pressure									
(MPa)	20	20 40 60 80 120							
0.7	5020	4852	4601	4434	4099	3932			
0.5	3586	3466	3287	3167	2928	2809			
0.3	2151	2080	1972	1900	1757	1685			



- This chart and graph show the relationship among : F : Gripping Force (N), P : Air Pressure (MPa) and L : Gripper Length (mm).
- 2. Operation in the non-usable range may cause deformation, galling or air leakage.



Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPH WPP WPQ Auto Switch

Locating

Locating

Support

Hand • Clamp

Valve • Coupler

Cautions • Others

Pallet Gripper

Locating Pin Clamp

WVA

SWP

High-Power

Pull Stud Clamp

JES

FA Pneumatic

Hole Clamp WKH

Lifting Hole Clamp

Ball Lock Cylinder

SWJ

WKA

WPT

Clamp

Proximity Switch

High-Power Pneumatic Hole Clamp SWE

High-Power Pneumatic

Swing Clamp WHE

High-Power Pneumatic Link Clamp WCE

> Pneumatic Hole Clamp

SWA

Pneumatic Swing Clamp WHA

Double Piston Pneumatic Swing Clamp WHD

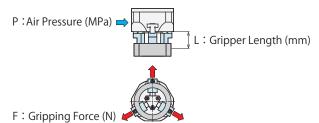
Pneumatic Link Clamp

WCA Air Flow Control Valve

BZW Manifold Block

WHZ-MD

## Cripping Force Performance Curve: Opening Side



WPP0300								
Air Pressure Gripper Length L (mm)								
(MPa)	5 10 15 20 30							
0.7	304	296	280	265	244	234		
0.5	217	211	200	184	178	167		
0.3	130	127	120	114	107	100		

WPP0400								
Air Pressure	Pressure Gripper Length L (mm)							
(MPa)	5	5 10 20 30 40						
0.7	543	531	486	463	441	418		
0.5	388	379	347	331	315	299		
0.3	233	228	208	199	189	179		

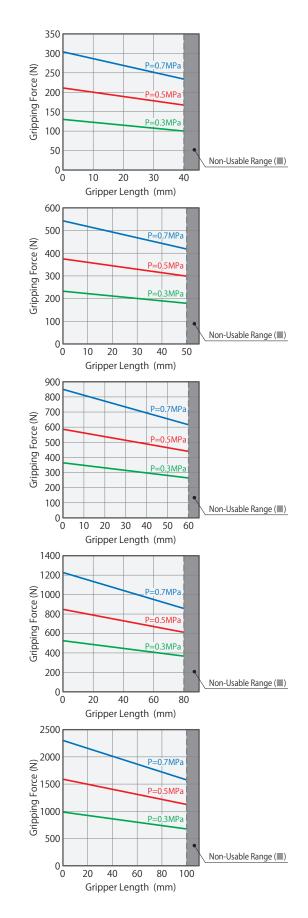
WPP0500								
Air Pressure	Air Pressure Gripper Length L (mm)							
(MPa)	10 20 30 40 50							
0.7	834	772	740	704	678	616		
0.5	596	551	529	507	484	440		
0.3	358	331	317	304	291	264		

	WPP0600								
Air Pressure	Air Pressure Gripper Length L (mm)								
(MPa)	10	10 20 30 40 60							
0.7	1207	1129	1090	1052	935	857			
0.5	862	807	779	751	668	612			
0.3	517	484	467	451	401	367			

WPP0800								
Air Pressure	Air Pressure Gripper Length L (mm)							
(MPa)	10	10 20 40 60 80						
0.7	2269	2143	2017	1828	1702	1576		
0.5	1621	1531	1441	1306	1216	1126		
0.3	973	918	864	783	729	675		

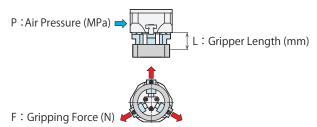
#### Notes:

- This chart and graph show the relationship among : F : Gripping Force (N), P : Air Pressure (MPa) and L : Lever Length (mm).
- 2. Operation in the non-usable range may cause deformation, galling or air leakage.



Features	Model No. Indication	Specifications	Performance Curve	External Dimensions	Installation Method	Cautions P.395	

## Gripping Force Performance Curve : Opening Side

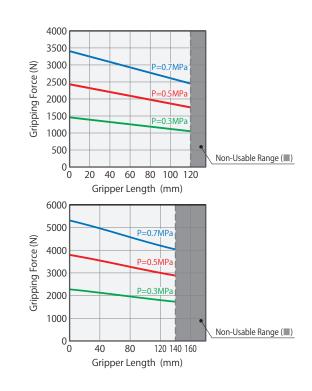


WPP1000							
Air Pressure	Air Pressure Gripper Length L (mm)						
(MPa)	20	80	100	120			
0.7	3246	3101	2885	2741	2596	2452	
0.5	2318	2215	2061	1958	1855	1752	
0.3	1391	1329	1236	1175	1113	1051	

WPP1250								
Air Pressure	e Gripper Length L (mm)							
(MPa)	20	20 40 60 80 120						
0.7	5152	4980	4722	4551	4207	4035		
0.5	3680	3557	3373	3250	3005	2882		
0.3	2208	2134	2024	1950	1803	1729		



- This chart and graph show the relationship among : F : Gripping Force (N), P : Air Pressure (MPa) and L : Lever Length (mm).
- 2. Operation in the non-usable range may cause deformation, galling or air leakage.



Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP WPQ

Locating

Locating

Support

Hand • Clamp

Valve • Coupler

Cautions • Others

Pallet Gripper

Locating Pin Clamp

WVA

SWP

High-Power

Pull Stud Clamp

JES

FA Pneumatic

Hole Clamp WKH

Lifting Hole Clamp

Ball Lock Cylinder

SWJ

WKA

WPT

Clamp

Auto Switch Proximity Switch JEP

High-Power Pneumatic Hole Clamp SWE

High-Power Pneumatic Swing Clamp

WHE

High-Power Pneumatic Link Clamp WCE

> Pneumatic Hole Clamp

SWA

Pneumatic Swing Clamp WHA

Double Piston Pneumatic Swing Clamp WHD

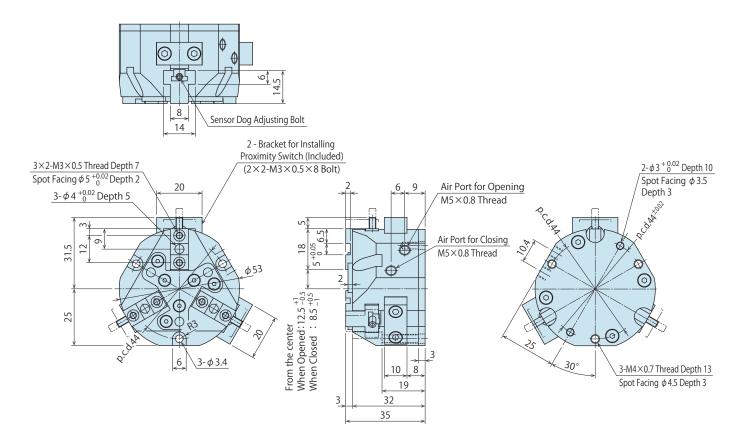
Pneumatic Link Clamp WC A

Air Flow Control Valve BZW

Manifold Block WHZ-MD

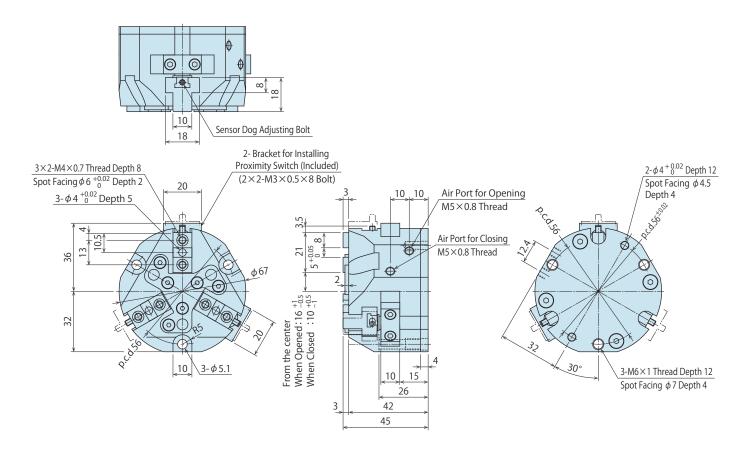
#### External Dimensions : WPP0300

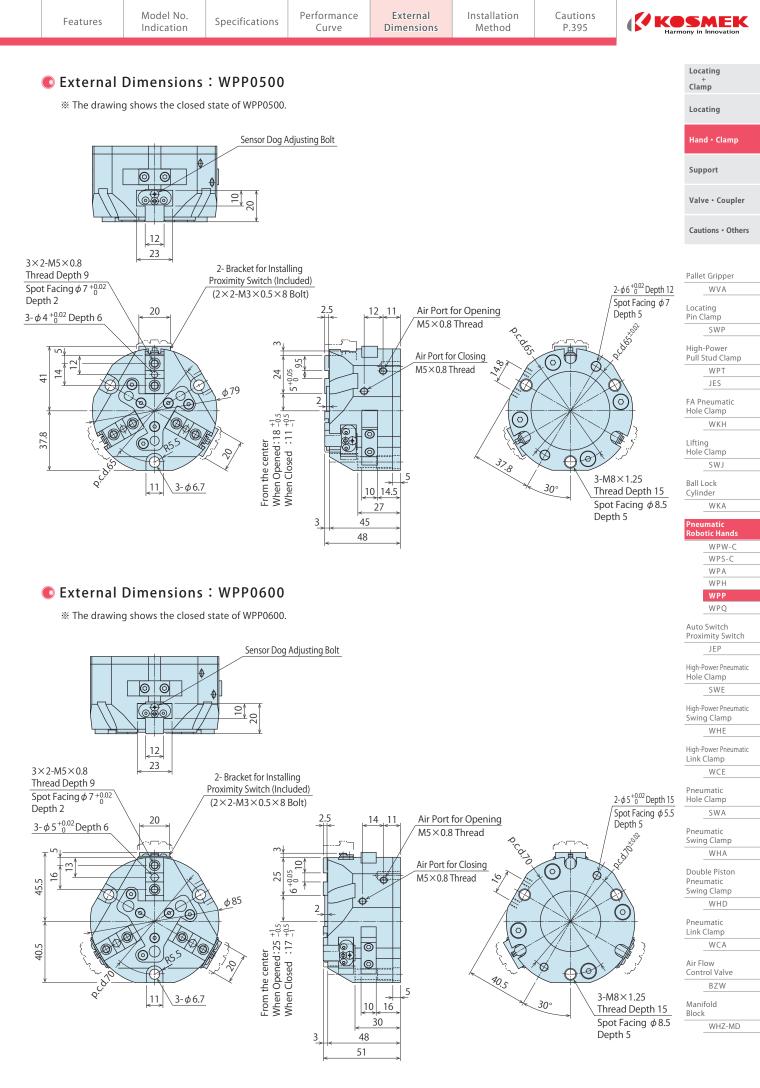
% The drawing shows the closed state of WPP0300.



#### External Dimensions : WPP0400

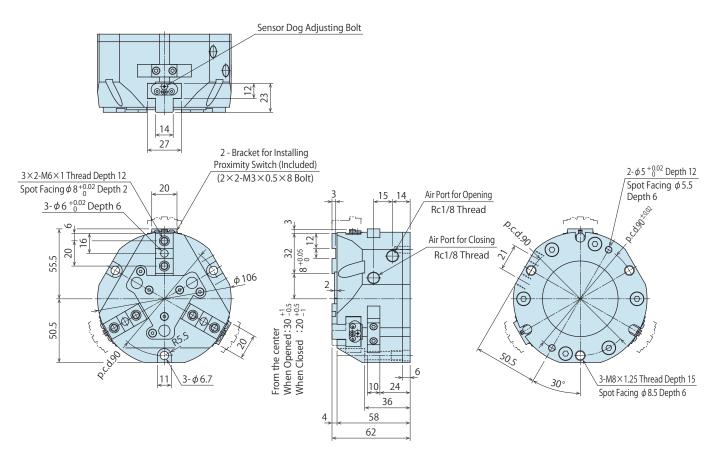
% The drawing shows the closed state of WPP0400.





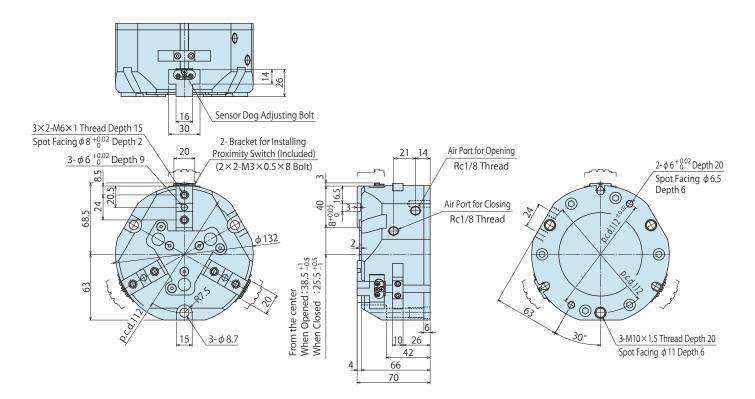
#### External Dimensions : WPP0800

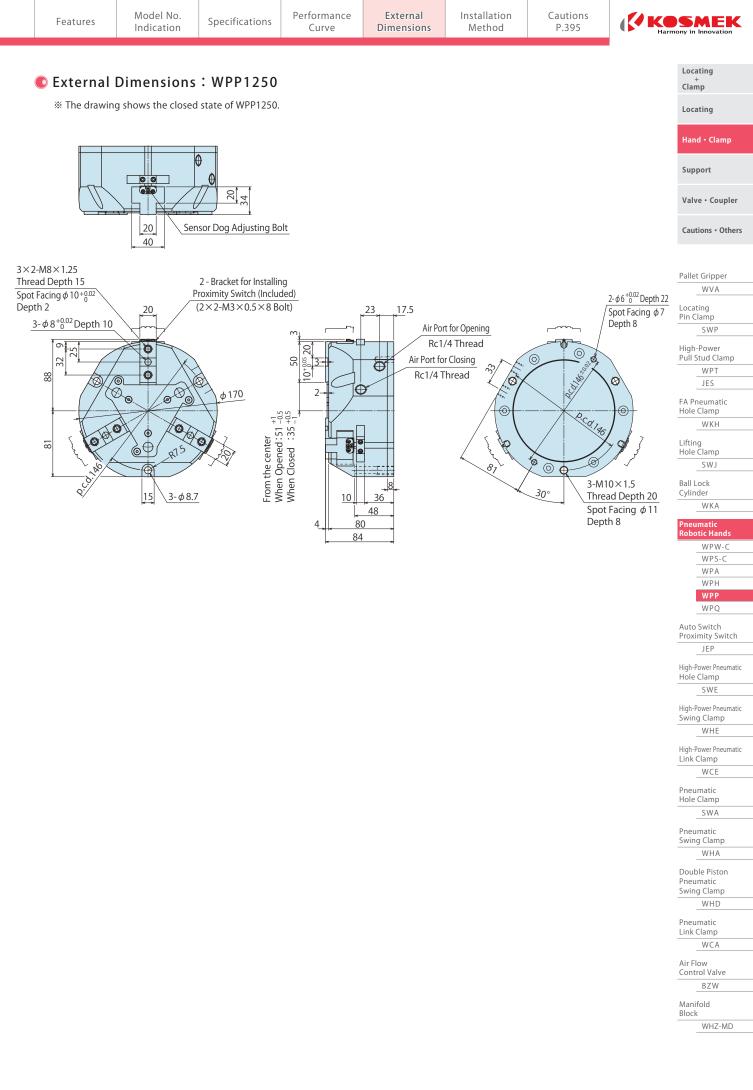
% The drawing shows the closed state of WPP0800.



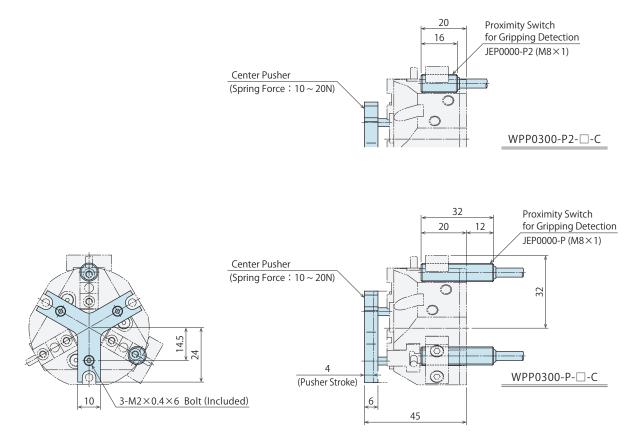
#### External Dimensions : WPP1000

% The drawing shows the closed state of WPP1000.

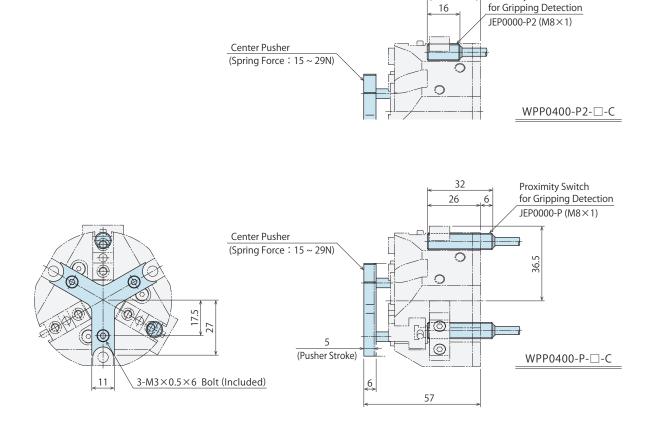




- © External Dimensions: Proximity Switch for Gripping Detection, Center Pusher
- WPP0300-P / P2-□-C

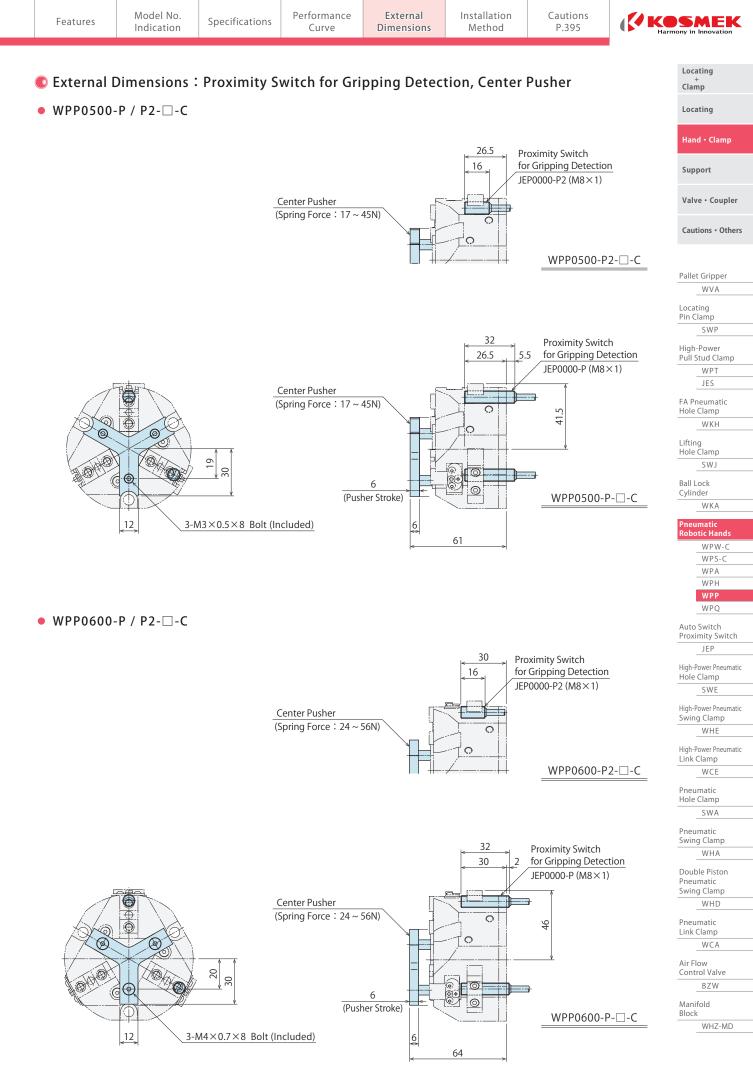


• WPP0400-P / P2-□-C

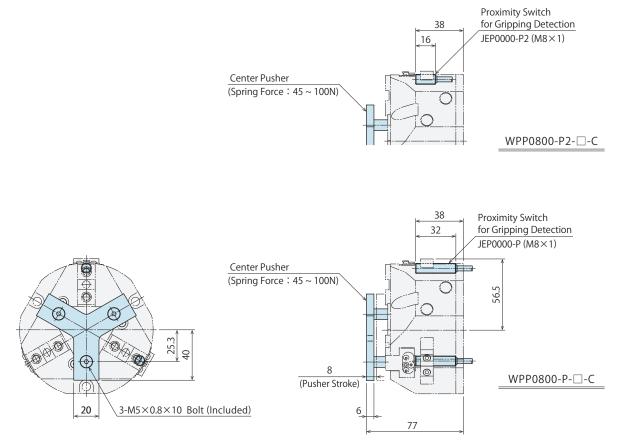


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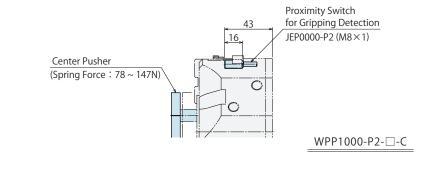
Proximity Switch

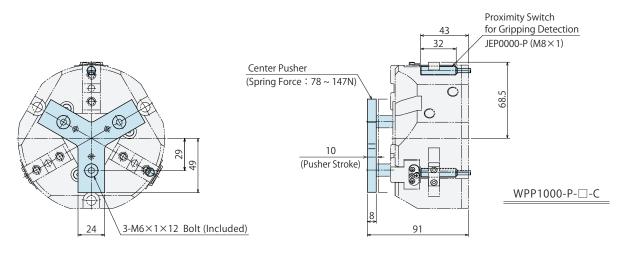


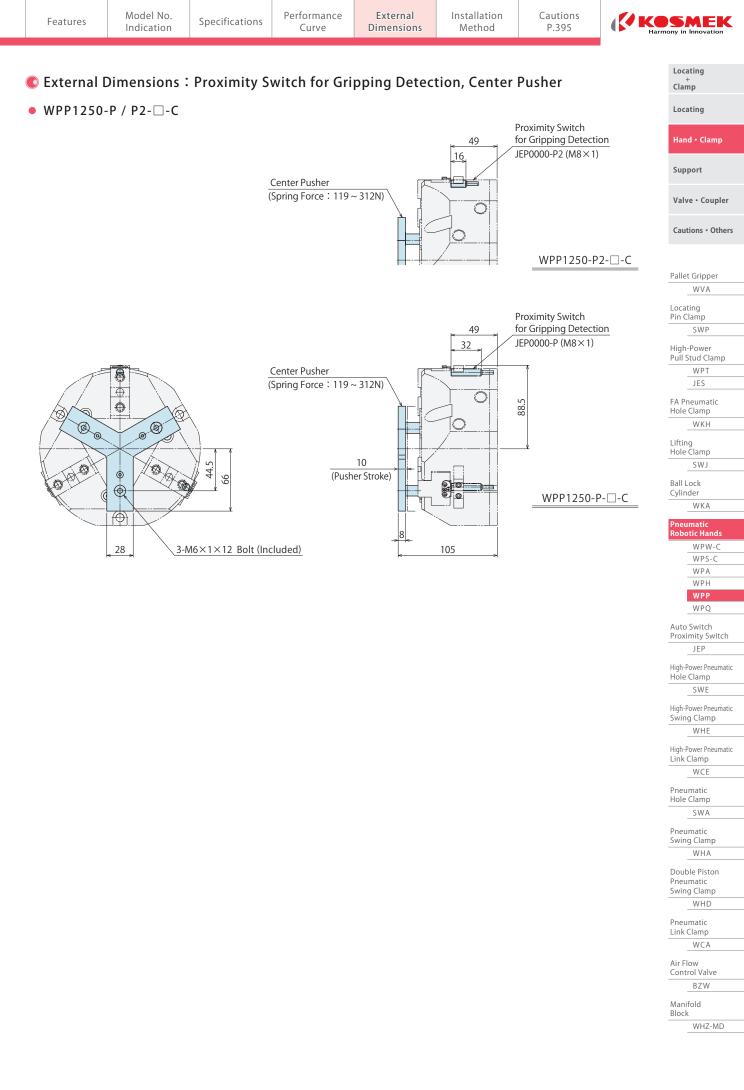
- External Dimensions : Proximity Switch for Gripping Detection, Center Pusher
- WPP0800-P / P2-□-C



● WPP1000-P / P2-□-C

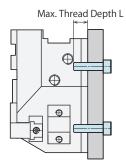




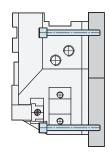


# Installation Method

• Tightening Torque for Cylinder Body

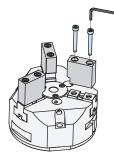


Model No.	Thread Size	Tightening Torque	Max. Thread Depth L	
moderno.	Thread Size	(N • m)	(mm)	
WPP0300	M4×0.7	2.5	13	
WPP0400	M6×1	7.9	12	
WPP0500	M8×1.25	15.4	15	
WPP0600	M8×1.25	15.4	15	
WPP0800	M8×1.25	15.4	15	
WPP1000	M10×1.5	23.5	20	
WPP1250	M10×1.5	23.5	20	



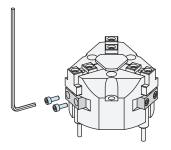
Model No.	Thread Size	Tightening Torque		
		(N • m)		
WPP0300	M3×0.5	1.1		
WPP0400	M5×0.8	5.0		
WPP0500	M6×1	7.9		
WPP0600	M6×1	7.9		
WPP0800	M6×1	7.9		
WPP1000	M8×1.25	15.4		
WPP1250	M8×1.25	15.4		

### • Tightening Torque for Gripper



Model No	Thread Size	Tightening Torque	Max. Thread Depth L	
moderno.	Thread Size	(N • m)	(mm)	
WPP0300	M3×0.5	1.1	7	
WPP0400	M4×0.7	2.5	8	
WPP0500	M5×0.8	5.0	9	
WPP0600	M5×0.8	5.0	9	
WPP0800	M6×1	7.9	12	
WPP1000	M6×1	7.9	15	
WPP1250	M8×1.25	15.4	15	

• Tightening Torque for Bracket for Installing Proximity Switch



Model No.	Thread Size	Tightening Torque	
moderno.		(N • m)	
WPP 000	M3×0.5	1.3	

Excessive tightening leads to breakage of proximity switch.

	Features	Model No. Indication	Specifications	Performance Curve	External Dimensions	Installation Method	Cautions P.395	Harm	
	🕽 Installatio	on Method						-	Locating + Clamp
	Sensor Doc	g Adjustment	Method						Locating
	Proximity swit	ch is used for ope	ening/closing dete						Hand • Clamp
	There are two	adjustment meth	iming of proximity ods for sensor dog d refer to the appli	depending on sh	ipment time.	sensor dog.			Support
		nt Method ①		,	Adjustment	Method ②			Valve • Coupler
	Adjust the sen	isor dog to the de			• For WPP0300/04	00			Cautions • Others
	and tighten it	with hexagon wro	ench (1.5mm).		dog position with	h adjusting bolt, an	gon wrench (1.5mm) d tighten the fixing before operating the	bolt again.	Pallet Gripper
			Sensor Dog						Locating Pin Clamp SWP
			Hexagon Wr	ench (1.5mm)		9	0 20		High-Power Pull Stud Clamp WPT JES
					Close Side		\ \ -	Adjusting Bolt or Dog	FA Pneumatic Hole Clamp WKH
			g and closing are dif v and install the sen		2000	1	1 Side Hexag	gon Wrench	Lifting Hole Clamp SWJ
			ise, the sensor dog oximity switch may		Air Port for Closing	Air Port for Opening	<u></u>		Ball Lock Cylinder WKA
						600/0800/1000/1 ing bolt with cross	250 slot screwdriver, adj	ust the dog	Pneumatic Robotic Hands WPW-C
Senso	r Dog for Closing		Sensor	Dog for Opening			hten the fixing bolt before operating the		WPS-C WPA WPH
	A			B				Fixing Bolt	WPP WPQ
				Hel			ONO		Auto Switch Proximity Switch
	OT			0	20			diusting Polt	High-Power Pneumatic Hole Clamp SWE
					Close Side		Sensor [	djusting Bolt Dog	High-Power Pneumatic Swing Clamp WHE
	Close Side Proximity Switc Air Port for C	_ /	Open Side Proximity S Air Port for Open			Ope		s Slot wdriver	High-Power Pneumatic Link Clamp WCE
					Air Port for Closing	Air Port for Open	iing		Pneumatic Hole Clamp
									 Pneumatic Swing Clamp
									WHA
									Double Piston Pneumatic Swing Clamp
									Pneumatic
									Link Clamp WCA

Air Flow Control Valve BZW

Manifold Block WHZ-MD Pneumatic Robotic Hand

# **Two-Jaw Chuck**

Model WPQ



# High Gripping Force with Wider Stroke Compact, Light Weight, Powerful, Solid and Durable!!

### • Compact and Light Weight

Reduced height for smaller footprint.

### Strong and Stable Gripping Force

High gripping force is generated by wedge plunger structure. Limiting backlash at the end of stroke enables stable and powerful gripping.



Wedge Plunger Structure

• Wider Stroke

Allowable stroke is increased by T-shape slide guide.



# • Long Operational Life

High Rigidity

The robust guide structure ensures exceptional durability.

The metal guides provide for higher and excellent rigidity.

### • Proximity Switch Installation for Gripping Detection

The Two-Jaw Chuck design allows for easy proximity switch installation.

Features	Model No. Indication	Specifications	Performance Curve	External Dimensions	Installation Method	Cautions P.395	<b>K</b>	SMEK
<b>WPQ</b> * Only <b>1 2</b>		3 4	•			25.	•	Locating Clamp Locating Hand • Clamp Support Valve • Coupler
	er Inner Diam	he product includ			ty Switch Typ	De		Cautions • Others
020 025 030 040	: φ25 mm : φ30 mm			Blank : Wi P : 3-V P2 : 3-V	thout Proximity Vire Proximity Switch Vire Proximity Switch nly when selecting	Switch for Gripping Detection for Gripping Detection		Pallet Gripper WVA Locating Pin Clamp SWP High-Power

Application Table										
Model No.	WPQ0200	WPQ0250	WPQ0300	WPQ0400	WPQ0500	WPQ0600	WPQ0800	WPQ1000		
Р										
P2										

\* Please refer to P.405 ~ P.414 for details of proximity switches. \* When using a proximity switch not made by Kosmek, check specifications of each manufacturer.

# 4 Number of Proximity Switches\*



S : 1

\* Only when selecting the proximity switch option 3.

	Specifications	
${}$	Specifications	

2 Design No.

0

060 :

**080** :

**050** : φ 50 mm

**100** :  $\phi$  100 mm

φ60 mm

φ80 mm

: Revision Number

Model No.			WPQ0200	WPQ0250	WPQ0300	WPQ0400	WPQ0500	WPQ0600	WPQ0800	WPQ1000
Cylinder Inner Diameter		mm	20	25	30	40	50	60	80	100
Gripping Force *1	Closing Side	Ν	84.3	121	179	322	497	778	1049	1589
(Air Pressure:At 0.5MPa)	Opening Side	Ν	93.2	147	201	373	592	876	1118	1746
Full Stroke		mm	8	12	16	20	26	32	50	60
Repeatability <sup>%2</sup>		mm				±0.01				±0.03
Stroke Error mm				Ope	ned State	: -0.5~+1	/ Closed S	tate∶-1~	+0.5	
Allowable Gripper Length L (Air Pressure : at 0.5MPa) $^{st 3}$ mm			30	35	40	50	60	80	110	140
Allowable Gripper Offset Distance H (	Air Pressure:at 0.5MPa) <sup>※</sup>	<sup>63</sup> mm	30	35	40	50	60	80	110	140
Maximum Cycle / min.			1(	100 60 3					0	
Cylinder Capacity	Closing Side	cm <sup>3</sup>	1.4	3.1	5.9	13.4	26.9	50.3	117.8	214.4
(Clamping w/o Workpiece)	Opening Side	cm <sup>3</sup>	1.6	3.7	7.1	16.0	32.0	56.5	125.7	235.6
Maximum Operating Pressu	ure	MPa				0	.7			
Minimum Operating Pressu	ire	MPa				0	.3			
Withstanding Pressure		MPa		1.05						
Operating Temperature Range ℃			5 ~ 60							
Usable Fluid				Dry Air						
Weight		kg	0.13	0.27	0.43	0.75	1.3	2.4	5.0	9.2

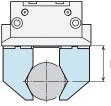
%1. Gripping force indicates the calculated value based on the gripper length (L).

%2. Repeatability under the same condition (no load).

%3. L: Allowable Gripper Length (mm), H: Allowable Gripper Offset Distance (mm). (Air Pressure : at 0.5MPa)

Til

105 



Notes:

L: Allowable Gripper Length (mm)

L: Allowable Gripper Length (mm)

Pneumatic Link Clamp

WCA Air Flow

Control Valve

Manifold Block

BZW

WHZ-MD

Pull Stud Clamp

JES

FA Pneumatic

WKH

SWJ Ball Lock

WKA

eumatic otic Hands WPW-C WPS-C WPA WPH WPP WPQ Auto Switch Proximity Switch JEP High-Power Pneumatic Hole Clamp SWE High-Power Pneumatic Swing Clamp WHE High-Power Pneumatic Link Clamp WCE Pneumatic Hole Clamp SWA Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHD

Hole Clamp

Lifting Hole Clamp

Cylinder

WPT

0

P: Air Pressure (MPa) ➡

F: Gripping Force (N)

# Cripping Force Performance Curve : Closing Side

L: Gripper Length (mm)



- This chart and graph show the relationship among:
   F: Gripping Force (N), P: Air Pressure (MPa) and
   L: Gripper Length (mm).
- 2. Operation in the non-usable range may cause deformation, galling or air leakage.

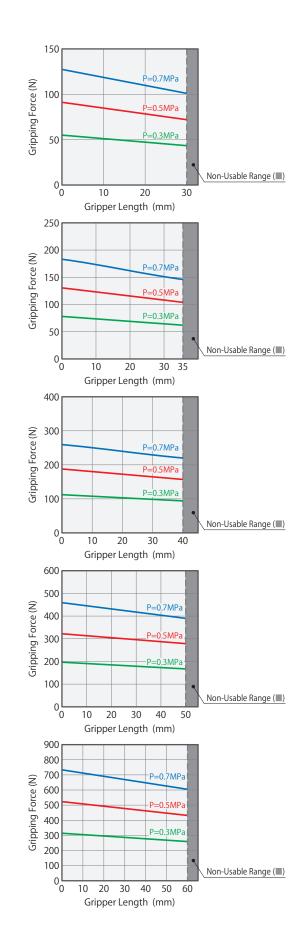
WPQ0200								
Air Pressure	Air Pressure Gripper Length L (mm)							
(MPa)	5	5 10 15 20						
0.7	123	120	114	108	101			
0.5	88	88 86 81 77						
0.3	53	51	49	46	43			

WPQ0250								
Air Pressure	Air Pressure Gripper Length L (mm)							
(MPa)	5	5 10 15 20 30						
0.7	178	174	166	158	150	146		
0.5	127	127 124 119 113 107						
0.3	76	75	71	68	64	62		

WPQ0300								
Air Pressure Gripper Length L (mm)								
(MPa)	5	5 10 15 20 30						
0.7	257	253	245	236	228	220		
0.5	184	181	175	169	163	157		
0.3	110	109	105	101	98	94		

	WPQ0400								
Air Pressure		Gripper Length L (mm)							
(MPa)	5	10	20	30	40	50			
0.7	459	453	428	415	402	390			
0.5	328	323	305	296	287	278			
0.3	197	194	183	178	172	167			

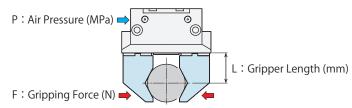
WPQ0500									
Air Pressure		Gripper Length L (mm)							
(MPa)	10	20	30	40	50	60			
0.7	712	681	666	650	635	605			
0.5	508	486	476	465	454	432			
0.3	305	292	285	279	272	259			



Features	Model No. Indication	Specifications	Performance Curve	External Dimensions	Installation Method	Cautions P.395	
							Locating

Notes:

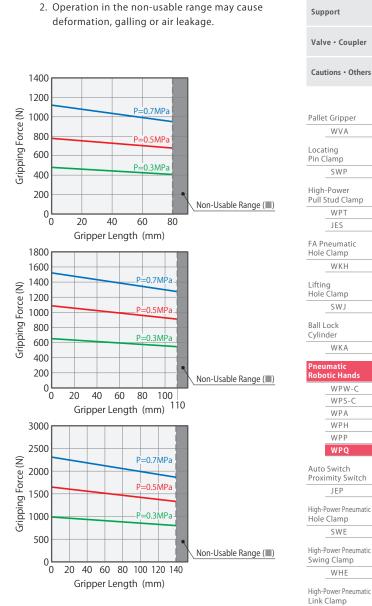
# C Gripping Force Performance Curve : Closing Side



WPQ0600									
Air Pressure Gripper Length L (mm)									
(MPa)	10	20	30	40	60	80			
0.7	1111	1075	1057	1039	985	950			
0.5	793	768	755	742	704	678			
0.3	476	461	453	445	422	407			

WPQ0800									
Air Pressure		Gripper Length L (mm)							
(MPa)	20	40	60	80	100	110			
0.7	1477	1436	1376	1335	1295	1274			
0.5	1055	1026	983	954	925	910			
0.3	633	616	590	572	555	546			

WPQ1000									
Air Pressure		Gripper Length L (mm)							
(MPa)	40	60	80	100	120	140			
0.7	2186	2099	2041	1982	1924	1865			
0.5	1562	1499	1458	1416	1374	1332			
0.3	937	900	875	850	825	800			



1. This chart and graph show the relationship among:

F: Gripping Force (N), P: Air Pressure (MPa) and

L: Gripper Length (mm).

WCE Pneumatic Hole Clamp SWA

Pneumatic Swing Clamp WHA

Clamp

Locating

Hand • Clamp

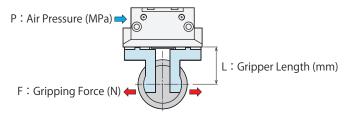
Double Piston Pneumatic Swing Clamp WHD

Pneumatic Link Clamp

WCA Air Flow Control Valve BZW

Manifold Block WHZ-MD

# Cripping Force Performance Curve : Opening Side



	WPQ0200								
Air Pressure	ssure Gripper Length L (mm)								
(MPa)	5	10	15	20	30				
0.7	135	132	125	118	111				
0.5	96	94	89	84	80				
0.3	58 56 54 51								

WPQ0250									
Air Pressure		Gripper Length L (mm)							
(MPa)	5	10	15	20	25	35			
0.7	212	207	198	188	179	174			
0.5	151	148	141	134	128	124			
0.3	91	89	85	81	77	75			

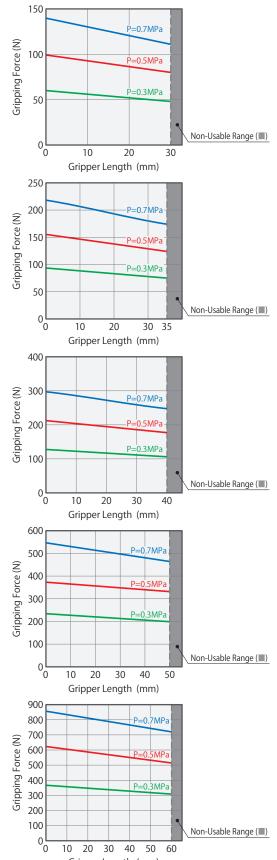
WPQ0300								
Air Pressure		Gripper Length L (mm)						
(MPa)	5	10	15	20	30	40		
0.7	291	286	277	267	258	248		
0.5	208	205	198	191	184	177		
0.3	125	123	119	115	110	106		

	WPQ0400								
Air Pressure	ure Gripper Length L (mm)								
(MPa)	5	10	20	30	40	50			
0.7	546	539	509	494	479	464			
0.5	390	385	364	353	342	331			
0.3	234	231	218	212	205	199			

WPQ0500									
Air Pressure		Gripper Length L (mm)							
(MPa)	10	20	30	40	50	60			
0.7	847	811	793	774	756	720			
0.5	605	579	566	553	540	514			
0.3	363	347	340	332	324	308			

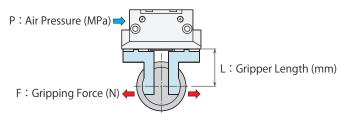


- This chart and graph show the relationship among :
   F : Gripping Force (N), P : Air Pressure (MPa) and
   L : Gripper Length (mm).
- 2. Operation in the non-usable range may cause deformation, galling or air leakage.



Features	Model No. Indication	Specifications	Performance Curve	External Dimensions	Installation Method	Cautions P.395	

# C Gripping Force Performance Curve : Opening Side



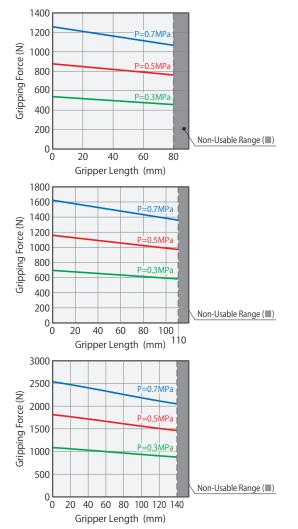
WPQ0600					(N)	
Air Pressure		Gri	oper Ler	igth L (m	nm)	
(MPa)	10	20	30	40	60	80
0.7	1247	1207	1187	1167	1106	1066
0.5	891	862	848	833	790	761
0.3	534	517	509	500	474	457

WPQ0800					(N)	
Air Pressure		Gri	pper Ler	igth L (m	nm)	
(MPa)	20	40	60	80	100	110
0.7	1575	1532	1468	1424	1381	1359
0.5	1125	1094	1048	1017	987	971
0.3	675	657	629	610	592	582

WPQ1000					(N)	
Air Pressure		Gri	pper Ler	igth L (m	nm)	
(MPa)	40	60	80	100	120	140
0.7	2403	2306	2242	2178	2114	2050
0.5	1716	1647	1602	1556	1510	1464
0.3	1030	988	961	934	906	878



- This chart and graph show the relationship among : F : Gripping Force (N), P : Air Pressure (MPa) and L : Gripper Length (mm).
- 2. Operation in the non-usable range may cause deformation, galling or air leakage.



	Valve • Coupler
	Cautions • Others
	Pallet Gripper
	WVA
	Locating
	Pin Clamp
	SWP
	High-Power
-	Pull Stud Clamp WPT
	JES
	FA Pneumatic
	Hole Clamp
	WKH
	Lifting
-	Hole Člamp SWJ
	Ball Lock Cylinder
-	WKA
1	Pneumatic
	Robotic Hands
	WPW-C WPS-C
	WPS-C
	WPH
	WPP
	WPQ
	Auto Switch
-	Proximity Switch JEP
	High-Power Pneumatic
	Hole Clamp
	SWE
	High-Power Pneumatic
	Swing Clamp
	WHE
	High-Power Pneumatic Link Clamp
-	WCE
	Pneumatic
	Pheumatic Hole Clamp
	SWA
	Pneumatic
-	Swing Clamp WHA
	Double Piston Pneumatic
	Swing Clamp
	WHD
	Pneumatic
-	Link Clamp WCA
	Air Flow Control Valve
	- STORE VULVE
	BZW
-	
	BZW

Locating

Locating

Support

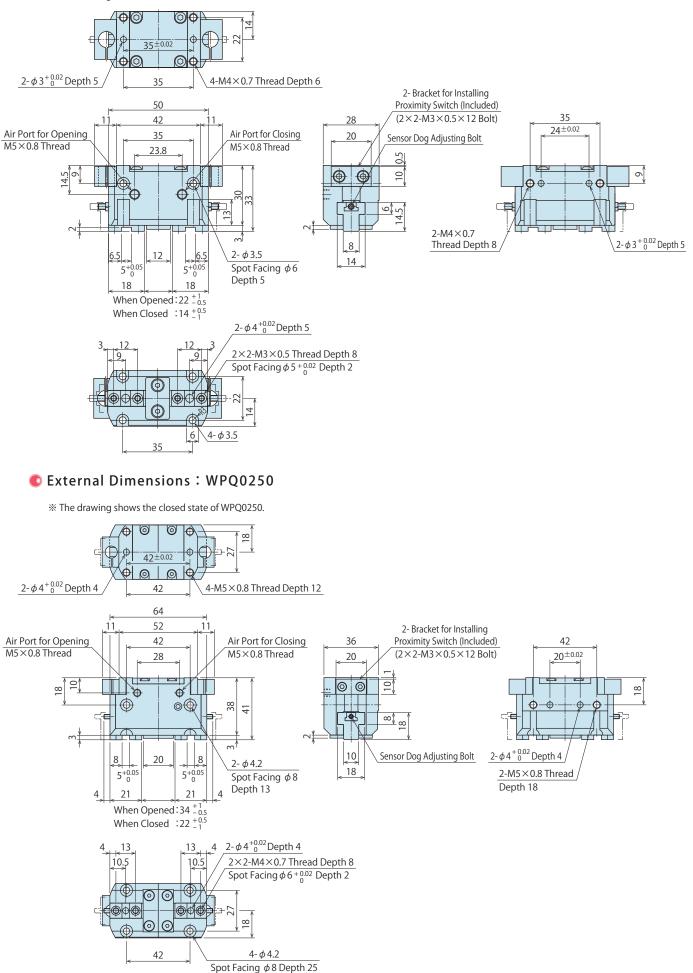
Hand • Clamp

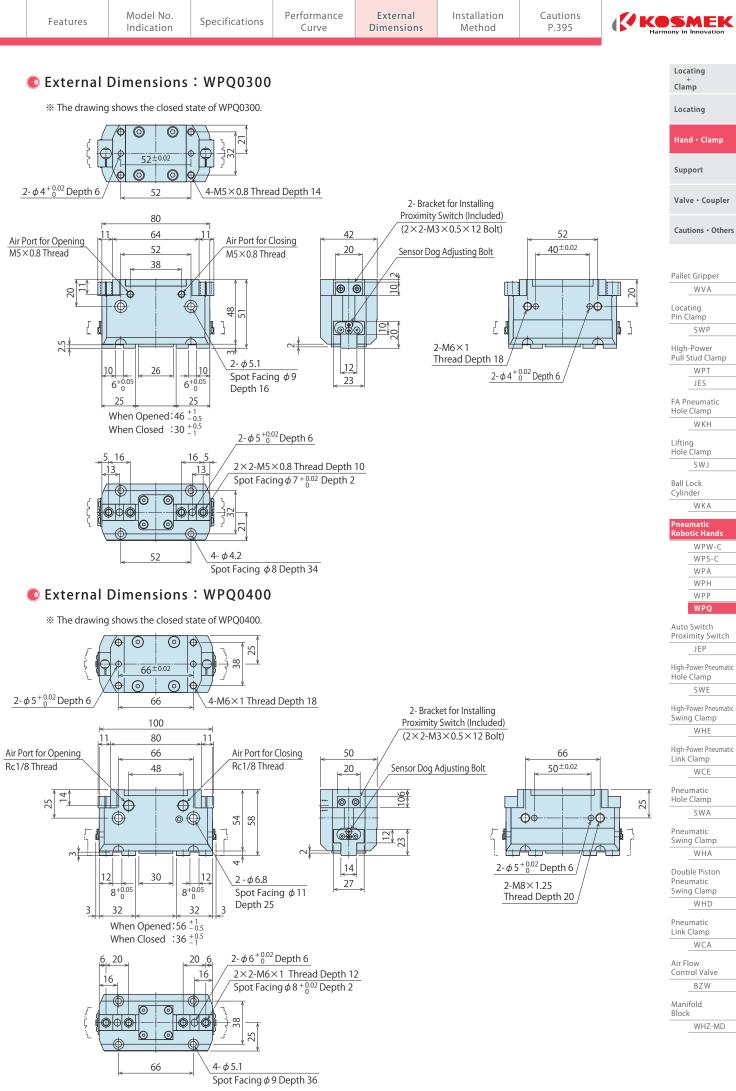
Valve • Coupler

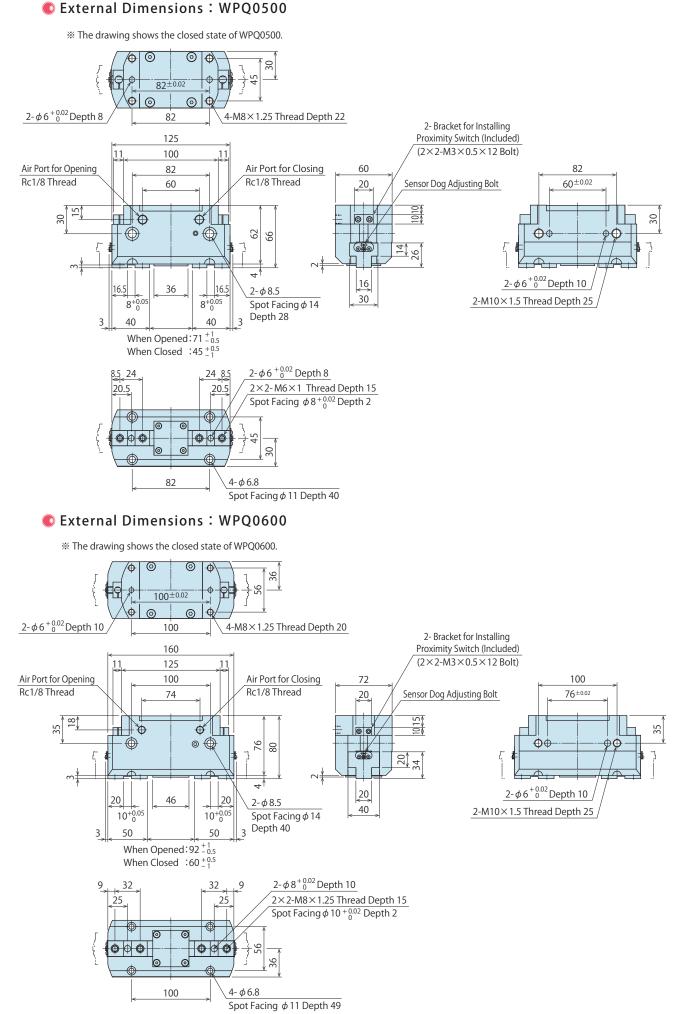
Clamp

# External Dimensions : WPQ0200

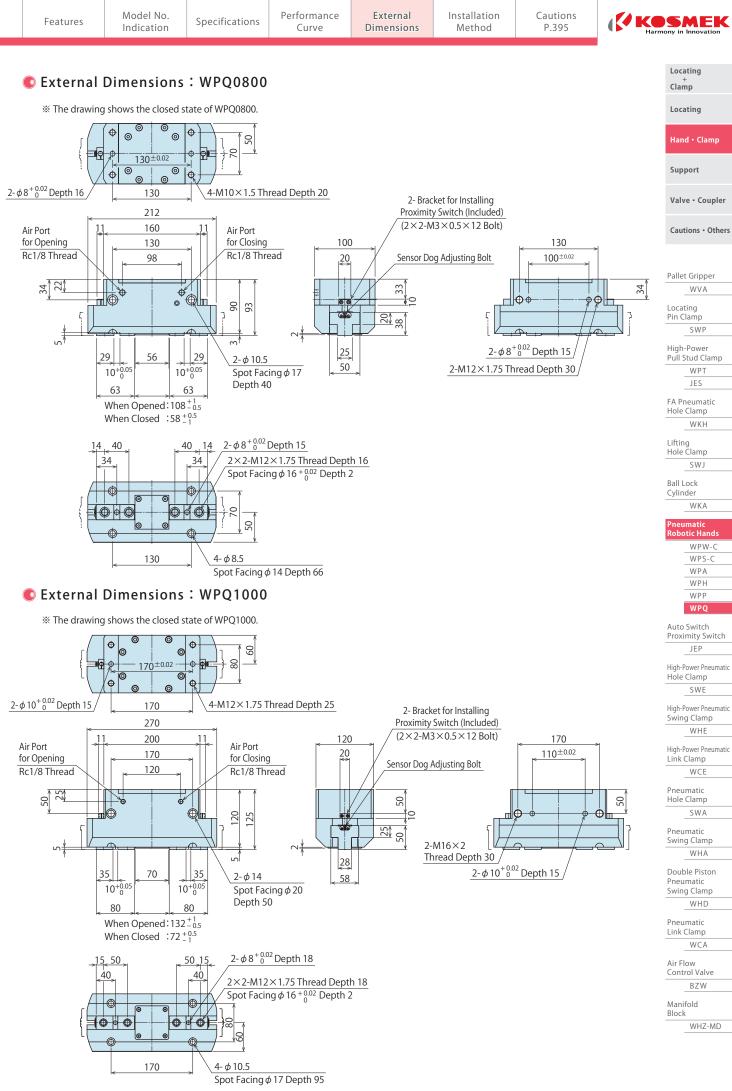
\* The drawing shows the closed state of WPQ0200.



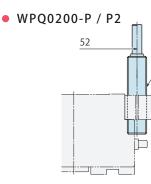


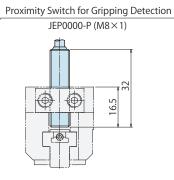


389

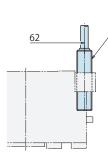


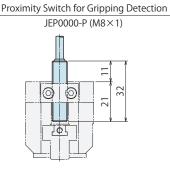
External Dimensions : Proximity Switch for Gripping Detection





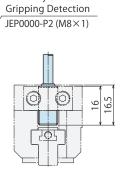
• WPQ0250-P / P2





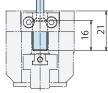
<u>52</u>

62

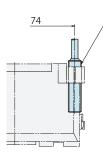


Proximity Switch for

Proximity Switch for Gripping Detection JEP0000-P2 (M8×1)



• WPQ0300-P



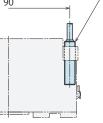
JEP0000-P (M8×1) ⊕i  $\oplus$ 30 32

Proximity Switch for Gripping Detection

• WPQ0400-P

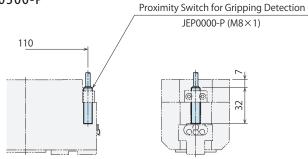
90

Proximity Switch for Gripping Detection JEP0000-P (M8×1)



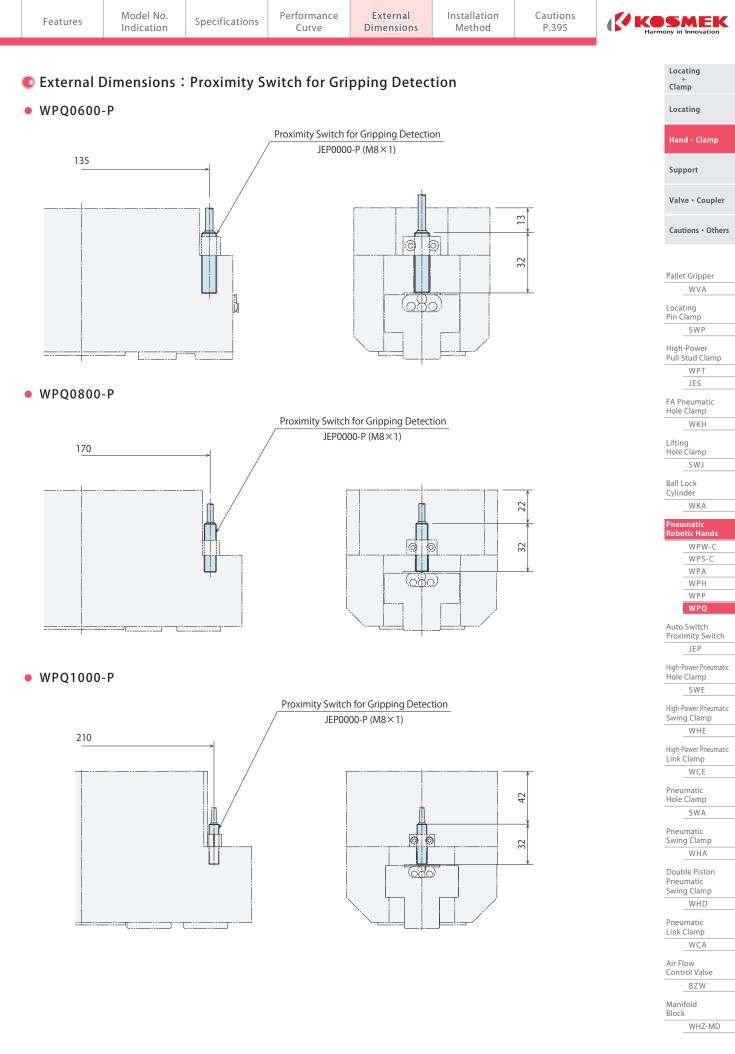
6 32

# • WPQ0500-P



Note :

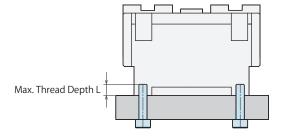
1. Proximity Switch for Gripping Detection Type P2 (Length 16mm) cannot be installed in WPQ0300 or larger sizes.



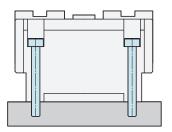
Note:

1. Proximity Switch for Gripping Detection Type P2 (Length 16mm) cannot be installed in WPQ0300 or larger sizes.

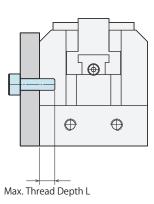
- Installation Method
- Tightening Torque for Cylinder Body



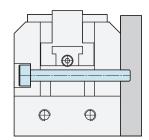
Model No.	Thread Size	Tightening Torque (N • m)	Max. Thread Depth L (mm)
WPQ0200	M4×0.7	2.5	6
WPQ0250	M5×0.8	5.0	12
WPQ0300	M5×0.8	5.0	14
WPQ0400	M6×1	7.9	18
WPQ0500	M8×1.25	15.4	20
WPQ0600	M8×1.25	15.4	20
WPQ0800	M10×1.5	35.3	20
WPQ1000	M12×1.75	65.7	25



Model No.	Thread Size	Tightening Torque (N • m)
WPQ0200	M3×0.5	1.3
WPQ0250	M4×0.7	2.5
WPQ0300	M4×0.7	2.5
WPQ0400	M5×0.8	5.0
WPQ0500	M6×1	7.9
WPQ0600	M6×1	7.9
WPQ0800	M8×1.25	15.4
WPQ1000	M10×1.5	35.3



Model No.	Thread Size	Tightening Torque	Max. Thread Depth L
		(N • m)	(mm)
WPQ0200	M4×0.7	2.5	8
WPQ0250	M5×0.8	5.0	15
WPQ0300	M6×1	7.9	14
WPQ0400	M8×1.25	15.4	14
WPQ0500	M10×1.5	35.3	18
WPQ0600	M10×1.5	35.3	18
WPQ0800	M12×1.75	65.7	25
WPQ1000	M16×2	162	30



Model No.	Thread Size	Tightening Torque (N • m)
WPQ0200	M3×0.5	1.3
WPQ0250	M4×0.7	2.5
WPQ0300	M5×0.8	5.0
WPQ0400	M6×1	7.9
WPQ0500	M8×1.25	15.4
WPQ0600	M8×1.25	15.4
WPQ0800	M10×1.5	35.3
WPQ1000	M12×1.75	65.7

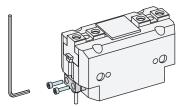
	Features	Model No. Indication	Specifications	Performance Curve	External Dimensions	Installation Method	Cautions P.395	

Tightening Torque for Gripper



Model No.	Thread Size	Tightening Torque	Max. Thread Depth L
Model No.	Thiedd Size	(N • m)	(mm)
WPQ0200	M3×0.5	1.3	8
WPQ0250	M4×0.7	2.5	8
WPQ0300	M5×0.8	5.0	10
WPQ0400	M6×1	7.9	12
WPQ0500	M6×1	7.9	15
WPQ0600	M8×1.25	15.4	15
WPQ0800	M12×1.75	65.7	16
WPQ1000	M12×1.75	65.7	18

## • Tightening Torque for Bracket for Installing Proximity Switch



Model No.	Thread Size	Tightening Torque (N • m)
WPQ 0	M3×0.5	1.3

Excessive tightening leads to breakage of proximity switch.

Support
Valve • Coupler
Cautions • Others
Pallet Gripper
WVA
Locating Pin Clamp
SWP
High-Power Pull Stud Clamp
WPT

Locating

Locating

Hand • Clamp

Clamp

K

FA Pneumatic Hole Clamp WKH

JES

Lifting Hole Clamp SWJ

Ball Lock Cylinder WKA

tic Hands	
WPW-C	
WPS-C	
WPA	
WPH	
WPP	
WPQ	

Auto Switch Proximity Switch JEP High-Power Pneumatic Hole Clamp SWE High-Power Pneumatic Swing Clamp WHE High-Power Pneumatic Link Clamp WCE Pneumatic Hole Clamp

SWA Pneumatic Swing Clamp WHA

Double Piston Pneumatic Swing Clamp WHD

Pneumatic Link Clamp WCA Air Flow

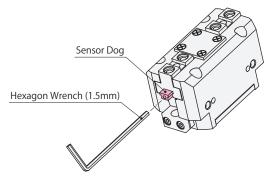
Control Valve BZW Manifold Block WHZ-MD

# Sensor Dog Adjustment Method

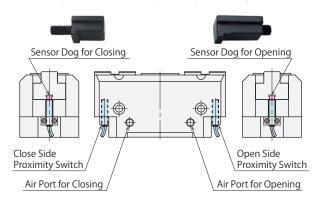
Proximity switch is used for opening/closing detection of robotic hand. You can change the detection timing of proximity switch by adjusting the position of sensor dog. There are two adjustment methods for sensor dog depending on shipment time. Please check on the product and refer to the applicable adjustment method.

# Adjustment Method ①

Adjust the sensor dog to the detection position and tighten it with hexagon wrench (1.5mm).



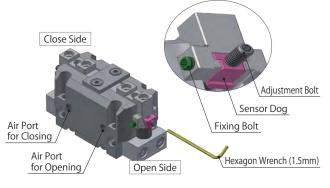
Shapes of sensor dog for opening and closing are different. Please refer to the drawing below and install the sensor dog to the appropriate position. Otherwise, the sensor dog may extremely stick out and/or the proximity switch may not react.



# Adjustment Method 2

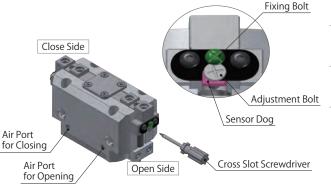
### • For WPQ0200/0250

Untighten the fixing bolt with hexagon wrench (1.5mm), adjust the dog position with adjustment bolt, and tighten the fixing bolt again. Make sure to tighten the fixing bolt before operating the robotic hand.



For WPQ0300/0400/0500/0600/0800/1000

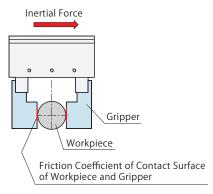
Untighten the fixing bolt with cross slot screwdriver, adjust the dog position with adjustment bolt, and tighten the fixing bolt again. Make sure to tighten the fixing bolt before operating the robotic hand.



### Cripper Length/Workpiece Weight Graph

### Inertial Force • Friction Coefficient • Safety Factor Selection List

	Inertial Force	Friction Coefficient $^{*1}$	Safety Factor	
Low	Stops after 0.1 sec at the speed of	Large	5 times	
Speed	0 ~ 100mm/sec.	Small	10 times	
	Stops after 0.1 sec at the speed of	Large	10 times	
Middle	100 ~ 300mm/sec.	Small	15 times	
Speed	Stops after 0.1 sec at the speed of	Large	15 times	
	300 ~ 500mm/sec.	Small	20 times	
High	Stops after 0.1 sec at the speed of		20 times	
Speed	500 ~ 1000mm/sec.	-	30 times	



Note :

\*1. Indicates the friction coefficient of contact surface of workpiece and gripper. Refer to the condition below. Friction Coefficient : Small (Approximately  $\mu$ =0.1) … When contact surface is flat.

Friction Coefficient : Large (More than  $\mu = 0.15$ ) ... When contact surface is serration or spike shape.

### How to Read Gripper Length/Workpiece Weight Graph

The selection method is a reference. It is recommended to consider the actual conditions (environment) when selecting the product. The graph shows when air pressure is 0.5MPa.

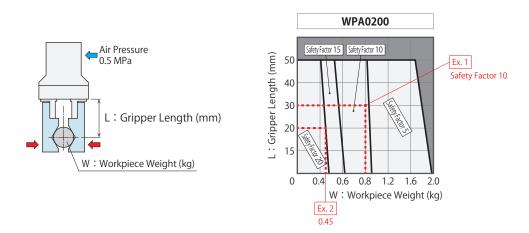
#### 【Ex. 1】

When using WPA0200 (close side) with 0.8kg workpiece and 30mm gripper, the safety factor should be 10 times. When using it with lower speed which is indicated in Inertial Force • Friction Coefficient • Safety Factor Selection List, the friction coefficient of contact surface can be small. When using it with middle speed (stops after 0.1 sec at the speed of 100~300mm/sec.), contact surface should be servation or spike shape to secure larger friction coefficient.

#### 【Ex. 2】

When using it with middle speed (stops after 0.1 sec at the speed of 300 ~ 500mm/sec.) and when friction coefficient is small due to flat contact surface, the safety factor should be 20 times.

When using WPA0200 with 20 times safety factor and 20mm gripper, the maximum workpiece weight is 0.45kg.



### Relationship between Workpiece Weight and Robotic Hand Gripping Force

The safety factor of robotic hand gripping force to workpiece weight should be approximately 16 times for each robot manufacturer, but it differs according to the conditions. Refer to the following contents when selecting the product.

① Workpiece Gravity Center and Gripping Position

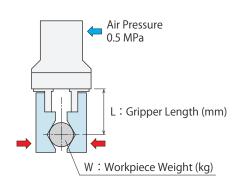
It is recommended to design the gripper so that it grips the workpiece gravity center with the center of robotic hand. ② Gripper Length

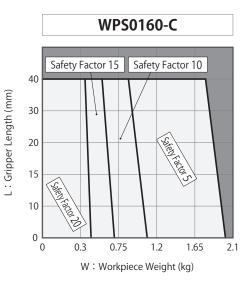
The load applied on the robotic hand body depends on the gripper length. It is recommended to design the gripper so that the workpiece gravity center is as close as possible to the robotic hand.

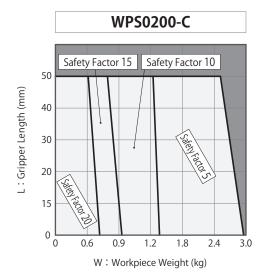


Locating

### • WPS : Close Side





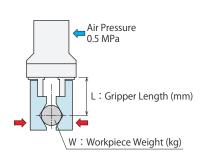


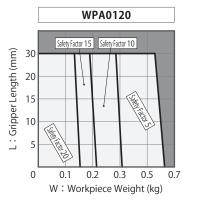
	Clamp
	Locating
	Hand • Clamp
	Support
	Valve • Coupler
	Cautions • Others
	Pallet Gripper
-	WVA
	Locating Pin Clamp
	SWP
	High-Power
	Pull Stud Clamp
	JES
	FA Pneumatic Hole Clamp
-	WKH
	Lifting
-	Hole Clamp
	SWJ
	Ball Lock Cylinder
-	Cylinder WKA
	Pneumatic Robotic Hands
	WPW-C
	WPS-C
	WPA
	WPA WPH
	WPA WPH WPP
	WPA WPH WPP WPQ Auto Switch Proximity Switch
	WPA WPH WPP WPQ Auto Switch
	WPA WPH WPQ Auto Switch Proximity Switch JEP High-Power Pneumatic
	WPA WPH WPQ Auto Switch Proximity Switch JEP High-Power Pneumatic Hole Clamp
	WPA WPH WPQ Auto Switch Proximity Switch JEP High-Power Pneumatic Hole Clamp SWE
	WPA WPH WPQ Auto Switch Proximity Switch JEP High-Power Pneumatic Hole Clamp
	WPA WPH WPQ Auto Switch Proximity Switch JEP High-Power Pneumatic Hole Clamp SWE High-Power Pneumatic
	WPA WPH WPQ Auto Switch Proximity Switch JEP High-Power Pneumatic Hole Clamp SWE High-Power Pneumatic Swing Clamp WHE High-Power Pneumatic
	WPA WPH WPQ Auto Switch Proximity Switch JEP High-Power Pneumatic Hole Clamp SWE Swing Clamp WHE High-Power Pneumatic Swing Clamp
	WPA WPH WPQ Auto Switch Proximity Switch JEP High-Power Pneumatic Hole Clamp SWE High-Power Pneumatic Swing Clamp WHE High-Power Pneumatic
	WPA WPH WPP WPQ Auto Switch Proximity Switch JEP High-Power Pneumatic Hole Clamp SWE Swing Clamp WHE High-Power Pneumatic Swing Clamp WHE High-Power Pneumatic Link Clamp WCE Pneumatic
	WPA WPH WPQ Auto Switch Proximity Switch JEP High-Power Pneumatic Hole Clamp SWE Swing Clamp WHE High-Power Pneumatic Swing Clamp WHE High-Power Pneumatic Link Clamp WCE Pneumatic Hole Clamp
	WPA WPH WPQ Auto Switch Proximity Switch JEP High-Power Pneumatic Hole Clamp SWE High-Power Pneumatic Swing Clamp WHE High-Power Pneumatic Link Clamp WCE Pneumatic Hole Clamp
-	WPA WPH WPQ Auto Switch Proximity Switch JEP High-Power Pneumatic Hole Clamp SWE Swing Clamp WHE High-Power Pneumatic Swing Clamp WHE High-Power Pneumatic Link Clamp WCE Pneumatic Hole Clamp
-	WPA WPH WPP WPQ Auto Switch Proximity Switch JEP High-Power Pneumatic Hole Clamp SWE Swing Clamp WHE High-Power Pneumatic Link Clamp WE Pneumatic Hole Clamp SWA Pneumatic
-	WPA           WPH           WPP           WPQ           Auto Switch           Proximity Switch           JEP           High-Power Pneumatic           Hole Clamp           SWE           High-Power Pneumatic           Swing Clamp           WHE           High-Power Pneumatic           Link Clamp           WCE           Pneumatic           Hole Clamp           SWA           Pneumatic           SWA           Pneumatic           Swing Clamp           WHA           Double Piston
-	WPA WPH WPP WPQ Auto Switch Proximity Switch JEP High-Power Pneumatic Hole Clamp SWE High-Power Pneumatic Swing Clamp WHE High-Power Pneumatic Link Clamp WCE Pneumatic Hole Clamp SWA Pneumatic Swing Clamp WHA Double Piston Pneumatic
-	WPA           WPH           WPP           WPQ           Auto Switch           Proximity Switch           JEP           High-Power Pneumatic           Hole Clamp           SWE           High-Power Pneumatic           Swing Clamp           WHE           High-Power Pneumatic           Link Clamp           WCE           Pneumatic           Hole Clamp           SWA           Pneumatic           SWA           Pneumatic           Swing Clamp           WHA           Double Piston
-	WPA           WPH           WPP           WPQ           Auto Switch           JEP           High-Power Pneumatic           Hole Clamp           SWE           High-Power Pneumatic           Swing Clamp           WHE           High-Power Pneumatic           Swing Clamp           WCE           Pneumatic           Hole Clamp           SWA           Pneumatic           Swing Clamp           WHA           Double Piston           Pneumatic           Swing Clamp           WHD
-	WPA           WPH           WPP           WPQ           Auto Switch           JEP           High-Power Pneumatic           Hole Clamp           SWE           High-Power Pneumatic           Swing Clamp           WHE           High-Power Pneumatic           Swing Clamp           WCE           Pneumatic           Hole Clamp           SWA           Pneumatic           Swing Clamp           WHA           Double Piston           Pneumatic           Swing Clamp
-	WPA           WPH           WPP           WPQ           Auto Switch           JEP           High-Power Pneumatic           Hole Clamp           SWE           High-Power Pneumatic           Swing Clamp           WHE           High-Power Pneumatic           Swing Clamp           WCE           Pneumatic           Hole Clamp           SWA           Pneumatic           Swing Clamp           WHA           Double Piston           Pneumatic           Swing Clamp           WHD           Pneumatic
	WPA           WPH           WPP           WPQ           Auto Switch           JEP           High-Power Pneumatic           Hole Clamp           SWE           High-Power Pneumatic           Swing Clamp           WHE           High-Power Pneumatic           Link Clamp           WCE           Pneumatic           SWA           Pneumatic           Swing Clamp           WHA           Double Piston           Pneumatic           Swing Clamp           WHD           Pneumatic           Swing Clamp           MHD           Air Clamp
-	WPA           WPH           WPP           WPQ           Auto Switch           JEP           High-Power Pneumatic           Hole Clamp           SWE           High-Power Pneumatic           Swing Clamp           WHE           High-Power Pneumatic           Swing Clamp           WCE           Pneumatic           Hole Clamp           SWA           Pneumatic           Swing Clamp           WHA           Double Piston           Pneumatic           Swing Clamp           WHD           Pneumatic           Swing Clamp           WHD

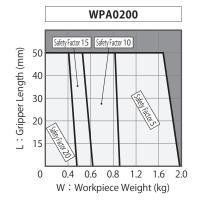
Manifold Block WHZ-MD

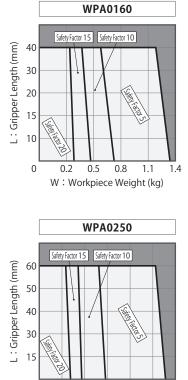
# C Gripper Length/Workpiece Weight Graph

• WPA : Close Side



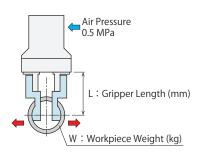


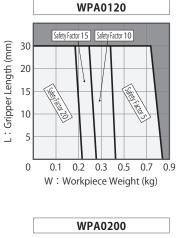


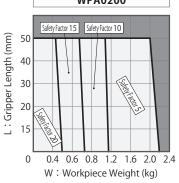


0 0.5 1.0 1.5 2.0 2.5 3.0 W : Workpiece Weight (kg)

WPA : Open Side









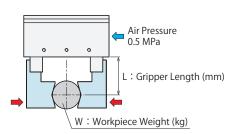


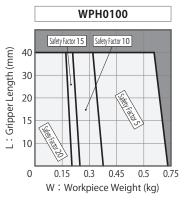


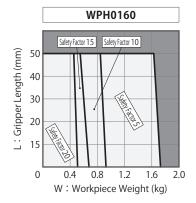
Locating + Clamp Locating

Cautions

• WPH







Hand • Clamp
Support
Valve • Coupler
Cautions • Others
Dallat Crimman
Pallet Gripper
WVA
Locating Pin Clamp

SWP High-Power Pull Stud Clamp

WPT JES

FA Pneumatic Hole Clamp

Lifting Hole Clamp

WKH

SWJ

WPH0200 Safety Factor 15 Safety Factor 10 L: Gripper Length (mm) 60 50 40 30 15 0 0.5 1.0 1.5 2.0 2.5 3.0 W: Workpiece Weight (kg)

Ball L	
Cylin	der
	WKA
	matic tic Hands
	WPW-C
	WPS-C
	WPA
	WPH
	WPP
	WPQ

Auto Switch Proximity Switch JEP

High-Power Pneumatic Hole Clamp SWE

High-Power Pneumatic Swing Clamp

WHE

High-Power Pneumatic Link Clamp WCE

> Pneumatic Hole Clamp SWA

Pneumatic Swing Clamp WHA

Double Piston Pneumatic Swing Clamp WHD

Pneumatic Link Clamp

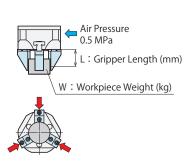
WCA Air Flow Control Valve

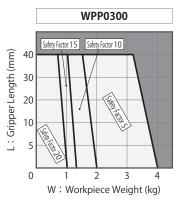
BZW Manifold Block WHZ-MD

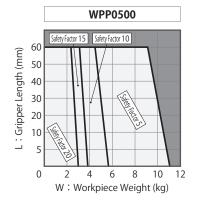
WPP0400

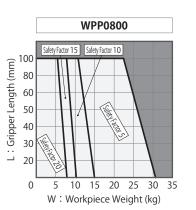
# Cripper Length/Workpiece Weight Graph

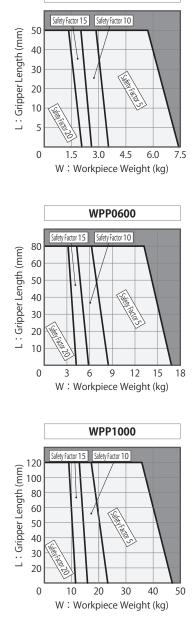
• WPP: Closing Side

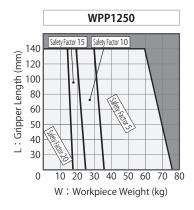














Locating Clamp Locating

Hand · Clamp

Valve • Coupler

Cautions • Others

WVA

SWP

WPT JES

WKH

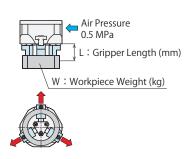
SWJ

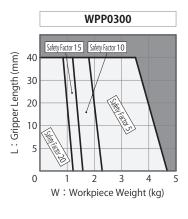
Cylinder WKA

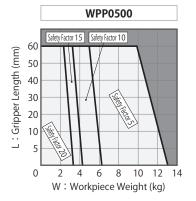
neumatic obotic Ha

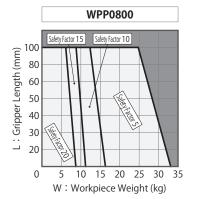
Support

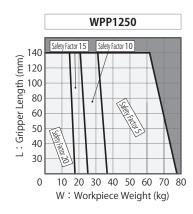


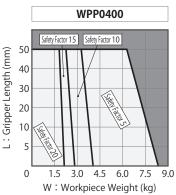


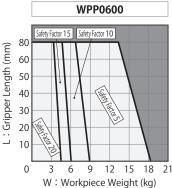


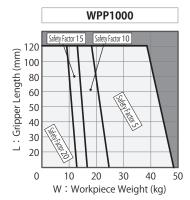


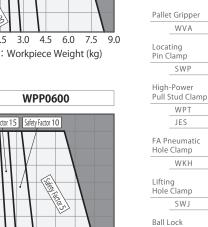












21

WPW-C
WPS-C
WPA
WPH
WPP
WPQ

Auto Switch Proximity Switch JEP High-Power Pneumatic

Hole Clamp SWE High-Power Pneumatic

Swing Clamp WHE

High-Power Pneumatic Link Clamp

WCE Pneumatic Hole Clamp

SWA

Pneumatic Swing Clamp WHA

Double Piston Pneumatic Swing Clamp WHD

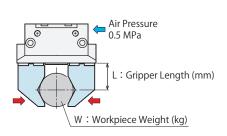
Pneumatic Link Clamp WCA

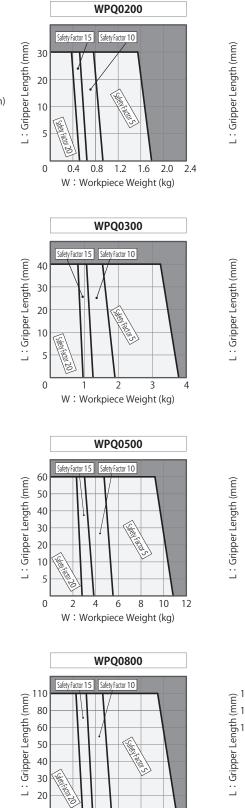
Air Flow Control Valve BZW

Manifold Block WHZ-MD

# Cautions

WPQ : Closing Side





20

24

0

7 14

21 28

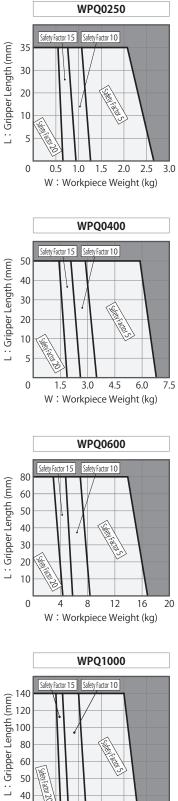
W: Workpiece Weight (kg)

35 42

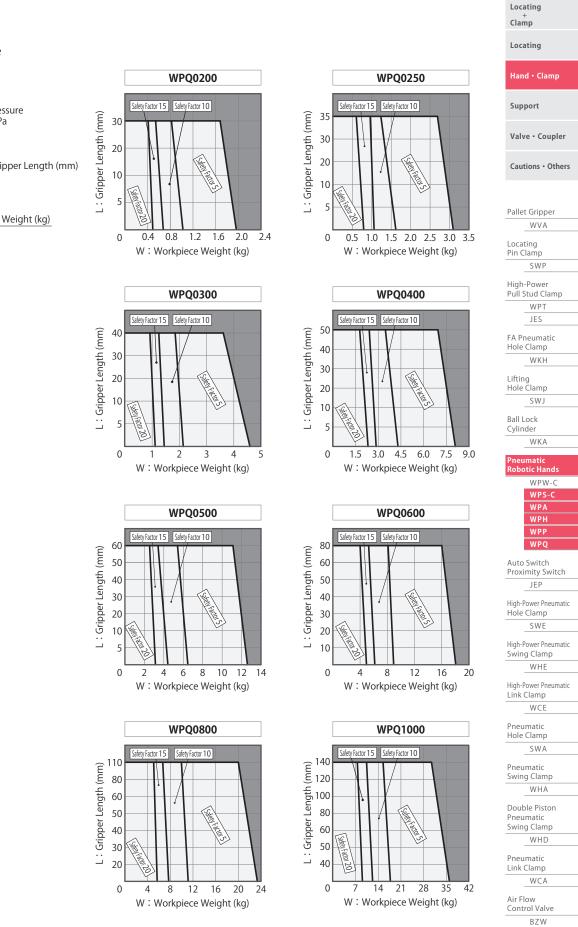
0

4 8 12 16

W: Workpiece Weight (kg)







WPQ : Opening Side





WHZ-MD

Manifold Block

# Cautions

- Notes for Design
- 1) Check Specifications
- model WPS : Maximum operating air pressure is 0.5 MPa. Minimum operating air pressure is 0.2 MPa. model WPA : Maximum operating air pressure is 0.7MPa.

Minimum operating air pressure is 0.2 MPa.

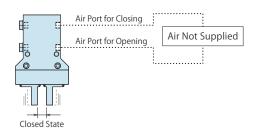
model WPH : Maximum operating air pressure is 0.7MPa. Minimum operating air pressure is 0.15 MPa.

model WPP/WPQ : Maximum operating air pressure is 0.7MPa. Minimum operating air pressure is 0.3 MPa.

However, the maximum operating pressure and gripping force may change depending on the gripper length. Please provide appropriate air pressure in order to avoid deformation, seizure or air leakage caused by overload applied to the robotic hand.

model WPS Only

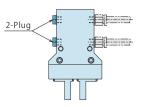
When air is not supplied to either air port for closing or air port for opening, the gripper is closed by built-in spring.



- 2) Notes for Circuit Design
- Please design the air circuit properly and review the circuit design in advance in order to avoid malfunction or breakage of the device.
- 3) Protective Cover Installation
- If the moving parts of the robot or robotic hand may endanger human life, please install the protection cover.
- 4) Please supply filtered clean dry air.
- Oil supply with a lubricator etc. is unnecessary.
- 5) Adjustment of Operating Speed
- If the operating speed of the robotic hand is very fast, it leads to wear-out or malfunction of the parts.
   Please prepare a speed controller to adjust speed in order not to exceed the appropriate opening and closing time.
- 6) For Use of Auto Switch
- Select an auto switch depending on the environment.
- An auto switch may be stuck out of the robotic hand depending on the installation position and direction.

### Installation Notes

- 1) Check the Fluid to Use
- Please supply filtered clean dry air. (Install drain removing device.)
- Oil supply with a lubricator etc. is unnecessary.
   Oil supply with a lubricator may cause loss of the initial lubricant.
   The operation under low pressure and low speed may be unstable.
   (In case of using secondary lubricant, please supply the lubricant continuously.)
- 2) Preparation for Piping
- Pipes, piping connectors and fixture circuits should be cleaned and flushed thoroughly. The dust and cutting chips in the circuit may lead to air leakage and malfunction.
- There is no filter provided with this product for prevention of contaminants in the air circuit.
- 3) Applying Sealing Tape
- Wrap with tape 1 to 2 times following the screwing direction.
- Pieces of the sealing tape can lead to air leakage and malfunction.
- When piping, be careful that contaminant such as sealing tape does not enter the products.
- 4) Installation of the Robotic Hand and the Gripper
- Please tighten the robotic hand/gripper with the tightening torque listed on each product page.
   WPS: P.346, WPA: P.356, WPH: P.364,
   WPP: P.379, WPQ: P.393
- 5) Trial Operation Method
- Avoid supplying large air flow right after the installation. The operating time will be very fast and the robotic hand may be seriously damaged. Please install the speed controller near the air source and gradually supply air pressure.
- 6) Adjustment of Operating Speed
- If the operating speed of the robotic hand is very fast, it leads to wear-out or malfunction of the parts.
   Please prepare a speed controller to adjust speed in order not to exceed the appropriate opening and closing time.
- 7) Plug Installation (model WPS Only)
- Air port for closing and air port for opening are on the both sides of the hand. Please choose either side of the air ports to supply air and install the attached plugs on the other side.



#### Cautions

# 

Locating + Clamp Locating

### Notes on Handling

- 1) It should be operated by qualified personnel.
- Machines and devices with hydraulic and pneumatic equipment 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 abovementioned 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 the robotic hand or the robot while it is operating. 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.
- Built-in spring is very strong and can be dangerous. (model WPS only)

### Maintenance and Inspection

 Please contact us for overhaul and repair.
 Built-in spring is very strong and can be dangerous. (model WPS only)

Valve • Coupler

Hand · Clamp

Support

Cautions • Others

Pallet Gripper WVA

Locating Pin Clamp SWP

High-Power Pull Stud Clamp

> WPT JES

FA Pneumatic Hole Clamp WKH

Lifting Hole Clamp

SWJ Ball Lock Cylinder

> WKA neumatic

otic Hands WPW-C WPS-C WPA WPH WPP WPQ

Auto Switch Proximity Switch JEP

High-Power Pneumatic Hole Clamp

SWE High-Power Pneumatic

Swing Clamp WHE

High-Power Pneumatic Link Clamp WCE

Pneumatic

Hole Clamp SWA

Pneumatic Swing Clamp WHA

Double Piston Pneumatic Swing Clamp

WHD

Pneumatic Link Clamp WCA

Air Flow Control Valve BZW

Manifold Block WHZ-MD

404



P2 : 3-Wire Proximity Switch for Gripping Detection (Length 16mm)\*1

Notes :

- %1. Please contact us for PNP output.
- %2. Please consider using model JES for PNP output.

# Electric Cable Length \*3

**B2** : 3-Wire Solid State Auto Switch<sup>\*2</sup>

**B3C** : 3-Wire L-Shaped Solid State Auto Switch<sup>\*2</sup>

Note:

Blank : 1m

: 3m L

3 Electric Cable Length is chosen only for A $\square$ /B $\square$  Auto Switch of 2 Switch Type. For  $P\Box$ : Proximity Switch for Gripping Detection, electric cable length is all 2m.

# Application Table

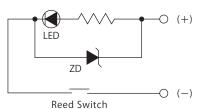
Switch Type	2-Wire Reed	d Auto Switch	3-Wire	Solid State Au	to Switch	2-Wire Solid State Auto Switch	Switch Type		imity Switch g Detection
Model No.	JEP0000-A1	JEP0000-A2	JEP0000-B1	JEP0000-B2	JEP0000-B3C	JEP0000-B3B	Model No.	JEP0000-P	JEP0000-P2
SWJ2000				•	•	•	WPP0300	•	•
SWP050				•	•	•	WPP0400	•	•
SWP100				•	•	•	WPP0500	•	•
WCC 🖂		•		•	•	•	WPP0600	•	•
WCG -T				•	•	•	WPP0800	•	•
WFC 📖		•		•	•	•	WPP1000	•	•
WHC		•		•	•	•	WPP1250	•	•
WHG -T				•	•	•	WPQ0200	•	•
WKH200				•	•	•	WPQ0250	•	•
WKK100				•	•	•	WPQ0300	•	
WKK200				•	•	•	WPQ0400	•	
WPA0120				•	•	•	WPQ0500	•	
WPA0160		•		•	•	•	WPQ0600	•	
WPA0200		•		•	•	•	WPQ0800	•	
WPA0250		•		•	•	•	WPQ1000	•	
WPB0160		•		•	•	•			!
WPB0200		•		•	•	•			
WPB0250		•		•	•	•			
WPE0160		•		•	•	•			
WPE0200	•		•		-				
WPE0300	•		•						
WPE0400	•		•						
WPE0500	•		•						
WPE0800	•		•						
WPF0100			Not Ap	plicable					
WPF0120				•					
WPF0160		•		•	•	•			
WPF0200	•		•						
WPF0300	•		•						
WPH0100		•		•	•	•			
WPH0160		•		•	•	•			
WPH0200	•	_	•	_	_				
WPJ0120				plicable					
WPJ0160				•					
WPJ0200	•		•						
WPJ0250	•		•						
WPJ0300	•		•						
WPJ0400	•		•						
WPS0160-C		•		•	•	•			
WPS0200-C		•		•	•	•			
WPW0500-C				•	•	•			
WPW0600-C				•	•	•			
WVGT -T				•	•	•			

	Model No. Indication	Application Table   Specifications								
SIEP0000-A□□ (2-Wire Reed Auto Switch)										
© Specifications									Locating	
									Hand • Clamp	
	Model No.	JE	P0000-A1 JE	P0000-A1L	JEP0000-A2	JEP0000-A2L	JEP0000-A2V	JEP0000-A2VL		
Name Reed Auto Switch								Support		
	Wiring Type	vpe 2-Wire								
								Valve • Coupler		

MOUELNO.	JEF 0000-A1	JEF 0000-ATE	JLF 0000-A2	JLF 0000-A2L	JLF 0000-A2V	JEF 0000-AZVE		
Name		Reed Auto Switch						
Wiring Type		2-Wire						
Applicable Load		Relay, F	Programmable	Logic Controll	er (PLC)		Valve • Coupler	
			Less than D	C24V / 40mA			Cautions • Others	
Load Voltage / Load Current	Less than AC100V / 20mA							
Internal Voltage Drop			Less t	han 3V				
Operating Time		1ms						
Ambient Temperature		-10 ~ 60℃						
Withstand Voltage	AC1	AC1500V (There should be no abnormalities in 1 min. application.)						
Leakage Current		0						
Shock Resistance		30G						
Protection Circuit		None						
Protection Grade		IP67 (IEC Standard)						
Indicator Light		Red LED illuminates when turned ON					FA Pneumatic Hole Clamp	
5	1	3m				3m	WKH	
Electric Cable Length	1m	Sm	1m	3m	1m	SIN	Lifting	

# Electric Circuit Diagram

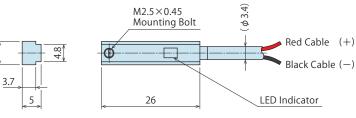
6.2



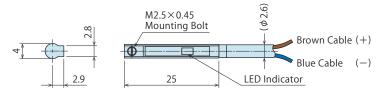
#### Note :

1. Auto switch will instantly break due to over loading current if turning on the auto switches without connecting the load. (Refer to Notes on Wiring 4) and 5) on P.413.)

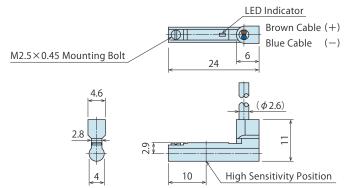
# External Dimensions : JEP0000-A1/A1L



# External Dimensions : JEP0000-A2/A2L



# External Dimensions : JEP0000-A2V/A2VL



FA Pneumatic Hole Clamp					
WKH					
Lifting Hole Clamp					
SWJ					
Ball Lock Cylinder					
WKA					
Pneumatic Robotic Hands					
WPW-C					
WPS-C					
WPA					
WPH					
WPP					
WPQ					
Auto Switch Proximity Switch					

High-Power Pneumatic Hole Clamp SWE

High-Power Pneumatic Swing Clamp WHE

High-Power Pneumatic Link Clamp WCE

> Pneumatic Hole Clamp SWA

Pneumatic Swing Clamp WHA

Double Piston Pneumatic Swing Clamp

WHD

Pneumatic Link Clamp WCA

Air Flow Control Valve BZW

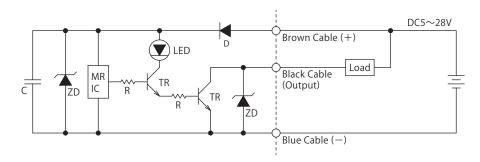
Manifold Block WHZ-MD

# JEP0000-B1/B1L/B2/B2L (3-Wire Solid State Auto Switch)

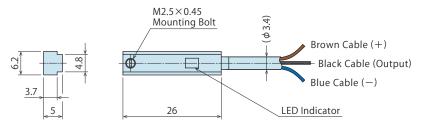
# Specifications

Model No.	JEP0000-B1	JEP0000-B1 JEP0000-B1L JEP0000-B2 JEP0000-B2L							
Name	Solid State Auto Switch								
Wiring Type		3-Wire							
Applicable Load		Relay, Programmable	Logic Controller (PLC	)					
Output Type		N	PN						
Load Voltage / Load Current		Less than DC5	~ 28V / 50mA						
Internal Voltage Drop		Less than 0.8V							
Leakage Current	Less than 0.1mA								
Current Consumption	Less than 10mA								
Operating Time	Less than 1ms								
Ambient Temperature		-10 ~	- 60℃						
Withstand Voltage	AC1500V (T	here should be no ab	normalities in 1 min. a	pplication.)					
Insulation Resistance	More than	50MΩ / DC500V (Bet	ween the Case and Sig	gnal Cable)					
Shock Resistance	30G								
Protection Grade	IP67 (IEC Standard)								
Indicator Light	Red LED illuminates when turned ON								
Electric Cable Length	1m	3m	1m	3m					

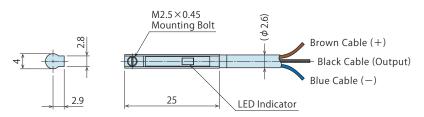
# C Electric Circuit Diagram



# External Dimensions : JEP0000-B1/B1L



# External Dimensions : JEP0000-B2/B2L



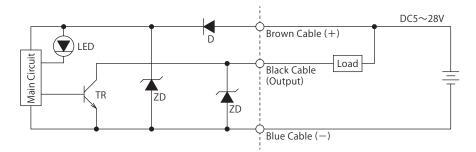
Model No. Indication	Application Table	Specifications	Electric Circuit Diagram	External Dimensions	Cautions P.411	KOSMEK Harmony in Innovation
						Locating

# JEP0000-B3C/B3CL (3-Wire L-Shaped Solid State Auto Switch)

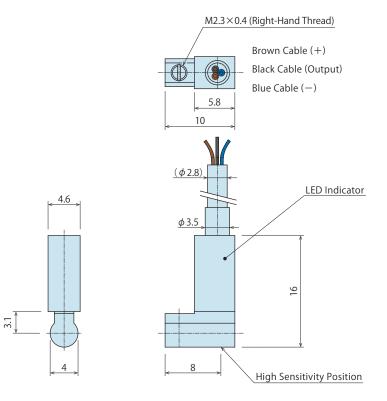
# Specifications

Model No.	JEP0000-B3C	JEP0000-B3CL	
Name	Solid State Auto Switch		
Wiring Type	3-Wire		
Applicable Load	Relay, Programmable	Logic Controller (PLC)	
Output Type	NPN		
Load Voltage / Load Current	DC5 ~ 28V / 50mA		
Internal Voltage Drop	Less than 0.8V		
Leakage Current Less than 0.1mA		n 0.1mA	
Current Consumption	Less than 10 mA		
Operating Time	Less than 1ms		
Ambient Temperature	-10 ~ 60°C		
Withstand Voltage	AC1500V (There should be no abnormalities in 1 min. application		
Insulation Resistance	More than 100M $\Omega$ / DC500V (Between the Case and Signal C		
Shock Resistance	30G		
Protection Grade	IP67(IEC Standard)		
Indicator Light	Red LED illuminates when turned ON		
Electric Cable Length	1m	3m	

# C Electric Circuit Diagram



# External Dimensions : JEP0000-B3C/B3CL



### Locating Hand • Clamp Support Valve • Coupler Cautions • Others Pallet Gripper WVA Locating Pin Clamp SWP High-Power Pull Stud Clamp WPT JES FA Pneumatic Hole Clamp WKH Lifting Hole Clamp SWJ Ball Lock Cylinder WKA Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP WPQ Auto Switch Proximity Switch JEP High-Power Pneumatic Hole Clamp SWE High-Power Pneumatic Swing Clamp WHE High-Power Pneumatic Link Clamp WCE Pneumatic Hole Clamp SWA Pneumatic Swing Clamp WHA Double Piston Pneumatic Swing Clamp WHD Pneumatic Link Clamp WCA

Clamp

Air Flow Control Valve BZW

Manifold Block WHZ-MD

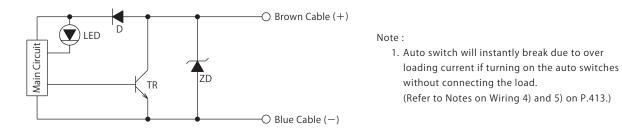
# JEP0000-B3B/B3BL (2-Wire L-Shaped Solid State Auto Switch)

# Specifications

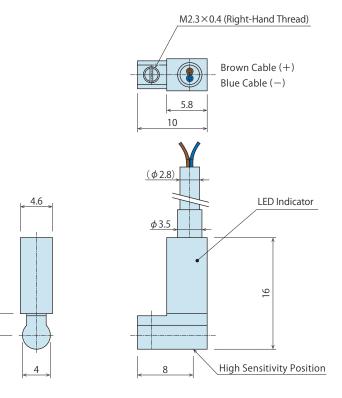
Model No.	JEP0000-B3B	JEP0000-B3BL
Name	Solid State Auto Switch	
Wiring Type	2-Wire	
Applicable Load	Relay, Programmable Logic Controller (PLC	
Load Voltage / Load Current	Less than DC10~28V / 50mA	
Internal Voltage Drop	kage Current Less than 1mA	
Leakage Current		
Current Consumption		
Operating Time	Less than 1ms	
Ambient Temperature	nt Temperature −10~60°C	
Withstand Voltage	AC1500V (There should be no abnormalities in 1 min. application.)	
Insulation Resistance	More than 50M $\Omega$ / DC500V (Between the Case and Signal Cable	
Shock Resistance	30G	
Protection Grade	IP67 (IEC Standard)	
Indicator Light	Red LED illuminates when turned ON	
Electric Cable Length	1m	3m

# C Electric Circuit Diagram

... ....



# External Dimensions : JEP0000-B3B/B3BL

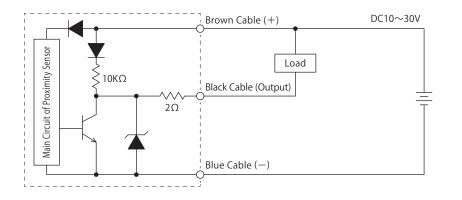


	Model No. Indication	Application Table	Specifications	Electric Circuit Diagram	External Dimensions	Cautions P.411	
JEP0000-P/P2 (3-Wire Proximity Switch for Gripping Detection)					Locating + Clamp		

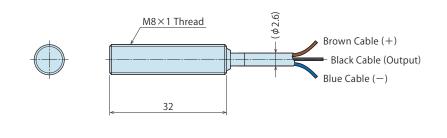
# Specifications

Model No.	JEP0000-P	JEP0000-P2	
Name	Proximity Switch for Gripping Detection		
Wiring Type	3-Wire NPN		
Output Type			
Moving Distance	1mm	±10%	
Voltage Range			
Opening / Closing Voltage			
Current Consumption	Less tha	Less than 10mA	
Response Frequency	800Hz		
Ambient Temperature	-25 ~	∙ 70°C	
Withstand Voltage	AC2000V (There should be no ab	normalities in 1 min. application.)	
Protection Grade	IP67 (IEC	Standard)	
Indicator Light	Red LED illuminat	es when turned ON	
Electric Cable Length	2	m	

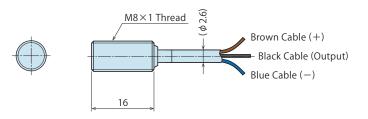
# C Electric Circuit Diagram



# External Dimensions : JEP0000-P



# C External Dimensions : JEP0000-P2



Support
Valve • Coupler
Cautions • Others
Dallet Cripper
Pallet Gripper WVA
WVA
Locating Pin Clamp
SWP
High-Power Pull Stud Clamp
WPT
JES
FA Pneumatic Hole Clamp
WKH
Lifting Hole Clamp
SWJ
Ball Lock
Cylinder WKA
Pneumatic Robotic Hands
WPW-C
WPS-C WPA
WPA
WPH
WPQ
Auto Switch Proximity Switch JEP
High-Power Pneumatic Hole Clamp
SWE
High-Power Pneumatic Swing Clamp
WHE
High-Power Pneumatic Link Clamp
WCE
Pneumatic
Hole Clamp SWA
Pneumatic Swing Clamp
Swing Clamp WHA
Double Piston Pneumatic
Swing Clamp
WHD
Pneumatic
Link Clamp
WCA
Air Flow
Control Valve

Locating

Support

BZW

WHZ-MD

Manifold Block

- Notes for Design
- 1) Check the Specifications
- Please use each product according to the specifications. The product may be damaged or malfunction if used outside the range of load or specifications.
- 2) Notes on Use in the Interlock Circuit
- When the auto switch is used for an interlock signal that requires high reliability, please use a double interlock system by providing a mechanical protection function. Or by using another safety switch (sensor) together with the auto switch. Also, please perform periodic maintenance and confirm proper operation.
- 3) Wiring should be prepared as short as possible.
- For the reed auto switch, if the wiring length to the load is excessively long, inrush current to the auto switch increases and the operational life span will be shortened. (Remains ON)
- If the wiring length of the solid state auto switch is long, we recommend installing the ferrite core on both ends of the electric cable for noise control.
- 4) Notes when connecting to a load that generates surge voltage.
- When connecting a load that generates surge voltage such as relay, please use the auto switch equipped with junction protective circuit or use a junction protective element connecting to the auto switch in parallel.
- If surge voltage is repeatedly generated even with the auto switch equipped with junction protective circuit, it may damage the contact. In this case, please reduce the surge voltage by connecting a surgeabsorption element to a surge-generating source (load) in parallel.
- 5) Notes when connecting auto switches in series.
- Due to voltage drop (refer to internal voltage drop on the specifications) caused by LED, voltage drop of n auto switches connected in series will be multiplied by n times. As a result, in some cases the load will not activate even if the auto switch drives properly.
- 6) Be careful with the polarity when wiring.
- When connected reversely, the auto switch may malfunction or be damaged.

- 7) When multiple cylinders or robotic hands are placed close together.
- Please provide enough space when using multiple actuators such as cylinders or robotic hands equipped with auto switches. (If allowable distance of each actuator is specified please follow specified instructions.) If they are too close, auto switches may malfunction due to magnetic interference.
- 8) Secure space for maintenance and inspection
- Please secure space for maintenance and inspection of auto switches when setting actuators such as cylinders and robotic hands equipped with auto switches.





Locating Clamp Locating

Hand · Clamp

Valve • Coupler

Cautions • Others

Pallet Gripper

Pin Clamp SWP

High-Power Pull Stud Clamp

WVA Locating

Support

#### Notes on Operating Environment

1) Never use the product in an atmosphere with explosive gases.

- Auto switches are not designed to prevent explosion. Do not use the product in an atmosphere with explosive gases since it may cause serious explosions.
- 2) Do not use the product in an area where a magnetic field is generated.
- Auto switches may malfunction, or internal magnet actuators, such as cylinders or robotic hands, equipped with auto switches will be demagnetized.
- 3) Do not use the product in an environment where the auto switches are continuously exposed to water or coolant.
- Although IEC standard IP67 structure is satisfied, please avoid using auto switches in an environment where continuously exposed to water or coolant. This may cause insulation failure or malfunction.
- 4) Do not use the product in an environment with oil or chemicals.
- If auto switches are used in an environment with coolant or cleaning solvent, even in a short time, they may be adversely affected by improper insulation, malfunction due to swelling of potting resin and/or hardening of electric cable.
- 5) Do not use the product in an environment subject to large temperature cycle.
- Heat cycles other than ordinary changes in temperature may adversely affect the internal structure of auto switches.
- 6) Avoid accumulation of steel dust and close connection of magnetic materials.
- An amount of steel chips or steel dusts, such as sputters of welding accumulate around an actuator. Cylinders, robotic hand equipped with auto switches and or magnetic materials (those attracted by magnet) are gathered closely to the actuator. These can weaken internal magnet actuators.
- 7) Do not use the product in an environment with excessive impact.
- Under the condition of the excessive impact of more than 30G, the contact of the reed auto switch will malfunction and the indicator light may signal or may be disconnected.

- The auto switches may be damaged and cause malfunction.
- 2) Tighten auto switches with appropriate tightening torque.
- Please follow the tightening torque below.
- Excessive tightening torque may damage the mounting screw, fitting or main body of the auto switch.

Also, mounting position may be shifted due to insufficient tightening torque.

Mounting Screw Size	Tightening Torque (N·m)
M2.3×0.4	0.15
M2.5×0.45	0.25

- 3) Do not carry cylinders or robotic hands by holding the electric cable of the auto switch.
- It may break the electric cable or damage the internal element.
- 4) Do not fix auto switches with the mounting screws other than attached in main body of the auto switches.
- Using non-designated screws may damage auto switches.

5) Install the auto switches at the center of the operating area.

- Installation position of auto switches should be adjusted so that a detected object (piston etc.) stops at the center of operating range. (Installation position shown in the catalog shows the most suitable fixed position of stroke end.) Please refer to P.345 for WPS, P.355 for WPA, P.363 for WPH, P.375 for WPP and P.391 for WPQ. If the auto switches are installed at the edge of operating range (near the boundary of ON and OFF), output movement may be unstable.
- 6) Installation position of the auto switches should be adjusted by checking actual operating state.
- Depending on the installation environment, actuators such as cylinders and robotic hands may not operate properly even if they are installed to the appropriate position. Make sure to check the operating condition even when mounting them at the middle of the stroke.

WPT
JES
FA Pneumatic Hole Clamp
WKH
Lifting Hole Clamp
SWJ
Ball Lock Cylinder
WKA
Pneumatic Robotic Hands
WPW-C
WPS-C
WPA
WPH
WPP
WPQ
Auto Cuitale
Auto Switch Proximity Switch
JEP

High-Power Pneumatic Hole Clamp SWE

High-Power Pneumatic Swing Clamp WHE

High-Power Pneumatic Link Clamp WCE

Pneumatic Hole Clamp SWA

Pneumatic Swing Clamp WHA

Double Piston Pneumatic Swing Clamp

WHD Pneumatic

Link Clamp WCA

Air Flow Control Valve BZW

Manifold Block WHZ-MD

412

## Installation Notes

- 1) Do not drop or bump.
- Do not drop, bump or apply excessive impact on auto switches.

Notes on Wiring

- 1) Check the insulation of wiring.
- Insulation failure (interference with other circuit, ground fault, and insulation failure between terminals) may send excessive voltage or current to the auto switches causing damage.
- 2) Do not place wires and auto switch cables close to other cables and high voltage cables.
- Otherwise, surge voltages will be induced creating noise and leading to malfunctions.
- 3) Repeated bending stress or stretching force should be avoided on electric cables.

 Wiring with bending stress or stretching force repeatedly applied on electric cables will prematurely breakdown.
 Bending stress or stretching force applied on the connecting area of electric cables and main body of the auto switches will damage the electric cables.

Auto switches or wires should not be moving especially near the connecting areas.

 Make sure to check the load state (connection and current value) before turning on the power.

• For 2-Wire Type

Auto switches will instantly break due to over loading current if turning on the auto switches without connecting the load (Shorted Load Circuit). The above statement is also applied to the condition when the brown cable (+, output) of 2-wire type is directly connected to the (+) power terminal of a fixture and etc.

- 5) Avoid shorted load circuit.
- Reed Auto Switch

Auto switches will instantly break due to over loading current if turning on the auto switch in load short circuit condition. Solid State Auto Switch

Be aware of auto switch breakages when products with PNP output is not equipped with short-circuit protection.

- 6) Avoid wrong wiring
- Reed Auto Switch

The electric circuit has polarities. The reed switch can operate even with reversed connection, but LED light will not illuminate. Also, flowing excessive current will damage LED and it will not operate properly.

Solid State Auto Switch

In case of 2-wire type, even if connected reversely, the auto switch will not be damaged due to protection circuit, but it is always ON.

If reversely connected under short circuit condition, the auto switch will be damaged.

In case of 3-wire type, even if the connections are reversed (power supply line "+" and "-" ), the auto switch will be protected by a protection circuit.

However, if connecting the power supply "+" to the blue cable and "-" to the black cable, the auto switch will be damaged.

#### Notes on Handling

- 1) It should be operated by qualified personnel.
- Machines and devices with hydraulic and pneumatic equipment 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 abovementioned 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.
- 3) Do not disassemble or modify.
- If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.



Locating + Clamp

Locating

Hand • Clamp

Support

Valve • Coupler

Cautions • Others

Pallet Gripper WVA

Locating Pin Clamp SWP

High-Power Pull Stud Clamp

WPT JES

FA Pneumatic Hole Clamp WKH

> Lifting Hole Clamp SWJ

Ball Lock Cylinder

WKA

Pneumatic Robotic Hands WPW-C WPS-C WPA WPH WPP

#### WPQ Auto Switch Proximity Switch

JEP High-Power Pneumatic Hole Clamp

SWE

High-Power Pneumatic Swing Clamp WHE

High-Power Pneumatic Link Clamp WCE

> Pneumatic Hole Clamp

SWA

Pneumatic Swing Clamp WHA

Double Piston Pneumatic Swing Clamp WHD

Pneumatic Link Clamp WC A

Air Flow Control Valve BZW

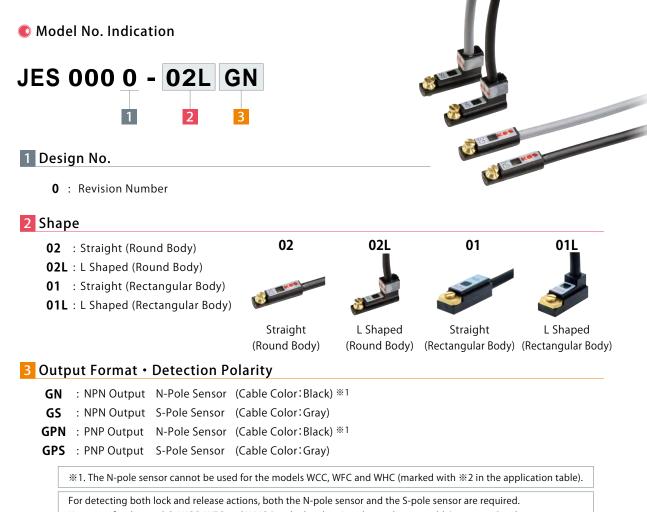
Manifold Block WHZ-MD

Maintenance • Inspection

Conduct the below maintenances and inspections periodically in order to avoid unintended malfunctions and to ensure the safety.

- 1) Removal of the Product and Shut-off of Pressure Source
- Before removing the product, make sure that safety devices and preventive 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) Never touch terminals while the power is on.
- It will cause electric shock, malfunction and damage to the auto switches.
- 3) Retightening of Mounting Screws
- Retighten the screws after adjusting the mounting position when the mounting position of the auto switches is shifted due to the looseness of the mounting screws.
- 4) Check if the electric cable is damaged or not.
- Damaged cables may cause insulation failure.
   Exchange the auto switch or repair the reed if there is damage on the electric cable.
- 5) Check the setting position of the detector.
- Confirm the set position is stopped at the center of the detecting range (the area that red LED illuminates).
- 6) Cleaning Auto Switches
- The auto switch should be clean. Do not use benzene, paint thinner or alcohol for cleaning. Doing so will cause scratches on the product and indications may be erased. If it is hard to remove stains from the product, wipe it out with a cloth soaked in a neutral detergent diluted with water. Wipe with a dry cloth to remove wet residue.
- 7) Product Storage
- Keep the product out of direct sunlight in a cool area where it is protected from water and humidity.
- 8) Please contact us for auto switch replacements.

• Warranty



However, for the models WCC, WFC and WHC (marked with %2 in the application table), use two S-pole sensors.

Application	Table	$\bullet$ = can be installed.

Shape	Round Body	Rectangular Body	Shape	<b>Round Body</b>	Rectangular Body
Model No.	JES0000-02G JES0000-02GP JES0000-02LG JES0000-02LGP	JES0000-01G JES0000-01GP JES0000-01LG JES0000-01LGP	Model No.	JES0000-02G JES0000-02GP JES0000-02LG JES0000-02LGP	JES0000-01G JES0000-01GP JES0000-01LG JES0000-01LGP
SWJ2000	•	Not Applicable	WPF0100	Not A	pplicable
SWP050	•	Not Applicable	WPF0120	•	Not Applicable
SWP100	•	Not Applicable	WPF0160	•	Not Applicable
wcc 🖂	• <b>* 2</b> (S-pole sensor only)	Not Applicable	WPF0200	Not Applicable	•
WCGT	•	Not Applicable	WPF0300	Not Applicable	•
WFC 🖂	● ※ 2 (S-pole sensor only )	Not Applicable	WPH0100	•	Not Applicable
WHC	• <b>* 2</b> (S-pole sensor only)	Not Applicable	WPH0160	•	Not Applicable
WHGT	•	Not Applicable	WPH0200	Not Applicable	•
WKH200	•	Not Applicable	WPJ0120	Not Applicable	
WKK100	•	Not Applicable	WPJ0160	•	Not Applicable
WKK200	•	Not Applicable	WPJ0200	Not Applicable	•
WPA0120	•	Not Applicable	WPJ0250	Not Applicable	•
WPA0160	•	Not Applicable	WPJ0300	Not Applicable	•
WPA0200	•	Not Applicable	WPJ0400	Not Applicable	•
WPA0250	۲	Not Applicable	WPS0160-C	•	Not Applicable
WPB0160	•	Not Applicable	WPS0200-C	•	Not Applicable
WPB0200	•	Not Applicable	WPT	•	Not Applicable
WPB0250	•	Not Applicable	WPW 🗔 -C	•	Not Applicable
WPE0160	•	Not Applicable	WVA 🗔 - M	•	Not Applicable
WPE0200	Not Applicable	•	WVB 🔤 - M	•	Not Applicable
WPE0300	Not Applicable	•	WVGTT	•	Not Applicable
WPE0400	Not Applicable	•			
WPE0500	Not Applicable	•			
WPE0800	Not Applicable	•			

Note: %2. Please use the S-pole sensor. (N-pole sensor cannot be used.)

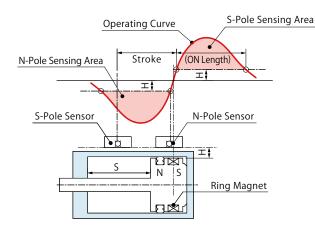
Model No. Indi	cation Application Table	Specifications	Electric Circuit Diagram	External Dimensions	Cautions	
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Specifications

Model No.	JES0000-02G S JES0000-02LG S	JES0000-01G S JES0000-01LG S	JES0000-02GP S JES0000-02LGP S	JES0000-01GP S JES0000-01LGP S	
Body Shape	Round	Rectangular	Round	Rectangular	
Output Specification	NF (ON when ir		PNP (ON when in proximity)		
Output Current	20mA	Max.	80mA	Max.	
Current Consumption	8mA	Max.	8mA	Max.	
Wiring Method	3-Wire				
Applicable Load	Relay, Programmable Logic Controller (PLC)				
Voltage	DC 5 ~ 24V				
Response Speed	16µsec or less				
Material	Case: GF Reinforced PBT Black Set Screw: Brass				
Indicator Light	Red				
Withstand Voltage	AC1000V (1 minute / Packaged Charging Part / between the Case)				
Insulation Resistance	DC250V (20M $\Omega$ or more in Megohms, between the Case)				
Operating Temperature	$-20^{\circ}$ C ~ $+85^{\circ}$ C (Make sure no condensation)				
Operating Humidity	20 ~ 95%RH				
Protection Grade	IP67				
Cable Length	1m				

### Performance Curve

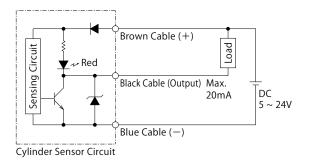
JES detects only the magnetic force that is vertical to the detection surface. The operating curve is shown below. Operating point is on the steep part of the operating curve, so even small stroke can be surely detected.



## C Electric Circuit Diagram

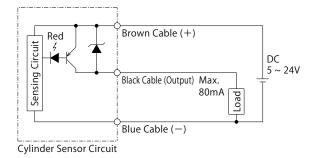
## NPN Output

JES0000-02G , JES0000-02LG JES0000-01G , JES0000-01LG



## **PNP Output**

JES0000-02GP . JES0000-02LGP JES0000-01GP . JES0000-01LGP .



Locating Hand • Clamp Support Valve • Coupler Cautions • Others

Locating

Clamp

Pallet Gripper WVA

Locating Pin Clamp SWP

High-Power Pull Stud Clamp WPT JES

FA Pneumatic Hole Clamp WKH

Lifting Hole Clamp SWJ

Ball Lock Cylinder

WKA Pneumatic Robotic Hands

> WPW-C WPS-C WPA WPH WPP WPO

Auto Switch Proximity Switch JEP

High-Power Pneumatic Hole Clamp

SWE

High-Power Pneumatic Swing Clamp WHE

High-Power Pneumatic

Link Clamp WCE

> Pneumatic Hole Clamp SWA

Pneumatic Swing Clamp

WHA Double Piston Pneumatic

Swing Clamp WHD

Pneumatic Link Clamp WCA

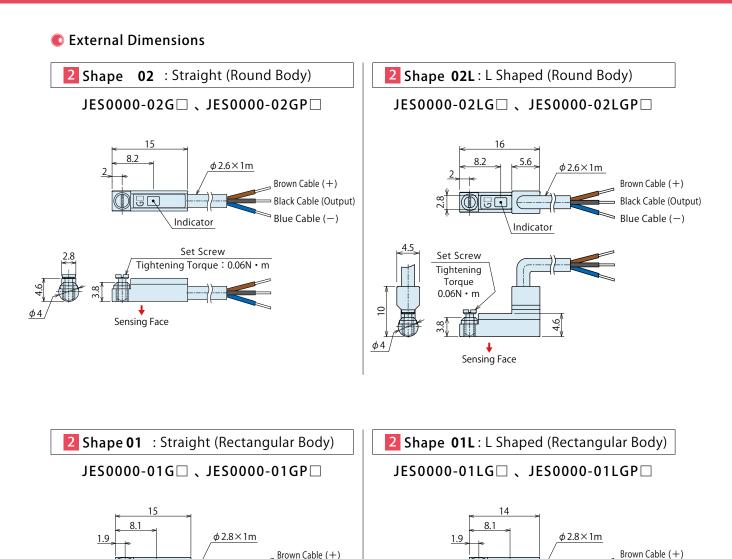
Air Flow Control Valve

BZW Manifold Block

WHZ-MD

Black Cable (Output)

Blue Cable (-)



Brown Cable (+)

Blue Cable (-)

Black Cable (Output)

Æ

Set Screw

Tightening

Torque 0.06N • m

ł

Sensing Face

4.5

6

¢

Indicator

¢, 🖯

Sensing Face

4.5

6

2.7

Indicator

Set Screw

Tightening Torque: 0.06N • m



Locating

Clamp Locating

Cautions

- Notes for Design
- 1) Check the Specifications
- Please use each product according to the specifications. The product may be damaged or malfunction if used outside the range of load or specifications.
- 2) Notes on Use in the Interlock Circuit
- When the sensor is used for an interlock signal that requires high reliability, please use a double interlock system by providing a mechanical protection function. Or by using another sensor together with the product. Also, please perform periodic maintenance and confirm proper operation.
- 3) Please avoid using loads that generate surge voltage.
- If driving a relay, put a Zener diode in parallel for surge protection.

#### Notes on Operating Environment

- 1) Never use the product in an atmosphere with explosive gases.
- Sensor for Air Cylinder is not designed to prevent explosion.
   Do not use the product in an atmosphere with explosive gases since it may cause serious explosions.
- 2) The product may malfunction if an intense magnetic field is applied to a pole body.
- Make sure to prepare shield measures when using in the following environments.
- Where large current and/or strong magnetic field are generated.
- Where noise occurs due to static electricity, etc.
- Where magnetic powder or dust such as iron powder occurs or scatters.
- Do not use the product in an environment where it is continuously exposed to coolant or chemical liquid.
- Although IEC standard IP67 structure is satisfied, please avoid using sensors in an environment where continuously exposed to coolant or chemical liquid. This may cause insulation failure or malfunction.
- 5) Do not use the product in an environment with oil or chemicals.
- If sensors are used in an environment with coolant or cleaning solvent, even in a short time, they may be adversely affected by improper insulation, malfunction due to swelling of potting resin and or hardening of electric cable.
- 6) Do not use the product in an environment with excessive vibrations or impacts.

#### Installation Notes

- 1) Electric Wiring Reverse Connection Protection
- Follow the electric circuit diagram on P.287 and make sure to connect properly. Never connect the power reversely.
- 2) Tighten sensors with appropriate tightening torque.
- Use the set screw mounted on the sensor body and tighten it with the following torque.
   JES0000 : 0.06N • m

#### 3) Wiring

- Do not damage the cables. Damaged, forcibly bended, stretched, winded, load applied or pinched cables will cause fire, electric shock, and/or malfunction due to electric leakage and/or continuity failure.
- Do not apply excessive stress on the cable port of the sensor.
- Minimum bending radius of the cable port is R7.
- If cables are to move, fix the middle of the cables so that no stress is applied to the cable port.
- Mounting position of the sensor should be adjusted by checking actual operating state.

Hand • Clamp
Support
Valve • Coupler
Cautions • Others

### Pallet Gripper

WVA Locating Pin Clamp SWP

ligh-Power Pull Stud Clamp			
	WPT		
	JES		

FA Pneumatic Hole Clamp WKH

> Lifting Hole Clamp SWJ

> > Ball Lock Cylinder WKA

Pneumatic Robotic Hands WPW-C WPS-C WPA WPH

Auto Switch Proximity Switch JEP

WPP WPO

High-Power Pneumatic Hole Clamp

High-Power Pneumatic Swing Clamp WHE

> High-Power Pneumatic Link Clamp

> > WCE

Pneumatic Hole Clamp SWA

Pneumatic Swing Clamp

WHA

Double Piston Pneumatic Swing Clamp WHD

Pneumatic Link Clamp WCA

Air Flow Control Valve

> BZW Manifold Block WHZ-MD

- Notes on Handling
- 1) It should be operated by qualified personnel.
- The hydraulic and pneumatic equipment 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.
- 3) Do not disassemble or modify.
- If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.
   Never modify the product as it contains a powerful magnet.
- Keep more than one meter away from this product if you have a heart pacemaker, etc. It may be malfunctioned by strong magnetism.
- This sensor is made by ASA Electronics Industry Co. Ltd.
   Please contact us or ASA Electronics Industry for further inquiries.

#### Maintenance and Inspection

- 1) Removal of the Product and Shut-off of Pressure Source
- Before removing the product, make sure that safety devices and preventive 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) Never touch terminals while the power is on.
- Otherwise it will cause electric shock, malfunction and damage to the sensor for air cylinder.
- 3) Retightening of Set Screw
- When mounting position of the sensor for air cylinder is shifted due to looseness of set screw, retighten it after adjusting the mounting position.
- 4) Check if the electric cable is damaged or not.
- Damaged cables may cause insulation failure.
   Replace a sensor for air cylinder or repair the reed if the electric cable is damaged.
- 5) Product Storage
- The products should be stored in the cool and dark place without direct sunshine or moisture.

|--|

Electric Circuit

Diagram

External Dimensions

Cautions



Model No. Indication

Application Table

Specifications

Locating + Clamp

Locating

and claim

Support

Valve • Coupler

Cautions • Others

Pallet Gripper WVA

Locating Pin Clamp

SWP High-Power Pull Stud Clamp

WPT JES

FA Pneumatic Hole Clamp WKH

Lifting Hole Clamp SWJ

Ball Lock Cylinder WKA

Pneumatic Robotic Hands WPW-C

WPS-C WPA WPH WPP WPQ

Auto Switch Proximity Switch JEP

High-Power Pneumatic Hole Clamp

SWE High-Power Pneumatic

Swing Clamp WHE

High-Power Pneumatic Link Clamp WCE

> Pneumatic Hole Clamp

SWA Pneumatic Swing Clamp

WHA Double Piston

Pneumatic Swing Clamp WHD

Pneumatic Link Clamp WCA

Air Flow Control Valve BZW

Manifold Block WHZ-MD

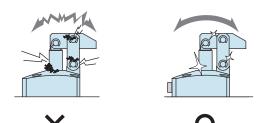
- Notes on Handling
- 1) It should be operated by qualified personnel.
- The hydraulic machine and air compressor should be operated and maintained by qualified personnel.
- 2) Do not operate or remove the product unless the safety protocols are ensured.
- ① The machine and equipment can only be inspected 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.



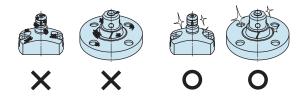
- 4) Do not disassemble or modify.
- If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.

#### 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/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



Locating

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

ocacing

Hand • Clamp

Support

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Cautions Installation Notes Maintenance/ Inspection Warranty

Company Profile Company Profile

> Our Products History

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Sales Offices



## Sales Offices across the World

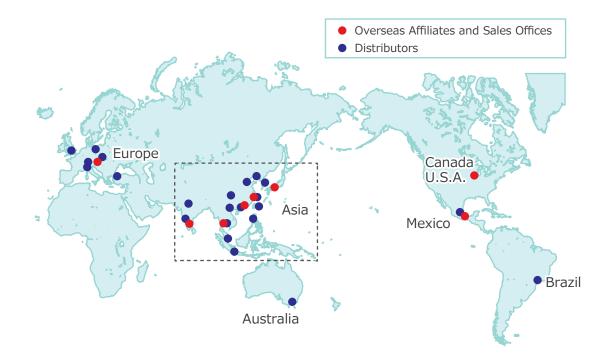
JAPAN HEAD OFFICE Overseas Sales	<b>TEL. +81-78-991-5162</b> KOSMEK LTD. 1-5, 2-chome, Murotani, Nis 〒651-2241 兵庫県神戸市西区室谷2丁目1番5	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
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KOSMEK EUROPE GmbH	Schleppeplatz 2 9020 Klagenfurt am Wör	thersee Austria
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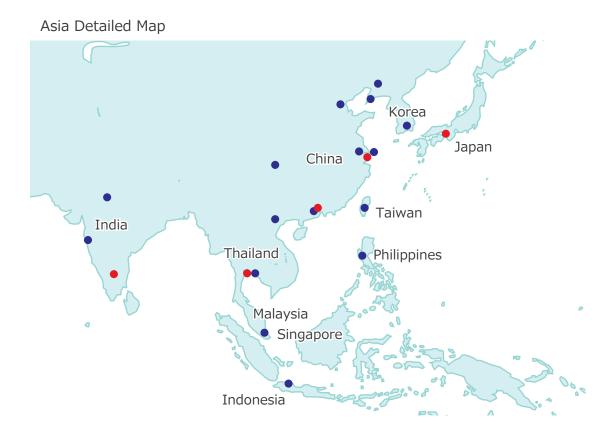
KOSMEK

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# **Global Network**









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