Pneumatic Work Support

Rodless Hollow

Model WNA

Due to the design number change, environmental durability has been improved.



Prevents Deformation Caused by Load

Work Support holds the rod and prevents dislocation, overload to the cylinder and deformation caused by load.

% There is slight displacement caused by load (reaction force). Please refer to the load/displacement graph.







Notes: %1. The load acts towards the arrow direction (\clubsuit) as shown in the drawing.

(If used in a reversed position the internal parts are likely to be damaged.)

%2. Please refer to the cautions on P.811 for the air vent.

Model No. Indication

WNA 070 3 - G - D

1 Support Force

- 025: Support Force 0.25 kN (Supply Air Pressure 0.5MPa)
- **040**: Support Force 0.4 kN (Supply Air Pressure 0.5MPa)
- 070: Support Force 0.7 kN (Supply Air Pressure 0.5MPa)
- 100 : Support Force 1.0 kN (Supply Air Pressure 0.5MPa)
- 200 : Support Force 2.0 kN (Supply Air Pressure 0.5MPa)
- 400 : Support Force 4.0 kN (Supply Air Pressure 0.5MPa)

2 Design No.

3 : Revision Number

Specifications

Model No.	WNA0253-G-D	WNA0403-G-D	WNA0703-G-D	WNA1003-G-D	WNA2003-G-D	WNA4003-G-D	
Support Force (at 0.5MPa) kN	0.25	0.4	0.7	1.0	2.0	4.0	
Support Force (Calculation Formula) $\%1~kN$	0.93×P-0.21	1.40×P-0.28	2.33×P-0.47	3.33×P-0.67	6.06×P-1.03	11.43×P-1.71	
Cylinder Capacity cm ³	0.6	1.0	1.7	2.9	5.7	11.1	
Max. Operating Pressure MPa	0.7						
Min. Operating Pressure MPa	0.25						
Withstanding Pressure MPa	1.0						
Operating Temperature °C	0~70						
Weight kg	0.10	0.15	0.25	0.35	0.90	2.00	

Note: %1. P : Supply Air Pressure (MPa)

Features Advantages	Action Description	Model No. Indication	Specifications	Performance Curve	External Dimensions	Cautions	

Performance Curve

Support Force Graph * This graph shows the support force under static load condition.



This graph shows the static load-displacement of a single work support at supply air pressure 0.7MPa.
 Load / Displacement Graph
 The displacement varies depending on the length of the rod used, so please use it as a reference value.



Note : ≥ 2 . For the dimension ϕ U, please refer to the external dimension and machining dimension list on P.810.

Locating

Clamp Locating

Manifold Block/Nut DZ-R

DZ-C

LZ-S WNZ-SQ

© External Dimensions

% This drawing shows WNA 3-G-D.



Air Port:O-ring (Included)

Notes :

- % 1. The load acts towards the arrow direction (\$) as shown in the drawing. If used in a reversed position the internal parts are likely to be damaged.
- %2. The surface hardness of the rod (prepared by the customer) should be above HRC60. (The hard chrome plated metal is acceptable.)
- % 3. Mounting bolts are not provided.
 - Customer should prepare based on dimension "S".
- %4. Deburr the rod end, and pay attention not to damage the dust seal when the rod is inserted into the body (upper and lower parts).

© Machining Dimensions of Mounting Area





Note :

%5. CA tapping depth of the mounting bolt should be decided according to the mounting height referring to dimensions 'S'.

	Features Advantages	Action Descripti	n Model I ion Indicati	No. Specificat	tions Performa Curve	ance Extern e Dimensi	al Caution		OSMEK
Clamp									
(Format Example : WNA0253-G-D, WNA2003-G-D)									Locating
1 Body Size 2 Design No.									Hand • Clamp
	WN	A 02	53-	G – D					Support
Va									Valve • Coupler
1 2 Ela									Electric Drive • Conveyor
									Cautions • Others
© External Dimensions and Machining Dimensions for Mounting									
	Model N	0.	WNA0253-G-D	WNA0403-G-D	WNA0703-G-D	WNA1003-G-D	WNA2003-G-D	WNA4003-G-D	WDC
	В		35.5	38.5	43.5	47	61	81	Work Support
	С		25	29	33	40	51	70	WNC
	D		22	26	30	36	48	65	Pneumatic Work Support
	E		41.2	45.7	53.2	60.1	70.1	86.1	Rodless Hollow
	F		26	30.5	37	43	45	59	WINA

Manifold Block/Nut DZ-R

DZ-C LZ-S WNZ-SQ

Model No.	WNA0253-G-D	WNA0403-G-D	WNA0703-G-D	WNA1003-G-D	WNA2003-G-D	WNA4003-G-D
В	35.5	38.5	43.5	47	61	81
С	25	29	33	40	51	70
D	22	26	30	36	48	65
E	41.2	45.7	53.2	60.1	70.1	86.1
F	26	30.5	37	43	45	59
G	15.2	15.2	16.2	17.1	25.1	27.1
Н	20	22	24	27	35.5	46
J	15.5	16.5	19.5	20	25.5	35
Kx	23	25	30	31.4	40	55
Ку	17	21	23	31.4	40	55
L	41	45	49	55	73	94
М	6	6	6	6	11	11
Nx	15.5	17.5	19.5	22.5	30	39.5
Р	max. 2.5	max. 2.5	max. 2.5	max. 2.5	max. 3	max. 5
Q	6	6	7.5	7.5	9	11
R	3.4	3.4	4.5	4.5	5.5	6.8
S	8	8	7	8	13	12
U	8 -0.013 -0.028	10 - 0.013	10-0.013	12 - 0.016	14 - 0.016	20 - 0.020
Z	C2	C2.5	C3	C2	C3	C5
AA	-	-	15.5	20	25.5	34
AB	-	-	15.5	20	25.5	34
AC	-	-	M3×0.5 Thread Depth 5	M3×0.5 Thread Depth 5	M5×0.8 Thread Depth 8	M5×0.8 Thread Depth 8
CA	M3×0.5	M3×0.5	M4×0.7	M4×0.7	M5×0.8	M6×1
JA	3.1	3.1	3.1	3.1	max. 1.5	max. 1.5
	M5×0.8	M5×0.8	M5×0.8	M5×0.8	D1/0	D1 /0
Plug	(CKD:FPL-M5)	(CKD:FPL-M5)	(CKD:FPL-M5)	(CKD:FPL-M5)	K1/8	R1/8
O-ring	AS568-006(90)	AS568-006(90)	AS568-006(90)	AS568-006(90)	OR NBR-90 P5-N	OR NBR-90 P7-N

Cautions

- Notes for Design
- 1) Check Specifications
- Please use each product according to the specifications.
- When using a work support opposite to the clamp, set the support force at more than 1.5 times the clamping force.



Support Force≧Clamping Force×1.5

 The load acts towards the arrow direction (↓) as shown in the drawing. If used in a reversed position the internal parts are likely to be damaged.



- 2) Operation without the Rod
- Do not supply air without setting the rod.
- 3) The Surface Hardness of the Rod
- The surface hardness of the rod should be above HRc60. (The hard chrome plated metal is acceptable.)
- 4) Outer Diameter of the Rod
- The tolerance of the rod must be f7 grade (shown in the external dimensions). Otherwise proper operation may not be ensured.
- 5) Protect the plunger surface when using on a welding fixture.
- If spatter attaches to the plunger it may lead to sliding failure and insufficient supporting function.
- 6) Do not expose the Rod directly to high-pressure coolant.
- It will cause intrusion of the coolant and damage to the internal components.
- 7) For Using on a Lathe, High-Speed Tilting Table, and etc.
- When using in a cycle where the centrifugal force is acting, the work support should be in a locked state.
 Please contact us for further information.
- 8) For Using in a Clean Environment
- Please contact us for the use in an environment that does not tolerate oil or grease. The lubricating oil inside the work support may leak out due to repeated operation.

- 9) Appropriate Measures for the Vent Port
- The work support, although only slightly, breathes like a single-acting cylinder. Consider the environment and avoid cutting fluid, coolant or any contaminants.
- If using it without air vent hole, it will not function properly.





Features Advantages	Action Description	Model No. Indication	Specifications	Performance Curve	External Dimensions	Cautions	
							locating

- 1) Check the fluid to use.
- Please supply filtered clean dry air.
- Oil supply with a lubricator etc. is unnecessary.
- 2) Preparation for Piping
- The pipeline, piping connector and fixture circuits should be cleaned and flushed thoroughly.
 - The dust and cutting chips in the circuit may lead to fluid leakage and malfunction.
- 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.
 Wrapping in the wrong direction will cause leaks and malfunction.
- Pieces of the sealing tape can lead to air leaks and malfunction.
- When piping, be careful that contaminant such as sealing tape does not enter in products.
- 4) Mounting the Work Support
- When mounting the work support, use hexagonal socket bolts as multiple bolt holes for mounting (with tensile strength of 12.9) and tighten them with the torque shown in the chart below.

Model No.	Mounting Bolt Size	Tightening Torque (N·m)		
WNA0253-G-D	M3×0.5	1.3		
WNA0403-G-D	M3×0.5	1.3		
WNA0703-G-D	M4×0.7	3.2		
WNA1003-G-D	M4×0.7	3.2		
WNA2003-G-D	M5×0.8	6.3		
WNA4003-G-D	M6×1	10		



Clamp

Locating

Hand • Clamp

upport

Valve • Coupler

Electric Drive • Conveyor

Cautions • Others

Auto Backup Pin WDC

High-Power Pneumatic Work Support

WNC

Work Support Rodless Hollow WNA

Manifold Block/Nut DZ-R DZ-C LZ-S WNZ-SQ

Cautions

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



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

Maintenance and Inspection

- 1) Removal of the Machine and Shut-off of Pressure Source
- Before removing the product, make sure that the safety devices are in place. Shut off the pressure and power source and make sure no pressure exists in the air and hydraulic circuits.
- Make sure there is no trouble/issue in the bolts and respective parts before restarting.
- 2) Regularly clean the area around the piston rod and plunger.
- If it is used when the surface is contaminated with dirt, it may lead to packing seal damage, malfunctioning, fluid leakage.



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



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

Warranty



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

Hand • Clamp

Support

Valve • Coupler

Electric Drive •

Conveyor

Cautions • Others

Cautions Installation Notes Maintenance/ Inspection Warranty

Announcement for revision

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