CKD

SM－00151-A

INSTRUCTION MANUAL

Fitting, stainless steel series

ZW-P4　　SERIES

- Please read this instruction manual carefully before using this product, particularly the section describing safety.
- Retain this instruction manual with the product for further consultation whenever necessary.

CKD Corporation

For Safety Use

This product incorporates a number of safety measures. However, in order to prevent accidents and ensure safety, please observe the following instructions:

① Who should operate this product

This oil mist filter is designed and manufactured as a general industrial machinery component to be operated only by qualified personnel with an appropriate background in the material, piping, wiring, and mechanism of this product.(ISO 4414 *1 JIS B 8370 *2)

② How to select the right model

There are so many applications for CKD products that it is impossible to list which model should used for every one of these possible applications. Be sure to select the right model for your needs.

Note that an unsuitable product may not only fail to obtain the be sired performance but may also result in an accident.

③ Special safety signs

Be sure to familiarize yourself with the handling instructions described in this manual before installation and use.

The following three signs are used in this publication to indicate different levels of harm and urgency that may result from mishandling. Be sure you understand the meaning of each sign before continuing to read this manual.

⚠ **DANGER** : Failure to pay attention to DANGER notices may cause a situation that results in a fatality or serious injury and that requires urgent addressing.

⚠ **WARNING** : Failure to pay attention to WARNING notices may result in a fatality or serious injury.

⚠ **CAUTION** : Failure to pay attention to WARNING notices may result in injury or damage to equipment or facilities.

*1) ISO 4414 : Pneumatic fluid power ··· Recommendations for the application of equipment to transmission and control systems.

*2) JIS B 8370 : General rule for pneumatic systems.

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ZW-P4 series

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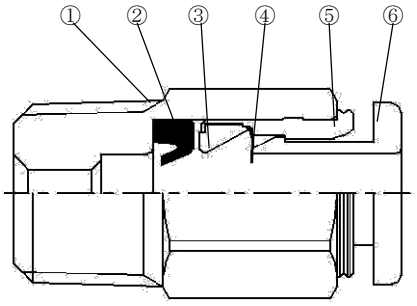
1. SPECIFICATION

Item	Specification
Working fluid	Compressed air
Max. working pressure	1MPa
Operating temperature	-10℃ to 60℃ (Not be frozen)
Applicable tube	Soft nylon tube (F-15□□, FH-3224)、 Urethane tube (U-95□□), New urethane tube (NU-□□)

2. INTERNAL STRUCTURE AND PARTS LIST

ZW-P4 Series

No.	Parts	Material	
1	Body ※1	Metal parts	Stainless steel (SUS303)
		Resin parts	Polyethylene terephthalate resin (Equiv. to UL94V-0)
2	Packing	Nitrile rubber	
3	Chuck holder	Polyethersulfone	
4	Chuck	Stainless steel	
5	Outer ring	Stainless steel(SUS303)	
6	Push ring	Polyethylene terephthalate resin (Equiv. to UL94V-0 ※2)	



*1: The single straight body is stainless steel (SUS303).

*2: Equivalent to UL94 standards V-0

3. OPERATING RECOMMENDATION

(1) When screwing the R thread, screw in the hexagon part with proper spanner (seal tape or seal material is not necessary).

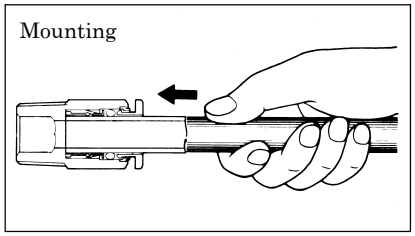
(2) Mounting and removal of tube

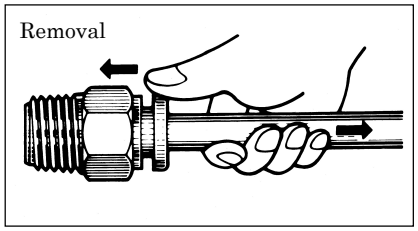
Mounting

Cut the tube vertically. Push the tube in until it reaches the bottom of the hole. Pull the tube slightly to see whether it chucks well or not. You can twist and insert it more easily.

Removal

Pull the tube out by single hand pushing the push ring.





(3) Elbow type

The elbow type one may be mounted in whatever direction you like, but, do not use it for purpose of constant revolution or oscillating application.

4. SAFETY PRECAUTIONS FOR INSTALLATION AND REPLACEMENT

⚠ WARNING :

1) Always use the product under the specified conditions.
2) Before replacing the joint or a tube connected to it, stop the air supply and make sure that no residual pressure is present inside the pneumatic circuit.
3) When connecting a tube to the joint, insert the tube firmly until it makes contact with the tube end piece of the joint. Make sure that the tube will not come out of the joint before running the system.

5. CAUTION

(1) The joint is designed to be used in a pneumatic system; do not use it with a medium other than compressed air.

(2) Use the joint with specified tubes and CKD's plastic plugs (GWP or GWJP series). Never use a metallic plug because it may cause problems.

Tube outside diameter precision :

Nylon and soft nylon tubes : ±0.1mm or better

Polyurethane tubes : +0.1mm

Newurethane tubes : −0.2mm } or better

The hardness of the tube has to be 93° or more. Do not use a tube that does not satisfy the outside diameter precision and hardness requirements. If you do, the tube may be disconnected due to a lack of chucking force or it may be difficult to insert the tube into the joint. If you have to use a tube or a plug that does not satisfy the above requirements, consult us before using it.

(3) Before connecting a tube to the joint, cut the tube end in the radial direction (perpendicularly to the length) using a tube cutter.

(4) Before connecting a tube to a pneumatic device, be sure to flush the tube.

(5) Do not bend a tube at a radius smaller than the minimum allowable bending radius.

(6) Do not twist, pull, or try to move the joint or the tubes connected to it.

(7) Avoid using the joint in an environment that makes the joint susceptible to vibrations or shocks.

(8) Avoid using the joint in a hot or humid environment or outdoors, or where it is exposed to direct sunlight.

(9) Avoid using the joint at a location where it may be splashed by cutting oil, coolant oil, spatters, etc.

(10) Take care not to wear or damage tubes by careless use. A tube, when stressed, may disfigure or fracture.

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CAUTION

(11) Do not store tubes in a hot or humid environment or where they are exposed to direct sunlight. The storage temperature should not exceed 40℃.
(12) Wherever a tube may whip when accidentally disconnected, prevent whipping by binding tubes together or install a safety cover.
(13) Do not use the joint in piping for a constantly rotating or vibrating mechanism.
(14) After completing the piping, do not apply a high pneumatic pressure suddenly but gradually increase the pressure of compressed air.
(15) After completing the piping, check each joint in the piping system for air leakage before supplying compressed air.
(16) Use an appropriate insert ring when using the urethane tube (U-95□□, NU-□□) for the ZW-P4 series in the vacuum state.
(17) Do not constantly push down or apply a load onto the push-ring for the push-in joint.

6. PIPING

(1) Apply the following tightening torque as R thread is with seal. (Table 2)

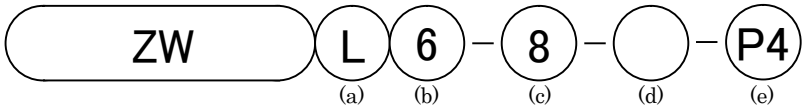
(2) Do not add tightening torque with pressure applied.

Table 2 Recommended tightening torque

Thread size	tightening torque (N·m)
M3	0.3 to 0.6
M5	1.0 to 1.5
R1/8	3 to 5
R1/4	6 to 8
R3/8	13 to 15
R1/2	16 to 18

7. HOW TO ORDER

(※ For combinations of model Nos., see the section, Model No., stated on the page describing the outside dimensions in the catalog.)



(a) Shape		(b) Applicable tube O.D.		(c) Port size		(d) Other combination		(d) Option	
S	Straight	4	φ4	M5	M5×0.8	Blank	None	P4	Specification for echargeable battery
L	Elbow	6	φ6	6	R1/8	D	D type		
T	Tees	8	φ8	8	R1/4	X	Bulkhead		
TR	Tetra type	10	φ10	10	R3/8				
Y	Y type tees	12	φ12	15	R1/2				
FY	FY type	44	φ4・φ4	0	Without thread				
WY	Double Y type	46	φ4・φ6	4P	Plug for φ4				
C	Cap	48	φ4・φ8	6P	Plug for φ6				
MF	Manifold	64	φ6・φ4	8P	Plug for φ8				
		68	φ6・φ8	10P	Plug for φ10				
		610	φ6・φ10	12P	Plug for φ12				
		86	φ8・φ6						
		88	φ8・φ8						
		810	φ8・φ10						
		108	φ10・φ8						
		1010	φ10・φ10						
		1012	φ10・φ12						
		1210	φ12・φ10						
		1212	φ12・φ12						