

Quartz type Pillar Fitting

INSTRUCTION MANUAL

This instruction manual contains safety information.
Please read this manual carefully to ensure safe and
correct use of the product.
This manual should be kept readily accessible for
reference.

Nippon Pillar Packing Co., Ltd.

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Preface

Thank you very much for purchasing the quarts fitting.

This instruction manual describes the structure, specifications, and installation, inspection and maintenance procedures of the product.

Please read this manual carefully to ensure safe and efficient use of the product.

Safety Notices

The following lists safety notices which must be observed to ensure safe and proper use of the product and prevent personal injury and/or property damage.

Because these safety notices contain important information, be sure to read and observe them.

In this manual, safety notices are divided into “Danger”, “Warning” and “Caution” according to the hazard level.

	DANGER	A danger notice with this symbol indicates an imminently hazardous situation which, if not avoided, will result in death or serious personal injury.
	WARNING	A warning notice with this symbol indicates a potentially hazardous situation which, if not avoided, could result in death or serious personal injury.
	CAUTION	A caution notice with this symbol indicates a potentially hazardous situation which, if not avoided, may result in personal injury and/or property damage.

	This symbol indicates prohibition.
	This symbol conveys mandatory action or provides an instruction.

 WARNING	Liquid leakage	Be sure to follow instructions in this manual when installing, retightening, reinstalling the fitting. Poor installation or retightening may cause the liquid to leak or the fitting to uncouple from tubing.	
		Do not retighten the fitting while tubing is in high-temperature or pressurized conditions. Doing so may deform or damage the fitting, resulting in a spout of the liquid. Before retightening the fitting, be sure to lower the temperature to 30°C (86°F) or less and reduce the pressure to 0 MPaG (0 psiG).	
		The fitting is made of resin. Exercise great care to avoid bending or tensile stress to the fitting when or after tightening it. Doing so may deform or damage the fitting, resulting in damage to the quartz tube and/or liquid leakage.	
		Do not use the fitting beyond the working range specified in this manual. Doing so may cause the liquid to leak or the fitting to uncouple from tubing.	
 CAUTION	Installation work	Never use the quarts fitting in combination with the parts of other fittings. Doing so may cause the liquid to leak or the fitting to uncouple from tubing.	
		When the liquid temperature is 70°C (158°F) or higher, protect the fitting and tubing with a cover or other suitable means. Otherwise, a burn may result.	
	Disposal	Do not dispose of the fitting with a liquid residue remaining in it. Be sure to wash a liquid residue inside the fitting and then dispose of the fitting as incombustible waste. Disposal of the fitting without washing a liquid residue may be hazardous.	
		Do not incinerate fitting parts. Incineration of fluoro-rsin parts will generate toxic gases.	

* After installing the fitting, keep this manual readily accessible for future reference.

1. Structure and Specifications of the Quartz Fitting

1-1. Structure

The quartz fitting consists of a body, a ferrule, a stopper and an union nut (see Fig. 1).

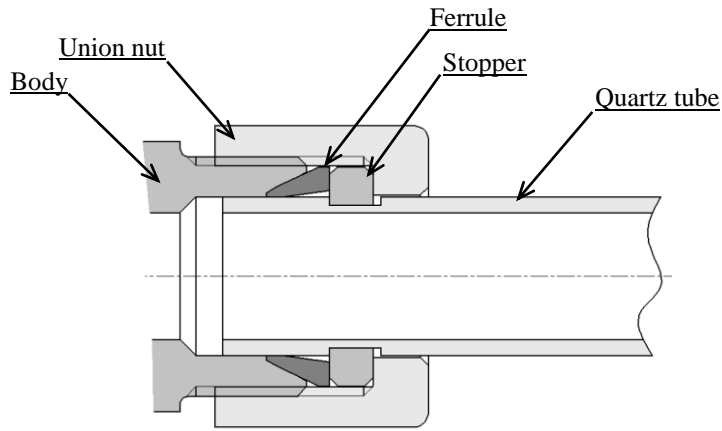


Fig. 1 Structure of the quartz fitting

1-2. Specifications

- Max. working temperature: 200°C
- Max. working pressure: 0.4 MPa

(Fig. 2 illustrates the application range of the fitting in terms of temperature and pressure.)

(The applicable fluid for the quartz fitting is limited to liquid.)

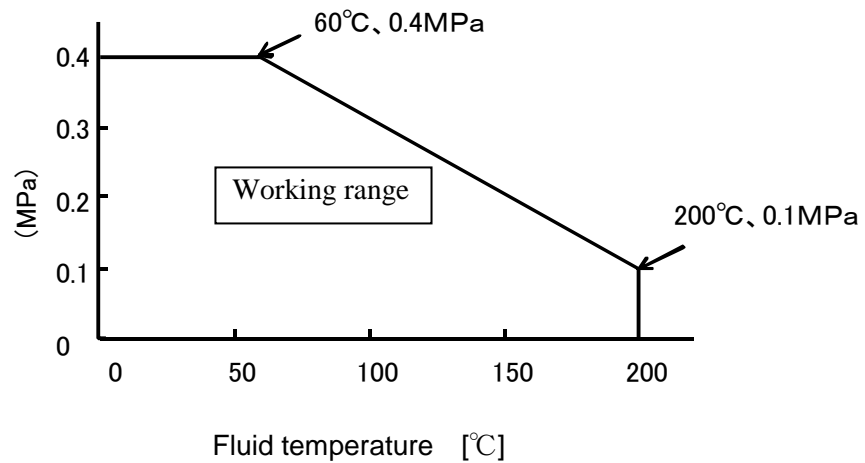


Fig. 2 Application range of the quartz fitting

2. Preparation of quartz tube

Before installing the fitting onto a quartz tube, cut a groove into the surface of the tube as shown in attached drawing No. PM-500-1. Ensure the tolerance and straight length of the quartz tube specified in the drawing.

3. Installation

3-1. Installing the nut and stopper

Slide the union nut onto the quartz tube beyond the groove.

See Fig. 3.

(Make sure that the nut has been installed in the correct direction.)

Then expand the split of the stopper to fit the stopper into the groove of the quartz tube. See Fig. 4

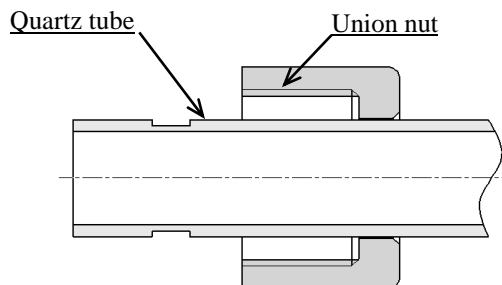


Fig. 3 Installing the nut

3-2. Installing the ferule

Slide the ferule onto the quartz tube against the stopper.

See. Fig. 5. Make sure that the ferule has been installed in the correct orientation.

3-3. Tightening the fitting body

Slide the fitting body onto the quartz tube, move the union nut to engage it with the body and tighten the nut firmly by hand.

Further tighten the nut a half turn using a wrench or the like.

Table 1 shows the tightening clearances between the fitting body and the union nut.

Note that these values are only guidelines, and not to be standard.

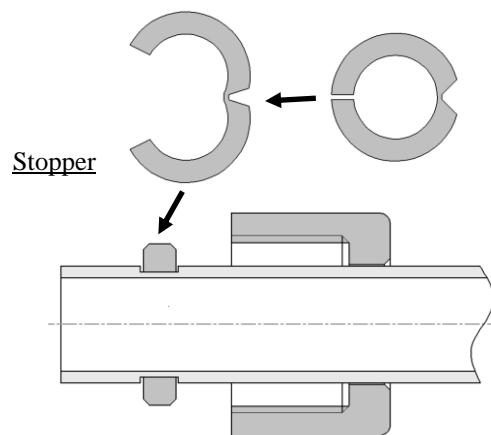


Fig. 4 Installing the stopper

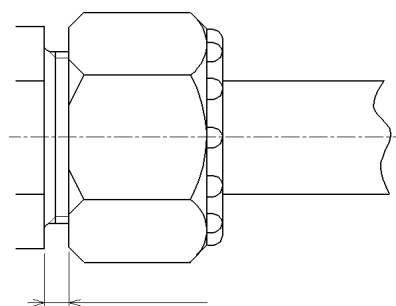


Fig.6 Tightening clearance

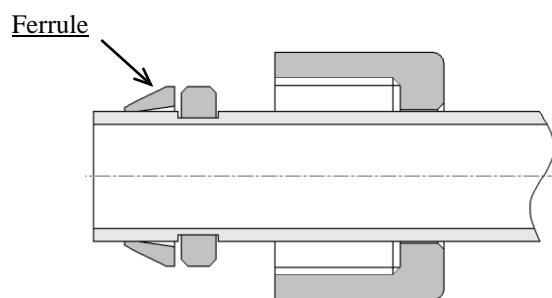


Fig.5 Installing the ferrule

Table 1 Tightening clearances between the fitting body and the union nut
(The values given are only guidelines, and not to be standard.)





Dimensions of quartz tube	Tightening clearance (mm)
$\phi 8 \times \phi 4$	4.2
$\phi 12 \times \phi 8$	4.5
$\phi 16 \times \phi 12$	7.5
$\phi 20 \times \phi 16$	3.7
$\phi 25 \times \phi 20$	6.2

4. Remedies for leakage

Should retightening be needed due to leakage, cool the liquid down to 30°C or lower, release the pressure in the tube to zero, and then retighten the nut one-quarter rotation with a wrench or the like. After the retightening procedure is completed, keep an eye on the fitting to see if any abnormality is found.




Even after the nut has been retightened, any liquid remaining in the nut may continue to ooze for a while.

CAUTION: After the nut is initially tightened, it will suffer a drop in tightness due to the nature of the resin used as a material of the nut. This phenomenon, however, will nearly come to an end approx. 24 hours after tightening. It is therefore recommended for ensuring a long-term stable sealing that the nut be retightened 24 hours after initial tightening. If the fitting is exposed to thermal cycles, it is also recommended that the nut be retightened after completion of the first thermal cycle.

Safety Notices		
 CAUTION	The fitting is made of resin. Exercise great care to avoid bending or tensile stress to the fitting when or after tightening it. Doing so may deform or damage the fitting, resulting in damage to the quartz tube liquid leakage and/or uncoupled fitting from tubing.	
	Do not retighten the fitting while tubing is in high-temperature or pressurized conditions. Doing so may deform or damage the fitting, resulting in a spout of the liquid. Before retightening the fitting, be sure to lower the temperature to 30°C (86°F) or less and reduce the pressure to 0 MPaG (0 psiG).	
	Be sure to follow instructions in this manual when installing, retightening, reinstalling the fitting. Poor installation or retightening may cause the liquid to leak or the fitting to uncouple from tubing.	

5. Disposal Precautions

When disposing of fittings, be sure to wash the remaining liquid inside fittings and then dispose of them as incombustible wastes.

Safety Notices		
 CAUTION	Do not dispose of the fitting with a liquid residue remaining in it. Be sure to wash a liquid residue inside the fitting and then dispose of the fitting as incombustible waste. Disposal of the fitting without washing a liquid residue may be hazardous.	
	Do not incinerate fitting parts. Incineration of fluoro-resin parts will generate toxic gases.	

6. Office Locations

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Tel : 81-6-6305-1941 Fax : 81-6-6305-0373

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