《RoHS Compliance》

NTFF

Clamp Type Metal Gasket Seal Fitting

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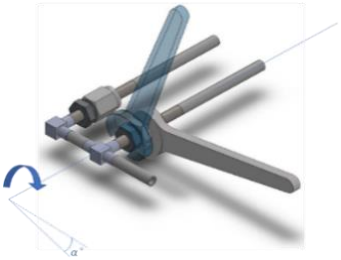
Features of NTFF

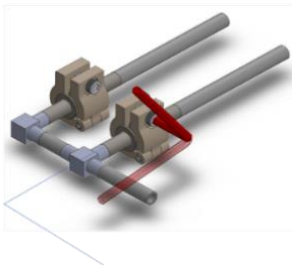
NTFF is an innovated clamp type metal gasket seal fitting that has greately improved structural defects of conventional fitting such as tube co-rotating during tightening work and particle generation.

1

Eliminate risk of co-rotation of tube

Since the nut type fitting rotate concentrically with respect to the tube using two wrenches, co-rotating of tube may be caused.
With clamp type fitting, tightening is performed perpendicular to the tube axis using a single hexagon wrench which eliminate the risk of tube co-rotation.
In addition, conventional nut type fitting scrach the gasket and gland sealing surface, but with clamp type fitting there is little damage and the fitting imroves greatly the risk of fluid contamination by particles.
Note) Attention must be paid in designing and handling as the tightening force becomes a little lower compare to the nut type against unusual external force.



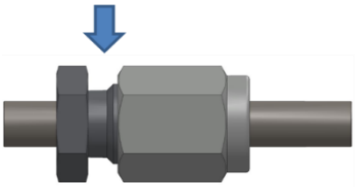


2

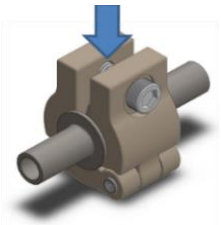
Tightening easily checked visually

Nut type fitting requires matching marks when tightening, but clamp type fitting can be checked tightening completion by visual check if any gap in Stopper Ring.
Also tightening control can be done by torque wrench.

Cannot judge tightened or not



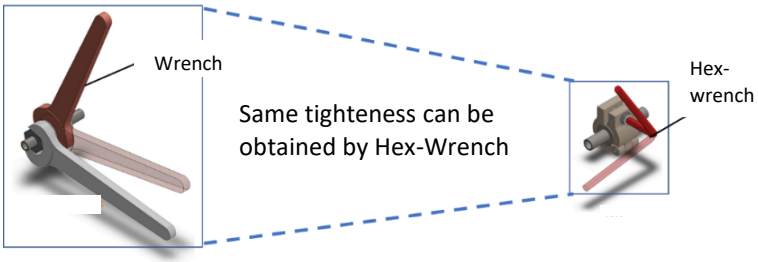
Can check visually

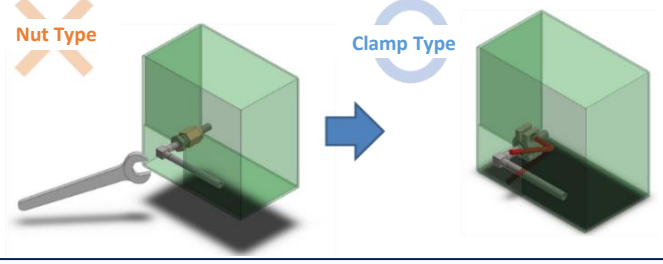


3

Even in narrow space, easy to work with one Hex-Wrench

Even in narrow space where wrench to tighten a nut can't be used, clamp type can be installed using a hexagonal wrench. Constraints in design are significantly improved and full length of piping unit can be more compact.





Structure and Materials of NTFF

<Structure>

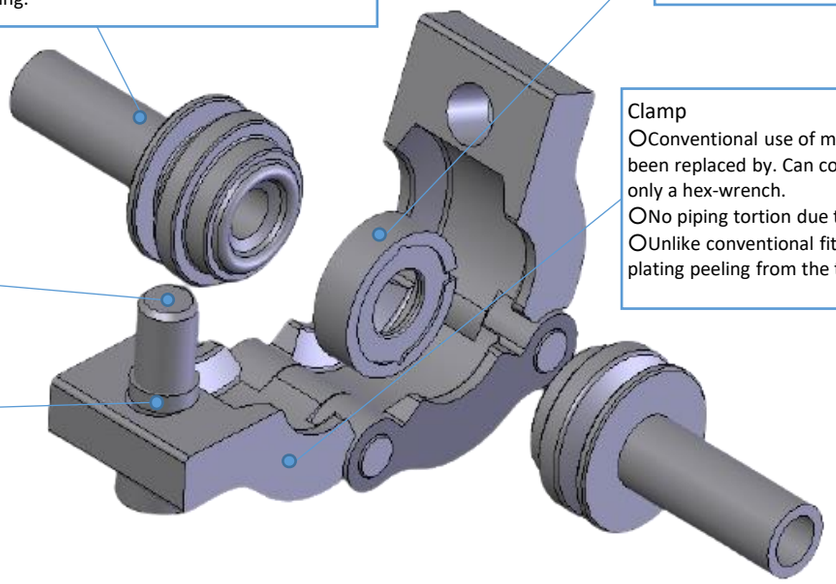
Gland
Double melt materials are available upon request..Seal structure of the gland is same as for conventional metal gasket seal fitting.

Gasket with holder
Can be securely attached and assembly work is easy.

Clamp
○Conventional use of male and female nuts has been replaced by. Can complete assembly work with only a hex-wrench.
○No piping tortion due to co-rotation.
○Unlike conventional fittings, there is no silver plating peeling from the threaded part of the nut.

Hex socket head bolt

Stopper ring



Specifications of NTFF

【Material】

Clamp	SUS630
Gland	SUS316L
Gasket with holder	SUS316L、Ni
Hexagon socket bolt	SUS304
Stopper ring	SUS304

※Center Ring is optional（material :SUS316）

【Specifications】

Nominal size	1/4”、3/8"(reduced type)
Working-P	Vac. ～ 1MPa
Working-T	-60～+250 ℃
Leak perform	≦ $1x10^{-11}$ Pa･m^3/s

Model designation of NTFF

NT	GE	4	- 4 -	07	W
※	①	②	③	④	⑤

※NT indicates the meaning of NTFF model

Blank when ① is CL(S), CR

① Shape	
Description	Symbol
Clamp assembly	CL
Gland	GE
Plug	BL
Center ring	CR
Clamp assembly (with bottom tap)	CLS

② Gasket connection size	
Size	Symbol
1/4"	4

③ Tube weld size	
Size	Symbol
1/4"	4
3/8"	6

Only when ① is GE.

④ Surface roughness	
Roughness	Symbol
Ra 0.25	32
Ra 0.13	07

⑤ Material	
Material	Symbol
316L	Blank
316L double melt	W

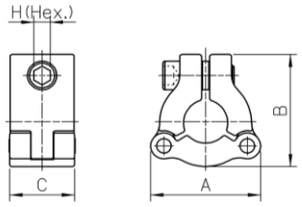
Ra 0.25 ≒ 10 µinch
Ra 0.13 ≒ 5 µinch

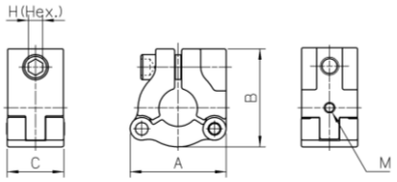
≪Example of Model designation≫

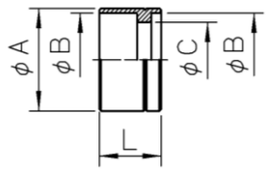
（EX.1） NTCL 4 （Shape：Clamp assembly（CL）, Size：1/4"）
（Ex.2） NTGE 4-6-07W （Shape：Gland（GE）, Size（Gasket connection side）：1/4"、Size（Tube weld side）：3/8",
Surface roughness：Ra<5.12µinch、Material：316L double melt）
（Ex.3） NTBL 4-32 （Shape：Plug（BL）、Size：1/4"、Surface roughness：Ra<0.9.84µinch, Material：316L）
（Ex.4） NTCR 4 （Shape：Center ring(CR)、Size：1/4"）

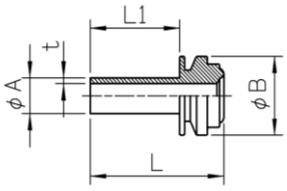
■ Visual Index of NTFF products

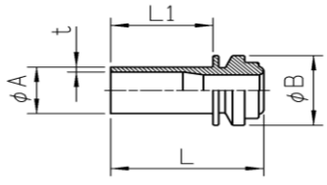
Unit: mm

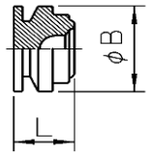
Clamp assembly	Part No.	A	B	C	H
	NTCL 4	26.2	27.3	15.4	4

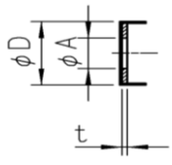
Clamp assembly（with bottom tap）	Part No.	A	B	C	H	M
	NTCLS 4	26.2	27.3	15.4	4	M3x0.5

Center ring	Part No.	Aplicable clamp	L	A	B	C
	NTCR 4	NTCL 4（1/4"） NTCLS 4（1/4"）	10	15.6	14.2	11.4

Gland	Part No.	Applicable clamp	A	t	B	L	L1
	NTGE 4-4-※	NTCL 4（1/4"） NTCLS 4（1/4"）	6.35	0.89	14.2	25.4	17

High flow gland	Part No.	Applicable clamp	A	t	B	L	L1
	NTGE 4-6-※	NTCL 4（1/4"） NTCLS 4（1/4"）	9.53	0.89	14.2	25.4	17

Plug	Part No.	Applicable clamp	B	L
	NTBL 4-※	NTCL 4（1/4"） NTCLS 4（1/4"）	14.2	8.4

Gasket with holder	Part No.	Material	A	D	t
	VTGR4 W	316L double melt	5.6	11.9	0.8
	VTGR4 Ni	Nickel			

※ Describe the symbols of inner surface roughness and materials.

■ Handling precautions

① To protect the bead surface, do not remove the protective cap while storing, transorting, and preparing for welding.
② All parts are precisely cleaned and packaged in clean environment. When used in application where oil or grease is a problem, work tools such as wrenches and jigs have to be degreased before assembly work.Wear dust-proof globes and be careful not to touch the parts directly with hands.
③ Replace the gasket with a new one every time of assembly.

■ Assembly instruction

1. Attach the gasket with holder to one gland.

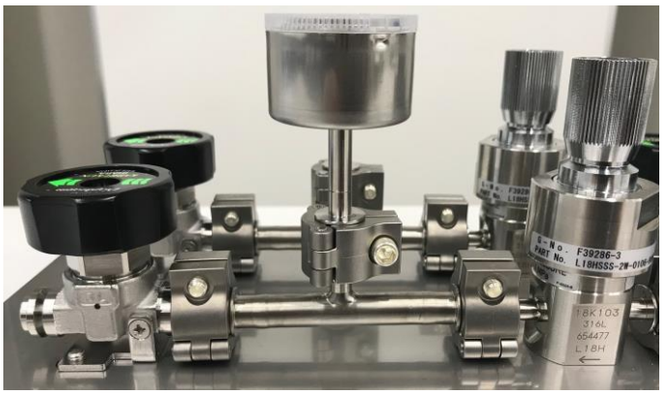
2. Butt the both ends of the glands.
※Pay attention not to dmage the gasket.

3. When using a torque wrench
Assemble the clamp and align the core with the gland lightly secured with the clamp. Using a torque wrench, tighten the hexagon socket bolt with the torque shown in the table below. At this time, set it in the center so that the clamp does not tilt or mount diagonally.

Nominal size[inch]	Tightening torque [N・m]
1/4“	3

4. When using a hexagon wrench
Assemble the clamp and align the core with the gland lightly secured with the clamp.
Tighten just before the stopper ring attached to hexagon socket bolt hits the clamp.
Do not tighten further as excessive tightening will lead to damage to the clamp.
(This tightening method is slightly stronger than the tightening with a torque wrench, so be careful of excessive tightening.)

■ Piping Samples



～Dimensions and specications may change without notice～

⚠ WARNING

If you don’t select and handle fittings, valves and related accessories in an adequate manner, it may damage human beings and applicable systems. Within the responsibility and authorization of users and piping designers, fittings, valves and related accessories shall be adequately selected, used and maintained based on the applicable conditions and product conformity to the system to be applied. Please read carefully the operation manual and feel free to contact with Ihara if you have any question or request.

WARRANTY CLAUSE

1. Warranty Period

The warranty period of the products is one (1) year from putting into service or one and half (1.5) years after delivery whichever comes earlier.

However, the products specially specified and/or the cases used under deviating from the specification shall be exempted.

2 . Scope of Warranty

Any failure and damage under maker’s responsibility will be found during the warranty period, the substitutes and/or replacement parts shall be provided free of charge. The warranty shall not be applied to a claim for the liquidated damages.