

DF-1000

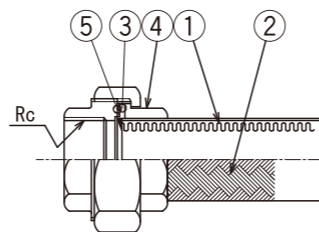
UNION Collar Type

Structure ■ Loose fitting by inserting a tube into a union joint

Use ■ Eccentricity of pipes and other parts, ground subsidence, etc.

Feature ■ Easy pipe layout work and reasonable price.
■ Tube and braid with excellent resistance to corrosion, pressure, heat, bending, and operation can be selected.

- Available NB 8A~65A
- Applicable Tubes
 - Spiral Tube •One-Pitch Tube
 - Super One-Pitch Tube •Fine Annular Tube
 - Fine Soft Tube
- Braid of SUS316 and SUS316L are also available. Please contact us for details.
- The operation temperature of the standard gasket is -40°C to 100°C. Please contact us for details if the operation temperature exceeds this range.



Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Union collar	SUS304·SUS316L
4	Union	FCMB·SUS304·BC6·SUS316L
5	Gasket (Packing)	Non-asbestos (standard)·PTFE, others

Caution

- ※Please use a gasket designed for steam when fluid is steam.
- ※Please always use a wrench on a union screw to tighten a union nut to prevent twisting of a tube.
- ※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.

DF-1100

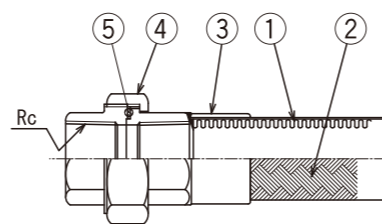
UNION R-Type

Structure ■ Butt welding a union joint and a tube

Use ■ Eccentricity of pipes and other parts, ground subsidence, etc.

Feature ■ Tube and braid with excellent resistance to corrosion, pressure, heat, bending, and operation can be selected.

- Available NB 6A~150A
- Applicable Tubes
 - Spiral Tube •One-Pitch Tube
 - Super One-Pitch Tube •Annular Tube
 - Fine Annular Tube •2PLY Annular Tube
 - Soft Tube •Fine Soft Tube
- Braid and tube rings of SUS316 and SUS316L are also available. Please contact us for details.
- The operation temperature of the standard gasket is -40°C to 100°C. Please contact us for details if the operation temperature exceeds this range.
- The underground installation type is P. 04 model number DFM-1100.
- For Union fitting
 - FCMB: 6A~150A •SUS304: 6A~100A
 - SUS316L: 6A~65A •BC6: 6A~50A



Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube Ring	SUS304·SUS316·SUS316L
4	Union	FCMB·SUS304·SUS316L·BC6
5	Gasket (Packing)	Non-asbestos (standard)·PTFE, others

Caution

- ※Please use a gasket designed for steam when fluid is steam.
- ※Please always use a wrench on a union screw to tighten a union nut to prevent twisting of a tube.
- ※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.

DF-1200

Insulation UNION

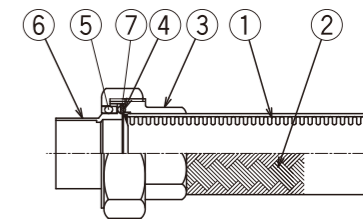
Structure ■ Loose fitting by inserting a tube into an insulation union joint.

Use ■ Eccentricity of pipes and other parts, ground subsidence, etc.

Feature ■ The insulation union eliminates the risk of electrolytic corrosion.
■ Connected by brazing due to copper tube connection.
■ Screw connection type with the opposite pipe is also available.
■ This product is suitable for absorbing deflection of copper pipes.

Applicable range ■ Temperature...-10°C~80°C max.
■ Pressure...1.0MPaG max.

- Available NB 8A~65A
- Applicable Tubes
 - Spiral Tube •One-Pitch Tube
 - Super One-Pitch Tube •Fine Annular Tube
 - Fine Soft Tube
- Braid of SUS316 and SUS316L are also available. Please contact us for details.



Dimension of applicable copper pipe

NB	O.D.
15A	φ15.88
20A	φ22.23
25A	φ28.58
32A	φ34.93
40A	φ41.28
50A	φ53.98

Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Union	FCMB·SUS304
4	Union collar	SUS304·SUS316L
5	Insulator	Bakelite resin
6	Copper Pipe Socket	C3601BD
7	Gasket (Packing)	EPDM

Caution

- ※Please always use a wrench on a union screw to tighten a union nut to prevent twisting of a tube.
- ※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.

DF-1300

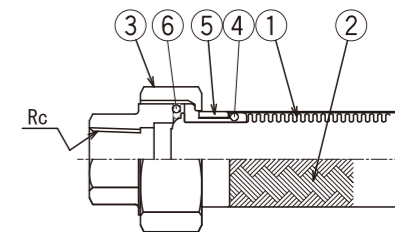
Non-welding UNION

Structure ■ The seal section is integrated with the tube, and the SUS braid and union joint are attached without welding.

Use ■ Eccentricity of pipes and other parts, absorption of vibration, ground subsidence, etc.

Feature ■ The non-welding assembly of the joint is suitable for absorbing vibration.

- Available NB 10A~50A
- The operation temperature of the standard gasket is -40°C to 100°C. Please contact us for details if the operation temperature exceeds this range.



Dimension of tube

NB	I.D	O.D	Thickness
10A	φ17.0	φ24.0	0.2
15A	φ19.2	φ27.5	0.2
20A	φ24.1	φ33.0	0.2
25A	φ29.5	φ40.5	0.2
32A	φ38.6	φ50.0	0.25
40A	φ44.8	φ57.0	0.3
50A	φ56.4	φ70.0	0.3

Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304
3	Union	FCMB·SUS304·BC6
4	Sleeve	SS400·SUS304
5	Clinch Ring	SS400·SUS304
6	Gasket (Packing)	Non-asbestos (standard)·PTFE, others

Caution

- ※Please use a gasket designed for steam when fluid is steam.
- ※Please always use a wrench on a union screw to tighten a union nut to prevent twisting of a tube.
- ※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.

DF-1400

K-Core UNION (for Water)

with function to protect core crush

Structure ■ Structured so that water and the main body of the union does not touch due to the resin screw and the core with a screw

Use ■ Clean water (tap water, greywater)

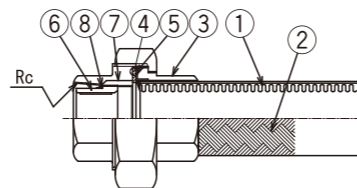
Feature ■ Clean design that prevents contaminated water from accumulating at the core and the tube ends due to the movable shape
 ■ The ring-shaped protrusion at the core absorbs the variation in the inner diameter of the tube and prevents water from entering from the lining wall.

Applicable range ■ Temperature...40°C max.
 ■ Pressure...1.0MPaG max.

- Available NB 15A~80A
- Applicable Tubes
 - Spiral Tube
 - One-Pitch Tube
 - Fine Annular Tube
- Braid of SUS316 and SUS316L are also available. Please contact us for details.
- Underground installation type can also be produced. Please contact us for details.

Caution

※Please always use a wrench on a union screw to tighten a union nut to prevent twisting of a tube.



Item	Name	Material
1	Tube	SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Union	FCMB
4	Gasket (Packing)	SBR
5	Union collar	SUS316L
6	Core	Polyethylene
7	Inner screw	PVC
8	Rubber ring	Synthetic rubber

DF-1500

HL Core UNION (for Hot Water)

Structure ■ Structured so that hot water and main body of the union does not touch due to the resin screw and the core with a screw.

Use ■ Used for hot water and warm water pipes

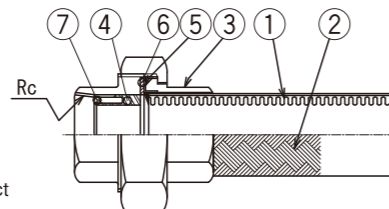
Feature ■ An anti-corrosion joint which is effective for preventing rusty water is used to attach a hot water pipe joints with excellent heat resistance to a tube.

Applicable range ■ Temperature...85°C max.
 ■ Pressure...1.0MPaG max.

- Available NB 15A~80A
- Applicable Tubes
 - Spiral Tube
 - One-Pitch Tube
 - Fine Annular Tube
- Braid of SUS316 and SUS316L are also available. Please contact us for details.
- Underground installation type can also be produced. Please contact us for details.

Caution

※Please always use a wrench on a union screw to tighten a union nut to prevent twisting of a tube.



Item	Name	Material
1	Tube	SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Union	FCMB
4	Core	Heatproof hard PVC
5	Union collar	SUS316L
6	Gasket (Packing)	EPDM
7	Seal agent	Silicone resin

DF-1600 DF-1700 DF-1800
 DF-W1600 DF-W1700 DF-W1800

High Pressure UNION

Structure ■ Butt welding high pressure union joint and tube.

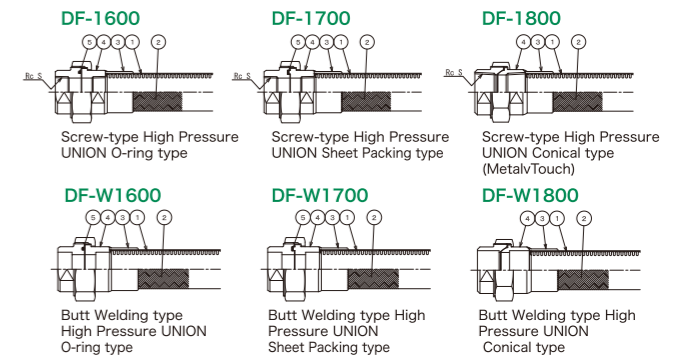
Use ■ Eccentricity of high-pressure pipes, ground subsidence, etc.

Feature ■ Tube and braid with excellent resistance to corrosion, pressure, heat, bending, and operation can be selected.
 ■ Available types of seal include O-ring, joint seal, and metal seal depending on designated union joint fittings.

- Available NB 8A~65A
- Applicable Tubes
 - Spiral Tube
 - Super One-Pitch Tube
 - Fine Annular Tube
 - Soft Tube
 - One-Pitch Tube
 - Annular Tube
 - 2PLY Annular Tube
 - Fine Soft Tube
- Braid and tube rings of SUS316 and SUS316L are also available. Please contact us for details.
- The standard operating temperature of an O-ring type is -30°C to 85°C or less. Please contact us for details if the operating temperature exceeds this range.
- The standard operating temperature of Sheet Packing type is -40°C to 100°C or less. Please contact us for details if the operating temperature exceeds this range.
- Since the conical type uses a metal seal method, the operating temperature covers from low temperature to high temperature range. Please contact us for details.

Caution

※Please use a gasket designed for steam when fluid is steam.
 ※Please always use a wrench on a union screw to tighten a union nut to prevent twisting of a tube.
 ※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.



Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube ring	SUS304·SUS316·SUS316L
4	High Pressure UNION	S25C·SUS304·SUS316L
5	O-ring	NBR (standard), others
	Gasket (Packing)	Non-asbestos (standard), others

DFM-1100

Underground UNION R-type

Structure ■ Designed for underground installation by wrapping anti-corrosion tapes on the outer surface of the tube
 ■ Anti-corrosion paint is applied on all parts, except for the stainless steel parts.

Use ■ For absorbing deflection in pipes installed under the ground caused by ground subsidence.

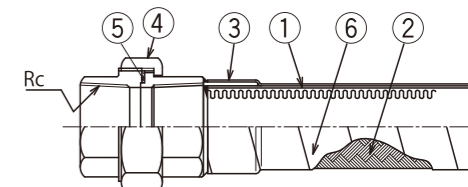
Feature ■ The anti-corrosion tape and paint on the exterior provide anti-corrosiveness against impurities in the ground.

Applicable range ■ Temperature...80°C max.

- Available NB 6A~150A
- Applicable Tubes
 - Spiral Tube
 - Annular Tube
 - Soft Tube
 - One-Pitch Tube
 - Fine Annular Tube
 - Fine Soft Tube
 - Super One-Pitch Tube
 - 2PLY Annular Tube
- Metal touch types and other types can also be produced.
- Braid and tube rings of SUS316 and SUS316L are also available. Please contact us for details.
- For Union fitting
 - FCMB: 6A~150A
 - SUS304: 6A~100A
 - SUS316L: 6A~65A
 - BC6: 6A~50A

Caution

※Please always use a wrench on a union screw to tighten a union nut to prevent twisting of a tube.



Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube ring	SUS304·SUS316·SUS316L
4	Union	FCMB·SUS304·SUS316L
5	Packing	Non-asbestos (standard), others
6	Anti-corrosion tape	PVC, others

DF-2000

Hexagonal NIPPLE (fixed)

Structure ■ Butt welding a nipple and a tube.

Use ■ Eccentricity of pipes and other parts, ground subsidence, etc.

Feature ■ Tube and braid with excellent resistance to corrosion, pressure, heat, bending, and operation can be selected.
 ■ Besides tapered screws for pipes, NPT screws, and other screws with different specifications can also be produced.

■ Available NB 6A~100A

■ Applicable Tubes

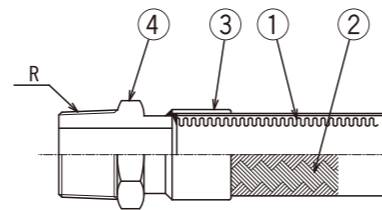
- Spiral Tube •One-Pitch Tube
- Super One-Pitch Tube •Annular Tube
- Fine Annular Tube •2PLY Annular Tube
- Soft Tube •Fine Soft Tube

■ Underground installation type can also be produced.

Please contact us for details.

■ Braid and tube rings of SUS316 and SUS316L are also available.

Please contact us for details.



Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube-ring	SUS304·SUS316·SUS316L
4	Hex. Nipple	SS400·SUS304·SUS316·SUS316L, others

Caution

※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.

DF-2100

Hexagonal SOCKET (fixed)

Structure ■ Butt welding a socket and a tube.

Use ■ Eccentricity of pipes and other parts, ground subsidence, etc.

Feature ■ Tube and braid with excellent resistance to corrosion, pressure, heat, bending, and operation can be selected.
 ■ Besides tapered screws for pipes, NPT screws, and other screws with different specifications can also be produced.

■ Available NB 6A~65A

■ Applicable Tubes

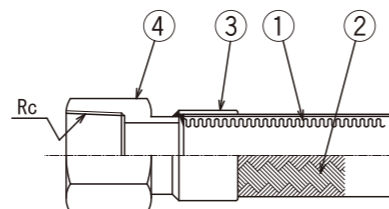
- Spiral Tube •One-Pitch Tube
- Super One-Pitch Tube •Annular Tube
- Fine Annular Tube •2PLY Annular Tube
- Soft Tube •Fine Soft Tube

■ Underground installation type can also be produced.

Please contact us for details.

■ Braid and tube rings of SUS316 and SUS316L are also available.

Please contact us for details.



Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube-ring	SUS304·SUS316·SUS316L
4	Hex. Socket	SS400·SUS304·SUS316·SUS316L, others

Caution

※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.

DF-2200

Round NIPPLE (fixed)

Structure ■ Butt welding a nipple and a tube.

Use ■ Eccentricity of pipes and other parts, ground subsidence, etc.

Feature ■ Tube and braid with excellent resistance to corrosion, pressure, heat, bending, and operation can be selected.
 ■ Besides tapered screws for pipes, NPT screws, and other screws with different specifications can also be produced.

■ Available NB 6A~150A

■ Applicable Tubes

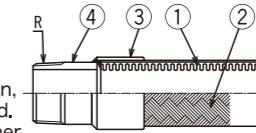
- Spiral Tube •One-Pitch Tube •Super One-Pitch Tube
- Annular Tube •Fine Annular Tube •2PLY Annular Tube
- Soft Tube •Fine Soft Tube

■ Underground installation type can also be produced.

Please contact us for details.

■ Braid and tube rings of SUS316 and SUS316L are also available.

Please contact us for details.



Caution

※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.

Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube-ring	SUS304·SUS316·SUS316L
4	Round Nipple	SGP·STPG370·SUS304·SUS316, others

DF-2300

Round SOCKET (fixed)

Structure ■ Butt welding a socket and a tube.

Use ■ Eccentricity of pipes and other parts, ground subsidence, etc.

Feature ■ Tube and braid with excellent resistance to corrosion, pressure, heat, bending, and operation can be selected.
 ■ Besides tapered screws for pipes, NPT screws, and other screws with different specifications can also be produced.

■ Available NB 6A~100A

■ Applicable Tubes

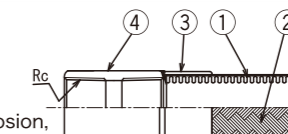
- Spiral Tube •One-Pitch Tube •Super One-Pitch Tube
- Annular Tube •Fine Annular Tube •2PLY Annular Tube
- Soft Tube •Fine Soft Tube

■ Underground installation type can also be produced.

Please contact us for details.

■ Braid and tube rings of SUS316 and SUS316L are also available.

Please contact us for details.



Caution

※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.

Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube-ring	SUS304·SUS316·SUS316L
4	Round Socket	STPG370·SUS304·SUS316, others

Extra: Flexible tube for filling

Structure ■ Butt Welding a fitting and a tube.

Use ■ For filling gas

Feature ■ Right-handed and left-handed screws are also available.
 ■ Trapezoidal screws, unified screws, and Whitworth screws are also available.



Extra: Bite-type joint

Structure ■ Butt Welding a fitting and a tube.

Use ■ Absorbs deflections of pipes in general and pipes for gas, water, and oil

Feature ■ Used for all kinds of pipes.
 ■ Various types of bite-type joints, such as Swagelok can be attached.



DF-2500

Lever coupling type

Structure

- ◀Lever coupling▶ screwed into a nipple type flexible metal hose.
- Can also be attached to a socket type flexible metal hose.
- Connection by direct welding onto a tube section of a flexible metal hose can also be produced.

Use

- Eccentricity of pipes and other parts, ground subsidence, etc.

Feature

- Easy removal and attachment of the hose.
- The adapter can be removed just by pushing up the lever on the coupler.
- Male screws, female screws, and flange types can also be produced for the adapter.
- Available types of joint metal fittings for selection include hexagonal nipples, hexagonal sockets, round nipples, and round sockets.
- Tube and braid with excellent resistance to corrosion, pressure, heat, bending, and operation can be selected.

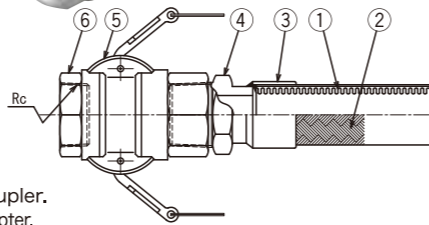
- Standard gasket (NBR) is attached on a lever coupler. If you want to use other material please contact us for details.

- Available NB 15A~200A
- Applicable Tubes
 - Spiral Tube •One-Pitch Tube •Super One-Pitch Tube
 - Annular Tube •Fine Annular Tube •2PLY Annular Tube
 - Soft Tube •Fine Soft Tube

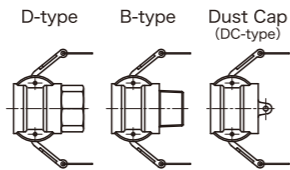
- Braid and tube rings of SUS316 and SUS316L are also available. Please contact us for details.

Caution

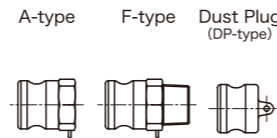
- ※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.



Lever Couplers



Adaptor



Applicable temp. for Gaskets

Material	Temp (°C)
NBR (Standard)	-30~ 80
Fluorine Rubber	-20~200
EPDM	-30~120
White Neoprene	-30~ 70
Silicone	-50~150
Super PFA	-20~220
FEP Lap Seal	-60~180
PTFE Over Fluorine Rubber	-30~200
PTFE (accordion)	-20~250

Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube Ring	SUS304·SUS316·SUS316L
4	Nipple	SS400·SUS304·SUS316L
5	Lever Coupler	Aluminum, Bronze, Stainless, P.P
6	Adaptor	Aluminum, Bronze, Stainless, P.P

The temperature varies depending on types of fluid and pressure.

DF-3000

Copper pipe sockets

Structure

- Butt welding a copper pipe socket and a tube.

Use

- For absorbing vibration of freezers and other devices

Feature

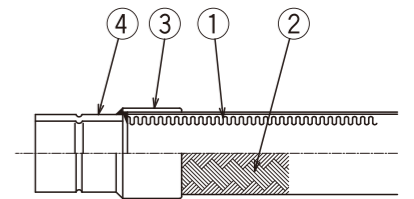
- Freezing prevention and high-pressure designs to be used as pipes of freezers can also be produced.

- Available NB 8A~80A
- Applicable Tubes
 - Spiral Tube •One-Pitch Tube •Super One-Pitch Tube
 - Annular Tube •Fine Annular Tube •2PLY Annular Tube
 - Soft Tube •Fine Soft Tube
- Braid and tube rings of SUS316 and SUS316L are also available. Please contact us for details.

NB	8A	10A	15A	20A		
O.D of connecting pipe mm	6.35	9.53	12.70	15.88	19.05	22.23
I.D of JIS socket	6.43	9.62	12.81	16.00	19.19	22.36

NB	25A	32A	32A	40A		
O.D of connecting pipe mm	25.40	28.58	31.75	34.93	38.10	41.28
I.D of JIS socket	25.48	28.75	31.83	35.11	38.20	41.50

NB	50A	65A	80A			
O.D of connecting pipe mm	44.45	50.80	53.98	63.50	66.68	79.38
I.D of JIS socket	44.55	50.90	54.22	63.60	66.96	79.66



Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube Ring	SUS304·SUS316·SUS316L
4	Copper Socket	C1220

Caution

- ※Copper pipe sockets are attached by silver soldering. Thus, please make sure that heat would not be transferred by wrapping a wet towel around the welding section of the flexible hose during installation.

DF-2600

Quick coupling method

Structure

- ◀Quick coupling▶ screwed into a nipple type flexible metal hose.
- Can also be attached to a socket type flexible metal hose.

Use

- Eccentricity of pipes and other parts, ground subsidence, etc.

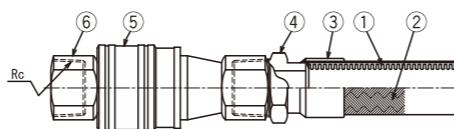
Feature

- Easy removal and attachment of the hose.
- High-pressure type can also be produced.
- The two-channel open/close type coupling has built-in automatic opening/closing valves in both the socket and the plug, and prevents the fluid from leaking out from the pipe during separation.
- An open-type without built-in valve is also available.
- Available types of joint metal fittings for selection include hexagonal nipples, hexagonal sockets, round nipples, and round sockets.
- Tube and braid with excellent resistance to corrosion, pressure, heat, bending, and operation can be selected.

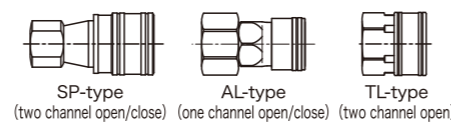
- Available NB 8A~65A
- Applicable Tubes
 - Spiral Tube •One-Pitch Tube •Super One-Pitch Tube
 - Annular Tube •Fine Annular Tube •2PLY Annular Tube
 - Soft Tube •Fine Soft Tube
- Braid and tube rings of SUS316 and SUS316L are also available. Please contact us for details.
- O-rings made of special materials for different operating conditions can also be produced. Please contact us for details.

Caution

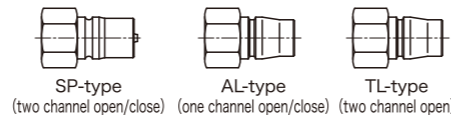
- ※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.



Socket



Plug



Special material for O-ring is available depending on usage. Please contact us for details.

Applicable temp. for O-ring

Material	Temp (°C)
NBR	-20~ 80
Fluorine Rubber	-20~180
EPDM	-40~150

Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube Ring	SUS304·SUS316·SUS316L
4	Nipple	SS400·SUS304·SUS316L
5	Socket	Carbon steel(plated), brass, stainless
6	Plug	Carbon steel(plated), brass, stainless

The temperature varies depending on types of fluid and pressure.

DF-3100

Pipe end

Structure

- Butt welding a pipe and a tube.

Use

- Eccentricity of pipes and other parts, ground subsidence, etc.

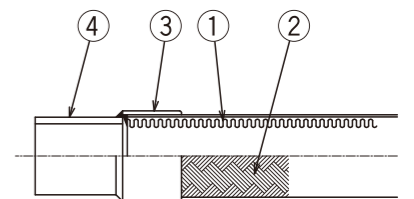
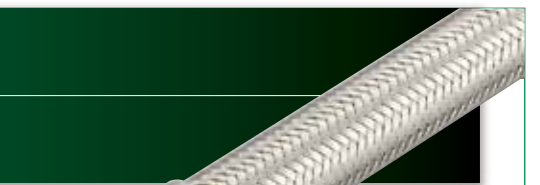
Feature

- Can select various kinds of steel pipes and copper pipes.
- High-pressure type can also be produced.
- Tube and braid with excellent resistance to corrosion, pressure, heat, bending, and operation can be selected.

- Available NB 6A~350A
- Applicable Tubes
 - Spiral Tube •One-Pitch Tube •Super One-Pitch Tube
 - Annular Tube •Fine Annular Tube •2PLY Annular Tube
 - Soft Tube •Fine Soft Tube
- Braid and tube rings of SUS316 and SUS316L are also available. Please contact us for details.
- Please specify the necessity of a groove when placing an order.

Caution

- ※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.



Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube Ring	SUS304·SUS316·SUS316L
4	Pipe end	SGP·STPG370·SUS304·SUS316, others

DF-4000

Metal Touch Male (welding type)

Structure ■ Butt welding a cap nut fitting and a tube.

Use ■ Eccentricity of pipes and other parts, ground subsidence, etc.

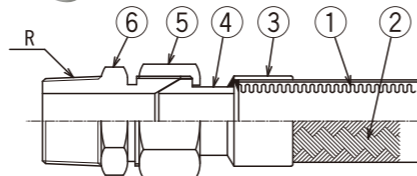
Feature

- The bag-shaped nut type enables easy attachment to a pipe.
- The metal touch does not require a gasket.
- Aside from tapered thread for pipe, NPT thread and other various kinds of threads are available.
- Tube and braid with excellent resistance to corrosion, pressure, heat, bending, and operation can be selected.

- Available NB 6A~80A
- Applicable Tubes
 - Spiral Tube
 - One-Pitch Tube
 - Super One-Pitch Tube
 - Annular Tube
 - Fine Annular Tube
 - 2PLY Annular Tube
 - Soft Tube
 - Fine Soft Tube
- Underground installation type can also be produced. Please contact us for details.
- Braid and tube rings of SUS316 and SUS316L are also available. Please contact us for details.

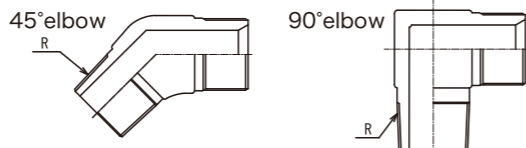
Caution

- ※Dust and cutting chips adhered on the sheet surface cause leakage. Please make sure that the sheet surface has no dust or chips before attaching.
- ※To prevent twisting of a tube, please always use a wrench on the adaptor when tightening a cap nut.
- ※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.



Tip adaptors

The 45° elbow type and 90° elbow type can also be attached to the male adaptor at the tip.



Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube Ring	SUS304·SUS316·SUS316L
4	Sleeve	SS400·SUS304·SUS316L, others
5	Cap nut	SS400·SUS304·SUS316L·C3604, others
6	Male adaptor	SS400·SUS304·SUS316L·C3604, others

DF-4600

Metal Touch Male (welding type, opposite sheet)

Structure ■ Butt welding a cap nut fitting and a tube.
■ This type has a sheet on the opposite side of DF-4000.

Use ■ Eccentricity of pipes and other parts, ground subsidence, etc.

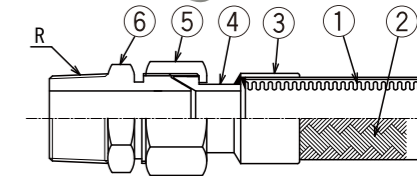
Feature

- The bag-shaped nut type enables easy attachment to a pipe.
- The metal touch does not require a gasket.
- Aside from tapered thread for pipe, NPT thread and other various kinds of threads are available.
- Tube and braid with excellent resistance to corrosion, pressure, heat, bending, and operation can be selected.

- Available NB 6A~80A
- Applicable Tubes
 - Spiral Tube
 - One-Pitch Tube
 - Super One-Pitch Tube
 - Annular Tube
 - Fine Annular Tube
 - 2PLY Annular Tube
 - Soft Tube
 - Fine Soft Tube
- Underground installation type can also be produced. Please contact us for details.
- Braid and tube rings of SUS316 and SUS316L are also available. Please contact us for details.

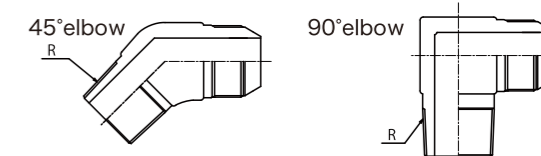
Caution

- ※Dust and cutting chips adhered on the sheet surface cause leakage. Please make sure that the sheet surface has no dust or chips before attaching.
- ※To prevent twisting of a tube, please always use a wrench on the adaptor when tightening a cap nut.
- ※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.



Tip adaptors

The 45° elbow type and 90° elbow type can also be attached to the male adaptor at the tip.



Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube Ring	SUS304·SUS316·SUS316L
4	Sleeve	SS400·SUS304·SUS316L, others
5	Cap nut	SS400·SUS304·SUS316L·C3604, others
6	Male adaptor	SS400·SUS304·SUS316L·C3604, others

DF-4100

Metal Touch Female (welding type)

Structure ■ Butt welding a cap nut fitting and a tube.

Use ■ Eccentricity of pipes and other parts, ground subsidence, etc.

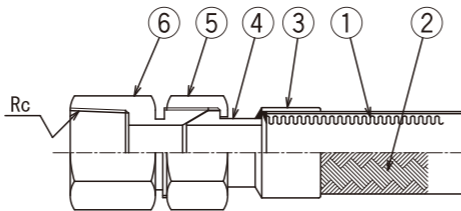
Feature

- The bag-shaped nut type enables easy attachment to a pipe.
- The metal touch does not require a gasket.
- Aside from tapered thread for pipe, NPT thread and other various kinds of threads are available.
- Tube and braid with excellent resistance to corrosion, pressure, heat, bending, and operation can be selected.

- Available NB 6A~65A
- Applicable Tubes
 - Spiral Tube
 - One-Pitch Tube
 - Super One-Pitch Tube
 - Annular Tube
 - Fine Annular Tube
 - 2PLY Annular Tube
 - Soft Tube
 - Fine Soft Tube
- Underground installation type can also be produced. Please contact us for details.
- Braid and tube rings of SUS316 and SUS316L are also available. Please contact us for details.

Caution

- ※Dust and cutting chips adhered on the sheet surface cause leakage. Please make sure that the sheet surface has no dust or chips before attaching.
- ※To prevent twisting of a tube, please always use a wrench on the adaptor when tightening a cap nut.
- ※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.



Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube Ring	SUS304·SUS316·SUS316L
4	Sleeve	SS400·SUS304·SUS316L, others
5	Cap Nut	SS400·SUS304·SUS316L·C3604, others
6	Female Adaptor	SS400·SUS304·SUS316L·C3604, others

DF-4700

Metal Touch Female (welding type, opposite sheet)

Structure ■ Butt welding a cap nut fitting and a tube.
■ This type has a sheet on the opposite side of DF-4100.

Use ■ Eccentricity of pipes and other parts, ground subsidence, etc.

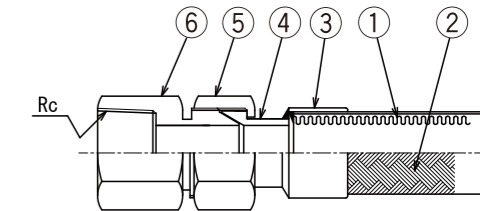
Feature

- The bag-shaped nut type enables easy attachment to a pipe.
- The metal touch does not require a gasket.
- Aside from tapered thread for pipe, NPT thread and other various kinds of threads are available.
- Tube and braid with excellent resistance to corrosion, pressure, heat, bending, and operation can be selected.

- Available NB 6A~65A
- Applicable Tubes
 - Spiral Tube
 - One-Pitch Tube
 - Super One-Pitch Tube
 - Annular Tube
 - Fine Annular Tube
 - 2PLY Annular Tube
 - Soft Tube
 - Fine Soft Tube
- Underground installation type can also be produced. Please contact us for details.
- Braid and tube rings of SUS316 and SUS316L are also available. Please contact us for details.

Caution

- ※Dust and cutting chips adhered on the sheet surface cause leakage. Please make sure that the sheet surface has no dust or chips before attaching.
- ※To prevent twisting of a tube, please always use a wrench on the adaptor when tightening a cap nut.
- ※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.



Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube Ring	SUS304·SUS316·SUS316L
4	Sleeve	SS400·SUS304·SUS316L, others
5	Cap Nut	SS400·SUS304·SUS316L·C3604, others
6	Female Adaptor	SS400·SUS304·SUS316L·C3604, others

DF-4400

Metal Touch Male for Rubber Hose Fitting

Structure ■ Butt welding a cap nut fitting for high pressure rubber hose and a tube.

Use ■ Eccentricity of pipes and other parts, ground subsidence, etc.

Feature

- The bag-shaped nut type enables easy attachment to a pipe.
- The metal touch does not require a gasket.
- Aside from tapered thread for pipe, NPT thread and other various kinds of threads are available.
- Various types of adapters, including hose adapters sold at stores can be attached.
- Tube and braid with excellent resistance to corrosion, pressure, heat, bending, and operation can be selected.

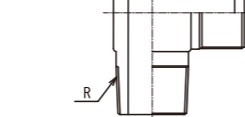
Tip adaptor

The 45° elbow type and 90° elbow type can also be attached to the male adaptor at the tip.

45°elbow



90°elbow

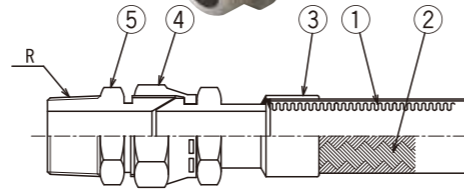


Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304
3	Tube Ring	SUS304
4	Cap nut*	SS400·SUS304
5	Male Adaptor*	SS400·SUS304

* A type which has a sheet on the opposite side is also available.

Caution

- ※Dust and cutting chips adhered on the sheet surface cause leakage. Please make sure that the sheet surface has no dust or chips before attaching.
- ※To prevent twisting of a tube, please always use a wrench on the adaptor when tightening a cap nut.
- ※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.



DF-4200

Metal Touch Male (Non-welding type)

Structure ■ Non-welding assembly of metal fittings and the tube.

Use ■ Eccentricity of pipes and other parts, ground subsidence, etc.

Feature

- The bag-shaped nut type enables easy attachment to a pipe.
- Lightweight and good flexibility.
- The metal touch does not require a gasket.
- Aside from tapered thread for pipe, NPT thread and other various kinds of threads are available.

■ Available NB 8A~25A

■ Applicable Tubes
·Spiral Tube

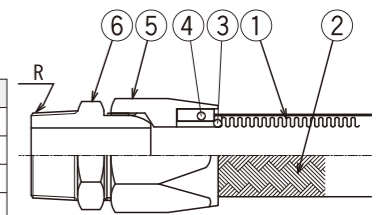
Caution

- ※To prevent twisting of a tube, please always use a wrench on the adaptor when tightening a cap nut. Sudden and quick tightening is more effective than slow and gradual tightening.
- ※Please be careful to keep adaptor seal free from any flaw or foreign particle.
- ※We recommend to apply seal agent on market to perform metal sealing firmly.
- ※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.

Recommendable tightening torque for cap nut

N.B.	Torque value
8A	68N·m (700Kgf·cm)
10A	68N·m (700Kgf·cm)
15A	78N·m (800Kgf·cm)
20A	98N·m(1000Kgf·cm)
25A	127N·m(1300Kgf·cm)

Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304
3	Base Ring	SS400·SUS304
4	Clinch Ring	SS400·SUS304
5	Cap nut	SS400·SUS304
6	Male Adaptor	SS400·SUS304·SUS316L·C3604



DF-4500

Metal Touch Female for Rubber Hose Fitting

Structure ■ Butt welding a cap nut fitting for high pressure rubber hose and a tube.

Use ■ Eccentricity of pipes and other parts, ground subsidence, etc.

Feature

- The bag-shaped nut type enables easy attachment to a pipe.
- The metal touch does not require a gasket.
- Aside from tapered thread for pipe, NPT thread and other various kinds of threads are available.
- Various types of adapters, including hose adapters sold at stores can be attached.
- Tube and braid with excellent resistance to corrosion, pressure, heat, bending, and operation can be selected.

■ Available NB 6A~50A

■ Applicable Tubes

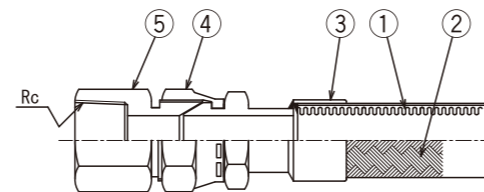
- Spiral Tube
- Super One-Pitch Tube
- Fine Annular Tube
- Soft Tube
- One-Pitch Tube
- Annular Tube
- 2PLY Annular Tube
- Fine Soft Tube

Caution

- ※Dust and cutting chips adhered on the sheet surface cause leakage. Please make sure that the sheet surface has no dust or chips before attaching.
- ※To prevent twisting of a tube, please always use a wrench on the adaptor when tightening a cap nut.
- ※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.

Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304
3	Tube Ring	SUS304
4	Cap nut*	SS400·SUS304
5	Female Adaptor*	SS400·SUS304

* A type which has a sheet on the opposite side is also available.



DF-4300

Metal Touch Female (Non-welding type)

Structure ■ Non-welding assembly of metal fittings and the tube.

Use ■ Eccentricity of pipes and other parts, ground subsidence, etc.

Feature

- The bag-shaped nut type enables easy attachment to a pipe.
- Light weight and good flexibility.
- The metal touch does not require a gasket.
- Aside from tapered thread for pipe, NPT thread and other various kinds of threads are available.

■ Available NB 8A~25A

■ Applicable Tubes
·Spiral Tube

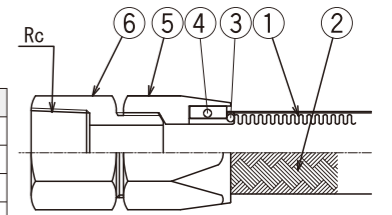
Caution

- ※To prevent twisting of a tube, please always use a wrench on the adaptor when tightening a cap nut. Sudden and quick tightening is more effective than slow and gradual tightening.
- ※Please be careful to keep adaptor seal free from any flaw or foreign particle.
- ※We recommend to apply seal agent on market to perform metal sealing firmly.
- ※Please contact us for details, for pipe layout that generates mechanical operation displacement or vibration.

Recommendable tightening torque for cap nut

N.B.	Torque value
8A	68N·m (700Kgf·cm)
10A	68N·m (700Kgf·cm)
15A	78N·m (800Kgf·cm)
20A	98N·m(1000Kgf·cm)
25A	127N·m(1300Kgf·cm)

Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304
3	Base Ring	SS400·SUS304
4	Clinch Ring	SS400·SUS304
5	Cap nut	SS400·SUS304
6	Female Adaptor	SS400·SUS304·SUS316L·C3604



DF-30000

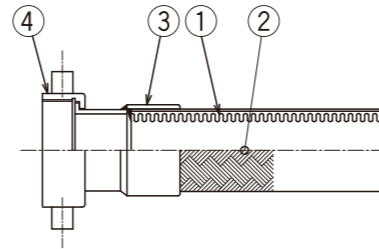
Lorry Fitting Female

Structure ■ Butt welding a lorry fitting and a tube.
■ The exterior is a wire braid type.

Use ■ For purposes, including connecting with a tank lorry.

Feature ■ The protrusion at the joint allows easy removal and attachment.

- Available NB 25A~80A
- Applicable Tubes
 - Spiral Tube
 - Super One-Pitch Tube
 - Fine Annular Tube
 - Soft Tube
 - One-Pitch Tube
 - Annular Tube
 - 2PLY Annular Tube
 - Fine Soft Tube
- Suitable screw specifications (Kawanishi screw, Tokyu screw, M screw, PF screw, etc.)
- Reinforced spring is effective for preventing excessive bending. Please contact us for details.
- Braid and tube rings of SUS316 and SUS316L are also available. Please contact us for details.



Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube Ring	SUS304·SUS316·SUS316L
4	Lorry female	SUS304, others

We also repair parts.
Please contact us for details.

DF-32000 (Ribbon braid type)

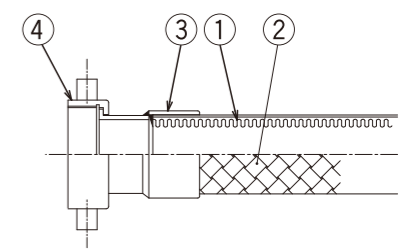
Lorry Fitting Female

Structure ■ Butt welding a lorry fitting and a tube.
■ The exterior is a ribbon braid type.

Use ■ For purposes, including connecting with a tank lorry.

Feature ■ The protrusion at the joint allows easy removal and attachment.

- Available NB 25A~80A
- Applicable Tubes
 - Spiral Tube
 - Super One-Pitch Tube
 - Fine Annular Tube
 - Soft Tube
 - One-Pitch Tube
 - Annular Tube
 - 2PLY Annular Tube
 - Fine Soft Tube
- Suitable screw specifications (Kawanishi screw, Tokyu screw, M screw, PF screw, etc.)
- Reinforced spring is effective for preventing excessive bending. Please contact us for details.
- The widths of available ribbon braid:
5mm / 6mm / 8mm / 10mm / 12mm / 13mm
- Braid and tube rings of SUS316 and SUS316L are also available. Please contact us for details.



Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube Ring	SUS304·SUS316·SUS316L
4	Lorry female	SUS304, others

We also repair parts.
Please contact us for details.

DF-31000

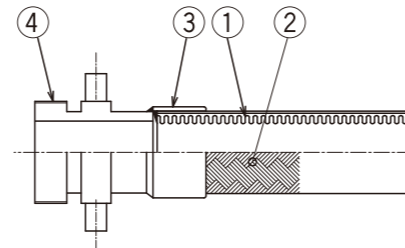
Lorry Fitting Male

Structure ■ Butt welding a lorry fitting and a tube.
■ The exterior is a wire braid type.

Use ■ For purposes, including connecting with a tank lorry.

Feature ■ The protrusion at the joint allows easy removal and attachment.

- Available NB 25A~80A
- Applicable Tubes
 - Spiral Tube
 - Super One-Pitch Tube
 - Fine Annular Tube
 - Soft Tube
 - One-Pitch Tube
 - Annular Tube
 - 2PLY Annular Tube
 - Fine Soft Tube
- Suitable screw specifications (Kawanishi screw, Tokyu screw, M screw, PF screw, etc.)
- Reinforced spring is effective for preventing excessive bending. Please contact us for details.
- Braid and tube rings of SUS316 and SUS316L are also available. Please contact us for details.



Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube Ring	SUS304·SUS316·SUS316L
4	Lorry male	SUS304, others

We also repair parts.
Please contact us for details.

DF-33000 (Ribbon braid type)

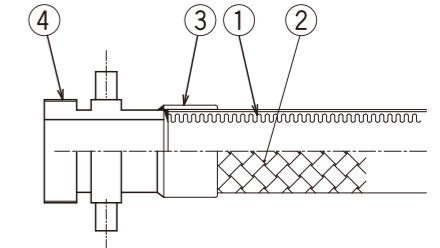
Lorry Fitting Male

Structure ■ Butt welding a lorry fitting and a tube.
■ The exterior is a ribbon braid type.

Use ■ For purposes, including connecting with a tank lorry.

Feature ■ The protrusion at the joint allows easy removal and attachment.

- Available NB 25A~80A
- Applicable Tubes
 - Spiral Tube
 - Super One-Pitch Tube
 - Fine Annular Tube
 - Soft Tube
 - One-Pitch Tube
 - Annular Tube
 - 2PLY Annular Tube
 - Fine Soft Tube
- Suitable screw specifications (Kawanishi screw, Tokyu screw, M screw, PF screw, etc.)
- Reinforced spring is effective for preventing excessive bending. Please contact us for details.
- The widths of available ribbon braid:
5mm / 6mm / 8mm / 10mm / 12mm / 13mm
- Braid and tube rings of SUS316 and SUS316L are also available. Please contact us for details.



Item	Name	Material
1	Tube	SUS304·SUS316L
2	Braid	SUS304·SUS316·SUS316L
3	Tube Ring	SUS304·SUS316·SUS316L
4	Lorry male	SUS304, others

We also repair parts.
Please contact us for details.