



Pipe enlarging type fitting for light gauge stainless steel pipe

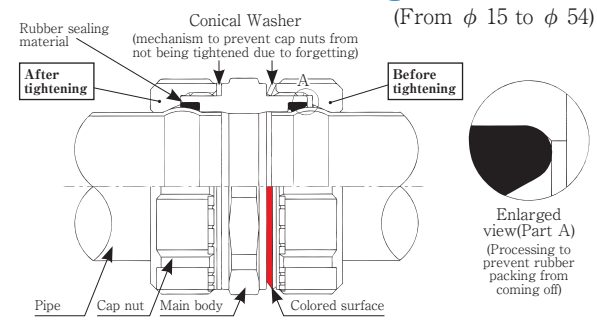


No use of heat or flame
No specialized technology required
Not press type fitting



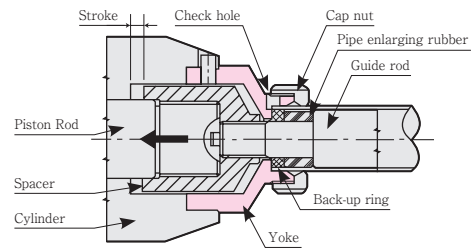
 O.N. INDUSTRIES LTD.

◆ Structure of Connecting section



Structure: A cap nut and flange are mounted to the expanded pipe end, connected to the fitting. Rubber packing is inserted into a triangle chamber surrounded by the fitting and pipe to seal out liquid.

◆ Pipe enlarging principle



Pipe enlarging principle: Expanding pipe enlarging rubber when compressed load is applied in the axis (arrow) direction with oil pressure. The pipe inserted into guide rod is enlarged by a force where the pipe enlarging rubber expands in the circumferential direction.

Features

(1) Easy

Easy to install. Not much time is needed to get the required skills.
Easy to avoid forgetting to tighten the cap nut.
Tightening can be checked visually through conical washer.

(2) Quick

Faster processing time with using dedicated pipe expansion machine, anyone can handle the installation work easily.
Prefabrication by cutting and expansion of pipes according to drawings can be done in a piping factory, so assembling a unit and final assembly on site is not so complicated.

(3) Strong

Excellent durability and withstands even huge earthquakes.
Unique structure, pipe enlargement system, proved seismic tests.
The secret is the unique expanded pipe structure and expanding the end of pipe that has stronger resistance with cap nut.

(4) Light

O.N. Fitting system uses thin wall thickness stainless steel pipe.
Light, easy and amazingly fast.
It is easy to carry, handle and operate even in narrow places, workability is high.

(5) Eco-friendly

Hygienic stainless steel does not create red or blue water due to corrosion of steel pipes.
Stainless steel is environmentally friendly and has a long service life.
As open flames are not used, it is convenient for repairs.

Cautions in installation

1. Always keep in mind that the pipe is thin.
2. Carefully perform cutting and chamfering.
3. Mount pipe expansion machine parts correctly.
4. When enlarging the pipe, insert pipe correctly.
5. Keep the correct pipe enlarging amount.
6. Do not forget rubber sealing material.
7. Tighten the cap nut completely.
8. Do not apply an excessive piping stress.
9. Be sure to take measures against corrosion and freezing.
10. Fix the support securely.

***Please connect the next process with the extension of piping after completely tightening cap nut.**

Operation procedures with NE40C pipe expander (From $\phi 15$ to $\phi 54$)



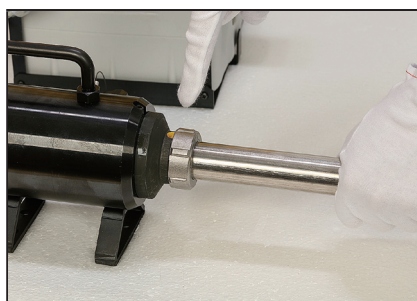
1.Referring to the pipe cutting dimension table, cut the pipe at a right angle to the axis core with a metal saw or band saw.



2.Carefully, remove burrs from both the inner and outer chamfered surfaces carefully using reamer, sand paper and grinder.



3.Tighten the cap nut to the yoke.



4.Insert the pipe into the guide rod completely.



5.For the pipe expansion work, keep pressing "UP" button until the motor stops. Then, pressing "DOWN" button around two seconds to release the pressure.



6.Insert the enlarged pipe into the fitting and tighten the cap nut.



7.In case rubber sealing material is dropped, be sure to mount it to the fitting main body.



8.Set the conical washer to a section where the cap nut side surface comes in contact with the fitting and tighten the nut until the colored surface is not visible.

⚠ Safety Precautions
Check instruction and installation manual before the work.

Products

(Unit : mm)

90°Elbow



size	Qty per carton
φ 15 / 1.0	48
φ 18 / 1.0	42
φ 22 / 1.2	30
φ 28 / 1.2	20
φ 35 / 1.5	24
φ 42 / 1.5	16
φ 54 / 1.5	8

Equal Tees



size	Qty per carton
φ 15 / 1.0	36
φ 18 / 1.0	36
φ 22 / 1.2	24
φ 28 / 1.2	20
φ 35 / 1.5	12
φ 42 / 1.5	10
φ 54 / 1.5	6

Socket



size	Qty per carton
φ 15 / 1.0	64
φ 18 / 1.0	56
φ 22 / 1.2	48
φ 28 / 1.2	30
φ 35 / 1.5	32
φ 42 / 1.5	28
φ 54 / 1.5	12

Male Adapter



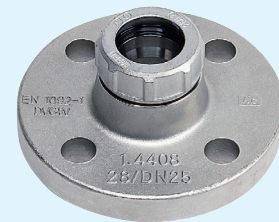
size	Qty per carton
φ 15/1.0 × R ¹ / ₂	64
φ 18/1.0 × R ¹ / ₂	56
φ 22/1.2 × R ³ / ₄	48
φ 28/1.2 × R1	30
φ 35/1.5 × R1 ¹ / ₄	32
φ 42/1.5 × R1 ¹ / ₂	28
φ 54/1.5 × R2	12

Female Adapter



size	Qty per carton
φ 15/1.0 × Rp ¹ / ₂	64
φ 18/1.0 × Rp ¹ / ₂	56
φ 22/1.2 × Rp ³ / ₄	48
φ 28/1.2 × Rp1	30
φ 35/1.5 × Rp1 ¹ / ₄	32
φ 42/1.5 × Rp1 ¹ / ₂	28
φ 54/1.5 × Rp2	12

Flange Adapter



size	Qty per carton
φ 15/1.0 × DN15	4
φ 18/1.0 × DN15	4
φ 22/1.2 × DN20	4
φ 28/1.2 × DN25	4
φ 35/1.5 × DN32	4
φ 42/1.5 × DN40	4
φ 54/1.5 × DN50	2

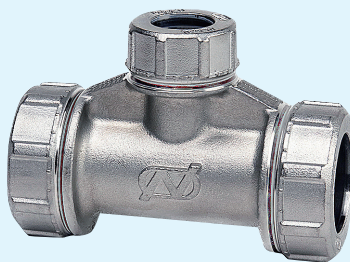
(Unit : mm)

Reduced Elbow



size	Qty per carton
ϕ 18/1.0 \times ϕ 15/1.0	42
ϕ 22/1.2 \times ϕ 18/1.0	30
ϕ 28/1.2 \times ϕ 22/1.2	20
ϕ 35/1.5 \times ϕ 28/1.2	24
ϕ 42/1.5 \times ϕ 35/1.5	16
ϕ 54/1.5 \times ϕ 42/1.5	8

Reduced Tees



size	Qty per carton
ϕ 18/1.0 \times ϕ 15/1.0	36
ϕ 22/1.2 \times ϕ 15/1.0	24
ϕ 22/1.2 \times ϕ 18/1.0	24
ϕ 28/1.2 \times ϕ 18/1.0	20
ϕ 28/1.2 \times ϕ 22/1.2	20
ϕ 35/1.5 \times ϕ 22/1.2	12
ϕ 35/1.5 \times ϕ 28/1.2	12
ϕ 42/1.5 \times ϕ 28/1.2	10
ϕ 42/1.5 \times ϕ 35/1.5	10
ϕ 54/1.5 \times ϕ 35/1.5	6
ϕ 54/1.5 \times ϕ 42/1.5	6

Reducer



size	Qty per carton
ϕ 18/1.0 \times ϕ 15/1.0	56
ϕ 22/1.2 \times ϕ 15/1.0	48
ϕ 22/1.2 \times ϕ 18/1.0	48
ϕ 28/1.2 \times ϕ 18/1.0	30
ϕ 28/1.2 \times ϕ 22/1.2	30
ϕ 35/1.5 \times ϕ 22/1.2	32
ϕ 35/1.5 \times ϕ 28/1.2	32
ϕ 42/1.5 \times ϕ 28/1.2	28
ϕ 42/1.5 \times ϕ 35/1.5	28
ϕ 54/1.5 \times ϕ 35/1.5	12
ϕ 54/1.5 \times ϕ 42/1.5	12

Pipe expander

◆NE30C-Type



Electrical requirement	Lithium ion battery
Pipe expansion range	15mm to 28mm (4sizes)
Weight	4.3kg

◆NE40C-Type



Electrical requirement	AC230V
Pipe expansion range	15mm to 54mm (7sizes)
Weight	21kg



Warning: Machine designed exclusively for O.N. Fitting system

1. Using these machines for the expansion of mechanical fittings other than O.N. Fitting will cause trouble.
2. Expanding tubes with pipe enlarging machines other than the dedicated ones will affect the performance of O.N. Fitting.

Specification

(1) Scope of usage



O.N. Fitting is suitable for portable water, cooling water, cold and hot water, and compressed air etc.

(2) Temperature, pressure

Temperature : from 0°C (not frozen) to 100°C

Pressure : MAX 20bar

(3) Rubber sealing material

	Standard product
Front (Pipe side)	
Back (Fitting body side)	
Material	EPDM
Nominal size	From ϕ 15 to ϕ 54 (7 sizes)
Applications	Suitable for portable water, cooling water, cold and hot water, compressed air and etc.
Temperature	From 0°C (not frozen) to 100°C
Appearance	Black

(4) Scope of applicable pipes

Light gauge stainless steel pipes in accordance with EN10312 Table2 and DVGW W541



(5) Degreased and cleansed products

Degreased and cleansed O.N. Fitting is manufactured separately.

Safety Precautions

When you use our products under conditions other than those specified above, please contact us in advance. Be sure to read the Instruction manual before installation.



DVGW type examination certificate

DVGW-Baumusterprüfzertifikat

DW-8511CU0344

Registration Number
Registriernummer

Field of Application
Anwendungsbereich

products of water supply
Produkte der Wasserversorgung

Owner of Certificate
Zertifikatinhaber

O.N. Industries Ltd.
Tsuyama, Okayama, JP-3235-2 Kamitanomura

Distributor
Vertreiber

O.N. Industries Ltd.
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Product Category
Produktart

Installation systems and system joints (PN 10): pipe joint for pipes in drinking water installation systems (8511)

Product description
Produktbezeichnung

mechanical connectors made from stainless steel for stainless steel pipes according to DVGW GW 541 (type M-MM)

Model
Modell

O.N. Fitting

Test reports
Prüfberichte

Laboratory control test: I-K-240092.402 from 13.11.2024 (MPD)
Laboratory control test: I-K-240092.403 from 13.11.2024 (MPD)
Supplement test: K 24 0092.2 from 04.11.2024 (MPD)
Laboratory control test: I-K-240092.401 from 30.07.2024 (MPD)
Type testing: K 19 0405 from 01.11.2019 (MPD)

Test basis
Prüfgrundlagen

DVGW W 534-(P) (01.07.2015)
DVGW CERT ZP 8500 (23.05.2022)
DVGW CERT ZP 1000 (03.09.2024)
UBA KTW-BWGL (23.08.2024)
UBA BWGL-Metalle (10.06.2024)
DIN EN 16421 (01.05.2015)

Date of Expiry / File No.
Ablaufdatum / Aktenzeichen

01.11.2029 / 24-0483-WNA

70028-04-A-DE

03.02.2025 Bn A-1/2

Date, Issued by, Sheet, Head of Certification Body
Datum, Bearbeiter, Blatt, Leiter der Zertifizierungsstelle



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We are dedicated to develop the seismic-resistant products

After Great Hanshin Awaji Earthquake, Great East Japan Earthquake and Kumamoto Earthquake, we visited sites where our products had been applied, such as hotels, universities, banks and waste disposal plants, etc. and confirmed that our products were safe.



High-end piping

O.N. Fitting

*It has been verified that our products can stand earthquakes up to about MSKⅫ by applying acceleration of 2000Gal to pipes.

O.N. INDUSTRIES LTD.

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Installation explanation sessions for O.N. Fitting are available.

*The installation will be provided in accordance with instruction manual.

*If you handle our products for the first time, be sure to take an installation explanation session.

*Please contact to sales representative for the sessions.

*A technical training certificate or certificate of completion will be issued if needed.

*Please apply for the installation explanation session as early as possible.