

CAT·PIPE®

*Aluminum Alloy Pipe
For the connection of Air Conditioner*

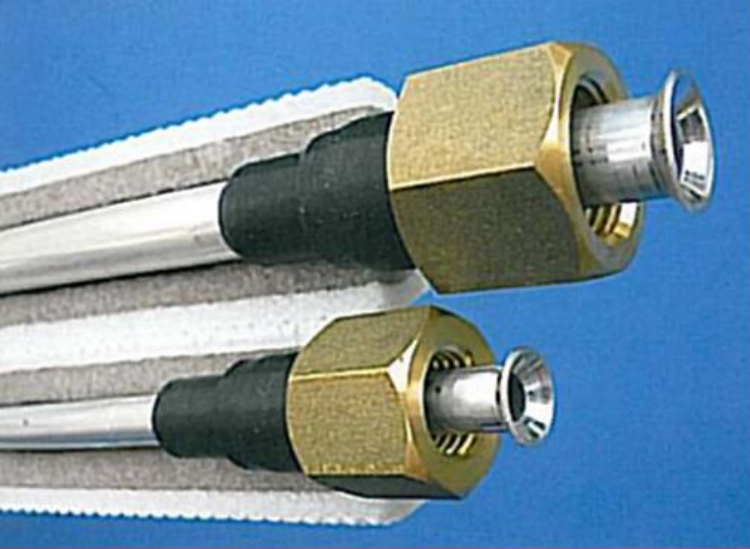
For both heat & cooling
Thermal Resistance up to 120°C

Alternative connection pipe made of aluminum alloy developed by TOYO's long time experiences and accumulated technologies.



TOYO

TOYO DENSEN CO.,LTD.



CAT·PIPE®

NETIS Registration Number
CB180002-A

Aluminum Alloy Connection Pipe
For Air Conditioner

- Easy to carry and handle, about 1/3 weight of copper.
- More economical and much less price fluctuation than copper come from abundant reserves.
- Excellent durability and corrosion resistance.
- Easy to bend (except near flare nut) and cut depend on required length.
- Specially designed water proofing flare nut and rubber cap prevent from galvanic corrosion.

About NETIS (Registration Number : CB180002-A)

Ministry of Land, Infrastructure, Transport and Tourism (MLIT) is established **NEw Technology I**nformation **S**ystem (NETIS) for the purpose of sharing and providing information so as to utilize new technology.

NETIS is a database for promoting the active utilization of useful new technology by improving the efficiency of office work and reducing the risk of application of new technologies in the field of public constructions.

Purposes are to encourage private sector's technological development to utilize new technology actively, to ensure the quality of public works by creating superior technologies, and to contribute the quality of social structure.

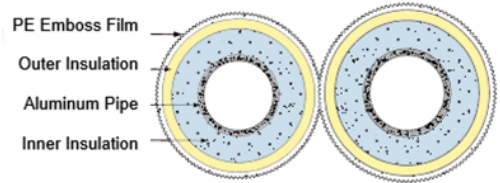


As connection pipe for air conditioner, 6.35mm to 15.88mm is the range of registered outer diameter in NETIS so far.

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NETIS Resisterd Products Line Up

CAT Aluminum Twin Dia Series



20m Pair Coil

Code	Model Number	Refrigerant Type	Pipe Size(mm)		Insulation Size(mm)		Length (m)	Exclusive Water-proofing		Qty
			Outer Diameter	Thickness	Outer Diameter	Thickness		Flare Nut	Rubber Cap	
72094	CAT-2320S10	③	6.35	0.95	24	8	20	10pcs each	10pcs each	1
			9.52	1.0	27	8				
72097	CAT-2420	②	6.35	0.95	24	8	20	Not included	Not included	1
			12.7	1.2	34	10				
72098	CAT-3520	②	9.52	1.0	27	8	20	Not included	Not included	1
			15.88	1.3	37	10				

*One each water-proofing nut and cap are installed at one side of pipe.

20m Pair Coil - Insulation 8mm (liquid) x 20mm (gas) thickness

Code	Model Number	Refrigerant Type	Pipe Size(mm)		Insulation Size(mm)		Length (m)	Exclusive Water-proofing		Qty
			Outer Diameter	Thickness	Outer Diameter	Thickness		Flare Nut	Rubber Cap	
72112	CAT-S-2320	③	6.35	0.95	24	8	20	Not included	Not included	1
			9.52	1.0	51	20				
72113	CAT-S-2420	②	6.35	0.95	24	8	20	Not included	Not included	1
			12.7	1.2	54	20				
72114	CAT-S-3520	②	9.52	1.0	27	8	20	Not included	Not included	1
			15.88	1.3	58	20				

30m Pair Coil

Code	Model Number	Refrigerant Type	Pipe Size(mm)		Insulation Size(mm)		Length (m)	Exclusive Water-proofing		Qty
			Outer Diameter	Thickness	Outer Diameter	Thickness		Flare Nut	Rubber Cap	
72091	CAT-2330	③	6.35	0.95	24	8	30	Not included	Not included	1
			9.52	1.0	27	8				
72110	CAT-2430	②	6.35	0.95	24	8	30	Not included	Not included	1
			12.7	1.2	34	10				
72111	CAT-3530	②	9.52	1.0	27	8	30	Not included	Not included	1
			15.88	1.3	37	10				

4m Pair Coil with Flaring process at both ends

Code	Model Number	Refrigerant Type	Pipe Size(mm)		Insulation Size(mm)		Length (m)	Exclusive Water-proofing		Qty
			Outer Diameter	Thickness	Outer Diameter	Thickness		Flare Nut	Rubber Cap	
71644	P-234CAT-V	③	6.35	0.95	24	8	4	Not included	Not included	7
			9.52	1.0	27	8				

CAT Aluminum Single Dia Series

(excl. Exclusive water-proofing nut and cap)



Insulation 10mm thickness

Code	Model Number	Refrigerant Type	Pipe Size(mm)		Insulation Size(mm)		Length (m)	Exclusive Water-proofing		Qty
			Outer Diameter	Thickness	Outer Diameter	Thickness		Flare Nut	Rubber Cap	
75222	CAT-220	③	6.35	0.95	24	8	20	Not included	Not included	3
75223	CAT-320	③	9.52	1.0	27	8	20	Not included	Not included	3
75224	CAT-420	②	12.7	1.2	34	10	20	Not included	Not included	2
75225	CAT-520	②	15.88	1.3	37	10	20	Not included	Not included	1

Insulation 20mm thickness

Code	Model Number	Refrigerant Type	Pipe Size(mm)		Insulation Size(mm)		Length (m)	Exclusive Water-proofing		Qty
			Outer Diameter	Thickness	Outer Diameter	Thickness		Flare Nut	Rubber Cap	
75226	CAT-S-220	③	6.35	0.95	48	20	20	Not included	Not included	1
75227	CAT-S-320	③	9.52	1.0	51	20	20	Not included	Not included	1
75228	CAT-S-420	②	12.7	1.2	54	20	20	Not included	Not included	1
75229	CAT-S-520	②	15.88	1.3	57	20	20	Not included	Not included	1

Other CAT PIPE Relating Products

Exclusive Water-proofing Flare Nut, Rubber Cap

Comply to JIS-B8607 Forged Nut / Cutting Nut PAT.P

Durability & corrosion resistance are evaluated by the report #1805 issued by Osaka Municipal Industrial Research Institute.



Exclusive Water-proofing Flare Nut & Rubber Cap for Aluminum Pipe

Code	Model Number	Adaptive Pipe Size	Q'ty
70670	VNFNS-2	6.35 mm	10
70671	VNFNS-3	9.52 mm	10
70672	VNFNS-4	12.7 mm	10
70715	VNFNS-5	15.88 mm	10

Exclusive Water-proofing Flare Nut for Aluminum Pipe

Code	Model Number	Adaptive Pipe Size	Q'ty
70673	VNFN-2	6.35 mm	10
70674	VNFN-3	9.52 mm	10
70675	VNFN-4	12.7 mm	10
70716	VNFN-5	15.88 mm	10

Exclusive Water-proofing Rubber Cap for Aluminum Pipe

Code	Model Number	Adaptive Pipe Size	Q'ty
70676	VNFNC-2	6.35 mm	10
70677	VNFNC-3	9.52 mm	10
70678	VNFNC-4	12.7 mm	10
70717	VNFNC-5	15.88 mm	10

Features;

- Designed to put the flared part and union in correct position easily so as to reduce the risk of connection error.
- For the prevention of galvanic corrosion.
- Required to use both Nut and Cap.

Size(mm)	Tightening Torque
6.35	Bore 17 : 16 N·m
9.52	Bore 22 : 38 N·m
12.7	Bore 26 : 52 N·m
15.88	Bore 29 : 70 N·m

Installation Method



Proper size flare face can be made easily by using exclusive motor tool.

Surely use specialized torque wrench to tighten flare nut with proper torque after temporarily tightening by hand.

To prevent dew condensation inside insulation tube, terminal finishing with tape is required so that aluminum pipe is not exposed.



Flaring Connection Tools for Aluminum Pipe



Motorized Flaring Machine
(TY-110)



Aluminum Pipe Cutter
(TY-160)

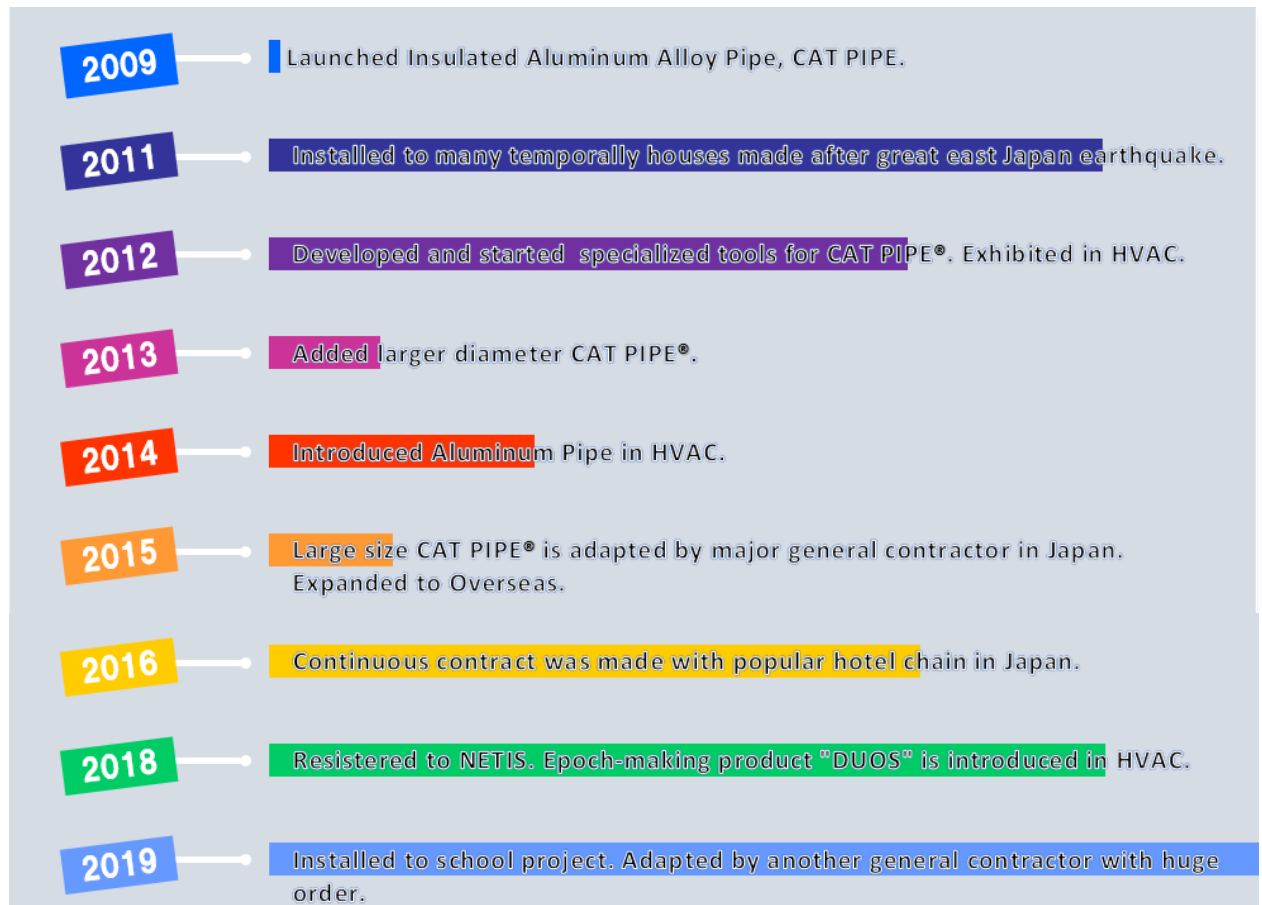


Manual Flaring Tool
(TY-110)



Torque Wrench for Aluminum Pipe
(TY-122 TY-123 TY-124 TY-125)

CAT PIPE® Sales History



Total Sales as of June 2020 : beyond 1,000,000m

CAT PIPE® Examples of Introduction

Installation Date	Customer / Project	Application
Since 2009	Yomay Chemical Co.,Ltd.	Office, Residence
2011	Reconstruction Project after earthquake	Temporarily House
Since 2014	Overseas	Residence
2015	Construction of Government Office in Tokyo	Field Office
Aug 2015	Major Telecom Company's Logistic Warehouse	Warehouse
Sep 2015	TOYO Densen Headquarter's building	Office
2016	Renovation of Hospital in Tokyo	Hospital
Jan 2016	Air Conditioning Service Company in Osaka	Office
Since May 2016	Popular Business Hotel Chain	Hotel Room
2018	Campus in Tennoji, Osaka	University
2019	New Construction of Retirement Home in Hyogo Company Housing of Major General Contractor New Construction of Private University Temporarily Field Office etc...	Nursing Home Residence University Field Office etc...