

Cocoon Brand:
One Push Press Fitting

MECHFit

Patented

New Generation!

"MECHFit" is the new name for "ixPress"



The innovative system for plastic piping application.

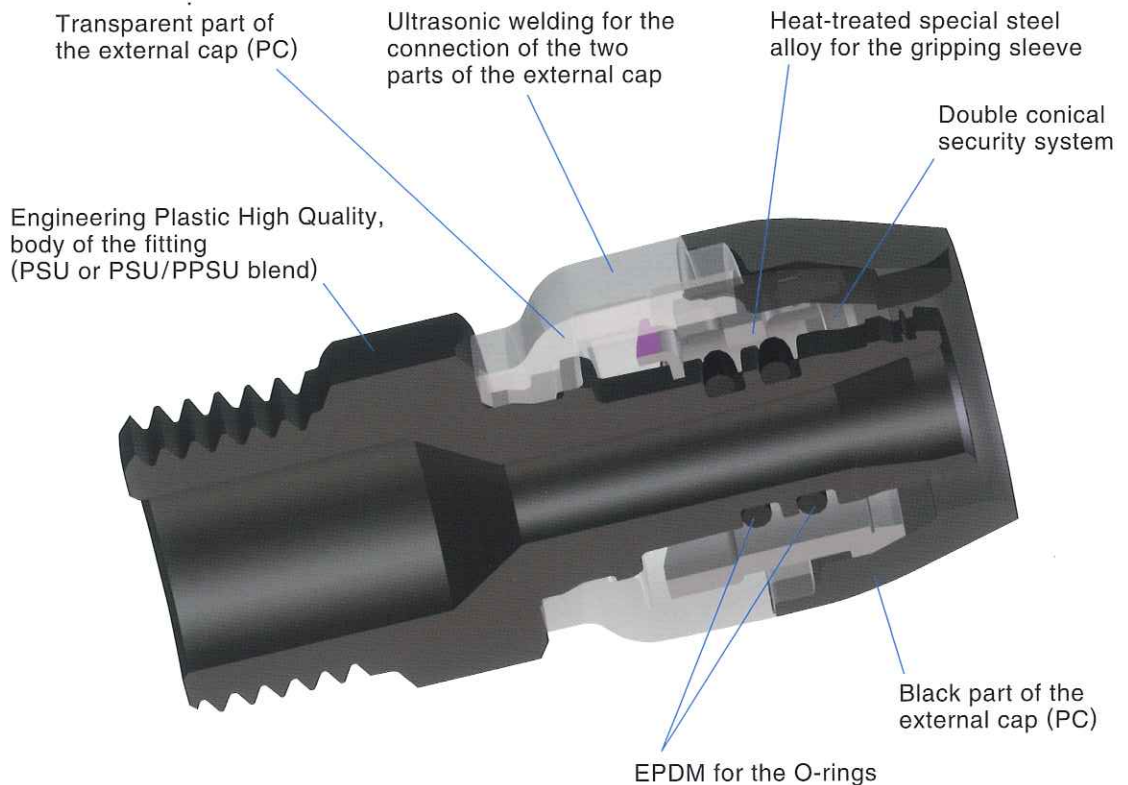
- ★ One Push, No tool required.
- ★ Less Labor and thus improve productivity with cost savings
- ★ Eco Fitting with long term warranty



COCOMECH

Made in Japan

The "MECHFit" system uses the best combination of new generation of metal and plastic materials:



New generation!

We introduce the new "MECHFit" fitting, the only press-fitting without tools, more reliable than traditional press-fittings, that is compatible with Multilayer and PEX pipes.

"MECHFit" connects tightly with both Multilayer and PEX pipes, without typical problems associated with fitting systems that require tools.

The new "MECHFit" fitting gives 25 years guarantee and the snap-on solution makes connection incredibly fast without any tool!

An astonishingly simple and reliable solution than traditional press-fittings.



CLAMP RING METHOD pat.

Simple and Reliable!

Can you believe in such an apparently simple fitting system that requires neither tool nor elaborate training for the installers?

Yes you would. The system is so simple enough that any person could operate the installation.

High Productivity!

This apparent simplicity is an engineering innovation by COCOMECH, working with the most stringent Japanese customers looking for quality solution.

We are encouraged by the success of these fittings in the Japanese market where customers want leak-free, tight union and pipe fittings. Till date, more than 50 million fittings have been sold.

The new "MECHFit" is an evolution of tool-free fittings used in Japan for many years, made by COCOMECH under thorough research and engineering innovation.

The large offerings from the new "MECHFit" fitting system for use in all kinds of sanitary, heating and chill water (FCU system) installations give you best opportunity for cost down and improvement of productivity.

How the "MECHFit" Works?

The exclusive technology of the "MECHFit" is based on its clamp ring feature, that grips the pipe, making it the only press fitting without tools.

The patented "MECHFit" clamp ring is made from a heat-treated special spring steel. This unrivaled patented technology comes from the Japanese automobile industry.

After inserting the pipe into the fitting, the small red Jumping Pin pushed out from the ring and the clamp ring starts compressing the pipe from the outside, absorbing the dimensional changes that occur in the pipe.

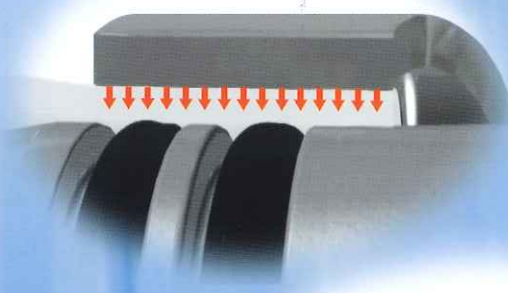
One Push, No tool required.

The key feature of the "MECHFit" clamp ring is that its spring effect guarantees a long-term water tightness connection. For the constant pressing force applying to the pipe, any possible fluctuation in the pipe dimension could be absorbed. All the other tool-free fittings, like the push-fit types, are called old generation and they are struggling how to absorb the dimensional fluctuation of the pipe.

Actually the pipes never have the nominal dimensions, either because of the manufacturing tolerance, the standards permit tolerance in the external diameter and in the wall thickness of the pipe, or because of the dimensional changes that the pipe suffers when functioning connected to the fitting, the well-known creep effect.



MECHFit Product Introduction



Super Engineering Plastic Model



Fig.#230
Elbow

Code No.	Size	pcs/BOX
0005	16	108
0006	20	72
0010	25	32
0012	32	20



Fig.#231
Equal and Reducing Tees

Code No.	Size	pcs/BOX
0005	16	64
0006	20	40
0010	25	24
0012	32	10
1605	20×20×16	44
1705	20×16×16	56
1806	20×16×20	44
1906	25×20×20	30
1908	25×16×25	34
1910	25×20×25	32
2006	32×20×32	14
*2007	32×25×25	42
2009	32×25×32	10



Fig.#232
Equal and Reducing Union

Code No.	Size	pcs/BOX
0005	16	136
0006	20	70
0010	25	48
0012	32	30
0605	20×16	70
1005	25×16	48
1006	25×20	48
1210	32×25	30



Fig.#233
Fixed Fitting
with Male Thread

Code No.	Size	pcs/BOX
0504	16×1/2	192
0604	20×1/2	112
0606	20×3/4	112
1006	25×3/4	48



Fig.#234
Fixed Fitting
with Female Thread

Code No.	Size	pcs/BOX
0504	16×1/2	120
0604	20×1/2	120
1006	25×3/4	76



Fig.#235
Elbow with Fixing Base
(Short)

Code No.	Size	pcs/BOX
0504	16×1/2	68
0604	20×1/2	68



Fig.#237
Terminal Elbow

Code No.	Size	pcs/BOX
0504	16×1/2	114
0604	20×1/2	102
1006	25×3/4	48



Fig.#247
Terminal Elbow
with Threaded Male End

Code No.	Size	pcs/BOX
0504	16×1/2	108

Calibration tool



Fig.#266

Code No.	Size	pcs/BOX
0010	16×20×25	40
0012	32×32×32	10

Brass Model



Fig.#251
Equal and Reducing Tees

Code No.	Size	pcs/BOX
*1211	32×32×25	10
*2011	25×25×20	24



Fig.#252
Equal and
Reducing Union

Code No.	Size	pcs/BOX
1205	32×16	30



Fig.#253
Fixed Fitting
with Male Thread

Code No.	Size	pcs/BOX
0504	16×1/2	192
0604	20×1/2	112
0606	20×3/4	112
1006	25×3/4	48
1010	25×1	48
1210	32×1	30
1212	32×1-1/4	30



Fig.#254
Fixed Fitting
with Female Thread

Code No.	Size	pcs/BOX
0504	16×1/2	120
0604	20×1/2	120
0606	20×3/4	120
1006	25×3/4	76
1010	25×1	70
1210	32×1	30



Fig.#255
Elbow with
Short Fixing Base

Code No.	Size	pcs/BOX
0504	16×1/2	68
0604	20×1/2	68
0606	20×3/4	68



Fig.#257
Terminal Elbow with
Threaded Female End

Code No.	Size	pcs/BOX
0504	16×1/2	114
0604	20×1/2	102
0606	20×3/4	68
1006	25×3/4	48
1010	25×1	60
1210	32×1	28



Fig.#258
Tee with
Female Threaded End

Code No.	Size	pcs/BOX
0504	16×1/2	60
0604	20×1/2	44
0606	20×3/4	44



Fig.#263
Stop End

Code No.	Size	pcs/BOX
0005	16	192
0006	20	192



Fig.#267
Loose Nut
Elbow

Code No.	Size	pcs/BOX
1006	25×3/4	48



Fig.#277
Terminal
Elbow with
Threaded Male End

Code No.	Size	pcs/BOX
0504	16×1/2	108
0604	20×1/2	84
0606	20×3/4	84
1006	25×3/4	40



Fig.#276
Copper Adapter Long

Code No.	Size	pcs/BOX
0515	16×CU15	40



Fig.#281

Hub
Header

Code No.	Size	pcs/BOX
0001	20-20-16-16	12
0002	20-16-16-16	12
0003	20-16-16	15



Fig.#282
Terminal
Header

Code No.	Size	pcs/BOX
0001	20-20-16	15
0002	20-16-16	18
0003	20-16	24

NEWLY ADDED COCOMECH Brand pipes!!!

SYSTEM PROPOSAL of WORLD-LEADING PIPES + MOST ADVANCED FITTING

PEX pipe and PEX/Al/PEX pipe which meet the dimension and performance requirement of ISO15875 (PEX) and ISO21003 (PEX/AL/PEX) with MECHFit will make the Plumbing work extremely easy, simple and reliable!!

These pipes are now considered as the best piping material for hot and cold water supply system in the world by the following properties.

- Flexibility / Coiled-Light Weight of the pipe improve the workability in all process of the work.
Delivery, Handling, and contributing to less joint which reduces the risk of troubles etc.
- Excellent Corrosion Resistance, Chlorine Resistance, Electrical Resistance, Pipe-Creep Resistance. etc.
- Coverage of wide temperature and pressure range in the use.
- Absolute harmless from any toxic or substance & promotes healthier water.



Pipe dimensional standard

Size	O.D.	I.D.	Thickness
D16	16.0	12.0	2.0
D20	20.0	16.0	2.0
D25	25.0	20.0	2.5
D32	32.0	26.0	3.0
D40	40.0	33.0	3.5

Technical Properties of Pipes

		16×2		20×2		25×2.5		32×3	
		PEX	PEX-AL-PEX	PEX	PEX-AL-PEX	PEX	PEX-AL-PEX	PEX	PEX-AL-PEX
Outside pipe diameter	mm	16		20		25		32	
Thickness pipe	mm	2		2		2.5		3	
Thickness of aluminum layer	mm	—	0.2	—	0.2	—	0.3	—	0.4
Weight of 1m pipe	kg/m	0.089	0.099	0.115	0.127	0.174	0.206	0.275	0.323
Internal volume of 1m pipe	l/m	0.113		0.201		0.314		0.531	
Heat conduction coefficient	Watt/m ² K	0.38	0.4	0.38	0.4	0.38	0.4	0.38	0.4
Coefficient of linear expansion	mm/m ² K	0.14	0.025	0.14	0.025	0.14	0.025	0.14	0.025
Roughness of internal surface	mm	0.0004		0.0004		0.0004		0.0004	
Oxygen diffusion for antioxygen barrier tubes	mg/l*d	<0.1	—	<0.1	—	<0.1	—	<0.1	—
Maximum punctual temperature	°C	110		110		110		110	
Maximum operating temperature	°C	95		95		95		95	
Minimum temperature of tube manipulation	°C	-40		-40		-40		-40	
Minimum bending radius without internal spring	mm	160	80	200	100	250	125	320	160
Minimum bending radius with the use of internal spring	mm	80	64	100	80	125	100	160	
Gel content	%	>65		>65		>65		>65	

* Based on pipe manufacturer's specifications

NEWLY ADDED LINEUP for Larger diameter pipes!!!

Toglit for Over 40mm pipes

A unique combination system with MECHFit for 16-32mm pipes & Toglit for over 40mm pipe can enhance the Workability and High Productivity that directly link to TIME-SAVING and COST REDUCTION.

Expand the Coverage of piping by COCOMECH's High Quality Fittings!!



Toglit Product Introduction



New System Combination



For 16 to 32mm
PEX & PEX/AL/PEX pipe

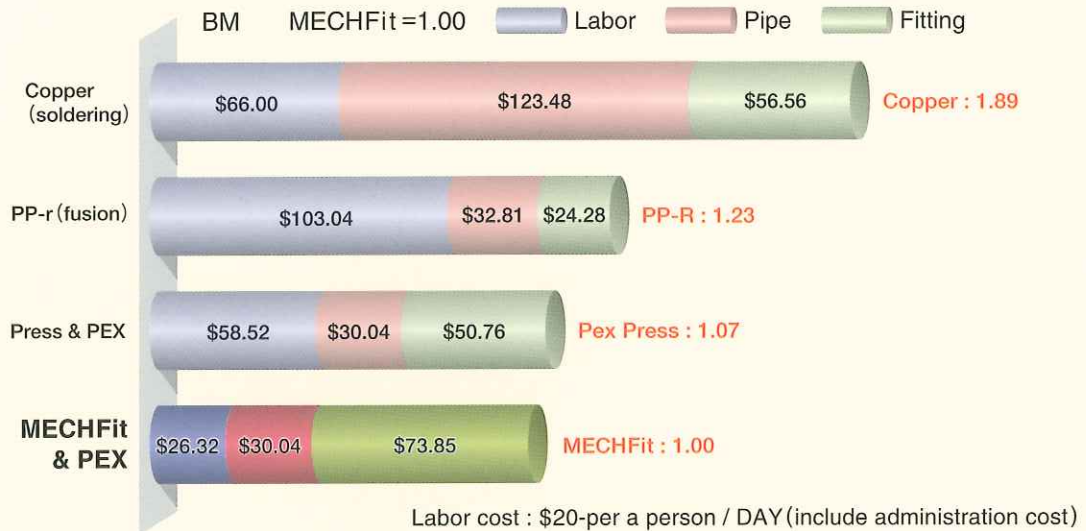


Over 40mm
PEX & PEX/AL/PEX pipe

Less Labor and thus improve productivity with cost savings



How the "MECHFit" Fitting Works? (Total Cost Comparison)



WHAT REGULATIONS HAVE LED THE DESIGN AND TESTING OF THE NEW MECHFit?

The design of the new "MECHFit" has met a standard of European regulation EN 1254-Part 3a regarding the thickness to be used in the nipple and the inside diameters, so that it guarantees the minimum flow of water required by the regulations. The new "MECHFit" satisfies requirements of regulations "ISO 15875" (PEX pipes) and "ISO 21003" (PEX-AL-PEX pipes) and complies with all the required tests.



3-axis Assemble Machine



Ultrasonic welding of the nut



Injection Mold



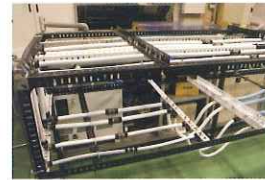
Polysulfone injection molding



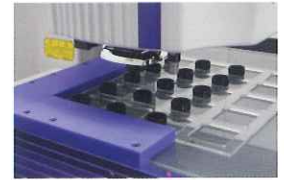
3D Measuring Contracer



Fatigue Test Machine



Thermal cycle Test Machine



Dimentional control of the nut

			Pressure		Temperature	Hour Cycle	Test Procedure	Judgment	Results
			Multi	PEX					
National Standard	ISO 15875 Part 5	Internal Pressure	12.5 Bar	7.58 Bar	95°C	1,000Hr	Continuous pressurized test for 1,000Hr at 95°C	No-Leakage	Pass
		Bending	33.9 Bar	20.4 Bar	20°C	1Hr Hold	Bending Radius: 5-time of ND	No-Leakage Find Burst	Pass
		Pull-Out			23 & 90°C	1Hr Hold	23°C=1.5F, 90°C=F	No-separation	Pass
		Thermal Cycle	10 Bar	8 Bar	23 & 95°C	5,000 Cycle	95°C×15Min→20°C×15Min Cycling test for 5,000 Cycle	No-Leakage	Pass
		Pressure Cycle	15 Bar & 0.5 Bar	9 Bar & 0.5 Bar	23°C	10,000 Cycle	15Bar→0.5Bar Pulse pressure 30cycle/min.	No-Leakage	Pass
		Vacuum	-0.8 Bar Vacuum	-0.8 Bar Vacuum	23°C	1Hr Hold	Vacuum -0.8Bar 1Hr hold	Within 0.05Bar	Pass
Higashio's Excessive Test	ASTM F877 F2262	Thermo-Cycle	0.69 MPa	0.69 MPa	16°C Water 82°C Water	1,000 Cycle	82°C Water Immersion:10Min. 16°C Water Immersion:3Min. (ASTM:Min 2-Minutes)	No-Leakage Find Burst	Pass
		High Temp. Pressure Cycle Test	10 Bar & 3 Bar	10 Bar & 3 Bar	95°C	1,000,000 Cycle	10Bar→3Bar Pulse pressure 30cycle/min.	No-Leakage Find Burst	Pass
		Pull Pulsation Fatigue Cycle	Equivalent of internal pressure 3 MPa		23°C	1,000,000 Cycle	Tensile fatigue force of equivalent internal pressure 3 MPa	No-Leakage No-deformation	Pass
		Water Pressure Test at High Temp.	Injection bursting internal water pressure		95°C	—	Increased water pressure until pipe bursting, after the specimen curing at 95°C for 8h	No pull out defect at connecting points	Pass
		Slant Cut Pipe Insertion					Check the disposition of O-ring under the 3mm slant cut pipe	No-disposition of O-ring	Pass
		Slant Insertion of Pipe					Check the disposition of O-ring under practical slant insertion	No-disposition of O-ring	Pass

COST & QUALITY

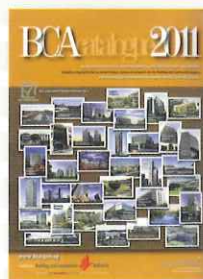
Dubai, U.A.E.



Doha, Qatar



Singapore



PSB Singapore

COMPANY PROFILE

Management Policy

“One for All, and All for One”

COCOMECH respects the long established Collaboration Spirit, and aims to be an enterprise with the significance of existence which is appreciated by the employees, customers and local communities.

1. Growth and Healthy Management of the company

No Future without Growth. We aim for the compatibility of Growth and Health (Soundness).

We work through Bigger share, Product development, Technical innovation, and Global evolution recognizing the corporate environment.

2. Providing Products consistent with the Era

We inject management resources for offering and growing "Only-One Product" with considering changes of market and user's intention.

3. Compliance with Agreements and Promises

We aim for the trustful company with implementing faithfully the Agreements and Promises.

We observe the Rules, Standards, Directions and Plans.

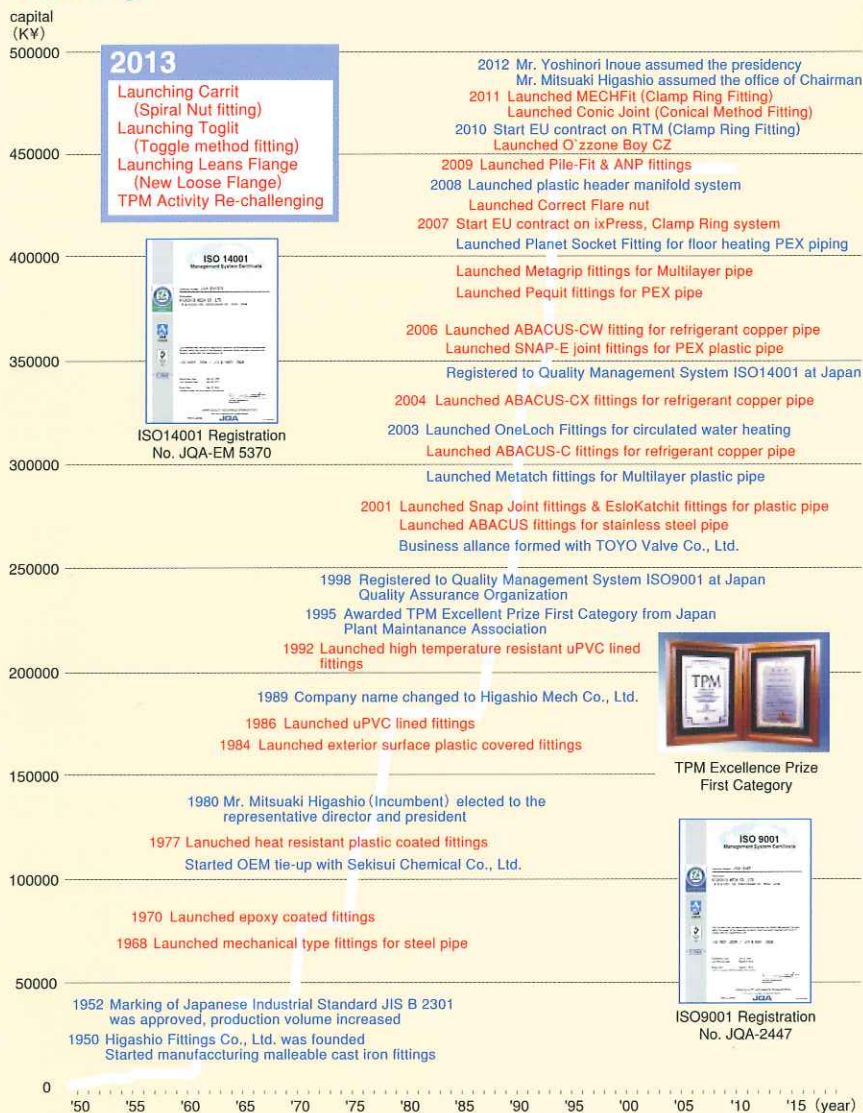
We construct and uphold the structure to secure the Quality and Due date.

4. Management with Humanity

We provide Safety work, Allocation of achievement, Management information and Education opportunity to the employees.

We request activities that are conducive to Increase the sales, Securing profit, Technology accumulation, and Personal growth to the employees.

History



Outline

Company Name **HIGASHIO MECH CO.,LTD./COCOMECH**

Trade Mark

Address 8-22 Kikusuicho, Kawachinagano 586-0012
 Osaka, Japan
 Tel: +81(0)721 53 2221 Fax: +81(0)721 53 2279

Established March-1950

Employee 170

Capital 4.6 million US\$ (Capital reserve 3.6 million)

Annual Sales 70 million US\$ (2012 Turnover)

Industrial Property Rights

	Applied	Published
Patent	Japan 98, Overseas 40	6
Utility Model	189	15
Mark	5	4
Design	33	1
Overseas Application	10	7

Main Products

Malleable Cast Iron Pipe Fittings
 Black, White, Coat, Rust-Proof Lined fittings

Plastic (Crosslinked PE, PB) Pipe Fittings
 Katchit fittings, Snap Joint fittings
 Clamp Ring Fittings

Light Gauge Stainless Steel Pipe Fittings
 ABACUS fittings

Refrigerant Copper Pipe Fittings
 O'zzone Boy CZ

Plastic Multi-Layer Pipe Fittings
 Metatchi fittings

C.C.Box Cable Duct Steel Pipe Fittings
 EasyTreat (S type, W type)

Plastic (Crosslinked PE, Multilayer) Pipe Fittings
 MECHFit, Carrit, Toglit

Ground Foundation Improvement System Fittings
 PILE-FIT

US\$1.00=JP¥95.00-

Information in this document is subject to change without notice.

COCOMECH
HIGASHIO MECH CO., LTD.

<http://www.mech.co.jp/>

<http://www.youtube.com/watch?v=07r13lyu41Y>