Q-LINK

Q-LiNK®
QUICK · SAFE · GREEN

Stainless Steel
Press Fittings Systems

MIE-G

Q-LiNK®

QUICK • SAFE • GREEN

Q : LIQUID, QUICK, QUALITY, IQ

Q-LiNK -- to connect water in a smart, quick and quality-guaranteed way!

Q-LiNK, series of smartly engineered couplings and fittings that provide a new solution for pipe connecting methods which eliminates weld, threads and heat, and in the meantime, save precious time and cost!

The logo materialized both the product itself and our vision for the world:

Green Life! Troubles Free! Worries Free!

The two semi-circular arcs ingeniously sketch out the appearance of a coupling. The droplet inside is an icon of water.

For colors, the gradient blue is to convey the concept of water-flowing and the continuous reproduction of our universe. The orange of the droplet in the core is to symbolize our enthusiasm toward our clients. The small green droplet above " i " is to highlight our intention to contribute to "environmental protection and green".

The slogan beneath the logo is our promise to clients:
QUICK : quick assembly, quick response, quick delivery, quick reaction.
SAFE : safe assembly tool, safe water-supply.
GREEN : recycle, environmental protection, green living way.

Q-Link carries our vision for future, and we will do our very best to realize it.

Q-Link

MIE-G Stainless Steel Press Fittings--

Q-Link MIE-G series are meticulously engineered stainless steel press fittings that will revolutionize plumbing systems by saving precious time and cost.

MIE-G stainless steel press fittings are safe, simple, and quick to install.

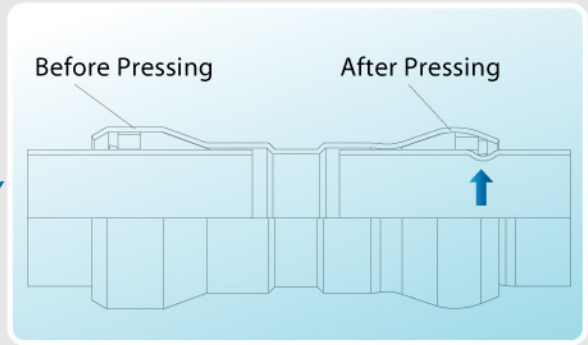
All the press fittings are environmentally safe-- no toxic adhesives.

What is **"Press Fitting"** technology?

Press Fitting is a press-to-connect tecnology. It is a fastening method between both the specially designed press fittings (& valves) and the pipes for plumbing.

The connection of the two items is achieved by pushing the two components together utilizing a mechanical pressing tool, which generates the needed force to join the fitting to the pipe.

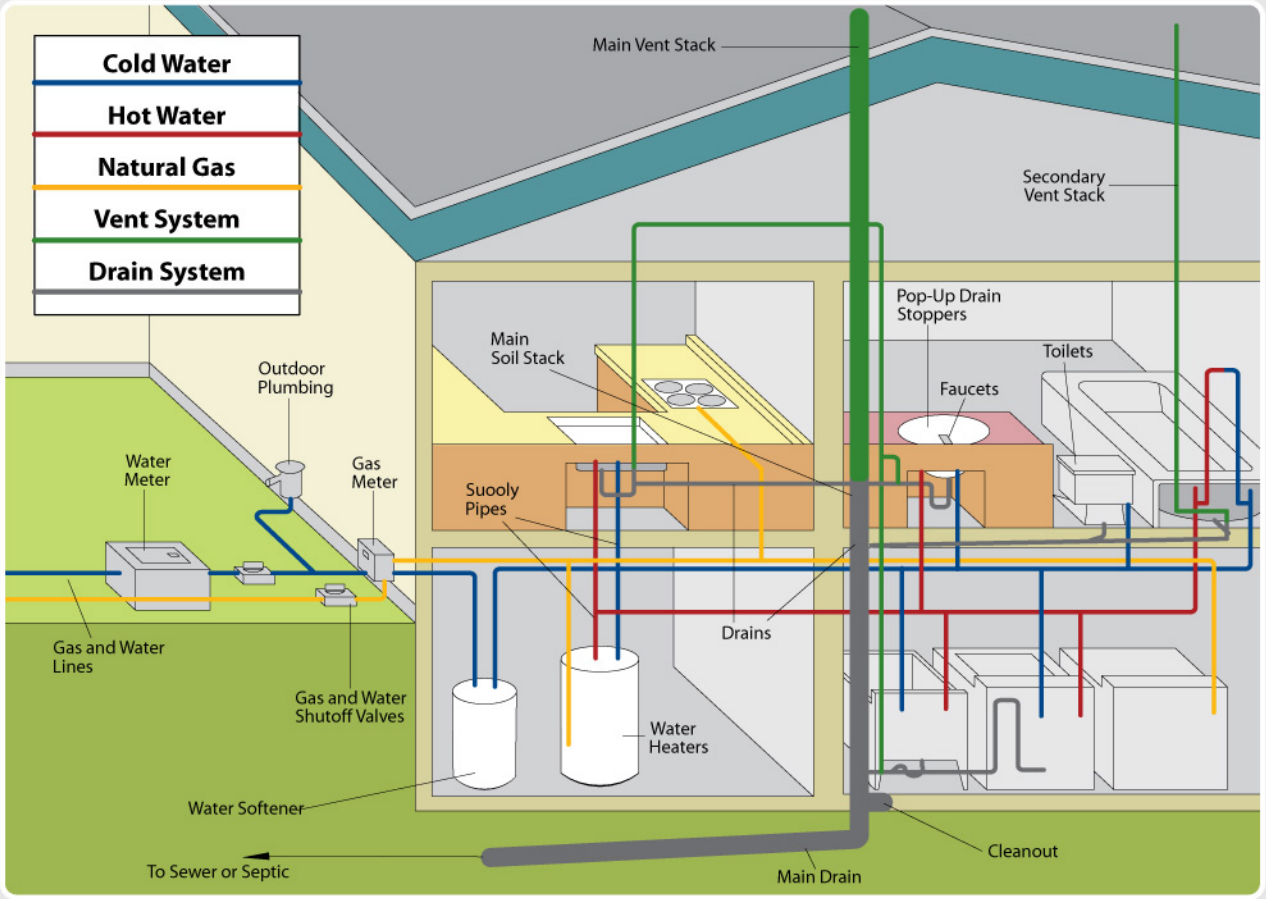
MIE-G Press Fitting System is an innovative technology. It eliminates threading, welding, heat jointing and solution joining, so is recognized as a very effective alternative to traditional jointing methods.



Where Can Q-Link MIE-G Stainless Press Fittings Be Used?
—The Applications

Q-Link MIE-G press fittings can be used in a very broad range of applications for fresh & hot water supplies, and heating & cooling systems, such as:

- Drinking and Fresh Water
- Potable and Domestic Cold and Hot Water
- Solar Water Heating
- Hot and Chilled Water for Air Conditioning Systems
- Demineralized, Softened, Conditioned and Essential waters
- Electric Geyser
- Machinery Fresh Water Cooling
- Sprinkler and Fire Systems
- Compressed Air Lines
- Fire Extinguishing Systems
- Condensate Lines
- Pressurized line up to 150 PSI (10kg)
- Vacuum Lines
- Food Industries
- Alternative to standard threaded pipe systems.



How Can Q-Link Press Fittings Help You?
—The Benefits of MIE-G

■ They save "cost"-
In view of the following facts:

- Q-Link press fittings allow for using of thin tubes.
- Q-Link press fittings can be installed much quicker and easier than welding or threading, so they can contribute a lot to savings in time, and that translates into a substantial cost-saving.
- The installation can be handled by non-silled manpower.
- There's no welding required, so no need to apply for Hot Work Permit.
- There's no need for welding rods, wires and gas.
- The fittings can be built on location, so no need for detail schematic drawings.

■ They save "time"-
In view of the following facts:

- It takes only 6-8 seconds to install a Q-Link press fitting-- very simple and fast.
- Down-time is reduced.
- Q-Link press fitting system can be constructed on site and in situ, so no need for pre-works at workshop.
- Do not need to wait for Hot Work Permits.
- No need for preparation and treatment before & after welding.
- Q-Link press fittings allow systems to be fully trial assembled in situ before permanent pressing, so give no chance for rework.
- Q-Link press fittings can be modified easily and quickly at any time in the future and that can be done by virtually anyone on staff.
- Q-Link press fittings allow more effective work practices in tight spaces where the elbow room and clearance is very restricted.

■ They reduce "risks"-
In view of the following facts:

Q-Link press fittings are installed by pressing tools, no welding is required, so,

- No flame on site.
- No smoke.
- No heat.
- No risk of fire or explosion.
- It is much easier to meet OH&S regulations.(OH&S: Occupational Health and Safety Regulations)
- Featured with "sure pressed" technology, unpressured connections will be detected during pressure testing

Why Stainless Steel?

—The Advantages of Stainless Steel Plumbing System

- **Stainless steel is a clean, durable, corrosion-free, non-combustible and long lasting food grade material. It is fire and heat resistant, and is 100% recyclable**
- **Stainless steel pipe provides hygienic, long life, and maintenance free plumbing systems. Those help in extending the building life, earthquake proof, and prevent damage to the expensive interiors in the building.**
- **Stainless steel plumbing systems have many advantages over other piping systems made from other materials:**

Compared with plastic plumbing systems:

- Stainless steel pipe does not sag or deteriorate due to heat and sun, is highly chemical resistant, requires less pipe hangers.
- Plastic piping systems can easily break, and will age along time.
- Plastic pipes may leach chemical additives into drinking water and contaminate the water.

Compared with galvanized steel plumbing systems:

- Stainless steel has good corrosion resistance.
- Galvanized steel pipes are bound to corrode and scale over time.
- The corrosion products and precipitates from water will deposit on the surface of the pipes and become ideal breading rounds for bacteria, fungi and viruses, and deteriorate water quality.
- The Plaques on the surface inside the pipes can flake off, leading to visible impurities in water and a slight metallic taste.
- The scales built on the inside of the piping will cause both water pressure problems and pipe failure.
- Galvanized steel plumging is likely to develop leaks when it ages.

Compared with copper plumbing systems:

- Stainless steel plumbing does not contain the risks existing in copper plumbing.
- Copper will be released into drinking water through corrosion of pipes. Too much copper can cause eminent health problems.
- Long-term exposure to copper can cause irritation of the nose, mouth and eyes, and that causes headaches, stomachaches, dizziness, vomiting and diarrhea.
- High uptakes of copper may cause liver and kidney damage and even death.
- Long-term exposure to high concentrations of copper might link to a decline in intelligence with young adolescents.

What Makes Q-Link Press Fittings so Outstanding?
—The Unique Designs of MIE-G

Thanks to their meticulously unique designs, Q-Link press fittings offer distinguished benefits not available with any other brand.

Q-Link press fittings have two unique designs:

■ Three protective materials:

Unlike other brands which use only one or two protective materials, Q-Link press fittings use three:

- Rubber Ring
- Back-up Ring
- Grip Ring

The three protective materials guarantee every plumbing system three protections:

• Leak-proof • Vibration-proof • Anti-loosening

■ 360 degree full cylinder pressing:

- Q-Link developed its own Press Fit Tools which are designed and builtwith tried and tested modern technologies.
- Unlike other press fittings which are pressed at only two or four or six points, Q-Link's proprietary press fit tools can create tight enclosure around the full cylinder of the mouth of the fitting. That ensures a securely tight grip of the press fitting to the pipe.

The above unique designs make Q-Link press fittings unbeatable in three aspects-- leakage free, vibration free, and loosening free. That satisfies all the requirements of a plumbing system.

What Special Materials Are Used?

—The Features of MIE-G Materials

■ Press Fitting Body:

Q-Link press fitting body is made of high quality stainless steel, which complies with the following standards:

- JIS-G-3448 for stainless steel tubes (straight tube and coiled tube) used for the piping of water supply, hot water supply, drainage, and others.
- JIS-G-3459 for stailess steel pipes used for the piping for corrosion resistance, low temperature service, high temperature service, etc.
- JIS-G-4303 for hot-finished stainless steel bars or plate shaped products, formed into round bars, square bars, hexagonal bars and flat bors.
- JIS-G-5121, SCS13A & SCS14A, for stainless castings, corrosion resistant for general applications, severe services, and high temperature services.

■ Protective materials:

Q-Link press fitting uses three protectivematerials-- rubber ring, backup ring, grip ring.

- **Rubber Ring:**

The rubber ring is made of EPDM (ethylene-propylene rubber). EPDM has excellent resistance to heat, oxidation ozone and weather aging. It also has good electrical resistivity, as well as resistance to polar solvents, such as water, acids, alkalies, phosphate esters and many ketones and alcohols.

Q-Link rubber ring has a heat aging resistance up to +150 ^{o}C; it also has excellent low temperature flexibility with brittle fracture temperature at -60 ^{o}C.

The durable time of the rubber ring was determined by accelerated aging test, on the basis of coefficient compressive permanent set. The indexes are as right column:

Continuously used at	20 ^{o}C	*can last for*	permanent
	60 ^{o}C		96 years
	80 ^{o}C		24 years
	100 ^{o}C		6 years

- **Back-up Ring:**

Q-Link back-up ring is made of Glass Reinforced Nylon 66. It has a nice balance of impact resistance, overall strength and stiffness properties. It is excellent in chemical resistance and is good for using in high heat environments.

- **Grip Ring:**

Q-Link grip ring is made of HT-1770 high tensile type dual-phase stainless steel. Its electric potential for erosion and corrosion resistance is equivalent to SUS304, but mechanical properties are better. The corrosion resistance test was performed with same method for stainless steel (5%NaCl + 2%H_2O_2, 40 ^{o}C x 192 hrs., corrosion rate 0.13g/m^{2}hr), and sufficient value was obtained.

What Have Been Used for Checking and Approving of MIE-G?
—Test Methods & Criteria:

Items Tested \ Nominal size	13Su	20Su	25Su	30Su	40Su	50Su	60Su
Tensile Test (Calculation formula for water pressure MPa) (Note: 1)	5.33 kN	8.40 kN	7.05 kN	9.42 kN	19.28 kN	11.90 kN	19.12 kN
Water Pressure Test (pressure x time: 3.5MPa x 2min)	No abnormal condition observed.						
Vibration Test (water pressure x 2.5MPa vibration x2,000,000 cycles.) (Note: 2)	No abnormal condition observed.						
Torque Strength Test (N·m) (Note:3)	12 N·m	22 N·m	33 N·m	62 N·m	108 N·m	127 N·m	191 N·m
Bend Test under water pressure (Wn) (Note:4)	294 Wn	686 Wn	1,160 Wn	2,080 Wn	3,000 Wn	3,460 Wn	6,080 Wn
Cycle Test, fresh & hot water (80oC to room tempt.: 1000 cycles) (Note: 5)	No abnormal condition observed.						
Solubility Test (JIS-S-3200-7)	Accredited by JIS SAS 322 Standard.						
Corrosion Test	Approved by Test Method No. SAS 322 of Japan Stainless Steel Association.						

(All the tests were performed in Hours Laboratory, which is accredited by TAF according to the criteria—ISO/IEC 17025:2005.)

Note:

1. Measure the looseness forces from the joint part by Amsler type universal tension test machine under 0.2MPa internal air pressure.
2. Measure water leakage on the joint part under 2.5 MPa internal pressure and 2,000,000 cycles vibration.
3. Measure the start up rotation torque of the joint part under 2.5 MPa internal water pressure.
4. Measure the maximum bearable weight load-- with no leakage observed from the joint part--by increasing weight load on the centre of the fitting under 2.5 MPa internal water pressure.
5. Injecting hot water (more than 80 °C) and room temperature water into the tube alternatively every 10 minutes, repeating that for 1000 cycles, and then putting 2.5 MPa internal water pressure into the tube when it is with room temperature water and maintain that for 2 minutes.

Official Approvals & Certificates:

認定番号 第32205:05号

ステンレス協会規格合格認定証書

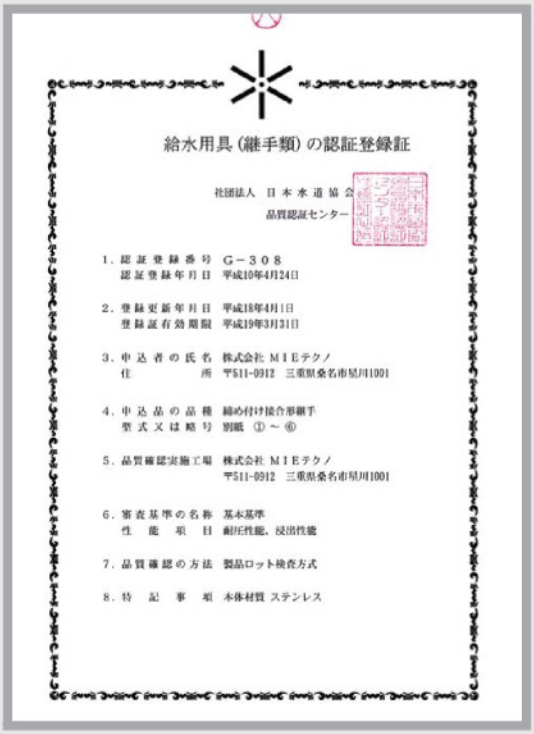
ステンレス協会規格の審査規定により下記のように認定する

平成17年9月16日
ステンレス協会
会長 福島幹雄
ステンレス協会規格認定委員会
委員長 佐久間健人

記

事業所名称	株式会社ＭＩＥテクノ
所在地	三重県桑名市大字星川1001番地
認定規格名称	SAS 322 一般配管用ステンレス鋼管の管継手性能基準
施工方法	プレス式
継手名称	グリップ式管継手（ミエグリップ）
呼び方	13Su 20Su 25Su 30Su 40Su 50Su 60Su
種類	ソケット、ベアソケット、径違いソケット、90°エルボ、45°エルボ、同径チーズ、径違いチーズ、おすアダプタ1形、めすアダプタ、めすアダプタ付エルボ、キャップ、キャップ付ねじ込エルボ、おすアダプタ付エルボ、おすアダプタ2形、おすアダプタ3形、給水栓用ソケット、給水栓用エルボ1形、給水栓用チーズ、給水栓用エルボ2形、湯用給水栓用エルボ2形
呼び圧力	10K（1MPa）
登録年月日	平成9年9月9日
改訂年月日	平成17年9月16日

JSSA- SAS 322 Certification Registration No. 32205:10
(JSSA: Japan Stainless Steel Association)



給水用具（継手類）の認証登録証

社団法人 日本水道協会
品質認証センター

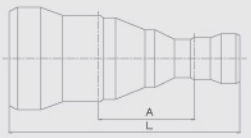
1. 認証登録番号	G－308
認証登録年月日	平成10年4月24日
2. 登録更新年月日	平成18年4月1日
登録証有効期限	平成19年3月31日
3. 申込者の氏名	株式会社ＭＩＥテクノ
住所	〒511-0912 三重県桑名市星川1001
4. 申込品の品種	締め付け接合形継手
型式又は略号	別紙 ①～⑥
5. 品質確認実施工場	株式会社ＭＩＥテクノ 〒511-0912 三重県桑名市星川1001
6. 審査基準の名称	基本基準
性能項目	耐圧性能、浸出性能
7. 品質確認の方法	製品ロット検査方式
8. 特記事項	本体材質 ステンレス

JWWA Approval Proudct No. G-308
(JWWA: Japan Water Works Association)

Q-Link MIE-G Stainless Steel Press Fittings:

Suitable for JIS G3448, CNS 13392 Light Gauge Stainless Steel Pipes

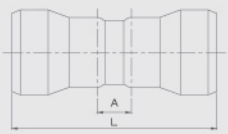
MIE-G Stainless Steel Press Fittings-Product Gallery



SR / Reducing Coupling

Nominal Size *Unit: mm*

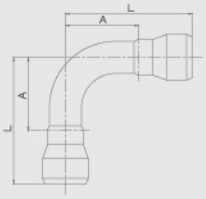
Su	A	L
20 × 13	28	84
25 × 13	37	98
25 × 20	29	92
30 × 13	52	121
30 × 20	36	111
30 × 25	27	106
40 × 13	64	145
40 × 20	51	134
40 × 25	42	129
40 × 30	35	133
50 × 13	72	156
50 × 20	63	149
50 × 25	50	140
50 × 30	43	144
50 × 40	31	141
60 × 20	79	175
60 × 25	71	171
60 × 30	59	170
60 × 40	47	167
60 × 50	101	224



S / Coupling

Nominal Size *Unit: mm*

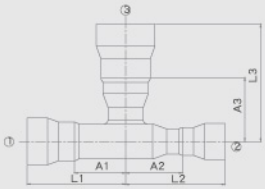
Su	A	L
13	11	64
20	12	71
25	12	79
30	15	104
40	20	127
50	20	133
60	25	158



90E / 90° Elbow

Nominal Size *Unit: mm*

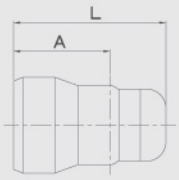
Su	A	L
13	36	63
20	41	71
25	46	80
30	41	86
40	50	103
50	57	113
60	89	155



TRSR / Reducing Tee with Reducer

Nominal Size *Unit: mm*

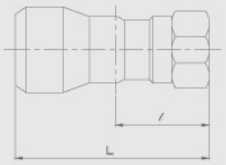
Su ①×②×③	A1	L1	A2	L2	A3	L3
13 x 13 x 20	32	59	32	59	36	66
13 x 13 x 25	32	59	32	59	46	79
20 x 13 x 13	25	55	36	62	26	53
20 x 13 x 20	25	55	36	62	25	55
20 x 13 x 25	32	62	36	62	40	74
20 x 20 x 25	32	62	32	62	40	74



CAP

Nominal Size *Unit: mm*

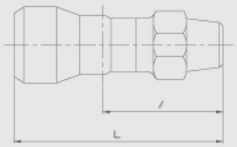
Su	A	L
13	27	44
20	30	49
25	34	56
30	45	70
40	54	85
50	57	91
60	67	104



SI / Female Adaptor

Nominal Size — Unit: mm

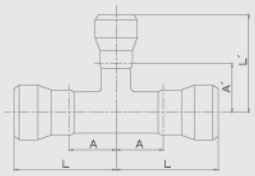
Su × Rc	/	L	B2
13 × 1/2"	34	61	26
20 × 3/4"	34	64	30
25 × 1"	37	71	41
30 × 1"	35	80	41
30 × 1 1/4"	42	87	50
40 × 1 1/4"	40	93	50
40 × 1 1/2"	43	97	55
50 × 1 1/2"	45	101	55
50 × 2"	49	106	70
60 × 2"	45	112	70
60 × 2 1/2"	59	125	90



SE / Male Adaptor

Nominal Size — Unit: mm

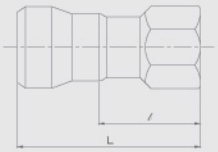
Su × R	/	L	B2
13 × 1/2"	42	69	24
20 × 3/4"	44	74	30
25 × 1"	48	82	36
30 × 1"	48	93	36
30 × 1 1/4"	51	96	46
40 × 1 1/4"	54	107	46
40 × 1 1/2"	56	109	55
50 × 1 1/2"	56	112	55
50 × 2"	62	118	65
60 × 2"	62	128	65
60 × 2 1/2"	68	136	85



TR/ Reducing Tee

Nominal Size — Unit: mm

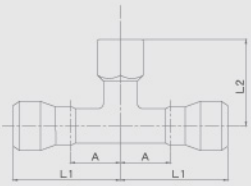
Su	A	L	A'	L'
20 × 13	25	55	26	53
25 × 13	29	63	29	56
25 × 20	29	63	28	58
30 × 13	39	84	32	59
30 × 20	39	84	31	61
30 × 25	39	84	32	66
40 × 13	42	95	37	63
40 × 20	42	95	36	66
40 × 25	42	95	37	70
40 × 30	48	101	43	88
50 × 13	42	99	40	66
50 × 20	42	99	39	69
50 × 25	42	99	40	73
50 × 30	52	108	44	89
50 × 40	52	108	49	102
60 × 13	76	143	91	117
60 × 20	76	143	77	107
60 × 25	76	143	68	102
60 × 30	76	143	61	106
60 × 40	76	143	70	123
60 × 50	76	143	73	129



SW / Coupling for Water Service Cock

Nominal Size — Unit: mm

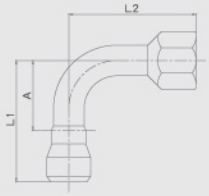
Su × Rp	/	L	B2
13 × 1/2"	41	68	26
20 × 1/2"	37	67	26
20 × 3/4"	39	69	30
25 × 1/2"	38	72	26
25 × 3/4"	38	71	30
25 × 1"	43	77	41



TW / Tees for Water Service Cock

Nominal Size — Unit: mm

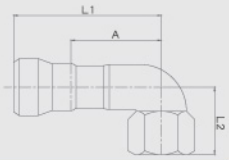
Su × Rp	A	L1	L2	B2
13 × 1/2"	23	50	44	26
20 × 1/2"	25	55	44	26
20 × 3/4"	25	55	46	30
25 × 1/2"	29	63	48	26
25 × 3/4"	29	63	47	30
25 × 1"	29	63	53	41



EWL / Type 1 Elbow for Water Service Cock

Nominal Size *Unit: mm*

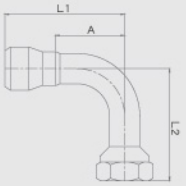
Su × Rp	A	L1	L2	B2
13 × 1/2"	36	63	66	26
20 × 1/2"	41	71	70	26
20 × 3/4"	41	71	72	30
25 × 1"	46	80	78	26



EWS / Type 2 Elbow for Water Service Cock

Nominal Size *Unit: mm*

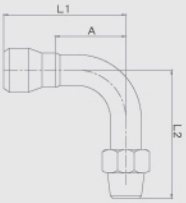
Su × Rp	A	L1	L2	B2
13 × 1/2"	35	62	29	26
20 × 1/2"	34	64	29	26
20 × 3/4"	33	64	50	30



EI / Elbow with Female Adaptor

Nominal Size *Unit: mm*

Su × Rc	A	L1	L2	B2
13 × 1/2"	36	63	59	26
20 × 3/4"	41	71	67	30
25 × 1"	46	80	77	41



EE / Elbow with Male Adaptor

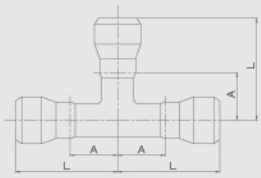
Nominal Size *Unit: mm*

Su × R	A	L1	L2	B2
13 × 1/2"	36	63	67	24
20 × 3/4"	41	71	77	30
25 × 1"	46	80	88	36

SB / Pair Coupling

Nominal Size *Unit: mm*

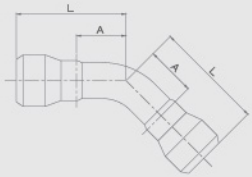
Su	L
13	137
20	150
25	166
30	213



T / Equal Tee

Nominal Size *Unit: mm*

Su	A	L
13	23	50
20	25	55
25	29	63
30	39	84
40	48	101
50	52	108
60	76	143



45E / 45° Elbow

Nominal Size *Unit: mm*

Su	A	L
13	22	49
20	23	53
25	23	57
30	14	59
40	32	86
50	36	93
60	44	111

1. B2 indicate distance between opposite faces of Hexagon nut.
2. Rp shows paralleled to female thread.
3. Rc shows taper female thread.
4. R shows taper male thread.

How to Assemble MIE-G Stainless Steel Press Fittings?

—Assembly Procedure

(Using small press fitting tool as an example.)

Step 1.

Cut the pipe perpendicular to its axis.

- Rotary-tube-cutter is strongly recommended for the cutting. If a hacksaw is used to cut the pipe, it is necessary to smooth the interior and exterior of the pipe end with a fine tooth file.

Step 2.

Remove the burrs at the ends of the pipe to avoid damaging the rubber ring.

- Deburr the internal and external pipe ends with a fine tooth file and wipe them clean. Make sure the pipe ends are free of debris, rust, paint, scales, etc.

Step 3.

Mark the insertion depth on the pipe.

- Insert the pipe fully into the press fitting until it meets the pipe stop. Then, clearly mark the pipe outside diameter at the edge of the fitting.

Step 4.

Assemble the joint.

- Insert the pipe fully into the press fitting until it meets the pipe stop. Check the insertion depth using the reference mark on the pipe.

Step 5.

Remove the safety pin of the pressing tool. Place the joint into the jaw.

- Make sure that the pressing tool and jaw are maintained at a 90o angle to the pipe centerline.

Step 6.

Depress the actuation botton on the pressing tool to start the depressing cycle.

- Do not move anything duirng the pressing cycle.
- The cycle is complete when the hydraulic cyclinder reaches the pre-set pressure point.
- Please refer to the tool manufacturer's instruction manual for more detail.

Step 7.

Inspect and verify the pressed joint.

- Ensure the pipe has remained fully inserted.

Remarks:

- The above illustration depicts only the pressing tool available for use in the size range of 13SU~25SU.
- Please consult the tool manufacturer's instruction to ensure a complete understanding of the pressing tool operating procedures.

Press Tools

Q-Link Press Tools are manufactured with tried and tested moden technology. They are uniquely designed to ensure a 360 degree enclosure around the full cylinder of the mouth of the fitting, so as to create a water-tight joint. They also ensures a consistent, controlled and system- conformance connection.

Jaw Type Press Tool:

For fast, safe and efficient pressed joints from 13SU to 25SU.

B Type Press Tool:

For fast, safe and efficient pressed joints from 30SU to 60SU.

QUICK • SAFE • GREEN

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