

KURABO ファイナルロック

# FINALLOCK

NEW HIGH PERFORMANCE PFA, PTFE FITTING



PAT. PEND

■ 半導体プロセスでの高温・高圧用継手

HIGH TEMPERATURE AND HIGH PRESSURE RESISTANT FITTINGS FOR USE IN THE SEMI-CONDUCTOR PROCESS

■ 専用施工治具を用い、加熱なしで簡単にチューブを曲げ返す

TUBE TURNING SIMPLIFIES APPLICATION WITHOUT THE NEED FOR HEATING

■ シールはクリーンなチューブ内面で行う

SEALING IS APPLIED ON THE CLEAN SURFACE OF INNER TUBE

■ 片台形ネジで組み込みミス激減

BOX-TYPE SCREWS THREADS REDUCE ERRORS

■ ヒートサイクルを繰り返しても内径寸法は変化しにくい

RETAINS STABLE INNER DIAMETER DESPITE REPEATED HEAT-CYCLES

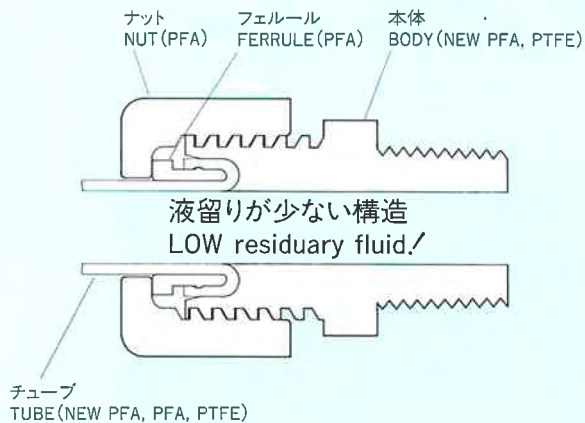
■ 液溜りが少ない

LOW RESIDUARY FLUID

# FINALLOCK

## 特長 FEATURE OF FINALLOCK

### 構造 STRUCTURE



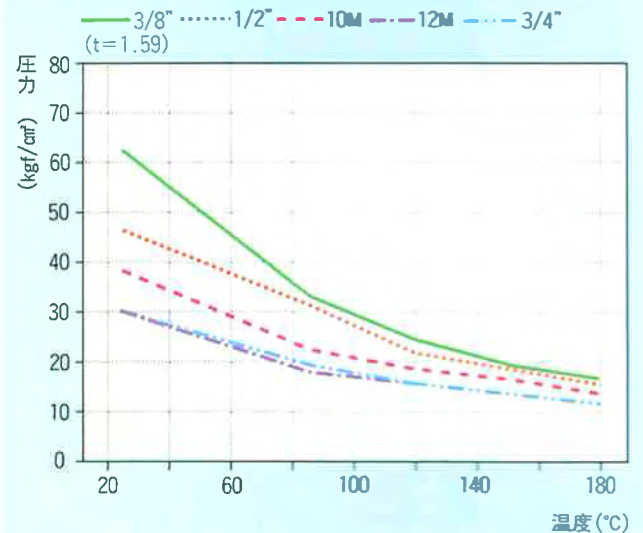
- 耐薬品性に優れたフッ素樹脂製継手。
- 専用施工治具を使って簡単に、バラツキなくしかも加熱なしでチューブを曲げ返します。  
(施工治具については、本カタログの4～5頁及び取扱説明書をご参照下さい。)
- 継手本体とのシールは曲げ返されたチューブの内面で行うためクリーン度が高い。
- インナーフェルールタイプと異なり、液溜りが少ない構造。
- 袋ナットネジ部にクリープを起こしにくい片台形ネジを採用し、増し締め作業を最小限に抑えます。またMネジと比べて組み込みミスが殆どありません。
- 非テーパシールのため、ヒートサイクル下の増し締め後でも内径寸法の変化は僅かです。
- Highly chemical resistant Fluorocarbon-resin joints.
- The use of a tool simplifies tube turning for consistency without heating.  
(Tools are shown on P. 4~5. Refer also to Instruction Manual.)
- Joint seal is on the inside of the turned tube for greater cleanliness.
- Low residuary fluid design, unlike inner ferrule type.
- Use of Box-type screws virtually eliminates creep on cap nut screws and keeps tightening work to a minimum. In contrast to M screws, errors are practically non-existent.
- Non-tapered seal helps maintain stable inner diameter even after tightening during heat cycle.

## 仕様 SPECIFICATIONS OF FINALLOCK

|                                         |                 |                    |
|-----------------------------------------|-----------------|--------------------|
| 材質<br>MATERIALS                         | 本体 (BODY)       | NEW PFA, PTFE      |
|                                         | ナット (NUT)       | PFA                |
|                                         | フェルール (FERRULE) | PFA                |
| 最高使用温度<br>MAXIMUM OPERATING TEMPERATURE |                 | 200°C              |
| 適合チューブ<br>APPLICABLE TUBES              |                 | NEW PFA, PFA, PTFE |

### (参考 REFERENCE)

### チューブの破裂強度 TUBE BURST STRENGTH



当社ファイナルロックは、PFA及びPTFEチューブ以上の耐圧性能を有しており、装置の設計圧力はご使用のチューブの耐圧性能で算出下さい。

Our FINALLOCK has more pressure strength than itself of PFA tubing and PTFE tubing. Please calculate planning pressure strength of the device within the pressure performance of used tubing.

表示方法 HOW TO ORDER

X - MC 12 - 8 P ○ ○

ファイナルロック型式 ◀...  
FINALLOCK MARK

型番 ◀.....  
MODEL MARKS

| 表記<br>MARK | 名称 (MODEL)                                | 表記<br>MARK | 名称 (MODEL)                                |
|------------|-------------------------------------------|------------|-------------------------------------------|
| MC         | メイルコネクター<br>MALE CONNECTOR                | SUR        | 異径ストレートユニオン<br>STRAIGHT UNION REDUCER     |
| ME         | メイルエルボ<br>MALE ELBOW                      | UER        | 異径ユニオンエルボ<br>UNION ELBOW REDUCER          |
| MBT        | メイルブランチティ<br>MALE BRANCH TEE              | UTR        | 異径ユニオンティ<br>UNION TEE REDUCER             |
| MRT        | メイルランティ<br>MALE RUN TEE                   | PR         | 異径パネルマウントユニオン<br>PANEL MOUNT REDUCER      |
| FC         | フィメイルコネクター<br>FEMALE CONNECTOR            | PER        | 異径パネルマウントエルボ<br>PANEL MOUNT ELBOW REDUCER |
| FE         | フィメイルエルボ<br>FEMALE ELBOW                  | FRG        | フランジコネクター<br>FLANGE FITTING               |
| FBT        | フィメイルブランチティ<br>FEMALE BRANCH TEE          | ST         | 施工済短管<br>SHORT LENGTH TUBE                |
| FRT        | フィメイルランティ<br>FEMALE RUN TEE               | TS         | チューブストップ<br>TUBING STOP                   |
| SU         | ストレートユニオン<br>STRAIGHT UNION               | FP         | フィッティングプラグ<br>FITTING PLUG                |
| UE         | ユニオンエルボ<br>UNION ELBOW                    | F          | ナット<br>NUT                                |
| UET        | ユニオンエルボチューブ<br>UNION ELBOW TUBING         | FS         | フェルール<br>FERRULE                          |
| UETS       | 施工済ユニオンエルボチューブ<br>READY TUBE TURNING TYPE | N          | ニップル<br>NIPPLE                            |
| UT         | ユニオンティ<br>UNION TEE                       | B          | ブッシング<br>BUSHING                          |
| UTT        | ユニオンティチューブ<br>UNION TEE TUBING            | CP         | カップリング<br>COUPLING                        |
| P          | パネルマウントユニオン<br>PANEL MOUNT UNION          | C          | キャップ<br>CAP                               |
| PE         | パネルマウントエルボ<br>PANEL MOUNT ELBOW           | PG         | プラグ<br>PLUG                               |

チューブサイズ (OD)  
TUBE SIZE

| 表記<br>MARK | 寸法<br>SIZE |
|------------|------------|
| 6M         | φ6-φ4      |
| 8M         | φ8-φ6      |
| 10M        | φ10-φ8     |
| 12M        | φ12-φ10    |
| 19M        | φ19-φ16    |
| 25M        | φ25-φ22    |
| *4T        | *φ1/4"     |
| *4S        | *φ1/4"     |
| *6T        | *φ3/8"     |
| *6S        | *φ3/8"     |
| 8          | φ1/2"      |
| 12         | φ3/4"      |
| 16         | φ 1"       |

\*φ1/4", φ3/8"に関しては下  
表「適合チューブサイズ」をご  
参照下さい。  
See the below for φ1/4", φ3/8"  
tubes.

ネジサイズ  
SCREW SIZE

| 表記<br>MARK | 寸法<br>SIZE |
|------------|------------|
| 2          | 1/8"       |
| 4          | 1/4"       |
| 6          | 3/8"       |
| 8          | 1/2"       |
| 12         | 3/4"       |
| 16         | 1"         |

ネジ種類  
SCREW TYPE

| 表記<br>MARK | 寸法<br>SIZE     |
|------------|----------------|
| P          | PTネジ<br>PT     |
| N          | NPTネジ<br>NPT   |
| M          | Mネジ<br>MM      |
| 他<br>ETC.  | PS PF<br>OTHER |

特殊継手 ◀.....  
OTHER SPECIAL JOINTS

| 表記<br>MARK | 接続<br>CONNECTION TYPE                |
|------------|--------------------------------------|
| TH         | 貫通タイプ<br>STRAIGHT CONNECTOR          |
| OR         | O-リング付継手<br>O-RING CONNECTOR         |
| FL         | フレキシブルチューブ接続<br>FLEXIBLE TUBE JOINT  |
| E          | 石英管接続 (溝切式)<br>QUARTZ JOINT (E-TYPE) |

詳細については、P3の「その他特殊継手」をご参照下さい。  
See pages P3 for details of other special joints

適合チューブサイズ (PFA及びPTFE) TUBE SIZE OF PFA OR PTFE

| 表記<br>MARK | インチチューブサイズ (OD×ID)<br>INCH TUBE SIZE | 表記<br>MARK | ミリチューブサイズ (OD×ID)<br>MM TUBE SIZE |
|------------|--------------------------------------|------------|-----------------------------------|
| *4T        | *φ1/4" ( 6.35mm× 3.96mm)             | 3M         | 3× 2                              |
| *4S        | *φ1/4" ( 6.35mm× 4.35mm)             | 4M         | 4× 3                              |
| *6T        | *φ3/8" ( 9.53mm× 6.35mm)             | 6M         | 6× 4                              |
| *6S        | *φ3/8" ( 9.53mm× 7.53mm)             | 8M         | 8× 6                              |
| 8          | φ1/2" (12.70mm× 9.53mm)              | 10M        | 10×8                              |
| 12         | φ3/4" (19.05mm×15.88mm)              | 12M        | 12×10                             |
| 16         | φ 1 " (25.4mm×22.2mm)                | 19M        | 19×16                             |
|            |                                      | 25M        | 25×22                             |
|            |                                      | 40M        | 40×37                             |

上記規格以外のチューブのご使用にあたっては別途ご相談下さい。  
Please contact us for information on tubes not shown in this table.

# その他特殊継手 Other special joint

## 石英管との接続 Connection to quartz pipes

### K-フィッター-Eタイプ(E-TYPE)

#### 石英管の外周に溝を入れる方式

A method to cut grooving on the circumference of quartz pipe

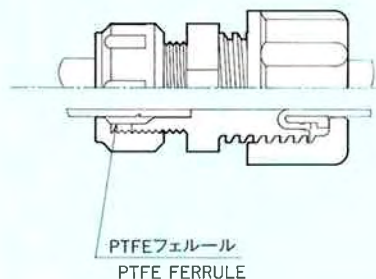
石英管 E-TYPE  
Quartz pipe side

FINALLOCK  
PFA tube side

石英管外径表示の末尾に  
「E」を記入

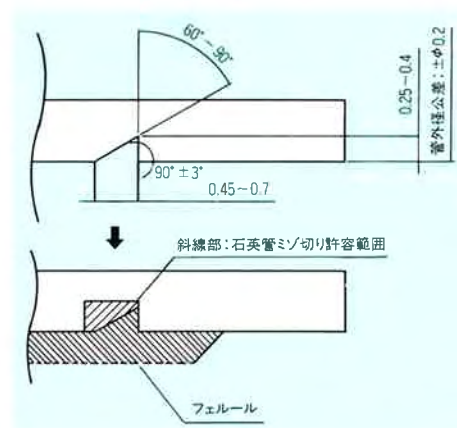
Affix 「E」 at the end of the mark showing the outer diameter of the quartz pipe, as shown below

EX.  
**X-SUR19ME-12**  
(Quartz pipe  $\phi$  19-PFA tube  $\phi$  3/4")



### 石英溝切りサイズ

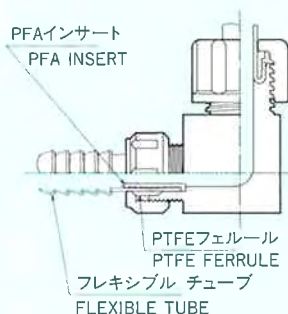
(Grooving size of the circumference of quartz pipe)



## フレキシブルチューブとの接続 Connection to PFA flexible tubes

### Type 1 PFAタケノコタイプ(PFA inserting type)

A PFA tapered plug inserted into a flexible tube



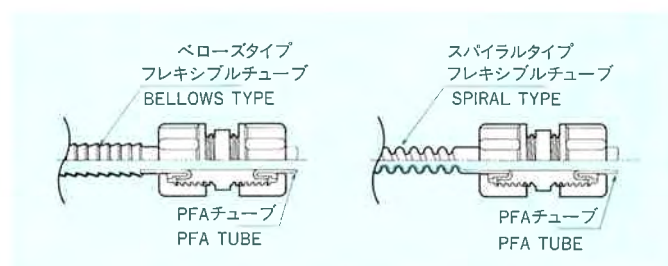
フレキシブルチューブサイズ  
表示の末尾に「FL」を記入

Affix 「FL」 at the end of the mark showing the size (ID) of the flexible tubes, as shown below

EX.  
**X-UE8FL-8**  
(Flexible tube  $\phi$  1/2"-PFA tube  $\phi$  1/2")

### Type 2 (FINALLOCK type)

BELLOWS and SPIRAL type tubing are available.



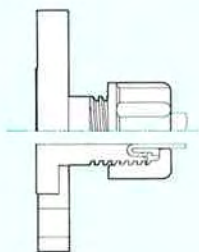
このタイプの、チューブは当社で全て施工済みです。従って、継手は通常のものです。

All work on BELLOWS and SPIRAL tubing is performed at the factory  
Joints are ordinary commercial types.

## フランジ付き継手 Joint with Flange

FLANGE(SUS316L, SUS304, PTFE, PVC, etc.)

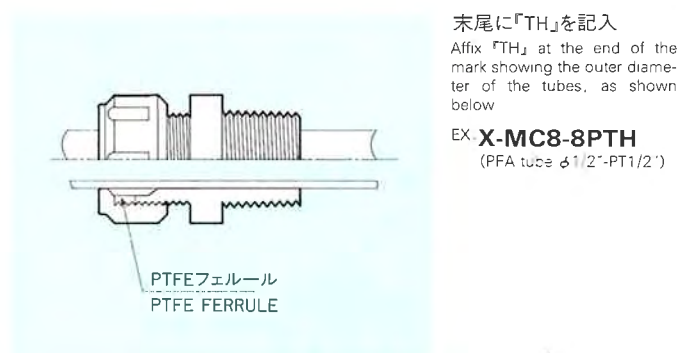
EX **X-FRG8-20A(SUS304-10K)**  
(PFA tube  $\phi$  1/2"-Flange SUS304 JIS10KG 20A)



## 貫通コネクタ Straight connector

ボディ内径はチューブ外径と同一径でありチューブは継手を通  
過して自由にセット出来ます。

The Inside diameter of the joint meets with the outer diameter of a tubes.



# 専用施工治具 Special operating tools

ファイナルロックのご使用の際には、次の専用施工治具が必要になります。  
For the application of FINALLOCK, special operating tools are necessary. See the below.

## ハンディタイプ施工治具

Manual-type (for normal-length tubes)

## 短管施工治具

Manual-type (for short-length tubes)



## 新型ガンタイプ施工治具

New type (for normal-length tubes)



## エアーシリンダータイプ施工治具

Automatic type (for normal-length tubes)

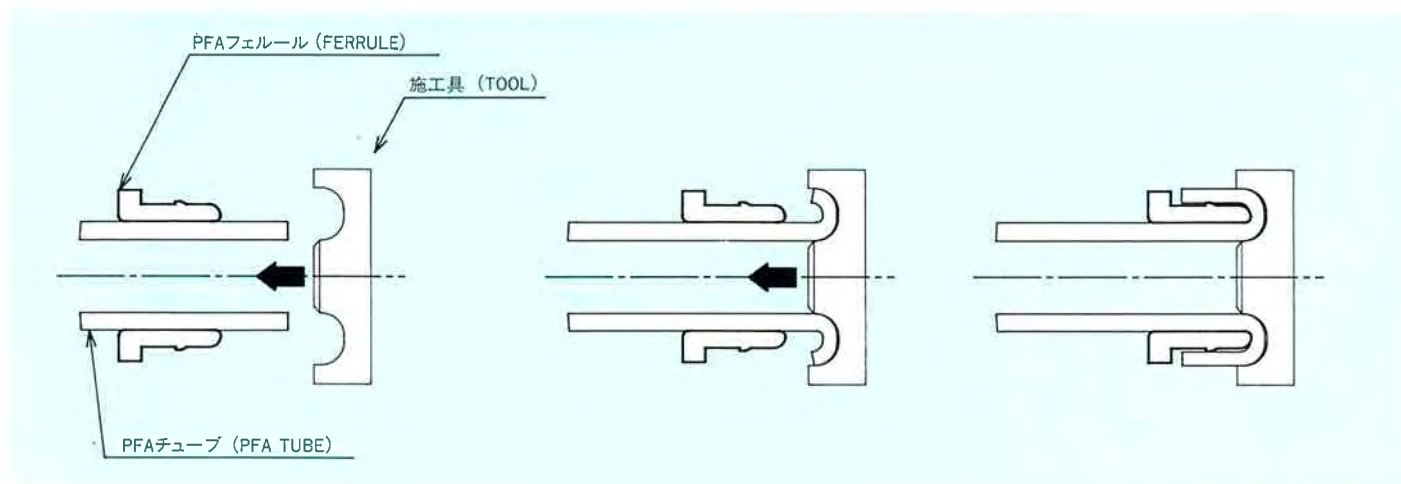
## エアーシリンダータイプ短管施工治具

Automatic type (for short-length tubes)

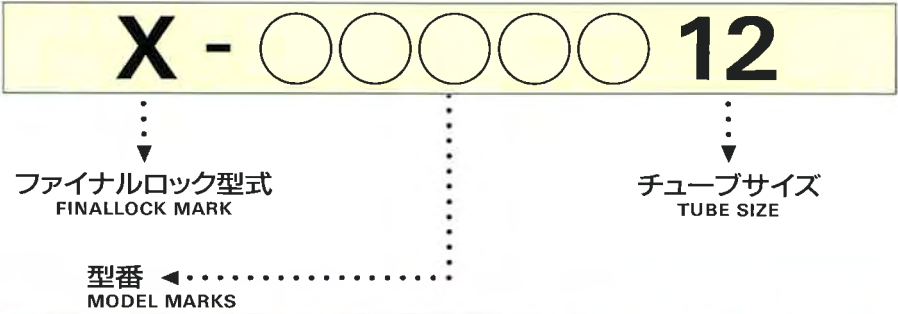


- 各種専用施工治具の取扱いおよび使い分けに関しては、付属の取扱説明書をご参照下さい。
- ハンディタイプ施工治具は、使用するチューブサイズ毎に必要なになります。
- 短管施工治具は、各種アプリケーションパーツを用意することにより1台で2頁記載の「チューブ適合表」全てのチューブサイズの短管の施工が可能です。（但し、3M、4M、40Mは除く。）
- 各種アプリケーションはご希望のサイズを別途ご注文下さい。
- Please see the attached “FINALLOCK MANUAL” for how to operate all kinds of special operating tool.
- A manual-type operating tool, it is necessary for each tube size.
- It is possible to form short-length for every size shown in the P2 tube compatibility table with one machine. (Except tube size “3M” “4M” “40M”)
- Order desired sizes separately for each application.

## 施工メカニズム MECHANISM

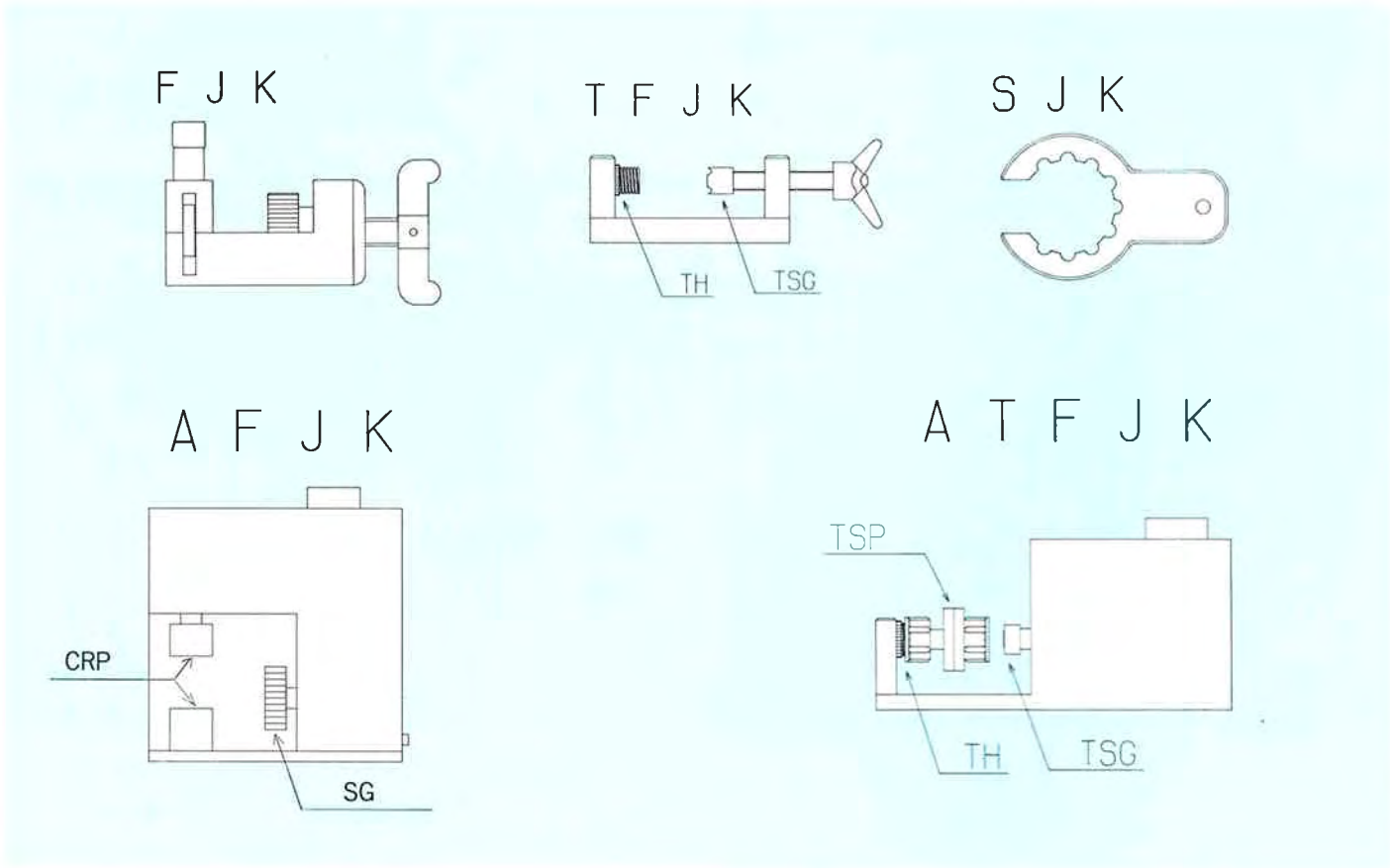


表示方法 How to order



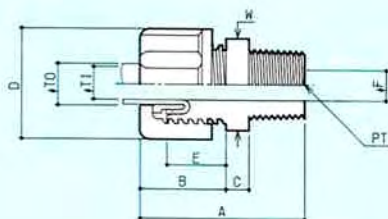
| 表記<br>MARK | 名称(MODEL)                                                                | 表記<br>MARK | 名称(MODEL)                                                                   | 表記<br>MARK | 名称(MODEL)                                                            |
|------------|--------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------|------------|----------------------------------------------------------------------|
| FJK        | ハンディタイプ治具<br>MANUAL OPERATING TOOL                                       | TH         | 短管施工用チューブホルダー<br>TUBE HOLDER FOR SHORT-<br>LENGTH TUBE FORMING              | AFJK-SG    | エアースリンダータイプ治具用施工具<br>OPERATING UNIT FOR AUTOMATIC<br>OPERATING TOOL  |
| AFJK       | エアースリンダータイプ治具<br>AUTOMATIC OPERATING TOOL                                | TSG        | 短管用施工具<br>OPERATING UNIT FOR SHORT-<br>LENGTH TUBE                          | AFJK-CRP   | エアースリンダータイプ治具用チューブクランプ<br>TUBE CRAMP FOR AUTOMATIC<br>OPERATING TOOL |
| ATFJK      | エアースリンダータイプ短管治具<br>AUTOMATIC OPERATING TOOL<br>FOR THE SHORT-LENGTH TUBE | TSP        | 短管施工用チューブ調整スペーサー<br>TUBE ADJUSTMENT SPACER FOR<br>SHORT-LENGTH TUBE FORMING |            |                                                                      |
| TFJK       | 手動式短管施工治具<br>MANUAL OPERATING TOOL FOR<br>THE SHORT-LENGTH TUBE          | SJK        | 袋ナット締付治具<br>TIGHTENING TOOL                                                 |            |                                                                      |

治具

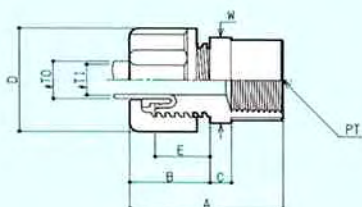


# FINALLOCKシリーズ

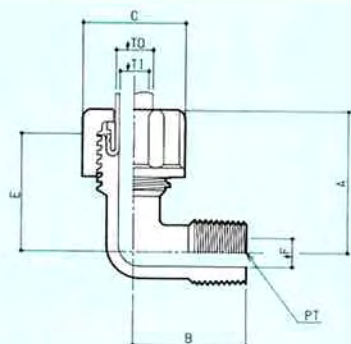
## MC MALE CONNECTOR



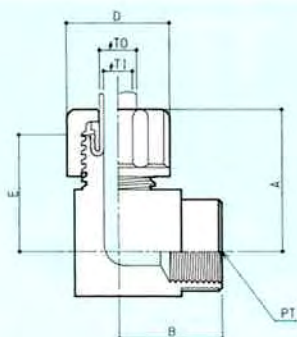
## FC FEMALE CONNECTOR



## ME MALE ELBOW



## FE FEMALE ELBOW



MC(メイル・コネクタ),FC(フィメイル・コネクタ)

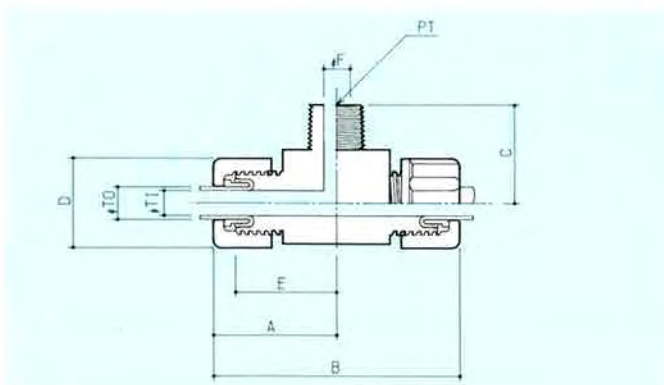
| 型名           | A    | B    | C | D  | E    | F    | PT  | φTI   | φTO   | W  |
|--------------|------|------|---|----|------|------|-----|-------|-------|----|
| X-□□ 6M-2P   | 32.5 | 16.5 | 7 | 20 | 11.5 | 4.35 | 1/8 | 4     | 6     | 18 |
| X-□□ 6M-4P   | 36.5 |      |   |    |      |      | 1/4 |       |       |    |
| X-□□ 6M-6P   | 36.5 |      |   |    |      |      | 3/8 |       |       |    |
| X-□□ 6M-8P   | 40.5 |      |   |    |      |      | 1/2 |       |       |    |
| X-□□ 8M-4P   | 36.5 | 16.5 | 7 | 22 | 11.5 | 6    | 1/4 | 6     | 8     | 20 |
| X-□□ 8M-6P   | 36.5 |      |   |    |      |      | 3/8 |       |       |    |
| X-□□ 8M-8P   | 40.5 |      |   |    |      |      | 1/2 |       |       |    |
| X-□□ 10M-4P  | 45   |      |   |    |      |      | 1/4 |       |       |    |
| X-□□ 10M-6P  | 45   | 25   | 7 | 30 | 18   | 7.53 | 3/8 | 8     | 10    | 25 |
| X-□□ 10M-8P  | 49   |      |   |    |      |      | 1/2 |       |       |    |
| X-□□ 12M-4P  | 48   |      |   |    |      |      | 1/4 |       |       |    |
| X-□□ 12M-6P  | 48   |      |   |    |      |      | 3/8 |       |       |    |
| X-□□ 12M-8P  | 52   | 28   | 7 | 33 | 18   | 9.53 | 1/2 | 10    | 12    | 28 |
| X-□□ 12M-12P | 54   |      |   |    |      |      | 3/4 |       |       |    |
| X-□□ 19M-8P  | 55.5 |      |   |    |      |      | 1/2 |       |       |    |
| X-□□ 19M-12P | 57.5 | 30.5 | 8 | 43 | 20   | 12   | 3/4 | 16    | 19    | 36 |
| X-□□ 25M-12P | 62.5 |      |   |    |      |      | 1   |       |       |    |
| X-□□ 25M-16P | 64.5 |      |   |    |      |      | 1   |       |       |    |
| X-□□ 4-2P    | 32.5 | 16.5 | 7 | 20 | 11.5 | 4.35 | 1/8 | 4.35  | 6.35  | 18 |
| X-□□ 4-4P    | 36.5 |      |   |    |      |      | 1/4 |       |       |    |
| X-□□ 4-6P    | 38.5 |      |   |    |      |      | 3/8 |       |       |    |
| X-□□ 4-8P    | 40.5 |      |   |    |      |      | 1/2 |       |       |    |
| X-□□ 6-4P    | 45   | 25   | 7 | 30 | 18   | 7.53 | 1/4 | 7.53  | 9.53  | 25 |
| X-□□ 6-6P    | 45   |      |   |    |      |      | 3/8 |       |       |    |
| X-□□ 6-8P    | 49   |      |   |    |      |      | 1/2 |       |       |    |
| X-□□ 8-4P    | 48   |      |   |    |      |      | 1/4 |       |       |    |
| X-□□ 8-6P    | 48   | 28   | 7 | 33 | 18   | 9.53 | 3/8 | 9.53  | 12.7  | 28 |
| X-□□ 8-8P    | 52   |      |   |    |      |      | 1/2 |       |       |    |
| X-□□ 8-12P   | 54   |      |   |    |      |      | 3/4 |       |       |    |
| X-□□ 12-8P   | 55.5 |      |   |    |      |      | 1/2 |       |       |    |
| X-□□ 12-12P  | 57.5 | 30.5 | 8 | 43 | 20   | 12   | 3/4 | 15.88 | 19.05 | 36 |
| X-□□ 16-12P  | 62.5 |      |   |    |      |      | 1   |       |       |    |
| X-□□ 16-16P  | 64.5 |      |   |    |      |      | 1   |       |       |    |

(W寸法は6角または4角の対辺寸法)

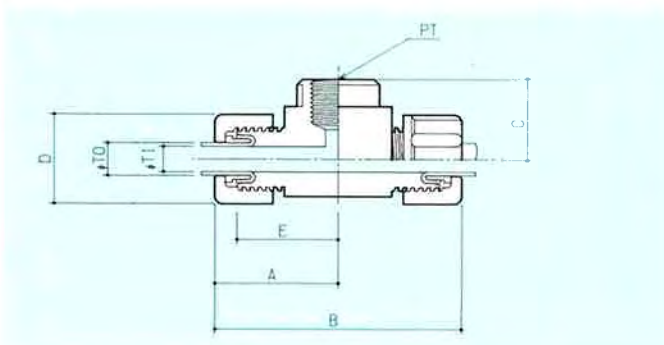
ME(メイル・エルボ),FE(フィメイル・エルボ)

| 型名           | A    | B    | D  | E    | φF   | PT  | φTI   | φTO   |
|--------------|------|------|----|------|------|-----|-------|-------|
| X-□□ 6M-2P   | 27.5 | 20   | 20 | 22.5 | 4.35 | 1/8 | 4     | 6     |
| X-□□ 6M-4P   |      | 24   |    |      |      | 1/4 |       |       |
| X-□□ 6M-6P   |      | 24   |    |      |      | 3/8 |       |       |
| X-□□ 6M-8P   |      | 28   |    |      |      | 1/2 |       |       |
| X-□□ 8M-4P   | 27.5 | 24   | 22 | 22.5 | 6    | 1/4 | 6     | 8     |
| X-□□ 8M-6P   |      | 24   |    |      |      | 3/8 |       |       |
| X-□□ 8M-8P   |      | 28   |    |      |      | 1/2 |       |       |
| X-□□ 10M-4P  |      | 31.5 |    |      |      | 1/4 |       |       |
| X-□□ 10M-6P  | 43.5 | 31.5 | 30 | 36.5 | 7.53 | 3/8 | 8     | 10    |
| X-□□ 10M-8P  |      | 35.5 |    |      |      | 1/2 |       |       |
| X-□□ 12M-4P  |      | 33   |    |      |      | 1/4 |       |       |
| X-□□ 12M-6P  |      | 33   |    |      |      | 3/8 |       |       |
| X-□□ 12M-8P  | 48   | 37   | 33 | 38   | 9.53 | 1/2 | 10    | 12    |
| X-□□ 12M-12P |      | 39   |    |      |      | 3/4 |       |       |
| X-□□ 19M-8P  |      | 40.5 |    |      |      | 1/2 |       |       |
| X-□□ 19M-12P |      | 42.5 |    |      |      | 3/4 |       |       |
| X-□□ 25M-12P | 64.5 | 48   | 49 | 54   | 16   | 3/4 | 22    | 25    |
| X-□□ 25M-16P |      | 51   |    |      |      | 1   |       |       |
| X-□□ 4-2P    |      | 20   |    |      |      | 1/8 |       |       |
| X-□□ 4-4P    |      | 24   |    |      |      | 1/4 |       |       |
| X-□□ 4-6P    | 27.5 | 24   | 20 | 22.5 | 4.35 | 3/8 | 4.35  | 6.35  |
| X-□□ 4-8P    |      | 28   |    |      |      | 1/2 |       |       |
| X-□□ 6-4P    |      | 31.5 |    |      |      | 1/4 |       |       |
| X-□□ 6-6P    |      | 31.5 |    |      |      | 3/8 |       |       |
| X-□□ 6-8P    | 43.5 | 35.5 | 30 | 36.5 | 7.53 | 1/2 | 7.53  | 9.53  |
| X-□□ 8-4P    |      | 33   |    |      |      | 1/4 |       |       |
| X-□□ 8-6P    |      | 33   |    |      |      | 3/8 |       |       |
| X-□□ 8-8P    |      | 37   |    |      |      | 1/2 |       |       |
| X-□□ 8-12P   | 48   | 39   |    |      |      | 3/4 |       |       |
| X-□□ 12-8P   |      | 40.5 | 43 | 43.5 | 12   | 1/2 | 15.88 | 19.05 |
| X-□□ 12-12P  |      | 42.5 |    |      |      | 3/4 |       |       |
| X-□□ 16-12P  |      | 48   |    |      |      | 1   |       |       |
| X-□□ 16-16P  |      | 51   |    |      |      | 1   |       |       |

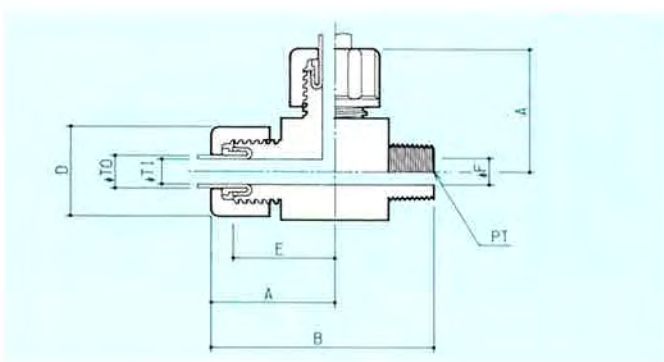
## MBT MALE BRANCH TEE



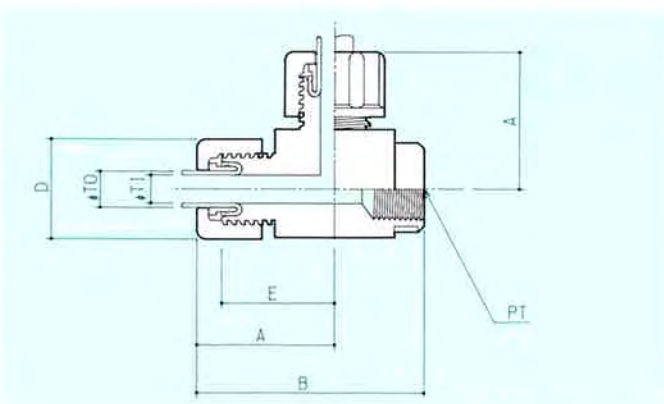
## FBT FEMALE BRANCH TEE



## MRT MALE RUN TEE



## FRT FEMALE RUN TEE



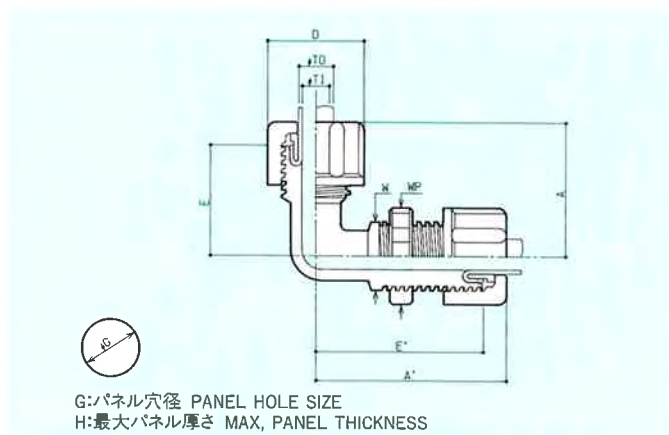
MBT (メイル・ブランチ・ティ), FBT (フィメイル・ブランチ・ティ)

| 型名           | A    | B   | C    | D    | E     | φF  | PT | φTI   | φTO   |
|--------------|------|-----|------|------|-------|-----|----|-------|-------|
| X-□□ 6M- 2P  | 22.5 | 45  | 20   | 17.5 |       | 1/8 |    |       |       |
| X-□□ 6M- 4P  | 24   | 48  | 24   | 19   | 4.35  | 1/4 |    | 4     | 6     |
| X-□□ 6M- 6P  | 26   | 52  | 24   | 21   |       | 3/8 |    |       |       |
| X-□□ 6M- 8P  | 28   | 56  | 28   | 23   |       | 1/2 |    |       |       |
| X-□□ 8M- 4P  | 24   | 48  | 25   | 19   |       | 1/4 |    |       |       |
| X-□□ 8M- 6P  | 26   | 52  | 25   | 21   | 6     | 3/8 |    | 6     | 8     |
| X-□□ 8M- 8P  | 28   | 56  | 29   | 23   |       | 1/2 |    |       |       |
| X-□□ 10M- 4P | 32.5 | 65  | 29   | 25.5 | 6     | 1/4 |    |       |       |
| X-□□ 10M- 6P | 34.5 | 69  | 30   | 27.5 | 7.53  | 3/8 |    | 8     | 10    |
| X-□□ 10M- 8P | 36.5 | 73  | 33   | 29.5 | 7.53  | 1/2 |    |       |       |
| X-□□ 12M- 4P | 35.5 | 71  | 30.5 | 25.5 | 6     | 1/4 |    |       |       |
| X-□□ 12M- 6P | 37.5 | 75  | 33   | 27.5 | 9.53  | 3/8 |    | 10    | 12    |
| X-□□ 12M- 8P | 39.5 | 79  | 34.5 | 29.5 | 9.53  | 1/2 |    |       |       |
| X-□□ 12M-12P | 42.5 | 85  | 36.5 | 32.5 | 9.53  | 3/4 |    |       |       |
| X-□□ 19M- 8P | 42   | 84  | 39.5 | 31.5 | 12    | 1/2 |    | 16    | 19    |
| X-□□ 19M-12P | 45   | 90  | 41.5 | 34.5 | 15.88 | 3/4 |    |       |       |
| X-□□ 25M-12P | 50   | 100 | 44.5 | 39.5 | 16    | 3/4 |    | 22    | 25    |
| X-□□ 25M-16P | 53.5 | 107 | 50.5 | 43   | 22    | 1   |    |       |       |
| X-□□ 4- 2P   | 22.5 | 45  | 20   | 17.5 |       | 1/8 |    |       |       |
| X-□□ 4- 4P   | 24   | 48  | 24   | 19   | 4.35  | 1/4 |    | 4.35  | 6.35  |
| X-□□ 4- 6P   | 26   | 52  | 24   | 21   |       | 3/8 |    |       |       |
| X-□□ 4- 8P   | 28   | 56  | 28   | 23   |       | 1/2 |    |       |       |
| X-□□ 6- 4P   | 32.5 | 65  | 29   | 25.5 | 6     | 1/4 |    |       |       |
| X-□□ 6- 6P   | 34.5 | 69  | 30   | 27.5 | 7.53  | 3/8 |    | 7.53  | 9.53  |
| X-□□ 6- 8P   | 36.5 | 73  | 33   | 29.5 | 7.53  | 1/2 |    |       |       |
| X-□□ 8- 4P   | 35.5 | 71  | 30.5 | 25.5 | 6     | 1/4 |    |       |       |
| X-□□ 8- 6P   | 37.5 | 75  | 33   | 27.5 | 9.53  | 3/8 |    | 9.53  | 12.7  |
| X-□□ 8- 8P   | 39.5 | 79  | 34.5 | 29.5 | 9.53  | 1/2 |    |       |       |
| X-□□ 8-12P   | 42.5 | 85  | 36.5 | 32.5 | 9.53  | 3/4 |    |       |       |
| X-□□ 12- 8P  | 42   | 84  | 39.5 | 31.5 | 12    | 1/2 |    | 15.88 | 19.05 |
| X-□□ 12-12P  | 45   | 90  | 41.5 | 34.5 | 15.88 | 3/4 |    |       |       |
| X-□□ 16-12P  | 50   | 100 | 44.5 | 39.5 | 16    | 3/4 |    | 22.2  | 25.4  |
| X-□□ 16-16P  | 53.5 | 107 | 50.5 | 43   | 22    | 1   |    |       |       |

MRT (メイル・ラン・ティ), FRT (フィメイル・ラン・ティ)

| 型名           | A    | B    | D  | E    | φF   | PT  | φTI   | φTO   |
|--------------|------|------|----|------|------|-----|-------|-------|
| X-□□ 6M- 2P  | 27.5 | 47.5 | 20 | 22.5 | 4.35 | 1/8 |       | 6     |
| X-□□ 6M- 4P  | 27.5 | 51.5 |    | 22.5 |      | 1/4 | 4     |       |
| X-□□ 6M- 6P  | 27.5 | 51.5 |    | 22.5 |      | 3/8 |       |       |
| X-□□ 6M- 8P  | 31.5 | 59.5 |    | 26.5 |      | 1/2 |       |       |
| X-□□ 8M- 4P  | 28.5 | 52.5 | 22 | 23.5 | 6    | 1/4 |       | 8     |
| X-□□ 8M- 6P  | 28.5 | 52.5 |    | 23.5 |      | 3/8 | 6     |       |
| X-□□ 8M- 8P  | 31.5 | 59.5 |    | 26.5 |      | 1/2 |       |       |
| X-□□ 10M- 4P | 38.5 | 67   | 30 | 31.5 | 7.53 | 1/4 |       | 10    |
| X-□□ 10M- 6P |      | 67   |    | 31.5 | 7.53 | 3/8 | 8     |       |
| X-□□ 10M- 8P |      | 71   |    |      | 7.53 | 1/2 |       |       |
| X-□□ 12M- 4P | 43.5 | 73.5 | 33 | 33.5 | 9.53 | 1/4 |       | 12    |
| X-□□ 12M- 6P | 43.5 | 73.5 |    | 33.5 | 9.53 | 3/8 | 10    |       |
| X-□□ 12M- 8P | 48   | 85   |    | 38   | 9.53 | 1/2 |       |       |
| X-□□ 12M-12P | 48   | 87   |    | 38   | 9.53 | 3/4 |       |       |
| X-□□ 19M- 8P | 54   | 94.5 | 43 | 43.5 | 12   | 1/2 | 16    | 19    |
| X-□□ 19M-12P |      | 94.5 |    |      | 15.8 | 3/4 |       |       |
| X-□□ 25M-12P | 59   | 103  | 49 | 48.5 | 16   | 3/4 | 22    | 25    |
| X-□□ 25M-16P |      | 109  |    |      | 22   | 1   |       |       |
| X-□□ 4- 2P   | 27.5 | 47.5 | 20 | 22.5 | 4.35 | 1/8 |       | 6     |
| X-□□ 4- 4P   | 27.5 | 51.5 |    | 22.5 |      | 1/4 | 4.35  | 6.35  |
| X-□□ 4- 6P   | 27.5 | 51.5 |    | 22.5 |      | 3/8 |       |       |
| X-□□ 4- 8P   | 31.5 | 59.5 |    | 26.5 |      | 1/2 |       |       |
| X-□□ 6- 4P   | 38.5 | 67   | 30 | 31.5 | 7.53 | 1/4 |       | 10    |
| X-□□ 6- 6P   |      | 67   |    | 31.5 | 7.53 | 3/8 | 7.53  | 9.53  |
| X-□□ 6- 8P   |      | 71   |    |      | 7.53 | 1/2 |       |       |
| X-□□ 8- 4P   | 43.5 | 73.5 | 33 | 33.5 | 9.53 | 1/4 |       | 12    |
| X-□□ 8- 6P   | 43.5 | 73.5 |    | 33.5 | 9.53 | 3/8 | 9.53  |       |
| X-□□ 8- 8P   | 48   | 85   |    | 38   | 9.53 | 1/2 |       |       |
| X-□□ 8-12P   | 48   | 87   |    | 38   | 9.53 | 3/4 |       |       |
| X-□□ 12- 8P  | 54   | 94.5 | 43 | 43.5 | 12   | 1/2 | 15.88 | 19.05 |
| X-□□ 12-12P  |      | 94.5 |    |      | 15.8 | 3/4 |       |       |
| X-□□ 16-12P  | 59   | 103  | 49 | 48.5 | 16   | 3/4 | 22.2  | 25.4  |
| X-□□ 16-16P  |      | 109  |    |      | 22   | 1   |       |       |

## PE PANEL MOUNT ELBOW

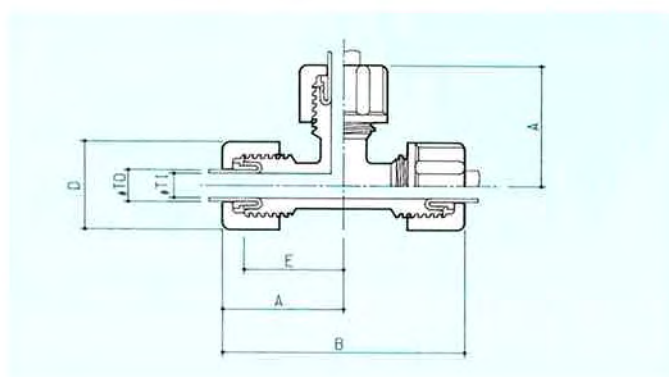


### PE (パネルマウント・エルボ)

| 型 名      | A    | A'   | D  | E    | E'   | φTI   | φTO   | W    | φWP | φG   | H  |
|----------|------|------|----|------|------|-------|-------|------|-----|------|----|
| X-PE 6M  | 27.5 | 42.5 | 20 | 22.5 | 37.5 | 4     | 6     | 22   | 20  | 15.2 | 10 |
| X-PE 8M  |      | 43.5 | 22 | 22.5 | 38.5 | 6     | 8     | 24   | 22  | 17.2 |    |
| X-PE 10M | 4.35 | 58.5 | 30 | 36.5 | 51.5 | 8     | 10    | 29   | 30  | 21.2 |    |
| X-PE 12M | 48   | 68   | 33 | 38   | 68   | 10    | 12    | 33   | 33  | 24.2 |    |
| X-PE 19M | 54   | 72   | 43 | 43.5 | 61.5 | 16    | 19    | 47   | 43  | 32.2 |    |
| X-PE 25M | 64.5 | 78.5 | 49 | 54   | 68   | 22    | 25    | 48.5 | 49  | 38.2 |    |
| X-PE 4   | 27.5 | 42.5 | 20 | 22.5 | 37.5 | 4.35  | 6.35  | 22   | 20  | 15.2 | 10 |
| X-PE 6   | 43.5 | 58.5 | 30 | 36.5 | 51.5 | 7.53  | 9.53  | 29   | 30  | 21.2 |    |
| X-PE 8   | 48   | 68   | 33 | 38   | 58   | 9.53  | 12.7  | 33   | 33  | 24.2 |    |
| X-PE 12  | 54   | 72   | 43 | 43.5 | 61.5 | 15.88 | 19.05 | 47   | 43  | 32.2 |    |
| X-PE 16  | 64.5 | 78.5 | 49 | 54   | 68   | 22.2  | 25.4  | 48.5 | 49  | 38.2 |    |

(W寸法は4角の対辺又は直径寸法)

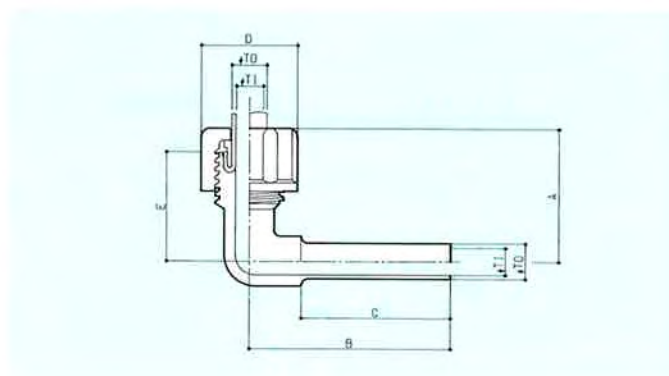
## UT UNION TEE



### UT (ユニオン・ティ)

| 型 名      | A    | B   | D  | E    | φTI   | φTO   |
|----------|------|-----|----|------|-------|-------|
| X-UT 6M  | 27.5 | 55  | 20 | 22.5 | 4     | 6     |
| X-UT 8M  | 27.5 | 55  | 22 | 22.5 | 6     | 8     |
| X-UT 10M | 43.5 | 87  | 30 | 36.5 | 8     | 10    |
| X-UT 12M | 48   | 96  | 33 | 38   | 10    | 12    |
| X-UT 19M | 54   | 108 | 43 | 43.5 | 16    | 19    |
| X-UT 25M | 64.5 | 129 | 49 | 54   | 22    | 25    |
| X-UT 4   | 27.5 | 55  | 20 | 22.5 | 4.35  | 6.35  |
| X-UT 6   | 43.5 | 87  | 30 | 36.5 | 7.53  | 9.53  |
| X-UT 8   | 48   | 96  | 33 | 38   | 9.53  | 12.7  |
| X-UT 12  | 54   | 108 | 43 | 43.5 | 15.88 | 19.05 |
| X-UT 16  | 64.5 | 129 | 49 | 54   | 22.2  | 25.4  |

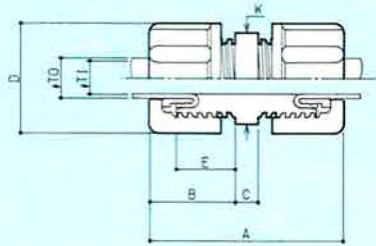
## UET UNION ELBOW TUBING



### UET (ユニオン・エルボ・チューブだし)

| 型 名       | A  | B    | C  | D  | E    | φTI   | φTO   |
|-----------|----|------|----|----|------|-------|-------|
| X-UET 19M | 54 | 71.5 | 50 | 43 | 43.5 | 16    | 19    |
| X-UET 8   | 48 | 68   |    | 33 | 38   | 9.53  | 12.7  |
| X-UET 12  | 54 | 71.5 |    | 43 | 43.5 | 15.88 | 19.05 |

## SU STRAIGHT UNION

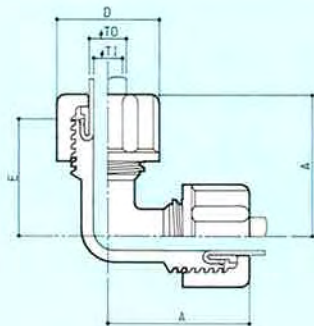


SU (ストレート・ユニオン)

| 型 名      | A  | B    | C | D  | E    | $\phi$ TI | $\phi$ TO | W  |
|----------|----|------|---|----|------|-----------|-----------|----|
| X-SU 6M  | 40 | 16.5 | 7 | 20 | 11.5 | 4         | 6         | 18 |
| X-SU 8M  |    |      |   | 22 | 11.5 | 6         | 8         | 20 |
| X-SU 10M | 57 | 25   |   | 30 | 18   | 8         | 10        | 25 |
| X-SU 12M | 63 | 28   |   | 33 | 18   | 10        | 12        | 28 |
| X-SU 19M | 69 | 30.5 | 8 | 43 | 20   | 16        | 19        | 36 |
| X-SU 25M | 79 | 35.5 |   | 49 | 25   | 22        | 25        | 42 |
| X-SU 4   | 40 | 16.5 | 7 | 20 | 11.5 | 4.35      | 6.35      | 18 |
| X-SU 6   | 57 | 25   |   | 30 | 18   | 7.53      | 9.53      | 25 |
| X-SU 8   | 63 | 28   |   | 33 | 18   | 9.53      | 12.7      | 28 |
| X-SU 12  | 69 | 30.5 | 8 | 43 | 20   | 15.88     | 19.05     | 36 |
| X-SU 16  | 79 | 35.5 |   | 49 | 25   | 22.2      | 25.4      | 42 |

(W寸法は6角または4角の対辺寸法)

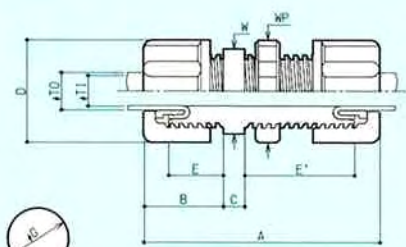
## UE UNION ELBOW



UE (ユニオン・エルボ)

| 型 名      | A    | D  | E    | $\phi$ TI | $\phi$ TO |
|----------|------|----|------|-----------|-----------|
| X-UE 6M  | 27.5 | 20 | 22.5 | 4         | 6         |
| X-UE 8M  | 27.5 | 22 | 22.5 | 6         | 8         |
| X-UE 10M | 43.5 | 30 | 36.5 | 8         | 10        |
| X-UE 12M | 48   | 33 | 38   | 10        | 12        |
| X-UE 19M | 54   | 43 | 43.5 | 16        | 19        |
| X-UE 25M | 64.5 | 49 | 54   | 22        | 25        |
| X-UE 4   | 27.5 | 20 | 22.5 | 4.35      | 6.35      |
| X-UE 6   | 43.5 | 30 | 36.5 | 7.53      | 9.53      |
| X-UE 8   | 48   | 33 | 38   | 9.53      | 12.7      |
| X-UE 12  | 54   | 43 | 43.5 | 15.88     | 19.05     |
| X-UE 16  | 64.5 | 49 | 54   | 22.2      | 25.4      |

## P PANEL MOUNT UNION



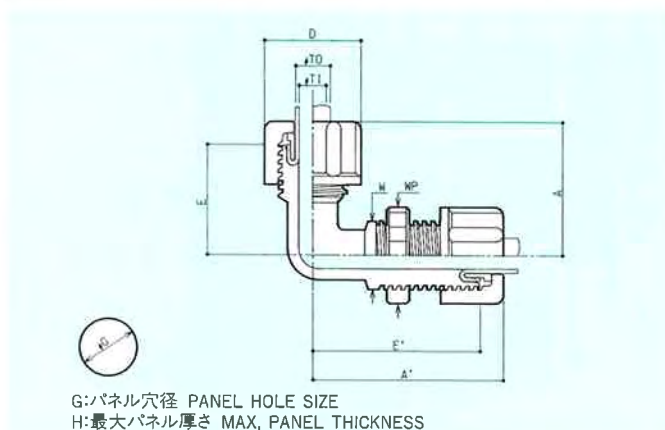
G:パネル穴径 PANEL HOLE SIZE  
H:最大パネル厚さ MAX. PANEL THICKNESS

P (パネルマウント・ユニオン)

| 型 名     | A  | B    | C | D  | E    | E'   | $\phi$ TI | $\phi$ TO | W  | $\phi$ WP | $\phi$ G | H  |
|---------|----|------|---|----|------|------|-----------|-----------|----|-----------|----------|----|
| X-P 6M  | 54 | 16.5 | 7 | 20 | 11.5 | 26.5 | 4         | 6         | 18 | 20        | 15.2     | 10 |
| X-P 8M  |    |      |   | 22 | 11.5 | 26.5 | 6         | 8         | 20 | 22        | 17.2     |    |
| X-P 10M | 74 | 25   |   | 30 | 18   | 36   | 8         | 10        | 25 | 30        | 21.2     |    |
| X-P 12M | 79 | 28   |   | 33 | 18   | 36   | 10        | 12        | 28 | 33        | 24.2     |    |
| X-P 19M | 84 | 30.5 | 8 | 43 | 20   | 38   | 16        | 19        | 36 | 43        | 32.2     | 10 |
| X-P 25M | 94 | 35.5 |   | 49 | 25   | 43   | 22        | 25        | 42 | 49        | 38.2     |    |
| X-P 4   | 54 | 16.5 | 7 | 20 | 11.5 | 26.5 | 4.35      | 6.35      | 18 | 20        | 15.2     |    |
| X-P 6   | 74 | 25   |   | 30 | 18   | 36   | 7.53      | 9.53      | 25 | 30        | 21.2     |    |
| X-P 8   | 79 | 28   |   | 33 | 18   | 36   | 9.53      | 12.7      | 28 | 33        | 24.2     |    |
| X-P 12  | 84 | 30.5 | 8 | 43 | 20   | 38   | 15.88     | 19.05     | 36 | 43        | 32.2     | 10 |
| X-P 16  | 94 | 35.5 |   | 49 | 25   | 43   | 22.2      | 25.4      | 42 | 49        | 38.2     |    |

(W寸法は6角または4角の対辺寸法)

## PE PANEL MOUNT ELBOW

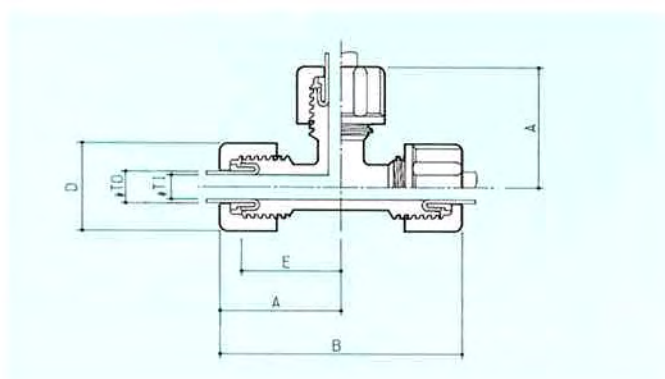


PE (パネルマウント・エルボ)

| 型 名      | A    | A'   | D  | E    | E'   | φTI   | φTO   | W    | φWP | φG   | H  |
|----------|------|------|----|------|------|-------|-------|------|-----|------|----|
| X-PE 6M  | 27.5 | 42.5 | 20 | 22.5 | 37.5 | 4     | 6     | 22   | 20  | 15.2 | 10 |
| X-PE 8M  |      | 43.5 | 22 | 22.5 | 38.5 | 6     | 8     | 24   | 22  | 17.2 |    |
| X-PE 10M | 4.35 | 58.5 | 30 | 36.5 | 51.5 | 8     | 10    | 29   | 30  | 21.2 |    |
| X-PE 12M | 48   | 68   | 33 | 38   | 68   | 10    | 12    | 33   | 33  | 24.2 |    |
| X-PE 19M | 54   | 72   | 43 | 43.5 | 61.5 | 16    | 19    | 47   | 43  | 32.2 |    |
| X-PE 25M | 64.5 | 78.5 | 49 | 54   | 68   | 22    | 25    | 48.5 | 49  | 38.2 | 10 |
| X-PE 4   | 27.5 | 42.5 | 20 | 22.5 | 37.5 | 4.35  | 6.35  | 22   | 20  | 15.2 |    |
| X-PE 6   | 43.5 | 58.5 | 30 | 36.5 | 51.5 | 7.53  | 9.53  | 29   | 30  | 21.2 |    |
| X-PE 8   | 48   | 68   | 33 | 38   | 58   | 9.53  | 12.7  | 33   | 33  | 24.2 |    |
| X-PE 12  | 54   | 72   | 43 | 43.5 | 61.5 | 15.88 | 19.05 | 47   | 43  | 32.2 |    |
| X-PE 16  | 64.5 | 78.5 | 49 | 54   | 68   | 22.2  | 25.4  | 48.5 | 49  | 38.2 |    |

(W寸法は4角の対辺又は直径寸法)

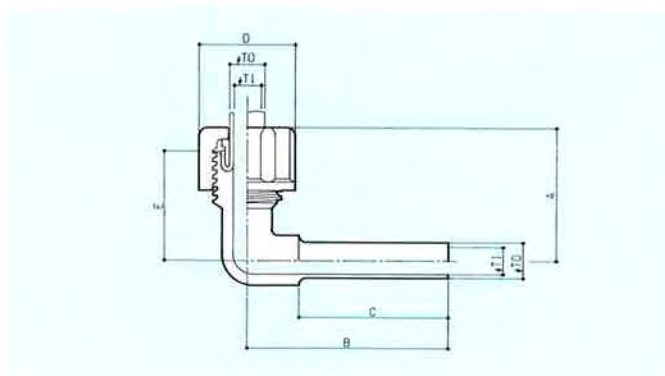
## UT UNION TEE



UT (ユニオン・ティ)

| 型 名      | A    | B   | D  | E    | φTI   | φTO   |
|----------|------|-----|----|------|-------|-------|
| X-UT 6M  | 27.5 | 55  | 20 | 22.5 | 4     | 6     |
| X-UT 8M  | 27.5 | 55  | 22 | 22.5 | 6     | 8     |
| X-UT 10M | 43.5 | 87  | 30 | 36.5 | 8     | 10    |
| X-UT 12M | 48   | 96  | 33 | 38   | 10    | 12    |
| X-UT 19M | 54   | 108 | 43 | 43.5 | 16    | 19    |
| X-UT 25M | 64.5 | 129 | 49 | 54   | 22    | 25    |
| X-UT 4   | 27.5 | 55  | 20 | 22.5 | 4.35  | 6.35  |
| X-UT 6   | 43.5 | 87  | 30 | 36.5 | 7.53  | 9.53  |
| X-UT 8   | 48   | 96  | 33 | 38   | 9.53  | 12.7  |
| X-UT 12  | 54   | 108 | 43 | 43.5 | 15.88 | 19.05 |
| X-UT 16  | 64.5 | 129 | 49 | 54   | 22.2  | 25.4  |

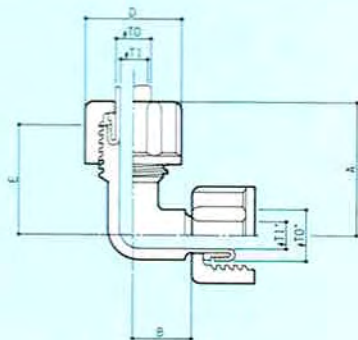
## UET UNION ELBOW TUBING



UET (ユニオン・エルボ・チューブだし)

| 型 名       | A  | B    | C  | D  | E    | φTI   | φTO   |
|-----------|----|------|----|----|------|-------|-------|
| X-UET 19M | 54 | 71.5 |    | 43 | 43.5 | 16    | 19    |
| X-UET 8   | 48 | 68   | 50 | 33 | 38   | 9.53  | 12.7  |
| X-UET 12  | 54 | 71.5 |    | 43 | 43.5 | 15.88 | 19.05 |

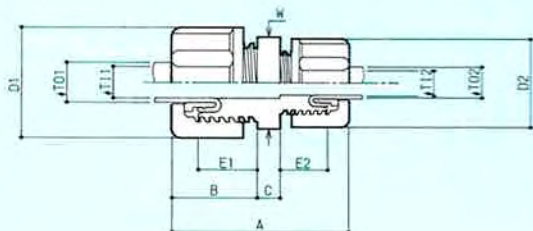
## UETS READY TUBE TURNING TYPE



UETS (施工済ユニオン・エルボ・チューブ)

| 型 名        | A  | B  | D  | E    | φT1   | φTO   | φT1'  | φTO' |
|------------|----|----|----|------|-------|-------|-------|------|
| X-UETS 19M | 54 | 24 | 43 | 43.5 | 16    | 19    | 16    | 25.5 |
| X-UETS 8   | 48 | 20 | 33 | 38   | 9.53  | 12.7  | 9.53  | 18.5 |
| X-UETS 12  | 54 | 24 | 43 | 43.5 | 15.88 | 19.05 | 15.88 | 25.5 |

## SUR STRAIGHT UNION REDUCER

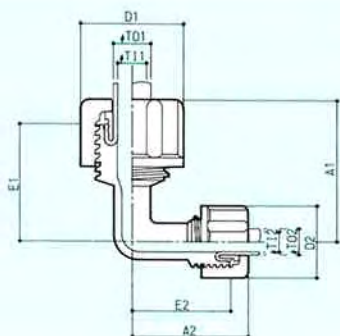


SUR (ストレート・ユニオン・リデューサー)

| 型 名           | A    | B    | C | D1 | E1   | φT11  | φT01  | D2 | E2   | φT12 | φT02 | W  |
|---------------|------|------|---|----|------|-------|-------|----|------|------|------|----|
| X-SUR 8M- 6M  | 40   | 16.5 | 7 | 22 | 11,5 | 6     | 8     | 20 | 11,5 | 4    | 6    | 20 |
| X-SUR 10M- 6M | 48.5 | 25   |   | 30 | 18   | 8     | 10    | 20 |      | 4    | 8    | 25 |
| X-SUR 10M- 8M |      | 28   |   | 33 |      | 10    | 12    | 22 | 6    | 8    |      |    |
| X-SUR 12M- 6M | 51.5 | 28   |   | 33 |      | 10    | 12    | 20 | 11,5 | 4    | 6    |    |
| X-SUR 12M- 8M | 51.5 |      |   |    |      |       |       | 22 | 11,5 | 6    | 8    |    |
| X-SUR 12M-10M | 60   |      |   |    |      |       |       | 30 | 18   | 8    | 10   |    |
| X-SUR 19M-12M | 66.5 | 30.5 | 8 | 43 | 20   | 16    | 19    | 33 | 18   | 10   | 12   | 36 |
| X-SUR 25M-12M | 71.5 | 35.5 |   | 49 | 25   | 22    | 25    | 33 | 18   | 10   | 12   | 42 |
| X-SUR 25M-19M | 74   |      |   |    |      |       |       |    |      |      |      |    |
| X-SUR 6- 4    | 48.5 | 25   | 7 | 30 | 18   | 7.53  | 9.53  | 20 | 11.5 | 4.35 | 6.35 | 25 |
| X-SUR 8- 6    | 60   | 28   |   | 33 |      | 9.53  | 12.7  | 30 | 18   | 7.53 | 9.53 | 28 |
| X-SUR 12- 6   | 63.5 | 30.5 | 8 | 43 | 20   | 15.88 | 19.05 | 30 |      | 7.53 | 9.53 | 36 |
| X-SUR 12- 8   | 66.5 |      |   |    |      |       |       | 33 |      | 9.53 | 12.7 |    |
| X-SUR 16- 8   | 71.5 | 35.5 |   | 49 | 25   | 22.2  | 25.4  | 33 | 18   | 9.53 | 12.7 | 42 |
| X-SUR 16-12   | 74   |      |   |    |      |       |       |    |      | 43   | 20   |    |

(W寸法は6角または4角の対辺寸法)

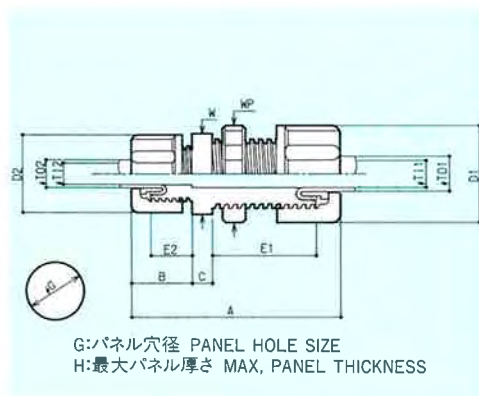
## UER UNION ELBOW REDUCER



UER (ユニオン・エルボ・リデューサー)

| 型 名           | A1   | D1 | E1   | φT11  | φT01  | A2   | D2 | E2   | φT12  | φT02  |
|---------------|------|----|------|-------|-------|------|----|------|-------|-------|
| X-UER 8M-6M   | 26.5 | 22 | 21.5 | 6     | 8     | 27.5 | 20 | 22.5 | 4     | 6     |
| X-UER 10M-6M  | 35   | 30 | 28   | 8     | 10    | 28   | 20 | 23   | 4     | 6     |
| X-UER 10M-8M  | 36   |    | 29   |       |       | 26.5 | 22 | 21.5 | 6     | 8     |
| X-UER 12M-6M  | 38   | 33 | 28   | 10    | 12    | 29.5 | 20 | 24.5 | 4     | 6     |
| X-UER 12M-8M  | 39   |    | 29   |       |       | 29.5 | 22 | 24.5 | 6     | 8     |
| X-UER 12M-10M | 48   |    | 38   |       |       | 43.5 | 30 | 36.5 | 8     | 10    |
| X-UER 19M-12M | 54   | 43 | 43.5 | 16    | 19    | 50   | 33 | 38   | 10    | 12    |
| X-UER 25M-12M | 52.5 | 49 | 42   | 22    | 25    | 47   | 33 | 38   | 10    | 12    |
| X-UER 25M-19M | 57   |    | 46.5 |       |       | 50.5 | 43 | 40   | 16    | 19    |
| X-UER 6-4     | 35   | 30 | 28   | 7.53  | 9.53  | 28   | 20 | 23   | 4.35  | 6.35  |
| X-UER 8-6     | 48   | 33 | 38   | 9.53  | 12.7  | 43.5 | 30 | 36.5 | 7.53  | 9.53  |
| X-UER 12-6    | 46.5 | 43 | 36   | 15.88 | 19.05 | 42   | 30 | 35   | 7.53  | 9.53  |
| X-UER 12-8    | 54   |    | 43.5 |       |       | 50   | 33 | 38   | 9.53  | 12.7  |
| X-UER 16-8    | 52.5 | 49 | 42   | 22.2  | 25.4  | 47   | 33 | 38   | 9.53  | 12.7  |
| X-UER 16-12   | 57   |    | 46.5 |       |       | 50.5 | 43 | 40   | 15.88 | 19.05 |

## PR PANEL MOUNT REDUCER

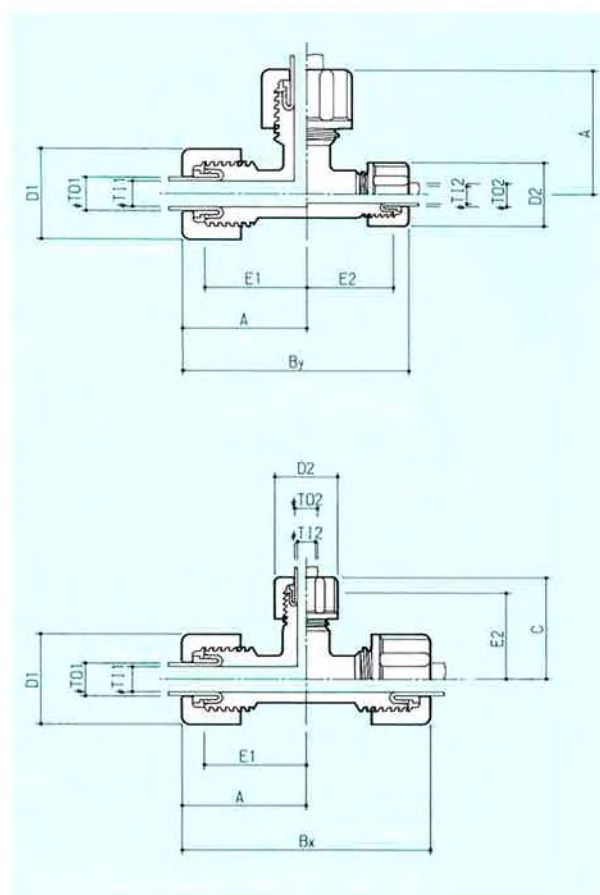


PR(パネルマウント・リデューサー)

| 型 名                                          | A                  | B                  | C | D1       | E1   | φT11         | φTO1           | D2                | E2                 | φT12          | φTO2          | W        | φWP      | φG           | H  |
|----------------------------------------------|--------------------|--------------------|---|----------|------|--------------|----------------|-------------------|--------------------|---------------|---------------|----------|----------|--------------|----|
| X-PR 8M- 6M                                  | 54                 | 16.5               | 7 | 22       | 26.5 | 6            | 8              | 20                | 11.5               | 4             | 6             | 20       | 22       | 17.5         | 10 |
| X-PR 10M- 6M<br>X-PR 10M- 8M                 | 65.5               |                    |   | 30       | 36   | 8            | 10             | 20<br>22          |                    | 4<br>6        | 6<br>8        | 25       | 30       | 21.2         |    |
| X-PR 12M- 6M<br>X-PR 12M- 8M<br>X-PR 12M-10M | 69.5<br>69.5<br>78 | 16.5<br>16.5<br>25 |   | 33       |      | 10           | 12             | 20<br>22<br>30    | 11.5<br>11.5<br>18 | 4<br>6<br>8   | 6<br>8<br>10  | 28       | 33       | 24.2         |    |
| X-PR 19M-12M                                 | 84.5               | 28                 |   | 8        | 43   | 38           | 16             | 19                | 33                 | 18            | 10            | 12       | 36       | 43           |    |
| X-PR 25M-12M<br>X-PR 25M-19M                 | 89.5<br>92         | 28<br>30.5         | 8 | 49       | 43   | 25           | 22             | 33<br>43          | 18<br>20           | 10<br>16      | 12<br>19      | 42       | 49       | 38.2         | 10 |
| X-PR 6- 4<br>X-PR 8- 6                       | 65.5<br>78         | 16.5<br>25         | 7 | 30<br>33 | 36   | 7.53<br>9.53 | 9.53<br>12.7   | 20<br>30          | 18                 | 4.35<br>7.53  | 6.35<br>9.53  | 25<br>28 | 30<br>33 | 21.2<br>24.2 |    |
| X-PR 12- 6<br>X-PR 12- 8                     | 81.5<br>84.5       | 25<br>28           | 8 | 43       |      | 38           | 15.88<br>19.05 | 19.05<br>30<br>33 |                    | 7.53<br>9.53  | 9.53<br>12.7  | 36       | 43       | 32.2         |    |
| X-PR 16- 8<br>X-PR 16-12                     | 89.5<br>92         | 28<br>30.5         | 8 | 49       | 43   | 22.2         | 25.4           | 33<br>43          | 18<br>20           | 9.53<br>15.88 | 12.7<br>19.05 | 42       | 49       | 38.2         |    |

(W寸法は6角または4角の対辺寸法)

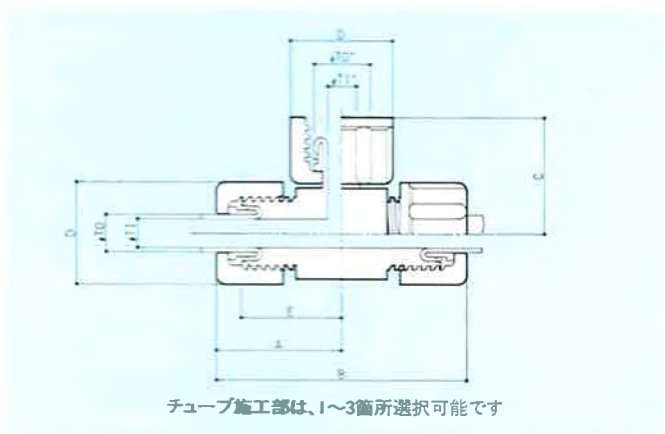
## UTR UNION TEE REDUCER



UTR(ユニオン・ティ・リデューサー)

| 型 名                                                                                                                        | A                                    | Bx                            | C                                 | D1 | E1                                   | φT11  | φTO1  | By                                | D2                               | E2                                       | φT12                           | φTO2                           |
|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------|-----------------------------------|----|--------------------------------------|-------|-------|-----------------------------------|----------------------------------|------------------------------------------|--------------------------------|--------------------------------|
| X-UTR 8M- 6M- 8M<br>X-UTR 8M- 8M- 6M                                                                                       | 26.5<br>28.5                         | 53                            | 26                                | 22 | 21.5<br>23.5                         | 6     | 8     | —<br>57                           | 20                               | 21<br>23.5                               | 4                              | 6                              |
| X-UTR 10M- 6M-10M<br>X-UTR 10M-10M- 6M<br>X-UTR 10M- 8M-10M<br>X-UTR 10M-10M- 8M                                           | 35<br>38.5<br>36<br>38.5             | 70                            | 28                                | 30 | 28<br>31.5<br>29<br>28               | 8     | 10    | —<br>66.5<br>—<br>66.5            | 20<br>20<br>22<br>22             | 23<br>—<br>—<br>—                        | 4<br>4<br>6<br>6               | 6<br>6<br>8<br>8               |
| X-UTR 12M- 6M-12M<br>X-UTR 12M-12M- 6M<br>X-UTR 12M- 8M-12M<br>X-UTR 12M-12M- 8M<br>X-UTR 12M-10M-12M<br>X-UTR 12M-12M-10M | 38<br>48<br>39<br>43.5<br>44<br>43.5 | 76<br>—<br>78<br>—<br>88<br>— | 29.5<br>—<br>29.5<br>—<br>38<br>— | 33 | 28<br>38<br>29<br>33.5<br>34<br>33.5 | 10    | 12    | —<br>84.5<br>—<br>73.5<br>—<br>82 | 20<br>20<br>22<br>22<br>30<br>30 | 24.5<br>31.5<br>24.5<br>24.5<br>31<br>31 | 4<br>4<br>6<br>6<br>8<br>8     | 6<br>6<br>8<br>8<br>10<br>10   |
| X-UTR 19M-12M-19M<br>X-UTR 19M-19M-12M                                                                                     | 54<br>54                             | 108                           | 48                                | 43 | 43.5                                 | 16    | 19    | —<br>102                          | 33                               | 38                                       | 10                             | 12                             |
| X-UTR 25M-12M-25M<br>X-UTR 25M-25M-19M<br>X-UTR 25M-19M-25M<br>X-UTR 25M-25M-19M                                           | 52.5<br>58.5<br>57<br>59             | 105<br>—<br>114<br>—          | 47<br>—<br>50.5<br>—              | 49 | 42<br>48<br>46.5<br>48.5             | 22    | 25    | —<br>106.5<br>—<br>111            | 33<br>33<br>43<br>43             | 38<br>38<br>40<br>41.5                   | 10<br>10<br>16<br>16           | 12<br>12<br>19<br>19           |
| X-UTR 6- 4- 6<br>X-UTR 6- 6- 4                                                                                             | 35<br>38.5                           | 70                            | 28                                | 30 | 28<br>31.5                           | 7.53  | 9.53  | —<br>66.5                         | 20                               | 23                                       | 4.35                           | 6.35                           |
| X-UTR 8- 4- 8<br>X-UTR 8- 8- 4<br>X-UTR 8- 6- 8<br>X-UTR 8- 8- 6                                                           | 38<br>48<br>44<br>43.5               | 76<br>—<br>88<br>—            | 29.5<br>—<br>38<br>—              | 33 | 28<br>38<br>34<br>33.5               | 9.53  | 12.7  | —<br>84.5<br>—<br>82              | 20<br>20<br>30<br>30             | 24.5<br>31.5<br>31<br>31                 | 4.35<br>4.35<br>7.53<br>7.53   | 6.35<br>6.35<br>9.53<br>9.53   |
| X-UTR 12- 6-12<br>X-UTR 12-12- 6<br>X-UTR 12- 8-12<br>X-UTR 12-12- 8                                                       | 46.5<br>51<br>54<br>54               | 93<br>—<br>108<br>—           | 42<br>—<br>48<br>—                | 43 | 36<br>40.5<br>43.5<br>43.5           | 15.88 | 19.05 | —<br>95.5<br>—<br>102             | 30<br>30<br>33<br>33             | 35<br>33.5<br>38<br>38                   | 7.53<br>7.53<br>9.53<br>9.53   | 9.53<br>9.53<br>12.7<br>12.7   |
| X-UTR 16- 8-16<br>X-UTR 16-16- 8<br>X-UTR 16-12-16<br>X-UTR 16-16-12                                                       | 52.5<br>58.5<br>64.5<br>64.5         | 105<br>—<br>129<br>—          | 47<br>—<br>59.5<br>—              | 49 | 42<br>48<br>54<br>54                 | 22.2  | 25.4  | —<br>106.5<br>—<br>124            | 33<br>33<br>43<br>43             | 38<br>38<br>49<br>49                     | 9.53<br>9.53<br>15.88<br>15.88 | 12.7<br>12.7<br>19.05<br>19.05 |

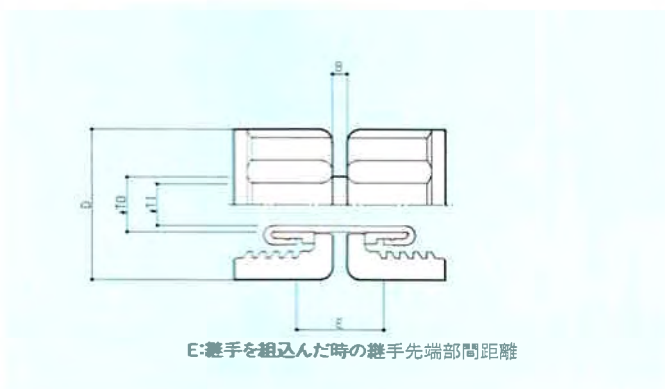
## UTT UNION TEE TUBING



UTT (ユニオン・ティ・チューブだし)

| 型 名      | A    | B   | C    | D  | E    | $\phi$ TI | $\phi$ TO | $\phi$ TI' | $\phi$ TO' |
|----------|------|-----|------|----|------|-----------|-----------|------------|------------|
| X-UTT 4  | 22.5 | 45  | 27   | 20 | 17.5 | 3.96      | 6.35      | 3.96       | 10.5       |
| X-UTT 6  | 32.5 | 65  | 40   | 30 | 25.5 | 6.35      | 9.53      | 6.35       | 15.5       |
| X-UTT 8  | 35.5 | 71  | 37.5 | 33 | 25.5 | 9.53      | 12.7      | 9.53       | 18.5       |
| X-UTT 12 | 42   | 84  | 49.5 | 43 | 31.5 | 15.88     | 19.05     | 15.88      | 25.5       |
| X-UTT 16 | 50   | 100 | 56.5 | 49 | 39.5 | 22.2      | 25.4      | 22.26      | 31.5       |

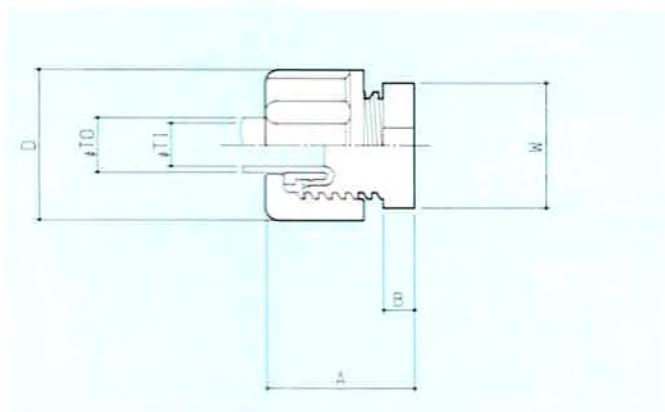
## ST SHORT LENGTH TUBE



ST (施工済短管)

| 型 名     | B | D  | E  | $\phi$ TI | $\phi$ TO |
|---------|---|----|----|-----------|-----------|
| X-ST 4  | 3 | 20 | 13 | 3.96      | 6.35      |
| X-ST 6  | 3 | 30 | 17 | 6.35      | 9.53      |
| X-ST 8  | 3 | 33 | 23 | 9.53      | 12.7      |
| X-ST 12 | 3 | 43 | 24 | 15.88     | 19.05     |
| X-ST 16 | 3 | 49 | 24 | 22.2      | 25.4      |

## TS TUBING STOP

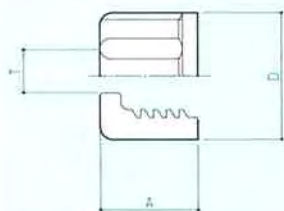


TS (チューブ・ストップ)

| 型 名      | A    | B | D  | $\phi$ TI | $\phi$ TO | W  |
|----------|------|---|----|-----------|-----------|----|
| X-TS 6M  | 23.5 | 7 | 20 | 4         | 6         | 18 |
| X-TS 8M  |      |   | 22 | 6         | 8         | 20 |
| X-TS 10M | 32   |   | 30 | 8         | 10        | 25 |
| X-TS 12M | 35   |   | 33 | 10        | 12        | 28 |
| X-TS 19M | 38.5 | 8 | 43 | 16        | 19        | 36 |
| X-TS 25M | 43.5 |   | 49 | 22        | 25        | 42 |
| X-TS 4   | 23.5 | 7 | 20 | 4.35      | 6.35      | 18 |
| X-TS 6   | 32   |   | 30 | 7.53      | 9.53      | 25 |
| X-TS 8   | 35   |   | 33 | 9.53      | 12.7      | 28 |
| X-TS 12  | 38.5 | 8 | 43 | 15.88     | 19.05     | 36 |
| X-TS 16  | 43.5 |   | 49 | 22.2      | 25.4      | 42 |

(W寸法は6角または4角の対辺寸法)

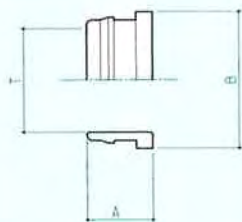
## F NUT



F(ナット)

| 型 名     | A  | D  | T    |
|---------|----|----|------|
| X-F 6M  | 14 | 20 | 6.2  |
| X-F 8M  |    | 22 | 8.2  |
| X-F 10M | 22 | 30 | 10.2 |
| X-F 12M |    | 33 | 12.2 |
| X-F 19M | 25 | 43 | 19.2 |
| X-F 25M | 29 | 49 | 25.2 |
| X-F 4   | 14 | 20 | 6.5  |
| X-F 6   | 22 | 30 | 9.7  |
| X-F 8   |    | 33 | 12.9 |
| X-F 12  | 25 | 43 | 19.2 |
| X-F 16  | 29 | 49 | 25.6 |

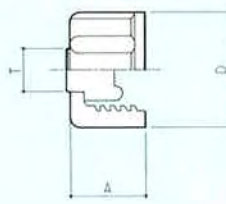
## FS FERRULE



FS(フェルール)

| 型 名      | A   | B  | T    |
|----------|-----|----|------|
| X-FS 6M  | 7   | 10 | 6.1  |
| X-FS 8M  | 7   | 12 | 8.1  |
| X-FS 10M | 9   | 15 | 10.1 |
| X-FS 12M | 9.5 | 18 | 12.1 |
| X-FS 19M | 12  | 25 | 19.1 |
| X-FS 25M | 12  | 31 | 25.1 |
| X-FS 4   | 7   | 10 | 6.4  |
| X-FS 6   | 9   | 15 | 9.6  |
| X-FS 8   | 9.5 | 18 | 12.8 |
| X-FS 12  | 12  | 25 | 19.1 |
| X-FS 16  | 12  | 31 | 25.5 |

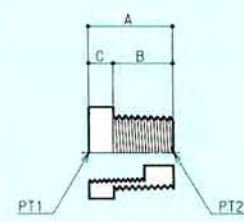
## FP FITTING PLUG



FP(フィッティング・プラグ)

| 型 名      | A  | D  | T     |
|----------|----|----|-------|
| X-FP 6M  | 14 | 20 | 6     |
| X-FP 8M  |    | 22 | 8     |
| X-FP 10M | 22 | 30 | 10    |
| X-FP 12M |    | 33 | 12    |
| X-FP 19M | 25 | 43 | 19    |
| X-FP 25M | 29 | 49 | 25    |
| X-FP 4   | 14 | 20 | 6.35  |
| X-FP 6   | 22 | 30 | 9.53  |
| X-FP 8   |    | 33 | 12.7  |
| X-FP 12  | 25 | 43 | 19.05 |
| X-FP 16  | 29 | 49 | 25.4  |

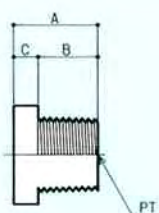
## B BUSHING



B(ブッシング)

| 型 名         | A  | B  | C  | PT1 | PT2 |
|-------------|----|----|----|-----|-----|
| X-B 4P- 2P  | 19 | 12 | 7  | 1/8 | 1/4 |
| X-B 6P- 4P  | 21 | 13 | 8  | 1/4 | 3/8 |
| X-B 8P- 4P  | 25 | 17 | 8  | 1/4 | 1/2 |
| X-B 8P- 6P  | 25 | 17 | 8  | 3/8 | 1/2 |
| X-B 12P- 4P | 27 | 18 | 9  | 1/4 | 3/4 |
| X-B 12P- 6P | 27 | 18 | 9  | 3/8 | 3/4 |
| X-B 12P- 8P | 27 | 18 | 9  | 1/2 | 3/4 |
| X-B 16P- 4P | 35 | 25 | 10 | 1/4 | 1   |
| X-B 16P- 6P | 35 | 25 | 10 | 3/8 | 1   |
| X-B 16P- 8P | 35 | 25 | 10 | 1/2 | 1   |
| X-B 16P-12P | 35 | 25 | 10 | 3/4 | 1   |

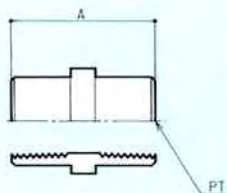
## PG PLUG



PG(プラグ)

| 型 名      | A  | B  | C  | PT  |
|----------|----|----|----|-----|
| X-PG 4P  | 19 | 12 | 7  | 1/4 |
| X-PG 6P  | 21 | 13 | 8  | 3/8 |
| X-PG 8P  | 25 | 17 | 8  | 1/2 |
| X-PG 12P | 27 | 18 | 9  | 3/4 |
| X-PG 16P | 35 | 25 | 10 | 1   |

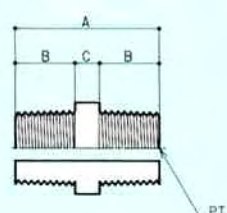
## CP COUPLING



CP(カップリング)

| 型 名     | A  | PT  |
|---------|----|-----|
| X-CP 4P | 34 | 1/4 |
| X-CP 6P | 38 | 3/8 |
| X-CP 8P | 46 | 1/2 |
| X-CP12P | 50 | 3/4 |
| X-CP16P | 58 | 1   |

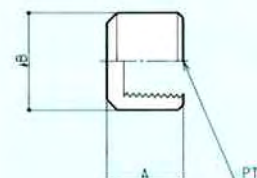
## N NIPPLE



N(ニップル)

| 型 名     | A  | B  | C  | PT  |
|---------|----|----|----|-----|
| X-N 4P  | 31 | 12 | 7  | 1/4 |
| X-N 6P  | 34 | 13 | 8  | 3/8 |
| X-N 8P  | 42 | 17 | 8  | 1/2 |
| X-N 12P | 45 | 18 | 9  | 3/4 |
| X-N 16P | 60 | 25 | 10 | 1   |

## C CAP



C(キャップ)

| 型 名     | A  | B  | PT  |
|---------|----|----|-----|
| X-C 4P  | 22 | 20 | 1/4 |
| X-C 6P  | 24 | 23 | 3/8 |
| X-C 8P  | 30 | 30 | 1/2 |
| X-C 12P | 32 | 35 | 3/4 |
| X-C 16P | 36 | 50 | 1   |

# その他周辺関連部品

Connection to other related components

## バルブ (VALVE)

当社製ストップコック、ニードルバルブの他、エアオペレートバルブ及び手動バルブのいずれも各バルブメーカーのものに対応できます。

Our joints can be connectable to our STOP-COCK and NEEDLE-VALVE, and AIR-OPERATED VALVES and MANUAL-VALVES of any other makers.

## フィルター (FILTER)

フィルターは、各社のチューブ出しフィルターへ対応できます。施工は専用治具をご使用下さい。

Also connectable to filters with tubing of any other makers.

Our special operating tools are needed.

## PFAチューブ (PFA TUBE)

| インチチューブサイズ(OD×ID)<br>INCH TUBE SIZE | 長さ    | ミリチューブサイズ(OD×ID)<br>MM TUBE SIZE | 長さ    |
|-------------------------------------|-------|----------------------------------|-------|
| φ 1/4" (6.35mm×3.96mm)              | 10m単位 | 6×4                              | 10m単位 |
| φ 1/4" (6.35mm×4.35mm)              | 10m単位 | 8×6                              | 10m単位 |
| φ 3/8" (9.53mm×6.35mm)              | 10m単位 | 10×8                             | 10m単位 |
| φ 3/8" (9.53mm×7.53mm)              | 10m単位 | 12×10                            | 10m単位 |
| φ 1/2" (12.70mm×9.53mm)             | 10m単位 | 19×16                            | 10m単位 |
| φ 3/4" (19.05mm×15.88mm)            | 10m単位 | 25×22                            | 10m単位 |
| φ 1 " (25.4mm×22.2mm)               | 10m単位 |                                  |       |

上記規格以外のチューブのご使用にあたっては別途ご相談下さい  
Please contact us for information on tubes not shown in this table.

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