## Modular Blue Piping

High quality, lightweight aluminum piping and accessories to compliment our Perfect Air ${ }^{\circledR}$ line! Easy to install, easy to change, no welding needed. This system helps reduce installation time and labor costs.


## A wide variety of accessories are available, making installation a breeze!

## Understanding the Modular Blue Piping Part Numbering System

| RTi + | P - Pipe |  |  | Example: |
| :---: | :---: | :---: | :---: | :---: |
|  | NS - Nipple Socket |  | $\begin{aligned} & 12-1 / 2 " 1 \\ & 34-3 / 4^{" 1} \end{aligned}$ |  |
|  |  | + | 1-1" |  |
|  | E90-90 ${ }^{\circ}$ Elbow |  | $114-1 \frac{1}{4} 4$ | 90․ Elbow in 1⁄2": RTI-E90-12 <br> 1" Alum. Piping (19'): RTI-P1-20 |
|  | RT - Reducing Tee |  | 112-11/2" |  |

# Why Aluminum Piping for Compressed Air Systems? 

## Lower Installation Costs

More time is needed to install a compressed air system when using steel pipe compared to installing a system using other materials.

One factor behind this is that steel pipe must be threaded in order to join pipes and install the proper fittings. To properly thread steel pipe, you need special threading equipment and skilled workers to operate it. These workers cost more than unskilled workers, and that drives up installation costs.

Also remember that threading pipes is dirty work. You need cutting fluids to get a good thread, and that must be cleaned from the pipe before you can start using the system. Threading also creates a lot of debris.

Modifying and maintaining a compressed air system made with steel pipe is more difficult than modifying and maintaining systems built from other materials. One reason for this is that steel pipe is much heavier than other materials. Because steel pipe is so heavy, it requires more labor (read as higher labor costs) to handle the piping while making modifications than it would to make modifications to a system made with other piping materials.

## Reduced System Leaks

Another issue with threaded connections is that they will inevitably leak. It's been estimated that 8 to $10 \%$ of the compressed air in a system will leak through threaded connections. This causes compressors to run harder and longer, driving up utility costs.

## Doesn't Corrode

A common problem with using steel pipe is that moisture inside the system will cause pipes to rust from the inside out. Even if your compressed air system has a moisture trap, there will be some moisture in the system and corrosion will occur. Even galvanized steel pipe will corrode since not all pipes are galvanized both inside and out.

Corrosion causes several problems, beginning with air flow restricted by a rough inner surface caked with deposits caused by corrosion build up. Additionally, loose scale deposits collect over time and create pressure drops. This makes the air compressor work harder to maintain the pressure of the system. In extreme cases, loose scale can completely clog a line or damage equipment connected to a line. Of course, corrosion and loose scale affects air quality and makes it unsuitable for applications that require clean air.

## The Case for Aluminum Piping

- Aluminum pipe systems are much easier to install and to modify than steel or copper pipe systems. Labor savings of $50 \%$ can be achieved, since aluminum pipe is supplied ready for use. Preparations beyond cutting, deburring, and chamfering are not required, nor are special tools needed. Aluminum pipe is calibrated, meaning that its diameter is strictly controlled. This means that associated quick connect components will fit securely.
- Aluminum pipe is much lighter than steel or copper pipe and doesn't require threading or soldering.
- The compressed air provided by a system built with aluminum piping is much cleaner than air delivered by a steel pipe system. Aluminum pipe systems can help meet the requirements of ISO 8573-1: 2010 air quality standards, should the application require it. Cleaner air also means lower maintenance costs.
- Aluminum pipe's corrosion-resistant properties mean optimal air flow, reduced energy costs, and better air quality.
- The fittings used with aluminum pipe systems fit securely and leak far less than the fittings used with threaded systems. This translates directly into energy savings and improved plant productivity.

| Material | Advantages | Disadvantages | Connection <br> Methods |
| :---: | :---: | :---: | :---: |
| $\square$ <br> Black Pipe | Low cost components <br> Readily available <br> Rated to high pressure <br> Established (old) technology | Labor intensive Corrosion problems Prone to leaks Costly to repair Not easily modified Safety concerns | Threaded Welded Grooved Crimped |
| Galvanized Steel | Low cost components <br> Readily available <br> Rated to high pressure <br> Established (old) technology | Labor intensive <br> Corrosion problems Prone to leaks Costly to repair/Safety Concerns Not easily modified | Threaded Welded Grooved Crimped |
| Copper | Low cost components <br> Readily available <br> Resistant to corrosion <br> Established (old) technology | Labor intensive Prone to leaks costly to repair Not easily modified Safety concerns | 5 oldered <br> Quick connect <br> Crimped |
|  | Low cost components Readily available Resistant to corrosion ughtweight | Labor intensive <br> Prone to leaks <br> Costly to repair (labor) incompatibility issues Safety concerns | Glued <br> Fused Quick Connect |
| Extruded Aluminum | Corrosion resistant//ow pressure drop Lightweight/Dimensional integrity Resistant to mechanical shocks Easy to install and modify | Material cost <br> Thermal expansion/contraction Lower pressure rating | Welded Grooved Quick Connect |
| Stainless Steel | Corrosion resistant/how pressure drop Chemical compatibility <br> Rated to high pressure | Labor intensive <br> Material costs <br> Costly to repair (labor) <br> Safety concerns | Threaded <br> Welded <br> Grooved <br> Crimped <br> Quick Connect |

[^0] Plant Engineering. Retrieved from http://bit.ly/1rAGkyz

# How does RTi Blue Piping Stack Up Compared to the Other Systems Available? 

RTi Blue Piping

Competition
Copper

Full Bore Design<br>$\qquad$<br>Saves energy (A 14.5\% pressure drop uses 10\% additional energy), more flow available

## Lower Install Costs <br> One third the labor costs

YES
YES NO

Light-weight Piping YES NO
Easier installation

Modular Design
YES
Removable and reusable

Loop Built into Mainline Header Drops
YES NO
No need to build loops in mainline header
30-35\% Installed Cost Savings YES ..... NOMore storage space, less friction, no leaks,

## Exclusive Benefits of RTi Blue Piping?

| RTi Blue Piping Has: | Competitor? |
| ---: | :--- |
| $1 / 2^{\prime \prime}$ Piping for Drops? | NO Smallest size $3 / 4^{\prime \prime \prime}$ |
| $11 / 4^{\prime \prime}$ Piping \& Connectors? | NO Only $1 \frac{1}{4 \prime \prime}$ for mainline |
| $1 \mathbf{1 9}^{\prime}$ Piping Lengths? | NO Only $20^{\prime}$ lengths |
| Interchangeable with Prevost ${ }^{\text {TM } ? ~}$ | YES |
| Single port manifold with an |  |
| integral ball valve? | NO |

## Aluminum Pipe

| Part Number | Sizing |  |
| :---: | :---: | :---: |
| RTI-P34-20 | 20 mm | $3 / 4^{\prime \prime}$ |
| RTI-P1-20 | 25 mm | $1^{\prime \prime}$ |
| RTI-P114-20 | 32 mm | $1 \frac{1}{4} 4^{\prime \prime}$ |
| RTI-P112-20 | 40 mm | $1 \frac{1122^{\prime \prime}}{}$ |
| RTI-P2-20 | 50 mm | $2^{\prime \prime}$ |
| RTI-P212-20 | 63 mm | $21 / 22^{\prime \prime}$ |
| RTI-P12-13 | 16 mm | $1 / 2^{\prime \prime}$ |

## Couplers

| Part Number | Sizing |  |
| :---: | :---: | :---: |
| RTI-PC12 | 16 mm | $1 / 2 "$ |
| RTI-PC34 | 20 mm | $3 / 4^{\prime \prime}$ |
| RTI-PC1 | 25 mm | $11^{\prime \prime}$ |
| RTI-PC114 | 32 mm | $11 / 4^{\prime \prime}$ |
| RTI-PC112 | 40 mm | $11 / 2^{\prime \prime}$ |
| RTI-PC2 | 50 mm | $2^{\prime \prime}$ |
| RTI-PC212 | 63 mm | $21 / 2^{\prime \prime}$ |

End Caps


| Part Number | Sizing |  |
| :--- | :--- | :--- |
| RTI-EC12 | 16 mm | $1 / 2^{\prime \prime}$ |
| RTI-EC34 | 20 mm | $3 / 4^{\prime \prime}$ |
| RTI-EC1 | 25 mm | 1 1" |
| RTI-EC114 | 32 mm | $11 / 4^{\prime \prime}$ |
| RTI-EC112 | 40 mm | $11 / 22^{\prime \prime}$ |
| RTI-EC2 | 50 mm | $2 " 1$ |
| RTI-EC212 | 63 mm | $21 / 22^{\prime \prime}$ |

## $45^{\circ}$ Elbow



| Part Number | Sizing |  |
| :--- | :--- | :--- |
| RTI-E45-34 | 20 mm | $3 / 4^{\prime \prime}$ |
| RTI-E45-1 | 25 mm | $11^{\prime \prime}$ |
| RTI-E45-114 | 32 mm | $1 \frac{1}{1} 4^{\prime \prime}$ |
| RTI-E45-112 | 40 mm | $1 \frac{1}{2 \prime \prime}$ |
| RTI-E45-2 | 50 mm | $22^{\prime \prime}$ |
| RTI-E45-212 | 63 mm | $21 / 2^{\prime \prime}$ |

Double Bend Aluminum Pipe

| Part Number | Sizing |  |
| :---: | :---: | :---: |
| RTI-DB12 | 16 mm | $1 / 22^{\prime \prime}$ |
| RTI-DB34 | 20 mm | $3 / 4^{\prime \prime}$ |
| RTI-DB1 | 25 mm | $1^{\prime \prime}$ |

## Reduction Coupler

| Part Number | Sizing |  |
| :---: | :---: | :---: |
| RTI-RC1-34 | $25 \mathrm{~mm} \times 20 \mathrm{~mm}$ | 1" x 3/4" |
| RTI-RC114-1 | $32 \mathrm{~mm} \times 25 \mathrm{~mm}$ | $11 / 4 " \times 1 "$ |
| RTI-RC112-1 | $40 \mathrm{~mm} \times 25 \mathrm{~mm}$ | $11 / 2 " \times 1 "$ |
| RTI-RC112-114 | $40 \mathrm{~mm} \times 32 \mathrm{~mm}$ | $1^{1 / 2 "} \times 1 \frac{1}{4 \prime}{ }^{\prime \prime}$ |
| RTI-RC2-112 | $50 \mathrm{~mm} \times 40 \mathrm{~mm}$ | 2" x 1112 " |

$90^{\circ}$ Elbow

| Part Number | Sizing |  |
| :---: | :---: | :---: |
| RTI-E90-12 | 16 mm | 1/2" |
| RTI-E90-34 | 20 mm | 3/4" |
| RTI-E90-1 | 25 mm | 1" |
| RTI-E90-114 | 32 mm | $11 / 4 "$ |
| RTI-E90-112 | 40 mm | $11 / 2{ }^{1}$ |
| RTI-E90-2 | 50 mm | 2" |
| RTI-E90-212 | 63 mm | $21 / 2 "$ |

Aluminum $90^{\circ}$ Male NPT x Pipe

| Part Number | Sizing |  |
| :--- | :--- | :--- |
| RTI-E90A-34-12 | $20 \mathrm{~mm} \times 1 / 22^{\prime \prime}$ NPT | $3 / 4^{\prime \prime} \times 1 / 22^{\prime \prime}$ |
| RIT-E90A-1-12 | $25 \mathrm{~mm} \times 1 / 2^{\prime \prime}$ NPT | $1^{\prime \prime} \times 1 / 22^{\prime \prime}$ |
| RTI-E90A-1-34 | $25 \mathrm{~mm} \times 3 / 4^{\prime \prime}$ NPT | $1^{\prime \prime} \times 3 / 44^{\prime \prime}$ |

Equal Tee

| Part <br> Number | Sizing |  |
| :--- | :--- | :--- |
| RTI-T12 | 16 mm | $1 / 2^{\prime \prime}$ |
| RTI-T34 | 20 mm | $3 / 4^{\prime \prime}$ |
| RTI-T1 | 25 mm | 1 " |
| RTI-T114 | 32 mm | $11 / 4 "$ |
| RTI-T112 | 40 mm | $111 / 2^{\prime \prime}$ |
| RTI-T2 | 50 mm | 2 " |
| RTI-T212 | 63 mm | $21 / 2^{\prime \prime}$ |

Female NPT Tee

| Part Number | Sizing |  |
| :--- | :--- | :--- |
| RTI-FT34-12 | $20 \mathrm{~mm} \times 1 / 22^{\prime \prime}$ NPT | $3 / 4 " \times 1 / 2 "$ |
| RTI-FT1-12 | $25 \mathrm{~mm} \times 1 / 22^{\prime \prime}$ NPT | 1 " $\times 1 / 2 "$ |



Reducing Tee


| Part Number | Sizing |  |
| :---: | :---: | :---: |
| RTI-RT34-12 | $20 \mathrm{~mm} \times 16 \mathrm{~mm}$ | $3 / 4{ }^{\prime \prime} \times 1 / 2{ }^{1 /}$ |
| RTI-RT1-12 | $25 \mathrm{~mm} \times 16 \mathrm{~mm}$ | $1^{\prime \prime} \times 1 / 2^{\prime \prime}$ |
| RTI-RT1-34 | $25 \mathrm{~mm} \times 20 \mathrm{~mm}$ | 1" ${ }^{3 / 4}{ }^{\prime \prime}$ |
| RTI-RT114-34 | $32 \mathrm{~mm} \times 20 \mathrm{~mm}$ | $11 / 4 " x 3 / 4{ }^{\prime \prime}$ |
| RTI-RT114-1 | $32 \mathrm{~mm} \times 25 \mathrm{~mm}$ | $11 / 4 \mathrm{4} \times 1{ }^{\prime \prime}$ |
| RTI-RT112-1 | $40 \mathrm{~mm} \times 25 \mathrm{~mm}$ | $11 / 2{ }^{1 / 2} \times 1$ |
| RTI-RT112-114 | $40 \mathrm{~mm} \times 32 \mathrm{~mm}$ | $11 / 2^{\prime \prime} \times 11 / 4^{\prime \prime}$ |
| RTI-RT2-114 | $50 \mathrm{~mm} \times 32 \mathrm{~mm}$ | 2" x $11 / 4$ " |
| RTI-RT2-112 | $50 \mathrm{~mm} \times 40 \mathrm{~mm}$ | 2" x $11 / 2$ " |
| RTI-RT212-112 | $63 \mathrm{~mm} \times 40 \mathrm{~mm}$ | $21 / 2^{\prime \prime} \times 1 \frac{1}{1 / 2}$ |
| RTI-RT212-2 | $63 \mathrm{~mm} \times 50 \mathrm{~mm}$ | 21/2" $\times 2^{\prime \prime}$ |

Nipple Socket, Male NPT

| Part Number | Sizing |  |
| :---: | :---: | :---: |
| RTI-NS12-12 | $16 \mathrm{~mm} \times 1 / 2 \mathrm{~L}$ NPT | $1 / 2{ }^{17} \times 1 / 2^{\prime \prime}$ |
| RTI-NS34-12 | $20 \mathrm{~mm} \times 1 / 2 \mathrm{k}$ NPT | $3 / 44^{11} \times 1 / 2^{\prime \prime}$ |
| RTI-NS34-34 | $20 \mathrm{~mm} \times 3 / 44^{\prime \prime}$ NPT | $3 / 44^{\prime \prime} \times 1 / 4^{\prime \prime}$ |
| RTI-NS1-12 | $25 \mathrm{~mm} \times 1 / 22^{\prime \prime}$ NPT | $1^{\prime \prime} \times 1 / 2{ }^{\prime \prime}$ |
| RTI-NS1-34 | $25 \mathrm{~mm} \times 3 / 4 \mathrm{4}$ NPT | $1{ }^{\prime \prime} \times 3 / 4 "$ |
| RTI-NS1-1 | $25 \mathrm{~mm} \times 1$ 1" NPT | 1" x 1" |
| RTI-NS114-1 | $32 \mathrm{~mm} \times 1{ }^{\text {" NPT }}$ | $1^{1 / 4 " 1} \times 1 "$ |
| RTI-NS114-114 | $32 \mathrm{~mm} \times 11 / 4 \mathrm{4}$ NPT | $11 / 4 "$ x $11 / 4 "$ |
| RTI-NS112-1 | $40 \mathrm{~mm} \times 1{ }^{\text {" }}$ NPT | $11 / 2^{\prime \prime} \times 1{ }^{\prime \prime}$ |
| RTI-NS112-114 | $40 \mathrm{~mm} \times 11 / 4{ }^{\text {" }}$ NPT | $11^{1 / 2} 2^{\prime \prime} \times 11 / 4^{\prime \prime}$ |
| RTI-NS112-112 | $40 \mathrm{~mm} \times 11 / 2^{\prime \prime}$ NPT | $11 / 2^{\prime \prime} \times 1 \frac{1}{2 \prime \prime}$ |
| RTI-NS2-112 | $50 \mathrm{~mm} \times 1 \frac{1}{2 \prime 2}{ }^{\prime \prime}$ NPT | 2" x $11 / 2$ " |
| RTI-NS2-2 | $50 \mathrm{~mm} \times 2 \mathrm{2}$ NPT | 2" x ${ }^{\prime \prime}$ |
| RTI-NS212-2 | $63 \mathrm{~mm} \times 2 \mathrm{2}$ " NPT | $21 / 22^{\prime \prime} \times{ }^{\prime \prime}$ |

## Aluminum Nipple Socket, Female NPT

| Part Number | Sizing |  |
| :---: | :---: | :---: |
| RTI-FNSA34-12 | $20 \mathrm{~mm} \mathrm{x} \mathrm{1/2"} \mathrm{NPT}$ | $3 / 4{ }^{\prime \prime} \times 1 / 2$ " |
| RTI-FNSA34-34 | $20 \mathrm{~mm} \times 3 / 4$ " NPT | $3 / 4 "$ x 3/4" |
| RTI-FNSA1-1 | $25 \mathrm{~mm} \times 1$ " NPT | 1" x 1" |
| RTI-FNSA114-114 | $32 \mathrm{~mm} \times 1$ 1/4" NPT | $11 / 4$ " $\times 1 \frac{1}{4} 4^{\prime \prime}$ |
| RTI-FNSA112-112 | $40 \mathrm{~mm} \times 1$ 1/2" ${ }^{\text {NPT }}$ | $11 / 2^{\prime \prime} \times 11 / 2^{\prime \prime}$ |
| RTI-FNSA2-2 | $50 \mathrm{~mm} \times 2 \mathrm{2}$ NPT | 2" x 2" |

Aluminum Nipple Socket, Male NPT

| Part Number | Sizing |  |
| :---: | :---: | :---: |
| RTI-NSA34-12 | $20 \mathrm{~mm} \times 1 / 2 \mathrm{~s}$ NPT | $3 / 4{ }^{11} \times 1 / 2{ }^{17}$ |
| RTI-NSA34-34 | $20 \mathrm{~mm} \times 3 / 4 \mathrm{4}$ NPT | $3 / 4{ }^{\prime \prime} \times 3 / 4{ }^{\prime \prime}$ |
| RTI-NSA1-1 | $25 \mathrm{~mm} \times 1{ }^{\text {" }}$ NPT | 1" x 1" |
| RTI-NSA114-114 | $32 \mathrm{~mm} \times 11 / 4^{\prime \prime}$ NPT | $11 / 4^{\prime \prime} \times 1 \frac{1}{4 \prime \prime}$ |
| RTI-NSA112-112 | $40 \mathrm{~mm} \times 1 \frac{1}{2 \prime 2}$ " NPT | $11 / 22^{\prime \prime} \times 1 \frac{1}{1 / 2}$ |
| RTI-NSA2-2 | $50 \mathrm{~mm} \times 2 \mathrm{2}$ NPT | 2" $\times 2$ " |

Quick Branch Droplet, Female NPT


| Part Number | Sizing |  |
| :---: | :---: | :---: |
| RTI-QBT1-12 | $25 \mathrm{~mm} \times 1 / 2^{\prime \prime}$ NPT | $1^{\prime \prime} \mathrm{x}^{1 / 2}{ }^{\text {" }}$ |
| RTI-QBT114-12 | 32 mm x ½" NPT | $11 / 4{ }^{1 / 2} \times 1 / 2^{\prime \prime}$ |
| RTI-QBT112-12 | 40 mm x ½" NPT | $11 / 2^{\prime \prime} \times 1 / 2^{\prime \prime}$ |
| RTI-QBT112-34 | $40 \mathrm{~mm} \times 3 / 4{ }^{\prime \prime}$ NPT | $11 / 2^{\prime \prime} \times 3 / 4^{\prime \prime}$ |
| RTI-QBT2-12 | $50 \mathrm{~mm} \times 1$ 12" NPT | $2^{\prime \prime} \times 1 / 2{ }^{1 /}$ |
| RTI-QBT2-34 | $50 \mathrm{~mm} \times 3 / 4{ }^{\prime \prime}$ NPT | $2^{\prime \prime} \times 3 / 4{ }^{\prime \prime}$ |
| RTI-QBT212-12 | 63 mm x ½" NPT | $21 / 2^{\prime \prime} \times 1 / 2^{\prime \prime}$ |
| RTI-QBT212-34 | $63 \mathrm{~mm} \times 3 / 4{ }^{\prime \prime}$ NPT | $21 / 2{ }^{\prime \prime} \times 3 / 4 "$ |



## Quick Branch Droplet

| Part Number | Sizing |  |
| :---: | :---: | :---: |
| RTI-QB1-12 | $25 \mathrm{~mm} \times 16 \mathrm{~mm}$ | $1^{\prime \prime} x^{1 / 2 "}$ |
| RTI-QB114-12 | $32 \mathrm{~mm} \times 16 \mathrm{~mm}$ | $11 / 4^{\prime \prime} \times 1 / 2^{\prime \prime}$ |
| RTI-QB112-12 | $40 \mathrm{~mm} \times 16 \mathrm{~mm}$ | $11 / 2{ }^{1 / 1} \times 1 / 2^{\prime \prime}$ |
| RTI-QB2-12 | $50 \mathrm{~mm} \times 16 \mathrm{~mm}$ | 2" x 1/2" |

## Aluminum Manifolds (90 ${ }^{\circ}$ )

| Part Number | Sizing |
| :--- | :---: |
| RTI-DPM34-5-38 | $3 / 4^{\prime \prime}$ inlet $\times(5)^{3 / 8 "}$ outlets |
| RTI-DPM34-5-12 | $3 / 4^{\prime \prime}$ inlet $\times(5)^{1 / 2 "}$ outlets |

## Aluminum Manifolds (45 ${ }^{\circ}$ )

| Part Number | Sizing |
| :---: | :---: |
| RTI-M12-1-12 | 1 Port Manifold, $1 / 2{ }^{\text {" }}$ in, (1) $1 / 2$ " out |
| RTI-M12-3-12 | 3 Port Manifold, $1 / 2{ }^{\text {" }}$ in, (3) $1 / 2$ " out |
| RTI-M12-4-12 | 4 Port Manifold, $1 / 2{ }^{\text {" }}$ in, (4) $1 / 2$ " out |
| RTI-M34-4-1234 | 4 Port Manifold, $3 / 44^{\prime \prime}$ in, (2) $1 / 22^{\prime \prime} \times(2) 3 / 4{ }^{\text {" }}$ out |
| RTI-M34-5-1234 | 5 Port Manifold, 3/4" in, (3) $1 / 22^{\prime \prime} \times(2) 3 / 4{ }^{\text {" }}$ out |
| RTI-M34-7-1234 | 7 Port Manifold, 3/4" in, (5) $1 / 2{ }^{\prime \prime} \times$ (2) $3 / 4$ " out |

Flexible Hose

| Part Number | Sizing |  |
| :--- | :--- | :--- |
| RTI-FEH34 | 20 mm | $3 / 4^{\prime \prime}$ |
| RTI-FEH1 | 25 mm | 1 |
| RTI-FEH114 | 32 mm | $1 \frac{1}{4} 4^{\prime \prime}$ |
| RTI-FEH112 | 40 mm | $1 \frac{1}{2} 2^{"}$ |
| RTI-FEH2 | 50 mm | $2^{\prime \prime}$ |



Pipe Support Brackets

| Part Number | Sizing |  |
| :--- | :--- | :--- |
| RTI-PB12 (10 pack) | 16 mm | $1 / 22^{\prime \prime}$ |
| RTI-PB34 (10 pack) | 20 mm | $3 / 4^{\prime \prime}$ |
| RTI-PB1 (10 pack) | 25 mm | 1 1" |
| RTI-PB114 (10 pack) | 32 mm | $11 / 4^{\prime \prime}$ |
| RTI-PB112 (10 pack) | 40 mm | $11 / 2^{\prime \prime}$ |
| RTI-PB2 (10 pack) | 50 mm | $22^{\prime \prime}$ |
| RTI-PB212 (10 pack) | 63 mm | $21 / 2{ }^{\prime \prime}$ |

Flexible Hose, NPT Threaded

| Part Number | Sizing |
| :--- | :--- |
| RTI-FEH34-NPT | $3 / 4^{\prime \prime}$ NPT |
| RTI-FEH1-NPT | $1^{\prime \prime}$ NPT |

## Bracket Wall Spacers

| Part Number | Sizing |  |
| :--- | :--- | :--- |
| RTI-BWS34-114 (10 pack) | $20-32 \mathrm{~mm}$ | $3 / 4^{\prime \prime}$ to $1 / 4^{\prime \prime}$ |
| RTI-BWS112-212 (10 pack) | $40-63 \mathrm{~mm}$ | $1 \frac{1}{2 \prime \prime}$ to $21 / 2^{\prime \prime}$ |



Ball Valve, Female NPT

| Part Number | Sizing |  |
| :--- | :--- | :--- |
| RTI-BVF12-12 | $16 \mathrm{~mm} \times 1 / 2^{\prime \prime}$ NPT | $1 / 22^{1 \prime} \times 1 / 2^{" 1}$ |

## Nut Wrench

| Part Number | Sizing |  |
| :--- | :--- | :--- |
| WRENCH $16 / 20$ | $16-20 \mathrm{~mm}$ | $1 / 2^{\prime \prime}$ to $3 / 4^{\prime \prime}$ |
| WRENCH $25 / 32$ | $25-32 \mathrm{~mm}$ | 1 " to $1 \frac{1}{4 \prime \prime}$ |
| WRENCH $40 / 50$ | $40-50 \mathrm{~mm}$ | $1 \frac{1}{2 \prime}$ " to $2 "$ |
| WRENCH 63 | 63 mm | $21 / 2^{\prime \prime}$ |

Ball Valve, Male NPT

| Part Number | Sizing |  |
| :--- | :--- | :--- |
| RTI-BVM12-12 | $16 \mathrm{~mm} \times 1 / 22^{\prime \prime} \mathrm{NPT}$ | $1 / 22^{\prime \prime} \times 1 / 2^{\prime \prime}$ |

Male Threaded Spigot

| Part Number | Sizing |  |
| :---: | :---: | :---: |
| RTI-MTS34-12 | $20 \mathrm{~mm} \times 112 \mathrm{z}$ " NPT | $3 / 4{ }^{17} \times 1 / 2{ }^{\prime \prime}$ |
| RTI-MTS34-34 | $20 \mathrm{~mm} \times 3 / 4 \mathrm{4}$ NPT | $3 / 4{ }^{11} \times 3 / 4{ }^{\prime \prime}$ |
| RTI-MTS1-1 | $25 \mathrm{~mm} \times 1{ }^{\text {" }}$ NPT | 1" $\times 1$ " |
| RTI-MTS112-112 | $40 \mathrm{~mm} \times 11 / 2 \mathrm{~L}$ NPT | $11 / 22^{\prime \prime} \times 11 / 2{ }^{\prime \prime}$ |
| RTI-MTS212-2 | $63 \mathrm{~mm} \times 2 \mathrm{2}$ NPT | $21 / 2^{\prime \prime} \times{ }^{\prime \prime}$ |

Pipe/Fitting Insertion Meter

| Part Number | Sizing |  |
| :--- | :--- | :--- |
| RTI-PFIM | $16-80 \mathrm{~mm}$ | $1 / 22^{\prime \prime}$ to 3" |



Chamfering Cone Piece \& Chamfering Tool

| Part Number | Sizing |  |
| :--- | :--- | :--- |
| RTI-CT12-2 | $16-50 \mathrm{~mm}$ | $1 / 22^{\prime \prime}$ to $2^{\prime \prime}$ |
| RTI-CT212-4 | $63-110 \mathrm{~mm}$ | $21 / 2^{\prime \prime}$ to $4 "$ |



## 10 YEAR WARRANTY

Following the high quality performances of RTi products, we offer our customers a 10 year warranty against possible damages due to faulty materials of aluminum pipes or blue pipe fittings.

Guarantee terms and conditions: Use original parts and spare parts only. Execute the installation following the instructions and guide lines supplied in this catalogue. A test certificate must be done after first plant test. Do no use components beyond their service limits. Protect the plant from shocks, vibrations or corrosive situations. Before forwarding any complaint, check the damaged parts and/or the site conditions. Guarantee is limited to the component replacement only. Complaints are to be shipped to RTi following the standard procedure. Submit all complaints to RTi following the standard procedure.

## Installation Guide

Tools needed:


- Chamfering cone*
- Drill or hole saw
- Marker/pen*
- Pipe specific wrench*
- Screwdriver
- Pipecutter
- Depth gauge*
- Gasket lubricant*
- Deburring tool
- Universal plier*
- Hexagonal wrench

1. Make a neat and straight cut at the desired size. Afterwards check the pipe's surface condition; there should not be any visible scratches, abrasions or dents which may cause leaks. The cut has to be done as straight as possible ( $90^{\circ}$ to the pipe axis).

$2 \begin{aligned} & \text { Chamfer the pipe's external surfaces and remove any } \\ & \text { rough edges along the inside diameter. Remove rough }\end{aligned}$ edges, pieces, and dust which may be present in the pipe to avoid future air line issues.


Fully tighten the ring nut to the area indicated by tightening the indicator arrow.


Unscrew the nut, which you just tightened, by making half a counter clock-wise turn. This will increase the distance between the body and the nut in the area indicated by the arrow. Mark the depth indicated by the socket depth gauge on the pipe with marker/pen.


Mark the depth indicated by the socket depth meter on the pipe.

## Installation Guide, cont'd.

5
Slide the pipe into the fitting, pushing it until it stops at the end of the socket. Lubricate the end of the pipe and contact surface of O-ring with liquid dish soap and water, or petroleum grease. Do not use oils or greases of questionable compatibility. Contact factory if needed.


6 Fully tighten the ring nut by hand, or rotate up to $180^{\circ}$ (at most!) using pin wrench.


7
A correct fitting tightening will bring the ring nut base to stop around the middle of the tightening indicator. The nut brake will act as anti-screwing in the case of light vibrations. Do not over tighten!


## Flow Rates/Pressure Drop Tables

Note: Perfect Air ${ }^{\circledR}$ blue pipe systems are mainly dedicated to compressed air distribution up to a maxiumum pressure of 200 PSI

The charts and graphs below illustrate the maximum suggested flow rate to prevent high velocity which will cause:
a. Increase of turbolence with relative pressure drop;
b. excessive noise above legal limits;
c. reintrainment of any condensed liquid in the pipeline.

PIPE FLOW RA TE TABLES (given for 100 ' of pipe)


- Table 1a

- Table 2a


PRESSURE DROP 1/2" PIPE (cfm)


- Table 1b

- Table 2b


- Table 4a

- Table 5a

- Table 6a

MAX FLOW RATE 2-1/2" PIPE (cfm)



- Table 4b

- Table 5b

- Table 6b



## Chemical Compatibility

## CHEMICAL AGENTS




| ACETALDEHYDE | B | D | A | A | A | D |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ACETIC ACID 20\% | B | B | B | A | D | B |
| ACETONE | A | D | D | A | A | D |
| ACETYLENE | A | B | A | A | A | A |
| AMMONIUM | B | A | D | A | A | B |
| BENZENE | B | D | A | B | B | C |
| BOREACID |  |  |  |  |  |  |


| $\mathrm{OK}^{*}$ | OK | OK |
| :---: | :---: | :---: |
|  | OK |  |
|  | OK |  |
| OK | OK | OK |
| OK | OK | OK |
| $\mathrm{OK}^{*}$ | OK | OK |


| BURNT LIM |
| :--- | :--- |
| BUTANOL |
| BUTTER |


|  |  |  |
| :---: | :---: | :---: |
| OK | OK | OK |
| OK |  |  |
| OK | OK | OK |
| OK | OK | OK |
| OK | OK | OK |
| OK |  | OK |
| OK | OK | OK |
| OK |  | OK |

Compatibility with RTi Blue Pipe Materials


| CLHORIC ACID (20\%) |
| :--- |
| DIESEL GAS |


| ETHANOL |
| :--- |
| ETHYLENE GLYCOL |
| FATACIDS |


| ETHANOL |
| :--- |
| FATYENE GLYCOL |
| FATIDS |

FORMALDEHYDE 40\%
FUEL OIL
GLUCOSE
GLYCERINE
HEPTAN
HYDROGEN (GAS)
METHYLALCOHOL
MILK
MINERAL OIL

MOTOR OIL | NATURAL GAS (METHANE) |
| :--- |
| NITRIC ACID ( $20 \%)$ |

| NIRIC ACID $(20 \%)$ | C | D | A | B | D |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A |  |  |  |  |  |
| NITROBENZENE | A | D | B | B | B |
|  | - |  |  |  |  |
| OLEIC ACID | A | B | B | A | B |
| A |  |  |  |  |  |
| OXALIC ACID | A | C | A | A | B |
| A |  |  |  |  |  |
| PETROL | B | A | A | A | A |
| A |  |  |  |  |  |
| PHENOL | A | D | A | B | D |
| D |  |  |  |  |  |
| POTASSIUM PERMANGANATE | B | C | A | B | D |
| A |  |  |  |  |  |
| PROPYLENE GLYCOL | B | A | A | B | A |
| A |  |  |  |  |  |
| SILICONE | A | A | A | A | A |
| A |  |  |  |  |  |
| SUGAR | A | A | A | A | A |
| A |  |  |  |  |  |
| SULPHURIC ACID | C | D | B | D | D |
| A |  |  |  |  |  |
| TANNIC ACID | C | A | A | A | C |
| A |  |  |  |  |  |
| TARTARIC ACID | B | A | A | B | B |
| A |  |  |  |  |  |
| TOLUENE | A | D | C | B | B |
| D |  |  |  |  |  |
| UREA | B | B | A | B | A |
| A |  |  |  |  |  |
| VASELINE | A | A | A | A | A |
| AINEGAR | A | B | A | A | A |
| A |  |  |  |  |  |
| XYLENE | A | D | B | B | B |
| A |  |  |  |  |  |


| BUTTER |
| :--- |
| CARBON DIOXIDE |
| CARBON MOOXXIDE |
| CAUSTIC SODA |
| CHLOROFORM |
| CITRIC ACID |
| CLHORIC ACID ( $20 \%)$ |
| DIESEL GAS |
| ETHANOL |


|  | B | A | A | B | A |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | A | A | A | B | B |
| A |  |  |  |  |  |
|  | A | A | A | B | A |
| A |  |  |  |  |  |
|  | A | B | A | A | A |
| A |  |  |  |  |  |

- B

| B | B | A | A | A | A |
| :---: | :---: | :---: | :---: | :---: | :---: |
| A | A | A | A | A | - |
| A | A | A | A | A | A |
| A | A | A | A | A | A |
| A | A | A | A | A | - |
| A | A | A | A | A | A |
| B | A | C | A | B | A |
| A | A | A | A | A | A |
| A | A | A | A | A | - |
| A | A | A | A | A | - |
| A | A | A | A | A | A |
| C | D | A | B | D | A |
| B | D | B | B | B | - |
| A | B | B | A | B | A |
| A | C | A | A | B | A |
| B | A | A | A | A | A |
| A | D | A | B | D | D |
| B | C | A | B | D | A |
| B | A | A | B | A | A |
| A | A | A | A | A | A |
| A | A | A | A | A | A |
| C | D | B | D | D | A |
| C | A | A | A | C | A |
| B | A | A | B | B | A |
| A | D | C | B | B | D |
| B | B | A | B | A | A |
| A | A | A | A | A | A |
| D | B | A | A | A | A |
| A | D | B | B | B | A |


[^0]:    McDonough, K. (2013, November). Five reasons why aluminum piping makes sense for compressed air systems.

