Transair: Advanced Pipe Systems

Compressed Air, Vacuum, Inert Gas

Catalog 3515 USA | August 2017

Parker

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⚠ WARNING – USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.

The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

Offer of Sale

The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated on the separate page of this document entitled "Offer of Sale".

Safe Drinking Water Act

In accordance with 42 USC § 300g-6, parts in this catalog are to be used exclusively for nonpotable services such as manufacturing, industrial processing, irrigation, outdoor watering, or any other uses where the water is not anticipated to be used for human consumption. The only exceptions are parts described explicitly as "low lead" or suitable for potable water.

Regulations and Certifications

Parker complies with the regulations and certifications listed below. We go beyond the requirements to ensure a safe, high-performing product.

ISO 9001 version 2000
Parker Hannifin is certified ISO 9001 version 2000 and operates a Quality Management System in order to ensure the level of quality and service that is expected by its customers.

ASME B31.1/B31.3 certification
Transair® meets the requirement of ASME B31.1 and B31.3 - which stipulates "the minimum requirements for the design, materials, fabrication, erection, test and inspection of power and auxiliary piping systems for industrial institutional plants" as “non boiler external piping”.

ISO 8573 certification
ISO 8573 is the international standard related to the quality of compressed air. Conformance to the ISO 8573 standard illustrates our commitment to providing clean dry air and the highest quality engineered piping systems.

Safety certifications
All Transair® components are non-flammable with no propagation of flame. Connectors and valves conform to UL94HB standard. Fixing clips conform to UL94V-2 standard. Flexible hoses conform to ISO 8030 / EN 12115 norm. The pipe powder coat finish is classified MO.

TÜV certification
A product certified TÜV is a pledge of safety and quality. The Group TÜV thus certifies independent test results – in particular, the properties of the products and the standards whereby they were examined.

Qualicoat certification
Qualicoat certification is a guarantee of the quality of the lacquer finish applied to Transair® aluminum pipe.

10 Year guarantee*
Parker Hannifin Corporation warrants its Transair® products to be free of defects in material and workmanship for a period of ten (10) years from the date of purchase of the products. *SCOUT technology guaranteed for two (2) years.

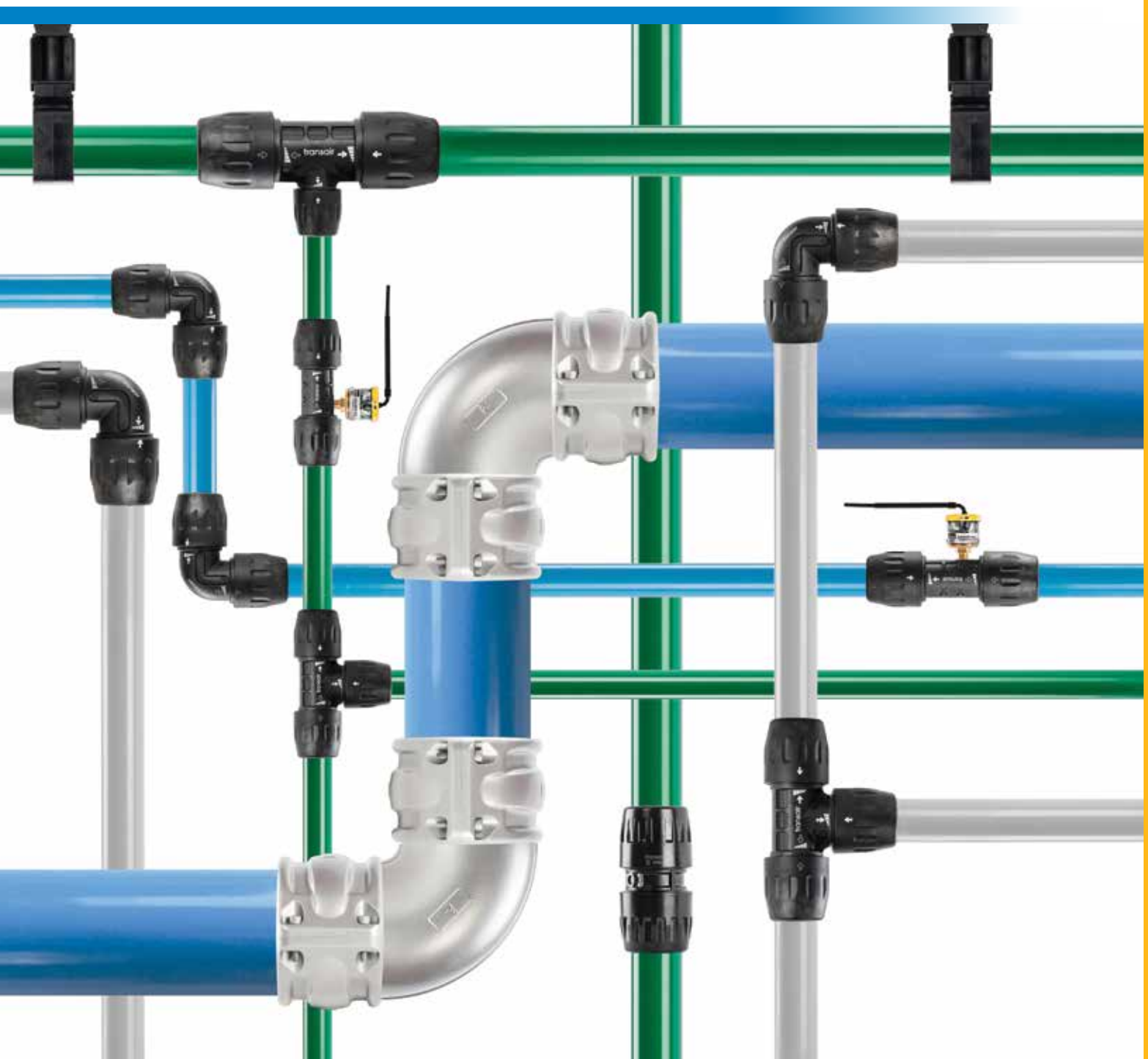
CE conformity
Transair® connectors manufactured by Parker Hannifin should be considered as piping components, which are designed according to sound working practice and therefore conforms to European standard 97/23 CEE - §3.3 (equipment under pressure).

Transair Overview

TRANSAIR®

Compressed Air, Inert Gas and Vacuum

Complete System



Transair®

Transair® is a fast, flexible and easy to modify aluminum pipe system for compressed air, vacuum and inert gas applications. Transair® components are reusable and interchangeable, which enables immediate and easy layout modifications. Unlike the performance of steel or copper, which degrades over time due to corrosion, Transair® provides clean air quality with optimum flow rate performance.

SCOUT™

SCOUT™ Technology is a state-of-the-art wireless condition monitoring solution that enables you to view the performance of you compressed air system 24 hours a day through a web based dashboard.

SCOUT™ utilizes sophisticated wireless sensor techology to monitor their compressed air system and alert the end user of system changes by providing critical data that is gathered, compared and analyzed. Customized alerts fore warn facility personnel of any compressed air performance changes which helps to reduce downtime and increase productivity.

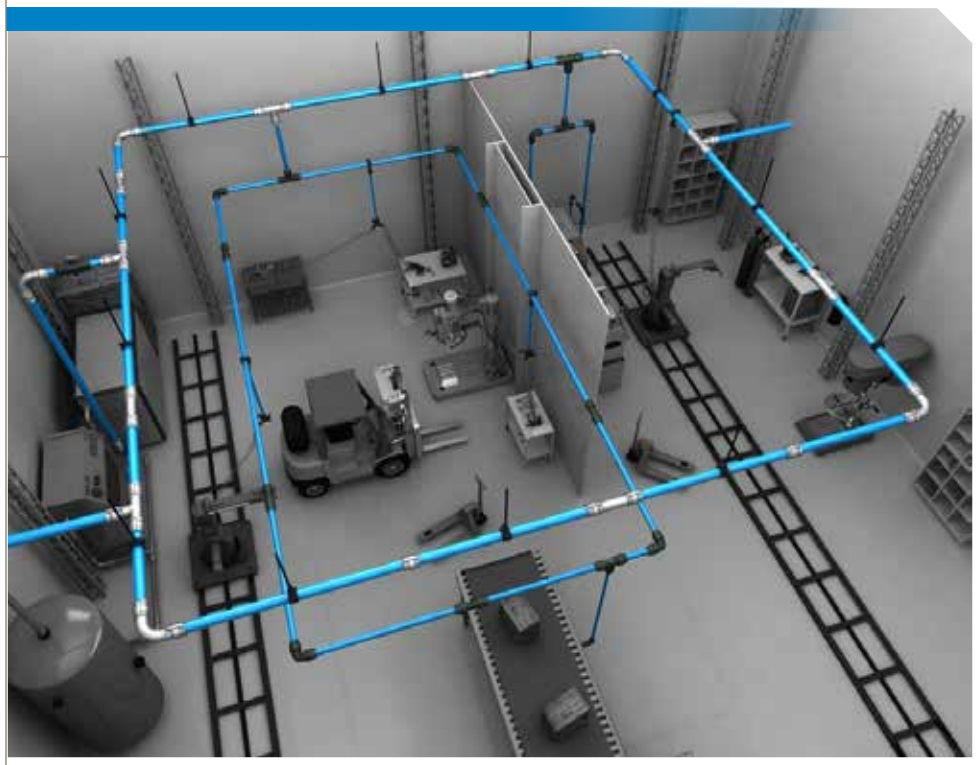
Reduces Plant Energy Cost
As a direct result of increasing efficiency, recucing pressure drops and eliminating leaks.

Commitment to Sustainability
Transair® pipe and fittings are 100% recyclable resulting in a decreased carbon Introduction footprint.

Reduction of pipe installation weight by

260,000
tons for companies around the world. Over 20 years, this amount to 88% reduction in Pipe Systems weight in our customers facilities.

INSTALLATION ADVANTAGE



With Transair® our customers have decreased their use of pipe hangers by

20,000,000 hangers

Resistance To Corrosion
Transair® is specifically powder-coated to enhance its mechanical, physical and chemical properties, making it ideal for aggressive industrial applications.

WHAT IS EFFICIENCY?

Compressed Air

Industry Applications

- Automotive manufacturing
- Food and beverage
- Aerospace
- Energy/Power
- Rail metal fabrication
- Paper and pulp
- Military
- Waste water treatment
- And many more!

Inert Gas

Industry Applications

- Microbulk gas delivery systems
- Plasma cutting applications
- Robotic installations
- Manual and automated welding operations

Vacuum

Industry Applications

- Composite materials
- Jewelry manufacturing
- Packaging

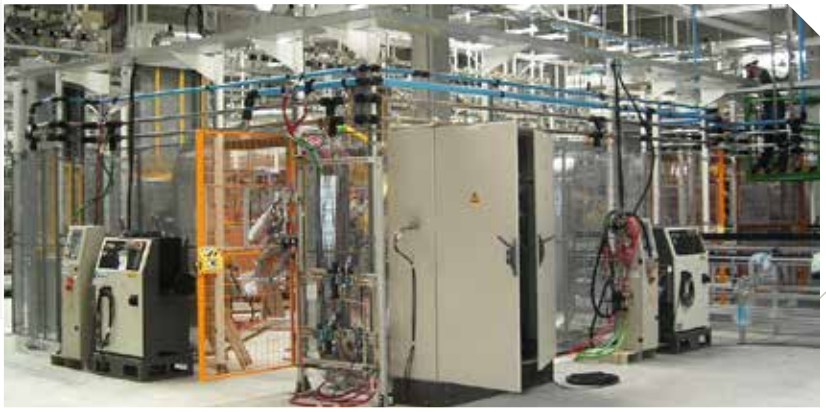
AUTOMOTIVE

Delivering quality compressed air for superior operational capacity.

Transair® offers clean air quality and a full bore design which provides tool efficiency and an optimal machine for the automotive manufacturing industry. Transair's smooth calibrated aluminum construction offers a low friction coeficiency with ideal laminar flow. The aluminum pipe also directly results in increased equipment logevity while avoiding frequent filtration media changes due to the clean air quality.

APPLICATIONS

Powertrain | Paint & Finish | Trim & Interior | Casting | Assembly



PERFORMANCE EXPECTATIONS

- Quick connect
- Modular desgn
- No corrosion
- Energy effecient
- Immediate pressurization
- Leak-free guarantee
- Push-to-connect technology
- 100% recyclable

FAST, FLEXIBLE AND EASY TO MODIFY ALUMINUM PIPE SYSTEM

With Transair®, labor accounts for only 20 percent of installation costs

SITUATION: A major automotive manufacturer needed 6,500 ft of compressed air pipework for their car assembly plant. The compressed air system had to be installed over working production lines. Modularity was a major requirement to meet future needs.

SOLUTION: In order to supply the Weld and Assemby Frame areas 1-1/2 inch Transair® drops was used from the steel pipe creating sub ring mains directly over the production areas. In addition to nearly 6,560 ft of Transair's push-to-connect pipe the project required over 300 compressed air outlets and 80 plus ball valves. Transair® provided a compressed air system that carries and filters quality clear air to each point while incorporating pressure reducers.

BENEFITS: Fast, low-cost modular system for the compressed air system that allows for easy modification.

FOOD AND BEVERAGE

Improving production machine maintenance by delivering clean, dry compressed air.

Compressed air is an essential component within the food and beverage manufacturing industry. The compressed air throughout food processing facilities must be free of contaminants in order to ensure the protection of consumable goods. The BCAS has developed a Code of Practice for Food Grade Compressed Air that defines a minimum acceptable purity (quality) for compressed air used in the food industry to assist food manufacturers.

FOOD AND BEVERAGE

APPLICATIONS

Handling | Conveying | Packaging | Filling | Washing | Labeling | Cooling

PERFORMANCE EXPECTATIONS

- Quick connection technology
- No corrosion
- Optimum flow rate
- Expansion/contraction
- allowed
- Lower installion costs
- Provides dry clean air consistently

CLEAN AND ROBUST

Manufactured with protective coating suitable for washdownss

SITUATION: A global leader in the beverage industry chose Transair® for their 1,000ft compressed air configuration within the packaging and handling area throughout the bottling plant. The benefit of clean air, low production downtime and quick/easy modification capability contributed to the decision to install Transair®! The ease of modification was extremely beneficial for their filling and packaging stations that utilized compressed air.

BENEFITS: Fast, flexible and easy to modify piping. Clean compressed air solution

Parker transair®

Did you know?

40,000,000

Tons of CO_2 has NOT been produced around the world because companies are installing Transair® instead of using traditional solutions

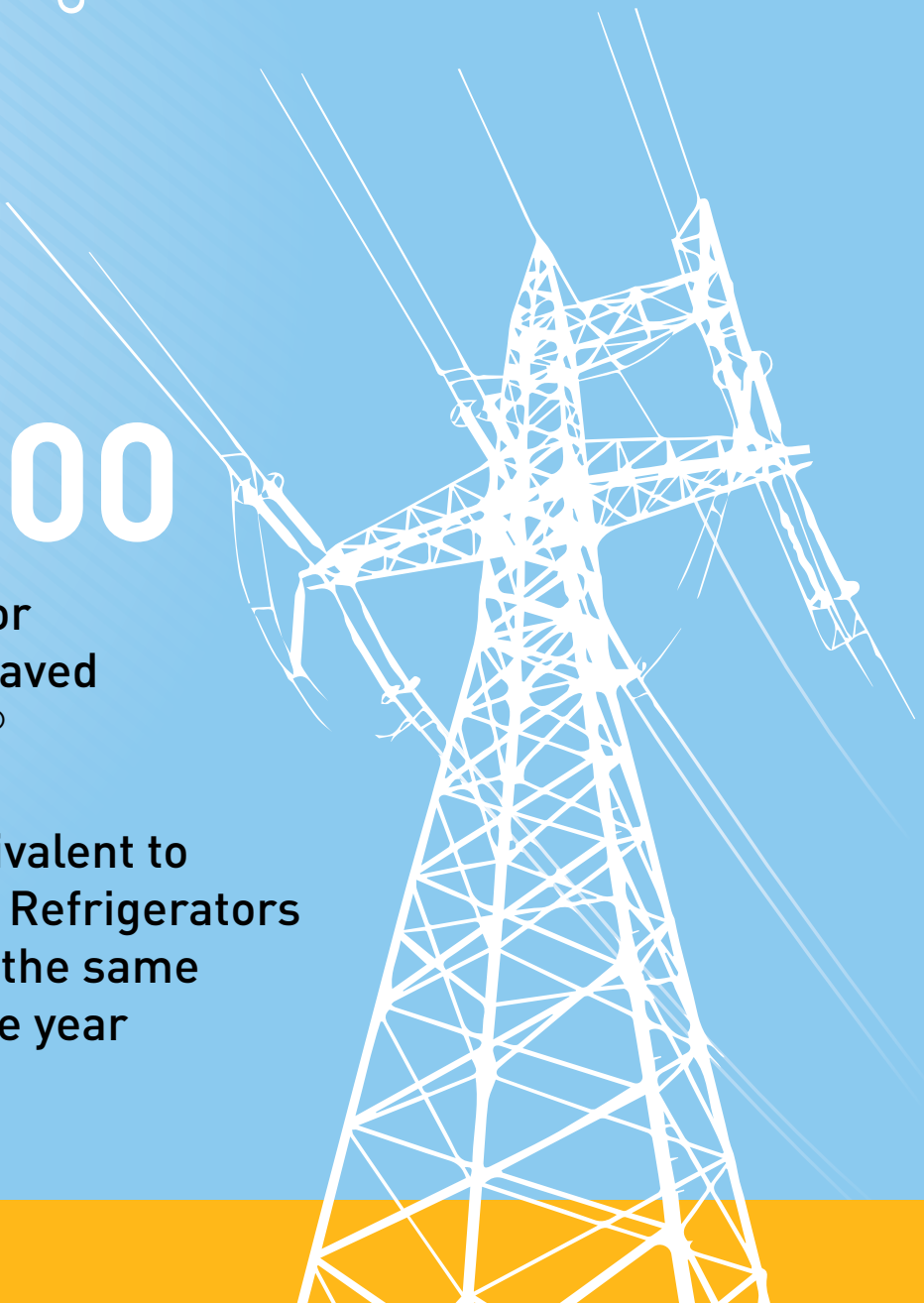
This is equivalent to eliminating CO_2 emissions from

11,514

cars for one year

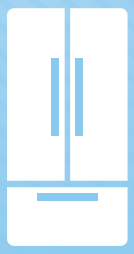
9,800,000

Labor hours have been saved around the world by installing Transair®



500,000

GWh of compressor energy has been saved by using Transair®



This is equivalent to 714 Million Refrigerators working at the same time for one year

Materials

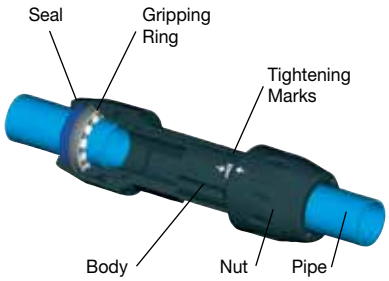
	Ø 1/2" (16.5mm) to Ø 1 1/2" (40mm)	Ø 2" (50mm) - Ø 2 1/2" (63mm)		Ø 3" (76mm) to Ø 6" (168mm)
1013A	Powder Coated Alumium	Powder Coated Alumium	**TA16**	Powder Coated Alumium
1016A	Powder Coated Alumium	Powder Coated Alumium	**ER01**	zinc Steel & Rubber
1001E Air	Hose & Coating: Black Sbr Reinforcement: Synthetic Braiding	Hose & Coating: Black Sbr Reinforcement: Synthetic Braiding	**EX01**	stainless Steel
1001E vacuum	Hose & Coating: Black Sbr/Nbr Reinforcement: Spiral Steel Wire	Hose & Coating: Black Sbr/Nbr Reinforcement: Spiral Steel Wire	**EW05**	Seal: Nbr
4002 - 4012	Polyamide With Fiberglass	Body: Polyamide With Fiberglass Nut: Treated Aluminum	**FP01**	Hose & Connector: Black Sbr/Nbr Reinforcement: Spiral Steel Wire
4089 - 4099	Body: Treated Brass Nut: Engineering Grade Plastic	-	**RA02 - RA04 - RA12**	Treated Aluminum
Anti whip-lash strap	Steel			
6602 - 6604	Polyamide With Fiberglass	Treated Aluminum	**RA25 - RA31 - RA66**	Treated Aluminum
6605	Body: Treated Brass Nut: Polymer Hr / Nbr	Body: Treated Brass Nut: Aluminum Hr / Nbr	**RP01**	Body & Pushing Ring: Polyamide With Fiberglass - Seal: Nbr
6606	Polyamide With Fiberglass	Treated Aluminum	**RR01**	Clamp: Treated Steel (6" Treated Aluminum) Cartridge: Polyamide With Fiberglass Seal: Nbr
6609	Body: Treated Brass Nut: Polymer Hr / Nbr	Body: Treated Brass Nut: Treated Aluminum / Nbr	**RR21**	Treated Brass
6611	Treated Brass	-	**RR63**	Body: Treated Iron - Seal: Nbr
6612	Polyamide With Fiberglass	Treated Aluminum	**RX02**	Stainless Steel 304
6621	Treated Brass	-	**RX04**	Stainless Steel 304
6625	Polyamide With Fiberglass	Treated Aluminum	**RX12**	Stainless Steel 304
6636 - 6638 - 6640	Body: Treated Brass Nut: Polymer Hr / Nbr	-	**RX20**	Stainless Steel 304
6642	Treated Brass	-	**RX24**	Stainless Steel 304
6651	Body: Treated Brass Nut: Polyamide With Fiberglass	-	**RX25**	Stainless Steel 304
6653	Body: Treated Brass Nut: Polymer Hr	-	**RX30**	Stainless Steel 304
6663	Body: Polyamide With Fiberglass Insert: Brass	Body: Polyamide With Fiberglass Insert: Brass	**RX63**	Stainless Steel 304
6662	Polyamide With Fiberglass	Polymere Hr	**RX64**	Stainless Steel 304
6666	Body: Treated Brass Nut: Polyamide With Fiberglass	Treated Aluminum	**RX66**	Stainless Steel 304
6675 - 6679 - 6689	Body: Treated Brass Nut: Polymer Hr / Nbr	-	**VR02**	Body: Iron Disc & Shaft: Stainless Steel
6676	Polyamide With Fiberglass	Body: Treated Aluminum Nut: Polymer Hr	**BRACKET**	Zinc Steel - Rubber Epdm
6684	Body: Treated Brass - Nut: Polyamide With Fiberglass			
6688 - 6691	Treated Brass			
6694 - 6696	Body: Treated Brass - Nut: Polymer Hr - Seal: Nbr			
EA98	Body: Treated Iron - Ball Valve: Plated Brass			
RA68 - RA69	Polyamide With Fiberglass			
Clip - Spacer	Polyamide With Fiberglass			
0169 Adaptor	Steel			
Composite coupler	Body: Polymer Hr / Zamac - Sleeve: Polymer Hr - Spring And Ball Bearings: Stainless Steel - Seal: Nitrile - Probe: Treated Steel			
Hose reel	Metal Case - Fixing: Metal			

Connection Technology

Transair's innovative technology enables rapid and easy assembly with quick connection of components to the aluminum pipe. This technology takes into account the specific requirements of each diameter and provides the user with an optimum safety coefficient and easy connection.

1/2" (16.5mm) – 1" (25mm) – 1 1/2" (40mm)

Pipe-to-pipe and male connectors in 1/2", 1" and 1 1/2" can be immediately connected to Transair® pipe – simply push the pipe into the connector up to the connection mark. The gripping ring of each fitting is then automatically secured and the connection is safe.

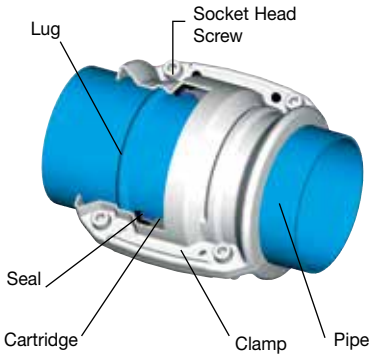


2" (50mm) – 2 1/2" (63mm)

Pipe-to-pipe and male connectors in 2" and 2 1/2" can be quickly connected to Transair® aluminum pipe by means of a snap ring. This secures the connection between the nut and the pipe – tightening of the nuts secures the final assembly.

3" (76mm) – 4" (100mm) – 6" (168mm)

Pipe-to-pipe and male connectors in 3", 4" and 6" can be quickly connected to Transair® aluminum pipe. Position the pipes to be connected within a Transair® cartridge and close/tighten a Transair® clamp.



Technical

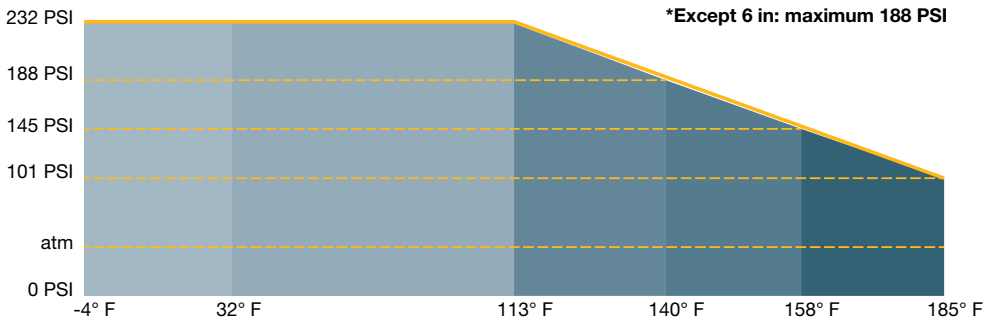
Suitable fluids
- compressed air (dry, wet, lubricated)
- vacuum
- inert gases
- Please consult us for other fluids

Resistant to
- corrosion
- mineral compressor oils
- thermal variations
- aggressive environments
- synthetic compressor oils
- ultraviolet (UV)
- mechanical shocks
- compressor oil carry over

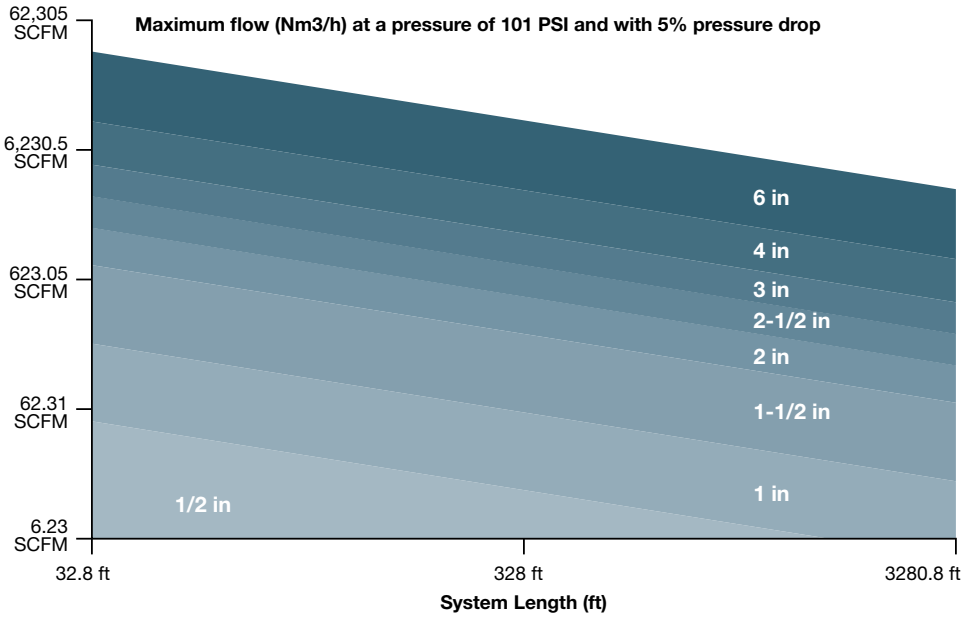
Vacuum level
- 98.7% (29.6'' Hg)

Working Pressure and Temperature

The maximum working pressure of the Transair® system versus the operating temperature can be seen in the diagram below.



Maximum Flow



Sizing Chart

Select the Transair® diameter for your application based on required flow against pressure drop. Estimated values: Closed loop system at 100 PSI with 5% pressure drop.

Example

- Main system length (ring main): 1000 ft
- Compressor power: 40 hp
- Required flow rate: 150 SCFM
- Working pressure: 100 PSI

Result: The most suitable Transair® diameter is: 1 1/2".

Flow Rate	Main Ring Length (ft)						Compressor hp
SCFM	500	1000	2000	3000	4000	5000	
10	1/2"	1/2"	1/2"	1"	1"	1"	<15
25	1"	1"	1"	1"	1"	1"	
50	1"	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	
75	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	15 to 40
100	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	
150	1 1/2"	1 1/2"	1 1/2"	2"	2"	2"	
250	1 1/2"	1 1/2"	2"	2"	2 1/2"	2 1/2"	41 to 125
350	2"	2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	
500	2 1/2"	2 1/2"	2 1/2"	3"	3"	3"	
750	2 1/2"	2 1/2"	3"	3"	4"	4"	126 to 250
1000	3"	3"	3"	4"	4"	4"	
1250	3"	3"	4"	4"	4"	4"	125 to 500
1500	4"	4"	4"	4"	4"	4"	
1750	4"	4"	4"	4"	4"	4"	
2000	4"	4"	4"	4"	4"	6"	
2250	4"	4"	4"	6"	6"	6"	501 to 1000
2500	6"	6"	6"	6"	6"	6"	
2750	6"	6"	6"	6"	6"	6"	
3000	6"	6"	6"	6"	6"	6"	
3250	6"	6"	6"	6"	6"	6"	
3500	6"	6"	6"	6"	6"	6"	
4000	6"	6"	6"	6"	6"	6"	
4500	6"	6"	6"	6"	6"	6"	1001 to 1400
5000	6"	6"	6"	6"	6"	6"	
5500	6"	6"	6"	6"	6"	6"	

Services and Tools

Online tools

Transair® Flow Calculator
Defines the recommended diameter for your project, estimates your pressure drops and gives the maximum flow rate by diameter

Transair® Energy Savings Calculator
Evaluates the energy cost of your system and return on investment of a Transair® solution

Transair® Value Calculator
Illustrates the typical savings achieved by installing Transair® in place of traditional steel or copper pipe systems

CAD Drawings
View or download Transair® CAD drawings in 2D or 3D online

SCOUT™ Value Calculator
Includes a detailed value analysis and visual graphs so you can see the difference that SCOUT™ Technology will make in your installation

SCOUT™ Software Sandbox
See how SCOUT's powerful cloud-based software will impact your system's performance by using our demo site

SCOUT™ App
Have access to vital information, alerts, system analytics and SCOUT™ marketing tools in the palm of your hand on your Android and Apple devices

SCOUT™ How-to Videos
Get the most out of your SCOUT™ system through our library of tutorial videos

Services

Transair's technical team is at your disposal to study and help design your air system. In particular, we can assist you with:

- Information on Transair® products and services
- Quotation and drawing services
- Guidance and training on how to assemble the system
- Advice on ''best practices'' in order to reduce your consumption of energy
- Ongoing assistance and follow-up
- On-site advisory presence at construction and installation locations

Our customer service representatives will coordinate a quick response for the following:

- Product availability
- Delivery time-phasing and modification
- Order processing and follow-up
- Technical information / specification sheets

Transair® Website
www.parker.com/transair

SERVICES AND TOOLS

CAD Drawings Available
Transair® CAD drawings available for a variety of software systems. Visit www.parker.com/transair for more information.

Marketing Tools

We have the marketing and sales tools you need including brochures, specification sheets, demo/sample kits and more. Please contact the division for ordering information.

Videos
Scan the QR tag above to see Transair® and SCOUT™ videos!

Transair® System

Rigid Aluminum Pipe

Flexible Hose

Pipe-to-Pipe and Threaded Connectors

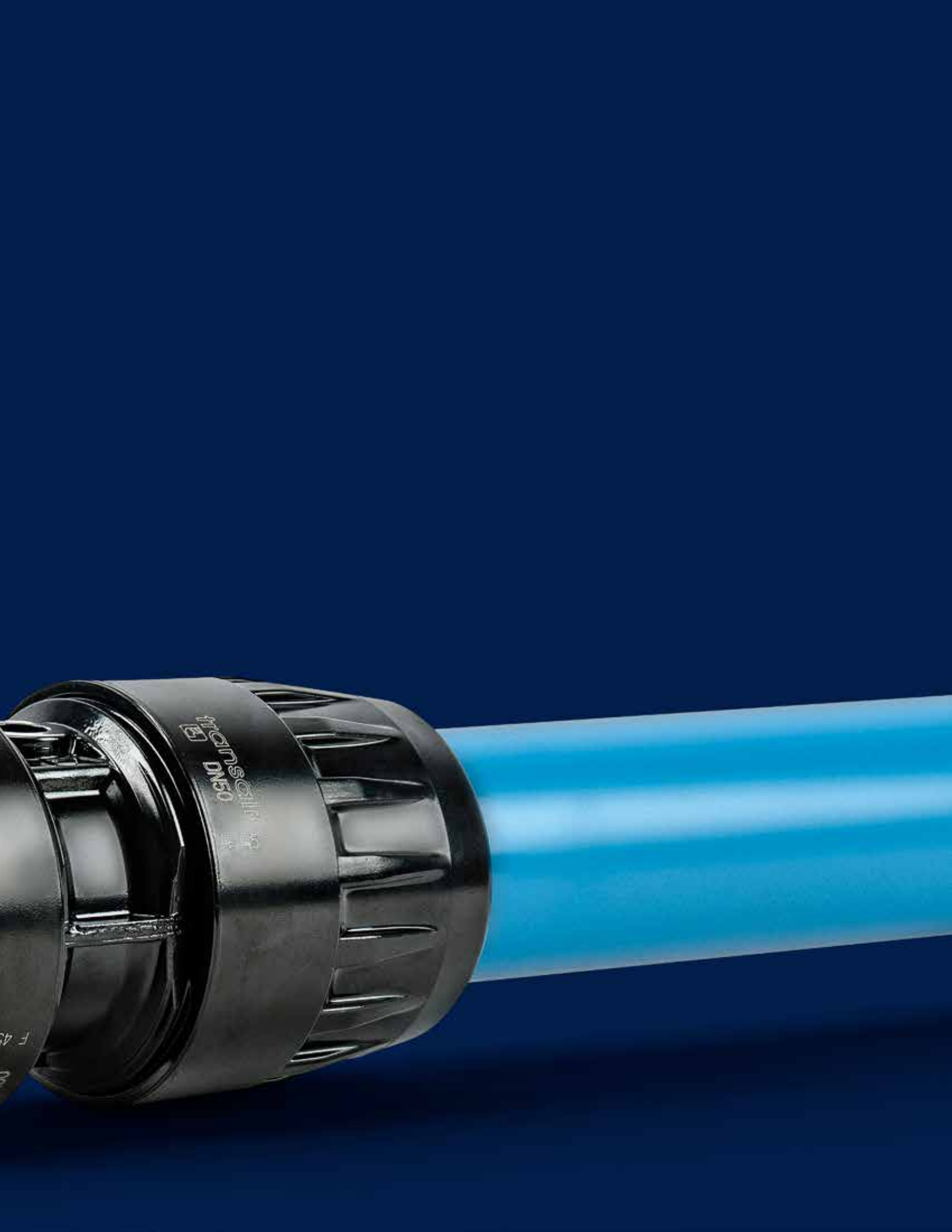
Drop Brackets

Pressurized System Outlets

Wall Brackets

Valves

Parker Hannifin Corporation | Fluid System Connectors | Otsego, MI


DN50

Rigid Aluminum Pipe

Product Features:

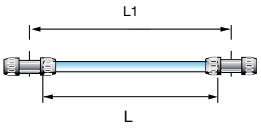
- Clean air
- Optimum flow rate performance
- Lightweight
- QUALICOAT certified surface finish
- Three colors: blue (RAL 5012/BS1710), gray (RAL 7001), and green (RAL 6029) (other colors: please consult us)
- Suitable fluids: compressed air, vacuum, nitrogen, argon (other fluids: please consult us)
- Extruded pipe (conforms to EN 755.2, EN 755.8 and EN 573.3 standards)

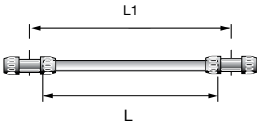
Specifications:

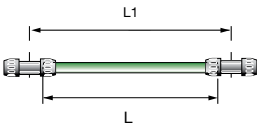
Max. Working Pressure*:	188 PSI from -4°F to +140°F (12.9 bar form -20° to +60° C)
	232 PSI from -4°F to +115°F (15.9 bar from -20° to +46.1° C)
Vacuum:	98.7% (29.6" Hg)
Working Temperature:	-4° to +140° F (-20° to +60° C)

* Please consult us for higher temperature requirements

Pipe Diameter: 1/2" to 1-1/2"







Blue Pipe

TRANSAIR®	ØOD (IN)	ØOD (MM)	L1 (FT)	L (FT)
1013A17 04 00	1/2	16.5	9' 2 5/8"	9
1014A17 04	1/2	16.5	14' 9 1/2"	15
1013A25 04 00	1	25	9' 3 3/4"	9
1016A25 04 00	1	25	19' 9 3/4"	20
1013A40 04 00	1 1/2	40	9' 4 1/2"	9
1016A40 04 00	1 1/2	40	19' 7 1/2"	20

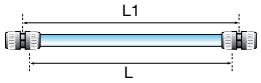
Gray Pipe

TRANSAIR®	ØOD (IN)	ØOD (MM)	L1 (FT)	L (FT)
1013A17 06 00	1/2	16.5	9' 2 5/8"	9
1016A25 06 00	1	25	19' 9 3/4"	20
1016A40 06 00	1 1/2	40	19' 7 1/2"	20

Green Pipe

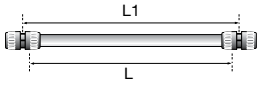
TRANSAIR®	ØOD (IN)	ØOD (MM)	L1 (FT)	L (FT)
1014A17 02	1/2	16.5	14' 9 1/2"	15
1016A25 02 00	1	25	19' 9 3/4"	20
1016A40 02 00	1 1/2	40	19' 7 1/2"	20

Pipe Diameters: 2" to 2 1/2"



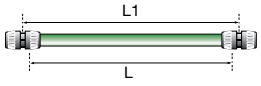
Blue Pipe

TRANSAIR®	ØOD (IN)	ØOD (MM)	L1 (FT)	L (FT)
1013A50 04	2	50	9' 7 1/2"	9
1016A50 04	2	50	19' 7 1/8"	20
1013A63 04	2 1/2	63	9' 7 1/2"	9
1016A63 04	2 1/2	63	19' 7 1/8"	20



Gray Pipe

TRANSAIR®	ØOD (IN)	ØOD (MM)	L1 (FT)	L (FT)
1016A50 06	2	50	20' 7 1/8"	20
1016A63 06	2 1/2	63	20' 7 1/8"	20



Green Pipe

TRANSAIR®	ØOD (IN)	ØOD (MM)	L1 (FT)	L (FT)
1016A50 02	2	50	120' 7 1/8"	20
1016A63 02	2 1/2	63	20' 7 1/8"	20

Pipe Diameters: 3" to 4"

Blue Pipe

TRANSAIR®	ØOD (IN)	ØOD (MM)	L (FT)
TA16 L1 04	3	76	20
TA16 L3 04	4	101	20

Gray Pipe

TRANSAIR®	ØOD (IN)	ØOD (MM)	L (FT)
TA16 L1 06	3	76	20
TA16 L3 06	4	101	20

Green Pipe

TRANSAIR®	ØOD (IN)	ØOD (MM)	L (FT)
TA16 L1 02	3	76	20
TA16 L3 02	4	101	20

Pipe Diameter: 6"

Blue Pipe

TRANSAIR®	ØOD (IN)	ØOD (MM)	L (FT)
TA16 L8 04	6	168.3	20

OUTSIDE Ø	OUTSIDE Ø (MM)	INSIDE Ø	INSIDE Ø (MM)	WALL THICKNESS Ø
5/8"	16.5	1/2"	13	1/16"
1"	25	13/16"	21	1/16"
1 1/2"	40	1 7/16"	37	1/16"
2"	50	1 13/16"	46	1/16"
2 1/2"	63	2 5/16"	59	1/16"
3"	76	2 13/16"	72	1/16"
4"	101	3 13/16"	97	1/16"
6 5/8"	168	6 3/8"	161.2	1/8"

Flexible Hose

Product Features:

- Compressor outlets (absorption of vibration)
- To bypass obstacles and join different levels
- Expansion loops
- Resistant to mineral and synthetic compressor oils
- Fire resistant (conforms to ISO 8030 standard for compressed air flexible hose and to EN 12.115 standard for vacuum flexible hose)

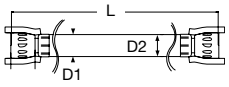
Specifications:

Max. Working Pressure for flexible hose used for compressed air*:	188 PSI from -4°F to +140°F (12.9 bar form -20° to +60° C) 232 PSI from -4°F to +115°F (15.9 bar from -20° to +46.1° C)
Max. Working Pressure for flexible hose used for vacuum:	145 PSI (9.9 bar)
Vacuum:	98.7% (29.6" Hg)
Working Temperature:	-4° to +140° F (-20° to +60° C)

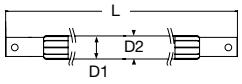
* Please consult us for higher temperature requirements

Diameters: 1" to 2-1/2"

Flexible Hose for Compressed Air Systems



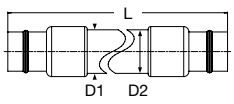
TRANSAIR®	OD (IN)	OD (MM)	ID	ID(MM)	L (FT)	MIN. BEND RADIUS (IN)	FOR USE WITH TRANSAIR® PIPE DIAMETER
1001E25 00 01	1 1/2	38	1	25	1' 10"	4	1
1001E25 00 03	1 1/2	38	1	25	4' 11"	4	1
1001E25 00 04	1 1/2	38	1	25	6' 6"	4	1
1001E40 00 02	2 1/8	54	1 1/2	40	3' 9"	16	1 1/2
1001E40 00 04	2 1/8	54	1 1/2	40	6' 6"	16	1 1/2
1001E40 00 05	2 1/8	54	1 1/2	40	9' 10"	16	1 1/2



TRANSAIR®	OD (IN)	OD (MM)	ID	ID(MM)	L (FT)	MIN. BEND RADIUS (IN)	FOR USE WITH TRANSAIR® PIPE DIAMETER
1001E50 00 09	2	63	2	50	3' 3"	11	2
1001E50 00 04	2	63	2	50	6' 6"	11	2
1001E63 00 08	3 1/8	79	2 1/2	63	4' 7"	12	2 1/2
1001E63 00 05	3 1/8	79	2 1/2	63	9' 10"	25	2 1/2
1001E63 00 06	3 1/8	79	2 1/2	63	13' 1"	25	2 1/2

Diameters: 3" to 4"

Flexible Hose for Compressed Air and Vacuum Systems



TRANSAIR®	OD (IN)	OD (MM)	ID	ID(MM)	L (FT)	MIN. BEND RADIUS (IN)	FOR USE WITH TRANSAIR® PIPE DIAMETER
FP01 L1 01	3 4/7	91	3	76	4' 11"	14	3
FP01 L1 02	3 4/7	91	3	76	6' 6"	14	3
FP01 L3 02	4 1/2	116	4	101	6' 6"	20	4
FP01 L3 03	4 1/2	116	4	101	9' 10"	20	4

Use two connectors RR01 to connect flexible hoses FP01 to Transair® pipe.

Anti Whip-Lash Strap

TRANSAIR®	L (FT)	L (M)
6698 99 03	3' 3"	1

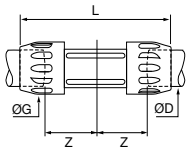
Prevents whip-lash should Transair® flexible hose be disconnected while under

Pipe-to-Pipe and Threaded Connectors

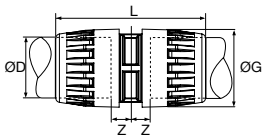
Product Features:

- The range of Transair® pipe-to-pipe and stud connectors provides versatility of design and helps to overcome constraints often encountered with the structure of industrial buildings.
- Quick connection
- Full bore design, consistent inner diameter for both pipe and connectors.
- Interchangeable and reusable
- Non-flammable materials (UL94-HB standard)

Diameter: 1/2" to 2-1/2" — Pipe-to-Pipe Connector

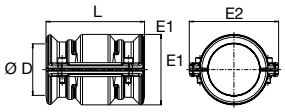


TRANSAIR®	ØD(IN)	ØD(MM)	ØG(IN)	L(IN)	Z
6606 17 00	1/2	16.5	1 5/6	4 3/4	33.0
6606 25 00	1	25	1 3/4	5 15/16	48.0
6606 40 00	1 1/2	40	2 5/8	8 1/8	57.0



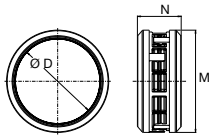
TRANSAIR®	ØD(IN)	ØD(MM)	ØG(IN)	L(IN)	Z(IN)
6606 50 00	2	50	3 1/8	6 3/4	1
6606 63 00	2 1/2	63	3 9/16	6 3/4	1

Diameter: 3" to 6" — Pipe-to-Pipe Connector Clamp and Cartridge



Clamp and Cartridge

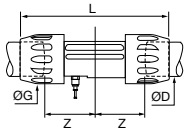
TRANSAIR®	ØD(IN)	ØD(MM)	L(IN)	E1(IN)	E2(IN)
RR01 L1 00	3	76	5 3/4	4 1/6	5 3/16
RR01 L3 00	4	100	5 3/4	5 1/6	6 3/16
RR01 L8 00	6	168	5 1/2	8 3/8	9 1/16



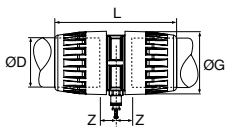
Cartridge (Spare Part)

TRANSAIR®	ØD(IN)	ØD(MM)	M(IN)	N(IN)
RP00 L1 00	3	76	3 1/2	2 1/16
RP00 L3 00	4	100	4 7/8	2 1/16

Diameter: 1" to 2-1/2" — Pipe-to-Pipe Connector with Vent



TRANSAIR®	ØD(IN)	ØD(MM)	ØG(IN)	L(IN)	Z(IN)
6676 25 00	1	25	1 3/4	5 15/16	1 7/8
6676 40 00	1 1/2	40	2 5/8	8 1/8	2 1/4

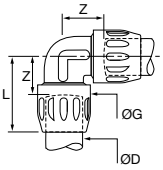


TRANSAIR®	ØD(IN)	ØD(MM)	ØG(IN)	L(IN)	Z(IN)
6676 50 00	2	50	3 1/8	6 3/4	1
6676 63 00	2 1/2	63	3 9/16	6 3/4	1

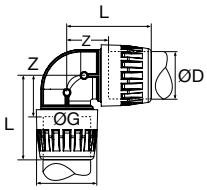
Model supplied with 1/4" threaded fitting and Ø 8 mm push-in connection, complete with blanking plug.

Diameter: 1/2" to 6"

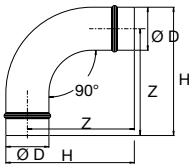
90° Elbow



TRANSAIR®	ØD(IN)	ØD(MM)	ØG(IN)	L(IN)	Z(IN)
6602 17 00	1/2	16.5	1 5/16	2 1/4	1 1/4
6602 25 00	1	25	1 3/4	2 5/8	1 9/16
6602 40 00	1 1/2	40	2 5/8	4 3/16	2 7/16

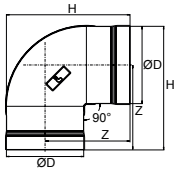


TRANSAIR®	ØD(IN)	ØD(MM)	ØG(IN)	L(IN)	Z(IN)
6602 50 00	2	50	3 1/8	6 1/8	2 1/4
6602 63 00	2 1/2	63	3 9/16	4 13/16	2 3/8



TRANSAIR®	ØD(IN)	ØD(MM)	H(IN)	Z(IN)
RX02 L1 00	3	76	8 15/16	7 7/16
RX02 L3 00	4	101	10 15/16	8 11/16

Use two connectors (RR01) to connect 90° elbow (RX02) to Transair® pipe.

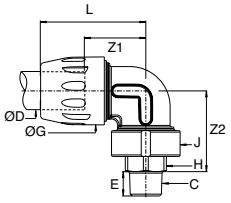


TRANSAIR®	ØD(IN)	ØD(MM)	H(IN)	Z(IN)
RA02 L8 00	6	168	10 5/8	7 1/14

Use two connectors (RR01) to connect 90° elbow (RA02) to Transair® pipe.

Diameter: 1/2" to 2-1/2"

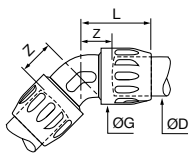
Male Threaded 90° Elbow



TRANSAIR®	ØD (IN)	ØD (MM)	C	E	H	Ø G	Ø J	L	Z1	Z2
6609 17 14	1/2	16.5	1/4	3/8	5/8	1 1/3	1 1/3	2 1/4	1 1/5	1 5/8
6609 17 22	1/2	16.5	1/2	9/16	15/16	1 1/3	1 1/3	2 1/3	1 1/4	1 4/5
6609 25 22	1	25	1/2	9/16	1	1 4/5	1 4/5	2 3/4	1 5/8	2
6609 25 28	1	25	3/4	9/16	1	1 4/5	1 4/5	2 3/4	1 5/8	2
6609 25 35	1	25	1	5/8	1 4/9	1 4/5	1 4/5	2 3/4	1 5/8	2 1/5
6609 40 35	1 1/2	40	1	5/8	1 5/8	2 5/8	2 2/3	4 1/5	2 4/9	3
6609 40 43	1 1/2	40	1 1/4	1	2	2 5/8	2 2/3	4 1/5	2 4/9	3 1/5
6609 40 50	1 1/2	40	1 1/2	1	2	2 5/8	2 2/3	4 1/5	2 4/9	3 1/5
6609 40 44	1 1/2	40	2	15/16	2 3/8	2 5/8	2 2/3	4 1/5	2 4/9	3 1/5
6609 50 50	2	50	1 1/2	1	2	3 1/8	3 1/8	4 4/7	2 1/5	3 1/5
6609 50 44	2	50	2	1	2 3/8	3 1/8	3 1/8	4 4/7	2 1/5	3 7/8
6609 63 41	2 1/2	63	2 1/2	1	3 1/8	3 4/7	3 4/7	4 7/8	2 3/8	4 1/5
6609 63 46	2 1/2	63	3	1 1/5	3 3/4	3 4/7	3 4/7	4 7/8	2 3/8	3 1/4

Diameter: 1" to 1-1/2"

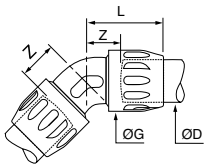
45° Elbow



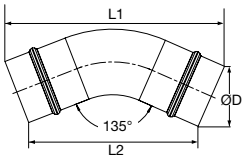
TRANSAIR®	ØD(IN)	ØD(MM)	ØG(IN)	L(IN)	Z(IN)
6612 25 00	1	25	1 3/4	2 1/4	1 1/8
6612 40 00	1 1/2	40	2 5/8	3 9/16	1 3/4

Diameter: 2" to 6"

45° Elbow

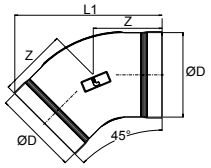


TRANSAIR®	ØD(IN)	ØD(MM)	ØG(IN)	L(IN)	Z(IN)
6612 50 00	2	50	3 1/8	3 7/8	1 1/2
6612 63 00	2 1/2	63	3 9/16	4	2 3/8



TRANSAIR®	ØD(IN)	ØD(MM)	L1(IN)	L2(IN)
RX12 L1 00	3	76	9	6
RX12 L3 00	4	101	10 11/16	7 1/4

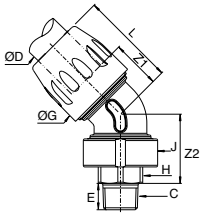
Use two connectors (RR01) to connect 45° elbow (RX12) to Transair® pipe.



TRANSAIR®	ØD(IN)	ØD(MM)	L1(IN)	Z(IN)
RA12 L8 00	6	168	12 1/4	5 3/8

Diameter: 1" to 2-1/2"

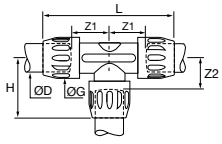
Male threaded 45° elbow, NPT



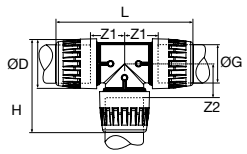
TRANSAIR®	ØOD (IN)	Ø OD (MM)	C	E	H	ØG	ØJ	L	Z1	Z2
6619 25 22	1	25	1/2	9/16	1 1/16	1 3/4	1 13/16	2 7/16	1 1/4	1 5/8
6619 25 28	1	25	3/4	9/16	1 1/16	1 3/4	1 13/16	2 7/16	1 1/4	1 5/8
6619 25 35	1	25	1	5/8	1 7/16	1 3/4	1 13/16	2 7/16	1 1/4	1 3/4
6619 40 35	1 1/2	40	1	5/8	1 5/8	2 5/8	2 11/16	3 11/16	1 3/4	2 5/16
6619 40 43	1 1/2	40	1 1/4		2	2 5/8	2 11/16	3 11/16	1 3/4	2 1/2
6619 40 50	1 1/2	40	1 1/2	1	2	2 5/8	2 11/16	3 11/16	1 3/4	2 1/2
6619 40 44	1 1/2	40	2	1	2 3/8	2 5/8	2 11/16	3 7/8	38	3 1/8
6619 50 50	2	50	1 1/2	1	2	3 1/8	3 1/8	3 7/8	38	3 1/4
6619 50 44	2	50	2	1	2 3/8	3 1/8	3 1/8	3 11/16	1 3/4	2 3/8
6619 63 44	2 1/2	63	2	13/16	2 3/4	3 9/16	3 9/16	4 3/16	2	3 1/16

Diameter: 1" to 2-1/2"

Equal Tee



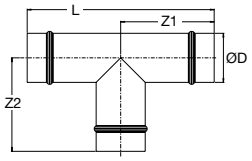
TRANSAIR®	ØD(IN)	ØD(MM)	ØG(IN)	H(IN)	L(IN)	Z1(IN)	Z2(IN)
6604 17 00	1/2	16.5	1 5/6	2 5/6	4 3/4	1 5/6	1 1/4
6604 25 00	1	25	1 3/4	2 11/16	6	2	1 9/16
6604 40 00	1 1/2	40	2 5/8	4	8 1/6	2 1/4	2 1/4



TRANSAIR®	ØD(IN)	ØD(MM)	ØG(IN)	H(IN)	L(IN)	Z1(IN)	Z2(IN)
6604 50 00	2	50	3 3/16	6 1/8	9 1/8	2 3/16	2 3/16
6604 63 00	2 1/2	63	3 9/16	4 13/16	9 5/8	2 7/16	2 7/16

Diameters: 3" to 6"

Equal Tee

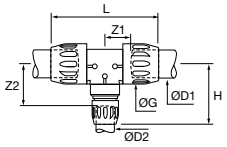


TRANSAIR®	ØD(IN)	ØD(MM)	L	Z1	Z2
RX04 L1 00	3	76	11 7/16	5 11/16	5 11/16
RX04 L3 00	4	101	12 3/16	6 1/8	5 5/16
RA04 L8 00	6	168	14 3/16	7 1/16	7 5/16

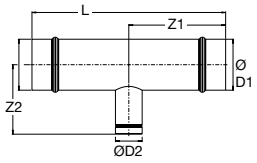
Use three connectors (RR01) to connect equal tees (RX04 and RA04) to Transair® pipe.

Diameters: 2" to 6"

Reducing Tee

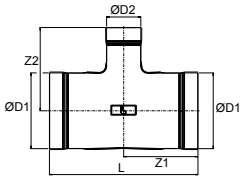


TRANSAIR®	ØD1 (IN)	ØD1 (MM)	ØD2 (IN)	ØD2 (MM)	ØG (IN)	H(IN)	L(IN)	Z1(IN)	Z2(IN)
6604 50 25	2	50	1	25	3 1/8	5 7/16	9 1/8	2 3/16	4 3/8
6604 50 40	2	50	1 1/2	40	3 1/8	6 3/16	9 1/8	2 3/16	4 1/4
6604 63 40	2 1/2	63	1 1/2	40	3 9/16	6 5/16	9 5/8	2 7/16	4 9/16
6604 63 50	2 1/2	63	2	50	3 9/16	7	9 15/16	2 3/16	4 5/8



TRANSAIR®	ØD1 (IN)	ØD1 (MM)	ØD2 (IN)	ØD2 (MM)	L(IN)	Z1(IN)	Z2(IN)
RX24 L1 40	3	76	1 1/2	40	11 7/16	5 11/16	4 1/8
RX24 L1 50	3	76	2	50	9 7/16	4 3/4	8 1/4
RX24 L1 63	3	76	2 1/2	63	11 7/16	5 11/16	6 7/16
RX24 L3 40	4	100	1 1/2	40	12 3/16	6 1/8	4 5/8
RX24 L3 50	4	100	2	50	12 9/32	6 9/64	6 13/16
RX24 L3 63	4	100	2 1/2	63	12 3/16	6 1/8	6 15/16
RX04 L3 L1	4	100	3	76	12 3/16	6 1/8	5 5/16

Use two connectors (RR01) to connect reducing tees (RX24) to Transair® pipes Ø 3" and Ø 4" and to connect pipe-to-pipe connectors (6606) to Transair® pipes Ø 1 1/2" and Ø 2 1/2".

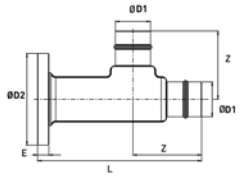


TRANSAIR®	ØD1(IN)	ØD1(MM)	ØD2(IN)	ØD2(MM)	L(IN)	Z1(IN)	Z2(IN)
RA04 L8 L3	6	168	4	100	13	6 1/2	7 5/16
RA04 L8 L1	6	168	3	76	13	6 1/2	7 5/16
RA04 L8 63	6	168	2 1/2	63	13	6 1/2	8 11/16

Use two connectors (RR01) to connect reducing tees (RA04) to Transair® pipes Ø 6", Ø 4" and Ø 3" and to connect pipe-to-pipe connectors (6606) to Transair® pipe Ø 2 1/2".

Diameters: 3" to 6"

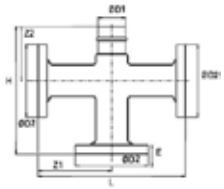
1 Flanged Tee



TRANSAIR®	ØD1(IN)	ØD1(MM)	ØD2(IN)	ØD2(MM)	L(IN)	Z1(IN)	Z2(IN)
RA44 L1 00 46	3	76	3	7 8/16	14	15/16	5 14/16
RA44 L3 00 46	4	100	4	9 1/16	14 15/16	15/16	6 5/16
RA44 L8 00 46	6	168	6	11	17 10/16	1	7 8/16

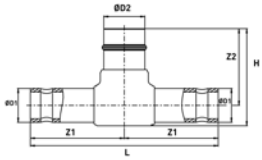
Diameters: 3" to 6"

3 Flanged Tee



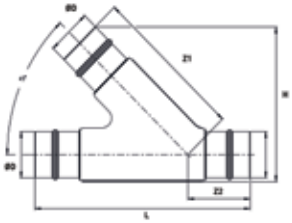
TRANSAIR®	ØD (IN)	ØD (MM)	DN (IN)	D(IN)	H(IN)	L(IN)	E(IN)	Z1(IN)	Z2(IN)
RA07 L1 03 46	3	76	3	7 8/16	14	16 5/16	15/16	8 2/16	5 14/16
RA07 L3 03 46	4	100	4	9 1/16	14 15/16	17 4/16	15/16	8 10/16	6 5/16
RA07 L8 03 46	6	168	6	11	17 11/16	20 4/16	1	10 3/16	7 8/16

Expanding Tee



TRANSAIR®	ØD1 (IN)	ØD1(MM)	ØD2 (IN)	ØD2 (MM)	L(IN)	Z1 (IN)	Z2 (IN)
RA04 63 L1	2 1/2	63	3	76	13 45/64	6 27/32	5 19/32
RA04 L1 L3	3	76	4	100	12 43/64	6 11/32	5 55/64
RA04 L3 L8	4	100	6	168	15 9/32	7 41/64	6 11/32

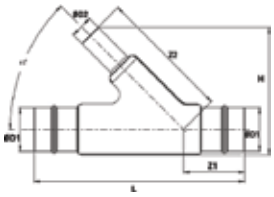
Equal Y Tee



TRANSAIR®	ØD (IN)	ØD(MM)	L(IN)	H (IN)	Z1 (IN)	Z2 (IN)
RA26 63 00	2 1/2	63	17 1/64	10 1/8	11 1/32	5 63/64
RA26 L1 00	3	76	14 13/32	10	10 15/64	4 11/64
RA26 L3 00	4	100	15 19/32	11 27/64	15 19/32	4 9/16
RA26 L8 00	6	168	18 47/64	15 25/32	18 47/64	4 61/64

Diameters: 3" to 6"

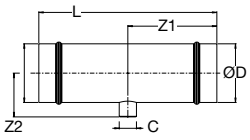
Reducing Y Tee



TRANSAIR®	ØD1 (IN)	ØD1(MM)	ØD2 (IN)	ØD2 (MM)	L(IN)	H (IN)	Z1 (IN)	Z2 (IN)
RA26 L1 40	3	76	1 1/2	40	14 13/32	8 21/32	9 1/16	4 11/64
RA26 L1 50	3	76	2	50	14 13/32	10 13/64	11 1/32	4 11/64
RA26 L1 63	3	76	2 1/2	63	14 13/32	10 5/16	11 1/32	4 11/64
RA26 L3 63	4	100	2 1/2	63	15 19/32	10 55/64	11 1/32	4 9/16
RA26 L3 L1	4	101	3	76	15 19/32	11 1/16	11 1/32	4 9/16
RA26 L8 L3	6	168	4	100	15 7/16	14 9/64	12 63/64	3 25/64

Diameter: 3" to 4"

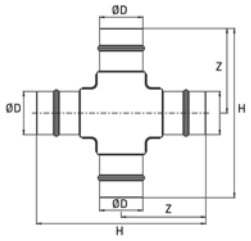
Threaded Tee



TRANSAIR®	ØD(IN)	ØD(MM)	C(IN)	L(IN)	Z1(IN)	Z2(IN)
RX20 L1N04	3	76	1/2	11 7/16	5 11/16	2 1/2
RX20 L3N04	4	101	1/2	12 3/16	6 1/8	3

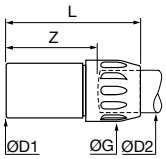
Use two connectors (RR01) to connect threaded tees (RX20) to Transair® pipe.

Diameter: 1-1/2" to 6" — Equal Cross

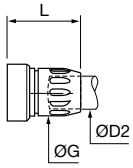


TRANSAIR®	D(IN)	D	H	H(IN)	Z(IN)
RA07 40 00	1 1/2	40	252	10	4 49/51
RA07 50 00	2	50	356	14	7
RA07 63 00	2 1/2	63	364	14 5/16	7 1/6
RA07 L1 00	3	76	298	11 12/16	5 13/15
RA07 L3 00	4	100	322	12 11/16	6 21/62
RA07 L8 00	6	168	382	15 1/16	7 13/25

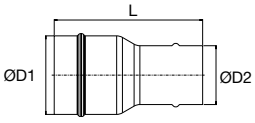
Diameter: 1" to 6" — Plug-In Reducer



TRANSAIR®	ØD1(IN)	ØD1(MM)	ØD2(IN)	ØD2(MM)	ØG(IN)	L(IN)	Z(IN)
6666 17 25	1	25	1/2	16.5	1 5/16	3	2
6666 25 40	1 1/2	40	1	25	1 3/4	3 7/8	2 13/16

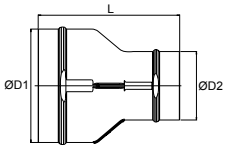


TRANSAIR®	ØD1(IN)	ØD1(MM)	ØD2(IN)	ØD2(MM)	ØG(IN)	L(IN)	Z(IN)
6666 25 50	2	50	1	25	1 49/64	3 13/16	
6666 40 63	2 1/2	63	1 1/2	40	2 5/8	4 7/16	4 1/8
6666 40 50	2	50	1 1/2	40	2 5/8	4 7/16	4
6666 50 63	2 1/2	63	2	50	3 1/8	4 15/16	4 1/16



TRANSAIR®	ØD1(IN)	ØD1(MM)	ØD2(IN)	ØD2(MM)	L(IN)
RX64 L1 50	3	76	2	50	8 11/16
RX64 L1 63	3	76	2 1/2	63	9 1/16
RX64 L3 50	4	100	2	50	13 1/2
RX64 L3 63	4	101	2 1/2	63	9 13/16
RX66 L3 L1	4	101	3	76	7 9/16

Use one connector (RR01) to connect plug-in reducers (RX64) to Transair® pipes Ø 3" or Ø 4" and one connector (6606) to connect to Transair® pipe Ø 2 1/2".

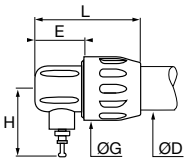


TRANSAIR®	ØD1(IN)	ØD1(MM)	ØD2(IN)	ØD2(MM)	L(IN)
RA66 L8 L3	6	168	4	101	8 1/4
RA66 L8 L1	6	168	3	168	9 13/16

Use one connector (RR01) to connect plug-in reducers (RA66) to Transair® pipe.

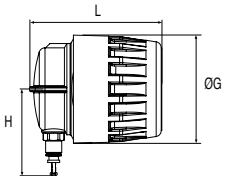
Diameter: 1/2" to 2-1/2"

Vented End Cap



TRANSAIR®	ØD(IN)	ØD(MM)	E(IN)	ØG(IN)	H(IN)	L(IN)
6625 17 00	1/2	16.5	1	1 3/8	1 13/16	2 7/16
6625 25 00	1	25	1 5/16	1 3/4	2	3
6625 40 00	1 1/2	40	1 3/8	2 5/8	2 3/16	3 7/8

1/2": supplied with LF3000 6mm plug. Model Ø 1", Ø 1 12", Ø 2 and Ø 2 1/2": supplied with LF3000 5/16" plug.

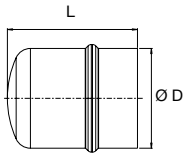


TRANSAIR®	ØD(IN)	ØD(MM)	E(IN)	ØG(IN)	H(IN)	L(IN)
6625 50 00	2	50	1 7/8	3 1/8	2 5/8	4 1/4
6625 63 00	2 1/2	63	1 1/4	3 9/16	2 15/16	4 3/8

Ø 1/2": supplied with LF3000 6mm plug. Model Ø ", Ø 1 12", Ø 2" and Ø 2 1/2": supplied with LF3000 5/16" plug.

Diameter: 3" to 6"

End Cap

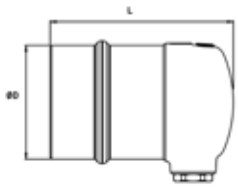


TRANSAIR®	ØD(IN)	ØD(MM)	L(IN)
RX25 L1 00	3	76	3 15/16
RX25 L3 00	4	101	4 1/4

Use one connector (RR01) to connect end caps (RX25) to Transair® pipe.

Diameters: 3" to 6"

End Cap with Plug

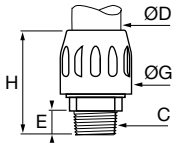


TRANSAIR®	ØD(IN)	ØD(MM)	L(IN)
RA25 L1 04	3	76	4 27/32
RA25 L3 04	4	100	4 27/32
RA25 L8 04	6	168	4 9/16

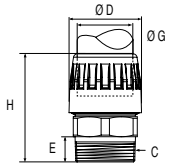
End cap Plug is 1/2"

Diameter: 1/2" to 2-1/2"

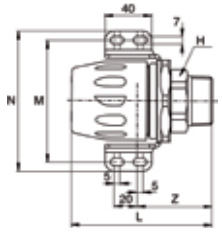
Male NPT threaded connector



TRANSAIR®	ØD(IN)	ØD(MM)	C(IN)	E(IN)	ØG(IN)	H(IN)
6605 17 14	1/2	16.5	1/4	3/8	1 3/8	2 1/2
6605 17 22	1/2	16.5	1/2	5/8	1 3/8	2 11/16
6605 25 22	1	25	1/2	5/8	1 3/4	2 3/4
6605 25 28	1	25	3/4	5/8	1 3/4	2 13/16
6605 25 35	1	25	1	5/8	1 3/4	2 13/16
6605 40 35	1 1/2	40	1	5/8	2 5/8	4 3/8
6605 40 43	1 1/2	40	1 1/4	1	2 5/8	4 3/8
6605 40 50	1 1/2	40	1 1/2	1	2 5/8	4 1/2
6605 40 44	1 1/2	40	2	15/16	2 5/8	4 3/8



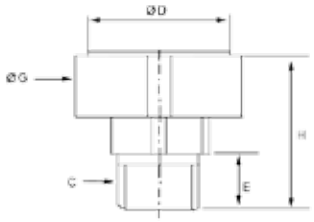
TRANSAIR®	ØD(IN)	ØD(MM)	C(IN)	E(IN)	ØG(IN)	H(IN)
6605 50 50	2	50	1 1/2	1	3 1/8	4 11/16
6605 50 44	2	50	2	1	3 1/8	4 3/4
6605 63 44	2 1/2	63	2	13/16	3 9/16	4 11/16
6605 63 41	2 1/2	63	2 1/2	1	3 9/16	5 1/8
6605 63 46	2 1/2	63	3	1 1/16	3 9/16	5 1/2



TRANSAIR®	ØD (IN)	ØD (MM)	C (IN)	H (IN)	L (IN)	M (IN)	N (IN)	Z (IN)
6615 25 22	1	25	1/2	1 1/16	3	2 5/8	3 1/4	1 3/4
6615 25 28	1	25	3/4	1 1/16	3	2 5/8	3 1/4	1 3/4
6615 25 35	1	25	1	1 7/16	3	2 5/8	3 1/4	2 1/16
6615 40 43	1 1/2	40	1 1/4	2	4 3/4	3 5/16	4 1/8	3
6615 40 50	1 1/2	40	1 1/2	2	4 3/4	3 5/16	4 1/8	3
6615 50 50	2	50	1 1/2	2	5	4 5/8	5 3/16	2 5/8
6615 50 44	2	50	2	2 3/8	5	4 5/8	5 3/16	2 5/8

Diameter: 1/2" to 2-1/2"

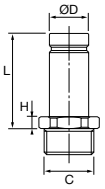
Male NPT Stud Nut



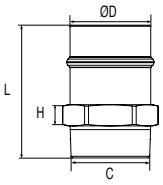
TRANSAIR®	ØD(IN)	ØD(MM)	C(IN)	E(IN)	ØG(IN)	H(IN)
6611 17 22	1/2	16.5	1/2	5/8	1 5/16	2 1/2
6611 25 22	1	25	1/2	9/16	1 5/16	2 11/16
6611 25 28	1	25	3/4	9/16	1 3/4	2 3/4
6611 25 35	1	25	1	9/16	1 3/4	2 3/4
6611 40 35	1 1/2	40	1	9/16	1 3/4	2 13/16
6611 40 43	1 1/2	40	1 1/4	5/8	1 3/4	2 13/16
6611 40 50	1 1/2	40	1 1/2	5/8	2 5/8	4 3/8
6611 40 44	1 1/2	40	2	1	2 5/8	4 3/8
6611 63 44	2 1/2	63	2	15/16	2 5/8	4 3/8
6611 63 41	2 1/2	63	2 1/2	1	2 5/8	4 1/2

Diameter: 1/2" to 3"

Male NPT Adapter



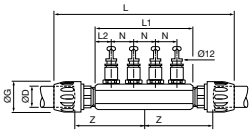
TRANSAIR®	ØD(IN)	ØD(MM)	C(IN)	L(IN)	H(IN)
6621 17 22	1/2	16.5	1/2	1 11/16	3/16
6621 25 22	1	25	1/2	1 15/16	1/4
6621 25 28	1	25	3/4	1 15/16	1/4
6621 25 35	1	25	1	1 15/16	1/4
6621 40 43	1 1/2	40	1 1/4	2 15/16	5/16
6621 40 50	1 1/2	40	1 1/2	2 15/16	3/8



TRANSAIR®	ØD(IN)	ØD(MM)	C(IN)	L(IN)	H(IN)
RR21 L1N20	3	76	2 1/2	4 15/16	13/16
RR21 L1N24	3	76	3	4 15/16	13/16

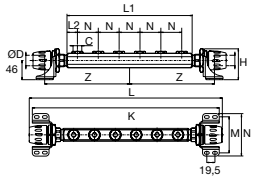
Diameter: 1" to 1-1/2"

4 and 6 Port Manifolds



TRANSAIR®	ØD (IN)	ØD (MM)	PORTS	G (IN)	G (MM)	L (IN)	L (MM)	L1 (IN)	L1 (MM)	L2 (IN)	L2 (MM)	N (IN)	N (MM)	Z (IN)
6651 25 12 04	1	25	4	1 3/4	44.5	10 11/16	271	5 15/16	151	15/16	23	1 3/8	35	4 1/4
6651 40 12 04	1/2	16.5	4	2 5/8	67	15 3/4	400	8	204	1 1/16	27	2	50	5 15/16

Supplied with four Ø12 mm plugs. 1" supplied with 3/8" BSPP ports. 1 1/2" supplied with 1/2" BSPP ports.

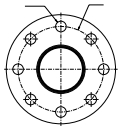


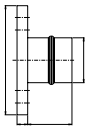
TRANSAIR®	ØD(IN)	ØD(MM)	NPT(IN)	PORTS	C(IN)	L(IN)	L1(IN)	L2(IN)	K(IN)	N(IN)	Z(IN)	H(IN)	M(IN)
6653 25 22 06	1	25	1/2	6	1/2	18 1/4	11 13/16	1	17 5/8	2	8	2 15/16	3 3/8
6653 40 22 06	1/2	16.5	1/2	6	1/2	20 11/16	12 3/16	1	18 7/16	2	8 9/16	3 1/4	4 1/8

Supplied with 1/2" NPT ports.

Diameter: 3" to 6"

Flange



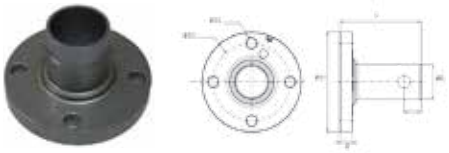


TRANSAIR®	ØD(IN)	ØD(MM)	DN(IN)	D1(IN)	D2(IN)	D3(IN)	E(IN)	L(IN)
RX30 L1 00	3	76	2 9/16	7 5/16	5 3/4	11/16	3/8	2 15/16
RX31 L1 00	3	76	3 1/8	8	6 5/16	3/4	1/2	2 15/16
RX30 L3 00	4	100	3 15/16	8 11/16	7 1/8	11/16	3/8	2 15/16
RX31 L3 00	4	100	3 15/16	9	7 1/2	3/4	1/2	2 15/16
RA31 L8 00	6	168	5 5/16	11	9 7/16	1	2	3 15/16

RX30 flanges are compatible with VR01 ball valves.
RX31 flanges are compatible with VR03 ball valves.

Diameter: 2-1/2" to 6"

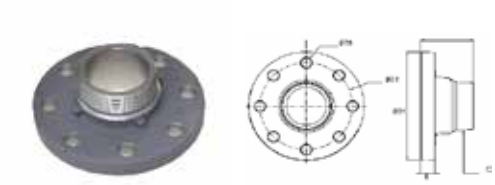
Aluminum Flange



TRANSAIR®	ØD (IN)	ØD (MM)	DN (IN)	D1 (IN)	D2 (IN)	D3 (IN)	E (IN)	L (IN)	KG	LB
RA30 63 00	2 1/2	63	2 9/16	7 9/32	5 45/64	45/64	29/32	5 49/64	1.798	3.96
RA31 63 00	2 1/2	63	2 9/16	7 3/32	5 1/2	3/4	29/32	5 49/64	1.774	3.91
RA30 L1 00	3	76	3 5/32	7 7/8	6 19/64	45/64	31/32	4 13/64	2.069	4.56
RA31 L1 00	3	76	3 5/32	7 15/32	6	3/4	31/32	4 13/64	1.913	4.21
RA30 L3 00	4	100	4	8 21/32	7 3/32	45/64	31/32	4 13/64	2.172	4.78
RA31 L3 00	4	100	4	9 1/16	7 1/2	3/4	31/32	4 13/64	2.677	5.88
RA31 L8 K2	6	168	7 7/8	13 25/64	11 39/64	55/64	49/64	7 27/32	6.335	13.96

Diameter: 2-1/2" to 6"

Aluminum Male Threaded Flange



TRANSAIR®	ØD (IN)	ØD (MM)	DN (IN)	D1 (IN)	D2 (IN)	D3 (IN)	E (IN)	L (IN)	KG	LB
RA33 L1N24	3	76	3 5/32	7 7/8	6 19/64	45/64	31/32	3 3/32	2.089	4.6
RA33 L3N24	4	100	4	8 21/32	7 3/32	45/64	31/32	3 3/32	2.133	4.69

Diameter: 3" to 6"

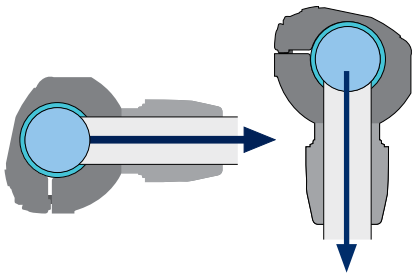
Flange Gasket and Bolt Kit

TRANSAIR®	ØD(IN)	ØD(MM)	FOR USE WITH FLANGE REFERENCE
EW05 L1 00	3	76	RX30/RX31 L1 00
EW05 L3 00	4	101	RX30/RX31 L3 00
EW05 L8 00	6	168	RA31 L8 00

TRANSAIR®	ØD(IN)	ØD(MM)	C(IN)	L(IN)
EW06 00 01	3, 4	76, 101	5/8	2 3/8

Contains eight bolts and eight nuts.

Drop Brackets



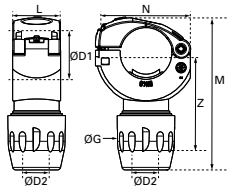
For rigid drops with horizontal take off or for all types of air supply with rigid pipe or flexible hose on an installation which incorporates an efficient air dryer.

Product Features:

- Optimum flow
- Compact
- Well adapted for most original equipment manufacturer (OEM) applications and for use with neutral gases
- Quick installation without any cutting of pipe

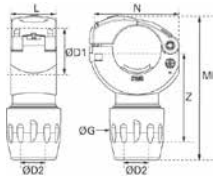
Diameter: 1" to 2"

Simple Reducing Bracket



TRANSAIR®	ØD1 (IN)	ØD1 (MM)	ØD2 (IN)	ØD2 (MM)	M (IN)	G (IN)	L (IN)	N (IN)	Z (IN)
RA69 25 17	1	25	1/2	16.5	3 5/8	1 5/16	1 1/2	2 1/16	2
RA69 40 25	1 1/2	40	1	25	4 5/8	1 3/4	1 1/2	3	2 3/8

To drill Transair® pipe, use drilling tools 6698 02 01 and 6698 02 02.

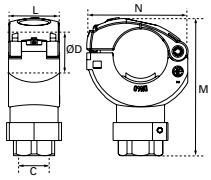


TRANSAIR®	ØD1 (IN)	ØD1 (MM)	ØD2 (IN)	ØD2 (MM)	M (IN)	G (IN)	L (IN)	N (IN)	Z (IN)
RA69 50 25	2	50	1	25	4 15/16	1 3/4	1 1/2	3 7/16	2 5/8

To drill Transair® pipe, use drilling tools 6698 02 01 and 6698 02 02.

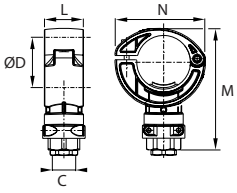
Diameter: 1" to 2"

Simple Bracket, NPT



TRANSAIR®	ØD (IN)	ØD (MM)	C (IN)	L (IN)	N (IN)	M (IN)
RA68 25N04	1	25	1/2	1 7/16	2 1/16	3 3/8
RA68 40N04	1 1/2	40	1/2	1 7/16	2 15/16	3 15/16
RA68 63N08	2 1/2	63	1	1 29/64	3 15/16	5 35/64

Supplied with brass plug. To drill Transair® pipe, use drilling tools 6698 02 01 and 6698 02 02.

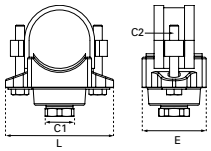


TRANSAIR®	ØD (IN)	ØD (MM)	C (IN)	L (IN)	N (IN)	M (IN)
RA68 50N04	2	50	1/2	1 7/16	3 3/8	4 1/2
RA68 50N08	2	50	1	1 7/16	3 3/8	5 1/16
RA68 63N08	2 1/2	63	1	1 29/64	3 15/16	5 35/64

Supplied with brass plug. To drill Transair® pipe, use drilling tools 6698 02 01 and 6698 02 02.

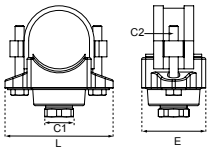
Diameters: 3" to 6"

Simple Bracket, NPT



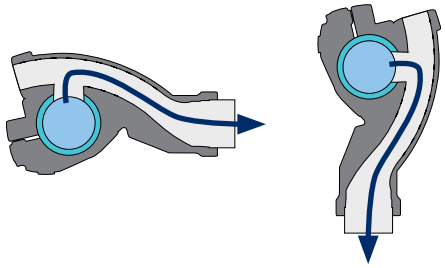
TRANSAIR®	ØD (IN)	ØD (MM)	C1 (IN)	C2 (IN)	E (IN)	L (IN)
RR63 L1N08	3	76	1	M12	2	5 3/8
RR63 L3N08	4	101	1	M12	3 1/8	5 3/8

Nitrile Seals. Supplied with Ø 1" adaptor (6621 25 35). To drill Transair® pipe, use drilling tool EW09.



TRANSAIR®	ØD (IN)	ØD (MM)	C1 (IN)	C2 (IN)	E (IN)	L (IN)
RR63 L8N12	6	168	1 1/2	16	3 9/16	9 1/4
RR63 L8N16	6	168	2	16	4 1/16	9 1/4

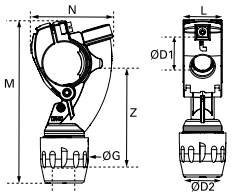
Diameter: 1" to 2-1/2" — Quick Assembly Bracket



New generation quick assembly brackets are recommended for vertical or horizontal take-offs, using either rigid pipe or flexible hose.

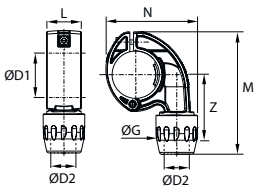
Product Features:

- Integral water retention device
- Very high flow
- Quick installation without any cutting of pipe



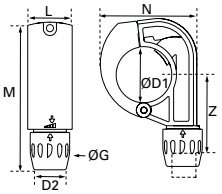
TRANSAIR®	ØD1 (IN)	ØD1 (MM)	ØD2 (IN)	ØD2 (MM)	M (IN)	ØG (IN)	L (IN)	N (IN)	Z (IN)
6662 25 17	1	25	1/2	16.5	5 1/2	1 5/16	1 7/16	2 1/2	3 1/4
6662 25 00	1	25	1	25	5 1/4	1 3/4	1 7/16	2 1/2	3
6662 40 17	1 1/2	40	1/2	16.5	6 1/16	1 5/16	1 1/2	3	3 1/2
6662 40 25	1 1/2	40	1	25	5 15/16	1 3/4	1 1/2	3	3 1/4

To drill Transair® pipe, use drilling tools 6698 02 01 and 6698 02 02.



TRANSAIR®	ØD1 (IN)	ØD1 (MM)	ØD2 (IN)	ØD2 (MM)	M (IN)	ØG (IN)	L (IN)	N (IN)	Z (IN)
6662 50 25	2	50	1	25	5 3/16	1 3/4	1 1/2	3 7/8	2 5/16

To drill Transair® pipe, use drilling tool 6698 02 01.

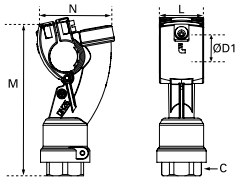


TRANSAIR®	ØD1 (IN)	ØD1 (MM)	ØD2 (IN)	ØD2 (MM)	M (IN)	ØG (IN)	L (IN)	N (IN)	Z (IN)
6662 63 25	2 1/2	63	1	25	6 9/16	1 3/4	2	4 1/4	3

To drill Transair® pipe, use drilling tool 6698 02 01.

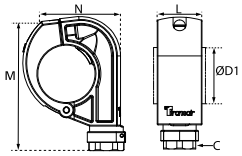
Diameter: 1" to 2-1/2"

Quick Assembly Mini-Bracket with Female Thread, NPT



TRANSAIR®	ØD (IN)	ØD (MM)	C (IN)	M (IN)	L (IN)	N (IN)
6663 25 22	1	25	1/2	4 5/8	1 7/16	2 1/2
6663 40 22	1 1/2	40	1/2	5 3/16	1 7/16	3 1/2

Supplied with brass plug. To drill Transair® pipe, use drilling tools 6698 02 01 and 6698 02 02.

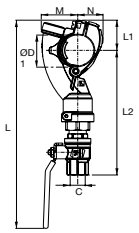


TRANSAIR®	ØD (IN)	ØD (MM)	C (IN)	M (IN)	L (IN)	N (IN)
6663 50 22	2	50	1/2	4 4/5	1 7/16	3 4/5
6663 50 28	2	50	3/4	5 1/8	1 7/16	3 4/5
6663 63 22	2 1/2	63	1/2	5 1/2	2	3 7/8
6663 63 28	2 1/2	63	3/4	5 1/2	2	3 7/8

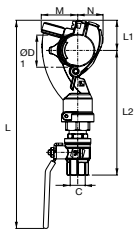
Supplied with brass plug. To drill Transair® pipe, use drilling tool 6698 02 01.

Diameter: 1" to 2-1/2"

Quick Assembly Bracket with Pre-Assembled Ball Valve, NPT



TRANSAIR®	ØD1 (IN)	ØD1 (MM)	C (IN)	L (IN)	L1 (IN)	L2 (IN)	M (IN)	N (IN)
6668 25 22	1	25	1/2	10 1/6	1 1/4	6 1/8	1 9/16	15/16
6668 40 22	1 1/2	40	1/2	10 5/8	1 9/16	6 3/8	1 3/4	1 1/4



TRANSAIR®	ØD1 (IN)	ØD1 (MM)	C (IN)	L (IN)	L1 (IN)	L2 (IN)	M (IN)	N (IN)
6668 50 22	2	50	1/2	9 3/4	1 13/16	5 1/4	3 7/16	1 1/4
6668 63 22	2 1/2	63	1/2	10 13/16	2 1/2	5 5/8	2 3/8	1 7/8
6668 63 28	2 1/2	63	3/4	11 11/16	2 1/2	5 3/4	2 3/8	1 7/8

Pressurized System Outlets

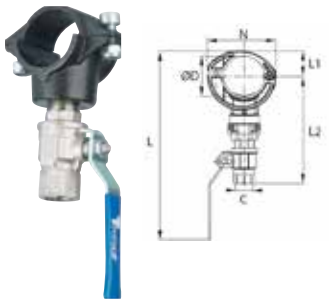
We recommend, however, that the pipe system is vented prior to the addition of an outlet. Thanks to the lateral dismantling capability of Transair® pipe and the use of quick assembly brackets, this operation can be completed very quickly (less than seven minutes for a new outlet) and guarantees the interior cleanliness of the system.

Product Features:

- Ideal for fast assembly of new pressurized outlets, without venting the compressed air system.
- The drilling tool can be used with most standard drills.

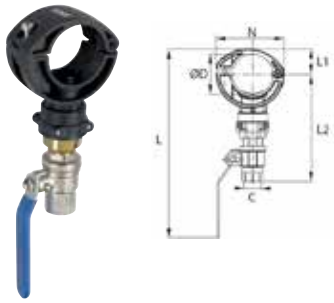
Diameter: 1" to 2-1/2"

Pressurized System Bracket



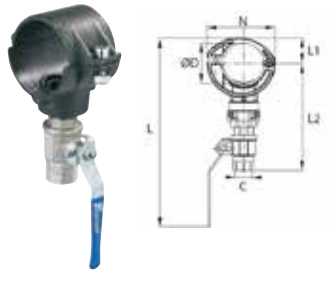
TRANSAIR®	ØD (IN)	ØD (MM)
EA98 06 01	1	25
EA98 06 02	1 1/2	40

Bracket with ball valve (1/2" BSPP thread)



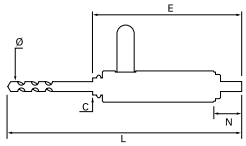
TRANSAIR®	ØD (IN)	ØD (MM)
EA98 06 04	2	50

Bracket with ball valve (1/2" BSPP thread)



TRANSAIR®	ØD (IN)	ØD (MM)
EA98 06 03	2 1/2	63

Pressurized System Drilling Tool, BS



TRANSAIR®	ØD (IN)	ØD (MM)	C (IN)	L (IN)	E (IN)	N (IN)
EA98 06 00	1/2	16.5	1/2	13	6 1/16	1 3/16

Wall Brackets

Product Features:

- 1, 2 or 3 ports
- For wall or machine mounting
- Supplied with brass plugs
- Drain outlet 1/4"
- Non-flammable (conforms to UL94-HB standard)

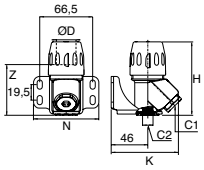
Specifications:

Max. Working Pressure*	188 PSI from -4°F to +140°F (12.9 bar form -20° to +60° C)
	232 PSI from -4°F to +115°F (15.9 bar from -20° to +46.1° C)
Vacuum:	98.7% (29.6" Hg)
Working Temperature:	-4° to +140° F (-20° to +60° C)

* Please consult us for higher temperature requirements

Diameter: 1/2" to 1"

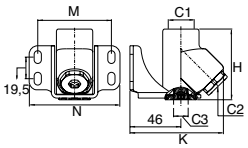
1 Port 45° Wall Bracket, NPT



TRANSAIR®	ØD (IN)	ØD (MM)	C1 (IN)	C2 (IN)	H (IN)	Z (IN)	K (IN)	N (IN)
6640 17 22	1/2	16.5	1/2	1/4	3 1/2	2 1/2	3 5/16	3 1/4
6640 25 22	1	25	1/2	1/4	3 5/8	2 1/2	3 5/16	3 1/4

Diameter: 1/2"

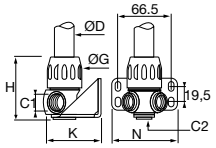
1 Port 45° Threaded Wall Bracket, NPT



TRANSAIR®	C1 (IN)	C2 (IN)	C3 (IN)	H (IN)	K (IN)	M (IN)	N (IN)
6642 22 22	1/2	1/2	1/4	2 1/2	3 5/16	2 5/8	3 1/4

Diameter: 1/2" to 1"

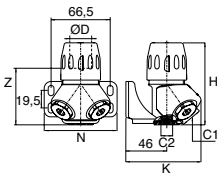
2 Port 90° Wall Bracket



TRANSAIR®	ØD (IN)	ØD (MM)	C1 (IN)	C2 (IN)	G (IN)	H (IN)	K (IN)	N (IN)
6684 17 22	1/2	16.5	1/2	1/4	1 5/16	2 9/16	2 15/16	3 1/4
6684 25 22	1	25	1/2	1/4	1 3/4	3 3/16	2 15/16	3 1/4

Diameter: 1/2" to 1"

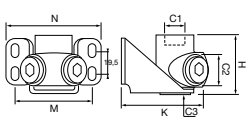
2 Port 45° Wall Bracket, NPT



TRANSAIR®	ØD (IN)	ØD (MM)	C1 (IN)	C2 (IN)	H (IN)	Z (IN)	K (IN)	N (IN)
6689 17 22	1/2	16.5	1/2	1/4	3 1/2	2 1/2	3 5/16	3 1/4
6689 25 22	1	25	1/2	1/4	3 5/8	2 1/2	3 5/16	3 1/4

Diameter: 1/2"

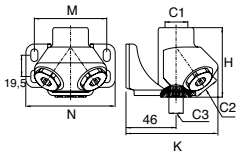
2 Port 90° Threaded Wall Bracket, NPT



TRANSAIR®	C1 (IN)	C2 (IN)	C3 (IN)	H (IN)	K (IN)	M (IN)	N (IN)
6688 22 22	1/2	1/2	1/4	1 7/8	2 7/8	2 5/8	3 1/4

Diameter: 1/2"

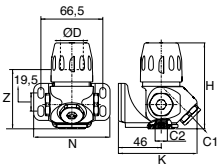
2 Port 45° Threaded Wall Bracket, NPT



TRANSAIR®	C1 (IN)	C2 (IN)	C3 (IN)	H (IN)	K (IN)	M (IN)	N (IN)
6691 22 22	1/2	1/2	1/4	2 1/2	3 5/16	2 5/8	3 1/4

Diameter: 1"

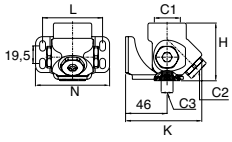
3 Port Wall Bracket, NPT



TRANSAIR®	ØD (IN)	ØD (MM)	C1 (IN)	C2 (IN)	H (IN)	Z (IN)	K (IN)	N (IN)
6696 25 22	1	25	1/2	1/4	3 5/8	2 1/2	3 5/16	3 1/4

Diameter: 3/4"

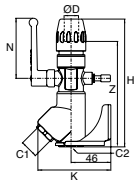
3 Port Threaded Wall Bracket, NPT



TRANSAIR®	C1 (IN)	C2 (IN)	C3 (IN)	H (IN)	K (IN)	M (IN)	N (IN)
6636 28 22	3/4	1/2	1/4	2 1/2	3 5/16	2 5/8	3 1/4

Diameter: 1/2" to 1"

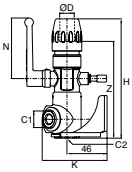
1 port 45° Wall Bracket With Ball Valve, NPT



TRANSAIR®	ØD (IN)	ØD (MM)	C1 (IN)	C2 (IN)	H (IN)	Z (IN)	K (IN)	N (IN)
6679 17 22	1/2	16.5	1/2	1/4	5 13/16	4 7/8	3 5/16	2 3/4
6679 25 22	1	25	1/2	1/4	6 13/16	5 5/8	3 5/16	4 1/4

Diameter: 1/2" to 1"

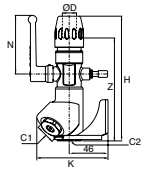
2 Port 90° Wall Bracket With Ball Valve, NPT



TRANSAIR®	ØD (IN)	ØD (MM)	C1 (IN)	C2 (IN)	H (IN)	Z (IN)	K (IN)	N (IN)
6675 25 22	1	25	1/2	1/4	6 7/16	5 3/16	2 15/16	4 1/4

Diameter: 1/2" to 1"

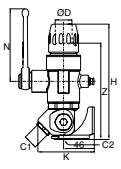
2 Port 45° Wall Bracket With Ball Valve, NPT



TRANSAIR®	ØD (IN)	ØD (MM)	C1 (IN)	C2 (IN)	H (IN)	Z (IN)	K (IN)	N (IN)
6694 17 22	1/2	16.5	1/2	1/4	5 13/16	4 7/8	3 5/16	2 3/4
6694 25 22	1	25	1/2	1/4	6 13/16	5 5/8	3 5/16	4 1/4

Diameter: 1/2" to 1"

3 Port Wall Bracket With Ball Valve, NPT



TRANSAIR®	ØD (IN)	ØD (MM)	C1 (IN)	C2 (IN)	H (IN)	Z (IN)	K (IN)	N (IN)
6638 25 22	1	25	1/2	1/4	6 13/16	5 5/8	3 15/16	4 1/4

Valves

Transair® ball valves and butterfly valves placed regularly throughout the system at key locations, such as compressor outlets and upstream of pneumatic tools, allow ease of system isolation and pipe reconfiguration / maintenance.

Product Features:

- Quick connection
- Available in lockable version (only in 1/2" (16.5m) and 1" (25mm))
- Manual or piloted operation (only in 1" (25mm) and 2 1/2" (40mm))

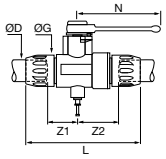
Specifications:

Max. Working Pressure*	188 PSI from -4°F to +140°F (12.9 bar form -20° to +60° C)
	232 PSI from -4°F to +115°F (15.9 bar from -20° to +46.1° C)
Vacuum:	98.7% (29.6" Hg)
Working Temperature:	-4° to +140° F (-20° to +60° C)

* Please consult us for higher temperature requirements

Diameters: 1/2" to 1"

Double Female, Vented

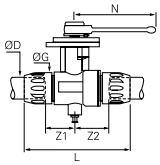


TRANSAIR®	ØD (IN)	ØD (MM)	G (IN)	L (IN)	N (IN)	Z1 (IN)	Z2 (IN)
4089 17 00	1/2	16.5	1 5/16	4 3/4	2 3/4	1 1/8	1 11/16
4089 25 00	1	25	1 3/4	6	4 1/4	1 9/16	2 3/16

Model 4089 17 00:supplied Ø6mm plug. Model 4089 25 00: supplied with Ø8 mm plug..

Diameters: 1/2" to 1"

Lockable Valve, Vented

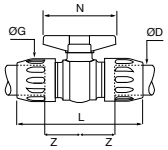


TRANSAIR®	ØD (IN)	ØD (MM)	G (IN)	L (IN)	N (IN)	Z1 (IN)	Z2 (IN)
4099 17 00	1/2	16.5	1 5/16	4 3/4	2 3/4	1 1/8	1 11/16
4099 25 00	1	25	1 3/4	6	4 1/4	1 9/16	2 3/16

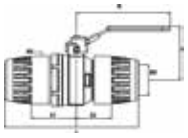
Model 4099 17 00: supplied with Ø 6 mm plug. Model 4099 25 00: supplied with Ø 8 mm plug.

Diameters: 1-1/2" to 2-1/2"

Double Female Valve

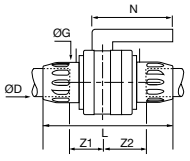


TRANSAIR®	ØD (IN)	ØD (MM)	G (IN)	L (IN)	N (IN)	Z (IN)
4002 40 00	1 1/2	40	2 5/8	8	4 13/16	2 1/4



TRANSAIR®	ØD (IN)	ØD (MM)	G (IN)	L (IN)	N (IN)	Z1 (IN)	Z2 (IN)
4092 50 00*	2	50	3 1/8	8 13/16	6 1/8	2 3/8	1 11/16

* Lockable

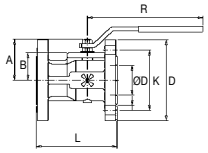


TRANSAIR®	ØD (IN)	ØD (MM)	G (IN)	L (IN)	N (IN)	Z1 (IN)	Z2 (IN)
4002 63 00	2 1/2	63	3 9/16	10 15/16	7 5/16	3 5/16	3 7/8
4012 63 00*	2 1/2	63	3 9/16	10 15/16	7 5/16	3 5/16	3 7/8

* Lockable

Diameters: 1/2"

Ball Valve

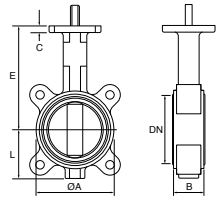


TRANSAIR®	ØD (IN)	ØD (MM)	A (IN)	B (IN)	D (IN)	K (IN)	L (IN)	R (IN)
VR01 L1 00	3	76	4	2 15/16	7 5/16	5 11/16	6 11/16	12 1/2
VR01 L3 00	4	100	5 3/8	4 1/16	8 11/16	7	7 1/2	15

Supplied with fixing bolts. Use flange gasket EW05 when mounting with a flange.

Diameters: 3" to 6"

Butterfly Valve

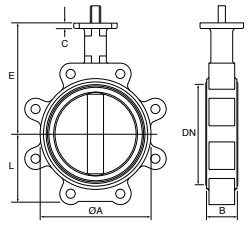


TRANSAIR®	DN (IN)	ØA (IN)	B (IN)	E (IN)	L (IN)	C (IN)
VR03 L1 00	3	4 3/4	1 3/4	6 5/16	2 15/16	3/8

Valve is not supplied with handle and bolt kit. Valve handle (lockable) part number is EW08 L1 00. Bolt kit part number is EW10 00 01. Valve has a bonded seal and does not require a flange gasket.

TRANSAIR®	DN (IN)	ØA (IN)	B (IN)	E (IN)	L (IN)	C (IN)
VR03 L3 00	4	5 15/16	2 1/16	7 1/16	3 3/4	3/8

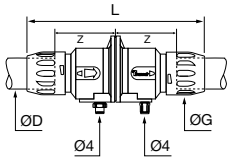
Valve is not supplied with handle and bolt kit. Valve handle (lockable) part number is EW08 L3 00. Valve requires two bolt kits; part number EW10 00 01. Valve has a bonded seal and does not require a flange gasket.



TRANSAIR®	DN (IN)	ØA (IN)	B (IN)	E (IN)	L (IN)	C (IN)
VR03 L8 00	6	8 1/16	2 1/16	8 1/16	5	3/8

Diameter: 1-1/2"

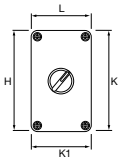
Remote Control Shut-Off Valve



TRANSAIR®	ØD (IN)	ØD (MM)	G (IN)	L (IN)	Z (IN)
4230 00 40	1 1/2	40	2 5/8	10 1/4	3 3/8

Min. working pressure: 58 PSI • Max. working pressure: 235 PSI. The Transair® remote control shut-off valve is supplied with a plugged vent hole. This allows venting of the downstream network, after closing the valve.

Pilot Kit



TRANSAIR®	H (IN)	K (IN)	K1 (IN	L (IN)
4299 03 01	5 3/4	4 3/16	2 3/4	3 3/16

This pilot kit includes: pneumatic ON/OFF switch (maximum 235 PSI operating pressure), twin 4 mm OD polyurethane tube (length 10 m) and plastic box.

Transair® Tools

Transair® Tools

Product Features:

- Practical tools for the installation and extension of Transair® pipe systems.
- Presented in a carrying case or available as separate parts.

Diameters: 1/2" to 2-1/2"

Tool Case

TRANSAIR®	H (IN)	H (MM)	L (IN)	I (IN)
6698 00 05	12 7/8	315	11 3/8	4 5/32

This tool case simplifies the use and transportation of tools. It contains all the tools necessary for completing an installation:

- Drilling jig 6698 01 03
- Drilling tools 6698 02 01 and 6698 02 02
- Cutter for rigid pipe 6698 03 01
- Chamfer tool 6698 04 01

Diameters: 1/2" to 6"

Pipe Cutter

TRANSAIR®	L (IN)	L (MM)	H (IN)	USED FOR TRANSAIR® PIPE (IN)
6698 03 01	9 1/16	230	3 13/16	Ø 1/2" - 3"
EW08 00 03	23 5/8	600	11 13/16	Ø 4" - 6"

- Includes deburring tool.

Replacement cutter wheels

EW08 00 99	6698 03 01
EW08 00 04	EW08 00 03

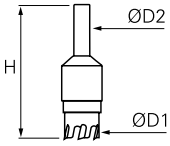
Diameters: 1/2" to 6"

Drilling Jig for Rigid Aluminum Pipe

TRANSAIR®	H (IN)	H (MM)	L (IN)
6698 01 03	6	168	8 5/8

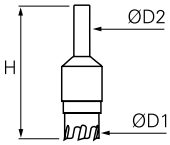
Diameters: 1" to 6"

Drilling Tool for Aluminum Pipe



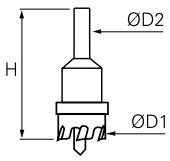
TRANSAIR®	ØD1 (IN)	ØD1 (MM)	ØD2 (IN)	ØD2 (MM)	H (IN)	USED FOR TRANSAIR® PIPE (IN)
6698 02 02	5/8	16	7/16	11	2 7/8	Ø 1"

Drilling tool 6698 02 02 is required to install Ø 1" Transair® brackets. Can be used with all types of drills.



TRANSAIR®	ØD1 (IN)	ØD1 (MM)	ØD2 (IN)	ØD2 (MM)	H (IN)	USED FOR TRANSAIR® PIPE (IN)
6698 02 01	1	22	1/2	13	2 3/4	Ø 1 1/2" - 2 1/2"

Drilling tool 6698 02 01 is required to install Ø 1 1/2" and Ø 2 1/2" Transair® brackets. It is also used to create the two holes needed for double-clamp ring connectors when cutting to length Ø 2 1/2" Transair® pipe.

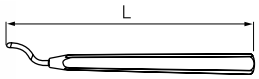


TRANSAIR®	ØD1 (IN)	ØD1 (MM)	ØD2 (IN)	ØD2 (MM)	H (IN)	USED FOR TRANSAIR® PIPE (IN)
EW09 00 22	1	22	1/2	13	2 3/4	Ø 1 1/2" - 2 1/2"
EW09 00 30	1 3/16	30	1/2	13	2 3/4	Ø 3" - 4"
EW09 00 51	2	50	1/2	13	2 3/4	Ø 6"
EW09 00 64	2 1/2	63	1/2	13	2 3/4	Ø 6"

Drilling tool EW09 is required to install Transair® direct feed brackets.
After drilling, it is important to deburr and clean the pipe

Diameters: 1/2" to 6"

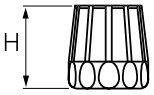
Deburring Tool for Aluminum Pipe



TRANSAIR®	L (IN)
6698 04 02	5 1/2

Diameters: 1/2" to 1-1/2"

Chamfer Tool for Aluminum Pipe

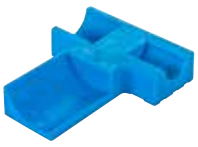


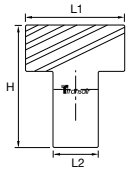
TRANSAIR®	H (IN)
6698 04 02	6698 04 01 2 1/2

For 1/2", 1" and 1 1/2".

Diameters: 1/2" to 1-1/2"

Marking Tool for Aluminum Pipe





TRANSAIR®	H (IN)	L1	L2
6698 04 03	3 7/16	2 7/8	1 1/4

The marking tool is used as a guide for marking cut lengths on Transair® pipe. These marks indicate the insertion limits of the pipe into each fitting in order to ensure a good airtight connection and secure grip.

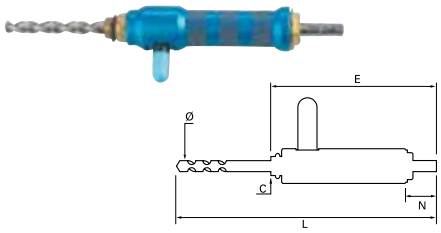
2 to 2-1/2"

Spanner Wrenches

TRANSAIR®
6698 05 03

Includes two tightening spanners.

Pressurized System Drilling Tool, BSPP



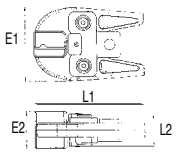
TRANSAIR®	ØD (IN)	ØD (MM)	C	L	E	N
EA98 06 00	1/2	16.5	1/2	13	6	1 3/16

Portable Tool Kit

TRANSAIR®	V
EW01 00 02	14

This case contains: one portable tool, one 14V battery and battery charger. Jaws sold separately.

Jaws for Portable Tool



TRANSAIR®	ØD (IN)	ØD (MM)	E1	E2	L1	L2
EW02 L1 00	3	76	4	2 1/16	6	1 13/16
EW02 L3 00	4	100	4	2 3/4	6	1 13/16
EW02 L8 00	6	168	4	2 3/4	6	1 13/16

14V Battery for Portable Tool

TRANSAIR®	V
EW03 00 01	14

Transair® Accessories

Transair® Fixture Accessories

Hose Reels

Composite Automatic Safety Couplers

Parker Hannifin Corporation | Fluid System Connectors | Otsego, MI

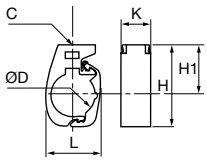
Transair® Fixture Accessories

Product Features:

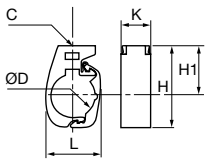
- Easy adaptation for all pipe work configurations
- For suspension of pipes, from walls, partitions, beams, cable trays, Canalis electrical installations, etc, vertically or horizontally
- Perfectly suited for use with Transair® systems
- Non-flammable (conforms to UL94V-2 standard)
- Transair® fixing clips are designed to bear a maximum weight of 44lbs. However, to ensure good stability of the system, we recommend the use of at least two clips per pipe i.e.:
  - Maximum 5 ft space between clips for 9 ft lengths of pipe
  - Maximum 10 ft space between clips for 20 ft lengths of pipe
- Use only this clip for fixing Transair® rigid pipe, all other type of pipe clips are to be avoided. Fix the clip to a rigid support (U-channel, cable tray) to allow for expansion while retaining the pipe.

Diameters: 1/2" to 6"

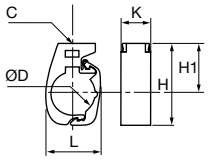
Fixing Clip for Rigid Pipe



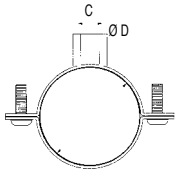
TRANSAIR®	ØD (IN)	ØD (MM)	C	H1	H	K	L
6697 17 01	1/2	16.5	1/4	1 13/16	2 7/16	1 3/16	1 3/16
6697 25 01	1	25	1/4	1 13/16	2 9/16	1 3/16	1 1/2
6697 40 01	1 1/2	40	1/4	1 13/16	2 7/8	1 3/16	2



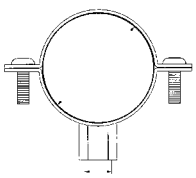
TRANSAIR®	ØD (IN)	ØD (MM)	C	H1	H	K	L
6697 50 01	2	50	3/8	3 9/16	5	1 3/16	2 7/8



TRANSAIR®	ØD (IN)	ØD (MM)	C	H1	H	K	L
6697 63 01	2 1/2	63	3/8	3 9/16	5	1 3/16	2 7/8



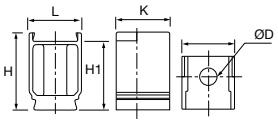
TRANSAIR®	ØD (IN)	ØD (MM)	C
ER01 L1 00	3	76	3/8
ER01 L3 00	4	101	3/8
ER01 L8 00	6	168	3/8



TRANSAIR®	ØD (IN)	ØD (MM)	C
EX01 L1 00	3	76	3/8
EX01 L3 00	4	101	3/8

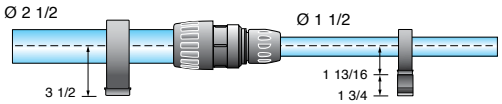
Pipe Diameters: 1/2" to 2-1/2"

Spacer



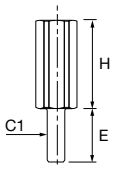
TRANSAIR®	ØD (IN)	ØD (MM)	H	H1	K	L
6697 00 03	7/16	11	2	1 3/4	1 3/8	1 3/16

This spacer, in association with a Transair® pipe clip, allows consistent alignment of pipes when different diameters of pipe are run concurrently in the same line.



Diameters: 1/2" to 2-1/2"

Threaded Rod Adapter

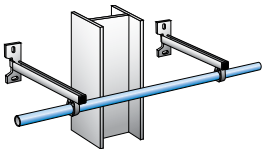


TRANSAIR®	C	E	H
0169 00 05 00	1/4	5/8	1 3/16

The use of this adapter facilitates the suspension of Transair® with 3/8" threaded rod.

Pipe Diameters: 1/2" to 2-1/2"

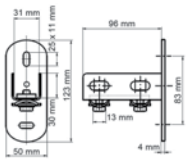
U-Channel



TRANSAIR®	H	L (FT)	L1
6699 01 01	1 3/16	6' 5"	1 3/16

Pipe Diameters: 1/2" to 2-1/2"

U-Channel Fixing Bracket



TRANSAIR®	H	L
6699 01 02	4 3/16	1 1/2

Hose Reels

Product Features:

- Optimize productivity and the safety of your work area
- Prevent hose damage occurring on the workshop floor

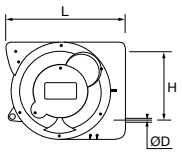
Specifications:

Max. Working Pressure*: 6698 11 11: 250 PSI (17.2 bar)
6698 11 12: 250 PSI (17.2 bar)

Working Temperature: -4° to +140° F (-20° to +60° C)

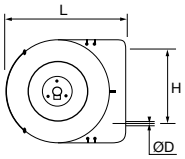
* Dependant on the model

Hose Length 25' to 50' | **Light series hose reel**



TRANSAIR®	HOSE ID (IN)	MAX. PRESSURE (PSI)	H	L
6698 11 11	3/8	250	9 7/8	11 13/16

Hose clutch with free return. Outlet connection 1/4 male - 3/8" inlet



TRANSAIR®	HOSE ID (IN)	MAX. PRESSURE (PSI)	H	L
6698 11 12	3/8	250	9 7/8	15 3/8

Hose clutch with free return. Outlet connection 1/4 male - 3/8" inlet

Composite Automatic Safety Couplers

Product Features:

- For quick and repetitive connection and disconnection
- 100% safety – ISO 4414 and European EN 983 compliant
- Very high flow, extremely low pressure loss
- Lightweight and robust
- Improved hand grip
- Fast vent time
- Male thread with integral seal
- Suitable fluids: compressed air, argon, nitrogen (please consult us for other fluids)

Specifications:

Max. Working Pressure: 232 PSI (15.9 bar)

Working Temperature: 4° to +140° F (-20° to +60° C)

ISO B 1/4" Safety

Male NPT

TRANSAIR®	C (IN)
CP05 U1N02	1/4
CP05 U1N03	3/8
CP05 U1N04	1/2

Female NPT

TRANSAIR®	C (IN)
CP15 U1N02	1/4
CP15 U1N03	3/8
CP15 U1N04	1/2

Coupler with Hosetail

TRANSAIR®	ØD (MM)
CP21 U1 06	6
CP21 U1 08	8
CP21 U1 10	10

ISO B 3/8" Safety

Male NPT

TRANSAIR®	C (IN)
CP05 U2N02	1/4
CP05 U2N03	3/8
CP05 U2N04	1/2

Female NPT

TRANSAIR®	C (IN)
CP15 U2N02	1/4
CP15 U2N03	3/8
CP15 U2N04	1/2

Coupler with Hosetail

TRANSAIR®	ØD (MM)
CP21 U2 08	8
CP21 U2 10	10
CP21 U2 13	13

ARO 1/4" Safety

Male NPT

TRANSAIR®	C (IN)
CP05 A1N02	1/4
CP05 A1N03	3/8
CP05 A1N04	1/2

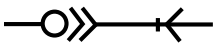
Female NPT

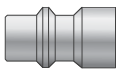
TRANSAIR®	C (IN)
CP15 A1N02	1/4
CP15 A1N03	3/8
CP15 A1N04	1/2

Coupler with Hosetail

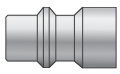
TRANSAIR®	ØD (MM)
CP21 A1 06	6
CP21 A1 08	8
CP21 A1 10	10

Safety

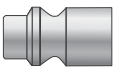




ISO B 1/4"
ISO 6150 B
AFNOR NF 49-053
US.MIL.C4109
CEJN 310
RECTUS 23-24

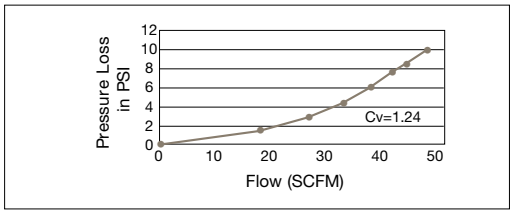


ISO B 3/8"
ISO 6150 B
AFNOR NF 49-053
US.MIL.C4109
CEJN 430
RECTUS 30



ARO 1/4"
ARO 210
CEJN 300
ORION 44510
PARKER 50
RECTUS 14-22

Flow Curve - Pressure Loss



How to Use

Transair® composite automatic couplers comply with worldwide ISO 4414 and European EN 983 safety standards. Disconnection is by a double twist of the sleeve.

1st rotation in direction of the arrow: pressure rapidly vented out, plug side.

2nd rotation in direction of the arrow: safe disconnection of body and plug.

ISO B 1/4"

Male Plug NPT

TRANSAIR®	C (IN)
9084 23 14	1/4
9084 23 18	3/8

Female Plug NPT

TRANSAIR®	C (IN)
9083 23 14	1/4
9083 23 18	3/8

Plug with Hosetail

TRANSAIR®	ID (IN)
9085 23 56	1/4
9085 23 08	5/16
9085 23 60	3/8

ISO B 3/8"

Male Plug NPT

TRANSAIR®	C (IN)
9084 30 14	1/4
9084 30 18	3/8

Female Plug NPT

TRANSAIR®	C (IN)
9083 30 14	1/4
9083 30 18	3/8

Plug with Hosetail

TRANSAIR®	ID (IN)
9085 30 08	5/16
9085 30 60	3/8
9085 30 62	1/2

ARO 1/4"

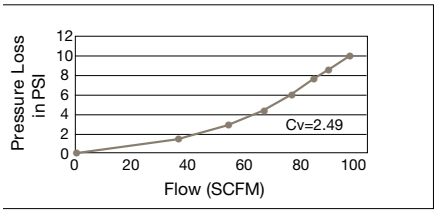
Male Plug NPT

TRANSAIR®	C (IN)
9084 22 14	1/4
9084 22 18	3/8

Female Plug NPT

TRANSAIR®	C (IN)
9083 22 14	1/4
9083 22 18	3/8

Flow Curve - Pressure Loss



SCOUT™ Technology

Advanced Compressed Air System Condition Monitoring

Pressure Sensors

Humidity Sensors

Temperature Sensors

Flow Sensors

Communication Hardware


AIR FLOW

Advanced Compressed Air System Condition Monitoring

Product Features:

Having accurate, timely readings on the performance of your compressed air piping system can mean the difference between identifying a problem before it occurs, or incurring added costs for equipment repairs…not to mention lost revenue.

Transair® powered by SCOUT™ Technology helps you keep your system healthy and operating efficiently. SCOUT™ consists of a wide range of sensors that provide consistent and accurate readings for pressure, temperature, humidity, power, and flow. The system collects data so you can take the necessary steps to optimize your compressed air equipment and your system's performance. The easy-to-use web-based interface also alerts the user to unexpected conditions that may damage components and equipment over time.

SCOUT™ Technology puts vital information and analytics in the palm of your hand to ensure your compressed air system is running at optimum levels. Let SCOUT™ Technology MONITOR your Transair® compressed air piping system, ALERT you to system changes, and provide DATA that helps reduce downtime and increase productivity.

- For commonly used pressure range of 0 to 150 PSI
- User-definable measurement units in software
- Ports: 1/4" female NPTF
- Corrosion-resistant materials for challenging environments

Sensor Technical Information:

Pressure Range:	0 to 150 PSI (0 to 10.3 bar)
Burst Pressure:	4x
Temperature Range:	-4° to +158° F (-20° to +65.5° C)
Body Material:	Polycarbonate
Body Seals:	Nitrile
Certifications:	FCC
Battery:	CR123A (Duracell suggested brand)
Ip Rating (Ingress Protection):	IP65
Port:	14" female NPTF
Scan And Transmit Rate:	5 seconds to variable rate

Assembly Nomenclature Example:

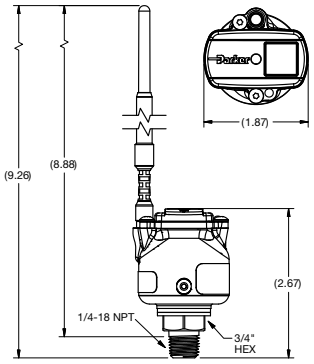
6676 25 00 PT:	Attribute
6676 25 00:	Base fitting PN
PT:	Type of sensor
222PSP-8M-4:	Female Plug-In Adapter

*8mm plug to 1/4" NPT

Pressure Sensors

Product Features:

- Operating range: 0 to 150 PSI (0 to 10.3 bar)
- Accuracy (at +77° F): 1.5%
- Resolution 0.1 PSI
- Response Time: 10 seconds



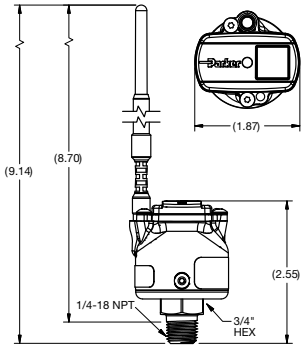
TRANSAIR®	HEX(IN)	NPT
SNPT2-10-2-4MP	3/4	1/4-18

*If using a 6676 Union add 222PSP-8M-4 adapter

Humidity Sensors

Product Features:

- Operating range: 0 to 100% Relative Humidity
- Accuracy (+77° F, 20% RH to 80% RH, at Ambient Pressure): ±5% RH max
- Resolution (at +77° F): 0.1% RH
- Response Time: 10 seconds



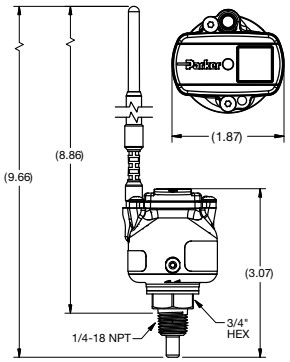
TRANSAIR®	HEX(IN)	NPT
SNHT2-10-2-4MP	3/4	1/4-18

*If using a 6676 Union add 222PSP-8M-4 adapter

Temperature Sensors

Product Features:

- Fluid temperature range: +14° to +185° F (-10 to +85° C)
- Accuracy (at +77° F): ±3.0%
- Resolution (+14° to +120° F): 1° F
- Response time: 10 seconds



TRANSAIR®	HEX(IN)	NPT
SNT2-700-2-4MP	3/4	1/4-18

*If using a 6676 Union add 222PSP-8M-4 adapter

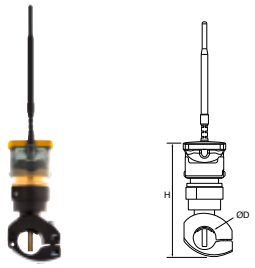
Flow Sensors

Sensor Technical Information:

Pressure range:	0 to 150 PSI (0 to 10.3 bar)
Burst pressure:	4x
Temperature range:	-4° to +167° F (-20° to +75° C)
Body material:	Polycarbonate, Brass
Body seals:	Nitrile
Wetted materials:	Brass, Nitrile
Rull range cycle:	>1 million
Certifications:	FCC
Battery:	CR123A (Duracell® suggested brand)
IP rating (ingress protection):	IP65
Port:	Transair® Reducing Bracket
Scan and transmit rate:	15 seconds to variable rate

Diameters 1" to 2-1/2"

Simple Reducing Bracket with Sensor



TRANSAIR®	ØD(IN)	ØD(MM)	H
RA68 25 FL	1	25	5
RA68 40 FL	1 1/2	40	5 1/2
RA68 50 FL	2	50	6

Maximun calibrated measurement range

SCFM	NM3/H	NI/MIN
60	102	1 699
200	340	5 663
300	510	8 495

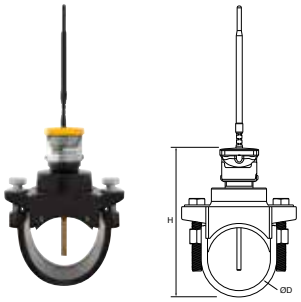
TRANSAIR®	ØD(IN)	ØD(MM)	H
RA68 63 FL	2 1/2	63	6 1/2

Maximun calibrated measurement range

SCFM	NM3/H	NI/MIN
400	680	11 327

Diameter 3" to 4"

Simple Reducing Bracket with Sensor



TRANSAIR®	ØD(IN)	ØD(MM)	H
RR63 L1 FL	3	76	7 1/4
RR63 L3 FL	4	100	8 3/4
RR63 L8 FL	6	168	

Maximun calibrated measurement range

SCFM	NM3/H	NI/MIN
600	1 020	16 990
1 100	1 701	28 317

Communication Hardware

Product Features:

- Wireless star topology with sensor nodes communicating directly to promary receiver node (PRN)
- PRN connected to collection server via USB 2.0 port
- Wireless signal strength and battery voltage reported in software
- Data buffer storage for communications interruptions
- Data transmission to the cloud through wireless, ethernet or cellular options

Technical Information:

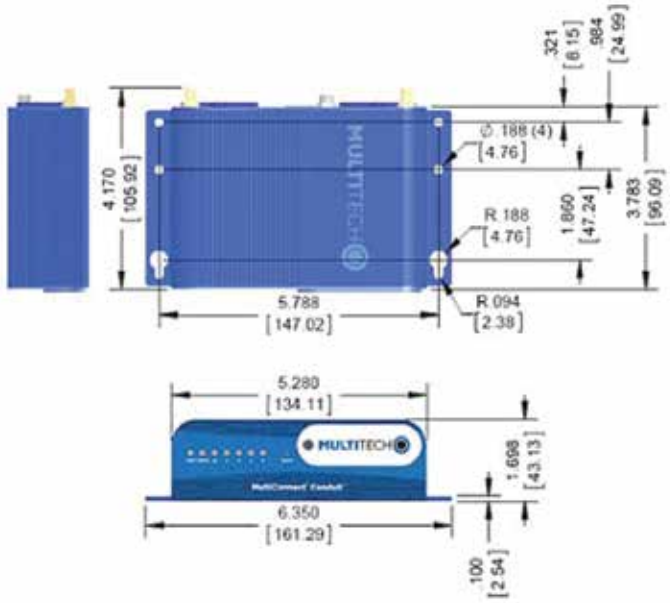
Wireless frequency	902 to 928MHz
Temperature range	-4° to +158° F (-20° to +70° C)
Data upload rate	60 seconds (default) to variable rate
AC power input	100 to 240V – 1.8A, (50 to 60Hz)
Standard external communications modes	ethernet, wireless

Collection Server

TRANSAIR®	ETHERNET	WIFI	CDMA	GRPS
SN-CSMT-1	X	X		

Primary Receiver Node

TRANSAIR®
SNPRN-2



Transair® Installation Guide

Essential Instructions

Aluminum Pipe Section

Pipe to Pipe Connectors

Quick Assembly Brackets

Transair® Flexible Hose

Fixture Accessories

Parker Hannifin Corporation | Fluid System Connectors | Otsego, MI


transair®

Essential Instructions

Features

- Compressor outlets (absorption of vibration)
- To bypass obstacles and join different levels
- Expansion loops
- Resistant to mineral and synthetic compressor oils
- Fire resistant (conforms to ISO 8030 standard for compressed air flexible hose and to EN 12.115 standard for vacuum flexible hose)

Specifications:

Max. working pressure for flexible hose used for compressed air*:	188 PSI from -4° to +140° F (12.9 bar from -20° to +60° C) 232 PSI from -4° to +115° F (15.9 bar from -20° to +46.1° C)
Vacuum:	98.7% (29.6" Hg)
Working Temperature	-4° to +140° F (-20° to +60° C)

* Please consult us for higher temperature requirements

General

Prior to the installation of a Transair® compressed air distribution system, the installer should ensure that the installation area complies with any regulations applicable to areas exposed to explosive hazards (in particular the effect of static electricity in a silo area). Transair® should be installed downstream of the compressed air receiver, or after the dryer. Flexible Transair® hose can be installed at the start of the system in order to eliminate any sources of vibration and to facilitate maintenance operations. When maintaining or modifying a Transair® system, the relevant section should be vented prior to the commencement of any work. Installers should use only Transair® components and accessories, in particular Transair® pipe clips and fixture clamps. The technical properties of the Transair® components, as described in the Transair® catalog, must be respected.

Pressurizing the system

Once the Transair® installation has been installed and prior to pressurizing, the installer should complete all tests, inspections and compliance checks as stated in any contract and according to sound engineering practice and current local regulations.

Transair® pipe and hoses

Transair® pipe should be protected from mechanical impact, particularly if exposed to collision with fork-lift trucks or when sited in an environment with moving overhead loads. Similarly, rotation of the pipe and pipe supports should be avoided.Transair® pipe must not be welded. Flexible Transair® hoses should be used in accordance with the recommendations of the installation guidelines.

Note: In certain situations, Transair® aluminum pipe may be formed with a bend - please contact us for further information.

Expansion / contraction

Expansion and contraction of the system should be calculated prior to installation. The system designer and installer should calculate the elongation or retraction of each Transair® line according to the recommendations in this installation guide.

Component assembly

Transair® components are provided with assembly instructions for their correct use - simply follow the methods and recommendations stated in this document.

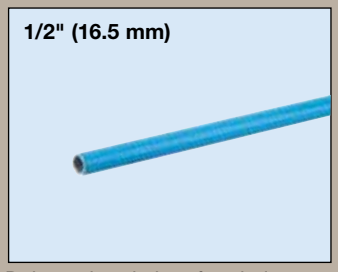
Transair® installations - situations to avoid

- Installation within a solid mass (concrete, foam, etc.)
- The hanging of any external equipment to Transair® pipe
- The use of Transair® for grounding, or as a support for electrical equipment
- Exposure to chemicals that are incompatible with Transair® components (please contact us for further details)

Sound engineering practice for the optimization of an air pipe system

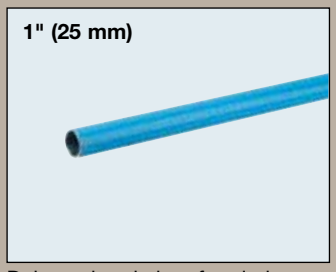
- When installing a Transair® system, the work should be performed in accordance with good engineering practice.
- Bends and bypasses represent sources of pressure drop. To avoid excessive pressure loss, use modular consoles to offset the network and to bypass obstacles. Keep in-line pipe diameter reductions to a minimum.
- Maintain a consistent level of good quality air by use of adequate filtration at the compressor outlet.
- The diameter of the pipe will influence pressure drop and the operation of point-of-use equipment. Select the diameter according to the required flow rate and acceptable pressure drop at the point of use.
- Position drops should be as close as possible to the point of use.

1/2" (16.5 mm)



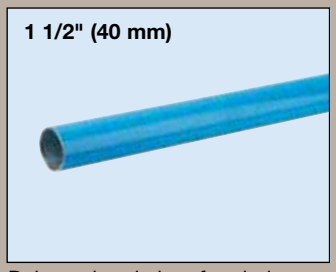
Deburred and chamfered pipe

1" (25 mm)



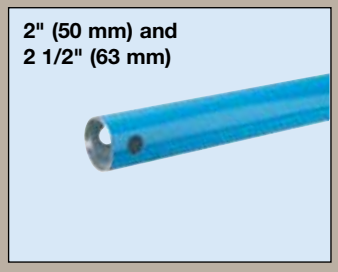
Deburred and chamfered pipe

1 1/2" (40 mm)



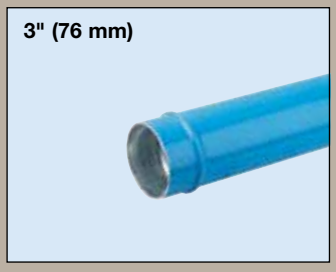
Deburred and chamfered pipe

2" (50 mm) and 2 1/2" (63 mm)



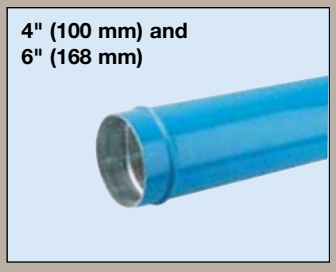
Pipe pre-drilled at each end with two 1" (25 mm) diameter holes, deburred and chamfered

3" (76 mm)



Pipe lugged at each end, deburred and chamfered

4" (100 mm) and 6" (168 mm)



Pipe lugged at each end, deburred and chamfered

Presentation

Transair® aluminum pipe is supplied ready for use. No particular preparation (cutting, deburring, chamfering, etc.) is required.

Thanks to the rigidity of Transair® aluminum pipe, temperature-related expansion / contraction is reduced to a minimum. The Transair® system retains its straightness, and hence its performance, over time (reduction of pressure drop caused by surface friction).

Transair® aluminum pipe is calibrated and fits perfectly with all Transair® components. Each connection is automatically secured and the seal is optimized, which minimizes corrosion to the internal surface.

Transair® aluminum pipe has a protective powder coating (Qualicoat certified) and is thus protected from external corrosion. Its color allows the system to be immediately identified and gives a clean and aesthetic overall appearance.

Standard colors available:

- Blue (RAL 5012/bs1710)
- Gray (RAL 7001)
- Green (RAL 6029)

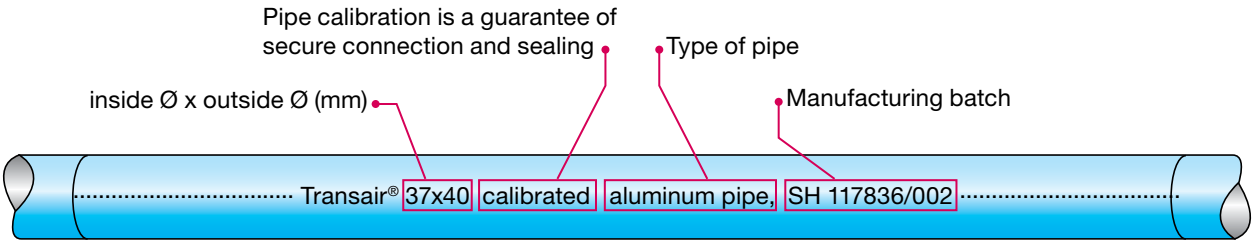
(please contact us for other colors)

Transair® aluminum pipe is available in seven diameters from 1/2" to 6".

Applications

Transair® 1/2" to 6" aluminum pipe has been specially designed for compressed air, vacuum and inert gases (argon, nitrogen) – please contact us for other fluids.

Marking

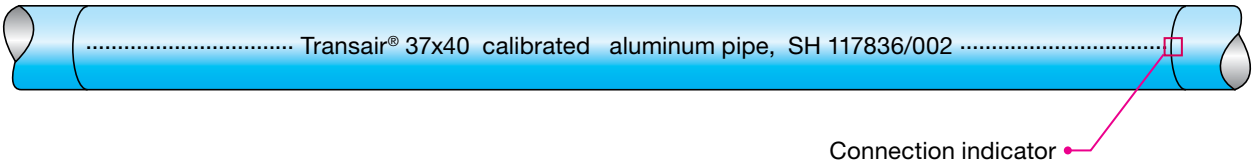


The transported fluid can be instantly identified by the color of the pipe

ex: Blue pipe → compressed air system
ex: Gray pipe → vacuum system
ex: Green pipe → inert gas system

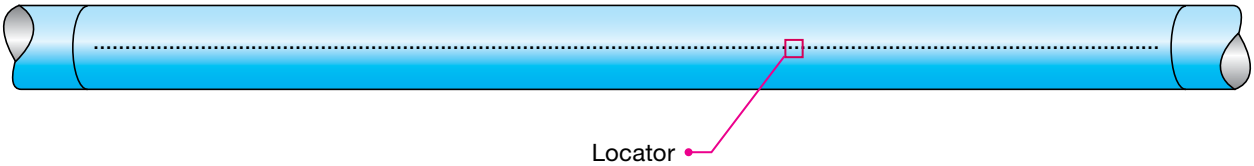
Connection indicator

Only on 1/2" to 1 1/2" aluminum pipe



Drilling locator: mark lines for correct drilling

Only on 1/2" to 2 1/2" aluminum pipe

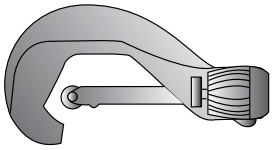


Drilling locators are used to correctly position Transair® brackets onto the pipe. There are two locators on each pipe. The second locator is used to position a second bracket perpendicular to a first bracket.

Aluminum Pipe Section

1/2" to 1 1/2"

Tools



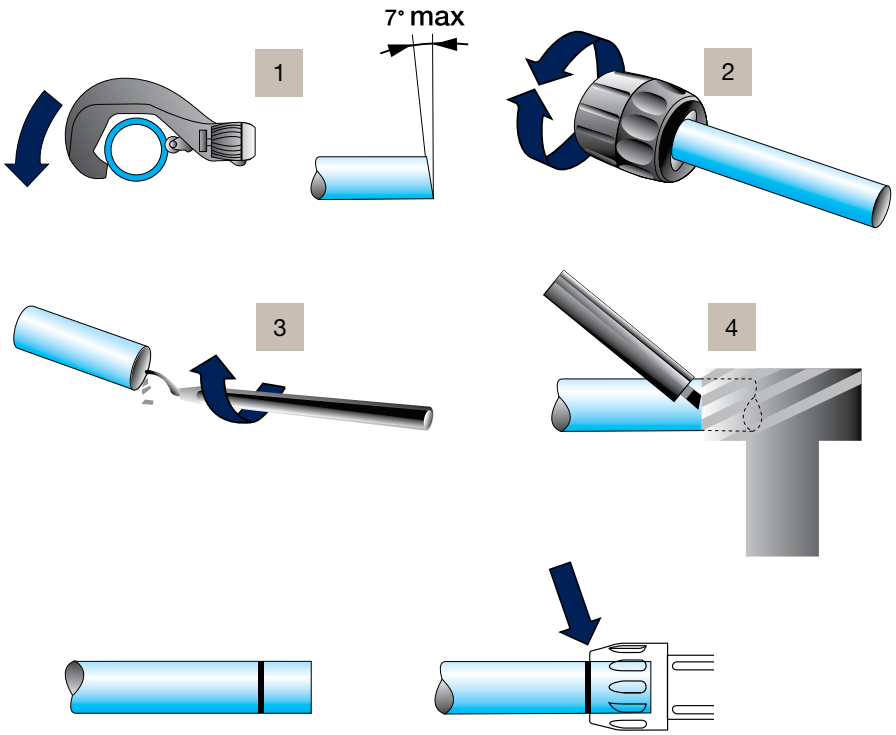
Pipe cutter for aluminum pipe ref. 6698 03 01

Chamfer tool for aluminum pipe ref. 6698 04 01

Deburring tool for aluminum pipe ref. 6698 04 02

Marking tool for aluminum pipe ref. 6698 04 03

Procedure

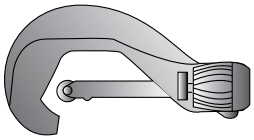


1. Cutting the pipe:
   place the pipe in the pipe cutter
   position the blade onto the pipe
   rotate the pipe cutter around the pipe
   while gently tightening the wheel
2. Carefully chamfer the outer edges
3. Deburr the inner end of the pipe
4. Trace the connection indicator using the marking tool

The insertion lengths for 1/2", 1" and 1 1/2" connectors are 25 mm, 27 mm and 45 mm respectively, with the exception of the end cap (6625), for which the insertion lengths are of 39 mm, 42 mm and 64 mm respectively.

2" - 2 1/2"

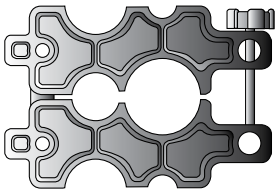
Tools



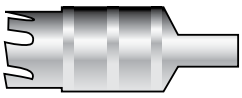
Pipe cutter for aluminum pipe ref. 6698 03 01

Chamfer ref. 6698 04 01

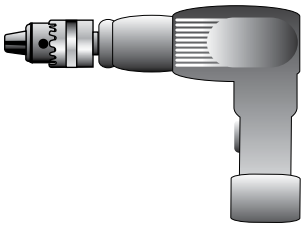
Deburring tool for aluminum pipe ref. 6698 04 02



Drilling jig for aluminum pipe ref. 6698 01 02

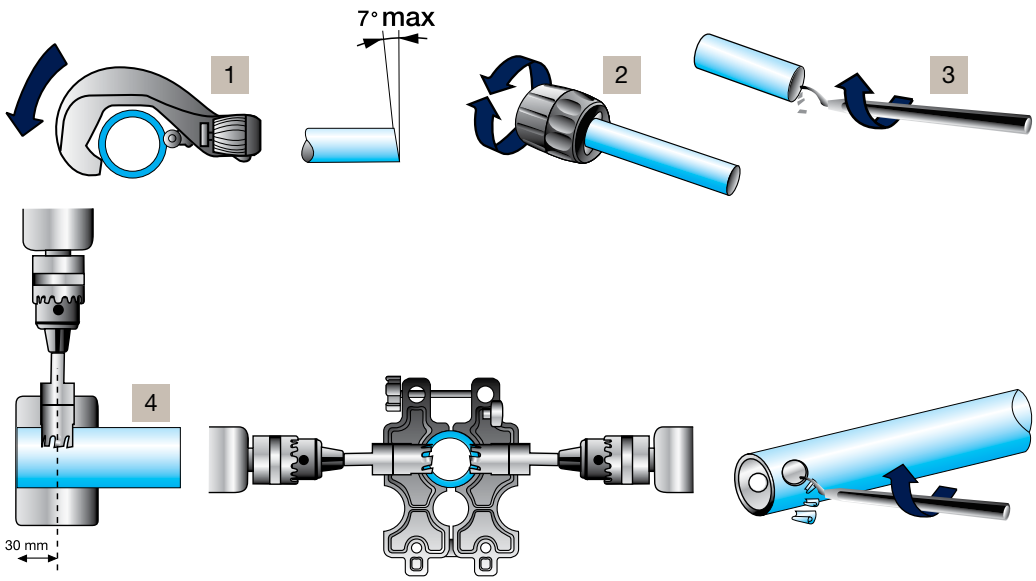


Drilling tool for aluminum pipe ref. 6698 02 01



Drill

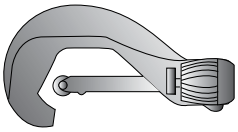
Procedure



1. Cutting the pipe:
   place the pipe in the pipe cutter position the blade on the pipe rotate the pipe cutter around the pipe while gently tightening the wheel
2. Carefully chamfer the outer edges
3. Deburr the inner end of the pipe
4. Drill the two clamp holes using the drilling jig (6698 01 03) and the 1" drilling tool (6698 02 01). Loosen the jig, release the pipe, then deburr both holes. Ensure that all outer and inner surfaces are smooth and clear of burrs and potential sharp edges.

3" to 6"

Tools

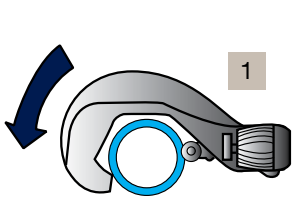


Pipe cutter for aluminum pipe ref. 6698 03 01 (3") or EW08 00 03 (4" - 6")

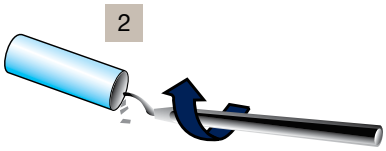
Deburring tool ref. 6698 04 02

Portable tool kit ref. EW01 00 02

Pipe forming jaw set ref. EW02 L1 00 (3") or EW02 L3 00 (4") or EW02 L8 00 (6")



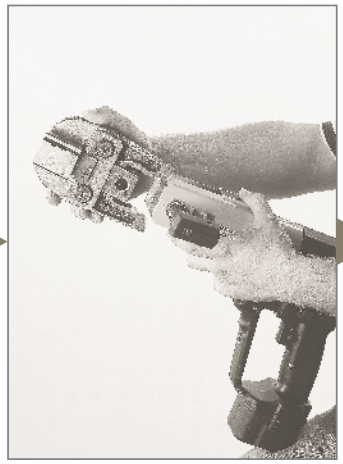
1. Cutting the pipe: place the pipe in the pipe cutter - position the blade on the pipe - rotate the pipe cutter around the pipe while gently tightening the wheel



2. Carefully deburr the outer and inner edges of the pipe

Procedure

Open the retaining pin at the front of the machine by pressing the jaw release button

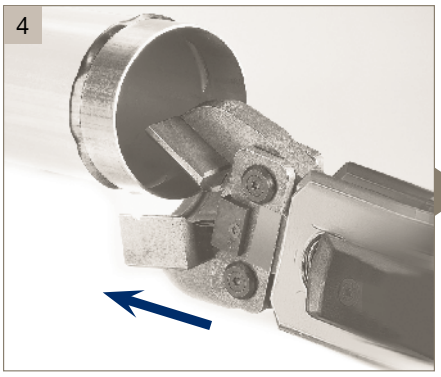


Place the jaws in the housing

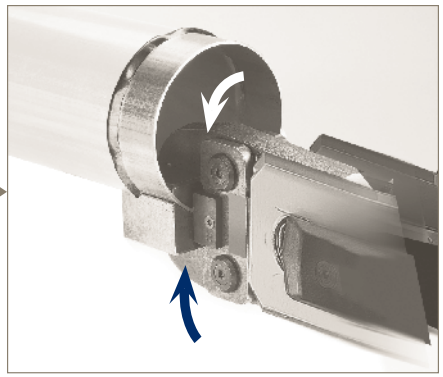
Lock in position by closing the retaining pin

3. Creating the lugs for 3", 4" or 6" cut pipe

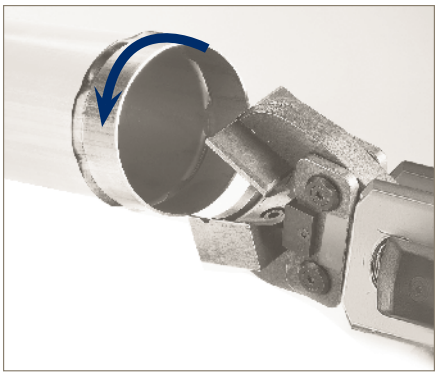
Procedure



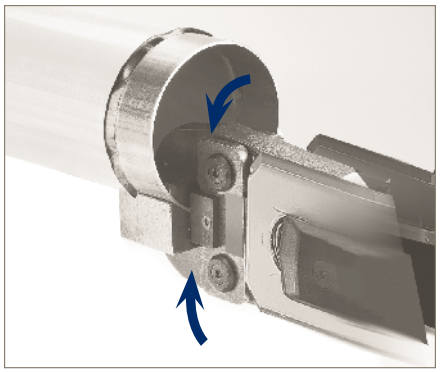
Manually open the jaws of the clamp and insert the aluminum pipe into the clamp as far as it will go



Release the jaws. Press the trigger and crimp the tube until a ‘snap’ sound is heard



Re-open the two jaws to remove the pipe and rotate the pipe slightly



Renew the operation until the required minimum number of lugs for each diameter is achieved

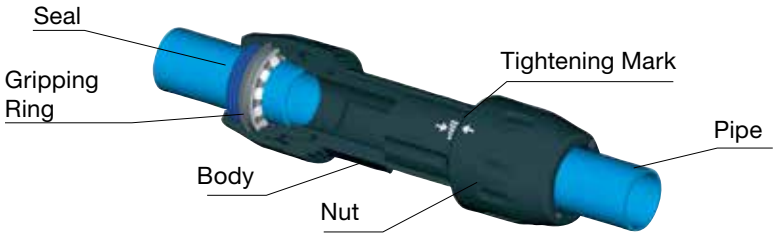
	Ø 3"	Ø 4"	Ø 6"
Minimum. Number of Lugs	5	6	10

Important: Do not overlap the lugs!

Pipe to Pipe Connectors

1/2"
to
1 1/2"

Instant connection by means of a gripping ring



The 1/2" to 1 1/2" connectors instantly connect to Transair® aluminum pipe. Simply insert the pipe into the connector up to the connector insertion mark. The internal gripping ring is then automatically secured and the connection is complete.

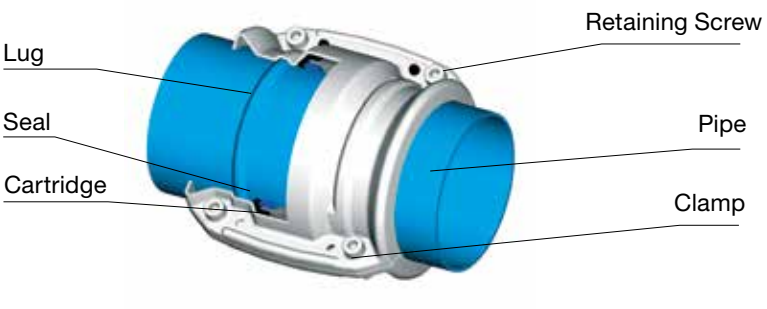
2"
2 1/2"

Snap ring quick-fit connection

The 2" and 2 1/2" connectors are quickly secured to Transair® aluminum pipe by means of a snap ring, which makes the connector fully integrated with the pipe. Connection is achieved by simply tightening the nut.

3"
to
6"

Clamp quick-fit connection



The 3" to 6" clamps secure instantly to Transair® aluminum pipe. Simply position the formed pipe within the Transair® cartridge, which acts as a seal.

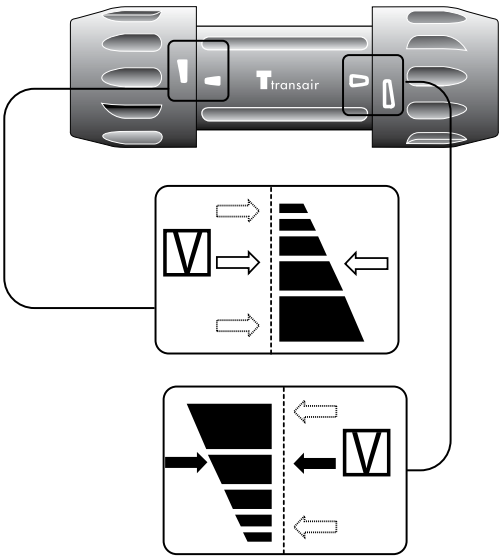
Close the Transair® clamp to secure the connection and finally tigten the four retaining screws.

Pre-assembled tightening indicators for 1/2", 1" and 1 1/2" connectors

There are important visual markings on the bodies and nuts of Transair® 1/2", 1" and 1 1/2" connectors. These are represented by solid and empty arrows and indicate the optimum torque. When assembling Transair® connectors, the nuts are tightened to a pre-defined torque on the body of the connector. This torque guarantees the seal and safety of each connection.

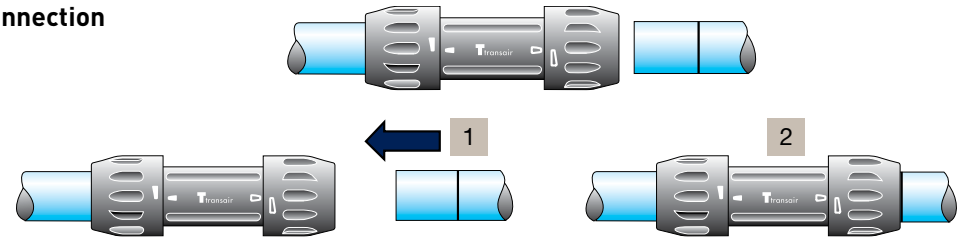
Before using 1/2", 1" or 1 1/2" connectors, ensure that the arrow marks are correctly aligned with each other.

There is no need to loosen the nuts prior to joining 1/2", 1" and 1 1/2" connectors to Transair®. aluminum pipe.

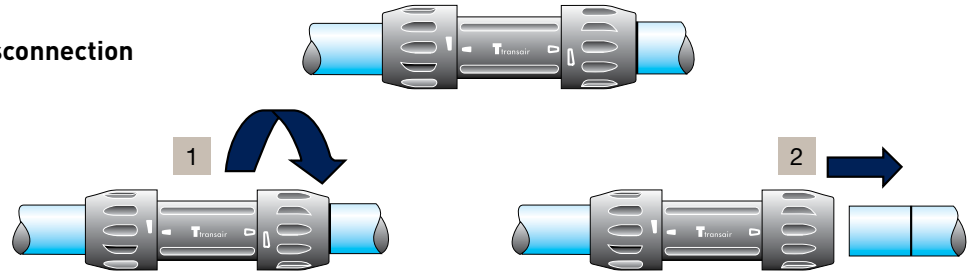


1/2" to 1 1/2"

Connection



Disconnection



Lateral dismantling: see page 70 of this catalog.

Simply insert the pipe into the connector up to the connection mark. To disconnect, unscrew the nut by one half turn and remove the pipe.

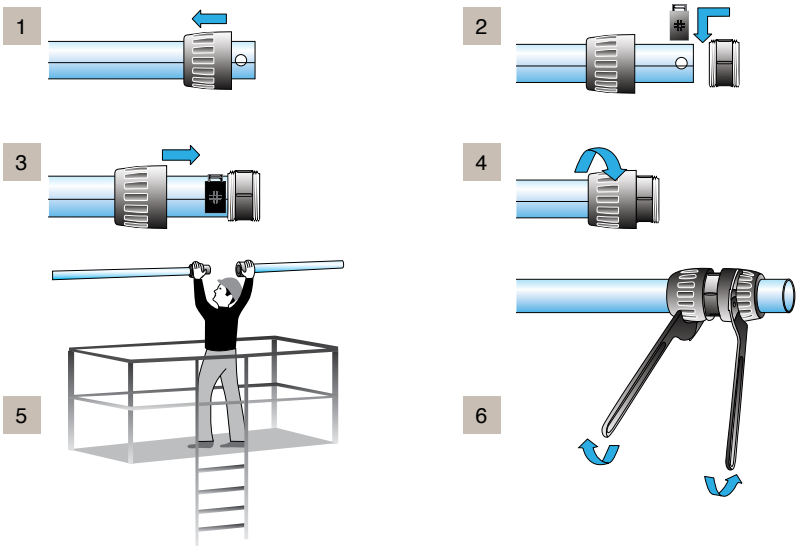
The insertion length is greater for end caps than for other Transair® connectors. The connection mark should be applied to the pipe by means of a marker and tape measure, using the following values:

- 1 1/2": 16.5 mm
- 1 3/4": 25 mm
- 2 1/2": 40 mm

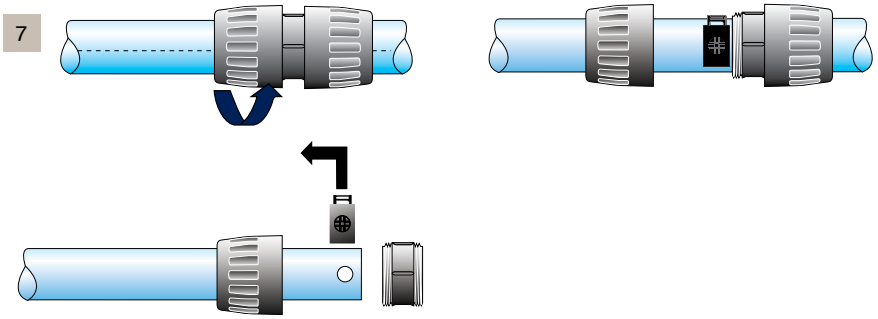
Note – when using end caps (ref. 6625)

2"
2 1/2"

Connection



Disconnection



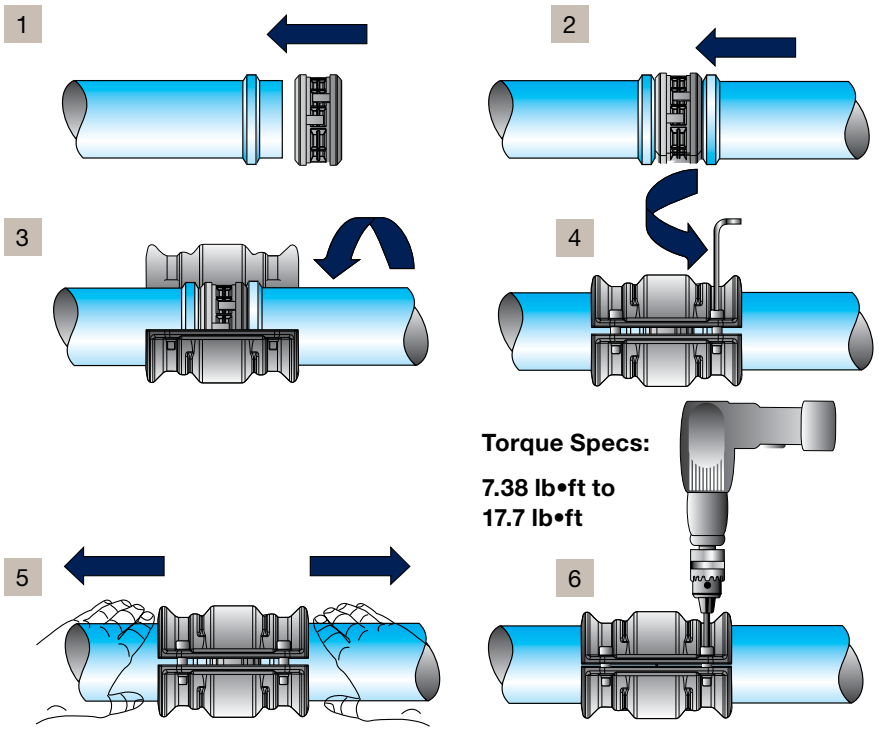
Lateral dismantling: see page 70 of this catalog.

1. Unscrew one of the connector nuts and fit over the pipe
2. Position the double clamp ring in the appropriate housings (two holes at the end of the pipe)
3. Bring the nut towards the body, which were previously positioned at the end of the pipe, until it stops against the double clamp
4. Tighten the nut by hand
5. Bring the two pipes together
6. Complete the assembly by 1/2 rotation with Transair® tightening spanners (ref. 6698 05 03)
7. To disconnect, perform the same operations in reverse order

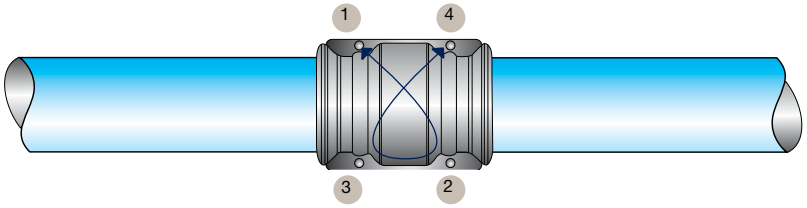
Connection / Disconnection

3" to 6"

Connection



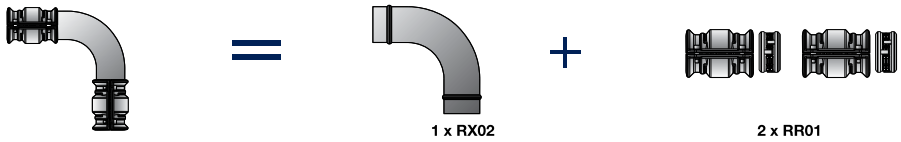
For effective clamp sealing, screw tightening should be performed on alternate sides of the clamp as shown below:



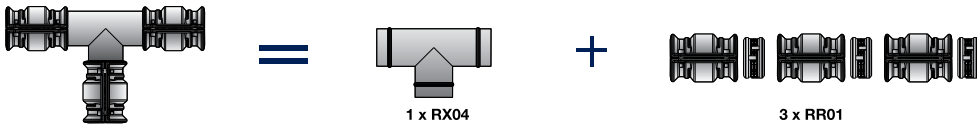
To disconnect, perform the same operations in reverse order.

Practical examples — Various 3" and 4" configurations

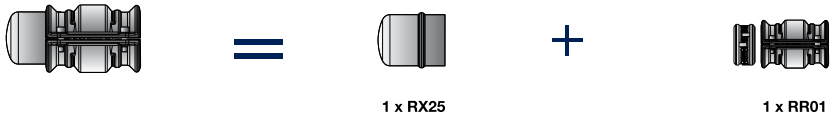
Changing direction with a 90° elbow



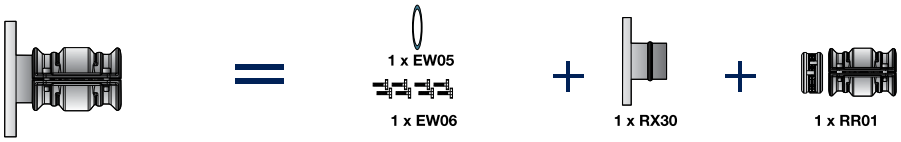
Changing direction with a tee



Connecting an end cap

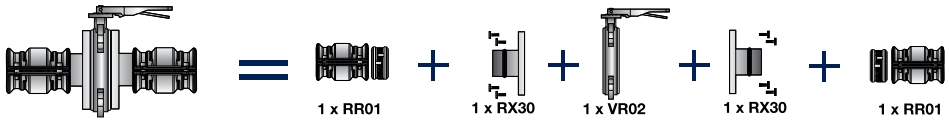


Connecting a circular flange and a connector

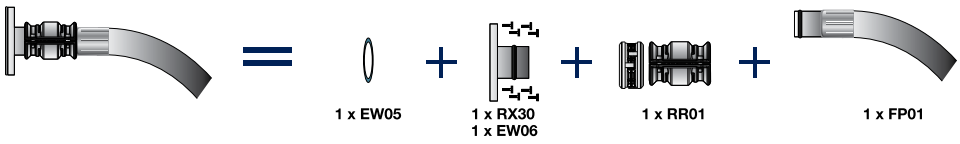


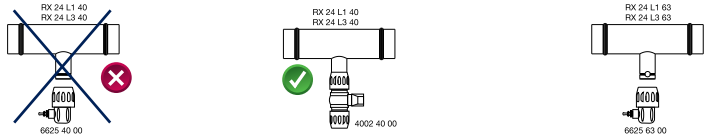
Reduction from 4" to 3"

Connecting a butterfly valve



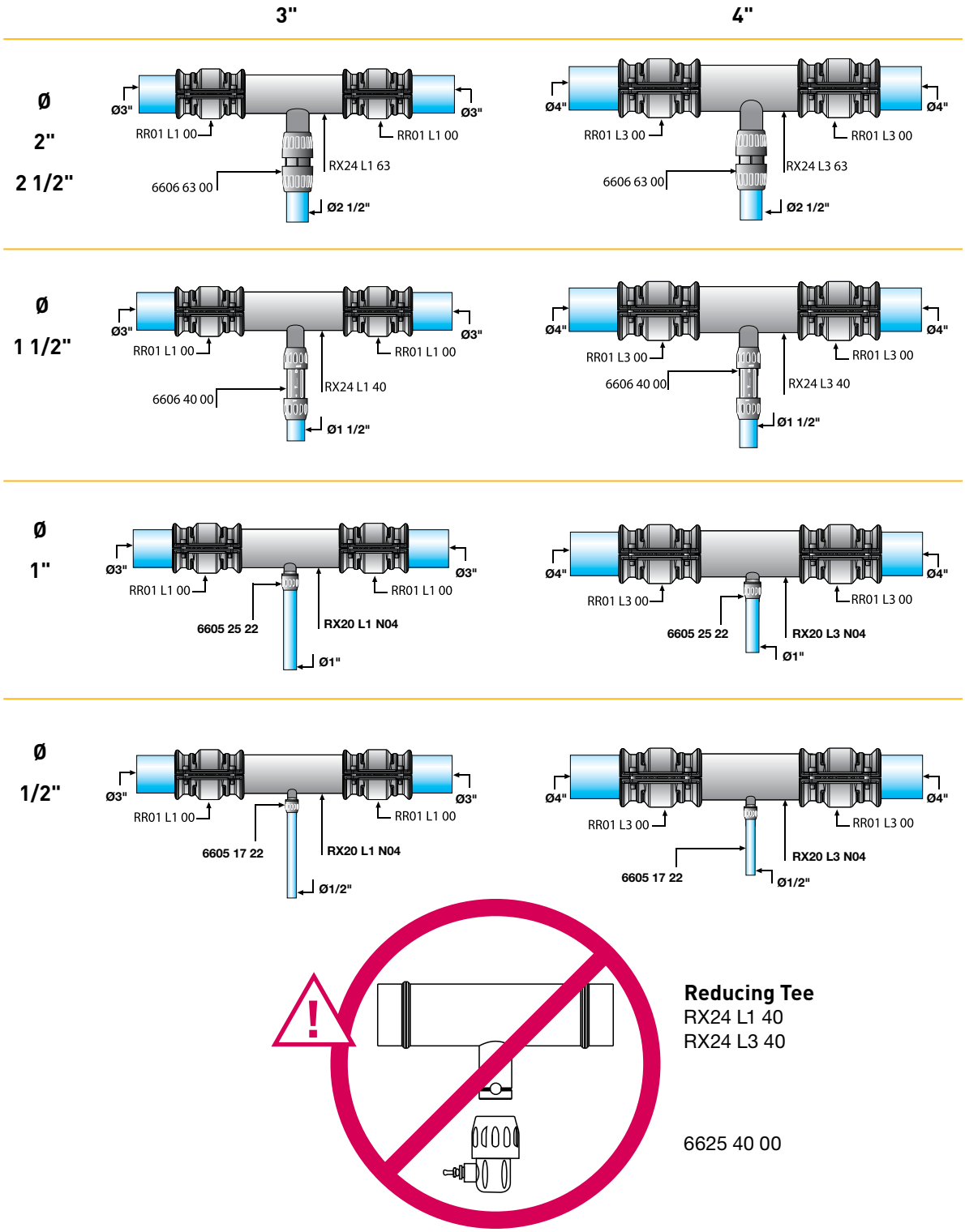
Connecting a flexible hose and a circular flange





Practical Examples

Connecting a Transair® 3" to 4" system to a Transair® 2 1/2", 2",1 1/2", 1" or 1/2" system



Reducing Tee
RX24 L1 40
RX24 L3 40

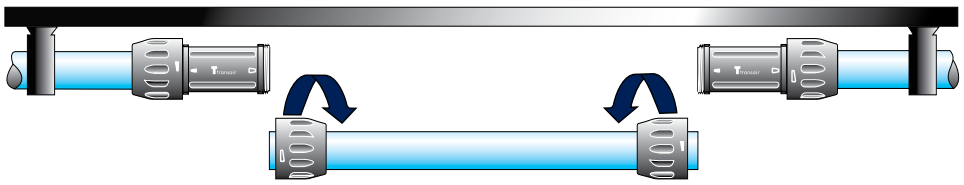
6625 40 00

Lateral dismantling

1/2"

to

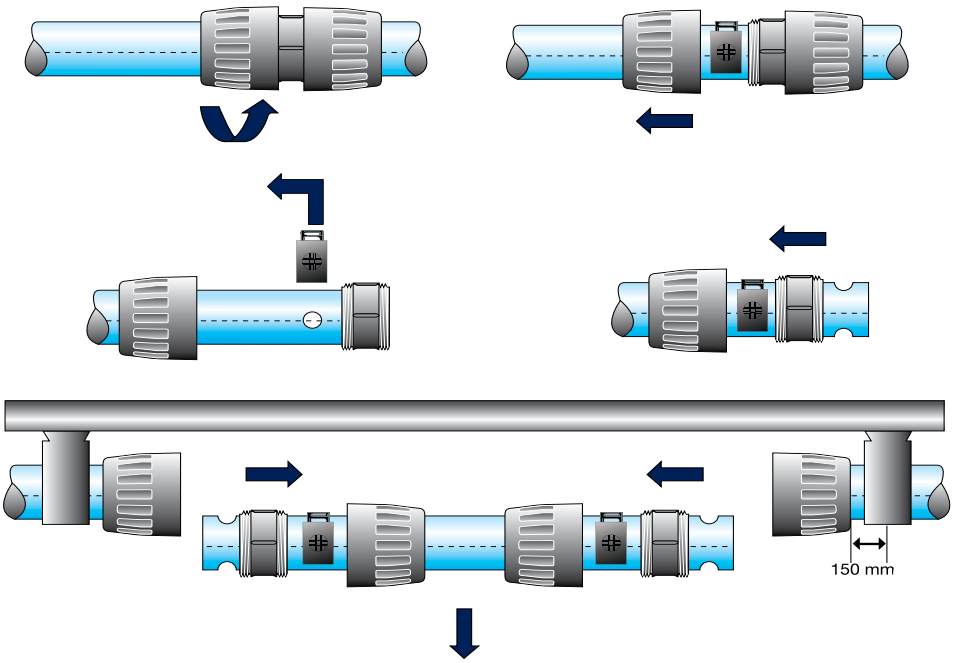
1 1/2"



Loosen the nuts located on the side of the pipe to be removed and slide them along the pipe. Then remove the pipe.

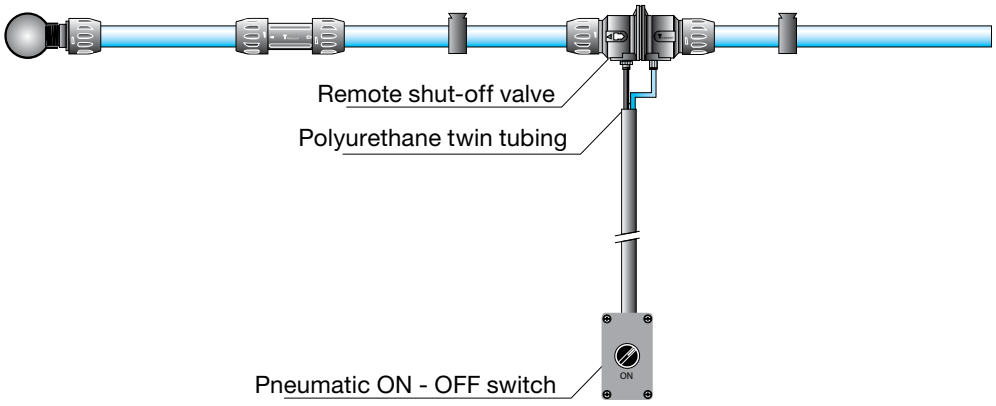
2"

2 1/2"



1. Loosen the connector nuts on the ends of the pipe to be removed
2. Slide them along the pipe
3. Remove the snap rings from their housings
4. Slide the clamps and the connector body along the pipe which is to be removed
5. Repeat the operation at the other end of the pipe and laterally remove the pipe, complete with the assembly components

Transair® 1 1/2" remote shut-off valve



Application

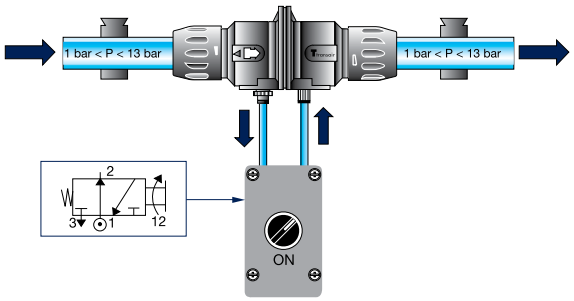
The Transair® 1 1/2" remote shut-off valve allows network supply to be rapidly and safely opened and closed either at ground level or by remote control.

The Transair® remote shut-off valve guarantees:

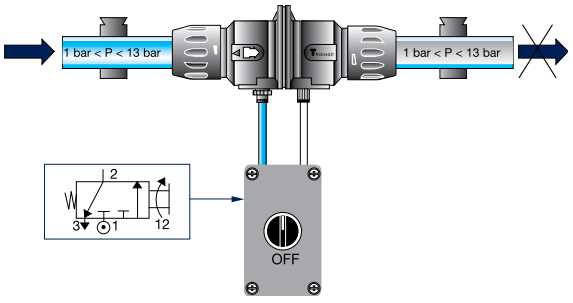
- Personal safety, by eliminating all hazards related to working at heights
- Servicing speed, by removing the need for special access equipment (ladder, platform etc)

Operating principle

Single acting valve - normally closed. For compressed air systems:
The valve control pressure can be taken upstream of the isolating valve, with no external power supply. Control is performed through the control unit connected to the valve by means of a push-in connector.

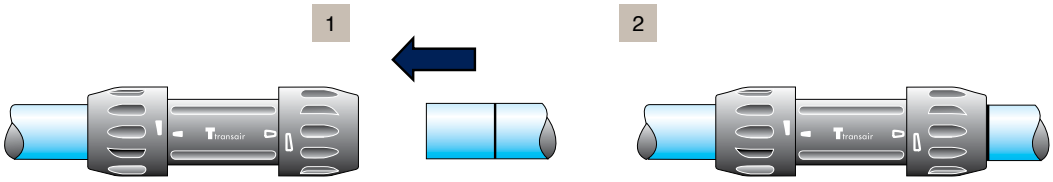


For vacuum systems:
A compressed air supply external to the control unit is required, and the corresponding valve port must be closed in order to prevent loss.

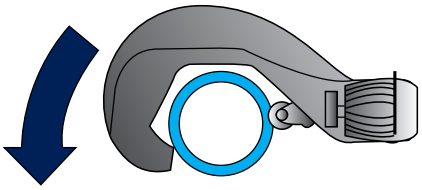


Do's

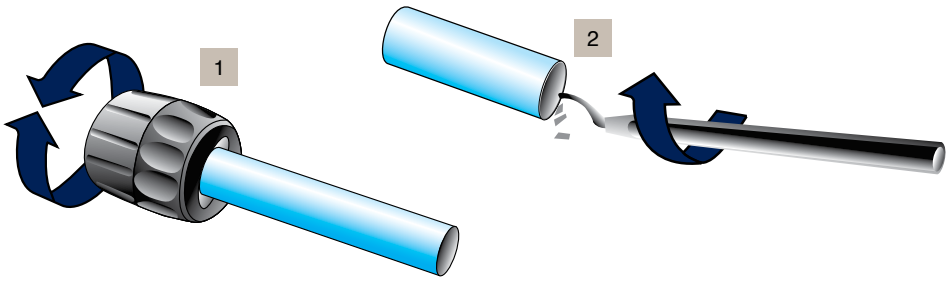
Connection



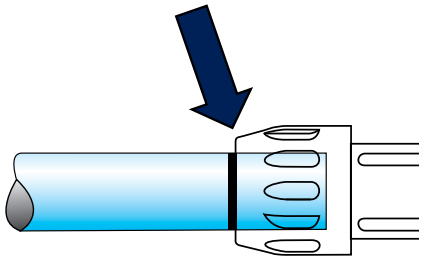
Use a pipe cutter



Carefully chamfer and deburr the pipe after cutting or drilling

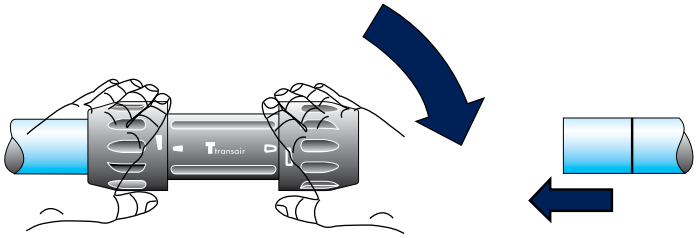


Check that the pipe is correctly positioned in the connector

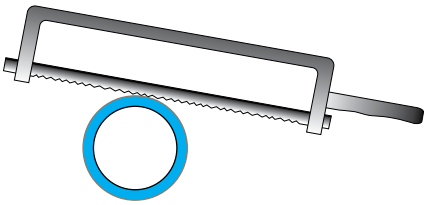


Don’ts

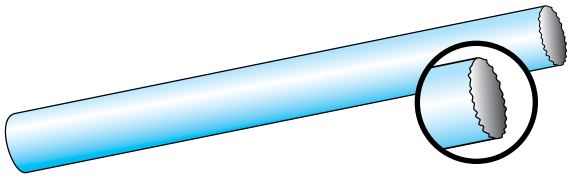
Loosen the nuts during assembly



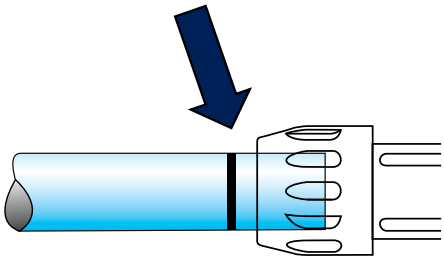
Cut the paipe with a saw



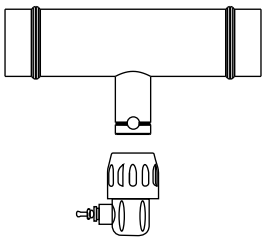
Use non-deburred pipe



Fail to make the pipe secure



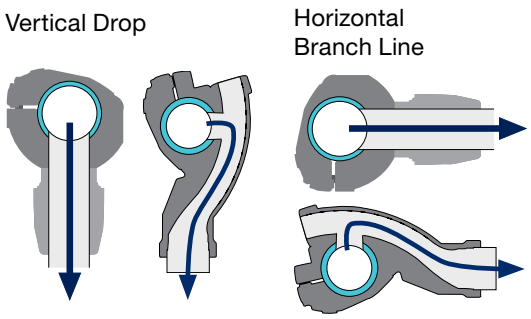
Connect 1 1/2" end cap to reducing tee



Quick Assembly Brackets

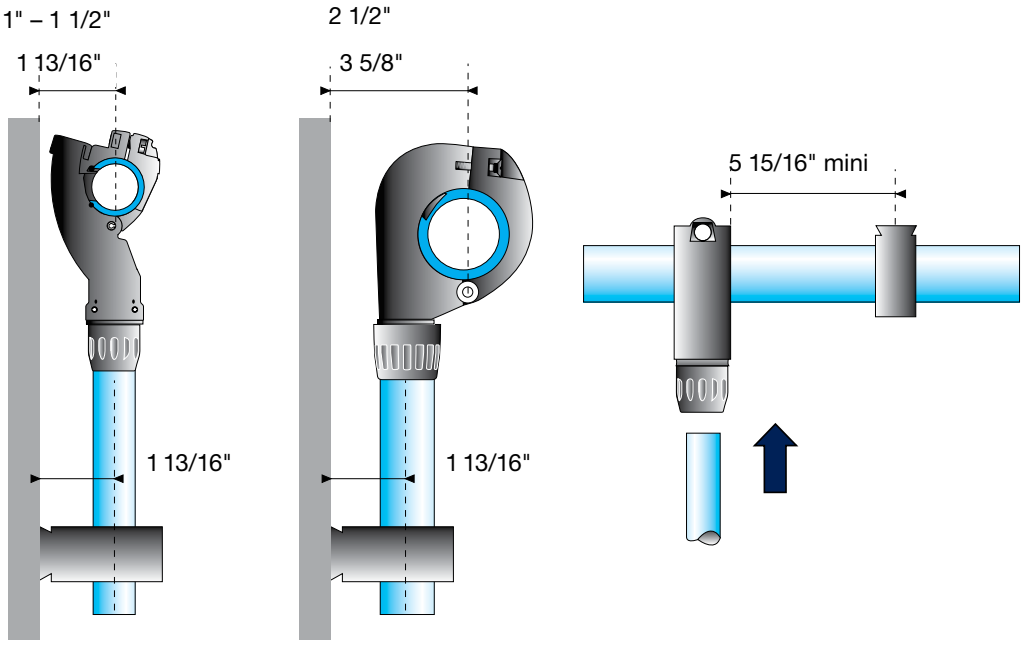
General

The easy addition of a new drop or bypass onto an existing length of pipe is an important consideration of any air pipe system. Transair® quick assembly brackets are designed for this very purpose, without the need to cut the pipe. A "swan neck" built into the brackets retains condensate water in the main line. Thanks to its small size, the Transair® quick assembly bracket facilitates new additions in the tightest places and can be used for connecting horizontal branch lines and vertical drops.



Specific Instructions for Installing a Bracket

For the 1" and 1 1/2" Transair® quick assembly brackets, the pipe center to wall distrance is equal to the bracket center to wall distance, i.e. 1 13/16". For the 2 1/2" Transair® quick assembly brackets, the pipe center to wall distance is 90mm and the 1" and 1 1/2" bracket center distance is 1 13/16". Furthermore, Transair® clips should be fitted at a distance of at least 5 15/16" from a quick assembly bracket in order to allow for the expansion / contraction of aluminum pipe.



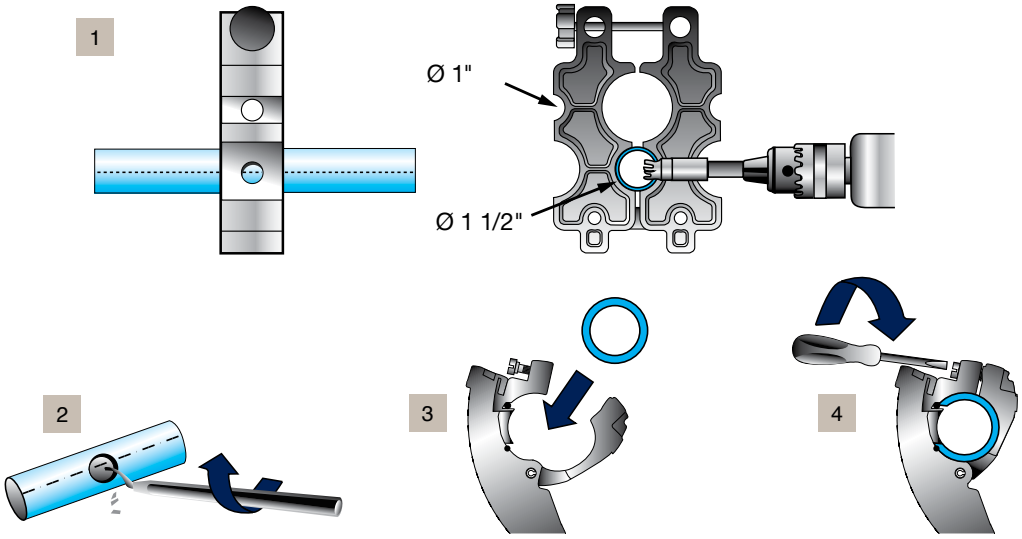
Installing a quick assembly bracket

To 1" or

1 1/2" pipe

Tools required

Drilling tool for aluminum pipe ref. 6698 02 02 or 6698 02 01	Drilling jig for aluminum pipe ref. 6698 01 01	Deburring tool for aluminum pipe ref. 6698 04 02	Permanent marker pen	Allen key / Flat end screwdriver



Procedure

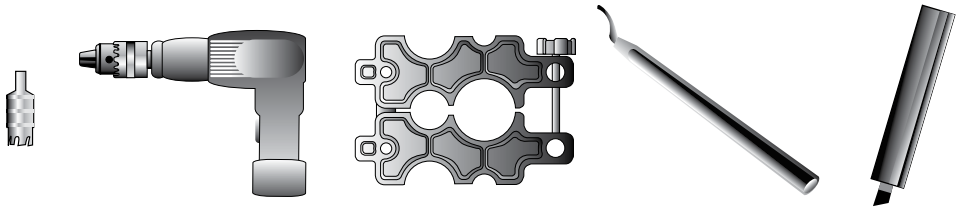
1. Mark the pipe at the desired position for the bracket, using the same locator mark when several take-off points need to be aligned uniformly. Place the drilling jig ref. 6698 01 01 in a vice or on the floor.
   To drill a hole in 1 1/2" pipe, loosen the retaining bolt in the jig by turning the knob and place the pipe in the jig. The locator mark on the pipe should be aligned with the appropriate guide marks on the side of the jig. Two guide lines on either side of the jig provide a rapid indication of whether the pipe is correctly positioned (the guide lines match the locator marks on the pipe). Close the jig, tighten the bolt and drill a hole using the appropriate drilling tool:
   - 1": 1/2" hole > ref. 6698 02 02 drilling tool
   - 1 1/2": 1" hole > ref. 6698 02 01 drilling tool
     Recommended rotation speed: 650 rpm
     Note: drill without lubrication.
2. Release the pipe, remove any chips and deburr the circular hole. Repeat the operation for the number of brackets that you wish to fit.
3. Position the quick assembly bracket using its location pin
4. Tighten the screw

Note: The jig's second drilling guide corresponds to the minimum distance for fitting two adjacent brackets.

Installing a bracket

On 2" and

2 1/2" pipe



Tools required

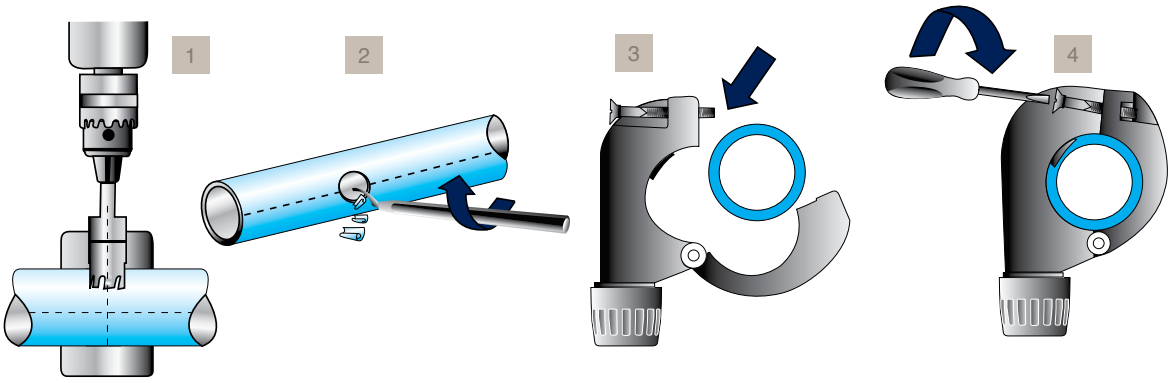
Drilling tool for aluminum pipe ref. 66698 02 01

Drill

Drilling jig for aluminum pipe ref. 6698 01 02

Deburring tool for aluminum pipe ref. 6698 04 02

Permanent marker pen



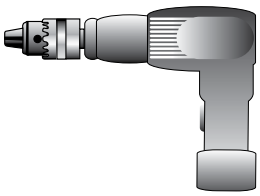
Procedure

1. Mark the pipe at the desired position for the bracket. The mark should be placed on one of the locator marks so that multiple brackets are correctly aligned, when several take-off points are required. Place the 2 1/2" drilling jig in a vice or on the floor and place the pipe in the jig. Ensure that the line marked on the pipe is centred within the drilling guide: two marks on either side of the jig's upper side provide a rapid indication of the pipe's positioning. Tighten the locking clamp to secure the pipe and drill using the 1" drilling tool. [Recommended rotation speed: 650 rpm] Note: Drill without lubrication.
2. Loosen the locking clamp and release the pipe, remove any chips and deburr the hole. Repeat the operation for the number of brackets that you wish to fit.
3. Position the quick assembly bracket using its location hole
4. Tighten the screw

Installing a bracket

On 3", 4"

or 6" pipe

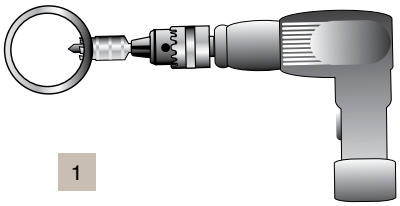


Tools required

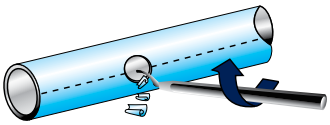
Drilling tool for aluminum pipe ref. EW09 00 30 (3" - 4") or EW09 00 51 / EW09 00 64 (6")

Deburring tool for aluminum pipe ref. 6698 04 02

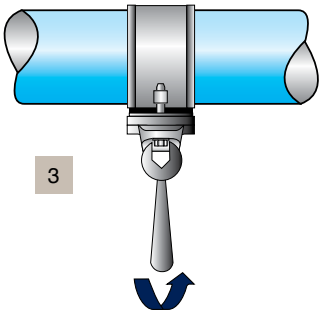
Drill



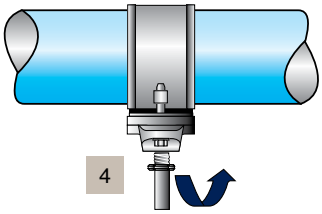
1



2



3



4

Procedure

1. Drill the aluminum pipe at the desired position using drilling tool ref.
2. Carefully deburr the pipe
3. Position bracket ref. RR63 and fully tighten the two screws
4. Screw on male adapter

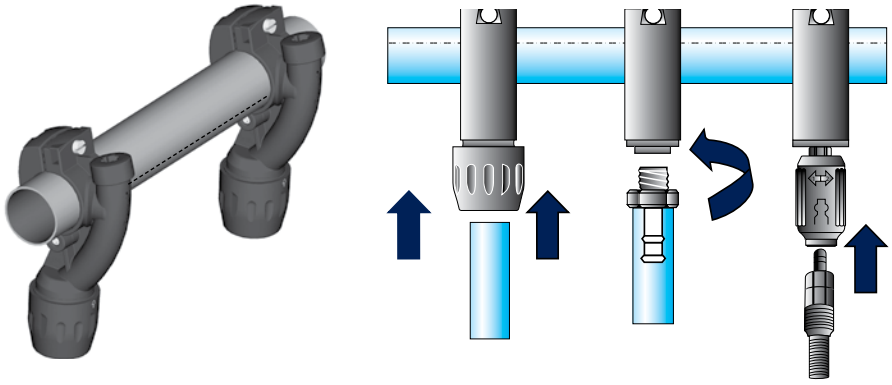
Note: Use adapter ref. 6621 25 35 in combination with bracket ref. RR63 to create a 1" take-off point from 3" or 4" pipe.

Practical examples

Using the same locator mark

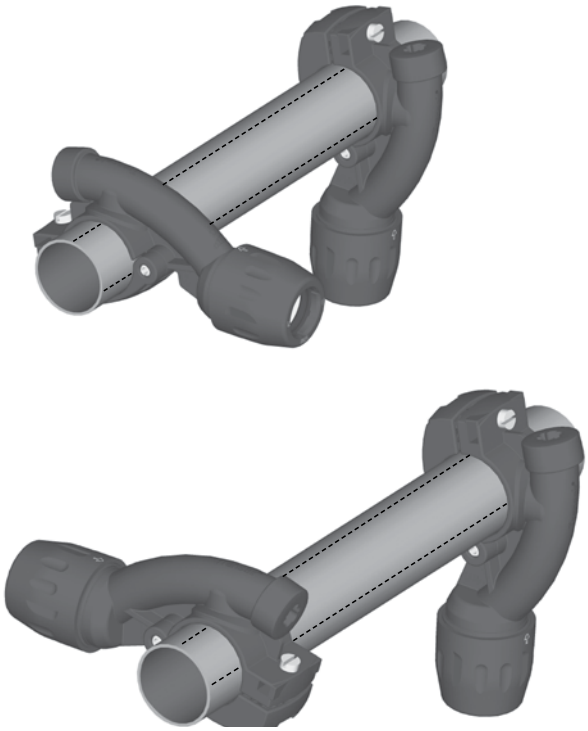
Creating vertical and horizontal take-off points

Adding a vertical bracket



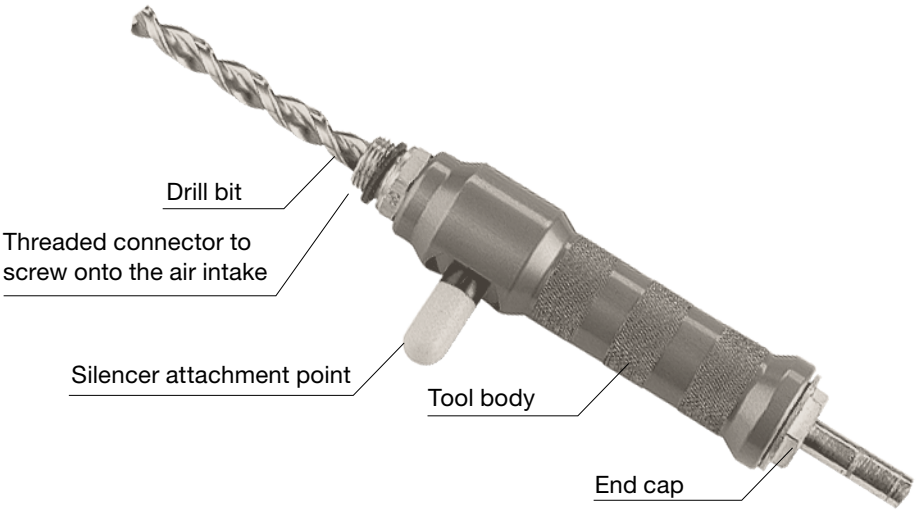
Adding an off-set bracket

Using two locator marks

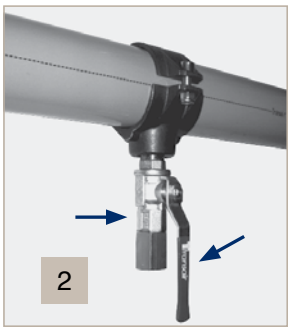


Installing a quick assembly bracket

Installing a bracket to a pressurized system



Use the under pressure drilling tool to fit a bracket to an existing pressurized system. This can be simply done with use of a standard drill.



Procedure

1. Position the pressurized system bracket and fully tighten the two screws
2. Screw the assembly onto the ball valve and ensure that the valve is open
3. Screw the drilling tool onto the ball valve until complete
4. Remove the drill and close the ball valve immediately and dismantle the drilling tool

Transair® Flexible Hose

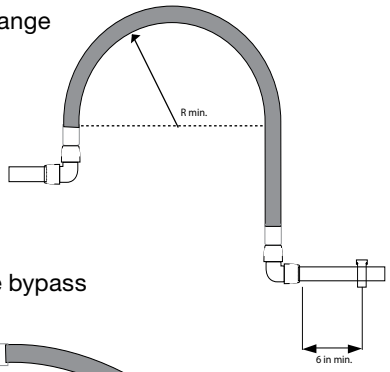
General

Transair® flexible hose can be easily connected to other Transair® components and can be rapidly installed without prior preparation or cutting. Thanks to its small bend radius, it requires minimum space and avoids mechanical stress within the system. Transair® flexible hose is resistant to both compressor oils and fire.

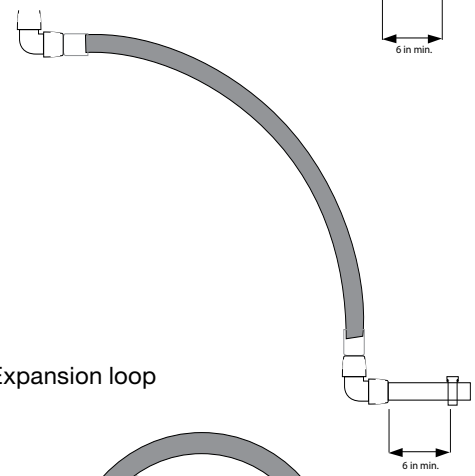
Applications

Ø (IN)	Ø (MM)	LENGTH (IN)	TRANSAIR®	R MIN (IN)
1	25	22	1001E25 00 01	4
1	25	59	1001E25 00 03	4
1	25	79	1001E25 00 04	4
1	25	22	1001E25V00 01	3
1	25	59	1001E25V00 03	3
1	25	79	1001E25V00 04	3
1 1/2	40	45	1001E40 00 02	16
1 1/2	40	79	1001E40 00 04	16
1 1/2	40	118	1001E40 00 05	16
1 1/2	40	37	1001E40V00 07	6
1 1/2	40	79	1001E40V00 04	6
1 1/2	40	118	1001E40V00 05	6
2	50	39	1001E50 00 09	11
2	50	78	1001E50 00 04	11
2 1/2	63	55	1001E63 00 08	12
2 1/2	63	118	1001E63 00 05	26
2 1/2	63	157	1001E63 00 06	26
2 1/2	63	118	1001E63V00 05	10
2 1/2	63	157	1001E63V00 06	10
3	76	59	FP01 L1 01	14
3	76	79	FP01 L1 02	14
4	100	79	FP01 L3 01	18
4	100	118	FP01 L3 03	18

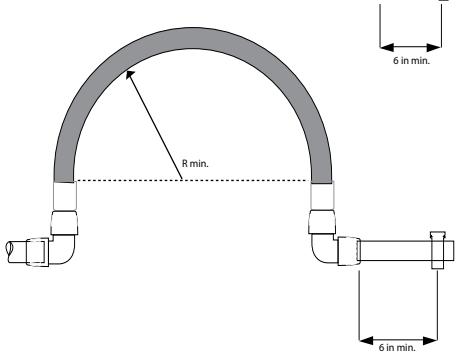
Level change



Obstacle bypass



Expansion loop



Safety

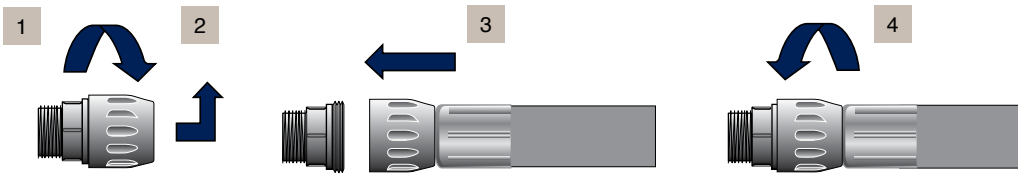
Anti-whiplash straps

In order to avoid the risk of whiplash accidents, Transair® recommends the use of anti-whiplash straps, which are placed on either side of the connection. If Transair® flexible tube is exposed to tear, the anti-whiplash assembly prevents it from snaking (safety device in accordance with ISO 4414 standard).

Flexible Hose Connections

1/2" to 1 1/2"

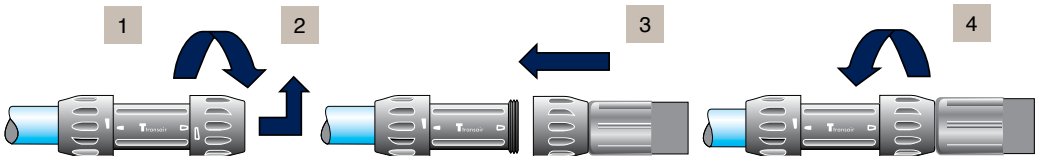
Using a male threaded fitting



Procedure

1. Loosen the nut on the stud fitting
2. Remove it
3. Move the swaged end of the hose onto the exposed stud thread
4. Tighten the nut

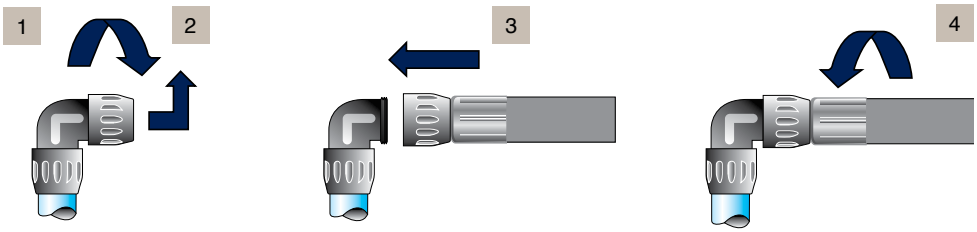
Using a pipe to pipe connector



Procedure

1. Loosen the nut on the connector
2. Remove it
3. Move the swaged end of the hose onto the connector thread
4. Tighten the nut

Using a 90° elbow



Procedure

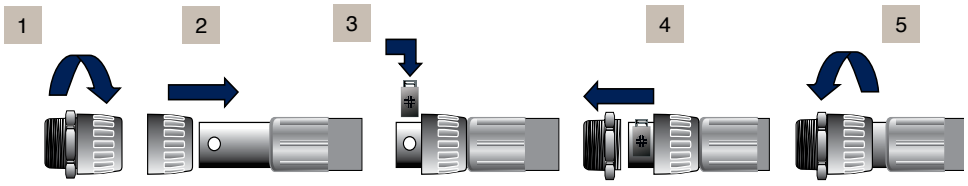
1. Loosen the nut on the elbow
2. Remove it
3. Move the swaged end of the hose onto the elbow thread
4. Tighten the nut

Flexible Hose Connections

2"

2 1/2"

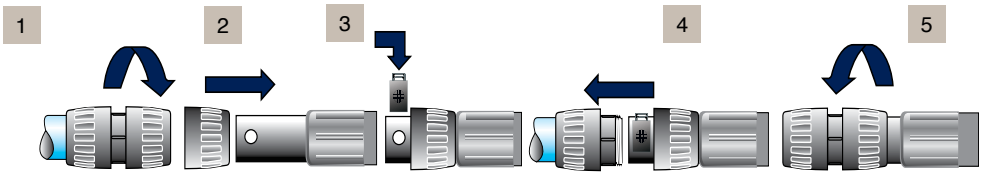
Using a male threaded fitting



Procedure

1. Loosen the nut on the stud fitting and remove it
2. Place the nut over the swaged end of the flexible hose
3. Place the pipe connector clamps in the housings on the hose
4. Slide the nut forward to the end of the flexible hose and assemble onto the male thread
5. Tighten the nut using the 2" – 2 1/2" spanner set

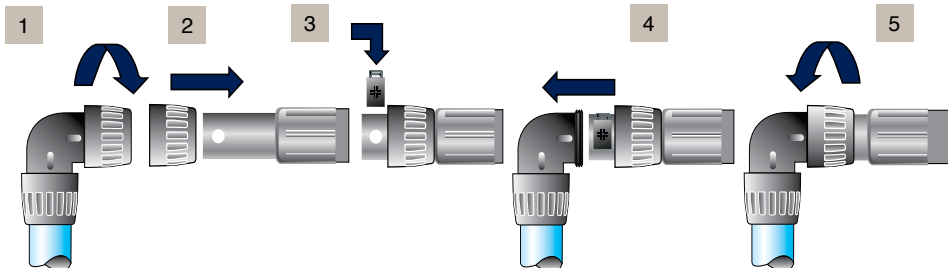
Using a pipe to pipe connector



Procedure

1. Loosen the nut on the connector and remove it
2. Fit it over the swaged end of the flexible hose
3. Place the pipe connector clamps in the housings on the hose
4. Slide the nut forward to the end of the flexible hose, until it touches the clamps
5. Tighten the nut using the 2" – 2 1/2" spanner set

Using a 90° elbow



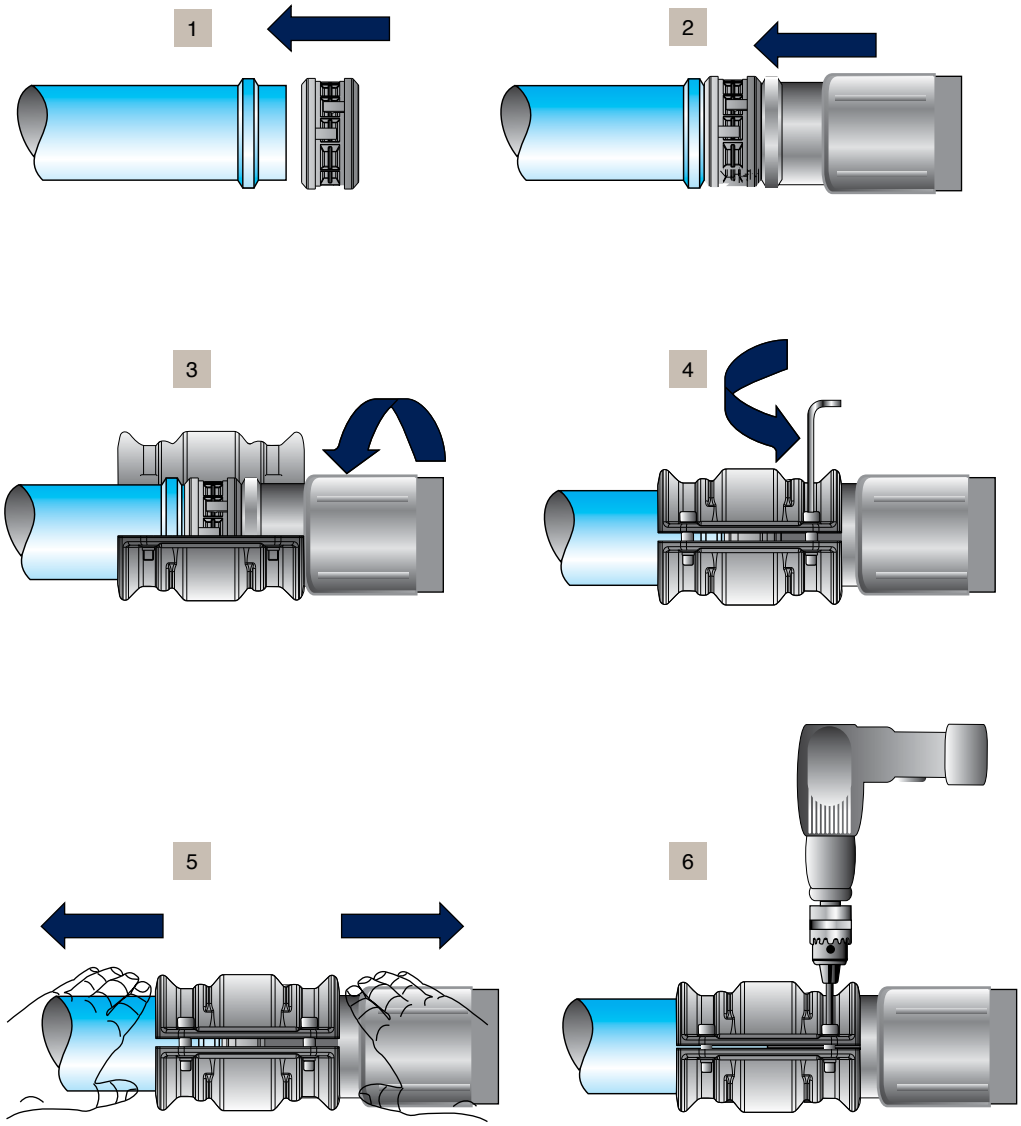
Procedure

1. Loosen the nut on the elbow and remove it
2. Fit it over the swaged end of the flexible hose
3. Place the elbow clamps in the housings on the hose
4. Slide the nut forward to the end of the flexible hose, until it touches the clamps
5. Tighten the nut using the 2" – 2 1/2" spanner set

Flexible Hose Connections

3" to 6"

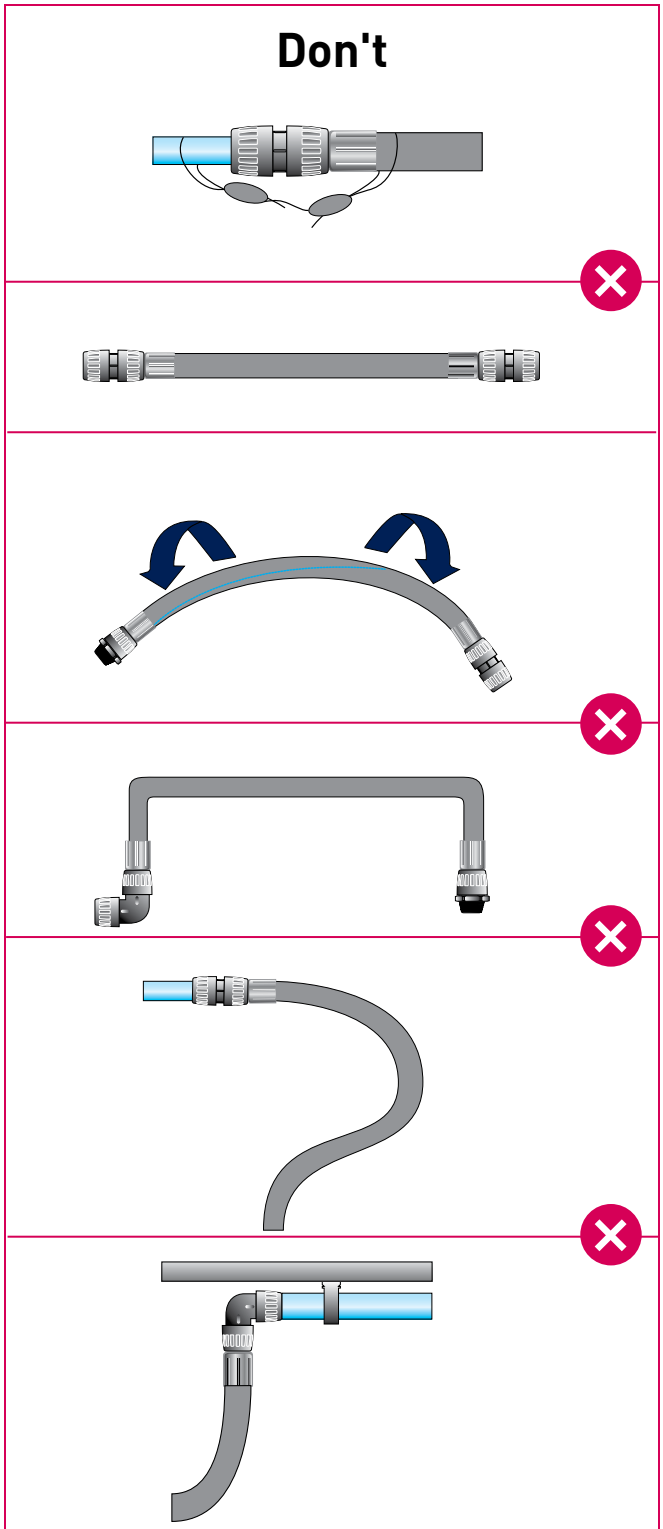
Using a steel clamp



Do's & Dont's

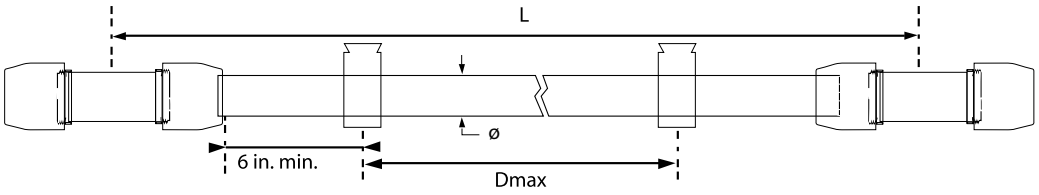
Do

Don't



Fixture Accessories

Transair® clip for 1/2" to 2 1/2" rigid pipe



The Transair® fixing clip is the basic component for mounting pipe when installing a 1/2" – 2 1/2" Transair® aluminum system. This clip allows expansion and contraction of the pipe to occur freely.

To ensure good system stability, we recommend the use of at least two clips per pipe. Transair® aluminum pipe should only be mounted using Transair® and should not be substituted by any other type of components.

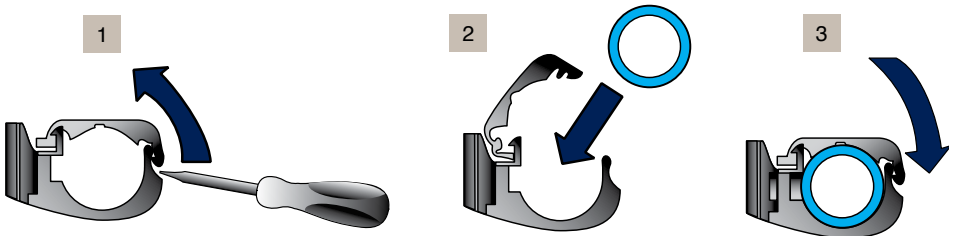
Ø (IN)	Ø (MM)	L (FT)	DMAX (FT)
1/2	16.5	10	8
1	25	10	8
1	25	20	10
1 1/2	40	10	8
1 1/2	40	20	10
2	50	10	10
2	50	20	10
2 1/2	63	20	10

Properties

- Transair® fixing clips for 1/2" – 1 1/2": 1/4" nuts
- Transair® fixing clips for 2" – 2 1/2" systems: 3/8" nuts

Procedure

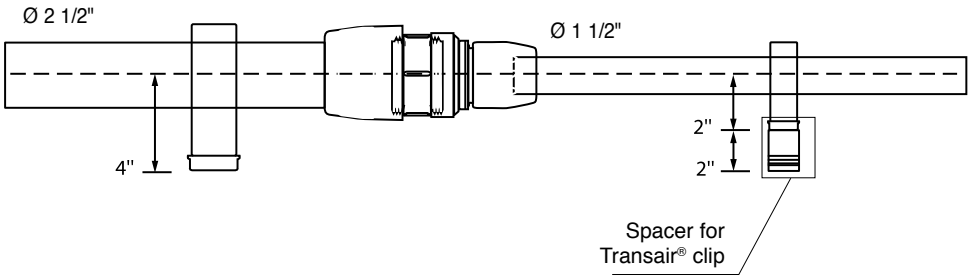
1. Place the clip as required and open it using a screwdriver
2. Insert the pipe into the clip
3. Close the clip



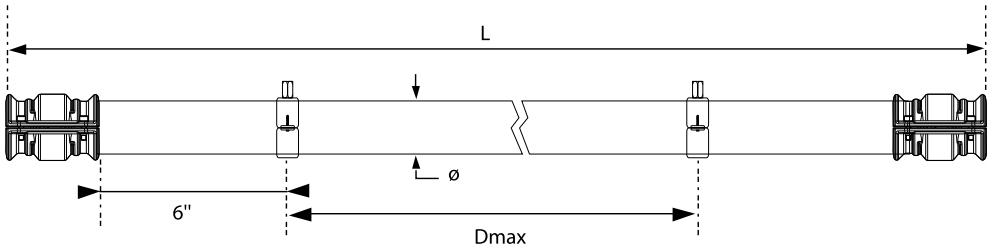
Spacer

The Transair® 6697 00 03 spacer is used for adjusting a run of Transair® pipe using different diameters.

Example:



Transair® fixing clips for 3" to 6" systems

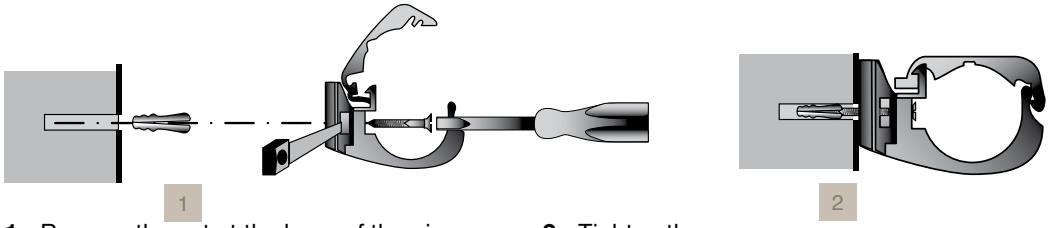


To ensure good system stability, we recommend the use of at least two fixing clips per length of pipe. Transair® fixing clips for 3" – 6" systems: 3/8" thread.

Ø (IN)	Ø (MM)	L (FT)	DMAX (FT)
3	76	20	16
4	100	20	16
6	168	20	16

Supporting a Transair® system

Directly onto a wall



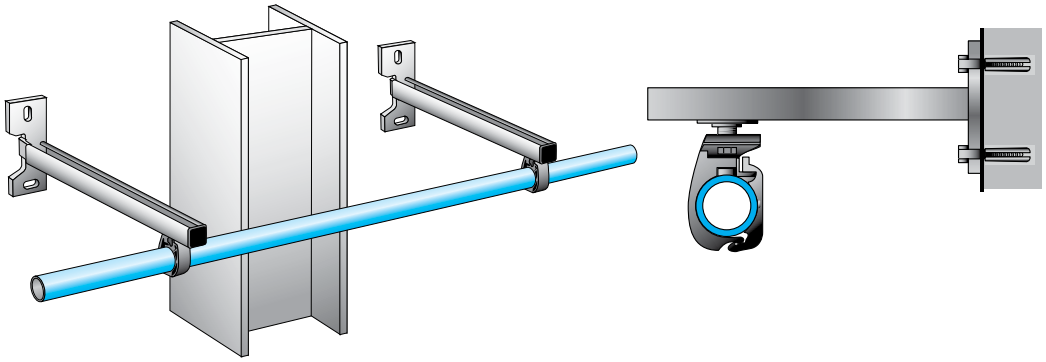
1

2

1. Remove the nut at the base of the pipe clip using a screwdriver and insert the screw by passing it through the clip

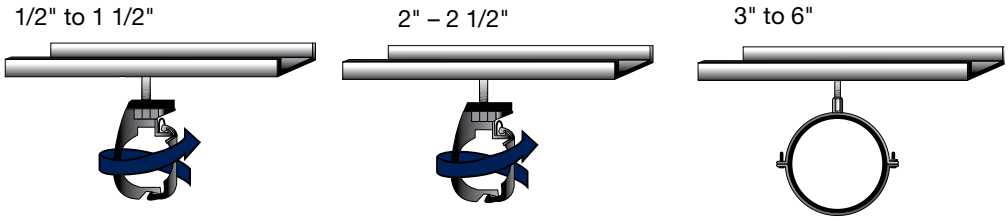
2. Tighten the screw

Offset from a wall

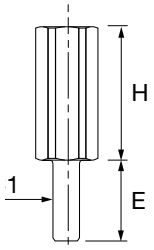


U-channel assemblies are used to offset systems and to bypass obstacles.

U-channel type mounting bracket



Threaded rod adapter

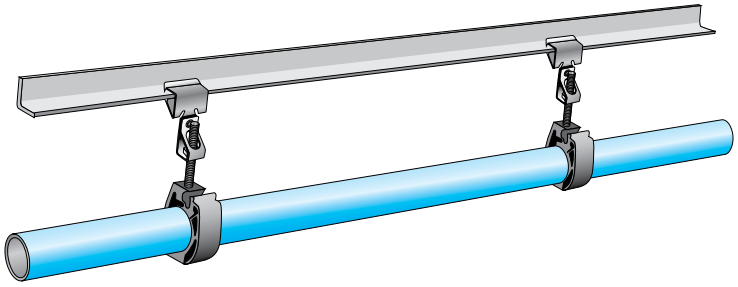


C1: 1/4’’

The Transair® threaded rod adaptor allows 1/2", 1" and 1 1/2" Transair® pipe clips to be easily suspended under 3/8" threaded rod.

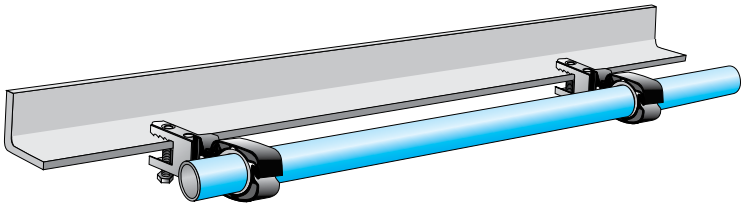
Supporting a Transair® system

On a metal beam



Push-on type beam clamps

Using beam clamps*



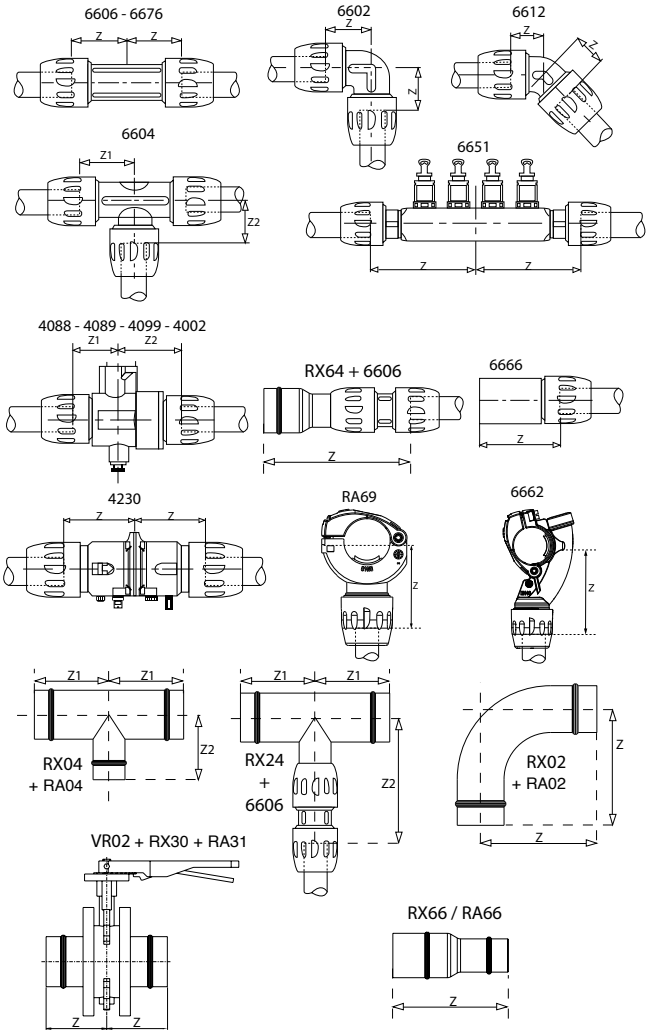
Screw type beam clamps

*Beam clamps are not available for purchase through Parker Hannifin

Practical Information

	Z	Z1	Z2
4002 40 00	-	4 13/16	2 1/4
4002 63 00	-	3 5/16	3 7/8
4089 17 00	-	1 1/8	1 11/16
4099 17 00	-	1 1/8	1 11/16
4099 25 00	-	1 9/16	2 3/16
4230 00 40	3 3/8	-	-
6612 25 00	1 1/8	-	-
6612 40 00	1 3/4	-	-
6612 63 00	2 3/8	-	-
6602 17 00	1 1/4	-	-
6602 25 00	1 9/16	-	-
6602 40 00	2 7/16	-	-
6602 50 00	2 1/4	-	-
6602 63 00	2 3/8	-	-
6604 17 00	-	1 5/16	1 1/4
6604 25 00	-	1 7/8	1 9/16
6604 40 00	-	2 1/4	2 1/4
6604 50 00	-	2 3/16	2 3/16
6604 63 00	-	2 7/16	2 7/16
6604 63 40	-	2 7/16	4 9/16
6606 17 00	1 5/16	-	-
6606 25 00	1 7/8	-	-
6606 40 00	2 1/4	-	-
6606 50 00	1	-	-
6606 63 00	1	-	-
6651 25 12 04	4 1/4	-	-
6651 40 12 04	5 15/16	-	-
6662 25 00	1 7/8	-	-
6662 25 17	3 1/4	-	-
6662 40 17	3 1/2	-	-
6662 40 25	3 1/4	-	-
6662 50 25	2 5/16	-	-
6662 63 25	3	-	-
6666 17 25	2	-	-
6666 25 40	2 13/16	-	-
6676 25 00	1 7/8	-	-
6676 40 00	2 1/4	-	-
6676 50 00	1	-	-
6676 63 00	1	-	-
RA02 L8 00	7 1/4	-	-
RA04 L8 00	-	7 1/16	7 5/16
RA04 L8 L3	-	6 1/2	7 5/16
RA04 L8 L1	-	6 1/2	7 5/16
RA04 L8 63	-	6 1/2	8 11/16
RA66 L8 L1	210	-	-
RA66 L8 L3	210	-	-
RA69 25 17	1 7/8	-	-
RA69 40 25	2 1/4	-	-
RA69 50 25	2 5/8	-	-

	Z	Z1	Z2
RX02 L1 00	7 7/16	-	-
RX02 L3 00	8 11/16	-	-
RX04 L1 00	-	5 11/16	5 11/16
RX04 L3 00	-	6 1/8	5 5/16
RX04 L3 L1	-	6 1/8	5 5/16
RX24 L1 40	-	5 11/16	4 1/8
RX24 L1 63	-	5 11/16	6 7/16
RX24 L3 40	-	6 1/8	4 5/8
RX24 L3 63	-	6 1/8	6 15/16
RX64 L1 63	13 7/8	-	-
RX64 L3 63	14 5/8	-	-
RX66 L3 L1	7 5/8	-	-
VR02 L1 00	4 9/16	-	-
VR02 L3 00	4 7/8	-	-
VR02 L8 00	5 1/16	-	-



Expansion / Contraction

L: length of Transair® straight line to be installed (in m)

△T : difference between temperature when installing and maximum operating temperature (in °C)

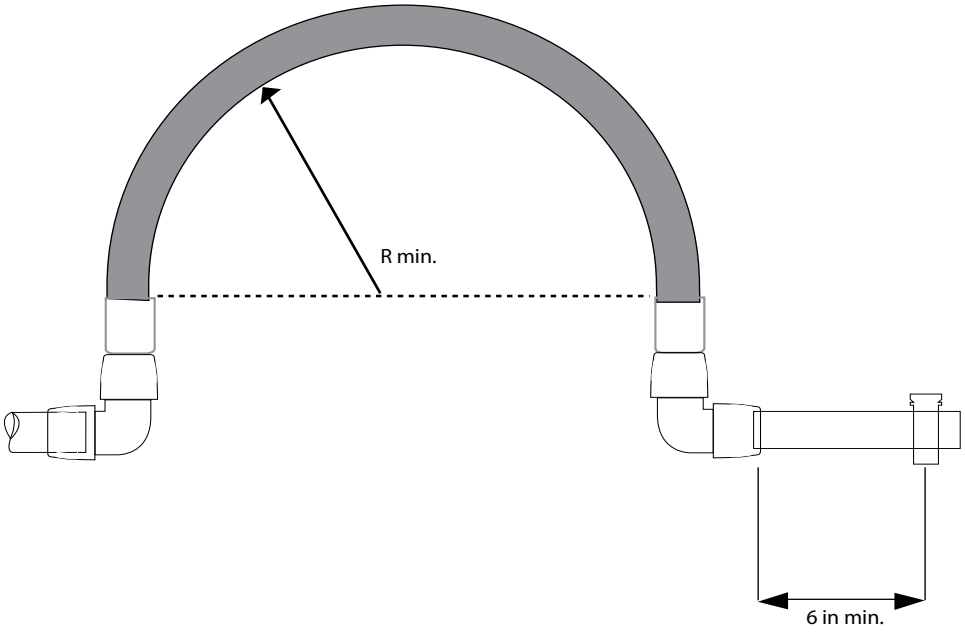
△L: line length variation (in mm)

For Transair® 1/2" – 4" aluminum pipe systems:

△L = (a x L) + (0.024 x L x△T)

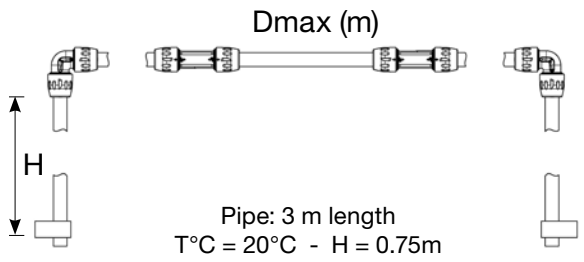
1. Expansion related to pipe retraction in the connector
2. Expansion related to temperature variations

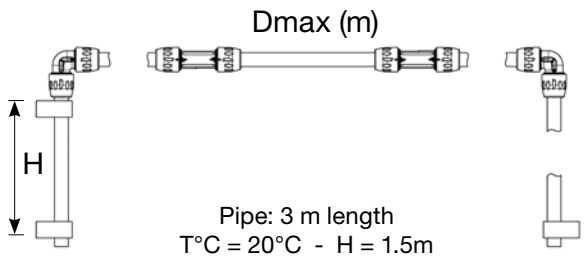
	Ø 1/2"	Ø 1"	Ø 1 1/2"	Ø 2"	Ø 2 1/2"	Ø 3"	Ø 4"
9 FT PIPE	A=0.06	A=0.20	A=0.40	A=0.56	A=0.73	A=1.0	A=1.0
20 FT PIPE	-	A=0.10	A=0.20	A=0.29	A=0.38	A=0.50	A=0.50



Practical Information

Example



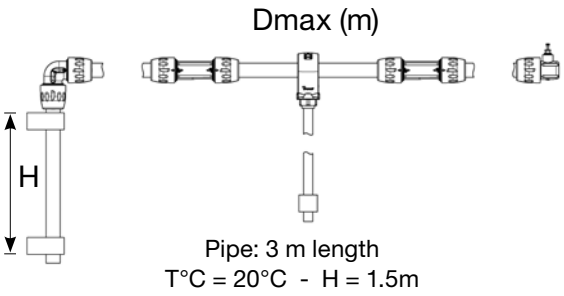


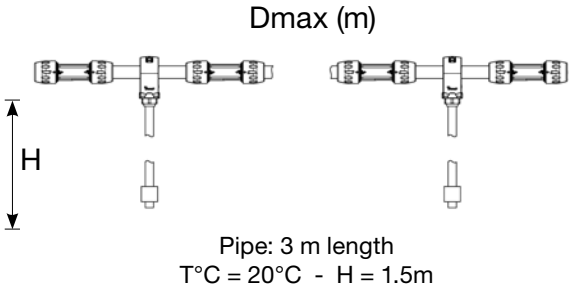
Case no. 1:
Maximum distance, without expansion loop, from a fixed point dependant on Transair® diameter (2 elbows)

Ø TRANSAIR®	1/2	1	1 1/2	2	2 1/2	3	4
DMAX. (M)	50	40	30	24	24	15	15

Case no. 2:
Maximum distance, without expansion loop, dependant on Transair® diameter

Ø TRANSAIR®	1/2	1	1 1/2	2	2 1/2	3	4
DMAX. (M)	50	40	30	24	24	15	15





Case no. 3:
Maximum distance for installing a bracket, without expansion loop, dependant on Transair® diameter (1 elbow - 1 bracket)

Ø TRANSAIR®	1/2	1	1 1/2	2	2 1/2	3	4
DMAX. (M)	48	38	30	25	25	7.5	7.5

Case no. 4:
Maximum distance for installing a bracket, without expansion loop, dependant on Transair® diameter (2 brackets)

Ø TRANSAIR®	1/2	1	1 1/2	2	2 1/2	3	4
DMAX. (M)	80	70	55	40	40	15	15

Practical Information

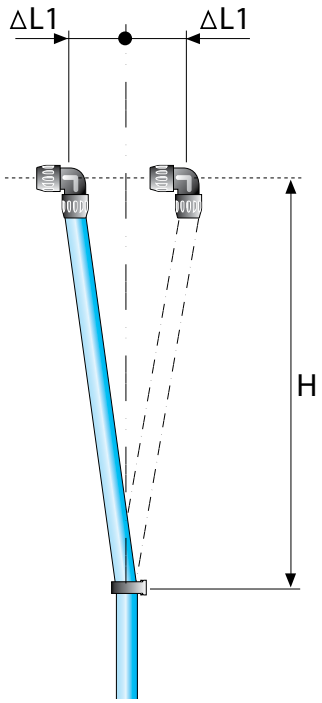
Direction change

In addition to expansion loops, changes of direction are another method of compensating for expansion and contraction.

- For Transair® 1/2" to 2 1/2" aluminum pipe systems

H= 29.5" △L1= 0.6"

H= 59.1" △L1= 1.2"



Using an elbow

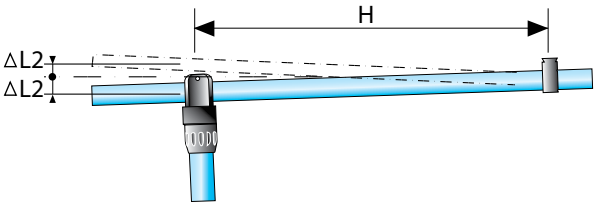
- For Transair® 3" to 6" aluminum pipe systems

H= 29.5" △L1= 3/8"

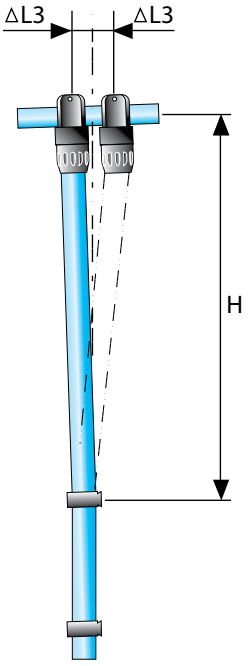
H= 59.1" △L1= 6/8"

Using a quick assembly bracket

- For Transair® 1/2" to 2 1/2" aluminum pipe systems



Ø1 (IN)	Ø2 (IN)	H (FT)	△L2 (IN)	△L3 (IN)
1	1/2	5	1/2	1
1	1	5	1/2	1
1 1/2	1/2	5	1/2	1
1 1/2	1	5	1/2	1
2	1/2	5	1/2	1
2	1	5	1/2	1
2 1/2	1	5	1/2	1



The length variation △L, calculated for the Transair® line, must always be equal to or less than △L2 and △L3. If this is not the case, then an expansion loop, using Transair® flexible hose, must be added.

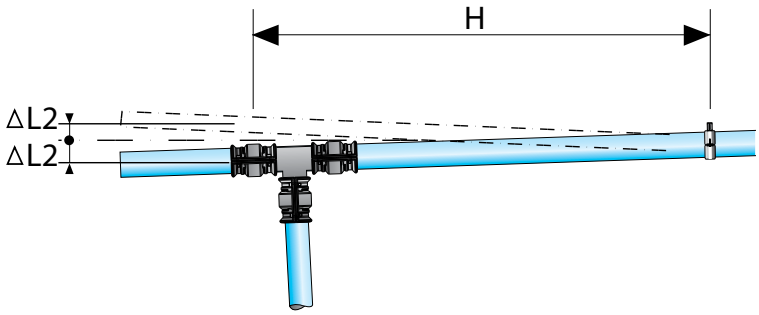
Practical Information

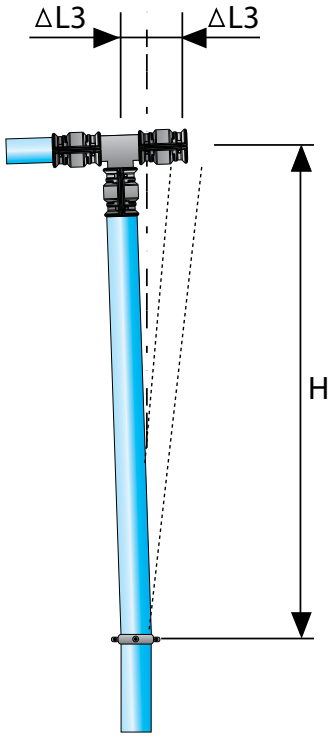
Expansion / Contraction

Changing direction with a tee

For Transair® 3" - 6" aluminum pipe systems

Ø	Ø (MM)	H (FT)	△L2 MAXI (IN)	△L3 MAXI (IN)
3	76	2 1/2	3/8	3/8
4	100	2 1/2	3/8	3/8
6	168	2 1/2	3/8	3/8





Practical Information

Conversion charts

Length

INCH (IN)	FOOT (FT)	METER (M)	MILLIMETER (MM)	YARD (YD)
0.39	0.03	0.01	10	0.01
0.79	0.07	0.02	20	0.02
1.18	0.10	0.03	30	0.03
1.57	0.13	0.04	40	0.04
1.97	0.16	0.05	50	0.05
2.36	0.20	0.07	60	0.06
2.76	0.23	0.08	70	0.07
3.15	0.26	0.09	80	0.08
3.54	0.30	0.10	90	0.09
3.94	0.33	0.11	100	0.10
5.91	0.49	0.16	150	0.15
7.87	0.66	0.22	200	0.20
9.84	0.82	0.27	250	0.25
11.81	0.98	0.33	300	0.30
13.78	1.15	0.38	350	0.35
15.75	1.31	0.44	400	0.40
17.72	1.48	0.49	450	0.45
19.69	1.64	0.55	500	0.50
21.65	1.80	0.60	550	0.55
23.62	1.97	0.65	600	0.60
27.56	2.30	0.76	700	0.70
31.50	2.62	0.87	800	0.80
35.43	2.95	0.98	900	0.90
39.37	3.28	1.09	1000	1.00

Pressure

BAR	KILO PASCAL (KPA)	ATMOSPHERE (ATM)	PSI	TORR (MM HG)
1	100	0.99	14.50	750
2	200	1.97	29.00	1 500
3	300	2.96	43.50	2 250
4	400	3.95	58.00	3 000
5	500	4.93	72.50	3 750
6	600	5.92	87.00	4 500
7	700	6.91	101.50	5 250
8	800	7.90	116.00	6 000
9	900	8.88	130.50	6 750
10	1000	9.87	145.00	7 500
11	1100	10.86	159.50	8 250
12	1200	11.84	174.00	9 000
13	1300	12.83	188.50	9 750
14	1400	13.82	203.00	10 500
15	1500	14.80	217.50	11 250
16	1600	15.79	232.00	12 000
20	2000	19.74	290.00	15 000

Practical Information

Flow Rate

LITERS PER SECOND (L/S)	LITERS PER MINUTE (L/MIN)	CUBIC METERS PER MINUTE (M3/MIN)	CUBIC METERS PER HOUR (M3/H)	CUBIC FEET PER MINUTE (CFM)
10	600	0.60	36	21
20	1 200	1.20	72	42
30	1 800	1.80	108	64
40	2 400	2.40	144	85
50	3 000	3.00	180	106
60	3 600	3.60	216	127
70	4 200	4.20	252	148
80	4 800	4.80	288	169
90	5 400	5.40	324	191
100	6 000	6.00	360	212
150	9 000	9.00	540	318
200	12 000	12.00	720	424
250	15 000	15.00	900	530
300	18 000	18.00	1 080	635
350	21 000	21.00	1 260	741
400	24 000	24.00	1 440	847
450	27 000	27.00	1 620	953
500	30 000	30.00	1 800	1 059
550	33 000	33.00	1 980	1 165
600	36 000	36.00	2 160	1 271
700	42 000	42.00	2 520	1 483
800	48 000	48.00	2 880	1 694
900	54 000	54.00	3 240	1 906
1 000	60 000	60.00	3 600	2 118

Air Consumption Values

TOOLS	TYPICAL CFM CONSUMPTION AT AN OPERATING PRESSURE OF 87 PSI (5.9 bar)
SMALL PROCESS CONTROLS, INSTRUMENTATION, PNEUMATIC LOGIC UNITS	4
PAINT SPRAY GUN, SMALL IMPACT WRENCH, LIGHT/MEDIUM DRILL, BLOWGUN	FROM 5 TO 18
POLISHER, SCREWDRIVER	25
SHEET METAL CUTTER, LARGE IMPACT WRENCH, AUTOMATIC PLANE	28
SMALL AUTOMATIC MACHINES, MISCELLANEOUS TOOLING	32
LARGE TOOLS, POWER MACHINES AND ASSOCIATED EQUIPMENT	36
AIR HOIST, GRINDER	74

Transair® systems in use

Packaging
Transair® 1 1/2" (40 mm) and 1" (25 mm)

Manufacturing
Transair® 1" (25 mm) to 6" (168 mm)

Automotive
Transair® 1 1/2" (40 mm)

Food and beverage
Transair® 1" (25 mm)

Manufacturing
SCOUT™ 2 1/2" (63 mm)

Alternative energy
Transair® 2 1/2" (63 mm) and 3" (76 mm)

Transair® systems in use

Manufacturing
SCOUT™ 2" (50 mm)

Pharmaceutical
Transair® 2 1/2" (63 mm)

Industrial
Transair® 4" (100 mm)

Outdoor installation
Transair® 6" (168 mm)

Railways
Transair® 2 1/2" (63 mm)

Inert gas
Transair® 3" (76 mm)

Numerical Index

Notes

Notes

Parker Safety Guide for Selecting and Using Hose, Tubing, Fittings, Connectors, Conductors, Valves and Related Accessories

Parker Publication No. 4400-B.1

WARNING: Failure or improper selection or improper use of hose, tubing, fittings, assemblies, valves, connectors, conductors or related accessories ("Products") can cause death, personal injury and property damage. Possible consequences of failure or improper selection or improper use of these Products include but are not limited to:

- Fittings thrown off at high speed.
- High velocity fluid discharge.
- Explosion or burning of the conveyed fluid.
- Electrocution from high voltage electric powerlines.
- Contact with suddenly moving or falling objects that are controlled by the conveyed fluid.
- Injections by high-pressure fluid discharge.
- Dangerously whipping Hose.
- Tube or pipe burst.
- Weld joint fracture.
- Contact with conveyed fluids that may be hot, cold, toxic or otherwise injurious.
- Sparking or explosion caused by static electricity buildup or other sources of electricity.
- Sparking or explosion while spraying paint or flammable liquids.
- Injuries resulting from inhalation, ingestion or exposure to fluids.

Before selecting or using any of these Products, it is important that you read and follow the instructions below. No product from any division in Fluid Connector Group is approved for in-flight aerospace applications. For hoses and fittings used in in-flight aerospace applications, please contact Parker Aerospace Group

GENERAL INSTRUCTIONS

1.0 Scope: This safety guide provides instructions for selecting and using (including assembling, installing, and maintaining) these Products. For convenience, all rubber and/or thermoplastic products commonly called "hose" or "tubing" are called "Hose" in this safety guide. Metallic tube or pipe are called "tube". All assemblies made with Hose are called "Hose Assemblies". All assemblies made with Tube are called "Tube Assemblies". All products commonly called "fittings", "couplings" or "adapters" are called "Fittings". Valves are fluid system components that control the passage of fluid. Related accessories are ancillary devices that enhance or monitor performance including crimping, flaring, flanging, presetting, bending, cutting, deburring, swaging machines, sensors, tags, lockout handles, spring guards and associated tooling. This safety guide is a supplement to and is to be used with the specific Parker publications for the specific Hose, Fittings and Related Accessories that are being considered for use. Parker publications are available at www.parker.com. SAE J1273 (www.sae.org) and ISO 17165-2 (www.ansi.org) also provide recommended practices for hydraulic Hose Assemblies, and should be followed.

1.1 Fail-Safe: Hose, Hose Assemblies, Tube, Tube Assemblies and Fittings can and do fail without warning for many reasons. Design all systems and equipment in a fail-safe mode, so that failure of the Hose, Hose Assembly, Tube, Tube Assembly or Fitting will not endanger persons or property.

1.2 Distribution: Provide a copy of this safety guide to each person responsible for selecting or using Hose, Tube and Fitting products. Do not select or use Parker Hose, Tube or Fittings without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the Products.

1.3 User Responsibility: Due to the wide variety of operating conditions and applications for Hose, Tube and Fittings. Parker does not represent or warrant that any particular Hose, Tube or Fitting is suitable for any specific end use system. This safety guide does not analyze all technical parameters that must be considered in selecting a product. The user, through its own analysis and testing, is solely responsible for:

- **Making the final selection of the Products.**
- **Assuring that the user's requirements are met and that the application presents no health or safety hazards.**
- **Following the safety guide for Related Accessories and being trained to operate Related Accessories.**
- **Providing all appropriate health and safety warnings on the equipment on which the Products are used.**
- **Assuring compliance with all applicable government and industry standards.**

1.4 Additional Questions: Call the appropriate Parker technical service department if you have any questions or require any additional information. See the Parker publication for the Products being considered or used, or call 1-800-CPARKER, or go to www.parker.com, for telephone numbers of the appropriate technical service department.

2.0 HOSE, TUBE AND FITTINGS SELECTION INSTRUCTIONS

2.1 Electrical Conductivity: Certain applications require that the Hose be nonconductive to prevent electrical current flow. Other applications require the Hose and the Fittings and the Hose/Fitting interface to be sufficiently conductive to drain off static electricity. Extreme care must be exercised when selecting Hose, Tube and Fittings for these or any other applications in which electrical conductivity or nonconductivity is a factor.

The electrical conductivity or nonconductivity of Hose, Tube and Fittings is dependent upon many factors and may be susceptible to change. These factors include but are not limited to the various materials used to make the Hose and the Fittings, Fitting finish (some Fitting finishes are electrically conductive while others are nonconductive), manufacturing methods (including moisture control), how the Fittings contact the Hose, age and amount of deterioration or damage or other changes, moisture content of the Hose at any particular time, and other factors.

The following are considerations for electrically nonconductive and conductive Hose. For other applications consult the individual catalog pages and the appropriate industry or regulatory standards for proper selection.

2.1.1 Electrically Nonconductive Hose: Certain applications require that the Hose be nonconductive to prevent electrical current flow or to maintain electrical isolation. For applications that require Hose to be electrically nonconductive, including but not limited to applications near high voltage electric lines, only special nonconductive Hose can be used. The manufacturer of the equipment in which the nonconductive Hose is to be used must be consulted to be certain that the Hose, Tube and Fittings that are selected are proper for the application. Do not use any Parker Hose or Fittings for any such application requiring nonconductive Hose, including but not limited to applications near high voltage electric lines or dense magnetic fields, unless (i) the application is expressly approved in the Parker technical publication for the product, (ii) the Hose is marked "nonconductive", and (iii) the manufacturer of the equipment on which the Hose is to be used specifically approves the particular Parker Hose, Tube and Fittings for such use.

2.1.2 Electrically Conductive Hose: Parker manufactures special Hose for certain applications that require electrically conductive Hose. Parker manufactures special Hose for conveying paint in airless paint spraying applications. This Hose is labeled "Electrically Conductive Airless Paint Spray Hose" on its layline and packaging. This Hose must be properly connected to the appropriate Parker Fittings and properly grounded in order to dissipate dangerous static charge buildup, which occurs in all airless paint spraying applications. Do not use any other Hose for airless paint spraying, even if electrically conductive. Use of any other Hose or failure to properly connect the Hose can cause a fire or an explosion resulting in death, personal injury, and property damage. All hoses that convey fuels must be grounded. Parker manufactures a special Hose for certain compressed natural gas ("CNG") applications where static electricity buildup may occur. Parker CNG Hose assemblies comply with the requirements of ANSI/IAS NGV 4.2; CSA 12.52, "Hoses for Natural Gas Vehicles and Dispensing Systems" (www.ansi.org). This Hose is labeled "Electrically Conductive for CNG Use" on its layline and packaging. This Hose must be properly connected to the appropriate Parker Fittings and properly grounded in order to dissipate dangerous static charge buildup, which occurs in, for example, high velocity CNG dispensing or transfer. Do not use any other Hose for CNG applications where static charge buildup may occur, even if electrically conductive. Use of other Hoses in CNG applications or failure to properly connect or ground this Hose can cause a fire or an explosion resulting in death, personal injury, and property damage. Care must also be taken to protect against CNG permeation through the Hose wall. See section 2.6, Permeation, for more information. Parker CNG Hose is intended for dispenser and vehicle use within the specified temperature range. Parker CNG Hose should not be used in confined spaces or unventilated areas or areas exceeding the specified temperature range. Final assemblies must be tested for leaks. CNG Hose Assemblies should be tested on a monthly basis for conductivity per ANSI/IAS NGV 4.2; CSA 12.52. Parker manufactures special Hose for aerospace in-flight applications. Aerospace in-flight applications employing Hose to transmit fuel, lubricating fluids and hydraulic fluids require a special Hose with a conductive inner tube. This Hose for in-flight applications is available only from Parker's Stratoflex Products Division. Do not use any other Parker Hose for in-flight applications, even if electrically conductive. Use of other Hoses for in-flight applications or failure to properly connect or ground this Hose can cause a fire or an explosion resulting in death, personal injury and property damage. These Hose assemblies for in-flight applications must meet all applicable aerospace industry, aircraft engine and aircraft requirements.

2.2 Pressure: Hose, Tube and Fitting selection must be made so that the published maximum working pressure of the Hose, Tube and Fittings are equal to or greater than the maximum system pressure. The maximum working pressure of a Hose, or Tube Assembly is the lower of the respective published maximum working pressures of the Hose, Tube and the Fittings used. Surge pressures or peak transient pressures in the system must be below the published maximum working pressure for the Hose, Tube and Fitting. Surge pressures and peak pressures can usually only be determined by sensitive electrical instrumentation that measures and indicates pressures at millisecond intervals. Mechanical pressure gauges indicate only average pressures and cannot be used to determine surge pressures or peak transient pressures. Published burst pressure ratings for Hose is for manufacturing test purposes only and is no indication that the Product can be used in applications at the burst pressure or otherwise above the published maximum recommended working pressure.

2.3 Suction: Hoses used for suction applications must be selected to insure that the Hose will withstand the vacuum and pressure of the system. Improperly selected Hose may collapse in suction application.

2.4 Temperature: Be certain that fluid and ambient temperatures, both steady and transient, do not exceed the limitations of the Hose, Tube, Fitting and Seals. Temperatures below and above the recommended limit can degrade Hose, Tube, Fittings and Seals to a point where a failure may occur and release fluid. Tube and Fittings performances are normally degraded at elevated temperature. Material compatibility can also change at temperatures outside of the rated range. Properly insulate and protect the Hose Assembly when routing near hot objects (e.g. manifolds). Do not use any Hose in any application where failure of the Hose could result in the conveyed fluids (or vapors or mist from the conveyed fluids) contacting any open flame, molten metal, or other potential fire ignition source that could cause burning or explosion of the conveyed fluids or vapors.

2.5 Fluid Compatibility: Hose, and Tube Assembly selection must assure compatibility of the Hose tube, cover, reinforcement, Tube, Plating and Seals with the fluid media used. See the fluid compatibility chart in the Parker publication for the product being considered or used. This information is offered only as a guide. Actual service life can only be determined by the end user by testing under all extreme conditions and other analysis. Hose, and Tube that is chemically compatible with a particular fluid must be assembled using Fittings and adapters containing likewise compatible seals. Flange or flare processes can change Tube material properties that may not be compatible with certain requirements such as NACE

2.6 Permeation: Permeation (that is, seepage through the Hose or Seal) will occur from inside the Hose or Fitting to outside when Hose or Fitting is used with gases, liquid and gas fuels, and refrigerants (including but not limited to such materials as helium, diesel fuel, gasoline, natural gas, or LPG). This permeation may result in high concentrations of vapors which are potentially flammable, explosive, or toxic, and in loss of fluid. Dangerous explosions, fires, and other hazards can result when using the wrong Hose for such applications. The system designer must take into account the fact that this permeation will take place and must not use Hose or Fitting if this permeation could be hazardous. The system designer must take into account all legal, government, insurance, or any other special regulations which govern the use of fuels and refrigerants. Never use a Hose or Fitting even though the fluid compatibility is acceptable without considering the potential hazardous effects that can result from permeation through the Hose or Tube Assembly. Permeation of moisture from outside the Hose or Fitting to inside the Hose or Fitting will also occur in Hose or Tube assemblies, regardless of internal pressure. If this moisture permeation would have detrimental effects (particularly, but not limited to refrigeration and air conditioning systems), incorporation of sufficient drying capacity in the system or other appropriate system safeguards should be selected and used. The sudden pressure release of highly pressurized gas could also result in Explosive Decompression failure of permeated Seals and Hoses.

2.7 Size: Transmission of power by means of pressurized fluid varies with pressure and rate of flow. The size of the components must be adequate to keep pressure losses to a minimum and avoid damage due to heat generation or excessive fluid velocity.

2.8 Routing: Attention must be given to optimum routing to minimize inherent problems (kinking or flow restriction due to Hose collapse, twisting of the Hose, proximity to hot objects or heat sources). For additional routing recommendations see SAE J1273 and ISO 17165-2. Hose Assemblies have a finite life and should be installed in a manner that allows for ease of inspection and future replacement. Hose because of its relative short life, should not be used in residential and commercial buildings inside of inaccessible walls or floors, unless specifically allowed in the product literature. Always review all product literature for proper installation and routing instructions.

2.9 Environment: Care must be taken to insure that the Hose, Tube and Fittings are either compatible with or protected from the environment (that is, surrounding conditions) to which they are exposed. Environmental conditions including but not limited to ultraviolet radiation, sunlight, heat, ozone, moisture, water, salt water, chemicals and air pollutants can cause degradation and premature failure.

2.10 Mechanical Loads: External forces can significantly reduce Hose, Tube and Fitting life or cause failure. Mechanical loads which must be considered include excessive flexing, twist, kinking, tensile or side loads, bend radius, and vibration. Use of swivel type Fittings or adapters may be required to insure no twist is put into the Hose. Use of proper Hose or Tube clamps may also be required to reduce external mechanical loads. Unusual applications may require special testing prior to Hose selection.

2.11 Physical Damage: Care must be taken to protect Hose from wear, snagging, kinking, bending smaller that minimum bend radius and cutting, any of which can cause premature Hose failure. Any Hose that has been kinked or bent to a radius smaller than the minimum bend radius, and any Hose that has been cut or is cracked or is otherwise damaged should be removed and discarded. Fittings with damages such as scratches on sealing surfaces and deformation should be replaced.

2.12 Proper End Fitting: See instructions 3.2 through 3.5. These recommendations may be substantiated by testing to industry standards such as SAE J517 for hydraulic applications, or MIL-A-5070, AS1339, or AS3517 for Hoses from Parker's Stratoflex Products Division for aerospace applications.

2.13 Length: When determining the proper Hose or Tube length of an assembly, be aware of Hose length change due to pressure, Tube length change due to thermal expansion or contraction, and Hose or Tube and machine tolerances and movement must be considered. When routing short hose assemblies, it is recommended that the minimum free hose length is always used. Consult the hose manufacturer for their minimum free hose length recommendations. Hose assemblies should be installed in such a way that any motion or flexing occurs within the same plane.

2.14 Specifications and Standards: When selecting Hose, Tube and Fittings, government, industry, and Parker specifications and recommendations must be reviewed and followed as applicable.

2.15 Hose Cleanliness: Hose and Tube components may vary in cleanliness levels. Care must be taken to insure that the Hose and Tube Assembly selected has an adequate level of cleanliness for the application.

2.16 Fire Resistant Fluids: Some fire resistant fluids that are to be conveyed by Hose or Tube require use of the same type of Hose or Tube as used with petroleum base fluids. Some such fluids require a special Hose, Tube, Fitting and Seal, while a few fluids will not work with any Hose at all. See instructions 2.5 and 1.5. The wrong Hose, Tube, Fitting or Seal may fail after a very short service. In addition, all liquids but pure water may burn fiercely under certain conditions, and even pure water leakage may be hazardous.

2.17 Radiant Heat: Hose and Seals can be heated to destruction without contact by such nearby items as hot manifolds or molten metal. The same heat source may then initiate a fire. This can occur despite the presence of cool air around the Hose or Seal. Performance of Tube and Fitting subjected to the heat could be degraded.

2.18 Welding or Brazing: When using a torch or arc welder in close proximity to hydraulic lines, the hydraulic lines should be removed or shielded with appropriate fire resistant materials. Flame or weld spatter could burn through the Hose or Seal and possibly ignite escaping fluid resulting in a catastrophic failure. Heating of plated parts, including Hose Fittings and adapters, above 450°F (232°C) such as during welding, brazing or soldering may emit deadly gases. Any elastomer seal on fittings shall be removed prior to welding or brazing, any metallic surfaces shall be protected after brazing or welding when necessary. Welding and brazing filler material shall be compatible with the Tube and Fitting that are joined.

2.19 Atomic Radiation: Atomic radiation affects all materials used in Hose and Tube assemblies. Since the long-term effects may be unknown, do not expose Hose or Tube assemblies to atomic radiation. Nuclear applications may require special Tube and Fittings.

2.20 Aerospace Applications: The only Hose, Tube and Fittings that may be used for in-flight aerospace applications are those available from Parker's Stratoflex Products Division. Do not use any other Hose or Fittings for in-flight applications. Do not use any Hose or Fittings from Parker's Stratoflex Products Division with any other Hose or Fittings, unless expressly approved in writing by the engineering manager or chief engineer of Stratoflex Products Division and verified by the user's own testing and inspection to aerospace industry standards.

2.21 Unlocking Couplings: Ball locking couplings or other Fittings with quick disconnect ability can unintentionally disconnect if they are dragged over obstructions, or if the sleeve or other disconnect member, is bumped or moved enough to cause disconnect. Threaded Fittings should be considered where there is a potential for accidental uncoupling.

3.0 HOSE AND FITTINGS ASSEMBLY AND INSTALLATION INSTRUCTIONS

3.1 Component Inspection: Prior to assembly, a careful examination of the Hose and Fittings must be performed. All components must be checked for correct style, size, catalog number, and length. The Hose must be examined for cleanliness, obstructions, blisters, cover looseness, kinks, cracks, cuts or any other visible defects. Inspect the Fitting and sealing surfaces for burrs, nicks, corrosion or other imperfections. Do NOT use any component that displays any signs of nonconformance.

3.2 Hose and Fitting Assembly: Do not assemble a Parker Fitting on a Parker Hose that is not specifically listed by Parker for that Fitting, unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division. Do not assemble a Parker Fitting on another manufacturer's Hose or a Parker Hose on another manufacturer's Fitting unless (i) the engineering manager or chief engineer of the appropriate Parker division approves the Assembly in writing or that combination is expressly approved in the appropriate Parker literature for the specific Parker product, and (ii) the user verifies the Assembly and the application through analysis and testing. For Parker Hose that does not specify a Parker Fitting, the user is solely responsible for the selection of the proper Fitting and Hose Assembly procedures. See instruction 1.4. To prevent the possibility of problems such as leakage at the Fitting or system contamination, it is important to completely remove all debris from the cutting operation before installation of the Fittings. The Parker published instructions must be followed for assembling the Fittings on the Hose. These instructions are provided in the Parker Fitting catalog for the specific Parker Fitting being used, or by calling 1-800-CPARKER, or at www.parker.com.

3.3 Related Accessories: Do not crimp or swage any Parker Hose or Fitting with anything but the listed swage or crimp machine and dies in accordance with Parker published instructions. Do not crimp or swage another manufacturer's Fitting with a Parker crimp or swage die unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division.

3.4 Parts: Do not use any Parker Fitting part (including but not limited to socket, shell, nipple, or insert) except with the correct Parker mating parts, in accordance with Parker published instructions, unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division.

3.5 Field Attachable/Permanent: Do not reuse any field attachable Hose Fitting that has blown or pulled off a Hose. Do not reuse a Parker permanent Hose Fitting (crimped or swaged) or any part thereof. Complete Hose Assemblies may only be reused after proper inspection under section 4.0. Do not assemble Fittings to any previously used hydraulic Hose that was in service, for use in a fluid power application.

3.6 Pre-Installation Inspection: Prior to installation, a careful examination of the Hose Assembly must be performed. Inspect the Hose Assembly for any damage or defects. DO NOT use any Hose Assembly that displays any signs of nonconformance.

3.7 Minimum Bend Radius: Installation of a Hose at less than the minimum listed bend radius may significantly reduce the Hose life. Particular attention must be given to preclude sharp bending at the Hose to Fitting juncture. Any bending during installation at less than the minimum bend radius must be avoided. If any Hose is kinked during installation, the Hose must be discarded.

3.8 Twist Angle and Orientation: Hose Assembly installation must be such that relative motion of machine components does not produce twisting.

3.9 Securement: In many applications, it may be necessary to restrain, protect, or guide the Hose to protect it from damage by unnecessary flexing, pressure surges, and contact with other mechanical components. Care must be taken to insure such restraints do not introduce additional stress or wear points.

3.10 Proper Connection of Ports: Proper physical installation of the Hose Assembly

requires a correctly installed port connection insuring that no twist or torque is transferred to the Hose when the Fittings are being tightened or otherwise during use.

3.11 External Damage: Proper installation is not complete without insuring that tensile loads, side loads, kinking, flattening, potential abrasion, thread damage or damage to sealing surfaces are corrected or eliminated. See instruction 2.10.

3.12 System Checkout: All air entrapment must be eliminated and the system pressurized to the maximum system pressure (at or below the Hose maximum working pressure) and checked for proper function and freedom from leaks. Personnel must stay out of potential hazardous areas while testing and using.

3.13 Routing: The Hose Assembly should be routed in such a manner so if a failure does occur, the escaping media will not cause personal injury or property damage. In addition, if fluid media comes in contact with hot surfaces, open flame or sparks, a fire or explosion may occur. See section 2.4.

3.14 Ground Fault Equipment Protection Devices (GFEPDs): WARNING! Fire and Shock Hazard. To minimize the danger of fire if the heating cable of a Multitube bundle is damaged or improperly installed, use a Ground Fault Equipment Protection Device. Electrical fault currents may be insufficient to trip a conventional circuit breaker. For ground fault protection, the IEEE 515: (www.ansi.org) standard for heating cables recommends the use of GFEPDs with a nominal 30 milliampere trip level for "piping systems in classified areas, those areas requiring a high degree of maintenance, or which may be exposed to physical abuse or corrosive atmospheres".

4.0 TUBE AND FITTINGS ASSEMBLY AND INSTALLATION INSTRUCTIONS

4.1 Component Inspection: Prior to assembly, a careful examination of the Tube and Fittings must be performed. All components must be checked for correct style, size, material, seal, and length. Inspect the Fitting and sealing surfaces for burrs, nicks, corrosion, missing seal or other imperfections. Do NOT use any component that displays any signs of nonconformance.

4.2 Tube and Fitting Assembly: Do not assemble a Parker Fitting with a Tube that is not specifically listed by Parker for that Fitting, unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division. The Tube must meet the requirements specified to the Fitting. The Parker published instructions must be followed for assembling the Fittings to a Tube. These instructions are provided in the Parker Fitting catalog for the specific Parker Fitting being used, or by calling 1-800-CPARKER, or at www.parker.com.

4.3 Related Accessories: Do not preset or flange Parker Fitting components using another manufacturer's equipment or procedures unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division. Tube, Fitting component and tooling must be check for correct style, size and material. Operation and maintenance of Related Accessories must be in accordance with the operation manual for the designated Accessory.

4.4 Securement: In many applications, it may be necessary to restrain, protect, or guide the Tube to protect it from damage by unnecessary flexing, pressure surges, vibration, and contact with other mechanical components. Care must be taken to insure such restraints do not introduce additional stress or wear points.

4.5 Proper Connection of Ports: Proper physical installation of the Tube Assembly requires a correctly installed port connection insuring that no torque is transferred to the Tube when the Fittings are being tightened or otherwise during use.

4.6 External Damage: Proper installation is not complete without insuring that tensile loads, side loads, flattening, potential abrasion, thread damage or damage to sealing surfaces are corrected or eliminated. See instruction 2.10.

4.7 System Checkout: All air entrapment must be eliminated and the system pressurized to the maximum system pressure (at or below the Tube Assembly maximum working pressure) and checked for proper function and freedom from leaks. Personnel must stay out of potential hazardous areas while testing and using.

4.8 Routing: The Tube Assembly should be routed in such a manner so if a failure does occur, the escaping media will not cause personal injury or property damage. In addition, if fluid media comes in contact with hot surfaces, open flame or sparks, a fire or explosion may occur. See section 2.4.

5.0 HOSE AND FITTING MAINTENANCE AND REPLACEMENT INSTRUCTIONS

5.1 Even with proper selection and installation, Hose life may be significantly reduced without a continuing maintenance program. The severity of the application, risk potential from a possible Hose failure, and experience with any Hose failures in the application or in similar applications should determine the frequency of the inspection and the replacement for the Products so that Products are replaced before any failure occurs. Certain products require maintenance and inspection per industry requirements. Failure to adhere to these requirements may lead to premature failure. A maintenance program must be established and followed by the user and, at minimum, must include instructions 5.2 through 5.7

5.2 Visual Inspection Hose/Fitting: Any of the following conditions require immediate shut down and replacement of the Hose Assembly:
- Fitting slippage on Hose;
- Damaged, cracked, cut or abraded cover (any reinforcement exposed);
- Hard, stiff, heat cracked, or charred Hose;
- Cracked, damaged, or badly corroded Fittings;
- Leaks at Fitting or in Hose;
- Kinked, crushed, flattened or twisted Hose; and
- Blistered, soft, degraded, or loose cover.

5.3 Visual Inspection All Other: The following items must be tightened, repaired, corrected or replaced as required:
- Leaking port conditions;
- Excess dirt buildup;
- Worn clamps, guards or shields; and
- System fluid level, fluid type, and any air entrapment.

5.4 Functional Test: Operate the system at maximum operating pressure and check for possible malfunctions and leaks. Personnel must avoid potential hazardous areas while testing and using the system. See section 2.2.

5.5 Replacement Intervals: Hose assemblies and elastomeric seals used on Hose Fittings and adapters will eventually age, harden, wear and deteriorate under thermal cycling and compression set. Hose Assemblies and elastomeric seals should be inspected and replaced at specific replacement intervals, based on previous service life, government or industry recommendations, or when failures could result in unacceptable downtime, damage, or injury risk. See section 1.2. Hose and Fittings may be subjected to internal mechanical and/or chemical wear from the conveying fluid and may fail without warning. The user must determine the product life under such circumstances by testing. Also see section 2.5.

5.6 Hose Inspection and Failure: Hydraulic power is accomplished by utilizing high pressure fluids to transfer energy and do work. Hoses, Fittings and Hose Assemblies all contribute to this by transmitting fluids at high pressures. Fluids under pressure can be dangerous and potentially lethal and, therefore, extreme caution must be exercised when working with fluids under pressure and handling the Hoses transporting the fluids. From time to time, Hose Assemblies will fail if they are not replaced at proper time intervals. Usually these failures are the result of some form of misapplication, abuse, wear or failure to perform proper maintenance. When Hoses fail, generally the high pressure fluids inside escape in a stream which may or may not be visible to the user. Under no circumstances should the user attempt to locate the leak by "feeling" with their hands or any other part of their body. High pressure fluids can and will penetrate the skin and cause severe tissue damage and possibly loss of limb. Even seemingly minor hydraulic fluid injection injuries must be treated immediately by a physician with knowledge of the tissue damaging properties of hydraulic fluid. If a Hose failure occurs, immediately shut down the equipment and leave the area until pressure has been completely released from the Hose Assembly. Simply shutting down the hydraulic pump may or may not eliminate the pressure in the Hose Assembly. Many times check valves, etc., are employed in a system and can cause pressure to remain in a Hose Assembly even when pumps or equipment are not operating. Tiny holes in the Hose, commonly known as pinholes, can eject small, dangerously powerful but hard to see streams of hydraulic fluid. It may take several minutes or even hours for the pressure to be relieved so that the Hose Assembly may be examined safely. Once the pressure has been reduced to zero, the Hose Assembly may be taken off the equipment and examined. It must always be replaced if a failure has occurred. Never attempt to patch or repair a Hose Assembly that has failed. Consult the nearest Parker distributor or the appropriate Parker division for Hose Assembly replacement information. Never touch or examine a failed Hose Assembly unless it is obvious that the Hose no longer contains fluid under pressure. The high pressure fluid is extremely dangerous and can cause serious and potentially fatal injury.

5.7 Elastomeric seals: Elastomeric seals will eventually age, harden, wear and deteriorate under thermal cycling and compression set. Elastomeric seals should be inspected and replaced.

5.8 Refrigerant gases: Special care should be taken when working with refrigeration systems. Sudden escape of refrigerant gases can cause blindness if the escaping gases contact the eye and can cause freezing or other severe injuries if it contacts any other portion of the body.

5.9 Compressed natural gas (CNG): Parker CNG Hose Assemblies should be tested after installation and before use, and at least on a monthly basis per instructions provided on the Hose Assembly tag. The recommended procedure is to pressurize the Hose and check for leaks and to visually inspect the Hose for damage and to perform an electrical resistance test. Caution: Matches, candles, open flame or other sources of ignition shall not be used for Hose inspection. Leak check solutions should be rinsed off after use.

6.0 HOSE STORAGE

6.1 Age Control: Hose and Hose Assemblies must be stored in a manner that facilitates age control and first-in and first-out usage based on manufacturing date of the Hose and Hose Assemblies. Unless otherwise specified by the manufacturer or defined by local laws and regulations:

6.1.1 The shelf life of rubber hose in bulk form or hose made from two or more materials is 28 quarters (7 years) from the date of manufacture, with an extension of 12 quarters (3 years), if stored in accordance with ISO 2230;

6.1.2 The shelf life of thermoplastic and polytetrafluoroethylene hose is considered to be unlimited;

6.1.3 Hose assemblies that pass visual inspection and proof test shall not be stored for longer than 2 years.

6.1.4 Storage: Stored Hose and Hose Assemblies must not be subjected to damage that could reduce their expected service life and must be placed in a cool, dark and dry area with the ends capped. Stored Hose and Hose Assemblies must not be exposed to temperature extremes, ozone, oils, corrosive liquids or fumes, solvents, high humidity, rodents, insects, ultraviolet light, electromagnetic fields or radioactive materials.

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The prices charged for Seller's products are based upon the exclusive limited warranty stated above, and upon the following disclaimer: DISCLAIMER OF WARRANTY: THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO PRODUCTS PROVIDED HEREUNDER. SELLER DISCLAIMS ALL OTHER WARRANTIES, EXPRESS AND IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
5. Claims; Commencement of Actions. Buyer shall promptly inspect all Products upon delivery. No claims for shortages will be allowed unless reported to the Seller within 10 days of delivery. No other claims against Seller will be allowed unless asserted in writing within 60 days after delivery or, in the case of an alleged breach of warranty, within 30 days after the date within the warranty period on which the defect is or should have been discovered by Buyer. Any action based upon breach of this agreement or upon any other claim arising out of this sale (other than an action by Seller for any amount due to Seller from Buyer) must be commenced within thirteen months from the date of tender of delivery by Seller or, for a cause of action based upon an alleged breach of warranty, within thirteen months from the date within the warranty period on which the defect is or should have been discovered by Buyer.
6. LIMITATION OF LIABILITY. UPON NOTIFICATION, SELLER WILL, AT ITS OPTION, REPAIR OR REPLACE A DEFECTIVE PRODUCT, OR REFUND THE PURCHASE PRICE. IN NO EVENT SHALL SELLER BE LIABLE TO BUYER FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR AS THE RESULT OF, THE SALE, DELIVERY, NON-DELIVERY, SERVICING, USE OR LOSS OF USE OF THE PRODUCTS OR ANY PART THEREOF, OR FOR ANY CHARGES OR EXPENSES OF ANY NATURE INCURRED WITHOUT SELLER'S WRITTEN CONSENT, EVEN IF SELLER HAS BEEN NEGLIGENT, WHETHER IN CONTRACT, TORT OR OTHER LEGAL THEORY. IN NO EVENT SHALL SELLER'S LIABILITY UNDER ANY CLAIM MADE BY BUYER EXCEED THE PURCHASE PRICE OF THE PRODUCTS.
7. Contingencies. Seller shall not be liable for any default or delay in performance if caused by circumstances beyond the reasonable control of Seller.
8. User Responsibility. The user, through its own analysis and testing, is solely responsible for making the final selection of the system and Product and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application and follow applicable industry standards and Product information. If Seller provides Product or system options, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the Products or systems.
9. Loss to Buyer's Property. Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer's property, may be considered obsolete and may be destroyed by Seller after two consecutive years have elapsed without Buyer placing an order for the items which are manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.

10. Special Tooling. A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture Products. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the Products, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

11. Buyer's Obligation; Rights of Seller. To secure payment of all sums due or otherwise, Seller shall retain a security interest in the goods delivered and this agreement shall be deemed a Security Agreement under the Uniform Commercial Code. Buyer authorizes Seller as its attorney to execute and file on Buyer's behalf all documents Seller deems necessary to perfect its security interest. Seller shall have a security interest in, and lien upon, any property of Buyer in Seller's possession as security for the payment of any amounts owed to Seller by Buyer.

12. Improper use and Indemnity. Buyer shall indemnify, defend, and hold Seller harmless from any claim, liability, damages, lawsuits, and costs (including attorney fees), whether for personal injury, property damage, patent, trademark or copyright infringement or any other claim, brought by or incurred by Buyer, Buyer's employees, or any other person, arising out of: (a) improper selection, improper application or other misuse of Products purchased by Buyer from Seller; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller's use of patterns, plans, drawings, or specifications furnished by Buyer to manufacture Product; or (d) Buyer's failure to comply with these terms and conditions. Seller shall not indemnify Buyer under any circumstance except as otherwise provided.

13. Cancellations and Changes. Orders shall not be subject to cancellation or change by Buyer for any reason, except with Seller's written consent and upon terms that will indemnify, defend and hold Seller harmless against all direct, incidental and consequential loss or damage. Seller may change product features, specifications, designs and availability with notice to Buyer.

14. Limitation on Assignment. Buyer may not assign its rights or obligations under this agreement without the prior written consent of Seller.

15. Entire Agreement. This agreement contains the entire agreement between the Buyer and Seller and constitutes the final, complete and exclusive expression of the terms of the agreement. All prior or contemporaneous written or oral agreements or negotiations with respect to the subject matter are herein merged.

16. Waiver and Severability. Failure to enforce any provision of this agreement will not waive that provision nor will any such failure prejudice Seller's right to enforce that provision in the future. Invalidation of any provision of this agreement by legislation or other rule of law shall not invalidate any other provision herein. The remaining provisions of this agreement will remain in full force and effect.

17. Termination. This agreement may be terminated by Seller for any reason and at any time by giving Buyer thirty (30) days written notice of termination. In addition, Seller may by written notice immediately terminate this agreement for the following: (a) Buyer commits a breach of any provision of this agreement (b) the appointment of a trustee, receiver or custodian for all or any part of Buyer's property (c) the filing of a petition for relief in bankruptcy of the other Party on its own behalf, or by a third party (d) an assignment for the benefit of creditors, or (e) the dissolution or liquidation of the Buyer.

18. Governing Law. This agreement and the sale and delivery of all Products hereunder shall be deemed to have taken place in and shall be governed and construed in accordance with the laws of the State of Ohio, as applicable to contracts executed and wholly performed therein and without regard to conflicts of laws principles. Buyer irrevocably agrees and consents to the exclusive jurisdiction and venue of the courts of Cuyahoga County, Ohio with respect to any dispute, controversy or claim arising out of or relating to this agreement. Disputes between the parties shall not be settled by arbitration unless, after a dispute has arisen, both parties expressly agree in writing to arbitrate the dispute.

19. Indemnity for Infringement of Intellectual Property Rights. Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Section. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets ("Intellectual Property Rights"). Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that a Product sold pursuant to this Agreement infringes the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If a Product is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using the Product, replace or modify the Product so as to make it noninfringing, or offer to accept return of the Product and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to Products delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any Product sold hereunder. The foregoing provisions of this Section shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

20. Taxes. Unless otherwise indicated, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of Products.

21. Equal Opportunity Clause. For the performance of government contracts and where dollar value of the Products exceed $10,000, the equal employment opportunity clauses in Executive Order 11246, VEVRAA, and 41 C.F.R. §§ 60-1.4(a), 60-741.5(a), and 60-250.4, are hereby incorporated.

01/09

Parker's Motion & Control Product Groups

At Parker, we're guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion and control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker. For further info call 1 800 C-Parker (1 800 272 7537).

Aerospace

Key Markets

Aftermarket services
Commercial transports
Engines
General & business aviation
Helicopters
Launch vehicles
Military aircraft
Missiles
Power generation
Regional transports
Unmanned aerial vehicles

Key Products

Control systems & actuation products
Engine systems & components
Fluid conveyance systems & components
Fluid metering, delivery & atomization devices
Fuel systems & components
Fuel tank inerting systems
Hydraulic systems & components
Thermal management
Wheels & brakes

Automation

Key Markets

Alternative energy
Conveyor & material handling
Factory automation
Food & beverage
Life sciences & medical
Machine tools
Packaging machinery
Paper machinery
Plastics machinery
Primary metals
Safety & security
Semiconductor & electronics
Transportation & automotive

Key Products

AC/DC drives & systems
Air preparation
Electric actuators, gantry robots & slides
Human machine interfaces
Inverters
Manifolds
Miniature fluidics
Pneumatic actuators & grippers
Pneumatic valves & controls
Rotary actuators
Stepper motors, servo motors, drives & controls
Structural extrusions
Vacuum generators, cups & sensors

Climate & Industrial Controls

Key Markets

Agriculture
Air conditioning
Construction Machinery
Food & beverage
Industrial machinery
Life sciences
Oil & gas
Precision cooling
Process
Refrigeration
Transportation

Key Products

Accumulators
Advanced actuators
CO_2 controls
Electronic controllers
Filter driers
Hand shut-off valves
Heat exchangers
Hose & fittings
Pressure regulating valves
Refrigerant distributors
Safety relief valves
Smart pumps
Solenoid valves
Thermostatic expansion valves

Filtration

Key Markets

Aerospace
Food & beverage
Industrial plant & equipment
Life sciences
Marine
Mobile equipment
Oil & gas
Power generation & renewable energy
Process
Transportation
Water Purification

Key Products

Analytical gas generators
Compressed air filters & dryers
Engine air, coolant, fuel & oil filtration systems
Fluid condition monitoring systems
Hydraulic & lubrication filters
Hydrogen, nitrogen & zero air generators
Instrumentation filters
Membrane & fiber filters
Microfiltration
Sterile air filtration
Water desalination & purification filters & systems

Fluid Connectors

Key Markets

Aerial lift
Agriculture
Bulk chemical handling
Construction machinery
Food & beverage
Fuel & gas delivery
Industrial machinery
Life sciences
Marine
Mining
Mobile
Oil & gas
Renewable energy
Transportation

Key Products

Check valves
Connectors for low pressure fluid conveyance
Deep sea umbilicals
Diagnostic equipment
Hose couplings
Industrial hose
Mooring systems & power cables
PTFE hose & tubing
Quick couplings
Rubber & thermoplastic hose
Tube fittings & adapters
Tubing & plastic fittings

Hydraulics

Key Markets

Aerial lift
Agriculture
Alternative energy
Construction machinery
Forestry
Industrial machinery
Machine tools
Marine
Material handling
Mining
Oil & gas
Power generation
Refuse vehicles
Renewable energy
Truck hydraulics
Turf equipment

Key Products

Accumulators
Cartridge valves
Electrohydraulic actuators
Human machine interfaces
Hybrid drives
Hydraulic cylinders
Hydraulic motors & pumps
Hydraulic systems
Hydraulic valves & controls
Hydrostatic steering
Integrated hydraulic circuits
Power take-offs
Power units
Rotary actuators
Sensors

Instrumentation

Key Markets

Alternative fuels
Biopharmaceuticals
Chemical & refining
Food & beverage
Marine & shipbuilding
Medical & dental
Microelectronics
Nuclear Power
Offshore oil exploration
Oil & gas
Pharmaceuticals
Power generation
Pulp & paper
Steel
Water/wastewater

Key Products

Analytical Instruments
Analytical sample conditioning products & systems
Chemical injection fittings & valves
Fluoropolymer chemical delivery fittings, valves & pumps
High purity gas delivery fittings, valves, regulators & digital flow controllers
Industrial mass flow meters/ controllers
Permanent no-weld tube fittings
Precision industrial regulators & flow controllers
Process control double block & bleeds
Process control fittings, valves, regulators & manifold valves

Seal

Key Markets

Aerospace
Chemical processing
Consumer
Fluid power
General industrial
Information technology
Life sciences
Microelectronics
Military
Oil & gas
Power generation
Renewable energy
Telecommunications
Transportation

Key Products

Dynamic seals
Elastomeric o-rings
Electro-medical instrument design & assembly
EMI shielding
Extruded & precision-cut, fabricated elastomeric seals
High temperature metal seals
Homogeneous & inserted elastomeric shapes
Medical device fabrication & assembly
Metal & plastic retained composite seals
Shielded optical windows
Silicone tubing & extrusions
Thermal management
Vibration dampening

Parker

ENGINEERING YOUR SUCCESS.

Parker Fluid Connectors Group
North American Divisions & Distribution Service Centers

Your complete source for quality tube fittings, hose & hose fittings, brass & composite fittings, quick-disconnect couplings, valves and assembly tools, locally available from a worldwide network of authorized distributors.

Fittings:
Available in inch and metric sizes covering SAE, BSP, DIN, GAZ, JIS and ISO thread configurations, manufactured from steel, stainless steel, brass, aluminum, nylon and thermoplastic.

Hose, Tubing and Bundles:
Available in a wide variety of sizes and materials including rubber, wire-reinforced, thermoplastic, hybrid and custom compounds.

Worldwide Availability:
Parker operates Fluid Connectors manufacturing locations and sales offices throughout North America, South America, Europe and Asia-Pacific.

For information, call toll free...

1-800-C-PARKER
(1-800-272-7537)

North American Divisions

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Parflex Division
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phone 330 296 2871
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Quick Coupling Division
Minneapolis, MN
phone 763 544 7781
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Tube Fittings Division
Columbus, OH
phone 614 279 7070
fax 614 279 7685

Distribution Service Centers

Buena Park, CA
phone 714 522 8840
fax 714 994 1183

Conyers, GA
phone 770 929 0330
fax 770 929 0230

Louisville, KY
phone 502 937 1322
fax 502 937 4180

Portland, OR
phone 503 283 1020
fax 503 283 2201

Toledo, OH
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(FCG Kit Operations)

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