



SimplAir[®] Piping System

3/4" – 8" (20 – 220 mm) Aluminum Pipe





Your pipeline to greater cost savings and efficiency

The new Simplair® piping system from Ingersoll Rand uses marine-grade aluminum pipes to efficiently distribute leak-free supplies of high-flow compressed air and other inert gasses — and support vacuum systems as well. For lower cost, higher performance, easier installation, and less maintenance than systems made of competing materials, the Simplair® piping system is the best choice.

Lowers cost of ownership

The Simplair® piping system's high-quality, marine-grade aluminum construction delivers cost savings at all stages of ownership. Significantly lighter weight than competing steel systems, Simplair® is the more economical choice at the time of purchase. Quick-connect fittings combine with lightweight piping without the need for expensive tools or trained installers, so assembly is faster and costs less. The Simplair® system's pipes are stronger than plastic and more corrosion resistant than steel and its leak-free fittings reduce the need for routine maintenance and lower the likelihood of unexpected repairs. These features combine to create a superior piping design that maximizes system efficiency for the lowest total cost of ownership.

Minimizes contamination and turbulence

A piping system with cleaner interior surfaces helps promote the smooth, laminar flow of the fluid it transports, reducing turbulence and associated pressure losses. The Simplair® system's marine-grade aluminum construction provides superior corrosion resistance to keep pipe interior surfaces free of the oxidation-based contamination that can occur with steel systems — contamination that can not only cause turbulence and pressure loss, but also cause problems if corrosion-related debris enters sensitive equipment.

Provides solutions for virtually any need

Simplair® piping is available in a wide range of outer diameter sizes from 3/4" to 8" (20 mm to 220 mm) to serve nearly any application. High-quality, all-metal, easy-to-install fittings make it easy for users to design and construct their own systems without the need for professional installers.

Simplair® Specifications

	3/4" – 2-1/2" Pipe (20 mm – 63 mm)	2-3/4" – 8" Pipe (70 mm – 220 mm)
Max Working Pressure	220 PSI (15 BAR)	220 PSI (15 BAR)
Max Working Temperature	-4°F – 176°F (100% Duty)	-4°F – 176°F (100% Duty)
Tubing Material	Aluminum, 6063-T5 (Marine Grade)	Aluminum, 6063-T5 (Marine Grade)
Tubing Weight	3/4" 20 mm 0.159 lb/ft 1", 25 mm 0.202 lb/ft 1-1/4", 32 mm 0.262 lb/ft 1-1/2", 40 mm 0.331 lb/ft 2", 50 mm 0.592 lb/ft 2-1/2", 63mm 0.623 lb/ft	2-3/4", 70 mm 0.86 lb/ft 3-1/2", 90 mm 1.04 lb/ft 4-1/2", 115 mm 1.15 lb/ft 6", 168 mm 3.12 lb/ft 8", 220 mm 4.95 lb/ft
Standard Seals	(-4°F – 176°F) Nitrile Rubber	(-4°F – 176°F) Nitrile Rubber
High Temperature Seals	NA	(-4°F – 300°F) Fluoroelastomer
Fittings	Nickel-Plated Brass	Aluminum, B-26, 356-T6
Clamping Washer	Inox AISI 304	NA
Couplings	NA	Ductile Iron, Galvanized, grade 65-45-12
Standards & Approvals	ASME B31.3 Process Piping Registered for CRN in all provinces/territories	ASME B31.1 Power Piping Registered for CRN in all provinces/territories



Simplair® Quick Facts:

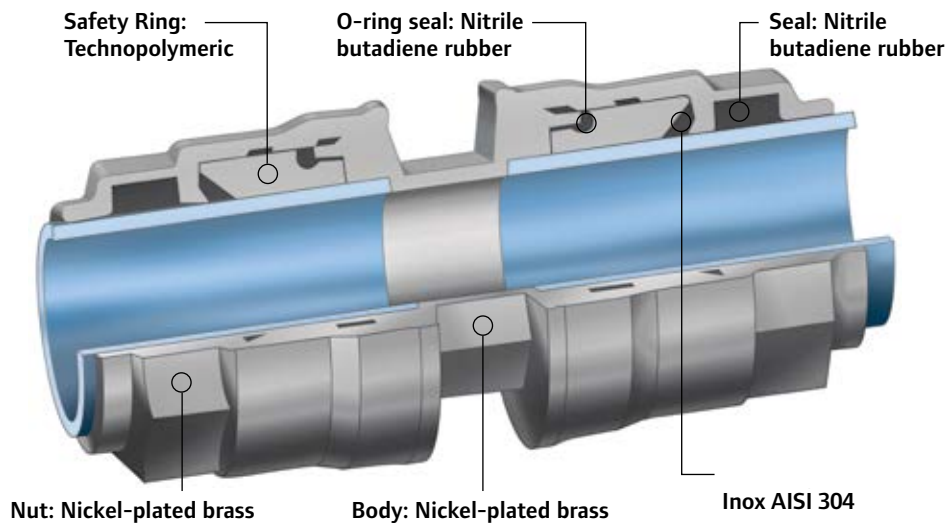
- **All-metal system** — Safer and more reliable than plastic
- **High pipe-to-fitting engagement** — Increases structural integrity
- **Corrosion-resistant** — Minimizes turbulence and pressure loss
- **Recyclable piping material** — Aluminum piping material can be recycled
- **Lightweight and easy to handle** — Up to 90% lighter than comparable steel piping
- **Easy to install/modify** — For faster, simpler setups and changes

Connections you can count on

Simplair® piping features two unique fitting systems that are designed to eliminate pressure losses and air leakage. Assembly is the fastest and easiest of any piping system on the market, requiring no welding, gluing, threading, or special skills to achieve professional installation results.

Push-lock fittings

3/4" to 2-1/2" (20 mm to 63 mm) pipe



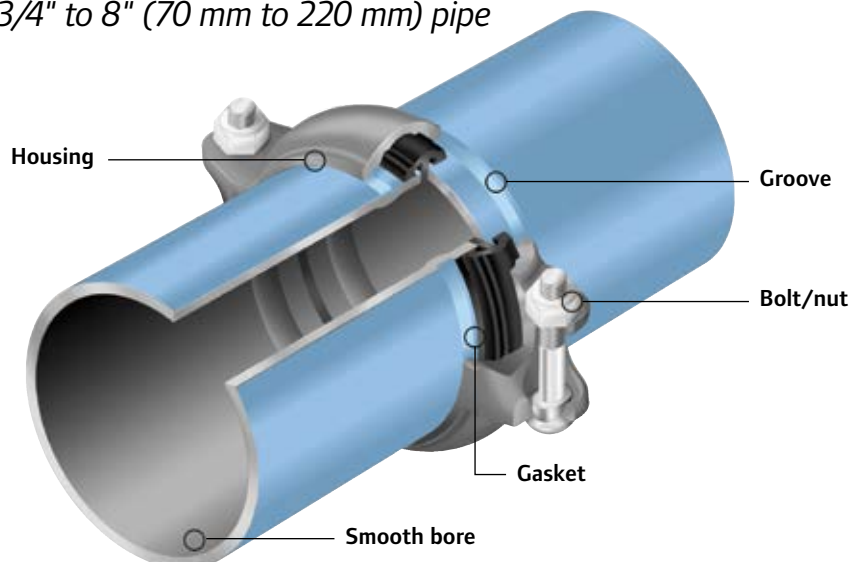
Push-lock fittings offer a leak-free system for pipes with outer diameters ranging from 3/4" to 2-1/2" (20 mm to 63 mm).

Installation tools:

Cutting tool
Tube cutter

Groove/coupled fittings

2-3/4" to 8" (70 mm to 220 mm) pipe



Groove/coupled fittings offer a leak-free system for pipes with outer diameters ranging from 2-3/4" to 8" (70 mm to 220 mm).

Installation tools:

Tube cutter
Deburring tool
Manual grooving tool*
Groove inspection gauge

*Pipe comes pre-grooved. If pipe is cut, re-grooving is required using the manual grooving tool.

An integrated air delivery system

The Simplair® piping system easily supports multiple drop pipes, which are commonly used to connect various machines and equipment to a header pipe. Although drop pipes have smaller diameters than header pipes, the Simplair® system makes it easy to join them together.

Easy drop pipe connection



1 Attach saddle clamp with female threaded connector to header pipe



2 Screw male threaded connector into female connector

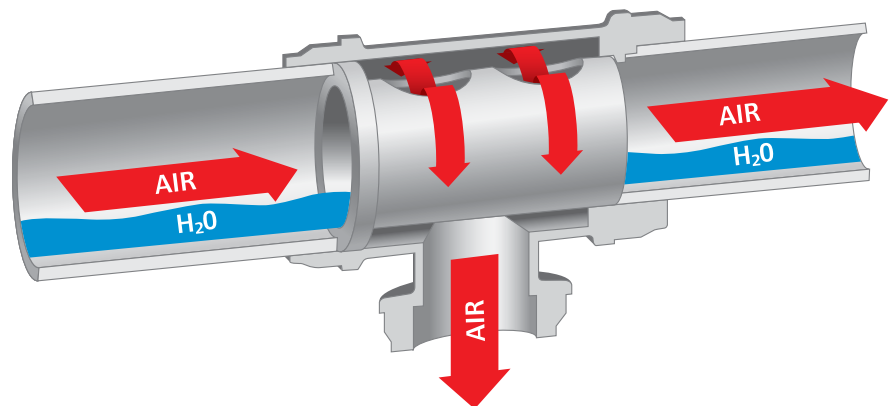


3 Attach drop piping to connector


It's easy to design and install an efficient, effective Simplair® piping system for virtually any application.

The efficient design of the Outlet Reducing Tee allows air to reach the point-of-use while draining water toward the most convenient low point of the system. This prevents water from dropping out of the main piping loop into the drop line. The Outlet Reducing Tee is a convenient, low cost alternative to the traditional swan neck/goose neck design.

All systems should be installed with a slight gradient to allow moisture to collect at one point in the system. This point should be fitted with a drop line and terminated with a condensate drain.



This particular internal geometric shape allows the fitting to be used vertically as well as horizontally. During horizontal installation, keep the two internal holes turned up toward the upper side.

 **Have questions? Need assistance?
Contact your local Ingersoll Rand representative.**

Simplair® fittings

Simplair® piping is available with a full range of leak-free fittings for all piping sizes.

Aluminum Pipe											
in (nominal)* mm (actual)	3/4" 20	1" 25	1-1/4" 32	1-1/2" 40	2" 50	2-1/2" 63	2-3/4" 70	3-1/2" 90	4-1/2" 115	6" 168	8" 220
Fittings (Push-Lock, Groove/Coupled)	P-L	P-L	P-L	P-L	P-L	P-L	G/C	G/C	G/C	G/C	G/C
Adapter (Male & Female)							•	•	•	•	
Reducer							•	•	•	•	•
Male Thread Connector	•	•	•	•	•	•					
Straight Union	•	•	•	•	•	•					
Straight Union Coupling							•	•	•	•	•
90° Union Elbow (C = Coupling Included)	•	•	•	•	•	•	C	C	C	C	C
45° Union Elbow	•	•	•	•	•	•	C	C	C	C	C
Equal (Junction) Tee	•	•	•	•	•	•					
Equal Tee with Coupling							•	•	•	•	•
ANSI Flange								•	•	•	
ANSI Flange Adapter Kit (include reducer and coupling)								•	•		•
Outlet/Reducing Tee Fitting	•	•	•	•	•	•					
Outlet Saddle Clamp (R = Reducer)			R	R	R	R	•	•	•	•	•
Drilling Jig, Saddle Clamp			•	•	•	•					
Butterfly Valve (with two couplings)							•	•	•	•	•
Plug - Cap End Fitting	•	•	•	•	•	•	•	•	•	•	•
Drain Assembly		•	•	•	•	•					
Outlet Elbow c/w Mtg Bracket	•	•	•								
Double Outlet Elbow c/b Mtg Bracket	•	•									
Reducer, Fitting Body to Tube		•	•	•	•	•	•				
Stem Adapter (Male)	•	•	•	•	•	•					
Stem Adapter (Female)	•										
Ball Valve, Tube to Tube	•	•	•	•	•	•					
Ball Valve	•	•	•	•	•	•					
Quick Coupler, Universal Socket (3/8", 1/2" Hose Barb)	•	•	•	•	•	•					
Quick Coupler, Universal Socket (1/4", 3/4", 1/2") Male and Female	•	•	•	•	•	•					
Plug (1/4", 3/8", 1/2") NPT Male	•	•	•	•	•	•					
Plug (1/4", 3/8", 1/2") NPT Female	•	•	•	•	•	•					
Plug (1/4", 3/8", 1/2") Hose Barb	•	•	•	•	•	•					

*Note: Nominal dimensions do not provide exact measurements. For precise dimensions use the figures listed in mm.



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Design your Simplair® piping system for optimal operation

The charts below can assist you in designing a Simplair® piping system to meet your application's specific flow-rate needs. For reference only. Assumes 100 psi, closed-loop system. Figures maintain a less than 5% drop in pressure.

Flow Rate		Length (ft) of Looped System										Compressor
(m ³ /min)	cfm	150	300	500	1000	1500	2500	3500	5000	6000	7000	HP
0.10	4	20	20	20	20	20	20	20	20	20	20	1 to 5
0.20	7	20	20	20	20	20	20	20	20	20	20	
0.30	11	20	20	20	20	20	20	20	20	20	25	
0.40	14	20	20	20	20	20	20	20	25	25	25	
0.50	18	20	20	20	20	20	25	25	25	25	25	
0.60	21	20	20	20	20	20	25	25	25	32	32	5 to 20
0.70	25	20	20	20	20	25	25	25	32	32	32	
0.80	28	20	20	20	20	25	25	32	32	32	32	
0.90	32	20	20	20	25	25	25	32	32	32	32	
1.00	35	20	20	20	25	25	32	32	32	32	32	
1.20	42	20	20	25	25	32	32	32	32	40	40	
1.40	49	20	20	25	25	32	32	32	40	40	40	
1.60	56	20	25	25	32	32	32	40	40	40	40	
1.80	64	20	25	25	32	32	40	40	40	40	40	
2.00	71	20	25	25	32	32	40	40	40	40	50	
2.20	78	20	25	32	32	32	40	40	40	50	50	20 to 40
2.40	85	25	25	32	32	40	40	40	50	50	50	
2.60	92	25	25	32	32	40	40	40	50	50	50	
2.80	99	25	25	32	32	40	40	50	50	50	50	
3.00	106	25	32	32	40	40	40	50	50	50	50	
3.50	124	25	32	32	40	40	50	50	50	50	63	
4.00	141	25	32	32	40	40	50	50	50	63	63	
4.50	159	32	32	40	40	50	50	50	63	63	63	
5.00	177	32	32	40	40	50	50	63	63	63	63	
5.50	194	32	32	40	50	50	50	63	63	63	63	
6.00	212	32	40	40	50	50	63	63	63	63	63	40 to 75
6.50	229	32	40	40	50	50	63	63	63	63	70	
7.00	247	32	40	40	50	50	63	63	63	70	70	
7.50	265	32	40	40	50	50	63	63	63	70	70	
8.00	282	40	40	50	50	63	63	63	70	70	70	
8.50	300	40	40	50	50	63	63	63	70	70	90	80 to 100
9.00	318	40	40	50	50	63	63	63	70	70	90	
9.50	335	40	40	50	50	63	63	70	70	90	90	
10	353	40	40	50	63	63	70	70	70	90	90	
15	530	50	50	63	63	70	90	90	90	90	90	
20	706	50	50	63	70	90	90	90	115	115	115	100 to 400
25	883	50	63	63	90	90	90	115	115	115	115	
30	1059	63	63	70	90	90	115	115	115	115	115	
35	1236	63	70	90	90	90	115	115	115	168	168	
40	1412	63	70	90	90	115	115	115	168	168	168	
45	1589	63	70	90	90	115	115	115	168	168	168	
50	1765	63	90	90	115	115	115	168	168	168	168	
55	1942	70	90	90	115	115	115	168	168	168	168	
60	2118	70	90	90	115	115	168	168	168	168	168	
65	2295	70	90	90	115	115	168	168	168	168	168	
70	2471	90	90	115	115	115	168	168	168	168	168	400+
75	2648	90	90	115	115	168	168	168	168	168	168	
80	2824	90	90	115	115	168	168	168	168	168	168	
85	3001	90	90	115	115	168	168	168	168	168	168	
90	3177	90	90	115	115	168	168	168	168	168	220	
95	3354	90	115	115	168	168	168	168	168	168	220	
100	3530	90	115	115	168	168	168	168	168	220	220	
150	5295	115	115	168	168	168	168	220	220	220	220	
200	7060	115	168	168	168	168	220	220	220	220	220*	
250	8825	115	168	168	168	220	220	220	220	220*	220*	



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