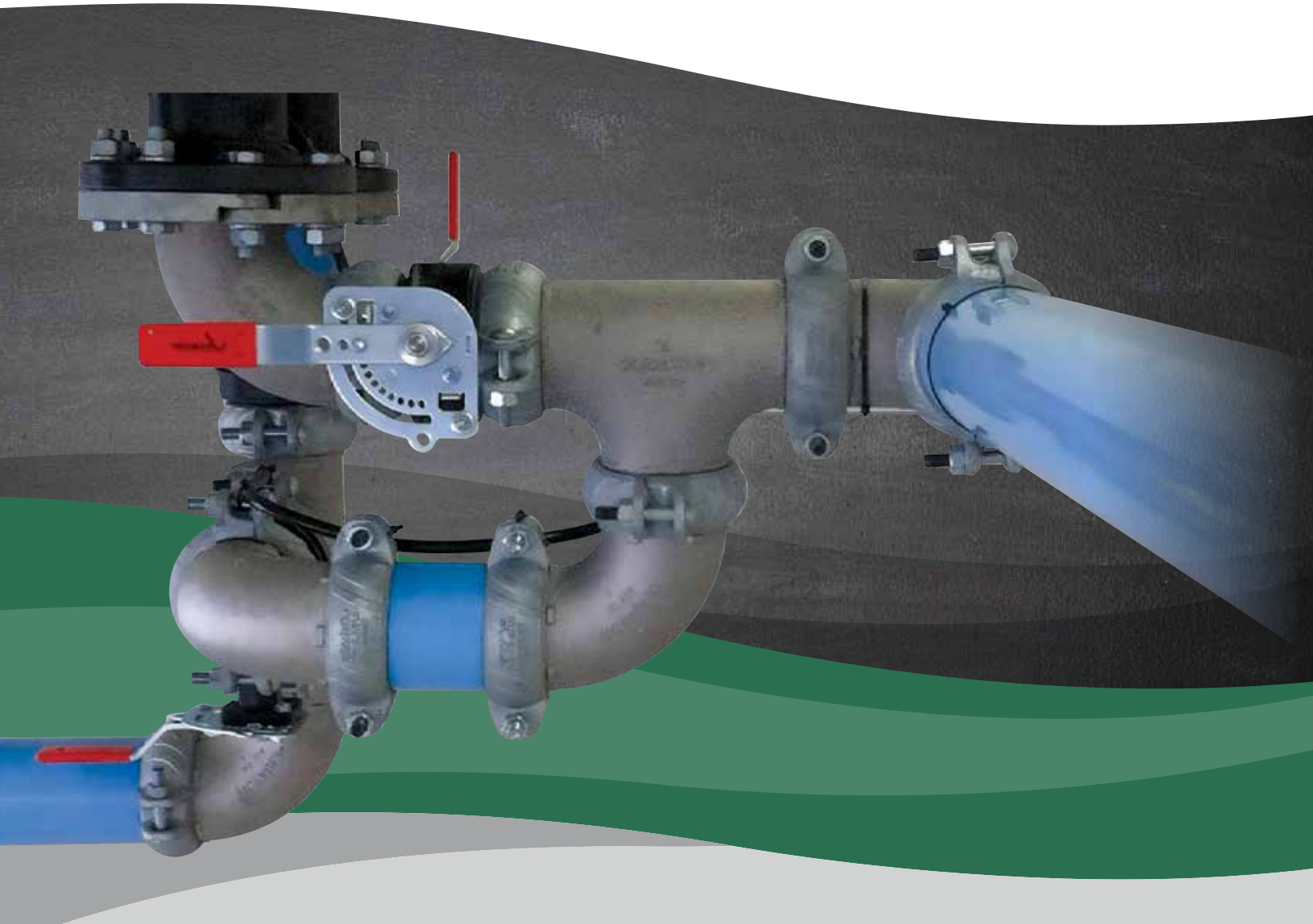
CHAMPION

COMPRESSED AIR SYSTEM | 2½" TO 10"

Big-Lock Tubing



High Quality
Aluminum Piping Systems

Simply stated there is no equal. Big-Lock from Champion has taken large diameter piping systems to a new level.

Ten times lighter than steel, without compromising any structural strength, the system is easier to install than plastic and delivers a quality of air, gas or vacuum that is equal to that of high cost welded stainless steel systems.

The secret of the Big-Lock system is twofold. First is the tubing design. Big-Lock is manufactured from marine-grade aluminium that affords it the highest level of protection against contamination. This ensures that the media travelling through a system encounters very little turbulence, while enabling high flow rates with minimal pressure losses compared to conventional steel systems.

Secondly, Big-Lock incorporates the world's most highly accepted grooved fitting design. All mechanical contractors will understand the technology and will be able to install a Big-Lock system. We ensure that all fittings coming into contact with the media flowing through a system are manufactured from high quality aluminum so that system integrity will never be compromised. Zero contamination is a priority; it is the only solution to achieve the lowest cost of ownership when operating a piping system.

Big-Lock provides a simple solution for large air/gas/nitrogen/vacuum users and is, without a doubt, the easiest and fastest system to install. It has the lowest cost of ownership and the best quality of media delivery available.

Outstanding performance from an outstanding product is what we demand and what you should expect from our system.



Simply stated:
There is no equal.



BIG-LOCK COMPLETE

Now Switch to Quick-Lock to Provide the Total Solution

Once you have installed a Big-Lock header, it is common to have smaller diameter piping for drops and solid line hook ups to machines and equipment.

Quick-Lock, like Big-Lock, promotes a total metal solution with bore sizes from 20 mm (½") up to 63 mm (2½").

The piping is manufactured in the same marine-grade aluminum as Big-Lock but promotes a different range and style of fittings.

Quick-Lock fittings are made from solid brass and nickel-plated to provide a strong and non-corrosive solution. The fitting design is a simple "push to connect" system and requires minimal skill, effort or tooling to install.

It Could Not Be Easier

Simply drill a hole in the Big-Lock piping and fix an outlet saddle clamp around the tubing to leave a female threaded connection that allows for the simple conversion between Big-Lock and Quick-Lock.



Attach saddle clamp to Big-Lock pipe with female threaded connection



Screw male thread connector into female connector

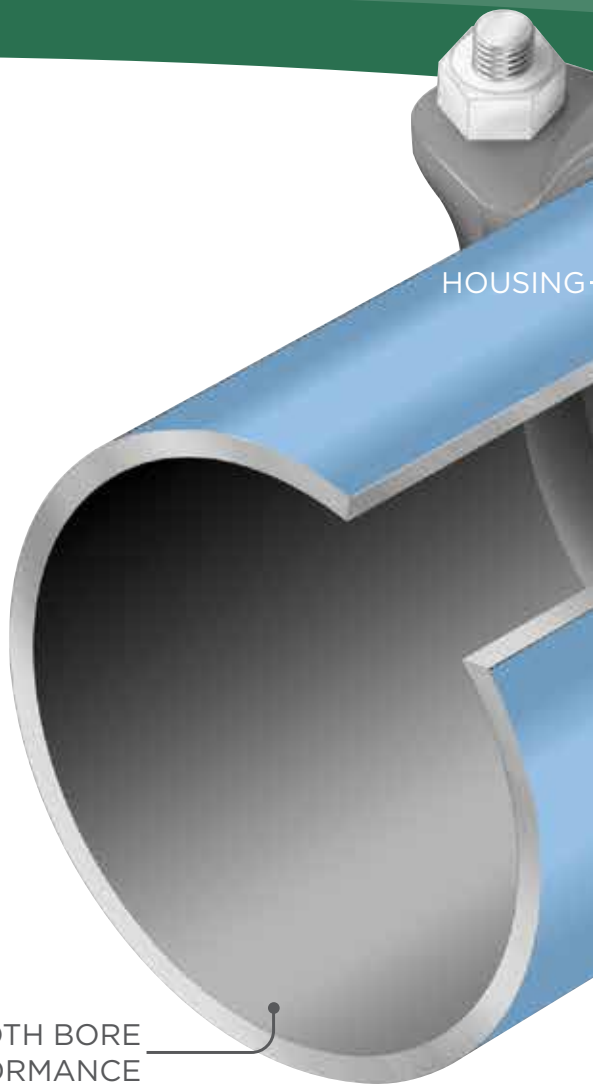


Attach Quick-Lock piping to fitting



High Quality Aluminum Piping Systems

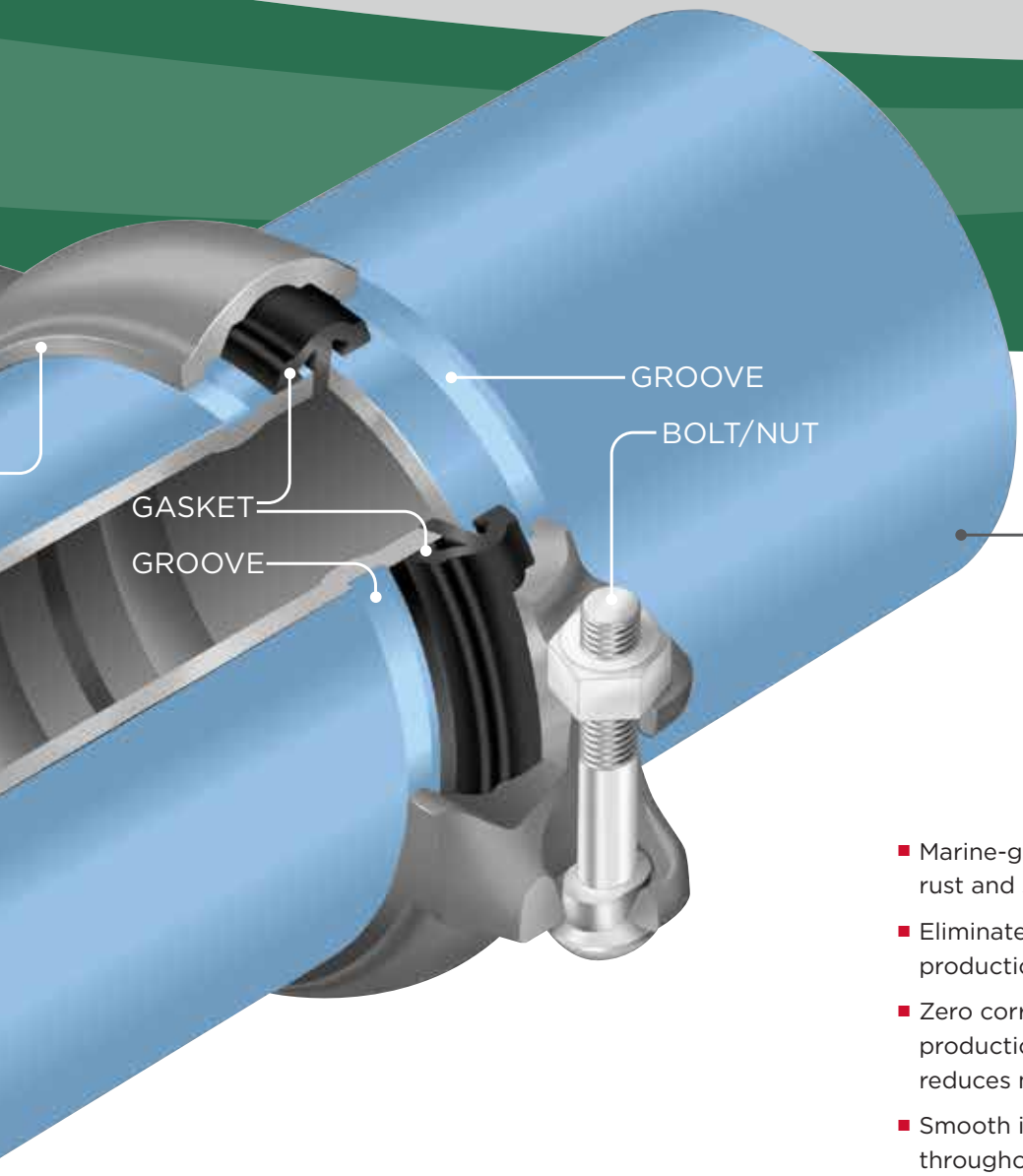
- Lightest product in the market
- Fastest installed system compared to all others available
- Structurally as strong as carbon steel
- One-tenth the weight of same diameter steel
- Tube and fittings manufactured from non-corrosive marine-grade aluminum
- Guaranteed highest quality air delivery
- Material construction and design allows highest flow rates and lowest pressure drops
- System flexibility means simple modifications and/or additions
- Ten year leak-free guarantee
- “Green”: Big-Lock is manufactured from 100% recyclable materials



Don’t Jeopardize Air Handling Efficiency

Compressed air piping is responsible for the delivery of compressed air to the point of use. Its material, age and condition impact both system reliability and air quality. Compressed air piping made from iron will rust and corrode, creating buildup on the interior and reducing the functional diameter. This buildup results in pressure drop within the system, contributing to high levels of contamination and poor air quality.



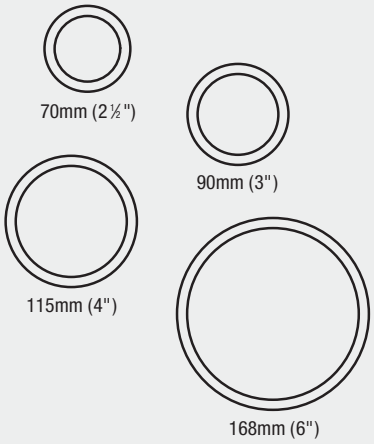


NON-CORROSIVE MARINE-GRADE ALUMINUM TUBING

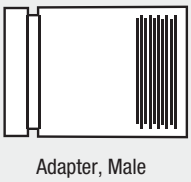
- Marine-grade aluminium construction prevents rust and system deterioration
- Eliminates scale/corrosion from entering production equipment
- Zero corrosion eliminates expensive production downtime and dramatically reduces maintenance costs
- Smooth internal diameter of tube maintained throughout life of system
- Ensures lowest cost of ownership of any piping system available

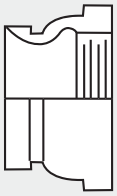
Components

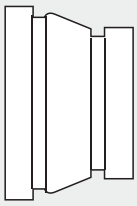
Compressed Air Piping – Blue
Vacuum Piping – Grey
Inert Gases Piping – Black
Nitrogen Piping – Green



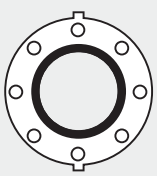
Adapters


Adapter, Male

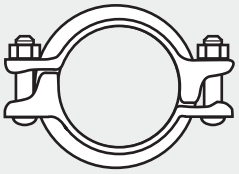

Adapter, Female


Reducer

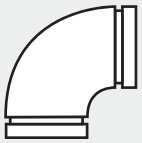
ANSI Flanges & Flange Adapter Kits



Straight Union Couplings



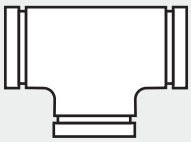
90° Union Elbows with Couplings



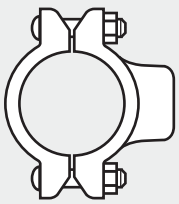
45° Union Elbows with Couplings



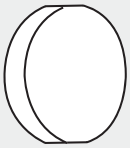
Equal Tee with Couplings



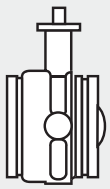
Outlet, Saddle Clamp



Plug, Cap End Fitting



Butterfly Valve
Tube to Tube with Couplings

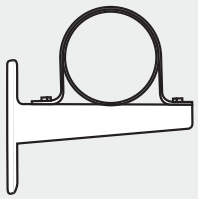


Hanging Brackets



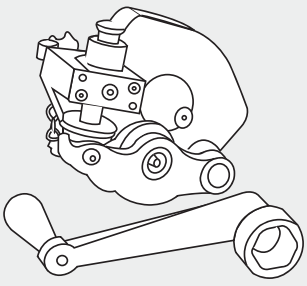
Hanging Wire System

Wall Bracket Kit



Replacement Seals

Tools
Manual Grooving Tool



Specifications

BIG-LOCK TECHNICAL SPECIFICATIONS

Max Working Pressure		220 PSI (15 BAR)
Max Working Temperature		-4° F to 176° F (100% Duty)
Tubing Material		Aluminum, ASTM 6061-T4 (Marine Grade)
Tubing Weight	70 mm	0.86 lbs./ft
	90 mm	1.04 lbs./ft
	115 mm	1.15 lbs./ft
	168 mm	3.12 lbs./ft
	220 mm	4.95 lbs./ft
Standard Seals		(-4° F to 176° F) Nitrile Rubber
High Temperature Seals		(-4° F to 300° F) Fluoroelastomer
Fittings		Aluminum, B-26, 356-T6
Couplings		Ductile Iron, Galvanized, Grade 65-45-12
Standards & Approvals		ASME B31.1 Power Piping ASTM F-1476 BOCA CSA B-242 SBCCI



BIG-LOCK SYSTEM FLOW RATES

PSI	CU FT/MIN				
	70 MM	90 MM	115 MM	168 MM	220 MM
100	948	1955	3844	10078	20944
125	1064	2162	4205	11194	23169
150	1169	2364	4591	12153	25279
220	1417	2937	5568	14740	30418

Above flow rates are based on straight line flow allowing for a 1 psi pressure drop per 100 ft over pipe and couplings. For loop systems, flow rates are doubled, i.e. 90 mm tubing at 100 psi flows 3910 cfm

10 Year Guarantee

Champion warrants its pipe and fitting components to be free of leaks due to manufacturing defects for a period of 10 years from date of sale. This Express warranty is in lieu of and excludes all other warranties, guarantees or representations, express or implied, by operation of law or otherwise, including any warranty that the materials are suitable for the buyer's requirements or special use. System must be installed by an Champion approved technician.

Champion agrees to replace any component proven to have a manufacturing defect.

Champion shall not be liable for any consequential damages nor for loss, damage or expenses directly or indirectly arising from the use of the product.



Champion is committed to delivering superior products built with the exceptional standards you expect.

CHAMPION®

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Please recycle after use.