

AlRnet Aluminum Compressed Air, Compressed Gas, Vacuum, and AlRnet Stainless Steel Piping System

ENGINEERING SPECIFICATIONS

Compressor Technique Service Sales & Marketing Optimization / AIRNET Brand Atlas Copco Compressors, LLC

1.0 PRODUCT INFORMATION

General Information – Atlas Copco Compressors, LLC

What is AIRnet?

Why Choose AIRnet?

General Materials Information

Galvanic Compatibility for *AIRnet* / Materials Information – Cast Alloys

Global Product Information / Warranty – Manufacturing Coverage

2.0 PRODUCT SIZE RANGES

PF Series 20-50mm / Black Series 63-80mm / Large Sizes 100-158mm

SS 316L Stainless Steel 15mm - 108mm

Product Brochures

Pipes 20-158mm

RAL 5012 (Blue; Compressed Air)

RAL 6018 (Green: Compressed Inert Gas)

RAL 7001 (Grey: Vacuum Applications)

304L (Standard Material) / 316L (Special Applications)

ALUM Pipe Weights – 18.7' & 9.35' Lengths

SS 304 / 316L Pipe Weights – 18.7' Lengths

3.0 PRODUCT SPECIFICATIONS

.STP and .DWG Files available

Dimensional Drawings and Specifications Tables

Accessories – Air Hoses – Adapters / Cox Reels – Specs.

Hardware and Hanging Items

Tools and Assembly Items

ALUM – Small PF Series / LARGE Sizes 63-158 mm

STAINLESS STEEL - Press Fit / Small up to 54mm - Large up to 108mm

4.0 PRODUCT CERTIFICATIONS and COMPLIANCE

Lloyd's Certifications of Conformity - US

ASME / ANSI / ASTM

PED / ISO Compliance / TUV (EU – Global)

Treatments for Corrosion / Qualicoat Powder coating / Alodine treatment

Common Uses and Controlled Environments

5.0 PRODUCT REFERENCE and DOCUMENTATION

AIRnet Catalogs of Pipe, Fittings, and Accessories

AIRnet Installation & Assembly Guide

Pre-Quote Checklist / Pressure Drop Calculator

RFQ RFP Template

6.0 PRODUCT SUPPORT and CORPORATE / FIELD CONTACT

Deliverables and Support

US Corporate Contact and Support

Documentation and Reference Materials Provided

Instruction, Installs, and Tools to spec.

Sizing, Design, and Quoting - Optimized Systems

Contact(s) from Regional Sales and Service Sales

On-Site Visits – Measured Requirements

Regional AIRnet Distributor and AIRnet Dealer Support - Installations







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Atlas Copco General Information



Atlas Copco in the United States.

Our products help customers to achieve sustainable productivity in a wide range of markets, including general engineering, manufacturing and process industries, construction, automotive, electronics. Oil and gas, and much more.

Atlas Copco in the US handles the sales and service of industrial gas and air compressors, dryers and filters, compressor pars and service, and vacuum pumps; construction and demolition tools including mobile compressors, pumps, light towers and generators, and handheld tools; industrial electric, pneumatic, cordless transducer assembly tools, along side an extensive range of pneumatic grinders, sanders, drills, chipping hammers, and riveting systems.

Atlas Copco customers are supported by a nationwide sales, distribution, and service network, to ensure that products are running at maximum efficiency with minimum downtime at our customers' facilities.

The Atlas Copco Group is a world-leading provider of sustainable productivity solutions. The Group serves in more than 180 countries with products and services focused on productivity, energy efficiency, safety, and ergonomics.





AlRnet piping is available in two (2) materials for compressed air, compressed inert gases, and vacuum applications.

- **Aluminum AIRnet** pipe and fittings are pressure rated and specified for most industrial applications where standard compressed air is best utilized, including nitrogen generation, and rough vacuum installations.
- **Stainless Steel** pipe and fittings are rated for all applications as above, and include potable water distribution, energy recovery systems, special oil-free applications, some critical cleaning environments, and areas requiring increased corrosion protection from contaminants, and protection for users, equipment, and processes.

AIRnet can be used to pressurize any machine process, product diverter apparatus, automation, and machining equipment, as well as common industrial air facilities like automotive, assembly, distribution centers, loading docks, molding, cabinet, furniture, and service / repair centers.

AlRnet should NOT be used in caustic cleaning environments, for distribution of bleaches or corrosives, in combustible applications (O2 or acetylene), or anywhere where the instance of fire is greater due to particulates.

When visiting potential customers, inquire about:

- Age of existing compressed air piping creating inefficiencies.
- Issues with air loss / pressure drop / leaks causing shutdowns.
- High compressor repairs and frequent equipment service.
- Excessive maintenance or possible replacement of process equipment.
- Poor quality of finishes or goods due to contaminants in the system.
- No possibility of expansion of the network flow or capacity constraints.



1.0 PRODUCT INFORMATION

What is AIRnet Aluminum?

AIRnet is a fast, easy and reliable piping solution that guarantees operational excellence for compressed air, vacuum, nitrogen and other inert gas applications. Low friction and seamless, compression connections of AIRnet minimize pressure drop thus effectively reducing the cost of ownership of your entire air / vacuum system.

If you look at your total cost of ownership, AIRnet will turn out to be the best investment choice you can make. It is a high-end aluminum system specially designed to save the money that other piping systems spend.

Its piping network is engineered to support sustainable operational excellence in your production process. Material and product design, installation and maintenance costs, flexibility and safety - they all influence your total cost of ownership and the level of efficiency in your production.

AIRnet design technologies and innovations are based on technical expertise gained from Atlas Copco and more than 140 years of experience with pressurized air applications and equipment.

AlRnet surpasses the competition in durability and in ease of installation with NO special / proprietary tools required across all styles and sizes.

AIRnet Aluminum is...

Fast

Thanks to a smart design and low weight materials, AIRnet can be installed 70% faster than conventional systems.

Easy

AIRnet pipes and fittings are assembled in just a few steps by a single installer, without the need for heavy machinery.

<u>Reliable</u>

The durable, corrosion-free AIRnet pipes and fittings come with a 10-year warranty. Low friction and seamless connections minimize pressure drop.

Ref: http://www.airnet-system.com/us/

1.0 PRODUCT INFORMATION

-NEW- AIRnet in Stainless Steel!

AIRnet Stainless Steel piping system ensures 100% oil free air delivery from the generation to the point of use, in compliance with the highest quality standards.

In certain industries, material selection crucially contributes to the final quality of the end product. It may even have a direct impact on Health, Safety, and Environmental Regulations. As compressed air or vacuum are used for a variety of applications (sometimes including direct contact with the end product), the choice for the safest solution is decisive.

The preference for oil free compressed air systems is clearly understandable, but the selection of a piping system to ensure 100% oil free air delivery from the generation to the point of use is as important

Therefore, AIRnet now introduces its brand new stainless steel piping system. Keeping in mind the stringent requirements of different industries, AIRnet Stainless Steel ensures 100% compliance with the highest quality standards.

AIRnet Stainless Steel is...

Safe

Our press-fit system of pipe and fittings requires no welding, solvents, or soldering flames to install. This eliminates any unsafe installation conditions.

Solid

AIRnet Stainless Steel Pipe is available in standard 304L stainless and in high-grade 316L for extra corrosion resistance in special applications, with all 316L fittings and FKM food-grade inner seals.

Clean

AIRnet Stainless Steel is manufactured and packaged for use in oil-free, clean room, solvent free, and washable environments with no rust or corrosion from normal use.

Ref: http://www.airnet-system.com/us/

Why Choose AIRnet for Engineering and Design Specs?

Simply put, *AlRnet* will provide outstanding long-term value for the customer, delivered by a global leader in providing compressed air, vacuum, and inert gas distribution. And, with the power and support of Atlas Copco, the global leader in compressed air, gas, and vacuum equipment products, and a supporting National Service Center in Charlotte, NC, we can provide fast order processing and product supply along with our US Customer Center Support staff that can provide a fast turn-around for product knowledge, installation training, and quoting budget costs for materials in designs.

AIRnet saves you up to 70% on installation time vs. traditional piping systems

Designing and installing a piping system used to be cumbersome, complex and above all: time consuming. Now, with AIRnet, you can get down to business in no time.

The lightweight AIRnet aluminum pipes and polymer fittings require no complex tools. The pipes are easy to cut and the fiberglass-polymer fittings ensure a perfect insertion depth and alignment instantly. AIRnet is adaptable to any existing pipe work. You simply cannot beat the speed of AIRnet installation. Assembling a similar installation with traditional piping will take you more than three times as long.

AlRnet in stainless steel is installed using common press-fit tools, jaws, and collars utilized by multiple manufacturers in standard sizes from 15mm ($^{\sim}1/2$ in.) up to 108mm (4 in) OD.

Unlike other piping systems, AIRnet does not require additional treatment such as painting. In compliance with industrial standards, AIRnet pipes are standard painted blue, green, or grey for simple network identification (Note: Large green and all grey pipe is by special order only). The system can be tested and pressurized immediately after assembly, limiting downtime to an absolute minimum.

Why do things the hard way? With AIRnet there is no need for extra manpower. No complicated tools. In short: no-nonsense. While solid and robust, aluminum AIRnet pipes weigh five times *less* than galvanized pipes. That is why only one person is needed to safely handle and install them.

AlRnet can easily be installed by just one technician using Push-to-Fit or Torque-to-Fit in Aluminum applications, or Press-Fit in Stainless Steel installations. Due to the heavy materials and the use of large and complex tools, traditional piping assembly requires at least two mechanics.

AIRnet – PRODUCT INFORMATION

Future extensions to an AIRnet installation are just as easy. Additional piping is simply plugged into the existing network without additional modifications using available NPT (standard) fittings or ANSI standard flanges on current / existing systems.

AIRnet Aluminum fittings and pipes can simply be removed, reconfigured, reassembled, and reused after they have been disassembled. AIRnet Stainless requires additional splicing and replacement fittings due to the press-fit style connections.

The speed and ease of use of AIRnet has a lot to do with the absence of complex tools. No welding, gluing or crimping is required. Welding or lathe machines, as well as the necessary skills to use them, are a burden of the past. AIRnet tools are light-weight, non-proprietary, and easy to use. Traditional piping involves heavy machinery.

<u>All</u> AlRnet products come with a <u>10-year warranty</u> on all fittings and pipes, against any damages resulting from material defects and manufacturing.

Fast and easy does not mean quick and dirty. The unsurpassed reliability of AIRnet is not a hollow promise; it is a solid 10-year guarantee.

AIRnet Aluminum pipe fittings consists of aluminum, aluminum-steel, and fiberglass-reinforced polymers. These highly durable materials make it suitable for compressed air as well as for vacuum and Nitrogen / Inert gases.* AIRnet Stainless Steel fittings are all 316L high-grade with food-grade FKM seals.

The AIRnet piping system is resistant to corrosion, mechanical shocks, thermal variations and outdoor weather conditions when protected from direct UV rays and precipitation.

Thanks to consistently clean quality air, AIRnet protects the downstream manufacturing process and contributes to equipment longevity.

The AIRnet leak-resistant connections offer superior sealing with double o-rings and bite ring grips and solid food-grade seals in the stainless fittings.

The low friction factor of aluminum and stainless, and the seamless connections minimize pressure drop.

Thanks to the low pressure drop and bigger inner diameter, high efficiency is achieved.

*NOTE: AIRnet Aluminum is <u>NOT</u> rated for fluid distribution; AIRnet Stainless Steel IS rated for potable water and energy recovery applications!

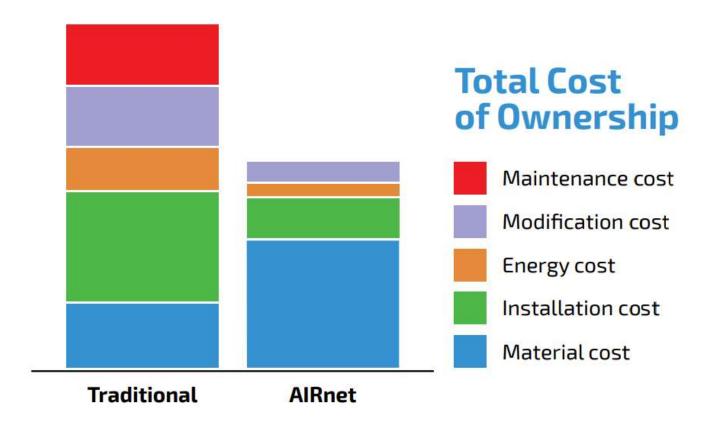
Global Product Information

Optimized production, maximized energy efficiency, and minimized total cost.

The optimal piping network is sized, planned and installed to support sustainable operational excellence in the production process. Material and product design, installation and maintenance costs; flexibility and safety. They all influence your total cost of ownership and the level of efficiency in your production.

If you are looking for a high performing and effortless system that can be customized to fit any production site, **AIR***net* will turn out to be the best investment choice you can make. It is a high-end aluminum system specially designed to save the money that other piping systems spend.

AlRnet offers the lowest total cost of ownership over time. It is the optimal solution for any application.



Global Warranty Coverage – Manufacturing Defects

In line with the high quality performance of the AIRnet product range, we provide our customers with a 10 year guarantee on the AIRnet fittings and aluminum pipes against material defect.

To achieve the lowest Total Cost of Ownership AlRnet offers:



AIRnet Support will provide Assembly Instructions and pertinent training on the proper installation steps for all AIRnet Pipe and Fittings. Damages caused by transportation / carrier issues, leaks and pressure drop issues resulting from improper installation steps or labor time to reconfigure, extend, or reinstall are NOT covered as a warranty claim. Please contact AIRnet Support for additional details.

AIRnet 10 year Limited Warranty

Atlas Copco warrants that any and all AiRnet Products delivered by Atlas Copco are delivered free of defects in material and workmanship. Unless specified otherwise by Atlas Copco in its written quotation regarding the particular Product, the above-stated limited warranty shall expire ten years from the date of installation by authorized Atlas Copco personnel. Notwithstanding the foregoing, in the event the Product is a part (spare part/ replacement part), the above-stated warranty shall expire on the last day of the original ten year period. The warranty expressly excludes the effects of normal wear and tear.

if Products do not meet the above-stated warranties. Buyer shall promptly notify Atlas Copco in writing. Atlas Copco shall at its option (i) replace the defective Product or (ii) repair the defective Product. Atlas Copco will determine at its sole discretion which option Atlas Copco will take.

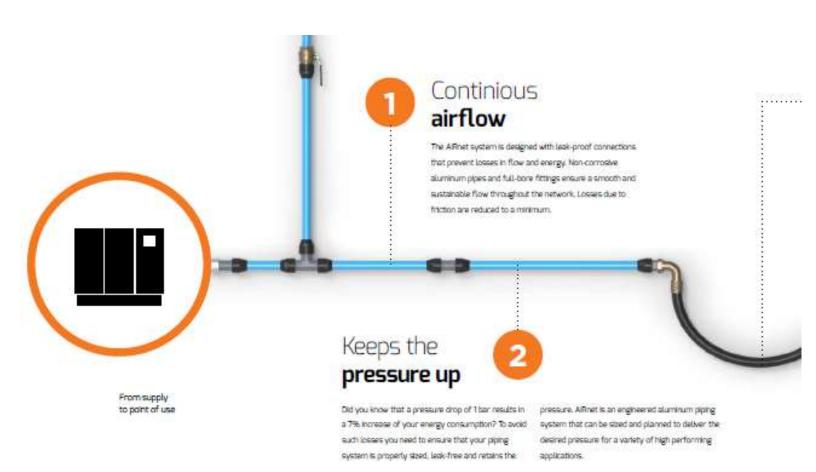
Atlas Copco warrants that any service performed by Atlas Copco is performed in a workmanlike manner. If Atlas Copco provides parts in connection with the service, Atlas Copco warrants that the parts are free of defects in material and workmanship. If service (and/or parts provided in connection therewith) does not meet the above-stated warranties, Buyer shall promptly notify Atlas Copco in writing. Atlas Copco shall at its option reperform the non-conforming portion of the service and (if applicable) repair or (at Atlas Copco's option) replace the nonconforming part. Atlas Copco will determine at its sole discretion which of the above-mentioned options Atlas Copco will take.

Warranty repair or replacement or re-performed service shall not extend or renew the original warranty period; such Products or parts or service shall remain under warranty only for the unexpired portion of the original warranty period. Replaced Products/parts become the property of Atlas Copco. Atlas Copco warrants that Atlas Copco has good and marketable title to the Products delivered by Atlas Copco. Atlas Copco is excused and not obligated to perform on its limited warranty due to any cause beyond its reasonable control (including but not limited to acts of God, strike or other concerted action of workmen, act or omission of any governmental authority, act of war or terrorism, act of the public enemy, embargo, delays of carriers, and/or delays by its usual suppliers).

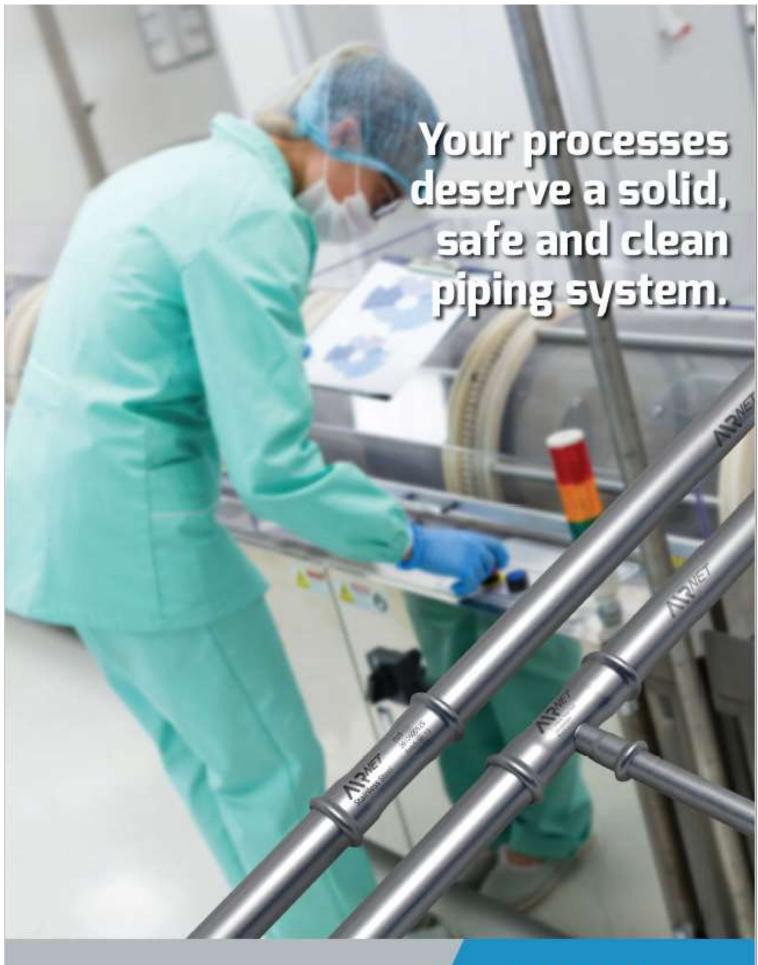
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THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES (WRITTEN, ORAL, IMPLIED, OR OTHERWISE), AND ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ARE HEREBY EXPRESSLY DISCLAIMED. CORRECTION OF NONCONFORMITIES (i.e. warranty repair or replacement or refund or credit, all at Atlas Copco's option. of Products that do not conform to the Product warranty above, and re-performance or refund or credit, all at Atlas Copco's option, of service that does not conform to the service warranty above) IN THE MANNER AND WITHIN THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE PROVIDES THE EXCLUSIVE REMEDIES WITH RESPECT TO THE QUALITY OF OR ANY DEFECT IN PRODUCTS OR SERVICES DELIVERED OR PERFORMED HEREUNDER.









Stainless Steel Solutions for Special Applications





connection

The press connection is made by inserting the pipe into the fitting with reference to the marked insertion depth. The connection is created by pressing, using an approved press tool. We use a patented sealing ring with a lenticular profile which fits the press crimp groove.

The advantages:

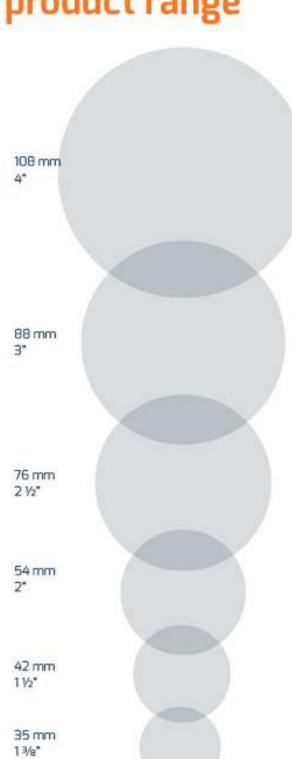
- 20% enlargement of the sealing surface area with a security seal ring minimizes the risk of accidents
- Eliminates the risk of sealing ring being pressed out or damaged
- The fit between the sealing ring and the groove makes the pipes insertion easier.

key features

- No corrosion, leak resistant and 10 year guarantee
- Press fit system ensures fast installation with minimal tools
- No welding, no threading: just push & press
- Silicone free system
- FKM Seal (approved by all international regulating bodies for Pharma, F&B)
- Can be used for clean room applications (316 L)
- Considerable savings on the labor cost

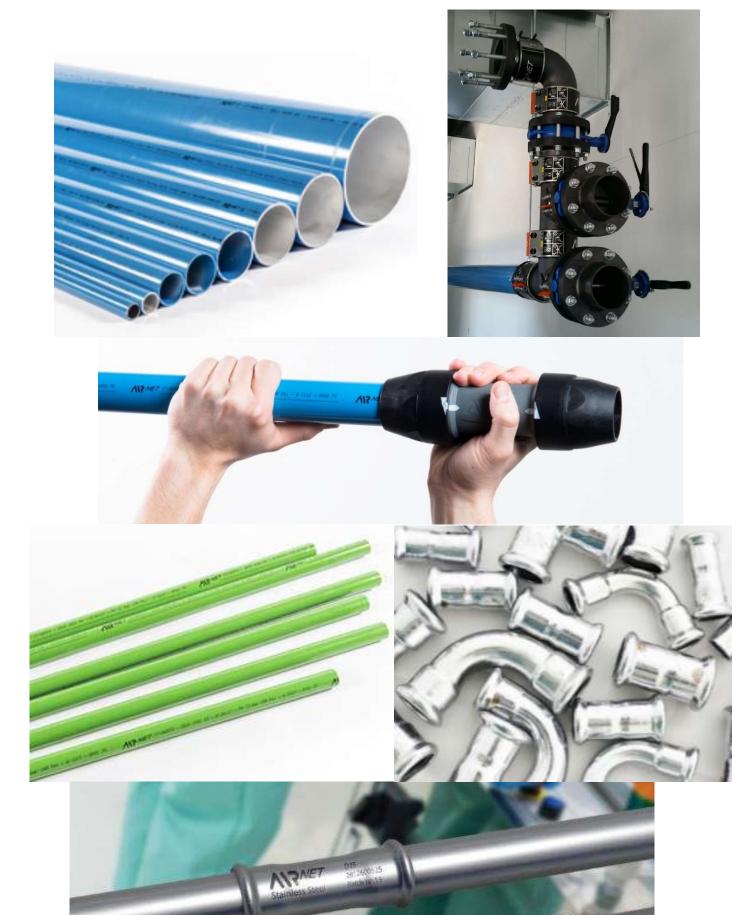


a complete product range



28 mm

15 mm





2.0 PRODUCT SIZE RANGES

PF Series 20-50mm / Black Series 63-80mm / Large Sizes 100-158mm

SS 316L Stainless Steel 15mm - 108mm

Product Brochures

Pipes 20-158mm

RAL 5012 (Blue; Compressed Air)

RAL 6018 (Green: Compressed Inert Gas)

RAL 7001 (Grey: Vacuum Applications)

304L (Standard Material) / 316L (Special Applications)

ALUM Pipe Weights – 18.7' & 9.35' Lengths

SS 304 / 316L Pipe Weights – 18.7' Lengths

2.0 PRODUCT SIZES and RANGES

Fittings 20 (3/4") - 25 (1") - 40 (1 1/2") - 50 (2") mm OD ("**PF SERIES"**)

CONNECTION Push to fit ("PF") Technology Standard

MATERIALS Engineered polymer PA6 - GF30 fiberglass reinforcement

Aluminum high pressure die casting EN AC-46100, similar to A03830 Wrought aluminium alloy 6082 ASTM B85 / EN 1706

ASTM B221

SEAL FITTINGS NBR 70 Sh. A (PTFE coating on pipe seal)



Fittings 63 (2 1/2") - 80 (3") mm OD ("BLACK SERIES")

CONNECTION Torque to grip technology Standard

MATERIALS Aluminium high pressure die casting EN AC-46100, similar to

A03830 Aluminium permanent mold casting EN AC-43100,

similar to A13600 Wrought aluminium alloy

6082 ASTM B85 / EN 1706 ASTM B85 / EN 1706 ASTM B221

SEAL FITTINGS NBR 70 Sh. A (PTFE coating on pipe seal)





AIRnet – PRODUCT Sizes

Fittings 100 (4") mm OD

CONNECTION Bolt clamp technology Standard

MATERIALS Aluminium permanent mold casting EN AC-43100, similar

to A13600 High yield strength steel for cold forming Grade

50 ASTM B85 / EN 1706 ASTM A572

SEAL FITTINGS NBR 70 Sh. A



Fittings 158 (6") mm OD

CONNECTION Bolt clamp technology Standard

MATERIALS Aluminium permanent mold casting EN AC- 43100, similar

to A13600 Stainless Steel 304 ESTM B85 / EN 1706 AISI 304

SEAL FITTINGS NBR 70 Sh. A

Pipe Sizes and Ranges - Aluminum (standard)

PIPES - Aluminum / Air

20 (¾") - 25 (1") - 40 (1 ½") - 50 (2") OD 63 (2 ½") - 80 (3") mm OD 100 (4") - 158 (6") mm OD



COLORS Blue RAL 5012 (all sizes/lengths) ANSI A13.1 ID Color Code

MATERIAL Extruded aluminium alloy 6063 T5 ASTM B241

SAFETY FACTOR 4 for all diameters (burst pressure)

WORKING PRESSURE Max 232 PSIG Calculated according to ASME B31.1

WORKING TEMPERATURE -4°F to 176°F

VACUUM LEVEL 0.189 PSIA (29.5 HgV)

DEWPOINT Lowest allowable pressure dew point is 94°F

OUTSIDE TREATMENT Polyester powder paint (QUALICOAT certified)

INSIDE TREATMENT Chrome free conversion treatment

APPLICATIONS Compressed Air and Vacuum Standard

PIPES - Aluminum / Inert Gas

20 $(\sqrt[3]{4})$ - **25** (1) OD (in-stock; large sizes by special order only)

ADDITIONAL GASSES Nitrogen, Helium, Argon, Neon, Xenon and Krypton

COLORS Green RAL 6018 (20-25mm only)

ANSI A13.1 ID Color Code

Grey RAL 7001

ANSI A13.1 ID Color Code

*NOTE: NOT rated for fluid distribution.





PIPES 20 (94") - 25 (1") - 40 (1 1/2") - 50 (2") - 63 (2 1/2") - 80 (3") - 100 (4") - 158 (6") MM

APPLICATIONS	Compressed Air and Vacuum	EN STANDARD
ADDITIONAL GASSES	Nitrogen, Helium, Argon, Neon, Xenon and Krypton	
MATERIAL	Extruded aluminum alloy EN AW-6060 T6 (similar to alloy 6063T5)	EN 755-2 (ASTM B241)
SAFETY FACTOR	4 for all diameters (burst pressure)	(Calculated according to ASME 831.1)
WORKING PRESSURE	Max 16 barlgl Max 232 psigl	
WORKING TEMPERATURE	-20°C to 80°C (4°F to 178°F)	
VACUUM LEVEL	13 mbar(a) (0.189 ps.ia)	
DEWPOINT	Lowest allowable pressure dewpoint is -70°C (-94°F)	
OUTSIDE TREATMENT	Polyester powder paint (DUALICOAT certified)	
NSIDE TREATMENT	Chrome free conversion treatment	
COLORS	Blue RAL 5012, Green RAL 6018 and Gray RAL 7000 (*by Special Order)	



FITTINGS 20 (%") - 25 (1") - 40 (1 1/2") - 50 (2") MM (PF SERIES)

CONNECTION	Push to fit technology	EN STANDARD
MATERIALS	Engineered polymer PA6 - GF30 fiberglass reinforcement Aluminum high pressure die casting EN AC-46100 (Similar to A03830) Whought aluminum alkey EN AW-6026 (Similar to alkey 6082)	EN 1706 (ASTM 885) EN 755-2 (ASTM 8221)
SEAL FITTINGS	NBR 70 Sh A (PTFE coating on pipe seal)	



FITTINGS 63 (2 1/2") - 80 (3") MM (BLACK SERIES)

CONNECTION	Torque to grip technology	EN STANDARD
MATERIALS	Aluminum high pressure die casting EN AC-46100 (Similar to A03830) Aluminum permanent mold casting EN AC-43100 (Similar to A13600) Whought aluminum alloy EN AW-6026 (Similar to alloy 6082)	EN 1706 (ASTM 885) EN 1706 (ASTM 885) EN 755-2 (ASTM 8221)
SEAL FITTINGS	NBR 70 Sh A	





FITTINGS 100 (4") - 158 (6") MM

CONNECTION	Bolt clamp technology	EN STANDARD
MATERIALS	Aluminum permanent mold casting EN AC-43100 (Similar to A13600) Stainless Steel EN 1.4301 (Similar to alloy 304)	EN 1706 (ESTM 885) EN 10088-2 (AIS) 304)
SEAL FITTINGS	NBR 70 Sh A	

Fittings 316L Stainless Steel

CONNECTION Press-Fit Tooling technology

MATERIALS 316L AISI 1.4404 Stainless Steel - all applications

Size Range: SS304L Pipe 1.4301

15mm, 28mm, 35mm, 42mm, 54mm,

76mm,89mm, 108mm

Size Range: SS316L PIPE ONLY 1.4404

15mm, 28mm, and 42mm ONLY

SEAL - FITTINGS FKM Fluoroelastomer material (food-grade)

SAFETY FACTOR 4, Burst Pressure > 64 bar (>928 PSI)

WORKING PRESSURE Max 232 PSIG Calculated according to ASME B31.1

WORKING TEMPERATURE -4°F to 248°F

VACUUM LEVEL 20 mbars absolute

DEWPOINT Lowest allowable pressure dew point is -94°F

TREATMENT Annealing

APPLICATIONS Compressed Air, Compressed Inert Gases only, Vacuum,

and Potable Water distribution - Standard





Stainless Steel General Information





Pipes \$\$304L: D15(%*), D28 (1"), D35 (1 %"), D42 (1 %"), D54 (2*),
PRODUCT RANGE D76 (2 %"), D89 (3 %"), D108 (4")

D76 [2 ¾"], D89 [3 ½"], D108 (4") Pipes \$\$316L: D15 (½"), D28 (1"), D42 (1 ½")

APPLICATIONS Compressed Air, Nitrogen, Vacuum, Potable water ... standard

 MATERIAL
 Stainless Steel AISI 304L 1.4301
 EN10088

 Stainless Steel AISI 316L 1.4404
 ASTM A666

SAFETY FACTOR 4, Burst pressure > 64 Bar (> 928 PSI)

WORKING PRESSURE 16 Bar (232 PSI)

WORKING TEMPERATURE -20°C to 120°C (- 4°F to 248° F)

VACUUM LEVEL 20 mbar abs

DEWPOINT Lowest allowable pressure dewpoint is -94°F

TREATMENT Annealing

FITTINGS D15 (½"), D28 (1"), D35 (1 ¼"), D42 (1 ½"), D54 (2"), D76 (2 ¾"), D89 (3 ½"), D108 (4")

CONNECTION Press fit system standard

MATERIALS Stainless steel AISI 316L 1.4404 EN10088
ASTM A666

SEAL FITTINGS FKM (fluoroelastomer)

Pipe Sizes and Ranges

Pipe Weights

Aluminum - Standard 18.7' (5.7m) lengths

20mm	(¾ in)	1.160 kg	2.56 lb.
25mm	(1 in)	1.521 kg	3.35 lb.
40mm	(1 ½ in)	3.271 kg	7.21 lb.
50mm	(2 in)	4.570 kg	10.01 lb.
63mm	(2 ½ in)	6.084 kg	13.41 lb.
80mm	(3 in)	9.568 kg	21.09 lb.
100mm	(4 in)	13.789 kg	30.40 lb.
158mm	(6 in)	27.360 kg	60.32 lb.

Aluminum - Short 9.35' (2.85m) lengths

20mm	(¾ in)	0.580 kg	1.28 lb.
25mm	(1 in)	0.757 kg	1.67 lb.
40mm	(1 ½ in)	1.637 kg	3.61 lb.
50mm	(2 in)	2.268 kg	5.00 lb.

Stainless Steel – all 18.7' (5.7m) lengths, standard & high-grade

15mm	(1/2 in)	2.000 kg	4.41 lb.
28mm	(1 in)	4.590 kg	10.12 lb.
35mm	(1 ¼ in)	7.717 kg	15.81 lb.
42mm	(1 ½ in)	8.668 kg	19.11 lb.
54mm	(2 in)	11.240 kg	24.78 lb.
76mm	(2 ¾ in)	21.151 kg	46.63 lb.
89mm	(3 ½ in)	24.807 kg	54.69 lb.
108mm	(4 in)	30.255 kg	66.70 lb.

Specification Tables - Assembly & Use - Insertion Depth Charts

AIRnet Part#	Diameter Inches	Insertion depth Inches	Diameter mm	Insertion depth mm	Series
2811 1000 01	3/4"	1.52"	20	38.8	PF Series
2811 2001 01	1"	1.73"	25	44	PF Series
2811 4000 01	1.5"	2.48"	40	63	PF Series
2811 5000 01	2"	3.07"	50	78	PF Series
2811 6600 01	2.5"	3.09"	63	78	Black Series
2811 7700 01	3"	3.81"	80	97	Black Series
2811 8000 00	4"	2.56"	100	65	4" Large (AI)
2811 9000 01	6"	2.16"	158	55	6" Large (Al-SI)

PIPE	OD	OD	Α	Α	D	D	L	L
AIRnet SS	Pipe Outside	Pipe Outside	Insertion	Insertion	Minimum Spacing	Minimum Spacing	Min Pipe	Min Pipe
Part #	Dia. (in)	Dia. (mm)	Depth (in)	Depth (mm)	between Fittings	between Fittings	Length - in.	Length mm
2812 1000 01	15	1/2"	13/16"	20	13/16"	20	2 3/8"	60
2812 1001 01	15	1/2"	13/16"	20	13/16"	20	2 3/8"	60
2812 2000 01	28	1"	15/16"	23	13/16"	20	25/8"	66
2812 2001 01	28	1"	15/16"	23	13/16"	20	25/8"	66
2812 3000 01	35	1 1/4"	1"	26	13/16"	20	2 13/16"	72
2812 4000 00	42	1 1/2"	1 3/16"	30	19/16"	40	4"	100
2812 4001 00	42	1 1/2"	1 3/16"	30	1 9/16"	40	4"	100
2812 5000 00	54	2"	13/8"	35	19/16"	40	4 5/16"	110
2812 6000 01	76	2 3/4"	2 3/16"	55	2 3/8"	60	6 11/16"	170
2812 7000 01	88.9	3 1/2"	2 3/8"	60	2 3/8"	60	7 1/16"	180
2812 8000 01	108	4"	2 15/16"	75	2 3/8"	60	8 1/4"	210

Fluids Compatibility Table - Inert Gases

Pipes – Aluminum ANSI B241 UNS Alloy A 96063 T5 Polymer Fitting – Polyamide 6 – G20 Fiberglass Aluminium alloy 46100 / Steel Fittings Bodies O-Ring Seals – NBR 70Sh

Fluid / Product	Polymer/Fiber Fittings	Aluminum	Brass	NBR inserts
Helium	Satisfactory	Satisfactory	Satisfactory	Satisfactory
Neon	Satisfactory	Satisfactory	Satisfactory	Satisfactory
Argon	Satisfactory	Satisfactory	Satisfactory	Satisfactory
Hydrogen	Satisfactory	Satisfactory	Satisfactory	Satisfactory
Nitrogen	Satisfactory	Satisfactory	Satisfactory	Satisfactory

This data on compatibility of gases with materials is assembled to assist in evaluating which products to use with an AIRnet system install. Although the information has been compiled from what Atlas Copco believes are the most reliable sources (International Standards: Compatibility of cylinder and valve materials with gaseous content; Part 1: ISO 11114-1 (7-98), Part 2: ISO 11114-2 (3-01), it must be used with caution. No raw data such as this can cover all conditions of concentration, temperature, humidity, impurities, and aeration. It is therefore recommended that this table is used for choosing materials and more extensive testing be carries out as specific conditions of use.

Materials Information

Manufacturer: Atlas Copco Airpower n.v. (Belgium)

Product: Pipes and fittings in the AIRnet Aluminum series D20 (3/4") to D158 (6")

We, Atlas Copco Airpower n.v., hereby declare, under our sole responsibility, that the above referenced product, to which this statement relates, does not contain any detectable traces of silicone.

This statement is based on conclusions made from laboratory tests using FTIR analysis. It should be noted that this statement does not encompass valves, hoses and non-pressurized equipment

like tools and hanging solutions.

Issued by: Engineering Quality Assurance **Name:** David Pauwels Michel Christiaens

Date: 01/01/2015 01/01/2015

Attachment # 1.3.1

Galvanic Compatibility for AlRnet Pipe and Fittings in Aluminum.

Often when design requires that dissimilar metals come in contact, the galvanic compatibility is managed by finishes and plating. The finishing and plating selected facilitate the dissimilar materials being in contact and protect the base materials from corrosion.

AlRnet aluminium fittings are anodized to protect against corrosion even during assembly with dissimilar materials. Therefore galvanic compatibility is not an issue when connecting aluminium nipple sockets, reducing tee threaded.

AIRnet Quick drop and wall mounted thread outlets are brass.

For information, the below table shows the Anodic Index difference between different metals. Risk occurs when this difference exceed 0.35 V.

Δ Anodic Index	Zinc plated	Galvanized steel	Iron and low alloy steels	Aluminum	Lead, solid or plated	Chromium plated	
Brass and Bronzes	0.85	0.8 0.45		0.35	0.30	0.20	
Chromium Plated, tin plated	0.65	0.60	0.25	0.15	0.10		
Lead, solid or plated	0.55	0.50	0.15	0.50			
Aluminum	0.50	0.45	0.10				
Iron and lower alloy Steels	0.40	0.35					
Galvanized steel	0.05						

Materials Information

Cast Aluminum Alloy- Solution Annealed, Artificially Aged

General

This standard specifies requirements on the chemical composition and mechanical properties for cast aluminum alloy in solution annealed and artificially aged condition. The standard also gives information on physical properties, etc.

Chemical Composition

	Al %	Si%	Cu%	Mg%	Mn%	Fe%	Ni%	Ti%	Zn%	Sn%	Pb%
Nom.	93	7		0.3							
Min.		6.5		0.2							
Max.		7.5	0.2	0.4	0.5	0.5	0.1	0.2	0.3	0.05	0.05

The material has an alpha-phase structure with precipitation of Si.

Mechanical Properties at 20°C

Condition	Form of Supply	Rp 0.2 Mpa	Rm Mpa	A5 %	Hardness HV
Solution annealed, artificially aged	Sand Cast Test Specimen	200	240	2	
	Sand Castings	(200)	(200)	(1)	75-105

The mechanical property requirements only apply for separately cast test specimen. Unless otherwise stated, the values are min. values. The values within brackets are only guiding values.

Corrosion Resistance - Al

The Material has approximately the same corrosion resistance as non-alloyed aluminum. Resistance to Pitting is good. Resistance to layer corrosion is very good. Resistance to stress corrosion is excellent. This material is suitable for applications that come in contact with water, but, is not designed for fluid distribution.

Other Requirements

AC-STD 10 9001 K – General technical requirements for delivery and inspection of metal products, is valid where applicable. Furthermore, SS 21 98 41, Light Metal castings – Technical delivery requirements applies.

Materials Information

Information

Heat Treatment

Stress Relieving	-250°C	Cooling in air			
Annealing	380 - 420°C	Cooling in oven to 250°C			
Precipitation Hardening:					
Solution Annealing	520 - 530°C	Soaking time 3-6 hours, free cooling			
Artificial aging	150-170°C	Soaking time ~8 hours, free cooling			

NOTE: Stress relieving and annealing decreases the strength of the material. Additional precipitation hardening may be necessary. In order to obtain maximum strength, the artificial aging should be performed immediately after the solution annealing.

Welding

The recommended welding method is TIG or MIG with an inert protective gas (argon) Other welding methods should be avoided. The best possible strength of weld is obtained by using additives with the same composition as the basic material and heat treating the material in the weld zone will be almost identical to that of the basic material.

If the strength requirements of the weld are lower, additive AlSi5 may be used. Increased working temperatures are not generally required when MIG welding. For other welding methods however, the working temperature should be within the 200-300° range, which means that further heat treatment will be necessary.

Surface Treatment

Heat anodizing gives a hard, durable surface with good corrosion protection. Due to high silicon content, special surface treatment processes may be necessary and it is therefore advisable to discuss this when performing the surface treatment. The anodizing can be combined with a Teflon additive in order to reduce friction and improve the releasing qualities. Other electrolytic and chemical coatings can be applied, for example, chemical nickel-plating.



3.0 PRODUCT SPECIFICATIONS

.STP and .DWG Files available

Dimensional Drawings and Specifications Tables

Accessories – Air Hoses – Adapters

Cox Reels – Specs.

Hardware and Hanging Items

Tools and Assembly Items

ALUM – Small PF Series / LARGE Sizes 63-158 mm

STAINLESS STEEL – Press Fit / Small up to 54mm – Large up to 108mm

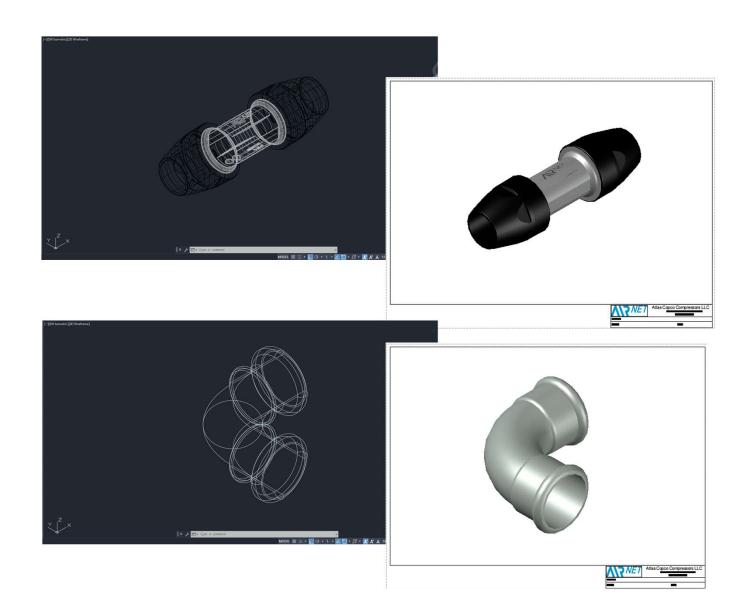
3.0 PRODUCT SPECIFICATION - DIMENSIONAL DRAWINGS

.STP and .DWG Files.

As part of our ongoing collaborative effort to involve more engineering, mechanical, and installation firms in the specification of AIRnet within the plans of future facilities design, Atlas Copco Airpower (Belgium) and Atlas Copco / AIRnet US are providing a file download of .stp (or .dwg) fittings files for engineers to insert into drawing plans to evaluate size, determine critical specs, and spacing requirements in engineered plans.

Fittings files are available for Aluminum and for Stainless Steel in .stp format.

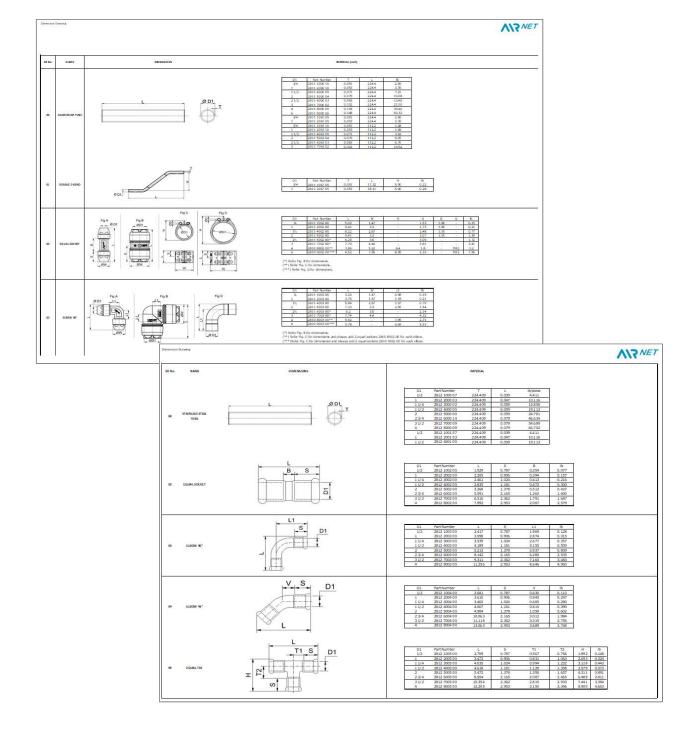
AIRnet US will provide these files via an online data transfer method with an email notification to extract or by Dropbox option (upon approval).



Specification Tables – AlRnet Pipe & Fittings, Aluminum & Stainless Steel.

A printable file of the complete Imperial specifications is included.

The file is categorized by AIRnet Part Number, illustrative representation / diagram of measurements per type part, and table of specifications by diagram for actual sizing reference (both in Metric and Imperial).



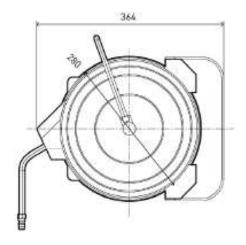




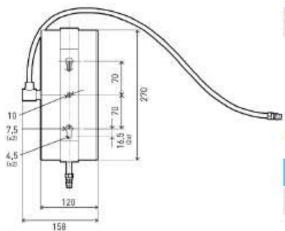
Hose Reel

The AlRnet hose reel comes with a heavy duty reinforced steel casing with stainless steel springs. It is light weight & easy to mount

- PU braid hose
- working pressure range: 10 Bar
- Temperature range: 0 to 60°C
- Safety factor: 4
- Hose length 12 M
- Inlet hose length: 1M
- Fittings with swivel & spring
- · Supplied with mounting brackets



Specifications	
Inlet Connection	16" Male BSP thread
Outlet Connection	1/4" Male BSP thread
MOC Fittings	Brass
Hose	PU Braided Hose
Hose Inlet Diameter	8 MM
Hose Outlet Diameter	12 MM
Length of Hose	12 M
Inlet Hose Length	1 M
Working Temperature	0° C - 50° C



Ordering Information

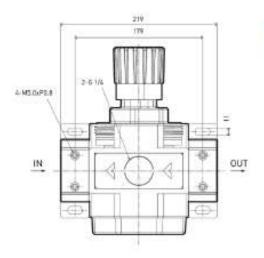
Partnumber	Weight KG
2811 0856 12	5,11



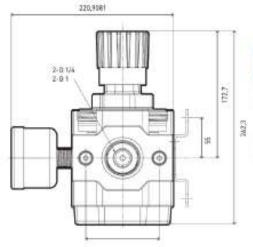


Pressure Regulator

The AlRnet pressure regulators are precise & very simple to operate. It ensures that the desired pressure is supplied to the point of use machines in the most efficient way.



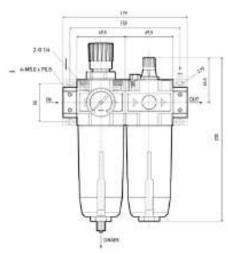
Specifications MOC Body Aluminum die cast Operating Pressure range 0,5 to 10 bar Tem perature Range +10°C to 60°C Standard Accessories Pressure gauge, mounting bracket, plug , screw (4x)

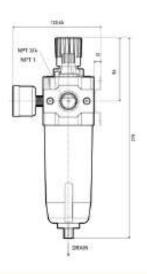


Partnumber	AirFlow limi	Size	Connection Type	Weight KG
2811 1080 00	8000	3/4*	BSP	1,25
2811 1081 00	8000	3/4*	NPT	1,25
2811 2080 00	8500	37	BSP	1,25
2811 2081 00	8500	32	NPT	1,25









Filter Regulator Lubricator (FRL)

The Filter regulator lubricator unit comes with a Aluminum die cast body with a polycarbonate bowl.

The FRL combination unit ensures that

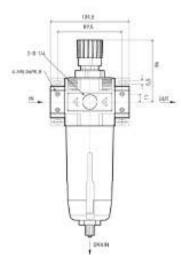
- Downstream equipment's are well protected from water & particles
- The desired pressure is provided to all the pneumatic equipment's
- Controlled quantities of oil is supplied to the moving components to reduce the friction

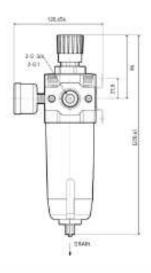
Specifications	
MOC Body	Aluminum die cast
MOC Bowl	Polycarbonate
Filtration	5 Microns
Operating Pressure range	0,5 to 10 bar
Temperature Range	-10°C to 60°C
Standard Accessories	Pressure Gauge, Mounting bracket, Plug, Screw (4x)
Lubricator Bow I Capacity	235 OC
Lubricator OII	ISO-VG32
Drain	Semi-auto

Partnumber	AirFlow limi	Size	Connection Type	Weight KG
2811 1086 00	7940	3/4"	BBP	2,14
2811 1087 00	7940	3/4*	NFT	2,14
2811 2086 00	8200	1"	BBP	2,14
2811 2087 00	8200	1*	NPT	2,14









Filter Regulator (FR)

The Filter regulator unit comes with a Aluminum die cast body with a polycarbonate bowl

The FRL combination unit ensures that:

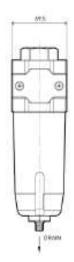
- Downstream equipment's are well protected from water & particles
- The desired pressure is provided to all the pneumatic equipments

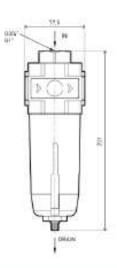
Specifications	
MOC Body	Aluminum Die Cast
MOC Bowl	Polycarbonate
Filtration	6 Microns
Operating Pressure Range	0,5 to 10 bar
Temperature Range	-10°C to 50°C
Standard Accessories	Pressure Gauge, Mounting Bracket, Plug, Screw (x4)
Drain	Semi-automatic

Partnumber	Air Flow l/min	Size	Connection Type	Weight KG
2811 1084 00	7.940	3/4*	BSP	1,36
2811 1085 00	7.940	3/4"	NPT	1,35
2811 2084 00	8.200		BOP	1,36
2811 2085 00	8.200	12	NPT:	1,36









Automatic Drain

The AIRnet automatic drain series effectively removes the condensate from the system.

Specifications	
MOC Body	Aluminum Die Cest
MOC Bowl	Polycarbonate
Operating Pressure Range	0,5 to 10 bar
Temperature Range	-10°C to 60°C

Partnumber	Size	Connection Type	Weight KG
2811 1082 00	3/4*	BOP	0,5
2811 1083 00	3/4*	NET	0,5
2811 2082 00	1*	BSP	0,5
2811 2083 00	97	NPT .	0,5





Product Name

The AIRnet spiral hose offers excellent flexibility and can be an alternative to hose reels where space is a constraint. The spiral hose is offered in two different lengths of 5M & 10M.

Specifications	
MOC Hose	Polyurethane (PU)
MOC Fitting	Brass
Fitting Type	Universal Quick Coupler
Operating Pressure Range	0 to 16 bar
Temperature Range	-20°C to 60°C
Standard Lengths	5 M / 10 M
Hose Outlet Dlameter	15 MM
Hose Inlet Diameter	10 MM

Partnumber	Length Mts	Weight KG
2811 1057 05	5	0,82
2811 1057 10	10	1,62

Accessories and Attachments Third Party & Branded

AIRnet can provide customers access to additional compressed air products and accessories from third-party vendors for quoting purposes.

Because some of these items are larger and due to space constraints, many may drop ship direct from the manufacturer / distributor and NOT from AIRnet / Atlas Copco.

Replenishment time and shipping eta can not be guaranteed to coincide with the delivery of common stock of AIRnet pipe and fittings shipped from out National Service Center in Charlotte, NC.

Some items that are commonly made available through AIRnet are:

Cox Hose Reels – closed and open reel, 25 & 50'

http://www.coxreels.com/

TST Safety Couplers

http://www.tst-tamsan.com/English/











NEW!!! Point Of Use Accessories – Now Available in AlRnet Brand!

Hardware – Hanging Materials

Since AIRnet pipe and fittings are less dense and lighter in material composition, standard hanging hardware / options are available through AIRnet (can also be locally-sourced). Standard 3/8" threaded rod (all-thread) is utilized normally.

Hanging options for the US Market are standard threaded beam clamps, rafter connectors, and wire loop hangers that can easily be configured to any inside building structure to adapt to AIRnet Pipe Clips, Cantilever arms, and wall brackets.

ALL AIRnet Pipe Clips are available with a $\frac{1}{2}$ ", 5/16", or 3/8" inserted standard nut for connecting to a standard threaded rod of any diameter above.

PF Series (20-50mm) utilize a $\frac{1}{2}$ " inserted nut, but can easily be connected to a $\frac{3}{8}$ " rod using our threaded rod adaptors. Black Series (63-80mm) use a $\frac{5}{16}$ " to $\frac{3}{8}$ " adapter, and $\frac{100}{16}$ mm Pipe Clips are threaded for a $\frac{3}{8}$ " rod directly. All commonly sourced.

We also can provide Gripple™ wire hanging assemblies, should that meet the requirements of a design.



Gripple™ Hanging Wire products http://www.gripple.com/us/us/p1/a101/standard-hanger

Assembly and Tools (installation related)

Since AIRnet Pipe is made of lightweight, yet sturdy extruded aluminum material, it can easily be cut with a standard pipe cutter, deburred with common deburring tools, and marked using standard tools used by any and all installers. While proprietary tools are not required, AIRnet does offer a full line for assembly by end-users or contractors and installers. AIRnet in SS can also be cut with standard pipe cutters, but, an electric power saw is available for large installations or cutting larger pipes.

Spanner wrenches in 20–80mm sizes are spec'd to loosen and tighten the nuts on fittings for assembly and disassembly. They are designed to fit snuggly onto each comparable size 20-80mm. The torque wrench handle is set to 50 N-m (37 ft-lb).

As part of the AIRnet Product Line, we offer a standard AIRnet Tool Kit that includes:

1) AIRnet Aluminum Toolbox – 20-50mm

Water-based Gel Slide Fluid – glycerin gel *
Pipe & Tubing Cutter – w/cutting wheels
Spanner wrenches – PF (4 sizes; 20-50mm)
PF Series Measuring Gauge set
Ridgid™ Pipe Deburrer and Pin Deburrer
Hole Saws (2) – 14 & 24mm and Drill Arbor (1)
Allen "L" Keys – (2) 5 & 6mm





2) AIRnet Aluminum Toolbox – 63 - 158mm – Large Pipe Cutter (up to 116mm)

Water-based Gel Slide Fluid – glycerin gel *

Pipe & Tubing Cutter – replacement cutting wheels (x2)
Torque Wrench Handle w/ Drive Head, spec'd to 50 N-m (37 ft-lb)
H8 (100mm Unions) & H10 (158mm Unions) Drive Heads for torque wrench
Spanners – 63 & 80mm (x2, each size); 1 ea. w/ drive holes for torque wrench
PF Series Measuring Gauge set
Heavy Gauge Pipe Deburring tool and small Pin Deburring tool

- 3) AIRnet Stainless Steel Toolbox 15 54mm Small, 18v Makita pre-set Press Fit Tool Charger w/ Battery 18v
- 4) AIRnet Stainless Steel Toolbox 54 108mm

 Large, 18v Makita pre-set Press Fit Tool, w/ Stablizer Handle
 Charger w/ Battery 18v



All Jaws, adapters, and Collars for Press Tools available separately.

AIRnet – PRODUCT SPECIFICATIONS

Assembly and Tools (installation related)

AIRnet Tool options have recently been added to; Stainless Steel and larger assembly projects can benefit from electric pipe saws to make preparations much faster than manual cutting and benefit the installer with much more uniform cuts.



Manual Pipe Cutter



Pipe Saw – Standard – cuts up to 158mm OD.



Pipe Saw Kit – **NEW** – Stainless Steel Includes stand, rollers, and additional cutting wheels.







Safety Information AIRnet Sliding Fluid 2810 0148 00

01. Identification of the substance and the company

Brand name: Kontaktgel

Manufacturer: Chemodis by, in Hillegom, Netherlands

Street/P.O. Box number: P.O. Box 28 Noorderlaan 4

Country code /postcode/residence: NL 2180 aa Hillegom NL 2182 gz Hillegom

Information in an emergency + 31 252-5152333

02. Composition and information on the ingredients

Chemical description: jelly

INCI: aquam glycerin, carbomer, sodium hydroxide, methyl-propyl paraben, tetrasodium EDTA.

Hazardous ingredients: none

03. Risks

Not a hazardous product.

04. First aid measures

Contact with skin: N/A

Contact with eyes: rinse with plenty of water

Oral ingestion: consult a doctor and communicate product information/laxative effect

Fire fighting measures

Suitable fire extinguishers: foam, powder.

Fire extinguishers that are not suitable from a safety perspective: water

06. Measures for the event of accidental spillage of the substance or product

Environmental protection measures:

Soak up with liquid-absorbent material. Water soluble.

07. Handling and storage

Information on safe handling:

For normal usage, there are no specific instructions.

Information on risk of fire and explosion:

Requirements of the storage space:

Frost-free, cool and dry, avoid high temperatures.



Safety Information AIRnet Sliding Fluid 2810 0148 00

08. Measures to control exposure/personal protection

Personal protection features: normal precautions such as use of cosmetic substances.

Physical and chemical features

External characteristics:

Clear jelly.

Safety information: water soluble.

10. Stability and reactivity

Conditions to be avoided: none
Substances to be avoided: none
Hazardous decomposition products: none

11. Toxicological information

No toxic features have been found.

12. Ecological information

To be dissolved in water. Degradable.

13. Instructions for removal

Wash away small quantities using water or soak up with a tissue. Have large quantities removed.

14. Information on transportation

Unlimited transportation, not a hazardous substance.

15. Information on legal obligations

16. Other information

The information provided is based on the current status of our knowledge. It offers no guarantee of product characteristics and does not constitute a contractually binding relationship.

AIRnet – PRODUCT SPECIFICATIONS



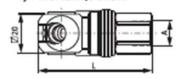




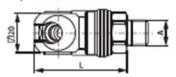
SC Series B1



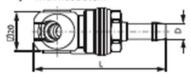
Swing Coupling - with female thread



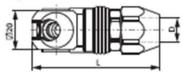
→ with male thread



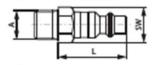
→ with hose stem



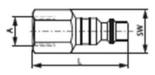
— → with PUR compression fitting

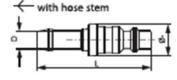


with male thread



with female thread





A	Part No.	L
G1/4	205 00 307	56.1
G3/8	205 00 308	57.6
G1/2	205 00 309	61.1
NPT1/4	205 00 311	56.1
NPT3/8	205 00 312	58.6
NPT1/2	205 00 313	64.6

G1/4	205 00 314	47.6	
G3/8	205 00 315	47.6	
G1/2	205 00 316	48.6	
NPT1/4	205 00 317	48.8	
NPT3/8	205 00 318	48.8	
NPT1/2	205 00 319	48.6	

D		Part No.	L
6 mm	1/4"	205 00 320	68.1
8 mm	5/16	205 00 321	68.1
10 mm	3/8"	205 00 322	68.1

6.5x10 205 00 324 62.6 8x12 205 00 325 65.6

A	Part No.	L	SW
G1/8	255 00011	34.0	14
G1/4	255 00 012	31.0	14
NPT1/4	255 00 014	30.7	14
NPT3/8	255 00 069	32.7	19

G1/4	255 00 016	43.0	17
NPT1/4	255 00 018	43.0	17
NPT3/8	255 00 274	45.0	15

D		Part No.	L	Ø
6 mm	1/4"	255 00 019	51.0	14
8 mm	5/16"	255 00 020	51.0	14
10 mm	3/8"	255 00 021	51.0	14

Features

- In accordance with safety standard ISO 4414, EN 983
- Plug in accordance with ISO 6150-B-12, AFNOR: B-12 NF E 49-053 and US: MIL-C-4109
- · Full flow, negligible loss of pressure
- · Simple operation, no force required
- Compact design

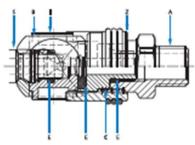
Temperature Range -20° to + 100°C (NBR) -4° to + 212°F

Operating Pressure 3 inHg (100 mbar) to

360 psi (25 bar), connection/disconnection to maximum 200 psi (15 bar)

Materials, Seals

Guide to selection and ordering (see page 27).



Material Code

- A = Steel, nickel plated / aluminum
- B = Steel tenifer treated
- C = Stain ess stee
- E = Nitrile elastomer (NBR)
- | = Surface hardened steel, nickel plated
- S = Surface hardened steel, galvanized
- Z = Zinc diecast, nickel plated, orange plastic coating

Compatible with

companie min	
Industrial Interchange	1/4"
AMFLO	C20B
Hansen	1000
Foster	3003
Parker	B23
Cejn	310



See page 8.





4.0 PRODUCT CERTIFICATIONS and COMPLIANCE

Lloyd's Certifications of Conformity - US

ASME / ANSI / ASTM

PED / ISO Compliance / TUV (EU – Global)

Treatments for Corrosion / Qualicoat Powder coating / Alodine treatment

Common Uses and Controlled Environments

4.0 PRODUCT CERTIFICATIONS and COMPLIANCE

* Lloyd's Certificates of Conformity

ASME Code for Pressure Piping, B31.3_04 compliant

Certified by the 120,000-member professional organization focused on technical, educational and research issues of the engineering and technology community. ASME conducts one of the world's largest technical publishing operations, holds numerous technical conferences worldwide, and offers hundreds of professional development courses each year. ASME sets internationally recognized industrial and manufacturing codes and standards that enhance public safety.

http://files.asme.org/Catalog/Codes/PrintBook/35707.pdf

ANSI US Standardization and Conformity Assessment

AIRnet conforms to the directives of the organization that administers and coordinates the U.S. voluntary standardization and conformity assessment system.

https://ansi.org/

ASTM Test Methods Standards B85 / EN 1706, ASTM B221

AIRnet has been developed to meet / exceed the standards includes test procedures for determining or verifying characteristics as chemical composition, measuring performance. The standards cover refined materials as steel and basic products as machinery and fabricated equipment.

https://www.astm.org/search/fullsite-search.html?query=B85&

PED – Pressure Equipment Directive (EU)

AIRnet meets the PED Guidelines that are established and agreed upon in the framework of the Commission's Working Group 'Pressure'. This group is composed of representatives of Member States, European federations, the Notified Bodies Forum and CEN and chaired by a representative of the Commission services.

https://ec.europa.eu/growth/sectors/pressure-gas/pressure-equipment/guidelines en

4.0 PRODUCT CERTIFICATIONS and COMPLIANCE - continued

ISO 8572:1991 – Glass reinforced Fittings specifications (International)

All AIRnet fittings (PF Series; polyamide-6/G20 fiberglass); these fittings made of glass-reinforced thermosetting plastics (GRP); definitions of terms relating to pressure, including relationships between them, and terms for installation and jointing. Also note ISO8573-1 "Air Treatment" "Filtration" "Contaminants"

http://www.iso.org/iso/iso catalogue/catalogue tc/catalogue detail.htm?csnumber =15857

TUV - Technischer Überwachungsverein — Safety Validation Organization (EU) Certification provided by the German organizations that work to validate the safety of products of all kinds to protect humans and the environment against hazards. As independent consultants, they examine factory plants, motor vehicles, energy installations, amusement rides, devices and products (e.g. consumer goods) which require monitoring. Many of the TÜV organizations also provide certification for various international standards, such as ISO9001:2008 (quality management system). AlRnet is globally certified to meet these global standards.

http://www.tuv.com/en/usa/services usa/materials testing inspection/materials testing inspection.html



DECLARATION OF CONFORMITY

Manufacturer: International Compressor Distribution n.v.

Product: AlRnet series D80 (3") to D158 (6")

We, International Compressor Distribution n.v., hereby declare, under our sole responsibility, that the above referenced product, to which this declaration related, is in conformity with the relevant Essential Health and Safety Requirements of the Pressure Equipment Directive (97/23/EC).

Directive on the approximation of laws of the Member States relating to		Harmonized and/or Technical Standards used	
Pressure Equipment Directive	97/23/EC	EN 13480-3:2012	1

The harmonized and technical standards used are identified in the attachment hereafter.

International Compressor Distribution n.v. is authorized to compile the technical file.

Conformity of the specification

to the directive:

Conformity of the product to the specification and by implication

to the directive:

Issued by: Engineering

David Pauwels

4

Michel Christiaens

Quality Assurance

Date: 01/01/2015

01/01/2015

Signatures:

Name:

1



Pressure Equipment Directive 97/23/EC

1. Conformity assessments followed: See table T.1

Table T.1:

A. Category	B. Applicable	C. Module	D. Notified body	E. Reference certificate
Article 3.3	1	SEP	n.a.	n.a.
1 -	X	н	1)	0038/PED/2003004/A
11 -		н	1)	
III		Н	1)	
IV.	2	В	1)	
IV		D	1)	48

Notified body number 0038
 Lloyd's Register Verification ltd
 71 Fenchurch street
 EC3M – 4 BS London
 United Kingdom

- 2. Harmonised standards used: EN 13480-3:2012
- 3. National technical standards and specifications used: ASME B31.3
- 4. Material specifications under PMA: See table T.2.

Table T.2:

A. Material	B. Material standard	C. Use	
Aluminium	EN 755-2 EN 1706	Pipes Castings	
Stainless steel	EN 10088	Grip rings / Housings	
Steel	EN 10149-2	Clamps	
	\$	8 1	

International Compressor Distribution n.v.



DECLARATION OF CONFORMITY

Manufacturer: Atlas Copco Airpower n.v.

Product: AlRnet series D80 (3") to D158 (6")

We, Atlas Copco Airpower n.v., hereby declare, under our sole responsibility, that the above referenced product, to which this declaration related, is in conformity with the relevant Essential Health and Safety Requirements of the Pressure Equipment Directive (97/23/EC).

Directive on the approximation of laws of the Member States relating to		Harmonized and/or Technical Standards used	
Pressure Equipment Directive	97/23/EC	EN 13480-3:2012	
			90

The harmonized and technical standards used are identified in the attachment hereafter.

Atlas Copco Airpower n.v. is authorized to compile the technical file.

Conformity of the specification

to the directive:

Conformity of the product to the specification and by implication

to the directive:

Issued by:

Engineering

Quality Assurance

Name:

David Pauwels

1

Michel Christiaens

Date:

01/01/2015

01/01/2015

Signatures:

Atlas Copco Airpower n.v.

Part of the Atlas Copco Group





Certificate of compliance to ISO 8573-1

We the undersigned, AlRnet representative and SGS, confirm that the equipment, as described in the report of AlRnet nr. 9845058100, Ed.04 of 8/7/2016, respect ISO 8573-1:2010 under the testing conditions as described in the same report.

Based on testing, witnessed by SGS, respecting the ISO 8573 requirements regarding particle and vapour pressure dewpoint measurements, we confirm the following (for the details we refer to the report, mentioned above):

- Solid particle content: AlRnet piping respects ISO 8573-1: 2010 class I with the condition that a purge is performed with compressed air after installation.
- Vapour pressure dewpoint: AlRnet piping respects ISO 8573-1: 2010 class II depending on the relative humidity and temperature of the environment and the dryer selection.

AIRnet part numbers: all numbers listed in the catalogue.

Alknet representative

David Pauwels

Vice President Engineering and Technical Support

Wilrijk, September 12th 2016

AIRnet

Representative SGS

Dirk Peeters

Melsele, September 12th 2016

SGS Belgium N.V.

SGS Belgium NV

Environment Health and Safety Keetberglaan 4 Haven 1091 B-9120 Melsele t +32 (0)3 575 61 10 f +32 (0)3 575 61 21 e be.envi.air@sgs.com url www.sgs.be



Signature

SILICONE FREE STATEMENT

Manufacturer: Atlas Copco Airpower n.v.

Product: Pipes and fittings in the AlRnet series D20 (3/4") to D158 (6")

We, Atlas Copco Airpower n.v., hereby declare, under our sole responsibility, that the above referenced product, to which this statement relates, does not contain any detectable traces of silicone.

This statement is based on conclusions made from laboratory tests using FTIR analysis.

It should be noted that this statement does not encompass valves, hoses and non-pressurized equipment like tools and hanging solutions.

Issued by: Engineering Quality Assurance

Name: David Pauwels Michel Christiaens

Date: 01/01/2015 01/01/2015

4

Industrie Service Energie und Umwelt



TÜV Rheinland Energy GmbH 51101 Köln

C.ARIA C S.R.L. Via Soastene 34 36040 Brendola Italy 931 / 2124xxxx / 01

Norbert Horlemann
Tel. +49 221 806-1896
Fax +49 221 806-1461
Mall horlema@de.tuv.com
18 September 2018

Test certificate
Validation according ISO 8573-1: 2010 Part 1:
Contaminants and purity classes, AlRnet Stainless Steel piping system

Tests regarding the contribution of the AIRnet Stainless Steel piping system to the oil vapor and organic solvent content in compressed air according to ISO 8573-5:2001 were witnessed.

Witnessed tests have shown that the quality of the compressed air after a set-up made out of the complete range of Airnet components can be considered as

Class 0 according to ISO 8573-1:2010

measured according to ISO 8573-5:2001 if the intake air fulfills these requirements as well.

This certificate is only valid for the single components which are specified in annex 1

i.V.

Dr. rer. nat. Walter Dormagen

i. A.

Dr. rer. nat. Norbert Horlemann

TÜV Rheinland Energy GmbH Am Grauen Stein 51105 Köln

Tel. +49 221 806-5200 Fax +49 221 806-1349 Web www.umwelt-tuv.de www.eco-tuv.com

Geschäftsführung Dirk Fenske

Amtsgericht Köln HRB 56171

Treatments for Corrosion

Qualicoat

QUALICOAT is a polyester powder coat finish used on *AlRnet* piping for a tough exterior. Qualicoat has established specifications defining minimum requirements for plant and equipment, coating materials and finished products. All requirements in the Specifications must be met before a quality label can be granted. AlRnet complies with these requirements.

Qualicoat specifications, 14th Edition (20.05.2015)

http://www.qualicoat.net/main/specifications.html

Alodine treatment

All AlRnet Aluminum pipes go through the Alodine treatment process. Alodine® 1201, a registered trademark of Henkel Surface Technologies, is a chemical treatment process for aluminum used to provide corrosion protection and as a surface preparation for paint and adhesives. Sometimes called "aluminum passivation," it contains hexavalent chromium and is intended to provide corrosion prevention even when left unpainted. This process seals the extrusions of the pipes for a complete seal.

Chromate conversion is an excellent treatment method to prep aluminum prior to paint or adhesives since it greatly enhances the ability of an organic coating to form a bond with the aluminum substrate. Being a surface conversion treatment rather than a coating, it will not alter the dimensions of the part.

Specification & Certifications:

Alodine 1200 methods and properties are defined by Mil-C-5541-F (Now AMS-C-5541) and AMS-A-2473.

http://www.bdi-usa.com/FileUploads/CMSFiles/Surface%20Treatment[0].pdf

Common Uses and Uses in Controlled Environments

AlRnet is utilized for compressed air systems, compressed inert gas systems, nitrogen generation systems, low-pressure blower applications and high-pressure vacuum systems in industry.

NOTE: AIRnet Aluminum is NOT intended for fluid distribution.*

^{*}AlRnet in Stainless Steel is spec'd for use with Potable water, and for energy recovery systems.



5.0 PRODUCT REFERENCE and DOCUMENTATION

AIRnet Catalogs of Pipe, Fittings, and Accessories

Aluminum

Stainless Steel

AIRnet Assembly Guide

Aluminum Push-to-Fit, Torque-to-Fit

Stainless Steel Press-Fit

Pre-Quote Checklist / Pressure Drop Calculator

RFQ RFP Template



AIRnet PIPE SYSTEMS INSTALL DO'S AND DON'TS

By referring to the following short list of DO's and DON'Ts, your AlRnet installation will go smoothly. Have fun and enjoy installing the best, safest, and most efficient piping system available.

- DO wear appropriate personal protective equipment when installing AIRnet.
- DO cut the pipe using a simple tubing cutter to ensure a square cut.
- DO chamfer and debur all pipe ends ensuring a smooth bevel.
- DO use the appropriate depth gauge to mark the pipe for proper insertion.
- DO use a minimum of 3 pipe clips for every 19-foot length of AIRnet pipe.
- DO use recommended number of pipe clips for tees, elbows, and valves per the AIRnet Assembly Guide.
- DO use appropriate support for heavier fittings such as Butterfly Valve assemblies.
- DO debur all drilled holes and remove filings to ensure the O-rings are not compromised when attaching AIRnet Quick Drops.
- DO hand tighten 2 ½" and 3" AIRnet Black Series fittings, then fully tighten with recommended tool to the torque value of 50 Nm (37 ft/lb.).
- DO turn the 4- and 6-inch butterfly valves to the "open" position before tightening the flange bolts to avoid damaging the seal.
- DO ensure that like size and type threads are used to make connections, i.e. NPT to NPT.
- DO read and follow <u>all</u> assembly instructions as outlined in the AIRnet Installation Guide to ensure proper and safe installation of AIRnet piping.









AIRnet PIPE SYSTEMS INSTALL DO'S AND DON'TS

By referring to the following short list of DO's and DON'Ts, your AlRnet installation will go smoothly. Have fun and enjoy installing the best, safest, and most efficient piping system available.

DO NOT overtighten standard market pipe hangers. AIRnet pipes should slide freely.

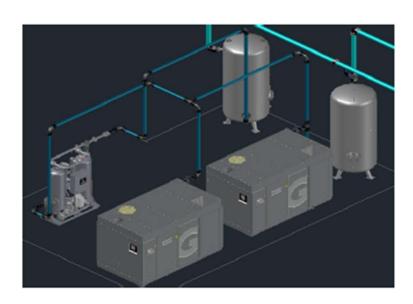
DO NOT loosen or disassemble PF Series fittings for insertion; use a water-based, non-silicone lubricant to facilitate assembly. PF Series fittings are pre-torqued for push-fit installation and are NOT to be taken apart.

DO NOT overtighten PF Series fittings past the torque indicator marks on the fitting bodies as this can cause bite ring failure.

DO NOT disassemble 2 ½" and 3" AIRnet Black Series fittings and slide the individual fitting components separately over the pipe. This can lead to fitting failure.

DO NOT drag the pipes along the ground as this could deform or scratch the ends.

DO NOT use a wrench with grooved metal jaws on AIRnet fittings. Size-specific spanner wrenches are available and have been designed for correct fit and function.







AIRnet PIPE SYSTEMS STARTING YOUR AIRnet SYSTEM

Read this before pressurizing the AlRnet system. AlRnet installation can be pressurized immediately once the installation is completed following these directions.

- Once the system has been installed, check for visible anomalies and any signs of impact, dents, or abrasions to the system. Make sure all fittings have been properly secured to pipes, observing the depth insertion markings on the pipes and the proper alignment of the torque marks on the bodies of the PF Series fittings. Verify that enough support measures have been taken and are put in place.
- Check that all clamps and wall mounted brackets are securely anchored.
- The network must be pressurized in small, incremental steps until working pressure has been reached. If corrections are required, de-pressurize the system before making adjustments. NEVER abruptly pressurize any system to full working pressure. Once equilibrium has been reached and system pressure is level, installation is complete.







6.0 PRODUCT SUPPORT and CORPORATE / FIELD CONTACT

Deliverables and Support

US Corporate Contact and Support

Documentation and Reference Materials Provided

Instruction, Installs, and Tools to spec.

Sizing, Design, and Quoting - Optimized Systems

Contact(s) from Regional Sales and Service Sales

On-Site Visits – Measured Requirements

Regional AIRnet Distributor and AIRnet Dealer Support - Installations

6.0 PRODUCT SUPPORT and CORPORATE / FIELD CONTACT

Deliverables from AIRnet Support - US

AIRnet Support US is an integral part of the Aftermarket – Optimization group within the Compressor Technique Services Team. Product Managers and Engineers are available to assist field sales associates, dealers, distributors, endusers, and engineering / mechanical contractors with all of the pertinent data, installation details and training, and specifications provided as part of an AIRnet system design and quote.

US Corporate Office Rock Hill, SC

866 - 546 - 3588

AIRnet Support engineers can provide up-front information on the AIRnet product line, how it meets engineering requirements, and how the product fits Into the spec design requirements of the end-user facilities.

Full-feature catalogs and brochures of products available within the US market, full assembly instructions, sizing and energy saving tools, and reference materials are all made available from our Global offices through the US Customer Center directly to the engineers and designers / installers.

Also, see the previous attachments.

With a complete set of information / specifications / requirements provided, the AIRnet Support Engineers will design an AIRnet piping layout to conform to the flow and demand needs of the equipment used, any auxiliary equipment, bypasses, building anomalies, end point of use needs and system demands both now and for possible future expansions.

PRODUCT SUPPORT and CORPORATE / REGIONAL FIELD CONTACTS

As many of our current dealers, distributors, and regional sales force associates visit outside customers / potential buyers, they and our sales managers will require a design layout, drawing, or floorplan isometric view for visual reference on AIRnet Quotes from the US Customer Center, we do offer this as a regular deliverable to the end-user / general public / engineering firms. It is mainly to show a visual representation of our AIRnet pipe and fittings represented in an Isometric View / Detail view to corroborate the actual design plan using AIRnet. We provide this free as a standard service.

NOTE: The AIRnet Layout drawings provided from AIRnet Support are not for use as permitting drawings, spec drawings for approval by permit offices, engineering firms for construction, etc. They are reference drawings documenting assembly details where necessary.

Regional Sales Offices – Field Sales

Atlas Copco and the US Customer Center are supported within the US market through Regional Sales Offices with compressor sales (Prime Equipment, Oil-Injected / Oil-Free sales), all aftermarket needs (Compressor Technique Services), and customer / distributor support. The four regions have offices in:

EAST REGION: West Springfield, MA 01089

413 - 493 - 7290

SOUTH REGION: Houston, TX 77032

281 - 776 - 4900

CENTRAL REGION: Elk Grove Village (Chicago), IL 60007

847 - 981 - 8995

WEST REGION: Fremont, CA 94538

510 - 413 - 5200

Service Sales Managers / Sales Managers

AIRnet Branded Products are supported in the field by our network of Regional Service Sales Managers, Inside Service Sales Managers, and Parts Administrators. They are your regional face-to-face contacts for on-site visits, direct quoting of fittings, replacements, pipe, and/or support for long term expansion and additions to your AIRnet system. Prime Equipment Sales Managers and Regional Sales Managers can be direct contacts as well and are directly involved in equipment install timing / quoting.

Regional Atlas Copco Distributors and AlRnet Dealers / Re-Sellers

AIRnet Branded Products are also supported in the field by our network of Service Sales Managers, Inside Service Sales Managers, and Parts Administrators. They are your regional face-to-face contacts for on-site visits, direct quoting of fittings, replacements pipe, and/or support for long term expansion and additions to your AIRnet system. Prime Equipment Sales Managers and Regional Sales Managers can be direct contacts as well.

AlRnet Dealer Agreement (if applicable)

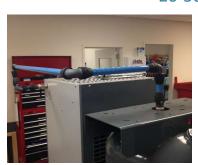
Atlas Copco is expanding the sales opportunities to the US market by signing vendors and retails, engineering firms and contractors, and well as current Atlas Copco representatives to be AIRnet Dealers with the standard agreement (see attachment) designating these signed "dealers" may purchase at a discounted rate to resell and provide AIRnet to builders and end-users, provided a regular yearly sales goal is met to continue to provide AIRnet within their general area. **NOTE:** Online Sales are NOT included.

AIRnet – PRODUCT INSTALLATIONS

AlRnet 3/4 through 2" PF Series 20-50mm Diameters







AlRnet 2 1/2" & 3" Black Series 63-80mm Diameters





AIRnet 4" & 6" SIZES 100-158mm Diameters





AIRnet – PRODUCT LINES

AIRnet 3/4" through 2" PF Series



AIRnet 2 1/2" & 3" Black Series 63-80mm Diameters





AIRnet 4" & 6" SIZES



AIRnet ½" – 4" SS 316L 15-108mm OD







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