AIRpipe Specifications Sheet

Engineering standards:

- ASME B31.1 & B31.3
- UL94HB
- UL94V-2
- GB/T 4437, ASTM B241, EN755
- TUV
- CE & EN
- 2014/68/EU
- **BIS IS1285:2023**

Certifications and Compliances:

- ISO 9001 version 2015
- ISO 14001 version 2015
- ISO 45001 version 2018
- ISO 8573-1 version 2010
- ASME, UL, TUV, CRN, CE, and EN

Performance criteria:

- Approved for compressed air (dry, wet, lubricated), vacuum, and inert gases (including Argon, Helium, Nitrogen, CO2 mixes)
- Working pressure - AIRpipe:

Compressed air – 16Bar

Vacuum – 1mbar (absolute pressure)

*Max. working pressure for DN200 is 13Bar

- Working temperature:

-20℃ to +80℃

- Storage temperature:

-20℃ to +80℃

Resistance to:

- Corrosion • Aggressive environments
- Mechanical shocks • Thermal variations
- Ultraviolet (U.V.) • Compressor oil carry over (mineral/synthetic)

Recyclability:

The material used to manufacture the pipe and fittings are 100% recyclable.

Safety:

Components are non-flammable with no propagation of flame. The aluminum & steel fittings conform to TUV and ASME pressure vessel testing and UL94HB flammability standards. Thefixing clips conform to UL94V-2 flammability standards. The AIRpipe system is certified for installation within a plenum space.

System: The air/gas distribution system shall be of all aluminum metal pipe and aluminum & steel fittings to quick- connect type, (manufactured by AIRpipe) and shall be manufactured to the quality standards of TÜV, ASME B31.3, and B31.1 standard (POWER PIPING - ASME Code for pressure piping). It shall be recyclable and be full-bore passage without diameter restriction for the fittings- in order to avoid pressure drop. The pipe shall be powder coated inblue RAL5015.

Air Quality: The international ISO standard used for compressed air quality is ISO 8573 series. Specifically, ISO 8573-1:2010, which is used to specify the purity of air required at a particular point of use. AIRpipe meets Class 1.1.1 of this standard. AIRpipe fittings are individually bagged for cleanliness, and all pipe is wrapped and capped. AIRpipe is certified for use with Class D breathing air applications.

Pipe:

The pipe shall be rigid and manufactured in marine grade Aluminum 6063-T5 as defined in **IS 1285:2023**. It shall be extruded and calibrated within the tolerances specifically required by the manufacturer. The pipe shall have been qualified as in order to warranty gripping and bubble-tight performance of the system. The pipe shall be supplied with powder coating. The pipe shall be available in 9.5 & 19 ft. lengths and be available in the following diameters: 20 mm (OD - 20.1 mm & ID – 17.5 mm), 25 mm (OD – 25.1 mm & ID – 22.5 mm),32 mm (OD – 32.2 mm & ID – 29 mm), 40 mm (OD – 40.1 mm & ID – 36.5 mm), 50 mm (OD – 50.1 mm & ID – 45.7 mm), 63 mm (OD – 67.6 mm & ID – 63 mm), 80 mm (OD – 84.8 mm & ID – 80 mm), 100 mm (OD – 101.8 mm & ID – 96.8 mm),150 mm (OD - 153 mm & ID – 147.5 mm), 200 mm (OD - 205 mm & ID – 198.6 mm)

Fittings:

The fittings shall be manufactured from powder coated aluminium **A360** (Grade)+ Rubber (20mm to 50mm) & 63mm to 200mm Connectors except 150mm connector which is SS304 (Grade). Fixtures (Elbow , Tee & Others) – **A360** - Aluminium high pressure die casting wrought aluminium alloy. Quick- Connection sealing technology will incorporate AIRpipe's active concentric seals – superior to O-ring seals.

Fixing Clips:

The system shall be installed using fixing clips manufactured in engineering grade polymer(PA 66).

The fixing clips shall allow an axial movement of the pipe to take into account expansion, contraction, and ambient vibration.

Ball Valves:

Grade – CW617 + A360 ,Nickel-plated brass ball valve as well as AL alloy option available , with high-flow design ensure optimal performance in the whole pipe system by quick connection.

Butterfly Valves:

Flange connection in designed EN1092-1 standard or ANSI standard with high flow performance, steel body, stainless steel disc for long lifespan.

Installation AIRpipe :

General

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

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

Thanks to the rigidity of AIRpipe aluminum pipe, temperature-related expansion /contraction is reduced to a minimum. The AIRpipe system retains its straightness, andhence its performance, over time (reduction of pressure drop caused by surface friction). AIRpipe aluminum pipe is calibrated and fits perfectly with all AIRpipe components.

Component Assembly

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

Expansion / Contraction

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

Situations to avoid

AIRpipe pipe should be protected from mechanical impact, particularly if exposed to collision with fork-lift trucks or when sited in an environment with moving overhead loads. Similarly, rotation of the pipe and pipe supports should be avoided. AIRpipe pipe must notbe welded. Flexible AIRpipe hoses should be used in accordance with the recommendations of the installation guidelines.

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

Best practices to maintain an optimized AIRpipe System

Design, installation, and maintenance should be performed in accordance with reasonable engineering knowledge and practice with involving piping systems.

Maintain high-quality air levels within your system.

To avoid pressure drops within your system, minimize pipe diameter reductions Properly size your system to allow for optimal flow and efficiency