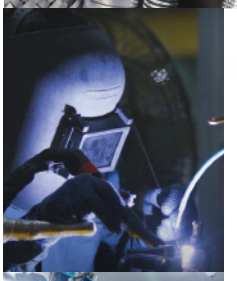
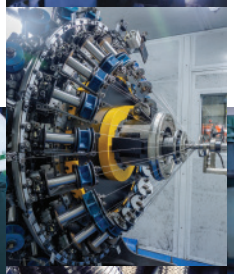
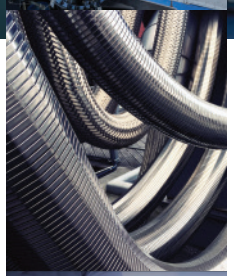
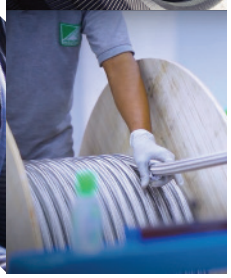
AEROFLEX®
INDUSTRIES LIMITED

Commitment to Excellence

Metal Hose
Catalogue




Precision Hoses
Reliable Connections



INDEX

About Aeroflex 3 - 4

Metal Hoses: An Introduction 5 - 6

About Metal Hose
Why Use Metal Hoses
Why Choose Metal Hoses Over Rigid Pipes
S.T.A.M.P.E.D.

Industries We Serve 7 - 8

Inconel & Stainless Steel 9

Cross References
Chemical Properties
Mechanical Properties

Metal Hose Selection Factor 10-14

Flow Velocity
Bend Radius
Pressure
Media
Motion & Motion Frequency
Hose Live Length Calculations

Manufacturing Metal Hose 15-18

Mechanical Forming
Hydroforming
Braiding

Types of Braided Hose 19

Temperature Correction Factor 19

Assembly of Corrugated Metal Hoses 20-22
Assembly Process
Components & Acceseries

Special Applications 23-28
Anhydrous Ammonia
Bottom Loading
Chlorine Transfer
Water Cooling & Oxygen Lancing for Steel Plants
Gas Turbine Burner Fuel Delivery System
High Temperature Lubrication Lines
High Pressure Gas Turbine Supply Lines
Insulated and Armoured Metal Hoses
Cryogenic Hoses for LNG Transfer
Steam Transfer
Hydrocarbor Drain Lines

Aeroflex Braided Hose Series 29-35

Interlock Hose 36-40
Regular Type Series 1201
Loose Type Series 1202
Polygonal Type Series 1203
Assembly Length Considerations

Special Products 41-53
Jacketed Hose
Flexible Pump Connectors
Lance Hoses
Vibration Eliminators
Seismic Connectors
Flexible Sprinkler Drop
Vacuum Hose
Gas Hose
Fan Coil Hose
Solar Hose
Boiler Hose
Vacuum Jacketed Hose

End Connections for Metal Hose 54

Quality Management System 55-58
Laboratory Testing & Product Approval
Order Process Flow
Test & Inspections

Common Causes of Metal Hose Assembly Failure 59-60
Preventive Measures & Key Inspection points
Technical Considerations in Metal Hose Design
Common Modes of Hose Failure
Best Practices for Hose Installation & Maintenance

Do's & Dont's 61

Installation, Operations & Maintenace Guidelines 62-63

Material Compatibility Chart 64-66

Check List For Enquiry 67

Clientele 68



SINCE 1998

Commitment To Excellence.

500+ Employees

25+ Years of Experience

2500+ Product SKU's

90+ Countries Global Reach

Company Overview

Aeroflex Industries Limited is a leading provider of flexible flow solutions with ISO 9001:2015, 14001:2015, 45001:2018 accreditation by BSI, UK. Located in Navi Mumbai, India, our dedicated team is committed to engineering high-quality flexible flow solutions utilizing cutting-edge manufacturing technology.

Our Expertise

With a focus on precision and reliability, we specialize in the production of top-tier products designed to meet the rigorous demands of both local and international markets. Our skilled team harnesses advanced technological resources to ensure that our products meets & exceed industry standards.

Commitment to Quality

At Aeroflex Industries Limited, we prioritize excellence in every aspect of our operations. Our products are designed to provide peace of mind and assurance, ensuring reliability and precision in every solution we offer.

Company Approvals

bsi ISO 9001 ISO 14001 ISO 45001 · DNV · CE · ABS · NABL · NAHAD · RINA · LR · DVGW · TÜV SÜD

Global Reach



Vision, Mission & Values

Vision
To build and consolidate our leadership position through successful collaboration, market intelligence and research & development.

Mission
To excel and become a world leader in the field of flexible flow solutions by offering total customer satisfaction.

Values
Aeroflex is a people-centric organization that strongly believes in empowering professionals with strong characters and ethics.

At Aeroflex, we are known for our premium quality products and on time delivery. Over the years, we have worked with many domestic and international companies across various industrial sectors. To give you an overview, to date, we have worked on 130+ green field and brown field projects in 90+ countries.

Promoters

Aeroflex Industries Limited is a professionally managed company led by a highly experienced Board of Directors. It is a subsidiary of SAT Industries Limited—a BSE & NSE-listed conglomerate with 37+ years of expertise in manufacturing, finance, and global trade—Aeroflex benefits from its strong leadership, financial strength, and international reach across 100+ countries.

AEROFLEX INDUSTRIES LIMITED

About Flexible Metal Hoses

Metal flexible hoses are flexible because of their wave-like shape, which allows for smooth expansion and contraction for enhanced flexibility. These corrugated metal hoses are formed by thin stainless-steel sheets into tubes & then into corrugations and integrating wire braiding for increased pressure resistance and mechanical protection. Threaded, flanged, or welded ends, as well as specific fittings specified in drawings or standards, can be fitted to both sides. Hose length and fitting combinations are suited to each customer's specific needs. Precision-engineered for a variety of applications, they thrive in high pressure and harsh temperatures, improving performance across industries.

Why Use a Metal Hose?

Metal hoses are essential for handling liquid and gaseous media in applications that require high temperature resistance, chemically harsh conditions, and stringent safety and reliability requirements. Aeroflex provides high-quality flexible metal braided hoses that perform in these conditions. Aeroflex precision-engineered hoses offer exceptional strength and campatibility, making them ideal for a wide range of applications, from liquid and gas handling to other challenging industrial usage.

Key Advantages

Robust Design

Lightweight, Strong & Durable, Resists fire, Moisture, Abrasion & Permeation

Wide Temperature Range

Standard Stainless Steel Material Hoses Withstands -196°C to +550°C.
In case of Inconel upto 900°C.

Wide Range of Material Options

Stainless Steel (AISI 304, 304L, 316, 316L, 321, 904L)Super Duplex, Inconel 625 & 825, Bronze and other alloys available upon request.

Vibration & Misalignment

Reduces vibrations, accommodates thermal expansion, and fixes alignment issues in piping systems.

Why Choose Metal Hoses Over Rigid Pipes?

1. Better Stress Handling

Issues with Rigid Pipes:

- Hard to adjust if misaligned
- Prone to stress from temperature changes
- Can develop leaks due to vibrations and pressure shifts

How Metal Hoses Help:

- Absorb movement, preventing pipe damage
- No more leaky flange connections
- Handle high temperatures without deforming

2. Easier to Install & Maintain

Why Metal Hoses Are More Convenient:

- Less precision needed during installation
- No need for frequent adjustments
- Quick fixes—only the affected part needs replacing
- Simple to remove and reinstall

The Advantage:

- Saves time and labor costs
- Offers flexibility for system changes



S.T.A.M.P.E.D.

Size
Determine the diameter of the connections where the hose will be installed. Accurate sizing ensures a proper fit and prevents potential leaks or connection issues.

Temperature
Provide the temperatures the hose will be exposed to, both internally and externally. Extreme temperatures can affect the strength and durability of the hose components. For assembly purposes, if no temperature is specified, it's assumed to be 23°C.

Application
Describe the assembly's configuration and its operating environment. This includes dimensions and the types of movement the assembly will undergo. This information helps in determining the appropriate length and flexibility required for your application.

Media
Identify all chemicals and substances that the hose will come into contact with. It's important to ensure that the hose components are compatible with both the internal media and the external environment. Without this information, it's assumed that all materials are universally compatible.

Pressure
Specifies the internal pressure the hose will handle, including whether it is constant or subject to fluctuations and surges. This helps in assessing whether the hose is strong enough for your needs. If no pressure details are provided, it's assumed to be low with no significant surges and standard hose are offered.

End Fittings
Clearly state the type of end fittings required for your application. Proper fittings ensure that the hose connects securely to the mating connections, preventing leaks and maintaining system integrity.

Delivery
Indicate the flow velocity of the media through the hose. Since corrugated metal hose does not have a smooth interior, rapid flow can create resonant frequencies that may cause the hose to vibrate and fail prematurely. If no velocity is provided, it's assumed that the flow rate is not high enough to impact the hose's performance.



Industries We Serve

AEROFLEX INDUSTRIES LIMITED

Aeroflex provides an extensive range of hoses made from a variety of materials and fitted with versatile connectors to fulfil the needs of various industries. Our hoses are suitable for bottling, filling, plumbing, while transporting compressed air, steam, water, and aggressive chemicals. They are also used as vibration dampers, also in heating, cooling, and air conditioning systems, as well as in the oil and gas, chemical, and food industries, machine and equipment construction, shipbuilding, railway, and automobile engineering.

Key Applications of Metal Hoses:

- Connecting stationary and moving components
- Absorbing lifting or movement forces
- Compensating for heat expansion
- Adjusting for parallel pipe misalignment

The list of metal hose applications below in numerous industries demonstrates its versatility and increasing adoption. Metal hoses are progressively replacing traditional hoses due to their eco-friendliness and broad applications across various industries.



Refineries

- Connecting catalytic cracking units
- Oil and gas burners
- Water lines in gas engine cooling systems
- Steam injection
- Hydrocarbon drain lines
- Fuel oil burner connections



Chemical Plants

- Connecting weigh scales
- Facilitating the loading and unloading of tank trucks
- Steam lines
- Transporting highly corrosive media



Steel Plants

- High-temperature lubrication
- Water cooling lines
- Oxygen and water lancing
- Argon purging lines
- PCI coal injection
- Tuyere and stave cooling



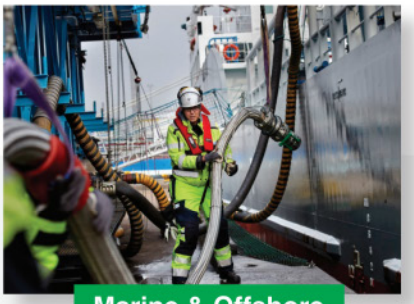
Cryogenic Systems

- Transporting Nitrogen
- Transporting Ammonia
- Transporting Liquid oxygen
- Transporting Hydrogen & Helium and other cryogenic fluids.



HVAC Systems

- Connect pumps & adapts thermal expansion
- Isolate vibrations in refrigeration units and compressors
- Employed in high-rise buildings to handle the movement caused by seismic or thermal forces



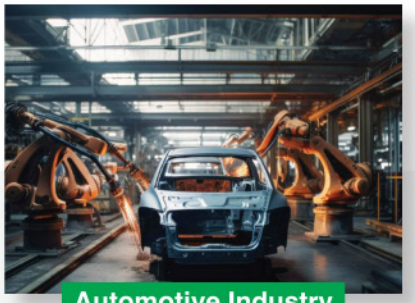
Marine & Offshore

- Exhaust systems
- Cooling water systems
- Fuel lines
- Lubricants lines
- FPSO & SPM lines
- Offloading & transfer of fluids



Railways

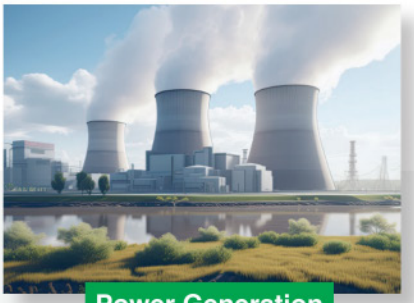
- Entire cooling and exhaust gas system
- Absorbing mechanical vibrations
- Ventilation system for switch gases in high speed train
- Compensating for thermal expansion
- Cooling and air conditioning systems of locomotives
- Protects sensitive controls and electrical cables



Automotive Industry

Metal flexible hoses are used in automotive exhaust systems to

- Absorb vibrations
- Reduce noise
- Compensate for thermal expansion
- Also used as filler neck and fuel line



Power Generation

- Steam & combustion turbine systems
- Cooling turbine blades
- Fuel atomizer lines
- Gas transport lines
- Inert gas lines
- Fuel oil burner connections



Solar & Boiler Industry

For solar energy systems and boilers, metal hoses are used to

- Connect individual solar panels
- Accommodate thermal expansions
- Water supply
- Fexible connections to auxiliary devices such as accumulators or gas lines inside the device



Aviation & Aerospace

- Fuel lines
- Protects from high & low temperature and strong vibrations
- Flexible hose lines for engine control
- Protection of cables
- Use in cryogenic environments in rockets and satellites.



Food Industry

- Transfers drinking water, milk, juices, alcohol, oils, and other food-grade liquids.
- Connects gas lines and transports steam for food processing.
- Handles hot water and chemical sanitizers for cleaning.



Gas Production

- Transporting industrial and medical gases under high pressure.
- Transporting all liquefied gases at extremely low temperatures.
- Used in drilling rigs, pipelines, and refineries.
- Used in gas bottles and cylinder filling systems.



Energy Sector

- Used in high-pressure steam lines, natural gas transport, and nuclear cooling systems.
- Used for LNG transfer, hydrogen storage, and solar thermal applications.
- Handles high-temperature exhaust, geothermal systems, and waste heat recovery.



Vacuum Technology

- Highest vacuum performance for UHV systems and accelerators.
- Good vacuum performance in high vacuum pumping systems.
- Flexible, vibration-absorbing for roughing pump lines.
- Braided for pressure support in foreline connections.

Inconel and Stainless Steel Cross References

AEROFLEX® INDUSTRIES LIMITED

Grade	SS304 (UNS S30400)	SS304L (UNS S30403)	SS316 (UNS 31600)	SS316L (UNS S31603)	SS321 (UNS S32100)	Inconel 625 (UNS N06625)	Inconel 825 (UNS N08825)	Super Duplex (UNS S32750)	904L (UNS N08904)
EU	X5CrNi18-10	X2CrNi18-9	X5CrNiMo17-12-2	X2CrNiMo17-12-2	X6CrNiTi18-10	NiCr22Mo9Nb	NiCr21Mo	X2CrNiMoN25-7-4	X1NiCrMoCu25-20-5
USA	304	304L	316	316L	321	N06625	N08825	S32750	904L
Germany	1.4301	1.4307	1.4401	1.4404	1.4541	2.4856	2.4858	1.4410	1.4539
Japan	SUS304	SUS304L	SUS316	SUS316L	SUS321	-	-	-	-
France	X5CrNi18-10	Z2CN18	Z6CND17-11	Z2CND17-12	Z6CNT18-10	-	-	Z3CND25-06Az	Z2NCDU25-20
England	304S15	304S11	316S31	316S11	321S31	-	-	-	904S13
Italy	X5CrNi18-10	-	X5CrNiMo17-12	X2CrNiMo17-12	X6CrNiTi18-11	-	-	-	-
China	0Cr18Ni9	-	0Cr17Ni12Mo2	00Cr17Ni14Mo2	0Cr18Ni10Ti	-	-	-	-
Sweden	2333	2352	2347	2348	2337	-	-	2328	2562
Poland	0H18N9	-	-	00H17N13M2	0H18N10T	-	-	-	00H22N24M4TCu
Czechia	17240	-	17346	17349	17247	-	-	-	-
Finland	725	-	-	750	731	-	-	-	-
Austria	X5CrNi18-10S	-	X5CrNiMo17-12-2KW	X2CrNiMo17-13-2KKW	X6CrNiTi18-10S	-	-	-	-

Inconel and Stainless Steel - Chemical Properties

Grade	SS304 (UNS S30400)		SS304L (UNS S30403)		SS316 (UNS 31600)		SS316L (UNS S31603)		SS321 (UNS S32100)		Inconel 625 (UNS N06625)		Inconel 825 (UNS N08825)		Super Duplex (UNS S32750)		904L (UNS N08904)	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Carbon (C) %	-	0.07	-	0.03	-	0.08	-	0.03	-	0.08	-	0.10	-	0.05	-	0.03	-	0.02
Manganese (Mn) %	-	2.00	-	2.00	-	2.00	-	2.00	-	2.00	-	0.50	-	1.00	-	1.20	-	2.00
Phosphorous (P) %	-	0.045	-	0.045	-	0.045	-	0.045	-	0.045	-	0.015	-	-	-	0.035	-	0.045
Sulfur (S) %	-	0.03	-	0.03	-	0.03	-	0.03	-	0.03	-	0.015	-	0.03	-	0.02	-	0.035
Silicon (Si) %	-	0.75	-	0.75	-	0.75	-	0.75	-	0.75	-	0.50	-	0.50	-	0.80	-	1.00
Chromium (Cr) %	17.50	19.50	17.50	19.50	16.00	18.00	16.00	18.00	17.00	19.00	20.00	23.00	19.50	23.50	24.00	26.00	19.00	23.00
Nickel (Ni) %	8.00	10.50	8.00	12.00	10.00	14.00	10.00	14.00	9.00	12.00	58.00	-	38.00	49.00	6.00	8.00	23.00	28.00
Molybdenum (Mo) %	-	-	-	-	2.00	3.00	2.00	3.00	-	-	8.00	10.00	2.50	3.50	3.00	5.00	4.00	5.00
Nitrogen (N) %	-	0.10	-	0.10	-	0.10	-	0.10	-	0.10	-	-	-	-	0.24	0.32	-	0.10
Titanium (Ti) %	-	-	-	-	-	-	-	-	5 X (C+N)	0.70	-	0.40	0.60	1.20	-	-	-	-
Iron (Fe) %	Balance		Balance		Balance		Balance		Balance		-	5.00	22.00	-	Balance		Balance	
Aluminum (Al) %	-	-	-	-	-	-	-	-	-	-	-	0.40	-	0.20	-	-	-	-
Cobalt (Co) %	-	-	-	-	-	-	-	-	-	-	-	1.00	-	-	-	-	-	-
Copper (Cu) %	-	-	-	-	-	-	-	-	-	-	-	-	1.50	3.00	-	0.50	1.00	2.00

Inconel and Stainless Steel - Mechanical Properties

Grade	Tensile Strength, (Min.)		Yield Strength, (Min.)		Elongation in 2 in or 50mm	Hardeness, Max	
	ksi	Mpa	ksi	Mpa		Brinell	Rockwell B
SS304 (UNS S30400)	75	515	30	205	40	201	92
SS304L (UNS S30403)	70	485	25	120	40	201	92
SS316 (UNS 31600)	75	515	30	205	40	217	95
SS316L (UNS S31603)	70	485	25	170	40	217	95
SS321 (UNS S32100)	75	515	30	205	40	217	95
Inconel 625 (UNS N06625)	120	827	60	414	40	240	100
Inconel 825 (UNS N08825)	85	586	35	241	40	-	-
Super Duplex (UNS S32750)	115	800	80	550	40	270	103
904L (UNS N08904)	71	490	31	220	40	-	-

Flow Velocity

Velocity is defined as the speed at which the media flows through the hose. The media can be either liquid or gas. If media velocity reaches critical levels, a resonant frequency vibration can occur, possibly causing premature failure of the hose. In the design of the hose, media velocity should be considered and mitigated prior to the manufacture of the hose. If the velocity becomes an issue, the hose diameter can be increased or an interlocked metal hose liner can be added to remove the velocity problem.

Hose Bending Configuration	Maximum Product Velocity (Feet/Second)			
	Unbraided		Braided	
	Dry Gas	Liquid	Dry Gas	Liquid
Straight Run	100	50	150	75
45 Degree Bend	75	40	115	60
90 Degree Bend	50	25	75	40
180 Degree Bend	25	12	38	19

Bend Radius

The bend radius is a critical factor in determining the fatigue life of a metal hose during movement. It is regulated by the ISO 10380 standard, which classifies metal hoses into four types:

Type 1-50 – Corrugated metal hoses of high flexibility with high fatigue life
Type 1-10 – Corrugated metal hoses of high flexibility with medium fatigue life
Type 2-10 – Corrugated metal hoses of average flexibility
Type 3 – Corrugated metal hoses where only pliability is required



Pressure

Maximum Rated Working Pressure

This is the highest pressure a hose can safely handle during regular use. It's set at 25% of the hose's burst pressure. The pressure values are calculated at temperature of 23°C.

Maximum Rated Test Pressure

This is the highest pressure the hose should be exposed to during testing or system checks. If the test pressure goes beyond this limit, it can cause deformation which could affect the hose expected life. The test pressure is 1.5 times the maximum rated working pressure.

Nominal Rated Burst Pressure

This is the typical pressure at which the hose's core or braid will rupture at room temperature. To make sure the hose meets our catalogue's pressure specifications, it's essential to follow proper hose assembly procedures.

Pulsating or Shock Pressure

Hoses made of metal can lose performance when exposed to pulsating or shock pressures. To avoid damaging the hose in these situations, it's often recommended to reduce the pressure by 50%.

Pressure/Temperature Correction

As the temperature increases, the pressure capacity of metal hoses decreases. To find the correct pressure rating at higher temperatures, refer to the temperature correction factor table at Page 19 .

Safety Factors

After adjusting for the application temperature, the maximum working pressure should not exceed 25% of the nominal rated burst pressure. The safety factor is typically expressed as a 4:1 ratio.

Pressure Drop

Pressure drop happens in long hose runs, with the loss being roughly three times greater than what you would experience with steel piping.

The Flow Velocity

In corrugated metal hose flow velocity should never exceed 45m/sec for gas & 22m/sec for liquids. When a hose is installed in a bent condition, the flow values should be reduced by 25% for a 45° bend or 50% for a 90° bend. Where the flow velocity exceeds these rates, an interlocked metal hose liner or larger hose I.D. is recommended.

Media

The end user must understand what the hose will be used for, in order to make the ideal material selection. Keep in mind that metal hoses have a thin wall and may not survive as long as a thicker-walled tube or pipe made of the same material. When developing metal hose assemblies, we consider corrosion, abrasion, and the viscosity of the media being transported.

Corrosion

The core and braid material must be chosen based on the corrosive properties of both the media inside the hose and the external environment.

Abrasion

For internal abrasion, the hose may wear out prematurely if the media is abrasive. Adding an interlock liner can help extend the hose's life. For external abrasion, a protective cover—typically made of stainless-steel interlock hose—can be used to prevent damage.

Viscosity

If you're conveying viscous media, a jacketed hose assembly might be a good option. This design features an inner hose surrounded by an outer hose to improve flow and maintain temperature required for smooth flow.

Temperature

Each hose material has specific temperature limits. For guidance on how temperature affects hose performance, refer to the Temperature Correction Factor table at Page 19.

Testing

We perform standard tests on the weld joints and structural components of our hose assemblies, including hydrostatic and pneumatic testing. All of our hose assemblies are 100% tested. As per customer requirements we also use additional methods like Radiography RT, Helium leak test and dye penetrant test for thorough quality checks.

Cleaning

We offer specialized cleaning for corrugated hoses, particularly for oxygen service and other clean room applications.

Material Compatibility & Maximum Velocity

For optimal performance, ensure that the hose material is compatible with the conveyed media (refer to the Material Compatibility Chart) and take into account the maximum velocity of the media flowing through the hose.

Motion

Types of Motion:

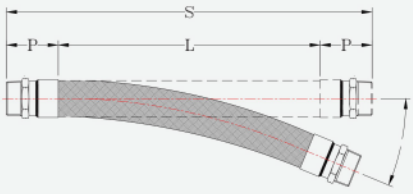
Flexible metal hose is generally used in four types of applications.

- To correct problems of misalignment
- To provide flexibility in manual handling operations
- To compensate for regular or constant movement
- To absorb vibration

  In all types, careful hose selection, design of the assembly and installation are important for optimal service life.

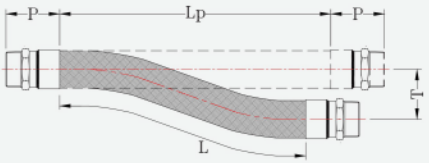
Angular Motion

Motion that occurs when one end of a hose assembly is deflected in a simple bend with the ends not remaining parallel. Angular motion may be incorporated in an installation to accommodate misalignment and vibration only, but must not be used to accommodate expansion that would result in unloading the braid.



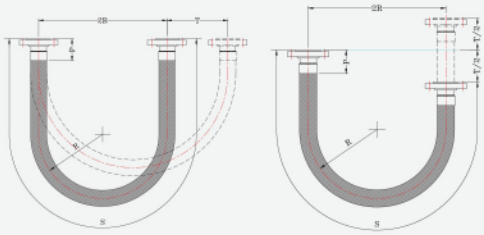
Lateral Offset

Motion that occurs when one end of the hose assembly is deflected in a plane perpendicular to the longitudinal axis with the end remaining parallel. Offset is measured in inches of displacement of the free end centreline from the fixed end centre line. In offset motion applications, the offset should never be greater than one-fourth if the minimum centre line bend radius.



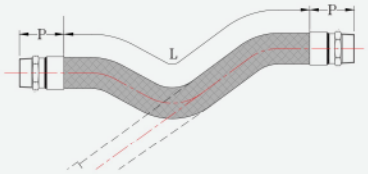
Radial Motion

This type of motion occurs when the centre line of a hose assembly is bent in a circular arc in the same plane. In industrial applications, radial motion is most commonly found in travelling loops. The radial motion is horizontal or vertical movement of one end of a hose installed in the shape of U with the other end secured.



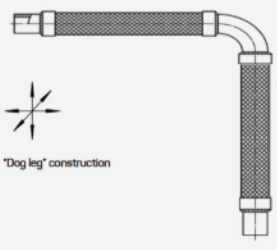
Random Motion

Non-predictable motion that occurs from manual handling of a hose assembly. Loading and unloading hose would generally fall into this category. Abusive handling of hose is an important factor to consider in applications involving random motions.



Multiple Movements

To accommodate movements in multiple directions and planes, we recommend using a 90° flexible hose assembly. This assembly is made up of two short flexible hoses connected by a 90° pipe angle. Swivel flanges are used at both ends to connect to the piping system. This design helps prevent tension on the flexible hoses during installation. The length of the hoses is determined based on the specific movements involved. Any torsion caused by these movements will be absorbed by both hoses.



Motion Frequency

The frequency of a particular class of motion to which a flexible metal hose may be subjected by repeated flexing or bending. The frequency of motion may be divided into three basic categories: namely vibration, intermittent, and continuous.

Vibration

For the vibration encountered in industrial applications, such as pump and compressors discharge lines and engine exhaust installations, the hose live lengths should be calculated for Vibration.

Caution: Avoid hose resonance. If resonance is anticipated, consult us.

Intermittent motion

Motion that occurs on a regular or irregular cyclic basis normally the result of thermal expansion and contraction or other noncontinuous motions.

Continuous motion

Motion that occurs on a regular cyclic basis normally at a slow cyclic rate and constant travel. For Continuous Lateral Offset Motion double the minimum centreline bend radius required for Intermittent Flexing.

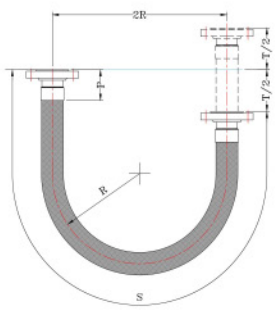
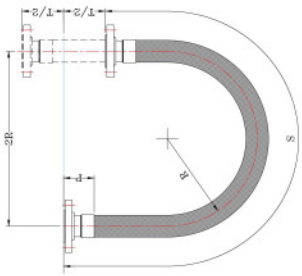
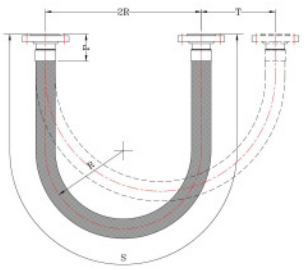
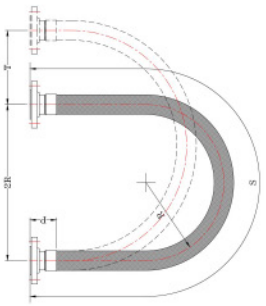
Static Bend

The minimum centre line bend radius to which a flexible metal hose may be bent for installation. No further motion is to be imposed other than normal vibration.

Travelling Loops

In a piping system is where axial movements must be accommodated or where the magnitude of the motion is in excess of the limits of an offset movement, the travelling loop configuration offers an ideal solution.
In travelling loops, the centreline of a hose assembly is bent in a circular arc. Travelling loops accommodate movement in one of two ways.

- A constant radius travelling loop accommodates motion by varying the length of the arms of the assembly while the radius remains constant.
- A variable radius travelling loop accommodates motion by varying the bend radius of the hose assembly.
- Both types of travelling loops can be installed to absorb either horizontal or vertical movement.
- The constant radius travelling loop provides for greater movement while the variable radius travelling loop requires less installation space.

For Short Vertical Travel	For Short Horizontal Travel	For Short Horizontal Travel	For Short Vertical Travel
			

Hose Live Length Calculations

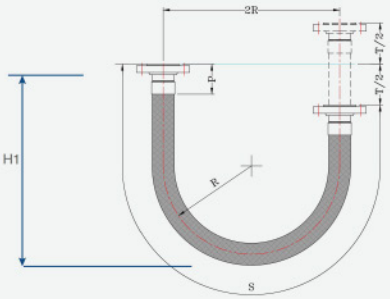
S : Live length of hose
T : Travel/offset
R : Installed radius (must be greater than dynamic minimum bend radius)
P : Fittings length
L : Live length of hose
Lp : Live length before deflection
θ : Deflection Angle

Radial Movement in Vertical loop

Formula:

S = 4R + ½ T + 2P

S : Live length of hose
T : Travel/offset
R : Installed radius (must be greater than dynamic minimum bend radius)

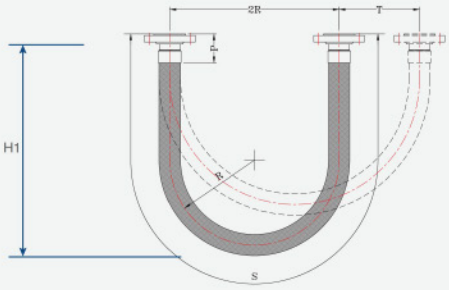


Radial Movement in Horizontal loop

Formula:

S = 4R + 1.57 T + 2P

Drop Height (Before Stretch) = 1.43R + 0.785 T
Drop Height (After Stretch) = 1.43R + 0.5 T

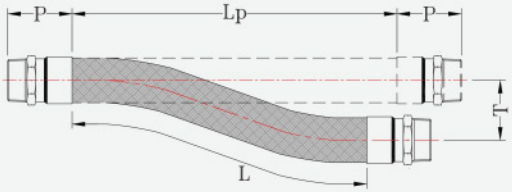


Lateral Offset

Formula:

$L = \sqrt{(20RxT)}$ **$Lp = \sqrt{(L^2 - T^2)}$**

Drop Height (Before Stretch) = 1.43R + 0.785 T
Drop Height (After Stretch) = 1.43R + 0.5 T

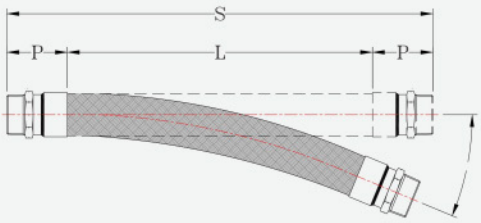


Angular Deflection / Offset

Formula:

L= 2S + (θ/57.3)R

θ = Deflection Angle

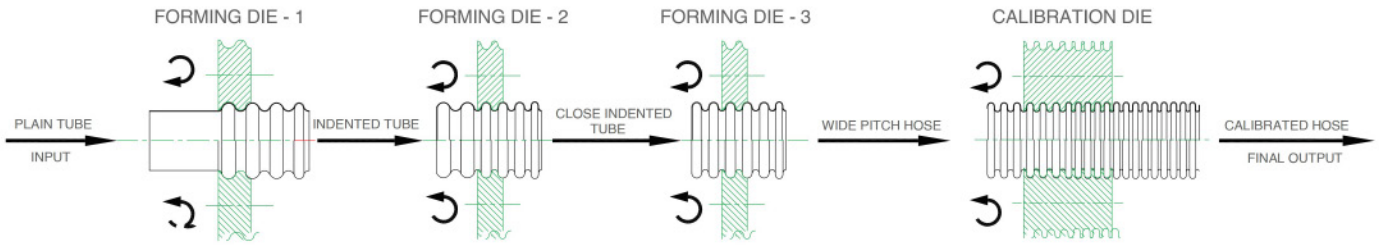


AEROFLEX INDUSTRIES LIMITED

Transforming a straight tube into a flexible corrugated hose involves creating peaks and valleys for flexibility. There are three primary methods of forming these corrugations: Mechanical Forming, Elastomer Forming, and Hydroforming. Each method has unique characteristics but effectively produces corrugated hoses.

The Corrugation Methods

1. Mechanical Forming



Process

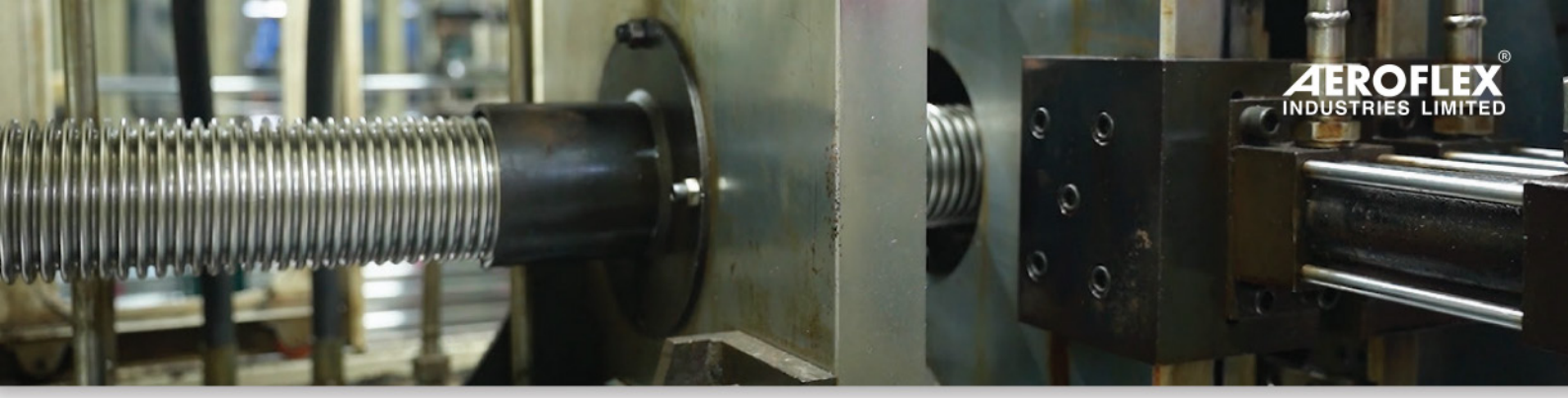
- Rotating dies create initial indentations, which deepen as the tube advances.
- Forming dies squeez deepens indentations to shape the tube's profile.
- Corrugation is formed step-by-step through squeezing by forming dies & finalized by the calibrated die.

Advantages

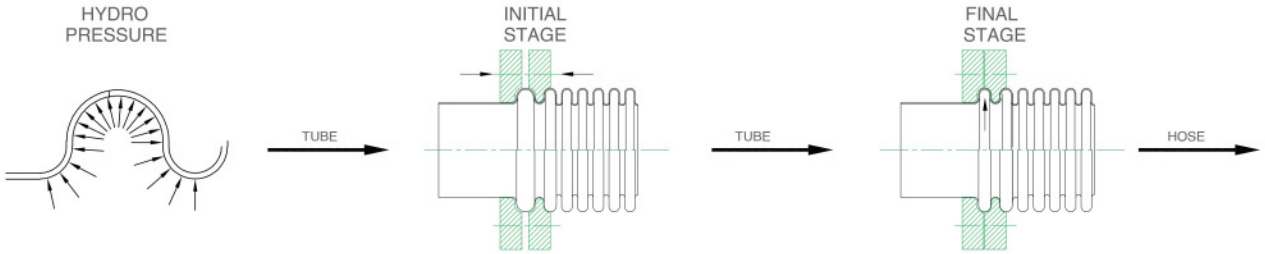
- Yields hoses with uniform corrugations and longer continuous lengths.
- Versatile, accommodating various strip thicknesses for diverse applications.
- High productivity due to single step formation and high speed production.

Metal Hoses engineered for lasting performance





2. Hydroforming



Process

- High-pressure fluid shapes the tube, reducing residual stress and work hardening.
- Similar to hydraulic forming, it pushes the tube into split dies, ensuring uniform force distribution.
- Unlike mechanical forming, it involves two steps: tube creation in the tube mill and corrugation on a corrugator machine.

Advantages

- Uniform wall thickness, increased flexibility & no residual stress leads to a longer cycle life.
- Reduces work hardening while preserving the alloy's yield strength.
- Enables a wider size range and more options for selecting sheet thickness variations.



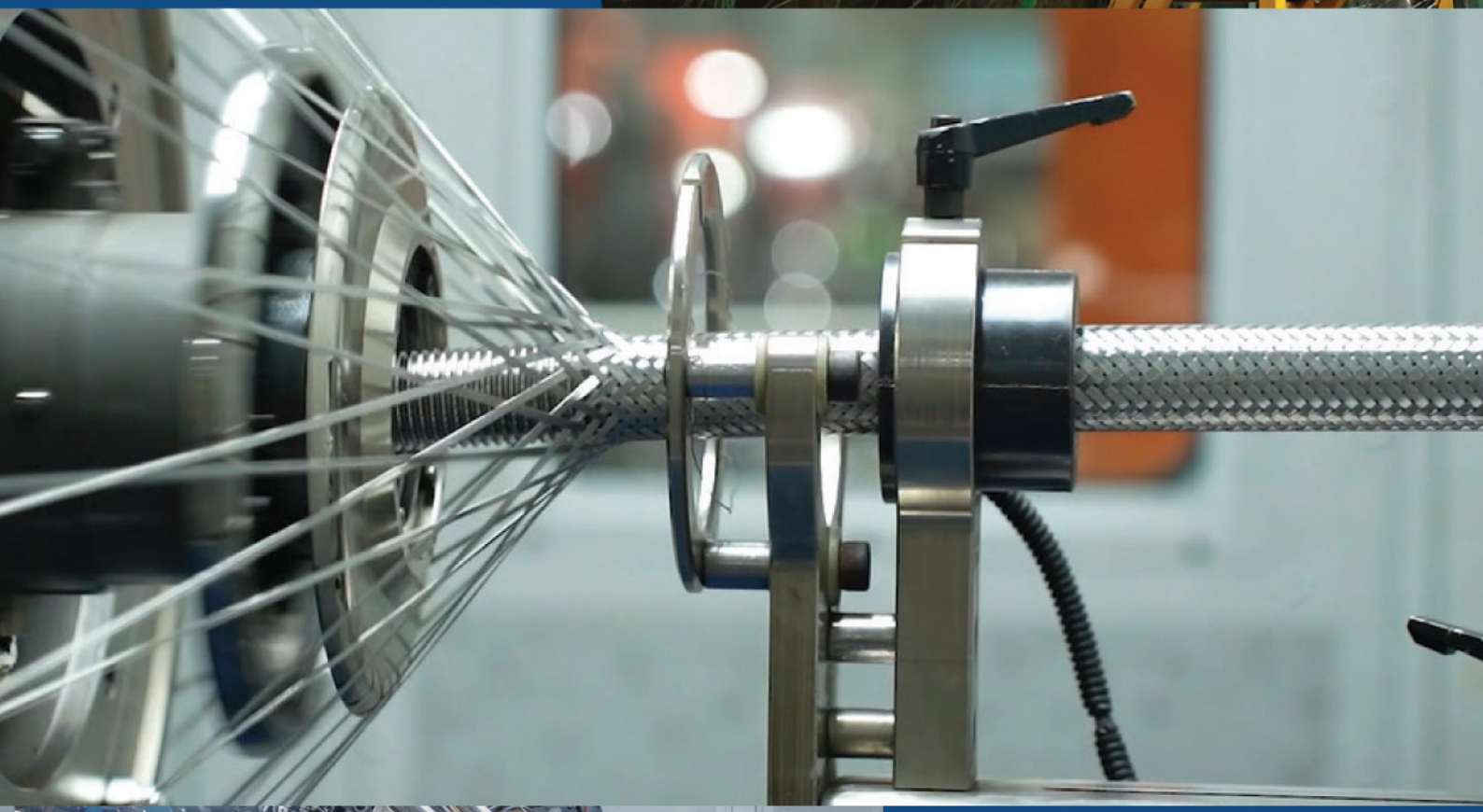
Tube Forming



Corrugation Forming



Braided for Excellence



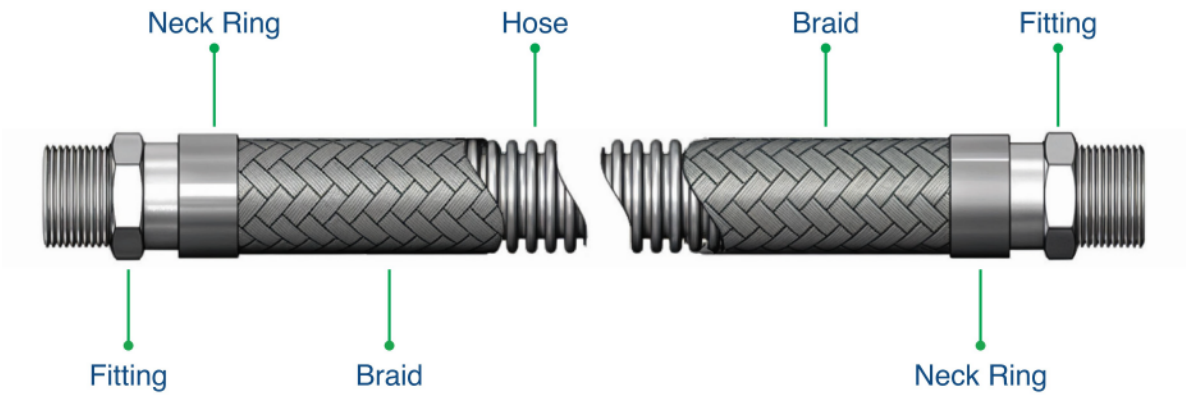


Built for Performance

AEROFLEX INDUSTRIES LIMITED

What is Braid Reinforcement?

Braid reinforcement is the process of weaving stainless steel wires or bands around a flexible hose.



Why Braid Reinforcement Matters

Prevents Elongation
Maintains hose shape stability and prevent it from elongation.

Enhances Flexibility
Adapts to hose movements without deformation, even under high pressure.

Increases Pressure Resistance
Allows hoses to withstand higher pressures, essential for robust applications.

Protection Against Damage
Adds an extra layer against abrasion and impacts to protect from physical damage.

Aeroflex produces wire braids manufactured in mainly two types as shown below:

Plait Braid:
Single braid is where single layer of wire braid over the hose which offers good protection for standard applications, while double braid is where double layer of wire braid over the hose which provides enhanced pressure resistance for more demanding conditions. Triple braiding is also done on request for added safety and slightly increased pressure resistance but it is not recommended as it decreases the flexibility.

Braided Braid:
For even higher-pressure ratings, a braided braid can be used. This technique involves pre-braiding wires to construct the braid, offering strong pressure resistance while maintaining flexibility.


Single Braid


Double Braid


Braided Braid

Modern facilities use state-of-the-art automatic braiding machines to ensure tight, consistent braiding, improving the hose's overall performance and longevity.

Types of Braided Hose

Aeroflex corrugated metal hoses, reinforced with braids, can handle pressures up to 400 bar and temperatures up to 550°C. Special materials can extend these limits further (Upto 900°C incase of inconel). They are also suitable for cryogenic conditions as low as -196°C. Aeroflex offers hoses with inner diameters ranging from 6 mm to 350 mm, designed to meet a variety of industrial needs.

Stainless Steel Braided Hose

Available in SS 321, SS 304, SS 304L, SS 316 and SS 316L variants, offering excellent resistance to corrosion and extreme temperatures.

Bronze Braided Hose

Ideal for HVAC and marine applications, ensuring durability and reliability. (Upon request)

Monel Braided Hose

Featuring exceptional corrosion resistance, perfect for demanding applications involving chlorine and saltwater. (Upon request)

Types of Aeroflex Metal Braided Hoses

Types	Hose Material	Braid Material	Construction Type
Light Weight/High Flexibility Hose	321, 304, 304L, 316 & 316L Stainless Steel	304L and 316L Stainless Steel (321 On request)	Annular Hose
Medium Weight/Medium Flexibility Hose	304L, 321, 316L Stainless Steel - Bronze, Monel, Inconel upon request)	304L and 316L Stainless Steel (321 On request)	Annular Hose
Heavy Weight/Medium Flexibility Hose	321 and 316L Stainless Steel	304L and 316L Stainless Steel (321 On request)	Annular Hose

Temperature Correction Factor

To calculate a working pressure derated for elevated temperature, you must first obtain the derating factors for all of the assembly components (i.e. hose, braid, fittings, etc.) from the following chart. Multiply the hose working pressure shown in the catalog by the lowest rating obtained below to determine the derated working pressure. Note: The working pressure of an assembly at elevated temperatures may be affected by fitting type, material, and method of attachment.

Temperature °C	20	50	100	150	200	250	300	350	400	450	500	550	600	650
SS-304L	1	0.87	0.72	0.65	0.59	0.55	0.51	0.48	0.46	0.45	0.44	0.43	-	-
SS-304	1	0.88	0.73	0.66	0.60	0.56	0.52	0.50	0.48	0.47	0.46	0.42	-	-
SS-321	1	0.92	0.83	0.78	0.74	0.71	0.67	0.64	0.62	0.61	0.60	0.59	-	-
SS-316L	1	0.88	0.74	0.67	0.62	0.58	0.54	0.52	0.50	0.48	0.47	0.47	-	-
SS-316	1	0.90	0.78	0.71	0.66	0.62	0.58	0.56	0.53	0.52	0.51	0.51	-	-
SS-316TI	1	0.90	0.81	0.76	0.73	0.69	0.65	0.63	0.61	0.59	0.59	0.58	-	-
904L	1	0.93	0.87	0.82	0.76	0.70	0.65	0.61	0.57	0.54	0.52	0.50	-	-
HASTELLOY C276	1	0.97	0.92	0.88	0.83	0.79	0.74	0.72	0.70	-	-	-	-	-
MONEL 400	1	0.94	0.86	0.81	0.77	0.75	0.74	0.74	0.74	0.73	-	-	-	-
INCONEL 600	1	0.98	0.94	0.92	0.89	0.86	0.83	0.83	0.83	0.82	0.81	0.78[b]	0.54[b]	0.36[b]
INCONEL 625	1	0.95	0.88	0.84	0.80	0.78	0.75	0.73	0.70	0.68	0.65	0.64	0.63	0.5[b]
INCOLOY 800H	1	0.93	0.80	0.74	0.68	0.63	0.58	0.55	0.53	0.51	0.50	0.49	0.48	0.39[b]
INCONEL 825	1	0.95	0.89	0.83	0.77	0.75	0.74	0.72	0.70	0.68	0.67	0.66	-	-

a:Typical non-alloyed carbon steel, b: Values in the creep range (100 000 h), c: Indicative values from industrial background.

AEROFLEX® INDUSTRIES LIMITED

Assembly Process

1 Cutting
The hose and braid are cut precisely through a corrugation valley.

2 Braid Collar Installation & Crimping
A braid collar is fitted over each hose end and crimped with specified pressure.

3 Trimming
Any excess braid is trimmed off.

4 Collar Welding
The hose braid and braid collar are welded together.

5 Leak Testing
Leak testing is performed after collar welding to ensure zero leakage before final assembly.

6 Surface Cleaning
The cap weld surface is cleaned.

7 Fitting Alignment & Welding
The fitting is positioned, aligned, and welded onto the cap weld.

8 Testing, Cleaning, Marking & Inspection
Each assembled hose undergoes rigorous inspection, testing, cleaning, marking, & packing.

Precision in Every Assembly

At Aeroflex, we engineer hose assemblies that ensure unmatched flexibility, strength, and reliability. Our corrugated stainless-steel hose assemblies are designed to meet the most demanding technical specifications. We provide a comprehensive service that includes the hose, all necessary fittings, and end connections, utilizing TIG welding for secure, long-lasting joints. Assemblies can be supplied with third-party inspections to ensure quality.



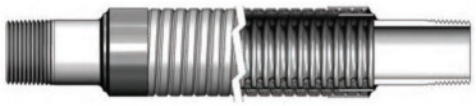
Lined Assemblies

An internal flexible metal liner is used when high fluid velocities are involved, helping to prevent damage and reduce abrasion. If the fluid velocity exceeds 25 meters per second (for liquids) or 50 meters per second (for gases), it can cause turbulent flow, leading to abrasion and pressure loss that may damage the hose. To prevent this, a flexible interlock liner is installed inside the hose. This liner protects against high velocities, reduces pressure loss, and minimizes vibrations in the corrugations, which helps prevent fatigue and cracking of the hose wall.



External Guard

An external flexible armor or guard protects the stainless-steel corrugated hose from damage caused by rough handling, sharp bends, and abrasion. Materials like glass fiber, ceramic coverings, or other insulation may also be used for additional protection. These guards are typically made from SS-304, SS-316L, or galvanized steel and can be easily installed during manufacturing. Made from interlocked or square-locked metal hose, the guard is welded to the assembly and provides protection against abrasion, impact, or excessive bending. The bend restrictor's diameter is equal to or greater than the corrugated hose it protects.



Jacketed Assemblies

Jacketed assemblies are normally used in one of the following applications:

- As a heated transfer line for those products, such as sulfur, which must be maintained at an elevated temperature in order to flow readily. Steam or hot oil is circulated through the jacket, which in turn heats the product being conveyed in the core hose.
- As a cryogenic transfer line. Maintaining a high vacuum in the jacket effectively insulates cryogenic liquids being conveyed in the core hose.



Tracer Assemblies

Traced hose assemblies are used when the product being conveyed must be heated in order to flow freely. Steam or hot oil circulated through the inner tracer hose heats the product in order to maintain the correct temperature.



Heat Protection Sleeve

A heat protection sleeve safeguards the hose assembly from damage caused by high temperatures. It also insulates against energy loss and protects against heat-related injuries, such as burns and blisters. Fire jackets are used when hot media is conveyed through the hose, especially if there's a risk of skin contact. They can also insulate the media from ambient temperatures that could negatively impact the product or its flow.



Spring Guard

To prevent potential damage during service, a protective spring guard can be added during the fabrication process. This metal spring, made of stainless steel, is positioned behind the hose fitting and can be customized to fit the specific hose type and application. The spring guard helps protect the hose from kinking and is easy to install during manufacturing. It is especially beneficial for hoses that do not have armor, offering extra protection when there is a higher risk of damage during use.



Protective Cover

For situations where the risk of impact or high-temperature damage is low, or when a full metal guard's weight and bulk are undesirable, rubber or plastic scuff guards can be used. These guards provide protection for the corrugated hose and braid while offering a lighter, more flexible alternative.



Rope lagging

A helical wrapping of rope around the outside of the hose with a closed pitch to protect the hose and braid from physical damage and insulation on cryogenic applications. Rope materials and diameter can be varied to requirements.



Hose Safety Whip Check

A whip check prevents uncontrolled movement of stainless steel corrugated flexible hoses in case of accidental disconnection. It consists of metal brackets, wire rope, and soft brackets for secure mounting, minimizing risks from sudden pressure release in pressurized hose applications.



Anhydrous Ammonia

For critical anhydrous ammonia applications in agriculture and fertilizer operations, Aeroflex delivers an uncompromising safety solution. While traditional rubber hoses remain common in these applications, their vulnerability to swelling, splitting, and blistering creates significant risk in handling one of agriculture's most hazardous chemicals.

Our premium Corrugated Metal Hose assemblies feature an all-stainless-steel construction, combining a flexible corrugated core with protective wire braiding and welded end fittings. Engineered to exceed rigorous safety standards, these assemblies provide exceptional reliability and peace of mind.



Key Features

- Complete stainless-steel construction throughout hose, braiding, and fittings
- Multiple fitting configurations available
- Sizes ranging from ½" to 2" internal diameter
- 20 Bar working pressure with 30 test pressure
- 5:1 safety factor
- Permanent metal identification tag

Ensure optimal protection for your anhydrous ammonia handling operations with Aeroflex's high-quality hose assemblies, expertly designed for use in anhydrous ammonia systems, including refrigerated storage.

Bottom Loading

Aeroflex bottom loading hoses utilize advanced SS321 and SS304 stainless steel to provide a durable yet user-friendly solution for fuel transfer, ensuring strength and flexibility.



Key Features

- SS321 flexible close-pitch corrugated hose construction
- SS304 braid reinforcement for added structural support
- Enhanced fatigue resistance for longer service life
- High chemical compatibility with oxygenated fuels and aromatic formulations
- Fire-resistant and lightweight design for easier handling
- Quality validated through hydrostatic testing with permanent identification tags
- Compatible with standard TTMA flanges
- Available in 4" and 6" sizes

These hoses are built to seamlessly connect with your current loading arm systems. They are built to adhere to strict safety and performance requirements, ensuring dependable functionality. Designed for resilience, they provide efficient and reliable operation in challenging conditions.

Chlorine Transfer

Aeroflex chlorine transfer hoses are engineered to safely handle both dry chlorine and hydrochloric acid, offering superior performance in aggressive environments. These hoses are ideal for applications such as loading/unloading barges, rail cars, tankers, and filling cylinders.



Key Features

- Hydro-formed annular corrugated design for enhanced flexibility.
- All-metal construction provides complete fire resistance and eliminates permeability issues associated with non-metallic hoses.
- Argon-purged welding to eliminate oxidation.
- UNS N10276 (Hastelloy C-276) ensures maximum chemical resistance in both wet and dry chlorine.
- Leak detection validated through helium mass spectrometer testing (5.0 x 10^-6 std cc/sec).
- Durable stainless steel interlocked covering for added strength.
- Pressure-tested to 2x maximum working pressure, with a 5:1 FOS
- Suitable for full and partial vacuum applications, with hoop strength preventing deformation.
- End fittings include Schedule 80 stub ends or nipples with hex wrench pads, ensuring damage-free installation.
- Welding performed by ASME Sec. IX certified welders with WPS in accordance with PQR.
- Metal identification tag welded to the armor ferrule for traceability.

Chlorine is a critical component in industries such as water purification, chemical manufacturing, and paper production. However, its toxicity demands the highest safety standards. Our hose provide unmatched safety, durability, and performance, making them the ideal choice for demanding industrial environments.

Water Cooling & Oxygen Lancing for Steel Plants

Aeroflex water-cooling hose assemblies are engineered for the extreme conditions of steel production, ensuring reliable performance in BOF, EAF, and continuous casting operations. Designed to withstand heat, slag, vibration, and corrosion, our proprietary technology delivers tighter bend radii, superior flexibility, and extended service life, making them ideal for critical applications in India's evolving steel industry.



Key Features

- Flexible design absorbs vibration while ensuring consistent cooling flow to critical components.
- Available in a wide range: ¼" to 14" ID
- All-metal construction ensures fire resistance and prevents thermal degradation
- Internal liner to protect the hose from turbulence and high velocities seen in oxygen lances
- Optimized design and advanced forming technology for maximum flexibility
- ASME IX certified welding and on-site inspection ensure top-quality fabrication
- Metal hose design prevents catastrophic bursts with controlled pinhole leaks
- Optional protections: Insulating jacket & stainless Armor guard

Gas Turbine Burner Fuel Delivery Systems

Aeroflex metal hose assemblies are designed for the demanding fuel delivery systems in gas turbines, ensuring reliable operation even in the extreme heat and vibration near combustion chambers. These assemblies are integral to turbine manifold systems, ensuring precise fuel distribution in extreme operating conditions.



Key Features

- Proprietary manufacturing process for superior flexibility and longer service life.
- ASME IX certified fabrication with advanced fitting attachment.
- Fire-safe all-metal construction retains flexibility without degradation.
- Stainless steel core prevents gas effusion.
- High resistance to permeation and physical damage.
- Precision high-density braiding for enhanced durability.
- Accessories: Insulated jacket, stainless armor, internal liner.
- Advanced corrosion protection for chemical-heavy environments.
- Heavy wall thicknesses for higher pressure applications and options for thermal barrier and ceramic coatings.
- Various non-destructive examination (NDE) leak detection methods, including hydrostatic and helium mass spectrometer testing, ensuring the highest level of safety and reliability.

Aeroflex gas turbine burner fuel delivery systems are engineered for precision, safety, and durability, ensuring reliable performance in extreme heat and vibration. With fire-safe, leak-proof designs and customizable solutions, we deliver unmatched reliability for critical fuel delivery applications.

High-Temperature Lubrication Lines

Aeroflex metal hoses are designed for high-temperature lubrication lines in steel mills, where failure is not an option. Engineered to withstand extreme heat, they ensure smooth operation in continuous casters and rolling equipment. These hoses are built to endure the harshest environments, preventing downtime and keeping your steel production processes running seamlessly.



Key Features

- Utilizing 300 Series austenitic stainless steels that retain physical properties at high temperatures.
- Fire-safe, crack-resistant, and burst-proof design for maximum reliability.
- Optional fiberglass fire jacket and stainless armor for added protection against slag splash and burns.
- ASME IX-certified welding for top-quality fittings, ensuring durability and safety.
- Wide range of flexibility and pressure options, from ¼" to 14", accommodating various configurations and spaces.
- Available in standard and compressed pitch designs for increased flexibility and lightweight construction, requiring little force to bend.
- Suitable for both lubrication and hydraulic lines, showcasing versatility in high-temperature applications.

Aeroflex high-pressure lubrication lines offer superior heat resistance, flexibility, and durability for reliable performance in extreme temperatures and harsh conditions.

High-Pressure Gas Turbine Supply Lines

Aeroflex A700 & A800 Heavy Duty hose assemblies are engineered to meet the demands of natural gas-fired power plants, providing reliable fuel supply under extreme heat, vibration, and flow conditions. Aeroflex hoses ensure seamless and dependable fuel delivery to gas turbines, even in the harshest environments.

Key Features

- Available in 3" & 4" sizes with pressure ratings up to 50 Bar.
- ASME IX certified fabrication for superior assembly integrity.
- Heavy-wall stainless steel core to prevent gas diffusion & puncture. Fire-safe, crack-resistant, and highly flexible design.
- Accessories: Insulated jacket, stainless armor, internal liner. Heavy wall thicknesses for higher pressure applications and options for thermal barrier and ceramic coatings.
- Suitable for various applications, including delivering fuel to the system, syphoning away hot air, and connecting components on the outside of the combustion area to ensure instantaneous and even ignition.
- Various non-destructive examination (NDE) leak detection methods, including hydrostatic and helium mass spectrometer testing, ensuring the highest level of safety and reliability.

The trends surrounding renewable energies and efficient energy consumption are placing new demands on power generation facilities. Aeroflex high-pressure gas turbine supply lines provide unmatched heat resistance, flexibility, and durability, ensuring smooth and reliable operation in the most demanding environments.



Insulated & Armoured Hose

Aeroflex insulated and armoured metal hoses are engineered to thrive in extreme steelmaking environments like coke ovens, blast furnaces, and hot strip mills. With fiberglass insulation rated up to 500°C and hoses rated to 650°C, these hoses protect fluids from thermal breakdown and withstand falling hot coke, molten slag, and flame exposure. Customizable insulation, armour, and alloys ensure they meet specific application needs, whether for air, water, gas, oxygen, hydraulic, lube oil, or grease lines.

Key Features

- High-pressure options for hydraulic systems and grease lines.
- Lightweight design reduces strain on system components.
- ASME IX certified welded construction for maximum safety.
- Stainless steel armour resists rust, impact, and molten splash.
- Compact fittings allow installation in tight spaces.

Aeroflex insulated and armoured metal hoses are built to excel in the most demanding steelmaking environments, offering unmatched thermal protection, durability, and safety. With customizable solutions and ASME IX-certified construction, we ensure reliable performance for air, water, gas, and hydraulic applications, even under extreme conditions.



Cryogenic Metal Hoses for LNG Transfer

Aeroflex cryogenic metal hoses are designed for the demanding conditions of LNG transfer, able to withstand temperatures as low as -162°C (-260°F) during bunkering and fueling operations. Made from 316L stainless steel, these hoses handle both liquid and vapor phases without permeation issues, offering reliability and safety for shore-based and onboard LNG applications. Aeroflex hoses ensure safe, efficient, and reliable LNG transfer in cryogenic environments, supporting operations with ease and durability.



Key Features

- AISI 316L construction resists cryogenic temperatures down to -260°F, with increased tensile & yield strength at low temperatures.
- Annular corrugations provide high strength to endure pressure changes and vacuum conditions.
- Special braid construction prevents ice build-up and hose damage.
- Fully welded fabrication with ASME IX-certified cryogenic welds, ensuring superior weld quality and reliability.
- Interlocked casing or armor near end fittings to protect against overbending during installation and operation.
- Designed with thin wall construction, compressed pitch, and higher corrugation height to enhance flexibility and durability.
- Manufactured to the highest level of cleanliness to prevent matter from settling within the hoses.

Cryogenic hoses are essential for industries such as energy, medicine, space exploration, and food storage and transport. Our hoses provide unmatched safety, durability, and performance, making them the ideal choice for demanding cryogenic environments.

Metal Hoses for Steam Transfer

Aeroflex corrugated metal hoses are engineered to withstand the extreme temperatures and harsh conditions of steam transfer applications across industries, from cleaning and disinfecting to energy transfer and manufacturing. Aeroflex hoses are trusted for their reliable, high-performance capabilities in steam transfer, offering excellent longevity and safety in demanding applications.



Key Features

- Available in sizes from ¼” to 3” inner diameter
- Constructed from durable alloys such as 321, 316L, and 304L stainless steel
- Machine-braided with high-coverage reinforcement for added strength
- ASME IX-certified welding ensures top-quality fabrication
- Withstands temperatures up to 550°C without becoming brittle or melting
- Stainless steel construction provides resistance to vapor absorption and ensures long-lasting durability

Metal hoses are vital for industries requiring reliable steam transfer, such as power generation and manufacturing. Our hoses offer exceptional heat resistance, flexibility, and durability, ensuring safe and efficient steam flow. Designed for high-pressure and high-temperature environments, they are the ideal choice for demanding steam transfer applications.

Hydrocarbon Drain Hose

Aeroflex corrugated metal hose assemblies are designed to meet the rigorous demands of hydrocarbon draining during oil and gas turnarounds, ensuring reliability and safety in high-temperature environments. Aeroflex hoses are built for safe, fast, and efficient draining of hot hydrocarbons, minimizing downtime and ensuring dependable performance during critical maintenance operations.



Key Features

- Available in sizes from ¼” to 14” inner diameter
- 100% stainless steel nickel alloy construction (ASI 304, 304L, 316, 316L, 321)
- Machine-braided with high-coverage stainless steel reinforcement for added strength
- Continuous lengths up to 50 meters for versatile applications
- ASME IX-certified fabrication and inspection for top-quality assurance
- Withstands temperatures up to 550°C, offering superior performance and durability

Hydrocarbon drain hoses are crucial for oil and gas industries, ensuring safe & efficient drainage in high-temperature environments. Our hoses offer exceptional durability & performance, making them the ideal solution for demanding hydrocarbon drainage applications.



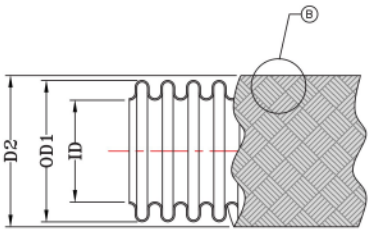
Aeroflex Braided Hose Series

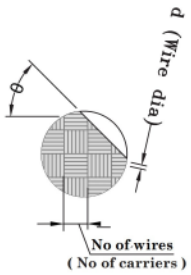
AEROFLEX INDUSTRIES LIMITED

Aeroflex manufactures a wide range of over 100 braided hose configurations to meet diverse customer needs. Below is a selection of our most popular bulk braided hose series. For any specific requirements or additional details, please feel free to reach out to our sales team.

Series A100

Hose Series : A100
Type : Mechanically Formed
Profile : Annular, Standard Pitch
Hose Material : AISI 304, 304L, 321, 316, 316L
Braid : AISI 304L, 316L
Braid Series : A1101
Compliance Standard : ISO 10380 Type 1-10

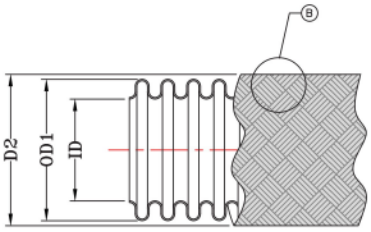


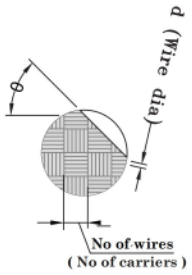


Nominal Hose Size (in.)	Aeroflex Part Number	Number of Braid Layers	Braid Construction (wire dia X no of wire X no of carrier)	Braid Coverage %	Nominal Inside Diameter	Nominal Outside Diameter	Pressure Rating at 23 °C (kg/cm²)			Minimum Centerline Bend Radius (mm)		Weight (kg/mtr.)	Typical Length mtrs
							Max Working	Max Test	Nominal Burst	Static	Dynamic		
1/4"	A10016006	0	0.25 X 6 X 24	96	6.2	9.6	12	18	-	25	85	0.076	50
	A100161401006	1				10.8	120	180	480			0.150	
	A100162401006	2				12.0	192	288	768			0.240	
5/16"	A10016008	0	0.25 X 7 X 24	94	8.2	12.1	10	15	-	32	125	0.087	50
	A100161401008	1				13.3	100	150	400			0.167	
	A100162401008	2				14.5	160	240	640			0.260	
3/8"	A10016010	0	0.25 X 8 X 24	93	10.3	14.3	9	14	-	38	140	0.112	50
	A100161401010	1				15.5	90	135	360			0.215	
	A100162401010	2				16.7	144	216	576			0.333	
1/2"	A10016012	0	0.25 X 10 X 24	95	12.2	16.7	9	14	-	45	140	0.118	50
	A100161401012	1				17.9	80	120	320			0.240	
	A100162401012	2				19.1	128	192	512			0.379	
5/8"	A10016016	0	0.30 X 7 X 36	94	16.2	21.6	8	12	-	58	160	0.195	50
	A100161401016	1				23.0	70	105	280			0.381	
	A100162401016	2				24.4	112	168	448			0.581	
3/4"	A10016020	0	0.30 X 9 X 36	96	20.2	26.8	4	6	-	70	170	0.250	50
	A100161401020	1				28.3	64	96	256			0.495	
	A100162401020	2				29.8	102	154	410			0.765	
1"	A10016025	0	0.30 X 10 X 36	93	25.4	32.2	3	5	-	85	190	0.355	50
	A100161401025	1				33.7	50	75	200			0.630	
	A100162401025	2				35.2	80	120	320			0.930	
1 1/4"	A10016032	0	0.35 X 8 X 48	92	34.3	41.1	2	3	-	105	260	0.445	50
	A100161401032	1				42.7	40	60	160			0.847	
	A100162401032	2				44.3	64	96	256			1.281	
1 1/2"	A10016040	0	0.35 X 10 X 48	94	40.1	49.5	1	2	-	130	300	0.682	50
	A100161401040	1				51.1	35	53	140			1.172	
	A100162401040	2				52.7	56	84	224			1.694	
2"	A10016050	0	0.4 X 11 X 48	95	50.3	60.3	1	2	-	160	320	0.880	50
	A100161401050	1				62.3	30	45	120			1.606	
	A100162401050	2				64.3	48	72	192			2.383	

Series A101

Hose Series : A101
Type : Mechanically Formed
Profile : Annular, Close Pitch
Hose Material : AISI 304, 304L, 321, 316, 316L
Braid : AISI 304L, 316L
Braid Series : A1101
Compliance Standard : ISO 10380 Type 1-50

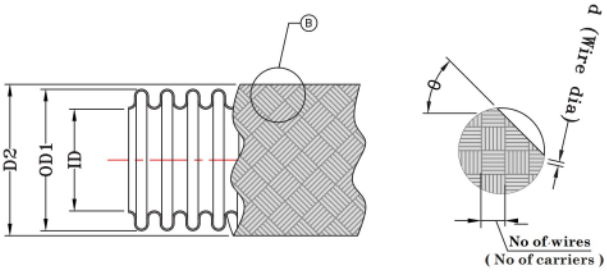




Nominal Hose Size (in.)	Aeroflex Part Number	Number of Braid Layers	Braid Construction (wire dia X no of wire X no of carrier)	Braid Coverage %	Nominal Inside Diameter	Nominal Outside Diameter	Pressure Rating at 23 °C (kg/cm²)			Minimum Centerline Bend Radius (mm)		Weight (kg/mtr.)	Typical Length mtrs
							Max Working	Max Test	Nominal Burst	Static	Dynamic		
1/4"	A10116006	0	0.25 X 6 X 24	96	6.2	9.6	12	18	-	25	70	0.100	50
	A101161401006	1				10.8	120	180	480			0.175	
	A101162401006	2				12.0	192	288	768			0.265	
5/16"	A10116008	0	0.25 X 7 X 24	94	8.2	12.2	10	15	-	30	90	0.115	50
	A101161401008	1				13.5	100	150	400			0.195	
	A101162401008	2				15.0	160	240	640			0.288	
3/8"	A10116010	0	0.25 X 8 X 24	93	10.2	14.4	9	14	-	35	100	0.150	50
	A101161401010	1				16.0	90	135	360			0.253	
	A101162401010	2				17.5	144	216	576			0.371	
1/2"	A10116012	0	0.25 X 10 X 24	95	11.9	16.9	9	14	-	45	110	0.175	50
	A101161401012	1				18.2	80	120	320			0.297	
	A101162401012	2				19.5	128	192	512			0.436	
5/8"	A10116016	0	0.30 X 7 X 36	94	16.1	21.8	8	12	-	50	120	0.245	50
	A101161401016	1				23.5	70	105	280			0.431	
	A101162401016	2				25.0	112	168	448			0.631	
3/4"	A10116020	0	0.30 X 9 X 36	96	19.8	26.8	4	6	-	55	130	0.340	50
	A101161401020	1				28.3	64	96	256			0.585	
	A101162401020	2				29.8	102	154	410			0.855	
1"	A10116025	0	0.30 X 10 X 36	93	25.2	32.5	3	5	-	65	150	0.468	50
	A101161401025	1				34.0	50	75	200			0.735	
	A101162401025	2				35.5	80	120	320			1.035	
1 1/4"	A10116032	0	0.35 X 8 X 48	92	34.3	41.1	2	3	-	75	230	0.590	50
	A101161401032	1				43.3	40	60	160			0.992	
	A101162401032	2				44.5	64	96	256			1.426	
1 1/2"	A10116040	0	0.35 X 10 X 48	94	39.8	49.9	1	2	-	90	240	0.865	50
	A101161401040	1				51.7	35	53	140			1.355	
	A101162401040	2				53.8	56	84	224			1.877	
2"	A10116050	0	0.4 X 11 X 48	95	50.3	60,4	1	2	-	110	260	1.12	50
	A101161401050	1				62.7	30	45	120			1.846	
	A101162401050	2				64.3	48	72	192			2.623	

Series A102

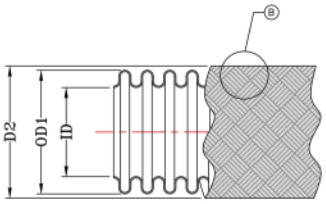
Hose Series : A102
Type : Mechanically Formed
Profile : Annular, Standard - High Pressure
Hose Material : AISI 304, 304L, 321, 316, 316L
Braid : AISI 304L, 316L
Braid Series : A1107
Compliance Standard : ISO 10380 Type 1-10

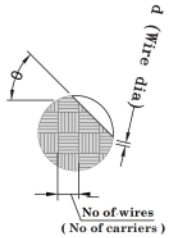


Nominal Hose Size (in.)	Aeroflex Part Number	Number of Braid Layers	Braid Construction (wire dia X no of wire X no of carrier)	Braid Coverage %	Nominal Inside Diameter	Nominal Outside Diameter	Pressure Rating at 23 °C (kg/cm²)			Minimum Centerline Bend Radius (mm)		Weight (kg/mtr.)	Typical Length mtrs
							Max Working	Max Test	Nominal Burst	Static	Dynamic		
1/4"	A10216006	0	0.25 X 6 X 24	96	6.2	9.6	12	18	-	25	70	0.100	50
	A102161407006	1				10.8	166	249	664			0.175	
	A102162407006	2				12.0	266	398	1062			0.265	
5/16"	A10216008	0	0.25 X 7 X 24	94	8.2	12.1	10	15	-	32	125	0.087	50
	A102161407008	1				13.3	118	177	472			0.170	
	A102162407008	2				14.5	189	283	755			0.264	
3/8"	A10216010	0	0.30 X 7 X 24	94	10.3	14.3	9	14	-	38	140	0.112	50
	A102161407010	1				15.5	116	174	464			0.232	
	A102162407010	2				16.7	186	278	742			0.372	
1/2"	A10216012	0	0.30 X 8 X 24	94	12.2	16.7	9	14	-	45	140	0.118	50
	A102161407012	1				17.9	85	128	340			0.270	
	A102162407012	2				19.1	136	204	544			0.448	
5/8"	A10216016	0	0.35 X 6 X 36	94	16.2	21.6	8	12	-	58	160	0.192	50
	A102161407016	1				23.0	85	128	340			0.417	
	A102162407016	2				24.4	136	204	544			0.678	
3/4"	A10216020	0	0.35 X 8 X 36	97	20.2	26.8	4	6	-	70	170	0.280	50
	A102161407020	1				28.3	73	110	292			0.575	
	A102162407020	2				29.8	117	175	467			0.905	
1"	A10216025	0	0.35 X 7 X 48	96	25.4	32.2	3	5	-	85	190	0.355	50
	A102161407025	1				33.7	56	84	224			0.665	
	A102162407025	2				35.2	90	134	358			1.010	
1 1/4"	A10216032	0	0.35 X 9 X 48	96	34.3	41.1	2	3	-	105	260	0.445	50
	A102161407032	1				42.7	43	65	172			0.935	
	A102162407032	2				44.3	69	103	275			1.470	
1 1/2"	A10216040	0	0.40 X 9 X 48	95	40.1	49.5	1	2	-	130	300	0.745	50
	A102161407040	1				51.1	39	59	156			1.363	
	A102162407040	2				52.7	62	94	250			2.050	
2"	A10216050	0	0.50 X 9 X 48	96	50.3	60.3	1	2	-	160	320	0.880	50
	A102161407050	1				62.3	40	60	160			1.805	
	A102162407050	2				64.3	64	96	256			2.790	

Series A200

Hose Series : A200
Type : Hydraulically Formed
Profile : Annular, Standard Pitch
Hose Material : AISI 304, 304L, 321, 316, 316L
Braid : AISI 304L, 316L
Braid Series : A1101
Compliance Standard : ISO 10380 Type 1-10

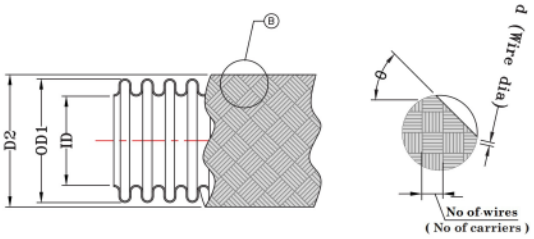




Nominal Hose Size (in.)	Aeroflex Part Number	Number of Braid Layers	Braid Construction (wire dia X no of wire X no of carrier)	Braid Coverage %	Nominal Inside Diameter	Nominal Outside Diameter	Pressure Rating at 23 °C (kg/cm²)			Minimum Centerline Bend Radius (mm)		Weight (kg/mtr.)	Typical Length mtrs
							Max Working	Max Test	Nominal Burst	Static	Dynamic		
3/4"	A20016020	0	0.3 X 9 X 36	96	20.5	27.0	3	4.5	-	70	170	0.245	50
	A200161401020	1				28.5	64	96	256			0.475	
	A200162401020	2				30.0	102	154	410			0.730	
1"	A20016025	0	0.3 X 10 X 36	91	25.6	34.0	3	4.5	-	85	190	0.340	50
	A200161401025	1				35.5	50	75	200			0.614	
	A200162401025	2				37.0	80	120	320			0.915	
1 1/4"	A20016032	0	0.35 X 8 X 48	92	32.6	41.0	2	3	-	105	260	0.390	50
	A200161401032	1				42.5	40	60	160			0.802	
	A200162401032	2				44.0	64	96	256			1.243	
1/2"	A20016040	0	0.35 X 10 X 48	93	40.6	51.0	2	3	-	130	300	0.470	50
	A200161401040	1				52.5	35	52.5	140			1.015	
	A200162401040	2				54.0	56	84	224			1.590	
2"	A20016050	0	0.4 X 11 X 48	92	50.7	65.0	1	1.5	-	160	320	0.680	50
	A200161401050	1				67.0	30	45	120			1.444	
	A200162401050	2				69.0	48	72	192			2.256	
2 1/2"	A20016065	0	0.4 X 11 X 64	95	65.6	81.0	1	1.5	-	180	410	1.064	25
	A200161401065	1				83.0	24	36	96			1.984	
	A200162401065	2				85.0	38	58	154			2.950	
3"	A20016080	0	0.4 X 12 X 64	92	80.3	95.0	0.6	0.9	-	200	450	1.098	25
	A200161401080	1				97.0	18	27	72			2.154	
	A200162401080	2				99.0	29	43	115			3.260	
4"	A20016100	0	0.5 X 11 X 64	89	100.8	117.0	0.5	0.75	-	290	560	1.401	25
	A200161401100	1				119.0	16	24	64			3.001	
	A200162401100	2				121.5	26	38	102			4.665	
5"	A20016125	0	0.57 X 10 X 72	88	125.4	150.0	0.5	0.75	-	325	710	2.667	10
	A200161401125	1				152.5	14	21	56			4.887	
	A200162401125	2				155.0	22	34	90			7.196	
6"	A20016150	0	0.57 X 11 X 72	85	150.8	175.0	0.3	0.45	-	380	815	3.220	10
	A200161401150	1				177.5	10	15	40			5.705	
	A200162401150	2				180.0	16	24	64			8.289	
8"	A20016200	0	0.67 X 9 X 96	87	197	225.0	0.3	0.45	-	500	1015	4.850	10
	A200161401200	1				228.0	8	12	32			9.150	
	A200162401200	2				231.0	13	19	51			13.620	
10"	A20016250	0	0.7 X 12 X 96	93	250.4	278.0	0.2	0.3	-	620	1270	7.150	10
	A200161401250	1				281.5	7.5	11.25	30			13.750	
	A200162401250	2				285.0	12	18	48			20.550	
12"	A20016300	0	0.7 X 14 X 96	94	300.2	336.0	0.2	0.3	-	725	1525	10.800	10
	A200161401300	1				339.5	6	9	24			18.200	
	A200162401300	2				343.0	10	14	38			25.822	
14"	A20016350	0	0.7 X 14 X 96	90	345	381.0	0.1	0.2	-	950	1850	15.700	10
	A200161401350	1				385.0	4.5	6.75	18			24.700	
	A200162401350	2				388.0	7	11	29			34.000	

Series A400

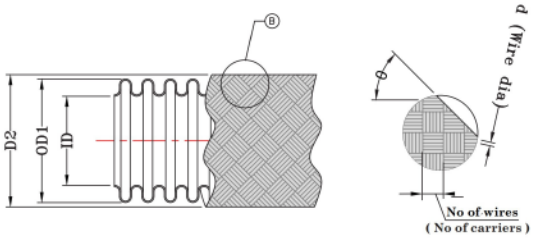
Hose Series : A400
Type : Hydraulically Formed
Profile : Annular, Close Pitch
Hose Material : AISI 304, 304L, 321, 316, 316L
Braid : AISI 304L, 316L
Braid Series : A1101
Compliance Standard : ISO 10380 Type 1-50



Nominal Hose Size (in.)	Aeroflex Part Number	Number of Braid Layers	Braid Construction (wire dia X no of wire X no of carrier)	Braid Coverage %	Nominal Inside Diameter	Nominal Outside Diameter	Pressure Rating at 23 °C (kg/cm²)			Minimum Centerline Bend Radius (mm)		Weight (kg/mtr.)	Typical Length mtrs
							Max Working	Max Test	Nominal Burst	Static	Dynamic		
3/4"	A40016020	0	0.3 X 9 X 36	96	20.3	27.0	3	4.5	-	60	155	0.300	50
	A400161401020	1				28.5	64	96	256			0.530	
	A400162401020	2				30.0	102	154	410			0.785	
1"	A40016025	0	0.3 X 10 X 36	91	25.6	34.0	3	4.5	-	70	165	0.360	50
	A400161401025	1				35.5	50	75	200			0.635	
	A400162401025	2				37.0	80	120	320			0.935	
1 1/4"	A40016032	0	0.35 X 8 X 48	92	32.6	43.0	2	3	-	85	225	0.472	50
	A400161401032	1				44.5	40	60	160			0.907	
	A400162401032	2				46.0	64	96	256			1.450	
1 1/2"	A40016040	0	0.35 X 10 X 48	93	40.5	51.0	2	3	-	700	255	0.610	50
	A400161401040	1				52.5	35	52.5	140			1.155	
	A400162401040	2				54.0	56	84	224			1.730	
2"	A40016050	0	0.4 X 11 X 48	92	50.8	65.0	1	1.5	-	120	280	0.758	50
	A400161401050	1				67.0	30	45	120			1.522	
	A400162401050	2				69.0	48	72	192			2.335	
2 1/2"	A40016065	0	0.4 X 11 X 64	95	65.6	81.0	1	1.5	-	150	350	1.300	25
	A400161401065	1				83.0	24	36	96			2.220	
	A400162401065	2				85.0	38	58	154			3.186	
3"	A40016080	0	0.4 X 12 X 64	92	80.3	95.0	0.6	0.9	-	190	425	1.38	25
	A400161401080	1				97.0	18	27	72			3.436	
	A400162401080	2				99.0	29	43	115			3.542	
4"	A40016100	0	0.5 X 11 X 64	89	100.8	117.0	0.5	0.75	-	240	525	1.655	25
	A400161401100	1				119.0	16	24	64			3.255	
	A400162401100	2				122.0	26	38	102			4.920	

Series A700

Hose Series : A700
Type : Hydraulically Formed
Profile : Annular, High Pressure
Hose Material : AISI 304, 304L, 321, 316, 316L
Braid : AISI 304L, 316L
Braid Series : A1104
Compliance Standard : ISO 10380 Type 1-10

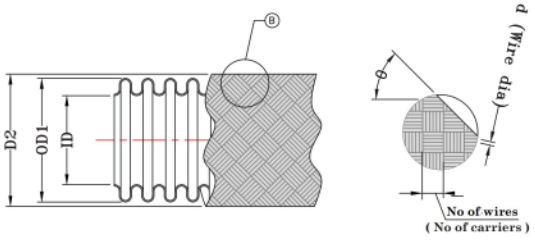


Nominal Hose Size (in.)	Aeroflex Part Number	Number of Braid Layers	Braid Construction (wire dia X no of wire X no of carrier)	Braid Coverage %	Nominal Inside Diameter	Nominal Outside Diameter	Pressure Rating at 23 °C (kg/cm²)			Minimum Centerline Bend Radius (mm)		Weight (kg/mtr.)	Typical Length mtrs
							Max Working	Max Test	Nominal Burst	Static	Dynamic		
3/4"	A70021020	0	0.35 X 8 X 36	95	20.2	28.0	4	6.0	-	58	203	0.320	50
	A700211404020	1				29.5	65	98	260			0.605	
	A700212404020	2				31	104	156	416			0.890	
1"	A70021025	0	0.35 X 9 X 36	89	25.4	38.0	3	4.5	-	70	230	0.712	50
	A700211404025	1				39.5	50	75	200			1.062	
	A700212404025	2				41.5	80	120	320			1.442	
1 1/4"	A70021032	0	0.4 X 7 X 48	88	32.5	46.5	2	3	-	90	267	1.043	50
	A700211404032	1				48.5	45	67.5	180			1.508	
	A700212404032	2				50.0	72	108	288			2.013	
1 1/2"	A70021040	0	0.4 X 9 X 48	91	40.5	55.5	2	3	-	102	305	1.120	50
	A700211404040	1				58.0	38	57	152			1.720	
	A700212404040	2				59.5	61	91	243			2.370	
2"	A70021050	0	0.5 X 9 X 48	92	50.5	66.0	1	1.5	-	127	381	1.350	50
	A700211404050	1				68.0	38	57	152			2.320	
	A700212404050	2				70.5	61	91	243			3.400	
2 1/2"	A70021065	0	0.5 X 8 X 64	91	65.5	82.0	1	1.5	-	203	508	1.600	25
	A700211404065	1				84.0	28	42	112			2.700	
	A700212404065	2				86.5	45	67	179			3.880	
3"	A70021080	0	0.5 X 9 X 64	90	80.1	96.0	0.6	0.9	-	240	560	1.715	25
	A700211404080	1				98.5	23	34.5	92			3.025	
	A700212404080	2				101.5	37	55	147			4.465	
4"	A70021100	0	0.5 X 12 X 72	95	100.8	123.0	0.5	0.8	-	290	686	2.654	25
	A700211404100	1				126.0	20	30	80			4.804	
	A700212404100	2				128.5	32	48	128			7.104	
5"	A70021125	0	0.57 X 11 X 72	91	125.2	150.0	0.5	0.8	-	343	788	3.815	10
	A700211404125	1				153.0	14	21	56			6.265	
	A700212404125	2				156.5	22	34	90			9.015	
6"	A70021150	0	0.67 X 12 X 72	95	150.7	175.0	0.3	0.5	-	400	915	4.558	10
	A700211404150	1				178.0	14	21	56			8.278	
	A700212404150	2				181.0	22	34	90			12.308	
8" *	A70021200	0	0.5 X 25 X 96	92	197.1	230.0	0.3	0.5	-	510	1020	7.810	10
	A700211403200	1				242.0	17	26	68			13.460	
	A700212403200	2				254.0	27	41	109			19.400	
10" *	A70021250	0	0.7 X 25 X 96	90	250.5	284.0	0.3	0.5	-	620	1300	10.100	10
	A700211403250	1				300.0	16	24	64			19.830	
	A700212403250	2				316.0	26	38	102			30.200	
12" *	A70021300	0	0.7 X 25 X 96	90	300.3	336.0	0.3	0.5	-	720	1550	14.950	10
	A700211403300	1				351.5	12	18	48			25.820	
	A700212403300	2				367.0	19	29	77			37.300	

Disclaimer: * Size 8,10,12 are braided braid for high pressure applications.

Series A800

Hose Series : A800
Type : Hydraulically Formed
Profile : Annular, Ultra High Pressure
Hose Material : AISI 321, 316, 316L
Braid : AISI 304L, 316L
Braid Series : A1105
Compliance Standard : ISO 10380 Type 1-10



Nominal Hose Size (in.)	Aeroflex Part Number	Number of Braid Layers	Braid Construction (wire dia X no of wire X no of carrier)	Braid Coverage %	Nominal Inside Diameter	Nominal Outside Diameter	Pressure Rating at 23 °C (kg/cm²)			Minimum Centerline Bend Radius (mm)		Weight (kg/mtr.)	Typical Length mtrs
							Max Working	Max Test	Nominal Burst	Static	Dynamic		
1/4" a	A80021006	0	0.35 X 6 X 24	99	6.0	9.6	10	15	-	25	127	0.112	50
	A800211405006	1				11.2	180	270	720			0.185	
	A800212405006	2				13.0	300	450	1200			0.267	
5/16" a	A80021008	0	0.35 X 6 X 24	98	8.1	12.1	8	12	-	32	140	0.142	50
	A800211405008	1				13.8	150	225	600			0.260	
	A800212405008	2				15.6	240	360	960			0.380	
3/8" a	A80021010	0	0.35 X 7 X 24	98	10.0	14.5	5	8	-	40	155	0.175	50
	A800211405010	1				16.5	150	225	600			0.350	
	A800212405010	2				18.5	240	360	960			0.530	
1/2" a	A80021012	0	0.35 X 8 X 24	98	12.0	16.9	5	8	-	55	203	0.195	50
	A800211405012	1				19.0	120	180	480			0.400	
	A800212405012	2				21.0	192	288	768			0.610	
5/8" a	A80021016	0	0.40 X 7 X 36	98	16.1	21.5	5	8	-	70	215	0.330	50
	A800211405016	1				23.5	130	195	520			0.730	
	A800212405016	2				25.5	210	315	840			1.135	
3/4"	A80021020	0	0.5 X 6 X 36	95	19.8	30.0	5	8	-	58	203	0.680	50
	A800211405020	1				33.0	92	138.0	368			1.140	
	A800212405020	2				36.0	147	221	588			1.700	
1"	A80021025	0	0.5 X 8 X 36	96	25.3	38.0	3	4.5	-	76	230	0.940	50
	A800211405025	1				40.5	75	113	300			1.575	
	A800212405025	2				43.5	120	180	480			2.330	
1 1/4"	A80021032	0	0.635 X 6 X 48	97	32.3	46.5	3	5	-	90	267	1.400	25
	A800211405032	1				50.0	78	117.0	312			2.290	
	A800212405032	2				53.5	125	188	500			3.320	
1 1/2"	A80021040	0	0.635 X 7 X 48	97	40.2	55.0	2	3	-	102	305	1.650	25
	A800211405040	1				58.5	75	113	300			3.000	
	A800212405040	2				62.0	120	180	480			4.530	
2"	A80021050	0	0.635 X 9 X 48	99	50.4	64.0	1	1.5	-	127	381	1.750	25
	A800211405050	1				67.0	60	90	240			3.200	
	A800212405050	2				70.0	96	144	384			4.837	
2 1/2"	A80021065	0	0.635 X 7 X 72	97	65.0	82.0	1	1.5	-	203	508	2.450	20
	A800211405065	1				85.5	40	60	160			4.235	
	A800212405065	2				89.0	64	96	256			6.020	
3"	A80021080	0	0.635 X 9 X 72	99	77.5	96.0	0.7	1.1	-	230	560	2.630	20
	A800211405080	1				99.5	38	57.0	152			4.930	
	A800212405080	2				103.0	61	91	243			7.430	
4"	A80021100	0	0.635 X 10 X 72	96	100.6	122.0	0.5	0.8	-	508	1016	3.900	20
	A800211405100	1				125.5	24	36	96			6.350	
	A800212405100	2				129.0	38.4	58	154			8.940	
5"	A80021125	0	0.67 X 11 X 72	94	125.1	150.0	0.5	0.8	-	558	1118	4.800	10
	A800211405125	1				153.5	20	30	80			8.250	
	A800212405125	2				157.0	32	48	128			11.200	
6"	A80021150	0	0.67 X 11 X 96	98	150.6	175.0	0.5	0.8	-	610	1220	5.500	10
	A800211405150	1				178.5	19	29	76			11.230	
	A800212405150	2				182.0	30	46	122			15.900	

Disclaimer: “a” marked sizes 1/4”,5/16”,3/8”,1/2” & 5/8” are mechanically formed hoses

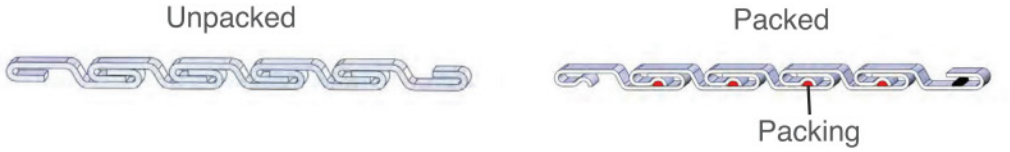
Interlock Hose

Interlock metal hoses, also known as strip-wound hoses, are produced from a single metal strip wound around a mandrel. They are generally used in low-pressure applications & as liner or cover. Unlike corrugated hoses, interlock hoses are not liquid-tight but offer several benefits depending on their design. The limit of axial elongation and contraction are established when the profile is all fully open or closed. Considerable limited force is required to bend the hose at bend radius, beyond this limitation of force the hose gets permanently deformed.



Double Interlock Unpacked

The strip is formed with legs that interlock to form a hose that is flexible and ideally suited for conveying dry bulk materials, gas exhaust, or used as a protective cover.



Depending upon the design and profile, this is very flexible and used as conduit hoses, electrical cabling and many more.

Features:

- Balanced interlocked construction
- Durable
- Flexible
- High Service life

Applications:

- High-temperature ducting/hot air blower hose
- Engine exhaust
- Loading and unloading of trailers and rail cars
- Grain vacuum equipment
- Bulk transfer of abrasive materials
- Dust collection equipment
- Outer guard over other hoses to prevent damage, kinking, or as protection from blow-out
- Internal liner in corrugated hose to improve flow velocity and abrasion resistance

It is used for:

- Dry bulk pneumatic conveying
- Material handling
- Pellet transfer
- Dry bulk material handling
- Liner for corrugated metal hose
- Auto Heater Tubing
- Armour / Protection
- Protective cover on metal hose
- Fume and dust collections
- Truck exhaust B.O.P. hose
- Telephone cord armour
- Ventilation Ducting

Double Interlock Hose Unpacked (Regular Type)

Series -1201

This is high quality general purpose interlock hose constructed from a single strip of metal that is profiled and locked onto itself, the interlock, or overlapped sections of strip are able to slide back and forth result provide the flexibility.



Item Code	Nominal Size of Hose		I.D. mm	O.D. mm	Minimum centre line Bend Radius (mm)	Weight Kg/mtr	Typical length (Meters)
	NB	mm					
A120104020	3/4"	20.0	20.0	23.50	120	0.39	10
A120104025	1"	25.0	25.0	28.50	135	0.49	10
A120104028	-	28.0	28.0	31.00	140	0.58	10
S120104030	-	30.0	30.0	32.50	145	0.60	10
A120104032	1 1/4"	32	32.0	35.00	135	0.80	10
A120104040	1 1/2"	40	40.0	43.50	165	0.90	10
A120104045	1 3/4"	45	45.0	48.50	165	1.00	10
A120104050	2"	50	50.0	53.50	170	1.15	10
A120104055	2 3/16"	55	55.0	58.00	195	1.35	10
A120104060	2 3/8"	60	60.0	63.00	235	1.38	10
A120104065	2 1/2"	65	65.0	68.00	245	1.45	10
A120104070	2 5/8"	70	70.0	73.00	255	1.65	10
A120104075	3"	75	75.0	78.00	265	1.70	10
A120104080	3 5/16"	80	80.0	83.00	280	2.00	10
A120104085	3 3/8"	85	85.0	88.00	315	2.10	10
A120104090	3 5/8"	90	90.0	94.80	350	2.75	10
A120104095	3 3/4"	95	95.0	100.00	550	3.10	10
A120104100	4"	100	100.0	105.00	555	3.30	10
A120104110	4 3/8"	110	110.0	115.00	565	3.70	10
A120104120	4 3/4"	120	120.0	125.00	575	3.80	10
A120104125	5"	125	125.0	130.00	590	4.10	10
A120104140	5 5/8"	140	140.0	145.00	620	4.45	10
A120104150	6"	150	150.0	155.00	655	4.60	10
A120104184	7 1/4"	184	184.0	191.00	900	8.50	10
A120104190	7 5/8"	190	190.0	197.00	950	8.70	10
A120104200	8"	200	200.0	207.00	1050	9.30	10
A120104230	9 1/16"	230	230.0	238.00	1200	10.00	10
A120104250	10"	250	250.0	258.00	1450	10.60	10
A120104260	10 1/4"	260	260.0	267.0	1650	11.30	10
A120104265	10 7/16"	265	265.0	272.0	1800	11.70	10
A120104285	11 4/4"	285	285.0	292.0	2300	12.50	10
A120104300	12"	300	300.0	307.0	3000	13.60	10
A120104327	12 7/8"	327	327.0	334.0	3150	14.80	10
A120104350	14"	350	350.0	357.0	3300	15.70	10
A120104400	16"	400	400.0	407.0	3500	17.75	10

*More than hose size 125 mm packed in straight as well as coil form Length.
*For long length requriement discuss with Aeroflex Sales Team.

Features

- High Strength
- Balance Lock Construction
- Durable
- Temperature & Corrossion Resitance

Application

- Conveying
- Fume / Flue Exhaust
- Ventilation Line
- Internal liner & protective cover

Double Interlock Hose Unpacked (Loose Type)

Series -1202

Depending upon the design and profile, this is very flexible and used as conduit hoses, electrical cabling, etc.



Item Code	Nominal Size of Hose		I.D. mm	O.D. mm	Minimum centre line Bend Radius (mm)	Weight Kg/mtr	Typical length (Meters)
	NB	mm					
120204020	3/4"	20	20.00	23	70	0.390	10
120204025	1"	25	25.00	28	75	0.496	10
120204030	1 3/16"	30	30.00	33	80	0.60	10
120204032	1 1/4"	32	32.00	35	90	0.80	10
120204035	1 3/8"	35	35.00	38	95	0.85	10
120204038	1 1/2"	38	38.00	41	105	0.88	10
120204040	1 5/8"	40	40.00	43	110	0.90	10
120204045	1 3/4"	45	45.00	48	150	1.00	10
120204050	2	50	50.00	53	165	1.15	10

*For long length requriement discuss with Aeroflex sales team.

Features

- High Strength
- Durable
- Balance Lock Construction
- Temperature and Corrossion Resitance

Application

- Conduit for Instrumentation



Double Interlock Hose Unpacked (Polygonal Type)

Series -1203

This is the flexible hose which have double interlock profile with the polygonal cross section. Due to their polygon cross section this design hose robust resistance to torsion without sacrificing the flexibility.



Item Code	Nominal Size of Hose		I.D. mm	O.D. mm	Minimum centre line Bend Radius (mm)	Weight Kg/mtr	Typical length (Meters)
	NB	mm					
A120304028	1 1/8"	28	28	30.8	130	0.58	10
A120304032	1 1/4"	32	32	37	150	0.80	10
A120304035	1 3/8"	35	35	39	160	0.83	10
A120304038	1 1/2"	38	37	41	170	0.87	10
A120304042	1 5/8"	42	41	45	175	0.93	10
A120304046	1 3/4"	46	44.5	50	175	1.00	10
A120304050	1 24/25	50	48.7	54	180	1.15	10
A120304051	2"	50.8	50.8	56.5	180	1.22	10
A120304055	2 5/16"	55	55.5	61	205	1.29	10
A120304057	2 1/4"	57	57	62.1	230	1.32	10
A120304060	2 3/8"	60	60	65.5	250	1.35	10
A120304065	2 1/2"	65	64	69.5	265	1.45	10
A120304070	2 5/8"	70	70.3	75	275	1.66	10
A120304075	3"	75	75	80	290	1.80	10
A120304080	3 1/8"	80	80	85	315	2.18	10
A120304090	3 5/8"	90	90	96	385	2.45	10
A120304084	3 1/3"	84	84	89	550	2.78	10
A120304100	4"	100	100	106	610	3.55	10
A120304114	4 1/2"	114.3	114.3	119.5	620	3.65	10
A120304115	4 5/8"	115	113.6	120	630	3.75	10
A120304125	5"	125	124	132	650	4.35	10
A120304150	5 7/8"	150	150	156	750	4.75	10
A120304150	6"	152.4	152.4	159	800	4.82	10
A120304182	7 3/16"	182	182	188	1050	5.76	10
A120304200	8"	200	199.5	206	1150	8.80	10
A120304232	9 1/8"	232	230	237	1500	10.20	10

*More than hose size 125 mm packed in straight as well as coil form Length.
*For long length requriement discuss with marketing Aeroflex sales team

Features

- High Strength
- Durable
- Balance Lock Construction
- Temperature & Corrossion Resitance

Application

- Conveying
- Ventilating Line
- Fume / Flue Exhaust
- Internal liner & protective cover

Understanding Hose Length States

Interlocked metal hoses can be compressed (Figure 1), extended (Figure 3), or in a relaxed state (Figure 2). The Relaxed Length (R) is the midpoint between the Compressed Length (C) and Extended Length (E), calculated as:
R = ½ (C + E)

When bent, the hose's outer surface is extended while the inner surface is compressed.

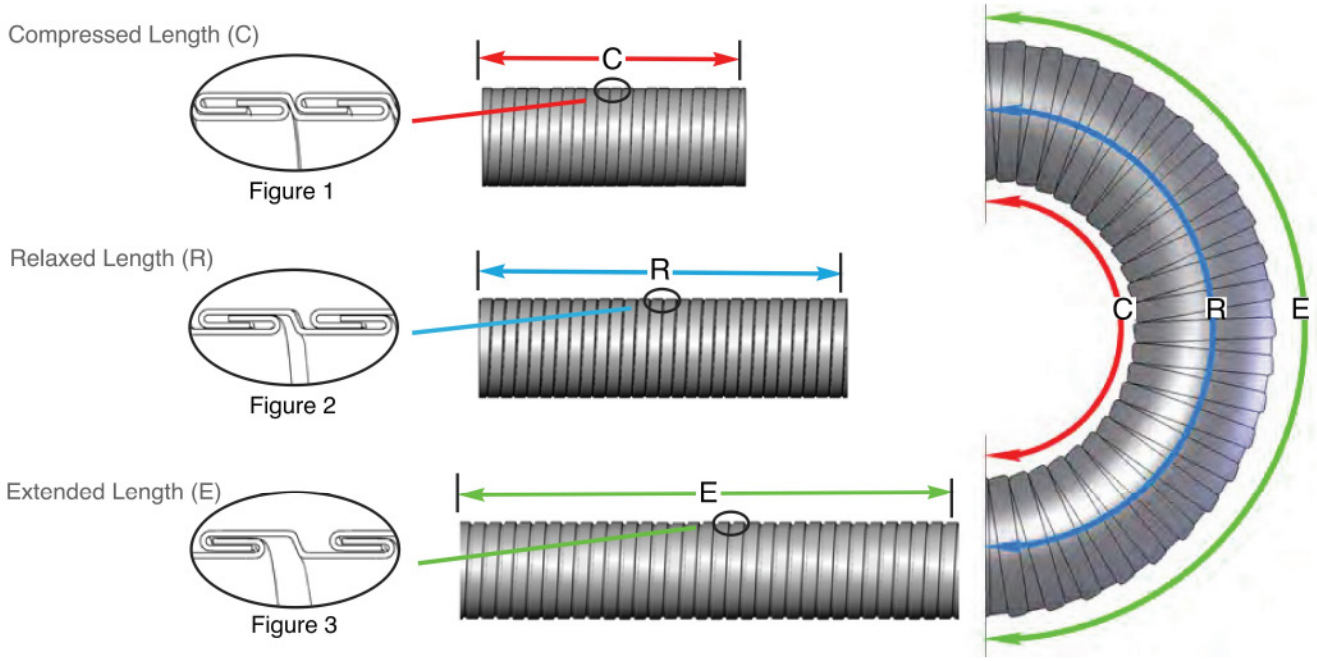
Relaxation Factor:

The Relaxation Factor (E/R) simplifies ordering by converting between relaxed and extended lengths. Interlocked hoses are typically priced in their extended state, but assembly length calculations often rely on the relaxed state.
To order:
Specify the relaxed state or multiply the desired relaxed length by the Relaxation Factor for the extended length.

Example

For a Relaxation Factor of 1.12, a 6-meter relaxed length equals 6.72 meters extended (6m × 1.12).
If the extended hose weighs 1.36 kg/m and costs €6.00 per meter, in the relaxed state, it will weigh 1.52 kg/m and cost €6.72 per meter (1.36 × 1.12, €6.00 × 1.12).

This example demonstrates how the Relaxation Factor is used to accurately convert between relaxed and extended lengths in the metric system.



Jacketed Hose Assemblies



Jacketed hose assemblies utilize a "hose within a hose" design. The core hose, which carries the primary media, is surrounded by a larger jacketed hose. This configuration allows both hoses to function independently as separate pressure carriers. Sealed with specially designed fittings at both ends, these assemblies prevent any direct media transfer between the hoses. Jacketed hoses are crucial for maintaining specific temperatures—whether elevated or cryogenic.

Applications

Heated Transfer Lines

For materials like sulfur that need to remain hot to flow, steam or hot oil circulates through the jacket to keep the inner core hose's contents at the required temperature. This ensures the material remains in a liquid or semi-liquid state, preventing it from solidifying and clogging the system.

Cryogenic Transfer Lines

In applications involving cryogenic liquids, a vacuum in the jacket insulates the inner core hose, maintaining the extremely low temperatures required. Also cold products such as liquid helium or nitrogen can be used to lower the temperature of the fluid within the internal hose.

Key Features

- **Viscous Materials:** Facilitates the transfer of fluids like asphalt or heavy oil by keeping them heated.
- **Critical Containment:** Offers an added safety layer in case of inner hose failure.
- **High-Density Fluid:** Suitable for transferring dense fluids such as bitumen, pre-polymer, and hot melts.

Industries Served

Asphalt & Hot Mix Plants	Food & Beverage Manufacturing	Chemical & Pharmaceutical
Fertilizer Plants	Cosmetic Manufacturing	Petrochemical Refining Plants



Flexible Pump Connectors

Flexible pump connectors, typically constructed from stainless steel, are vital for connecting pumps. They effectively absorb vibration, reduce noise, and accommodate movement. These connectors are compatible with both hot and cold fluid.

Key Features

- **Vibration Control:** Minimizes mechanical stress and noise.
- **Misalignment Compensation:** Facilitates minor adjustments in piping systems.
- **Durability:** Stainless steel construction ensures long-lasting reliability.

Design	Construction	Materials
Features an annular (bellows) inner hose, providing excellent torsion stress resistance due to longitudinal expansion from pressure rises.	Metal wire braid on the hose assembly limits elongation under high pressure and dampens vibration.	Enhanced abrasion resistance and optimal braid coverage to contain the core under pressure, preventing twisting and squirming.

Pump Connectors - Flange Type



Availability : 1092/ASME B16.5/JIS/DIN/IS/BS Flange Connections
Materials : Carbon Steel and Stainless Steel Flanges

Standard paints on C.S pipe end is Azure blue (RAL 5009) or as per customer's requirement. Stainless steel braided flexible pump connectors, which are designed with high performance in holding higher pressure and temperature, can absorb pump vibrations, minimize engine noise and minor misalignment to reduce stress of pipe system. It is extensively used in various industries.

Pump Connectors - Threaded Type



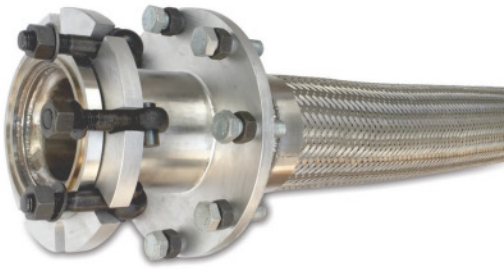
Availability : BSPT(DIN 2999) NPT Threaded Connections
Materials : Carbon Steel and Stainless Steel (304 & 316)

In all the pump connectors, only hydro formed hoses are used with up to 98-99% braid coverage which gives excellent vibration damping capability and gives better flexibility. These connectors are specially designed in compact lengths to get maximum flexibility. This means, it can bear more misalignment between short gap of connections.



Lance Hoses

Oxygen lance hoses are vital for steelmaking, enabling the intense heat required to convert molten pig iron into steel. Designed for Basic Oxygen Furnaces (BOF), these hoses are built to withstand extreme temperatures and rigorous handling.



Our hoses feature interlocked liners, armours, corrugated hoses, and braids, produced through a stringent manufacturing process. Available in a wide range of sizes, from 4" to 14", and crafted from various alloys to meet specific needs.

Design

Heavy-duty SS321 hoses with double wire braiding and inner interlocked liners are designed for oxygen and water lancing in steel plants.

Length : 9 to 30 meters
Temperature Resistance : Up to 550°C
Better Alternative : Superior fire resistance and durability compared to rubber hoses.

Features & Benefits

Size Range : ¼" to 14" inner diameter.
Internal Liner : Protects from turbulence and high velocity.
External Guard : Shields from molten slag and high temperatures.
Machine-Braided Hose : Optimal fit and braid coverage.
Quality Assurance : ASME-certified fabrication.

Advantages

Temperature Resistance : Stainless steel withstands extreme temperatures.
Reliability : In-house manufacturing ensures minimal contamination, perfect compatibility, and reliable performance through full control.
Long Service Life : Stronger welds for durability.
Ease of Use : Tighter bend radius for easier movement and storage.

Our hoses are designed to operate in the toughest steel plant conditions, enhancing safety and extending service life through advanced forming technology that allows for a tighter bend radius and greater flexibility.

Engineering Innovations

We enhance hose performance with advanced components like swivel joints to prevent torque and expansion joints to absorb axial growth, improving hose life and operational efficiency.



Vibration Eliminators

AEROFLEX INDUSTRIES LIMITED

Aeroflex stainless steel vibration eliminators are engineered to absorb mechanical vibrations and manage thermal expansion stresses in refrigeration systems, particularly in compressors. These assemblies effectively reduce vibration impact, preventing equipment damage and ensuring optimal system performance.



Key Features

- Size range: DN 6 to DN 75 outer diameter
- Materials: Constructed from high-quality SS321 and SS316L, with an annular corrugated hose and SS304 braid
- Copper tube ends for sweat connections to refrigeration tubing, meeting ASME B16.18 standards
- Available in copper or stainless steel braided material for added durability
- Customizable end fittings to suit specific installation requirements

Installation Guidelines:

- **Placement:** Install as close to the compressor as possible, ensuring alignment with the direction of vibration.
- **Horizontal Vibration:** For horizontal vibration sources, a single eliminator installed at a perpendicular to the compressor crankshaft works best.
- **Vertical/Horizontal Vibration:** For both horizontal and vertical vibrations, use two vibration eliminators at right angles for optimal results.

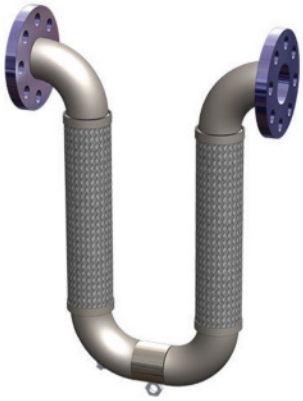
Assembly Considerations

- **Minimal Live Length:** Ensure correct assembly length, factoring in operating pressure and dynamic stress in vibration-prone environments.
- **Fixed Points:** Install fixed points at the hose ends to prevent vibration transmission through the pipework.

Aeroflex vibration eliminators are essential for systems subject to mechanical vibrations, safeguarding connections and reducing the risk of material fatigue.



Aeroflex Seismic Connectors are critical components designed to protect essential systems, such as fire hydrant system & HVAC piping, from the effects of seismic motions, including earthquakes. These connectors provide the necessary flexibility to the piping system and are engineered to absorb seismic movements in all three directions.

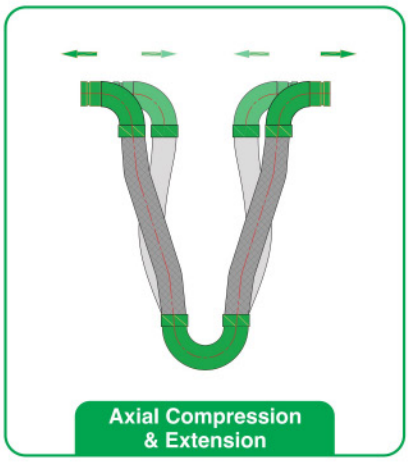


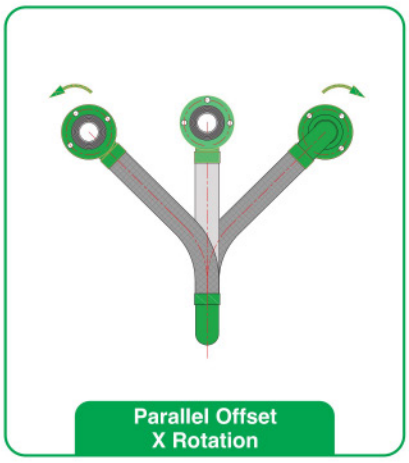
Aeroflex manufactures mainly two types of seismic connectors:

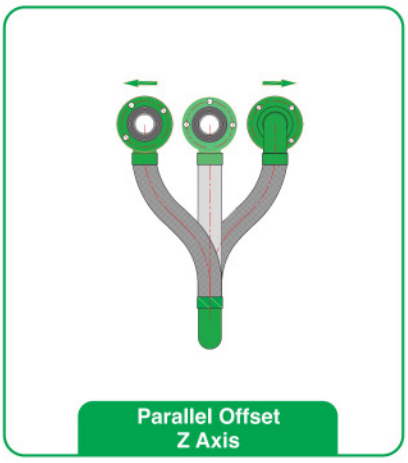
"V" Loop Connectors **"U" Loop Connectors**

In both types of connectors, the flexible element allows movement in multiple directions—toward and away from each other, vertically, and transversely. The extent of these movements is determined by the length of the flexible element.

Beyond seismic protection, Aeroflex seismic connectors offer significant cost advantages over conventional expansion joints, including reduced installation costs. This is due to the minimized need for space, fewer fixing points, and the ability to nest the connectors. Additionally, these connectors impose a lesser load on the main pipeline when compared to traditional expansion joints, thereby offering superior vibration absorption capabilities.







Connector Types:

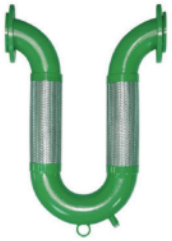
V Loop Connector:

The V Loop connector is one of the most commonly used solutions, consisting of two flexible sections that allow movement along the XYZ axis. It features two 60° elbows and one 90° elbow, resulting in a total of 180° of pipe changes. This configuration is ideal for absorbing movements in all directions while maintaining system flexibility.



U Loop Connector:

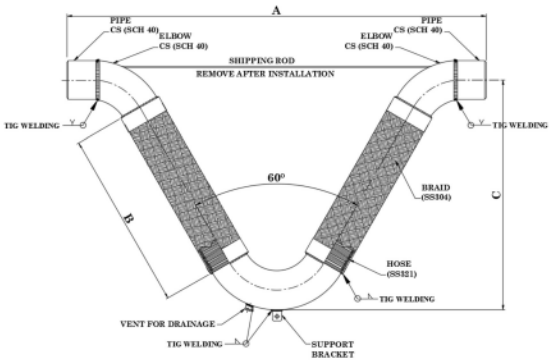
The U Loop connector consists of two flexible sections allowing movement along the XYZ axis, featuring two 90° elbows and one 180° return, resulting in 360° of pipe changes. Due to the spacer pieces required for the 180° return, additional welding is necessary. This connector is used in applications where spacing or nesting of multiple pipe runs is needed, offering a practical solution for compact installations.



Standard Connector Construction

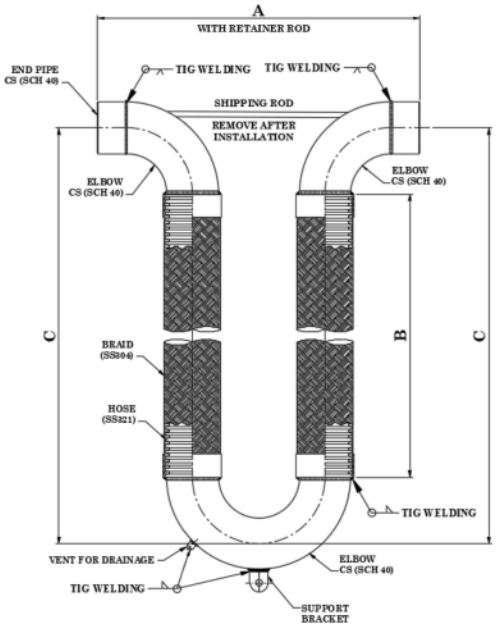
"V" loop – Connector

Sr. No.	Size	Design Pressure (At Ambient Temp.)	Bend Radius	A	B	C	Hose Series	Approx. WT
	NB	BARG	MM	MM	MM	MM		KG
1	1/2"	80	45	494	262	263	A100	0.718
2	3/4"	64	70	547	315	311	A100	1.078
3	1"	50	85	573	342	335	A100	1.451
4	1.1/4"	40	105	637	374	371	A100	2.203
5	1.1/2"	35	130	709	411	413	A100	2.910
6	2"	30	160	813	450	466	A100	4.351
7	2.1/2"	24	180	903	474	505	A200	7.458
8	3"	18	200	993	497	545	A200	10.077
9	4"	16	290	1217	589	662	A200	16.696
10	6"	10	360	1492	650	872	A200	32.379



"U" - Loop Connector

Sr. No.	Size	Design Pressure (At Ambient Temp.)	Bend Radius	A	B	C	Hose Series	Approx. WT
	NB	BARG	MM	MM	MM	MM		KG
1	1/2"	80	45	252	262	338	A100	0.72
2	3/4"	64	70	252	315	391	A100	1.09
3	1"	50	85	252	342	418	A100	1.51
4	1.1/4"	40	105	290	374	469	A100	2.39
5	1.1/2"	35	130	328	411	525	A100	2.23
6	2"	30	160	404	450	602	A100	5.03
7	2.1/2"	24	180	480	474	664	A200	9.01
8	3"	18	200	557	497	726	A200	12.63
9	4"	16	290	710	589	893	A200	21.92
10	6"	10	360	1014	650	1107	A200	42.70



Notes

1. The connectors shown above are designed for a movement range of ±50 mm.
2. Custom connectors can be manufactured to meet specific project requirements.
3. End fittings can be customized to include grooved pipe (suitable for Victaulic coupling), flanged ends, threaded connectors, etc.
4. There is no fixed "standard" hanging orientation for loops; they can be installed in any direction—up, down, or sideways.
5. For steam applications, loops should be double-braided, regardless of working pressure.
6. Steam loops should be oriented to prevent condensate build-up.
7. Shipping bars are included with all loop connectors.

Flexible Sprinkler Drop

Fire sprinkler systems are crucial for controlling or extinguishing fires by discharging water when a fire is detected. Flexible Sprikler Drop play a vital role in linking the sprinkler system to the main fire line.



Advantages

- **Ease of Installation** : Quick and straightforward setup.
- **Material** : Minimizes installation expenses.
- **Durability** : Resistant to high temperatures and pressures.

Applications

Sprinkler systems are commonly used in:

Hotels	Malls	Theaters
Libraries	Factories	Cruise

Vacuum Hose Assemblies

The vacuum hose consists of a dense, corrugated metal hose that is used in the vacuum range without braid. According to the cleanliness requirements, these flexible hoses are specially cleaned. Hydraulically formed, these flexible metal vacuum hoses are designed with safety in mind and made from longitudinal seam-welded and thin-walled stainless steel tubes. The vacuum hose assemblies are fitted with end connections, which ensures seamless connection with other pipes.



Specifications

- **Hose Material:** SS304L, SS316L
- **End Fitting:** SS304, SS316
- **Internal Pressure:** Max. 4 bar
- **Working Vacuum Pressure:** Allowable leak rate 1.33×10-10 Pa•m3/sec or less
- **Hose Size:** DN16 up to DN50
- **Length:** Customised as per requirement
- With KF flange DN16 - DN50
- With ISO flange DN65 - DN150

Advantages

- Highly durable, lightweight, and portable.
- Its rugged structure ensures excellent strength.
- They offer superior-quality finish and top-notch cleanliness.
- They are resistant to crushing, abrasion, UV, oil, and chemicals.
- They are anti-static, have an anti-shock helix.
- These stainless steel flexible vacuum hose assemblies have high heat resistance.
- They can withstand harsh weather and are suitable for suction & transportation of air, liquids, fumes and small particle solids (powders).

Gas hoses are essential for connecting gas appliances to a gas delivery system in domestic settings. They are protected by a yellow heat-shrinkable tube to guard against acid attacks and thermal variations. Due to its extensible structure the hose can be adjusted to any installation.

Hose Diameter	DN12 - DN50
Hose Material	Stainless Steel
Fittings Type	Nut-Nipple
Fittings Material	Stainless Steel / Carbon Steel
Outer Cover	Polyolefin Heat Shrinkable Tube
Gasket Material	NBR



EN14800 Gas Hose

These hoses are designed according to the European Standard EN14800 for domestic appliances using gas at pressures below 0.5 bar. They are suitable for various gases, including natural gas, LPG, and manufactured gases.

Hose Material	Stainless Steel AISI 316
Braiding	Stainless Steel AISI 304
Fittings	Stainless Steel / Brass
Cover	PVC Cover
Gasket	NBR
Lenghts	0.50m to 2.00m



Features and Benefits

- **Durable:** Designed to withstand mechanical and thermal stresses.
- **Safety:** Provides a high level of safety and flexibility, with certifications from various international standards.

Corrugated stainless steel hoses for natural gas

Use: Connect gas counter devices.

Hose	Stainless steel 316L (DIN 1.4404)
Fitting	SS 316L
External Coating	Polyolefin fire resistant, heat shrinkable
Gasket	NBR
Maximum Inlet pressure	0.5 bar
Maximum working Temp.	70-80°C



Corrugated stainless steel gas hoses for meter connection

Hose	Stainless steel 316L (DIN 1.4404)
Fitting Male	SS 316L / SS 304 / CS*
Fitting Female Nut	Brass
Fitting Nipple	SS 316L / SS 304 / CS*
External Coating	Polyolefin fire resistant, heat shrinkable (Option)
Gasket	NBR
Maximum Inlet Pressure	0.5 bar
Maximum Working Temp.	70-80°C



Fan Coil Hoses



Our fan coil hoses are designed to meet international standards while being cost-effective and time-efficient during installation. They are widely used in fan coil applications for heating, ventilation, and air conditioning (HVAC) systems. Their flexible design allows for easy installation without additional fittings, making them ideal for rigid connections.

Applications

- Fan coil systems in HVAC
- Chemical and petrochemical plants
- Oil and gas processing
- Shipbuilding and drilling
- Food processing industry

Advantages

- Flexible design ensures a secure connection between collectors and pumps
- Reduces assembly time and costs
- Long service life with resistance to pressure and temperature variations
- Prevents vibration and noise due to its flexibility
- Insulation and welding protection help prevent corrosion and grounding issues

Technical Specifications

Hose Type	: Standard corrugated metal hose (DIN EN ISO 10380)
Hose Material	: Stainless Steel AISI 316L (AISI 304, 321 available on request)
Braiding Material	: Stainless Steel AISI 304
Size Range	: 1/2", 3/4" & 1" NB
Temperature Range	: -196°C to +125°C
Fittings Material	: Carbon Steel St.37.2 / Stainless Steel
Insulation	: Rubber-based EPDM insulation (optional)



AEROFLEX INDUSTRIES LIMITED

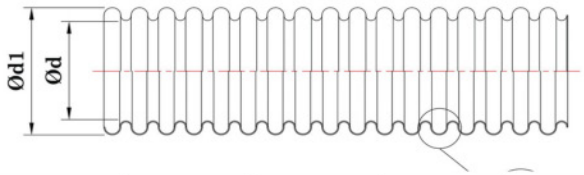
Flexible Metal Hoses for Boiler and Heat Exchanger



Boiler hoses are designed for use in solar boilers and water heat exchangers. Their wide surface area allows for superior heat transfer compared to standard hoses, enhancing efficiency.

A302 SERIES

Material: AISI 316L Stainless Steel



Nominal Hose Size (in.)	Aeroflex Part Number	Sheet Thickness mm	Nominal Inside Diameter mm	Nominal Outside Diameter mm	Pressure Rating at 23°C Max. Working Pressure	Test Pressure	Minimum Centreline Bend Radius (mm) Static	Surface Area m2 / m	Weight (kg/mtr.)	Typical Length mtrs.
1/2"	A30216012	0.25	12.2	16.7	9.0	14	30	0.076	0.167	50
3/4"	A30216020	0.30	20.6	26.0	9.0	14	30	0.116	0.310	50
1"	A30216025	0.30	25.3	32.0	6.0	9	45	0.148	0.386	50
1 1/4"	A30216032	0.30	34.2	40.7	6.5	10	60	0.195	0.515	50
1 1/2"	A30216040	0.40	40.5	50.2	6.5	10	60	0.265	0.890	50
2"	A30216050	0.40	49.6	60.3	6.0	9	120	0.328	1.150	50

- **Material** : SS 316L Stainless Steel
- **Diameter** : DN 12 - DN 50
- **Fittings** : Internal or External Thread
- **Temperature** : -40°C to +550°C

Key Features

- Optimized design for maximum heat exchange efficiency
- Customizable coil with frame, tailored to customer specifications
- Easy-to-install assembly for seamless integration

Applications

- Boiler systems
- Heat pumps
- Hot & cold water pipelines
- Air fin coolers
- Air dryers
- Heat exchangers
- Cooling systems



Solar Hoses

AEROFLEX INDUSTRIES LIMITED

Our Stainless-Steel Solar Hose are designed to be flexible, they are much easier to work with. The installation process is simplified, all we have to do is to open the box, uncoil the piping and then chart snacking it through the building. Pre-insulated solar hose only require 1 step to finish the solar water heater pipe installation. Unlike copper coils, the changing directions with stainless steel hoses does not require any processes like cutting, welding, brazing, or special tools. The system is lightweight and space saving.

Pre-insulated solar hose has following child parts:

- Twin EPDM insulation pipe
- Stainless steel solar hose
- Strong jacketing UV protection
- 2 core temperature sensor cable

It is an ideal choice for your solar thermal system. No welding is required.

Applications

- Piping systems for solar hot water
- Air conditioning technology indoor, outdoor, underground piping system
- Heat pumps
- Piping systems for boiler



Aeroflex solution for solar thermal system

- **Single Solar Hose:** It consists of high temperature resistance EPDM insulation, 1 x flexible stainless-steel hose, seamless UV resistance jacketing protection which will also ensure mechanical strength and protection against external damage (bird pecking).
- **Twin Solar Hose:** It consists of high temperature resistance twin EPDM insulation, 2 x flexible stainless-steel hose (feed and return), seamless UV resistance jacketing protection which will also ensure mechanical strength and protection against external damage (bird pecking), Silicon/PVC insulated sensor cable.

Twin Insulated Solar hose

EPDM Insulation Pipe

- High quality EPDM foam with closed cells structure
- Low density and stable K value
- Excellent UV resistance
- Free from cracking
- Nitrosamine free
- Temperature range between -57°C to 150°C - Thermal conductivity value of 0.0356 W/mK

Jacketing

- UV resistance black film - PE

Temperature Sensor Cable

- Wire – Twin Copper
- Insulation: Silicon or PVC
- Ribbon type



Stainless Steel Corrugated Hose

- **Hose material:** AISI 316L
- **Size:** DN 12, DN 16, DN 20, DN 25
- **Fitting material:** Brass

Lengths

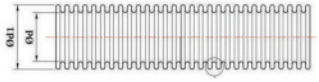
- 10-15-20-25-50 Mtrs

Flexible Metal Hoses

Series A100 Standard Pitch

Material: AISI 316L Stainless Steel

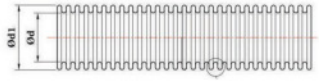




Product Code	DN		Inner Diameter	Outer Diameter	Tolerance	Maximum Bending Radius Static	Maximum Working Pressure ae 20C
	mm	inch	mm	mm	mm	r min. mm	bar
			id	od	id, od		
A10016012	12	1/2"	12.2	16.7	±0.2	45	9
A10016016	16	5/8"	16.2	21.6	±0.2	58	8
A10016020	20	3/4"	20.2	26.8	±0.2	70	4
A10016025	25	1"	25.4	32.2	±0.30	85	3

Series A300 Open Pitch





Nominal Hose Size (in.)	Aeroflex Part Number	Braid Layers	Nominal Inside Diameter mm	Nominal Outside Diameter mm	Pressure Rating at 23°C (kg/cm2)			Minimum Centreline Bend Radius (mm)		Weight (kg/mtr.)	Typical Length mtrs.
					Max. Working	Max. Test	Nominal Burst	Static	Dynamic		
1/2"	A30016012	0	12.3	16.2	12	18	90	45	140	0.105	50
5/8"	A30016016	0	16.3	21.3	10	15	85	58	160	0.150	50
3/4"	A30016020	0	20.5	26.2	8	12	70	70	170	0.175	50
1"	A30016025	0	25.5	32.0	6	9	40	85	190	0.248	50
1 1/4"	A30016032	0	34.2	40.7	4	6	30	105	260	0.345	50
1.1/2"	A30016040	0	40.2	50.0	3	5	24	130	300	0.515	50

Fittings

- Nut - Brass
- Nipple - Brass
- Segment - Stainless Steel
- Gasket - Non Asbestos Klingerit Gasket

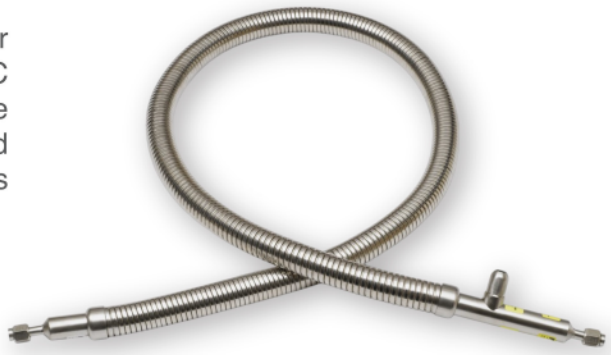




Vacuum Jacketed Hose

AEROFLEX INDUSTRIES LIMITED

Vacuum jacketed hoses provide advanced thermal insulation for fluid transfer applications, operating from -196°C to 550°C (-320°F to 1020°F). These hoses are engineered to ensure maximum thermal control in both cryogenic and high-temperature environments. Ideal for applications such as semiconductor manufacturing, food production, and more.



Specifications Overview

- **Diameters:** 1/4, 3/8,1/2, 3/4,1 inch inner diameter
- **Lengths:** 0.6 to 20 m
- **Operating Temperature:** -196°C to 550°C (-320°F to 1020°F)
- **Applications:** Cryogenics, hydrogen, chiller lines, process heating, oils, steam, exhaust gases, and more
- **Material:** 316L stainless steel
- **Pressure:** MAWP varies by diameter and temperature
- **End Fittings:** Compatible with compression fittings, adapters, flared swivel nuts, flanges, etc.

Features & Benefits

- Thermal insulation.
- Compact Size.
- Reduces condensation and frost in cold applications, maintaining safer surface temperatures.
- Conserve thermal energy, reducing operating costs.
- Inert materials and low non-volatile residue (NVR) suitable for clean room applications.
- No pump-down maintenance required.
- Safely transfers cryogenic fluids like liquid nitrogen, hydrogen, and helium.
- Keeps condensation, frost, and moisture accumulation at bay.
- Compatible with a variety of end fittings and adaptable to high-pressure applications.

Cryogenic Applications

- Analytical instruments & Biomedical sciences
- Cooling systems (chillers, cryogenic cooling, hydrogen fuel)
- Chemical & Pharmaceutical processing
- Food & Beverage Production
- High-power lasers & lab gas handling
- Semiconductor Manufacturing

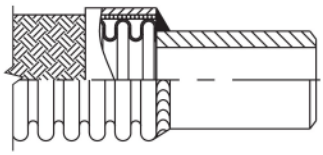
High-Temperature Applications

- Chemical processing
- Deposition and carrier gases
- Industrial manufacturing
- Pharmaceutical manufacturing
- Process heating
- Renewable energy and power generation
- Exhaust systems & Steam transfer
- Nuclear energy,

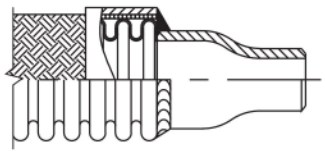
Aeroflex vacuum jacketed hoses offer reliable performance in both cryogenic and high-temperature applications. Whether you're working with liquid nitrogen, hydrogen, or in chemical processing, these hoses provide the highest level of thermal insulation for your needs.

AEROFLEX INDUSTRIES LIMITED

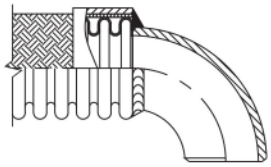
Welded Pipe End



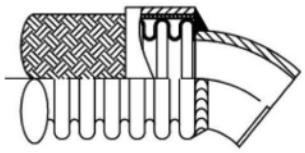
Welded Concentric Reducer



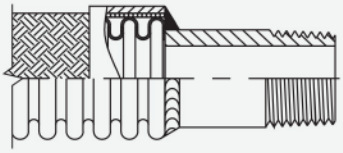
Welded LR 90° Elbow



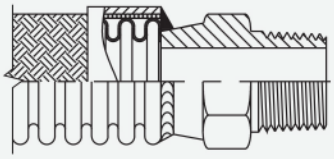
Long Short Radius 45° Elbows



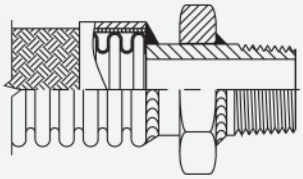
Welded Male Threaded (NPT/BSP/BSPT)



Male Nipple



Hex Male Threaded



Male Welded on Hex Nut

Welded Fixed Flange

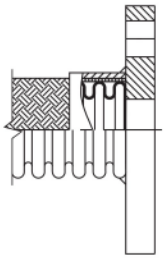
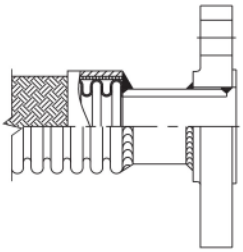
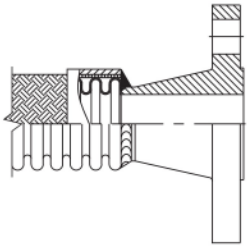


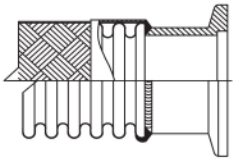
Plate Flange



SORF Flange on Pipe End

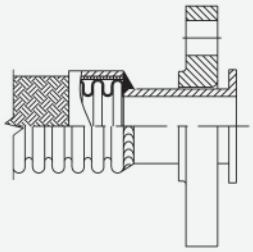


Weld Neck Raised Face Flange

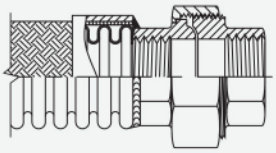


Welded KF Flange

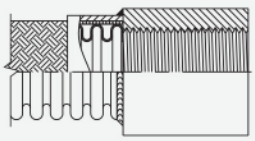
Floating / Swivel Flange



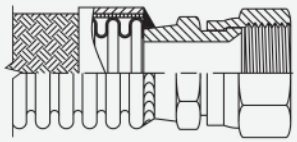
Welded Female Union



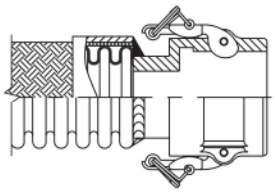
Welded Female NPT Half Pipe Coupling



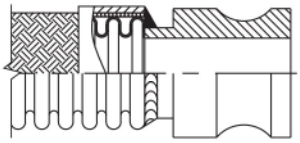
Welded JIC Swivel Female



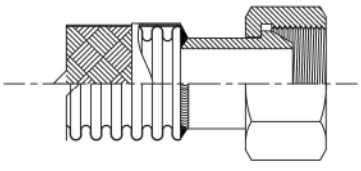
Welded Camlock Female



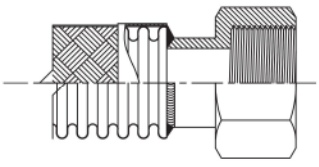
Welded Camlock Male



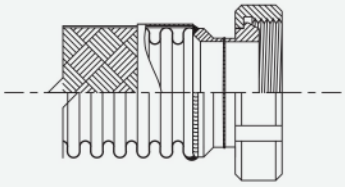
Welded Swivel Nut & Nipple



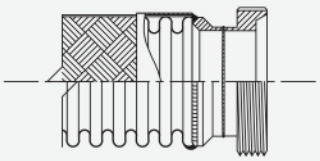
Welded Fixed Nut



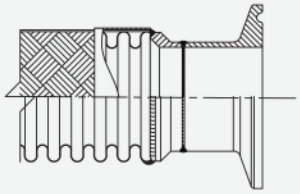
Welded SMS Nut (Dairy)



Welded SMS Nipple (Dairy)



Welded TC Clamp (Dairy)



Quality Management System

At Aeroflex, we take pride in designing, calculating, manufacturing, and testing our metal hoses to meet the latest professional standards. Our Quality Management System (QMS) is rigorously maintained and regularly audited by accredited authorities to ensure our operations remain efficient and top-notch.

Aeroflex is committed to excellence across the board—whether it's producing high-quality products or delivering exceptional customer service through our NABL accredited lab.

Quality Policy	Quality Objectives	Procedures	Instruction Manual
Plans	Forms	Work Instructions	Technical Specifications

Laboratory Testing

- Micro Structure Analysis
- Material Hardness Testing
- Type Tests as per ISO 10380
- NVR Testing

Throughout production, we regularly check components of the hose assemblies like stainless steel strips, wire braids, end connections and braid collars for dimensional, mechanical, and chemical parameters.

Product Approval

As an ISO 9001:2015 certified manufacturer, we are dedicated to exceeding customer expectations and ensuring satisfaction through a robust Quality Management System.

This includes:

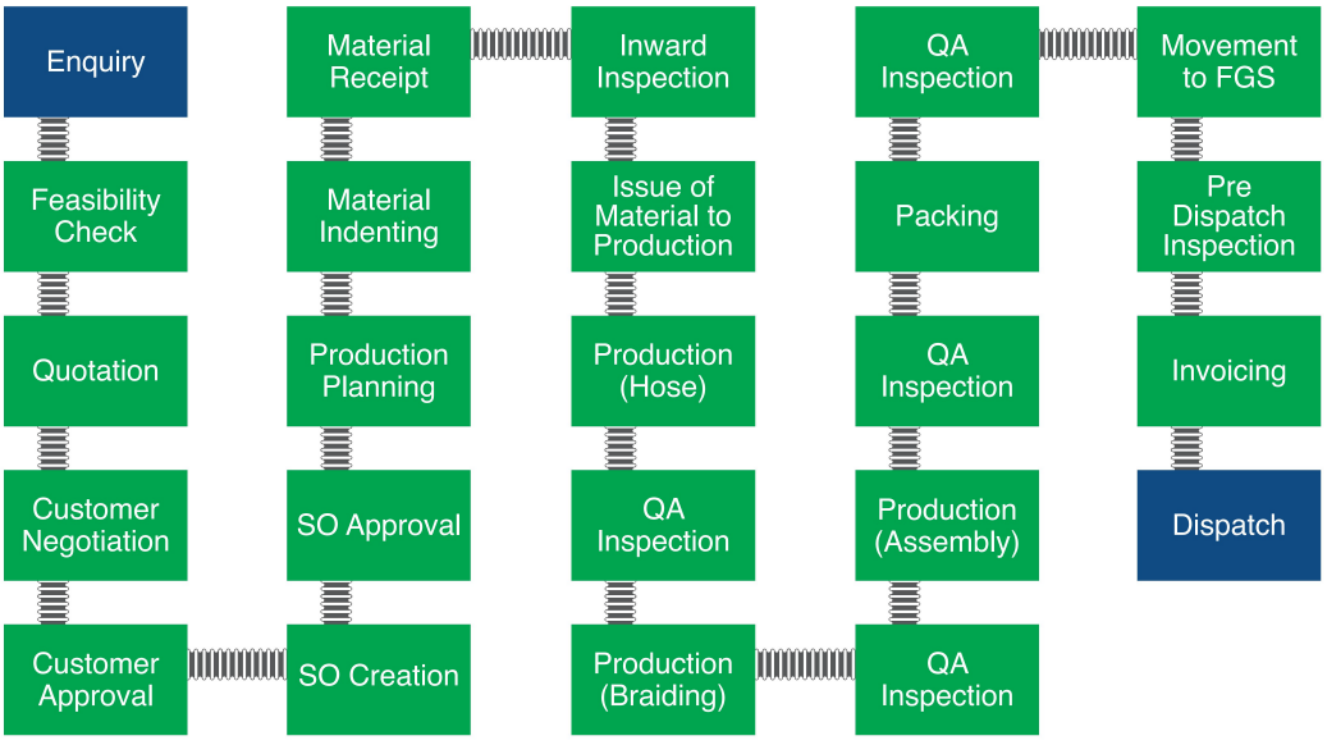
- Regular check-ups at every production stage
- Strict control over materials, processes, and workforce
- Periodic recalibration of test and measuring equipment
- Verification of raw material certificates & strict control over inward supplies

Our hoses are produced and tested according to ISO 10380:2012 standards. We perform a comprehensive range of type tests:

- Leak Tightness Test
- Pressure Resistance Test
- Burst Test
- Elongation Test
- Electrical conductivity Test
- Pliability Test
- Fatigue Test



Order Process Flow



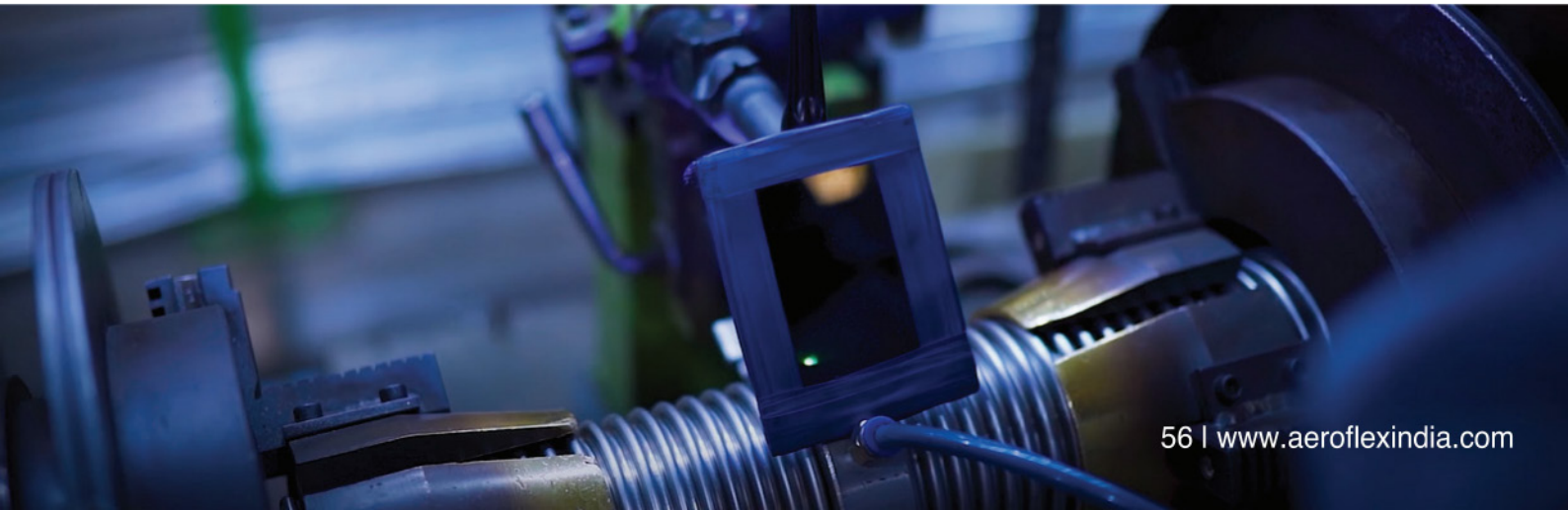
Test & Inspections

In-house (Internal)

- Pneumatic Test
- Hydrostatic Test
- Vacuum Test (Limited)
- Dye Penetrant Test
- Electrical Conductivity Test
- PMI Test (Hitachi Gun)
- Visual

Third Party (External)

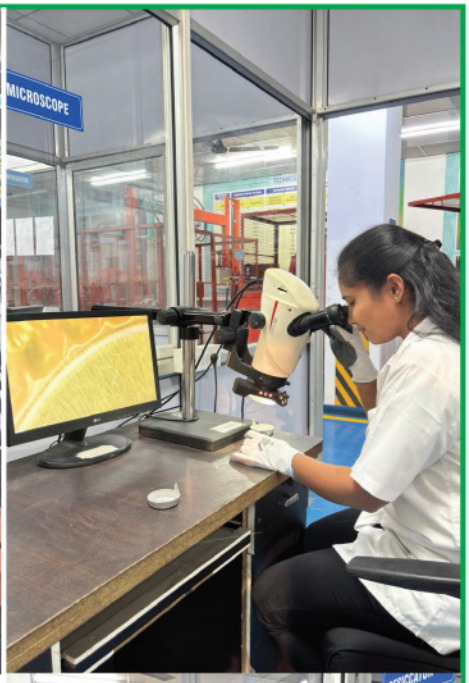
- Radiography
- PMI Test (Lab)
- Tensile Test
- Hardness Test
- IGC Test
- Helium Leak Detection Test
- Yield, Elongation, Grain Size, Surface Finish Test of Raw Materials




INSPECTION TABLE
INSPECTION TABLE









NATIONAL ACCREDITATION BOARD FOR TESTING & CALIBRATION LABORATORIES
परीक्षण और अंशशोधन प्रयोगशाला राष्ट्रीय मान्यता बोर्ड
INDIA • भारत •

NABL







Common Causes of Metal Hose Assembly Failures

AEROFLEX® INDUSTRIES LIMITED

Metal hose assemblies play a critical role in transferring corrosive, high-temperature, or hazardous media in various industrial applications. Failure in these assemblies can pose severe risks to personnel, equipment, and the environment, leading to costly downtime and potential hazards. Understanding the causes of failure is essential to ensuring long-term performance and reliability.

Preventive Measures & Key Inspection Points

- **Braid Damage:** Look for frayed, broken, bulged, or worn braiding.
- **Hose Deformation:** Twisting, kinking, denting, or flattening of the hose body.
- **Coupling Issues:** Slipped, cracked, or excessively corroded couplings.
- **Leakage Signs:** Presence of media around the assembly, indicating potential leaks.
- **Corrosion & Oxidation:** Visible corrosion on the hose or braid, weakening its integrity.
- **Abrasion Damage:** Contact with adjacent machinery or other hoses leading to premature wear.
- **Improper Installation:** Exceeding allowable bend radius, over-tightening, or inadequate clamping.
- **Pressure & Temperature Stress:** Exceeding rated pressure or operating in extreme temperatures without consideration of reduction factors.
- **Vibration & Pulsation Effects:** Uncontrolled mechanical movements causing fatigue failure.
- **Identification Issues:** Missing or unreadable tags, making it difficult to track maintenance schedules.

Corrosion: Look for residue, corroded wires, or pitting in the hose wall due to environment impurities.

Vibration: Check for braid wear, markings on the hose exterior, or fatigue cracks.

Overbending: Notice bulging braids behind fittings or deformed corrugations.

Torque: Look for branched, irregular fractures at an angle to the hose surface.

Abrasion: Inspect for braid wear or exterior wear-through.

Overpressurization: Signs include displaced braid beams, deformed corrugations, or collapsed valleys.

Axial Compression: Notice if the hose "squirms" beneath the braid.

Coupling: Check if the couplings show any signs of slipped, cracked or being dented.

Leaks: Traces of media coming out or being around the assembly.

Fittings: Loose fitting attachments.

Certain minor issues, such as damaged protective covers or loose fittings, may be repairable without a complete hose replacement. However, thorough inspections should always precede such repairs to ensure the internal structure remains intact.

Technical Considerations in Metal Hose Design

Stainless steel corrugated hoses are designed to withstand demanding conditions and are available in various grades, including 304, 304L, 321, and 316L. Their flexibility is achieved through the precise engineering of corrugation height, thickness, and pitch. Proper selection and installation directly impact the hose's longevity and performance.

Key Design Factors

- **Braiding for Pressure Control:** A woven metal wire braid provides reinforcement, preventing elongation under pressure. Additional layers increase pressure capacity.
- **Flexibility & Movement:** Corrugated hoses are ideal for predictable flexing movements. In cases of high thermal expansion, hoses should be installed with a 90° bend to accommodate movement.
- **Material Selection for Corrosion Resistance:** Different environments require specific alloys to ensure chemical compatibility.

Common Modes of Hose Failure

Despite proper selection and installation, hoses can fail due to various mechanical and environmental stresses:

1. Corrosion-Related Failures

- **Uniform Corrosion:** Occurs evenly across the hose due to chemical exposure. Selection of the right alloy is crucial to mitigate this risk.
- **Pitting Corrosion:** Localized pinhole damage due to protective oxide layer breakdown, common in chloride-rich environments. Higher Molybdenum content alloys like 316L offer better resistance.
- **Intergranular Corrosion:** Occurs when stainless steel is exposed to prolonged high temperatures, leading to chromium depletion. Using stabilized alloys like 321 or low-carbon grades like 304L and 316L can help.
- **Stress Corrosion Cracking:** High-stress environments combined with corrosive media can lead to microscopic cracks and sudden failure. Annealing during manufacturing can reduce residual stresses.

2. Fatigue-Related Failures

- **Excessive Flexing & Vibration:** Continuous flexing, pulsations, and torsion can lead to fatigue cracks. Proper routing, controlled movement, and avoiding excessive bending can mitigate this.
- **High-Velocity Media Flow:** Turbulence-induced vibration can cause premature failure. Reducing velocity, increasing hose diameter, or using interlocked liners can help.

3. Pressure-Related Failures

- **Pressure Rupture:** Occurs when hose assemblies are subjected to pressures exceeding their design limits, leading to bursting. Proper selection of pressure ratings and using braided reinforcements are critical.
- **Sudden Valve Closures:** Rapid opening or closing of valves can cause pressure spikes, leading to hose damage. Flow control measures should be implemented to prevent water hammer effects.

Best Practices for Hose Installation & Maintenance

To maximize service life and maintain safety, follow these guidelines:

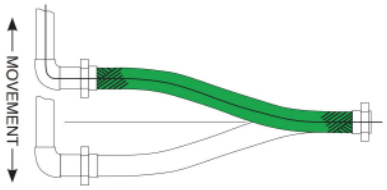
- Protect hoses from external mechanical damage and avoid dragging them over sharp surfaces.
- Inspect hoses regularly for visible defects such as kinks, corrosion, or braid damage.
- Use rigid piping after connection fittings to minimize stress on the hose.
- Always install hoses at right angles to vibration sources to reduce wear.
- Ensure correct centering and secure tightening of flanges and fittings.
- Limit exposure to chemicals such as chlorine, bromine, and sulphur that may degrade hose materials.
- Follow manufacturer recommendations for allowable bend radii and pressure limits.
- Use expansion loops or 180° U-bends to accommodate movement in multiple directions.
- Avoid excessive heating during welding or soldering near hose assemblies.

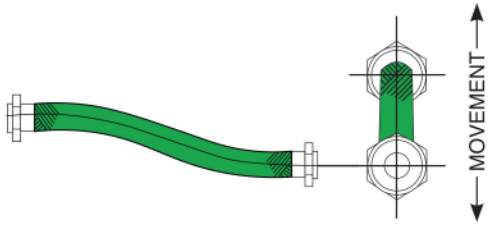
Final Considerations

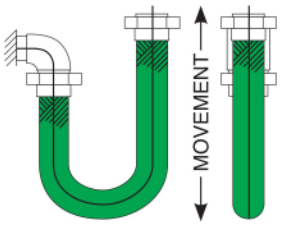
Each hose application is unique, and it is essential to match the assembly with operating conditions to avoid premature failure. By carefully evaluating factors such as pressure, temperature, corrosion potential, and mechanical stresses, service life can be significantly extended. For critical applications, consultation with Aeroflex experts is highly recommended to ensure optimal hose selection and installation.

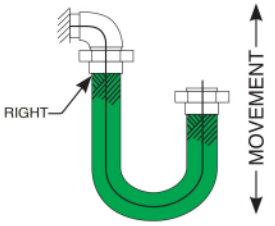
For further details or technical support, please contact our sales team.

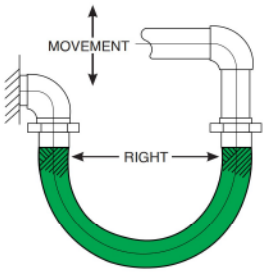
Do's

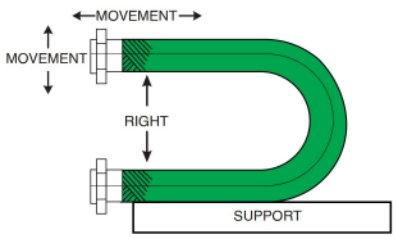

MOVEMENT


MOVEMENT

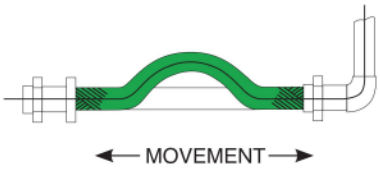

MOVEMENT

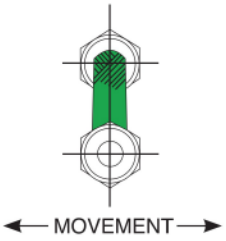

RIGHT
MOVEMENT

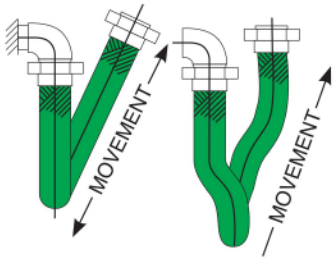

MOVEMENT
RIGHT

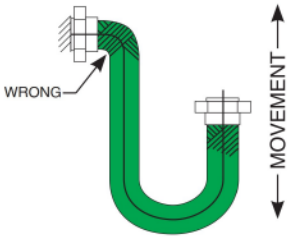

MOVEMENT
MOVEMENT
RIGHT
SUPPORT

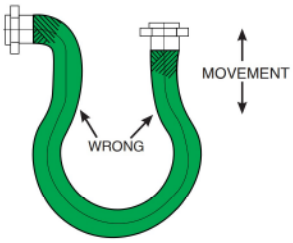
Dont's

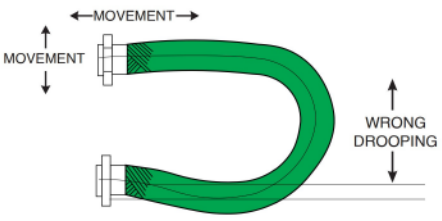

MOVEMENT


MOVEMENT


MOVEMENT
MOVEMENT


WRONG
MOVEMENT


MOVEMENT
WRONG


MOVEMENT
MOVEMENT
WRONG
DROOPING

Installation, Operation, Maintenance Guidelines

Flexible hose assemblies are engineered to provide maximum service life when properly installed. The following installation and handling precautions should be observed to achieve optimum performance from your corrugated hose assemblies.

Packing details

On receipt of consignment, kindly ensure that packing is intact and not damaged from any of the sides. Remove nails, packing plywood, from the boxes without damaging the corrugated hoses. Please ensure the name plate details, P.O. details and the test certificates details and actual consignment received are complying.

Installation of assembly

Corrugated hose must be checked for any damage before installation. Please ensure that corrugated hose is perfectly inserted inside the braid without damaging the braid structure and corrugation of the hose.

Avoid Torque

Do not twist the hose assembly during installation when aligning the bolt holes in a flange or in making up pipe threads. The utilization of swivel / lap joint flanges or pipe unions will minimize this condition. It is recommended that two spanners be used in making the union connection. For example; one to prevent the hose from twisting and the other to tighten the coupling.

In Plane Lateral Offset Installation

Prevent out-of-plane flexing in every installation as this will cause hoses to twist; however it should be noted that this can be compensated by using rotary unions. Always install the hose so that the flexing takes place in only one plane. This plane must be the plane in which the bending occurs.

- Do not Compress or extended axially: hose shall be installed in line with longitudinal axis of pipe system
- Do not sharp bend during unwinding or installation.
- Maintained minimum bend radius to avoid premature failure.
- Do not allow hose movement in multiple plane.

Avoid over bending

The repetitive bending of a hose to a radius smaller than the minimum bending radius specified will result in premature hose failure. Always provide sufficient length to prevent over bending and to eliminate strain on the hose and the end connections.

Avoid Sharp Bends

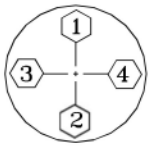
Use smooth geometric configurations to prevent sharp bends, especially at the end fittings of the hose assembly. Failure to follow these instructions can cause severe stress resulting in premature hose failure. This is one of the most common yet easily avoidable causes of premature hose failure.

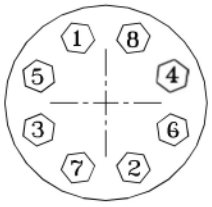
Provide Support

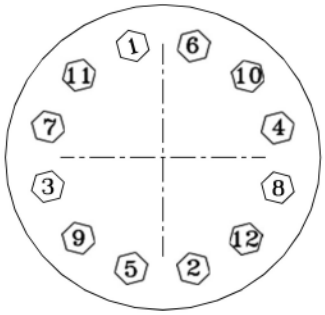
When installing a hose assembly in a horizontal loop, ensure the arms are properly supported to prevent sagging. Unsupported hose weight can place undue tension on the connection ends, reducing the hose's lifespan and leading to premature failure.

Flange bolt tightening sequence

Use of proper gasket and bolt- The use of these rating require gaskets conforming to the requirement ASME B16.5, the user is responsible for selecting gaskets of dimension and materials to withstand the required bolt loading without injurious crushing and suitable for the service conditions in all other respects.







The media carried out inside the hose assembly may be hot; this hot media will raise the temperature of the outside surface of the braid as the steel is good conductor of the heat the staff working around should be well aware about and take appropriate action while working on hose assembly.

Metal hose assembly with visible defects like damaged, twisting etc. should be immediately taken out of service.

Corrugated hose has good electrical conductivity thus always use proper grounding to minimize the risk of electrical discharge and electrocution.

Inspection

Hose Assembly Inspection shall be done periodically. During inspection look for following points…

Description	Frequency of Inspection
Broken or missing braid wires	Time of Installation / Monthly
Torque	Time of Installation / Quarterly
Over bending of hose directly behind the braid collar	Time of Installation
Excessive bending stress	Time of Installation
Axial compression	Time of Installation / Monthly
Sagging or unsupported hose installations	Time of Installation / Quarterly
O.D. appearance; corroding braid wires, residue, mechanical impact, leakage of product in the area around the assembly, etc.	Weekly
Deformed or twisted braid	Weekly
Braid is excessively loose on the hose	Weekly
Damage to fitting threads	Time of Installation
Nicked or out-of-round sealing surfaces	Time of Installation
Damaged flange gasket surfaces	Time of Installation
Incorrect fitting alignment, particularly flanged or elbow fittings	Time of Installation
Improper fitting orientation	Time of Installation
Swivels or loose nuts not rotating freely	Time of Installation
Loose, broken, bulged, frayed, worn braid, etc.	Time of Installation / Monthly
Deformation of hose including twisting	Time of Installation / Monthly
Traces of media on and around the hose assembly	Weekly
Loose or damage guard the hose assembly	Monthly
Indication of corrosion on the hose assembly	Weekly
Loose fitting attachment	Time of Installation / Monthly
Hose assembly rubbing or contacting adjacent machinery or piping Fluid or solids accumulation on the hose assembly	Weekly

If any of the points mention above are noticed, initiate immediate corrective measure for removing the same.

Preventive Maintenance:

After hose assemblies are installed, corrugated hose should be periodically inspected the frequency of the inspection is based upon the nature and severity of the application in past history.
If an appropriate inspection schedule has not been established the assembly should be inspected daily.

Material Compatibility Chart

AEROFLEX® INDUSTRIES LIMITED

	Bronze	Monel	Carbon Steel	304L/321 Stainless	316/316L Stainless
Acetaldehyde	C[2]	A	B	A	A
Acetanilide	B[3]	B	B	B	A
Acetic Acid	C	B	C	B[1]	A[1]
Acetic Anhydride	B	B	C	B	B
Acetone	A	A	C	B	B
Acetophenone	A	A	A	B	B
Acetylene	C[2]	A	A	A	A
Acrylates	B	B	B	B	A
Acrylic Acid	B	B	C	B	B
Acrylonitrile	A[4]	A	A	A	A
Alcohols	A[5]	A	A[5]	A	A
Alum	B	B	B	B	B
Alumina	A	A	A	A	A
Aluminum Acetate	B	B	B	B	B
Aluminum Chloride-Dry	B[1]	A	B	A	A
Aluminum Chloride-Moist	C	B	C[3]	C[3,4]	C[3]
Aluminum Fluoride	B	B	B	C	C
Aluminum Hydroxide	B	B	B	A	A
Aluminum Sulfate	C	B	C	B[1,3]	A[3]
Ammonia-Dry	A	A	A	A	A
Ammonia-Moist	C[3]	C	C[3]	A	A
Ammonium Acetate	C	A	A	A	A
Ammonium Bromide	C	B	C	C[4]	C[4]
Ammonium Chloride-Dry	C[4]	A	B	A	A
Ammonium Chloride-Moist	C[4]	B	C	C[3,4]	C[3]
Ammonium Hydroxide 6	C[3]	A	B	A	A
Ammonium Nitrate	C[2]	C[2]	C[3]	A	A
Ammonium Sulfate	C	B	C	C[1]	B
Amyl Acetate	A	A	A	A	A
Amyl Alcohol	A	A	B	A	A
Amyl Chloride-Dry	A	A	B	A	A
Amyl Chloride-Moist	C	B	C	C[3,4]	C[3]
Aniline	C[3]	A	C	B	B
Anyline Dyes	C[3]	A	C	B	B
Asphalt	A	A	A	A	A
Atmosphere-Industrial	A	A	C	B[4]	A[4]
Atmosphere-Marine	A	A	C	B[4]	B[4]
Atmosphere-Rural	A	A	C	A	A
Barium Carbonate	B	B	B	B	B
Barium Chloride-Dry	B	A	A	A	A
Barium Chloride-Moist	B	B	B	C[3,4]	C[3]
Barium Hydroxide	C	B	B	B	A
Barium Sulfate	B	B	B	B	B
Barium Sulfide	C	C	C	B	B
Beer	A	A	C	A	A
Beet Sugar Syrups	A	A	B	A	A
Benzaldehyde	C	B	C	B	A
Benzene (Benzol)	A	A	A	A	A
Benzolc Acid	A	B	C	A	A
Benzylamlne	C	B	B	B	B
Benzyl Chloride-Dry	B	A	A	A	A
Benzyl Chloride-Moist	B	B	C	C[3,4]	C[3]
Black Liquor, Sulfate Process	C	A	C	B	B
Bleaching Powder-Dry	B[1]	A	C	A	A

	Bronze	Monel	Carbon Steel	304L/321 Stainless	316/316L Stainless
Bleaching Powder-Moist	B	B	C	C[1,2,3]	C[3,4]
Borax	A	A	B	A	A
Bordeaux Mixture	B	A	B	A	A
Boric Acid	B	B	C	A	A
Boron Trichloride-Dry	B	B	A	B	B
Boron Trichloride-Moist	B	B	B	C[3,4]	C[3]
Boron Trichloride-Dry	B	B	A	B	B
Brines	B	B	C	C[3,4]	C[3]
Bromic Acid	C	C	C	C	C
Bromine-Dry	A	A	C	B	B
Bromine-Moist	B	B	C	C	C
Butladene	A	A	A	A	A
Butane	A	A	A	A	A
Butano (Butyl Alcohol)	A	A	A[5]	A	B
Butyl Phenois	B	A	B[5]	B	B
Butylamine	C[3]	A	A	A	A
Butric Acid	B	B	C	B	B
Cadmium Chloride-Moist	B	B	C	C[3,4]	C[3]
Cadmium Chloride-Dry	B	A	A	A	A
Cadmium Sulfate	B	A	B	A	A
Calcium Bisalfite	B	B	B	B[1]	B
Calcium Bromide	B	B	C	C[3]	C[3]
Calcium Chloride-Moist	B	B	C	C[3,4]	C[3]
Calcium Chloride-Dry	B	A	A	A	A
Calcium Fluoride	B	B	C	C	C
Calcium Hydroxide	B	B	C	B	B
Calcium Hypochlorite-Moist	C	B	C	C[3,4]	C[3,4]
Calcium Hypochlorite-Dry	B	A	B	A	A
Calcium Nitrate	B	B	C[1]	B	B
Calcium Oxide	A	A	A	A	A
Cane Sugar Syrups	A	A	B	A	A
Carbolic Acid (Phenol)	B	B	C	B	A
Carbon Dioxide-Dry	A	A	A	A	A
Carbon Dioxide-Moist	C[4]	A	C	A	A
Carbonated Beverages	B	A	C	A	A
Carbonated Water	B[4]	A	C	A	A
Carbonated Disulfide	B	B	B	B	B
Carbon Tetrachloride-Dry	A	A	B	A	A
Carbon Tetrachlorlde-Moist	B	B	C	C[3,4]	C[4]
Castor Oil	A	A	A	A	A
Chlorine-Dry	A	A	B	A	A
Chlorine-Moist	C	B	C	C[3,4]	C[3]
Chloroacetic Acid	C	B	C	C[3,4]	C[3]
Chloric Acid	C	C	C	C[3]	C[3]
Chlorine Dioxide-Dry	A	A	A	A	A
Chlorine Dioxide-Moist	C	B	C	C[3,4]	C[3]
Chloroform-Dry	A	A	A	A	A
Chloroform-Moist	B	B	C	C[3,4]	C[3]
Chromic Acid	C	B	C[3]	C[1,4]	B
Chromic Fluorides	C	B	C	C	C
Chromic Hydroxide	B	B	B	B	B
Chromium Sulfate	B	B	C	B	B
Cider	A	A	C	A	A
Citric Acid	C	B	C	B	B

	Bronze	Monel	Carbon Steel	304L/321 Stainless	316/316L Stainless
Cofee	A	A	C	A	A
Copper Chloride-Dry	A	A	B	A	A
Copper Chloride-Moist	B	B	C	C[3,4]	C[3]
Copper Nitrate	C	C	C	A	B
Copper Sulfate	C	B	C	B[1]	B
Corn Oil	A	A	A	A	A
Cottonseed Oil	A	A	A	A	A
Creosole	B	A	A	A	A
Crude Oil	B	A	C	C[1]	B
Cyclohexane	B	B	B	B	A
DDT	B	B	C	A	A
Dichloroethane-Dry	A	A	A	A	A
Dichloroethane-Moist	C	B	C	C[4]	C[4]
Dichloroethylene-Dry	A	A	B	A	A
Dichloroethylene-Moist	C	B	C	C[4]	C[4]
Dichlorophenol	C	B	C[3]	C[3,4]	C[3]
Diisocyanate	B	B	C	B[3]	B[3]
Dimethyl Sulfate	B	B	B	B	A
Epichlorohydrin-Dry	B[4]	A	C[4]	A	A
Epichlorohydrin-Moist	C	B	C[4]	C[3,4]	C[3]
Ethane	A	A	A	A	A
Ethers	A	A	B	A	A
Ethyl Acetate	A	B	B	B	B
Ethyl Alcohol	A	A	A	A	A
Ethyl Benzene	B[5]	B	B	B[3]	B
Ethyl Chloride-Dry	A	A	B	A	A
Ethyl Chloride-Moist	B	B	C	C[3,4]	C[3]
Ethylene	A	A	A	A	A
Ethylene Chlorohydrln-Dry	B	A	B	A	A
Ethylene Chlorohydrln-Moist	C	B	C	C[4]	C[4]
Ethylene Diamine	C	B	B	B	B
Ethylene Glycol	A	A	A	A	A
Ethylene Oxide	C[2]	B	B	A	A
Fatty Acids	C	B	C	B[1,4]	A
Ferric Chloride-Dry	B	A	B	A	A
Ferric Chloride-Moist	A	B	C	C[1,3,4]	C[3,4]
Ferric Nitrate	C	C	C	B	B
Ferric Sulfate	C	C	C	B[1]	A
Ferrus Chloride-Dry	B	A	B	A	A
Ferrus Chloride-Moist	B	A	C	B[4]	B
Ferrus Sulfate	B	A	C	B[4]	B
Fluorine-Dry	B	A	A	A	A
Fluorine-Moist	C	B	C	C	C
Formaldehyde	A[5]	A[5]	B[5]	B	B
Formic Acid	B	B	C	B[1]	A
Freon	A	A	A	A	A
Fruit Juices	C	A	C	A	A
Fuel Oil	B	A	C	A	A
Furtural	A	A	B	A	A
Gasoline	A	A	B	A	A
Gelatine	A	A	C	A	A
Glucose	A	A	B	A	A
Glue	B	A	C	A	A
Glutamic Acid	C[4,5]	B	C	B[3,4]	B[3,4]

	Bronze	Monel	Carbon Steel	304L/321 Stainless	316/316L Stainless
Glycerin (Glycerol)	A	A	B[5]	A	A
Heptane	A	A	A	A	A
Hexacloroethane-Dry	B	A	B	A	A
Hexacloroethane-Moist	C	B	C	C[4]	C[4]
Hydrazine	C[3]	C	C	A	A
Hydrobromic Acid	C	C	C	C[4]	C
Hydrocarbons, Pure	A	A	A	A	A
Hydrochloric Acid	C	B	C	C[4]	C[4]
Hydrocyanic Acid	C	B	C[3]	C[1,3]	C[3]
Hydrofluoric Acid	C	B	C	C[1,3]	C
Hydrofluorisilic Acid	C	B	C	C	C
Hydrogen	A	A	A	A	A
Hydrogen Chloride-Dry	A	A	B	A	A
Hydrogen Chloride-Moist	C	B	C	C[4]	C[4]
Hydrogen Peroxide	C	C	C	B	B
Hydrogen Sufide-Dry	A[5]	A	B	A	A
Hydrogen Sufide-Moist	C[4,5]	B	C[3]	B[4]	A
Hydroquinone	B	B	B[5]	B	B
Kerosine	A	A	B	A	A
Lacquers	A	A	A	A	A
Lacquer Solvents	A	A	A	A	A
Lactic Acid	B	B	C	B[1,4]	B[1]
Lime	A	A	B	A	A
Lime Sulfur	C	B	C	B	B
Linseed Oil	A	A	B	A	A
Lithium Chloride-Dry	B	A	B	A	A
Lithium Chloride-Moist	B	B	B	C[3,4]	C[3]
Lithium Hydroxide	C	B	B	B	B
Magnesium Chloride-Dry	B	A	B	A	A
Magnesium Chloride-Moist	B	B	C	C[3,4]	C
Magnesium Hydroxide	A	A	A	A	A
Magnesium Sulfate	A	A	B	B	A
Maleic Acid	C	B	B	B[1]	B
Mercurio Chloride-Dry	B	A	B	A	B
Mercurio Chloride-Moist	C	B	C	C[3,4]	C
Mercurous Nitrate	C[3]	B[3]	B	B	B
Mercury	C	B[3]	B	B	B
Methyl Alcohol	A	A	A	A	A
Methane	A	A	A	A	A
Methyl Chloride-Dry	A	A	A	A	A
Methyl Chloride-Moist	B	B	C	C[3,4]	C
Methyl Ethyl Ketone	B	B	B	B	B
Milk	B	A	C	A	A
Mine Water	C	B	C	B	B
Naphtalene	B	B	A	A	A
Natural Gas	A	A	A	A	A
Nickel Chloride-Dry	B	A	B	A	A
Nickel Chloride-Moist	C	B	C	C[3,4]	C[3]
Nitric Acid	C	C	C	A	A
NitroToluene	B	B	B	B	B
Nitrogen	A	A	A	A	A
Oleic Acid	B[5]	A	C	B[4]	B
Oleum (Fuming H2S04)	C	C	B[3]	B	B
Oxalid Acid	B	B	C	C[1]	B[1]

	Bronze	Monel	Carbon Steel	304L/321 Stainless	316/316L Stainless
Oxygen	A	A	C	A	A
Palmitic Acid	B	A	C	A	A
Parafin	A	A	B	A	A
Pentane	B	B	B	B	B
Phenol	B	B	C	B	A
Phosphoric Acid	C	B	C	C[1]	B[1]
Phthalic Acid	B	B	C	B[1]	B
Picric Acid	C	C	C	B	B
Potassium	B	B	C	C	C
Potassium Carbonate	B	A	B	A	A
Potassium Chloride-Dry	A	A	A	A	A
Potassium Chloride-Moist	B[3]	B	C	C[3,4]	C[3]
Potassium Chromate	B	B	C	B	B
Potassium Cyanide	C[4]	A	B	B	B
Potassium Dichromate	C	A	C	A	A
Potassium Fluoride	B	B	C	C	C
Potassium Hidroxide	C[5]	A[3]	B[3]	B[3]	A
Potassium Nitrate	B	B	B	B	A
Potassium Permanganate	B	B	B	B	B
Potassium Sulfate	B	B	C	B	B
Propane	A	A	A	A	A
Propylene	A	A	A	A	A
Propylene Oxide	C	C	C	A	A
Propylene Dichloride-Dry	B	A	B	A	A
Propylene Dichloride-Moist	C	B	C	C[4]	C[4]
Pyridine	B[5]	B	B[5]	B	A
Pyrrolidine	C[3]	B	B	B	A
Quinine	B	B	C	B	B
Rosin	A[5]	A	C[5]	A	A
Sea Water	B	B	C	C[3,4]	C[3]
Sewage	A	A	B	A	A
Silver Salts	C	A	C	B	B
Silver Nitrate	C	C	C[3]	B	A
Soap Solutions	A	A	B	A	A
Sodium	C	A	A	A	A
Sodium Bicarbonate	B	A	C	A	A
Sodium Bisulfate	B	B	C	B[1,4]	A
Sodium Bisulfite	C	B	C	B	B
Sodium Bromine	B	B	B	C	C
Sodium Carbonate	B	A	B	A	A
Sodium Chlorate-Dry	B	A	A	A	A
Sodium Chlorate-Moist	B	B	C	C[3,4]	C[3]
Sodium Chloride-Dry	B	A	B	A	A
Sodium Chloride-Moist	B	B	C	C[3,4]	C[3]
Sodium Chromate	A	A	B	A	A
Sodium Citrate	C	B	B	B	B
Sodium Cyanide	C[4]	B	B	B	B
Sodium Dichromate	C	B	C	A	A
Sodium Fluoride	B	A	B	C[4]	C
Sodium Hydroxide 6	B[4]	A	B[3]	B[3]	B[3]
Sodium Hypochlorite-Dry	B	A	B	A	A
Sodium Hypochlorite-Moist	C	B	C	C[1,4]	C[4]
Sodium Metasilicate	B	A	B	A	A
Sodium Nitrate	B	A	B[3]	A	A

	Bronze	Monel	Carbon Steel	304L/321 Stainless	316/316L Stainless
Sodium Nitrite	B	B	B	B	B
Sodium Peroxide	C	B	C	A	A
Sodium Phosphate	B	A	C	A	A
Sodium Silicate	A	A	B	A	A
Sodium Sulfate	A	A	B	B[3]	B
Sodium Sulfide	C	A	C	B[4]	B
Sodium Sulfite	B	A	C	B	B
Sodium Thiosulfate	C	A	C	B	B
Stannic Chloride-Dry	B	A	B	A	A
Stannic Chloride-Moist	C	B	C	C[3,4]	C[3]
Stannous Chloride-Dry	B	A	B	A	A
Stannous Chloride-Moist	C	B	C	C[3,4]	C[3]
Steam	A	A[3]	C	A	A
Stearic Acid	B	B	C[5]	B	B
Stronium Nitrate	B	B	C	B	B
Sulfate Black Liquor	C	B	B	B	B
Sulfate Green Liquor	C	B	B	B[3]	B
Sugar Solutions	A	A	B	A	A
Sulfur-Dry	C	A	B	A	A
Sulfur-Molten	C	C	C	C	B
Sulfur Chloride-Dry	B	A	C	B	A
Sulfur Chloride-Moist	C	B	C	C[3,4]	C[3]
Sulfur Dioxide-Dry	B	B	C	C[1]	B
Sulfur Dioxide-Moist	C[4]	C	C	C[1]	B
Sulfur Trioxide-Dry	A	A	C	A	A
Sulfuric Acid 95-100%	B	B	B	A	A
Sulfuric Acid 80-95%	B	B	C	B	A
Sulfuric Acid 40-80%	C	C	C	C[1]	C[1]
Sulfuric Acid 40%	C	C	C	C[1]	C[1]
Sulturous Acid	B	B	C	C[1,4]	C[1,4]
Tall Oil	C	B	B	B	B
Tannic Acid	B	B	C[5]	B	B
Tar	A	A	B	A	A
Tartaric Acid	C	B	C	B	B
Tetraphosphoric Acid	C	C	C	B	B
Toluene	A	A	A	A	A
Trichloroacetic Acid	C	B	C	C[3,4]	C[4]
Trichloroethane-Dry	A	A	A	A	A
Trichloroethane-Moist	C	B	C	C[4]	C[4]
Trichloroethylene-Dry	A	A	A	A	A
Trichloroethylene-Moist	C	B	C	C[4]	C[4]
Turpentine	A	A	B	A	A
Varnish	A	A	B	A	A
Vinegar	B	B	C	A	A
Water, Potable	A	A	C	A	A
Xylene	B	A	B	A	A
Zinc Chloride-Dry	B	A	A	A	A
Zinc Chloride-Moist	C[4]	B	C	C[3,4]	C[3]
Zinc Sulfate	B	B	C	B	A

For selection of suitable hose and fitting material you may refer this table for guideline which is accurate, however because of variables beyond our control, no guarantee of service generally can be given.

Rating Code:
A - Suitable
B - Limited service
C - Not suitable
D - No Information

Service life is subject to following notes :-
1 Susceptible to intergranular corrosion.
2 May cause explosive reaction
3 Susceptible to stress corrosion cracking
4 Susceptible to pitting type corrosion
5 Discolors
6 Concentration over 50% and/or temperature over 95°C, refer to our Engineeering Dept.

AEROFLEX® INDUSTRIES LIMITED

Check List For Technical Terms

Hose Size*: _____ Hose Material*: _____

Assembly Length* (mm)*: _____

No of Braiding (Depends on Working Pressure): _____

End Fitting 1* (Provide thread type for threaded ends): _____

End Fitting 2* (Provide thread type for threaded ends): _____

Material for End Fitting 1*: _____

Material for End Fitting 2*: _____

Working Pressure*: _____ Working Temperature*: _____

Media (Fluid flowing through hose)*: _____

Installtion Position*: _____

Special Feature (e.g. Interlock Liner or Cover / Insulation): _____

Last purchase reference (Drawings/Invoice if any): _____

Check List For Commercial Terms

Quantity*: _____

Delivery Address* / Bill To / Ship To: _____

GST Number: _____

Payment Terms*: _____

Freight Terms*: _____

Packing (If Special Packing Required)*: _____

Target Price (If Available): _____

Aeroflex Part Number / Customer Material Code: _____

Special Remarks for customer:

1. Field with "*" marked are mandatory to fill
2. For non standard fittings proper dimensions/drawings should be provided by customer.
3. For only fitting requirement proper description/Standard is mandatory















































































And Many More...

AEROFLEX®
INDUSTRIES LIMITED

Commitment to Excellence

Sales & Marketing Office:

Aeroflex Industries Limited
Unit No. 1220 & 1221, A-Wing, 12th Floor, The Epicentre, Off Eastern Freeway, BEST Colony,
Near Shivaji Chowk, Chembur East, Mumbai, Maharashtra, India - 400071.

Manufacturing Facilities

Aeroflex Industries Limited
Unit 1: Metal Hoses & Assemblies
Plot No. 41, 42/(13, 14, 18), Near Taloja MIDC,
Village Chal, Behind IGPL, Panvel,
Navi Mumbai, Maharashtra, India - 410 208.

Aeroflex Industries Limited
Unit 2: Expansion Joints & Composite Hoses
Lodha Industrial And Logistics Park, Palava A5B,
Survey No. 49/50, Village Narhen, Tal. Ambernath,
Thane, Maharashtra, India - 421 501.

Hyd-Air Engineering Private Limited
Subsidiary Company - Fittings Business
Plot C-3, Phase I, MIDC Chakan Industrial
Estate, Mahalunge, Pune, Maharashtra,
India - 410 501.

Board Line: +91 22 6146 7100 **Email:** info@aeroflexindia.com **Web:** www.aeroflexindia.com

Version 1.0 March 2025