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SAFE - QUICK - SAVING - CLEAN



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Visit us:

<http://www.fst-pipe.com>

**PROFESSIONAL SUPPLIER OF COMPREHENSIVE SOLUTIONS
FOR PRESSURE PIPING SYSTEMS**





 **FST pipe**
福斯特 超级管道

PROFESSIONAL SUPPLIER OF COMPREHENSIVE SOLUTIONS FOR PRESSURE PIPING SYSTEMS



ABOUT US

Guangdong Foster Fluid Technology Co., Ltd.(FSTpipe) is a high-tech enterprise focused on R&D, production, sales, and installation of compressed air, inert gas, vacuum, and nitrogen pipeline system. FSTpipe adopts the Pearl River Delta's fast, efficient, and unique management and operation mode to provide customers more convenient services.

FSTpipe has a professional team, from product design, development, production to sales consultation, there are professional product, application, and installation engineers and sales managers providing you with pre-sale, in-sale, and after-sale technical installation consulting services.

Through on-site survey and design, FSTpipe communicates and analyzes with customers and understand the actual demand and use status of customers' production to provide customers with the best design and system configuration.

FSTpipe always pays attention to the core needs of customers, in order to improve their productivity and profitability ability to reduce users' production energy consumption

The FSTpipe compressed air pipe system is widely used in aerospace manufacturing, automobile manufacturing, precision electronics, machinery manufacturing, Packaging and printing, home appliance manufacturing, furniture manufacturing, tobacco, food, medicine, and many other high-end Industries. FSTpipe products have more than 100 national patents, with energy-saving and environmental protection, fast installation, Rugged and other characteristics.

?Supervised by the national special inspection department , FSTpipe has obtained the "Special Equipment Manufacturing License" in China (TS certification), "Special Equipment Production License" (G C Level 2) and other certificates and honors Reputation, has become a reliable choice for the majority of users.



Special Equipment
Manufacturing
License of the People's
Republic of China



People's Republic of
China Special
Equipment
Production License



All the pipelines are our business scope

COMPANY CULTURE

CORE VALUE

Integrity-based, quality as the root,
Innovation as the soul, make win-win

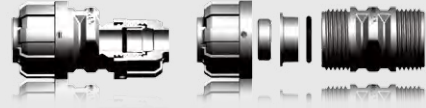
MISSION

Leading the technical standard and
becoming the global professional
supplier of pressure pipeline
system comprehensive solutions.

VISION

All the pipelines
are our business scope

TECHNICAL PARAMETERS

	STANDARD	DN20、DN25、DN32、DN42
	BODY	ALUMINUM ALLOY
	NUT	ALUMINUM ALLOY
	DRUM INTERNALS	SUS304
	O RING	F K M / N B R
	COMPATIBLE FLUIDS	COMPRESSED AIR,VACCUM,INERT GASES

	STANDARD	DN50、DN65
	BODY	ALUMINUM ALLOY
	SS INTERNALS	SS304
	SEALING SLEEVE	POLYAMIDE
	O RING	F K M / N B R
	COMPATIBLE FLUIDS	COMPRESSED AIR,VACCUM,INERT GASES

	STANDARD	DN80、DN100、DN150、DN200
	BODY	ALUMINUM ALLOY
	SEALING SLEEVE	POLYAMIDE
	O RING	F K M / N B R
	COMPATIBLE FLUIDS	COMPRESSED AIR,VACCUM,INERT GASES

	STANDARD	DN125
	BODY	ALUMINUM ALLOY
	SEALING SLEEVE	ALUMINUM ALLOY
	O RING	F K M / N B R
	COMPATIBLE FLUIDS	COMPRESSED AIR,VACCUM,INERT GASES



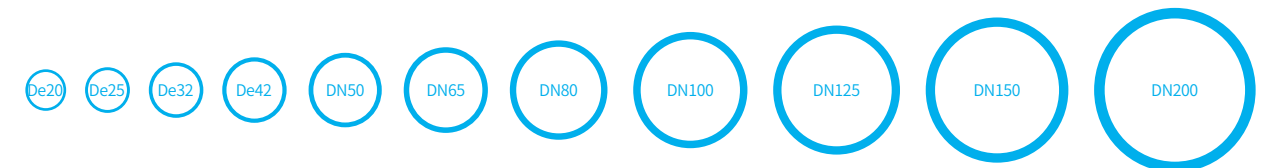
TECHNICAL SPECIFICATIONS

FST pipe Aluminum Pipe (3 M /6 M)											
DN20	DN25	DN32	DN42	DN50	DN65	DN80	DN100	DN125	DN150	DN200	
•	•	•	•	•	•	•	•	•	•	•	

FST pipe Pipe Fittings	DN20 3/4"	DN25 1"	DN32 1 1/4"	DN42 1 1/2"	DN50 2"	DN65 2 1/2"	DN80 3"	DN100 4"	DN125 5"	DN150 6"	DN200 8"
Pipe to pipe connector	•	•	•	•	•	•	•	•	•	•	•
Reducing connector		•	•	•	•	•	•	•	•	•	•
90°Elbow	•	•	•	•	•	•	•	•	•	•	•
Equal tee	•	•	•	•	•	•	•	•	•	•	•
Reducing tee		•	•	•	•	•	•	•	•	•	•
Quick drop		•	•	•	•	•	•	•	•	•	•
Female thread quick drop		•	•	•	•	•	•	•	•	•	•
Ball valve	•	•	•	•	•	•	•	•	•	•	•
End cap	•	•	•	•	•	•	•	•	•	•	•
Flange					•	•	•	•	•	•	•

RIGHT PIPE DIAMETER MAKES THE BEST TRANSMISSION EFFICIENCY OF PIPEWORK

In order to ensure the smallest pressure drop, FSTpipe offers various specifications of pipes and fittings.



FSTpipe TECHNICAL DATA

- ◇Working Temperature: -29° C~+80° C
- ◇Max. Working Pressure:16bar
- ◇Vaccum: 0.013bar, absolute pressure (compatible with all compressor oils)
- ◇Suitable for outdoor Installation: FSTpipe series are all Fire resistance(Comply with UL-90-VO standard)
- ◇seamless extruded aluminum pipe
- ◇GB/T4437.1-2000
- ◇All threaded joints are BSP
- ◇FSTpipe series obtained TS certification

FULL PERFORMANCE PIPING SYSTEM SOLUTION

01

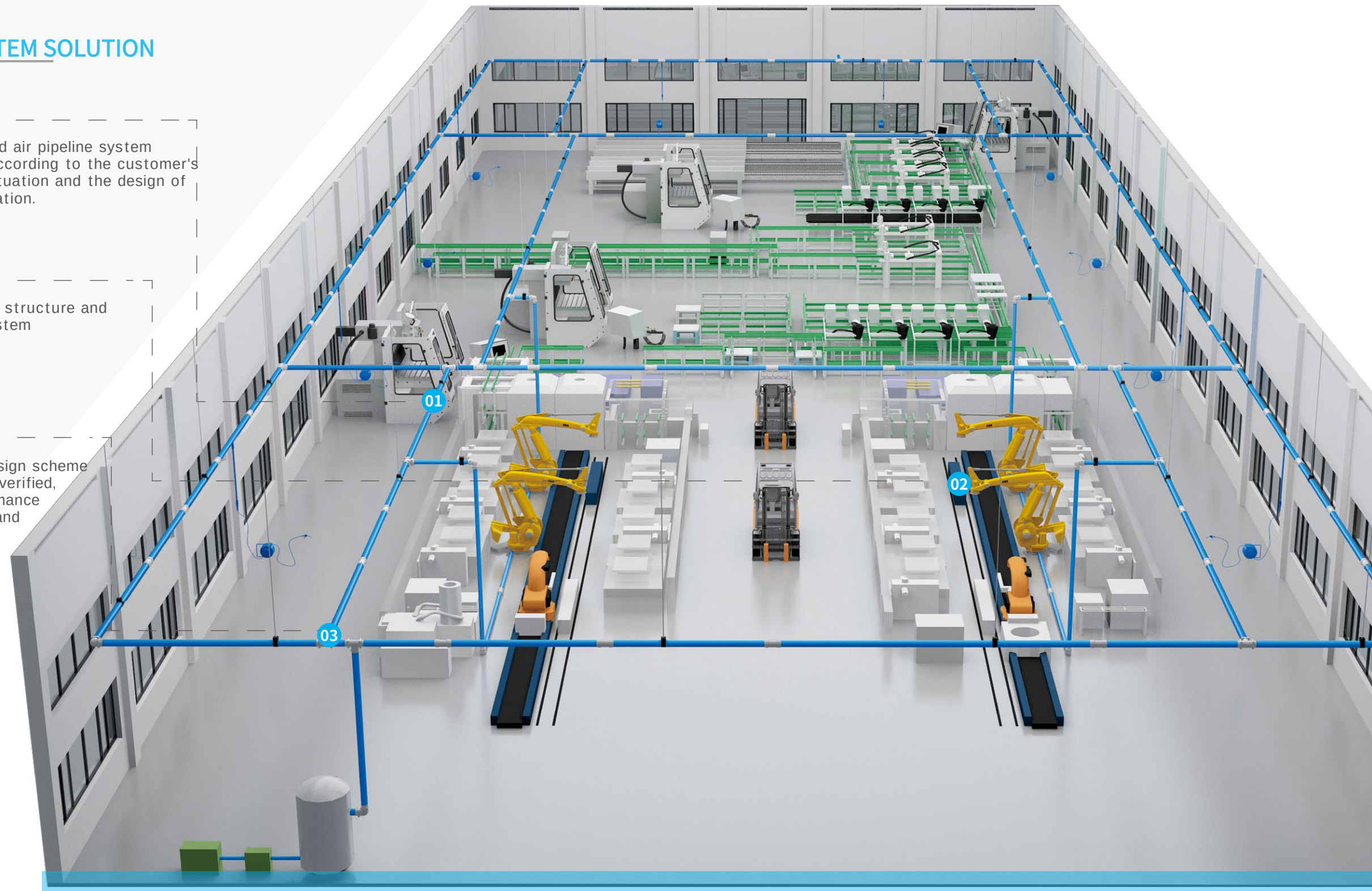
FSTpipe's full-performance compressed air pipeline system solution can be fully communicated according to the customer's production environment and actual situation and the design of the circular simulation pipeline installation.

02

We can provide detailed pipe network structure and calculate the pressure drop in the system

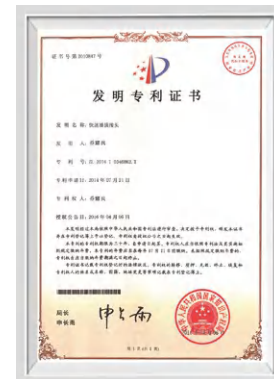
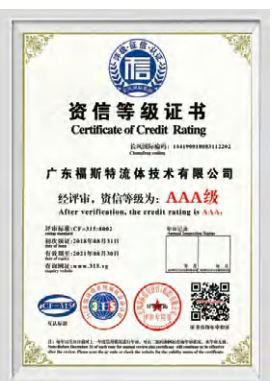
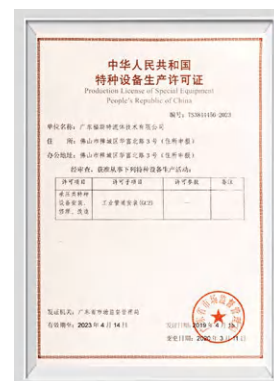
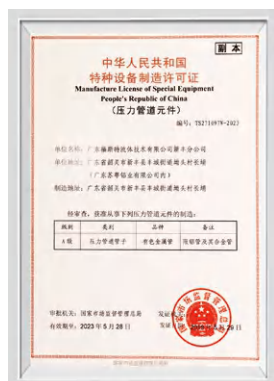
03

Through the simulation design, the design scheme can be flexibly adjusted, modified and verified, and all the required Foster full performance piping system accessories are listed, and the project quotation and installation time are calculated.



Excellent product quality greatly reduces the risks and losses caused by inferior products

FSTpipe won the national high-tech enterprise certification, ISO9001 "quality management system" certification, ISO14001 "environmental management system" certification, SGS certification, special equipment manufacturing license (TS certification), special equipment production license (GC2 level), 100 Multiple invention and utility model patents. Your commitment, I will promise that we will give our customers ten years of quality warranty and escort your career!



10-YEAR WARRANTY
Provide all kinds of vulnerable sealing elements for free

ENERGY-SAVING
Consistent smooth inner surface, clean air, full-diameter connection, low friction, high flow rate, low pressure drop, optimal sealing, zero leakage

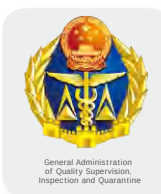
COMPLETE ADAPTABILITY
The fittings can be disassembled and expanded at will, and the components can be reused

GOOD COMPATIBILITY
Commonly suitable for various brands of air compressors and post-processing equipment and original parts of pneumatic accessories

SUITABLE FOR SITUATIONS
Excellent resistance to the following environments: corrosion, mechanical vibration, thermal change, ultraviolet light, compressor oil, etc. harsh environment

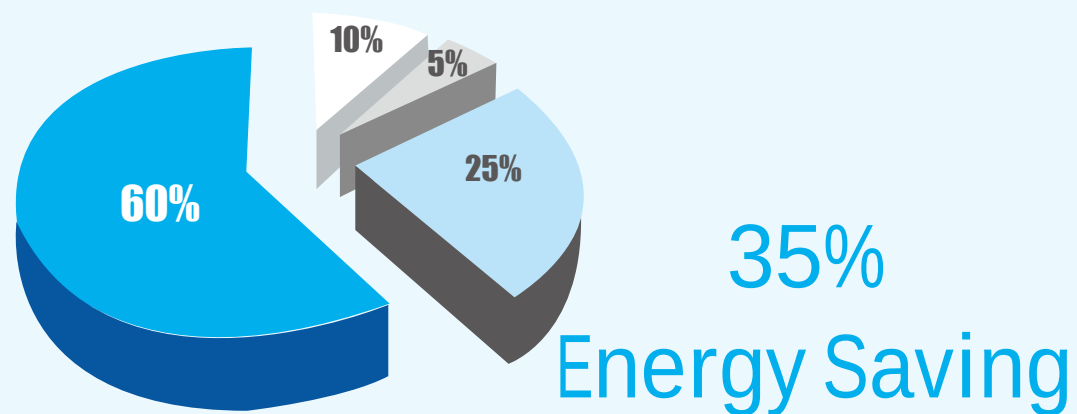
SAFE
Rugged, non-flammable materials; components with extremely high pressure resistance

ESAY OPERATION, TIME-SAVING
No need to deal with pipelines and joints, can be installed immediately, fast installation, no welding, time-saving; easy to assemble, no in-depth training, light weight, easy to cut pipes and easier to work on site; direct Enable, the system can be tested and used immediately





FSTpipe Pipeline VS Traditional Pipeline



BUAA Research shows:

- Only **60%** of compressed air is actually used
- 5%** of the losses are due to unreasonable use
- 25%** of the losses are due to air leakage
- 10%** of the loss is due to pressure drop

FSTpipe aluminum piping



Never rust, durable



Traditional piping



Corrosion gradually, energy consumption increases



Cost calculation and comprehensive comparison

FSTpipe pipeline VS traditional pipeline



Pressure drop analysis:

The pressure drop of carbon steel pipes will gradually increase with the use of time, and the inner wall is rusted, and the pressure drop of aluminum alloy pipes is constant due to its never-corrosive characteristics. Example: Taking carbon steel pipelines with an increase in pressure drop of 1 bar per year as an example, using aluminum alloy pipelines to reduce the pressure drop by 0.5 kg compared to carbon steel pipelines for calculation, the average electricity cost is 0.15 USD/degree per degree as an example. Energy consumption increases as follows: (For every 1 kg increase in pressure, the energy consumption of the air compressor increases by 7%; For every 0.5 kg increase in pressure, the energy consumption of the air compressor increases by 3.5%.)

$75\text{kW} \times 3.5\% \times 0.15\text{USD/degree} = 0.375\text{ USD (one-hour electricity savings)}$

$0.375\text{USD} \times 330\text{Days} \times 24\text{hours} = 2970\text{ USD (annual electricity savings)}$

Note: Taking 330 working hours a year and 24 working hours per day as an example.



Leakage analysis:

The average electricity cost is 0.15USD per degree as an example; at 7bar pressure, an air compressor with a power of 1kW generates 10m³ of compressed air per hour, and the economic cost is about 0.15USD; while at a pressure of 7bar, a Φ1mm hole will produce a 4.08m³/h leak the amount;
Then the annual leak:

$4.08\text{m}^3/\text{h} \times 7200\text{h} [300\text{day} \times 24\text{h/day} = 7200\text{h}] = 29376\text{ m}^3$

The annual cost of air leakage is: $4.08\text{m}^3/\text{h} \div 10\text{m}^3 \times 7200\text{h} \times 0.15\text{USD} = 419.8\text{USD.08m}^3$

FSTpipe pipeline VS Traditional pipeline

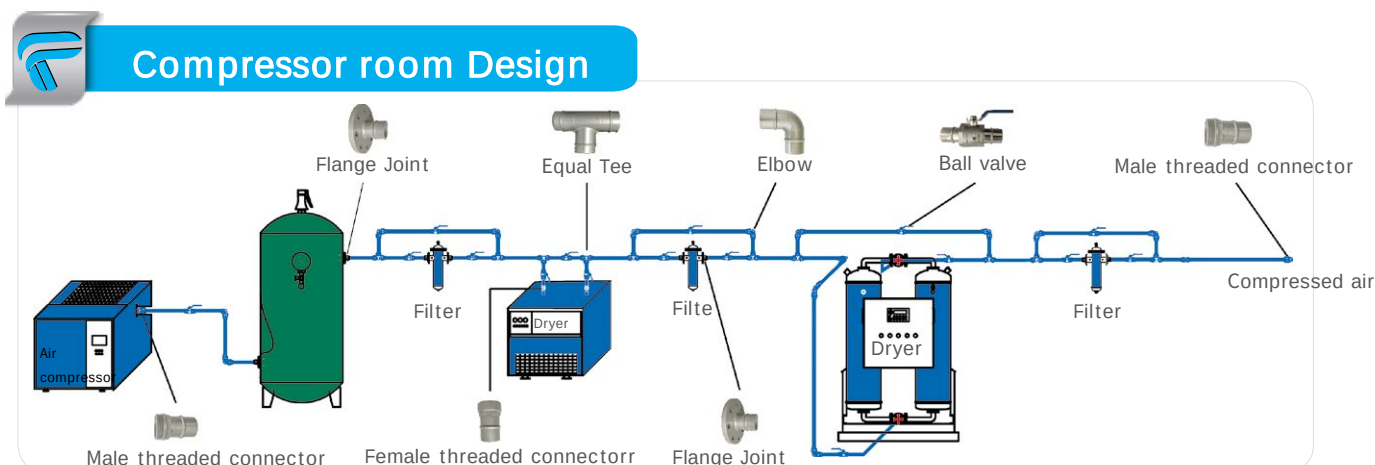
	Carbon steel pipe	Welded stainless steel pipes	FSTpipe Aluminum pipe
Installation Time	Slow	Slow	Fast (Saving time 60%)
Future expansion	Difficult	Difficult	Easy (put-in-fit)
Expansion time	Long	Long	Short (add dropline in 20mins)
Internal roughness	1.9 Micron	1 Micron	0.2-0.4 Micron
Pressure loss	Big	Little big	small
Leakage	5%-20%	0%	0% (O ring)
Corrosion after use	Serious	Not very serious	No Corrison
Impact on compressed air	Serious	Not very serious	No affect on compressed air
Initial investment cost	Low	Little high	Little high
Operating costs	Very high	high	Low

PIPEWORK DESIGN AND SIZE SELECTION



According to the provided info. and requirements, offer you the Design drawings and quotations

- The main pipe network must form a loop, and a valve must be installed.
- The main pipe diameter must be reasonable to avoid pressure drop and meet the needs of future expansion.
- The main piping system should be installed with a slope of one-thousandth in order to discharge condensate towards the low point.
- The pipe must be installed with a suitable pipe clamp so that the pipe remains in the same position when it expands and contracts.
- Residual condensate should be discharged through the down pipe installed under the main pipe and equipped with a drainage system.
- Quick drop draws air from the side or above the main pipe, and delivers dry air to the air end.



Flow
Calculation formula:

$$q = \pi r^2 \cdot V \cdot (P \cdot 10 + 1) \cdot (T + 20) / (T + t)$$

q — Pipeline flow m^3/min
 V — Flow Rate (m/s)
 r — Pipeline Diameter (m)
 p — Working Pressure (MPa)
 T — Absolute temperature $273.15(^{\circ}C)$
 t — Actual temperature ($^{\circ}C$)



Pressure drop
Calculation formula:

$$\Delta p = 450 q^{1.85} L / (d^5 p)$$

Δp — Pressure drop (bar)
 q — Volume flow (L/s)
 L — Pipe length (m)
 d — Pipe ID (mm)
 p — Exhaust pressure (absolute pressure) (bar)

Pipe Material	Aluminum Alloy										
Standard	De20	De25	De32	De42	DN50	DN65	DN80	DN100	DN125	DN150	DN200
Inch	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"
OD(mm)	20.0	24.8	32.2	42.0	50.6	63.5	88.9	100.2	133.0	148.2	205.3
Thickness(mm)	1.45	1.45	1.60	1.90	2.10	2.30	2.60	2.60	2.75	3.00	3.20
ID(mm)	17.1	21.9	29.0	38.2	46.4	58.9	83.7	95.0	127.5	142.2	198.9
2.5bar(15m/s)	0.72	1.19	2.08	3.61	5.32	8.58	17.32	22.32	40.20	50.00	97.82
3.0bar(15m/s)	0.83	1.36	2.38	4.12	6.08	9.80	19.80	25.50	45.94	57.14	111.80
3.5bar(15m/s)	0.93	1.52	2.67	4.64	6.84	11.03	22.27	28.69	51.68	64.29	125.77
4.0bar(15m/s)	1.03	1.69	2.97	5.15	7.61	12.25	24.75	31.88	57.43	71.43	139.75
4.5bar(15m/s)	1.14	1.86	3.27	5.67	8.37	13.48	27.22	35.07	63.17	78.57	153.72
5.0bar(15m/s)	1.24	2.03	3.56	6.19	9.13	14.71	29.70	38.26	68.91	85.72	167.70
5.5bar(15m/s)	1.34	2.20	3.86	6.70	9.89	15.93	32.17	41.45	74.65	92.86	181.67
6.0bar(15m/s)	1.45	2.37	4.16	7.22	10.65	17.16	34.65	44.63	80.40	100.00	195.65
6.0bar(12m/s)	1.16	1.90	3.33	5.77	8.52	13.73	27.72	35.71	64.32	80.00	156.52
6.5bar(12m/s)	1.24	2.03	3.56	6.19	9.13	14.71	29.70	38.26	68.91	85.72	167.70
7.0bar(12m/s)	1.32	2.17	3.80	6.60	9.73	15.69	31.68	40.81	73.50	91.43	178.88
7.5bar(12m/s)	1.40	2.30	4.04	7.01	10.34	16.67	33.66	43.36	78.10	97.14	190.06
8.0bar(12m/s)	1.49	2.44	4.28	7.42	10.95	17.65	35.64	45.91	82.69	102.86	201.24
8.5bar(12m/s)	1.57	2.58	4.52	7.84	11.56	18.63	37.62	48.46	87.29	108.57	212.42
9.0bar(12m/s)	1.65	2.71	4.75	8.25	12.17	19.61	39.60	51.01	91.88	114.29	223.60
9.5bar(12m/s)	1.74	2.85	4.99	8.66	12.78	20.59	41.58	53.56	96.47	120.00	234.78
10bar(12m/s)	1.82	2.98	5.32	9.07	13.39	21.57	43.56	56.11	101.07	125.72	245.96

Note: The data units obtained above are m^3/min

E.G. : ◇ Circular pipeline with a length of 500 meters in the main network system;

◇ Compressor power is 132Kw; required flow: $25m^3/min$

◇ The most suitable FST pipe diameter is DN80 pipe for the main pipeline to the ring pipeline;

* Contact our technical engineers to choose the proper pipe diameter for your piping system and provide and provide corresponding optimization.

Easy installation fast and convenient



Foster's product installation design
saves 60% of installation time



① The quick and easy installation method benefits from the FST product installation design, which makes the installation of the piping system no longer time-consuming; it can save you up to 60% of the installation time.

② Quick installation, no welding, and short time

③ No in-depth training is required to complete the assembly quickly.

④ All pipe fittings and joints can be flexibly adjusted, detachable and reused, ensuring the scalability of the network management system.

⑤ Diversion devices and branch pipelines can be added at any time to facilitate production adjustment of the production line.

⑥ The connection design of the lowering side effectively eliminates the phenomenon of pipeline condensate pollution.



DN20-DN42 Work Flow

1. Mark the insertion depth as shown below:



2. Insert the marked pipe into the fitting, as shown:



3. After inserting into the pipe, tighten the ring nut as shown:



5. After inserting the pipe fitting, tighten the ring gear nut, and the pipe fitting is installed, as shown:



4. Insert the second marked pipe into the pipe fittings, as shown:

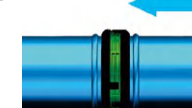


DN50-DN200 Work Flow

1. Put the sealing sleeve into the end of the first pipe, so that it perfectly covers the convex ring, as shown:



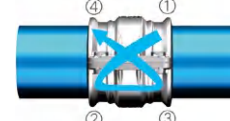
2. Put the sealing sleeve into the end of the second pipe, so that it perfectly covers the convex ring, as shown:



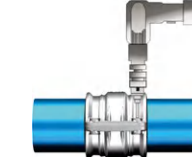
3. Put the clamps to the assembly place of the sealing sleeve and the pipelines, as shown:



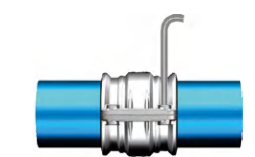
6. In order to achieve an effective clamping and sealing, the screw should be tightened on both sides of the connector in the order as shown:



5. Tighten the clamps screws completely, and finally close the connector, as shown:



4. Tighten the screw with electric wrench or the inner hexagon, as shown:



OUR SERVICE

Give customers ten years of quality assurance

FSTpipe System has a strong after-sales service system. We give our customers a ten-year quality guarantee and provide free replacement services for FST pipe fittings and pipeline losses caused by any material defects.



Customized design

FSTpipe has a professional design team to provide customers with accurate services, and optimize the design of the pipe network plan for the customer's factory, so that customers can rest assured.



Perfect after-sales service

FSTpipe ensure that users the ultra fast increase of the exchange of pipelines and provide after-sales maintenance and monitoring of the pipeline to allow customers to enjoy the ultra-high value-added services.



Pursue excellent quality

Each product of FST pipe is forged with high-quality materials and production processes to ensure the high reliability and excellent cost performance of the products, and to ensure the high quality of the pipe network transportation system.



Professional and fast installation

The professional installation team of FST pipe uses efficient techniques to install quickly and efficiently, without affecting the customer's production planning.



01

FSTpipe has offices at home and abroad by virtue of advanced technology, excellent quality, and a win-win strategic cooperation policy. The products are also exported to Brazil, Australia, Southeast Asian countries such as Vietnam, Thailand, etc., and the perfect sales service network occupies the commanding heights of the industry.

02

More than 30 branches across the country provide customers with pre-sales, in-sales and after-sales services in a timely and timely manner, regularly return visits to you, and track the use of the pipe network system.

INSTALLATION CASES

With the rapid development of industries, the requirements for high-quality compressed air are becoming higher and higher. Traditional industrial pipes can no longer meet the demands. Regardless of material, design, installation, etc. FSTpipe can help customers to reduce the worries in transportation process. FSTpipe series plays an active role in the entire industrial automation process. It is committed to reducing unnecessary energy waste in the process of air delivery, providing high-quality air, reducing leakage and pressure drop, ensuring safe, stable and high-quality clean air is delivered to the use end. FSTpipe has a simple structure and is easy to install, energy saving, environmental protection, safety and reliability, component specifications (including installation of fixed components) are comprehensive, which can meet the needs of different customers. FSTpipe has a strong technical R &D team and core technology, adheres to the path of independent research and development, and continuously delivers value transmission for customers.



- Electronics
- Furniture
- Automobile
- Medicine
- Textile
- Metal
- New Energy
- Machinery
- Military industry
- Tobacco



Installation cases of FSTpipe

Clients					
Electronics	HUAWEI Group	Foxconn Group	LUXSHARE	OFILM	FLEX
New Energy	CATL	BYD AUTO	EVE	SUNWODA	DESAY SV
Machinery	FULIN P.M.	LANDAI POWERTRAIN	HITACH GROUP	SHUANGHUAN	HANGCHA GROUP
Furniture	SOGAL	HOLIKE	OPPEIN	GARDEN COUNTRY	ZBOM SHARE
Textile	WEIQIAO PIONEERING	HAUFANG SHARE	LUTHAI TEXTILE	FYNEX TEXTILES	SHENGHONG GROUP
Medicine	HUAHAI PHARMACEUTICAL	JUMPCAN	GUO BANG SHARE	BIOKANGTAI	SANXIN MEDICAL
Military industry	AECC	AVIC	TONGDA CABLE	TONGAN GROUP	AVIC
Metal	FENGLU ALUMINUM	XINGFU ALUMINUM	JIANMEI ALUMINUM	HUACHANG ALUMINUM	HAOMEI
Tobacco	HUBEI TABACCO	GUANGDONG TABACCO	ZHEJIANG TABACCO	CHONGQING TABACCO	JAINGXI TABACCO
Automobile	NIO AUTO	GEELY AUTO	GAC GROUP	CIMC	SAIC MOTOR