



Compressed
Air

For Industrial
Applications and
Laboratories

Benefits

INSTAFLEX piping system for the energy efficient and economical distribution of compressed air in demanding industrial applications

Compressed air is a key medium of energy within many industrial applications as well as hospital and laboratory environments. It is therefore vitally important that the compressed air network operates efficiently, economically and safely. With the INSTAFLEX piping system, manufactured from polybutene-1, GF Piping Systems provides a complete plastic piping system of proven quality, assuring our customers a safe, clean delivery of compressed air from the production to the point of use.



Challenges when using conventional metal compressed air systems

- Leaking connections (aged gaskets, dry hemp)
- Electro galvanic corrosion
- Ambient conditions cause chemical corrosion due to condensation or aggressive atmosphere
- Increasing frictional loss during service life reduce system performance
- Reduction of air quality affected by inner surface corrosion
- Production downtimes for maintenance, modifications and replacement of components
- Loss of expensive treated air due to poor overall piping system quality

INSTAFLEX - a system that successfully meets these challenges

- Fast, simple and long term reliable jointing technique without the use of threaded or flanged connections
- Minimal frictional losses and pressure drops due to very smooth inner surface
- Easy to handle and install because of light material weight
- Prefabrication of complete sections due to material flexibility
- Longest service life of piping system even in aggressive atmospheres due to high chemical resistance of INSTAFLEX
- Clean compressed air is assured due to hygienic packaging and the smooth inner surface of INSTAFLEX
- Reliable, corrosion-free materials ensure long service life for the tools and machines using the compressed air
- No maintenance nor loss of expensive treated air due to 100% leak tight welded system



Technical Data

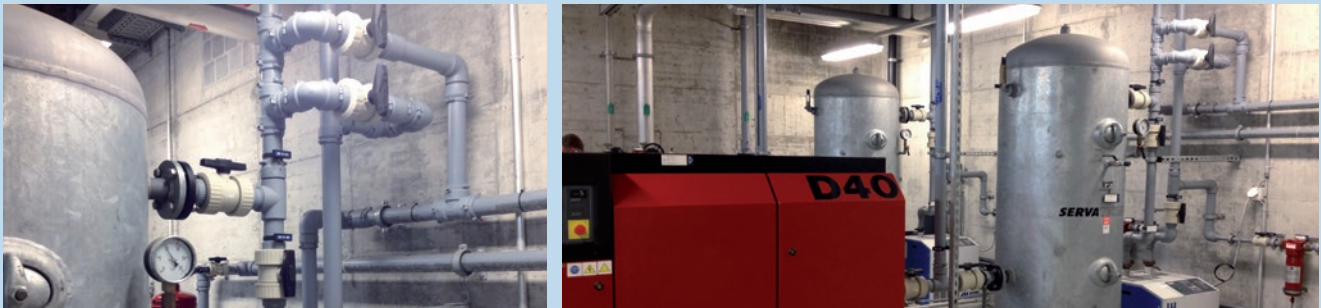
Advanced plastic piping system solutions of highest reliability with minimal pressure losses allow cost-effective operation

Compared to conventional steel pipelines, plastic piping systems have a number of advantages when it comes to compressed air transport. One of the major advantages is the superior smoothness of the inner surface. Which means minimal frictional losses in the piping system and maximum efficiency. This results in significant energy savings and reduced operating costs of the system.

Steel pipeline	Plastic pipeline
0.477 bar*	0.259 bar*

*Pressure loss based on 100m pipe, pipe ID 40 mm and 6m/s velocity

Significant cost saving potential by using the non-corrosive INSTAFLEX piping systems



Air loss costs money. The chart on the right shows the effect of hole diameter on the amount of air loss, together with the annual operating costs. Just one 10mm diameter hole in the piping system can increase the cost of operation to 44 % above the equivalent, tight piping system.

Calculation is based on the following key factors:

- 100m pipe/40mm ID pipe/6m/s velocity/7000 hours annual operation
- Compressor capacity of 972 Nm³/h at 6 bar with 90 kW electric power
- Annual operation costs of 50400 EUR with 1kWh = 0.08 EUR

Hole diameter [mm]	Air loss [Nm ³ /h]	Annual costs [EUR]
1	4.4	222
2	18	889
3	40	2001
4	71	3557
5	110	5557
6	159	8002
7	216	10892
8	282	14226
9	357	18005
10	441	22228

INSTAFLEX - reliable in operation and easy to install

- Optimised air distribution to increase energy efficiency and to reduce costs
- State-of-the-art jointing technology ensures a leak tight installation and easy system modification
- Optimal material properties, including the smoothness of the inner surface, significantly reduce pressure losses due to friction
- Lightweight material ensures easy handling and fast installation
- Reliable, state-of-the-art jointing techniques and corrosion resistant materials ensure that the air remains clean throughout the system life
- Reliable up to 12 bar, minimum medium temperature of +3 °C, total oil concentration ≤ 1 mg/m³

For detailed information regarding compressed air see international standard ISO 8573-1.

GF Piping Systems – worldwide at home

Our sales companies and representatives ensure local customer support in over 100 countries.

www.piping.georgfischer.com



The technical data are not binding. They neither constitute expressly warranted characteristics nor guaranteed properties nor a guaranteed durability. They are subject to modification. Our General Terms of Sale apply.

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