



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

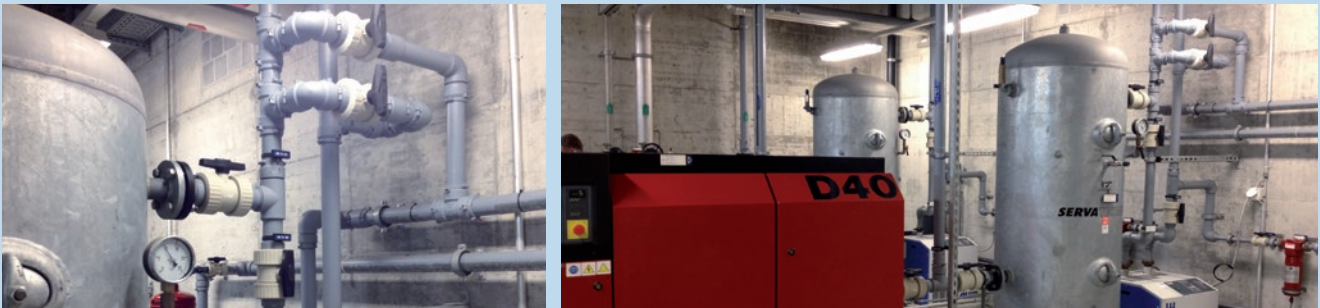
Advanced plastic piping system solutions of highest reliability with minimal pressure losses allow cost-effective operation

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 Nm<sup>3</sup>/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 <sup>3</sup> /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/m<sup>3</sup>

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](http://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.

## Adding Quality to People's Lives

### Argentina/Southern South America

Georg Fischer Central Plastics  
Sudamérica S.R.L.  
Buenos Aires, Argentina  
Phone +5411 4512 02 90  
[gfcentral.ps.ar@georgfischer.com](mailto:gfcentral.ps.ar@georgfischer.com)

### Australia

George Fischer Pty Ltd  
Riverwood NSW 2210 Australia  
Phone +61(0)2 9502 8000  
[australia.ps@georgfischer.com](mailto:australia.ps@georgfischer.com)  
[www.georgfischer.com.au](http://www.georgfischer.com.au)

### Austria

Georg Fischer  
Rohrleitungssysteme GmbH  
3130 Herzogenburg  
Phone +43(0)2782 856 43-0  
[austria.ps@georgfischer.com](mailto:austria.ps@georgfischer.com)  
[www.georgfischer.at](http://www.georgfischer.at)

### Belgium/Luxembourg

Georg Fischer NV/SA  
1070 Bruxelles/Brüssel  
Phone +32(0)2 556 40 20  
[be.ps@georgfischer.com](mailto:be.ps@georgfischer.com)  
[www.georgfischer.be](http://www.georgfischer.be)

### Brazil

Georg Fischer Sist. de Tub. Ltda.  
04795-100 São Paulo  
Phone +55(0)11 5525 1311  
[br.ps@georgfischer.com](mailto:br.ps@georgfischer.com)  
[www.georgfischer.com.br](http://www.georgfischer.com.br)

### Canada

Georg Fischer Piping Systems Ltd  
Mississauga, ON L5T 2B2  
Phone +1(905)670 8005  
Fax +1(905)670 8513  
[ca.ps@georgfischer.com](mailto:ca.ps@georgfischer.com)  
[www.georgfischer.ca](http://www.georgfischer.ca)

### China

Georg Fischer  
Piping Systems Ltd Shanghai  
Pudong, Shanghai 201319  
Phone +86(0)21 58 13 33 33  
[china.ps@georgfischer.com](mailto:china.ps@georgfischer.com)  
[www.georgfischer.cn](http://www.georgfischer.cn)

### Denmark/Iceland

Georg Fischer A/S  
2630 Taastrup  
Phone +45 (0)70 22 19 75  
[info.dk.ps@georgfischer.com](mailto:info.dk.ps@georgfischer.com)  
[www.georgfischer.dk](http://www.georgfischer.dk)

### Finland

Georg Fischer AB  
01510 VANTAA  
Phone +358 (0)9 586 58 25  
Fax +358 (0)9 586 58 29  
[info.fi.ps@georgfischer.com](mailto:info.fi.ps@georgfischer.com)  
[www.georgfischer.fi](http://www.georgfischer.fi)

### France

Georg Fischer SAS  
95932 Roissy Charles de Gaulle Cedex  
Phone +33(0)1 41 84 68 84  
[fr.ps@georgfischer.com](mailto:fr.ps@georgfischer.com)  
[www.georgfischer.fr](http://www.georgfischer.fr)

### Germany

Georg Fischer GmbH  
73095 Albershausen  
Phone +49(0)7161 302-0  
[info.de.ps@georgfischer.com](mailto:info.de.ps@georgfischer.com)  
[www.georgfischer.de](http://www.georgfischer.de)

### India

Georg Fischer Piping Systems Ltd  
400 076 Mumbai  
Phone +91 224007 2001  
[in.ps@georgfischer.com](mailto:in.ps@georgfischer.com)  
[www.georgfischer.in](http://www.georgfischer.in)

### Italy

Georg Fischer S.p.A.  
20063 Cernusco S/N (MI)  
Phone +3902 921 861  
[it.ps@georgfischer.com](mailto:it.ps@georgfischer.com)  
[www.georgfischer.it](http://www.georgfischer.it)

### Japan

Georg Fischer Ltd  
556-0011 Osaka,  
Phone +81(0)6 6635 2691  
[jp.ps@georgfischer.com](mailto:jp.ps@georgfischer.com)  
[www.georgfischer.jp](http://www.georgfischer.jp)

### Korea

Georg Fischer Piping Systems  
271-3 Seohyeon-dong Bundang-gu  
Seongnam-si, Gyeonggi-do  
Seoul 463-824  
Phone +82 31 8017 1450  
Fax +82 31 8017 1454  
[kor.ps@georgfischer.com](mailto:kor.ps@georgfischer.com)  
[www.georgfischer.kr](http://www.georgfischer.kr)

### Malaysia

Georg Fischer (M) Sdn. Bhd.  
40460 Shah Alam, Selangor Darul Ehsan  
Phone +60 (0)3 5122 5585  
[my.ps@georgfischer.com](mailto:my.ps@georgfischer.com)  
[www.georgfischer.my](http://www.georgfischer.my)

### Mexico/Northern Latin America

Georg Fischer S.A. de C.V.  
Apodaca, Nuevo Leon  
CP66636 Mexico  
Phone +52 (81)1340 8586  
Fax +52 (81)1522 8906  
[mx.ps@georgfischer.com](mailto:mx.ps@georgfischer.com)  
[www.georgfischer.mx](http://www.georgfischer.mx)

### Middle East

Georg Fischer  
Piping Systems (Switzerland) Ltd.  
Dubai, United Arab Emirates  
Phone +971 4 289 49 60  
[gcc.ps@georgfischer.com](mailto:gcc.ps@georgfischer.com)  
[www.export.georgfischer.com](http://www.export.georgfischer.com)

### Netherlands

Georg Fischer N.V.  
8161 PA Epe  
Phone +31(0)578 678 222  
[nl.ps@georgfischer.com](mailto:nl.ps@georgfischer.com)  
[www.georgfischer.nl](http://www.georgfischer.nl)

### Norway

Georg Fischer AS  
1351 Rud  
Phone +47(0)67 18 29 00  
[no.ps@georgfischer.com](mailto:no.ps@georgfischer.com)  
[www.georgfischer.no](http://www.georgfischer.no)

### Poland

Georg Fischer Sp. z o.o.  
05-090 Sekocin Nowy  
Phone +48(0)22 31 31 0 50  
[poland.ps@georgfischer.com](mailto:poland.ps@georgfischer.com)  
[www.georgfischer.pl](http://www.georgfischer.pl)

### Romania

Georg Fischer  
Piping Systems (Switzerland) Ltd.  
020257 Bucharest - Sector 2  
Phone +40(0)21 230 53 80  
[ro.ps@georgfischer.com](mailto:ro.ps@georgfischer.com)  
[www.export.georgfischer.com](http://www.export.georgfischer.com)

### Russia

Georg Fischer  
Piping Systems (Switzerland) Ltd.  
Moscow 125047  
Tel. +7 495 258 60 80  
[ru.ps@georgfischer.com](mailto:ru.ps@georgfischer.com)  
[www.georgfischer.ru](http://www.georgfischer.ru)

### Singapore

George Fischer Pte Ltd  
528 872 Singapore  
Phone +65(0)67 47 06 11  
[sgp.ps@georgfischer.com](mailto:sgp.ps@georgfischer.com)  
[www.georgfischer.sg](http://www.georgfischer.sg)

### Spain/Portugal

Georg Fischer S.A.  
28046 Madrid  
Phone +34(0)91 781 98 90  
[es.ps@georgfischer.com](mailto:es.ps@georgfischer.com)  
[www.georgfischer.es](http://www.georgfischer.es)

### Sweden

Georg Fischer AB  
117 43 Stockholm  
Phone +46(0)8 506 775 00  
[info.se.ps@georgfischer.com](mailto:info.se.ps@georgfischer.com)  
[www.georgfischer.se](http://www.georgfischer.se)

### Switzerland

Georg Fischer  
Rohrleitungssysteme (Schweiz) AG  
8201 Schaffhausen  
Phone +41(0)52 631 30 26  
[ch.ps@georgfischer.com](mailto:ch.ps@georgfischer.com)  
[www.piping.georgfischer.ch](http://www.piping.georgfischer.ch)

### Taiwan

Georg Fischer Co., Ltd.  
San Chung Dist., New Taipei City  
Phone +886 2 8512 2822  
Fax +886 2 8512 2823  
[www.georgfischer.tw](http://www.georgfischer.tw)

### United Kingdom/Ireland

George Fischer Sales Limited  
Coventry, CV2 2ST  
Phone +44(0)2476 535 535  
[uk.ps@georgfischer.com](mailto:uk.ps@georgfischer.com)  
[www.georgfischer.co.uk](http://www.georgfischer.co.uk)

### USA/Caribbean

Georg Fischer LLC  
Tustin, CA 92780-7258  
Phone +1(714) 731 88 00  
Toll Free 800 854 40 90  
[us.ps@georgfischer.com](mailto:us.ps@georgfischer.com)  
[www.gfipiping.com](http://www.gfipiping.com)

### Vietnam

George Fischer Pte Ltd  
136E Tran Vu, Ba Dinh District, Hanoi  
Phone +84 4 3715 3290  
Fax +84 4 3715 3285

### International

Georg Fischer  
Piping Systems (Switzerland) Ltd.  
8201 Schaffhausen/Switzerland  
Phone +41(0)52 631 30 03  
Fax +41(0)52 631 28 93  
[info.export@georgfischer.com](mailto:info.export@georgfischer.com)  
[www.export.georgfischer.com](http://www.export.georgfischer.com)