

# Systems and products for Industrial solutions











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# System and Product Solutions

As a global leader in advanced plastic piping solutions, Aliaxis intervenes at many stages in the transport of water from its source to delivery to the end-user. Our brands have been providing innovative solutions for over 60 years and represent our history and our know-how in the field of building, infrastructure and industry. For each of these segments, we offer a comprehensive range of high-quality products, tailored to our customer's needs.

We offer systems that convey water, chemicals and gases to conduits that carry power and data cabling to digital flow measurement system. From valves and fittings to pipes. From solvent cement and cutting tools to electrofusion systems. Whatever the product or application, our customers can be confident that everything they need for their particular solution will be delivered with the quality and service expected from an industry leader.

Our industrial system solutions are focused on approved raw materials, covering all the criteria of the most relevant international norms and in full compliance with existing environmental regulations.

A huge network of distributors, structured to guarantee not only the availability of products but also direct support and advice, is one of many advantages that Aliaxis provides to its customers.









# Solvent welded UPVC system



**The different formulations obtained by adding suitable additives and stabilizers make UPVC the most versatile of all plastic materials, allowing it to be adapted to many applications involving fluids under pressure.**

In the field of thermoplastic and metal products, UPVC is one of the most economical options for addressing problems in the transport of corrosive chemical fluids and the distribution and treatment of water in general.

The piping system made of UPVC material is well suitable for operating temperatures in the range of 0 °C to +60 °C.

The UPVC System is available in different portfolio and brands with the target to meet all the customer needs in many different subsegments.

Our FIP UPVC portfolio, reported in picture below, offer a comprehensive system leveraged by innovative valves, a wide range of fittings and high-quality pipes for any industrial and process application.



# Solvent welded UPVC system

Technical data	
Nominal pressure	Up to 16 bar
Temperature range	0 °C to 60 °C
Size range	12 mm to 400 mm
Joining technology	Solvent cement jointing, threaded joint, flanged joint
Standards and guidelines *	ANSI B.16.5 cl. min 150, ASTM D1785, ASTM D2464, ASTM D2467, BS 4346-1, DIN 2501, DIN 8062, DVS 2204, DVS 2221, EN 558-1, EN 1092-1, EN 10226-1, EN 10226-2, EN ISO 1452, EN ISO 15493, ISO 7, ISO 161-1, ISO 228-1, ISO 727, ISO 7005-1, NF T54-016, NF T54-028, JIS B 2220, JIS K 6741, JIS B 0203, JIS K 6743, UNI 11242
Approvals	ABS, ACS, BSI, BUREAU VERITAS, CSTB, IIP, KIWA, KTW, UKR SEPRO, WRAS, RMRS, DNV-GL, NIZP

\*This table shows the main standards and guidelines of the system, there could be other local standards that are not listed here but which are still in force.

## UPVC product overview

De	12	16	20	25	32	40	50	63	75	90	110	125	140	160	180	200	225	250	280	315	355	400
DN	8	10	15	20	25	32	40	50	65	80	100	125	125	150	150	200	200	250	250	300	350	400
Inches		3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	5"	6"	6"	8"	8"	10"	10"	12"	14"	16"
Pipes	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Fittings</b>																						
Solvent welded fittings	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Adaptor fitting		•	•	•	•	•	•	•	•	•	•	•										
Threaded fittings		•	•	•	•	•	•	•	•	•	•											
<b>Valves</b>																						
2-way ball valve		•	•	•	•	•	•	•	•	•	•											
3-way ball valve		•	•	•	•	•	•	•														
Diaphragm valves	•	•	•	•	•	•	•	•	•	•	•											
Butterfly valve							•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Angle seat valves		•	•	•	•	•	•	•														
Sediment strainer		•	•	•	•	•	•	•	•	•	•											
Check valves		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Air release and foot valves		•	•	•	•	•	•	•														
<b>Flanges and gaskets</b>																						
		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•





# Solvent welded CPVC system



**In 1986, FIP was the first European Company to produce an integrated system of valves, fittings and pipes. The result was the creation of an entire series of products for industrial plants.**

The FIP CPVC system represents one of the most economical solutions in the field of thermoplastic materials, able to solve the difficulties encountered in process and service lines transporting hot corrosive fluids in the industrial sector, as well as in domestic hot and cold-water distribution systems.

Currently, in Aliaxis, we offer high level CPVC products in our FIP industrial brand.

CPVC resins are specifically designed for industrial applications and are fully compatible for use in transporting water and treatment plants, as well as for conveying demineralised water and SPA water.

The piping system made of CPVC material is well suitable for operating temperatures in the range of 0 °C to +95 °C.



# Solvent welded CPVC system







## Typical applications

- Industrial water treatment plants.
- Chemical process industry.
- Surface treatment industry.
- Hot and cold water distribution.
- Swimming pools and SPA.

# Solvent welded CPVC system

Technical data	
Nominal pressure	Up to 16 bar
Temperature range	0 °C to 95 °C
Size range	16 mm to 315 mm
Joining technology	Solvent cement jointing, threaded joint, flanged joint
Standards and guidelines *	ANSI B16.5, ASTM D1784 cl. min 23447, ASTM F437, ASTM F439, ASTM F441, DIN 2501, DIN 8079-8080, EN 558-1, EN 1092-1, EN 10226-1, EN 10226-2, EN 14728, EN ISO 15493, ISO 228-1, ISO 7005-1, ISO 9624, ISO 5211, JIS B 2220, UNI 11242
Approvals	ABS, ACS, BUREAU VERITAS, DNV-GL, EAC, LR - Lloyd's Register, KR - Korean Register, NSF, TA-Luft, UKR SEPRO, WRAS, RMRS

\*This table shows the main standards and guidelines of the system, there could be other local standards that are not listed here but which are still in force.

## CPVC product overview

De	16	20	25	32	40	50	63	75	90	110	125	140	160	180	200	225	250	280	315	355	400
DN	10	15	20	25	32	40	50	65	80	100	125	125	150	150	200	200	250	250	300	350	400
Inches	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	5"	6"	6"	8"	8"	10"	10"	12"	14"	16"
Pipes	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•					
Fittings																					
Solvent welded fittings	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•					
Adaptor fitting	•	•	•	•	•	•	•														
Valves																					
2-way ball valve	•	•	•	•	•	•	•	•	•	•											
3-way ball valve	•	•	•	•	•	•	•														
Diaphragm valves		•	•	•	•	•	•	•	•	•											
Butterfly valve						•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Sediment strainer		•	•	•	•	•	•														
Check valves	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Flanges and gaskets																					
	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•					



# SuperFlo ABS chilled and cold water system



**SuperFlo ABS is a high performance chilled and cold water system, solvent a solvent welded, fully matched pipework system incorporating pipe, fittings and valves that is available in both imperial and metric sizes.**

SuperFlo ABS provides a wide temperature range and the system remains extremely ductile even at temperatures as low as  $-40^{\circ}\text{C}$ , which make it the ideal solution when there is a requirement for a pipe system to transport low temperature fluids at pressure.

Furthermore, SuperFlo ABS is extremely lightweight and is much easier to handle on-site than traditional materials especially during installation which can significantly reduce both time and cost, as well as being fully WRAS approved.

The piping system made of SuperFlo ABS is well suitable for operating temperatures in the range of  $-40^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ .

## SuperFlo ABS chilled and cold water system







## Typical applications

- Chilled water.
- Food and beverage.
- Potable water.
- Low temperature cooling.
- Demineralized water.
- Vacuum systems.
- Wastewater.

# SuperFlo ABS chilled and cold water system

Technical data	
Nominal pressure (imperial)	Class E (up to 4"), Class D (up to 6"), Class C (up to 8")
Nominal pressure (metric)	10 bar (16 to 250mm), 8 bar (250 to 315mm)
Temperature range	-40 °C to 60 °C
Size range (imperial)	1/2" to 12"
Size range (metric)	16 mm to 315 mm
Joining technology	Solvent cement jointing, threaded jointing, flanged jointing
Standards and guidelines*	BS EN 1452, ASTM D638, EN ISO 1183-1, ISO 527
Approvals	ABS, BUREAU VERITAS, DNV, FDA, GL – Germanischer Lloyd, LR – Lloyd's Register, REG 31, WRAS

\*This table shows the main standards and guidelines of the system, there could be other local standards that are not listed here but which are still in force.

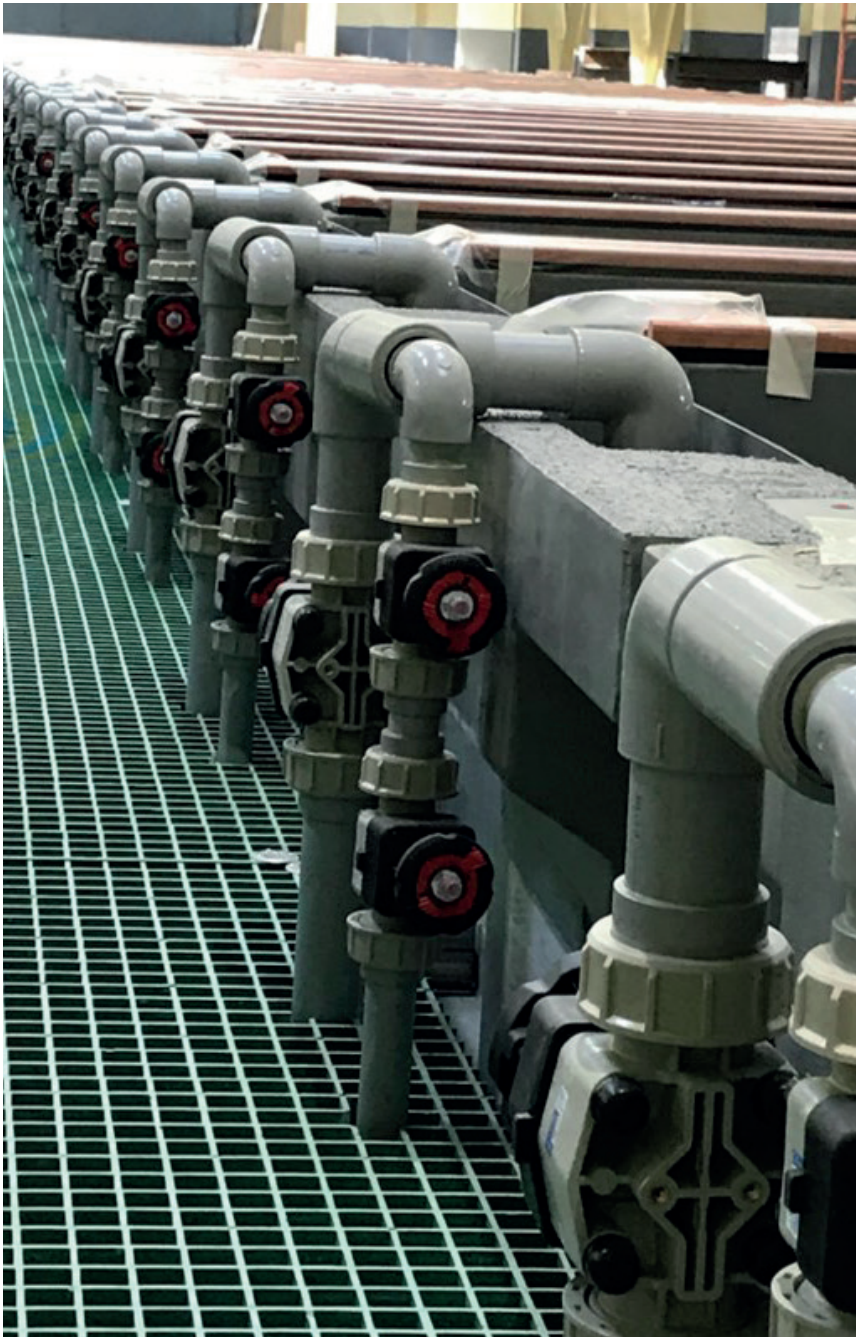
## ABS product overview

De	20	25	32	40	50	63	75	90	110	125	140	160	180	200	225	250	280	315	355	400
DN	15	20	25	32	40	50	65	80	100	125	125	150	150	200	200	250	250	300	350	400
Inches	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	5"	5"	6"	6"	8"	8"	10"	10"	12"	14"	16"
Pipes	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Fittings																				
Solvent welded fittings	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Adaptor fitting	•	•	•	•	•	•	•													
Threaded fittings	•	•	•	•	•	•														
Valves																				
2-way ball valve	•	•	•	•	•	•	•	•	•											
3-way ball valve	•	•	•	•	•	•														
Diaphragm valves	•	•	•	•	•	•														
Butterfly valve					•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Check valves	•	•	•	•	•	•														
Pressure relief valves	•	•	•	•	•	•														
Strainer	•	•	•	•	•	•														
Flanges and gaskets																				
	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		





# Butt or socket welding and electrofusion PP systems



**Thanks to the exceptional chemical and thermal properties of the resin, our polypropylene system provides excellent performance at high working temperatures.**

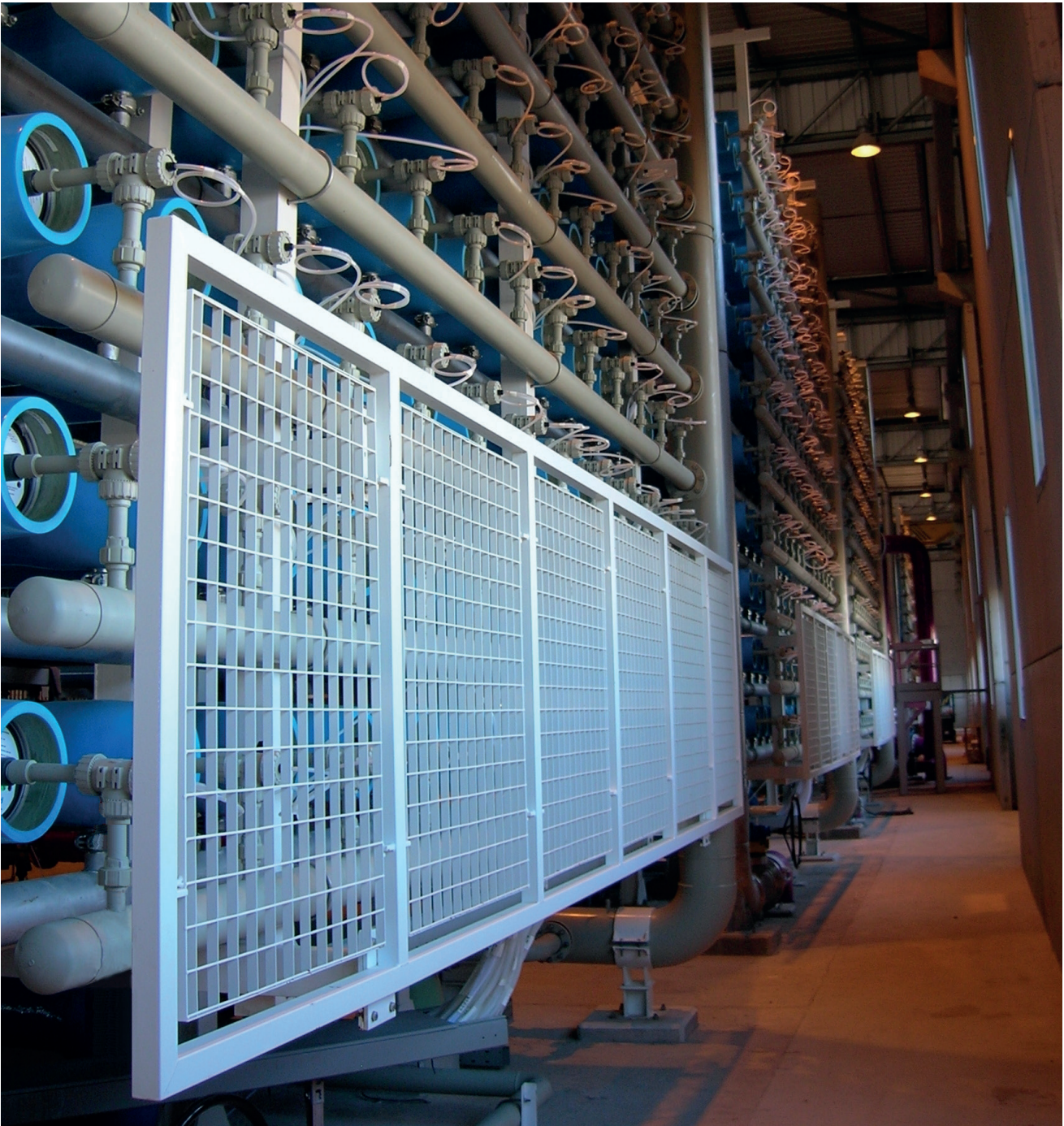
Our system made of polypropylene is manufactured by FIP and it consists of a comprehensive range of pipes, fittings and valves for use in the construction of process and service lines for conveying pressurized industrial fluids.

The piping system made of polypropylene material is well suitable for operating temperatures in the range of 0 °C to +95 °C.

## Butt or socket welding and electrofusion PP systems







## Typical applications

- Industrial water and wastewater treatment plants.
- Chemical process industry.
- Industrial surface treatment.
- Demineralized and SPA water distribution.

# Butt or socket welding and electrofusion PP systems

Technical data	
Nominal pressure	Up to 10 bar
Temperature range	0 °C to 95 °C
Size range	16 mm to 800 mm
Joining technology	Butt, socket and electrofusion joining
Standards and guidelines *	ANSI B16.5 cl. 150, ASTM D 4101-06, BS 10, DIN 2501, DIN 8077, DIN 8078, DVS 2202-1, DVS 2207-11, DVS 2208-1, EN 558-1, EN 1092-1, EN 10226-1, EN 10226-2, EN 14728, EN ISO 15494, ISO 228-1, ISO 5211, ISO 7005-1, ISO 9624, JIS B 2220, UNI 11318, UNI 11397
Approvals	DIBt, EAC, RINA, TA-Luft, UKR SEPRO, NIZP

\*This table shows the main standards and guidelines of the system, there could be other local standards that are not listed here but which are still in force.

## PP product overview

De	16	20	25	32	40	50	63	75	90	110	125	140	160	
DN	10	15	20	25	32	40	50	65	80	100	125	125	150	
Pipes			•	•	•	•	•	•	•	•	•	•	•	
<b>Fittings</b>														
Socket welded fittings		•	•	•	•	•	•	•	•	•				
Adaptor fitting		•	•	•	•	•	•							
Butt welded fittings		•	•	•	•	•	•	•	•	•	•	•	•	
Electrofusion fittings		•	•	•	•	•	•	•	•	•	•	•	•	
<b>Valves</b>														
2-way ball valve	•	•	•	•	•	•	•	•	•	•				
3-way ball valve		•	•	•	•	•	•							
Diaphragm valves	•	•	•	•	•	•	•	•	•	•				
Butterfly valve						•	•	•	•	•	•	•	•	
Check valves		•	•	•	•	•	•	•	•	•	•	•	•	
Sediment strainer		•	•	•	•	•	•	•	•	•				
<b>Flanges and gaskets</b>														
			•	•	•	•	•	•	•	•	•	•	•	
De	180	200	225	250	280	315	355	400	450	500	560	630	710	800
DN	150	200	200	250	250	300	350	400	500	500	600	600	700	800
Pipes	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Fittings</b>														
Solvent welded fittings														
Adaptor fitting														
Butt welded fittings	•	•	•	•	•	•	•	•	•	•	•	•	•	
Electrofusion fittings	•	•	•	•	•	•	•	•	•	•	•	•	•	
<b>Valves</b>														
2-way ball valve														
3-way ball valve														
Diaphragm valves														
Butterfly valve	•	•	•	•	•	•	•	•						
Check valves	•	•	•	•	•	•	•	•						
<b>Flanges and gaskets</b>														
	•	•	•	•	•	•	•	•	•	•	•	•	•	•



# Butt welding and electrofusion PE systems



**Our piping system made of polyethylene is used since decades in areas of application where the pipe system has to meet high standards of durability and reliability.**

These standards are met by combining the excellent material properties of PE and the experience in manufacturing injection molded, extruded and fabricated plastic components.

Our polyethylene systems are composed by top quality FIP spigot fittings, flanges and adaptors and the exceptional range of Frialen electrofusion fittings.

These systems are ideal for applications in all areas of industrial plant engineering. Further domains are the transport of industrial and domestic water, wastewater treatment and water purification as well as various applications in marine or swimming pools.

The piping system made of polyethylene material is well suitable for operating temperatures in the range of  $-40^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ .

# Butt welding and electrofusion PE systems







## Typical applications

- Municipal and Industrial water and wastewater treatment plants.
- Process and cooling water.
- Chemical process industry.
- Swimming pools.
- Sewage plants.
- Water and gas distribution.

# Butt welding and electrofusion PE systems

Technical data	
Nominal pressure	Up to 16 bar
Temperature range	-40 °C to 60 °C
Size range	20 mm to >800 mm
Joining technology	Butt and electrofusion jointing
Standards and guidelines *	DIN 2501, DVS 2202-1, DVS 2207-1, DVS 2208-1, EN 1092-1, EN 1555, EN 13244, EN ISO 15494, ISO 7005-1, ISO 9624, ISO 27, ISO 4437, ISO 21307, UNI 10520
Approvals	DVGW, RINA, KIWA, KTW

\*This table shows the main standards and guidelines of the system, there could be other local standards that are not listed here but which are still in force.

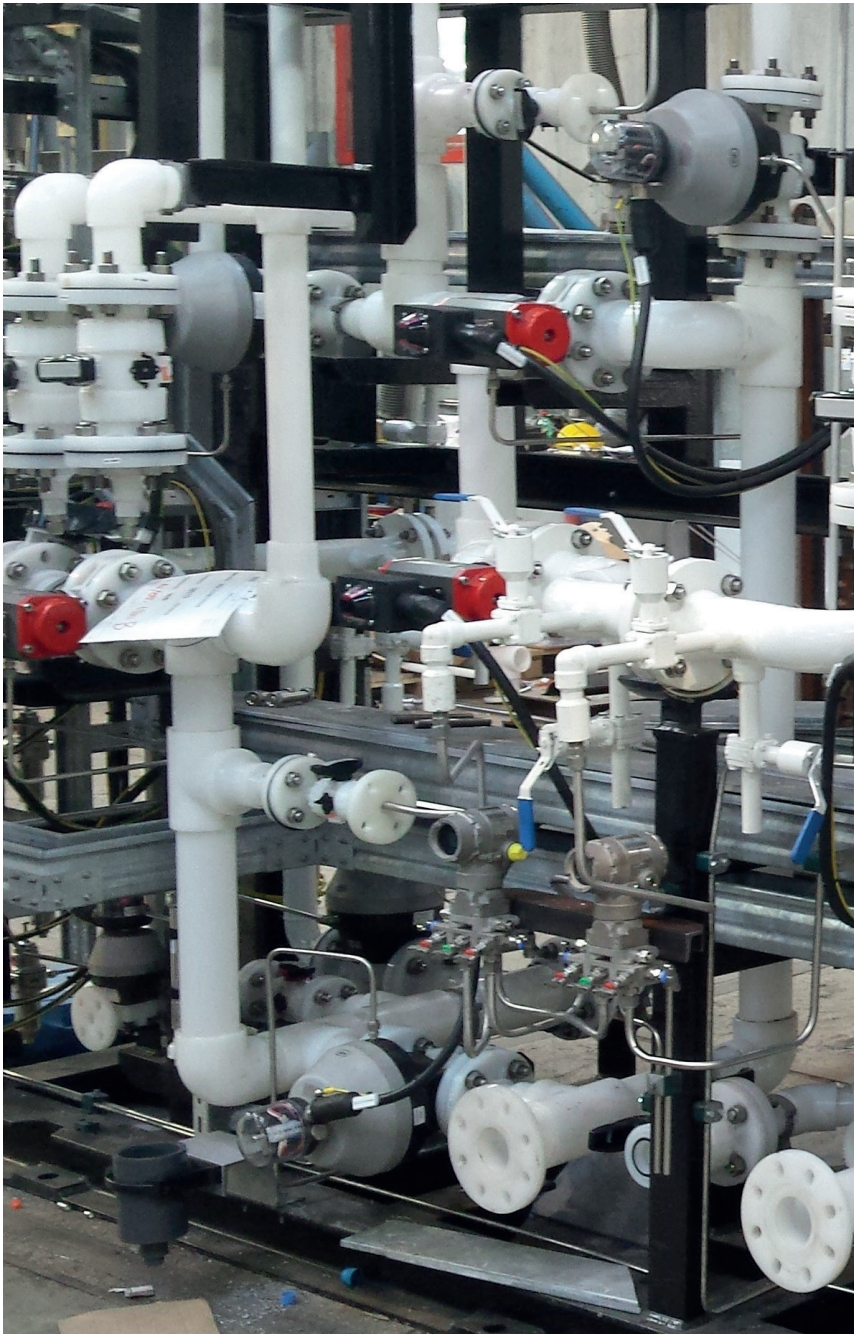
## PE product overview

De	20	25	32	40	50	63	75	90	110	125-315	355-630	710-800	>800
DN	15	20	25	32	40	50	65	80	100	125-300	350-600	700-800	>800
Pipes	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Fittings</b>													
Butt weld fittings, short	•	•	•	•	•	•	•	•	•	•	•	•	
Butt weld fittings, long	•	•	•	•	•	•	•	•	•	•	•	•	
Friafit electrofusion fittings									•	•	•	•	•
Frialen electrofusion fittings	•	•	•	•	•	•	•	•	•	•	•	•	•
Seamless pipe bends					•	•	•	•	•	•	•		
Wall ducts								•	•	•	•	•	•
Valves	Available in UPVC, CPVC, PP, PVDF with PE end connector												
<b>Flanges and gaskets</b>													
	•	•	•	•	•	•	•	•	•	•	•	•	•





# Butt and socket welding PVDF system



**The FIP PVDF system is the best alternative to metal materials due to its high purity and exceptional chemical and mechanical performances over a wide range of temperature.**

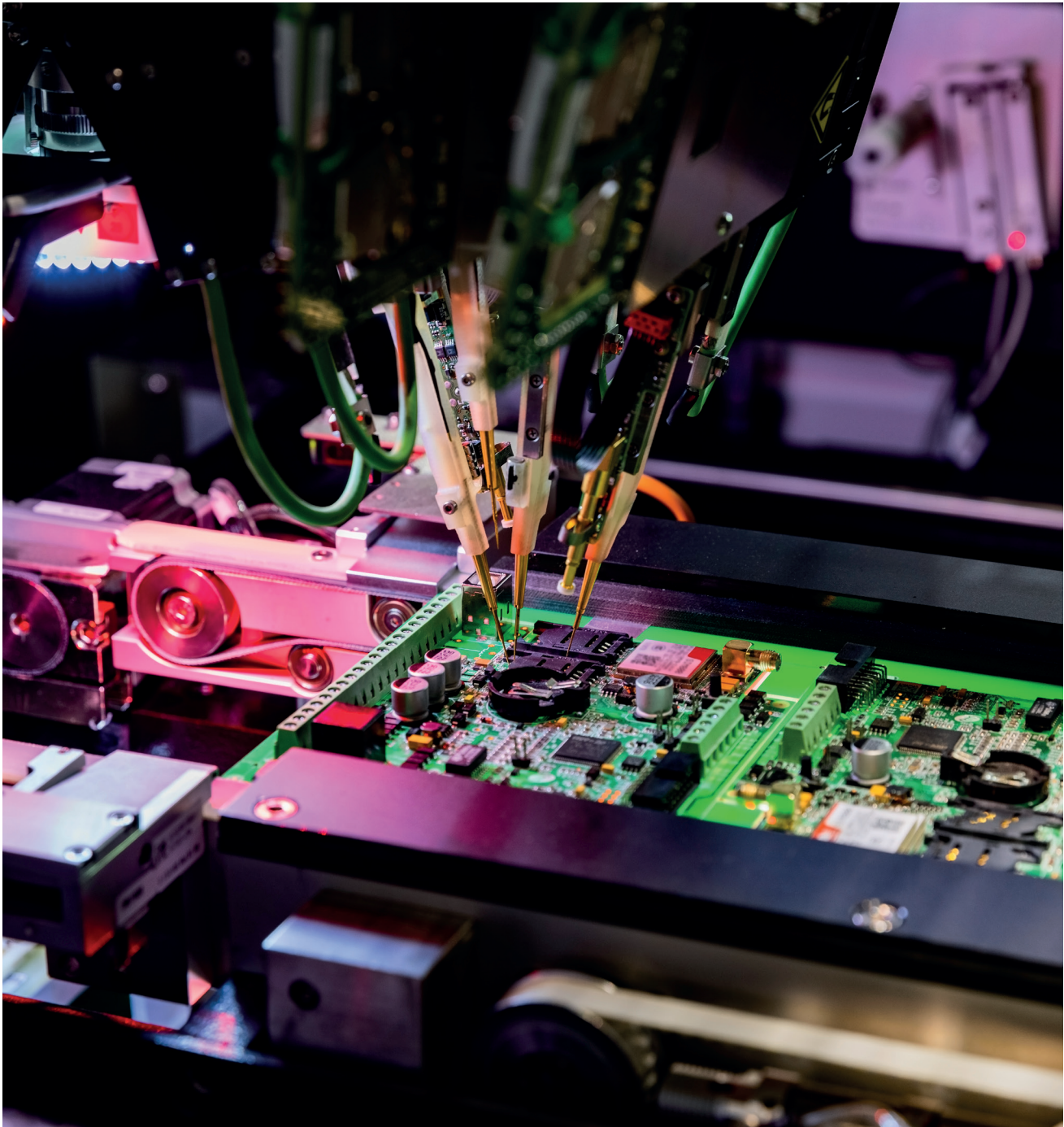
It is extensively used in industrial applications such as chemical, oil, pharmaceutical, pulp and paper electronic operations.

The FIP PVDF system is well suitable for operating temperatures in the range of  $-40\text{ }^{\circ}\text{C}$  to  $+140\text{ }^{\circ}\text{C}$ .

# Butt and socket welding PVDF system







## Typical applications

- Chemical processing industries.
- Surface treatment.
- Microelectronics.
- Oil and gas industry.
- Pharmaceutical.
- Pulp and Paper.

# Butt and socket welding PVDF system

Technical data	
Nominal pressure	Up to 16 bar
Temperature range	-40 °C to 140 °C
Size range	16 mm to 400 mm
Joining technology	Butt and socket welding
Standards and guidelines *	ANSI B16.5, ASTM D3222, DVS 2202-1, DVS 2207-15, DVS 2208-1, EN 558-1, EN 1092-1, EN ISO 10931, EN 14728, ISO 5211, ISO 7005-1, ISO 9624
Approvals	DVGW KTW, W270, EAC, FDA, NSF, TA-Luft, UKR SEPRO

\*This table shows the main standards and guidelines of the system, there could be other local standards that are not listed here but which are still in force.

## PVDF product overview

De	16	20	25	32	40	50	63	75	90	110	125	140	160	180	200	225	250	280	315	355	400
DN	10	15	20	25	32	40	50	65	80	100	125	125	150	150	200	200	250	250	300	350	400
Inches	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	5"	6"	6"	8"	8"	10"	10"	12"	14"	16"
Pipes	•	•	•	•	•	•	•	•	•	•											
Fittings																					
Butt welded fittings	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Socket welded fittings	•	•	•	•	•	•	•	•	•	•											
Adaptor fitting		•	•	•	•	•	•														
Valves																					
2-way ball valve	•	•	•	•	•	•	•	•	•	•											
3-way ball valve		•	•	•	•	•	•														
Diaphragm valves	•	•	•	•	•	•	•	•	•	•											
Butterfly valve						•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Check valves		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Flanges and gaskets																					
	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•



# Double containment



**Double containment piping systems are ideal solutions where there is a need for high safety.**

For example, transportation of corrosive, hazardous, or toxic media always poses a huge risk factor to the human and to the environment. In those applications, double containment piping systems play an inevitable role.

The double containment system consists of two pipes, one of smaller diameter inside another of greater diameter: the fluid is carried through the inner pipe, the outer pipe ensures extra protection if the inner pipe spills. There are distinct approaches used for leak detection, for example a leak monitoring system is usually applied by end-users to warn operators that a leak has occurred.

In various applications, these solutions can be used, mainly for the treatment of chemical and effluent water transfers. According to the designated use, inner and outer pipe can be made of the same or a combination of different pipe materials.

# Double containment



## A - Outer pipe

Double wall system to protect the environment from fluid leakage or to protect the fluid from external influences.

## B - Inner pipe

Fluid conveyance and resistance to pressure.

## C - Annulus space

Space between pipes to contain leakage fluid, or to be equipped with insulation, leakage detection or heating wires.





## Typical applications

- Water and wastewater treatment.
- Conveyance of hazardous liquids.
- Environmental protection.
- Protection of sensitive premise.
- Drainage applications.
- Conveyance of chemical waste from laboratories.

# Double containment

Technical data	
Nominal pressure	Pressure less drainage systems - Pressurized systems up to 16 bar
Temperature range	-40 °C to 140 °C
Size range inner pipe	Up to 800 mm
Joining technology	Butt, socket welding and electrofusion

## Double containment product overview

Aliaxis offers a wide variety of double containment UPVC, PP AND PE solutions for many purposes, whether it is chemical drainage from laboratories or insulated pipes for greasy fluids, potable water protection pipes in contaminated land. Any of these systems is specifically designed to perfectly suit the dedicated needs at a minimum cost of installation and total ownership.

To get more information, please contact your Aliaxis sales representatives.



# Compressed air systems



**Compressed air, a major source of industrial energy, is being used increasingly in both the manufacturing and processing industries.**

There, its distinct advantages of cleanliness, flexibility, safety and economy of use compared with other energy sources are fully exploited.

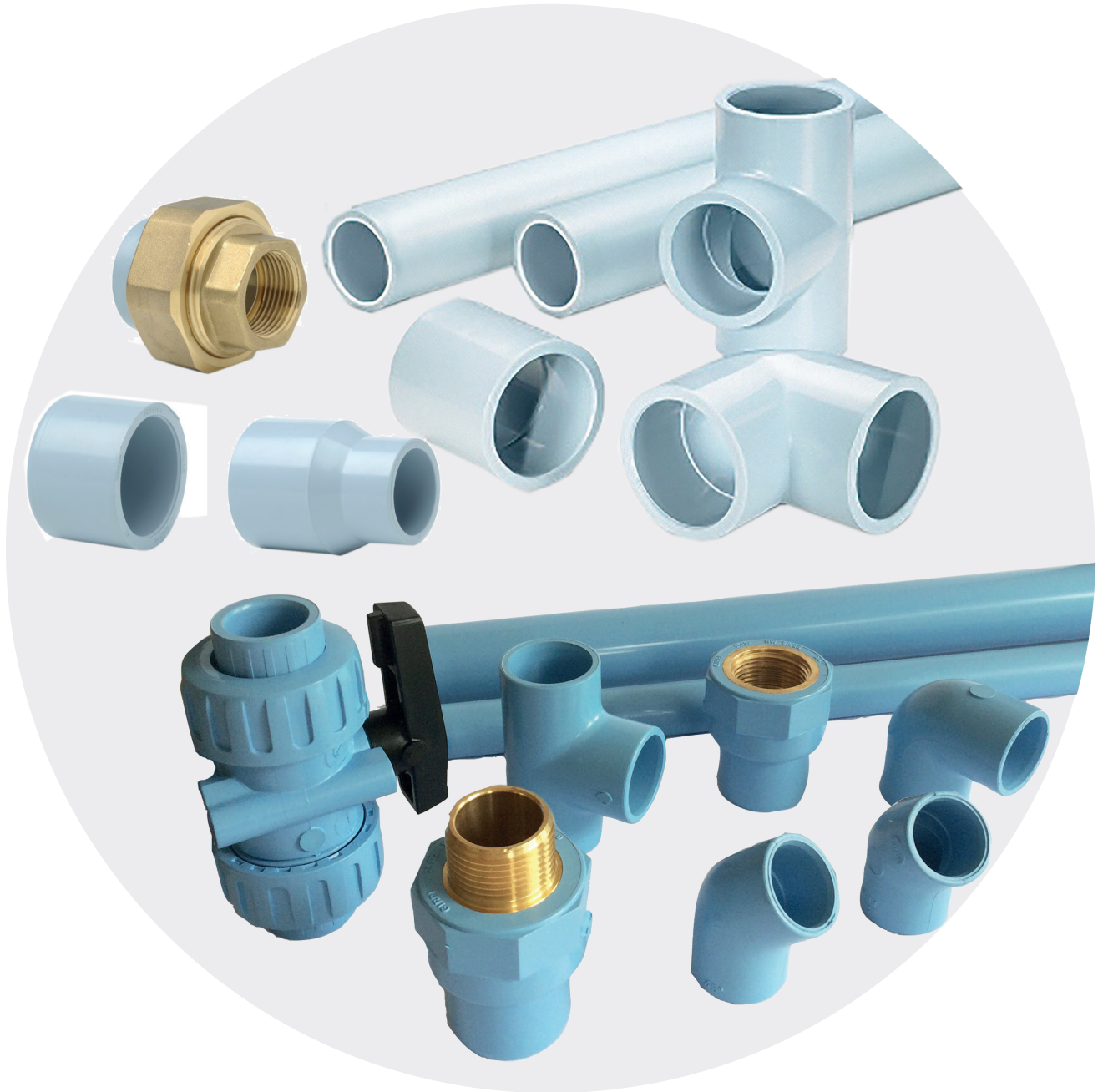
The cost of compressed air network chiefly depends on its energy consumption . Each leak on your system puts an extra burden on your energy bill.

For extra safety and peace of mind, the owners of an installation should therefore select a compressed air distribution system that can resist the numerous aggressions coming from its environment.

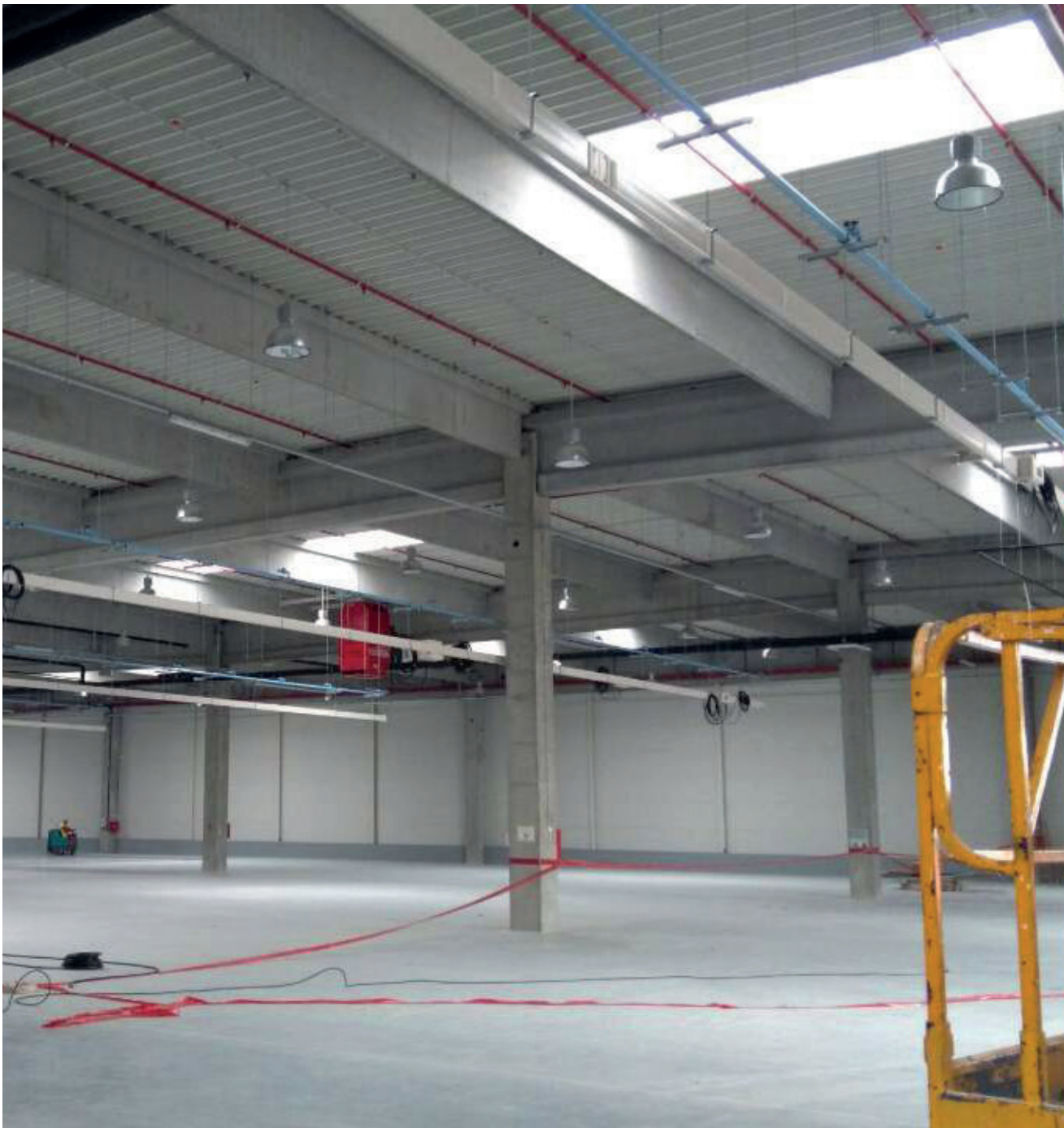
In Aliaxis, we offer two solutions for compressed air distribution each made of different materials:

- GIRAIR UPVC.
- Air-Line Xtra ABS.

# Compressed air systems







## Typical applications

- Compressed air distribution.
- Neutral gas distribution.
- Centralized networks.
- Food and beverage – CO<sub>2</sub> delivery.
- Ventilation.
- Valve actuation.
- Plant Air.
- Pneumatic machinery.

# Compressed air systems

Technical data	
Nominal pressure	Up to 12.5 bar
Temperature range	-20 °C to 50 °C
Size range	16 to 110 mm
Joining technology	Solvent jointing and threaded jointing
Standards and guidelines*	BS 4800, BS 1710, DIN 8062-8063, ISO 11359, EN ISO 1183-1, EN ISO13846, EN 13501-1, NF EN 921, NF EN 1452, NF T54-038
Approvals	BSI, Bureau Veritas, DNV, LNE fire certificate, National Accreditation of Certification Bodies

\*This table shows the main standards and guidelines of the system, there could be other local standards that are not listed here but which are still in force.

## Compressed air system product overview

De	16	20	25	32	40	50	63	75	90	110
DN	10	15	20	25	32	40	50	65	80	100
Inches	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Pipes	•	•	•	•	•	•	•	•	•	•
Fittings										
Solvent welded fittings	•	•	•	•	•	•	•	•	•	•
Threaded fittings	•	•	•	•	•	•	•			
Adaptor fittings	•	•	•	•	•	•	•			
Valves										
	•	•	•	•	•	•	•	•	•	•
Flanges and gaskets										
				•	•	•	•	•	•	•



PLX

# Fuel system PLX

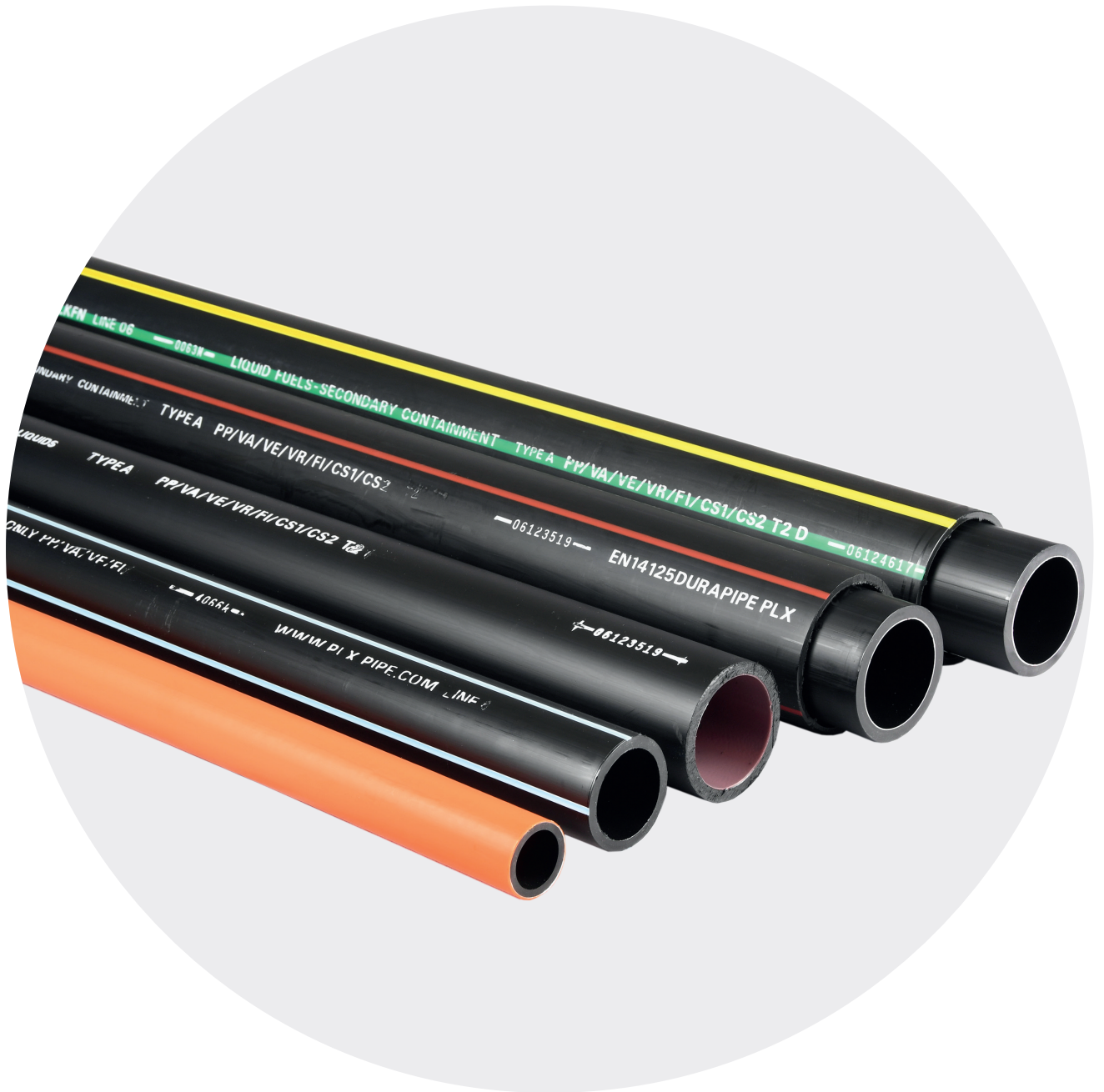


**PLX is a high-performance multi-layered polyethylene composite pipe system, supplied in single wall and secondary containment product ranges for various fuelling applications in retail, commercial and industrial markets.**

Fusion welded for the greatest joint integrity, PLX is a specialist range of pipe and fittings specifically designed for the safe transfer of fuel-based liquids and their vapor in pumped or vacuum applications. It is suitable for use with leaded, unleaded petroleum, including ethanol rich alternative fuels (E85), diesel, biodiesel and fuel oils.

PLX is a multi-layered polyethylene composite pipe system that offers an internal permeation barrier: it is available in both single-wall and secondary-contained options and is specifically designed to provide maximum permeation protection to the environment. PLX is fully compliant with the Energy Institute (Institute of Performance Systems) and conforms to EN 14125 regulations.

Through continuous innovation over 25 years, PLX offers a range of system options each tailored for specific applications in conveying fuels and their vapours.







## Typical applications

- Forecourts.
- Commercial and public transport refuelling.
- Oil-fired equipment.
- Critical or emergency power supply for hospitals, data centres, prisons and banks.
- Marine segment.



Technical data	
Nominal pressure	Up to 10 bar
Temperature range	-20 °C to 50 °C
Size range	32 mm to 400 mm
Joining technology	Electrofusion jointing
Standards and guidelines*	DIN 8074, EN 14125, ISO 9001, NFPA
Approvals	ATEX, BS, UL971M1, WRAS

\*This table shows the main standards and guidelines of the system, there could be other local standards that are not listed here but which are still in force.

## PLX product overview

De	32	40	50	63	75	90	110	125	140	160	180	200	225	250	280	315	355	400
DN	25	32	40	50	65	80	100	125	125	150	150	200	200	250	250	300	350	400
Inches	1"	1¼"	1½"	2"	2½"	3"	4"	5"	5"	6"	6"	8"	8"	10"	10"	12"	14"	16"
Single wall pipe	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Close fit (Secondary contained)	•	•	•	•	•	•	•	•										
Pipe-In-Pipe (Secondary Contained)										•	•	•	•	•	•	•	•	•
PLX + (ESD) Conductive system				•	•	•	•	•										
PLX Blue (AD Blue Transfer)	•	•	•	•														
PLX Electrical Conduit	•																	



# Vulcathene drainage system



**Vulcathene is a purpose-designed and engineered laboratory drainage system that has been specified and installed as a safe solution for transporting chemical waste from the laboratories of schools, universities, hospitals, research facilities and industrial environments worldwide for more than 65 years.**

The only system BBA approved for laboratory drainage, Vulcathene offers the widest range of bench items including sinks, drip cups and anti-siphon and dilution recovery traps to enable the design and specification of a complete chemical drainage laboratory system.

The choice of two easy jointing methods, mechanical for demountable joints and electrofusion for welded joints, allows flexibility in design, installation efficiencies and ease of system extensions and maintenance.

# Vulcathene drainage system







## Typical applications

Vulcathene products are used in all those applications that need to transport chemical waste, for example:

- Laboratories in Schools.
- Laboratories in universities and colleges.
- Hospitals and clinics.
- Pharmaceutical companies.
- Research organizations.

# Vulcathene drainage system

Technical data	
Size range	38 up to 152 mm
Temperature range	-20 °C to 100 °C (Only intermittent at 100°C)
Standards and guidelines	BS1710
Approvals	BBA

## Vulcathene product overview

De	48.3	60.3	89	114.3	168.3
DN	38	51	76	102	152
Inches	1 ½"	2"	3"	4"	6"
Pipes	•	•	•	•	•
Fittings					
Mechanical fittings	•	•	•	•	
Electrofusion fittings	•	•	•	•	•



# Straub Mechanical joints



**The quick, easy and reliable Straub mechanical joint is an alternative to welding or flange connections.**

The original STRAUB coupling revolutionized pipe connection technology since it is a universal pipe connection that can be applied very easily and quickly.

STRAUB couplings are available in various sizes and in different varieties. The most appropriate coupling can be chosen based on the application.







## Typical applications

- Water and wastewater utilities.
- Hydropower.
- Groundwork and industry.
- Shipbuilding and offshore.

Technical data	
Nominal pressure	Up to PN16 (marine rating)
Size range	21 up to 4064 mm
Temperature range	-20 °C to 100 °C
Standards and guidelines*	DIN 8074, EN 1254-3, ISO 19921, ISO 19922
Approvals	ABS, BUREAU VERITAS, DNV-GL, KR – Korean Register, LR – Lloyd's Register, NSF, VdS, WRc

\*This table shows the main standards and guidelines of the system, there could be other local standards that are not listed here but which are still in force.

## STRAUB product overview

De	21.3	30	38	40	48.3	63	168.3	180	219	355	609.6	711.2	2032	4064
<b>Restrained</b>														
METAL-GRIP (Connection of metal pipes and rigid plastics)		•	•	•	•	•	•	•	•	•	•			
GRIP (Connection of metal pipes and rigid plastics)	•	•	•	•	•	•	•							
GRIP-L (Connection of metal pipes and rigid plastics)								•	•	•	•	•		
COMBI-GRIP (Metal to plastic pipe connection)			•	•	•	•	•	•	•	•				
PLAST-GRIP (Connection of plastic pipes)				•	•	•	•	•	•	•				
PLAST-PRO (Connection of plastic pipes)						•	•	•	•	•				
<b>Flexible</b>														
FLEX (Connection of same or different pipe materials)					•	•	•	•	•	•	•	•	•	•
OPEN-FLEX (Connecting pipes or repairs without removal of existing pipes)					•	•	•	•	•	•	•	•	•	•
STEP-FLEX (Connection of pipes having different external diameters)									•	•	•	•	•	





# FIP Silicone Free system



**Silicone is present in a large number of widely used industrial products such as oils and lubricants.**

Products based on silicone are relatively chemically inert: this means a great attention of the customers to avoid upstream contamination with the use of products without silicone.

The concerned industries are those where surface treatments or other operations including the use of inks or paints are performed, most notably the automotive sector.

A strong focus is applied in the production sites where such operations are performed to install and use only components guaranteed to be free from traces of silicone.

Aliaxis meets this need with a clean room classified as ISO 5 (Class 100) level according to ISO 14644-1. FIP manual valves, variable area flowmeters and the whole range of fittings in plastic materials, up to diameter of 160 mm, can be processed in the clean room and supplied as silicone free.

The range of ball valves for industrial applications can also be provided silicone and lubricants free as valves are assembled without any lubricant.



# FIP Silicone Free system





## Typical applications

- Automotive.
- Metal surface treatment.
- Pharmaceutical.
- Food and beverage.
- Household appliances.



# FIP Silicone Free system

Technical data	
Nominal pressure	Up to 16 bar
Size range	16 mm to 160 mm
Standards and guidelines	ISO 14644-1

## Silicone free product overview

De	16	20	25	32	40	50	63	75	90	110	125	140	160
DN	10	15	20	25	32	40	50	65	80	100	125	125	150
Inches	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	5"	6"
Pipes	•	•	•	•	•	•	•	•	•	•	•	•	•
Fittings													
Solvent welded fittings	•	•	•	•	•	•	•	•	•	•	•	•	•
Socket welded fittings	•	•	•	•	•	•	•	•	•	•	•	•	•
Butt welded fittings	•	•	•	•	•	•	•	•	•	•	•	•	•
Threaded fittings	•	•	•	•	•	•	•	•	•	•	•	•	•
Adaptor fittings	•	•	•	•	•	•	•	•	•	•	•	•	•
Valves													
2-way ball valve	•	•	•	•	•	•	•	•	•	•			
3-way ball valve	•	•	•	•	•	•	•						
Diaphragm valves		•	•	•	•	•	•	•					
Butterfly valve						•	•	•	•	•	•	•	•
Check valves		•	•	•	•	•	•	•	•	•	•		
Flanges and gaskets													
	•	•	•	•	•	•	•	•	•	•	•	•	•

# FLS instrumentation



**Aliaxis offers a complete range of products identified by FLS brand, which are designed to provide accurate and reliable data to support smooth operations by enabling live process control and predictive maintenance.**

FLS devices are used for a wide variety of processes and applications concerning the measurement of flow rate, pH, conductivity and redox potential.

These solutions offer several advantages, both general and specific, such as flexibility of installation, ease of commissioning and maintenance.









## Typical applications

FLS products are used in all those applications that require flow measurement or characteristics of the liquid, for example:

- Water treatment systems.
- Industrial wastewater treatment and recovery .
- Swimming pools and SPA.
- Chemical industry.
- Surface treatment.
- Mining and hydrometallurgy.
- Irrigation and fertigation.
- Leak detection.



# FLS Instrumentation

The following tables describe the main technical data of the instruments for measuring flowrate, pH, redox potential and conductivity: this can help to have a first quick identification of the devices contained in the FLS range.

In particular, for each type of measurement to be carried out, the following table lists the most suitable instrument, the minimum and maximum value that the device can evaluate and the corresponding DN range.

Measurement	Instrument	Minimum value	Maximum value	DN range
Flowrate	Flow sensor	1,5 (l/h)	18*10 <sup>6</sup> (l/h) (*)	10 – 900 (mm)(****)
	Variable area flowmeter	1.5 (l/h)	50000 (l/h)	10 – 65 (mm)(****)
pH	pH sensor	0	14	all
Redox potential	ORP sensor	-2000 (mV)	+2000 (mV)	all
Conductivity	Conductivity sensor	0.055 (μS/cm)	1 (S/cm) (**)	all
Pressure and Level	Level and pressure transmitter	0 (bar)	25 (bar) (***)	all

(\*) Special solutions for higher flow rates.

(\*\*) Special solutions for higher values, until 2 S/cm.

(\*\*\*) Special solutions for higher values, until 100 bar.

(\*\*\*\*) Special solution for higher flow rates

In addition, the table below describes the main wetted materials for every instrumentation family.

Main wetted materials	Instruments							
	Variable Area Flowmeter	Paddlewheel Sensor	Magmeter Sensor	ULF	Oval gear	pH/ORP Sensor	Conductivity Sensor	Level and pressure transmitter
UPVC	•							
CPVC	•	•				•		
ABS		•						
PP	•				•		•	
PVDF	•	•	•					•
PEEK			•					
Epoxy resin						•	•	
POM				•				
Trogamid	•							
Polysulfone	•							
Ryton						•		
Glass						•		
Graphite							•	
Platinum						•	•	
Ceramic		•						•
316 SS	•	•	•		•		•	
304 SS			•					
ECTFE		•		•	•			
EPDM	•	•	•					•
FKM	•	•	•	•	•			•
FFKM				•				

## FIP Formatura Iniezione Polimeri

Loc. Pian di Parata, 16015 Casella Genova Italy

Tel. +39 0109621.1 - Fax +39 010 9621.209

info.fip@alixis.com

**www.alixis.it**

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