

Hoses for sanitary and heating applications,
environmental engineering and industry



A large fleet of braiding and assembly machines for maximum manufacturing flexibility

PRESENTATION

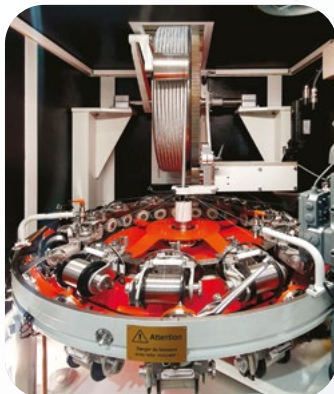
► **IFT, an OMERIN Group subsidiary since 1976**, benefits from the support of a very large fleet of machines and the Group's many areas of expertise: textile braiding, metal braiding, elastomer extrusion, coated braided sleeving.

Our strategy of developing a complete range of **HOSES** has led us to integrate the assembly and crimping of fittings, along with the design and manufacture of special assemblies and fittings.

IFT completes its product range with the production and sale of bulk braided hoses and fittings, crimping tools and accessories, thermal insulation sheaths and heating cables.

Our constant investment in productivity has enabled us to acquire genuine expertise in medium and large production runs of flexible sanitary and heating hoses.

Thanks to this organisation and the dynamism of our team, we can respond quickly and carefully to both large and small orders.





RESEARCH AND DEVELOPMENT

► Our **research and development department** includes multidisciplinary teams that combine creativity and engineering. We work closely with our customers to come up with innovative solutions. Products are prototyped and qualified in our test laboratory.



www.flexibles.com



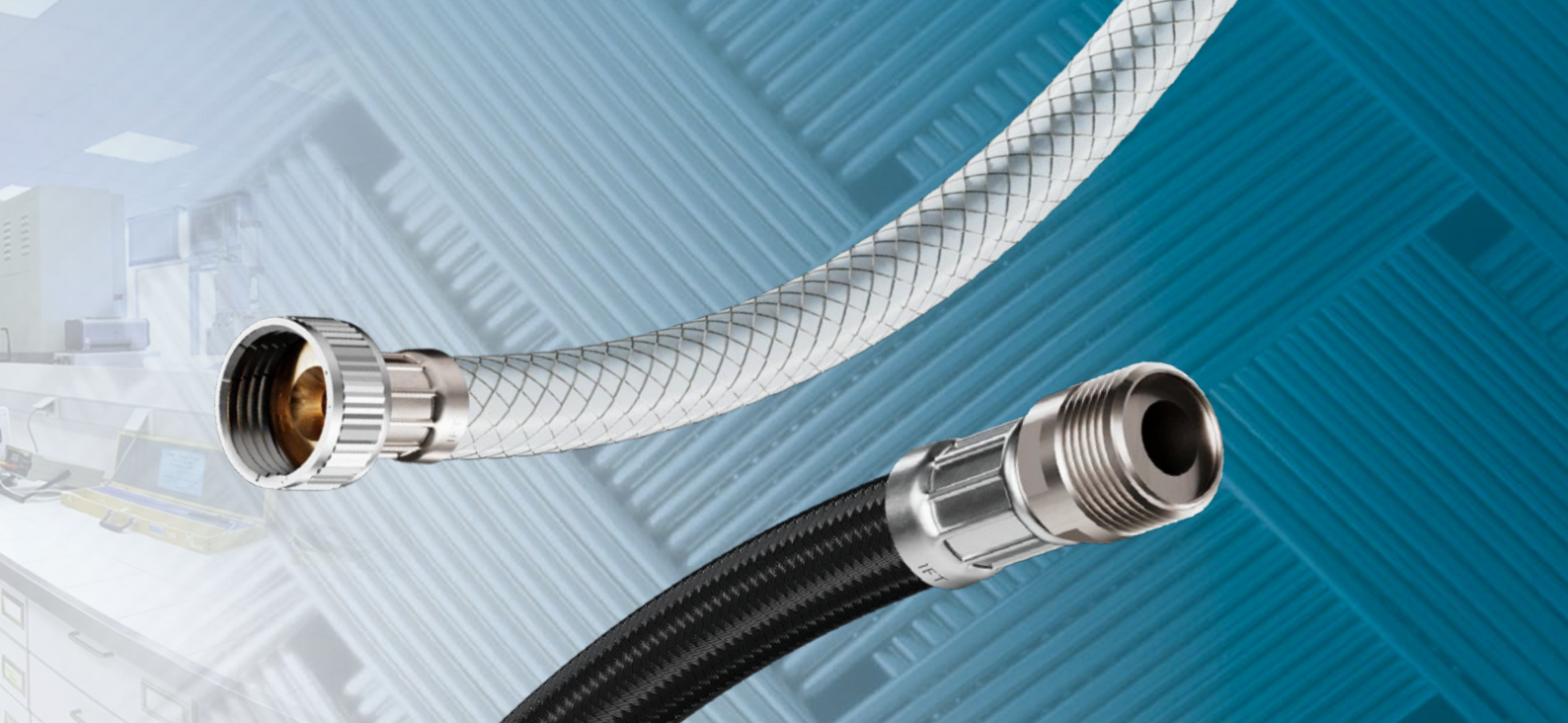
Investment in Quality

QUALITY AND CERTIFICATIONS

- ▶ Our ISO 9001-certified Company (2015 version) has created a Method/Quality department with a view to constantly improving our products and processes; all our employees are committed to this continuous improvement approach.
- ▶ To meet quality requirements, our Company has equipped itself with high-performance control and research resources. All the products we manufacture are tested at every stage of the production process in our laboratory in AMBERT.
- ▶ In addition to the test reports issued by our laboratories, approved laboratories attest to the quality of our products subject to specific constraints and to the reliability of our testing facilities.
- ▶ Our hoses have been approved by bodies such as CSTB, BUREAU VERITAS, etc.

Brands

EZYFLEX®	• RANGE OF VERSATILE HOSES FOR HOT AND COLD WATER IN THE SANITARY AND HEATING SECTORS
SHOWERFLEX®	• RANGE OF SHOWER HOSES
W-FLEX®	• RANGE OF HOSES AND FITTINGS FOR WASTE WATER
EKOFLEX®	• RANGE OF HOSES FOR RENEWABLE ENERGY HEATING
SUNNYFLEX®	• RANGE OF CONNECTIONS AND FITTINGS FOR SOLAR THERMAL PANELS
CLIMFLEX®	• RANGE OF HOSES AND FITTINGS FOR AIR CONDITIONING AND COOLING SYSTEMS
QUAL'IFT®	• RANGE OF LOW AND HIGH-PRESSURE HOSES
SILITUBE® X SILITAPE®	• BRAIDED SLEEVES AND TAPES IN MINERAL FIBRE COATED WITH WATERPROOF AND FIREPROOF SILICONE RUBBER
SILIGAIN®	• BRAIDED INSULATING SHEATHS
STOPGEL®	• READY-TO-USE HEATING CABLES
FLEXTRACE®	• SELF-REGULATING HEATING CABLES FOR DOMESTIC HOT WATER



ORGANISATIONS AND APPROVALS

Organisations



Centre Scientifique et Technique du Bâtiment (Scientific and Technical Centre for Buildings)

Independent French certification body for the water and building sectors. Guarantees hose quality by issuing a CSTB technical evaluation.



Approvals

The **ISO 9001 standard** is part of the ISO 9000 series of standards for quality management systems. It sets out the organisational requirements for implementing and improving a quality management system in order to increase customer satisfaction.



Attestation de Conformité Sanitaire

(Health compliance certificate)

Official French approval issued by the Direction Générale de la Santé (mandatory in France since 24 December 2006) concerning the general health principles applicable to materials coming into contact with water intended for human consumption.

Water Regulations Advisory Scheme

Official English approval concerning the general health principles applicable to materials coming into contact with water intended for human consumption.



The 4MS (4 Member States) standard

is a joint initiative of France, Germany, the Netherlands and the United Kingdom. Its aim is to harmonise the assessment criteria for materials and objects in contact with drinking water, in order to protect consumer health.

KTW

DVGW KTW Data sheet

Official German approval concerning the general health principles applicable to materials coming into contact with water intended for human consumption.

W 270

DVGW W 270 data sheet

Official German approval guaranteeing that certain materials will not cause microbial contamination of drinking water (only materials which, even after prolonged contact with drinking water, do not lead to the proliferation of micro-organisms, may come into contact with water).

FDA

US Food and Drug Administration

W 543

Set of tests for assessing flexible connections (mechanical tests, etc.) used to obtain the German certificate of conformity certified by the DVGW; requirements and assessments.

NF EN 1113

STANDARD for shower hoses for sanitary fittings and water supply systems.

NF T 681-1

STANDARD for rubber seals: testing and evaluation of EPDM internal tubes for hoses.

NF EN ISO 228

STANDARD for hose threads for connection without thread seal.

NF EN ISO 7

STANDARD for hose threads for thread-sealed connections.

Fire resistance classification: Euroclasses

European classification system for reaction to fire of construction products.

E.g.: Bs3d0. (formerly class M1).

RT 2005 - RT 2012

French thermal regulations designed to set a maximum limit on the energy consumption of new buildings for heating, ventilation, air conditioning, domestic hot water production and lighting.

RoHS

Restriction of the use of certain Hazardous Substances in electrical and electronic equipment

"Restriction of the use of certain hazardous substances in electrical and electronic equipment". The European RoHS directive (2002/95/EC) aims to limit the use of hazardous substances.

REACH

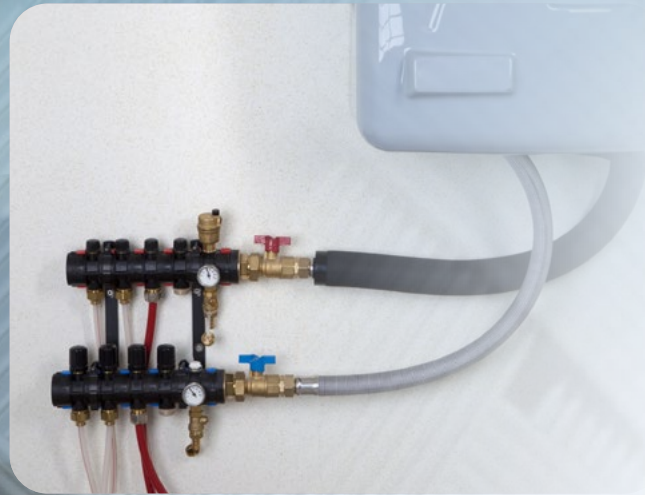
Registration, Evaluation and Authorisation of chemicals

The Registration, Evaluation and Authorisation of Chemicals is a Regulation of the European Parliament and of the Council of the European Union, adopted on 18 December 2006, which modernises European legislation on chemicals and establishes a single integrated system for the registration, evaluation and authorisation of chemicals in the European Union.



QB (Quality for the Construction sector) certification

is a quality certification. It is issued by the Centre Scientifique et Technique du Bâtiment (CSTB) and certifies the quality of products in the construction sector, along with equipment and services intended for the construction sector. Materials that come into contact with water intended for human consumption.



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ASSEMBLED HOSES

READY-TO-USE HOSES



HOSES FOR SANITARY APPLICATIONS

EZYFLEX® / SHOWERFLEX® / W-FLEX®



HOSES FOR HEATING

EZYFLEX® / EKOFLEX®



HOSES FOR AIR CONDITIONING

CLIMFLEX®



HOSES FOR SOLAR PANELS

SUNNYFLEX®



HOSES FOR INDUSTRY

QUAL'IFT®

DESIGN AND ASSEMBLE YOUR OWN HOSE

HOSES TO ASSEMBLE



Guide to designing your hose



All the necessary components, accessories and tools:

- > Hoses
- > Bushings
- > Fittings
- > Tools
- > Accessories



ASSEMBLED HOSES

READY-TO-USE



READY-TO-USE HOSES



EZYFLEX® sanitary /SHOWERFLEX® shower /W-FLEX® drainage

Pages **Data sheets**

▶ Taps and general water supply		
• EPDM hose with stainless steel braid DN08 EZYFLEX® EI	14	FT101
• EPDM hose with stainless steel braid DN12 EZYFLEX® EI	16	FT102
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• Cross-linked PEX hose with stainless steel braid DN08 EZYFLEX® PEXI	18	FT104
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▶ Public sector wash shower heads		
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• White PVC hose with internal reinforcement DN10 SHOWERFLEX® PTC	22	FT111
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• PVC spiral hose DN32 and 40 W-FLEX® V	23	FT121
• Hoses for washing machines, "drain hose" and "siphon" types W-FLEX® FE	24	FT122



Heating EZYFLEX® /EKOFLEX®

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• EPDM hose with textile braid DN15 to 50 EKOFLEX® ET	29	FT211
• Butyl hose with textile braid DN15 to 26 EKOFLEX® BT	30	FT212
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• Stainless steel corrugated hose DN10 to 50 EZYFLEX® FE	32	FT231



CLIMFLEX® air conditioning and chilled ceiling

▶ Water supply for air conditioning units		
• Heat-insulated EPDM hose with stainless steel braid DN15 to 50 CLIMFLEX® EI-C13 & EI-C19	34	FT301
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• EPDM hose with stainless steel braid DN10, 12 and 15 CLIMFLEX® EI	37	FT303
▶ Refrigerant lines for air conditioning - refrigeration		
• Hose for refrigerants DN03 to 25 CLIMFLEX® PZT	38	FT304



READY-TO-USE HOSES



SUNNYFLEX® Solar-Thermal

► Steam or water supply

- Corrugated stainless steel hose DN13 to 25 **SUNNYFLEX® IPO** 40 **FT401**
- Stainless steel corrugated hose with insulating sheath DN13 to 25 **SUNNYFLEX® IPOCALO** 41 **FT402**

► Two-hose connection for solar panel / DHW cylinder / heat exchanger

- 2-hose corrugated stainless steel hose with insulating sheath DN13 to 25 **SUNNYFLEX® BIPO** 42 **FT403**

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QUAL'IFT® industry-specific hoses

► Specific hoses for industrial use

- Specific hose with corrugated stainless steel tube and stainless steel braid **QUAL'IFT® IPI** 46 **FT501**
- Silicone hose with stainless steel braid **QUAL'IFT® SI** 47 **FT502**
- Nitrile NBR hose with stainless steel braid **QUAL'IFT® NI** 48 **FT503**
- PTFE hose with stainless steel braid **QUAL'IFT® TFI** 49 **FT504**



DESIGN AND ASSEMBLE YOUR OWN HOSE!

Order your Hoses, fittings, tools and Accessories
to assemble your own hose



HOSES TO ASSEMBLE



The Guide to designing your hose

50

FT600



Hoses

► Hoses with stainless steel braid

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HOSES TO ASSEMBLE



Fittings

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ASSEMBLED HOSES

READY-TO-USE HOSES

Sanitary



Heating



Air conditioning



Solar



Industry





SANITARY SHOWER DRAINAGE

Sanitary
EZYFLEX®

Shower
SHOWERFLEX®

Drainage
W-FLEX®

	Pages	Data sheets
▶ Taps and general water supply		
• EPDM hose with stainless steel braid DN08 EZYFLEX® EI	14	FT101
• EPDM hose with stainless steel braid DN12 EZYFLEX® EI	16	FT102
▶ Kitchen shower heads, mixer outlet		
• PE hose with stainless steel braid DN08 EZYFLEX® EP	17	FT103
▶ Public sector taps and general water supply		
• Cross-linked PEX hose with stainless steel braid DN08 EZYFLEX® PEXI	18	FT104
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• PVC spiral hose DN32 and 40 W-FLEX® V	23	FT121
• Hoses for washing machines, "drain hose" and "siphon" types W-FLEX® FE	24	FT122



EZYFLEX® EI

EPDM hose with stainless steel braid DN08



Sanitary

Taps and sanitary appliances



► Composition:

- EPDM tube according to EN 681-1 type WB
- AISI 304 stainless steel braid
- Nickel-plated brass fittings
- Stainless steel crimping bushings

► Sealing:

- Flat gasket on flat seat
- O-ring on metric male thread
- Barbed fitting for smooth tube for dual-taper fitting

► Standard lengths:

150, 300, 500, 700, 1000 mm

► Application:

Hot and cold water supply for taps, mixers and sanitary appliances

► Technical data



Maximum temperature
+90°C (peaks to +110°C)



DN	Nom. pressure (in bar)	Max. pressure (in bar)
08	16	20



8.5 x 12 mm (DN08)



Minimum bending radius **48 mm**



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

Taps

► Assembled hoses / References & Configurations

Reference	Hose	Fitting 1 / Thread		Fitting 2 / Thread	
EI08P1M10		Female	3/8"	Short male	M10x100
EI08P1M11					M11x100
EI08P1M12					M12x100
EI08P2M10			1/2"		M10x100
EI08P1M10		Female	3/8"	Long male	M10x100
EI08P1M11					M11x100
EI08P1M12					M12x100
EI08P2M10			1/2"		M10x100

CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Packaging customisation → Contact us
- Customisable fittings - Diameter, Material, etc.

Sanitary appliances

► Assembled hoses / References & Configurations

Reference	Hose	Fitting 1 / Thread		Fitting 2 / Thread	
EI08P1M1		Female	3/8"	Male	3/8"
EI08P2M2			1/2"		1/2"
EI08P4M4			3/4"		3/4"
EI08P1P1		Female	3/8"	Female	3/8"
EI08P2P2			1/2"		1/2"
EI08P4P4			3/4"		3/4"
EI08P1C1		Female	3/8"	Angled	3/8"
EI08P2C2			1/2"		1/2"
EI08P4C4			3/4"		3/4"
EI08M1B1		Male	3/8"	Dual-taper	Ø10 mm
EI08M2B2			1/2"		Ø12 mm
EI08M4B3			3/4"		Ø14 mm
EI08P1B1		Female	3/8"	Dual-taper	Ø10 mm
EI08P2B2			1/2"		Ø12 mm
EI08P4B3			3/4"		Ø14 mm
EI08B1B1		Dual-taper	Ø10 mm	Dual-taper	Ø10 mm
EI08B2B2			Ø12 mm		Ø12 mm
EI08B3B3			Ø14 mm		Ø14 mm



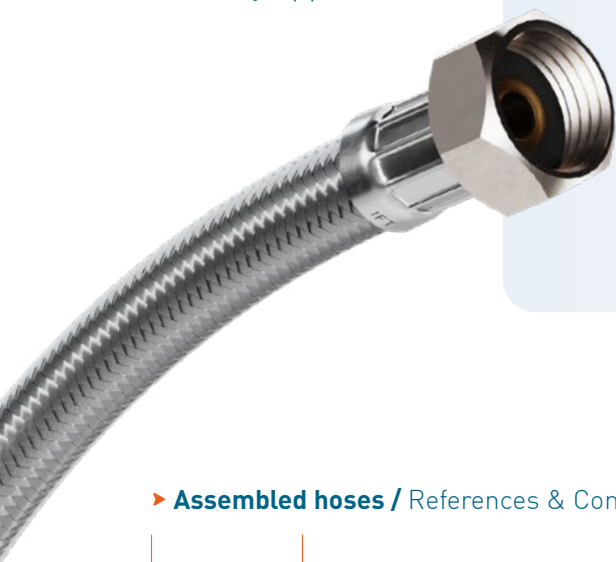
EZYFLEX® EI

EPDM hose with stainless steel braid DN12



Sanitary

Sanitary appliances



► Composition:

- EPDM tube according to EN 681-1 type WB
- AISI 304 stainless steel braid
- Nickel-plated brass fittings
- Stainless steel crimping bushings

► Sealing:

- Flat gasket on flat seat

► Standard lengths:

300, 500, 700, 1000 mm

► Application:

Hot and cold water supply for sanitary appliances

► Technical data



Maximum temperature
+90°C (peaks to +110°C)



DN	Nom. pressure (in bar)	Max. pressure (in bar)
12	16	20



12 x 18 mm (DN12)



Minimum bending radius **72 mm**



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

► Assembled hoses / References & Configurations

Reference	Hose	Fitting 1 / Thread		Fitting 2 / Thread	
EI12P2P2		Female	1/2"	Female	1/2"
EI12P2P4			1/2"		3/4"
EI12P4P4			3/4"		3/4"
EI12P2M2		Female	1/2"	Male	1/2"
EI12P4M2			3/4"		1/2"
EI12P4M4			3/4"		3/4"
EI12P2C2		Female	1/2"	Angled	1/2"
EI12P4C4			3/4"		3/4"



EZYFLEX® EP

PE hose with stainless steel braid DN08



Sanitary

Kitchen shower heads



► Composition:

- EPDM tube according to EN 681-1 type WB
- Monofilament polyethylene braid (white or black)
- Nickel-plated brass fittings
- Shower head-side anti-twist system
- Stainless steel crimping bushings

► Sealing:

- Flat gasket on flat seat
- O-ring on metric male thread

► Standard lengths:

1250, 1500, 2000 mm

► Application:

Water supply for kitchen shower heads, mixer tap outlet

► Technical data



Maximum temperature **+80°C**



Max operating pressure **10 bar**



8.5 x 12 mm (DN08)



Minimum bending radius **48 mm**



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

► Assembled hoses / References & Configurations

Reference	Hose	Fitting 1 / Thread		Fitting 2 / Thread	
EP08D2M15		Female tapered self-turning	1/2"	Short male	M15x100



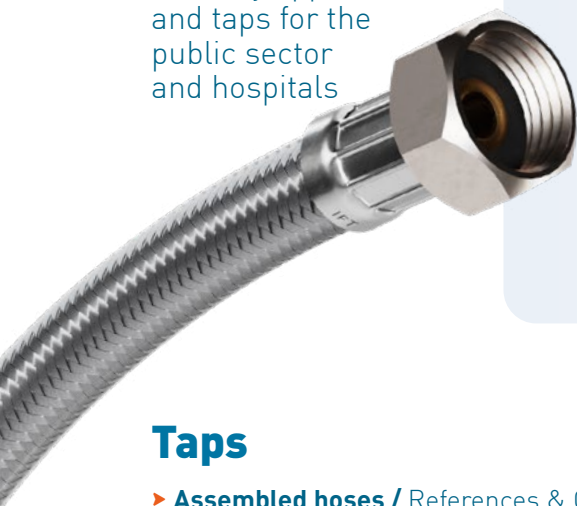
EZYFLEX® PEXI

PEX hose with stainless steel braid DN08



Sanitary

Sanitary appliances and taps for the public sector and hospitals



► Composition:

- PEX tube
- AISI 304 stainless steel braid
- Nickel-plated brass fittings
- Stainless steel crimping bushings

► Sealing:

- Flat gasket on flat seat
- O-ring on metric male thread
- Barbed fitting for smooth tube for dual-taper fitting

► Standard lengths:

150, 300, 500, 700, 1000 mm

► Application:

Hot and cold water supply for taps, mixers and sanitary appliances for the public sector and hospitals

► Technical data



Maximum temperature
+90°C



DN	Nom. pressure (in bar)	Max. pressure (in bar)
08	16	20



8.2 x 11.7 mm (DN08)



Minimum bending radius **35 mm**



Chlorine shock treatment possible



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

Taps

► Assembled hoses / References & Configurations

Reference	Hose	Fitting 1 / Thread		Fitting 2 / Thread	
XI08P1M10		Female	3/8"	Short male	M10x100
XI08P1M11					M11x100
XI08P1M12					M12x100
XI08P2M10			1/2"		M10x100
XI08P1M10		Female	3/8"	Long male	M10x100
XI08P1M11					M11x100
XI08P1M12					M12x100
XI08P2M10			1/2"		M10x100



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

Sanitary appliances

► Assembled hoses / References & Configurations

Reference	Hose	Fitting 1 / Thread		Fitting 2 / Thread	
XI08P1M1		Female	3/8"	Male	3/8"
XI08P2M2			1/2"		1/2"
XI08P4M4			3/4"		3/4"
XI08P1P1		Female	3/8"	Female	3/8"
XI08P2P2			1/2"		1/2"
XI08P4P4			3/4"		3/4"
XI08P1C1		Female	3/8"	Angled	3/8"
XI08P2C2			1/2"		1/2"
XI08P4C4			3/4"		3/4"
XI08M1B1		Male	3/8"	Dual-taper	Ø10 mm
XI08M2B2			1/2"		Ø12 mm
XI08M4B3			3/4"		Ø14 mm
XI08P1B1		Female	3/8"	Dual-taper	Ø10 mm
XI08P2B2			1/2"		Ø12 mm
XI08P4B3			3/4"		Ø14 mm
XI08B1B1		Dual-taper	Ø10 mm	Dual-taper	Ø10 mm
XI08B2B2			Ø12 mm		Ø12 mm
XI08B3B3			Ø14 mm		Ø14 mm



EZYFLEX® PEXI

PEX hose with stainless steel braid DN12



Sanitary

Sanitary appliances
for the public sector
and hospitals



► Composition:

- PEX tube
- AISI 304 stainless steel braid
- Nickel-plated brass fittings
- Stainless steel crimping bushings

► Sealing:

- Flat gasket on flat seat

► Standard lengths:

300, 500, 700, 1000 mm

► Application:

Hot and cold water supply for public sector and hospitals

► Technical data



Maximum temperature
+90°C



DN	Nom. pressure (in bar)	Max. pressure (in bar)
12	16	20



12 x 18 mm (DN12)



Minimum bending radius **65 mm**



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

► Assembled hoses / References & Configurations

Reference	Hose	Fitting 1 / Thread		Fitting 2 / Thread	
XI12P2P2		Female	1/2"	Female	1/2"
XI12P2P4			1/2"		3/4"
XI12P4P4			3/4"		3/4"
XI12P2M2		Female	1/2"	Male	1/2"
XI12P4M2			3/4"		1/2"
XI12P4M4			3/4"		3/4"
XI12P2C2		Female	1/2"	Angled	1/2"
XI12P4C4			3/4"		3/4"



EZYFLEX® EC

EPDM hose with stainless steel braid with PVC coating DN10 and 12



Sanitary

Wash shower heads
for the public sector
and hospitals



► Composition:

- EPDM tube according to EN 681-1 type WB
- AISI 304 stainless steel braid
- Smooth crystal-clear PVC exterior coating
- Nickel-plated brass fittings
- Shower head-side anti-twist system
- Stainless steel crimping bushings

► Sealing:

- Flat gasket on flat seat
- O-ring on metric male thread

► Standard lengths:

Custom-made

► Application:

Hot and cold water supply wash shower heads for the public sector and hospitals

► Technical data



Maximum temperature
+60°C



Max operating pressure **10 bar**



9,5 x 16 mm (DN10)
12 x 20 mm (DN12)



Min bending radius
60 mm (DN10)
72 mm (DN12)



This hose can be cleaned
with all detergents



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

► Assembled hoses / References & Configurations

Reference	DN (mm)	Hose	Fitting 1 / Thread		Fitting 2 / Thread	
EC10P2D2	10		Female	1/2"	Female Self-turning	1/2"
EC12P2D2	12					
EC10D2M15	10		Female Self-turning	1/2"	Male	15x100
EC10P1P1	10		Female	3/8"	Female	3/8"
EC10P2P2				1/2"		1/2"
EC12P2P2	12			3/4"		3/4"
EC12P4P4				3/4"		3/4"
EC10P1M1	10		Female	3/8"	Male	3/8"
EC10P2M2				1/2"		1/2"
EC12P2M2	12			3/4"		3/4"
EC12P4M4				3/4"		3/4"



SHOWERFLEX® PTC

White PVC hose with internal reinforcement DN10



Shower

Shower heads



► Composition:

- White PVC tube with internal braided polyester thread reinforcement
- Nickel-plated brass fittings
- Stainless steel crimping bushings

► Sealing:

- Flat gasket on flat seat (optional)

► Standard lengths:

1250, 1500, 2000 mm

► Application:

Hot and cold water supply of shower heads after taps

► Technical data



Maximum temperature
+60°C



Max operating pressure **10 bar**



9 x 15 mm (DN10)



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

► Assembled hoses / References & Configurations

Reference	Hose	Fitting 1 / Thread		Fitting 2 / Thread	
PT10P2P2		Female knurled cylindrical	1/2"	Female knurled cylindrical	1/2"
PT10P2D2		Female knurled cylindrical	1/2"	Female tapered self-turning	1/2"
PT10D2D2		Female tapered self-turning	1/2"	Female tapered self-turning	1/2"



W-FLEX® V

Spiral PVC hose DN32 and 40



Drainage

Sanitary appliances

- **Composition:**
 - Spiral PVC tube
 - PVC fittings for gluing to the tube with PVC or silicone adhesive
 - Screw-on fittings
- **Standard lengths:** Custom-made
- **Application:** Water drainage for bidets, washbasins, sinks, baths and other sanitary appliances

► Technical data



Maximum temperature
+60°C



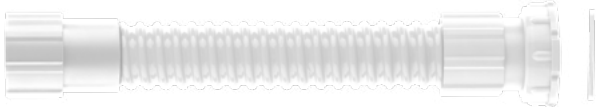
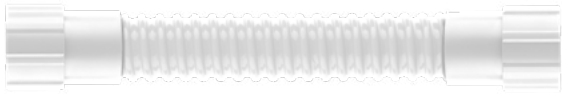
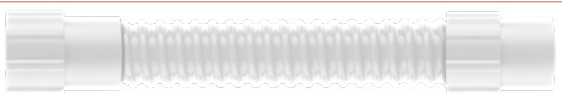
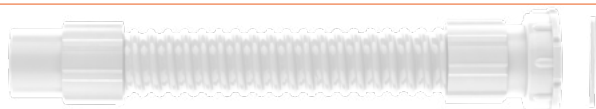
25 x 32 mm (DN32)
32 x 40 mm (DN40)



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

► Assembled hoses / References & Configurations

Reference	DN (mm)	Hose	Fitting 1	Fitting 2
V1VB1VT1	32		Male glue-on	Female screw-on
V2VB2VT2	40			
V1VB1VB1	32			Male glue-on
V1VB2VB2	40			
V1VB1VBF1	32			Female glue-on
V1VB2VBF2	40			
V1VBF1VT1	32		Female glue-on	Female screw-on
V2VBF2VT2	40			

► Hoses to assemble / Design your own hose!

Reference	DN (mm)	Name
V1	32	PVC roll Length 20 m
V2	40	
VB1	32	Glue-on end-pieces
VB2	40	
VBF1	32	Glue-on female end-pieces
VBF2	40	
VT1	32	Screw-on female end-pieces
VT2	40	





W-FLEX® FE

Drainage hose

Drainage

Washing machines, drain hoses and siphons



Drainage hose for washing machines or dishwashers

► Assembled hoses / References & Configurations

Reference	DN (mm)	Fittings
FE20PP	20	Flexible push-in heat-sealed end pieces

► Composition:

- Corrugated PP tube
- EPDM thermoplastic rubber fittings

► Standard lengths:

1500 mm

► Technical data



Maximum temperature
+95°C



Hose type "drain hose" for bidets, washing machines or dishwashers

► Assembled hoses / References & Configurations

Reference	DN (mm)	Fittings
FE20PP-EX	20	Flexible push-in heat-sealed end pieces

► Composition:

- Corrugated PP tube
- EPDM thermoplastic rubber fittings

► Standard lengths (min / max):

800 / 2700 mm, 1200 / 4000 mm

► Technical data



Maximum temperature
+95°C



Stretch



"Siphon" type hose for bidets, washbasins and sinks

► Assembled hoses / References & Configurations

Reference	DN (mm)	Fitting 1 / Thread		Fitting 2
FE33P6M32	33	Female swivel nut	1"1/4	Male PVC glue-on Ø 32 mm
FE40P7M40	40	Flexible push-in heat-sealed end pieces	1"1/2	Male PVC glue-on Ø 40 mm

► Composition:

- PVC hose
- PVC swivel nut fitting and glue-on male end piece

► Standard lengths (min / max):

350 / 700 mm

► Technical data



Maximum temperature
+90°C



Stretch



HEATING

Heating

EZYFLEX®
EKOFLEX®

	Pages	Data sheets
► General water supply • EPDM hose with stainless steel braid DN15 to 50 EZYFLEX® EI • Butyl hose with stainless steel braid DN15 to 26 EZYFLEX® BI	26 28	FT201 FT202
► Water supply for heat pumps and reversible mixed systems • EPDM hose with textile braid DN15 to DN50 EKOFLEX® ET • Butyl hose with textile braid DN15 to DN26 EKOFLEX® BT	29 30	FT211 FT212
► Oil and hydrocarbon burner supply • Nitrile NBR hose with stainless steel braid DN08 to 33 EZYFLEX® NI	31	FT221
► Steam supply • Corrugated stainless steel hose DN10 to 50 EZYFLEX® FE	32	FT231



EZYFLEX® EI

EPDM hose with stainless steel braid DN15 to 50



Heating

Heating appliances



► Composition:

- EPDM tube according to EN 681-1 type WB
- AISI 304 stainless steel braid
- Brass fittings (except nickel-plated elbow DN20 to 40)
- Stainless steel crimping bushings DN15 to 33 and aluminium DN40 and 50

► Sealing:

- Flat gasket on flat seat (optional)
- Metal / Metal for spherical-tapered seat (for more information, see paragraph "Special features of spherical-tapered fittings")

► Standard lengths:

300, 500, 700, 1000 mm

► Application:

Hot and cold water supply for heating appliances

► Technical data



Maximum temperature
+90°C (peaks to +110°C)



DN	Nom. pressure (in bar)	Max. Pressure (in bar)
15, 20, 26	10	16
33, 40, 50	6	6



15 x 22 mm (DN15)
20 x 28 mm (DN20)
26 x 35 mm (DN26)
33 x 43 mm (DN33)
40 x 50 mm (DN40)
50 x 63 mm (DN50)



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

► Assembled hoses / References & Configurations

Reference		DN (mm)	Hose	Fitting 1 Thread	Fitting 2 Thread	Bending radius (mm)
EI15P2M2		15		Female	1/2"	88
EI15P4M4					3/4"	
EI20P4M4		20			3/4"	112
EI26P5M5		26			1"	140
EI33P6M6	-	33			1"1/4	172
EI40P7M7	-	40			1"1/2	392
EI50P8M8	-	50			2"	488
EI15P2P2		15		Female	1/2"	88
EI15P4P4					3/4"	
EI20P4P4		20			3/4"	112
EI26P5P5		26			1"	140
EI33P6P6	-	33			1"1/4	172
EI40P7P7	-	40			1"1/2	392
EI50P8P8	-	50			2"	488

► **Assembled hoses /** References & Configurations

Reference		DN (mm)	Hose	Fitting 1 Thread		Fitting 2 Thread		Bending radius (mm)
EI15P2C2		15		Female	1/2"	Angled	1/2"	88
EI15P4C4					3/4"		3/4"	112
EI20P4C4		20*			3/4"		112	
EI26P5C5		26*			1"		140	
EI33P6C6	-	33*			1"1/4		172	
EI40P7C7	-	40*			1"1/2		392	

* Female nickel-plated brass angled fitting

► **Assembled hoses /** References & Configurations

Reference		DN (mm)	Hose	Fitting 1 Thread	Fitting 2 Thread	Bending radius (mm)
EI15S2S2		15		Female spherical- tapered	1/2"	88
EI15S4S4		15**			3/4"	88
EI20S4S4		20			3/4"	112
EI26S5S5		26			1"	140

** Gasket integrated into fittings for DN15 hoses with 3/4" thread



KEY BENEFITS

- OPTIMUM seal
- EASY to connect





EZYFLEX® BI

Butyl hose with stainless steel braid DN15 to 26

Heating

Heating appliances



► Composition:

- Butyl tube
- AISI 304 stainless steel braid with double blue edging
- Brass fittings (except nickel-plated brass elbow DN20 and 26)
- Stainless steel crimping bushings

► Sealing:

- Flat gasket on flat seat (optional)

► Standard lengths:

300, 500, 700, 1000 mm

► Application:

Hot and cold water supply for heating appliances

► Technical data



Maximum temperature
+90°C (peaks to +110°C)



DN	Nom. pressure (in bar)	Max. Pressure (in bar)
15, 20, 26	10	16



15 x 22 mm (DN15)
20 x 28 mm (DN20)
26 x 35 mm (DN26)



Oxygen barrier according to DIN 4726 preventing the formation of sludge, micro-organisms and algae



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

► Assembled hoses / References & Configurations

Reference	DN (mm)	Hose	Fitting 1 Thread	Fitting 2 Thread	Bending radius (mm)
BI15P2M2	15		Female	1/2"	88
BI15P4M4				3/4"	
BI20P4M4	20			3/4"	112
BI26P5M5	26			1"	140
BI15P2P2	15		Female	1/2"	88
BI15P4P4				3/4"	
BI20P4P4	20			3/4"	112
BI26P5P5	26			1"	140
BI15P2C2	15		Female	1/2"	88
BI15P4C4				3/4"	
BI20P4C4	20*			3/4"	112
BI26P5C5	26*			1"	140

*Female nickel-plated brass elbow fitting



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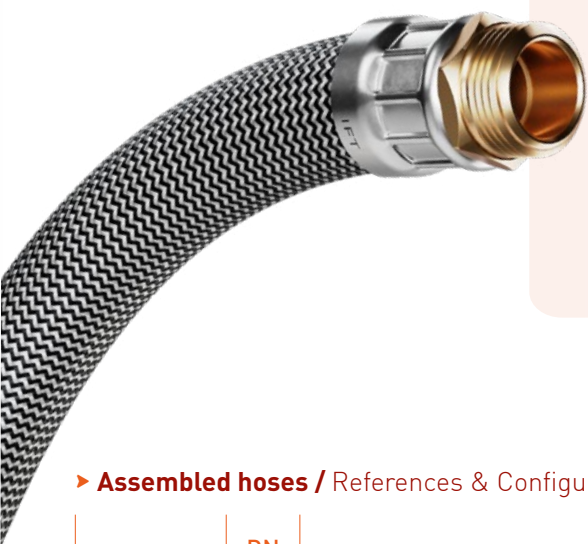
EKOFLEX® ET

EPDM hose with textile braid DN15 to 50



Heating

Heat pumps



Composition:

- EPDM tube according to EN 681-1 type WB
- Textile braid
- Brass fittings (except nickel-plated brass elbow DN20 and 26)
- Stainless steel crimping bushings DN15 to 33 and aluminium DN40 and 50

Sealing:

- Flat gasket on flat seat (optional)

Standard lengths:

300, 500, 700, 1000 mm

Application:

Hot and cold water supply for heat pumps.
Can be fitted onto mixed reversible installations

Technical data



Maximum temperature
+90°C (peaks to +110°C)



DN	Nom. pressure (in bar)	Max. Pressure (in bar)
15, 20, 26	10	16
33, 40, 50	6	6



15 x 22 mm (DN15)
20 x 28 mm (DN20)
26 x 35 mm (DN26)
33 x 43 mm (DN33)
40 x 50 mm (DN40)
50 x 63 mm (DN50)



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

Assembled hoses / References & Configurations

Reference	DN (mm)	Hose	Fitting 1 Thread		Fitting 2 Thread		Bending radius (mm)
ET15P2M2	15		Female	1/2"	Male	1/2"	88
ET15P4M4				3/4"		3/4"	
ET20P4M4	20			3/4"		3/4"	112
ET26P5M5	26			1"		1"	140
ET33P6M6	33			1"1/4		1"1/4	172
ET40P7M7	40			1"1/2		1"1/2	392
ET50P8M8	50			2"		2"	488
ET15P2P2	15					Female	1/2"
ET15P4P4		3/4"	3/4"				
ET20P4P4	20	3/4"	3/4"		112		
ET26P5P5	26	1"	1"		140		
ET33P6P6	33	1"1/4	1"1/4		172		
ET40P7P7	40	1"1/2	1"1/2		392		
ET50P8P8	50	2"	2"		488		
ET15P2C2	15		Female		1/2"		Angled
ET15P4C4				3/4"	3/4"		
ET20P4C4	20*	3/4"		3/4"	112		
ET26P5C5	26*	1"		1"	140		
ET33P6C6	33*	1"1/4		1"1/4	172		
ET40P7C7	40*	1"1/2		1"1/2	392		

*Female nickel-plated brass elbow fitting



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EKOFLEX® BT

Butyl hose with textile braid DN15 to 26

Heating

Heat pumps



► Composition:

- Butyl tube
- Textile braid with double blue edging
- Brass fittings (except nickel-plated brass elbow DN20 and 26)
- Stainless steel crimping bushings

► Sealing:

- Flat gasket on flat seat (optional)

► Standard lengths:

300, 500, 700, 1000 mm

► Application:

Hot and cold water supply for heat pumps.
Can be installed on mixed reversible installations

► Technical data



Maximum temperature
+90°C (peaks to +110°C)



DN	Nom. pressure (in bar)	Max. Pressure (in bar)
15, 20, 26	10	16



15 x 22 mm (DN15)
20 x 28 mm (DN20)
26 x 35 mm (DN26)



Oxygen barrier according to DIN 4726 prevents the formation of sludge, micro-organisms and algae



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

► Assembled hoses / References & Configurations

Reference	DN (mm)	Hose	Fitting 1 Thread		Fitting 2 Thread		Bending radius (mm)
BT15P2M2	15		Female	1/2"	Male	1/2"	88
BT15P4M4				3/4"		3/4"	
BT20P4M4	20			3/4"	3/4"	112	
BT26P5M5	26			1"	1"	140	
BT15P2P2	15		Female	1/2"	Female	1/2"	88
				1/2"		1/2"	88
BT15P4P4	3/4"			3/4"		88	
BT20P4P4	20			3/4"		112	
BT26P5P5	26			1"		140	
BT15P2C2	15		Female	1/2"	Angled	1/2"	88
BT15P4C4				3/4"		3/4"	
BT20P4C4	20*	3/4"		112			
BT26P5C5	26*			1"		1"	140

*Female nickel-plated brass elbow fitting



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EZYFLEX® NI

Nitrile NBR hose with stainless steel braid DN08 to 33

Heating

Oil and hydrocarbon
burners



► Composition:

- Nitrile NBR tube
- AISI 304 stainless steel braid with blue or yellow edging
- Brass fittings (nickel-plated brass for angled fitting)
- Stainless steel crimping bushings

► Sealing:

- Metal / Metal on spherical-tapered seat

► Standard lengths:

300, 500, 700, 1000 mm

► Application:

Compressed air, gas oil, etc.
supply for oil and hydrocarbon burners

► Technical data



Maximum temperature
+90°C



DN	Nom. pressure (in bar)	Max. Pressure (in bar)
08, 10, 12	10	16
15, 20, 26	10	16
33	6	6



7.7 x 12 mm (DN08) 20 x 28 mm (DN20)
9.5 x 14 mm (DN10) 26 x 35 mm (DN26)
12 x 18 mm (DN12) 33 x 43 mm (DN33)
15 x 22 mm (DN15)



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

► Assembled hoses / References & Configurations

Reference	DN (mm)	Hose	Fitting 1 / Thread	Fitting 2 / Thread	Bending radius (mm)
NI08S0S0	08		1/4"	1/4"	48
NI08S0S1			1/4"	3/8"	
NI08S1S1			3/8"	3/8"	60
NI10S1S1			3/8"	3/8"	
NI12S2S2			1/2"	1/2"	72
NI15S2S2			1/2"	1/2"	88
NI20S4S4			3/4"	3/4"	112
NI26S5S5			1"	1"	140
NI33S6S6	33		1 1/4"	1 1/4"	172
NI08S0Y0	08		1/4"	1/4"	48
NI08S0Y1			1/4"	3/8"	
NI08S1Y1			3/8"	3/8"	60
NI10S1Y1			3/8"	3/8"	
NI12S2Y2			1/2"	1/2"	72
NI15S2Y2			1/2"	1/2"	88
NI20S4Y4			3/4"	3/4"	112
NI26S5Y5			1"	1"	140
NI33S6Y6	33		1 1/4"	1 1/4"	172
NI08S0W0	08		1/4"	1/4"	48
NI08S0W1			1/4"	3/8"	
NI08S1W0			3/8"	1/4"	60
NI08S1W1			3/8"	3/8"	
NI10S1W1			3/8"	3/8"	72
NI12S2W2			1/2"	1/2"	88
NI15S2W2			1/2"	1/2"	112
NI20S4W4			3/4"	3/4"	140
NI26S5W5	26		1"	1"	172
NI33S6W6	33		1 1/4"	1 1/4"	172



EZYFLEX® FE

Stainless steel corrugated hose DN10 to 50

Heating

Steam supply



► Composition:

- AISI 304L stainless steel corrugated tube
- AISI 303 stainless steel fittings
- AISI 303 stainless steel fittings welded under argon

► Standard lengths: (min / max)

75/130 mm, 100/200 mm, 200/400 mm,
260/520 mm, 500/1000 mm,
750/1500 mm, 1000/2000 mm

► Application:

Steam, hot and cold water supply for heating appliances

► Technical data



Maximum temperature
+250°C



Maximum operating pressure for gas
0.5 Bar

Max operating pressure for water
10 Bar (DN10)

8 Bar (DN15, 20, 26)

5 Bar (DN33, 40, 50)



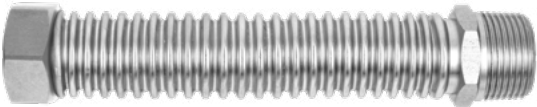
Can stretch up to twice
the initial length

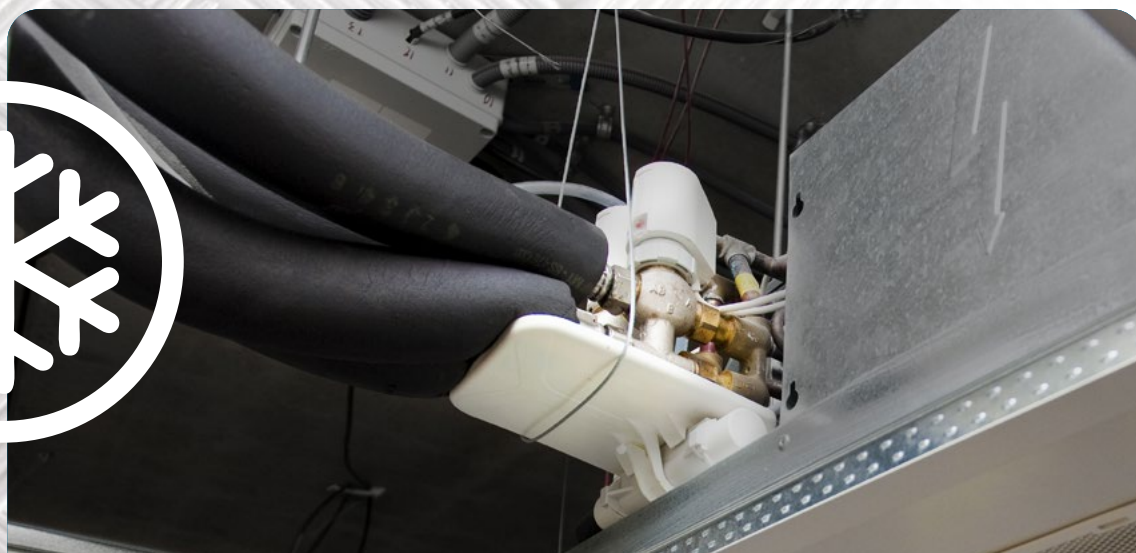


CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

► Assembled hoses / References & Configurations

Reference	DN (mm)	Hose	Fitting 1 Thread		Fitting 2 Thread	
FE10P1M1	10		Female	3/8"	Male	3/8"
FE15P2M2	15			1/2"		1/2"
FE15P4M2				3/4"		1/2"
FE20P4M4	20			3/4"		3/4"
FE26P5M5	26			1"		1"
FE33P6M6	33			1"1/4		1"1/4
FE40P7M7	40			1"1/2		1"1/2
FE50P8M8	50			2"		2"
FE15P2P2	15		Female	1/2"	Female	1/2"
FE20P4P4	20			3/4"		3/4"
FE26P5P5	26			1"		1"



AIR CONDITIONING CHILLED CEILING

CLIMFLEX®

	Pages	Data sheets
▶ Water supply for air conditioning units		
• Heat-insulated EPDM hose with stainless steel braid DN15 to 50 CLIMFLEX® EI-C13 & EI-C19	34	FT301
• Butyl insulated hose with stainless steel braid DN15 to 26 CLIMFLEX® BI-C13 & BI-C19	36	FT302
▶ Water supply for chilled ceilings, chilled beams, velums		
• EPDM hose with stainless steel braid DN10, 12 and 15 CLIMFLEX® EI	37	FT303
▶ Refrigerant lines for air conditioning - refrigeration		
• Hose for refrigerants DN03 to 25 CLIMFLEX® PZT	38	FT304



CLIMFLEX® EI-C13 / C19

Heat-insulated EPDM hose with textile braid

DN15 to 50



Air conditioning

Air conditioning units



► Composition:

- EPDM tube according to EN 681-1 type WB
- AISI 304 stainless steel braid
- Brass fittings (except nickel-plated elbow DN20 to 40)
- Stainless steel crimping bushings
- Thermal insulation Euroclass B S3D0 thickness 13 or 19 mm
- Optional cups

► Sealing:

- Flat gasket on flat seat (optional)
- Metal / Metal for spherical-tapered seat (for more information, see paragraph "Special features of spherical-tapered fittings")

► Standard lengths:

300, 500, 700, 1000 mm

► Application:

Hot and chilled water supply for "fan coil - heat pump - cassette" type terminal air conditioning units

► Technical data

Minimum temperature

-15°C

Maximum temperature

+90°C (peaks to +110°C)



DN	Nom. pressure (in bar)	Max. Pressure (in bar)
15, 20, 26	10	16
33, 40, 50	6	6



Glycol water flow rate up to 40% (for larger capacities, contact us)



Diameters excluding thermal insulation

15 x 22 mm (DN15)

20 x 28 mm (DN20)

26 x 35 mm (DN26)

33 x 43 mm (DN33)

40 x 50 mm (DN40)

50 x 63 mm (DN50)

CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

► Assembled hoses / References & Configurations

Reference 13 mm thermal insulation	Reference 19 mm thermal insulation		DN (mm)	Hose	Fitting 1 Thread		Fitting 2 Thread		Bending radius (mm)
EI15P2M2-C13	EI15P2M2-C19		15		Female	Male		1/2"	88
EI15P4M4-C13	EI15P4M4-C19							3/4"	
EI20P4M4-C13	EI20P4M4-C19		20					3/4"	112
EI26P5M5-C13	EI26P5M5-C19		26					1"	140
EI33P6M6-C13	EI33P6M6-C19	-	33					1"1/4	172
EI40P7M7-C13	EI40P7M7-C19	-	40					1"1/2	392
EI50P8M8-C13	EI50P8M8-C19	-	50					2"	488
EI15P2P2-C13	EI15P2P2-C19		15		Female	Female		1/2"	88
EI15P4P4-C13	EI15P4P4-C19							3/4"	
EI20P4P4-C13	EI20P4P4-C19		20					3/4"	112
EI26P5P5-C13	EI26P5P5-C19		26					1"	140
EI33P6P6-C13	EI33P6P6-C19	-	33					1"1/4	172
EI40P7P7-C13	EI40P7P7-C19	-	40					1"1/2	392
EI50P8P8-C13	EI50P8P8-C19	-	50					2"	488

► Assembled hoses / References & Configurations

Reference 13 mm thermal insulation	Reference 19 mm thermal insulation		DN (mm)	Hose	Fitting 1 Thread		Fitting 2 Thread		Bending radius (mm)	
EI15P2C2-C13	EI15P2C2-C19		15		Female	1/2"	Angled	1/2"	88	
EI15P4C4-C13	EI15P4C4-C19					3/4"		3/4"		
EI20P4C4-C13	EI20P4C4-C19		20*			1"		1"	112	
EI26P5C5-C13	EI26P5C5-C19		26*			1"1/4		1"1/4	140	
EI33P6C6-C13	EI33P6C6-C19	-	33*			1"1/2		1"1/2	172	
EI40P7C7-C13	EI40P7C7-C19	-	40*						392	

* Female nickel-plated brass angled fitting

► Assembled hoses / References & Configurations

Reference 13 mm thermal insulation	Reference 19 mm thermal insulation		DN (mm)	Hose	Fitting 1 Thread		Fitting 2 Thread		Bending radius (mm)
EI15S2S2-C13	EI15S2S2-C19		15		Female spherical tapered	1/2"	Female spherical tapered	1/2"	88
EI15S4S4-C13	EI15S4S4-C19		15**			3/4"		3/4"	
EI20S4S4-C13	EI20S4S4-C19		20			1"		1"	112
EI26S5S5-C13	EI26S5S5-C19		26			1"1/4		1"1/4	140
EI33S6S6-C13	EI33S6S6-C19	-	33						172

** Gasket integrated into fittings for DN15 hoses with 3/4" thread



KEY BENEFITS

- OPTIMUM seal
- EASY to connect



CLIMFLEX® BI-C13 / C19

Butyl insulated hose with stainless steel braid

DN15 to 26

Air conditioning

Air conditioning units



► Composition:

- Butyl tube
- AISI 304 stainless steel braid with double blue edging
- Brass fittings (except nickel-plated brass elbow DN20 and 26)
- Stainless steel crimping bushings
- Thermal insulation Euroclass B S3D0 thickness 13 or 19 mm
- Optional cups

► Sealing:

- Flat gasket on flat seat (optional)

► Standard lengths:

300, 500, 700, 1000 mm

► Application:

Hot and chilled water supply for "fan coil - heat pump - cassette" type terminal air conditioning units

► Technical data

Minimum temperature

-15°C

Maximum temperature

+90°C (peaks to +110°C)



DN	Nom. pressure (in bar)	Max. Pressure (in bar)
15, 20, 26	10	16



Glycol water flow rate up to 40% (for larger capacities, contact us)



Diameters excluding thermal insulation

15 x 22 mm (DN15)

20 x 28 mm (DN20)

26 x 35 mm (DN26)



Oxygen barrier according to DIN 4726 preventing the formation of sludge, micro-organisms and algae



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

► Assembled hoses / References & Configurations

Reference 13 mm thermal insulation	Reference 19 mm thermal insulation	DN (mm)	Hose	Fitting 1 Thread	Fitting 2 Thread	Bending radius (mm)
BI15P2M2-C13	BI15P2M2-C19	15		Female	Male	88
BI15P4M4-C13	BI15P4M4-C19					112
BI20P4M4-C13	BI20P4M4-C19	20				140
BI25P5M5-C13	BI25P5M5-C19	26				88
BI15P2P2-C13	BI15P2P2-C19	15		Female	Female	88
BI15P4P4-C13	BI15P4P4-C19					112
BI20P4P4-C13	BI20P4P4-C19	20				140
BI25P5P5-C13	BI25P5P5-C19	26				88
BI15P2C2-C13	BI15P2C2-C19	15		Female	Angled	88
BI15P4C4-C13	BI15P4C4-C19					112
BI20P4C4-C13	BI20P4C4-C19	20*				140
BI26P5C5-C13	BI26P5C5-C19	26*				88

* Female nickel-plated brass angled fitting



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CLIMFLEX® EI

EPDM hose with stainless steel braid DN10, 12 and 15



Chilled ceilings



► Safety clips (OPTIONAL) / References

Reference	For copper tube Diameter (mm)
CLIPS12	12
CLIPS15	15

- **Composition:**
 - EPDM tube according to EN 681-1 type WB
 - AISI 304 stainless steel braid
 - Brass fittings
 - Stainless steel crimping bushings
- **Sealing:**
 - Flat gasket on flat seat
 - integrated DN10 and 12
 - optional DN15
- **Safety:**
 - Optional safety clips for quick coupling
- **Lengths:**
 - Custom-made
- **Application:**
 - Hot and chilled water supply to chilled ceilings - Chilled beams - Velums.
 - If chilled water (temp. Below dew point): contact us for insulation requirements.



► Technical data



Minimum temperature

-15°C

Maximum temperature

+90°C



DN	Nom. pressure (in bar)	Max. Pressure (in bar)
10, 12	16	20
15	10	16



Glycol water flow rate up to 40%
(for larger capacities, contact us)



9.5 x 14 mm (DN10)
12 x 18 mm (DN12)
15 x 22 mm (DN15)



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

► Assembled hoses / References & Configurations

Reference	DN (mm)	Hose	Fitting 1 Thread		Fitting 2 Thread		Bending radius (mm)
EI10I0I0	10		Quick	Ø 10 mm	Quick	Ø10mm	60
EI12I1I1	12			Ø 12 mm		Ø12 mm	72
EI12I2I2				Ø 15 mm		Ø15 mm	
EI15I2I2	15			Ø 15 mm	Ø15 mm	88	
EI10P1I0	10				Female	3/8"	Quick
EI10P2I0	10	1/2"	Ø10 mm			60	
EI12P2I1	12	1/2"	Ø12 mm			72	
EI12P2I2		1/2"	Ø15 mm			88	
EI15P2I2	15	1/2"	Ø15 mm			88	
EI10P2C0	10		Female	1/2"	Quick Angled	Ø10 mm	60
EI10P2C1						Ø12 mm	
EI12P2C1	12					Ø12 mm	72
EI12P2C2						Ø15 mm	88
EI15P2C2	15					Ø15 mm	88

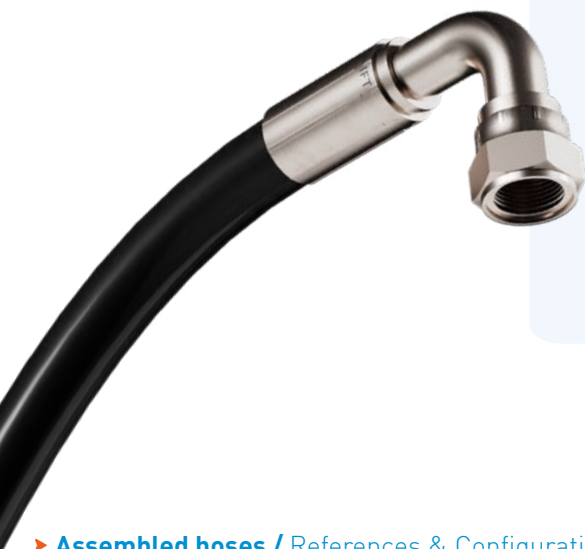


CLIMFLEX® PZT

Hoses for refrigerants

DN03 to 25

Lines Refrigerants



► Composition:

- Special polyamide tube, compliant with EN1736, reinforced with high-density polyester braiding and covered with an abrasion-resistant polyurethane external sheath
- Steel high-pressure screw-on fittings "FLARE SAE"
- High-pressure treated steel crimping bushings

► Sealing:

- Metal / metal

► Standard lengths:

Custom-made

► Application:

Refrigerant lines for air conditioning (Split system) - refrigeration (compressors, etc.)
CFC - HFC - HFC

► Technical data



Operating temperature
-40°C to +100°C



See table below



Glycol water flow rate up to 40%
(for larger capacities, contact us)



Refrigerant gas-tight
(R22, R134A, R404, R407, R410, R507)
and oil-resistant



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us

► Assembled hoses / References & Configurations

Reference	DN (mm)	Hose	Diameter int. x ext. (mm)	Min burst pressure at 23°C (bar)	Min burst pressure (bar)	Fitting 1 Thread		Fitting 2 Thread		Bending radius (mm)
FLEXPZT3FF	3		3.5 x 8.5	920	230	Female	1/8"	Female	1/8"	12
FLEXPZT5FF	5		4.8 x 10.0	840	210		3 and 16		3 and 16	30
FLEXPZT6FF	6		6.4 x 11.8	800	200		1/4"		1/4"	35
FLEXPZT8FF	8		8.0 x 14.3	760	190		5 and 16		5 and 16	45
FLEXPZT10FF	10		9.7 x 16.0	700	175		3/8"		3/8"	55
FLEXPZT12FF	12		13.0 x 20.3	560	140		1/2"		1/2"	75
FLEXPZT16FF	16		16.0 x 23.5	420	105		5/8"		5/8"	120
FLEXPZT19FF	19		19.2 x 26.5	360	90		3/4"		3/4"	145
FLEXPZT25FF	25		25.6 x 33.6	280	70	Female	1"	Angled	1"	200
FLEXPZT3FC	3		3.5 x 8.5	920	230		1/8"		1/8"	12
FLEXPZT5FC	5		4.8 x 10.0	840	210		3 and 16		3 and 16	30
FLEXPZT6FC	6		6.4 x 11.8	800	200		1/4"		1/4"	35
FLEXPZT8FC	8		8.0 x 14.3	760	190		5 and 16		5 and 16	45
FLEXPZT10FC	10		9.7 x 16.0	700	175		3/8"		3/8"	55
FLEXPZT12FC	12		13.0 x 20.3	560	140		1/2"		1/2"	75
FLEXPZT16FC	16		16.0 x 23.5	420	105		5/8"		5/8"	120
FLEXPZT19FC	19		19.2 x 26.5	360	90		3/4"		3/4"	145
FLEXPZT25FC	25		25.6 x 33.6	280	70		1"		1"	200



SOLAR THERMAL

SUNNYFLEX®

	Pages	Data sheets
▶ Steam or water supply		
• Corrugated stainless steel hose DN13 to 25 SUNNYFLEX® IPO	40	FT401
• Stainless steel corrugated hose with insulating sheath DN13 to 25 SUNNYFLEX® IPOCALO	41	FT402
▶ Two-hoses connection for solar panel / DHW cylinder / heat exchanger		
• 2-hoses corrugated stainless steel hose with insulating sheath DN13 to 25 SUNNYFLEX® BIPO	42	FT403
▶ Hose installation guide SUNNYFLEX®	43	FT411



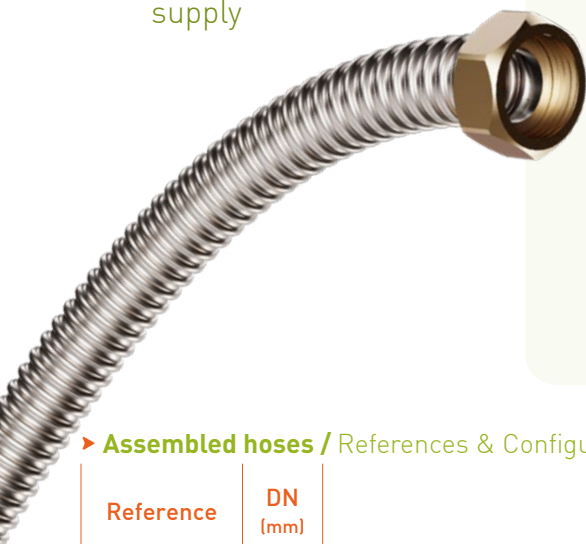
SUNNYFLEX® IPO

Corrugated stainless steel hose

DN13 to 25

Solar

Steam or water supply



► Composition:

- AISI 316 L stainless steel corrugated tube
- Brass fittings and stainless steel segments

► Seal (optional):

- Flat gasket on flat seat

► Mounting tools (optional):

- Striking tool: Ref. FRAP245
- Matrices: Ref. MAT24 (DN13 and 16), MAT56 (DN20 and 25)

► Connection kit (optional):

Kit comprising 10 nuts, 10 segments and 10 gaskets

► Lengths:

Custom-made

► Application:

Steam or hot or cold water supply

► Technical data



Maximum temperature
+150°C (peaks to +200°C)



Max operating pressure
20 Bar (DN13)
16 Bar (DN16)
10 Bar (DN20 and 25)



- Excellent resistance to UV radiation and bad weather
- Excellent corrosion resistance

► Assembled hoses / References & Configurations

Reference	DN (mm)	Hose	Fitting 1 Thread		Fitting 2 Thread		Bending radius (mm)
IPOF2F2	13		Female	1/2"	Female	1/2"	20
IPOF4F4	16			3/4"		3/4"	25
IPOF5F5	20			1"		1"	30
IPOF6F6	25			1 1/4"		1 1/4"	35
IPOF2M2	13		Female	1/2"	Male	1/2"	20
IPOF4M4	16			3/4"		3/4"	25

► Hoses to assemble (self-assembly)

Reference	DN (mm)	Hose	Length	Connection kit (optional)	Tools (optional)
IPO12	13		Roll 100 m	20	FRAP245 + MAT24
IPO16	16			25	FRAP245 + MAT24
IPO20	20			30	FRAP245 + MAT56
IPO25	25			35	FRAP245 + MAT56



ASSEMBLY

► SUNNYFLEX® hoses must be assembled by scrupulously respecting the assembly rules and steps listed on the technical data sheet
FT304 SUNNYFLEX® ASSEMBLY



SUNNYFLEX® IPOCALO

Stainless steel corrugated hose with insulating sheath DN13 to 25

Solar

Steam or water supply

► Composition:

- AISI 316 L stainless steel corrugated tube
- Brass fittings and stainless steel segments
- Thermal insulation Euroclass B S3D0 thickness 13 or 19 mm
- Optional cups

► Seal (optional):

- Flat gasket on flat seat

► Lengths:

- Custom-made

► Application:

- Steam or hot or cold water supply

► Technical data



Maximum temperature
+150°C (peaks to +200°C)



Max operating pressure
20 Bar (DN13)
16 Bar (DN16)
10 Bar (DN20 and 25)



CUSTOM OFFER

- Specific length: **150 mm to over 10,000 mm**
MOQ depending on the desired length
- Customisable fittings: diameter, material, etc.
- Customisable packaging: contact us
- Thermal insulation thickness: **9mm, 13mm or 19mm**

► Assembled hoses / References & Configurations

Reference	DN (mm)	Hose	Fitting 1 Thread		Fitting 2 Thread		Bending radius (mm)
IPOCALOF2F2	13		Female	1/2"	Female	1/2"	20
IPOCALOF4F4	16			3/4"		3/4"	25
IPOCALOF5F5	20			1"		1"	30
IPOCALOF6F6	25			1" 1/4		1" 1/4	35
IPOCALOF2M2	13		Female	1/2"	Male	1/2"	20
IPOCALOF4M4	16			3/4"		3/4"	25

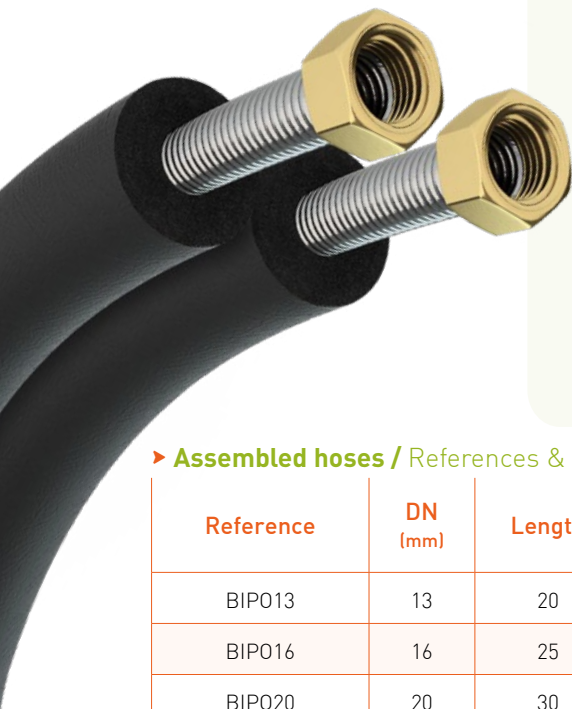


SUNNYFLEX® BIPO

2-tube corrugated stainless steel hose with insulating sheath DN13 to 25

Solar

Twin-tube connection
for solar panel
DHW tank - exchanger



► Composition:

- Two AISI 316 L stainless steel corrugated tubes
- Thermal insulation Euroclass B S3D0 thickness 13 or 19 mm
- 4 brass fittings, 4 stainless steel segments and 4 male-male union fittings

► Sealing:

- 4 HT (high temperature) fibre gaskets

► Mounting tools (optional):

- Striking tool: Ref. FRAP245
- Matrices: Ref. MAT24 (DN13 and 16), MAT56 (DN20 and 25)

► Connection kit (optional):

Kit comprising 10 nuts, 10 segments and 10 gaskets

► Lengths:

10 m / 15 m / 20 m / 25 m (DN13)
10 m / 15 m / 20 m / 25 m / 50 m (DN16, DN20, DN25)

► Application:

Twin-tube connection (flow - return) for solar panel - DHW cylinder - exchanger

► Technical data



Maximum temperature
+150°C (peaks to +200°C)



Max operating pressure
10 Bar (DN13 to 25)



Good abrasion resistance



- Excellent resistance to UV radiation and weather
- Excellent corrosion resistance

► Assembled hoses / References & Configurations

Reference	DN (mm)	Length	Fitting 1 / Thread		Fitting 1 / Thread		Tools (optional)
BIP013	13	20	Female	1/2"	Female	1/2"	FRAP245 + MAT24
BIP016	16	25		3/4"		3/4"	
BIP020	20	30		1"		1"	FRAP245 + MAT56
BIP025	25	35		1 1/4"		1 1/4"	

► The SUNNYFLEX® BIPO hose

is delivered assembled in a cardboard box with a bag containing:

- 4 brass fittings
- 4 stainless steel segments
- and 4 male-male brass union fittings





SUNNYFLEX®

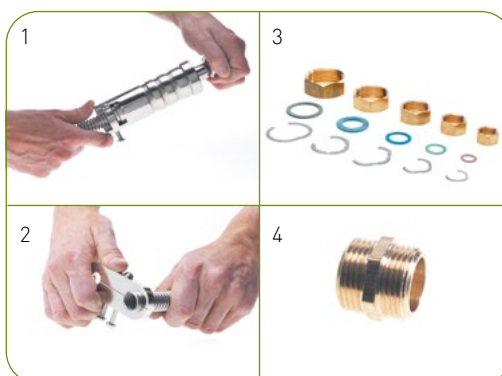
Assembly guide for solar panel hoses

► List of products concerned by the assembly sheet

- **SUNNYFLEX® IPO** - Stainless steel corrugated hoses
- **SUNNYFLEX® BIPO** - EPDM insulated hoses with stainless steel braid

► Tools

- 1 • FRAP245 striking tool
- 2 • MAT24 and MAT56 matrices
- 3 • Fitting sets (nuts + segments + gaskets)
- 4 • Brass male-male unions



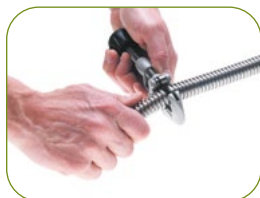
DN (mm)	Tools to use
13	FRAP245 + MAT24
16	FRAP245 + MAT24
20	FRAP245 + MAT56
25	FRAP245 + MAT56

► SUNNYFLEX® Kits supplied with hoses to assemble

Kit components

DN (mm)	Fittings	Stainless steel segments	HT fibre gaskets (high temperature)	Reference of Kits	Number of components	Available diameters
13	Female 1/2"	SEG1/2"	JFHT2	SUNNYFLEX® IPOCALO BAG KIT	2 each	DN13 / 16 / 20 / 25
16	Female 3/4"	SEG3/4"	JFHT4			
20	Female 1"	SEG1"	JFHT5	SUNNYFLEX® BIPOCALO BAG KIT	4 each	
25	Female 1 1/4"	SEG1/4"	JFHT6	SUNNYFLEX® IPO BAG KIT	10 of each	

► Steps for assembling your SUNNYFLEX® hose



Step 1

Cut a length of corrugated stainless steel with a tube cutter



Step 2

Place the matrix behind the first 2 waves



Step 3

Insert the matrix and corrugated stainless steel into the striking tool. Strike with the striking tool to obtain a flared nipple



Step 4

Place the segment behind the flared nipple



Step 5

Tighten the segment and position the two fittings in order to be able to prepare the other end of the hose





INDUSTRY

QUAL'IFT®

► Specific hoses for industrial use

	Pages	Data sheets
• Specific hose with corrugated stainless steel tube and stainless steel braid QUAL'IFT® IPI	46	FT501
• Silicone hose with stainless steel braid QUAL'IFT® SI	47	FT502
• Nitrile NBR hose with stainless steel braid QUAL'IFT® NI	48	FT503
• PTFE hose with stainless steel braid QUAL'IFT® TFI	49	FT504



QUAL'IFT® IPI

Specific hose with corrugated stainless steel tube and stainless steel braid

Specific applications



► Composition:

- 316 L corrugated stainless steel tube
- AISI 304 stainless steel braid

► Lengths:

Custom-made

► Diameters:

DN08 to 300

► Application:

- All industries
- Transport of all fluids, water, steam, chemicals, hot oils, petrochemicals, cryogenics, etc.

► Technical data



Operating temperature
-200°C to +600°C



Max operating pressure
see table below



KEY BENEFITS

- Excellent corrosion and ageing resistance
- Extreme temperature resistance
- Very good pressure resistance

► Assembled hoses / Hose & Connection references

Reference of the hose	DN (Inches)	Diameter int. x ext. (mm)	Min static bending radius (mm)	Min static bending radius (mm)	Min burst (Bar)
IPI 06	1/4"	6.2 x 10.8	25	85	120
IPI 08	5 and 16	8.2 x 13.3	32	125	100
IPI 10	3/8"	10.3 x 15.5	38	140	90
IPI 13	1/2"	12.2 x 17.9	45	140	80
IPI 16	5/8"	16.2 x 23	38	160	70
IPI 20	3/4"	20.3 x 28.5	60	155	64
IPI 25	1"	25.6 x 35.5	70	165	50
IPI 32	1 1/4"	32.6 x 44.5	85	225	40
IPI 40	1 1/2"	40.5 x 52.5	100	255	35
IPI 50	2"	50.8 x 67	120	280	30
IPI 65	2 1/2"	65.6 x 83	180	410	24
IPI 80	3"	80.3 x 97	200	450	18
IPI 100	4"	100.8 x 119	290	560	16
IPI 125	5"	125.4 x 152.5	325	710	14
IPI 150	6"	150.8 x 177.5	380	815	10
IPI 200	8"	197 x 228	500	1015	8
IPI 250	10"	250.4 x 281.5	620	1270	7.5
IPI 300	12"	300.2 x 339.5	725	1525	6



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QUAL'IFT® SI

Specific silicone hose with stainless steel braid

DN	Nom. pressure (in bar)	Max. Pressure (in bar)
10, 12	16	20
15	10	16



Specific applications



► Composition:

- Silicone tube (food grade) - translucent or coloured
- AISI 304 stainless steel braid

► Lengths:

Custom-made

► Diameters:

DN06 to 26

► Application:

- Food-grade: all foods and beverages, vegetable and animal oils
- Industry: certain aggressive products such as citric or tartaric acid, alcohols, etc.
- Compressor outputs (industrial quality)
- High temperatures

► Technical data



Operating temperature
-80°C to +200°C



DN	Nom. pressure (in bar)	Max. Pressure (in bar)
08, 10, 12	16	20
15, 20, 26	10	16



KEY BENEFITS

- Excellent corrosion resistance and ageing resistance
- **High flexibility**
- **Resistant to high temperatures**
- Absorbs expansion and water hammer
- Accidental abrasion resistance
- Good resistance to aggressive fluids, alcohols and acids

- Does not transmit hose noise
- Good UV resistance

* Tube material FDA 21 CFR 177.2600 approved, European Regulation 1935/2004, European Pharmacopoeia section 3.1.9

► Assembled hoses / Hose & Connection references

Reference of the hose	DN (mm)	Diameter int. x ext. (mm)	Min bending radius (mm)
SI 08	08	8 x 12.8	55
SI 10	10	10 x 14.8	70
SI 12	12	12 x 17.8	85
SI 15	15	15 x 21.8	120
SI 20	20	20 x 28	200
SI 25	26	25 x 33	300



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QUAL'IFT® NI

Specific Nitrile NBR hose with stainless steel braid

Specific applications



► Composition:

- Nitrile NBR tube
- AISI 304 stainless steel braid with distinctive blue or yellow edging (other colours on request)

► Lengths:

Custom-made

► Diameters:

DN06 to 33

► Application:

- Industry: fuel oil, diesel, oils, greases, compressed air, regulation, natural gas, LPG, etc.

► Technical data



Operating temperature
-10°C to +90°C (peaks at 100°C)



Max operating pressure
16 Bar (DN06 to 15)
10 Bar (DN20)
6 Bar (DN26 and 33)



KEY BENEFITS

- Excellent corrosion and ageing resistance
- Accidental abrasion and alternating stresses resistance
- Hoses tested according to ISO 6806 type 1

► Assembled hoses / Hose & Connection references

Reference of the hose	DN (mm)	Diameter int. x ext. (mm)	Min bending radius (mm)
NI 06	06	5.5 x 10	40
NI 08	08	7.5 x 12	48
NI 10	10	9.5 x 14	60
NI 12	12	12 x 18	72
NI 15	15	15 x 22	88
NI 20	20	20 x 28	112



QUAL'IFT® TFI

Specific PTFE hose with stainless steel braid

Specific applications



► Composition:

- PTFE tube
- AISI 304 stainless steel braid

► Lengths:

Custom-made

► Diameters:

DN06 to 26

► Application:

- Industry: steam circuits (high temperature and high pressure)
- Chemicals / Petrochemicals: all chemicals, virtually universal use
- Food-grade: all foods and beverages, vegetable and animal oils

► Technical data



Operating temperature
-70°C to +260°C



Max operating pressure
From 60 to 175 Bar depending on diameter
(more information in the table below)



KEY BENEFITS

- Very good pressure resistance
- Excellent heat and ageing resistance
- Excellent chemical resistance
- Internal tube is easy to clean and combines non-stick properties with a low friction coefficient to ensure good flow of fluids conveyed
- Chlorine shock treatment possible (in accordance with the technical guide "L'eau dans les établissements de santé – French Ministry of Health")

► Assembled hoses / Hose & Connection references

Reference of the hose	DN (mm)	Diameter int. x ext. (mm)	Max operating pressure (Bar)	Min bending radius (mm)
TFI 06	06	6.4 x 12	175	75
TFI 08	08	8 x 11	160	100
TFI 10	10	10 x 12.2	140	115
TFI 13	12	13 x 16	120	130
TFI 16	15	16 x 19	100	150
TFI 20	20	19 x 23	80	210
TFI 26	26	25 x 29	60	300

DESIGN AND ASSEMBLE YOUR OWN HOSE

HOSES TO ASSEMBLE

Guide

Hoses

Bushings

Fittings

Tools

Accessories





GUIDE FOR COMPOSING YOUR HOSE

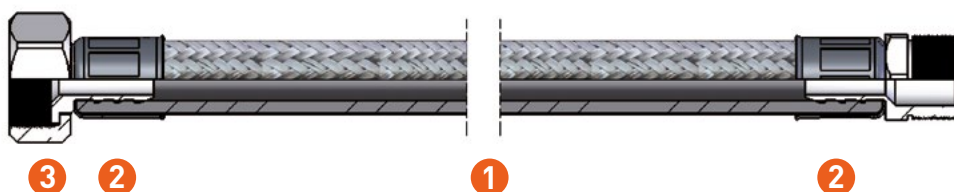




GUIDE FOR COMPOSING YOUR HOSE



Overview of hose components



- 1 ▶ One hose
- 2 ▶ Two bushings, one for each end of the hose
- 3 ▶ Connection = Left and Right connections (+) accessory(ies) such as thermal insulation

ASSEMBLY

▶ **QUAL'IFT®** hoses must be assembled in strict compliance with the rules and assembly steps listed in the "Recommendations for use" paragraph (see page 100)

1 Choose your hose

According to

- ▶ Your application and use (sanitary, heating, air conditioning or industrial)
- ▶ The environment in which the hose will be used (temperature, mechanical stress, chemical resistance, etc.)

Different materials used

- ▶ EPDM
- ▶ Butyl
- ▶ PEX
- ▶ Nitrile
- ▶ Silicone



For further information

- ▶ Full specifications for our **QUAL'IFT®** hoses can be found in the technical data sheets **FT601 to FT624**
- ▶ Chemical resistance table (technical form at the end of the catalogue)

2 Choose your bushings

According to

- ▶ The diameter of your hose

2 types of bushings to use

- ▶ Stainless steel bushings for DN06 to 33 hoses
- ▶ Aluminium bushings for DN40 and 50 hoses



For further information

- ▶ Full crimping bushing specifications on our technical data sheet **FT701**



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3 Choose your connection

According to

- › your application and use (sanitary, heating, air conditioning or industrial)
- › the environment in which the hose will be used (configuration of the space, etc.)

Different fitting types possible

- › Male (cylindrical, tapered, taps)
- › Female (with flat, spherical-tapered or angled seat)
- › Dual-taper
- › Quick
- › Union



For further information

- › Full specifications of our fittings on data sheets **FT801 to FT852**



Available accessories

Thermal insulation

- › Available in 4 thicknesses 9, 13, 19 and 25 mm (for your air conditioning and chilled ceiling applications)
- › Thermal protection sheath (for environments subject to high temperatures)



For further information

- › Full specifications of our accessories on technical data sheets **FT911 and FT913**

4 Recommended tools

Hose cutting

Portable manual hose cutter

- › For cutting hoses up to DN26
- › Maximum passage diameter: 50 mm
- › Easily transportable, ideal for on-site work

Fitting crimping

Manual site crimper

- › Crimping of **QUAL'IFT®** DN08 to DN20 hoses

Portable electric crimper

- › Hose crimping **QUAL'IFT®** DN08 to DN33



For further information

- › Full specifications of our tools on technical data sheets **FT901 and FT904**



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HOSES

QUAL'IFT®

	Pages	Data sheets
► Hoses with stainless steel braid • EPDM hose with stainless steel braid DN08 to 50 QUAL'IFT® EI • Butyl hose with stainless steel braid DN08 to 26 QUAL'IFT® BI • PEX hose with stainless steel braid DN08 to 12 QUAL'IFT® PEXI • Nitrile hose with stainless steel braid DN06 to 33 QUAL'IFT® NI • Silicone hose with stainless steel braid DN08 to 25 QUAL'IFT® SI	56 57 58 59 60	FT601 FT602 FT603 FT604 FT605
► Hoses with stainless steel braid and coating • EPDM stainless steel braided hose with PVC coating DN10 and 12 QUAL'IFT® EIC • Nitrile hose with galvanised steel braid and PVC coating DN10 to 15 TUBOL® NGP	61 62	FT611 FT612
► Hoses with textile braid • EPDM hose with polyester braid DN08 to 50 QUAL'IFT® ET • EPDM hose with polyester / glass fibre braid DN10 to 20 QUAL'IFT® ETV • Butyl hose with polyester braid DN08 to 26 QUAL'IFT® BT • EPDM hose with polyethylene monofilament braid DN08 QUAL'IFT® EP	63 64 65 66	FT621 FT622 FT623 FT624


QUAL'IFT® EI
EPDM hose with stainless steel braid DN08 to 50

► Composition:

- EPDM tube according to EN 681-1 type WB
- AISI 304 stainless steel braid

► Lengths:

See table below

Roll packaging

(other types of packaging on request)

► Application:

- Water flow for sanitary, heating and air-conditioning applications (max glycol content : 40%)
- Aqueous solutions

► Technical data

 Operating temperature
-15°C to +90°C peaks at +110°C


DN	Nom. pressure (in bar)	Max. Pressure (in bar)
08, 10, 12	16	20
15, 20, 26	10	16



See table below


KEY BENEFITS

- Excellent corrosion and ageing resistance
- Absorbs expansion and water hammer
- Accidental abrasion resistance
- Good UV resistance
- Does not transmit hose noise


ASSEMBLY

- **QUAL'IFT®** hoses must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"


CUSTOM OFFER

- Contact us for all your specific requirements

► Hoses for your low-pressure applications / References

Reference	DN (mm)	Diameter int. x ext. (mm)	Burst pressure (Bar)	MOQ (m)	Bending radius (mm)
EI 08	08	8.5 x 12	110	25	48
EI 10	10	9.5 x 14			60
EI 12	12	12 x 18	90	25	72
EI 15	15	15 x 22	80	25	88
EI 20	20	20 x 28	60	20	112
EI 26	26	26 x 35	45	30	140
EI 33	33	33 x 43	40	20	172
EI 40	40	40 x 50	30	Contact us	392
EI 50	50	50 x 63			488



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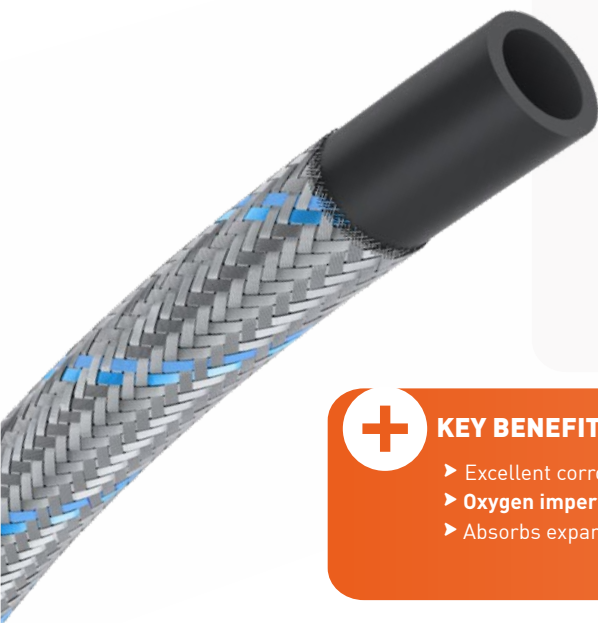
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QUAL'IFT® BI

Butyl hose with stainless steel braid DN08 to 26



► Composition:

- Combined EPDM Butyl tube
- AISI 304 stainless steel braid with double blue edging

► Lengths:

See table below

Roll packaging

(other types of packaging on request)

► Application:

- Water passage for heating and air conditioning requiring an oxygen barrier

► Technical data



Operating temperature
-15°C to +90°C peaks at +110°C



DN	Nom. pressure (in bar)	Max. Pressure (in bar)
08, 10, 12	16	20
15, 20, 26	10	16



See table below



Oxygen barrier according to DIN 4726 preventing the formation of sludge, micro-organisms and algae



KEY BENEFITS

- Excellent corrosion and ageing resistance
- **Oxygen impermeability (according to DIN 4726)**
- Absorbs expansion and water hammer

- Accidental abrasion resistance
- Good UV resistance
- Does not transmit hose noise



ASSEMBLY

- **QUAL'IFT®** hoses must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

- Contact us for all your specific requirements

► Hoses for your low-pressure applications / References

Reference	DN (mm)	Diameter int. x ext. (mm)	Burst pressure (Bar)	MOQ (m)	Bending radius (mm)
BI 08	08	8.5 x 12	110	Contact us	48
BI 10	10	9.5 x 14			60
BI 12	12	12 x 18	90		72
BI 15	15	15 x 22	80		88
BI 20	20	20 x 28	60		112
BI 26	26	26 x 35	45		140



QUAL'IFT® PEXI

PEX hose with stainless steel braid DN08 to 12



► Composition:

- PEX tube
(translucent cross-linked polyethylene)
- AISI 304 stainless steel braid

► Lengths:

See table below

Roll packaging

[other types of packaging on request]

► Application:

- Sanitary water passage

► Technical data



Operating temperature
-15°C to +90°C peaks at +110°C



DN	Nom. pressure (in bar)	Max. Pressure (in bar)
08, 10, 12	16	20



See table below



Very good chemical resistance



KEY BENEFITS

- Excellent corrosion and ageing resistance
- **Resists household and chemical waters, acids over a wide range of concentrations and temperatures**
- Absorbs expansion and water hammer
- Accidental abrasion resistance
- Good UV resistance
- Does not transmit hose noise



ASSEMBLY

- **QUAL'IFT®** hoses must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

- Contact us for all your specific requirements

► Hoses for your low-pressure applications / References & Compositions

Reference	DN (mm)	Diameter int. x ext. (mm)	Burst pressure (Bar)	MOQ (m)	Bending radius (mm)
PEXI 08	08	8 x 12.3	110	Contact us	35
PEXI 10	10	9.9 x 14			50
PEXI 12	12	12.7 x 17	90		65



QUAL'IFT® NI

Nitrile hose with stainless steel braid DN06 to 33



► Composition:

- Nitrile NBR tube
- AISI 304 stainless steel braid with blue or yellow edging (other edging colours on request MOQ on request)

► Lengths:

See table below

Roll packaging

(other types of packaging on request)

► Application:

- Transport of fuel oil, diesel, oils and greases, compressed air, natural gas, LPG, etc.

► Technical data



Operating temperature
-15°C to +90°C peaks at +110°C



DN	Nom. pressure (in bar)	Max. Pressure (in bar)
06, 08, 10, 12	16	20
15, 20	10	16
26, 33	6	6



See table below



Excellent resistance to hydrocarbons



KEY BENEFITS

- Excellent corrosion and ageing resistance
- **Excellent resistance to hydrocarbons**
- Absorbs expansion and water hammer
- Accidental abrasion and alternating stress resistance
- Good UV resistance
- Does not transmit hose noise



ASSEMBLY

- **QUAL'IFT®** hoses must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

- Contact us for all your specific requirements

► Hoses for your low-pressure applications / References & Compositions

Reference	DN (mm)	Diameter int. x ext. (mm)	Burst pressure (Bar)	MOQ (m)	Bending radius (mm)
NI 06	06	5.5 x 10	110	25	40
NI 08	08	7.5 x 12			48
NI 10	10	9.5 x 14			60
NI 12	12	12 x 18	90	25	72
NI 15	15	15 x 22	80	25	88
NI 20	20	20 x 28	60	25	112
NI 26	26	26 x 35	45	25	140
NI 33	33	33 x 43	40	Contact us	172



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QUAL'IFT® SI

Silicone hose with stainless steel braid DN08 to 33



► Composition:

- Silicone tube (food grade) - translucent
- AISI 304 stainless steel braid

► Lengths:

See table below

Roll packaging

(other types of packaging on request)

► Application:

- Transport of food liquids, alcohols, acids, steam

► Technical data



Operating temperature
-60°C to +180°C peaks at +200°C



DN	Nom. pressure (in bar)	Max. Pressure (in bar)
08, 10, 12	16	20
15, 20, 25	10	16
33	6	6



See table below



Great flexibility



KEY BENEFITS

- Excellent corrosion and ageing resistance
- **High flexibility**
- **Resistant to high temperatures**
- Absorbs expansion and water hammer
- **Excellent abrasion resistance**
- Good resistance to aggressive fluids, alcohols and acids

- Does not transmit hose noise
- Good UV resistance

*Tube material FDA 21 CFR approved
177.2600, European Regulation 1935/2004,
European Pharmacopoeia section 3.1.9



ASSEMBLY

- **QUAL'IFT®** hoses must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

- Contact us for all your specific requirements

► Hoses for your low-pressure applications / References & Compositions

Reference	DN (mm)	Diameter int. x ext. (mm)	Burst pressure (Bar)	MOQ (m)	Bending radius (mm)
SI 08	08	8 x 12.8	110	25	48
SI 10	10	10 x 14.8			60
SI 12	12	12 x 17.8	90		72
SI 15	15	15 x 21.8	80		88
SI 20	20	20 x 28	60		112
SI 26	25	25 x 33	45		140



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QUAL'IFT® EIC

EPDM hose with stainless steel braid and PVC coating DN10 to 12



► Composition:

- EPDM tube according to EN 681-1 type WB
- AISI 304 stainless steel braid
- Crystal PVC coating

► Lengths:

See table below

Roll packaging

(other types of packaging on request)

► Application:

- Pressurised water transport for cleaning in the public sector, hospitals and the food industry

► Technical data



Operating temperature
-15°C to +60°C



Max operating pressure
16 Bar



See table below



KEY BENEFITS

- Excellent corrosion and ageing resistance
- Easy maintenance
- Excellent abrasion resistance
- Absorbs expansion and water hammer
- Good UV resistance
- Does not transmit hose noise



ASSEMBLY

- **QUAL'IFT®** hoses must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

- Contact us for all your specific requirements

► Hoses for your low-pressure applications / References & Compositions

Reference	DN (mm)	Diameter int. x ext. (mm)	Burst pressure (Bar)	MOQ (m)	Bending radius (mm)
EIC 10	10	9.5 x 16	110	25	60
EIC 12	12	12 x 20	90		72



TUBOL[®] NGP

Nitrile hose with galvanised steel braid and PVC coating DN10 to 15



► Composition:

- Nitrile tube
- Galvanized steel braid
- Crystal PVC coating

► Lengths:

See table below

► Roll packaging

(other types of packaging on request)

► Application:

- Transport of air or lubricants under Pressure

► Technical data



Operating temperature
-20°C to +70°C



See table below



See table below



KEY BENEFITS

- Excellent corrosion and ageing resistance
- High flexibility
- Good resistance to oils and gases
- Absorbs expansion and water hammer
- Accidental abrasion resistance
- Good UV resistance
- Does not transmit hose noise



ASSEMBLY

- **QUAL'IFT[®]** hoses must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

- Contact us for all your specific requirements

► Hoses for your low-pressure applications / References & Compositions

Reference	DN (mm)	Diameter int. x ext. (mm)	Max operating pressure (Bar)	Burst pressure (Bar)	MOQ (m)	Bending radius (mm)
NGP 10	10	10 x 14.8	35	106	50	60
NGP 12	12	12 x 17.8	27	81	50	72
NGP 15	15	15 x 21.8	26	78	25	88



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QUAL'IFT® ET

EPDM hose with polyester braid DN08 to 50



► Composition:

- EPDM tube according to EN 681-1 type WB
- Stiff polyester braid

► Lengths:

See table below

Roll packaging

(other types of packaging on request)

► Application:

- Water passage for sanitary, heating and air conditioning (max glycol content : 40%)
- Aqueous solutions

► Technical data



Operating temperature
-15°C to +90°C peaks at +110°C



DN	Nom. pressure (in bar)	Max. Pressure (in bar)
08, 10, 12	16	20
15, 20, 26	10	16
33, 40, 50	6	6



See table below



KEY BENEFITS

- Excellent corrosion and ageing resistance
- Absorbs expansion and water hammer
- Accidental abrasion resistance
- Does not transmit hose noise



ASSEMBLY

- **QUAL'IFT®** hoses must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

- Contact us for all your specific requirements

► Hoses for your low-pressure applications / References & Compositions

Reference	DN (mm)	Diameter int. x ext. (mm)	Burst pressure (Bar)	MOQ (m)	Bending radius (mm)
ET 08	08	8.5 x 12	110	25	48
ET 10	10	9.5 x 14			60
ET 12	12	12 x 18	90	25	72
ET 15	15	15 x 22	80	25	88
ET 20	20	20 x 28	60	20	112
ET 26	26	26 x 35	45	30	140
ET 33	33	33 x 43	40	20	172
ET 40	40	40 x 50	30	Contact us	392
ET 50	50	50 x 63			488



QUAL'IFT® ETV

EPDM hose with polyester / glass fibre braid DN10 to 20



► Composition:

- EPDM tube according to EN 681-1 type WB
- Polyester / fibreglass braid

► Lengths:

See table below

Roll packaging

(other types of packaging on request)

► Application:

- Water passage for sanitary, heating and air conditioning (max glycol content : 40%)
- Aqueous solutions

► Technical data



Operating temperature
-15°C to +90°C peaks at +110°C



Max operating pressure
16 Bar (DN10)
10 Bar (DN15)
6 Bar (DN20)



See table below



KEY BENEFITS

- Excellent corrosion and ageing resistance
- **Withstands accidental heating**
- Absorbs expansion and water hammer
- Accidental abrasion resistance
- Good UV resistance
- Does not transmit hose noise



ASSEMBLY

► **QUAL'IFT®** hoses must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

- Contact us for all your specific requirements

► Hoses for your low-pressure applications / References & Compositions

Reference	DN (mm)	Diameter int. x ext. (mm)	Burst pressure (Bar)	MOQ (m)	Bending radius (mm)
ETV 10	10	9.5 x 14	110	Contact us	60
ETV 15	15	15 x 22	80		88
ETV 20	20	20 x 28	60		112



QUAL'IFT® BT

Butyl hose with polyester braid DN08 to 26



► Composition:

- Combined EPDM / butyl tube
- Stiff polyester braid with double blue edging

► Lengths:

See table below

Roll packaging

(other types of packaging on request)

► Application:

- Water passage for sanitary, heating and air conditioning (max glycol content : 40%)
- Aqueous solutions

► Technical data



Operating temperature
-15°C to +90°C peaks at +110°C



DN	Nom. pressure (in bar)	Max. Pressure (in bar)
08, 10, 12	16	20
15, 20, 26	10	16



See table below



Oxygen barrier according to DIN 4726 preventing the formation of sludge, micro-organisms and algae



KEY BENEFITS

- Excellent corrosion and ageing resistance
- **Oxygen impermeability (according to DIN 4726)**
- Absorbs expansion and water hammer
- Accidental abrasion resistance
- Good UV resistance
- Does not transmit hose noise



ASSEMBLY

- **QUAL'IFT®** hoses must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

- Contact us for all your specific requirements

► Hoses for your low-pressure applications / References & Compositions

Reference	DN (mm)	Diameter int. x ext. (mm)	Burst pressure (Bar)	MOQ (m)	Bending radius (mm)
BT 08	08	8.5 x 12	110	Contact us	48
BT 10	10	9.5 x 14			60
BT 12	12	12 x 18	90		72
BT 15	15	15 x 22	80		88
BT 20	20	20 x 28	60		112
BT 26	26	26 x 35	45		140



QUAL'IFT® EP

EPDM hose with polyethylene monofilament braid DN08



► Composition:

- EPDM tube according to EN 681-1 type WB
- Monofilament polyethylene braid
- Standard colours: black or white

► Lengths:

See table below

Roll packaging

(other types of packaging on request)

► Application:

- Water passage for sanitary, shower connection and hydrotherapy nozzles

► Technical data



Operating temperature
-10°C to +80°C



Max operating pressure
10 Bar



See table below



KEY BENEFITS

- Excellent corrosion and ageing resistance
- **Withstands accidental heating**
- Absorbs expansion and water hammer
- Accidental abrasion resistance
- Good UV resistance
- Does not transmit hose noise



ASSEMBLY

- **QUAL'IFT®** hoses must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

- Contact us for all your specific requirements

► Hoses for your low-pressure applications / References & Compositions

Reference	DN (mm)	Diameter int. x ext. (mm)	MOQ (m)	Bending radius (mm)
EP 08	08	8 x 12	Contact us	48



BUSHINGS

- ▶ Stainless steel or aluminium crimping bushings
 - DI, DA bushing – Low-pressure crimp

Pages

**Data
sheets**

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FT701



Bushings DI, DA

Low-pressure crimping



► Composition:

- 304 L stainless steel (DN06 to 33)
- Aluminium (DN40 and 50)
(other materials on request)

► Application:

- All low-pressure applications

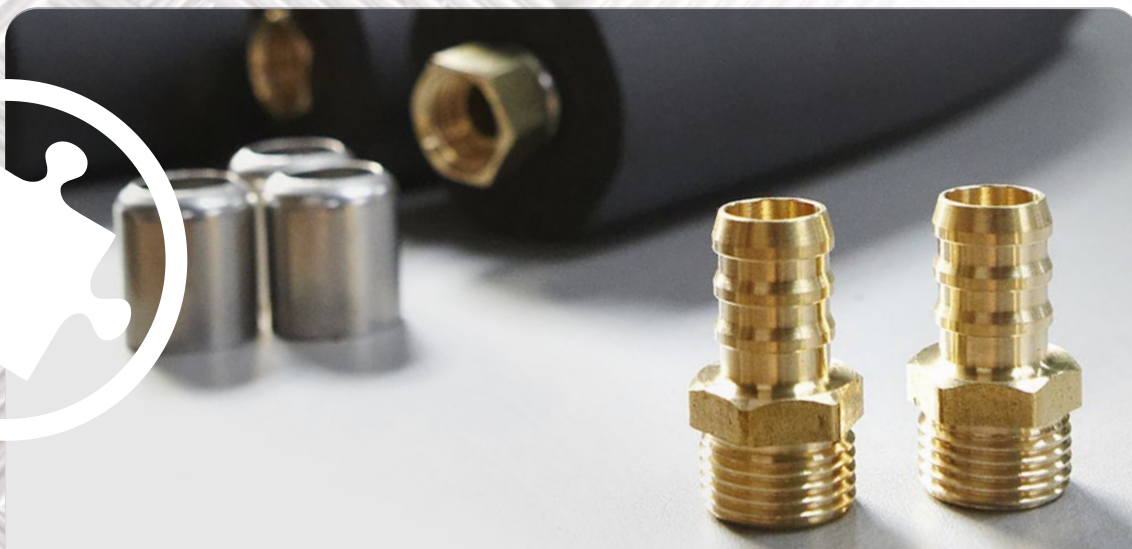


ASSEMBLY

► IFT bushings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"

► Bushings for your low-pressure applications / References & Compositions

DN (mm)	Reference	Compatibility
06	DI06A	QUALI'FT® NI06
	DI06B	
08	DI08A	All QUALI'FT® standard hoses
10	DI10C	
	DI10N	QUALI'FT® EIC10
12	DI12B	All QUAL'IFT® standard hoses
	DI12N	QUALI'FT® EIC12
15	DI15N	All QUAL'IFT® standard hoses
20	DI20B	
26	DI26N	
33	DI33B	
40	DA40A	
50	DA50B	



FITTINGS

	Pages	Data sheets
▶ Female fittings		
• P fitting - Female with flat seat	70	FT801
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• P-Shower fitting - Female knurled cylindrical nut	72	FT803
▶ Male fittings		
• M fitting - Fixed male cylindrical	73	FT811
• MC fitting - Fixed male tapered	74	FT812
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▶ Quick-Connect Fittings		
• RR fitting - Quick-connect straight	83	FT851
• RRC fitting - Quick-connect angled	84	FT852
▶ Gaskets	85	FT861



P fitting

Female with flat seat



► Composition:

- Brass
- Gas thread according to ISO 228
- Other materials on request (nickel-plated brass, stainless steel, etc.)

► Packaging:

- In bags
- Other packaging types on request

► Assembly:

P fittings can be used on our QUAL'IFT® hoses (according to the indications in the table below)

► Sealing:

Flat gasket on flat seat

► Application:

All low-pressure applications



ASSEMBLY

► IFT fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

► Contact us for all your specific requirements

► Fittings for your low-pressure applications / References & Compositions

Without integrated gasket										
Reference	For hose	Material		Thread		Diam.				
	DN (mm)	Hose connection	Nut	mm	thumb	mm				
P080LAENI	08	Brass	Nickel-plated brass	8 x 13	1/4"	6.2				
P081LAENI				12 x 17	3/8"					
P082LAENI				15 x 21	1/2"					
P101LAENI	10			Brass	Nickel-plated brass	12 x 17	3/8"	7		
P102LAENI						15 x 21	1/2"			
P104LAENI						20 x 27	3/4"			
P121LAENI	12					Brass	Nickel-plated brass	12 x 17	3/8"	9.5
P122LAENI								15 x 21	1/2"	
P124LAENI								20 x 27	3/4"	
P152LAELA	15	Brass	Brass					15 x 21	1/2"	12.5
P154LAELA								20 x 27	3/4"	
P155LAELA								26 x 34	1"	
P204LAELA	20			Brass	Brass			20 x 27	3/4"	17
P205LAELA								26 x 34	1"	
P265LAELA	26							Brass	Brass	26 x 34
P266LAELA						33 x 42	1" 1/4			
P336LAELA	33	Brass	Brass			33 x 42	1"1/4			28
P337NIELA		Nickel-plated brass				40 x 49	1"1/2			
P407LAELA	40	Brass				Brass	40 x 49			1"1/2
P508LAELA	50			50 x 60	2"		44			

With integrated gasket						
Reference	For hose	Material		Thread		Diam.
	DN (mm)	Hose connection	Nut	mm	thumb	mm
P081LAENIJ	08	Brass	Nickel-plated brass	12 x 17	3/8"	6.2
P082LAENIJ				15 x 21	1/2"	
P084LAENIJ				20 x 27	3/4"	
P101LAENIJ	10			12 x 17	3/8"	7
P102LAENIJ				15 x 21	1/2"	
P104LAENIJ				20 x 27	3/4"	
P122LAENIJ	12			15 x 21	1/2"	9.5
P124LAENIJ				20 x 27	3/4"	



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PSM fitting

Female with spherical-tapered seat



► Composition:

- Brass
- Gas thread according to ISO 228
- Other materials on request (nickel-plated brass, stainless steel, etc.)

► Packaging:

- In bags
- Other packaging types on request

► Assembly:

PSM fittings can be used on our QUAL'IFT® hoses (according to the indications in the table below)

► Sealing:

Metal / Metal

► Application:

All low-pressure applications



ASSEMBLY

► IFT fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

► Contact us for all your specific requirements

► Fittings for your low-pressure applications / References & Compositions

Without integrated gasket						With integrated gasket					
Reference	For hose	Material	Thread		Diam.	Reference	For hose	Material	Thread		Diam.
	DN (mm)		mm	thumb	mm		DN (mm)		mm	thumb	mm
PSM060LAELA	06	Brass	8 x 13	1/4"	4.8	PSM154LAELAJ	15	Brass	20 x 27	3/4"	12.5
PSM061LAELA			12 x 17	3/8"							
PSM080LAELA	08		8 x 13	1/4"	6.2						
PSM081LAELA			12 x 17	3/8"							
PSM101LAELA	10		12 x 17	3/8"	7						
PSM102LAELA			15 x 21	1/2"							
PSM121LAELA	12		12 x 17	3/8"	9.5						
PSM122LAELA			15 x 21	1/2"							
PSM124LAELA			20 x 27	3/4"							
PSM152LAELA	15		15 x 21	1/2"	12.5						
PSM204LAELA	20		20 x 27	3/4"	17						
PSM205LAELA			26 x 34	1"							
PSM265LAELA	26		26 x 34	1"	22						
PSM336LAELA	33		33 x 42	1"1/4	29						
PSM407LAELA	40		40 x 49	1"1/2	34.5						



P-Shower fitting

Female knurled cylindrical nut



► Composition:

- Brass
- Gas thread according to ISO 228

► Packaging:

- In bags
- Other packaging types on request

► Assembly:

P fittings can be used on our QUAL'IFT® hoses (according to the indications in the table below)

► Sealing:

Flat gasket on flat seat

► Application:

Water passage for sanitary applications



ASSEMBLY

► IFT fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

► Contact us for all your specific requirements

► Fittings for your low-pressure applications / References & Compositions

Reference	For hose	Material		Thread		Diameter
	DN (mm)	Hose connection	Nut	mm	thumb	mm
P082LAENI - MOL	08	Brass	Nickel-plated brass	15 x 21	1/2"	62
P102LAENI - MOL	10					70



M fitting

Male fixed cylindrical



► Composition:

- Brass
- Gas thread according to ISO 228
- Other materials on request (nickel-plated brass, stainless steel, etc.)

► Packaging:

- In bags
- Other packaging types on request

► Assembly:

M fittings can be used on our QUAL'IFT® hoses (according to the indications in the table below)

► Sealing:

Flat gasket on flat seat

► Application:

All low-pressure applications



ASSEMBLY

► IFT fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

► Contact us for all your specific requirements

► Fittings for your low-pressure applications / References & Compositions

Reference	For hose	Material	Thread		Diameter
	DN (mm)		mm	thumb	mm
M080NIB	08	Nickel-plated brass	8 x 13	1/4"	6.2
M081NIB			12 x 17	3/8"	
M082NIB			15 x 21	1/2"	
M101NIB	10		12 x 17	3/8"	7
M102NIB			15 x 21	1/2"	
M104NIB			20 x 27	3/4"	
M121NIA	12		12 x 17	3/8"	9.5
M122NIB			15 x 21	1/2"	
M124NIB			20 x 27	3/4"	
M152LAC	15	Brass	15 x 21	1/2"	12.5
M154LAC			20 x 27	3/4"	
M202LAA	20		15 x 21	1/2"	17
M204LAC			20 x 27	3/4"	
M205LAC			26 x 34	1"	
M265LAC	26		26 x 34	1"	22
M266LAA			33 x 42	1"1/4	
M336LAA	33		33 x 42	1"1/4	28
M337LAA			40 x 49	1"1/2	
M407LAA	40		40 x 49	1"1/2	34.5
M508LAA	50		50 x 60	2"	44



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MC fitting

Male fixed tapered



► Composition:

- Brass or nickel-plated brass
- Gas thread according to ISO 7
- Other materials on request (nickel-plated brass, stainless steel, etc.)

► Packaging:

- In bags
- Other packaging types on request

► Assembly:

MC fittings can be used on our QUAL'IFT® hoses (according to the indications in the table below)

► Sealing:

Flat gasket on flat seat

► Application:

All low-pressure applications



ASSEMBLY

► IFT fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

► Contact us for all your specific requirements

► Fittings for your low-pressure applications / References & Compositions

Reference	For hose	Material	Thread		Diameter
	DN (mm)		mm	thumb	mm
MC080LAC	08	Brass	8 x 13	1/4"	6.2
MC081LAC			12 x 17	3/8"	
MC101NIC	10	Nickel-plated brass	12 x 17	3/8"	7
MC102LAC		Brass	15 x 21	1/2"	
MC121LAA	12	Brass	12 x 17	3/8"	9.5
MC122LAC			15 x 21	1/2"	
MC152LAC	15		15 x 21	1/2"	12.5
MC154LAC			20 x 27	3/4"	
MC204LAC	20		20 x 27	3/4"	17
MC205LAC			26 x 34	1"	
MC265LAC	26		26 x 34	1"	22
MC336LAA	33		33 x 42	1"1/4	28
MC407LAA	40		40 x 49	1"1/2	34.5
MC508LAA	50		50 x 60	2	44



MR fitting

Male metric tap



► Composition:

- Nickel-plated brass
- Gas thread according to ISO 228
- Other materials on request (nickel-plated brass, stainless steel, etc.)

► Packaging:

- In bags
- Other packaging types on request

► Assembly:

MR fittings can be used on our QUAL'IFT® hoses (according to the indications in the table below)

► Sealing:

Integrated O-ring

► Application:

All low-pressure applications



ASSEMBLY

► IFT fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

► Contact us for all your specific requirements

► Fittings for your low-pressure applications / References & Compositions

Reference	For hose	Material	Thread	Length	Diameter
	DN (mm)		mm		mm
M0810X1NI18	08	Nickel-plated brass	10 x 100	Short	6.2
M0810X1NI46				Long	
M0811X1NI18			11 x 100	Short	
M0812X1NI20			12 x 100	Short	
M0812X1NI46				Long	
M0815X1NIB			15 x 100	Short	



MB fitting

Dual-taper for copper tube



► Composition:

- Nickel-plated brass
- Gas thread according to ISO 228
- Other materials on request (nickel-plated brass, stainless steel, etc.)

► Packaging:

- In bags
- Other packaging types on request

► Assembly:

MB fittings can be used on our QUAL'IFT® hoses (according to the indications in the table below)

► Sealing:

Metal / Metal

► Application:

All low-pressure applications



ASSEMBLY

► IFT fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

► Contact us for all your specific requirements

► Fittings for your low-pressure applications / References & Compositions

Reference	For hose	Material	Thread		Diameter (copper tube)	Diam.
	DN (mm)		mm	inches	mm	mm
MB081NIB010	08	Nickel-plated brass	12 x 17	3/8"	10	62
MB081NIB012					12	
MB082NIB014			15 x 21	1/2"	14	



RCP fitting

Female angled 90° with flat seat



► Composition:

- Brass or nickel-plated brass
- Gas thread according to ISO 228
- Other materials on request (nickel-plated brass, stainless steel, etc.)

► Packaging:

- In bags
- Other packaging types on request

► Assembly:

RCP fittings can be used on our QUAL'IFT® hoses (according to the indications in the table below)

► Sealing:

Flat gasket on flat seat

► Application:

All low-pressure applications



ASSEMBLY

► IFT fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

► Contact us for all your specific requirements

► Fittings for your low-pressure applications / References & Compositions

Without integrated gasket							
Reference	For hose	Material		Thread		Diam.	
	DN (mm)	Hose connection	Nut	mm	inches	mm	
RCP080NIENI	08	Nickel-plated brass	Nickel-plated brass	8 x 13	1/4"	6.2	
RCP081NIENI				12 x 17	3/8"		
RCP082NIENI				15 x 21	1/2"		
RCP101NIENI	10			12 x 17	3/8"	7	
RCP102NIENI				15 x 21	1/2"		
RCP104NIENI				20 x 27	3/4"		
RCP122NIENI	12			15 x 21	1/2"	9.5	
RCP124NIENI				20 x 27	3/4"		
RCP152LAELA	15	Brass	Brass	15 x 21	1/2"	12.5	
RCP154LAELA				20 x 27	3/4"		
RCP204CNELA	20	Nickel-plated copper		20 x 27	3/4"	17	
RCP205CNELA				26 x 34	1"		
RCP265CNELA				26	26 x 34	1"	22
RCP336NIENI	33	Nickel-plated brass		Nickel-plated brass	33 x 42	1"1/4	28
RCP407NIENI	40				40 x 49	1"1/2	34.5

With integrated gasket						
Reference	For hose	Material		Thread		Diam
	DN (mm)	Hose connection	Nut	mm	inches	mm
RCP080NIENIJ	08	Nickel-plated brass	Nickel-plated brass	8 x 13	1/4"	6.2
RCP081NIENIJ				12 x 17	3/8"	
RCP082NIENIJ				15 x 21	1/2"	
RCP101NIENIJ	10			12 x 17	3/8"	7
RCP102NIENIJ				15 x 21	1/2"	
RCP104NIENIJ				20 x 27	3/4"	
RCP122NIENIJ	12			15 x 21	1/2"	9.5
RCP124NIENIJ				20 x 27	3/4"	



RCPS fitting

Female angled 90° with spherical-tapered seat



► Composition:

- Brass or nickel-plated brass
- Gas thread according to ISO 228
- Other materials on request (nickel-plated brass, stainless steel, etc.)

► Packaging:

- In bags
- Other packaging types on request

► Assembly:

RCPS fittings can be used on our QUAL'IFT® hoses (according to the indications in the table below)

► Sealing:

Metal / Metal

► Application:

All low-pressure applications



ASSEMBLY

► IFT fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

► Contact us for all your specific requirements

► Fittings for your low-pressure applications / References & Compositions

Without integrated gasket						
Reference	For hose	Material		Thread		Diam.
	DN (mm)	Hose connection	Nut	mm	inches	mm
RCPS080NIENI	08	Nickel-plated brass	Nickel-plated brass	8 x 13	1/4"	6.2
RCPS081NIENI				12 x 17	3/8"	
RCPS152LAELA	15	Brass	Brass	15 x 21	1/2"	12.5
RCPS204LAELA	20			20 x 27	3/4"	17

With integrated gasket						
Reference	For hose	Material		Thread		Diam.
	DN (mm)	Hose connection	Nut	mm	inches	mm
RCPS154LAELAJ	15	Brass	Brass	20 x 27	3/4"	12.5



UMM fitting

Male-Male Union with flat seat



► Composition:

- Brass
- A gas thread according to ISO 228
- B gas thread according to ISO 228
- Other materials on request (nickel-plated brass, stainless steel, etc.)

► Packaging:

- In bags
- Other packaging types on request

► Assembly:

UMM fittings can be used with flat-seat female fittings: P and RCP

► Sealing:

Flat gasket on flat seat

► Application:

All low-pressure applications



ASSEMBLY

► IFT fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

► Contact us for all your specific requirements

► Fittings for your low-pressure applications / References & Compositions

Reference	Material	A thread		B thread	
		mm	inches	mm	inches
UMM0LAG	Brass	8 x 13	1/4"	8 x 13	1/4"
UMM10LAG		12 x 17	3/8"		1/4"
UMM1LAG		12 x 17	3/8"	12 x 17	3/8"
UMM21LAG		15 x 21	1/2"		3/8"
UMM2LAG		15 x 21	1/2"	15 x 21	1/2"
UMM42LAG		20 x 27	3/4"		1/2"
UMM4LAG		20 x 27	3/4"	20 x 27	3/4"
UMM52LAG		26 x 34	1"	15 x 21	1/2"
UMM54LAG		26 x 34	1"	20 x 27	3/4"
UMM5LAG		26 x 34	1"	26 x 34	1"
UMM65LAG		33 x 42	1" 1/4		1"
UMM6LAG		33 x 42	1" 1/4	33 x 42	1" 1/4
UMM76LAG		40 x 49	1" 1/2		1" 1/4
UMM7LAG		40 x 49	1" 1/2	40 x 49	1" 1/2
UMM87LAG		50 x 60	2"		1" 1/2
UMM8LAG		50 x 60	2"	50 x 60	2"



UMF fitting

Male-Female Flat-seat union



► Composition:

- Brass
- Gas thread according to ISO 228
- Other materials on request (nickel-plated brass, stainless steel, etc.)

► Packaging:

- In bags
- Other packaging types on request

► Assembly:

UMF fittings can be used with flat-seat fittings: P, M, MC and RCP

► Sealing:

Flat gasket on flat seat

► Application:

All low-pressure applications



ASSEMBLY

► **IFT** fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

► Contact us for all your specific requirements

► Fittings for your low-pressure applications / References & Compositions

Reference	Material	Male thread		Female thread	
		mm	inches	mm	inches
UMF01LAG	Brass	8 x 13	1/4"	12 x 17	3/8"
UMF0LAG				8 x 13	1/4"
UMF10LAG		12 x 17	3/8"	8 x 13	1/4"
UMF12LAG				15 x 21	1/2"
UMF1LAG				12 x 17	3/8"
UMF21LAG		15 x 21	1/2"	12 x 17	3/8"
UMF24LAG				20 x 27	3/4"
UMF2LAG				15 x 21	1/2"
UMF42LAG		20 x 27	3/4"	15 x 21	1/2"
UMF45LAG				26 x 34	1"
UMF46LAG				33 x 42	1 1/4"
UMF4LAG				20 x 27	3/4"
UMF54LAG		26 x 34	1"	20 x 27	3/4"
UMF56LAG				33 x 42	1 1/4"
UMF5LAG				26 x 34	1"
UMF64LAG		33 x 42	1 1/4"	20 x 27	3/4"
UMF65LAG				26 x 34	1"
UMF67LAG				40 x 49	1 1/2"
UMF6LAG				33 x 42	1 1/4"
UMF75LAG		40 x 49	1 1/2"	26 x 34	1"
UMF76LAG				33 x 42	1 1/4"
UMF78LAG				50 x 60	2"
UMF7LAG				40 x 49	1 1/2"
UMF87LAG		50 x 60	2"	40 x 49	1 1/2"
UMF8LAG				50 x 60	2"

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UMSM fitting

Male Male union with spherical-tapered seat



► Composition:

- Brass
- Gas thread according to ISO 228
- Other materials on request (nickel-plated brass, stainless steel, etc.)

► Packaging:

- In bags
- Other packaging types on request

► Assembly:

UMSM fittings can be used with spherical-tapered fittings: PSM, RCPS

► Sealing:

Metal / Metal (A thread)
In the thread (B thread)

► Application:

All low-pressure applications



ASSEMBLY

► **IFT** fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

► Contact us for all your specific requirements

► Fittings for your low-pressure applications / References & Compositions

Reference	Material	Male thread		Male thread spherical-tapered	
		mm	inches	mm	inches
UMSM01LAG	Brass	8 x 13	1/4"	12 x 17	3/8"
UMSM0LAG				8 x 13	1/4"
UMSM10LAG		12 x 17	3/8"	8 x 13	1/4"
UMSM12LAG				15 x 21	1/2"
UMSM1LAG				12 x 17	3/8"
UMSM21LAG		15 x 21	1/2"	12 x 17	3/8"
UMSM24LAG			1/2"	20 x 27	3/4"
UMSM2LAG			1/2"	15 x 21	1/2"
UMSM42LAG		20 x 27	3/4"	15 x 21	1/2"
UMSM4LAG			3/4"	20 x 27	3/4"
UMSM5LAG		26 x 34	1"	26 x 34	1"
UMSM6LAG		33 x 42	1"1/4	33 x 42	1"1/4
UMSM7LAG		40 x 49	1"1/2	40 x 49	1"1/2
UMSM87LAG		50 x 60	2"	40 x 49	1"1/2
UMSM8LAG				50 x 60	2"



UMSF fitting

Female male union with spherical-tapered seat



► **Composition:**

- Brass
- Gas thread according to ISO 228
- Other materials on request (nickel-plated brass, stainless steel, etc.)

► **Packaging:**

- In bags
- Other packaging types on request

► **Assembly:**

UMSF fittings can be used with spherical-tapered fittings: PSM, RCPS

► **Sealing:**

Metal / Metal (A thread)
Flat gasket on flat seat (B thread)

► **Application:**

All low-pressure applications



ASSEMBLY

► IFT fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

► Contact us for all your specific requirements

► Fittings for your low-pressure applications / References & Compositions

Reference	Material	Male thread spherical-tapered		Female thread	
		mm	inches	mm	inches
UMSF01LAG	Brass	8 x 13	1/4"	12 x 17	3/8"
UMSF0LAG				8 x 13	1/4"
UMSF10LAG		12 x 17	3/8"	8 x 13	1/4"
UMSF12LAG				15 x 21	1/2"
UMSF1LAG				12 x 17	3/8"
UMSF21LAG		15 x 21	1/2"	12 x 17	3/8"
UMSF24LAG				20 x 27	3/4"
UMSF2LAG				15 x 21	1/2"
UMSF42LAG		20 x 27	3/4"	15 x 21	1/2"
UMSF4LAG				20 x 27	3/4"
UMSF5LAG		26 x 34	1"	26 x 34	1"
UMSF6LAG		33 x 42	1"1/4	33 x 42	1"1/4
UMSF7LAG		40 x 49	1"1/2	40 x 49	1"1/2



RR fitting Quick straight



► Composition:

- Brass + acetal
- Other materials on request (nickel-plated brass, etc.)
- Supplied with 316 L stainless steel claw

► Option:

- Safety clips

► Packaging:

- In bags
- Other packaging types on request

► Assembly:

RR fittings can be used on our QUAL'IFT® hoses (according to the indications in the table below)

► Sealing:

Integrated EPDM O-ring



ASSEMBLY

► IFT fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

► Contact us for all your specific requirements

► Fittings for your low-pressure applications / References & Compositions

Reference	For hose	Material	Available (mm)	
	DN (mm)		A	B
RR10010	10	Brass	10	7
RR12012	12		12	9.5
RR15015	15		15	12.5

► Safety clips (OPTIONAL)/ References

Reference	For copper tube Diameter (mm)
CLIPS10	10
CLIPS12	12
CLIPS15	15





RRC fitting

Quick angled



► Composition:

- Brass + acetal
- Other materials on request

► Option:

- Safety clips

► Packaging:

- In bags
- Other packaging types on request

► Assembly:

RRC fittings can be used on our QUAL'IFT® hoses (according to the indications in the table below)

► Sealing:

Integrated EPDM O-ring



ASSEMBLY

► IFT fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



CUSTOM OFFER

► Contact us for all your specific requirements

► Fittings for your low-pressure applications / References & Compositions

Reference	For hose	Material	Available (mm)	
	DN (mm)		A	B
RR12C12	12	Nickel-plated brass	12	9.5
RR15C15	15		15	12.5

► Safety clips (OPTIONAL)/ References

Reference	For copper tube Diameter (mm)
CLIPS12	12
CLIPS15	15





Gaskets

Fibre / High-temperature fibre / EPDM



Fibre gaskets
(JF)



High-Temperature
fibre / Solar gaskets
(JFHT)



EPDM gaskets
(JCP)

► Composition:

- Fibre gaskets (JF)
 - > Vulcanized fibre gaskets
- High-temperature fibre gaskets / Solar (JFHT)
 - > Aramid fibre + NBR gaskets
- EPDM gaskets (JCP)
 - > EPDM Flat Gaskets

► Packaging:

- In bags
- Other packaging types on request



ASSEMBLY

► IFT fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"

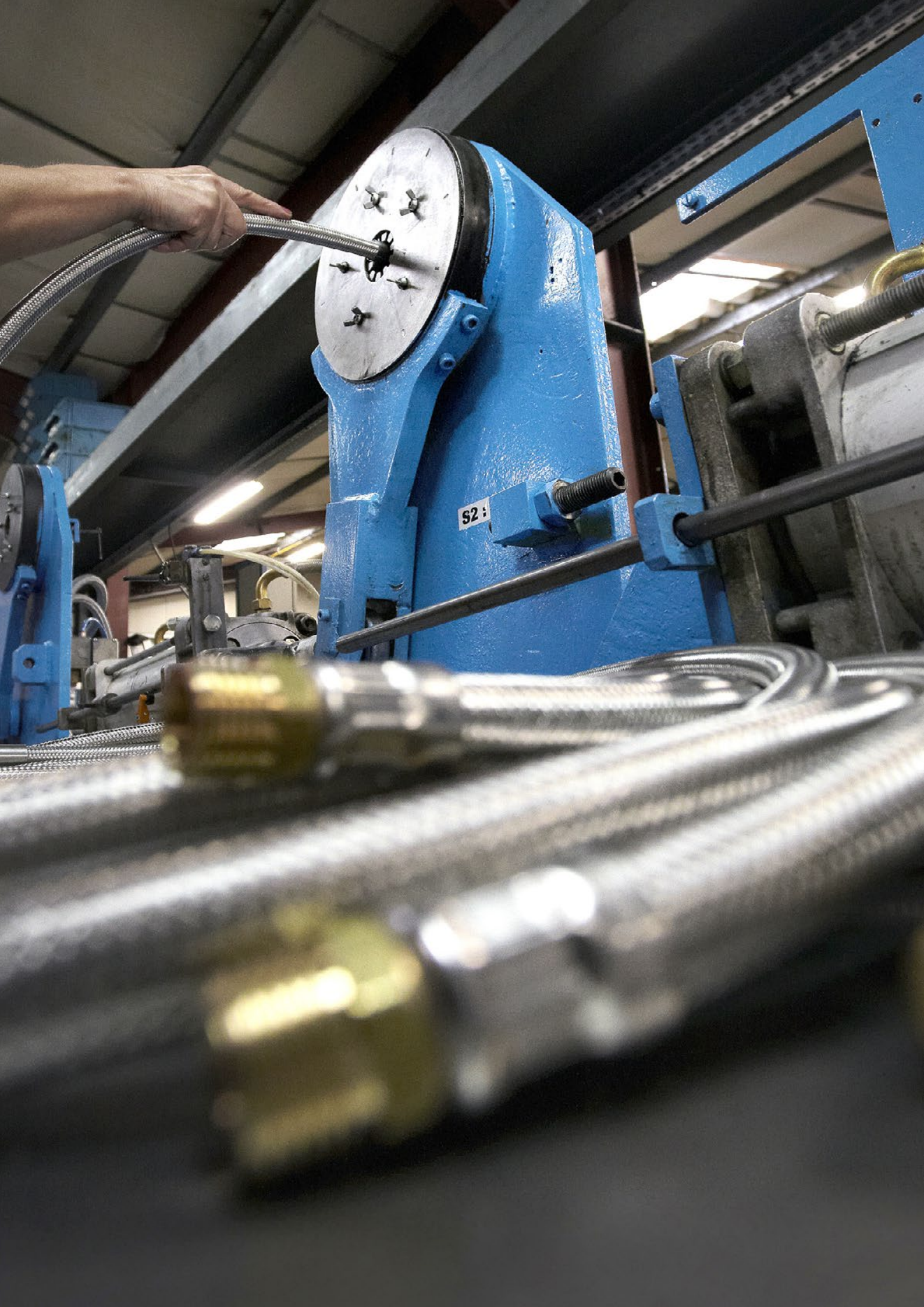


CUSTOM OFFER

► Contact us for all your specific requirements

► Fittings for your low-pressure applications / References & Compositions

Reference			Dimensions	
JF (Fibre)	JFHT (High-temperature fibre)	JCP (EPDM)	mm	inches
JF0	JFHT0	JCP0EPDM	8 x 13	1/4"
JF1	JFHT1	JCP1EPDM	12 x 17	3/8"
JF2	JFHT2	JCP2EPDM	15 x 21	1/2"
JF4	JFHT4	JCP4EPDM	20 x 27	3/4"
JF5	JFHT5	JCP5EPDM	26 x 34	1"
JF6	JFHT6	JCP6EPDM	33 x 42	1"1/4
JF7	JFHT7	JCP7EPDM	40 x 49	1"1/2
JF8	JFHT8	JCP8EPDM	50 x 60	2"





TOOLS

- SMS10-20 manual site crimper for DN08 to 20 hoses
- K200 portable electric crimper for DN08 to 20 hoses
- K300 portable electric crimper for DN08 to 33 hoses
- M200 and M400 cutting machines

Pages	Data sheets
88	FT901
89	FT902
90	FT903
91	FT904



SMS10-20 for DN08 to 20 hoses

Manual site crimper

► Description:

- Low-pressure crimping with 6 fingers - 1 set for DN10 to 20
- Crimping of all IFT fittings on our QUAL'IFT® hoses for diameters DN08 - 10 - 13 - 15 - 20, max capacity 3/4" nut

Note: an additional set of fingers can be used to crimp DN06 hoses

► Specifications:

- Reliable and robust design
- Weight: approx. 20 kg
- Dimensions: L 60 x H 60 x D 15 cm

► Application:

Manual site press for small and medium production runs



ASSEMBLY

- IFT fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"



► SMS10-20 manual crimper



K200 for DN08 to 20 hoses

Portable electric crimper



► Description:

- Crimping using interchangeable jaws
- Crimping our bushings onto our QUAL'IFT® hoses for diameters DN08 to 20

Note: our crimping using an electro-portable gun is only suitable for our hoses and uses specific bushings, sealing for all other supplies (bushings and hoses) is not guaranteed

► Specifications:

- Quick crimping
- Automatic piston stop at the end of the crimping process
- Pivoting head to approximately 350°
- 18 V battery gun
- Linear thrust force of approximately 15 kN
- Battery charge time: 15 min
- Gun weight (without jaw) 1.7 kg

► Packaging:

Robust plastic case with battery and charger

► Application:

Automatic site crimping for small production runs



ASSEMBLY

► IFT fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"

► Jaws for K200

Clamp



Ref: **PK200 10-20**

Matrices



DN10 / Ref: **MK10**



DN13 / Ref: **MK12**



DN15 / Ref: **MK15**



DN20 / Ref: **MK20**



K300 for DN08 to 33 hoses

Portable electric crimper



► Jaws for K300

► Description:

- Crimping using interchangeable jaws
- Crimping our bushings onto our QUAL'IFT® hoses for diameters DN08 to 33

Note: our crimping using an electro-portable gun is only suitable for our hoses and uses specific bushings, sealing for all other supplies (bushings and hoses) is not guaranteed

► Specifications:

- Quick crimping
- Automatic piston stop at the end of the crimping process
- Pivoting head to approximately 350°
- 18 V battery gun
- Linear thrust force of approximately 32 kN
- Battery charge time: 22 min
- Weight of gun (without jaw) 3.5 kg

► Packaging:

Robust plastic case with battery and charger

► Application:

Automatic site crimping for small production runs



ASSEMBLY

► IFT fittings must be assembled by scrupulously following the recommended rules and stages in paragraph "Recommendations for use"

Clamp



Ref: PK300 10-20

Matrices



DN10 / Ref: MK10



DN13 / Ref: MK12



DN15 / Ref: MK15



DN20 / Ref: MK20

Clamp



Ref: PK300 26-33

Matrices



Ref: MK26



Ref: MK33



M200 & M400 Cutting machines



► M200

► Description:

- Bevel cutting disc Diameter 200 x 1.6 x 30 mm
- Cutting hoses up to DN26

► Specifications:

- Easy to transport, ideal for on-site work
- Single lever for bending and cutting the hose
- Power supply: 220 V single-phase / 50 Hz
- Maximum clearance: 50 mm
- Dimensions: L 55 x H 53 x D 43 cm
- Weight: 17 kg

► Application:

Portable manual cutter for cutting low-pressure hoses, electrical cables, metal sheathing, plastic sheathing, etc.



► M400

► Description:

- Bevel cutting disc Diameter 300 x 4 x 30 mm
- Cutting hoses up to DN40

► Specifications:

- Single lever for bending and cutting the hose
- Fitted with a removable protective flap
- Direct start protected by thermal probe
- Power supply: 400 V three-phase / 50 Hz
- Maximum clearance: 65 mm
- Dimensions: L 60 x H 75 x D 52 cm
- Weight: 40 kg

► Application:

Manual bench saw for cutting low-pressure hoses





ACCESSORIES

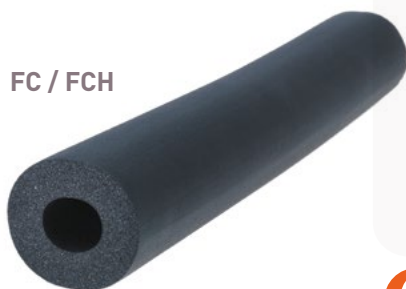
- ▶ Insulation
- ▶ Fireproof sheath **SILITUBE® X**
- ▶ Thermal protection sheath **SILIGAINÉ® 15C3**
- ▶ Kit for keeping hoses frost-free **STOPGEL®**

Pages	Data sheets
94	FT911
96	FT912
97	FT913
98	FT914



FC insulation

FC / FCH



EF (cup)

► Composition:

Closed-cell synthetic rubber foam (elastomer)

► Application:

Thermal insulation, soundproofing, vibration isolation

► Packaging:

In 2 m sleeves or roll

► Technical data



Operating temperature
-40°C to +85°C



KEY BENEFITS

- Asbestos-free, expansion gas-free, CFC-free
- Excellent resistance to chemical agents
- Cu and Fe corrosion: meets the requirements of DIN 1988/7
- Fire performance: Euroclass B S3D0: low flammability, self-extinguishing, does not spread fire, no droplets in the event of fire

► Thermal insulation and cups / References & Compositions

Thermal insulation				Finishing cup reference						
Reference	For DN hose (mm)	Thickness (mm)	Insulation diameter int. x ext. (mm)	EF17	EF22	EF27	EF34	EF42	EF54	EF62
FC18	12	9	18 x 36	•						
FC22	15		22 x 40		•					
FC28	20		28 x 46			•				
FC35	25		35 x 53				•			
FC42	33		42 x 60					•		
FC54	40		54 x 72						•	
FC62	50		64 x 82							•
FCH14	10	13	15 x 41		•					
FCH18	12		18 x 44			•				
FCH22	15		22 x 48			•				
FCH28	20		28 x 54				•			
FCH35	25		35 x 61					•		
FCH42	33		42 x 68						•	
FCH54	40		54 x 80							•
FCH62	50		64 x 90	Can be held in place with black adhesive protective tape on each end of the heat insulating sleeve						

► Thermal insulation and cups / References & Compositions

Thermal insulation				Protective cup reference						
Reference	For hose DN (mm)	Thickness (mm)	Insulation diameter int. x ext. (mm)	EF17	EF22	EF27	EF34	EF42	EF54	EF62
FCH214	10	19	14 x 32	Can be held in place with black adhesive protective tape at each end of the thermal insulation sleeve						
FCH218	12		18 x 36			•				
FCH222	15		22 x 60				•			
FCH228	20		28 x 66					•		
FCH235	25		35 x 73						•	
FCH242	33		42 x 80						•	•
FCH254	40		54 x 92	Can be held in place with black adhesive protective tape at each end of the thermal insulation sleeve						
FCH262	50		62 x 100							
FCH318	12	25	18 x 68						•	
FCH322	15		22 x 72						•	
FCH328	20		28 x 78							•
FCH335	25		35 x 85	Can be held in place with black adhesive protective tape at each end of the thermal insulation sleeve						
FCH342	33		42 x 92							
FCH354	40		54 x 104							
FCH362	50		62 x 112							



SILITUBE® X

Fireproof sleeving



► Composition:

Mineral fibre braided sheath with silicone coating, waterproof and flame-retardant

► Application:

Protection and insulation of bundles of water, gas, compressed air or hydraulic fluid hoses against environmental aggressions (presence of flames, splashes of molten metal or glass, episodic very high temperatures, vapour sprays, etc.)

► Packaging:

On request: contact us

► Technical data



Operating temperature
-60°C to +250°C



KEY BENEFITS

- Point flame resistance and tightness
- Excellent flexibility at low temperatures: SILITUBE® X does not harden, does not flake or soften
- Self-extinguishing-meets with test VW-1 requirements, according to standard UL 1441
- Swells slightly in the presence of hydrocarbons
- Very flexible

► Accessories - Sheaths / References & Compositions

Internal diameter	SILITUBE® X	
Nominal value (mm)	Nominal wall thickness (mm)	Approx. linear density (kg/km)
8	4	120
10		140
13		200
16		220
19		340
22		360
25		380
32		480
38		680
45		720
51		750

Self-extinguishing – meets with test VW-1 requirements, according to standard UL 1441



SILIGAINÉ® 15C3

Thermal protection sleeving



► Composition:

Fibreglass braided sleeving
with silicone coating

► Application:

Thermal protection for hoses
and rigid or flexible piping

► Packaging:

In spools of 20m to 100m
(more information in the table below)

► Technical data



Operating temperature
-60°C to +250°C



KEY BENEFITS

- Good resistance to moisture, ozone and UV radiation
- Good resistance to common chemical atmospheres
- Self-extinguishing – meets with test VW-1 requirements, according to standard UL 1441
- Very flexible
- Halogen-free

► Accessories - Sheaths / References & Compositions

Internal diameter		SILIGAINÉ® 15C3		
Nominal value (mm)	Tolerance (mm)	Minimum wall thickness (mm)	Approx. linear density (kg/km)	Spool packaging (m)
8	+/- 0.25	0.40	24.9	100
10	+/- 0.50	0.50	33.3	
12	+/- 0.50		54.6	
14	+/- 1.0		77.2	
16	+/- 1.0	0.60	92.7	50
18	+/- 1.0	0.75	112	
20	+/- 1.0		134	
22	+/- 1.0	0.90	158	
25	+/- 1.0	0.90	197	25
30	+/- 2.0	1.00	267	
35	+/- 2.0	1.10	327	
40	+/- 3.0	1.30	389	
45	+/- 4.0	1.50	480	20
50	+/- 5.0	1.60	580	



STOPGEL®

Kit for keeping hoses frost-free



► Composition:

Frost-proof heating cable with thermostat and power plug, along with the accessories needed for installation

► Specifications:

- Voltage 230 V – 50 Hz
- Double insulation
- Protection class II
- Power 15 W/m
- Flat shape 5 x 7 mm for better heat transfer
- 1 m supply section at one end only
- Electrical connection plug included
- Thermostat built into end of cable

► Application:

STOPGEL® anti-freeze heating cords protect hoses from freezing.

► Packaging:

Individual packaging including:

- A STOPGEL® heating cable
- An electric tracing signal label
- A roll of adhesive tape for fixing the heating cable
- Clamps for fixing the thermostat
- Instructions for installation and assembly of the kit

► Technical data



Operating temperature
-30°C to +80°C



KEY BENEFITS

- Available in 5 lengths: 3, 5, 7, 10 and 15 metres
- Complete kit for easy installation
- Installation accessories supplied
- 2-year warranty



CAUTION

- Cables should never be cropped to reduce the length of the cold outlets. The round, domed part of the thermostat (sensor) must be in contact with the hosework



► Accessories - Antifreeze heating cable / References

STOPGEL®		
Reference	Length (m)	Power (W ± 10%)
STOPGEL-03	3	45
STOPGEL-05	5	75
STOPGEL-07	7	105
STOPGEL-10	10	150
STOPGEL-15	15	225



RECOMMENDATIONS FOR USE OF THE HOSES AND TECHNICAL FORM

	Pages
► General recommendations for hose use	100
► Operating instructions for low-pressure crimping presses	102
► Technical form	103
► General terms and conditions of sale	110



1 Recommendations for fitting IFT hoses between 2 fixed points



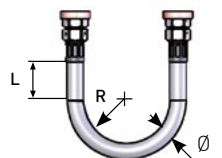
GOOD

BAD

For all assemblies, the correct length involves:

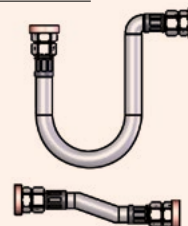
- $R \geq 6 \varnothing$ (bending radius)*
- $L = 4 \text{ Diameter}$ (straight run after each end)

* Take into account the minimum bending radius of the hose used.



The use of angled fittings improves the bending radius.

Keep to the minimum radius.



The length must be sufficient.

Any traction or tension on the end caps should be avoided.



Hoses must not be twisted.

- The fixed fitting must be fitted first.
- The hose must always be bent in the same plane.



Provide supports where the hose's own weight could have a detrimental effect.



The supports are different and appropriate for each location.



2 Tightening swivel nuts for gas threads

Our nuts are suitable for cylindrical threads only.

The seal, either via a gasket or metal-to-metal, is by simple locking in place with a spanner.

Nut tapping (inches)	"	1/8	1/4	3/8	1/2	3/4	1	1"1/4	1"1/2	2
Max torque (in N.m)	N.m	10	20	25	25	40	50	60	60	70

Tightening with a tool that could damage the nut (multi-grip pliers - pin spanner) should be avoided. A visual check after tightening is necessary. For tap connections (M8x100, M10x100, M11x100, M12x100) max torque of 8 N.m recommended.

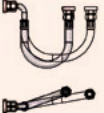
3 General instructions for fitting hoses

- All our hoses are inspected: however, an anomaly can always escape inspection, just as damage can occur during transport or handling.
- Also, before fitting a hose, we ask the fitter to carry out a final check. An anomalous hose (damaged fitting or braid, non-crimped/poorly crimped, oxidized or split bushing, etc.) must not be fitted under any circumstances.
- When fitting hoses, observe the minimum bending radius and avoid tensioning, pulling or twisting the hose (use 2 suitable spanners). Simple locking in place is sufficient for a gasket or metal/metal seal.
- Bushings for hoses fitted for very cold water must be stainless steel (air conditioning).
- Each hose must be fitted with at least one fitting with a swivel nut.
- Do not use the hose as an expansion coupling (when connecting fixed straight columns); in this case, use elbows and make an expansion loop after consulting us.
- Do not fit two hoses end to end.
- Do not position a hose against a rough or rough plastered wall, metal sheets or sharp-edged objects, as these could destroy the braid by friction when the taps are opened and closed.
- Our nut fittings have a cylindrical thread and are sealed at their seat (by gasket if flat seat, metal/metal if spherical-tapered seat). Adapting a male fitting or tapered thread directly to it without a union is prohibited, as is using any other type of seal: oakum, grease, etc.
- Our EPDM rubber hoses are designed exclusively for the passage of raw water or glycol solutions. In the case of water treatment, the customer must check the chemical compatibility of the components; do not use amine or mineral oil-based additives. If in doubt, contact us.
- Do not fit hoses near hot parts exceeding 100°C.
- Keep rubber and plastic hoses away from flames: blowtorches, soldering lamps, matches, etc. BEWARE OF WELDING near hoses; protect them well.
- For outdoor use (solar collectors, swimming pools, etc.) use EI (stainless steel), ETV (U.V. resistant textile) or IPO (all stainless steel) hoses if temperature >110°C.
- If the hose freezes, thaw with hot water.
- Crossings of partitions, slabs, floors must be made under a protective sheath allowing the passage of the hose equipped with its fittings. Embedding a hose in a slab or partition, even plaster, is strictly forbidden.
- All hose installations must be easily accessible, and a hose change should not take more than 15 minutes. This change must not cause any damage to the wall, partition or floor; if it does, fit in the traditional way. All hoses must be replaceable. Hoses must not be laid in the thickness of a slab without direct access to the fittings.
- All installations involving hoses must be tested at 1.5 times the operating pressure before commissioning. This pressure should be maintained for 1/2 an hour during the test.
- Beware of the risk of an iron/copper "galvanic couple": use suitable iron/iron or brass/copper fittings.
- For the construction sector, do not forget that all completed installations must be pressure-tested (in accordance with EN DTU in force).
- Sealing is the responsibility of the fitter, except for fittings with integral seals.

4 General transport and storage instructions

- Avoid storing hoses near an electric motor ozone source, fluorescent lamps, etc.
- Observe the bending radius on the packaging.
- If possible, leave the hoses in their original packaging before use.
- Avoid impacts.

5 Specific recommendations for use

Quick fittings			Expansion loop		
	GOOD	BAD	GOOD	BAD	
Deburr the copper tube			Axial load: Use elbows and fit the hose in a U-shape.		
Insert the straight tube and push it in as far as it will go into the quick fitting.					
Place the clips between the moving part and the fixed part of the fitting.			Twist: Align the fittings and hoses.		

Can only be fitted to copper hoses complying with standard NF EN 1057

N.B. :

- If the crimping is not carried out in our workshops, the company carrying out the crimping is responsible for its work and must carry out checks on samples in accordance with our crimping instructions.
- Our LP hoses are marked IFT, with the nominal diameter, the date of manufacture and, where applicable, the approval name and technical evaluation number, on the crimping bushings.



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ift@omerin.com

www.flexibles.com

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INSTRUCTIONS FOR USE OF LOW-PRESSURE CRIMP PRESSES



	SMS 10-20	K200 K300
1 - Installation Low-pressure hose and fittings		
▶ Use only IFT hose components, fittings and crimp bushings - otherwise consult us ▶ When fitting bushings to hoses with external braid, use adhesive tape to prevent the braid from "kinking" ▶ Assembly must be carried out without any particular effort - a lubricant suitable for the hose can be used - please consult us ▶ Crimping the fitting resting on its stop and centred on the length of the bushing	• • • •	• • • •
2 - Crimp setting and action		
▶ Operate the control lever to the stop of the circular ring on the barrel DO NOT USE AN EXTENSION ▶ Comprehensive instructions for use enclosed with machines	• •	• •
3 - Press maintenance		
▶ Verification and lubrication of crimping fingers (monthly check) ▶ Checks on moving parts (monthly check)	• •	• •
4 - Checking low-pressure crimps		
Visual checks: • Presence of crimping • Crimp positioning and evenness on the bushing • Check that the braid is not twisted under the bushing Pressure tests: • Pressure tests according to DTU in force • Test at 1.5 times maximum operating pressure on 5% of hoses (reusable samples) • Burst tests on 1% of hoses (destructive tests)		
5 - Warranties		
• IFT only guarantees the components if they are all supplied by IFT, but not the crimping. • The crimping operation must be covered by your own insurance, which you should notify in advance. • Law no. 78-12 of 04.01.78 on participation in the building process applies to this operation.		

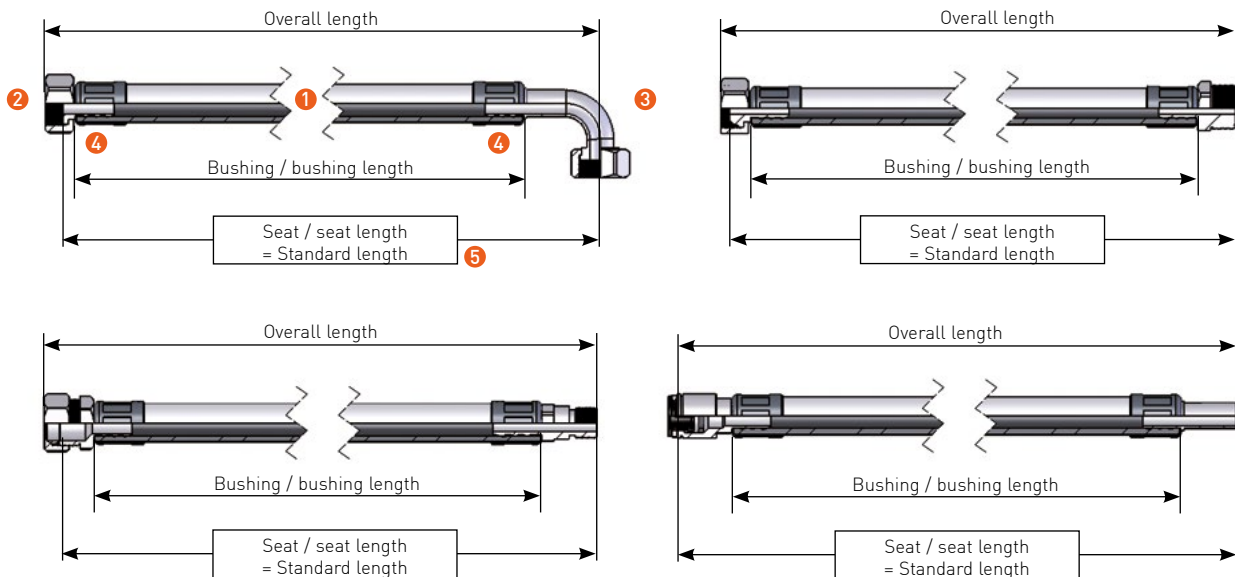


TECHNICAL FORM

Definition of a hose

1 Presentation of a hose

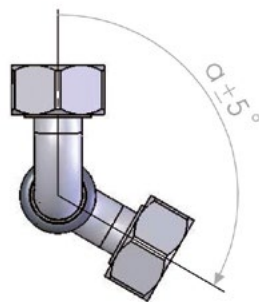
1 • Length



NB: Length tolerance: $\pm 2\%$

2 • Orientation

For a hose with 2 angled end-pieces, also specify the value of the angle in the direction shown in the figure below (Q).



3 - Quick IFT hose designation

See 1st diagram above, designation successively contains:

- ① The hose reference
- ② The 1st fitting reference
- ③ The 2nd fitting reference
- ④ The reference of the crimp bushings or clamping system
- ⑤ Standard hose length (unless specified)

Example:

ET10	P101NIENI	RCP101NIENI	DI10	500 MM
①	②	③	④	⑤



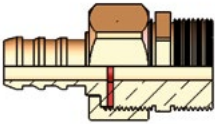
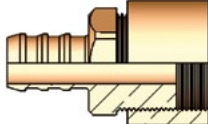
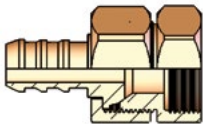
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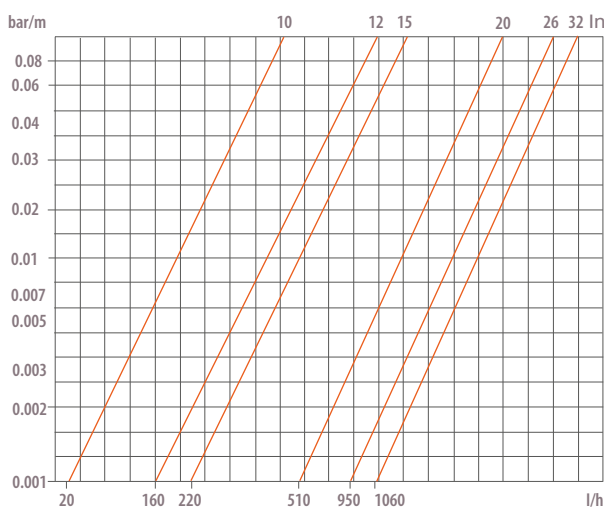
2 Threads and fittings shown

Types	BSP flat bottom	BSP tapered gas	BSP
Assemblies			
Seal	By compressing a flat gasket between 2 flat faces	By wedging oakum or PTFE tape between tapered male and female threads cylindrical or tapered	Metal / Metal on male spherical-tapered seat in 60° female cone
Thread	Gas	Gas	Gas

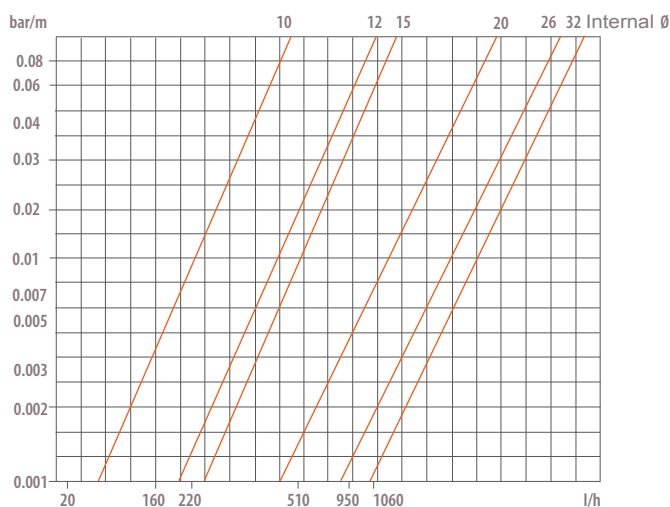
Types	JIC	SAE
Assemblies		
Seal	Metal / Metal on male tapered seat and 74° female cone	Metal / Metal on male tapered seat and 90° female cone
Thread	UNF	UNF

3 Pressure loss in rubber hoses - Fluids / Water

Pressure loss per metre of hose straight length



Pressure loss at both straight fittings



N.B. : For bent hose runs and angled fittings, add the singular pressure losses to be calculated according to the rules of the trade.

4 Threads and fittings shown

Hoses	EI06	EI08	EI10	EI12	EI15	EI20	EI26	EI33	EI40	EI50
Internal diameter (mm)	6	8.5	9.5	12	15	20	26	33	40	50
External diameter (mm)	10	12	14	18	22	28	35	43	50	61
Min bending radius (mm)	40	48	60	72	88	112	140	172	392	488
Fitting clearance diameter (mm)	4.6	6	7	9	12.5	16.5	21	27.5	35	44
Flow rate at 3 bar (l/min)	19	32	45	72	99	150	220	410	750	1100
Operating pressure (bar)	16	16	16	16	16	10	10	6	6	6
Max temperature (°C)	90	90	90	90	90	90	90	90	90	90



5 Conversion factors for metric and Anglo-Saxon measurements

Measurement of	US/GB UNITS	METRIC UNITS	US/GB>SI	SI>US/GB
Lengths	Inch (in)	Metre (m)	(in) x 0.0254 = (m)	(m) x 39.370 = (in)
		millimetre (mm)	(in) x 25.4 = (mm)	(mm) x 0.0393 = (in)
Pressure	Pound/square inch = Pound/Sq Inch (PSI) (PSI) (Bar) (Bar)	Newton/square metre = (N/m²) Bar (Bar) (Kg/cm²) (N/m²)	(psi) x 6.8948 x 10³	(N/m²) x 1.450 x 10⁴
			= (N/m²)	= (PSI)
			(psi) x 0.0689 = (Bar)	(Bar) x 14.504 = (psi)
			(Bar) x 0.9806 = (Kg/cm²)	(Kg/cm²) x 1.0197 = (Bar)
			(Bar) x 100000 = (N/m²)	(N/m²) x 10⁻⁵ = (Bar)
Temperature	Degree Fahrenheit (°F)	Degree Celsius (°C)	(°F-32)/1.8 = (°C)	(°C x 1.8) + 32 = (°F)
Moment	Pound-inch	Newton metre = (N.m)	(lb _f - in) x 0.113 = (N.m)	(N.m) x 8.8507 = (lb _f - in)
	Pound-inch = (lb _f - in)			
Volumes	US Gallon (USGal)	(dcm³) = litre	(USGal) x 3.785 = (dcm³)	(dcm³) x 0.2641 = (USGal)
	GB Gallon (GBGal)	Litre = (dcm³)	(GBGal) x 4.546 = (dcm³)	(dcm³) x 0.299 = (GBGal)
	Cubic Inch (in³)	Litre = (dcm³)	(in³) x 0.0164 = (dcm³)	(dcm³) x 60.98 = (in³)
Flow rates	(in³/min)	Litre/min (l/min)	(in³/min) x 0.0164 = (l/min)	(l/min) x 60.98 = (in³/min)
	US Gallon/hour = (USGal/h)	(m³/h)	(USGal/h) x 0.0038 = (m³/h)	(m³/h) x 264.2 = (USGal/h)
	GB Gallon/hour = (GBGal/h)	(m³/h)	(GBGal/h) x 0.0045 = (m³/h)	(m³/h) x 220 = (GBGal/h)



TECHNICAL FORM

Chemical resistance

- A** Very good
B Good
C Relatively good
D Not compatible
Compatibility unknown
1 Satisfactory at room temperature
2 Satisfactory up to 50°C
3 Satisfactory for O-ring

	PLASTICS				ELASTOMERS			METALS				
	POLYESTER	POLYETHYLENE	POLYAMIDE	PTFE	NITRILE	EPDM	SILICONE	ALUMINIUM	ALUMINIUM	BRASS	COPPER	
Acetaldehyde	-	A A1	A	D	D	A	A	A	B	A	C	-
Acetamide	-	A A	A	D	A	A	B	B	A	A	-	D
Acetone	B	B1	A	A	D	D	A	B	A	A	A	A
Acetylene	A	D	A	A	A1	B	A	B	A	A	B	A
Acetic acid	-	A2	D	A	D	C3	A	C	D	B	D	B
20%	-	A	D	A	D	B	A	B	B	A	D	B
80%	-	D	D	A	C	C3	A	B	D	B	D	B
glacial	A1	D	B	A	D	C	B	B	C	A	B	-
Arsenic acid	-	B2	C1	A	A1	A2	A	A2	A2	D	D	A
Boric acid	A1	A2	B	A	A2	A	A	A	B2	A1	D	-
Hydrobromic acid	20%	-	B2	D	-	B2	D	A	D	D	D	D
100%	-	B1	D	A	A1	D	A	D	D	D	D	D
Butyric acid	B1	D	C1	A2	B1	D	B	D	B2	B2	B	-
Carbolic acid (phenol)	D	D	D	A	D	D	B	D	B	B	A	D
Hydrochloric acid	20%	B	A2	D	A	A2	-	A	D	D	D	-
37%	C	B2	D	A	B	B	C	B	D	D	D	-
100%	-	-	D	A	D	D	D	D	D	D	D	D
Chloroacetic acid	D	D	D	A	B1	D	B	D	B1	A1	D	D
Chlorosulfonic acid	D	D	D	A	D	D	D	D	D	B2	C	B
Chromic acid	5%	D	D	D	A	A2	A	A	C	B	A	C
10%	D	D	D	A	A2	D	C	C	B	B	D	D
30%	D	D	D	A	A1	D	B	C	B2	B2	D	D
50%	D	D	D	A	D	D	B	C	C	B2	D	D
Citric acid	A1	D	A1	A	B2	A	A	A	B1	A2	C	D
Cresylic acid	-	B1	D	A	D	D	D	A1	A	B2	-	A
Hydrocyanic acid	C	A2	B	A	B	B	B	C	B1	A	A	D
Hydrofluoric acid	20%	-	A2	C1	A	B	D	D	D	D	D	-
50%	D	A1	D	A	B1	D	D	D	D	D	D	-
75%	D	C1	D	A	C	D	C	D	D	D	D	-
100%	D	-	D	A	C	D	D	D	B1	B1	D	-
Formic acid	B	D	D	A	A1	C	A	B	B1	A1	A	D
Fatty acids	-	D	A1	A	A	B	D	C	B	A	A	C
Lactic acid	D	A1	B	A	B1	A	A	A	B1	B1	B	D
Malic acid	-	B2	A	A	A2	A	D	B	A	A2	B1	B
Muriatic acid (Hydrochloric acid)												
Nitric acid	5-10%	C	B	D	A	A1	D	A1	C	A	A	D
20%	D	C	D	A	A1	D	A1	D	A	A	D	D
50%	D	B1	D	A	B1	D	D	A2	A1	D	D	D
concentrated	D	C1	D	A	B1	D	D	A1	A1	D	D	D
Oleic acid (tallow)	A	C2	A	A	C2	B	B	D	A	A	A	D
Oxalic acid	D	A2	B2	A1	B	D	A	B	B	A	A	D
Palmitic acid	A	-	A	A2	B1	A2	B1	D	B1	A1	B	D
Phosphoric acid	≤ 40%	-	A	B1	A	B	D	B	C	D	C	D
> 40%	-	B1	B1	A	B	D	B	D	D	D	C	D
Picric acid	-	A	C1	A	D	C	B	D	B	B	C	-
Salicylic acid	-	B2	A1	A2	B1	B	A	-	B2	B2	B2	-
Stearic acid	C	B1	A2	A	B2	B	B	B	B	A	B	D
Sulphurous acid	-	B2	D	A	A2	B1	B	D	B1	B	B1	-
Sulphuric acid	10-75%	-	A1	D	A	A1	B2	D	D	D	D	-

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	PLASTICS				ELASTOMERS			METALS				
	POLYESTER	POLYETHYLENE	POLYAMIDE	PTFE	PVC	NITRILE	EPDM	ALUMINIUM	ALUMINIUM	BRASS	CAST IRON	COPPER
Sulphuric acid	75-100%	C	B1	D	A	D	C	B1	D	C	D	D
< 10%	A	A1	C1	A	A1	A1	A	C	D	B	D	-
concentrated cold	B	C	D	A	D	D	C	D	C	B	B	-
concentrated hot	C	D	D	A	D	D	D	D	C	D	-	D
Tannic acid	A	B2	C1	A	A1	A	A	B	B1	A	C	B
Tartaric acid	C	A1	B2	A	A1	A	B	A	C2	C2	B1	D
Alcohol (Ethanol)	-	B	A1	A	C	C	A	B	A	A	B	A
Amyl alcohol	A1	B2	A1	A	A2	B	A	D	A	A	B	A1
Butyl alcohol	B1	B2	B1	A2	C1	A	A	B	A	A1	B	-
Ethyl Alcohol	-	B	A1	A	C	C	A	B	A	A	B	A
Isobutyl alcohol	-	A2	A1	A2	A1	B	A	A	A	B	-	C
Isopropyl alcohol	-	A2	D	A2	A1	B	A	A	B	B	B	-
Methyl alcohol	B	A1	B1	A	A1	A	A	A	A	A1	A	A
Propyl alcohol	-	A2	D	A	A1	A	A	A	A	A	A	A
Aluns	D	A	A	A	-	A	A1	A1	-	A	A	-
Anhydrous ammonia	D	B2	A1	A	A2	B	A	C	A	A2	A1	D
Ammonia	10%	-	C1	A	A	B1	A	A	-	A	A2	-
Liquid ammonia	-	C1	B1	A	A1	C	A	-	B2	A2	A	-
Acetic anhydride	C	D	A1	A	D	D	B	C	B	A	A1	D
Phthalic anhydride	-	-	-	A	D	D	A	-	A	A	A	-
Aniline	D	C	A2	A	C1	D	B	B	A	B	C	D
Asphalt	B1	A1	A	A1	A2	B	D	D	B	A	A	A
Benzene	C	C1	A1	A	C1	D	D	D	B	B	B	-
Benzaldehyde	B	A1	A1	A1	D	D	A	D	B	B	B	-
Sodium Bicarbonate	-	A2	A	A	A2	A1	A2	A	A	A1	D	D
Potassium dichromate	C	A	B1	A	A	A1	A1	A	B	B1	B	-
Beer	A1	A2	A1	A	A2	A	A	A	A	A	B	D
Calcium bi	B	A1	A2	A	B	A	D	A	B	A	D	-
Borax (sodium borate)	A1	A2	A	A	A1	B	A	B	A	A	B1	-
Bromine	D	D	D	A	C1	D	D	D	D	D	D	-
Potassium bromide	-	A	A1	A	A	A	A1	A1	B	B	C1	-
B												
Butane	-	C1	A2	A	C1	A	D	D	A2	A2	A	-
Ethylene bromide	-	D	-	A	D	D	D	D	B	B	B	-
Ammonium Carbonate	-	B2	A1	A	A2	B	A	C	B	B	B	D
Barium carbonate	-	B2	A1	A	A2	A2	A	-	B1	B	D	B1
Magnesium carbonate	-	B	-	A1	B	A2	A	-	B	B	A	-
Potassium carbonate	D	A1	A	-	A	A	A1	-	B	B	D	-
Sodium Carbonate	-	B2	B1	A	A2	A	A2	A	A	A	D	B
Chlorine in solution	-	B1	C1	A	A2	D	C	D	C	C	D	D
Anhydrous liquid chlorine	-	D	D	A	D	D	B	D	C1	C	D	D
Dry chlorine	D	D	D	A	D	B	A	D	A1	B	C1	D
Ethylene Chlorohydrin	-	D	D	A	D	D	B	C	B	B	B	-
Chlorobenzene	D	C1	D	B	D	D	D	A	B	A	B1	B
Chlorobromomethane	-	A	C	A	D	D	B	D	-	-	-	B
Chloroform	D	C1	A	A1	D	D	D	A	A	B1	B1	B
Ammonium chloride	A1	A2	B	A	A2	B	A	C	C	B2	B1	D
Aluminium chloride	C	B2	B1	A	A2	A	A	B	B	B	D	D
Amyl chloride	-	D	C1	A	D	D	D	D	A2	A2	A1	-



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	POLYESTER	POLYETHYLENE	POLYAMIDE	PTFE	PVC	NITRILE	EPDM	SILICONE	ALSI 304 STAINLESS STEEL	ALSI 316 STAINLESS STEEL	ALUMINIUM	BRASS	CAST IRON	COPPER
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Barium chloride	B 1	A 1	A	A	A 1	A	A	A	A 1	A 1	D	B 1	C	B 1
Benzyl chloride	-	-	A 2	-	-	D	D	D	C 1	B 1	D	-	-	D
Calcium chloride	A 1	B 2	A 1	A	C	A	A	A	C 2	B 2	D	-	C	
Copper chloride	A 1	-	D	A	A 1	A	A	A 1	D	D	-	-	-	
Ethyl chloride	C	C 1	A 1	A	D	A	A	D	A	A	B	A	C	B
Ferrous Chloride	-	A 2	D	A	A	A	-	-	D	D	D	D	D	B
Ferric chloride	C	A 1	A	A	A	A	A	B	D	D	D	D	D	D
Magnesium Chloride	C	A 1	A 1	A	B	A 2	A	A	D	D	D	D	D	A 2
Mercury chloride	B	A	D	A	A	A	A 1	-	D	D	D	D	D	D
Methyl Chloride	-	C 1	B 1	A	D	D	D	D	A	A	D	A	D	-
Methylene chloride	D	D	C 1	A	D	D	C 1	-	B	B	C	A	B	B
Nickel chloride	-	A	C 1	A	A	A 1	A 1	A	D	C	D	D	D	-
Potassium Chloride	B	A 1	A 1	A	A	A 1	A 1	A	B 1	A 1	D	D	A	B
Sodium Chloride	A	A 2	A 1	A	A 2	A	A	A	B	B	C	D	D	B
Sulphur Chloride	-	C 1	A 1	A	C 1	D	D	C	D	D	D	D	D	B
Vinyl chloride	-	-	A 1	A 2	D	D	C	-	B 2	A 1	B 1	-	B	B
Copper cyanide	-	B 2	D	A	A 2	A	A	A	B	B	D	D	A	-
Mercury Cyanide	-	A	A 2	B	A	A	A 1	A	C	C	D	-	C	D
Potassium cyanide solution	B	A	A 1	A	A	A 1	A 1	A	B 1	B 1	D	D	B	D
Sodium cyanide	B	A 2	A 1	A	A 2	A	A 2	A	A 1	B 1	D	D	A	D
Cyclohexane	A 1	B 1	A	A	D	B	D	D	A 1	A	A	A	B	B
Cyclohexanone	-	D	A	A	D	D	B	D	A 1	A 2	A	-	B	B
Diacetone alcohol	-	B 1	A	A	B 1	D	A	D	A	A	A 1	A	A	-
Dichlorobenzene	-	-	D	A	D	D	D	D	-	B 1	B 1	-	-	-
Ethylene Dichloride	C	D	A 1	A	D	D	C	D	B	B	A 1	B	A	-
Diethyl ether	-	D	A	A	D	D	C	D	A	A	B 1	B 1	C	A
Diethylamine	-	D	A	D	D	C	B	B	A	A	B	A	B	A
Diethylene glycol	-	B 2	A 1	A 2	C 1	A 2	A 2	B 1	A 1	A	B 1	-	A	-
Dimethylaniline	-	-	A	A	D	D	B 2	D	B 2	B 2	A 2	-	-	-
Dimethylformamide	-	A	A	D	D	D	B	C	A	B	A 1	-	-	A
Diphenyl oxide	-	-	-	A 1	D	A	D	C	B 1	A	B 1	-	A	A
Water	< 80°C	A	A 2	A 1	A	B	D	A	B	A	A	B	D	B
Seawater		A	A 2	A 2	A	A 2	D	A 2	A 1	C	C	B	D	B
Distilled water		-	A 2	A 1	A	A 2	D	A	C	A	A	A	A	D
Salt water		A	A 2	A 2	A	B	D	A	B	B	B	B	D	B
Hydrogen peroxide	10%	-	A	C 1	A	A 1	D	A	A	B 2	B	A	-	C
	30%	-	C 2	D	A	A 1	D	B	B	B 2	B	A	-	B
	50%	-	C 2	D	A	A 1	D	B	B	B 2	A 2	A	-	D
	100%	-	C 2	D	A	A	D	D	B	B 2	A 2	A	D	B
Aqua regia [80% HC1 + 20% HNO3]		-	B 1	D	A	C 1	D	C	D	D	D	D	D	D
Petrol		A	-	A 2	A	B	A 2	D	D	A 1	A 2	A	-	B
Unleaded petrol		-	-	A 2	A	C 2	A 1	D	D	A 1	A 2	A 2	-	A
Ethane		-	-	D	A	A 1	A	D	D	A	A 1	-	-	A
Ethanolamine		-	-	A	A 1	D	B	B	B	A	A	B	-	D
Ether		-	D	A	A	D	D	C	D	A	A	B 1	B 1	C
Butyl ether		-	-	A 2	A 1	A 2	B 2	D	D	-	A 1	A 1	-	-
Isopropyl ether		-	B	A 1	A 1	B	B	D	D	A	A	A	A	-
Ethylene diamine		-	A	D	A	D	A	A	A	B 1	B	B 1	D	-
Ethylene glycol		A	D	A	A	A	A	A	B	B	A	B 1	A	D
Ethylene oxide		A	A	A 1	A	D	D	C	D	B	B	D	D	D

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	POLYESTER	POLYAMIDE	PTFE	PVC	NITRILE	EPDM	SILICONE	ALSI 304 STAINLESS STEEL		ALSI 316 STAINLESS STEEL		ALUMINIUM	BRASS	CAST IRON	COPPER
Aluminium fluoride	-	A 2	A 1	A	A 2	A	A	B	D	D	B 1	-	D	D	
Sodium Fluoride	-	A 2	B	A 1	A 2	A 1	A	-	D	D	B	-	C	D	
Formaldehyde	40%	B	D	A	A	A	B	A	-	A 1	A	B	A	B	B 2
	100%	-	B	D	A	A	C	A	B	C	A	A	-	C	A 2
Freon 11		A	C	D	A	A 2	B	D	D	A	A	D	-	A	A
Freon 12		A	A 1	A 1	A	A 2	A	B	D	B 1	B	B 1	B 1	A	A
Freon 22		-	-	B	A	A	D	A	D	A	A	D	A	D	B
Freon 113		A	-	-	A	B	A	D	D	-	-	-	-	-	A
Freon TF		A	-	D	-	B	A	D	D	A	A	D	-	A	A
Furan (resin)		-	D	-	A	A	D	C	D	A 1	A	A	-	-	-
Furfural		-	D	B	A	D	D	D	D	A	B	A 1	-	B	A
Gasoline		A	A	A	B	A	A	D	D	A	A	D	-	A	-
Carbon dioxide		A	A 1	A 1	A	A 1	A	B	B	A	A	A 1	B	-	D
Hydrogen gas		A	A 2	A 2	A	A 2	A	A	C	A	A	A	-	-	A
Natural gas		-	A	-	A	A	A	D	A	A	A	A	-	A	-
Gelatine		-	A 2	A 1	A	B	A	A	A	A 2	A 2	A	D	A	
A															
Glucose		-	A 2	A	A	A 2	A	A	A	A 1	A	A	A	A	A
Glycerin		A	A 1	A 1	A	A	A	A	A	A 2	A	A	B	A	A
Grease		-	-	-	A	A	A	D	D	-	A	-	A	A	A
Hexahydrobenzene (cyclohexane)		A 1	B 1	A	A	D	B	D	D	A 1	A	A	A	B	B
Hexane		A	D	B	A	B 1	A	D	D	A	A	A	A	A	A
Hexyl alcohol		-	A	A	A	A 2	A	C	B	A	A	A	-	A	-
Peanut oil		-	A	-	A	A 1	A	D	A	A	A	A	-	A	A
ASTM OIL No. 1		-	-	-	-	-	A	C	B	-	-	-	-	-	-
ASTM Oil no. 2		-	-	-	-	-	A	C	B	-	-	-	-	-	-
ASTM Oil no. 3		-	-	-	-	-	B	C	C	-	-	-	-	-	-
Cottonseed oil		A 1	A	B	A	B 2	A	D	A	A	A	A	A	A	A
Cod liver oil		-	-	-	A	A 1	A	A	B	A	A	A	-	-	-
Hydraulic oil		-	C	A 1	A	A	A	D	B	A	A	A	A	A	A
Synthetic hydraulic oil		-	A	A 1	A	A	D	A	B	A	A	A	A	-	A
Linseed oil		B 1	A	A 1	A	A 2	A	D	A	A	A	B	B	-	B
Mineral oils		A	B 1	A	A	B	A	D	C	A	A	A	A	-	B
Corn oil		A	A	A	A	B	D	C	A	A	A	A	-	A	B
Coconut oil		-	A	-	A	A 1	A	D	A	A	A	A	-	A	-
Olive oil		-	A 1	A 1	A 1	C	D	D	D	A	A	A	-	-	-
Pine oil		-	D	A	A	D	D	D	D	A	A	A	-	C	-
Soybean oil		B	A 1	A	A	A 1	A	C	A	A	A	A	-	A	-
Silicone oil		A	A	A 1	A	A	A	A	C	A	A	A	-	A	A
Hydrogen sulphide		-	A	C 1	A	B 1	D	B	C	C	A	B	-	D	-
	dry	A	A	C 1	A	A 2	D	B	C	C 1	A	B	D	D	D
Hydrogen		A	A 2	A 2	A	A 2	A	A	C	A	A	A	-	-	
A															
Aluminium hydroxide		-	A 2	A 1	A	A 2	A	A	-	A 1	C 1	B 1	B	A	D
Ammonium hydroxide		C	A 1	A	A	A	D	A	A	A 1	A 1	B 2	D	D	D
Barium hydroxide		B 1	B 2	A 1	A	A 2	A	A	A	B 1	B	D	D	D	-
Calcium hydroxide		B 1	A 2	A 2	A	B	A	A	A	B 1	B	C 1	-	A	-
Magnesium hydroxide		C	A 2	B 1	A	A 2	A	A	A	B	A	A 1	C 1	D	A
Potassium hydroxide		D	A	C 1	A	A 1	B 1	A 2	C	B	A	D	D	B 2	B
Sodium hydroxide	20%	B	D	A	A	A	A	B	A 2	B	B 2	D	B	A 2	A 2

A Very good
B Good
C Relatively good
D Not compatible
 Compatibility unknown
1 Satisfactory at room temperature
2 Satisfactory up to 50°C
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A Very good B Good C Relatively good D Not compatible Compatibility unknown 1 Satisfactory at room temperature 2 Satisfactory up to 50°C 3 Satisfactory for O-ring		PLASTICS					ELASTOMERS		METALS								
		POLYESTER	POLYETHYLENE	POLYAMIDE	PTFE	PVC	NITRILE	EPDM	SILICONE	AISI 304 STAINLESS STEEL		AISI 316 STAINLESS STEEL		ALUMINIUM	BRASS	CAST IRON	COPPER
Sodium hydroxide	50%	C	D	A	A	A	A	B1	A1	B	B1	D	D	D	D	B	
	80%	-	D	C	A1	A	D	B1	A1	C	B1	D	D	D	D	D	
Hypochlorite de calcium		C1	A1	D	A	B1	C1	B1	B	C1	B1	D	-	D	C		
Sodium hypochlorite		D	B2	D	A	B	D	B1	B	D	D	D	D	D	D	-	
Sodium hypochlorite	< 20%	A	A	D	A	A	B	B	B	C	C	D	D	D	D	-	
Isooctane		A	B	A1	A	A1	A2	D	D	A1	A1	A1	A	-	-	-	
JP 3 JP 4 JP 5		-	D	C	A	C	A	D	D	A	A	A	-	A	A	A	
Kerosene		C	C1	A	A	A2	A	D	D	A	A	A	A	A	A	A	
Milk		-	A	A	A	A2	A1	A	A	A	A	A	D	D	D	D	
Lacquers varnishes		-	A	A1	A	D	D	D	D	A1	A	A	-	C	A	A	
Fuel Oil		-	B	A1	B	A2	D	D	D	A	A	C1	B	A			
A																	
Mercury		B	A	A	A	A	A	A	-	A	A	D	D	A	D	D	
Methyl methacrylate		-	-	-	-	A	D	D	C	B	B	-	-	C	-	-	
Methane		-	-	A	A	B	A	D	D	A	A	A	-	-	-	-	
Methyl ethyl ketone		B	B2	A1	A	D	D	A2	D	A	A	B	A	A	A	A	
Methyl isobutyl ketone		B	C	B2	A	D	D	B1	D	B	B	B	-	C	B	B	
Monochlorobenzene		D	C1	D	B	D	D	D	D	A	B	A	B1	B	B	B	
Monoethanolamine		-	-	A	A1	D	B	B	B	A	A	B	-	-	D	-	
Carbon monoxide		A	A2	A1	A	A2	A	A	A2	A	A	A	-	A	A	A	
Mustard		-	A	A	A	B	B	A	-	A	A	B	-	D	-	-	
Naphta		B	A1	A	B	A1	A	D	D	A	A	A	A	B	A	A	
Naphthalene		B	C	A1	A	D	D	D	D	A	A	B1	-	A	-	-	
Ammonium nitrate		B1	A1	A1	A	A2	A	A	C	A1	A	B1	D	B	D	D	
Silver nitrate		-	A	A1	A	A1	B	A	A	B	B	D	-	C	-	-	
Copper nitrate		-	B2	D	A	A2	A	-	-	A	A2	D	D	D	D	D	
Magnesium nitrate		-	A2	A1	A	A2	A	A	-	B	B	B	-	D	B	B	
Nickel nitrate		-	A	A1	A2	A	A1	A2	-	B	B2	D	-	C	-	-	
Lead nitrate		-	A2	-	A1	A2	A2	A2	B1	B1	B1	D	-	-	-	-	
Potassium nitrate		B	A	B1	A	A	A2	A	A	B	B	B	B	A	A	A	
Sodium nitrate		-	A2	A1	A	A2	A1	A	D	B1	B1	B	-	B	D	D	
Nitrobenzene		D	C1	B1	A	D	D	B1	D	B	B	B	-	C	B	B	
Carbon oxide		A	A2	A1	A	A2	A	A	A2	A	A	A	-	A	A	A	
Ozone		C	A	D	A	B	D	A	A	B	A	B	-	-	A	A	
Paraffin		-	B	A1	A	B	B	D	-	A	A	A	-	B			
Pentane		-	D	A1	A	A	A	D	D	C	C	B	-	-	-	-	
Crude oil		B	C1	A1	A2	-	A2	D	D	A1	A1	D	-	-	B		
Phenol	10%	-	B	D	A	C1	D	B	D	B	B	A	-	D	B	B	
Phenol		D	D	D	A	D	D	B	D	B	B	A	D	D	D	D	
Dibasic ammonium phosphate		-	A2	C1	A2	A2	A	A	A	B	C	B1	B1	D	D	D	
	monobasic	B1	A	B	A	A	A	A	A	B	C	B	-	D	D	D	
	tribasic	-	C	B	A	A	A	A	A	B	B	B	-	D	D	D	
Sodium phosphate		-	A	A1	A	A1	A	A	A	D	B	B	D	D	D	A	
Potassium permanganate		D	A	D	A	A1	C	A	-	B1	B	B1	-	A	A	A	
Hydrogen peroxide	10%	-	A	C1	A	A1	D	A	A	B2	B	A	-	C	D	D	
	30%	-	C2	D	A	A1	D	B	B	B2	B	A	-	B	D	D	
	50%	-	C2	D	A	A1	D	B	B	B2	A2	A	-	-	D	D	
	100%	-	C2	D	A	A	D	D	B	B2	A2	A	D	B	D	D	

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	POLYESTER	POLYETHYLENE	POLYAMIDE	PTFE	PVC	NITRILE	EPDM	SILICONE	AISI 304 STAINLESS STEEL	AISI 316 STAINLESS STEEL	ALUMINIUM	BRASS	CAST IRON	COPPER
Sodium peroxide	-	A	A1	A	B2	B	A	D	A	A	C	D	C	B
Caustic potash	D	A	C1	A	A1	B1	A2	C	B	A1	D	D	B2	B
Liquid propane	A	C1	A1	A	A1	A	D	D	A	A	A	A	A	A
Propylene glycol	-	B2	A	A	C1	A	A	A	B	B	B	-	A	A
Pyridine	C	B1	C1	A	D	D	B	D	A	A	B	B	A	B
Lard	-	A	A1	A	A1	A	D	B	A	A	A	-	A	-
Sodium silicate	-	A2	A1	A	A2	A	A	A	A	B	D	D	B	B
Arsenic salts	B1	B	A	-	A	-	-	-	-	-	-	-	-	-
Soap solutions	A	D	A1	A	A	A	A	A	A	A1	C	B	A	A
Soda (sodium carbonate)	-	B2	B1	A	A2	A	A2	A	A	A	D	B	B	A
Caustic soda	20%	B	D	A	A	A	B	A2	B	B2	D	B	A2	A2
	50%	C	D	A	A	A	A1	B1	A1	B	B1	D	D	B
	80%	-	D	C	A1	A	D	B1	A1	C	B1	D	D	D
Styrene	D	-	A1	A	D	D	D	D	A	A	A	A	A	B
Liquid sugars	-	-	A1	A	-	A	A	A	A	A	A	-	-	A
Liquid beet sugars	-	A1	A	A1	A2	A	A	A	A	A	A	-	A	A
Lead sulphamate	-	A1	B1	B	B	B	A	B	C	C	C	-	-	-
Aluminium sulphate	B1	A2	A2	A	A2	A	A	A	B	B2	B1	B1	D	A2
Ammonium	B1	A1	A1	A	A2	A	A	A	B	B	A1	D	D	D
Barium sulphate	D	B2	A1	A	B1	A	A	A	B1	B1	B	B	B	B
Copper sulphate	5%	A1	A2	D	A	A2	A	A	B	B	D	D	D	B
	> 5%	A1	A2	D	A	A2	A	A	A	B	B	D	D	-
Ferric Sulphate	-	A2	A1	A	A	A	A	B	B1	A	D	D	D	D
Ferrous sulphate	-	A2	D	A	A	A2	A	-	B	B	B1	B1	D	B
Magnesium Sulphate	-	A2	A1	A	A1	A	A	A	A	B	B1	A	A	A
Manganese Sulphate	-	A1	A2	A	C	A2	A2	A1	B	B2	B1	D	A	B
Nickel sulphate	-	A	A1	A	A	A1	A1	A	B	B1	D	D	D	-
Potassium sulphate	B	A2	A1	A	A2	A2	A1	A	B1	A	C	D	A	B
Sodium Sulphate	-	A2	A	A	A2	A	A	A	B	B1	A	B	B	B
Barium sulphide	-	B2	A1	A	A2	A	A	A	B1	B2	D	D	D	D
Sodium sulphide	-	A2	A1	A	A2	A	A2	A	B	D	D	D	C	D
Turpentine	-	D	B	A	D	-	D	D	A	A	A	D	-	B
Tetrachloroethylene	-	B	A1	A	D	D	D	D	-	A	-	-	A	A
Carbon tetrachloride	-	-	-	A	-	D	D	D	A2	A2	D	B1	C	-
Dry carbon tetrachloride	D	D	-	A	-	C1	B1	D	B	B2	D	A1	-	-
Toluene	B	C1	A1	A	D	D	D	D	A	A	A	A	A	A
Ammonium thiosulphate	A	-	-	-	A	A1	-	-	A	-	D	D	D	
Sodium thiosulphate	-	A1	B	A	A2	B	A2	A	A2	B	A	D	C	D
Trichloroethylene	C	D	C1	A	D	D	D	D	B	B	D	-	C	A1
Tricresylphosphate	-	B1	A2	A	D	D	A	C	B	B	D	-	B	B
Phosphorus trichloride	-	B	-	A2	D	D	A1	-	A1	A2	D	-	-	D
Triethylamine	-	-	A1	A	B	C	A	-	A	A	-	-	A	A1
Sulphur trioxide	-	-	D	A	A	D	C2	B	A	C	A	D	B	C
Vinegar	-	A	A	A	B	B	A	A	A	A	D	D	D	B

Non-contractual information subject to change without notice



GENERAL TERMS AND CONDITIONS OF SALE

By placing an order, the customer acknowledges having read and accepted our terms and conditions of sale.

I - APPLICATION OF THE GENERAL TERMS AND CONDITIONS OF SALE - OPPOSABILITY

These general terms and conditions of sale are systematically sent or given to each buyer to enable them to place an order. Consequently, placing an order implies the buyer's full and unreserved acceptance of these GCS, to the exclusion of all other documents such as prospectuses and catalogues issued by the vendor, which are for information purposes only. Unless formally accepted in writing by the vendor, no special condition may prevail over the General Conditions of Sale. In the absence of express acceptance, any condition to the contrary on the part of the buyer will therefore be unenforceable against the vendor, regardless of when it may have been brought to the vendor's attention. The fact that the vendor does not invoke any of these GCS at a given time may not be interpreted as a waiver of the right to invoke any of the said conditions at a later date.

II - ORDERS

Orders are not final until they have been confirmed in writing by the vendor in the form of an acknowledgement of receipt, unless otherwise stipulated. The vendor is only bound by orders taken by its representatives or employees subject to signed, written confirmation. The benefit of the order is personal to the buyer and may not be transferred without the vendor's agreement.

III - CHANGING AN ORDER

Any modification or cancellation of an order requested by the buyer can only be taken into consideration if it is received in writing before the products are dispatched.

At the vendor's discretion, amendments or cancellations shall give rise to additional invoicing or the payment of penalties equal to 25% of the amount of the initial order. If the vendor does not accept the change or cancellation, any advance payments made will not be returned.

IV. DELIVERY - GOODS DELIVERED

The vendor reserves the right to make any changes it deems necessary to its products at any time and, without obligation to modify products previously delivered or in the process of being ordered, reserves the right to modify the models defined in its prospectuses or catalogues without prior notice.

V - DELIVERY

V.I - Terms and conditions

Delivery is made either by directly handing the product to the buyer, or by delivery to a shipper or carrier at the vendor's warehouses. The buyer undertakes to take delivery within 8 days of notice of the goods' availability being provided. Once this period has elapsed, the vendor may either consider the order to be cancelled and the sale to be unilaterally terminated by the buyer, or storage costs will be taken into account.

V.II - Deadlines

Deliveries are made subject to availability and on a first come, first served basis. The vendor is allowed to make either full or partial deliveries. The delivery times are indicated as precisely as possible, but depend on what options the vendor has in terms of procurement and transport. Should deliveries take longer than the delivery time stated, this shall not give rise to damages, deductions or the cancellation of orders in progress. Nevertheless if, one month after the indicative delivery date, the goods have not been delivered for any reason other than force majeure, the sale may then be cancelled at the request of either party; the buyer shall have their advance payment returned, but shall not be eligible for any other compensation or damages. The following are considered to be cases of force majeure which relieve the vendor of its obligation to deliver: war, riots, fire, strikes, accidents and the vendor's own inability to obtain supplies. The vendor shall, within an appropriate time, keep the buyer abreast of the cases and events listed above. In any event, delivery on time can only take place if the buyer is up to date with their obligations towards the vendor, for whatever reason.

V.III - Expenses

Products are delivered in mainland France carriage paid for all shipments over 900 excluding VAT. For shipments of less than 900 excluding VAT, products can be delivered carriage forward on invoice. International sales shall be subject to the Incoterm selected and specified by the parties. Should no Incoterm have been selected, the sales are deemed to be EX WORKS. The minimum invoice amount is 50 excluding VAT.

The buyer cannot claim to charge the vendor for normal resale promotion under its own name.

V.III - Risks

Products travel at the risk of the recipient, who is responsible for making any necessary observations in the event of damage or shortages and for confirming their reservations by extrajudicial document or by registered letter with acknowledgement of receipt to the carrier within three days of receipt of the goods.

VI - RECEIPT

Without prejudice to the measures to be taken with regard to the carrier, complaints about visible defects or the non-conformity of the product delivered with the product ordered or with the dispatch note must be made in writing within 48 hours of the arrival of the products. It is up to the buyer to provide any justification as to the reality of any defects or anomalies observed. The vendor must be given every opportunity to ascertain and remedy any such defects. It will refrain from intervening or having a third party intervene for this purpose. For products sold in packaged form, the weights and measures at the point of dispatch are taken as proof of the quantities delivered. For products sold by the metre, the lengths invoiced are those actually delivered. When they are subject to special manufacturing, they may differ from the quantities ordered by 10% without this providing grounds for

being contested by the buyer. For our hoses, the standard lengths are expressed from seat to seat of the end fittings and are tolerated in accordance with our instruction I-08-003.

VII - REPLACEMENT

VII.I - Terms and conditions

Non-compliant or defective products may be replaced. Returns shall be subject to formal prior agreement between the vendor and the buyer. Any product returned without this agreement will be held at the disposal of the buyer and will not give rise to the issuance of a credit note. The costs and risks involved in such a return shall always be borne by the buyer. Returned goods must be accompanied by a return note to be attached to the parcel and must be in the condition in which the vendor delivered them.

VII.II - Consequences

In the event of an apparent defect or non-conformity of the products delivered, duly noted by the vendor under the conditions set out above, the buyer may obtain a free replacement or reimbursement of the products, at the vendor's discretion, to the exclusion of any compensation or damages.

VIII - WARRANTY FOR CONCEALED DEFECTS

VIII.I - Scope

Goods are guaranteed against concealed defects in pursuance of Article 1641 and subsequent articles in the French Civil Code for a period of one month counting from the delivery date. The vendor's warranty is limited to defects that are inherent to the goods sold and which existed on the day on which they were sold. The vendor may not be held liable in the event of abnormal use of the products or failure to comply with safety regulations or good engineering practice.

Under this warranty, the only obligation incumbent on the vendor shall be free replacement or repair (vendor's choice) of a product or component recognised as being defective by its services. To benefit from the warranty, all products must be submitted to the vendor's after-sales service beforehand, which must provide its approval for any replacement to be provided. Any carriage costs shall be borne by the buyer.

VIII.II - Exclusions

The warranty shall not apply to conspicuous defects. Faults and deterioration due to normal wear and tear or an external accident (incorrect assembly or installation, poor storage conditions, abnormal use, etc.), or due to a modification of the goods which was neither foreseen or specified by the vendor shall also be excluded.

IX - PRICES

Prices are determined by quotation.

Our prices and rates are always subject to change without notice, unless otherwise agreed.

Prices are net, ex works, exclusive of tax on the basis of the rates communicated to the buyer for the supply of products and equipment. Unless otherwise agreed, any request for the provision of additional services such as studies, engineering, test reports, factory acceptance, approval procedures or miscellaneous certificates shall be subject to additional invoicing by the vendor which is separate from the cost of the products sold.

The payment currency shall be the Euro unless otherwise stipulated.

Any tax, duty or other provision of service to be paid for in pursuance of French regulations or the regulations of an importing country or a transit country shall be borne by the buyer. Unless the vendor provides written agreement, carriage costs shall always be borne by the buyer.

The share of the unit cost borne by the vendor for the management of waste construction products or materials from the construction sector, as invoiced by the eco-organisation to which the vendor belongs under the unique identifier FR334290_040HOB, is passed on in full to the buyer of the product without any possibility of a reduction.

X - INVOICING

An invoice is drawn up for each delivery and issued at the time of delivery, unless a summary invoice, referring to several delivery notes issued, is drawn up.

XI - PAYMENT

XI.I - Terms and conditions

Unless otherwise agreed, payments shall be made within 30 days of the invoice date. In the case of deferred or forward payment, payment within the meaning of this article does not constitute the mere delivery of a bill of exchange or cheque implying an obligation to pay, but payment on the agreed due date. The buyer may not set off sums owed by the vendor against sums owed by the buyer without the vendor's written agreement.

XI.II - Down payment

The vendor reserves the right to make orders subject to the payment of a deposit.

XI.III - Delay or default

In the event of late payment, the vendor may suspend all orders in progress without prejudice to any other course of action. Any sum not paid by the due date featured on the invoice shall lead to the application of penalties to a sum equal to one and a half times the legal interest rate.

These penalties shall be payable when the vendor so requests.

In the event of non-payment, if forty-eight hours elapse after notice has been provided without any result, the sale shall automatically be cancelled should the vendor deem fit to do so. The vendor may institute summary proceedings to request the return of the goods, without prejudice to any other damages. Cancellation shall apply not only to the order in question but also to any prior orders that are unpaid, whether or not deliveries have been made or are being delivered, and whether or not payment for them is due.

In the case of payment by bill of exchange, failure to return the bill of exchange will be considered as a refusal of acceptance, which is equivalent to a default in payment. Similarly, where payment is to be made in instalments, non-payment of a single instalment will result in

the entire debt becoming immediately due and payable, without notice of default being required.

In all the above cases, the sums that may be due for other deliveries, or for any other reason, shall become payable immediately if the vendor does not opt to cancel the relevant orders.

The buyer shall provide compensation for all expenses incurred due to the disputed recovery of sums owed, including the professional fees for legal officials.

Under no circumstances may payments be suspended or be subject to any compensation whatsoever without the vendor's prior written agreement. Any partial payment shall be attributed firstly to the non-preferential part of the debt, and then to the sums that have been outstanding for the longest.

XI.IV - Requirement of guarantees or settlement

The vendor reserves the right to require guarantees or payment in cash or by bill of exchange payable on demand, prior to the execution of orders received.

XII - TRANSFER OF RISKS

The transfer of risks for products, even for a sale that is agreed to on a carriage-paid basis, shall occur as of shipment from the vendor's warehouse.

This means in particular that the goods travel at the buyer's risk, and it is the buyer's responsibility in the event of damage, loss or shortages to make any reservations or take any action against the carriers responsible.

XIII - TRANSFER OF RISKS

The goods covered by this contract are sold subject to retention of title: transfer of title is subject to full payment of the price by the buyer on the agreed due date.

In the event of non-payment on the due date, the vendor will regain possession of the goods of which it remains the owner and may, at its discretion, terminate the contract by simple registered letter sent to the buyer.

The buyer shall refrain from any transformation, incorporation or assembly of the goods prior to payment.

The buyer must store the goods sold under retention of title in such a way that they cannot be confused with goods of the same nature from other vendors.

XIV - PACKAGING

Unless otherwise agreed, consignment of the cable drums is invoiced for at the same time as the cables (based on the professional rate in force). A refund is provided for this subject to deduction of a fixed fee if the cable drums are returned carriage-paid and in good condition within a maximum period of 3 months. Beyond this period, the vendor may apply a rental fee of 2.5% of the price per month. Packaging items and cable drums bearing the vendor's trademark may only be used for its products and may not be used for anyone else's products under any circumstances. Any breach of this rule will expose the offender to criminal prosecution and the payment of damages.

XV - INDUSTRIAL PROPERTY

All equipment, models, plans, specifications, technical documents, assembly instructions, user manuals and other items of information provided by the vendor shall remain its property at all times.

The buyer may not claim any ownership whatsoever over the equipment, models, plans and specifications and other items of information and may not use them outside the context of the sales contract under any circumstances.

The buyer shall refrain from reproducing the Vendor's products.

All industrial property rights relating to the results of the execution of the order shall remain the property of the vendor for an unlimited period and without geographical limitation.

XVI - CONFIDENTIALITY

The Buyer shall consider any information given, technical formula, or concept it may obtain knowledge of through this contract to be strictly confidential and shall refrain from divulging it.

For the purposes of this clause, the buyer shall be liable for its employees as if they were itself.

However, the buyer may not be held liable for any disclosure if the elements disclosed are in the public domain or if the buyer had knowledge of them or obtained them from third parties by legitimate means.

Likewise, the vendor undertakes to keep strictly confidential any information it may have obtained in the performance of this contract and not to divulge it to anyone either during the performance of the agreement or after its termination.

XVII - COMPETENCE - APPLICABLE LAW

The courts of Thiers shall have sole jurisdiction in the event of any dispute of any nature or any challenge relating to the formation and performance of the order, unless the vendor prefers to bring the matter before any other competent court.

This clause applies even in the event of summary proceedings, incidental claims, multiple defendants or third-party claims, and regardless of the method and terms of payment, without any jurisdiction clauses that may exist in buyers' documents being an obstacle to the application of this clause.

The applicable law is French law.

IMPORTANT

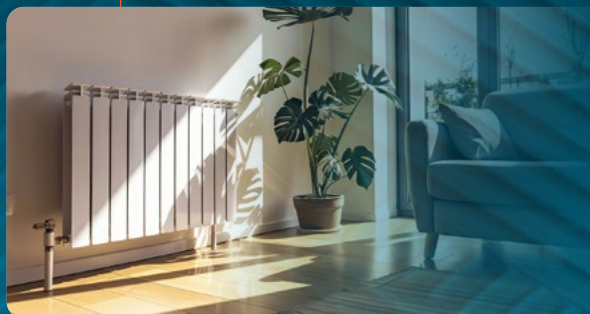
- Only hoses manufactured in our workshops benefit from our product certifications and specific guarantees.

- In the case of sales of spare parts (hoses, fittings, bushings), our guarantees only cover our supplies to the exclusion of any manufacturing operations: assembly, crimping, etc. carried out outside our workshops.



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