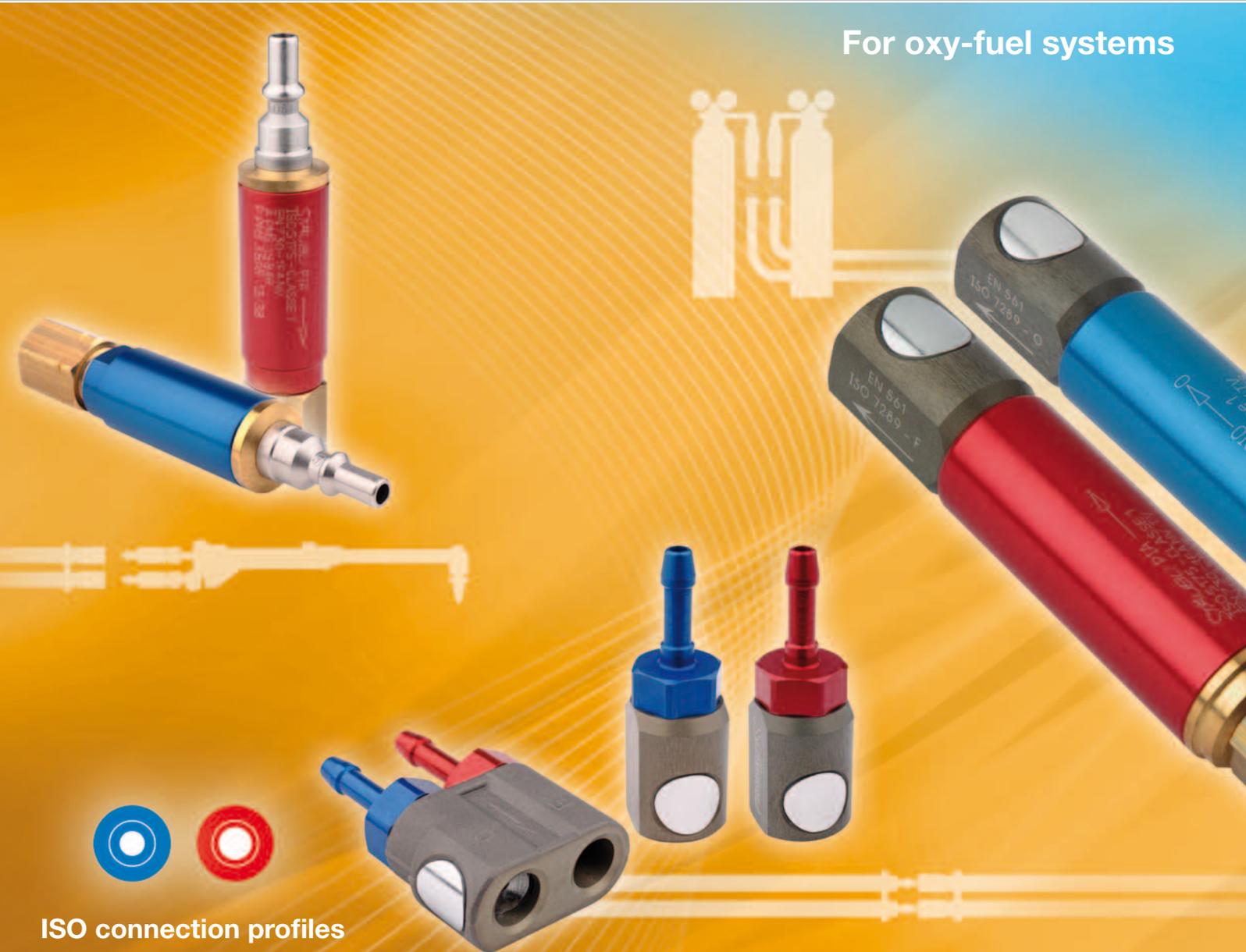


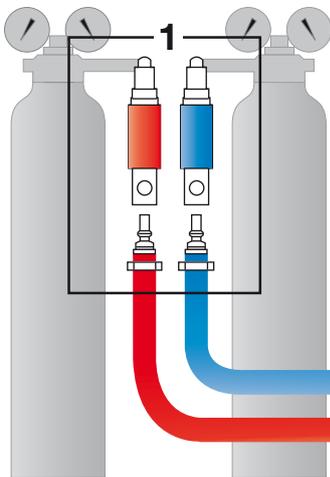
SUPER-PARFLAM

Safety ISO 5175 heavy class (1) and EN 730-1
Connection profiles ISO 7289 and EN 561

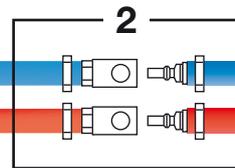
For oxy-fuel systems



ISO connection profiles



Mono or duo: total safety...



1 - Protecting installations and the network at the pressure regulator outlet

(see pages 8-9)

SUPER-PARFLAM quick-release safety couplings are screwed directly to the pressure regulator outlet, allowing gas cylinders to be changed quickly and safely.

This safety feature is designed to be tamper-proof, offering fundamental protection from the hazards facing the operator (see pages 4-5).



2 - Connections for hoses and extensions

(see pages 10-11)

Stäubli connection profiles are non-interchangeable so hoses can be connected / disconnected quickly and safely.



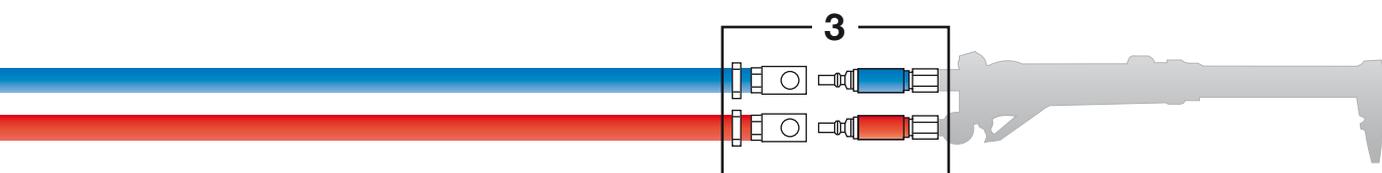
Complies with standards:

- ISO 5175 heavy class (1) and EN 730-1 for safety* and
- ISO 7289 and EN 561 for connection profiles

- Complies with standards ISO 7289 and EN 561 for connection profiles

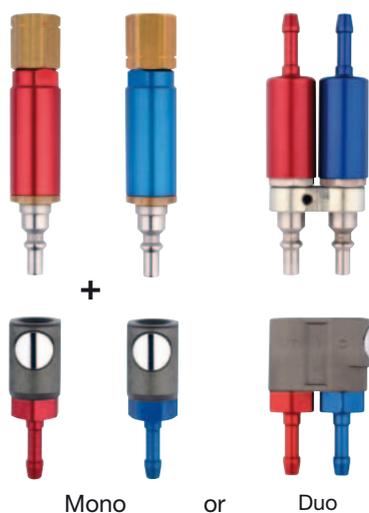


... throughout your welding line



3 - Protecting the welder near the blow torch

(see pages 12-15)



SUPER-PARFLAM safety plugs at the inlet to the blow torch allows connection / disconnection without the need to shut off the cylinders.

This safety feature is designed to be tamper-proof, offering fundamental protection from the hazards facing the operator (see pages 4-5).

	Blue Type O Oxygen	Red Type F Acetylene
Maximum working pressure	12.5 bar	1.5 bar

Complies with standards:

- ISO 5175 heavy class (1) and EN 730-1 for safety* and
- ISO 7289 and EN 561 for connection profiles

* The equipment we supply is referenced as components; please, therefore, check:
 - the relevant standards and legislation pertaining to your system
 - the proper integration of these components into your system
 - compliance of your system with the recommendations in force.



The four main hazards...

1 - Slow reverse gas flow



This happens when the higher-pressure gas expands into a lower-pressure gas hose.

It may be caused by:

- Reversal of hoses.

- Inadequate oxygen supply pressure resulting from:
 - incorrect nozzle diameter
 - cylinder almost empty
- Clogging of nozzle opening.

Slow reverse gas flow usually corresponds to an increase in oxygen in the fuel gas hose: acetylene, other fuel gas...

2 - Explosive flashback



This happens when the flame progresses along the line and reaches the pressure regulators. All explosive flashbacks ultimately result from a slow reverse gas flow.

Possible causes:

- Gas exit velocities too slow.
- Incorrect pressure setting in relation to the nozzle opening.
- Incorrect blow torch ignition procedure or blow torch settings.
- Overheated nozzle following extended use.

Explosive flashback occurs very quickly and a considerable amount of energy is released by the shockwave.

This phenomenon is dangerous for the welder, who may be injured.



... welders are exposed to

3 - Cylinder explosion



Possible causes:

- Accidental ignition of a fuel gas hose, potentially causing the bottle to overheat and triggering an explosion.
- Explosive flashback potentially causing the above.
- A violent shock to the acetylene cylinder.
- Grease routinely used with the oxygen.

4 - Gas build-up



Possible causes of leaks from an installation, creating a build-up of gas in a room:

- Gas pressure regulators not properly shut off outside working hours.
- Hoses in poor condition, poor seal between couplings and the hose.
- Defective or unsuitable equipment.
- Changing the blow torch without first shutting off the supply circuits.

A room with a build-up of acetylene or other fuel gas is like a powder keg.



Our SUPER-PARFLAM complies with the requirements of the international standards:

- **Standard ISO 5175 heavy class (1) and european standard EN 730-1** for the safety bound to the fuel gas and the oxygen used downstream to bottles regulators or pipes and upstream to blowtorches being of use to the soldering, cutting and related techniques.
- **Standard ISO 7289 and european standard EN 561** for the safety of the connection profiles guaranteeing the non-interchangeability of the circuits of oxygen and fuel gas.

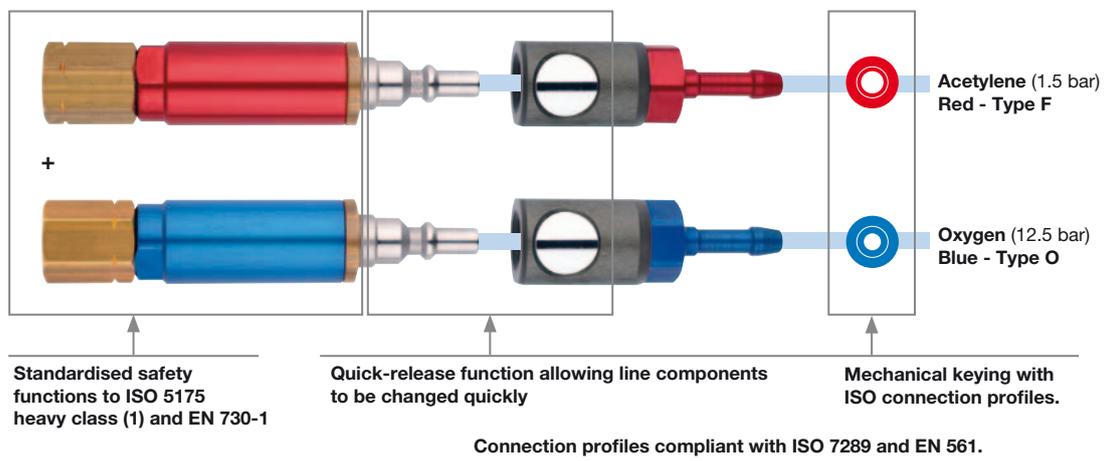
Standardised safety...

The SUPER-PARFLAM system is the result of our advanced work on safety in oxy-fuel welding. It benefits from our wealth of experience in quick-release safety couplings.

Two functions are combined for complete safety

SUPER-PARFLAM products simultaneously provide a standardised safety function, which is fully compliant with international welding standards, and a quick-release function using ISO connection profiles.

2 mechanical keying remove the risk of swapping the oxygen and fuel gas circuits.





... linked to Stäubli technology

Stäubli quality

By choosing our products, users can be certain of the highest safety and quality for a reliable and safe connection.

Special construction

The materials undergo a rigorous selection process to avoid any risk of explosion in the presence of oxygen or fuel gas (as specified in ISO 9539).

- Coupling body made of aluminium and chromium steel.
- Coupling plug made of hardened and ground chromium steel.
- SUPER-PARFLAM safety body made of anodised light alloy.
- ISO 9090 and EN 29090 compliant gas tightness.
- EN 560 compliant brass screw connection.

High flow version

In applications requiring a higher flow, SUPER-PARFLAM couplings and plugs are available in a high flow version.

Guaranteed safety

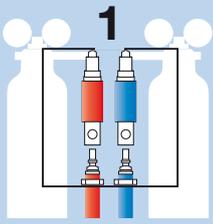
this range of couplings, individually tested, provide full protection from explosive flashback and slow reverse gas flow.

Instant visual identification in accordance with the industry standards

The engraved marking on the safety bodies contains the following information:

- | | | |
|--|---|--|
| <ul style="list-style-type: none"> • Colour-coding for the gas type:
blue for oxygen,
red for acetylene • Name of manufacture: Stäubli • Model reference: PIO, PIA... • An arrow indicating the normal direction of flow. | <ul style="list-style-type: none"> • Code for the gas type:
O for oxygen,
A for acetylene • The number of safety standards:
ISO 5175 class 1 and EN 730-1 • The number of connection profiles standards: ISO 7289 and EN 561 | <ul style="list-style-type: none"> • Safety functions:
FA: flame arrestor
NV: non-return valve
AT: temperature-sensitive cut-off valve • Max. working pressure:
12.5 bar for oxygen
1.5 bar for acetylene • The manufacture date |
|--|---|--|





ISO SUPER-PARFLAM quick-release safety couplings for use at pressure regulators

Safety: ISO 5175 heavy class (1) and
EN 730-1
Connection profiles: ISO 7289 and EN 561



Applications

Couplings fitted to the cylinder, protecting against:

- Slow reverse gas flow (**NV**)
- Explosive flashback (**FA**)
- The inflammations in bottle or network exit (**AT**)

Filtration of solid particles

A filter screen inside the coupling protects the SUPER-PARFLAM safety components and prevents clogging of the system.

Directional couplings

for easy access on connection / disconnection.

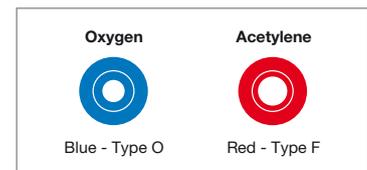
Three safety functions compliant with ISO 5175 heavy class (1) and EN 730-1

- **No slow reverse gas flow (NV)**
A non-return safety valve prevents the higher-pressure gas expanding into a lower-pressure hose.
- **No flashback (FA)**
The coupling contains a filter that instantly stifles the flame during flashbacks in the presence of a stoichiometric mixture (65% oxygen, 35% acetylene).
- **Thermal cut-off (AT)**
A fused valve automatically cuts off the gas flow if there is a fire at the cylinder outlet.

Double sealing barrier
on each quick-release coupling.

ISO connection profiles

The 2 mechanical keying remove any risk of swapping the circuits.



Connection profiles compliant with ISO 7289 and EN 561.

Automatic shut-off

stops gas distribution on disconnection.

High flow version

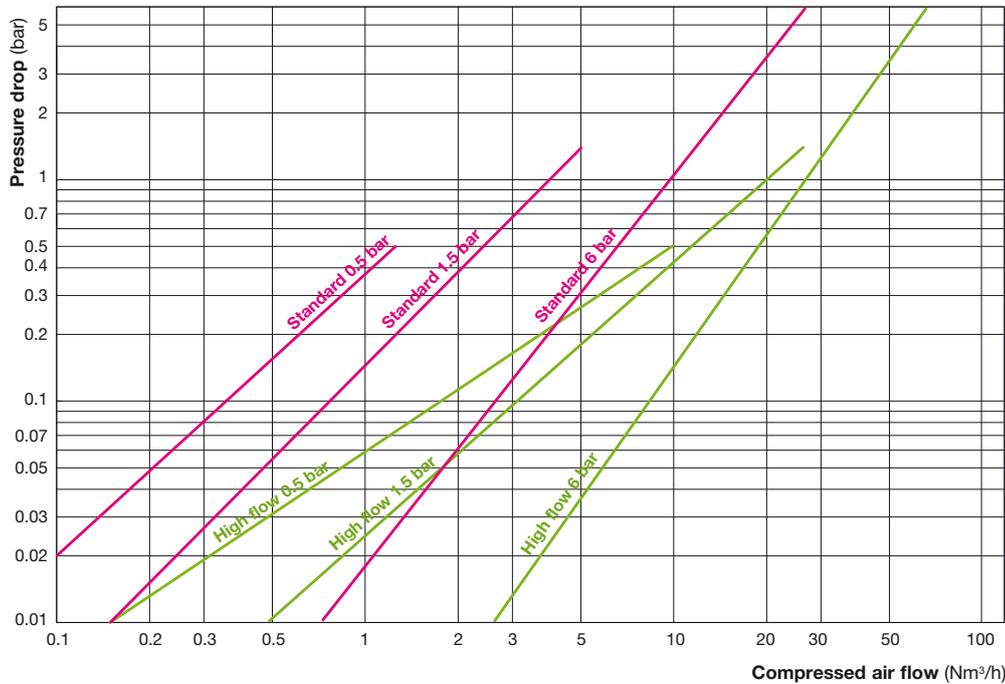
In applications requiring a higher flow, the couplings are available in a high flow version.

Technical characteristics

Construction

- Coupling body made of aluminium and chromium steel
- SUPER-PARFLAM safety body made of anodised light alloy (except **W4**: brass)
- Brass screw connection

Flow / pressure drop charts (tests executed with connected products)



Maximum service pressure	
Oxygen	12.5 bar
Acetylene	1.5 bar

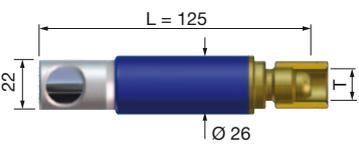
Other fuel gases: please ask

Air flow: Q in Nm³/h	
Oxygen	Q x 0.95
Acetylene	Q x 1.05

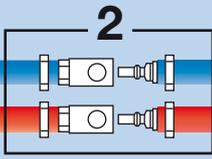
Other gases: please ask

■ Standards products /LD
■ High flow products /LD/W4
See part-numbers below

Part-numbers

Designations	Thread T or Ø	 Blue Type O Oxygen (12.5 bar)	 Red Type F Acetylene (1.5 bar)
■ 1 - Female threaded coupling for screw fitting 	M 16 x 1.5	PIO 06.1116/LD	
	M 16 x 1.5 LH		PIA 06.1116/LD
	G 1/4	PIO 06.1101/LD	
	G 3/8	PIO 06.1102/LD	
	G 3/8 LH		PIA 06.1102/LD
■ 2 - Female threaded coupling for screw fitting High flow version 	M 16 x 1.5	PIO 06.1116/LD/W4	
	M 16 x 1.5 LH		PIA 06.1116/LD/W4
	G 3/8	PIO 06.1102/LD/W4	
	G 3/8 LH		PIA 06.1102/LD/W4

Coupling plugs: see page 11.



ISO quick-release couplings for hoses or extensions

Connection profiles: ISO 7289 and EN 561



Applications

Couplings and plugs for use with hoses, allowing extensions to be fitted/removed.

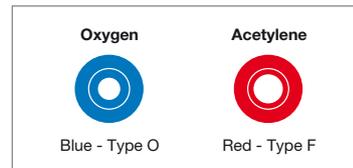
Double sealing barrier

on each quick-release coupling.

Compact lightweight coupling

ISO connection profiles

The 2 mechanical keying remove any risk of swapping the circuits.



Connection profiles compliant with ISO 7289 and EN 561.

Safe and easy connection and disconnection of hoses

The push-button makes it easy to disconnect the coupling and ensures secure locking.

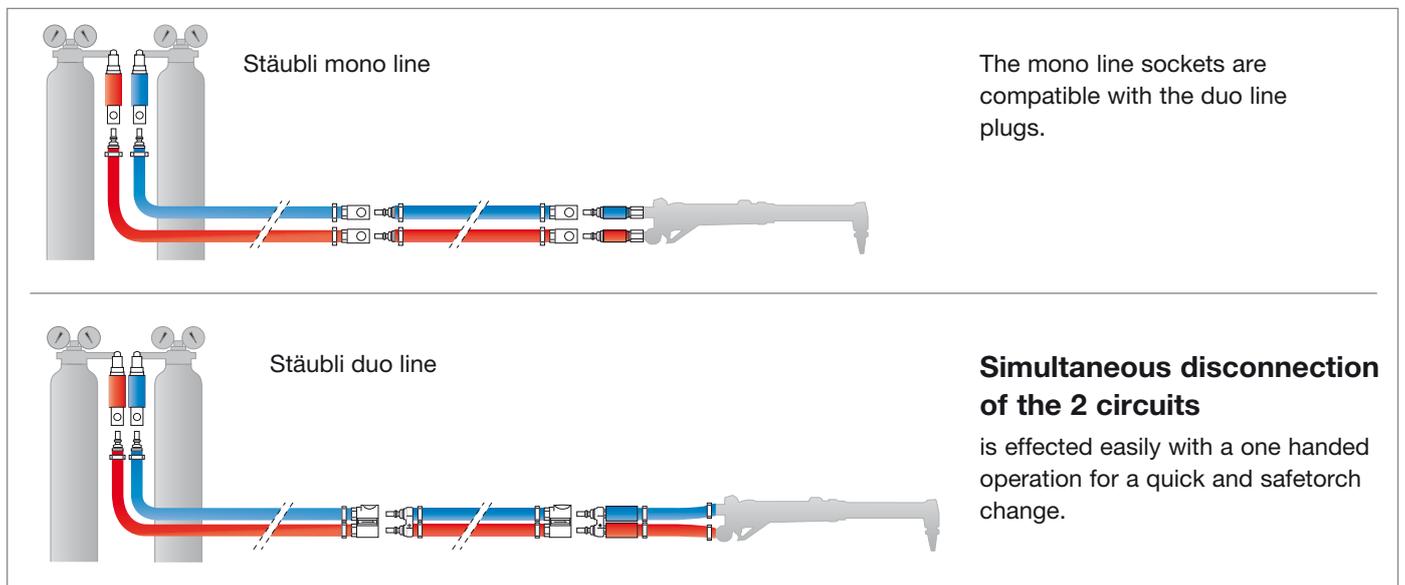
Automatic shut-off

stops gas distribution on disconnection.

Sockets available in duo version

for a rationalization of the workplace (see below).

Choice between 2 safety lines



Technical characteristics

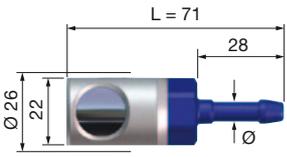
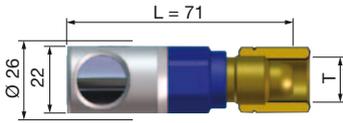
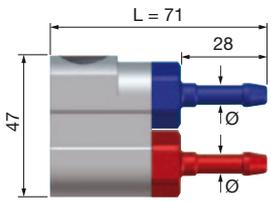
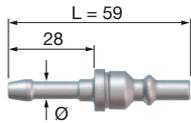
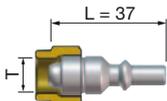
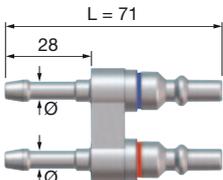
Construction

- Coupling body made of aluminium and chromium steel
- Coupling plug made of hardened and ground chromium steel
- Brass screw connection

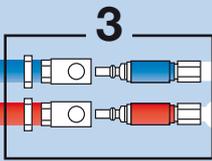
Maximum service pressure	
 Oxygen	12.5 bar
 Acetylene	1.5 bar

Other fuel gases: please ask

Part-numbers

Designations	Thread T or Ø	 Blue Type O	 Red Type F
		Oxygen (12.5 bar)	Acetylene (1.5 bar)
1 - Quick-release safety couplings for rubber hose 	Ø 6 mm	RIO 06.1806	RIA 06.1806
	Ø 8 mm	RIO 06.1808	RIA 06.1808
	Ø 10 mm	RIO 06.1810	RIA 06.1810
2 - Quick-release safety couplings for screw fitting 	M 16 x 1.5	RIO 06.1116	
	M 16 x 1.5 LH		RIA 06.1116
	G 1/4	RIO 06.1101	
	G 3/8	RIO 06.1102	
3 - Duo quick-release safety couplings for rubber hose  To use only with duo coupling plugs pages 11 and 14	Ø 6 mm	RID 06.1806	
	Ø 8 mm	RID 06.1808	
	Ø 10 mm	RID 06.1810*	
	Oxygen Ø 6 mm and Acetylene Ø 10 mm	RID 06.1860	
4 - Coupling plugs for rubber hose 	Ø 6 mm	RIO 06.6806	RIA 06.6806
	Ø 8 mm	RIO 06.6808	RIA 06.6808
	Ø 10 mm	RIO 06.6810	RIA 06.6810
5 - Coupling plugs for screw fitting 	G 1/4	RIO 06.6101	
	G 3/8	RIO 06.6102	
	G 3/8 LH		RIA 06.6102
6 - Duo coupling plugs for rubber hose 	Ø 6 mm	RID 06.6806	
	Ø 8 mm	RID 06.6808	
	Ø 10 mm	RID 06.6810*	
	Oxygen Ø 6 mm and Acetylene Ø 10 mm	RID 06.6860	

* Possibility of using Jumeflex pipes: see page 17.



ISO SUPER-PARFLAM safety plugs for use with blow torches

Safety: ISO 5175 heavy class (1) and EN 730-1
 Connection profiles: ISO 7289 and EN 561



Application

Plug fitted to the blow torch, protecting against:

- Slow reverse gas flow (NV)
- Explosive flashback (FA)

Practical, compact, lightweight coupling

Automatic shut-off

stops gas distribution on disconnection.

Double sealing barrier
 on each quick-release coupling.

High flow version

In applications requiring a higher flow, the couplings are available in a high flow version.

Two safety functions compliant with ISO 5175 heavy class (1) and EN 730-1

- **No slow reverse gas flow (NV)**

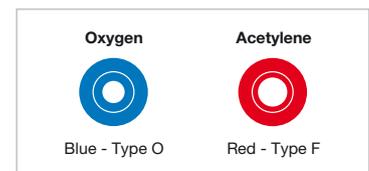
A non-return safety valve prevents the higher-pressure gas expanding into a lower-pressure hose.

- **No flashback (FA)**

The safety body contains a filter that instantly stifles the flame during flashbacks in the presence of a stoichiometric mixture (65% oxygen, 35% acetylene).

ISO connection profiles

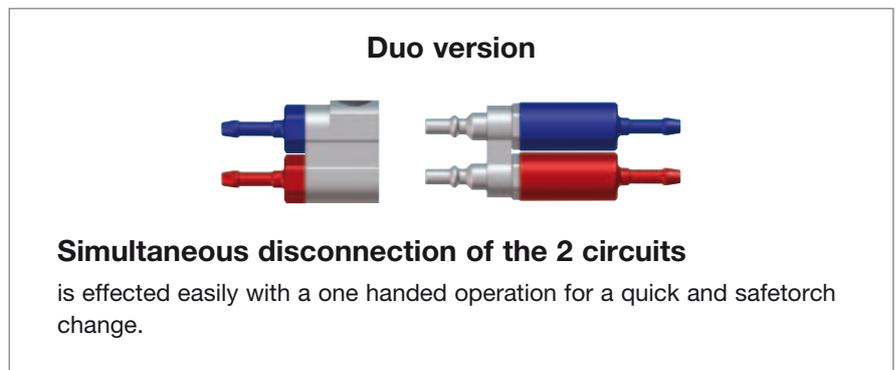
The 2 mechanical keying remove any risk of swapping the circuits.



Connection profiles compliant with ISO 7289 and EN 561.

Plugs available in duo version

See below.



Simultaneous disconnection of the 2 circuits

is effected easily with a one handed operation for a quick and safetorch change.

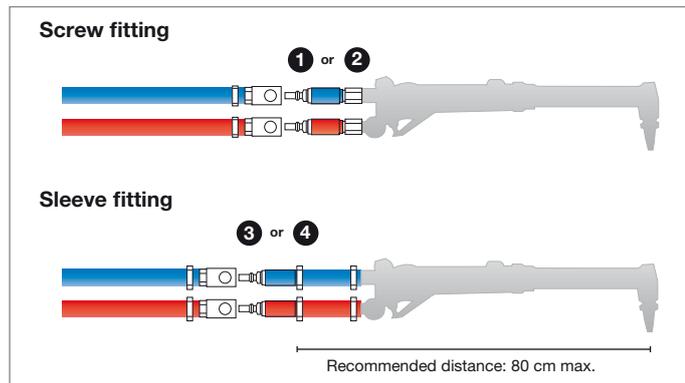
Technical characteristics

Construction

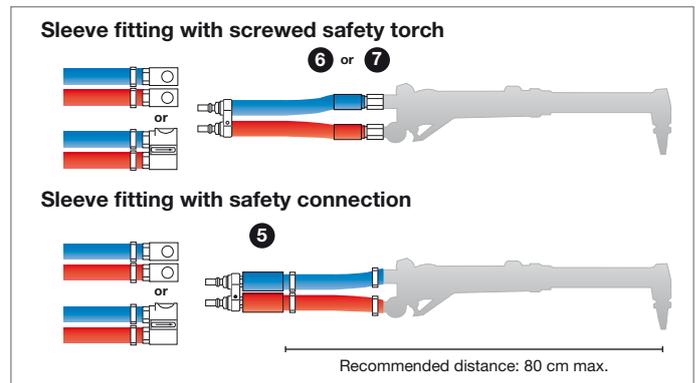
- Coupling plug made of hardened and ground chromium steel
- SUPER-PARFLAM safety body made of anodised light alloy
- Brass screw connecting

Four options:

Mono version

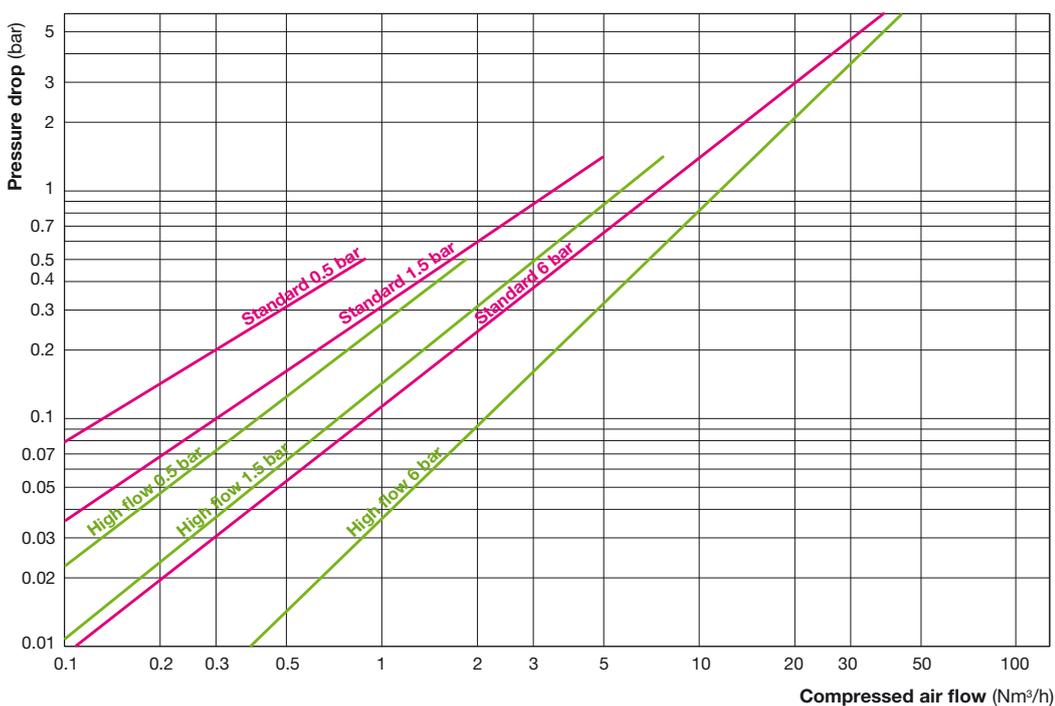


Duo version



1 to 7 See the table of part-numbers on the next page

Flow / pressure drop charts (tests executed with connected products)



Maximum service pressure	
Oxygen	12.5 bar
Acetylene	1.5 bar

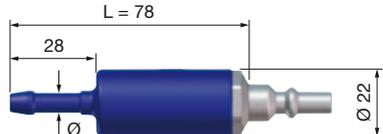
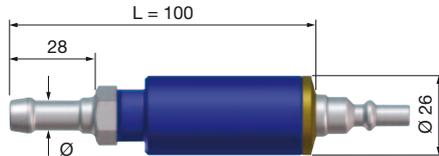
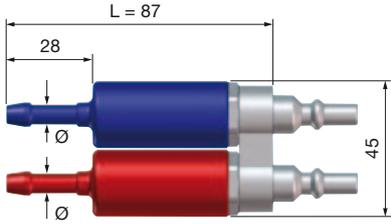
Other fuel gases: please ask

Air flow: Q in Nm³/h	
Oxygen	Q x 0.95
Acetylene	Q x 1.05

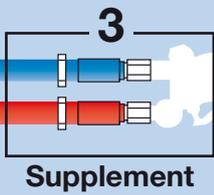
Other gases: please ask

—	Standards products /LD
—	High flow products /2/LD
See part-numbers on next page	

Part-numbers

Designations	Thread T or Ø	Blue Type O	Red Type F
		Oxygen (12.5 bar)	Acetylene (1.5 bar)
1 Coupling plugs for screw fitting 	M 16 x 1.5	PIO 06.6116/LD	
	M 16 x 1.5 LH		PIA 06.6116/LD
	G 1/4	PIO 06.6101/LD	
	G 1/4 LH		PIA 06.6101/LD
	G 3/8	PIO 06.6102/LD	
	G 3/8 LH		PIA 06.6102/LD
2 Coupling plugs for screw fitting, high flow version 	M 16 x 1.5	PIO 06.6116/2/LD	
	M 16 x 1.5 LH		PIA 06.6116/2/LD
3 Coupling plugs for sleeve fitting 	Ø 6 mm	PIO 06.6806/LD	PIA 06.6806/LD
	Ø 10 mm	PIO 06.6810/LD	PIA 06.6810/LD
4 Coupling plugs for sleeve fitting, high flow version 	Ø 10 mm	PIO 06.6810/2/LD	PIA 06.6810/2/LD
5 Duo coupling plugs for sleeve fitting 	Ø 6 mm	PID 06.6806/LD	
	Ø 8 mm	PID 06.6810/LD	

Quick-release couplings: see page 11



SUPER-PARFLAM safety dry flashback arrestors for use with blow torches

EN 730-1 and ISO 5175 heavy class (1)



Applications

Safety dry flashback arrester fitted to the blow torch, protecting against:

- Slow reverse gas flow (NV)
 - Explosive flashback (FA)
- during work in confined spaces.

Two safety functions compliant with ISO 5175 heavy class (1) and EN 730-1

• No slow reverse gas flow (NV)

A non-return safety valve prevents the higher-pressure gas expanding into a lower-pressure hose.

• No flashback (FA)

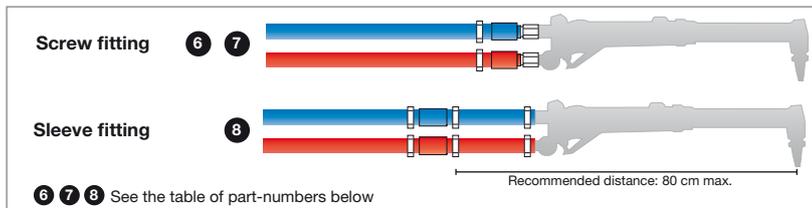
The safety body contains a filter that instantly stifles the flame during flashbacks in the presence of a stoichiometric mixture (65% oxygen, 35% acetylene).

Easy to use

The smaller dimensions and lower weight of the product means the blow torch can be used in awkward spaces.

Technical characteristics and part-numbers

Two options:



Construction

SUPER-PARFLAM safety body made of anodised light alloy.

Flow/pressure drop charts

- 6 8 As shown on page 13.
- 7 As shown on page 9.

Designations	Thread		Oxygen (12.5 bar)	Acetylene (1.5 bar)
	T or Ø (entrance)	T or Ø (exit)		
6 Safety dry flashback arrestors for screw fitting 	Ø 10 mm	M 16 x 1.5	PIO 06.1016/LD	
	Ø 10 mm	M 16 x 1.5 LH		PIA 06.1016/LD
	Ø 6 mm	G 1/4	PIO 06.0601/LD	
	Ø 10 mm	G 1/4	PIO 06.1001/LD	
	Ø 10 mm	G 3/8	PIO 06.1002/LD	
	Ø 10 mm	G 3/8 LH		PIA 06.1002/LD
7 Safety dry flashback arrestors for screw fitting High flow version 	G 3/8 female	G 3/8 male	PIO 06.0252/LD/W4	PIA 06.0252/LD/W4
	G 3/8 LH female	G 3/8 LH male		
8 Safety dry flashback arrestors for sleeve fitting 	Ø 6 mm	Ø 6 mm	PIO 06.0606/LD	PIA 06.0606/LD
	Ø 10 mm	Ø 10 mm	PIO 06.1010/LD	PIA 06.1010/LD

Flexible hoses

ISO 3821



To guarantee safety in gas supply, Stäubli supplies four types of flexible hose specifically for welding and compliant with ISO 3821. This standard defines the dimensions, materials, maximum working pressure, tensile strength, flexibility, physical properties, colour and marking.

Oxyflex hoses Oxygen circuit



Applications

Welding and allied processes.

Characteristics

- High flexibility
- Good bending radius
- Non-greasy coating
- ISO 3821 compliant continuous marking
- Working temperature: - 20 to + 70 °C
- Working pressure: 20 bar max.
- Two internal diameters available: 6 and 10 mm*
- Two coil lengths available: 20 and 40 m

Composition

- SBR internal lining
- Textile reinforcement
- Blue SBR external coating

Int. Ø of hose (mm)	Ext. Ø of hose (mm)	Coil length (m)	Part-numbers
6.3	13.3	20	OXYFLEX.06
		40	OXYFLEX.06/40
10	17	20	OXYFLEX.10
		40	OXYFLEX.10/40

Cetyflex hoses Acetylene circuit



Applications

Welding and allied processes.

Characteristics

- High flexibility
- Good bending radius
- Non-greasy coating
- ISO 3821 compliant continuous marking
- Working temperature: - 20 to + 70 °C
- Working pressure: 20 bar max.
- Two internal diameters available: 6 and 10 mm*
- Two coil lengths available: 20 and 40 m

Composition

- SBR internal lining
- Textile reinforcement
- Red SBR external coating

Int. Ø of hose (mm)	Ext. Ø of hose (mm)	Coil length (m)	Part-numbers
6.3	13.3	20	CETYFLEX.06
		40	CETYFLEX.06/40
10	17	20	CETYFLEX.10
		40	CETYFLEX.10/40

* 8 mm diameter also available on request



The date on the hose is the date of manufacture. As a precaution, observe the date, follow the conditions of use and change the hose regularly, especially if it is abraded, cut, cracked, worn or damaged.

Propaflex hoses Other fuel gas circuit



Applications

Welding and allied processes.

Characteristics

- High flexibility
- Excellent weather resistance
- ISO 3821 compliant continuous marking
- Working temperature: - 20 to + 70 °C
- Working pressure: 20 bar max.
- Two internal diameters available: 6 and 10 mm*
- Two coil lengths available: 20 and 40 m

Composition

- SBR internal lining
- Textile reinforcement
- Orange SBR external coating

Int. Ø of hose (mm)	Ext. Ø of hose (mm)	Coil length (m)	Part-numbers
6.3	13.3	20	PROPAFLEX.06
		40	PROPAFLEX.06/40
10	17	20	PROPAFLEX.10
		40	PROPAFLEX.10/40

* 8 mm diameter also available on request

Jumeflex hoses Oxy-acetylene circuits

(Ideals for assembly on duo products Ø 10)



Applications

Welding and allied processes.

Characteristics

- Two cables combined for easier handling and improved organisation in the workplace.
- High flexibility
- ISO 3821 compliant continuous marking
- Working temperature: - 20 to + 70 °C
- Working pressure: 20 bar max.
- Easily separated to allow couplings to be fitted to the ends.

Composition

- SBR internal lining
- Textile reinforcement
- SBR external coating - blue for oxygen and red for acetylene.

Int. Ø of hose (mm)	Ext. Ø of hose (mm)	Coil length (m)	Part-number
10	17	20	JUMEFLEX.10



Applications

Inspection and testing of all SUPER-PARFLAM products.

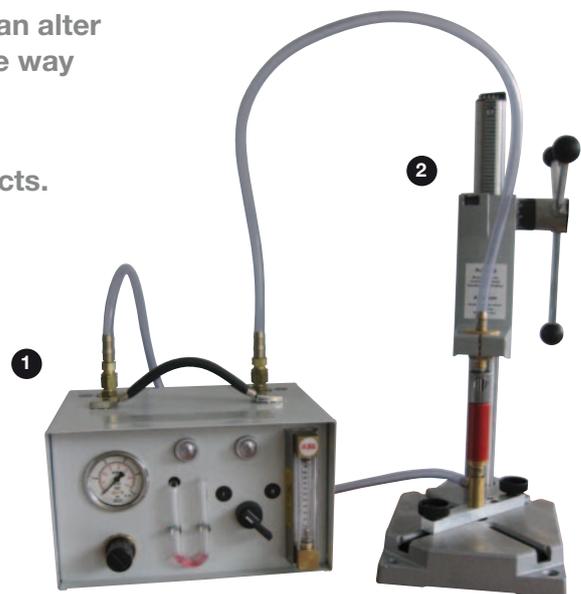
Because safety should be tested...

Flashback, ingress of particles and external damage can alter the flow of SUPER-PARFLAM products and change the way they work. That is why periodic testing is important in avoiding dangerous situations.

Stäubli supplies a test unit specifically for these products.

It is an easy and effective way to test the following:

- the overall gas tightness of the product
- the flow rate
- the gas tightness of the non-return valve



Technical characteristics and references

- Supply pressure: 3 - 18 bar
- Test gas: nitrogen or compressed air, oil free
- Maximum test pressure: 2.5 bar
- Gas input connection: G 1/4 male
- Connection to sample being tested: G 3/8 female
- Dimensions of test unit: 295 x 230 x 180 mm

	Part-numbers
1 Test unit	PSW 06.9000
2 Quick-release stand for series testing	PSW 06.9100



See the following dedicated publications for details of other Stäubli products for your system:

“Connecting accessories” publication



“Compressed air” range

For contact details: www.staubli.com/connectors/contacts



Global presence of the Stäubli Group

- Stäubli units
- Agents

International sales coordination

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