Push-Fit Fitting System Standard

A. u. K. Müller

Series FitSys 18



Characteristics

- Easy to install plug-in system
- Compact design, for space optimisation
- Easy and safe release without tools, reduced assembly times
- Hose guide prevents misalignment of tubing
- Tactile feedback when inserting the hose
- Minimal axial clearance on dynamic pressure loads
- No damage to the hose
- Connection types for most fittings in a wide variety of combinations
- Le corps de base de certains raccords peut être formé avec réduction de l'orifice
- High temperature resistance (Saturated steam 143° C at 3 bar (290° F at 43.5 psi))
- UL and NSF/ANSI 169 approved versions available

Description

The FitSys 18 Push-Fit fitting system is used with a variety of liquid and gaseous media. It can also be used for food, hot water, steam and many aggressive media.

The flexible push-fit system has a modular design and allows the combination of different connector types (male thread, tube clamp, nozzle, push-fit in straight, L-, T- or Y-Connector).

The oval shape of the release ring on the retaining element of the push-fit connections Ø 4 and 6 mm (G and F) provides sufficient contact surface to simplify handling when releasing the pipes.

The functional components such as control and overpressure valves additionally increase the benefit of the system. These components can be found in the Fitting Plug-In System Functional Elements data sheet.

Applications

- Variable media management
- Connecting valves of the series 18.00x
- Distribution systems in vending machines as well as coffee and espresso machines
- Pharmaceutical technology
- Laboratory and analytical equipment
- Medical technology
- Diagnostics
- Industrial appliances
- Environmental engineering

Materials

Fitting body / connection type	PPSU
O-ring	FKM EPDM on request
Spring	stainless steel

⚠ PPSU valve bodies must not come in contact with:

acetone, ethers, ketones, aromatic hydrocarbons, chlorinated hydrocarbons, acids and oxidizing anaerobic adhesives.

Technical Data

Type	Backflow Preventer	
Construction	Pluggable without tools	
Media	Neutral gases, cold and heated potable water and physically and chemically similar media	
T-Medium **Saturated steam**	98 143 (3 bar)	°C max. °C max.
T-Ambient	60	°C max.
p-Operating	0 - 16 (0 - 232 0 - 3 (0 - 44	bar (98 °C) psi (208° F)) bar (143 °C) psi (289° F))

⚠ Please be aware of the maximum allowable pressure of the used tube / hose.

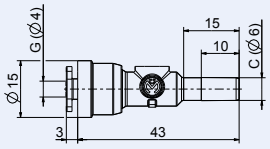
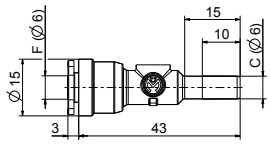
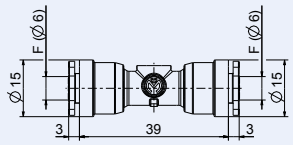
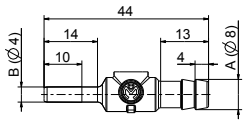
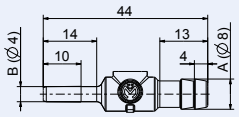
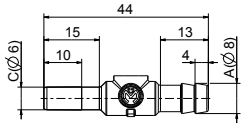
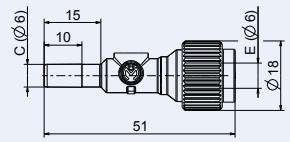
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Series FitSys 18

Straight Through Connector

All connection types can be manufactured in any combination on request. An internal orifice in the range Ø 0.5 - 4 mm is also possible as an option.

Available standard components

Type	Dimensions	Image	ID
G4-G.C			009440
G4-F.C			009435
G4-F.F			009431
G4-B.A			009422
G0,8-B.A			009423
G4-C.A			009740
G4-C.E			009570

Further combinations see from page 8 on request

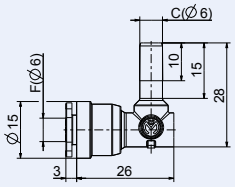
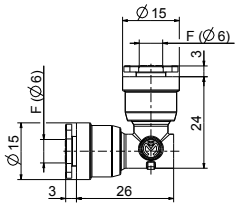
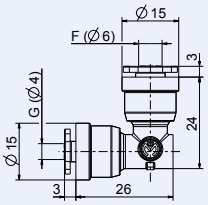
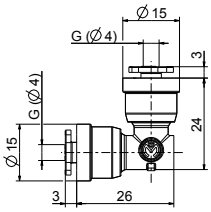
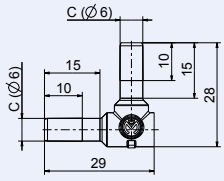
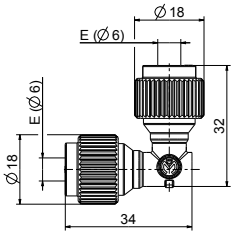
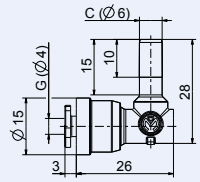
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Series FitSys 18

L-Connector

All connection types can be manufactured in any combination on request. An internal orifice in the range Ø 1.5 - 4 mm is also possible as an option.

Available standard components

Type	Dimensions	Image	ID
L4-F.C			009434
L4-F.F			009429
L4-G.F			009760
L4-G.G			009475
L4-C.C			009392
L4-E.E			009430
L4-G.C			009506

Further combinations see from page 8 on request

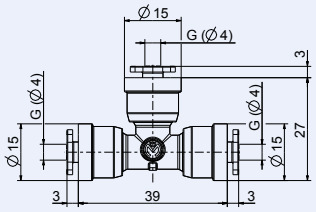
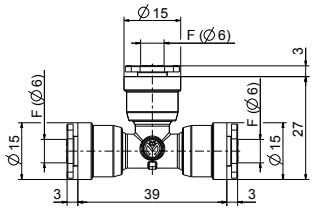
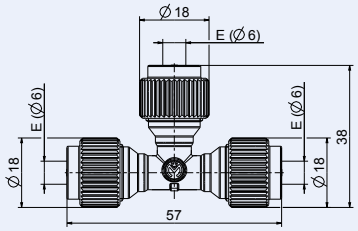
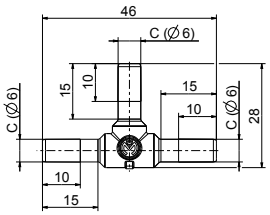
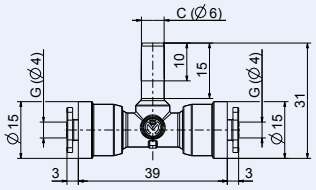
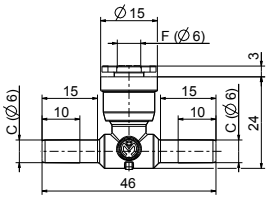
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Series FitSys 18

T-Connector

All connection types can be manufactured in any combination on request.

Available standard components

Type	Dimensions	Image	ID
T-G.G.G			009439
T-F.F.F			009432
T-E.E.E			009433
T-C.C.C			009396
T-G.C.G			009507
T-C.F.C			009514

Further combinations see from page 8 on request

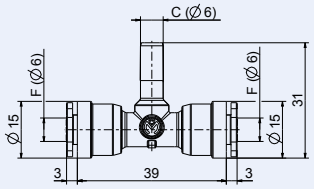
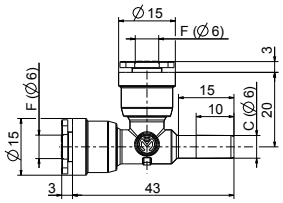
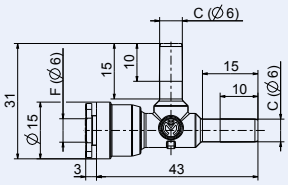
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Series FitSys 18

T-Connector

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Available standard components

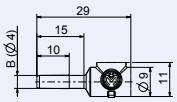
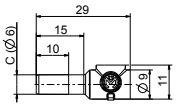
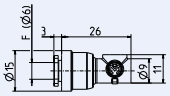
Type	Dimensions	Image	ID
T-F.C.F			009523
T-F.F.C			009571
T-F.C.C			009741

Further combinations see from page 8 on request

S-Plug

For connection types C, F and G

Available standard components

Type	Dimensions	Image	ID	
S-B			009463	Closure of connection G
S-C			009462	Closure of connection F
S-F			010141	Closure of connection C

Further combinations see from page 8 on request

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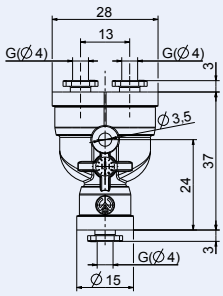
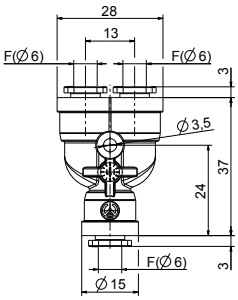
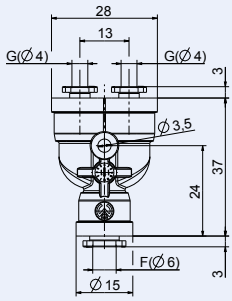
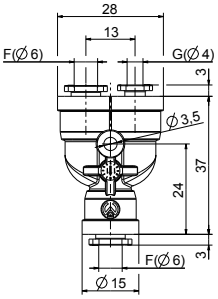
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Y-Connector

The connection types F and G can be manufactured in any combination.

(Counterparts: Connection types B and C)

Available standard components

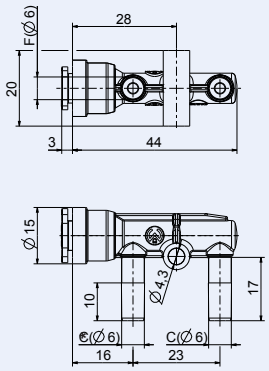
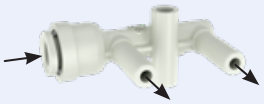
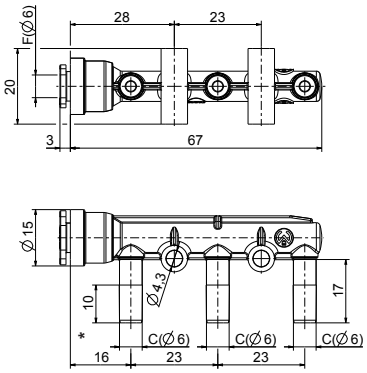
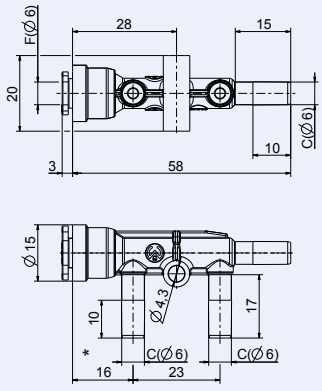
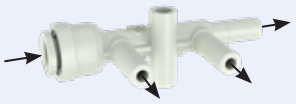
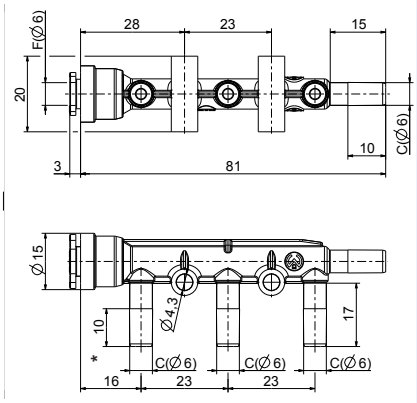
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Y-F.G.G			009474
Y-F.F.G			009569

Further combinations see from page 8 on request

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M-Connector Patented distributor components for plug-in connections Ø 6 mm

Type	Images		ID
	* Area of the O-ring seal	Flow direction (⟶) can also be reversed	
MC-F.C.C			008948
MC-F.C.C.C			008949
MO-F.C.C.C			008946
MO-F.C.C.C.C			008947

MC = Outlet passage closed
MO = Outlet passage open

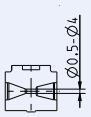
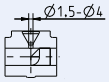
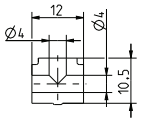
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Series FitSys 18

Possible Combinations of the Push-Fit Fitting System

The Push-Fit fitting system offers many possibilities to provide the basic housing with different connection types.
The corresponding basic housing is prefixed to the designation. The following tables show which of the connection types can be used on the basic housings.

With Possible Basic Housing

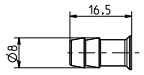
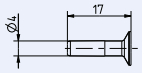
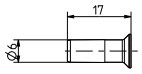
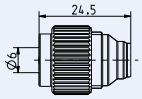
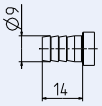
Type	Basic housing		Designation of the combination housing and connection
G x*		Straight through Ø 4 mm (0.158 inch)	**G *a-X.Y*** Connection type right (A - G) Connection type left (A - G) Inner diameter of orifice in [mm] (0,5 - 4)
		Straight through with integrated orifice Ø 0,5 - 4 mm possible (Ø 0.02 - 0.158 inch)	
L x*		L-Fitting body Ø 4 mm (0.158 inch)	**L *a-X.Y*** Connection type above (A - G) Connection type left (A - G) Inner diameter of orifice in [mm] (1,5 - 4)
		L-Fitting body with integrated orifice Ø 1,5 - 4 mm possible	
T*		T-Fitting body Ø 4 mm (0.158 inch)	**T-*X.Y.Z*** Connection type right (A - G) Connection type above (A - G) Connection type left (A - G)
S*		S-Plug	**S-*X*** Connection type (A - D, F, G)
Y*		Y-Fitting for connection types F, G	**Y-*X.Y.Z*** Connection type above right (ØDx: F oder G) Connection type above left (ØDx: F oder G) Connection type below (ØDx: F oder G)

* UL and NSF/ANSI 169 certified versions available

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Possible connection types of the fitting system

Type			Hose / Tube Material	Recommended Hose / Tube Dimensions Outer-Ø x Inner-Ø
A*		Nozzle connection Hose inner Ø 6 mm (0.236 inch)	Flexible plastic tubes Silicone	> 8 x 6 mm** (0.315 x 0.236 inch)
B*		Push-Fit stem Ø 4 mm (0.158 inch) (Counterpart of type G)	-	-
C*		Push-Fit stem Ø 6 mm (0.236 inch) (Counterpart of type F)	-	-
E*		Clamp connection Ø 6 mm (0.236 inch)	Flexible plastic tubes PFA, PTFE	6 x 4 mm (0.236 x 0.158 inch)
			Metal tube	6 x 4 mm (0.236 x 0.158 inch)
F*		Push-Fit Ø 6 mm (0.236 inch) (Counterpart of type C)	Flexible plastic hoses PFA, PTFE Metal tube	6 x 4 mm (0.236 x 0.158 inch) 6 x 4,5 mm (0.236 x 0,177 inch) 6 x 5 mm (0.236 x 0.197 inch)
G*		Push-Fit Ø 4 mm (0.158 inch) (Counterpart of type B)		4 x 2 mm (0.158 x 0.79 inch) 4 x 3 mm (0.158 x 0.118 inch)
H*		Nozzle connection Hose inner Ø 6 mm (0.236 inch)	Flexible plastic tubes Silicone	> 11 x 9 mm** (0.433 x 0.315 inch)

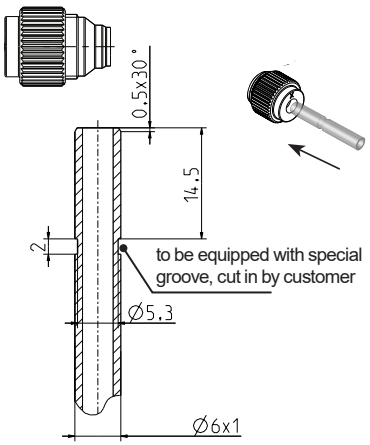
*	UL and NSF/ANSI 169 approved versions available
**	The suitability of the recommended diameters depends on the selected material properties of the hoses used. The operator must ensure that the hose is held securely on the nozzle.

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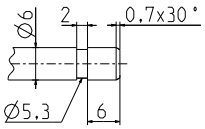
Series FitSys 18

Installation notes reworking when using metal pipes (Type E, F and G)

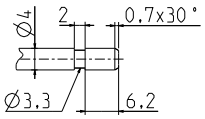
Type E Clamp connection when using a metal tube
Ø 6 x 4 mm (0.236 x 0.158 inch)



Type F Push-Fit
when using a metal tube
Ø 6 x 4 mm (0.236 x 0.158 inch)



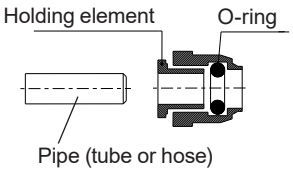
Type G Push-Fit
when using a metal tube
Ø 4 x 2 mm (0.158 x 0.79 inch)



When using hoses, it is **necessary** to deburr the cutting site.

Installation note pipe in connection with Push-Fit connections (Type F and G)

- Cut pipe to length at right angles and deburr well.
- When using metal pipes, additionally groove according to pipe diameter (see above)
- Push the pipe into the holding element to the limit stop.
- To check the correct connection, pull the pipe in the opposite direction.
- To release the pipe, press in the holding element and pull the pipe in the opposite direction.



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