

# TECHNICAL DATA SHEET

**VALSIR® SUPPLY SYSTEMS**

## PEXALEASY



**valsir**<sup>®</sup>  
QUALITY FOR PLUMBING

## The product

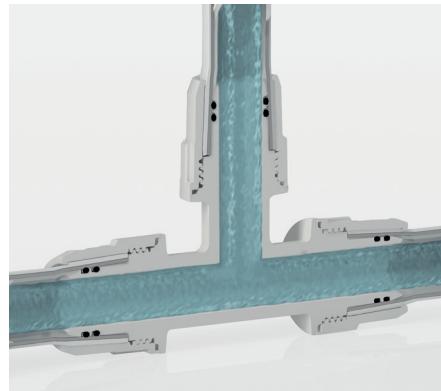
Pexal Easy® is an advanced fittings system made of technopolymer (PPSU) for water supply in heating, cooling and refrigerating systems. It is used with Pexal® pipes and guarantees an increase of 30% in bore as compared with normal compression or press fittings. By using a special portable tool, either electric or mechanical that is operated manually, a socket is created on the pipe end; the process involves the widening of the internal diameter of the pipe that can then be fitted over the fitting insert. A threaded sleeve is then tightened by hand, thus ensuring the hydraulic and mechanical seal of the joint between the pipe and the fitting. This type of joint guarantees a full bore and the possibility of re-using the fittings ensures that installation times are reduced to a minimum.



## Features

### Full bore

Unlike other conventional systems, with Pexal Easy® there is no reduction in the internal cross-section. Jointing by creating a socket on the pipe in fact results in a reduction in pressure loss which is, on average, 30%, allowing significant advantages during the dimensioning phase of the water supply system.



### Chemical resistance

The material used to produce this range of fittings, polyphenylsulfone (PPSU), is a polymer characterized by an exceptional resistance to oxidation and corrosion, to the main chemical compounds dissolved in water, and to cement and lime. The mechanical properties of this material such as the tensile strength, modulus of elasticity and aging resistance far exceeds those of normal polymers.

Thanks to these properties, Pexal Easy® can be used for installations in direct contact with sea water and water with high concentrations of salt and is therefore the ideal product for the creation of water supply systems in the nautical industry.



### Versatility

The range of the Pexal Easy® fittings is very wide, from 14 mm diameter, to 75 mm diameter and is characterized by numerous types of fittings and accessories for all applications.

The Pexal Easy® fittings are also removable and reusable, thus allowing to minimize waste during installation.

## Hygiene

Pexal Easy® fittings are certified to transport potable water, and can therefore be used for the construction of domestic hot and cold water distribution systems. The material used to make these fittings provides an exceptional level of hygiene as well as offering an excellent resistance to treatments against Legionella.

## Ease of use

Pexal Easy® is an extremely easy system to use, the fittings can be installed in a very fast way, thus reducing overall installation costs. In addition, the product is characterised by an extremely light weight.



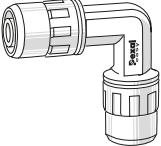
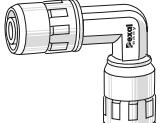
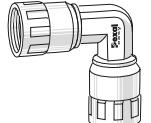
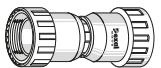
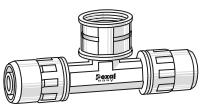
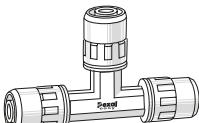
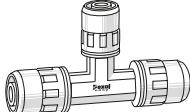
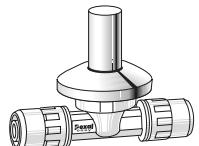
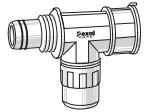
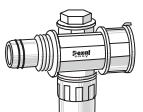
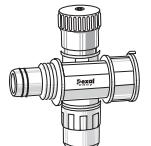
## Technical data

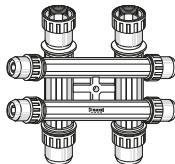
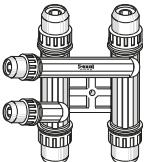
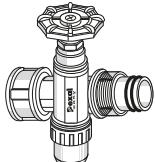
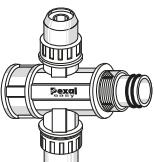
**Table** Pexal Easy® fittings features.

<b>Body</b>	Polyphenylsulfone (PPSU) is characterized by extreme hygiene, chemical resistance and high mechanical characteristics
<b>Sleeve</b>	Reinforced Polyamide (PA12) with high mechanical characteristics
<b>Seals</b>	2 made of EPDM
<b>Chemical / physical detachment</b>	Polyphenylensulphone is a plastic material not subject to corrosion and oxidation and eliminates the problem of stray currents
<b>Dimensional range</b>	14-75 mm
<b>Suitable pipes</b>	Pexal®
<b>Equipment required</b>	Pipes cutter, socketing machine, wrench, lubricant

## Range

**Table** Pexal Easy® fittings and accessories.

Description	Design	Description	Design
Intermediate coupling		Threaded coupling (male)	
Threaded coupling (female)		Reducing coupling	
Elbow		Reducing fitting with nut	
45° elbow		Threaded elbow (male)	
Threaded elbow (female)		Threaded elbow (female-male/female)	
90° elbow (male/female)		90° elbow (female/female)	
Intermediate coupling (female/female)		Threaded union tee (female)	
Union tee		Reducing union tee	
Offset threaded union tee (female)		Wingback elbow	
Stop valve		Modular manifold	
Modular manifold		Modular manifold, outlet with stop valves	

Description	Design	Description	Design
Modular manifold body		Modular dual distribution manifold	
Double branch tee fitting		Modular manifold for domestic water distribution	
Cross modular manifold			

## Approvals:

The approvals of Valsir® supply systems are available on the website: [www.valsir.com](http://www.valsir.com)

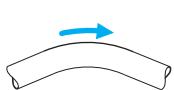
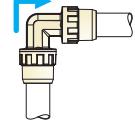
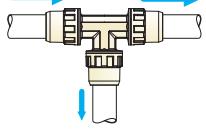
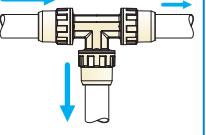
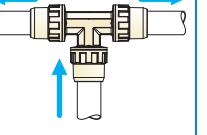
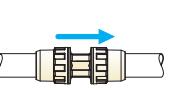
## Localized pressure losses for Pexal Easy® fittings

**Table** Equivalent lengths  $L_{eq}$  for heating/conditioning systems.

Pipe	Fitting																	
	Water velocity [m/s]																	
	0.3	0.5	0.8	0.3	0.5	0.8	0.3	0.5	0.8	0.3	0.5	0.8	0.3	0.5	0.8	0.3	0.5	0.8
Equivalent length $L_{eq}$																		
14x2	0.2	0.3	0.3	0.4	0.5	0.5	0.1	0.2	0.2	0.4	0.5	0.6	0.4	0.5	0.6	0.1	0.1	0.1
16x2.25	0.2	0.3	0.3	0.5	0.5	0.6	0.2	0.2	0.2	0.5	0.6	0.7	0.5	0.6	0.7	0.1	0.1	0.2
16x2	0.2	0.3	0.3	0.6	0.6	0.7	0.2	0.2	0.2	0.6	0.7	0.8	0.6	0.7	0.8	0.1	0.2	0.2
18x2	0.2	0.3	0.3	0.6	0.7	0.8	0.2	0.2	0.3	0.7	0.8	0.9	0.7	0.8	1.0	0.2	0.2	0.2
20x2.5	0.2	0.2	0.3	0.5	0.6	0.7	0.2	0.2	0.2	0.6	0.7	0.8	0.6	0.7	0.8	0.1	0.2	0.2
20x2	0.2	0.2	0.3	0.6	0.7	0.8	0.2	0.2	0.3	0.7	0.8	0.9	0.7	0.8	0.9	0.2	0.2	0.2
26x3	0.2	0.2	0.3	0.8	1.0	1.1	0.2	0.3	0.3	0.9	1.1	1.2	0.9	1.1	1.2	0.2	0.2	0.2
32x3	0.1	0.2	0.2	1.0	1.1	1.2	0.2	0.3	0.3	1.1	1.2	1.4	1.1	1.2	1.4	0.2	0.2	0.2
40x3.5	0.2	0.2	0.3	1.1	1.3	1.5	0.3	0.3	0.4	1.3	1.5	1.6	1.3	1.5	1.6	0.2	0.2	0.3
50x4	0.1	0.2	0.2	1.4	1.6	1.8	0.3	0.4	0.4	1.6	1.9	2.1	1.6	1.8	2.0	0.3	0.3	0.3
63x4.5	0.0	0.1	0.1	1.6	1.8	2.0	0.3	0.4	0.4	1.9	2.1	2.3	1.8	2.0	2.2	0.3	0.3	0.3
75x5	0.0	0.0	0.1	1.7	1.9	2.2	0.3	0.4	0.4	2.0	2.2	2.5	1.9	2.1	2.4	0.3	0.3	0.3

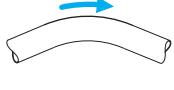
Note. In heating and conditioning systems the maximum velocity recommended is 0.3 m/s for the connections to the terminal units, 0.5 m/s for the horizontal manifolds and 0.8 m/s for the common pipes.

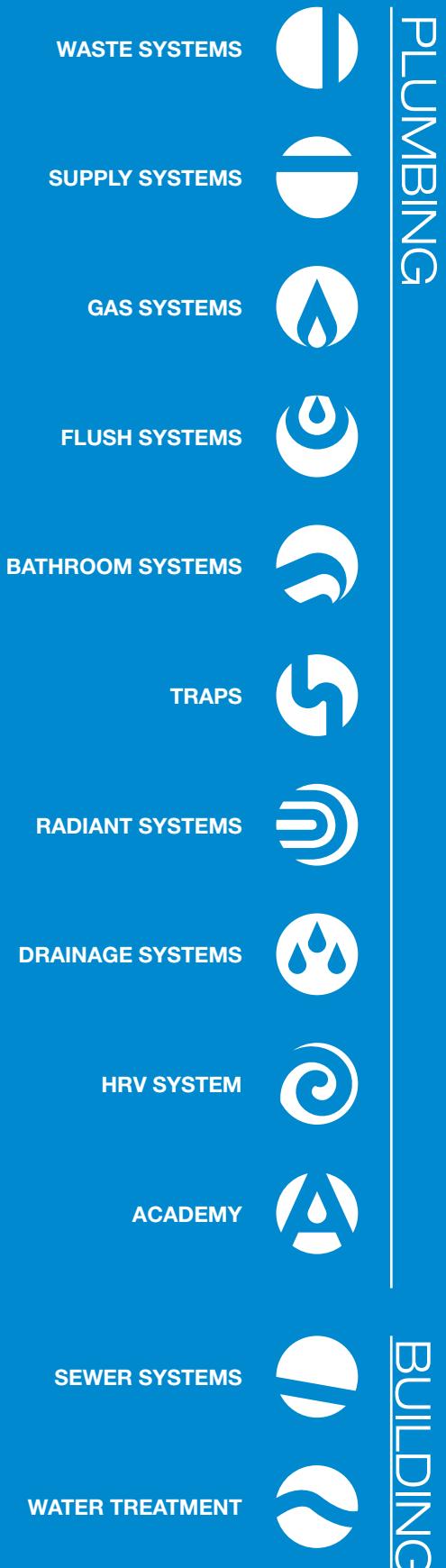
**Table** Equivalent lengths  $L_{eq}$  for water supply systems.

Pipe	Fitting											
												
	Water velocity [m/s]											
	2	4	2	4	2	4	2	4	2	4	2	4
Equivalent length $L_{eq}$												
14x2	0.4	0.5	0.6	0.7	0.2	0.3	0.7	0.8	0.7	0.9	0.2	0.2
16x2.25	0.4	0.5	0.8	0.9	0.3	0.3	0.8	1.0	0.9	1.0	0.2	0.2
16x2	0.4	0.5	0.9	1.0	0.3	0.4	1.0	1.1	1.0	1.2	0.2	0.3
18x2	0.4	0.5	1.0	1.2	0.3	0.4	1.1	1.3	1.2	1.4	0.3	0.3
20x2.5	0.4	0.5	0.9	1.0	0.3	0.3	0.9	1.1	1.0	1.1	0.2	0.2
20x2	0.4	0.5	1.0	1.2	0.3	0.4	1.1	1.3	1.2	1.3	0.2	0.3
26x3	0.4	0.4	1.3	1.5	0.4	0.4	1.5	1.7	1.5	1.7	0.3	0.3
32x3	0.3	0.4	1.5	1.7	0.4	0.4	1.7	1.9	1.7	1.9	0.3	0.3
40x3.5	0.4	0.4	1.8	2.0	0.4	0.5	2.0	2.3	2.0	2.2	0.3	0.4
50x4	0.3	0.4	2.2	2.5	0.5	0.6	2.5	2.9	2.5	2.8	0.4	0.4
63x4.5	0.3	0.3	2.5	2.8	0.5	0.6	2.8	3.2	2.7	3.0	0.4	0.4
75x5	0.2	0.3	2.6	2.9	0.5	0.6	3.0	3.4	2.8	3.2	0.4	0.5

Note. In water supply systems the maximum velocity recommended is 2 m/s for the supply manifolds, the risers and the branch lines to the floors, and 4 m/s for the end sections that connect to the individual points of use.

**Table** k loss factors.

Pipe	Fitting						
							
	k loss factor						
	1.2	1.9	0.7	2.0	2.1	0.5	
14x2	1.2	1.9	0.7	2.0	2.1	0.5	
16x2.25	1.0	1.9	0.7	2.0	2.1	0.5	
16x2	1.0	2.1	0.7	2.2	2.4	0.5	
18x2	0.8	2.0	0.6	2.1	2.2	0.5	
20x2.5	0.7	1.5	0.5	1.6	1.7	0.4	
20x2	0.7	1.6	0.5	1.8	1.9	0.4	
26x3	0.5	1.6	0.5	1.8	1.8	0.4	
32x3	0.3	1.3	0.3	1.5	1.5	0.3	
40x3.5	0.3	1.2	0.3	1.3	1.3	0.2	
50x4	0.2	1.1	0.2	1.2	1.2	0.2	
63x4.5	0.1	0.9	0.2	1.0	1.0	0.1	
75x5	0.1	0.7	0.1	0.9	0.8	0.1	



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