

KWD Market Report

## Fittings and Pipe Connections

For Heating & Plumbing Systems  
Europe 2021/2022

- Basic Designs of Pipe Connections
- Analysis of Used Fittings by Connection Type 2020
- Consumption of Fittings 2020 - 2024

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### Price Information:

19 European Countries, 266 pages, in English language, digital version in pdf format,  
Consumption of Fittings in Europe and Detailed Listing of Fittings as Excel files.

970,- € for subscribers of KWD-SHK or KWD-globalpipe, 1.200,- € for all others



## **Fittings and Pipe Connections Europe 2021/2022 – a few words on the report**

Once again, this report aims to provide an overview of the basic fitting designs, the developments and trends and changes on the market situation in Europe. It shows the consumption of fittings by pipe material and analyses the used fittings by connection type in 12 European countries. An updated list of the main European suppliers of pipe joining products complements the report.

Also in the past years, a large number of new or even improved connector designs have been introduced in Europe, but without abandoning the established and proven types. Metal or plastic has become less of a question of dogma when it comes to the choice of material; much more, intelligent solutions for the respective areas of application are being sought, often as composite designs in metal and plastic.

The aim of all new designs or improvements is usually to optimize the connector properties in terms of assembly effort, tool rationalization or, increasingly, the focus on flow properties. Not to be forgotten, however, are the efforts of certain system suppliers to create their own product identification through specific solutions.

There seem to be no limits to the imagination - from tool-free clamp connections to "radial" resp. "lateral" pressing fittings and push-fit fittings in a wide variety of designs. Even if special designs are gaining ground, it remains to be said that the almost old-fashioned radial press fitting can be regarded as the industry standard worldwide.

Large quantities, easy assembly and increasing compatibility of press tools have paved the way. But there is room for innovation here, of course. To guarantee pressing success for example, whistling fittings are now also used in addition to dripping fittings.

In light of this stream of innovations it is increasingly difficult even for experts to keep track of things. Which fitting made of which material is best suited for which type of pipe and application? What is the difference between the joining techniques available and which are the most important suppliers?

**The KWD Fitting Report presented here explains** the types of fittings available on the European market, lists their manufacturers, estimates the consumption of fittings by pipe material and analyzes which connection types are used in which applications in key European countries.

**This study update is based on the Fitting Study 2021. Mainly new are** the consumption figures of fittings for the years 2020 - 2024, these were created on the basis of new market data.

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**Chapter 3 The Development of Fittings - a brief look back**

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**3 The Development of Fittings – a brief look back**

For many years, the world of fittings and connection technology was overseable. For heating and sanitary installations almost exclusively steel and copper pipes were used and these pipes were connected by mainly manual welding or soldering. For directional changes in the pipe system, threaded fittings were used for steel pipes and soldering fittings were used for copper pipes.

With the introduction of alternative pipe materials to the market beginning in the 1960s, new jointing techniques adapted to the specific properties of these pipes were often required. For example, in supply piping systems, the increasingly used plastic pipes, such as PVC or PE were plugged or even welded. For special applications that required detachable connections, clamp connectors made of metal were already available.

The modern time in pipe jointing technology began in the 70s and 80s with the increasing use of plastic pipes in hot water applications.

Pipe installations for heating or drinking water place high demands on the permanent tightness of the pipe connection, even in areas that are difficult to access, such as concrete or flush-mounted installations.

The increasing market penetration of pipes made of cross-linked polyethylene (PE-X) - a thermoelastic resin, at that time not reliably weldable - favoured the popularity of mechanical pipe joints.

Pipe joints, specially adapted to the dimensions and properties of these newly developed pipes, became more and more an integral part of this new generation of complete pipe systems, e.g. for underfloor heating. In addition, the often excellent flexibility of the new pipe materials allowed the pipe to be bent or bends to be formed without tools or fittings.

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**Further subchapters to chapter 3:**

- 3.2 Sliding Sleeve - Axial Compression
- 3.3 Press Fitting - Radial Compression
- 3.4 Push Fitting
- 3.5 Welding fittings
- 3.6 Fitting developments outside Europe

## Chapter 4 Basic designs of pipe connections

This chapter describes the different connection types on basis of the following points: application, pipe types, designs and materials, operating principle, installation, pros and cons. Next to the explanation of the fitting type, various examples of fittings are shown.

### The chapter is divided into the following points

- 4.1 Mechanical Pipe Connections
  - 4.1.1 Compression and Screw Fittings
  - 4.1.2 Press Fittings
  - 4.1.3 Push Fittings
- 4.2 Integrally-Joined Connections
  - 4.2.1 Welded Connections for Plastic Pipes
- 4.3 Special Designs

4 Basic Designs of Pipe Connections


**b. Axial compression / sliding sleeve**

<b>Application</b>	The sliding sleeve water installation alongside other composite pipe
<b>Pipe types</b>	Available for PEX – 63 mm in dia
<b>Design and materials</b>	<b>Design for plastic</b> Fitting body made of proprietary plastic necessary because composite pipe made of brass.
<b>Operating principle</b>	<b>Design for plastic</b> The sliding of certain plastic of the support but gaskets.
<b>Installation</b>	Cut pipe properly with recommended ratio and insert fitting in pipe end and finish done with a machine to the installation.
<b>Pros and Cons</b>	<ul style="list-style-type: none"> <li>+ Safe joining</li> <li>+ Through expansion</li> <li>+ Permanent</li> <li>+ Unpressed</li> <li>-- More tools</li> <li>-- Extensive installation</li> <li>-- Risk of over-compression metal-compression</li> </ul>


4 Basic Designs of Pipe Connections

**Some examples of Press Fittings Axial / Sliding Sleeve**

**Blansol Barbi**  
Blansol is proud of being the inventor of the sliding sleeve system (Barbi system) for cross-linked polyethylene pipes (PEX pipes) in 1983. Blansol Barbi system includes an extensive range of brass sliding sleeve fittings exclusively designed by Blansol for plumbing and heating installations in a fast and safe way with very competitive costs. The exclusive design of Barbi fittings will guarantee a total hermetic joint of the union and a superior resistance than the resistance of the pipe, without needing to use O-rings or bicones, elements always subject to ageing.



**REHAU RAUTITAN PX, RX, SX, MX and LX**  
RAUTITAN is a universal system for drinking water and heating. The compression sleeve jointing technique works without O-ring. The pressure loss is low thanks to the expansion technology. The connections are immediately resistant to compression stress. RAUTITAN fittings are available as RAUTITAN PX (PPSU with PVDF sleeve), RX (red brass with PVDF sleeves), SX (stainless steel with PVDF sleeve), MX (dezincification brass with PVDF or brass sleeves) or LX (brass with PVDF or brass sleeves).



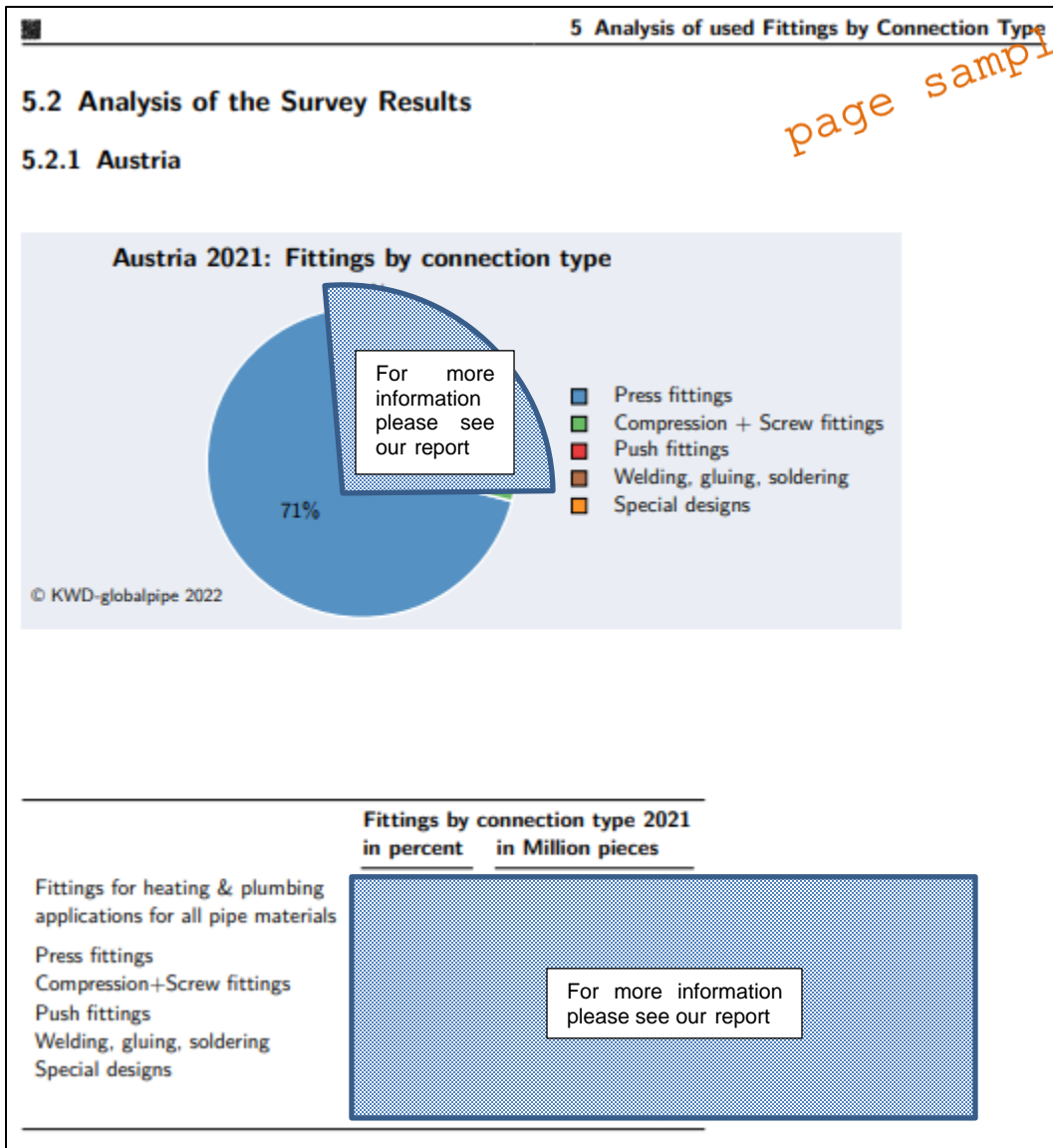
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## Chapter 5 Analysis of used Fittings by Connection Type

The data for analysis of the types of fittings were collected and analyzed as a percentage in a survey, carried in the beginning of 2021. The quantity of fittings by connection type has been calculated based on the collected percentage and the consumption of fitting (see chapter 6).

### 5.1 Comments on the Fitting Markets

This chapter explains and comments on the results of the Fitting survey.



The analysis of the survey results is available for:

Austria, Belgium and Netherlands, Czech Republic, Germany, Great Britain, Italy, Poland, Spain and Scandinavia (Norway + Finland + Sweden).

## Chapter 6 Consumption of Fittings by Pipe Material Europe 2020 - 2024

6.1 Preliminary remarks

6.2 Conversion factors

6.3 Consumption of fittings in Europe 2020 - 2024

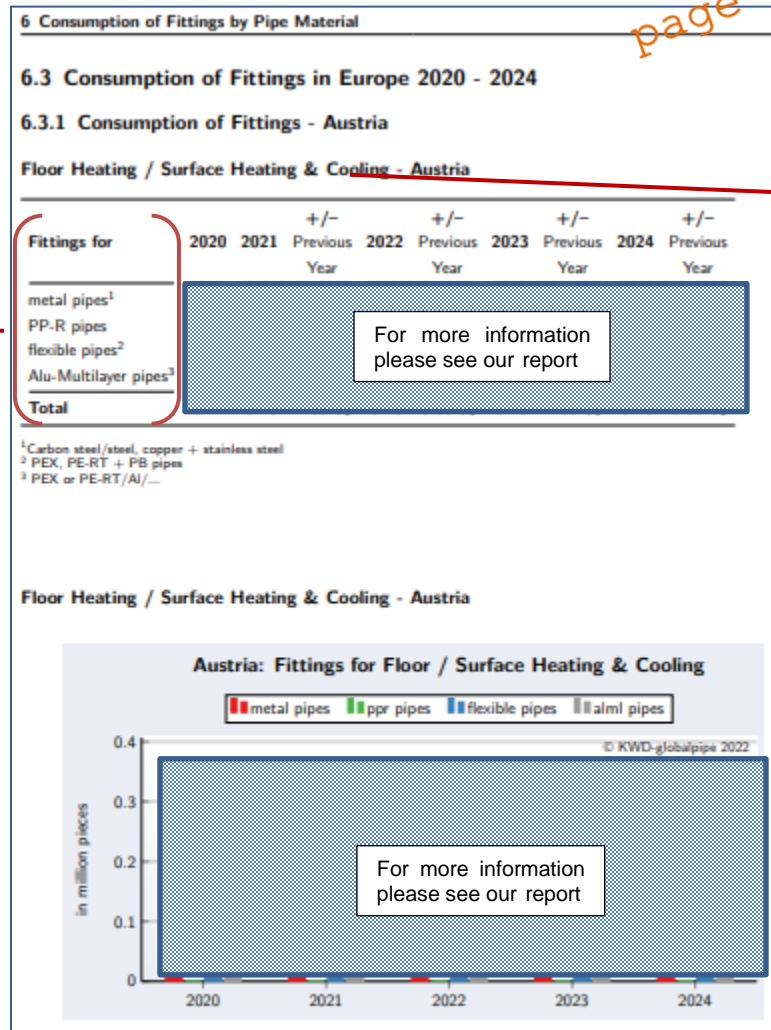
**This chapter is the heart of the study.** It shows the consumption volumes of fittings in million pieces by pipe material on 4 pages per country.

**Each page shows the fitting quantities for one of the 4 application areas:** Floor heating (surface heating), Radiator connection, Sanitary installation and Total (Heating & Plumbing Pipes)

**Available for 19 European countries:** Austria, Belgium, Switzerland, Czech Republic, Germany, Denmark, Spain, Finland, France, Great Britain, Hungary, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Slovakia, Sweden und Europe.

### Fittings for

- PPR pipes
- Metal pipes (Steel, Copper)
- Flexible pipes (PEX, PE-RT + PB)
- Multilayer pipes



Here: Application floor heating

## Chapter 7 News on Fittings and Pipe Connections

Since the 70s KWD has been engaged in pipes and fittings inside buildings. Since that time, we have regularly reported on news and developments in the fields of heating @ plumbing pipes and fittings.

In this chapter you will find the articles on interesting fitting news of the last two years in Europe.

## Chapter 8 Detailed listing of Fittings in Europe 2016

This list includes the fittings for Heating & Plumbing Installations of European manufacturers. It lists the manufacturer, brand, fitting type, available diameters and for which pipe materials they are suitable.

- 8.1 Press Fittings - radial
- 8.2 Press Fittings - axial / Sliding sleeve
- 8.3 Push Fittings / tool-less
- 8.4 Compression and Screw Fittings
- 8.5 Welding, Gluing or Soldering Fittings
- 8.6 Special Design Fittings

8 Detailed listing of Fittings in Europe 2021						
8 Detailed listing of Fittings in Europe 2021						
8.1 Press Fittings - radial						
Company	Brand	Fitting material	Press shape	for pipes made of	diameters	
Acome	FRA	ACOME MT	Brass	ACz	PEX, PB, PE-RT	12 - 25
AIS Concept (OEM)	ESP	AIS MM PPSU	PPSU with st steel sleeve	U, H, TH, RFz, U	Multilayer	16 - 50
AIS Concept (OEM)	ESP	AIS MM BRASS COLOR	Brass with st steel sleeve	U, H, TH, RFz	Multilayer	16 - 32
AIS Concept (OEM)	ESP	AIS BD BRASS COLOR	Brass with st steel sleeve	U, TH	Multilayer	40 - 75
AIS Concept (OEM)	ESP	AIS INOX M1	St Steel		Multilayer	63 - 110
AIS Concept (OEM)	ESP	AIS TRMLP BRASS COLOR	Brass with st steel sleeve	U	Multilayer	16 - 32
AIS Concept (OEM)	ESP	AIS PEX BRASS COLOR	Brass with st steel sleeve	U	Multilayer	16 - 32
APE	ITA	AP Series	Brass with st steel sleeve	B, H, TH, U	Multilayer	16 - 63
APE	ITA	AP Series Gas	Brass with st steel sleeve	TH	Multilayer	16 - 32
APE	ITA	APL Series	Brass with st steel sleeve	H, TH, U	Multilayer	16 - 32
aquatechnik	ITA	universal	PPSU	H, TH, F, B, U/C	Multilayer	16 - 32
aquatechnik	ITA	press-fitting metal	Brass	H, TH, U	Multilayer	16 - 63
Brass Form	GRC	Press Form	Brass with st steel sleeve	TH, H, U	Multilayer, PE-Xc, Cusmart	16 - 32
Coes	ITA	Coesklima Superk Pressfitting	Brass with st steel sleeve	H, TH, U	Multilayer	16 - 75
Comap	FRA	MultiSkin Metal crimp fitting	Brass with st steel sleeve	TH, H, U	Multilayer	14 - 75
Comap	FRA	MultiSkin Synthetic crimp fitting	PPSU with st steel sleeve	TH, H, U	Multilayer	16 - 32
Comap	FRA	SudoPress	Copper	V	Copper	12 - 108

page sample



## Chapter 9 Company profiles alphabetical

This chapter contents company profiles to European producers and distributors of fittings.

In addition to the address and a brief description of the company, keywords such as fitting or pipe manufacturer or distributor are used to describe the company.

9 Company profiles alphabetical	
<p><b>9 Company profiles alphabetical</b></p> <p><b>A.T.P. - Advanced Plastic Technologies S.r.l.</b>            Avanzate Tecnologie Plastiche            ITALY - Barletta (BT)  <a href="http://www.atpsrl.net">www.atpsrl.net</a></p> <p><b>Company Profile:</b>            A.T.P. s.r.l. has been working in the field of plastics transformation from over fifty years and produces pipes and fittings in PP-R used for the transport of fluids under pressure with high and low temperatures and drip irrigation pipe and hoses in PE.</p>	<p><b>Fittings, Manufacturer of:</b></p> <ul style="list-style-type: none"> <li>Welding, gluing or electrofusions fittings</li> </ul> <p><b>Pipes, Manufacturer of:</b></p> <ul style="list-style-type: none"> <li>PE</li> <li>Pipes / PP-R composite fibre</li> <li>PP-R</li> </ul> <p><b>Application / Others:</b></p> <ul style="list-style-type: none"> <li>Irrigation</li> </ul>
<p><b>Acome</b>            FRANCE - Paris  <a href="http://www.acome.fr">www.acome.fr</a></p> <p><b>Company Profile:</b>            Acome Département Batiment has maintained its activities since its creation in 1932. The company is the leading French manufacturer of PE-Xc tubes for the building industry. With buildings totaling an area of 115,000 m<sup>2</sup> encompassing manufacturing, ACOME's industrial facility in Normandy is one of Europe's biggest.</p>	<p><b>Fittings, Manufacturer of:</b></p> <ul style="list-style-type: none"> <li>Press fittings, radial</li> </ul> <p><b>Pipes, Manufacturer of:</b></p> <ul style="list-style-type: none"> <li>PE-Xc</li> </ul> <p><b>Application / Others:</b></p> <ul style="list-style-type: none"> <li>Surface heating and cooling, electrical</li> <li>Surface heating and cooling, warm water</li> </ul>

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