

# **Exporting valves to Europe**

The best opportunities for exporters from developing countries are to supply valve parts to European valve manufacturers, although supplying finished valves to these manufacturers is sometimes also a possibility. Another good option would be to target specialised distributors. In all cases, you should focus on just a few specialised valves within your range of products. Finally, your pricing strategy should be very competitive.

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# 1. Product description

Valves are applied in almost all industrial production processes in which liquids are used. The valves covered in this survey are industrial devices that regulate, direct or control the flow of fluids (gases, liquids, fluidised solids or slurries) by opening, closing or partially blocking various passages. The water and waste-water industry is the largest sector of application for valves, followed by:

- the chemical processing industry;
- the food processing industry (including beverages);
- the oil and gas industries.

When "valves" or "valve parts" are referred to in this survey, this concerns all the <u>Harmonised</u> <u>System</u> codes in Chapter 8481 that relate to applications in the process industry, as per Table 1 below.

Table 1: Selected products, based on Combined Nomenclature (CN)

Product group	CN codes
Check valves	848130-91/99
Safety valves	848140-10/90
Pressure-reducing valves	84811005, 84811019 and 84811099
Process control valves	84818051 and 84818059
Gate valves	84818061, 84818063, 84818069
Globe valves	84818071, 84818073, 84818079
Diaphragm valves	84818087
Parts of valves	84819000
Quarter turn valves	84818081 and 84818085
Other valves	84818099

# Material and design

The material used depends upon the valve's application. Materials range from nodular cast iron or alloy nodular cast iron for use in water and waste-water processes to stainless and heat-resistant steel in the chemical and power generation industries. Designs are in line with customer specifications. The same goes for the finishing and painting of the product (the visual-optical qualities or the appearance of the valve).

## Documentation

Valve importers require associated reports about the quality and specification of the material used, registration of critical process parameters and test reports, along with traceability reports for each production batch.

# Labelling and packaging

Valves are individually packed in crates or boxes, generally made of wood. The packaging depends on the characteristics of the valve, its level of treatment (100%-treated valves require high-protection packaging in order to prevent breakage) and its size. Plastics or coatings are also used for additional packaging purposes. The standard of the valve should be imprinted on the rim, together with its size, batch number and materials. Highly specialised valves have unique numbers, as they are tested individually.

Packaging is always labelled, not only for the purposes of identification during transport but also to indicate the quantity, weight, the products themselves and the producer's name. Plastics or coatings are also used for additional packaging purposes.

In addition to general packaging requirements (see "Requirements"), customers are likely to have their own additional packaging requirements and preferences. In most cases, the packaging and labelling requirements are included in the customer's specifications.

- Follow the packaging instructions provided by your customer. If your customer did not specify the packaging requirements, ask for instructions. You have to be careful to provide the right amount of packaging, not too little but also not too much, since it is expensive to dispose of packaging in Europe.
- See our study of <u>Buyer requirements for pipes and process equipment</u> for more information about labelling and other requirements.

# 2. Which European markets offer opportunities for valves?

For more information about the import of valves in the European market, see our study of competition on the European pipes and process equipment market.

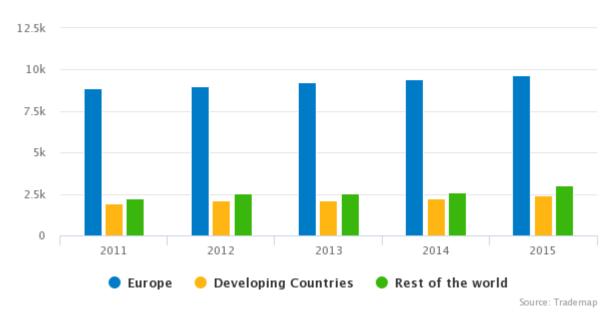
# **Imports**

In the last five years, the total European imports of valves grew in value by 3.8% annually, reaching €15.1 billion in 2015. The import from developing countries grew at an even higher rate of 6.2%, reaching €2.4 billion. It is expected that imports of valves from developing countries to Europe will continue to grow in the next few years at a moderate rate.

A major driver of import growth will be the high demand from the food and chemicals processing industry.

Figure 1: European import of valves by main origin, 2011 - 2015

in € million



The European market for valves is scattered and there is no single country that absolutely dominates imports. Germany is the largest importer of valves, representing a value of €3.1 billion in 2015. It is followed by the United Kingdom, France and Italy.

Central European countries, Eastern European countries and Baltic countries are expected to show higher import growth for valves than western European countries. Within Europe, the countries with the highest annual rates of import growth in the last five years were Lithuania (by 15.3% per year), Romania (10.4%) and Hungary (9.9%).

Figure 2: Leading European importing countries of valves, in %

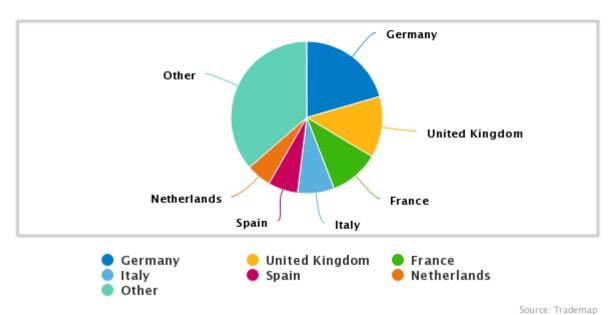
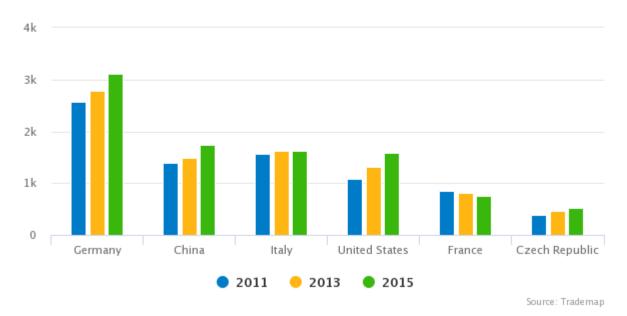


Figure 3: Leading suppliers of valves to Europe in million euros, 2011 – 2015

in € million



Around 15% of the total value of European valves import originates from China. This import is dominated by the supply of ball and plug valves. India is the second-largest supplier from developing countries, but mainly exports parts of valves to Europe.

In the list of the 20 largest European suppliers of valves, the highest annual import growth was recorded by South Korea (by 18.9%), the United States of America (10.4%), the Czech Republic (8.3%) and India (7.6%).

The major intra-European imports involve both re-exports (for example, from the Netherlands) and countries' own production (for example, process control valves from Germany or ball and plug

valves from Italy).

# Tips:

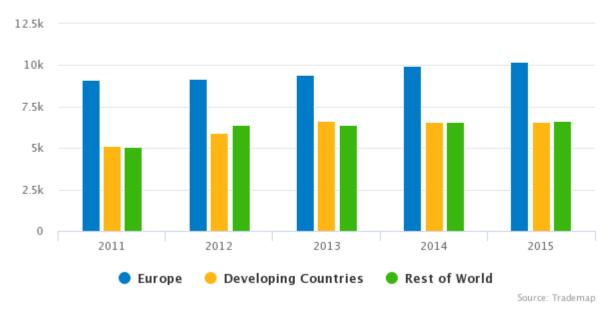
- Identify the key importers of your product in large or rapidly growing markets. You can start by doing an internet search or reading more about supply chains in Europe in our study of <u>Market channels and segments for pipes and process equipment</u>.
- Target the most interesting countries in Europe. Apart from concentrating exclusively on export to the largest European importers such as Germany or the United Kingdom, consider countries that are experiencing growth in imports (such as the Baltic countries, Central European and Eastern European countries).
- Learn from your competitors. In addition to the largest suppliers from developing countries (China, India and Turkey), you can also learn from Mexico, Vietnam or Morocco, as these developing countries are gaining share on the European market.

## **Exports**

The total European exports of valves increased by 4.9% per year between 2011 and 2015, reaching €23.5 billion. The exports of European valves were mainly destined for other European countries. However, the export to developing countries and to the rest of the world showed higher annual growth (6.4% and 6.9% per year on average, respectively). In 2015, European exports to developing countries amounted to €6.6 billion, 28% of the total European exports. For the coming years, this share is forecast to increase slightly.

Figure 4: European export of valves by main destinations, 2011 - 2015

in € million



Germany is the largest European exporter of valves (€6.3 billion in 2015, 26% of the total European exports), followed by Italy (23% share). Other important exporters are the United Kingdom, France and the Czech Republic.

# Tips:

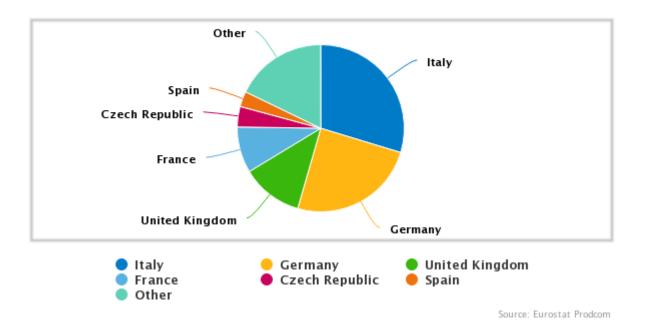
- Learn from European export flows. Apart from targeting your export to the European Union, you can learn from European exporters and find opportunities in other large or growing markets for valves such as the United States, South Korea or Norway.
- Learn more about your competitors in our study of <u>Competition in pipes and process</u> <u>equipment</u>.

### **Production**

The total production of valves in Europe amounted to &22.8 billion in 2015, following an average annual increase of 4.5% in the period 2011–2015. After reaching a peak in 2014, the European production stabilised in 2015. Italy is the largest valve producer in Europe (&6.7 billion in 2015), followed by Germany (&5.7 billion) and the United Kingdom (&2.7 billion).

The strongest production growth was seen in the United Kingdom (by 15% per year) and the Czech Republic (14%). In a few countries, production declined: the Netherlands (by 4.2%), Belgium (7.5%) and Finland (3.8%).

Figure 5: Main European producers of valves, 2015



## Tip:

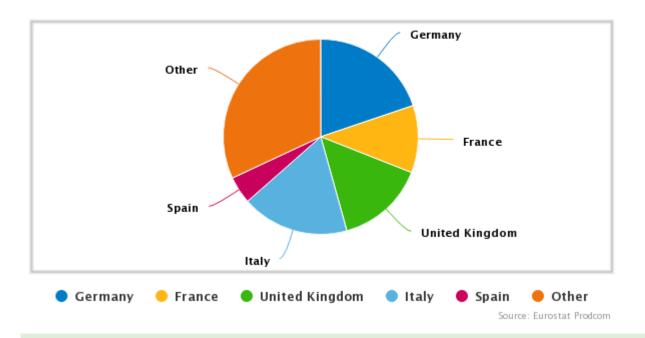
• Consider a subcontracting strategy. In addition to Italy and Germany, there is also considerable production output in the United Kingdom, France and the Czech Republic. The presence of producers in these countries offers subcontracting opportunities to exporters from developing countries.

### Demand

European demand peaked at €15.2 billion in 2015, following an average annual increase of 3.5% in the period 2011-2015. Germany and Italy are the largest markets for valves, together representing 38% of the total European market. Other countries with a high demand are the United Kingdom (15% share), France (11%), Spain (5%) and the Czech Republic (4%). Of these countries, the United Kingdom showed the highest annual growth on average (10%) between 2011 and 2015.

Figure 6: Main European markets for valves

in %



- Carefully consider your chances of exporting. As a general guideline, the transport of standard valves or valve parts from overseas countries to Europe is viable only for full container loads.
- Find importers and exporters of valves per country through the portal of <a href="ITC International Trade Statistics">ITC International Trade Statistics</a> (you have to register first).
- Use **Eurostat** to obtain detailed trade statistics for your specific type of valve.
- Search for relevant trade fairs in trade fair databases such as <a href="Eventseye">Eventseye</a>. Trade fairs that may be relevant for you are <a href="Achema">Achema</a>, <a href="Hannover Messe">Hannover Messe</a>, <a href="Ifat">Ifat</a>, <a href="Valve World Expo">Valve World Expo</a>, <a href="Pumps & Valve World Expo">Pumps & Valve World Expo</a>, <a href="Pumps & Valve World Expo">Pumps & Valve World Expo</a>, <a href="Pumps & Valve United World Expo">Pumps & Valve United World Expo</a>, <a href="Pumps & Valves">Pumps & Valves</a> (Italy), <a href="Pumps & Valves">Pumps & Valves</a> (Spain), <a href="Pumps & Valves">Pumps & Valves</a> (Belgium).
- Pay attention to the European business cultures before you start exporting to Europe.
  <u>Commisceo Global</u> offers a lot of information on differences in business cultures and etiquette.

# 3. Which trends offer opportunities on the European market for valves?

This section provides information about specific trends about valves. For more trends within the sector, see our study of <u>trends on the European pipes and process equipment</u>.

# Growing automation and control in valves

It is expected that the European market for automatic valves will outpace the market for conventional valves, due to the continuing efforts of process manufacturers to improve operational efficiency. The strongest gains will be registered in sales of separately sold automatic actuators, which are used together with standard valves to allow for automated valve functions and are less expensive than automatic control and regulator valves with actuators pre-installed.

Automatic valves can be used in remote or hazardous environments, such as for oil pipelines in the Arctic or within nuclear power plants. Such specialised products constitute a growing market segment for European valve makers, although they also incur costs in the form of materials research, product design and testing, as well as more sophisticated production methods. To date, manufacturers in developing countries have not been able to supply such specialised valves.

# Replacement of valves

According to the leading industry experts, western Europe will be a slow growth market characterised by a large percentage of replacement valves for existing plants as opposed to valves for new plants. Eastern Europe will realise growth in expenditure to meet the European Union's environmental regulations.

# Cost-efficiency

European manufacturers will continue to implement new technologies in order to reduce production costs and secure their competitive edge.

### Clean water

In the water and sewerage industry, clean water shortages and environmental legislation will result in several investments in infrastructure and water treatment equipment, including valves.

# High-tech valves

The demand for high-tech valves that require advanced casting, working and finishing techniques will continue to increase in the next few years. Star performers remain the more advanced or specialised products (such as valves with predictive and preventive maintenance abilities, as well as valves with improved controls involving pneumatic, solenoid, electric, hydraulic or digital mechanisms).

# High-tech materials

There is a growing demand for valves made of duplex stainless steel and nickel-free stainless steel, due to the attractive properties of these materials (such as strength and corrosion resistance at relatively low cost).

#### **Environment**

In several end-user industries, the search for energy efficiency and the restriction of CO2 and NOx emissions has led to the increased use of innovative production techniques, resulting in greater efficiency and less waste. One of the effects of this trend is an increase in demand for certain types of valves.

For example, eccentric plug valves have become more appealing as control valves for petrochemical companies. The main reason for this development is that eccentric plug valves have lower gland emissions than globe valves. In addition, eccentric plug valves are suitable for a very large number of applications. As a result, eccentric plug valves have experienced relatively high

growth in demand, especially for control valve applications in the oil and gas industry.

# Highest growth for processing industry segment

The food and chemicals processing industry is the largest market for industrial valves, reflecting the wide range of applications and significant requirements for fluid handling in many of these industries. This market will also register higher growth than the other major valve markets, which include oil and gas, water infrastructure and other miscellaneous applications such as construction, electric utilities and mining.

# 4 . Which requirements should valves comply with to be allowed on the European market?

Requirements can be divided into (1) legal requirements, which you must meet in order to enter the market, and (2) non-legal requirements, which are those most of your competitors have already implemented; in other words, the ones that you need to comply with in order to keep up with the market. See our study of <u>Buyer requirements for pipes and process equipment</u> for a general overview of requirements. Below are the requirements that specifically apply to valves.

#### Musts

For industrial valves, the most important legal requirements are compliance with the Essential Safety Requirements of (1) the <u>Pressure Equipment Directive (PED) 97/23/EC</u> and (2) the <u>ATEX Directive 2014/34/EU</u>, which applies to valves in potentially explosive atmospheres.

Valve parts are not subject to any specific legal requirements for market access. However, there are general requirements that must be met, which are also explained below.

### Liability

The <u>Product Liability Directive (Directive 85/374/EEC)</u> states that the European importer is liable for the products put on the European market. In theory, however, European importers can pass claims along to their producers/exporters.

#### **Packaging**

There is non-product-specific legislation on <u>packaging</u> that applies to all goods marketed in the European Union. The first directive concerns wood packaging materials used for transport (<u>Directive 2005/15/EC</u>), as set by the European Union. Another packaging-related directive is the <u>general directive for packaging and packaging waste</u>. This directive prescribes the marking of the kind of packaging material used and the maximum levels of heavy metals in the packaging material.

#### **Duties**

For valves and valve parts, a 2.2% duty is levied on European imports from third countries. Several developing countries benefit from a preferential 0% tariff, including Indonesia, Pakistan, Vietnam, the Philippines, Bosnia-Herzegovina and Egypt. The <u>TARIC database</u> provides additional details relating to Chapter 8481. Note that a Certificate of Origin is required in order to claim a preferential tariff.

- Make use of a <u>notified body</u> to certify your valves in the event that you want to obtain PED or ATEX certification. In some cases, these notified bodies also offer consultancy services to help manufacturers meet the requirements. Be aware that notified bodies are often notified only for a part of the conformity assessment procedure, or only for a specific sector (such as electrical equipment).
- Consult the <u>European ATEX Guidelines for the Valve Industry</u> published by the European Valves Committee.
- Make sure that your wood packaging material qualifies for the European market. If you

are uncertain, ask your supplier to confirm and explain this process to you. Your supplier should undertake any further actions required to comply with the Directive. If the supplier is unable to do so, it would be advisable to select another supplier.

• If your country benefits from a preferential tariff, arrange a Certificate of Origin as well as validation from a local Chamber of Commerce. Further information is available <a href="here">here</a>.

# Additional requirements

For finished valves, the customer's main requirements are related to technical aspects, many of which are covered in the CE or other standards. General standards (such as EN558 and EN12982) can serve as a starting point, while other standards apply to specific market segments (such as ISO 15761, 10434 and 17292 for gas and oil). Further standards apply to specific types of valves (such as EN 13709, 13789 and 1349 for globe and control valves, and ISO 5996 for cast-iron gate valves).

For valve parts, material requirements are the most important customer requirement. The material that is used for valve parts must be covered by an international standard and be certified. The metal used must meet the material standard, which can be stated in an EN10204 Type 3 certificate. This type of certificate is internationally accepted.

While the American ASTM standards link material requirements with applications, this situation is not the case for the European EN standards. Instead, European customers have their own specific requirements in addition to the EN standards. Such additional requirements from customers can be Non-Destructive Testing (NDT), surface tests (MT or magnetic testing, PT or penetrant testing) and section tests (UT or ultrasonic testing and RT or X-ray testing).

Buyers may also have specific requirements for the dimensions and surface of the valve parts. In practice, these requirements are highly dependent on the customer and the application. In some cases, buyers ask their suppliers to adhere to the EN ISO 8062 standard while, in other cases, they include their specific dimensional and surface requirements in the technical drawing.

Finally, many customers are likely to demand that you work according to general organisational quality systems such as ISO 9001 (Version 2008) or process control. Some may also demand compliance with ISO 14001 (environmental quality management system) and OHSAS 18000 (labour standards).

- Design and manufacture valves for the European market with an emphasis on low emissions, safety, simplicity of maintenance, ease of operation and, above all, long and reliable service life.
- Consult the ISO Catalogue Click on "TC 153" (Valves) for an overview of ISO standards.
- See our 10 tips for doing business with European buyers of pipes and process equipment and our 10 tips for finding buyers in the pipes and process equipment industry. These tips also offer more information on which topics are decisive for European buyers when searching for new suppliers.
- Use the <u>EU Export Helpdesk</u>, the <u>ITC Market Access Map</u> and the <u>ITC Standards Map</u> for more information on gaining access to the European market.

# 5 . Through which channels can you get valves on the European market?

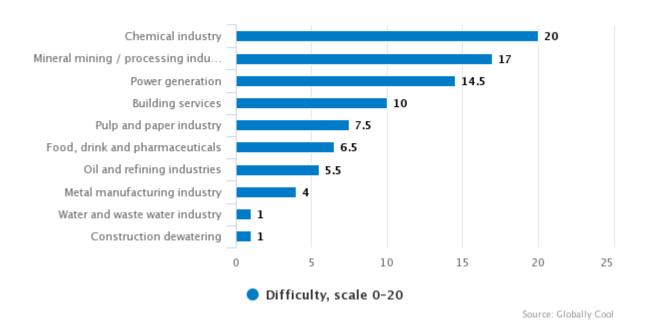
The European market for valves can be divided into 8–13 segments. The number of segments depends on whether one defines some applications, such as those in agriculture, testing or cleaning, as separate segments. In this case, we define 10 segments as listed in Figure 7.

The water and waste-water industries, together with the oil, gas and refining industries, are estimated to account for 40% of the European valve market. Other main market segments are the chemical industry (12–17%) and the power generation industry (6–13%). The remainder is made up of a wide range of smaller segments, such as food and beverage, marine, pulp and paper, iron and steel, textiles and mining.

Although getting a foothold in the European pumps industry is not easy, several Chinese and Indian valve manufacturers have worked it out. In general, it can be said that they were most successful in the segments with relatively low requirements for material and processing difficulty.

Figure 7 below shows the market segments according to these criteria (scale 0-20, 20=high requirements, 0=relatively low requirements). Note that these requirements only apply to the core process in an industry and not so much to secondary processes.

Figure 7: Market segments for valves by material and processing difficulty, 2015



# Tip:

• Focus on the water and sewerage segment. This segment offers the best opportunities, as it has relatively low requirements.

### Manufacturers

Regardless of the segment selected, valve manufacturers are the most prominent targets in Europe. Producers from developing countries can supply parts to them as subcontractors, but they can also

supply finished products, improving their opportunities by focusing on a few specialised products (for example, knife valves).

European manufacturers are also the most important targets for such specialised products, while some may be interested in subcontracting a part of their production to low-cost countries.

#### Distributors

Distributors are attractive targets for exporters from developing countries whose aim is to export large volumes of commodity-type products (such as common valves), because distributors often buy and/or import commodities in relatively large volumes on a scheduled basis. In most cases, the distributor is also the importer. Distributors often have their own stock, which is the reason that they are also called "stockists". Products must be kept in stock, as they need to be available for urgent deliveries to end-users.

Most distributors offer a range of valves and other pipe-related process equipment. Other distributors are true valve specialists, as they are exclusively concentrated on valves.

## Tips:

- See our study of <u>Finding buyers in the motion control industry</u> for additional information on finding buyers. Our study of <u>Doing business in the motion control industry</u> may also be of interest to you.
- Find more information in the CBI documents on 1) <u>Market channels and segments for pipes and process equipment and 2) Competition for valves.</u>

# 6. Pricing for valves

Pricing in the European industrial market is complicated and can be highly confusing. Fixed prices are only available for the most standard types of valves. The valves that you should focus on do not fall into that category.

# Tips:

- In the event that price information is less relevant, the following tips may be more relevant.
- Set competitive prices for your pumps, as this strategy is elementary if you wish to enter the European market. In general, it can be said that the more common the product is, the more competition there will be and the lower the margin.
- If competitive pricing is difficult for you, differentiate towards specialities, because competition for specialities can be less intense.

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