

# Exporting pumps to Europe

Europe is a huge market for pumps and is self-sufficient to a large degree. Many countries host a number of pump manufacturing activities. Entry barriers are relatively high and the large degree of rivalry makes competitive pricing and a good reputation very important. For this reason, the best opportunity for exporters from developing countries is to become a subcontractor of pump parts for one of these producers in Europe.

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# 1 . Product description

## Product definition

Pumps are devices that are used to transport/move specific media (such as liquids or slurries). A pump moves a liquid or a gas from a lower-pressure environment to one with higher pressure, overcoming this difference in pressure by adding energy (such as electrical energy) to the system. Pumps are used in a wide range of industries. Additional information on pumps is available at <u>Wikipedia Pumps</u>.

When "pumps" or "pump parts" are referred to in this survey, this concerns the <u>Harmonised</u> <u>System</u> codes in Chapter 8413 as per Table 1 below.

Product group	CN codes
Reciprocating positive	84135010, 841350-20/30, 841350-40/50, 84135061, 841350-
displacement pumps	69/71/79, 841350-80/90
Rotary positive	84136010, 841360-20/30, 84136031, 841360-39/41/49/51/59/60,
displacement pumps	84136061, 84136069, 84136070, 841360-80/90
Centrifugal pumps	84137010, 84137021, 84137029, 84137030, 841370-35/40,
	841370-45/50, 84137051, 841370-59/61, 841370-65/69/70,
8	841370-75/80, 84137081, 841370-89/91/99
Parts of pumps	841391-00/10/90, 841392
Other pumps	841319-00/10/90, 841381-00/10/90, 841382

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

Note that several of the codes in Chapter 8413 have been excluded from the selection, as they relate to applications other than the processing industry (such as fuel-dispensing pumps, hand pumps and pumps used in engines).

## Product specification

The pump specifications required by European buyers are detailed below. These specifications include requirements for materials used, the processing steps, documentation and packaging.

## Material and design

The material used depends on the pump'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.

## Documentation

Pump 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 the batches of products manufactured.

# Labelling and packaging

Pumps and pump parts are packed individually in crates or boxes, which are usually made of wood. The packaging obviously depends on the size of the pump or part. Plastics or coatings are also used for additional packaging purposes. The type or number of the pump (or pump part) should be printed on the packaging. In addition to general packaging requirements (see "Requirements"), customers are likely to have their own packaging and printing requirements and preferences.

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. 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.

## Quality and quantity

The quality standards of individual European companies differ per country, although the large multinational pump manufacturers work with uniform, high-quality standards that apply globally. These quality standards have an impact on many aspects, including the finishing and painting of the product (the visual-optical qualities or the appearance of the pump), the packaging requirements and the documentation of accessories.

Order volumes follow the customer's standards and requirements. As a general guideline, the transport of standard pumps or pump parts from overseas countries to Europe is viable only for full container loads.

### Tip:

• Read more about <u>pump types and their end uses</u> on the website of the European Association of Pump Manufacturers.

# 2 . Which European markets offer opportunities for exporters of pumps?

### Imports

In the last five years, the total European imports of pumps grew in value by 2.1%, reaching €14.7 billion in 2015. The import from developing countries grew by an even higher rate of 7.8%, reaching €1.6 million.

It is expected that imports of pumps from developing countries to Europe will continue to grow in the next few years. This trend is the result of the increased openness of European companies towards sourcing from developing countries. This positive attitude is driven primarily by strong competition on the market for standard products and high price pressure for both standard and more complex products.

Major drivers of import growth are large and growing investments into water and waste-water recycling technologies.



Figure 1: European imports of pumps, by main origin

2011–2015, in € million

The European market for pumps is scattered and there is no single country that dominates the import market. Germany is the largest importer of pumps, representing a value of more than &2.7 billion in 2015. It is followed by France, the United Kingdom, Italy and the Netherlands.

As in previous years, Central European countries, Eastern European countries and Baltic countries are expected to register the highest import growth. Within Europe, the countries with the highest annual growth in import rates of pumps in the last five years were Slovakia (23%), Lithuania (15%)



## Figure 2: European imports of pumps by country

2015, in share of imported value

## Leading suppliers

Around 6% of the total value of European pump imports comes from China. This import is dominated by the supply of centrifugal pumps with a rotational speed lower than 10000 r/min. Turkey is the second-largest supplier of pumps from developing countries, mainly exporting parts of pumps and piston pumps to European markets.

In the list of the 20 largest suppliers of pumps to Europe, Poland recorded the highest annual import growth in the last years (by 17.3%), followed by China (7.9%) and the Czech Republic (7.4%).

The major intra-European imports involve both re-exports (for example, from the Netherlands) and countries' own production (for example, pumps from Germany or Italy).

### Figure 3: Leading suppliers of pumps to Europe

2011–2015, in € million



## Main opportunities in parts for pumps and power-driven centrifugal pumps

The most imported pumps in Europe are parts for pumps and centrifugal pumps. Together, they account for almost 70% of European imports. The most imported centrifugal pumps are glandless impeller pumps for heating systems and warm water supply, and single-stage submersible pumps.

Suppliers from developing countries can find opportunities in exports of 1) parts of pumps and 2) single-stage centrifugal pumps. Other opportunities can be found in rapidly growing export products from developing countries such as multi-stage submersible pumps, reciprocating positive displacement pumps and piston pumps.

#### Tips:

- Identify the key importers of your product in selected 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>.
- Select your target market carefully. Apart from concentrating exclusively on export to the largest European importing countries, consider countries that register high import growth 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, Turkey and India), you can also learn from Mexico, Serbia or Malaysia, as these developing countries are gaining share on the European market.

## Exports

European exports (including intra-European trade) of pumps have grown by 2.3% annually since 2011, reaching  $\in$ 18.5 billion in 2015. Around 46% of all European exports of pumps are intra-European exports. Exports are highly concentrated, with Germany and Italy alone accounting for half of the total European exports.

The main external export destination in 2015 was the United States of America, followed by China, the Russian Federation and Saudi Arabia.

Among the leading European export destinations, the highest export increase was to Singapore (by 15.3%), South Korea (10.9%) and the United States of America (11.4%).

### Tips:

- Learn from European exporters and find additional opportunities in other growing markets for pumps such as the United States, China, Singapore or the Russian Federation.
- Learn more about your competitors in our study of <u>Competition in pipes and process</u> equipment.

## Production

The largest producing country of industrial pumps in Europe is Germany, which produces almost half of the total European production. The production of pumps was rather stable in the period 2011–2015, with an annual increase of 1.3%.

Although some drivers of growth – such as the growing number of fracking operations in Europe – certainly have an expansive effect on the market, the pump industry is expected to record a negative growth of about 6% in 2016.

Major pump manufacturers are reluctant to add additional capacity, fearing that the recent decline in oil prices will be prolonged and that economic instability could lead to a drop in orders. This situation has brought down utilisation rates, as a result of which manufacturers have made concessions (for example, by offering lower prices) in order to gain orders.

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## Consumption

The European pump market has increased by 0.7% per year since 2011, reaching  $\notin$  10.6 billion in 2015. The largest European market for pumps is Germany with a 19% market share. Germany is followed by France (9% share), the United Kingdom (8%) and Denmark (7%).

Prices of raw materials are expected to continue to rise in 2016. This constant rise in prices of raw materials will drive up prices of pumps and is thought to have a negative impact on growth for the industry in 2017

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The European market can be roughly divided into two main types of pumps: centrifugal pumps and positive displacement pumps. Centrifugal pumps are the leading product category and account for 80-90% of the European market.

# $\boldsymbol{3}$ . Which trends offer opportunities on the European market for pumps?

The most important trends on the European pump market include the following:

### Energy efficiency

As energy efficiency is becoming increasingly important, the dominant position of induction motors as major drivers for pumps is beginning to erode, as they are frequently replaced with three-phase

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squirrel cage motors.

The shift in energy production from coal and nuclear to natural gas and renewables will also be a large driver of innovation. Pumps will increasingly have to operate under more extreme conditions such as higher pressures and broader temperature ranges, and function in more remote and hostile environments.

Seawater desalination is an important means of providing a sustainable supply of freshwater and usually requires a large number of pumps. As a result, energy is the largest single expense for desalination plants, with companies looking for energy-efficient solutions. This aim includes the application of energy-efficient pumps as well as new technologies such as reverse osmosis, a desalination technology which requires less energy and is less expensive than other methods.

The trend is also moving to small and medium-sized plants, as these are easier to construct, install, run and finance.

### Lowering the environmental impact

Reducing air pollution is an increasingly important topic in Europe. One way to prevent the release of carbon dioxide into the atmosphere is through carbon capture and storage. Although carbon capture and storage technology is still in the early stage, pilot projects around the world have demonstrated the effectiveness of the technology. As a result, it can be expected that the expansion of those solutions will offer increasing opportunities for pump system providers in future.

Another environmentally related pump solution is the use of cooling circuits and boiler feed water. In these circuits, corrosion, deposits and the growth of harmful microorganisms can all result in major damage and unforeseen system failure. Within such environments, precise metering reduces environmental impact. As a consequence, components such as metering pumps are becoming increasingly important.

Leaking of toxic fluids from pumps may result in severe consequences for the environment. In order to prevent such risks, displacement pumps of the double hose-diaphragm type are designed with double sealing and equipped with a diagnostic system for early fault detection. For this reason, they are highly suitable for use in the chemical industry, energy generation and pharmacy industry.

### Cost reduction

End-users focus on cost reduction. As a result, they are turning towards pumps that can be adapted to existing foundations and can be maintained while running, thereby reducing downtime and integration costs.

The presence of many Chinese suppliers offering low-priced centrifugal pumps acts as a restraint for most of the regional and global players offering centrifugal pumps. Moreover, the replacement rate for centrifugal pumps is declining because of an increasing preference for long life and energyefficient pumps, which is another challenge faced by centrifugal pump manufacturers worldwide.

## Increasing demand for centrifugal and positive displacement pumps

Centrifugal pumps will continue to be the most commonly used pump design, due to their varied pressure- and load-handling capabilities. In addition, they can handle liquids with a high solids content and have relatively low maintenance costs.

The demand for positive displacement pumps will outpace the average for the pump industry. This development is the result of the growth in food and chemical processing, while the demand for aftermarket parts will also benefit from rising manufacturing activity, mainly in harsh environments such as the chemicals industry.

## Mergers and acquisitions

The centrifugal pump industry is witnessing a trend of strategic acquisitions, with major players looking to expand their global footprint. Even though the industry is largely fragmented, well-

organised companies are advancing towards consolidation. This situation has resulted in a large number of mergers and acquisitions taking place globally. Pressures in both the mining and the oil and gas industry have stimulated large-scale transactions as well as numerous medium-scale deals.

Some recent examples include <u>Hillenbrand</u>'s acquisition of <u>ABEL</u>, a German manufacturer of diaphragm and piston pumps; while Swedish industrial group <u>Atlas Copco</u> continued its acquisition programme with the addition of <u>Varisco Group</u>, an Italian manufacturer of centrifugal, positive displacement and submersible pumps; whereas US group <u>Taco</u> also made an Italian acquisition, buying <u>Askoll Sei</u> – a manufacturer of heating pumps for dishwashers and washing machines.

#### Innovation

Innovation continues to be important on the global pump market. For example, micro disc pumping and variable-frequency drive technology for centrifugal pumps are some of the key trends observed on the global pumps market. Other innovations are the application of 3D printing and computer modelling technologies. These technologies have offered many improvements to pump design, repair and replacement.

This trend will continue to influence the cost of manufacturing pumps and will boost pump demand in the next decade.

### Tips:

- Consider opening discussions with potential buyers on energy efficiency improvements that could reduce production costs.
- Consider offering multiple services that will reduce costs for the pump users.
- Focus on the water and sewerage segment. Although the pressure on budget spending is greater than ever before, the water and sewerage segment still offers the best opportunities, as it has relatively low requirements.
- Supply pumps with low life cycle costs, as this aspect has come to play a more important role in purchasing decisions in recent years.
- Set a competitive price for your pumps. This aspect is a basic requirement for exporters from developing countries planning to enter the European market. If you have difficulty achieving competitive pricing, you should consider specialising, as competition tends to be less intense on the market for specialised pumps.
- Learn more about trends in our study of <u>Trends on the European pipes and process</u> equipment market.

# ${\bf 4}$ . Which requirements must pumps comply with to be allowed on the European market?

Requirements can be divided into the following categories: (1) musts, which are legal requirements that you must meet in order to enter the market, and (2) additional requirements, which consist of the relatively common requirements that most competitors have already implemented (in other words, requirements that you should meet in order to stay abreast of the market).

General information on buyer requirements for pumps is given in our study of <u>Buyer requirements</u> on the European pipes and process equipment market. Additional sources of information on gaining access to the European market include the <u>EU Export Helpdesk</u> and the <u>ITC Market Access Map</u>.

## Musts

Pump parts are not subject to any specific legal requirements for market access, but there is general legislation that also applies to pumps and/or pump units:

The <u>Product Liability Directive</u> states that the European importer is liable for the products put on the European market. However, European importers can pass claims along to their producers/exporters.

Pumps and pump units are subject to the <u>Machinery Directive 2006/42/EC</u>. Pumps must have a 'Declaration by the manufacturer' and/or an 'EC Declaration of conformity', in addition to the CE marking defined by the Machinery Directive. This procedure also encompasses conformity with the Low Voltage Directive.

Specific directives may apply to pumps with very specific applications (such as those used in potentially explosive atmospheres). These directives often require extensive product testing. In the case of a pump used in potentially explosive atmospheres, the pump must comply with the <u>ATEX</u> <u>Directive 94/9/EC</u>.

General requirements related to packaging are the following:

- wood packaging materials used for transport (including dunnage; Directive 2005/15/EC), which contains the requirements for wood packaging materials set by the European Union;
- general directive for <u>packaging and packaging waste</u>, which prescribes the marking of the kind of packaging material used and the maximum levels of heavy metals in the packaging material.

### Tips:

- Check the website of the <u>Association of European Pump Constructors</u>, which offers a list of .PDF documents on European directives applicable to pumps.
- 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 <u>here</u>.

### Additional requirements

For finished pumps, the customer's main requirements will be related to the technical aspects of the pumps. The pump standards in Europe are used to create unity in design and dimensional specifications. The standards apply predominantly to specific types of pumps (such as centrifugal pumps and rotary positive displacement pumps).

Standards that European buyers may request can be obtained from several organisations, including the ISO – International Organization for Standardisation, API – American Petroleum Institute, ANSI – American National Standards Institute, DIN – Deutsches Institut für Normung, and the BSI – the British Standards Institution.

The following are examples of standards that are commonly used for centrifugal pumps: ISO 2858:1975 – Designation, nominal duty point and dimensions of end-suction centrifugal pumps (rating 16 bar); ANSI/API 610-1995 – Centrifugal Pumps for General Refinery Service; DIN EN ISO 5199 – Technical specifications for centrifugal pumps; and BS 5257:1975 – Specification for horizontal end-suction centrifugal pumps (16 bar).

For pump parts, material requirements are the most important customer requirement. The material that is used for pump parts must be covered by an international standard and approved with a certificate. 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 of X-ray testing).

Buyers may also have specific requirements relating to the dimensions and surface of the pump 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).

### Tips:

- Check the <u>ISO Catalogue</u> for additional details Click on 'TC 115' (Pumps) for an overview of ISO standards.
- Search EN norms in the online shop of the British Standards Institution.

# ${\bf 5}$ . Through which channels can you get pumps on the European market?

The European market for pumps can be divided into 8–12 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 9 segments as listed in Figure 7 below.

The water and waste-water industries, together with the oil, gas and refining industries, are estimated to account for 40% of the European pump 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 pump 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.

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### Tip:

• Focus on the water and sewerage segment. This segment offers the best opportunities, as

it has relatively low requirements.

Regardless of the segment selected, pump manufacturers are the most prominent targets in Europe. You can supply parts to them as subcontractors, but you can also supply finished products. The best opportunities for you are in focusing on a few specialised products.

European manufacturers are also the most important targets for such specialised products, while some of them may be interested in subcontracting a part of their production to low-cost countries. Distributors are also good targets, as they have excellent access to the local market.

#### Tips:

- Discover the opportunities for subcontracting to European pump manufacturers. Promote yourself as a perfect subcontract opportunity to European pump manufacturers. Give a clear impression of your production facilities by using photos and video. Impress prospects, but be honest!
- Read our reports on <u>Market channels and segments for pipes and process equipment</u> and <u>Competition for pipes and process equipment</u>.

# 6. Pricing for pumps

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

### Tips:

- 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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