CBI
Ministry of Foreign Affairs

Exporting couplings to Europe

Europe is home to many potential export partners in the form of importers and producers of couplings. China and India are already established exporters of couplings to Europe. This is proof that Europe can be an interesting market for coupling manufacturers from developing countries. By offering customised, innovative and cost-efficient couplings, you have good opportunities of finding a business partner in Europe. This is especially the case in Germany, France and Italy.

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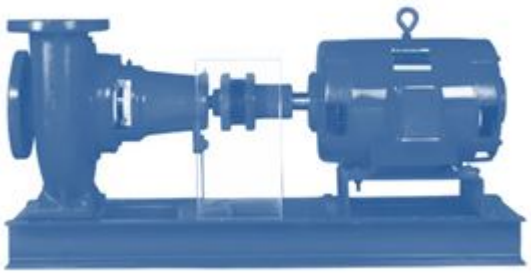
Product description

Couplings connect two shafts in a mechanical system as a means of transferring motion from one to another. One part of the coupling is fitted on the motor shaft and the other one on the driven equipment, after which the two parts are bolted together. The illustration below shows an example of a coupling applied between a motor and a pump.

Picture 1: Example of a coupling application



The couplings covered by this survey entail the whole range of couplings. When couplings are referred to in this survey, this concerns the Harmonised System codes in Chapter 8483, paragraph 6.

Product specification

Couplings can be made of steel, cast iron, aluminium and various alloys. The range of couplings is extensive. Generally, the whole range can be divided into shaft sizes and common applications, as

in table 1 below:

Table 1: Shaft sizes and common applications of couplings

Shaft size	Common application
up to 25mm	Motion control
up to 100mm	General industrial
up to 200 mm	Pumps for the process industry
up to 200+ mm	Large industrial fans
up to 200+ mm/ high performance	Gas turbine generators and compressors

Source: Paul Selini (Power Transmission International), 2013

Pictures 2-5 provide examples of coupling application from different countries. Picture 6 is an example of coupling packaging.

Picture 2: Magnetically coupled single-stage impeller pump (the United Kingdom).

Picture 3: Magnetic coupling applied to a horizontal centrifugal pump (Nordic countries).

Picture 4: Multi-stage centrifugal pump powered by electric motor, with elastomeric coupling (Nordic countries).

Picture 5: Axial coupling applied to pump and IE2 motor (Belgium and the Netherlands).

Picture 6: Compressor drive spacer disc couplings on a pallet (the United Kingdom).

Material and design

Couplings are made of various materials such as cast iron, nodular iron, steel or stainless steel. There is a large variety of coupling types; each has its unique features and areas of application. In general, there are rigid and flexible couplings, each with their specific use and area of application. In addition, the size of the coupling is as important as the type of coupling. Furthermore, the service factor is also an important requirement, while other factors such as speed, torque and perhaps dimensional requirements are very common as well.

Labelling and packaging

Couplings can be packaged in a carton or a wooden box, depending on the size of the couplings. The outer package should include the brand name and type number. The package for ocean

transport is a wooden, steel or plastic pallet, wrapped in plastic sheeting and sealed with metal strips. The size of the boxes depends on the customer requirements and preferences, and is also influenced by the weight per box and handling possibilities.

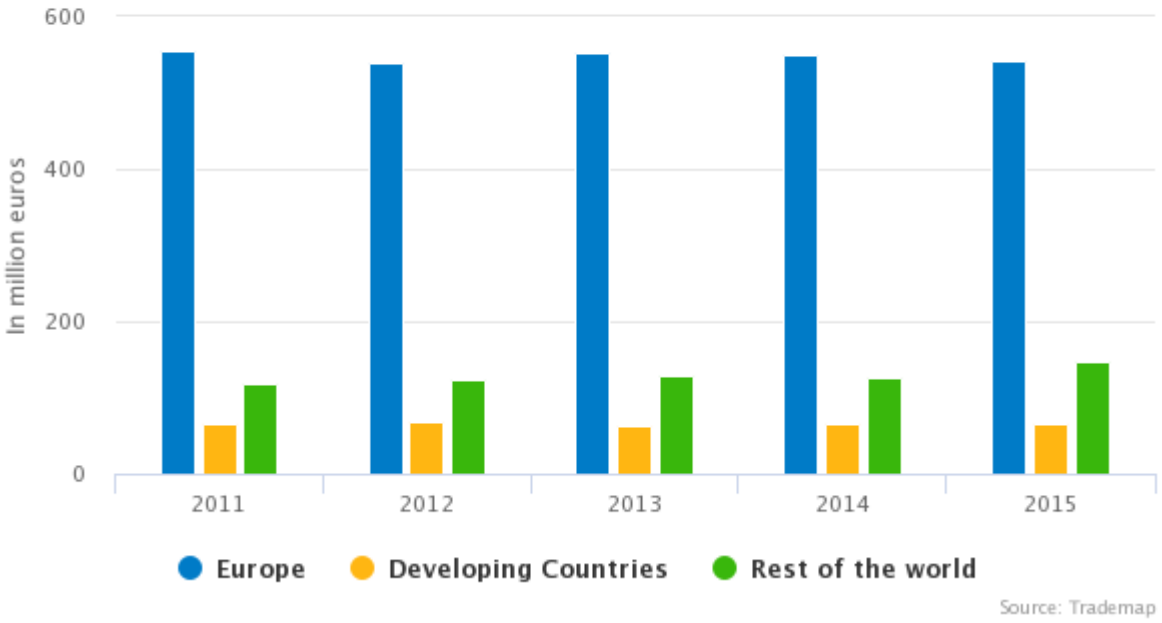
1 . Which European markets offer opportunities for exporters of couplings?

Imports

European import of couplings increased by 1% per year between 2011-2015 to €755 million. Couplings were mostly imported from countries within Europe. However, the import from the “Rest of the world” category grew more rapidly in the past few years (6% annually). The import share of Europe dropped from 75% in 2011 to 72% in 2015, while the import share of the Rest of the world increased. The import share of developing countries remained stable, with imports from developing countries representing 9% of the total European imports in 2015.

Figure 1: European import of couplings by main origin

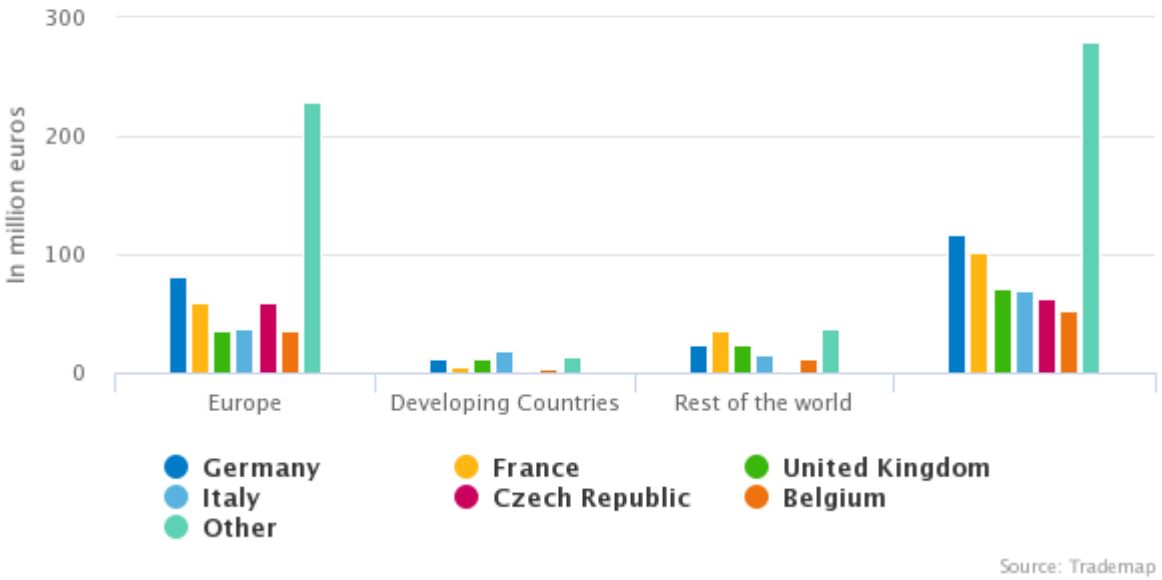
2011-2015



Representing a share of 15%, Germany is the largest importer of couplings, followed by France (13% share). The import from developing countries reached €11 million in Germany and € 5 million in France. Italy is the largest importer of couplings from developing countries (€ 18 million). France showed the largest absolute growth (€ 3 million over four years’ time) in imports from developing countries. Italy and Germany showed an overall decline of € 7 million and € 1 million, respectively.

Figure 2: Leading European importing countries of couplings

2015



Source: Trademap

Leading suppliers

In terms of supplying couplings to the European markets, Germany and the United States are the leading suppliers. Together, they represented 42% of the total European import of couplings in 2015. Other leading suppliers are Italy (9% share), China (5%), the Czech Republic (5%) and the United Kingdom (5%). Among these suppliers, the United States showed the highest annual growth over four years' time (7%), followed by Italy (4%). The list of leading suppliers is unlikely to substantially change over the next few years.

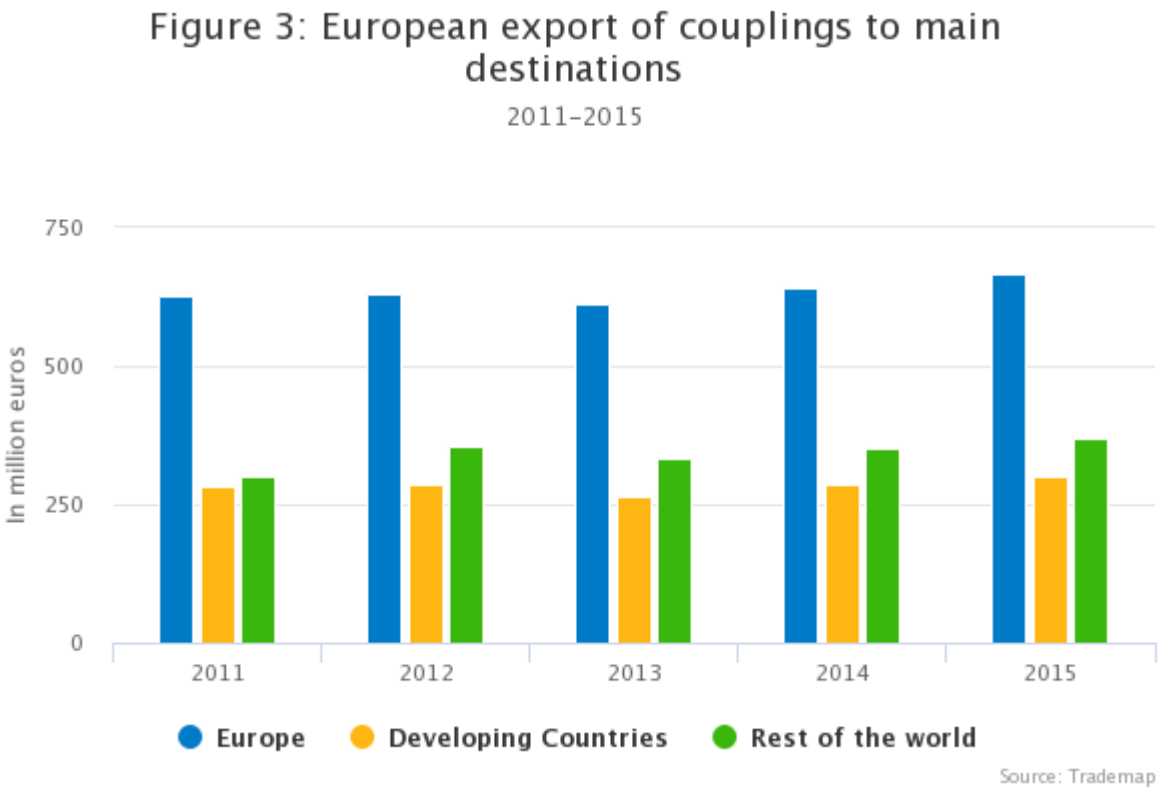
Tips

- Benchmark your company against your peers from developing countries such as China, as well as those from European countries. Several factors can be taken into account, such as market segments served, perceived price and quality level, countries served, and so on. One source that could be used to find exporters of couplings per country is ITC International Trade Statistics (for which you have to register first).
- You can also use Eurostat to obtain detailed trade statistics about the industry.
- You can find relevant trade fairs in trade fair databases such as Eventseye. The most important trade fair for you is Hannover Messe. A dedicated fair on MDA (Motion, Drive & Automation) is part of the Messe every odd year.
- Commisceo Global offers a lot of information about differences in business cultures and etiquette. You should pay some attention to this aspect before you start exporting to Europe.

Exports

The total European exports of couplings increased by 4% per year between 2011-2015 to € 1.3 billion. Exports of European couplings were mainly destined for other European countries.

However, the export to the Rest of the world showed a higher annual growth (5% per year on average). In 2015, European exports to developing countries amounted to € 299 million, 22% of the total European exports. For the coming years, the developing country share is forecast to remain relatively stable.



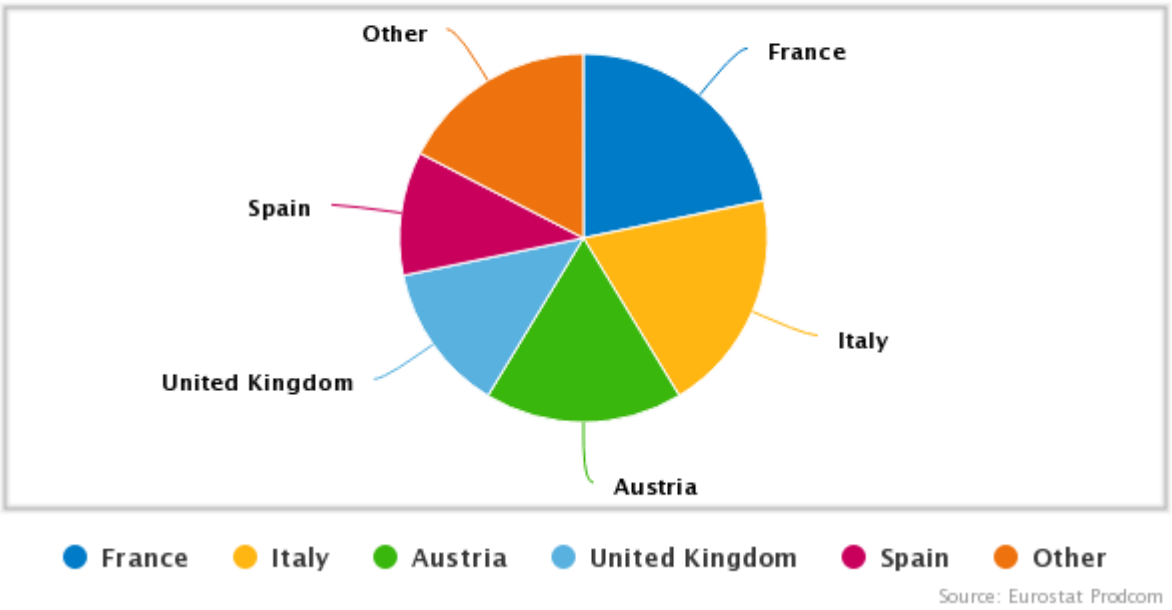
Germany is the largest European exporter of couplings (€606 million in 2015, 45% of the total European exports), followed by Italy (16% share). Other important exporters are the United Kingdom (7% share), France (5%), the Netherlands (4%) and Belgium (4%). European exports of couplings are expected to continue to grow over the next few years around 1-2% per year.

Production

Production of couplings in Europe totalled €2.1 billion in 2014, following an average annual increase of 3.2% between 2010-2014. After reaching a peak of almost € 2.2 billion in 2011, the European production started to decrease. The years 2012 and 2013 were marked by a declining demand for electric motors, which affected the couplings sales as well. The year 2014 was marked by a small increase in production (3.0%).
Germany is the largest couplings producer in Europe (54% share), followed by France (10%), Italy (9%) and Austria (8%). The average growth of production in Europe was mainly thanks to growing production in Germany, Austria and France. Production mainly takes places in western and southern Europe, with only limited production in Central and Eastern Europe.

Figure 4: Main European producers of couplings in %

2014



Source: Eurostat Prodcom

Tips

- Apart from Germany, there is also considerable production output in France, Italy and Austria. The presence of producers in these countries offers subcontracting opportunities to exporters from developing countries.
- You can get information about the latest trends and developments in the couplings industry from magazine sources such as Power in Motion. Coupling Tips, an online portal dedicated to the couplings industry, may also be interesting to you. You can use online translation services such as Google Translate to convert the website to your own language.

Demand

European demand totalled €1.5 billion in 2014, following an average annual growth of 3.1% between 2010-2014. After a dramatic growth in the period 2010-2011, 2012 was a very weak year with an overall decline in demand across Europe (8.5%). This drop was the result of a sharply declining market for electric motors in that year. 2013 was a relatively stable year, while 2014 was another year with a small decline in demand (2.6%). This average decline was caused especially by a decrease in demand in Italy, the Czech Republic and the United Kingdom.
Germany, Austria and France are the largest markets for couplings. Together, they represented 63% of the total European market. Other countries with a high demand are Italy (6% share), the United Kingdom (6%) and Spain (4%). Of the countries mentioned above, Austria showed the highest annual growth on average (16%) between 2010-2014.

2 . What trends offer opportunities on the European market for couplings?

Major trends for couplings are mainly related to product innovation based on the need for more energy efficient and cost-effective couplings; for example, the development of couplings that take

up less space by using optimised disc springs and new wear-free materials. Couplings with better performance through application of materials with lower weight and better inertia characteristics are also recent trends in the European market.
Cost efficiency remains a key trend in the couplings industry. An example is torque-limiting couplings, which can solve torque overloads during machine downtime. Using torque-limiting couplings can prevent additional costs, as machine damages can be averted.
See our study of Trends on the European Couplings Market for more information.

3 . What requirements should couplings 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 most of your competitors have already implemented; in other words, which you need to comply with in order to keep up with the market. See our study of EU buyer requirements for motion control for a general overview of requirements. Below are the requirements that apply specifically to couplings.

Legal requirements

For couplings, no specific legal market access requirements apply.
As soon as the coupling is part of a finished product, the exporter has the evident obligation to export a safe product to Europe.

Standards

For finished products, the directive on liability for defective products (Directive 85/374/EEC) applies. The Product Liability Directive states that the European importer is liable for the products introduced to the European market. However, the European importer can in principle pass on a claim to the producer/exporter.
For couplings in very specific applications, such as in a potentially explosive atmosphere, specific directives may apply. In the case of the example mentioned, the coupling must meet the ATEX directive (Directive 94/9/EC).

Packaging

For wood packaging materials used for transport, including dunnage (Directive 2000/29/EC), Europe sets requirements for materials such as:

- Packing cases
- Boxes
- Crates
- Drums
- Pallets
- Box pallets
- Dunnage (wood used to wedge and support non-wood cargo)

Another packaging-related directive is the general directive on packaging and packaging waste. 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 couplings, a low 2.7% Most-Favoured Nation (MFN) duty is levied on European imports from third countries. Several countries benefit from a preferential 0% tariff; for example, Bosnia and Egypt. Note that it is only possible to claim a preferential tariff treatment with a Certificate of Origin.

Tips

- Make sure that your wood packaging material qualifies for the European market. If you

are unsure, ask your wood packaging material supplier for clarity. Your wood packaging material supplier should take any further action required in order to comply with the Directive. If the supplier is unable to do so, you may be able to switch to another supplier.

- Exporters from a country with a preferential 0% tariff have a small competitive advantage over competitors from countries without such a preferential tariff.
- You can use the EU Export Helpdesk for more information about the import duties, including applicable anti-dumping regimes.

Non-legal requirements

Buyer's specifications

The customer's main requirements will be related to the coupling itself, as its design, material, dimensions, and finishing must meet the customer's specifications. The customer will usually require shaft spacing specifications to comply with ISO (or compliant) standards for machinery shafts.
In fact, these issues are key in the sample phase. If the customer accepts the samples and all other conditions have been agreed, the contract can be signed. After this, the main challenge for the suppliers is to deliver the products according to the agreed specifications, delivery times and volumes.

Material and testing requirements

For material requirements, the following can be said in general. The metal that is used must be covered by a national or international standard and approved by a certificate. In a foundry or forge, the material must be melted or forged in such a way that – after the casting process – the material meets the material standard, which can be stated in an EN10204 - type 3.1 certificate. This type of certificate is internationally accepted.
The customer may also have testing requirements, such as NDT (non-destructive testing), surface (MTI or magnetic testing, PTD or penetrant testing) and section (UT or ultrasonic testing, RT or X-ray testing) tests.
Some industries provide specifications or guidelines for the selection and design of couplings. One example is the worldwide standard used in the petroleum, heavy-duty chemical, gas industry services and power industries. The American Petroleum Institute's API 610 (Process Pumps) and API 671 (Turbines) standards offer a set of minimum requirements for couplings applied in these industries. API standards can be bought on Techstreet, though note that you only need to comply with such standards if required by the customer.

Tips

- Coupling manufacturers must ensure that the coupling components are engineered to maximise the working life of the machines to which they are coupled, and to improve the integrity of the entire drive system in which they are used. The accuracy of the couplings used is critical to the reputation of the original equipment manufacturers as well as to the end users who require longer mean time between failures of their machines.
- The couplings produced should be designed to accommodate drive misalignment, absorb and withstand shock loading, and facilitate easy separation of the drive line for maintenance. Only the highest quality of cast iron or steel should be used, together with the latest generation of polymer and composite technology. In addition, coupling elements made of rubber or polyurethane must be produced to the highest standards, as they are critical to the life of the coupling itself.

- See our 10 tips for doing business with European buyers of motion, drives, control and automation and our 10 tips for finding buyers in the motion control sector. These tips also offer more information on which topics are decisive for European buyers when searching for (new) suppliers.
- You can use the EU Export Helpdesk, the ITC Market Access Map and the ITC Standards Map for more information on gaining access to the European market.

4 . Through what channels can you get couplings on the European market?

Producers of couplings from developing countries have two main options for entering the European market: through importers and producers of couplings. For more information, refer to our study of Market Channels and Segments for Couplings and Competition for Couplings. A few examples for each type of prospects are given below.

• Producers: Desch Antriebstechnik, Renk and Vulkan (among the leading German coupling manufacturers); Cross and Morse and Renold (the United Kingdom; the latter is one of the world's leading power transmission producers); Esco Couplings (Belgium; one of the world's five leading industrial flexible-gear and disc-type coupling manufacturers).

• Importers: Challenge Power Transmissions and Coupling Services (the United Kingdom); Multi Components and Biesheuvel Groep (the Netherlands); Brammer, Mekanex and Regol (the Nordic countries).

5 . What are the end-market prices for couplings?

To establish an export price, you need to consider many of the factors involved in pricing for the domestic market:

• Aim to charge the price that the market will bear, and keep in mind the quality-price ratio of your products. This ratio should be in line with competitor prices.

• Pricing is a mix of knowing your domestic costs and calculating costs that you will incur in delivering and supporting your activities in a foreign market.

• Use contracts with variable material costs. It is important to set the reference index for the fluctuations in agreement with the buyer. You can use, for example, the steel index of the London Metal Exchange.

• Bear in mind that it is not easy to increase prices once you have agreed to deliver at a certain price. The negotiated price should never be below your cost price (except for the first order; in this case, you may accept a loss if larger quantities and thus lower costs are expected for the following orders). No European buyer will accept an unreasonable/unexpected price increase after the first order.

• The negotiated price depends on the delivery conditions, the means of payment, credit terms and currency risks, quantities and the means of transport.

• Exchange rates fluctuate. You can cover this risk by including the currency risk in the contract. This practice has been accepted in international business transactions for a few years.

Another very important issue is the responsibilities and rights relating to the pattern and tooling. The following pattern and tooling issues should all be covered in the contract: financing of manufacturing and possible repairs, guaranteed lifetime, ownership and storage.

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