CBI
*Ministry of Foreign Affairs*

# CBI Product Factsheet:

# Valves in the United Kingdom

## Introduction

The United Kingdom is the third-largest valve market and the second-largest importer in Europe. It is home to several production facilities belonging to both foreign and multinational companies, as well as to British valve groups or independent valve producers. At 16%, imports from developing countries as a share of total imports are higher than the European average (14%).
The best opportunities for exporters from developing countries are for parts subcontractors for British manufacturers. In some cases, exporters from developing countries could also supply finished valves to these manufacturers. Another good option for exporters from developing countries would be to target specialised distributors. In all cases, exporters from developing countries should focus on just a few specialised valves within their range of products. Finally, the pricing strategy should be very competitive.

## 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 wastewater industry is the largest sector of application for valves, in addition to the chemical-processing industry, the food-processing industry (including beverages) and the oil and gas industries.

One chapter in the CN nomenclature refers to valves and valve parts: Chapter 8481. This chapter of codes was selected for this survey. The classifications are presented in Table 1. Note that several of the codes in Chapter 8481 have been excluded from the selection, as they relate to applications other than the process industry, including pneumatic (including tyres), hydraulic and sanitary applications. Table 1 also shows the Prodcom codes used for the production and demand statistics for valves and valve parts.

**Table 1: Selected products, based on CN and Prodcom nomenclature**

| Subsector and product group | CN code | Prodcom code | Description |
|---|---|---|---|
| **Valves** | | | |
| check valves | 848130-91/99 | 29131172 | check valves |
| safety valves | 848140-10/90 | 29131176 | safety or relief valves |
| pressure-reducing valves | 84811005 | 29131134 | pressure-reducing valves combined with filters or lubricators |
| | 84811019 | 29131135 | pressure-reducing valves of cast iron or steel |
| | 84811099 | 29131139 | pressure-reducing valves of base metal |
| process control valves | 84818051 | 29131313 | thermostatically controlled process valves |
| | 84818059 | 29131315 | process control valves |
| gate valves | 84818061 | 29131333 | gate valves |
| | 84818063 | 29131335 | gate valves |
| | 84818069 | 29131337 | gate valves |
| globe valves | 84818071 | 29131353 | globe valves of cast iron |
| | 84818073 | 29131355 | globe valves of steel |
| | 84818079 | 29131357 | globe valves |
| diaphragm valves | 84818087 | 29131377 | diaphragm valves |
| other valves | 84818099 | 29131380 | valves not defined elsewhere |
| parts thereof | 84819000 | 29132000 | parts of valves |
| a range of valves (quarter turn) | 84818081 | 29131373 | ball and plug valves |
| | 84818085 | 29131375 | butterfly valves |

*Source: Globally Cool, based on CN and Prodcom Nomenclature (2013)*

The valve specifications required by British buyers are described below. These specifications include requirements pertaining to the material used, the processing steps, documentation and packaging. Illustrations 1–4 display examples of valves sold in the United Kingdom, and Illustration 5 provides an example of valve bodies packaged for transportation.

### 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 wastewater processes to stainless and heat-resistant steel in the chemical and power-generation industries. Designs are in line with customer specifications.

## 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 the batches of products manufactured.

## Labelling and packaging

Valves are individually packed in crates or boxes, generally made of wood. The packaging depends upon the characteristics of the valve, its level of treatment (100% treated valves require high-protection packaging in order to prevent breakage) and its size. The standard of the valve should be imprinted on the rim, as well as the 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.

## Quality and quantity

The quality standards of individual British companies are regarded as being lower than those in Northern Europe, but higher than those in Southern Europe. 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 valve), the packaging requirements and the documentation of accessories.

Order volumes follow the customer's standards and requirements. As a general guideline, transportation of standard valves or valve parts from developing countries to the United Kingdom is viable only for full container loads.

**Illustration 1: Vacuum solenoid-process valve**

**Illustration 2: Pressure-seal bonnet-gate valve**

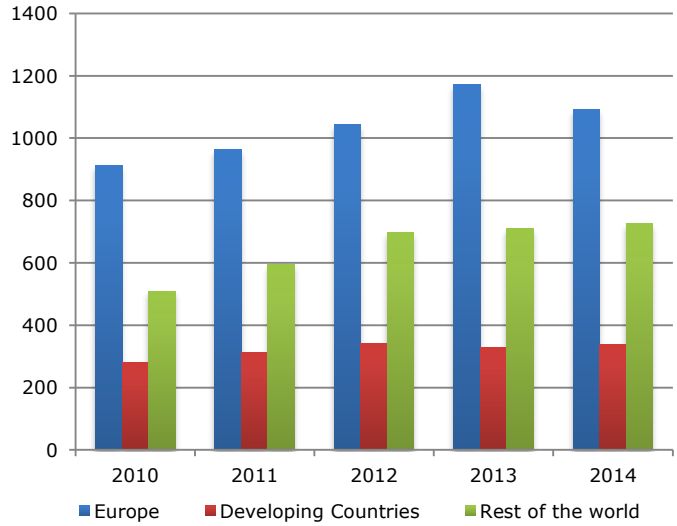
**Illustration 3: Angle valve**

**Illustration 4: Zero dead-leg valve**

**Illustration 5: Example of valve bodies ready for transport**

## What is the demand for valves in the UK?

**Figure 1: Imports of valves to the United Kingdom by main origin (2010–2014), in € million**

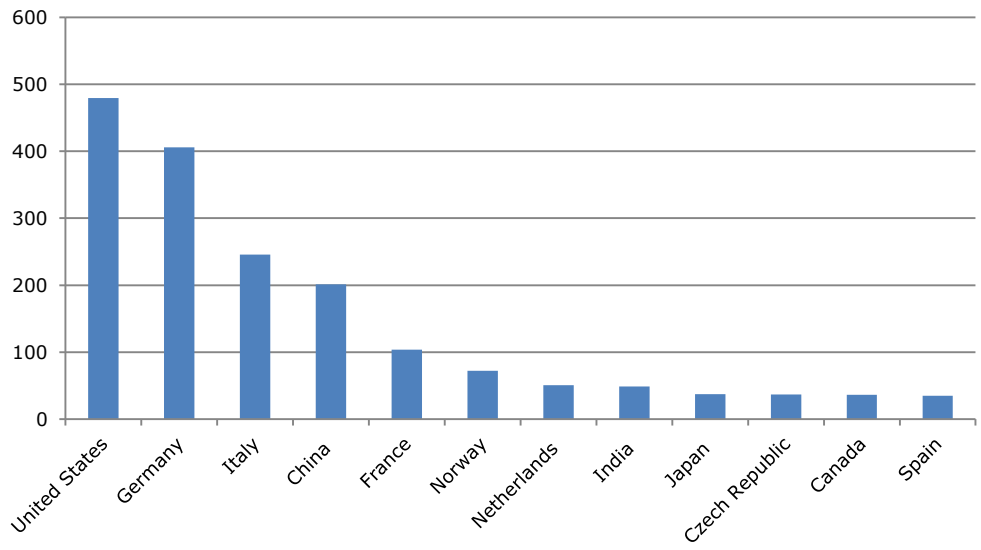



*Source: Trade Map (2015)*

- The United Kingdom is ranked as the second-largest importer of valves in Europe, behind Germany but ahead of France. With a 13% share of the European market, the United Kingdom can be an interesting focus market.
- Since 2012, import values have remained relatively stable at around €2.1 billion.
- Imports reached €2.2 billion in 2014, with an average annual growth rate of 6.1%. Valve parts accounted for more than 30% of total imports (€650 million).
- At 16%, imports from developing countries as a share of total imports are higher than the European average (14%). During the next few years, this share is expected to increase to 17%–18%.

- With regard to the share of imports from developing countries, the best-performing valve types are valve parts and a range of valves.
- The import of valves is expected to exhibit some growth in the next few years, in the range of 0-2% per year.

**Figure 2: Leading suppliers of valves to the UK (2014), in € million**



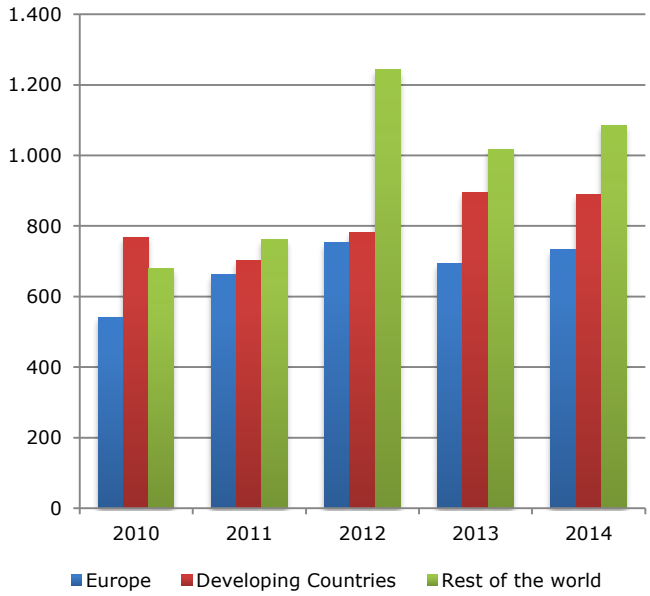

*Source: Trade Map (2015)*

- Most of the leading suppliers are from developed countries. The leading position of the USA is the result of international intercorporate transactions by leading valve manufacturers from the USA/United Kingdom (e.g. Spirax-Sarco and Weir).
- As shown in Figure 2, several developing countries appear in the list of leading suppliers: China (in 4th position at €201 million), India (in 8th position at €49 million) and Malaysia (in 15th position at €32 million).
- Aside from these countries, a few other developing countries export valves and valve parts to the United Kingdom: Turkey (€13 million), the Philippines (€12 million), Mexico (€5 million), Thailand (€3 million), Brazil, South Africa, Nigeria, Ghana and Argentina (€2 million each), and Vietnam, Angola, Azerbaijan and Congo (€1 million each).
- The composition of leading suppliers is unlikely to change substantially in the next few years.

**Tips:**

- Benchmark your company against your peers from China, India and Malaysia, as well as against those from other countries that export to the United Kingdom. Several factors should be considered, including market segments served, perceived price and quality levels and countries served. One source that can be used to find exporters of valves by country is the ITC Trade Map.
- British buyers are evidently aware of and have found suppliers in developing countries other than China. Such perceived openness to other developing countries obviously implies the presence of opportunities for developing countries. Be sure that British prospects can find your website when searching the web for suppliers. In addition, be sure that you are listed in relevant databases, including the Valve World Buyers' Guide.

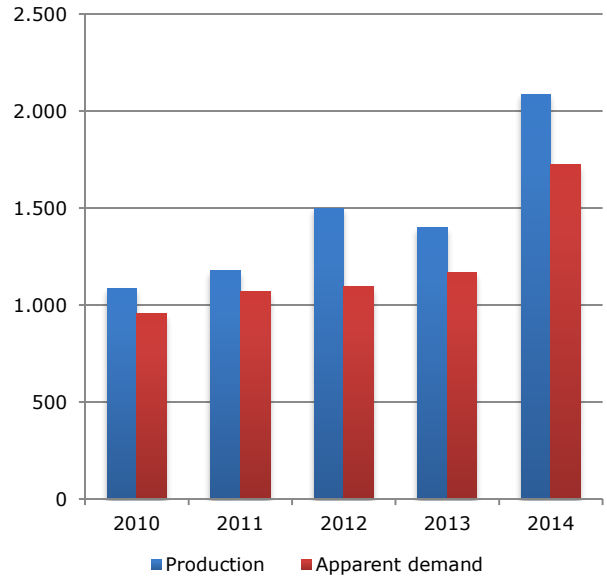
**Figure 3: Exports of valves from the United Kingdom by main destination (2010–2014), in € million**




*Source: Trade Map (2015)*

- The United Kingdom is a net exporter of valves, as exports greatly exceed imports.
- British exports performed strongly in the 2010–2014 period. Exports peaked in 2012, following an impressive growth of 31% in that year, due to a peak in exports to Australia and the USA. On average, exports grew by 8.0% per year in the 2010–2014 period (€2.7 billion in 2014).
- This pattern, combined with that of British imports (Figure 1), demonstrates the United Kingdom's participation in the global trade of valves and valve parts.
- Of all British exports, 33% are destined for developing countries. This presents an interesting opportunity for manufacturers of valves and valve parts in developing countries. Suppliers who are able to prove their ability to meet product specifications can also supply these valves and valve parts. The primary destinations are Brazil, China and Angola, followed at quite some distance by India, Egypt, Malaysia, Nigeria, Azerbaijan, Thailand and South Africa.

**Figure 4: Production of and local demand for valves in the United Kingdom (2010–2014), in € million**




*Source: Prodcom (2015)*

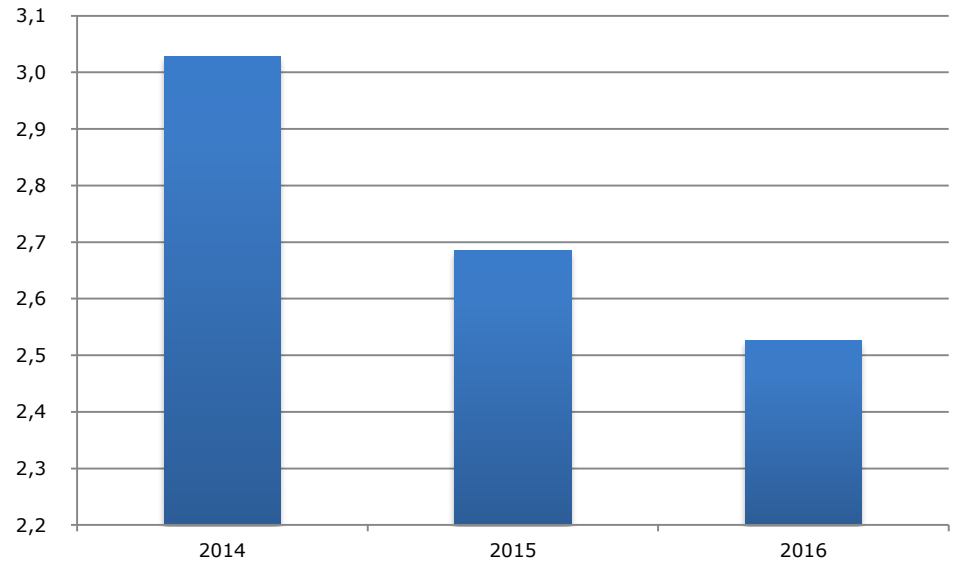
- Due to particularly strong growth in 2012 and 2014, production output nearly doubled between 2010 (€1.1 billion) and 2014 (€2.1 billion). As a result, production increased by an average of 18% per year in the 2010–2014 period.
- Due to its strong performance in 2014 (48% growth), the British market is now the third-largest market for valves in Europe, with a value of €1.7 billion in 2014. The British market has a mature character, consisting predominantly of replacements and the maintenance of existing equipment.
- Major valve manufacturers in the United Kingdom include Spirax-Sarco, Bel Valves, the Weir Group and Parker Hannifin. These large multinational manufacturers are expected to continue to dominate the British market for valves, although smaller, specialised niche players are expected to retain some power, due to their greater ability to innovate and manufacture low-volume products.
- Investments in valves and other processing equipment in the United Kingdom are expected to register limited growth or even a decline in the coming years. One important reason is the general low level of investments in the oil and gas industry, as a result of the relatively low oil prices since early 2015. As a consequence, the demand for valves is expected to drop slightly (varying between +1% and -3%).

**Tips:**

- Manufacturers of valve parts can find very good short-term and medium-term subcontracting opportunities with British valve producers.
- Considering the forecasts for 2015 and beyond, pricing is and will continue to be one of the most influential competitive factors, particularly in the range of low-end valves offered by most exporters in developing countries. Exporters from developing countries who have difficulty achieving competitive pricing should consider specialising, as competition tends to be less intense in the market for specialised valves.

### Macro-economic indicators

**Figure 5: Real GDP in the UK (2014–2016), % change from previous year**




*Source: OECD Economic Outlook 96 database*

- The major determinant of demand for valves is industrial spending activity, which is stimulated by economic growth. As indicated in Figure 5, the GDP is expected to exhibit continued growth year on year. For the longer term, it will provide a significant base for continued import growth.
- The profitability of imports of valves and valve parts is affected by the GBP:USD exchange rate, as many valves that are sourced globally are paid for in USD. As the exchange rate is not expected to exceed £0.70 to the dollar, the price level for imports of valves and valve parts is unlikely to change dramatically. This means that the level playing field of imports versus local production will remain more or less the same.

**Tip:**

- Although GDP growth forecasts are improving, pricing is and will continue to be one of the most important factors influencing competition. Competitive pricing is essential for exporters from developing countries planning to enter the European market.

## What trends offer opportunities on the UK market for valves?

The most important trends in the British valve sector include the following:

- Automated valves: British companies have specialised in expensive automated valves and actuators. These valves include technologically advanced automated valves with improved efficiency through advanced predictive and preventative maintenance abilities, as well as through improved controls involving pneumatic, solenoid, electric, hydraulic or digital mechanisms. To date, manufacturers in developing countries have not been able to supply such specialised valves.
- Cost-efficiency: British producers will continue to implement new technologies in order to reduce production costs and to secure their competitive edge. In the United Kingdom, improvements in the water utility infrastructure are channelled through the water industry's asset management programme, known as AMP5.
- 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 will continue to be the highly advanced or specialised products (e.g. valves with predictive and preventative maintenance abilities and valves with improved controls involving pneumatic, solenoid, electric, hydraulic or digital mechanisms).
- 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 (e.g. 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 that there has been an increase in demand for certain types of valves. For example, a range of valves has become more appealing as control valves for petrochemical companies. The main reason is that a range of valves has lower gland emissions than globe valves do. In addition, one specific range of

valves, eccentric plug valves, is suitable for a very large number of applications. Eccentric plug valves have thus experienced relatively high growth in demand, especially for control-valve applications in the oil and gas industry.

**Tips:**

- The segment for speciality products presents opportunities for manufacturers from developing countries who are able to supply high-tech valves or parts for such valves.
- Consider focussing on the water and sewerage treatment segment, as it offers the best opportunities, due to its relatively low technical requirements.
- The segment for specialised products presents opportunities for producers from developing countries who are able to supply high-tech valves or parts for such valves.
- The growing demand for valves made of duplex stainless steel and nickel-free stainless steel provides opportunities for manufacturers from developing countries who are able to supply valves made of such materials.
- The trend towards greater energy efficiency provides opportunities for manufacturers from developing countries who are able to supply certain types of low-emission valves or parts for such valves.

The CBI document on Trends for Pipes and Process Equipment provides a general overview of trends in the European industry.

## With which requirements should valves comply in order to be allowed on the market in the UK?

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).

A general overview of EU buyer requirements for pipes and process equipment is available on the CBI Market Intelligence Platform. Additional sources of information on gaining access to the European market include the EU Export Helpdesk and the ITC Market Access Map.

### Musts

For industrial valves, the most important legal requirements are compliance with the Essential Safety Requirements of (1) the Pressure Equipment Directive (PED) 97/23/EC, and (2) the ATEX Directive 94/9/EC, which applies to valves in potentially explosive atmospheres.

Valve parts are not subject to any specific legal requirements for market access. For finished valves, the following legislation applies:

- The Product Liability Directive 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.
- Valves are subject to the PED directive.
- Valves intended for use in potentially explosive atmospheres must comply with the ATEX directive (Directive 94/9/EC).

Other general legislation that must be taken into account includes:

- Wood packaging materials used for transport (Directive 2005/15/EC): The European Union sets requirements for wood packaging materials (WPM), including packing cases, boxes, crates, drums, pallets, box pallets and dunnage (i.e. wood used to wedge and support non-wood cargo).
- Another packaging-related directive is the general directive for packaging and packaging waste, which prescribes the marking of the kind of packaging material used and maximum levels of heavy metals in the packaging material.

**Tips:**

- To obtain PED or ATEX certification, valves must be certified by a Notified Body. In some cases, these notified bodies also offer consultancy services to help manufacturers meet the requirements. Be aware that notified bodies are often notified for only a part of the conformity assessment procedure, or for only a specific sector (e.g. electrical equipment).
- Consult the European ATEX Guidelines for the Valve Industry published by the European Valves Committee.
- Make sure that your wood packaging material (WPM) qualifies for the European market. If you are not certain, ask your WPM supplier to confirm and explain this to you. Your WPM supplier should undertake any further actions required to comply with the Directive. If the supplier is not able to do so, it would be advisable to select another supplier.
- A Certificate of Origin is obligatory; note that it must be validated by a local Chamber of Commerce. Additional information is available here.

## Additional requirements

For finished valves, the customer's main requirements will be related to technical aspects, many of which are covered in the CE or other standards. General standards (e.g. EN558 and EN12982) can serve as a starting point, while other standards apply to specific market segments (e.g. ISO 15761, 10434 and 17292 for gas and oil). Yet other standards apply to specific types of valves (e.g. 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 certificated. 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 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 NDT (non-destructive testing), surface (MT or magnetic testing, PT or penetrant testing) and section (UT or ultrasonic testing and RT or X-ray testing) tests.

Buyers may also have specific requirements relating to the dimension and surface of the valve parts. In practice, these requirements are highly dependent upon the customer and application. In some cases, buyers ask their suppliers to adhere to the EN ISO 8062 standard and, 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 such general organisational quality systems as ISO 9001 (version 2008) and process control. Some may also demand compliance with ISO 14001 (environmental) and OHSAS 18000 (labour standards).

**Tips:**

- Valves produced for the European market must be designed and manufactured with an emphasis on low emissions, safety, simplicity of maintenance, ease of operation and, above all, long and reliable service life.
- Additional details are available on the following websites:
    - ISO Catalogue - See 'TC 153' (Valves) for an overview of ISO standards.
    - Search EN norms in the online shop of the British Standards Institution.
    - CBI Buyers' Black Box offers further information on topics that are decisive for buyers when searching for new suppliers.

## Import tariffs

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

**Tip:**

- Exporters from countries subject to a preferential 0% tariff have a slight competitive advantage over competitors from countries without such preferential tariffs.

## What do the trade channels and interesting market segments for valves look like in the United Kingdom?

Valve manufacturers are the most prominent targets in the United Kingdom. Producers from developing countries can supply parts to them as subcontractors, in addition to supplying finished products. Manufacturers from developing countries can improve their opportunities by focussing on a few specialised products. British manufacturers are also the most important targets for these specialised products, and some 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.

Additional information is available in the CBI documents on 1) Market Channels and Segments for Pipes and Process Equipment and 2) Competition for Valves. Explanations of the types of prospects are provided below, including a few examples for each type. Resources that can be used for finding prospects are included in the section 'Useful resources'.

### Manufacturers

These companies offer good potential for suppliers of valve parts, and possibly for suppliers of some finished valves. Subcontracting offers the best opportunities for specialised products, including special valves or parts thereof (e.g. knife valves). Examples of British producers include the following:

- Bel Valves - manufacturer of valves, controls and actuators for the oil, gas and petrochemical industries. A division of British Engines.
- Circor International – producer of valves for the energy, aerospace and industrial markets.
- Metso – manufacturer of valves and instruments. Part of the Finnish Metso, a global supplier for process industries.
- Nabic – brand name for safety and pressure relief valves produced by Crane Building Services & Utilities.
- Valve Solutions – manufacturer and distributor of valves, actuators, valves parts and accessories.

Although consolidation and rationalisation have led to fewer independent manufacturers in the United Kingdom, it is not uncommon for a single plant belonging to a large multinational supplier to have its own purchasing function, at least to a large extent.

Note that this list is not complete, and it is intended only as an illustration of a particular category of companies.

### Distributors

Distributors are attractive targets for exporters from developing countries aiming to export large volumes of commodity-type products (e.g. common valves). This is 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, thus explaining why 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. Examples include the following:

- Anglo Nordic – distributor of a wide range of heating components, including valves.
- Ashworth – distributor of pipes, valves and fittings. Part of the French-based multinational Saint Gobain.
- Atom Hydraulics – distributor of valves and other equipment for the hydraulic industry.
- Industrial Anchillaries – distributor of air and fluid control equipment.

A few distributors are true valve specialists, as they are exclusively specialised in valves. Examples of such specialists include the following:

- RPV Group – valves for the oil and gas industry.
- Direct Valves – valves for the food-processing industry.

Note that this list is not complete, and it is intended only as an illustration of a particular category of companies.

## Useful resources

### Associations, portals, magazines and trade fairs

- Applegate Directory – database of companies based in the United Kingdom. Search by 'Products & Services'.
- British Valve and Actuator Association – offers news and background information on the British valve market. The site also offers a member directory and a portal to digital valve magazines.
- Eventseye – directory of trade shows; search by country and industry for other trade shows.
- Hotfrog – company database.
- Industry.com – portal linking to most industry magazines published in the United Kingdom.

- IWEX-Water – trade fair for the water and wastewater treatment sector, held biennially (in odd-numbered years in April or May) in Birmingham.
- PPMA Show – process equipment fair, held in even-numbered years (in September/October) in Birmingham.
- Process and Control today – search by 'supplier', 'product' or 'product area'.
- SPE Offshore Europe – oil and gas fair, held biennially (in odd-numbered years in September) in Aberdeen.
- Subcon – subcontracting manufacturing trade fair, held annually around May or June in Birmingham.
- PPMA Total Show – process engineering equipment fair, held triennially (in September) in Birmingham. The next event will be held in 2016.

## Miscellaneous

- Eurostat – official statistics office of the European Union. Registration is free and provides access to large collections of data.
- Export Helpdesk – information on European trade statistics, tariffs and quotas for developing countries.
- ITC International Trade Statistics – registration required.
- Kwintessential – provides practical tips on business culture and etiquette.

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