

# PUMPS AND COMPRESSORS

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## PUMPS AND COMPRESSORS

Pumps and compressors have the function of transporting liquids and gases in factories, plants and other locations. Pumps and compressors are vital for a modern economy and without which our entire society would be inconceivable.

Industrialization and huge agricultural production have resulted in the emergence of a strong pumps and compressors sector in Turkey. Today the share of the pumps and compressors sector accounts for 4% of the exports of the Turkish machinery industry.

Pumps are increasingly used in agricultural irrigation and in the manufacturing industry. Turkey is trying to improve land and water resources and expand irrigation. Pumps and compressors have a wide variety of applications in almost all subsectors of the Turkish manufacturing industry, mainly in the strong food, chemical, fertilizer and petroleum industries. Other important consumer sectors for liquid pumps are the energy, tourism and building sectors.

## TURKEY'S GIANT IRRIGATION PROJECT: GAP

The most important irrigation project in Turkey is the Southeastern Anatolia Project. The Southeastern Anatolia Project, or GAP, is the largest development project ever undertaken by Turkey and one of the biggest of its kind in the world. This integrated, multi-sector project which includes 13 major projects primarily for irrigation and hydropower generation was planned by the State Hydraulic Works (DSİ).

Within the GAP project, a significant part of the total irrigation area will be irrigated by high capacity pumps and Turkey's available pumping capacity will increase considerably. It is projected that at full development over 1.8 million ha. of land will be irrigated and 27 billion kWh of electricity will be generated annually with an installed capacity over 7476 MW.

The recently announced GAP Action Plan aims to improve irrigation and infrastructure needs and to accelerate economic development and social progress in the region.

The area to be irrigated accounts for 20% of the economically irrigable area in Turkey (8.5 million ha) and the annual electricity generation accounts for 22% of the country's economically viable hydropower potential (118 billion kWh). Within the GAP Action Plan, it is now planned to complete the irrigation infrastructure of 1,060,000 hectares of land by 2012. The plan also envisages the completion of irrigation networks related to these projects through bilateral cooperation and public-private partnerships.

Upon the completion of the project, per capita income will rise by 209% and about 3.8 million people will be provided employment opportunities. Thus, Turkey's economic growth will develop significantly and the pumps sector as well.

## PRODUCTION

The Turkish pumps and compressors industry manufactures and exports various kinds of pumps and compressors including: pumps fitted with a measuring device for dispensing fuel in filling stations or in garages; pumps for other liquids fitted with a measuring device;

hand pumps; fuel, lubricating or cooling medium pumps for internal combustion piston engines; concrete pumps; reciprocating positive displacement pumps; rotary positive displacement pumps; centrifugal pumps and parts of pumps for liquids and compressors. In the compressors sector in Turkey, industrial type piston and screw compressors are manufactured as air compressors.

Pumps industry production in Turkey began in the mid-1950s and the industry began to develop rapidly in the early 1960s. Small capacity pumps of all types were produced in Turkey. Modern irrigation pumps were first manufactured in 1970. As a result of climate change, energy saving technologies have gained great importance. In Turkey, there are a few large sized companies which have specialized in the production of environmentally-friendly high-capacity modern irrigation pumps. Irrigation pumps are equipped with time, labour, water and energy saving technologies. Compared with old, traditional methods, irrigation with pumps does not consume large amounts of water. Advanced production methods, such as Computer Numerical Control (CNC) and Computer Aided Design (CAD) are being utilized successfully in the large sized enterprises. Production planning, quality control and tests are realized by means of modern methods in these enterprises. In addition, research and development work also contributes to the success recorded by these companies.

Despite the lack of water supplies in agricultural areas, modern irrigation and submersible pump technologies lead to a significant increase in agricultural productivity. In addition, drip irrigation and sprinkler irrigation techniques are being used widely in Turkey. These techniques require the least possible water supply, which is the driving force for the growth of the pumps sector.

According to POMSAD data, small and medium-sized companies dominate the Turkish pumps and compressors industry. There are approximately 135 manufacturing companies in the pumps sector. 10% of these companies are big players in the competitive global environment with their own brands. They have optimum techno-economic capacity and rational production activities. The number of people employed in the sector is about 12000. The manufacturing sites of the Turkish pumps and compressors industry are mainly located in the Marmara, Central Anatolian, and Aegean regions of Turkey. İstanbul, Konya and İzmir are the major cities in pumps, compressors and parts production. The sector has been organized under POMSAD. At present POMSAD has 41 members.

## EXPORTS

At present, pumps and compressors industry exports comprise 4% of the exports of the Turkish machinery sector and have an increasing trend. The total export value of pumps and compressors rose to US \$ 342 million in 2009.

If the two important product groups, pumps and compressors, are taken into account, exports of pumps have the largest share with an export value of US \$ 201.1 million in 2009. Main export products in the pumps and compressors industry are: compressors, pump parts, centrifugal pumps, other pumps, rotary positive displacement pumps and fuel, lubricating or cooling medium pumps for internal combustion piston engines. Among product groups, compressors are the most traded items. The share of compressors in the total exports of the pumps and compressors industry is about 41%. Considerable growth

in the exports of compressors has been recorded in the last few years. Exports of compressors were US \$140.8 million in 2009. In 2009, the USA was the major buyer of Turkish compressors. Other principal export markets of the Turkish compressors are Romania, Algeria, Belgium, Germany, Russia and Irak.

The other important export product, pump parts, accounts for 19% of the total exports of the sector. Turkish-made pumps and compressors are exported to almost 170 countries in the world. Major export markets are Germany, Romania, the USA, Irak, Algeria, Belgium and Iran.

*Pumps and Compressors Exports (Value: US \$ 1000)*

Products	2005	2006	2007	2008	2009
Pumps fitted with a measuring device for dispensing fuel	3.536	4.181	4.793	6.751	5.398
Other pumps for liquids fitted with a measuring device	1.342	2.850	3.437	5.492	4.786
Hand pumps	1.087	1.142	1.548	1.943	1.530
Fuel, lubricating or cooling medium pumps for internal combustion piston engines	13.671	13.788	18.508	17.950	14.776
Concrete pumps	5.758	9.184	14.522	8.230	5.846
Reciprocating positive displacement pumps	4.597	3.591	5.714	6.225	9.153
Rotary positive displacement pumps	18.118	20.629	34.559	44.993	28.158
Centrifugal pumps	14.912	20.042	28.272	35.191	34.486
Other pumps	12.922	17.658	24.417	36.937	31.635
Liquid elevators	659	582	761	1.672	811
Pump parts	41.039	60.839	134.405	115.834	64.003

Liquid elevator parts	180	452	151	298	541
Compressors	80.796	108.003	148.580	173.548	140.848
TOTAL	198.623	262.945	419.673	455.070	341.975

Source: The Undersecretariat of Foreign Trade (DTM)

*Pumps and Compressors Exports by Countries (Value: US \$ 1000)*

Ülkeler	2009
Germany	63.245
Romania	24.423
USA	23.974
Irak	17.977
Algeria	14.764
Belgium	13.190
Iran	11.492
Libya	11.114
Azerbaijan	11.047
France	10.562
Turkmenistan	10.080
UK	9.573
Russia	7.679
Egypt	5.738
Tunisia	4.915
Saudi Arabia	4.840
Uzbekhstan	4.545
Italy	4.493
Syria	4.478
China	4.039
Kazakhstan	3.488
Morocco	2.997
Georgia	2.836
Czech Repub.	2.678
Thailand	2.677

Source: DTM

Turkish pumps and compressors manufacturers/exporters follow European and international standards and norms. The obligation to affix the “CE Mark” started in the Turkish market in 2002.

Four trade fairs related to the pumps and compressors industry will be held in Turkey in 2010. These are:

WIN-MACHINERY, Fair in İstanbul, in February,

“BURSA 5th HEATING, COOLING, AIR CONDITIONING AND NATURAL GAS TECHNOLOGIES FAIR” in Bursa, in March,

“KONYA NATURAL GAS 2010” Konya 7th Natural Gas, Heating, Cooling, Air Conditioning, Pumps, Valves, Installation Insulation Equipment and Pipes Trade Fair in Konya, in April,

“ISK- SODEX 2010” , Heating, Cooling, Ventilation, Insulation, Pumps and Valves Trade Fair in İstanbul, in May.