

# VAG valves help to ensure drinking water supply in Santiago de Chile

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## El Yeso Dam / Santiago de Chile

The capital of Chile, with its population of over six million people, faces an enormous demand of drinking water. This is a great responsibility for Aguas Andinas, Chile's biggest water supplier. Although enough drinking water is available, part of it has to be transported from the heights of the Andes to the Santiago basin. When the Maipo River becomes turbid during the rainy season, the *El Yeso* reservoir is the city's main water source. Surrounded by the

peaks of the Andes, the *El Yeso* reservoir together with the downstream *Laguna Negra* reservoir forms the region's largest drinking water reservoir. It supplies the *Las Vizcachas* treatment plant, which is situated close to Santiago, with water of high quality. By a modernisation of the dam and a large-scale extension of the water transport and storage system, Aguas Andinas were able to expand the capacity in order to meet the growing demand of the metropolis. VAG valves played an important role in this mega-project.

## Project overview

### Project:

Modernisation of the El Yeso Dam  
Transport of water from El Yeso to Azulillo  
Regulation tanks at the Las Vizcachas water treatment plant

### Valves:

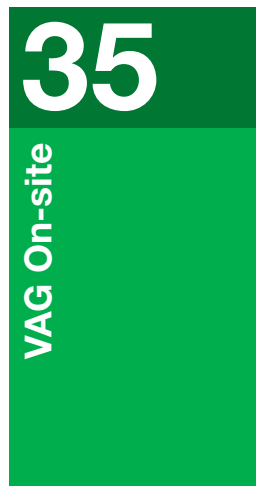
35 VAG EKN® Butterfly Valves DN 300 – 2200, PN 10/16

2 VAG KSS Hollow-Jet Discharge Valves DN 500 + 900, PN 10  
7 VAG EKO®*plus* Gate Valves DN 100 – 250, PN 16  
4 VAG DUOJET® Automatic Air Valves DN 200, PN 16  
1 VAG RIKO® Plunger Valve DN 700, PN 10  
12 VAG Dismantling Joints DN 100 – 1100, PN 10/16

### Client:

Aguas Andinas S.A.





Three challenging projects have been mastered successfully: The first one comprised the modernisation of the *El Yeso Dam*: To improve safety and operation, a new bottom outlet system was to be built.

The second project was the construction of a water transportation system from the *El Yeso* reservoir to the lower *Azulillo* sector with a stilling basin and a channel system.

The third one included the construction of 12 drinking water service reservoirs with a total storage capaci-

ty of 225.000 m<sup>3</sup>.

a tunnel. Thanks to excellent preparation, the installation went smoothly.

Two mighty VAG KSS Hollow-Jet Discharge Valves are in operation at the bottom outlet of the dam.

In various other project locations, over 30 VAG EKN® Butterfly Valves were installed in addition to a number of other VAG valves, such as VAG EKO®*plus* Gate Valves, VAG DUOJET® Automatic Air Valves and a VAG RIKO® Plunger Valve for control applications.



VAG KSS Hollow-Jet Discharge Valves at the bottom outlet of the El Yeso Dam

By the construction of a 5-km-long aqueduct the giant *El Yeso* water reservoir was connected with the existing *Laguna Negra* aqueduct. The new aqueduct has a transportation capacity of up to 4 m<sup>3</sup>/s. During peak demand periods, it now supports the city's water supply system – for example during longer dry periods or in case solid contaminants affect the water treatment process.

In this ambitious project, Aguas Andinas relied on VAG's solutions and expert advice. A VAG EKN® Butterfly Valve DN 2200, PN 10 was installed in the *El Yeso Dam*. It is the largest butterfly valve that has been installed in Chile so far and it is designed for an intake capacity of 20 m<sup>3</sup>/s. What was equally challenging was the installation of the giant valve in

Angel Luna, Senior Civil Engineer at Aguas Andinas: "This is a significant project for the water supply of Chile's capital. Our requirements as to products, solutions, technical and time frame conditions were high. VAG met all of them to our fullest satisfaction. Right from the start, the team assumed responsibility and provided outstanding technical support during the entire project completion phase".

The experience of VAG's experts helped e.g. to replace the previously planned VAG KSS Hollow-Jet Discharge Valves by valves of different nominal diameters to be able to fulfil an even wider range of tasks. As a result, the plant could be successfully put into service in early 2014.

"Good experience, punctuality, excellence in planning and service made VAG our preferred partner", says Angel Luna. The VAG team in Chile convinced us by its expert advice. During the entire project stage, in particular during all kinds of assembly work, VAG's employees were on site and in close contact with all stakeholders of the project, ranging from the water supplier up to the contractors performing the works.

