

## REFERENCE GEOTHERMAL WELLHEAD PARTNER FOR MUNICH GEOTHERMAL ENERGY



As a leading wellhead supplier in German deep geothermal energy, Hartmann Valves is supporting Stadtwerke München (SWM) by implementing their district heating vision: Munich will be Germany's first major city where district heating is produced 100% from renewable energies, especially from geothermal applications by the year 2040.



### CLOSE COOPERATION

In recent years, various geothermal plants in the Bavarian Molasse Basin have been equipped with Hartmann wellheads. Hartmann supports SWM and other project partners throughout all project phases - from consulting and customised product development to installation service and subsequent maintenance. Based on the experience gained in the many years of cooperation and within the projects, SWM have now developed a technical standard together with Hartmann. This means not only will proven technologies and components be used in future geothermal projects, but time and cost advantages can also be realised thanks to the standardised procedure.

### PROJECT-SPECIFIC DESIGN

The design of API 6A wellheads is adapted to the project-specific conditions on site. The use of purely metal-seated ball valves on the wellheads ensures high leak tightness, a long service life and low maintenance efforts. Even under demanding conditions such as high temperature and scaling, the ball valves close securely and provide reliable shut-off. They are also prepared for retrofitting with an actuator. The adapted design of an eccentric suspended production casing provides sufficient space for two pump cable penetrations. Furthermore, feed-throughs are available for the later use of cables, e.g. for the insertion of fibre optic cables. The use of identical components in both the production and injection wellhead makes it possible to swap between the two at any time later, if necessary.

*"For the implementation of our district heating vision, we rely on reliable partners who not only supply quality equipment, but also provide us with expert support. We are pleased to have found in Hartmann a partner for wellhead components with whom we can jointly develop innovative solutions and efficiently implement projects within the framework of engineering."*

**Michael Meinecke**  
Project Manager  
Geothermal Energy  
SWM

## LIGHTHOUSE PROJECT

Germany's largest geothermal plant has been built at Munich's Heizkraftwerk (HKW) Süd, which will supply eco-heat for more than 80,000 people from 2022 with a total of six deep boreholes. The Hartmann wellheads serve as a safe borehole shut-in and interface to the above-ground facilities (see picture page 1). The six Hartmann wellheads are designed for safe and trouble-free operation over many years. Equipped with purely metal-seated ball valves, they are designed for 345 bar operating pressure. Furthermore, the electric actuators enable automated operation.

## SUPPORT OF EXISTING INSTALLATIONS - MAINTENANCE

The Hartmann service is not only available 24/7 for the installation of wellhead components, but also provide support with rental equipment and regular maintenance and repair works. Based on a framework agreement with SWM, the experienced Hartmann service engineers are involved, for example, when downhole pumps need to be replaced. As part of the maintenance team Hartmann takes care of all valve and wellhead related works. In addition, Hartmann stocks all API 6A standard components, special seals and spare parts for SWM. A phone call is all it takes to obtain components at short notice and to carry out necessary revision works on time.

## MODERNISATION AND STANDARDISATION FOR EXISTING GEOTHERMAL PLANTS

SWM and Hartmann have developed a technical standard for various deep geothermal construction projects. Dürrnhaar and Kirchstockach are the first existing geothermal plants to be converted to this standard. As part of the modernisation, the plants were retrofitted with Hartmann wellheads. The design is adapted to the existing plant and piping systems and also offers higher safety standards and higher level of automation. The integrated metal-to-metal seated ball valves are resistant to high temperatures corrosion as well as scaling and they are equipped with a fail-safe-close actuator (incl. partial stroke). The ball valves are designed according to API 6A - the standard for wellheads.

## SWM GEOTHERMAL PROJECTS EQUIPPED BY HARTMANN

- Heizkraftwerk Süd (Th1 - Th6)
- Freiham (TH1 + TH2)
- Dürrnhaar (TH1 + TH2)
- Kirchstockach (TH1 + TH2)



SOURCE: SWM

## DÜRRNHAAR

### Technical data

Max. Depth	3.720 m
Temperature	135°C
Flow rate	130 l/s
Power	5,5 MW <sub>el</sub>

