

## REFERENCE TPS/i

VAM Anlagentechnik GmbH, Austria

# FRONIUS WELDING TECHNOLOGY PRODUCES THE BEST RESULTS UNDER THE MOST EXTREME CONDITIONS.

Bilfinger VAM Anlagentechnik GmbH, which is headquartered in Wels, is a subsidiary of the Bilfinger Berger Industrial Service Group. For decades it has been one of the leading companies in industrial plant, pipeline, equipment, container and tank construction. With a total of twelve companies and around 8,000 employees, the group is represented in 25 countries.



*“For us, the focus is always on the quality of the weld seam. This also applies to one-sided root passes, which are an important part of the process in the production of the pressure shaft lining.”*

Peter Krenmayr,  
head of the Welding and Testing  
Engineering business division  
at Bilfinger VAM  
Anlagentechnik GmbH.

## REQUIREMENT

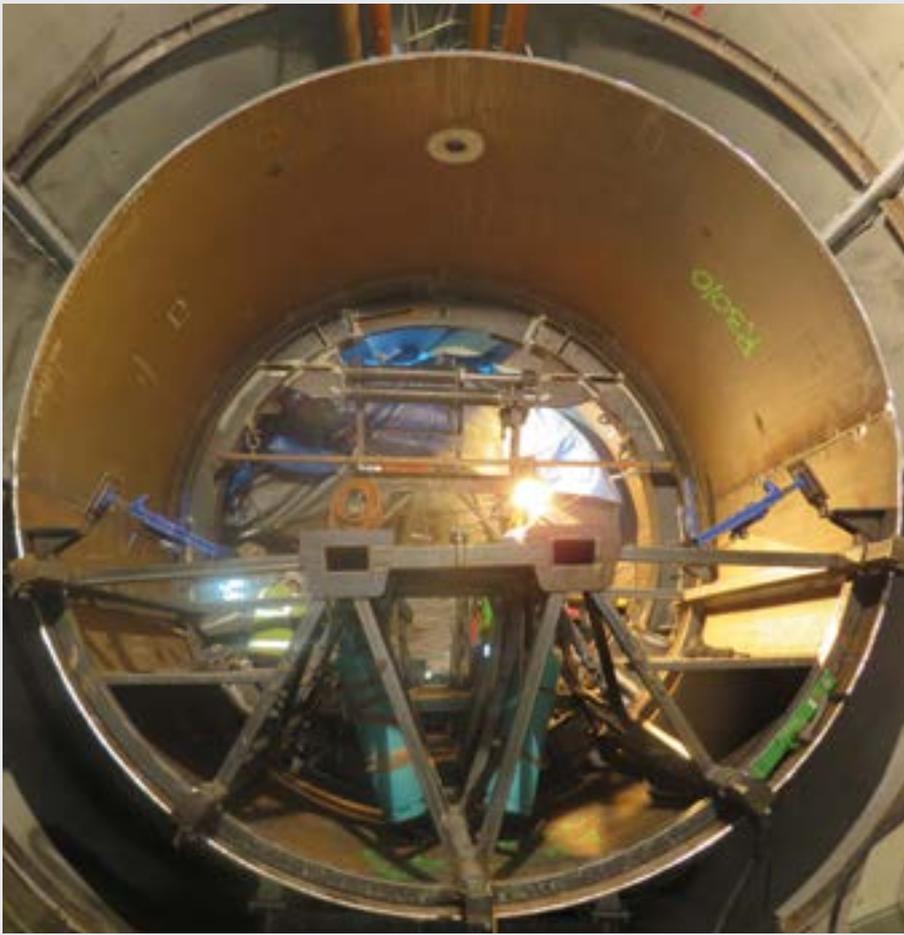
Building a pumped-storage power plant poses a huge challenge, as the majority of the construction work takes place inside the mountain. To join the reservoir to the cavern located lower down, a five kilometre underground steel pipe system was installed in a power plant in Carinthia. This consists of a headrace tunnel and a pressure shaft with an incline of 42 degrees. The cramped and difficult underground conditions place particularly high demands on the technology.

## SOLUTION

*"The TPS/i in combination with LSC Root is best suited to one-sided root pass welding in a downward position and is easy to work with."*

**Peter Krenmayr,**  
head of the Welding and Testing Engineering business division at Bilfinger VAM Anlagentechnik GmbH.

To complete the shaft, VAM Anlagentechnik used 3,963 tonnes of steel in the construction of the pressure shaft lining and the associated system components. For the first time in Europe, thermomechanical steel was used – this is inexpensive and easy to weld. To produce the best welding results, VAM deployed the latest TPS/i MIG/MAG power source from Fronius and the stable LSC Root dip transfer arc. Thanks to the high arc pressure and optimal deposition rate, welding can be performed in a downward direction and more quickly. The LSC Root ensures excellent root formation and gap-bridging ability, reduces incomplete fusion to a minimum and produces perfect weld seams. VAM was also able to use the TPS/i as a universal MIG/MAG power source for filling and final runs. This not only reduced the number of devices required, but also simplified the welding operations in the cramped pressure shaft.



/ Perfect Welding / Solar Energy / Perfect Charging

**WE HAVE THREE DIVISIONS AND ONE PASSION: SHIFTING THE LIMITS OF POSSIBILITY.**

/ Whether welding technology, photovoltaics or battery charging technology – our goal is clearly defined: to be the innovation leader. With around 3,300 employees worldwide, we shift the limits of what's possible - our record of over 900 granted patents is testimony to this. While others progress step by step, we innovate in leaps and bounds. Just as we've always done. The responsible use of our resources forms the basis of our corporate policy.

Further information about all Fronius products and our global sales partners and representatives can be found at [www.fronius.com](http://www.fronius.com)

v05 May 2015 EN