

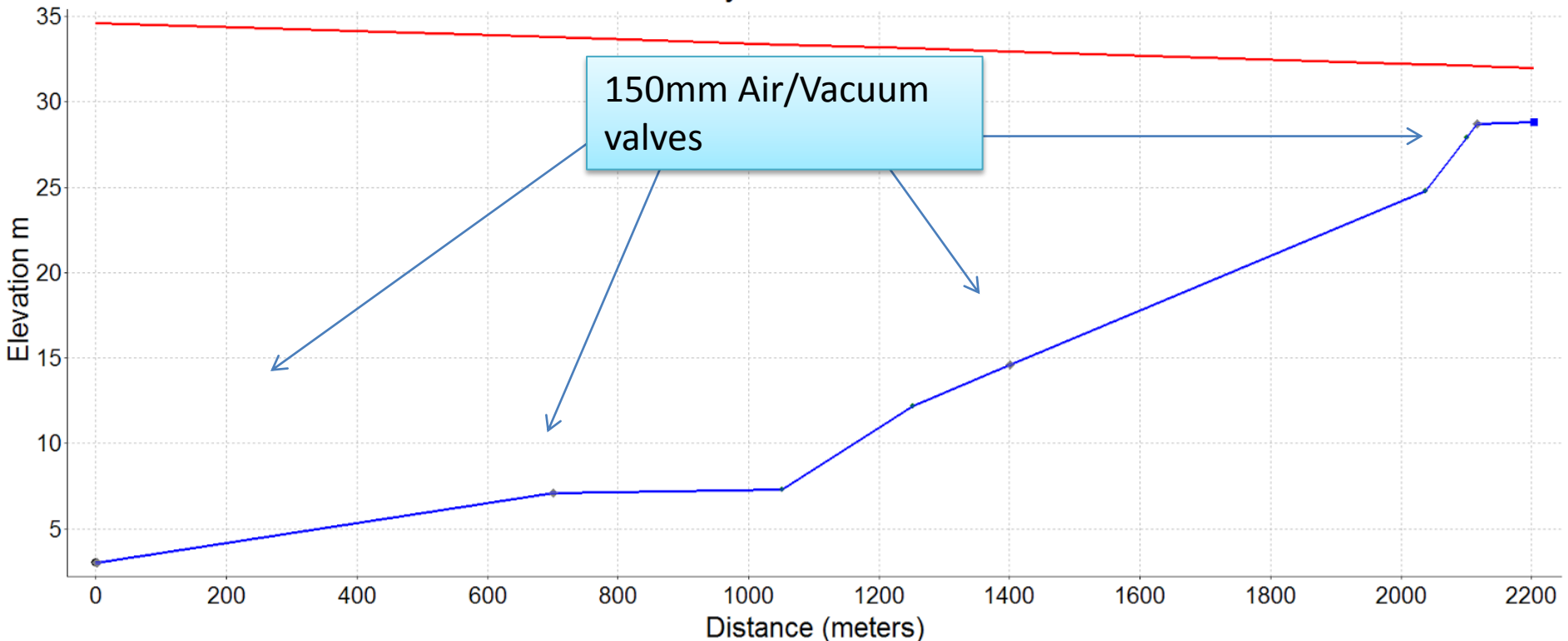


Example: Protection System-Typical case

A client requested an analysis and Dorot's solution for his system – an uphill pumping system:

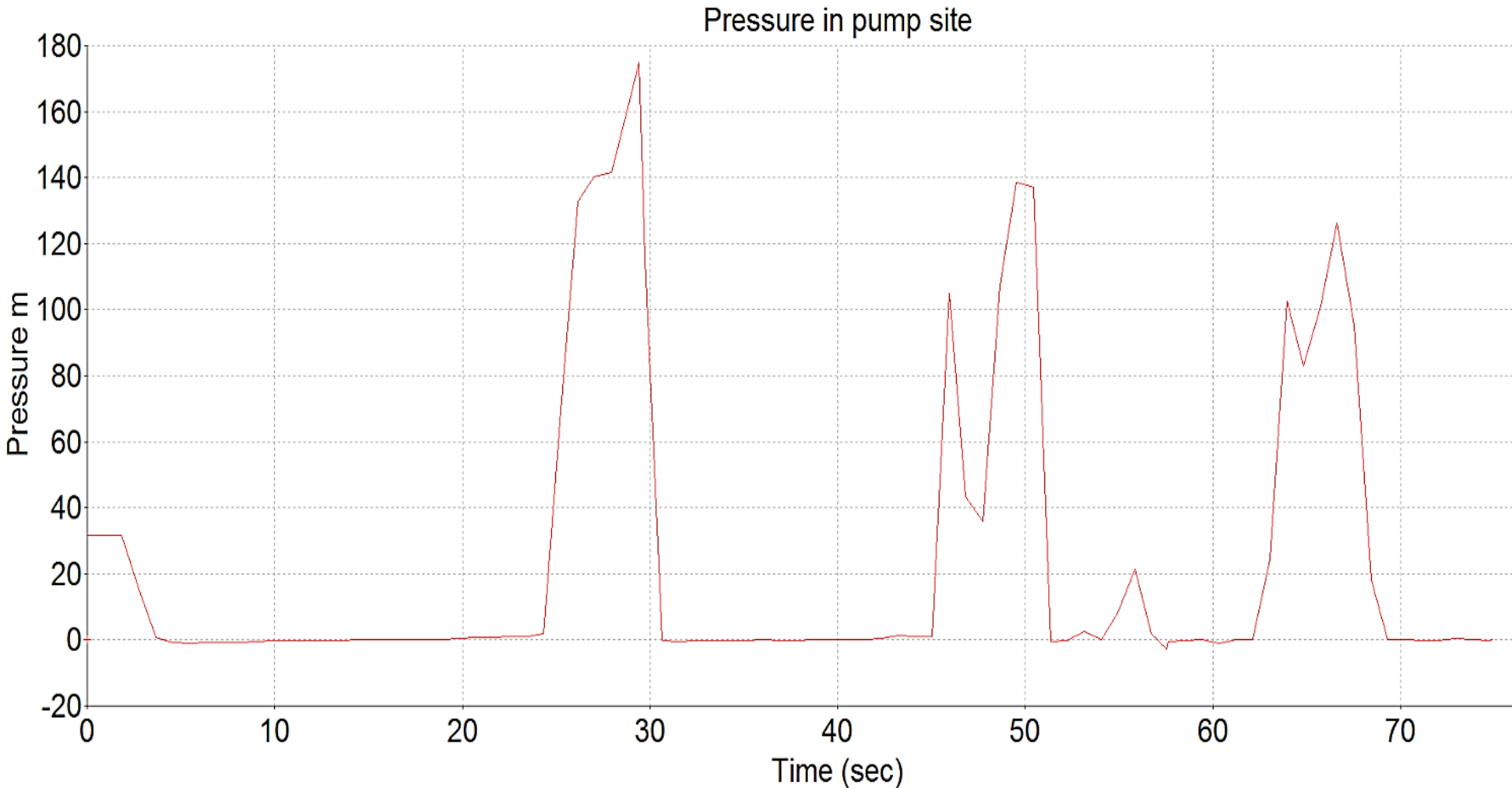
A 2200m long, 1400mm MS pipe, transporting the water from the pumping station to an elevated tank. The static lift is 29m, designed flow rate at full-capacity is 9000m³/h. The Installation was performed by Riegos de Levante, Sevilla, supplied by our agent REGABER Spain.

Steady-state condition





A transient analysis of the worst case scenario – a sudden stop of pumping at full capacity - indicated the formation of considerable water hammers:





DOROT's engineering department proposed a solution of 2 x 24" Surge- anticipating valves, which will limit upsurge to slightly higher than duty point.

The customer insisted on limiting the transient pressure to **max. 10bar**, which matches the pipe class.

Engineering department has modified the solution to 3 units, 250mm Surge-Anticipating valves, model 77-10-RE, to be installed in the pump station.

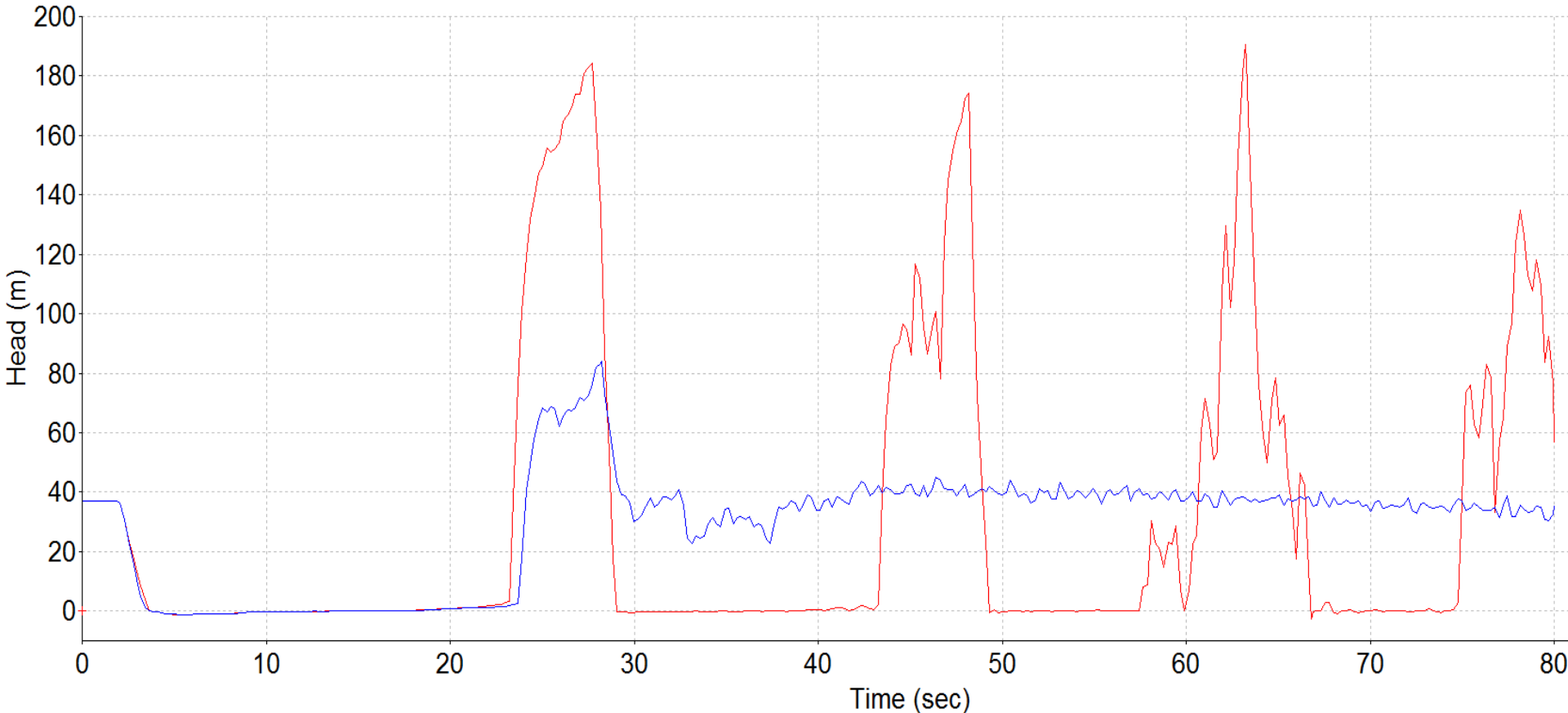
The valves open when the pressure drops below static pressure, on the initial down-surge generated by the pumping stoppage, waiting "opened" for the returning flow, thus expelling most of it out of the pipeline and slowly closing one valve at a time.



Transient analysis results

Red line- unprotected system

Blue line- Protected system



Voice is highly recommended when
the VIDEO is activated!

[VIDEO](#)