APPLICATION SOLUTION
MAY 2021

207

# HILTON COMPACT DESIGNED BONNETED KNIFE GATE VALVE



# **APPLICATION:**

A wastewater pumping station in Massachusetts required a 42" and 48" metal-seated knife gate valve. The valves were to be installed horizontally in a vertical pipe in difficult to access locations. A bonneted valve was requested due to the longer life cycle of the packing and a concern for leakage over time.

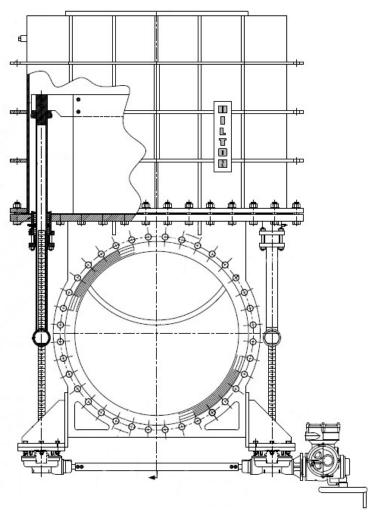
# **PROBLEM:**

Due to space constraints in the locations where the valves were to be installed, the standard yoke and stem of a bonneted knife gate valve could not be used. Hilton engineers worked with the utility and the consulting engineers to design a bonneted knife gate valve to suit the application.

# **SOLUTION:**

To solve the customer's space constraint issue, Hilton designed a compact-style bonneted knife gate valve with dual non-rising stems. In this design, nothing extended beyond the initial valve envelope as the valve opened and closed. An electric motor operates a dual output bevel gear, which in turn operates a second bevel gear to simultaneously operate both non-rising stems to raise and lower the gate. Just as with a standard bonneted knife gate, the bonnet fully encloses the gate and is rated for the full design pressure of the valve. This same compact design can also be provided using dual side-mounted cylinder operators.





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