

# Case Study

## Ketura Date Plantation, Israel

Smart valve ensures optimal salinity from mixed water supply

### Background

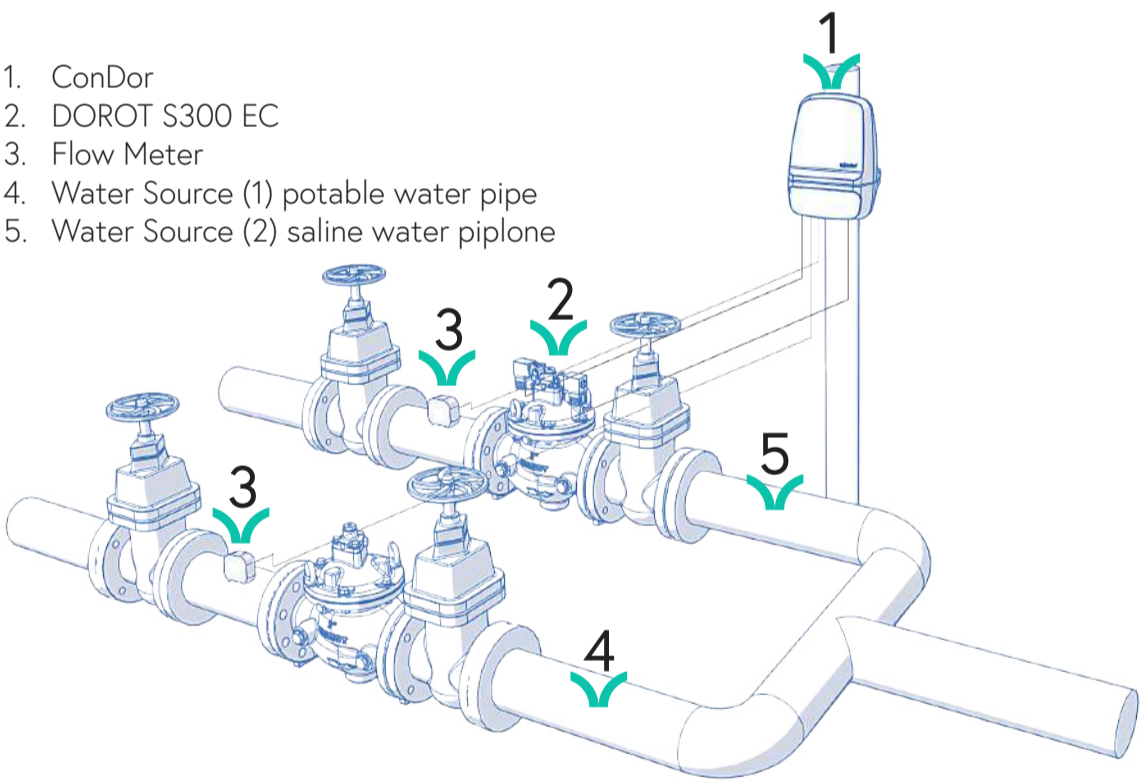
Located in the Arava desert in southern Israel, the date plantations of Kibbutz Ketura cultivate around 800 tons of dates per year, most of which is designated for export. Since the region gets an average annual rainfall of just 11 mm, the cost of water for irrigating the date palms represents around 40% of the plantation's expenditure. Mixing expensive potable water with less expensive, high-salinity water, an optimal balance is obtained between water quality and cost, versus maximum date quality and saving water.

### Challenges Controlling salinity at multiple sites

For the health of the dates and the trees, maximum salinity (EC) levels of between 3-5 ms/cm must be maintained in the water used for irrigation. The customer therefore needed a way to control the output obtained from mixing the two water sources of different salinity levels. The ideal solution would enable remote, real-time control across three identical sites on three different plantations, at a distance of several kilometers from each other.

### Solution Flexible, remote, and easy to use

To control the output of the mixing junction and maintain the required EC level, a Dorot S300 EC (electrically controlled) valve was installed on the potable water source (which is supplied at a higher pressure). A ConDor IP65 hydraulic valve controller unit was also installed, with cellular communication. Meeting the customer's need for flexibility, the system can be used as a fully-open solution, or can be regulated to maintain a pre-defined EC level. Setpoints and functions can be remotely changed with ease, using the SKYplatform cloud-based SCADA system. With just one simple control trim configuration, the solution is easy to integrate and operate by local personnel. Since there is no on-site electrical supply, a solar panel was provided as part of the SIU solution.



### Results Correct level of salinity, at maximum cost efficiency

"In 2019, the upgraded generation of ConDor was installed at 3 different sites, permitting regulation of two water supplies, resulting in the correct level of salinity and maximizes cost efficiency," says Lonny Scheib, Ketura Date Fields Manager. "At the same time, the system facilitates real-time on-site field communication via mobile phones and the cloud-based system. It worked very well for us: in the field, the systems work without any support. We now want to go further and use the solution's simplicity and functionality to increase our efficiency"

