Two-screw multiphase pumps are the centerpiece of the most common type of surface-installed multiphase pump systems, and the design most often recommended for oil & gas applications.

For more than 20 years, these systems have been deployed in increasingly more challenging environments and process conditions. The technology is highly effective in accommodating different ranges of oil, water, gas and particulate at once. It is especially beneficial for offshore, flaring-sensitive and heavy oil production fields.

Able to accommodate a wide range of gas volume fractions (GVF), multiphase systems boost oil, gas, water, condensates and solids with one pump through one pipeline from the production manifold or wellhead to a distant central processing facility (CPF).

The typical footprint for surface oilfield applications shrinks dramatically without the need to separate the multiphase stream at the production module.

Gone are the production separator vessels, gas compressors, transfer pumps, gas production lines, liquid production lines and particulate handling systems.

As a bonus, these systems prove effective in bringing shut-in wells back into production economically by decoupling wellhead pressures from required system pressure.

In addition to a reduced operating footprint, platform or infrastructure construction, maintenance and inspection costs also drop. Installations have performed for years with little operator attention when surrounded by specialized smart pressure, temperature and vibration sensors that manage pump operations through a customizable control module and variable speed drive.

CIRCOR’s work in developing this technology for maximum efficiency and reliability, and for maximum GVF capability ranges, gives us a unique technical perspective on these systems.

FOR ADDITIONAL INFORMATION VISIT: circorpt.com/multiphase