



Nikkiso Clean Energy & Industrial Gases Group's Pump Unit Acquires Intellectual Property to Manufacture Electric Mechanical Actuators

FOR IMMEDIATE RELEASE

Temecula, CA, February 9, 2021 – Nikkiso Cryogenic Industries' Clean Energy & Industrial Gases Group (CE&IG), a subsidiary of Nikkiso Co., Ltd (Japan), announces their Pump Unit has acquired the intellectual property (IP) to manufacture and assemble electric-mechanical actuators (EMA) and the associated control panels.

The high force EMA coupled to a cryogenic reciprocating pump eliminates the need for a gearbox and crankcase, which provides a compact layout for vertical submerged pump design. The EMA also provides complete control of the reciprocating pump's piston speed and position, allowing for a wider turndown range, pulsation-free operation for multiple unit arrangements, and enhanced reliability.

CE&IG's Pump Unit's EMA actuated pumps have been in various phases of testing for the last four years including actual operation in a prototype hydrogen fueling station. The EMA actuated reciprocating pump is immediately available for hydrogen applications that require up to 900 Barg discharge pressure. High pressure LNG fuel supply pumps for marine industry applications will be available in the near future.

"This is an exciting next step for our Group and a significant benefit for our customers. CE&IG will now be able to manufacture the complete pump assembly (from cryogenic head to the drive unit) and provide our customers with a complete factory supported solution," according to Peter Wagner, CEO of Cryogenic Industries and President of the Group.

With the IP acquisition, CE&IG's Pump Unit will manufacture and assemble the EMAs at its Nikkiso ACD factory in Santa Ana, California.

ABOUT CRYOGENIC INDUSTRIES

Cryogenic Industries, Inc. (now a member of Nikkiso Co., Ltd.) member companies manufacture engineered cryogenic gas processing equipment and small-scale process plants for the liquefied natural gas (LNG), well services and industrial gas industries. Founded over 50 years ago, Cryogenic Industries is the parent company of ACD, Cosmodyne and Cryoquip and a commonly controlled group of approximately 20 operating entities.

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For more information please visit www.cryoind.com and www.nikkiso.com.

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