

Portal Instruments Selects CAP-XX Supercaps for Needle-Free Jet Injection Platform

CAP-XX's ultra-thin prismatic supercapacitors, manufactured in Australia and Malaysia, deliver burst power needed for high-speed needle-free jet injection

SYDNEY, AUSTRALIA, March 16, 2021 /EINPresswire.com/ -- [CAP-XX Limited](#) (LSE:CPX), the leading manufacturer of ultra-thin prismatic and cylindrical supercapacitors, announced that Portal Instruments, a clinical stage medical device company, has selected the [CAP-XX GS230F supercap](#) for its advanced needle-free drug delivery platform for self-administering biological medicines. Portal Instruments chose the CAP-XX

prismatic supercapacitors, which are manufactured in CAP-XX's production facilities in Australia and Malaysia, due to their characteristic low ESR which enables the high burst of energy needed to drive the fast, large volume needle-free jet injection, and for their thin form factor which fits easily inside the small drug delivery device.

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We are proud to provide the high-density power Portal needs to inject biologics without the pain of needles. This is one of many possible applications for CAP-XX supercapacitors in medical devices.”

Anthony Kongats, CEO at CAP-XX



Portal Instruments' handheld connected needle-free jet injector uses ultra-power-dense CAP-XX supercaps to deliver hundreds of watts of power to drive its high-speed, concentrated injection.

Portal Instruments' needle-free jet injection platform is intended to simplify the drug delivery experience, from self-injection for patients suffering from chronic disease, to healthcare workers delivering vaccines. The handheld connected device delivers injectable medications without a needle by pressurizing the drug itself, which passes through a 160 μm nozzle to create a very fine fluid jet, about the size of a hair, at a controlled speed. This jet pierces the skin, delivering the drug to the target tissue in a fraction of a second, up to 30x faster than a conventional autoinjector and with less pain. Portal's platform can

deliver injection volumes up to 2 mL, irrespective of drug concentration and viscosity.

Portal Instruments uses multiple ultra-power-dense CAP-XX GS230F supercapacitors to deliver hundreds of watts of output power to drive the high-speed, concentrated injection in its compact handheld device. CAP-XX's industry-leading power density enables the device's small, easy-to-use form factor and allows the device to operate from a compact, industry-standard rechargeable battery which recharges the supercapacitors before every injection. ([Watch a video of Portal's needle-free jet injector.](#))

The CAP-XX GS230F supercap features:

- 200 mF
- 5 V
- 89 x 17 x 3.9 mm
- Very very low ESR of 25 mΩ which is critical in this fast drug delivery application
- Very low leakage current 2.5 μA (micro-Amps)

"Our vision is a needle free world," said Patrick Anquetil, Portal Instruments' CEO. "The CAP-XX supercapacitor is a key enabler in delivering a fast, concentrated injection that is over within half a second, empowering the patient to more comfortably manage their chronic condition."

"We are proud to provide the high-density power Portal Instruments needs to inject high viscosity biologics without the pain and anxiety of needles," said Anthony Kongats, CEO at CAP-XX. "Their needle-free breakthrough technology can bring welcome relief to self-injecting diabetic, arthritis and IVF patients, and mass vaccination sites around the world. This is just one example of the many possible applications for thin CAP-XX supercapacitors in medical devices."

About CAP-XX

CAP-XX (LSE:CPX) is a world leader in the design and manufacture of ultra-thin prismatic and compact cylindrical supercapacitors. Its prismatic supercapacitors are manufactured in Australia and Malaysia and its cylindrical supercapacitors are manufactured in China. The company's strong intellectual property (IP) portfolio includes 21 patents worldwide. CAP-XX's ultra-thin prismatic supercapacitors are ideal for space-constrained electronics applications where small energy storage device size and thickness are important. The unique feature of CAP-XX supercapacitors is their very high-power density and high-energy storage capacity in space-efficient thin prismatic and compact cylindrical packages. For more information about CAP-XX,



Portal chose the CAP-XX GS230F thin prismatic supercap for its very low ESR of 25 mΩ which enables the high burst of energy to drive the fast, needle-free jet injection, and for its thin form factor which fits easily inside the small drug delivery device.

visit <https://www.cap-xx.com/> or email sales@cap-xx.com.

About Portal Instruments

In partnership with biopharmaceutical firms, Portal Instruments is developing and commercializing a highly innovative needle-free drug delivery platform technology to transform the administration of medicines and improve the patient experience for chronic diseases. Portal's needle-free delivery technology is derived from research at the Massachusetts Institute of Technology (MIT) and enables the administration of high viscosity biologic drugs with less discomfort and without the anxiety of handling needles. Real time tracking and reporting sets a new standard for monitoring adherence and potentially improving patient outcomes. Portal Instruments is ISO 13485:2016 certified. For more information, please visit: www.portalinstruments.com or follow @portalcambridge on Twitter.

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