



# Press Release

Nippon Chemi-Con Corporation  
May 16, 2025

## New Development of "FX Series" Iron-based Nanocrystalline Alloy Common Mode Choke Coil

Nippon Chemi-Con has developed the "FX Series", a common mode choke coil that improves magnetic permeability at 100kHz by 145% compared to the previous model (FW Series). This product reduces size/weight and improves performance as a noise filter for switching power supplies, inverters, and automotive equipment.

Most electronic devices generate noise that need to be filtered and suppressed. As electronic equipment become increasingly dense on the circuit board, there is a need to reduce the size of noise filters so they can be installed in a limited space.

The FX Series has achieved a high permeability of 45,000 $\mu$  (which is unique amongst nanocrystalline material cores) and high impedance characteristics in high frequency ranges. Both are very effective for downsizing and improving countermeasures for noise regulations. In other words, the FX Series can offer noise filters with the same performance but in a smaller size than conventional products.

■ Magnetic Permeability Achieved: 45,000 $\mu$  (100kHz)

	Previous Item (FW)	New Developed Item (FX)
Magnetic Permeability $\mu'$ <sup>*1</sup> (100kHz)	31000	45000
Impedance <sup>*1</sup> (150kHz) $\phi$ 37mm Core <sup>*2</sup>	40 $\Omega$	53 $\Omega$

■ Small Size and Light Weight Achieved <sup>\*3</sup>

	Previous Item (FW)	New Developed Item (FX)
Core Size (Outer Diameter)	Sample) $\phi$ 37mm 	$\phi$ 33mm 
Core Weight	Sample) 57g	34g

\*1 : Typical Value

\*2 : Core Dimensions [mm] Outer Diameter 37 x Width 15, Number of Turns:1 Turn

\*3 : Example of Downsizing Core with Inner Diameter of 23 mm (ratio of core)

Coil Dimensions [mm] : Outer Diameter 31×Width 18～ Outer Diameter 60×Width 39  
Coil Specifications(Sample) : Rated Voltage 250V～1000V、 Rated Current 5.5A～39A  
Inductance(10kHz) 3.5mH～38mH、 (100kHz)1.0mH～11.5mH

《Samples and Mass Production Available》

Samples of the "FX Series" are already available, with mass production scheduled for June 2025 onwards. Production will take place at Chemi-Con East Japan Corp. Iwate Plant (a wholly owned subsidiary of Nippon Chemi-Con).

《Product Appearance》

