NIIGATA’s New CFRTP Composite Molding Machine at IPF 2017


CFRTP material is a composite material of carbon fiber and thermoplastics resin. Not only aircraft and automobile but also other industries are expecting to use such material, 10 times strength with a quarter weight of steel, for various applications. Although CFRP, a composite material of carbon fiber and thermosetting resin, used to be mainstream as strong yet lightweight material, CFRTP is replacing now because CFRP requires longer processing time and only limited materials can be used.

MDV200TY-GMS is equipped with 200-ton hydraulic press, electric injection unit and mold heat/cool device (GMS) and combines press molding and injection molding of CFRTP material in one process. With conventional method, CFRTP prepreg material, which has been press-formed in another machine, is inserted into injection molding machine. With MDV200TY-GMS, not only 2 processes are combined into 1 but also flexibility in shape-forming and bond strength of 2 different materials are increased as still-hot prepreg material is inserted just before injection of resin.

Go-factory Ltd. developed the mold heat and cool device, which is called GMS. GMS reduces cycle time dramatically and improves molding quality. By using only pressing device and GMS, CFRP material (thermosetting type material) can be produced.

At IPF, MDV200TY-GMS will be molding automobile oil pan using PA resin. By changing prepreg material and resin, many other applications are possible.

[Picture] Oil pan for automobile

[Picture] MDV200TY-GMS