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**Press release**

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## MAN Reactor System for Production of Biodegradable Plastic

### MAN Energy Solutions subsidiary DWE® wins order for salt-operated reactor system

Wanhua Chemical Group Co., Ltd., a leading supplier of chemical products in China, has commissioned DWE® – a subsidiary of MAN Energy Solutions – to deliver three salt-operated reactors for a new maleic-anhydride plant specialized in the production of PBAT (PolyButylene Adipate Terephthalate) – a base material for biodegradable plastics. With an overall capacity of 200,000 tons per year, Wanhua will eventually operate one of the largest production plants for maleic anhydride worldwide. The solution provided by MAN Energy Solutions will be able to handle an annual capacity of 67,000 tons per reactor system.

China expects a growing demand for maleic anhydride in the coming years, mainly driven by the process industry's efforts to increase the production of environmentally sustainable packaging-material. PBAT-based plastic is biodegradable: when buried in soil, it decomposes due to the action of naturally occurring micro-organisms – such as fungi, algae and bacteria – and leaves no toxic residues behind.

“We are delighted that MAN Energy Solutions is contributing to Wanhua's goal of significantly increasing the production of environmentally-friendly packaging material. This important order further deepens our long-term collaboration with Wanhua, consolidating numerous successful projects in the past,” said Ronnie Su, Head of Industrial Region APAC at MAN Energy Solutions.

Su continued: “We appreciate very much the trust that Wanhua is putting in our state-of-the-art reactor systems. Our technologically advanced solution fits the maleic-anhydride industry's current trend towards larger capacities, lower power consumption and safer operation. Moreover, MAN Energy Solutions is the only manufacturer worldwide able to handle the high capacity of 200,000 tons of maleic anhydride with just three reactor systems.”

Qian Zhaogang, General Manager of Wanhua Materials and Equipment Department, stated: “It is very gratifying that, as an excellent supplier to Wanhua, MAN Energy Solutions can continue to provide the most advanced and reliable reactor systems to our company.”

In cooperation with licensor, Conser, and catalyst supplier, Clariant, MAN will work on the first reference project for maleic-anhydride reactors featuring tubes with an inner diameter of 25 mm. Compared to the usual diameter of 21mm, the larger diameter and lower drop-catalyst enable the optimization of the system's power consumption and the highest efficiency.

The reactors are more than 10 meters in diameter and reach an operating temperature of up to 450°C. Thanks to the outstanding temperature control of

DWE Reactors, the operating conditions for each of the 38,500 tubes are practically identical, thereby maximizing selectivity and yield.

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MAN Energy Solutions enables its customers to achieve sustainable value creation in the transition towards a carbon neutral future. Addressing tomorrow's challenges within the marine, energy and industrial sectors, we improve efficiency and performance at a systemic level. Leading the way in advanced engineering for more than 250 years, we provide a unique portfolio of technologies. Headquartered in Germany, MAN Energy Solutions employs some 14,000 people at over 120 sites globally. Our after-sales brand, MAN PrimeServ, offers a vast network of service centres to our customers all over the world.



*Visualization of a DWE<sup>®</sup> salt-operated reactor system*



*Picture from the signing ceremony for the new order with (left) Ronnie Su, Head of Industrial Region APAC at MAN Energy Solutions, and Qian Zhaogang, General Manager of Wanhua Materials and Equipment Department.*