

HANSER

Co-Rotating Twin-Screw Extruder

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Vorwort

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Preface

The co-rotating twin-screw is used in many of today's industries, particularly in polymer processing. However, the development of this type of machine goes back a long way. Key contributions to the development of the co-rotating twin-screw were made by employees of the chemical industry: a basic patent for Meskat and Erdmenger's "threaded screws" of 1944 was granted in 1953 and in the same year, Bayer awarded an exclusive worldwide license for the patent utility rights to Werner & Pfleiderer.

The first twin-screw compounder (ZSK) went into production at Werner & Pfleiderer in 1957, marking the beginning of a success story for this type of machine. The first major applications were in the chemical industry. Today, the machine is predominantly used in the plastics industry, e.g., in extrusion and compounding. These screw machines are therefore also known as extruders and the twin-screw is known as the twin-screw extruder.

The 2007 international plastics trade fair and the 50th anniversary of the ZSK have inspired Bayer (Bayer Technology Services) and Werner & Pfleiderer (Coperion Werner & Pfleiderer) to publish a book covering the history, principles and applications, and current state-of-the-art of this technology. The book is based on a seminar regularly held by the editor and organized by the Association of German Engineers (VDI) entitled "The co-rotating twin-screw extruder".

As the book contains contributions from several authors, readers are also offered a variety of viewpoints. I would like to take this opportunity to offer heartfelt thanks to all authors for their contributions. I would particularly like to thank Mrs. M. Stüve of Carl Hanser Publishers and my colleague Mr. J. Hepperle for their invaluable assistance in the layout and editing. I would also like to thank Mr. W. Wiedmann of Coperion Werner & Pfleiderer for the organisation of the CWP contributions and for being a major driving force behind the project.

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