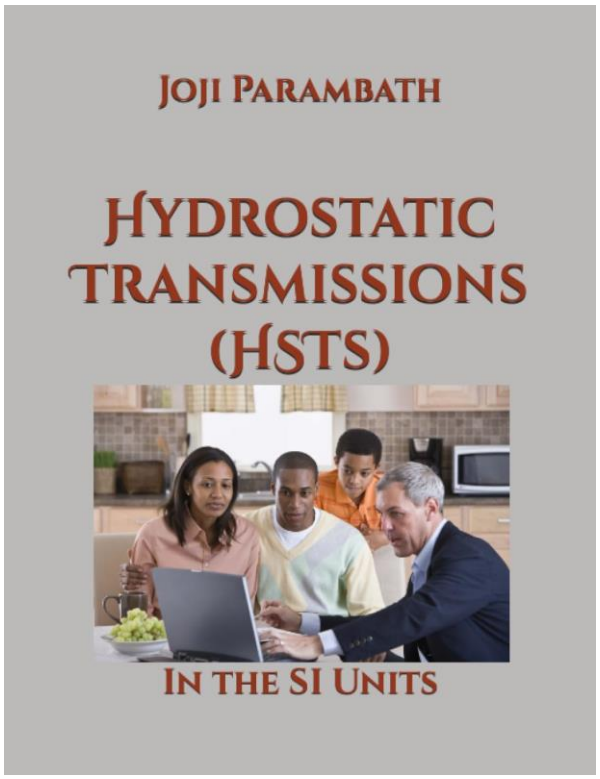
Hydrostatic Transmissions (HSTs) (In the SI Units)

by

Joji Parambath



About the Book

Hydrostatic transmissions (HSTs) occupy a distinct place in fluid power technology. They are widely used in agricultural tractors, on and off-highway mobile equipment, and various self-propelled equipment for the transfer and control of power. An HST provides an infinitely variable speed between zero and maximum in both forward and reverse modes of operation without changing the prime mover's speed. Moreover, manufacturers are bringing out smaller, lighter HSTs with advanced electronic controls and improved performance. These factors make HSTs a cost-effective choice for many industrial and mobile applications.

The second edition of this introductory book presents the principles of hydrostatic transmissions. The basic concepts of typical open-circuit and closed-circuit HSTs are described simply. The configurations, types, specifications, and applications of HSTs are also given. Appendix 2 contains case studies on an open-circuit hydraulic concrete pump system, a hydraulic steering system, and typical displacement controls of a bidirectional variable-displacement axial-piston pump. Appendix 4 describes basic displacement control methods of variable-displacement axial-piston pumps. The book uses the SI system of units.

This book contains educational information that aims to equip hydraulic professionals to handle complex hydraulic circuits. Every HST circuit for real-world applications is unique and must be developed and tested to ensure the required performance and life.

About the Author

Joji Parambath is an accomplished professional with over 25 years of experience in Pneumatics, Hydraulics, and PLC. Throughout his illustrious career, he has trained professionals from various industries, faculty members, and engineering students, imparting his knowledge and expertise to the next generation of learners. The author's extensive experience in handling topics such as industrial hydraulic systems, mobile hydraulic systems, and hydraulic system design has uniquely positioned him to prepare this book on advanced hydraulics.

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