

Contents

Preface — V

About the editors — VII

List of contributing authors — IX

Section I: **Blowers**

Devyani Thapliyal, Kshitij Tewari, Chitresh Kumar Bhargava, Avinash Chandra, Pramita Sen, Rahul Kumar, Amit K. Thakur, George D. Verros, Raj Kumar Arya

Chapter 1

Introduction to fans and blowers — 3

Ankita Kumari, Priyanka Sati, Sudesh Kumar, Ravi Dhabhai

Chapter 2

Positive displacement blowers — 37

Harshit Mittal, Omkar Singh Kushwaha

Chapter 3

Dynamic blowers: classification, characteristics, applications, and industrial scalability — 55

Omkar Singh Kushwaha, Harshit Mittal

Chapter 4

Efficiency and industrial scale-up of blowers and compressors — 71

Section II: **Compressors**

Devyani Thapliyal, Kshitij Tewari, Chitresh Kumar Bhargava, Avinash Chandra, Pramita Sen, Rahul Kumar, Amit K. Thakur, George D. Verros, Raj Kumar Arya

Chapter 5

Introduction to compressors — 93

Praveenkumar V., Karthikeyan C., Preetha V., Mohamed Arshath S., Tamilselvi K., Mohammed Basith A. B.

Chapter 6

Compressor applications and comparative analysis in process industries — 121

XIV — Contents

Karthikeyan C., Mohammad Nadeem Pathan A., Muthamizhi K., Akhila Hariharan
Chapter 7

Prediction of compressor performance using artificial neural network — 137

Pranay Gupta

Chapter 8

Capacity control of a reciprocating compressor: a case study — 159

Pramod Belkhode, Pratibha Agrawal, V. N. Ganvir, Kanchan Borkar

Chapter 9

Improvement in quality of maintenance of air compressor — 165

Anurag Tewari, Amit Parashar, Waseem Ahmad, Ashish Kumar,
Rajiv Kumar Vishwkarma, Mohd Ayub Ansari, Pastor Argulles

Chapter 10

Future prospects in compressor technology — 179

Index — 199