Purpose
To master performance monitoring and operation management methods using the centrifugal compressor as an example.

Characteristics
★ Learn about the theory of centrifugal compression, performance, and basic operational knowledge using cut section models of centrifugal compressors and videos of various experiments relating to operational theory.
★ Combining animated computer graphics, narration, and real video imagery, the explanations are given a sense of presence and realism.

Curriculum
Introduction
Chapter 1 Basic Understanding
Chapter 2 Performance Curves
Chapter 3 Operating Conditions and Performance Curves
Chapter 4 Centrifugal Compressor System
Chapter 5 System Operation Management

Who should take this course
Novice and mid-level employees responsible for maintenance work, operators and engineers on production-sites (plants), workers, supervisors, and administrators in the field

Course material outline
◆ Expected learning time: 3 hours  ◆ Number of tests: 2
◆ Shortest duration: 60 minutes

Supervised by
Idemitsu Kosan Co., Ltd.  Technical Training Center
Curriculum

Chapter 1 Basic Understanding
101 Structure and Gas Flow
102 Compression Mechanism

Chapter 2 Performance Curves
201 Head
202 Pressure
203 Work and Motive Power
204 Efficiency and Shaft horsepower (1)
205 Efficiency and Shaft horsepower (2)
206 Summary Exercises 1

Chapter 3 Operating Conditions and Performance Curves
301 Surging Region
302 Practical Flow Control (1)
303 Practical Flow Control (2)
304 Impact of Fluctuations in Operating Conditions (1)
305 Impact of Fluctuations in Operating Conditions (2)
306 Impact of Fluctuations in Operating Conditions (3)
307 Impact of Fluctuations in Operating Conditions (4)
308 Impact of Actual Fluctuations and Surging
309 Summary Exercises 2

Chapter 4 Centrifugal Compressor System
401 Thrust Balance
402 Seal System (1)
403 Seal System (2)
404 Seal Oil System
405 Lubrication System

Chapter 5 System Operation Management
501 Seal Oil System Management (1)
502 Seal Oil System Management (2)
503 Precautions during Startup
504 Summary Exercises 3