Process Refrigeration Application Cogitation

-- Preface and Contents --

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Preface:

This book is devoted to case study and problem cogitation for process refrigeration system application. It is assumed the readers are with prerequisite of basic refrigeration knowledge and preferably with 3~5 years of on job experience in refrigeration field. This book is better understood in conjunction with the book of "Engineered Industrial Refrigeration Systems Application".

All the cogitation cases illustrated in this book are purposely designed to help the understanding of the performance data, the performance curves issued by the equipment manufacturer, which are commonly used in the refrigeration system design in the industries. The cases are to provide a better an understanding of various system design concepts, and the characteristics of the refrigeration system components. The cogitation cases also reflect the application approaches and system evaluation methods by using the various techniques explained in the book of "Engineered Industrial Refrigeration Systems Application".

Contents:

Case-6: Impact of Fouling Factor and Special Materials for Heat Exchanger.

Case-7: Reciprocating Compressor.

Case-8: Basic Performance of Screw Compressor.

Case-9: Annual Power Consumption Analyze for Screw Systems.

Case-10: Single Stage Centrifugal Compressor.

Case-11: Brine and Chilled Water Compound System.

Case-12: Multistage Centrifugal Refrigeration System - Halocarbon.

Case-13: Food Storage and Processing Center.

Case-14: Chlorine Condensing.

Case-15: Ammonia Storage System.

Case-16: Cascade Refrigeration System for LPG Subcooling.

Case-17: Compound-Cascade System.

Case-18: Gas Analysis.

Case-19: Centrifugal Gas Compression Calculation.

Case-20: Carbon Foot Print and Energy Consumption Consideration for Industrial Refrigeration System Design.

There are three sections for each of the case illustration as the following:

(1) Case Background:

This section outlines the application inquiry with the basic design operating conditions, list the problem to be resolved and solution required for the project.

(2) Related Technical and Engineering Information for the Case

This section includes the technical and engineering data and charts, which are required for the estimation and calculation.

(3) Cogitation.

This section is the design concept formation, problem resolution approach; system layout and calculation details by using available engineering data and performance charts for the case.

Note: The book of "Engineered Industrial Refrigeration Systems Application" is available for viewing free of charge from http://tswan888.wordpress.com