

42nd Annual Meeting of the International Institute of Ammonia Refrigeration (IIAR 2020)

2020 Natural Refrigeration Conference & Expo

Orlando, Florida, USA
15 - 18 March 2020

ISBN: 978-1-7138-1817-5

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2020) by International Institute of Ammonia Refrigeration
All rights reserved.

Printed by Curran Associates, Inc. (2021)

For permission requests, please contact International Institute of Ammonia Refrigeration
at the address below.

International Institute of Ammonia Refrigeration
1001 N. Fairfax Street,
Suite 503
Alexandra, VA 22314
USA

Phone: (703) 312-4200
Fax: (703) 312-0065

www.iiar.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

CFD SIMULATION OF NH ₃ RELEASE AND DETECTION IN REFRIGERATED SPACES.....	1
<i>W. Greulich, E.L. Myhr, O.R. Hansen</i>	
METHODS FOR SAVING ENERGY IN COLD STORAGE WAREHOUSES	46
<i>C. Nelson</i>	
TRANSCRITICAL CARBON DIOXIDE AND AMMONIA: ENERGY EFFICIENCY AND BASIC CAPITAL COST COMPARISON FOR INDUSTRIAL REFRIGERATION SYSTEMS	70
<i>G. Pisano</i>	
PROPER INSTALLATION AND MAINTENANCE PRACTICES FOR VARIABLE FREQUENCY DRIVES.....	88
<i>P. Jasczynski</i>	
DEVELOPMENT OF A MECHANICAL INSULATION INSTALLATION GUIDELINE FOR REFRIGERATION APPLICATIONS	106
<i>G.H. Hart</i>	
CASE HISTORY: A STUDY OF INCIDENTS IN THE AMMONIA REFRIGERATION INDUSTRY	153
<i>P.R. Jordan</i>	
TAKING YOUR PSM PROGRAM TO THE NEXT LEVEL: ESTABLISHING AN EVALUATION SYSTEM	187
<i>L. McDaniel</i>	
PERMANENT REFRIGERATION PLANT PERFORMANCE OPTIMIZATION USING CONTINUOUS REAL-TIME ANALYSIS	205
<i>J. Clark, D. Blackhurst</i>	
HOT GAS VS. ELECTRIC DEFROST FOR STANDARD COMMERCIAL REFRIGERATION SYSTEMS: AN ENERGY COMPARISON	229
<i>D. Harel</i>	
ASSESSMENT OF LUBRICANTS FOR HYDROCARBON REFRIGERATION SYSTEMS.....	257
<i>G.D. Short</i>	
LOW HEAD PRESSURE OPERATION OF COMMERCIAL SYSTEMS.....	283
<i>D. Lilya</i>	
ANALYSIS OF PACKAGE CHILLER SYSTEMS: COMPARISON OF NATURAL (NH ₃ AND CO ₂) AND HFC REFRIGERANTS	309
<i>J.D. Collins</i>	
DISTRITOS TÉRMICOS CON AMONÍACO EN COLOMBIA, BARRERAS TÉCNICAS Y TECNOLÓGICAS	338
<i>B.A.M. Matallana</i>	
COMPARACIÓN DEL COSTO OPERATIVO ENTRE SISTEMAS DEL TIPO CO ₂ TRANSCRÍTICO Y DE RECIRCULACIÓN CON AMONÍACO PARA ALMACENES DE REFRIGERADO	349
<i>C. Herzog, P. Lepschat</i>	

APLICACIÓN DE LAS NORMAS ANSI/IIAR 2, ANSI/IIAR 6 Y REGULACIONES
NACIONALES PARA UN SISTEMA DE REFRIGERACIÓN DE UNA PLANTA DE
BENEFICIO BOVINO EN COLOMBIA 396
B.A.M. Matallana

Author Index