TRANSPORT PHENOMENA & FLUID MECHANICS

天然气超声旋流式脱水装置的工作性能

刘国跃*, 李中华*, 闫永胜**, 韩宝平**, 陈绍槐*

* The Education Ministry Key Lab of Enhanced Heat Transfer & Energy Conservation, College of Environmental and Energy Engineering, Beijing University of Technology, Beijing 100022, China

** Shengli Engineering & Research Institute, ShengliOil Field,Ltd., SINOPEC, Dongying 257026, China

收稿日期 修回日期 网络版发布日期 接受日期

摘要 A new type of dehydration unit for natural gas was briefly described and its basic structure and working principles were presented. An indoor test rig for testing the unit performance was set up and the experimental results were given. The results showed that the unit could attain a maximum dew point depression of about 20~C without any need of external mechanical power and chemicals. The pressure loss ratio, shock wave and the flow rate had great influence on the dehydration characteristics. From the systematic analysis of the factors that affect the dehydration efficiency of the unit, the suggestions for improving the unit are put forward.

关键词 超声场 超声旋流脱水技术 脱水装置 天然气 脱水效果

分类号

DOI:

Characteristics of a Supersonic Swirling Dehydration System of Natural Gas

LIU Guoyue*, LI Zhonghua*, YAN Yongsheng**, HAN Baoping**, CHEN Shaohuai*

* The Education Ministry Key Lab of Enhanced Heat Transfer & Energy Conservation, College of Environmental and Energy Engineering, Beijing University of Technology, Beijing 100022, China

** Shengli Engineering & Research Institute, ShengliOil Field,Ltd., SINOPEC, Dongying 257026, China

Received Revised Online Accepted

Abstract A new type of dehydration unit for natural gas was briefly described and its basic structure and working principles were presented. An indoor test rig for testing the unit performance was set up and the experimental results were given. The results showed that the unit could attain a maximum dew point depression of about 20~C without any need of external mechanical power and chemicals. The pressure loss ratio, shock wave and the flow rate had great influence on the dehydration characteristics. From the systematic analysis of the factors that affect the dehydration efficiency of the unit, the suggestions for improving the unit are put forward.

Key words supersonic swirling separator dehydration natural gas

扩展功能

本文信息

Supporting info

PDF(236KB)

HTML全文(0KB)

参考文献

服务与反馈

把本文推荐给朋友

加入我的书架

加入引用管理器

引用本文

Email Alert

文章反馈

浏览反馈信息

相关信息

本刊中 包含“天然气”的 相关文章

本文作者相关文章

PubMed

刘国跃

李中华

闫永胜

韩宝平

陈绍槐

通讯作者:

刘国跃 liuguoyue_edu.cn

作者个人主页: 刘国跃*, 李中华*, 闫永胜**, 韩宝平**, 陈绍槐*