

流体机械

FLUID MACHINERY



华青科技
Huqing Technology

有工业的地方就有流体

有流体的地方就有更多的密封技术

——华青密封！



江苏华青流体科技有限公司

◎ 地址：江苏省张家港市环保新材料产业园华达路32号 ◎ 邮编：215633 ◎ 传真：0512-58931519

销售热线：0512-58702307/58339185/58932769/58310398

◎ 网址：www.zjg-huaqing.com

◎ 邮箱：master@zjg-huaqing.com

ISSN 1005-0329



0.1>



9 771005 032228

万方数据

目 次

2022年第1期(第50卷·总第595期)

2022年1月30日出版



试验研究

- ① 部分负荷工况下双螺杆制冷压缩机转子轴向受力
试验研究 侯 峰, 冀瑞浩, 杨 彩, 于志强, 邢子文
- ⑨ 微型电动汽车热泵空调系统设计与试验研究
..... 刘旭阳, 苏 林, 李 康, 方奕栋,
 盛 雷, 杨忠诚, 穆文杰
- ⑯ 金属辐射板与双冷源新风机组联合运行供暖特性
试验研究 宗天晴, 傅允准
- ⑫ 运行参数对内热型板式除湿溶液再生装置的性能影响
试验研究 胡 凯, 郭春梅, 杨 红, 由玉文,
 罗丹吴, 李美萱

设计计算

- ⑲ 往复压缩机流量调节装置不同运动规律下三维流场
仿真研究 江志农, 王隽妍, 张进杰, 李 磊,
 孙 旭, 王 瑶

- ⑦ 基于 OpenFOAM 的导叶式离心泵数值模拟研究
..... 刘厚林, 毛艳虹, 王 勇, 林其文
- ⑮ 叶片后缘加厚对轴流风机性能的影响
..... 汤湘杰, 李科军, 应立军
- ⑬ 调压阀流体空化特性仿真及影响因素分析
..... 林腾蛟, 陈少勋, 赵俊渝
- ⑯ 间歇排料式浓缩旋流器的数值模拟及试验验证
..... 刘培坤, 李子硕, 杨兴华, 张悦刊, 李晓宇
- ⑭ 动态压差控制阀流场及流量控制特性研究
..... 范宜霖, 王 剑, 雷 艳, 黄 健,
 彭 林, 徐晓刚

技术进展

- ⑮ 数据中心用热管空调系统研究进展
..... 卢大为, 王 飞, 王建民, 邵双全

应用技术

- ⑧ 气柱共振导致的核电站蒸汽管道振动分析与机理研究
..... 王秀峰, 唐国运, 杨鸿均, 刘 星,
 杜鹏程, 宋 林, 石屹峰
- ⑩ 水压锥阀空化射流流场结构与流量特性的相关性研究
..... 袁 聪, 朱丽莎, 杜尊令, 李 鹤, 宋锦春
- ⑪ 长输供热管网摩擦阻力系数的计算方法研究
..... 刘雪萌, 谢英柏



Initially Published in 1972
Monthly

Sponsor: The Chinese Mechanical Engineering Society

Editor: Editorial Office of Fluid Machinery
Chief Editor: Song Donglan

Publisher: Fluid Machinery Journal Association

Address: No.888 West Changjiang Road, Hefei,
Anhui P. R. China

Postal Code: 230031

Telephone: (0551)65335505

Fax: (0551)65313592

E-mail: ltjxzzs@163.com

http: //ltjx.cbpt.cnki.net

Printer: Hefei Ruida Printing Co.,Ltd.

Abroad Post: China International Book
Trading Corporation (P. O. Box 399, Beijing,
P. R. China)

CONTENTS

- 1 Experimental investigation on rotor axial forces in twin-screw refrigeration compressor under part-load conditions HOU Feng, JI Ruihao, YANG Cai, YU Zhiqiang, XING Ziwen
- 9 Design and performance experimental research of micro-electric vehicle heat pump air-conditioning system LIU Xuyang, SU Lin, LI Kang, FANG Yidong, SHENG Lei, YANG Zhongcheng, MU Wenjie
- 16 Experimental study on joint heating performance of double-cold-source fresh air unit and metal radiant panels ZONG Tianqing, FU Yunzhen
- 22 Experimental study on the effect of operating parameters on the performance of an internal heated plate type desiccant solution regeneration device HU Kai, GUO Chunmei, YANG Hong, YOU Yuwen, LUO Danwu, LI Meixuan
- 29 Three-dimensional flow field simulation study on variable flow actuator of reciprocating compressor under different movement rules JIANG Zhinong, WANG Junyan, ZHANG Jinjie, LI Lei, SUN Xu, WANG Yao
- 37 Numerical simulation study of centrifugal pump with guide vanes based on OpenFOAM LIU Houlin, MAO Yanhong, WANG Yong, LIN Qiwen
- 45 Influence of blade trailing edge thickening on aerodynamic performance of axial flow fan TANG Xiangjie, LI Kejun, YING Lijun
- 53 Simulation of fluid cavitation characteristics and analysis of influencing factors of pressure regulating valve LIN Tengjiao, CHEN Shaoxun, ZHAO Junyu
- 61 Numerical simulation and experimental verification of intermittent discharge concentration cyclone LIU Peikun, LI Zishuo, YANG Xinghua, ZHANG Yuekan, LI Xiaoyu
- 68 Study on flow field and flow control characteristics of pressure independent control valve FAN Yilin, WANG Jian, LEI Yan, HUANG Jian, PENG Lin, XU Xiaogang
- 75 Advances of computer room air conditioner integrated with loop heat pipe for data center cooling LU Dawei, WANG Fei, WANG Jianmin, SHAO Shuangquan
- 85 Analysis and mechanism study of nuclear power plant steam pipe vibration caused by gas column resonance WANG Xiufeng, TANG Guoyun, YANG Hongjun, LIU Xing, DU Pengcheng, SONG Lin, SHI Yifeng
- 92 Study on correlation between cavitation jet field structure through water poppet valve and flow characteristics YUAN Cong, ZHU Lisha, DU Zunling, LI He, SONG Jinchun
- 100 Study on calculation method of friction factor of long-distance heating network LIU Xuemeng, XIE Yingbai