

检测报告

Test Report

报告编号

Report No.: ROCKB202311019

产品名称
Product Name

M16 缠绕垫片
M16 Spiral Wound Gasket

委托单位
Customer

浙江喜鹊密封件有限公司
Zhejiang Magpie Sealing Element Co., Ltd.
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No.9, Xiezhai Alley, Puyi Village, Oubei Street,
Yongjia County, Wenzhou City, Zhejiang Province

委托单位地址
Customer's Address

试验项目
Test Project

VDI 2200 附录 B 垫片试验
VDI 2200 Annex B Gasket Test

试验起始日期
Date Started

2023 年 12 月 18 日
December 18, 2023

试验结束日期
Date Finished

2023 年 12 月 25 日
December 25, 2023

浙江岩石机械检测有限公司
Zhejiang Rock Mechanical Inspection and Testing Co., Ltd.



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概述 Summary

产品名称 Product Name	M16 缠绕垫片 M16 Spiral Wound Gasket	材料 Material	SS304 + 石墨 SS304 + Graphite
垫片尺寸 Gasket size	$\phi 58\text{mm} \times \phi 70\text{mm}$	试验介质 Test medium	99.999% 氦气 99.999% Helium
抽样方 Valve Selected by	委托单位 Customer	收样时间 Sample Collect Date	2023.12.17
试验标准 Test Basis	TA-Luft 2021, Clause 5.2.6.3 VDI 2200, June 2007, Annex B		
合格标准 Acceptance Criteria	$10^{-4} \text{ mbar} \cdot \text{l}/(\text{s} \cdot \text{m})$		
试验场地 Test Facility	中国浙江省永嘉县瓯北镇和一工业区岩石阀门检测实验室 ROCK Valve Testing Lab, Heyi Industrial Zone, Oubei, Yongjia, Zhejiang, PRC		

泄漏测量设备 Leakage Detection Equipment

设备名称 Device Name	氦质谱检漏仪 He mass spectrometer	品牌/型号/系列号 Brand / Model / SN	Leybold / PHOENIX L300i / 90001197646
设备ID Device ID	J002	灵敏度 Sensitivity	5E-12 mbar·l·s ⁻¹
真空氮漏孔编号 Helium Standard Leak SN	90001234656	真空氮漏孔有效期 Helium Standard Leak Validity	2024.04.05

实测垫片尺寸 Actual Measured Gasket Dimension

垫片外径 Gasket OD	70.00 mm	垫片内径 Gasket ID	58.00 mm
垫片厚度 Gasket Thickness	5.29 mm	密封面积 Sealing Area	1205.76 mm ²
密封面外周长 Outer Perimeter of Sealing Surface	219.8 mm	/	/

试验记录 Test Records

步骤 Step	试验内容 Test Content	试验温度 Test Temperature	垫片密封压力 Gasket Compression Force	垫片密封比压 Gasket Sealing Stress	垫片压缩量 Gasket compression
1	初始装配 Initial Assembly	10.8°C	36.17 kN	30.00 MPa	2.23 mm
2	高温保温 Thermal Storage	试验温度 Test Temperature 300°C ± 5°C	高温保持时间 Thermal storage duration 48 hours	垫片压缩量 Gasket compression 2.23 mm	
3	冷却后泄漏测量 Leak measurement after cooling down	试验温度 Test Temperature 10.7°C	垫片密封压力 Gasket Compression Force 12.16 kN	垫片密封比压 Gasket Sealing Stress 10.1 MPa	垫片压缩量 Gasket compression 2.23 mm
		试验压力 Test Pressure 1 bar	测得泄漏量 Measured Leak 1.64E-06 mbar·l/s	单位长度泄漏量 Leak per meter 7.46E-06 mbar·l/(s·m)	结论 Result 合格PASS
4	冷却24小时后泄漏测量 Leak measurement after 24-hour cooling down	试验温度 Test Temperature 9.8 °C	垫片密封压力 Gasket Compression Force 12.15 kN	垫片密封比压 Gasket Sealing Stress 10.1 MPa	垫片压缩量 Gasket compression 2.23 mm
		试验压力 Test Pressure 1 bar	测得泄漏量 Measured Leak 2.11E-05 mbar·l/s	单位长度泄漏量 Leak per meter 9.60E-05 mbar·l/(s·m)	结论 Result 合格PASS

编制/日期: 金永纪 2023.12.27

审核/日期: 胡时 2023.12.27

批准/日期: 2023.12.27

APPD/DATE:



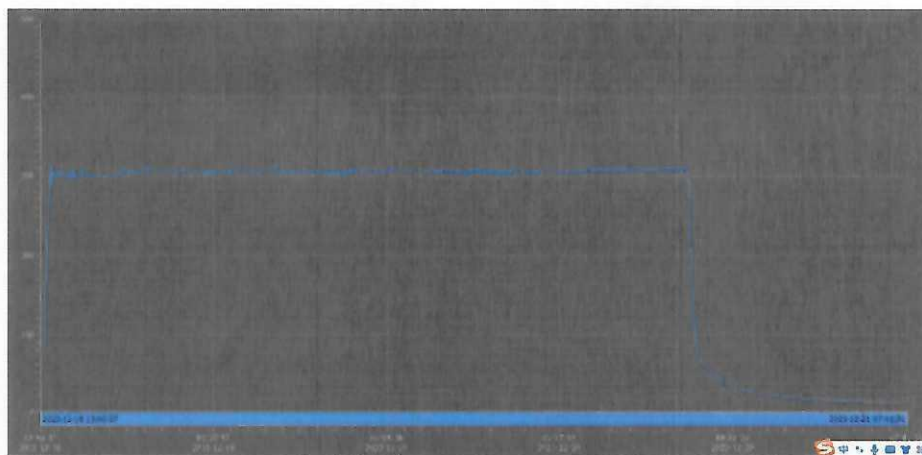
试验垫片 Test Gasket



试验工装 Test rig



试验过程 Test Process



温度记录 Temperature record

报告结束

End of this report