SCGC

Focus on Production and Solutions of Industrial Gas

Shanghai Chinllenge Gases Co., Ltd.

CONTENTS

I. SCGC’s Core Competitiveness

1, Gas Technology
2, Remote Control
3, Production Information System
4, Fault Diagnosis System
5, One-button Start/Stop

Core Technology

Gas Technology

O_2 Production

ASU
VPSA
PSA

N_2 Production

ASU
PSA
Membrane

H_2 Production

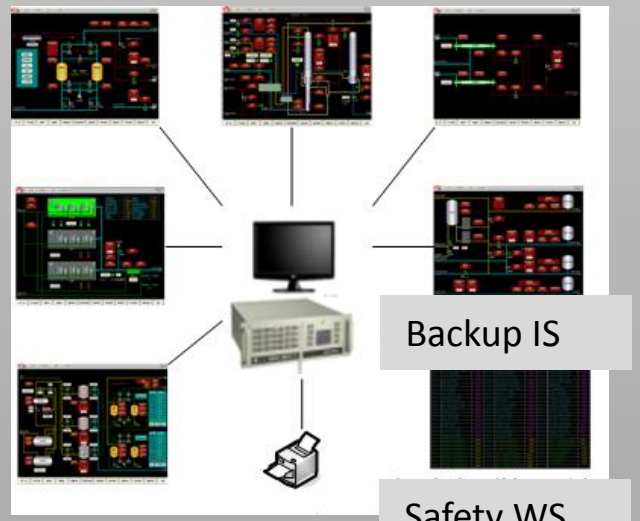
Ammonia Cracker
HPN
Hydro Electrolysis
Methanol pyrolysis

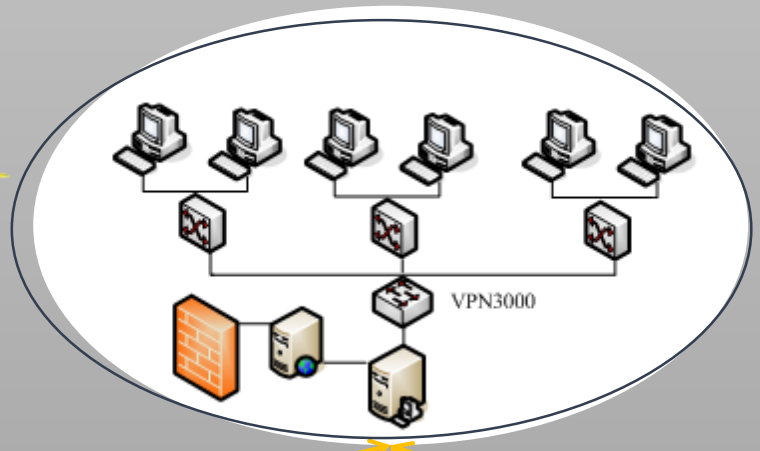
Gasification Device

N_2
O_2
CO_2
Mixed Gas

Core Technology

Remote Control





USA

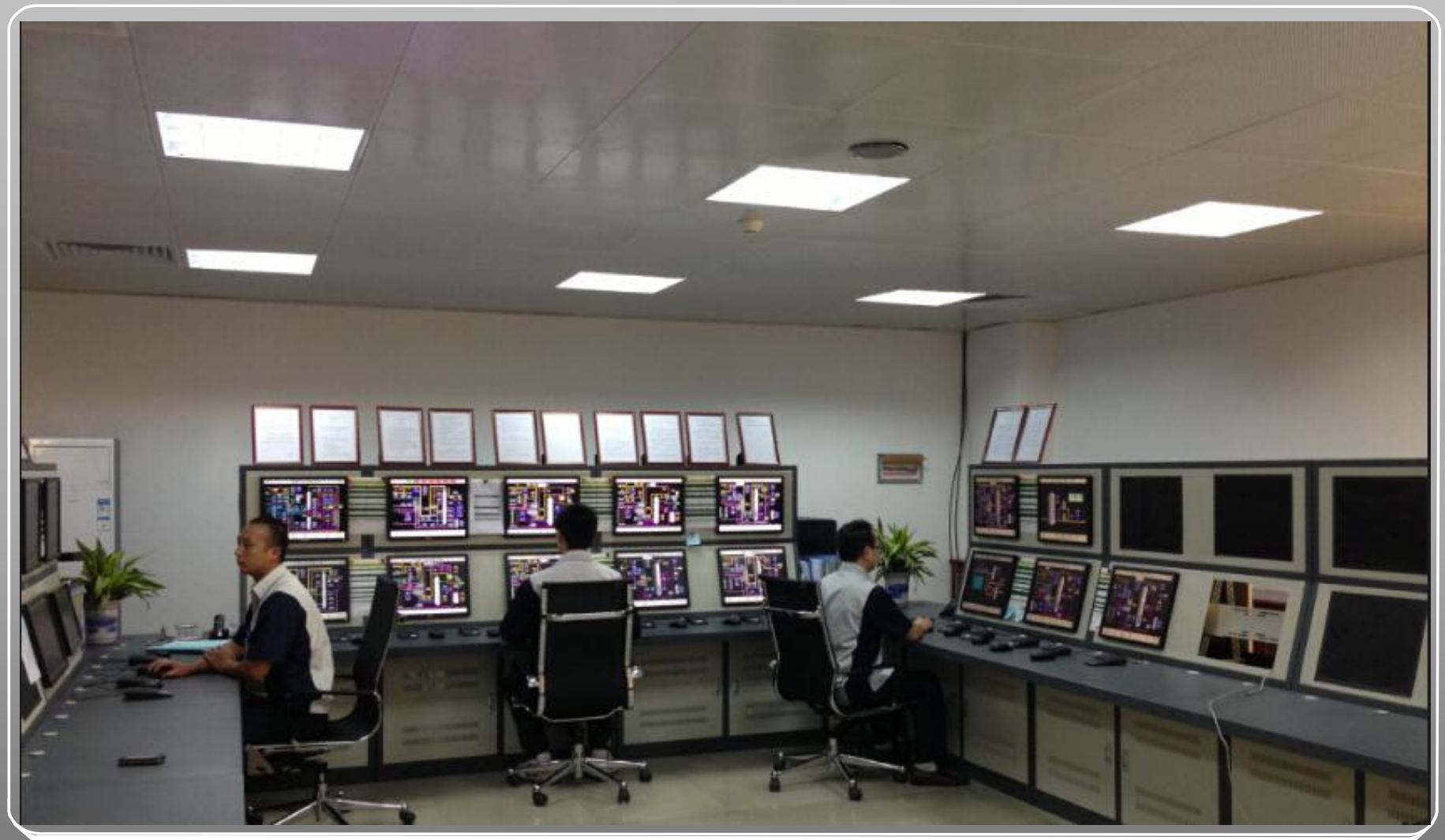
Mexico

Dalian

Sinkiang

Core Technology

Remote Control



Main Control Centre-Henan China

Core Technology

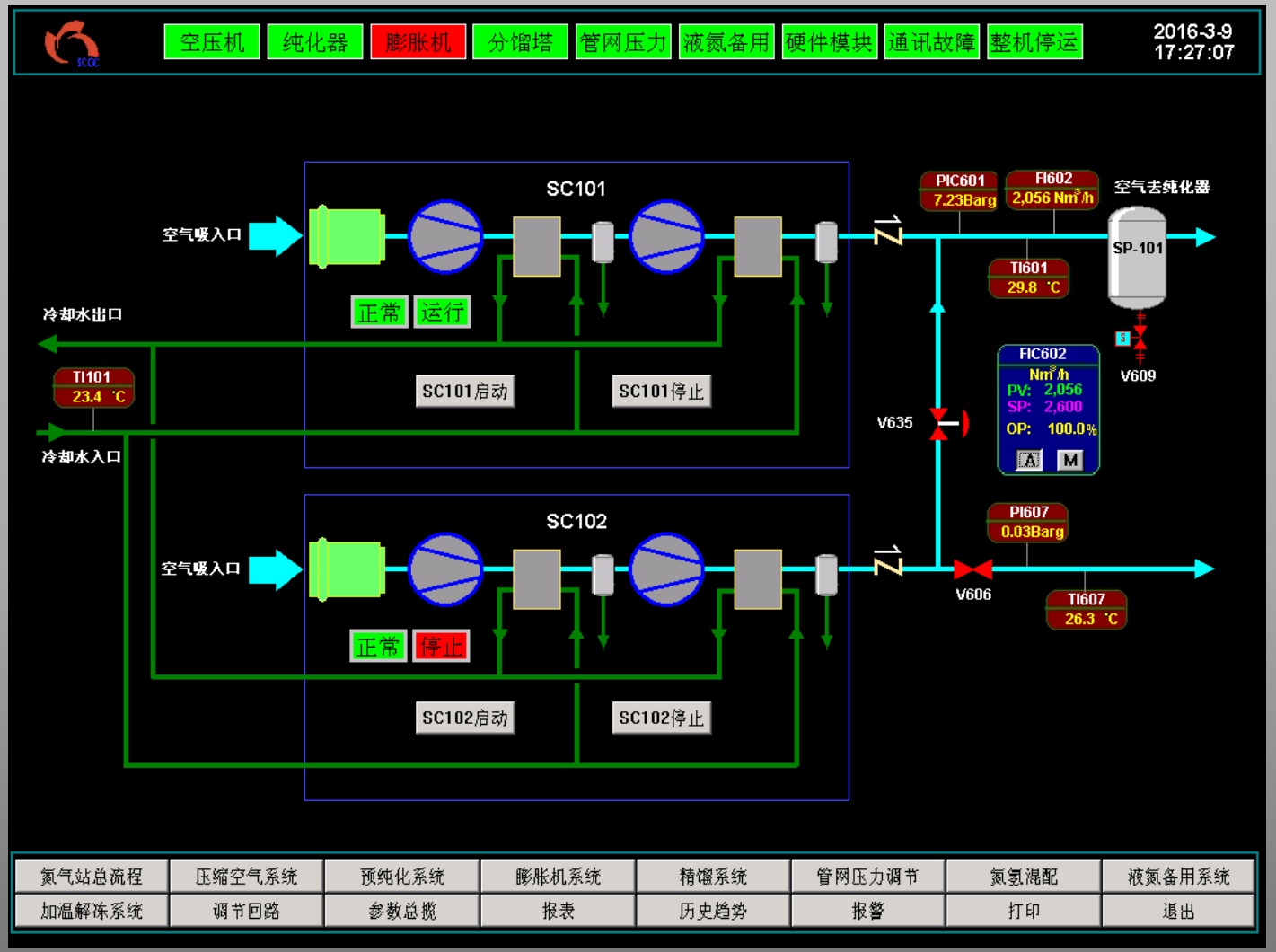
Remote Control

Deputy Control Centre-Shanghai China

Core Technology

Remote Control

- MAC
- Pre-Purifier
- Expander
- Distillation System
- Pipeline Pressure
- N2-H2 Mixture



- LIN Backup
- Regulating
- Historical Trend Curve
- Alarm
- Parameter Overview
- Exit

Core Technology

Remote Control

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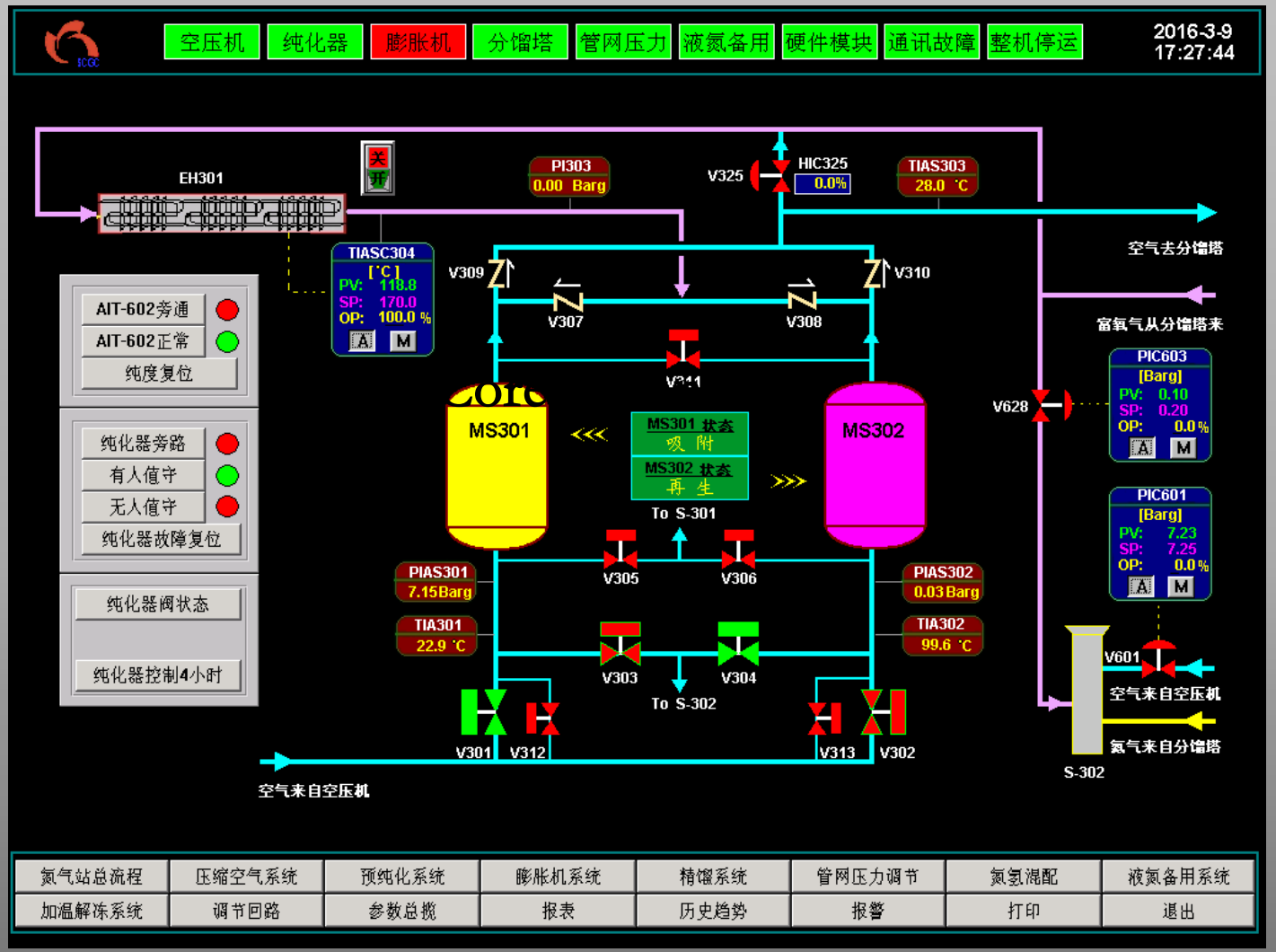

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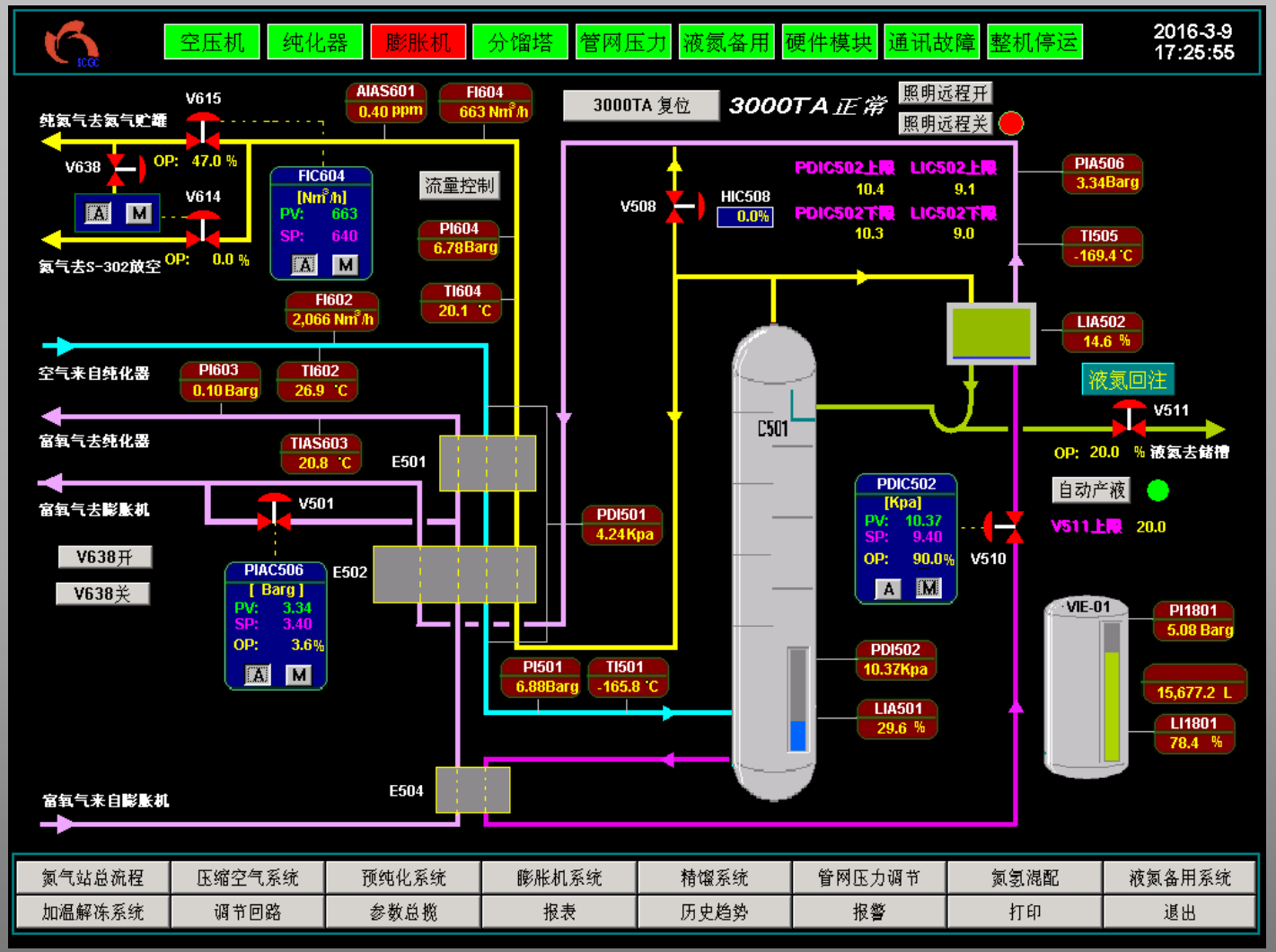

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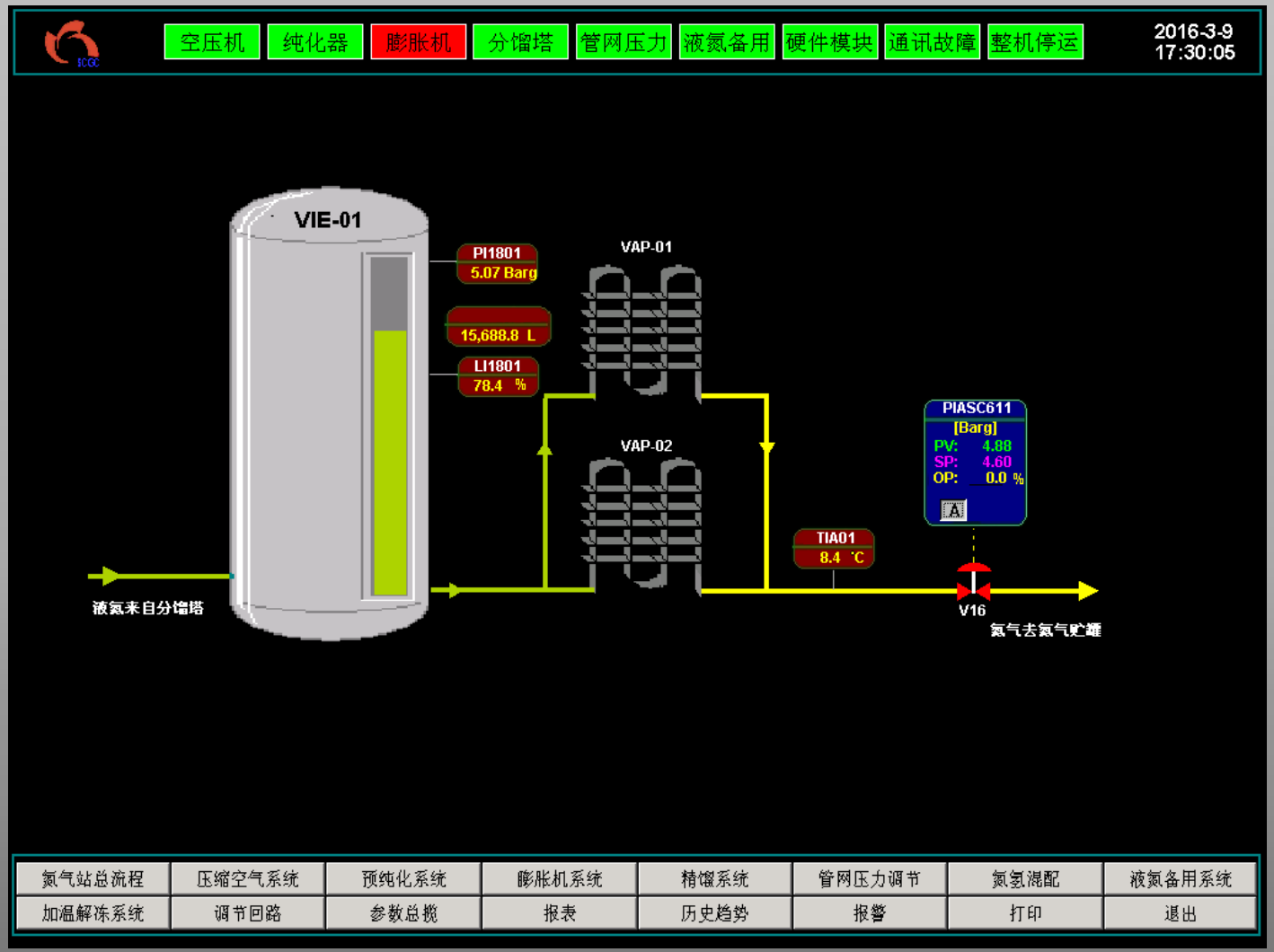

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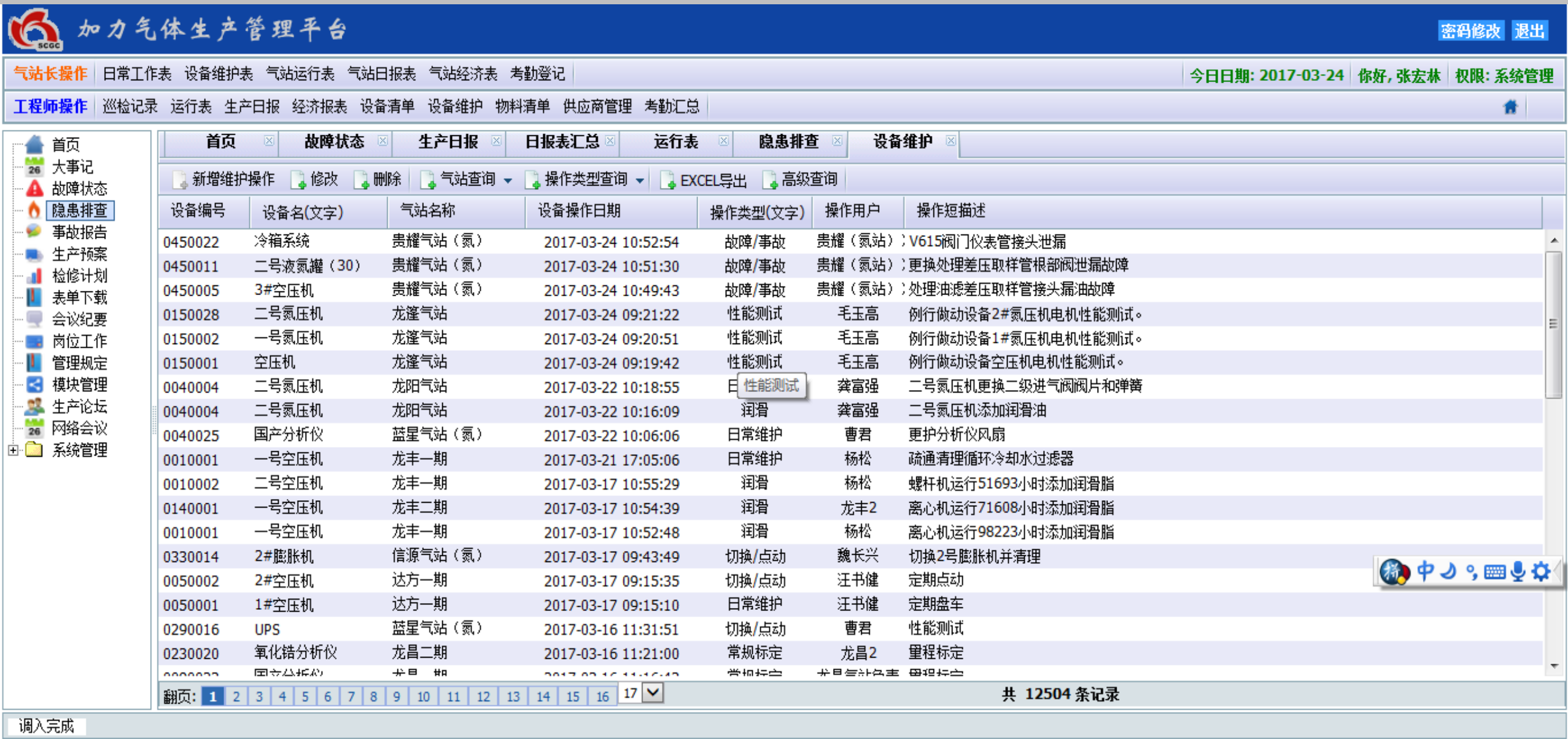
Core Technology

SCGC

Production Information System



专家系统

搜索

标题 摘要 内容

多词搜索之间以空格分开，例如：A塔 启动

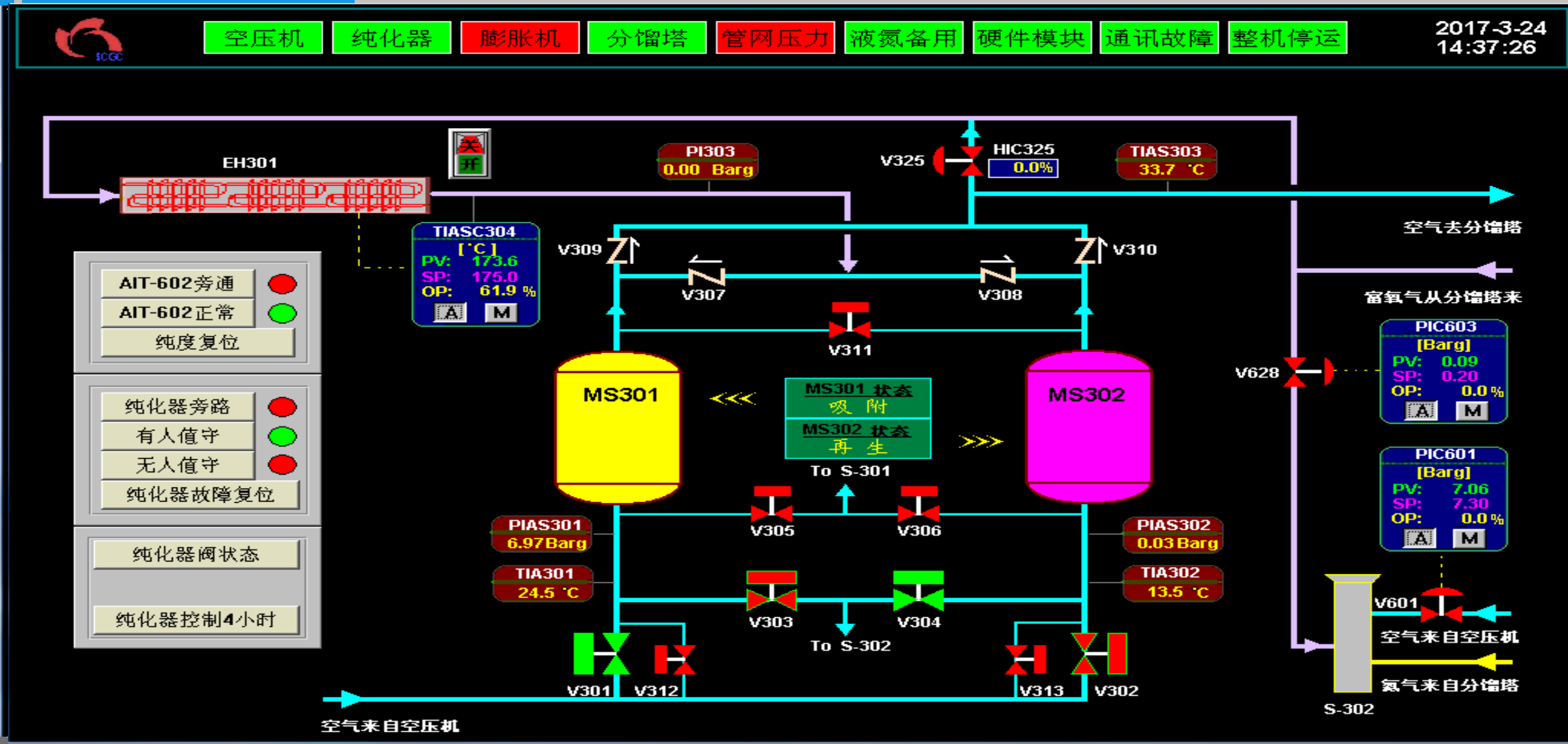
- 专家系统（首页）
- 工艺专业
- 设备专业
- 仪控专业
- 电气专业
- 生产事故报告

【离心式压缩机】高振动

可能原因	处理方法
1. 油温低	1. 逐渐加热升温
2. 驱动机与压缩机不对中	2. 检查并对中(对中后垫平马达)
3. 联轴节或定位器磨损	3. 润滑，更换联轴节或定位器
4. 由外来杂物堆积造成转子总成不平衡	4. 需要清洁并作平衡
5. 由于组装引起转子不平衡	5. 与以前比较并咨询压缩机生产公司
6. 由驱动机传递来的振动	6. 向驱动机制造厂咨询

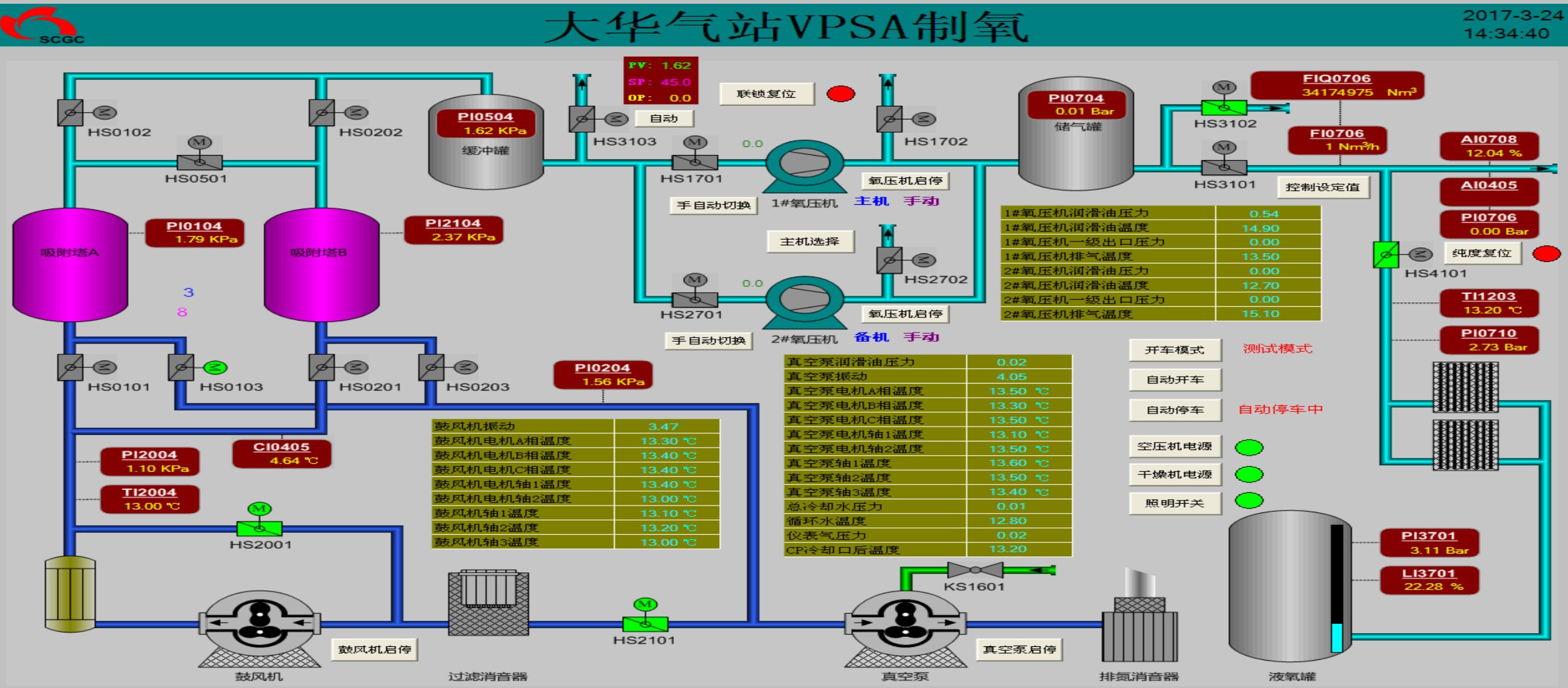
Core Technology

One-button Start/Stop



Core Technology

One-button Start/Stop



1#氧压机润滑油压力	0.54
1#氧压机润滑油温度	14.90
1#氧压机一级出口压力	0.00
1#氧压机排气温度	13.50
2#氧压机润滑油压力	0.00
2#氧压机润滑油温度	12.70
2#氧压机一级出口压力	0.00
2#氧压机排气温度	15.10

鼓风机振动	3.47
鼓风机电机A相温度	13.30 ℃
鼓风机电机B相温度	13.40 ℃
鼓风机电机C相温度	13.40 ℃
鼓风机电机轴1温度	13.40 ℃
鼓风机电机轴2温度	13.00 ℃
鼓风机轴1温度	13.10 ℃
鼓风机轴2温度	13.20 ℃
鼓风机轴3温度	13.00 ℃

真空泵润滑油压力	0.02
真空泵振动	4.05
真空泵电机A相温度	13.50 ℃
真空泵电机B相温度	13.30 ℃
真空泵电机C相温度	13.50 ℃
真空泵电机轴1温度	13.10 ℃
真空泵电机轴2温度	13.50 ℃
真空泵轴1温度	13.60 ℃
真空泵轴2温度	13.50 ℃
真空泵轴3温度	13.40 ℃
总冷却水压力	0.01
循环水温度	12.80
仪表气压力	0.02
CP冷却口后温度	13.20

II. Oxygen-fuel/oxygen-enhanced combustion application in float glass industry

1, Types of oxygen combustion
2, Oxygen-fuel combustion
3, Oxygen-fuel auxiliary combustion
4, Partial oxygen aeration (oxygen-enhanced combustion)

Types of oxygen combustion:

- Oxygen-fuel combustion (pure-oxygen combustion in the furnace)
- Pure-oxygen auxiliary combustion
- Partial oxygen aeration (oxygen-enhanced combustion)

Oxygen-fuel combustion advantages:

- Improve the quality
- Save the energy
- Reduce the waste gas emission
- Improve the combustion effect
- Reduce the construction cost of the furnace
- Improve the life of the furnace
- Reduce the production cost

Oxygen-fuel auxiliary combustion advantages:

- Increase the production capacity to 5%~15%
- Save fuel consumption to 5~8%
- Improve the products quality
- Improve the life of the furnace
- Reduce 20% of waste gas emission
- Flexible operation

Partial oxygen aeration advantages:

- Save the energy
- Improve the life of the furnace
- Reduce the waste gas emission
- Improve the production quality
- Suitable for existing plant transformation

III. Advanced Gas Production Technology

1. Cryogenic nitrogen generation technology (low energy consumption)
2. Cryogenic oxygen generation technology (low energy consumption)
3. VPSA technology

Advanced Gas Production Technology

Cryogenic nitrogen

Purity: 99.999%
Pressure: 0. 2barg
Power consumption: 0.23KWh/Nm3 nitrogen

Cryogenic oxygen

Purity: 80~95%
Pressure: 0.02barg
Power consumption: 0.42KWh/Nm3 oxygen

VPSA oxygen

Purity: 80~95%
Pressure: 0.02barg

IV. VPSA Oxygen Generation Technology

1. Introduction of VPSA technology
2. Comparison between VPSA technology and ASU technology

Introduction of VPSA technology:

- Process: adsorb nitrogen in the air by using molecular sieve, separate and extract oxygen, get about 93% oxygen-enhanced gas.
- Components: blower system, oxygen generation system, desorption system, control system, and pressurized system. Oxygen generation system is the core of the device.

VPSA & ASU Comparison

Item	ASU (oxygen generation)	VPSA (oxygen generation)
Principle	boiling point differences	MS adsorption capacity of nitrogen and oxygen
Process	operating temperature should below -170 ℃	normal temperature
Main characteristics	Complex structure.	Simple structure
O&M	Complex operation; cannot be used immediately	Simple operation; can be used immediately
Applicable scope	Can produce oxygen, nitrogen, argon at the same time; oxygen purity> 99.5%	Can only produce oxygen; purity @80%~94%
Power cost	Power consumption： ~0.5KW/Nm^3	Power consumption： ~0.375KW/Nm^3
Investment cost	high	low

V. Float Glass Industrial Gas Solution

1. High purity nitrogen
2. Hydrogen
3. Oxygen
4. Compressed air

Float Glass Industrial Gas Solution

Nitrogen → Used as protection gas in tin bath. Prevent the tin liquor from being oxidized

Hydrogen → Used as protection gas in tin bath. Make sure that the tin liquor is in reducing atmosphere

Oxygen → Used for oxygen-fuel/oxygen-enhanced combustion which can save the energy, reduce the emission, improve the quality, and reduce the production cost.

Compressed Air → Used for furnace fuel delivery, device desulphurization and denitrification, and instrument gas.

V. Fiber Glass Industrial Gas Solution

1. Oxygen
2. Compressed air

Fiber Glass Industrial Gas Solution

Oxygen

Used for oxygen-fuel/oxygen-enhanced combustion which can save the energy, reduce the emission, improve the quality, and reduce the production cost
VPSA purity: 80%~95%
ASU purity: 90%~95%

Compressed air

Used for furnace fuel delivery, device desulphurization and denitrification, and instrument gas
Produce compressed air and instrument gas by using air compressor and air reform system

Gas Solution

Industrial Gas Solution for Float Glass/Fiber Glass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THE END
Shanghai Chinllenge Gases Co., Ltd.