CO2 PRODUCT.JSC	**CO2 PRODUCT JSC**
PROJECT	**HIGH-TECH CO_2 PRODUCTION PLANT**
PACKAGE	**ENGINEERING, PROCUREMENT, CONSTRUCTION AND INSTALLATION**

TECHNICAL REQUISITION DOCUMENT FOR FIELD INSTRUMENTS

						
B1	1/Oct/26	Issue For Purchase	MVS	NXH	NXH	VLT
Rev	Date	Purpose	Prepared	Checked	Reviewed	Approved

EPC CONTRACTOR: PTSC THANH HÓA	**Document No:** CO2-PTH-INS-TRD-025

REVISION RECORD SHEET

No	Page	Content of Revision	Rev	Date (dd/mm/yyyy)
1	All	Issue For Bidding	A1	11/Jun/26
2	Page 12, 14-52	Updated Attachment 1 – Scope of Work & Supply, Attachment 2 – Technical Support Document, Form T1	B1	1/Oct/26

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1. INTRODUCTION

1.1 PROJECT BACKGROUND

Project	HIGH-TECH CO_2 PRODUCTION PLANT
Owner	CO2 PRODUCT JSC
EPC	PTSC THANH HÓA

CO2 PRODUCT Joint Stock Company has selected a production capacity of approximately 100.000 tons/ 300 day of high-purity liquid CO_2 and 2,000 tons per year of CO_2 dry ice.

The products of the project include high-purity liquid CO_2 ($\geq$ 99.995%) for use in the food and beverage industry, as well as the electronics sector (such as beverage production, semiconductor manufacturing, and electronic device fabrication). CO_2 dry ice is produced for applications in food preservation, healthcare, household goods manufacturing, and various industrial fields.

All impurity components of the products comply with ISBT (International Society of Beverage Technologists) standards, as shown in the following table:

Table 1.1: International Society and Beverage Technologists (ISBT Standard)

No.	Quality Parameter	Guideline Impurity Limit
1	Moisture (H2O)	≤ 20ppm v/v
2	Oxygen	≤ 30 ppm v/v
3	CO	≤ 10 ppm v/v
4	Oxides of Nitrogen (NOx)	≤ 5,0 ppm v/v
5	Nitrogen Monoxide (NO)	≤ 2,5 ppm v/v
6	Nitrogen Dioxide (NO2)	≤ 2,5 ppm v/v
7	Non-volatile Residue (NRV)	≤ 10 ppm w/w
8	Non-volatile Organic Residue (NVOR)	≤ 5,0 ppm w/w
9	Methanol (CH3OH)	≤ 10 ppm v/v
10	Total Hydrocarbon (as Methane)	≤ 50,0 ppm *(includes 20,0 ppm total non-methane hydrocarbon)*
11	Ammonia (NH3)	≤ 2,5 ppm v/v
12	Acetaldehyde (C_2H_4O hoặc AA)	≤ 0,2 ppm v/v
13	Aromatic Hydrocarbon (C_6H_6 – Benzen)	≤ 20,0 ppb (0,020 ppm)
14	Total Sulfur – TS (Total sulfur impurities excluding SO2)	≤ 0,1 ppm v/v
15	Sulfur Dioxide (SO2)	≤ 1 ppm v/v

1.2 PURPOSE

The scope of this document is limited to the supply of Field Instruments package, including all activities related to design, manufacturing, painting, testing, packing, delivery, and completion, ensuring the equipment is ready for installation and operation at site.

1.3 LANGUAGES

All documents and drawings to be submitted shall be lettered in English language.

2. SCOPE OF WORK AND SUPPLY

2.1 SCOPE OF WORK

The BIDDER / MANUFACTURER shall use proven or standard designs to meet the requirements of the specifications, data sheets, and attachments. The scope includes design, manufacture, testing, painting, supply, packing, and delivery of all items in Attachment #1, as well as supervision for erection, testing, commissioning, and performance testing when required.

2.2 SCOPE OF SUPPLY

No.	Description	Unit	Q'ty
1	Field Instruments	Lot	1
2	Documentation as per VENDOR Data Document Requirement List (VDRL)	Lot	1

Refer to Attachment #1 for the details.

2.3 OUT OF SCOPE

Installation work is excluded from the SUPPLIER/ BIDDER's scope of work.

2.4 DELIVERY TIME

DDP Site work: Ninh Binh province including all taxes, duty, fee to deliver the goods to site.

Delivery time: 14 weeks from contract signing.

The detailed delivery address and delivery schedule will be confirmed during the contract negotiation stage.

3. TECHNICAL REQUIREMENTS

3.1 TECHNICAL DOCUMENTS

The Package shall be strictly in accordance with data sheets, drawings, specifications, codes, and standards listed in Attachment #4.

Compliance by the VENDOR with the provision of this specification does not relieve him of his responsibility to furnish the package/ material and accessories of a proper design to meet the specified duty and / or local codes governing health and safety.

All applicable documents mentioned below are attached with the request for inquiry. However, if the VENDOR is not in possession of any of the listed or referenced Purchaser documents, it shall be VENDOR's sole responsibility to obtain them from the Purchaser. Otherwise, it shall be assumed that the VENDOR has received, read and understood the total contents of the documents.

VENDOR data shall include detailed design drawings and updated data sheets of each material and appurtenances. Detail design drawings shall be fully dimensioned and complete with Bill of Materials.

No fabrication would commence until PURCHASER has approved the drawings.

PURCHASER's approval on drawings does not relieve VENDOR of compliance with applicable codes, specifications, safety design, or meeting the requirements of governmental agencies.

Any work and documentation related to facilitating design appraisal approvals and inspection from PURCHASER appointed Certification Authority (CA) and QA/QC. Inspector (TPI) shall also be included in Vendor 's scope of supply.

3.2 QUALITY REQUIREMENTS FOR MATERIALS

Field Instruments shall be designed, fabricated, inspected, and tested in accordance with approved international standards and codes.

All materials and parts shall be new, unused and free from defects and imperfections that would adversely affect the life or performance of the system.

All fabrication, welding, dimensional tolerances, inspection, and quality control activities shall comply with approved drawings, applicable standards, and project specifications.

3.3 INSPECTION AND ACCEPTANCE

Field Instruments shall undergo full inspection and testing prior to delivery, including Visual Inspection, Dimensional Check, Functional Test, Material Certificate, Pressure/leak test (if applicable) and document verification.

Minimum acceptance documents include MTCs, CO/CQ, test report, FAT reports, as-built drawings, and shipping documents.

3.4 DESIGN LIFE, AVAILABILITY AND RELIABILITY

The design life of the facility, including all equipment, components, and systems, shall be a minimum of 20 years.

Any component that cannot meet this design life due to practical, safety, or economic reasons shall be identified early.

The Vendor shall notify the Purchaser of its expected service life and ensure that the system design allows for maintenance or replacement to achieve the overall design life.

Components not meeting the required design life shall be clearly identified with defined service life and replacement strategy. The design shall include provisions for inspection, maintenance, repair, and replacement to ensure safe long-term operation.

3.5 PREPARATION FOR SHIPMENT

All equipment shall be properly prepared for shipment and protected against damage during transportation and extended outdoor storage.

Field Instruments shall be suitably packed to prevent mechanical damage, moisture ingress, corrosion, and contamination during transit and storage.

Field Instruments shall be securely fixed on wooden skids or steel bases and properly anchored to withstand transportation loads. Lifting points shall be clearly indicated.

Where necessary, detachable parts shall be removed, individually packed, clearly identified, and shipped together with the main equipment for reassembly at site.

Each package or crate shall be clearly marked with at least the following information:

- Purchase Order number
- Equipment tag number / item number
- Gross and net weight
- Handling instructions (e.g. “Fragile”, “Keep Dry”, “This Side Up”)
- Delivery address

Moisture protection shall be provided using suitable methods such as sealed wrapping, desiccants, and humidity indicators. Equipment intended for long-term storage shall be packed in accordance with project preservation requirements.

All cable entry points and openings shall be properly sealed to prevent ingress of dust and moisture.

Tools and spare parts shall be packed separately in suitable boxes, clearly labeled, and suitable for long-term storage..

4. GUARANTEE AND WARRANTY

The Vendor shall have full responsibility for the design, quality, and performance of all materials supplied under this specification.

Any materials or equipment found defective in design, fabrication, material, or workmanship during the guarantee period shall be replaced or repaired by the Vendor at no cost to the Purchaser.

Warranty Conditions: 24-month overall warranty from the date of acceptance and commissioning, not later than 36 months from the date of delivery. Lifetime warranty on perlite insulation material.

Acceptance of the Purchase Order shall constitute full acceptance of all warranty obligations.

5. INSPECTION AND TESTS

Inspection and testing shall be carried out by The BIDDER in accordance with applicable codes, standards, project specifications, approved drawings, and all relevant documents.

All inspection and test procedures shall be submitted to the Purchaser for approval prior to execution and implemented under an approved Inspection and Test Plan (ITP) defining Hold (H)

Witness (W), and Review (R) points. No activity shall proceed beyond any Hold Point without written approval.

The Purchaser / Owner's Representative may witness, audit, or verify any stage of design, procurement, fabrication, insulation, inspection, and testing at any facility.

All testing shall be performed at approved independent laboratories and include chemical, mechanical, impact, and weld testing in accordance with ASTM, EN, ASME, or equivalent standards.

Sampling shall be fully traceable and subject to witnesses where required.

All inspection and test results shall be reviewed and approved by the Purchaser prior to acceptance. Any non-conforming items shall be repaired or replaced by The BIDDER at no cost.

Shipment shall only be released after completion of all inspections and tests, closure of all NCRs, and issuance of an Inspection Release Note (IRN).

All records shall be compiled into a complete Data Book (VDR), including QA/QC documents, test reports, traceability records, and as-built documentation for final acceptance.

6. BIDDER DOCUMENT REQUIREMENT

The BIDDER shall complete all technical information in Attachment #3.

Attachment #3 is mandatory. Failure to complete this form shall render the bid invalid.

Bidder must submit documents, certificates, and drawings as listed in Vendor Data Documents Requirement List (VDRL).

7. ATTACHED DOCUMENTS

Documents listed below shall make an integral part of this technical requisition:

STT	Attachment	Document Title	Remark
1	Attachment #1	Scope of Work & Supply	
2	Attachment #2	Technical Support Document	
3	Attachment #3	Technical Bid Proposal	
4	Attachment #4	Vendor Data Requirement List	

8. APPLICABLE DOCUMENTS/STANDARDS

No.	Document No	Title / Description
1	IEC 61298	Performance evaluation of measuring instruments
2	IEC 60770	Transmitters for industrial process control
3	IEC 60079	Electrical apparatus for explosive atmospheres (Ex ia / Ex d)
4	ASME B31.3	Process piping
5	ASME B16.5	Pipe flanges and fittings
6	ISO/IEC 17025	Calibration and testing laboratories
7	IEC 60751	RTD temperature sensors
8	IEC 60584	Thermocouples
9	ISO 5167	Flow measurement using differential pressure devices
10	ASME PTC 19.3 TW	Thermowells, Performance Test Code
11	IEC 60529	Degrees of Protection Provided by Enclosures (IP Code)
12	ISO 2186	Pressure measurement
13	IEC 60770	Transmitter performance
14	ASTM Standards	American Society for Testing Materials

The standards referenced in this document shall serve as the basis for design, manufacturing, testing, and inspection. The Contractor may apply equivalent or more stringent standards, provided that they fully comply with the technical requirements of the Project. Where alternative standards are proposed, the Contractor shall demonstrate their equivalency and provide supporting documentation for review and approval by the Owner/Consultant, as required.

ATTACHMENT #1

SCOPE OF WORK & SUPPLY

CO2 PRODUCT JSC	**HIGH-TECH CO_2 PRODUCTION PLANT**	PTSC THANH HOA

TECHNICAL REQUISITION FOR FIELD INSTRUMENTS	Document No.:	CO2-PTH-INS-TRD-025
	Revision:	B1

SCOPE OF WORK

No.	Description	Remark
1	Supply of Field instruments: Design, procurement, manufacturing, testing and inspection in accordance with technical requirements, specifications, and applicable project documents.	completed set
2	DDP Site work: Ninh Binh province including all taxes, duty, fee to deliver the goods to site. Delivery time: 14 weeks from contract signing.	
3	Training: Providing technical assistants during installation, commissioning, and training for operation & maintenance. If required	
4	Warranty: 24-month overall warranty from the date of acceptance and commissioning, not later than 36 months from the date of delivery.	
5	Spare part: Providing spare parts for the commissioning and initial start-up phases.	Optional
6	Recomment Spare part List For 2 years of operation	Optional
7	Documents to be provided: The Vendor shall provide the documents as per VRDL.	Refer to Attachment #4

TECHNICAL REQUISITION FOR FIELD INSTRUMENTS

Document No.: CO2-PTH-INS-TRD-025

Revision: B1

SCOPE OF SUPPLY

No.	Tag No.	Description	Unit	QTY	Remark
1	FE-101	涡街流量计Vortex flowmeter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1	
2	FE-102	涡街流量计Vortex flowmeter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1	
3	FE-103	涡街流量计Vortex flowmeter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1	
4	FE-301a/b/c/d	涡街流量计Vortex flowmeter, 4-20 mA + HART, complete with transmitter and accessories.	Set	4	
4.1	FE-001	涡街流量计Vortex flowmeter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1	
4.2	FE-401	涡街流量计Electromagnetic Flowmeter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1	
5	PT-101, PT-102, PT-103, PT-104, PT-1, PT-2, PT-3, PT-201, PT-202, PT-203, PT-301a/b/c, PT-302a/b/c, PT-303a/b/c, PT-304a/b/c, PT-305a/b/c, PT-401, PT-402, PT-403	表压型 Gauge pressure transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	28	
6	LT-1	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1	
7	LT-2	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1	
8	LT-3	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1	
9	LT-4	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1	
10	LT-5	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1	
11	LT-301a/b/c	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	3	
12	LT-302a/b/c	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	3	
13	LT-303a/b/c	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	3	
14	LT-304a/b/c	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	3	
15	LT-305a/b/c	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	3	
16	LT-101	带变送器的磁翻板液位计Magnetic level gauge with transmitter, 4-20 mA + HART, complete with accessories.	Set	1	
17	LT-201	带变送器的磁翻板液位计Magnetic level gauge with transmitter, 4-20 mA + HART, complete with accessories.	Set	1	
18	LT-401	雷达液位计Radar Level Transmitter, 4-20 mA + HART, complete with accessories.	Set	1	
19	LG-251	磁翻板液位计Magnetic flap level gauge, complete with accessories.	Set	1	
~~20~~	~~LG-252~~	~~磁翻板液位计Magnetic flap level gauge, complete with accessories.~~	~~Set~~	~~1~~	
21	LG-451	磁翻板液位计Magnetic flap level gauge, complete with accessories.	Set	1	
21.1	LG-051	磁翻板液位计Magnetic flap level gauge, complete with accessories.	Set	1	
~~22~~	~~LG-551~~	~~磁翻板液位计Magnetic flap level gauge, complete with accessories.~~	~~Set~~	~~1~~	
23	LG-552	磁翻板液位计Magnetic flap level gauge, complete with accessories.	Set	1	
24	TE-101, TE-102, TE-104, TE-105, TE-106, TE-107, TE-401, TE-201, TE-202	热电阻Thermal resistance, complete with accessories.	Set	9	
25	TE-103, ~~TE-201~~	热电阻Thermal resistance, complete with accessories.	Set	1	
25.1	TG-451, TG-452, TG-453, TG-454, TG-455, TG-456, TG-457, TG-458, TG-459, TG-460	双金属温度计Bimetallic thermometer, complete with accessories.	Set	10	
26	PG-151, ~~PG-251~~, PG-451, PG-453, PG-154	压力表 Pressure gauge, complete with accessories.	Set	4	
27	PG-152, PG-153a/b, PG-356a/b/c/d, PG-452a/b, ~~PG-351~~-355a/b/c	压力表 Pressure gauge, complete with accessories.	Set	9	

ATTACHMENT #2

TECHNICAL SUPPORT DOCUMENT

	仪表规格书(压力变送器) DATA SHEET(PRESSURE TRANSMITTER)			图号	CO2-JIA-INS-DTS-001
				主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控
				设计阶段	
				页码	第1页 共3页

变送单元 Transmitter	1	仪表名称 Instrument Name	类型 Instrument Type	Int. Press. Trans.	表压型 Gauge pressure type
	2	型号 Model		VTA	
	3	可用范围 Available Range		VTA	
	4	输出信号 Output Signal	电源 Power Supply	4～20mA+HART	24VDC two-wire system
	5	负载阻抗 Load Resistance(Ω)	精度 Accuracy	VTA	±0.055%FS
	6	零点量程调节 Zero Elevation & Suppression		YES	
	7	电气接口 Elec.Conn.	电缆密封接头 Cable Gland	1/2"NPT	带金属盲塞 With metal stopper
	8	气动连接 Pneu. Conn.	气源 Air Supply	NO	NO
	9	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	IP65
	10	响应时间 Response Time	表壳材质 Housing Mat'l	VTA	Low-Cu Al Alloy PU Coating
	11				
测量部分和本体 Sensing & Body	12	测量元件类型 Element Type	元件材质 Element Mat'l	单晶硅 Monocrystalline silicon	316L
	13	允许静压 Max.Static Pressure	适用温度 Allows. Oper. Temp.	VTA	-40～+104℃
	14	本体材质 Body Mat'l	容室法兰材质 Flange Mat'l	VTA	VTA
	15	过程连接形式 Process Conn.	过程连接 Size	螺纹 Thread	1/2"NPT(F)
	16	过压保护 Overpress. Protec.	接头材质 Connector Mat'l	NO	316
	17	排气/排液阀形式 V/D Type	排气/排液阀材质 Vent/Drain Mat'l	VTA	VTA
	18	垫片/O型环材质 Gskt/O-Ring Mat'l	螺栓材质 Bolts Mat'l	VTA	304
	19				
密封装置 Diaphragm Seal	20	远传装置类型 Seal Type		NO	
	21	膜盒直径 Diaphragm Diam.	膜盒长度 Diaphragm Length	NO	NO
	22	膜盒材质 Diaphragm Mat'l		NO	
	23	毛细管材质 Capillary Mat'l	毛细管长度 Capillary Length	NO	NO
	24	护套材质 Capillary Armor Mat'l	填充液 Fill Fluid	NO	NO
	25	适用温度 Fill F Temp. Limits	填充液密度 Fill Fluid Density	NO	NO
	26	过程连接形式 Conn. Type	连接尺寸 Size	NO	NO
	27	法兰标准 Flange STD	法兰等级 Flange Rating	NO	NO
	28	法兰材质 Flange Mat'l	密封面 Facing	NO	NO
	29	冲洗接口 Flushing Connection		NO	
	30				
指示表 Indicator	31	表头形式 Indicator Type	显示形式 Display	整体 Overall	LCD
	32	分离表支架 Remote Bracket	分离表接头 Remo. Indic. Conn.	NO	NO
	33				
阀组 Manifold	34	阀组形式 Manifold Type	阀组等级 Manifold Rating	二阀组 Two-valve assembly	PN63
	35	阀组材质 Manifold Mat'l	阀组连接规格 Manifold Conn.	316	1/2"NPT(F)
	36	阀组型号 Manifold Model		VTA	
	37				
附件 Access.	38	安装支架 Mounting Bracket	支架材质 Bracket Mat'l	2 "Tube-mounted L-shaped support	304
	39	防腐 Corrisive Envir. Enclosure	电涌防护器 Surge Protection Device	NO	NO
	40	带不锈钢仪表铭牌及位号牌。		Equipped with stainless steel instrument nameplates and tag plates.	

NOTES：The valve group and the transmitter are assembled and tested as a unit before leaving the factory, along with the accompanying test report.

The instrument for measuring ammonia must be free from oil, grease and copper.Please check whether the carbon dioxide storage tank supplier has equipped with a pressure transmitter. If it has been installed, there is no need to purchase again.

版次 REV.	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(压力变送器)	图号	CO2-JIA-INS-DTS-001
	DATA SHEET(PRESSURE TRANSMITTER)	主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device	专业	自控
		设计阶段	
		页码	第2页　共3页

序号 Item No.	仪表位号 Tag No.	检测对象 Service	介质名称 Fluid Name	管道设备号 Pipe/Equip. No.	管道材质 Pipe/Equip. Mat'l	流程图号 P&ID No.	操作/设计压力 Oper./Des. Press. MPa(g)	操作/设计温度 Oper./Des. Temp. ℃	数量 Quantity	连接方式 Conn. Type	SIL等级 SIL	测量范围 Calibration Range
1	PT-101	Raw gas pressure	CO2	CO101-650-L1B	20#	CO2-JIA-PR-D/01	0.01/-0.01～0.1	40/60	1	Thread 1/2"NPT(F)		-0.01～0.1MPaG
2	PT-102	Comp. Inlet Raw Gas Press.	CO2	CO105-650-L1B-C	20#	CO2-JIA-PR-D/01	0.01/-0.01～0.1	40/60	1	Thread 1/2"NPT(F)		-0.01～0.1MPaG
3	PT-103	CO2 Comp. Outlet Press.	CO2	CO107-150-Q4E	S30408	CO2-JIA-PR-D/02	3.51/4.0	40/60	1	Thread 1/2"NPT(F)		0～6.0MPaG
4	PT-104	Cold Box Inlet CO2 Press.	CO2	CO107-150-Q4E	S30408	CO2-JIA-PR-D/02	3.51/4.0	40/60	1	Thread 1/2"NPT(F)		0～6.0MPaG
5	PT-1	Tower Top Press.	CO2	T-1	5083	CO2-JIA-PR-D/03	3.5/4.0	-13/50	1	Thread 1/2"NPT(F)		0～6.0MPaG
6	PT-2	Column Bottom Press.	CO2	T-2	5083	CO2-JIA-PR-D/03	3.5/4.0	0/50	1	Thread 1/2"NPT(F)		0～6.0MPaG
7	PT-3	Pressure of R744 storage tank	CO2	V-2	5083	CO2-JIA-PR-D/03	1.7/2.5	-25/50	1	Thread 1/2"NPT(F)		0～4.0MPaG
8	PT-201	Ammonia storage tank pressure	NH3	V-201	20#	CO2-JIA-PR-D/04	1.4/2.16	38/50	1	Thread 1/2"NPT(F)		0～4.0MPaG
9	PT-202	Inlet pressure of ice machine A	NH3	AG201-400-N5E-C	S30408	CO2-JIA-PR-D/04	0.01～0.5/-0.1～1.5	-28/-40～40	1	Thread 1/2"NPT(F)		-0.1～1.5MPaG
10	PT-203	Inlet pressure of ice machine B	CO2	FG201-150-P4E-C	S30408	CO2-JIA-PR-D/05	0.5～1.5/2.5	0/-60～40	1	Thread 1/2"NPT(F)		0～2.5MPaG
11	PT-301a/b/c	CO2 Tank Press.	CO2	V-301A/B/C		CO2-JIA-PR-D/11	2.0/2.27	-12/50	3	Thread 1/2"NPT(F)		0～4.0MPaG
12	PT-302a/b/c	CO2 Tank Press.	CO2	V-302A/B/C		CO2-JIA-PR-D/12	2.0/2.27	-12/50	3	Thread 1/2"NPT(F)		0～4.0MPaG
13	PT-303a/b/c	CO2 Tank Press.	CO2	V-303A/B/C		CO2-JIA-PR-D/13	2.0/2.27	-12/50	3	Thread 1/2"NPT(F)		0～4.0MPaG
14	PT-304a/b/c	CO2 Tank Press.	CO2	V-304A/B/C		CO2-JIA-PR-D/14	2.0/2.27	-12/50	3	Thread 1/2"NPT(F)		0～4.0MPaG

版次 REV	日期 DATE	说明DESCRIPTION	编制 COMPILE	校核 CHK.	审核 APP.

	仪表规格书(压力变送器)	图号	CO2-JIA-INS-DTS-001
	DATA SHEET(PRESSURE TRANSMITTER)	主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device	专业	自控
		设计阶段	
		页码	第3页　共3页

序号 Item No.	仪表位号 Tag No.	检测对象 Service	介质名称 Fluid Name	管道设备号 Pipe/Equip. No.	管道材质 Pipe/Equip. Mat'l	流程图号 P&ID No.	操作/设计压力 Oper./Des. Press. MPa(g)	操作/设计温度 Oper./Des. Temp. ℃	数量 Quantity	连接方式 Conn. Type	SIL等级 SIL	测量范围 Calibration Range
15	PT-305a/b/c	CO2 Storage Tank Press.	CO2	V-305A/B/C		CO2-JIA-PR-D/15	2.0/2.27	-12/50	3	Thread 1/2"NPT(F)		0～4.0MPaG
16	PT-401	Fresh water water pressure	Water	RW101-80-L1B	20#	CO2-JIA-PR-D/06	0.4/1.0	30/50	1	Thread 1/2"NPT(F)		0～1.0MPaG
17	PT-402	Circulating water pressure	Water	CWS101-300-L1B	20#	CO2-JIA-PR-D/06	0.4/1.0	30/50	1	Thread 1/2"NPT(F)		0～1.0MPaG
18	PT-403	Instrument air pressure	Air	V-401	S30408	CO2-JIA-PR-D/06	0.6/1.0	30/50	1	Thread 1/2"NPT(F)		0～1.0MPaG

版次 REV	日期 DATE	说明DESCRIPTION	编制 COMPILE	校核 CHK.	审核 APP.

	仪表规格书（压力表） DATA SHEET(PRESSURE GAUGE)		图号	CO2-JIA-INS-DTS-001	
			主项名称		
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device		专业	自控	
			设计阶段		
			页码	第1页 共4页	

压力表 Pressure Gauge	1	仪表名称 Instrument Name	压力表 Pressure gauge
	2	型号 Model	VTA
	3	类型 Type	不锈钢压力表 Stainless steel pressure gauge
	4	表盘形式 Dial Type	径向 Radial
	5	表盘直径 Dial Size	Φ100
	6	表盘玻璃 Gauge Windows	安全玻璃 Safety glass
	7	表盘和刻度颜色 Dial & Scale Color	白底黑字 White background with black text
	8	表盘充液 Fill Fluid	NO
	9	精度 Accuracy	1.6
	10	防护等级 Enclosure Protection	IP65
	11	安装形式 Mounting Type	就地直读 Direct on-site reading
	12	过程连接形式 Connection Type	螺纹连接 Threaded connection
	13	连接尺寸 Connection Size	M20×1.5
	14	开关类型 Switch Type	NO
	15	开关数量 Switch Qt'y	NO
	16	触点形式 Contact Form	NO
	17	触点容量 Contact Rating	NO
	18	表壳材质 Case Material	304SS
	19	测量元件 Pressure Element	弹簧管 Spring tube
	20	元件材质 Element Material	316SS
	21	开关1 触点动作 Switch 1 Contact Action	NO
	22	开关2 触点动作 Switch 2 Contact Action	NO
	23	电气接口 Elec. Conn.	NO
	24	适用温度 Allowable Operating Temperature	NO
	25	爆裂防护 Blow-out Protection	NO
	26	防爆等级 Explosion Proof	NO
膜片密封 Diaphragm Seal	27	膜片类型 Diaphragm Type	NO
	28	膜片过程连接形式 Connection Type	NO
	29	连接尺寸 Connection Size	NO
	30	法兰标准 Flange Standard	NO
	31	压力等级 Pressure Rating	NO
	32	法兰材质 Flange Material	NO
	33	密封面 Facing	NO
	34	接液部件材质 Wetted Parts Material	NO
	35	底座材质 Bottom Housing Material	NO
	36	上盖材质 Top Housing Material	NO
	37	隔膜材质 Diaphragm Material	NO
	38	隔膜内填充液 Filled Fluid	NO
	39	毛细管长度 Capillary Length	NO
	40	毛细管材质 Capillary Material	NO
	41	冲洗连接 Flushing Connection	NO
附件 Accessories	42	脉动阻尼器 Pulsation Dampener	NO
	43	过压保护装置 Overpressure Protection Device	NO
	44	设定压力 Pressure Set Point	NO
	45	散热管形式和材质 Syphon Type & Material	NO
	46	缓冲器材质Snubber & Material	NO

说明 NOTES：The instrument for measuring ammonia is prohibited from using oil, grease and copper.

带不锈钢仪表铭牌及位号牌。Equipped with stainless steel instrument nameplates and tag plates.

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版次 REV.	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书（压力表） DATA SHEET(PRESSURE GAUGE)	图号	CO2-JIA-INS-DTS-001
		主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device	专业	自控
		设计阶段	
		页码	第2页　共4页

序号 Item No.	仪表位号 Tag No.	检测对象 Service	介质名称 Fluid Name	管道设备号 Pipe/Equip. No.	管道材质 Pipe/Equip. Mat'l	流程图号 P&ID No.	操作/设计压力 Oper./Des. Press. MPa(g)	操作/设计温度 Oper./Des. Temp. ℃	数量 Quantity	连接方式 Conn. Type	量程范围 Calibration Range
1	PG-151	Raw gas pressure	CO2	CO101-650-L1B	20#	CO2-JIA-PR-D/01	0.01/ -0.01～0.05	40/60	1	Thread M20×1.5	-0.01～0.05MpaG
2	PG-451	Fresh water water pressure	H20	RW101-50-L1B	20#	CO2-JIA-PR-D/06	0.4/1.0	32/50	1	Thread M20×1.5	0～1.0MpaG
3	PG-453	Instrument air pressure	Air	IA101-40-M1E	20#	CO2-JIA-PR-D/06	0.6/1.0	20/50	1	Thread M20×1.5	0～1.0MpaG
4	PG-154	O2 pressure	O2	OG101-15-N5E	S30408	CO2-JIA-PR-D/02	1.5/2.0	40/60	1	Thread M20×1.5	0～2.5MpaG

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版次 REV	日期 DATE	说明DESCRIPTION	编制　COMPILE	校核 CHK.	审核 APP.

		仪表规格书（压力表） DATA SHEET(PRESSURE GAUGE)	图号	CO2-JIA-INS-DTS-001	
			主项名称		
		12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device	专业	自控	
			设计阶段		
			页码	第3页 共4页	
压力表 Pressure Gauge	1	仪表名称 Instrument Name	压力表 Pressure gauge		
	2	型号 Model	VTA		
	3	类型 Type	耐震压力表 Shock-proof pressure gauge		
	4	表盘形式 Dial Type	径向 Radial		
	5	表盘直径 Dial Size	Φ100		
	6	表盘玻璃 Gauge Windows	安全玻璃 Safety glass		
	7	表盘和刻度颜色 Dial & Scale Color	白底黑字 White background with black text		
	8	表盘充液 Fill Fluid	硅油 Silicone oil		
	9	精度 Accuracy	1.6		
	10	防护等级 Enclosure Protection	IP65		
	11	安装形式 Mounting Type	就地直读 Direct on-site reading		
	12	过程连接形式 Connection Type	螺纹连接 Threaded connection		
	13	连接尺寸 Connection Size	M20×1.5		
	14	开关类型 Switch Type	NO		
	15	开关数量 Switch Qt'y	NO		
	16	触点形式 Contact Form	NO		
	17	触点容量 Contact Rating	NO		
	18	表壳材质 Case Material	304SS		
	19	测量元件 Pressure Element	弹簧管 Spring tube		
	20	元件材质 Element Material	316SS		
	21	开关1 触点动作 Switch 1 Contact Action	NO		
	22	开关2 触点动作 Switch 2 Contact Action	NO		
	23	电气接口 Elec. Conn.	NO		
	24	适用温度 Allowable Operating Temperature	NO		
	25	爆裂防护 Blow-out Protection	NO		
	26	防爆等级 Explosion Proof	NO		
膜片密封 Diaphragm Seal	27	膜片类型 Diaphragm Type	NO		
	28	膜片过程连接形式 Connection Type	NO		
	29	连接尺寸 Connection Size	NO		
	30	法兰标准 Flange Standard	NO		
	31	压力等级 Pressure Rating	NO		
	32	法兰材质 Flange Material	NO		
	33	密封面 Facing	NO		
	34	接液部件材质 Wetted Parts Material	NO		
	35	底座材质 Bottom Housing Material	NO		
	36	上盖材质 Top Housing Material	NO		
	37	隔膜材质 Diaphragm Material	NO		
	38	隔膜内填充液 Filled Fluid	NO		
	39	毛细管长度 Capillary Length	NO		
	40	毛细管材质 Capillary Material	NO		
	41	冲洗连接 Flushing Connection	NO		
附件 Accessories	42	脉动阻尼器 Pulsation Dampener	NO		
	43	过压保护装置 Overpressure Protection Device	NO		
	44	设定压力 Pressure Set Point	NO		
	45	散热管形式和材质 Syphon Type & Material	NO		
	46	缓冲器材质Snubber & Material	NO		
说明 NOTES：带不锈钢仪表铭牌及位号牌。Equipped with stainless steel instrument nameplates and tag plates.					

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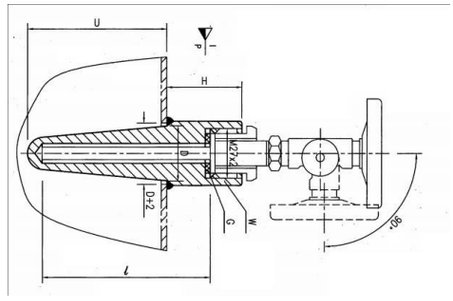
	仪表规格书（压力表） DATA SHEET(PRESSURE GAUGE)	图号	CO2-JIA-INS-DTS-001
		主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device	专业	自控
		设计阶段	
		页码	第4页　共4页

序号 Item No.	仪表位号 Tag No.	检测对象 Service	介质名称 Fluid Name	管道设备号 Pipe/Equip. No.	管道材质 Pipe/Equip. Mat'l	流程图号 P&ID No.	操作/设计压力 Oper./Des. Press. MPa(g)	操作/设计温度 Oper./Des. Temp. ℃	数量 Quantity	连接方式 Conn. Type	量程范围 Calibration Range
1	PG-152	Blower pressure	CO2	CO103-650-L1B	20#	CO2-JIA-PR-D/01	0.02/ -0.01～0.05	40/60	1	Thread M20×1.5	-0.01～0.05MpaG
2	PG-153a/b	Wash Circ. Pump Outlet Press.	H20	PL 102-65-L1E-C	S30408	CO2-JIA-PR-D/01	0.3/0.6	10/40	2	Thread M20×1.5	0～1.0MpaG
3	PG-356a/b/c/d	CO2 Loading Pump Outlet Press.	CO2	CO325a/b/c/d-50-P4E-C	S30408	CO2-JIA-PR-D/16	2.3/2.5	-20/-50	4	Thread M20×1.5	0～4MpaG
4	PG-452a/b	Circ. Water Pump Outlet Press.	H20	CWS101a/b-300-L1B	20#	CO2-JIA-PR-D/06	0.4/1.0	32/50	2	Thread M20×1.5	0～1.0MpaG

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版次 REV	日期 DATE	说明DESCRIPTION	编制　COMPILE	校核 CHK.	审核 APP.

	仪表规格书(双金属温度计) DATA SHEET(BIMETAL THERMOMETER)	图号	CO2-JIA-INS-DTS-001	
		主项名称		
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device	专业	自控	
		设计阶段		
		页码	第1页 共2页	

温度计 Thermometer	1	仪表名称 Instrument Name	双金属温度计Bimetallic thermometer
	2	型号 Model	VTA
	3	结构形式 Stem Construction Type	万向型Universal direction type
	4	表盘形式 Dial Type	
	5	表盘直径 Lens Size (Φ)	100mm
	6	表盘玻璃 Lens Material	安全玻璃Safety glass
	7	表盘和刻度颜色 Dial & Scale Color	白底黑字White background with black text
	8	精度 Accuracy	1.5%FS
	9	防护等级 Enclosure Protection	IP65
	10	连接形式 Conn. Type	螺纹Thread
	11	连接尺寸 Size	M27x2
	12	保护管直径 Stem Diameter	Φ8
	13	保护管材质 Stem Material	304
	14	表壳材质 Case Material	304
	15	外部调零 External Calibrator	带With
	16		
	17		
	18		
保护套 Thermo Well	19	结构形式 Construction Type	整体钻孔锥形保护管Overall drilled conical protective pipe
	20	过程连接形式 Conn. Type	插焊Soldering with plug-in method
	21	连接尺寸 Conn. Size	NO
	22	法兰标准 Flange STD	NO
	23	压力等级 Pressure Rating	NO
	24	套管/法兰材质 Well / Flange Material	同管道材质
	25	密封面 Facing	NO
	26	套管最大外径 Well O. D. (Max.)	Φ26
	27	套管内径 Bore Diameter	Φ9
	28	元件连接尺寸 Internal Conn. Size	M27×2(F)
	29	表面处理 Treatment	NO
	30	光洁度 Finish	NO
	31	套管喷涂层 Coating	NO
	32	标记 Stamping	NO
	33	延伸段长度 Lagging Ext. Length (T)	NO
	34	表盘伸出长度 Length (N)	NO
	35		
	36		
其它 Miscell.	37		
	38		
	39		



说明 NOTES：

仪表配置见次页。

版次 REV	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.
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	仪表规格书(双金属温度计) DATA SHEET(BIMETAL THERMOMETER)	图号	CO2-JIA-INS-DTS-001
		主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device	专业	自控
		设计阶段	
		页码	第2页 共2页

序号 Item No.	仪表位号 Tag No.	检测对象 Service	介质名称 Fluid Name	管道设备号 Pipe/Equip. No.	材质 Pipe/Equip. Mat'l	流程图号 P&ID No.	操作压力 Oper. Press. MPa(g)	操作温度 Oper. Temp. ℃	保护管全长/插入深度 Well Length L/U (mm)	测量范围 Calibration Range ℃
1	TG-451	循环水回水温度	水	CWR104-150-L1B	20#	CO2-JIA-PR-D/02	0.4	37	120/60mm	0～100℃
2	TG-452	循环水回水温度	水	CWR105-200-L1B	20#	CO2-JIA-PR-D/02	0.4	37	160/100mm	0～100℃
3	TG-453	循环水回水温度	水	CWR106-200-L1B	20#	CO2-JIA-PR-D/02	0.4	37	160/100mm	0～100℃
4	TG-454	循环水回水温度	水	CWR107-200-L1B	20#	CO2-JIA-PR-D/02	0.4	37	160/100mm	0～100℃
5	TG-455	循环水回水温度	水	CWR108-150-L1B	20#	CO2-JIA-PR-D/02	0.4	37	120/60mm	0～100℃
6	TG-456	循环水回水温度	水	CWR109-100-L1B	20#	CO2-JIA-PR-D/02	0.4	37	120/60mm	0～100℃
7	TG-457	循环水回水温度	水	CWR110-100-L1B	20#	CO2-JIA-PR-D/02	0.4	37	120/60mm	0～100℃
8	TG-458	循环水回水温度	水	CWR112-100-L1B	20#	CO2-JIA-PR-D/02	0.4	37	120/60mm	0～100℃
9	TG-459	循环水回水温度	水	CWR102-100-L1B	20#	CO2-JIA-PR-D/01	0.4	37	120/60mm	0～100℃
10	TG-460	循环水回水温度	水	CWR103-65-L1B	20#	CO2-JIA-PR-D/05	0.4	37	120/60mm	0～100℃

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版次 REV	日期 DATE	说明DESCRIPTION	编制 COMPILE	校核 CHK.	审核 APP.

	仪表规格书(差压液位变送器) DATA SHEET(DIFF. PRESS. LEVEL TRANSMITTER)			图号	CO2-JIA-INS-DTS-001
				主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控
				设计阶段	
				页码	第1页 共10页

概况 General	1	仪表名称 Instrument Name		差压式液位计Differential pressure level gauge	
	2	位号 Tag Number	流程图号 P&ID No.	LT-1	CO2-JIA-PR-D/03
	3	检测对象 Service	工艺管号 Pipe No.	脱重塔液位T1 Level of liquid	T1
	4	设备等级 Vessel Class	设备材质 Vessel Mat'l	VTA	VTA
工艺条件 Process Conditions	5	测量用途 Measurement	取源间距 Dist. Betw. U/L Nozzles mm	液位Level of liquid	1200
	6	上部介质名称 Upper Fluid	下部介质名称 Lower Fluid	NO	CO2
	7	上部介质密度 U. Density kg/m3	下部介质密度 L. Density kg/m3	NO	1039
	8	操作压力 Oper. Press. MPa(g)	设计压力 Design Press. MPa(g)	3.5	4.0
	9	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃	-12	-60
	10	运动黏度 Kin Visc(mm2/s)	动力黏度 Dyn Visc(mPa. s)	NO	NO
	11	工程单位 Unit	最大值 Max Value	NO	NO
	12	正常值 Normal Value	最小值 Min Value	NO	NO
	13	下取源口距液位基准距离		VTA	
变送单元 Transmitter	14	型号 Model		VTA	
	15	形式 Type	精度 Accuracy	Smart DP, Dbl. Flg.	±0.2%FS
	16	可用范围 Available Range	测量范围 Calibration Range (KPa)	-100～100kPa	0~12.218kpa（0～1200mm）
	17	输出信号 Output Signal	电源 Power Supply	4～20mA+HART	24VDC二线制24VDC two-wire
	18	负载阻抗 Load Resistance(Ω)	迁移量Transferred Value	VTA	现场确定Field Verify
	19	零点量程调节 Zero Elevation & Suppression		带With	
	20	表壳材质 Housing Mat'l	电气接口 Elec. Conn.	铸铝Aluminum casting	1/2″ NPT(F)+ Metal Plug
	21	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	IP65
测量部分和本体 Sensing & Body	22	测量元件类型 Element Type	元件材质 Element Mat'l	单晶硅Monocrystalline silicon	316L
	23	允许静压 Max. Static Pressure	适用温度 Allow. Oper. Temp. ℃	21MPa(G)	-40～104℃
	24	本体材质 Body Mat'l	容室法兰材质 Flange Mat'l	电镀碳钢EP CS	电镀碳钢EP CS
	25	过程连接形式 Conn. Type	过程连接 Size	VTA	VTA
	26	过压保护 Overpressure Protec.	接头材质 Connector Mat'l	NO	VTA
	27	排气/排液阀形式 V / D Type	排气/排液阀材质 Vent/Drain Mat'l	NO	NO
	28	垫片/O型环材质 Gskt/O-Ring Mat'l	螺栓材质 Bolts Mat'l	NO	NO
密封装置 Diaphragm Seal	29	远传装置类型 Seal Type		Diaphragm seal	
	30	膜盒直径 Diaphragm Diam.	膜盒长度 Diaphragm Length	DN50	0
	31	膜盒材质 Diaphragmd Mat'l		316	
	32	毛细管材质 Capillary Mat'l	毛细管长度 Capillary Length H/L	316	H=2m L=2m
	33	护套材质 Capillary Armor Mat'l	填充液 Fill Fluid	PVC	乙二醇Ethylene Glycol
	34	填充液适用温度 Fill F Temp. Limits	填充液密度 Fill Fluid Density	-40	0.94g/cm3
	35	过程连接形式 Conn. Type	连接尺寸 Size	法兰式Flange type	DN50
	36	法兰标准 Flange STD	法兰等级 Flange Rating	HG/T20592-2009	PN63
	37	法兰材质 Flange Mat'l	密封面 Facing	316	RF
	38	冲洗接口 Flushing Connection		NO	
指示表 Indicator	39	表头形式 Indicator Type	显示形式 Display	整体Overall	LCD
	40	分离表支架 Remote Bracket	分离表接头 Remo. Indic. Conn.	NO	NO
阀组 Manifold	41	阀组形式 Manifold Type	阀组等级 Manifold Rating	NO	NO
	42	阀组材质 Manifold Mat'l	阀组连接规格 Manifold Conn.	NO	NO
	43	阀组型号 Manifold Model		NO	
附件 Access.	44	安装支架 Mounting Bracket	支架材质 Bracket Mat'l	2" Pipe L-Bkt.	304
	45	防腐 Corrisive Envir. Enclosure	电涌防护器 Surge Protected Device	NO	NO
其他 Misc.		带不锈钢仪表铭牌及位号牌。		Equipped with stainless steel instrument nameplates and tag plates.	

说明 NOTES：配套检测报告。禁油禁脂禁铜。Comprehensive inspection report. No oil, no fat, no copper.

版次 REV	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(差压液位变送器) DATA SHEET(DIFF. PRESS. LEVEL TRANSMITTER)			图号	CO2-JIA-INS-DTS-001
				主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控
				设计阶段	
				页码	第2页 共10页

概况 General	1	仪表名称 Instrument Name		差压式液位计Differential pressure level gauge	
	2	位号 Tag Number	流程图号 P&ID No.	LT-2	CO2-JIA-PR-D/03
	3	检测对象 Service	工艺管号 Pipe No.	脱轻塔液位T2 Level of liquid	T2
	4	设备等级 Vessel Class	设备材质 Vessel Mat'l	VTA	VTA
工艺条件 Process Conditions	5	测量用途 Measurement	取源间距 Dist. Betw. U/L Nozzles mm	液位Level of liquid	1200
	6	上部介质名称 Upper Fluid	下部介质名称 Lower Fluid	NO	CO2
	7	上部介质密度 U. Density kg/m3	下部介质密度 L. Density kg/m3	NO	924
	8	操作压力 Oper. Press. MPa(g)	设计压力 Design Press. MPa(g)	3.5	4.0
	9	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃	0	-60
	10	运动黏度 Kin Visc(mm2/s)	动力黏度 Dyn Visc(mPa. s)	NO	NO
	11	工程单位 Unit	最大值 Max Value	NO	NO
	12	正常值 Normal Value	最小值 Min Value	NO	NO
	13	下取源口距液位基准距离		VTA	
变送单元 Transmitter	14	型号 Model		VTA	
	15	形式 Type	精度 Accuracy	Smart DP, Dbl. Flg.	±0.2%FS
	16	可用范围 Available Range	测量范围 Calibration Range (KPa)	-100～100kPa	0~10.866kpa（0～1200mm）
	17	输出信号 Output Signal	电源 Power Supply	4～20mA+HART	24VDC二线制24VDC two-wire
	18	负载阻抗 Load Resistance(Ω)	迁移量Transferred Value	VTA	现场确定Field Verify
	19	零点量程调节 Zero Elevation & Suppression		带With	
	20	表壳材质 Housing Mat'l	电气接口 Elec. Conn.	铸铝Aluminum casting	1/2″ NPT(F)+ Metal Plug
	21	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	IP65
测量部分和本体 Sensing & Body	22	测量元件类型 Element Type	元件材质 Element Mat'l	单晶硅Monocrystalline silicon	316L
	23	允许静压 Max. Static Pressure	适用温度 Allow. Oper. Temp. ℃	21MPa(G)	-40～104℃
	24	本体材质 Body Mat'l	容室法兰材质 Flange Mat'l	电镀碳钢EP CS	电镀碳钢EP CS
	25	过程连接形式 Conn. Type	过程连接 Size	VTA	VTA
	26	过压保护 Overpressure Protec.	接头材质 Connector Mat'l	NO	VTA
	27	排气/排液阀形式 V / D Type	排气/排液阀材质 Vent/Drain Mat'l	NO	NO
	28	垫片/O型环材质 Gskt/O-Ring Mat'l	螺栓材质 Bolts Mat'l	NO	NO
密封装置 Diaphragm Seal	29	远传装置类型 Seal Type		Diaphragm seal	
	30	膜盒直径 Diaphragm Diam.	膜盒长度 Diaphragm Length	DN50	0
	31	膜盒材质 Diaphragmd Mat'l		316	
	32	毛细管材质 Capillary Mat'l	毛细管长度 Capillary Length H/L	316	H=2m L=2m
	33	护套材质 Capillary Armor Mat'l	填充液 Fill Fluid	PVC	乙二醇Ethylene Glycol
	34	填充液适用温度 Fill F Temp. Limits	填充液密度 Fill Fluid Density	-40	0.94g/cm3
	35	过程连接形式 Conn. Type	连接尺寸 Size	法兰式Flange type	DN50
	36	法兰标准 Flange STD	法兰等级 Flange Rating	HG/T20592-2009	PN63
	37	法兰材质 Flange Mat'l	密封面 Facing	316	RF
	38	冲洗接口 Flushing Connection		NO	
指示表 Indicator	39	表头形式 Indicator Type	显示形式 Display	整体Overall	LCD
	40	分离表支架 Remote Bracket	分离表接头 Remo. Indic. Conn.	NO	NO
阀组 Manifold	41	阀组形式 Manifold Type	阀组等级 Manifold Rating	NO	NO
	42	阀组材质 Manifold Mat'l	阀组连接规格 Manifold Conn.	NO	NO
	43	阀组型号 Manifold Model		NO	
附件 Access.	44	安装支架 Mounting Bracket	支架材质 Bracket Mat'l	2" Pipe L-Bkt.	304
	45	防腐 Corrisive Envir. Enclosure	电涌防护器 Surge Protected Device	NO	NO
其他 Misc.		带不锈钢仪表铭牌及位号牌。		Equipped with stainless steel instrument nameplates and tag plates.	

说明 NOTES：配套检测报告。禁油禁脂禁铜。Comprehensive inspection report. No oil, no fat, no copper.

版次 REV.	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(差压液位变送器) DATA SHEET(DIFF. PRESS. LEVEL TRANSMITTER)			图号	CO2-JIA-INS-DTS-001
				主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控
				设计阶段	
				页码	第3页 共10页

概况 General	1	仪表名称 Instrument Name		差压式液位计Differential pressure level gauge	
	2	位号 Tag Number	流程图号 P&ID No.	LT-3	CO2-JIA-PR-D/03
	3	检测对象 Service	工艺管号 Pipe No.	R744储罐液位V2 Level of liquid	V2
	4	设备等级 Vessel Class	设备材质 Vessel Mat'l	VTA	VTA
工艺条件 Process Conditions	5	测量用途 Measurement	取源间距 Dist. Betw. U/L Nozzles mm	液位Level of liquid	2800
	6	上部介质名称 Upper Fluid	下部介质名称 Lower Fluid	NO	CO2
	7	上部介质密度 U. Density kg/m3	下部介质密度 L. Density kg/m3	NO	1052
	8	操作压力 Oper. Press. MPa(g)	设计压力 Design Press. MPa(g)	1.6	2.5
	9	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃	-25	-60
	10	运动黏度 Kin Visc(mm2/s)	动力黏度 Dyn Visc(mPa. s)	NO	NO
	11	工程单位 Unit	最大值 Max Value	NO	NO
	12	正常值 Normal Value	最小值 Min Value	NO	NO
	13	下取源口距液位基准距离		VTA	
变送单元 Transmitter	14	型号 Model		VTA	
	15	形式 Type	精度 Accuracy	Smart DP, Dbl. Flg.	±0.2%FS
	16	可用范围 Available Range	测量范围 Calibration Range (KPa)	-100～100kPa	0~28.866kpa（0～2800mm）
	17	输出信号 Output Signal	电源 Power Supply	4～20mA+HART	24VDC二线制24VDC two-wire
	18	负载阻抗 Load Resistance(Ω)	迁移量Transferred Value	VTA	现场确定Field Verify
	19	零点量程调节 Zero Elevation & Suppression		带With	
	20	表壳材质 Housing Mat'l	电气接口 Elec. Conn.	铸铝Aluminum casting	1/2″ NPT(F)+ Metal Plug
	21	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	IP65
测量部分和本体 Sensing & Body	22	测量元件类型 Element Type	元件材质 Element Mat'l	单晶硅Monocrystalline silicon	316L
	23	允许静压 Max. Static Pressure	适用温度 Allow. Oper. Temp. ℃	21MPa(G)	-40～104℃
	24	本体材质 Body Mat'l	容室法兰材质 Flange Mat'l	电镀碳钢EP CS	电镀碳钢EP CS
	25	过程连接形式 Conn. Type	过程连接 Size	VTA	VTA
	26	过压保护 Overpressure Protec.	接头材质 Connector Mat'l	NO	VTA
	27	排气/排液阀形式 V / D Type	排气/排液阀材质 Vent/Drain Mat'l	NO	NO
	28	垫片/O型环材质 Gskt/O-Ring Mat'l	螺栓材质 Bolts Mat'l	NO	NO
密封装置 Diaphragm Seal	29	远传装置类型 Seal Type		Diaphragm seal	
	30	膜盒直径 Diaphragm Diam.	膜盒长度 Diaphragm Length	DN50	0
	31	膜盒材质 Diaphragmd Mat'l		316	
	32	毛细管材质 Capillary Mat'l	毛细管长度 Capillary Length H/L	316	H=2m L=3m
	33	护套材质 Capillary Armor Mat'l	填充液 Fill Fluid	PVC	乙二醇Ethylene Glycol
	34	填充液适用温度 Fill F Temp. Limits	填充液密度 Fill Fluid Density	-40	0.94g/cm3
	35	过程连接形式 Conn. Type	连接尺寸 Size	法兰式Flange type	DN50
	36	法兰标准 Flange STD	法兰等级 Flange Rating	HG/T20592-2009	PN40
	37	法兰材质 Flange Mat'l	密封面 Facing	316	RF
	38	冲洗接口 Flushing Connection		NO	
指示表 Indicator	39	表头形式 Indicator Type	显示形式 Display	整体Overall	LCD
	40	分离表支架 Remote Bracket	分离表接头 Remo. Indic. Conn.	NO	NO
阀组 Manifold	41	阀组形式 Manifold Type	阀组等级 Manifold Rating	NO	NO
	42	阀组材质 Manifold Mat'l	阀组连接规格 Manifold Conn.	NO	NO
	43	阀组型号 Manifold Model		NO	
附件 Access.	44	安装支架 Mounting Bracket	支架材质 Bracket Mat'l	2" Pipe L-Bkt.	304
	45	防腐 Corrisive Envir. Enclosure	电涌防护器 Surge Protected Device	NO	NO
其他 Misc.		带不锈钢仪表铭牌及位号牌。		Equipped with stainless steel instrument nameplates and tag plates.	

说明 NOTES：配套检测报告。禁油禁脂禁铜。Comprehensive inspection report. No oil, no fat, no copper.

版次 REV	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(差压液位变送器) DATA SHEET(DIFF. PRESS. LEVEL TRANSMITTER)			图号	CO2-JIA-INS-DTS-001
				主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控
				设计阶段	
				页码	第4页 共10页

概况 General	1	仪表名称 Instrument Name		差压式液位计Differential pressure level gauge	
	2	位号 Tag Number	流程图号 P&ID No.	LT-4	CO2-JIA-PR-D/03
	3	检测对象 Service	工艺管号 Pipe No.	氨分液位V1 Level of liquid	V1
	4	设备等级 Vessel Class	设备材质 Vessel Mat'l	VTA	VTA
工艺条件 Process Conditions	5	测量用途 Measurement	取源间距 Dist. Betw. U/L Nozzles mm	液位Level of liquid	1950
	6	上部介质名称 Upper Fluid	下部介质名称 Lower Fluid	NO	NH3
	7	上部介质密度 U. Density kg/m3	下部介质密度 L. Density kg/m3	NO	675
	8	操作压力 Oper. Press. MPa(g)	设计压力 Design Press. MPa(g)	1.1	1.6
	9	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃	-28	-60
	10	运动黏度 Kin Visc(mm2/s)	动力黏度 Dyn Visc(mPa. s)	NO	NO
	11	工程单位 Unit	最大值 Max Value	NO	NO
	12	正常值 Normal Value	最小值 Min Value	NO	NO
	13	下取源口距液位基准距离		VTA	
变送单元 Transmitter	14	型号 Model		VTA	
	15	形式 Type	精度 Accuracy	Smart DP, Dbl. Flg.	±0.2%FS
	16	可用范围 Available Range	测量范围 Calibration Range (KPa)	-100～100kPa	0~12.899kpa（0～1950mm）
	17	输出信号 Output Signal	电源 Power Supply	4～20mA+HART	24VDC二线制24VDC two-wire
	18	负载阻抗 Load Resistance(Ω)	迁移量Transferred Value	VTA	现场确定Field Verify
	19	零点量程调节 Zero Elevation & Suppression		带With	
	20	表壳材质 Housing Mat'l	电气接口 Elec. Conn.	铸铝Aluminum casting	1/2″ NPT(F)+ Metal Plug
	21	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	IP65
测量部分和本体 Sensing & Body	22	测量元件类型 Element Type	元件材质 Element Mat'l	单晶硅Monocrystalline silicon	316L
	23	允许静压 Max. Static Pressure	适用温度 Allow. Oper. Temp. ℃	21MPa(G)	-40～104℃
	24	本体材质 Body Mat'l	容室法兰材质 Flange Mat'l	电镀碳钢EP CS	电镀碳钢EP CS
	25	过程连接形式 Conn. Type	过程连接 Size	VTA	VTA
	26	过压保护 Overpressure Protec.	接头材质 Connector Mat'l	NO	VTA
	27	排气/排液阀形式 V / D Type	排气/排液阀材质 Vent/Drain Mat'l	NO	NO
	28	垫片/O型环材质 Gskt/O-Ring Mat'l	螺栓材质 Bolts Mat'l	NO	NO
密封装置 Diaphragm Seal	29	远传装置类型 Seal Type		Diaphragm seal	
	30	膜盒直径 Diaphragm Diam.	膜盒长度 Diaphragm Length	DN50	0
	31	膜盒材质 Diaphragmd Mat'l		316	
	32	毛细管材质 Capillary Mat'l	毛细管长度 Capillary Length H/L	316	H=2m L=3m
	33	护套材质 Capillary Armor Mat'l	填充液 Fill Fluid	PVC	乙二醇Ethylene Glycol
	34	填充液适用温度 Fill F Temp. Limits	填充液密度 Fill Fluid Density	-40	0.94g/cm3
	35	过程连接形式 Conn. Type	连接尺寸 Size	法兰式Flange type	DN50
	36	法兰标准 Flange STD	法兰等级 Flange Rating	HG/T20592-2009	PN25
	37	法兰材质 Flange Mat'l	密封面 Facing	316	RF
	38	冲洗接口 Flushing Connection		NO	
指示表 Indicator	39	表头形式 Indicator Type	显示形式 Display	整体Overall	LCD
	40	分离表支架 Remote Bracket	分离表接头 Remo. Indic. Conn.	NO	NO
阀组 Manifold	41	阀组形式 Manifold Type	阀组等级 Manifold Rating	NO	NO
	42	阀组材质 Manifold Mat'l	阀组连接规格 Manifold Conn.	NO	NO
	43	阀组型号 Manifold Model		NO	
附件 Access.	44	安装支架 Mounting Bracket	支架材质 Bracket Mat'l	2" Pipe L-Bkt.	304
	45	防腐 Corrisive Envir. Enclosure	电涌防护器 Surge Protected Device	NO	NO
其他 Misc.		带不锈钢仪表铭牌及位号牌。		Equipped with stainless steel instrument nameplates and tag plates.	

说明 NOTES：配套检测报告。禁油禁脂禁铜。Comprehensive inspection report. No oil, no fat, no copper.

版次 REV	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(差压液位变送器) DATA SHEET(DIFF. PRESS. LEVEL TRANSMITTER)			图号	CO2-JIA-INS-DTS-001
				主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控
				设计阶段	
				页码	第5页 共10页

概况 General	1	仪表名称 Instrument Name		差压式液位计Differential pressure level gauge	
	2	位号 Tag Number	流程图号 P&ID No.	LT-5	CO2-JIA-PR-D/03
	3	检测对象 Service	工艺管号 Pipe No.	R744分离器液位V3 Level of liquid	V3
	4	设备等级 Vessel Class	设备材质 Vessel Mat'l	VTA	VTA
工艺条件 Process Conditions	5	测量用途 Measurement	取源间距 Dist. Betw. U/L Nozzles mm	液位Level of liquid	1890
	6	上部介质名称 Upper Fluid	下部介质名称 Lower Fluid	NO	CO2
	7	上部介质密度 U. Density kg/m3	下部介质密度 L. Density kg/m3	NO	1154
	8	操作压力 Oper. Press. MPa(g)	设计压力 Design Press. MPa(g)	1.8	2.5
	9	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃	-50	-60
	10	运动黏度 Kin Visc(mm2/s)	动力黏度 Dyn Visc(mPa. s)	NO	NO
	11	工程单位 Unit	最大值 Max Value	NO	NO
	12	正常值 Normal Value	最小值 Min Value	NO	NO
	13	下取源口距液位基准距离		VTA	
变送单元 Transmitter	14	型号 Model		VTA	
	15	形式 Type	精度 Accuracy	Smart DP, Dbl. Flg.	±0.2%FS
	16	可用范围 Available Range	测量范围 Calibration Range (KPa)	-100～100kPa	0~21.374kpa（0～1890mm）
	17	输出信号 Output Signal	电源 Power Supply	4～20mA+HART	24VDC二线制24VDC two-wire
	18	负载阻抗 Load Resistance(Ω)	迁移量Transferred Value	VTA	现场确定Field Verify
	19	零点量程调节 Zero Elevation & Suppression		带With	
	20	表壳材质 Housing Mat'l	电气接口 Elec. Conn.	铸铝Aluminum casting	1/2″ NPT(F)+ Metal Plug
	21	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	IP65
测量部分和本体 Sensing & Body	22	测量元件类型 Element Type	元件材质 Element Mat'l	单晶硅Monocrystalline silicon	316L
	23	允许静压 Max. Static Pressure	适用温度 Allow. Oper. Temp. ℃	21MPa(G)	-40～104℃
	24	本体材质 Body Mat'l	容室法兰材质 Flange Mat'l	电镀碳钢EP CS	电镀碳钢EP CS
	25	过程连接形式 Conn. Type	过程连接 Size	VTA	VTA
	26	过压保护 Overpressure Protec.	接头材质 Connector Mat'l	NO	VTA
	27	排气/排液阀形式 V / D Type	排气/排液阀材质 Vent/Drain Mat'l	NO	NO
	28	垫片/O型环材质 Gskt/O-Ring Mat'l	螺栓材质 Bolts Mat'l	NO	NO
密封装置 Diaphragm Seal	29	远传装置类型 Seal Type		Diaphragm seal	
	30	膜盒直径 Diaphragm Diam.	膜盒长度 Diaphragm Length	DN50	0
	31	膜盒材质 Diaphragmd Mat'l		316	
	32	毛细管材质 Capillary Mat'l	毛细管长度 Capillary Length H/L	316	H=2m L=3m
	33	护套材质 Capillary Armor Mat'l	填充液 Fill Fluid	PVC	乙二醇Ethylene Glycol
	34	填充液适用温度 Fill F Temp. Limits	填充液密度 Fill Fluid Density	-40	0.94g/cm3
	35	过程连接形式 Conn. Type	连接尺寸 Size	法兰式Flange type	DN50
	36	法兰标准 Flange STD	法兰等级 Flange Rating	HG/T20592-2009	PN25
	37	法兰材质 Flange Mat'l	密封面 Facing	316	RF
	38	冲洗接口 Flushing Connection		NO	
指示表 Indicator	39	表头形式 Indicator Type	显示形式 Display	整体Overall	LCD
	40	分离表支架 Remote Bracket	分离表接头 Remo. Indic. Conn.	NO	NO
阀组 Manifold	41	阀组形式 Manifold Type	阀组等级 Manifold Rating	NO	NO
	42	阀组材质 Manifold Mat'l	阀组连接规格 Manifold Conn.	NO	NO
	43	阀组型号 Manifold Model		NO	
附件 Access.	44	安装支架 Mounting Bracket	支架材质 Bracket Mat'l	2" Pipe L-Bkt.	304
	45	防腐 Corrisive Envir. Enclosure	电涌防护器 Surge Protected Device	NO	NO
其他 Misc.		带不锈钢仪表铭牌及位号牌。		Equipped with stainless steel instrument nameplates and tag plates.	

说明 NOTES：配套检测报告。禁油禁脂禁铜。Comprehensive inspection report. No oil, no fat, no copper.

版次 REV	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(差压液位变送器) DATA SHEET(DIFF. PRESS. LEVEL TRANSMITTER)			图号	CO2-JIA-INS-DTS-001
				主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控
				设计阶段	
				页码	第6页 共10页

概况 General	1	仪表名称 Instrument Name		差压式液位计Differential pressure level gauge	
	2	位号 Tag Number	流程图号 P&ID No.	LT-301a/b/c	CO2-JIA-PR-D/11
	3	检测对象 Service	工艺管号 Pipe No.	V-301A/B/C Level of liquid	V-301A/B/C
	4	设备等级 Vessel Class	设备材质 Vessel Mat'l	VTA	VTA
工艺条件 Process Conditions	5	测量用途 Measurement	取源间距 Dist. Betw. U/L Nozzles mm	液位Level of liquid	Ref. Equip. Dwg.
	6	上部介质名称 Upper Fluid	下部介质名称 Lower Fluid	NO	CO2
	7	上部介质密度 U. Density kg/m3	下部介质密度 L. Density kg/m3	NO	1020
	8	操作压力 Oper. Press. MPa(g)	设计压力 Design Press. MPa(g)	2.2	2.4
	9	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃	-18	50
	10	运动黏度 Kin Visc(mm2/s)	动力黏度 Dyn Visc(mPa. s)	NO	NO
	11	工程单位 Unit	最大值 Max Value	NO	NO
	12	正常值 Normal Value	最小值 Min Value	NO	NO
	13	下取源口距液位基准距离		VTA	
变送单元 Transmitter	14	型号 Model		VTA	
	15	形式 Type	精度 Accuracy	Smart DP, Dbl. Flg.	±0.055%FS
	16	可用范围 Available Range	测量范围 Calibration Range (KPa)	0～500kPa	0～VTAmm
	17	输出信号 Output Signal	电源 Power Supply	4～20mA+HART	24VDC二线制24VDC two-wire
	18	负载阻抗 Load Resistance(Ω)	迁移量Transferred Value	VTA	现场确定Field Verify
	19	零点量程调节 Zero Elevation & Suppression		带With	
	20	表壳材质 Housing Mat'l	电气接口 Elec. Conn.	PU baked low-Cu cast Al	1/2″ NPT(F)+ Metal Plug
	21	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	IP65
测量部分和本体 Sensing & Body	22	测量元件类型 Element Type	元件材质 Element Mat'l	单晶硅Monocrystalline silicon	316L
	23	允许静压 Max. Static Pressure	适用温度 Allow. Oper. Temp. ℃	VTA	-40～104℃
	24	本体材质 Body Mat'l	容室法兰材质 Flange Mat'l	316	316
	25	过程连接形式 Conn. Type	过程连接 Size	With process joints	1/2″NPT(F)
	26	过压保护 Overpressure Protec.	接头材质 Connector Mat'l	NO	316
	27	排气/排液阀形式 V / D Type	排气/排液阀材质 Vent/Drain Mat'l	NO	NO
	28	垫片/O型环材质 Gskt/O-Ring Mat'l	螺栓材质 Bolts Mat'l	NO	NO
密封装置 Diaphragm Seal	29	远传装置类型 Seal Type		NO	
	30	膜盒直径 Diaphragm Diam.	膜盒长度 Diaphragm Length	NO	NO
	31	膜盒材质 Diaphragmd Mat'l		NO	
	32	毛细管材质 Capillary Mat'l	毛细管长度 Capillary Length H/L	NO	NO
	33	护套材质 Capillary Armor Mat'l	填充液 Fill Fluid	NO	NO
	34	填充液适用温度 Fill F Temp. Limits	填充液密度 Fill Fluid Density	NO	NO
	35	过程连接形式 Conn. Type	连接尺寸 Size	NO	NO
	36	法兰标准 Flange STD	法兰等级 Flange Rating	NO	NO
	37	法兰材质 Flange Mat'l	密封面 Facing	NO	NO
	38	冲洗接口 Flushing Connection		NO	
指示表 Indicator	39	表头形式 Indicator Type	显示形式 Display	整体Overall	LCD
	40	分离表支架 Remote Bracket	分离表接头 Remo. Indic. Conn.	NO	NO
阀组 Manifold	41	阀组形式 Manifold Type	阀组等级 Manifold Rating	CV Three Valve Assembly	PN63
	42	阀组材质 Manifold Mat'l	阀组连接规格 Manifold Conn.	316	1/2″NPT(F)
	43	阀组型号 Manifold Model		VTA	
附件 Access.	44	安装支架 Mounting Bracket	支架材质 Bracket Mat'l	2" Pipe L-Bkt.	304
	45	防腐 Corrisive Envir. Enclosure	电涌防护器 Surge Protected Device	NO	NO

说明 NOTES：The transmitter and valve group are tested as a complete unit and then manufactured.There are 3 transmitters.
A corresponding test report is provided.Please check whether the carbon dioxide storage tank supplier has installed a leve
l gauge.If it has been installed, there is no need to purchase another one.
带不锈钢仪表铭牌及位号牌。Equipped with stainless steel instrument nameplates and tag plates.

版次 REV	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(差压液位变送器) DATA SHEET(DIFF. PRESS. LEVEL TRANSMITTER)		图号	CO2-JIA-INS-DTS-001	
			主项名称		
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device		专业	自控	
			设计阶段		
			页码	第7页 共10页	

概况 General	1	仪表名称 Instrument Name		差压式液位计Differential pressure level gauge	
	2	位号 Tag Number	流程图号 P&ID No.	LT-302a/b/c	CO2-JIA-PR-D/12
	3	检测对象 Service	工艺管号 Pipe No.	V-302A/B/C Level of liquid	V-302A/B/C
	4	设备等级 Vessel Class	设备材质 Vessel Mat'l	VTA	VTA
工艺条件 Process Conditions	5	测量用途 Measurement	取源间距 Dist. Betw. U/L Nozzles mm	液位Level of liquid	Ref. Equip. Dwg.
	6	上部介质名称 Upper Fluid	下部介质名称 Lower Fluid	NO	CO2
	7	上部介质密度 U. Density kg/m3	下部介质密度 L. Density kg/m3	NO	1020
	8	操作压力 Oper. Press. MPa(g)	设计压力 Design Press. MPa(g)	2.2	2.4
	9	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃	-18	50
	10	运动黏度 Kin Visc(mm2/s)	动力黏度 Dyn Visc(mPa. s)	NO	NO
	11	工程单位 Unit	最大值 Max Value	NO	NO
	12	正常值 Normal Value	最小值 Min Value	NO	NO
	13	下取源口距液位基准距离		VTA	
变送单元 Transmitter	14	型号 Model		VTA	
	15	形式 Type	精度 Accuracy	Smart DP, Dbl. Flg.	±0.055%FS
	16	可用范围 Available Range	测量范围 Calibration Range (KPa)	0～500kPa	0～VTAmm
	17	输出信号 Output Signal	电源 Power Supply	4～20mA+HART	24VDC二线制24VDC two-wire
	18	负载阻抗 Load Resistance(Ω)	迁移量Transferred Value	VTA	现场确定Field Verify
	19	零点量程调节 Zero Elevation & Suppression		带With	
	20	表壳材质 Housing Mat'l	电气接口 Elec. Conn.	PU baked low-Cu cast Al	1/2″ NPT(F)+ Metal Plug
	21	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	IP65
测量部分和本体 Sensing & Body	22	测量元件类型 Element Type	元件材质 Element Mat'l	单晶硅Monocrystalline silicon	316L
	23	允许静压 Max. Static Pressure	适用温度 Allow. Oper. Temp. ℃	VTA	-40～104℃
	24	本体材质 Body Mat'l	容室法兰材质 Flange Mat'l	316	316
	25	过程连接形式 Conn. Type	过程连接 Size	With process joints	1/2″NPT(F)
	26	过压保护 Overpressure Protec.	接头材质 Connector Mat'l	NO	316
	27	排气/排液阀形式 V / D Type	排气/排液阀材质 Vent/Drain Mat'l	NO	NO
	28	垫片/O型环材质 Gskt/O-Ring Mat'l	螺栓材质 Bolts Mat'l	NO	NO
密封装置 Diaphragm Seal	29	远传装置类型 Seal Type		NO	
	30	膜盒直径 Diaphragm Diam.	膜盒长度 Diaphragm Length	NO	NO
	31	膜盒材质 Diaphragmd Mat'l		NO	
	32	毛细管材质 Capillary Mat'l	毛细管长度 Capillary Length H/L	NO	NO
	33	护套材质 Capillary Armor Mat'l	填充液 Fill Fluid	NO	NO
	34	填充液适用温度 Fill F Temp. Limits	填充液密度 Fill Fluid Density	NO	NO
	35	过程连接形式 Conn. Type	连接尺寸 Size	NO	NO
	36	法兰标准 Flange STD	法兰等级 Flange Rating	NO	NO
	37	法兰材质 Flange Mat'l	密封面 Facing	NO	NO
	38	冲洗接口 Flushing Connection		NO	
指示表 Indicator	39	表头形式 Indicator Type	显示形式 Display	整体Overall	LCD
	40	分离表支架 Remote Bracket	分离表接头 Remo. Indic. Conn.	NO	NO
阀组 Manifold	41	阀组形式 Manifold Type	阀组等级 Manifold Rating	CV Three Valve Assembly	PN63
	42	阀组材质 Manifold Mat'l	阀组连接规格 Manifold Conn.	316	1/2″NPT(F)
	43	阀组型号 Manifold Model		VTA	
附件 Access.	44	安装支架 Mounting Bracket	支架材质 Bracket Mat'l	2" Pipe L-Bkt.	304
	45	防腐 Corrisive Envir. Enclosure	电涌防护器 Surge Protected Device	NO	NO

说明 NOTES：The transmitter and valve group are tested as a complete unit and then manufactured.There are 3 transmitters.
A corresponding test report is provided.Please check whether the carbon dioxide storage tank supplier has installed a leve
l gauge.If it has been installed, there is no need to purchase another one.
带不锈钢仪表铭牌及位号牌。Equipped with stainless steel instrument nameplates and tag plates.

版次 REV	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(差压液位变送器) DATA SHEET(DIFF. PRESS. LEVEL TRANSMITTER)			图号	CO2-JIA-INS-DTS-001
				主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控
				设计阶段	
				页码	第8页 共10页

概况 General	1	仪表名称 Instrument Name		差压式液位计Differential pressure level gauge	
	2	位号 Tag Number	流程图号 P&ID No.	LT-303a/b/c	CO2-JIA-PR-D/13
	3	检测对象 Service	工艺管号 Pipe No.	V-303A/B/C Level of liquid	V-303A/B/C
	4	设备等级 Vessel Class	设备材质 Vessel Mat'l	VTA	VTA
工艺条件 Process Conditions	5	测量用途 Measurement	取源间距 Dist. Betw. U/L Nozzles mm	液位Level of liquid	Ref. Equip. Dwg.
	6	上部介质名称 Upper Fluid	下部介质名称 Lower Fluid	NO	CO2
	7	上部介质密度 U. Density kg/m3	下部介质密度 L. Density kg/m3	NO	1020
	8	操作压力 Oper. Press. MPa(g)	设计压力 Design Press. MPa(g)	2.2	2.4
	9	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃	-18	50
	10	运动黏度 Kin Visc(mm2/s)	动力黏度 Dyn Visc(mPa. s)	NO	NO
	11	工程单位 Unit	最大值 Max Value	NO	NO
	12	正常值 Normal Value	最小值 Min Value	NO	NO
	13	下取源口距液位基准距离		VTA	
变送单元 Transmitter	14	型号 Model		VTA	
	15	形式 Type	精度 Accuracy	Smart DP, Dbl. Flg.	±0.055%FS
	16	可用范围 Available Range	测量范围 Calibration Range (KPa)	0～500kPa	0～VTAmm
	17	输出信号 Output Signal	电源 Power Supply	4～20mA+HART	24VDC二线制24VDC two-wire
	18	负载阻抗 Load Resistance(Ω)	迁移量Transferred Value	VTA	现场确定Field Verify
	19	零点量程调节 Zero Elevation & Suppression		带With	
	20	表壳材质 Housing Mat'l	电气接口 Elec. Conn.	PU baked low-Cu cast Al	1/2″ NPT(F)+ Metal Plug
	21	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	IP65
测量部分和本体 Sensing & Body	22	测量元件类型 Element Type	元件材质 Element Mat'l	单晶硅Monocrystalline silicon	316L
	23	允许静压 Max. Static Pressure	适用温度 Allow. Oper. Temp. ℃	VTA	-40～104℃
	24	本体材质 Body Mat'l	容室法兰材质 Flange Mat'l	316	316
	25	过程连接形式 Conn. Type	过程连接 Size	With process joints	1/2″NPT(F)
	26	过压保护 Overpressure Protec.	接头材质 Connector Mat'l	NO	316
	27	排气/排液阀形式 V / D Type	排气/排液阀材质 Vent/Drain Mat'l	NO	NO
	28	垫片/O型环材质 Gskt/O-Ring Mat'l	螺栓材质 Bolts Mat'l	NO	NO
密封装置 Diaphragm Seal	29	远传装置类型 Seal Type		NO	
	30	膜盒直径 Diaphragm Diam.	膜盒长度 Diaphragm Length	NO	NO
	31	膜盒材质 Diaphragmd Mat'l		NO	
	32	毛细管材质 Capillary Mat'l	毛细管长度 Capillary Length H/L	NO	NO
	33	护套材质 Capillary Armor Mat'l	填充液 Fill Fluid	NO	NO
	34	填充液适用温度 Fill F Temp. Limits	填充液密度 Fill Fluid Density	NO	NO
	35	过程连接形式 Conn. Type	连接尺寸 Size	NO	NO
	36	法兰标准 Flange STD	法兰等级 Flange Rating	NO	NO
	37	法兰材质 Flange Mat'l	密封面 Facing	NO	NO
	38	冲洗接口 Flushing Connection		NO	
指示表 Indicator	39	表头形式 Indicator Type	显示形式 Display	整体Overall	LCD
	40	分离表支架 Remote Bracket	分离表接头 Remo. Indic. Conn.	NO	NO
阀组 Manifold	41	阀组形式 Manifold Type	阀组等级 Manifold Rating	CV Three Valve Assembly	PN63
	42	阀组材质 Manifold Mat'l	阀组连接规格 Manifold Conn.	316	1/2″NPT(F)
	43	阀组型号 Manifold Model		VTA	
附件 Access.	44	安装支架 Mounting Bracket	支架材质 Bracket Mat'l	2" Pipe L-Bkt.	304
	45	防腐 Corrisive Envir. Enclosure	电涌防护器 Surge Protected Device	NO	NO

说明 NOTES：The transmitter and valve group are tested as a complete unit and then manufactured.There are 3 transmitters.
A corresponding test report is provided.Please check whether the carbon dioxide storage tank supplier has installed a leve
l gauge.If it has been installed, there is no need to purchase another one.
带不锈钢仪表铭牌及位号牌。Equipped with stainless steel instrument nameplates and tag plates.

版次 REV	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(差压液位变送器) DATA SHEET(DIFF. PRESS. LEVEL TRANSMITTER)			图号	CO2-JIA-INS-DTS-001
				主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控
				设计阶段	
				页码	第9页 共10页

概况 General	1	仪表名称 Instrument Name		差压式液位计Differential pressure level gauge	
	2	位号 Tag Number	流程图号 P&ID No.	LT-304a/b/c	CO2-JIA-PR-D/14
	3	检测对象 Service	工艺管号 Pipe No.	V-304A/B/C Level of liquid	V-304A/B/C
	4	设备等级 Vessel Class	设备材质 Vessel Mat'l	VTA	VTA
工艺条件 Process Conditions	5	测量用途 Measurement	取源间距 Dist. Betw. U/L Nozzles mm	液位Level of liquid	Ref. Equip. Dwg.
	6	上部介质名称 Upper Fluid	下部介质名称 Lower Fluid	NO	CO2
	7	上部介质密度 U. Density kg/m3	下部介质密度 L. Density kg/m3	NO	1020
	8	操作压力 Oper. Press. MPa(g)	设计压力 Design Press. MPa(g)	2.2	2.4
	9	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃	-18	50
	10	运动黏度 Kin Visc(mm2/s)	动力黏度 Dyn Visc(mPa. s)	NO	NO
	11	工程单位 Unit	最大值 Max Value	NO	NO
	12	正常值 Normal Value	最小值 Min Value	NO	NO
	13	下取源口距液位基准距离		VTA	
变送单元 Transmitter	14	型号 Model		VTA	
	15	形式 Type	精度 Accuracy	Smart DP, Dbl. Flg.	±0.055%FS
	16	可用范围 Available Range	测量范围 Calibration Range (KPa)	0～500kPa	0～VTAmm
	17	输出信号 Output Signal	电源 Power Supply	4～20mA+HART	24VDC二线制24VDC two-wire
	18	负载阻抗 Load Resistance(Ω)	迁移量Transferred Value	VTA	现场确定Field Verify
	19	零点量程调节 Zero Elevation & Suppression		带With	
	20	表壳材质 Housing Mat'l	电气接口 Elec. Conn.	PU baked low-Cu cast Al	1/2″ NPT(F)+ Metal Plug
	21	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	IP65
测量部分和本体 Sensing & Body	22	测量元件类型 Element Type	元件材质 Element Mat'l	单晶硅Monocrystalline silicon	316L
	23	允许静压 Max. Static Pressure	适用温度 Allow. Oper. Temp. ℃	VTA	-40～104℃
	24	本体材质 Body Mat'l	容室法兰材质 Flange Mat'l	316	316
	25	过程连接形式 Conn. Type	过程连接 Size	With process joints	1/2″NPT(F)
	26	过压保护 Overpressure Protec.	接头材质 Connector Mat'l	NO	316
	27	排气/排液阀形式 V / D Type	排气/排液阀材质 Vent/Drain Mat'l	NO	NO
	28	垫片/O型环材质 Gskt/O-Ring Mat'l	螺栓材质 Bolts Mat'l	NO	NO
密封装置 Diaphragm Seal	29	远传装置类型 Seal Type		NO	
	30	膜盒直径 Diaphragm Diam.	膜盒长度 Diaphragm Length	NO	NO
	31	膜盒材质 Diaphragmd Mat'l		NO	
	32	毛细管材质 Capillary Mat'l	毛细管长度 Capillary Length H/L	NO	NO
	33	护套材质 Capillary Armor Mat'l	填充液 Fill Fluid	NO	NO
	34	填充液适用温度 Fill F Temp. Limits	填充液密度 Fill Fluid Density	NO	NO
	35	过程连接形式 Conn. Type	连接尺寸 Size	NO	NO
	36	法兰标准 Flange STD	法兰等级 Flange Rating	NO	NO
	37	法兰材质 Flange Mat'l	密封面 Facing	NO	NO
	38	冲洗接口 Flushing Connection		NO	
指示表 Indicator	39	表头形式 Indicator Type	显示形式 Display	整体Overall	LCD
	40	分离表支架 Remote Bracket	分离表接头 Remo. Indic. Conn.	NO	NO
阀组 Manifold	41	阀组形式 Manifold Type	阀组等级 Manifold Rating	CV Three Valve Assembly	PN63
	42	阀组材质 Manifold Mat'l	阀组连接规格 Manifold Conn.	316	1/2″NPT(F)
	43	阀组型号 Manifold Model		VTA	
附件 Access.	44	安装支架 Mounting Bracket	支架材质 Bracket Mat'l	2" Pipe L-Bkt.	304
	45	防腐 Corrisive Envir. Enclosure	电涌防护器 Surge Protected Device	NO	NO

说明 NOTES：The transmitter and valve group are tested as a complete unit and then manufactured.There are 3 transmitters.
A corresponding test report is provided.Please check whether the carbon dioxide storage tank supplier has installed a leve
l gauge.If it has been installed, there is no need to purchase another one.
带不锈钢仪表铭牌及位号牌。Equipped with stainless steel instrument nameplates and tag plates.

版次 REV	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(差压液位变送器) DATA SHEET(DIFF. PRESS. LEVEL TRANSMITTER)			图号	CO2-JIA-INS-DTS-001
				主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控
				设计阶段	
				页码	第10页 共10页

概况 General	1	仪表名称 Instrument Name		差压式液位计Differential pressure level gauge	
	2	位号 Tag Number	流程图号 P&ID No.	LT-305a/b/c	CO2-JIA-PR-D/15
	3	检测对象 Service	工艺管号 Pipe No.	V-305A/B/C Level of liquid	V-305A/B/C
	4	设备等级 Vessel Class	设备材质 Vessel Mat'l	VTA	VTA
工艺条件 Process Conditions	5	测量用途 Measurement	取源间距 Dist. Betw. U/L Nozzles mm	液位Level of liquid	Ref. Equip. Dwg.
	6	上部介质名称 Upper Fluid	下部介质名称 Lower Fluid	NO	CO2
	7	上部介质密度 U. Density kg/m3	下部介质密度 L. Density kg/m3	NO	1020
	8	操作压力 Oper. Press. MPa(g)	设计压力 Design Press. MPa(g)	2.2	2.4
	9	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃	-18	50
	10	运动黏度 Kin Visc(mm2/s)	动力黏度 Dyn Visc(mPa. s)	NO	NO
	11	工程单位 Unit	最大值 Max Value	NO	NO
	12	正常值 Normal Value	最小值 Min Value	NO	NO
	13	下取源口距液位基准距离		VTA	
变送单元 Transmitter	14	型号 Model		VTA	
	15	形式 Type	精度 Accuracy	Smart DP, Dbl. Flg.	±0.055%FS
	16	可用范围 Available Range	测量范围 Calibration Range (KPa)	0～500kPa	0～VTAmm
	17	输出信号 Output Signal	电源 Power Supply	4～20mA+HART	24VDC二线制24VDC two-wire
	18	负载阻抗 Load Resistance(Ω)	迁移量Transferred Value	VTA	现场确定Field Verify
	19	零点量程调节 Zero Elevation & Suppression		带With	
	20	表壳材质 Housing Mat'l	电气接口 Elec. Conn.	PU baked low-Cu cast Al	1/2″ NPT(F)+ Metal Plug
	21	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	IP65
测量部分和本体 Sensing & Body	22	测量元件类型 Element Type	元件材质 Element Mat'l	单晶硅Monocrystalline silicon	316L
	23	允许静压 Max. Static Pressure	适用温度 Allow. Oper. Temp. ℃	VTA	-40～104℃
	24	本体材质 Body Mat'l	容室法兰材质 Flange Mat'l	316	316
	25	过程连接形式 Conn. Type	过程连接 Size	With process joints	1/2″NPT(F)
	26	过压保护 Overpressure Protec.	接头材质 Connector Mat'l	NO	316
	27	排气/排液阀形式 V / D Type	排气/排液阀材质 Vent/Drain Mat'l	NO	NO
	28	垫片/O型环材质 Gskt/O-Ring Mat'l	螺栓材质 Bolts Mat'l	NO	NO
密封装置 Diaphragm Seal	29	远传装置类型 Seal Type		NO	
	30	膜盒直径 Diaphragm Diam.	膜盒长度 Diaphragm Length	NO	NO
	31	膜盒材质 Diaphragmd Mat'l		NO	
	32	毛细管材质 Capillary Mat'l	毛细管长度 Capillary Length H/L	NO	NO
	33	护套材质 Capillary Armor Mat'l	填充液 Fill Fluid	NO	NO
	34	填充液适用温度 Fill F Temp. Limits	填充液密度 Fill Fluid Density	NO	NO
	35	过程连接形式 Conn. Type	连接尺寸 Size	NO	NO
	36	法兰标准 Flange STD	法兰等级 Flange Rating	NO	NO
	37	法兰材质 Flange Mat'l	密封面 Facing	NO	NO
	38	冲洗接口 Flushing Connection		NO	
指示表 Indicator	39	表头形式 Indicator Type	显示形式 Display	整体Overall	LCD
	40	分离表支架 Remote Bracket	分离表接头 Remo. Indic. Conn.	NO	NO
阀组 Manifold	41	阀组形式 Manifold Type	阀组等级 Manifold Rating	CV Three Valve Assembly	PN63
	42	阀组材质 Manifold Mat'l	阀组连接规格 Manifold Conn.	316	1/2″NPT(F)
	43	阀组型号 Manifold Model		VTA	
附件 Access.	44	安装支架 Mounting Bracket	支架材质 Bracket Mat'l	2" Pipe L-Bkt.	304
	45	防腐 Corrisive Envir. Enclosure	电涌防护器 Surge Protected Device	NO	NO

说明 NOTES：The transmitter and valve group are tested as a complete unit and then manufactured.There are 3 transmitters.
A corresponding test report is provided.Please check whether the carbon dioxide storage tank supplier has installed a leve
l gauge.If it has been installed, there is no need to purchase another one.
带不锈钢仪表铭牌及位号牌。Equipped with stainless steel instrument nameplates and tag plates.

版次 REV	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(涡街流量计) DATA SHEET(VORTEX FLOWMETER)			图号	CO2-JIA-INS-DTS-001	
				主项名称		
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控	
				设计阶段		
				页码	第1页 共4页	

概况 General	1	仪表名称 Instrument Name			涡街流量计Vortex Flowmeter		
	2	位号 Tag Number	流程图号 P&ID No.		FE-101		CO2-JIA-PR-D/02
	3	检测位置 Service	工艺管号 Pipe No.		Raw gas enters the cold box		CO107-150-Q4E
	4	管道外/内径 Pipe O. D. /I. D. mm	管道等级 Pipe Class		Φ159×6		PN63
	5	管道材质 Pipe Mat'l	管道绝热 Pipe Insulation		S30408		NO
工艺条件 Process Conditions	6	介质名称 Fluid	介质状态 State		CO2		气体 Gas
	7	操作压力Oper. Press. MPa(g)	设计压力Design Press. MPa(g)		3.5		4.0
	8	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃		40		60
	9	流量 Flow Rate		单位 Unit	最大 Max. Flow	正常 Nor. Flow	最小 Min. Flow
		m^3/h 液体 Liquid, kg/h 蒸汽 Steam, Nm^3/h气体 Gas		Nm^3/h	12500	11440	5720
	10	操作密度 Oper. Density kg/m^3	标准密度 Std. Density kg/Nm^3		60		1.75
	11	运动黏度 Kin Visc(mm^2/s)	动力黏度 Dyn Visc(mPa. s)		NO		NO
	12	绝热指数 Spec. Heat Ratio Cp/Cv	压缩系数 Comp. Factor		NO		NO
	13	饱和蒸汽压 Vapor Press. MPa	分子量 Molecular Weight		NO		NO
	14	允许压力损失KPa Allowable Press. Drop @ Max. Flow			NO		
流量计 Meter Unit	15	流量计型号 Model			VTA		
	16	流量计类型 Type	精度 Accuracy		抗振型管道式		±1%
	17	可用范围 Available Range	测量范围 Calibration Range		VTA		0～14000Nm^3/h
	18	公称通径 Nominal Size mm			VTA		
	19	适用温度 Allow Oper. Temp. ℃	压力等级 Pressure Rating		VTA		PN63
	20	过程连接形式 Conn. Type	连接尺寸 Size		法兰式 Flange type		DN150
	21	法兰标准 Flange STD	法兰等级 Flange Rating		HG/T20592-2009B		PN63
	22	法兰材质 Flange Mat'l	密封面 Facing		S30408		RF
	23	本体材质 Body Mat'l	测量元件材质 Vortex Elem. Mat'l		S30408		316L
	24	计算压力损失 Calc. Press. Drop	电气接口 Elec. Conn.		VTA		1/2NPT（F）
	25	连接电缆 Conn. Cable	连接电缆长度 Conn. Cable Length		随仪表带		10m
	26	防爆等级 Explosion Proof	防护等级 Enclosure Protection		NO		IP65
	27	伴热 Tracing	伴热连接 Tracing conn.		NO		NO
变送器 Transmitter	28	变送器型号 Transmitter Model			VTA		
	29	变送器流量系数 Flow Coefficient			VTA		
	30	安装形式 Mounting Type			分体式		
	31	输出信号 Output Signal			4～20mA+HART		
	32	电源 Power Supply			24VDC二线制 24VDC two-wire		
	33	负载阻抗 Load Resistance			VTA		
	34	输出指示表 Output Indicator			带智能数字表头 With intelligent digital headers		
	35	电气接口 Elec. Conn.			1/2NPT（F)+金属堵头 1/2 NPT (F) + Metal plug		
	36	防爆等级 Explosion Proof			NO		
	37	防护等级 Enclosure Protection			IP65		
	38	累积计数器 Totalizer			带 With		
	39	复位 Reset			带 With		
附件 Accessories	40	安装工具 Mounting Kits			带 With		
	41	紧固件及垫片 Bolt and Nut			带 With		
	42	切断阀 shut-off valve			NO		
	43	安装支架 Mounting Bracket			NO		
	44	电涌防护器 Surge Protection Device			NO		
其他 Misc.	45	带不锈钢仪表铭牌及位号牌。			Equipped with stainless steel instrument nameplates and tag plates.		
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说明 NOTES：

版次 REV.	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(涡街流量计) DATA SHEET(VORTEX FLOWMETER)			图号		CO2-JIA-INS-DTS-001
				主项名称		
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业		自控
				设计阶段		
				页码		第2页 共4页

概况 General	1	仪表名称 Instrument Name			涡街流量计Vortex Flowmeter		
	2	位号 Tag Number	流程图号 P&ID No.		FE-102		CO2-JIA-PR-D/03
	3	检测位置 Service	工艺管号 Pipe No.		Carbon dioxide product flow rate		CO110-65-Q4E-C
	4	管道外/内径 Pipe O. D. /I. D. mm	管道等级 Pipe Class		Φ76×4		PN63
	5	管道材质 Pipe Mat'l	管道绝热 Pipe Insulation		S30408		YES
工艺条件 Process Conditions	6	介质名称 Fluid	介质状态 State		CO2		液体 Liquid
	7	操作压力Oper. Press. MPa(g)	设计压力Design Press. MPa(g)		3.5		4.0
	8	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃		-25		-60
	9	流量 Flow Rate		单位 Unit	最大 Max. Flow	正常 Nor. Flow	最小 Min. Flow
		m^3/h 液体 Liquid, kg/h 蒸汽 Steam, Nm^3/h气体 Gas		m^3/h	17.08	12.2	6.1
	10	操作密度 Oper. Density kg/m^3	标准密度 Std. Density kg/Nm^3		1050		NO
	11	运动黏度 Kin Visc(mm^2/s)	动力黏度 Dyn Visc(mPa. s)		NO		NO
	12	绝热指数 Spec. Heat Ratio Cp/Cv	压缩系数 Comp. Factor		NO		NO
	13	饱和蒸汽压 Vapor Press. MPa	分子量 Molecular Weight		NO		NO
	14	允许压力损失KPa Allowable Press. Drop @ Max. Flow			NO		
流量计 Meter Unit	15	流量计型号 Model			VTA		
	16	流量计类型 Type	精度 Accuracy		抗振型管道式		±1%
	17	可用范围 Available Range	测量范围 Calibration Range		VTA		0～20m^3/h
	18	公称通径 Nominal Size mm			VTA		
	19	适用温度 Allow Oper. Temp. ℃	压力等级 Pressure Rating		VTA		PN63
	20	过程连接形式 Conn. Type	连接尺寸 Size		法兰式 Flange type		DN65
	21	法兰标准 Flange STD	法兰等级 Flange Rating		HG/T20592-2009B		PN63
	22	法兰材质 Flange Mat'l	密封面 Facing		S30408		RF
	23	本体材质 Body Mat'l	测量元件材质 Vortex Elem. Mat'l		S30408		316L
	24	计算压力损失 Calc. Press. Drop	电气接口 Elec. Conn.		VTA		NO
	25	连接电缆 Conn. Cable	连接电缆长度 Conn. Cable Length		NO		NO
	26	防爆等级 Explosion Proof	防护等级 Enclosure Protection		NO		IP65
	27	伴热 Tracing	伴热连接 Tracing conn.		NO		NO
变送器 Transmitter	28	变送器型号 Transmitter Model			VTA		
	29	变送器流量系数 Flow Coefficient			VTA		
	30	安装形式 Mounting Type			一体式 Integrated		
	31	输出信号 Output Signal			4～20mA+HART		
	32	电源 Power Supply			24VDC二线制 24VDC two-wire		
	33	负载阻抗 Load Resistance			VTA		
	34	输出指示表 Output Indicator			带智能数字表头 With intelligent digital headers		
	35	电气接口 Elec. Conn.			1/2NPT（F)+金属堵头 1/2 NPT (F) + Metal plug		
	36	防爆等级 Explosion Proof			NO		
	37	防护等级 Enclosure Protection			IP65		
	38	累积计数器 Totalizer			带 With		
	39	复位 Reset			带 With		
附件 Accessories	40	安装工具 Mounting Kits			带 With		
	41	紧固件及垫片 Bolt and Nut			带 With		
	42	切断阀 shut-off valve			NO		
	43	安装支架 Mounting Bracket			NO		
	44	电涌防护器 Surge Protection Device			NO		
其他 Misc.	45	带不锈钢仪表铭牌及位号牌。			Equipped with stainless steel instrument nameplates and tag plates.		
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说明 NOTES：

版次 REV.	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(涡街流量计) DATA SHEET(VORTEX FLOWMETER)			图号	CO2-JIA-INS-DTS-001	
				主项名称		
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控	
				设计阶段		
				页码	第3页 共4页	

概况 General	1	仪表名称 Instrument Name			涡街流量计Vortex Flowmeter		
	2	位号 Tag Number	流程图号 P&ID No.		FE-103		CO2-JIA-PR-D/01
	3	检测位置 Service	工艺管号 Pipe No.		Raw CO2 Flow Rate		CO101-650-L1B
	4	管道外/内径 Pipe O. D. /I. D. mm	管道等级 Pipe Class		Φ660×8		class150
	5	管道材质 Pipe Mat'l	管道绝热 Pipe Insulation		20#		NO
工艺条件 Process Conditions	6	介质名称 Fluid	介质状态 State		CO2		气体 Gas
	7	操作压力Oper. Press. MPa(g)	设计压力Design Press. MPa(g)		0.015		0.08
	8	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃		45		80
	9	流量 Flow Rate		单位 Unit	最大 Max. Flow	正常 Nor. Flow	最小 Min. Flow
		m^3/h 液体 Liquid, kg/h 蒸汽 Steam, Nm^3/h气体 Gas		Nm^3/h	13500	12500	6250
	10	操作密度 Oper. Density kg/m^3	标准密度 Std. Density kg/Nm^3		1.76		1.75
	11	运动黏度 Kin Visc(mm^2/s)	动力黏度 Dyn Visc(mPa. s)		NO		NO
	12	绝热指数 Spec. Heat Ratio Cp/Cv	压缩系数 Comp. Factor		NO		NO
	13	饱和蒸汽压 Vapor Press. MPa	分子量 Molecular Weight		NO		NO
	14	允许压力损失KPa Allowable Press. Drop @ Max. Flow			1KPA(g)		
流量计 Meter Unit	15	流量计型号 Model			VTA		
	16	流量计类型 Type	精度 Accuracy		抗振型插入式		±1.5%
	17	可用范围 Available Range	测量范围 Calibration Range		VTA		0～15000Nm^3/h
	18	公称通径 Nominal Size mm			VTA		
	19	适用温度 Allow Oper. Temp. ℃	压力等级 Pressure Rating		VTA		PN16
	20	过程连接形式 Conn. Type	连接尺寸 Size		法兰式 Flange type		DN100
	21	法兰标准 Flange STD	法兰等级 Flange Rating		HG/T20592-2009B		PN16
	22	法兰材质 Flange Mat'l	密封面 Facing		20#		RF
	23	本体材质 Body Mat'l	测量元件材质 Vortex Elem. Mat'l		20#		316L
	24	计算压力损失 Calc. Press. Drop	电气接口 Elec. Conn.		VTA		1/2NPT（F）
	25	连接电缆 Conn. Cable	连接电缆长度 Conn. Cable Length		随仪表带		10m
	26	防爆等级 Explosion Proof	防护等级 Enclosure Protection		NO		IP65
	27	伴热 Tracing	伴热连接 Tracing conn.		NO		NO
变送器 Transmitter	28	变送器型号 Transmitter Model			VTA		
	29	变送器流量系数 Flow Coefficient			VTA		
	30	安装形式 Mounting Type			分体式		
	31	输出信号 Output Signal			4～20mA+HART		
	32	电源 Power Supply			24VDC二线制 24VDC two-wire		
	33	负载阻抗 Load Resistance			VTA		
	34	输出指示表 Output Indicator			带智能数字表头 With intelligent digital headers		
	35	电气接口 Elec. Conn.			1/2NPT（F)+金属堵头 1/2 NPT (F) + Metal plug		
	36	防爆等级 Explosion Proof					
	37	防护等级 Enclosure Protection			IP65		
	38	累积计数器 Totalizer			带 With		
	39	复位 Reset			带 With		
附件 Accessories	40	安装工具 Mounting Kits			带 With		
	41	紧固件及垫片 Bolt and Nut			带 With		
	42	切断阀 shut-off valve			带 With		
	43	安装支架 Mounting Bracket			带 With		
	44	电涌防护器 Surge Protection Device			NO		
其他 Misc.	45	带不锈钢仪表铭牌及位号牌。			Equipped with stainless steel instrument nameplates and tag plates.		
	46	带一体化温压补偿			With integrated temperature and pressure compensation		

说明 NOTES：管道预留法兰高度H=150mm，流量计插入深度L=480mm。

版次 REV.	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(涡街流量计) DATA SHEET(VORTEX FLOWMETER)				图号	CO2-JIA-INS-DTS-001
					主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device				专业	自控
					设计阶段	
					页码	第4页 共4页

概况 General	1	仪表名称 Instrument Name			涡街流量计Vortex Flowmeter		
	2	位号 Tag Number	流程图号 P&ID No.		FE-301a/b/c/d		CO2-JIA-PR-D/16
	3	检测位置 Service	工艺管号 Pipe No.		Carbon dioxide loading volume		CO325a/b/c/d-50-P4E-C
	4	管道外/内径 Pipe O. D. /I. D. mm	管道等级 Pipe Class		Φ57×3		PN40
	5	管道材质 Pipe Mat'l	管道绝热 Pipe Insulation		S30408		
工艺条件 Process Conditions	6	介质名称 Fluid	介质状态 State		CO2		液体 Liquid
	7	操作压力Oper. Press. MPa(g)	设计压力Design Press. MPa(g)		2.4		2.64
	8	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃		-22		-60
	9	流量 Flow Rate		单位 Unit	最大 Max. Flow	正常 Nor. Flow	最小 Min. Flow
		m^3/h 液体 Liquid, kg/h 蒸汽 Steam, Nm^3/h气体 Gas		m^3/h	30	25	12.5
	10	操作密度 Oper. Density kg/m^3	标准密度 Std. Density kg/Nm^3		1030		NO
	11	运动黏度 Kin Visc(mm^2/s)	动力黏度 Dyn Visc(mPa. s)		NO		NO
	12	绝热指数 Spec. Heat Ratio Cp/Cv	压缩系数 Comp. Factor		NO		NO
	13	饱和蒸汽压 Vapor Press. MPa	分子量 Molecular Weight		NO		NO
	14	允许压力损失KPa Allowable Press. Drop @ Max. Flow			NO		
流量计 Meter Unit	15	流量计型号 Model			VTA		
	16	流量计类型 Type	精度 Accuracy		抗振型管道式		±1%
	17	可用范围 Available Range	测量范围 Calibration Range		VTA		0～40m^3/h
	18	公称通径 Nominal Size mm			VTA		
	19	适用温度 Allow Oper. Temp. ℃	压力等级 Pressure Rating		VTA		PN40
	20	过程连接形式 Conn. Type	连接尺寸 Size		法兰式 Flange type		DN50
	21	法兰标准 Flange STD	法兰等级 Flange Rating		HG/T20592-2009B		PN40
	22	法兰材质 Flange Mat'l	密封面 Facing		S30408		RF
	23	本体材质 Body Mat'l	测量元件材质 Vortex Elem. Mat'l		S30408		316L
	24	计算压力损失 Calc. Press. Drop	电气接口 Elec. Conn.		VTA		NO
	25	连接电缆 Conn. Cable	连接电缆长度 Conn. Cable Length		NO		NO
	26	防爆等级 Explosion Proof	防护等级 Enclosure Protection		NO		IP65
	27	伴热 Tracing	伴热连接 Tracing conn.		NO		NO
变送器 Transmitter	28	变送器型号 Transmitter Model			VTA		
	29	变送器流量系数 Flow Coefficient			VTA		
	30	安装形式 Mounting Type			一体式 Integrated		
	31	输出信号 Output Signal			4～20mA+HART		
	32	电源 Power Supply			24VDC二线制 24VDC two-wire		
	33	负载阻抗 Load Resistance			VTA		
	34	输出指示表 Output Indicator			带智能数字表头 With intelligent digital headers		
	35	电气接口 Elec. Conn.			1/2NPT（F)+金属堵头 1/2 NPT (F) + Metal plug		
	36	防爆等级 Explosion Proof			NO		
	37	防护等级 Enclosure Protection			IP65		
	38	累积计数器 Totalizer			带 With		
	39	复位 Reset			带 With		
附件 Accessories	40	安装工具 Mounting Kits			带 With		
	41	紧固件及垫片 Bolt and Nut			带 With		
	42	切断阀 shut-off valve			NO		
	43	安装支架 Mounting Bracket			NO		
	44	电涌防护器 Surge Protection Device			NO		
其他 Misc.	45	带不锈钢仪表铭牌及位号牌。			Equipped with stainless steel instrument nameplates and tag plates.		
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说明 NOTES：仪表数量4台Number of instruments: 4 units

版次 REV.	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(涡街流量计) DATA SHEET(VORTEX FLOWMETER)			图号		
				主项名称		
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控	
				设计阶段		
				页码	第1页 共1页	

概况 General	1	仪表名称 Instrument Name		涡街流量计Vortex Flowmeter		
	2	位号 Tag Number	流程图号 P&ID No.	FE001		
	3	检测位置 Service	工艺管号 Pipe No.	安装于前端工厂CO2 流量计		CO101-650-L1B
	4	管道外/内径 Pipe O. D. /I. D. mm	管道等级 Pipe Class	Φ660×8		class150
	5	管道材质 Pipe Mat'l	管道绝热 Pipe Insulation	20#		NO
工艺条件 Process Conditions	6	介质名称 Fluid	介质状态 State	CO2		气体 Gas
	7	操作压力Oper. Press. MPa(g)	设计压力Design Press. MPa(g)	0.025		0.08
	8	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃	30		80
	9	流量 Flow Rate	单位 Unit	最大 Max. Flow	正常 Nor. Flow	最小 Min. Flow
		m^3/h 液体 Liquid, kg/h 蒸汽 Steam, Nm^3/h气体 Gas	Nm^3/h	13500	12500	6250
	10	操作密度 Oper. Density kg/m^3	标准密度 Std. Density kg/Nm^3	1.76		NO
	11	运动黏度 Kin Visc(mm^2/s)	动力黏度 Dyn Visc(mPa. s)	NO		NO
	12	绝热指数 Spec. Heat Ratio Cp/Cv	压缩系数 Comp. Factor	NO		NO
	13	饱和蒸汽压 Vapor Press. MPa	分子量 Molecular Weight	NO		NO
	14	允许压力损失KPa Allowable Press. Drop @ Max. Flow		1KPA(g)		
流量计 Meter Unit	15	流量计型号 Model		VTA		
	16	流量计类型 Type	精度 Accuracy	抗振型插入式		±1.5%
	17	可用范围 Available Range	测量范围 Calibration Range	VTA		0～15000Nm^3/h
	18	公称通径 Nominal Size mm		VTA		
	19	适用温度 Allow Oper. Temp. ℃	压力等级 Pressure Rating	VTA		PN16
	20	过程连接形式 Conn. Type	连接尺寸 Size	法兰式 Flange type		DN100
	21	法兰标准 Flange STD	法兰等级 Flange Rating	HG/T20592-2009B		PN16
	22	法兰材质 Flange Mat'l	密封面 Facing	20#		RF
	23	本体材质 Body Mat'l	测量元件材质 Vortex Elem. Mat'l	20#		316L
	24	计算压力损失 Calc. Press. Drop	电气接口 Elec. Conn.	VTA		NO
	25	连接电缆 Conn. Cable	连接电缆长度 Conn. Cable Length	NO		NO
	26	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NA		IP65
	27	伴热 Tracing	伴热连接 Tracing conn.	NO		NO
变送器 Transmitter	28	变送器型号 Transmitter Model		VTA		
	29	变送器流量系数 Flow Coefficient		VTA		
	30	安装形式 Mounting Type		一体式 Integrated		
	31	输出信号 Output Signal		4～20mA+HART		
	32	电源 Power Supply		24VDC二线制 24VDC two-wire		
	33	负载阻抗 Load Resistance		VTA		
	34	输出指示表 Output Indicator		带智能数字表头 With intelligent digital headers		
	35	电气接口 Elec. Conn.		1/2NPT（F)+金属堵头 1/2 NPT (F) + Metal plug		
	36	防爆等级 Explosion Proof		NO		
	37	防护等级 Enclosure Protection		IP65		
	38	累积计数器 Totalizer		带 With		
	39	复位 Reset		带 With		
附件 Accessories	40	安装工具 Mounting Kits		带 With		
	41	紧固件及垫片 Bolt and Nut		带 With		
	42	切断阀 shut-off valve		带 With		
	43	安装支架 Mounting Bracket		NO		
	44	电涌防护器 Surge Protection Device		NO		
其他 Misc.	45	带不锈钢仪表铭牌及位号牌。		Equipped with stainless steel instrument nameplates and tag plates.		
	46	带一体化温压补偿		With integrated temperature and pressure compensation		

说明 NOTES：安装于前端工厂。管道预留法兰高度H=150mm，流量计插入深度L=480mm。

版次 REV.	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(电磁流量计) DATA SHEET(MAGNETIC FLOWMETER)			图号	CO2-JIA-INS-DTS-001	
				主项名称		
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控	
				设计阶段		
				页码	第1页 共1页	

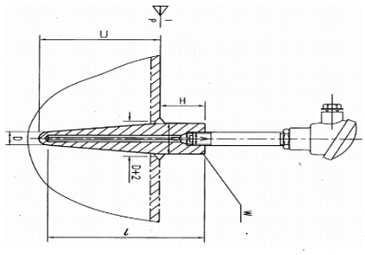
概况 General	1	仪表名称 Instrument Name		电磁流量计		
	2	位号 Tag Number	流程图号 P&ID No.	FE-401		CO2-JIA-PR-D/06
	3	检测对象 Service	工艺管号 Pipe No.	界区进水流量		RW101-80-L1B
	4	管道外径×壁厚Pipe. mm	管道等级 Pipe Class	Φ89×4		PN16
	5	管道材质 Pipe Mat'l	管道绝热 Pipe Insulation	20#		NO
工艺条件 Process Conditions	6	介质名称 Fluid	介质状态 State	水		液体
	7	操作压力 Oper. Press. MPa(g)	设计压力 Des. Press. MPa(g)	0.3		0.6
	8	操作温度Oper. Temp. ℃	设计温度 Des. Temp. ℃	32		50
	9	流量 Flow Rate	单位Unit	最大 Max. Flow	正常 Nor. Flow	最小 Min. Flow
		m3/h 液体 Liquid, kg/h蒸汽 Steam, Nm3/h气体 Gas	m^3/h	42	30	15
	10	操作密度 Oper. Density kg/m3	标准密度 Std. Density Kg/Nm3	1000		NO
	11	运动黏度 Kine Visc (mm2/s)	动力黏度 Dyn Visc (mPa. s)	NO		NO
	12	电导率 Min. Conductivity us/cm		NO		
	13	允许压力损失 Allowable Press. Drop @ Max. Flow. Pa		NO		
流量计 Meter Unit	14	流量计型号 Model		VTA		
	15	形式 Type		一体式		
	16	公称通径 Nominal Size mm	精度 Accuracy	DN80		1%
	17	可用范围 Available Range	测量范围 Calibration Range	VTA		0～60m^3/h
	18	压力等级 Press. Rating	适用温度 Allow. Oper. Temp. ℃	PN10		VTA
	19	过程连接形式 Process Conn. Type	连接尺寸 Size	法兰		DN80
	20	法兰标准 Flange STD	法兰等级 Flange Rating	HG/T20592-2009B		PN10
	21	法兰材质 Flange Mat'l	密封面 Facing	304		RF
	22	接液材质 Meter Tube Mat'l	衬里 Lining	304		PTFE
	23	电极形式 Electrodes Type	电极材质 Electrodes Mat'l	VTA		316L
	24	衬里保护环材质 Lining Prot. Ring Mat'l		NO		
	25	密封圈材质 Seal Ring Mat'l		NO		
	26	接地环材质 Earth Ring Mat'l		NO		
	27	连接电缆 Conn. Cable		NO		
	28	连接电缆长度 Conn. Cable Length		NO		
	29	电气接口 Elec. Conn.		NO		
	30	防爆等级 Explosion Proof		NO		
	31	防护等级 Enclosure Protection		IP65		
	32	现场清洗 Local Cleaning		NO		
变送器 Transmitter	33	变送器型号 Transmitter Model		VTA		
	34	输出信号 Output Signal		4～20mA+HART		
	35	负载阻抗 Load Resistance		VTA		
	36	安装形式 Mounting Type		一体式		
	37	输出指示表 Output Indicator		LCD		
	38	电源 Power Supply		24VDC四线制		
	39	电气接口 Elec. Conn.		1/2"NPT(F)*2		
	40	防爆等级 Explosion Proof		NO		
	41	防护等级 Enclosure Protection		IP65		
	42	累积计数器 Totalizer	复位 Reset	带		带
附件 Access.	43	防腐 Corrisive Envir. Enclosure		NO		
	44	安装支架 Mounting Bracket		NO		
其他 Miscell.	45	推荐制造商 Manufacturer		NO		
	46	询购单编号 Requisition No.		NO		

说明 NOTES：带不锈钢仪表铭牌及位号牌。

版次 REV.	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(温度元件) DATA SHEET(THERMOELEMENT)		图号	CO2-JIA-INS-DTS-001
			主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device		专业	自控
			设计阶段	
			页码	第1页 共6页

温度元件 Thermo Element	1	仪表名称 Instrument Name	热电阻Thermal resistance
	2	型号 Thermo Element Model	Pt100
	3	标准 Standard	IEC 60751
	4	单支/多支 Single/Multiple	单支Single branch
	5	安装形式 Mounting Type	标准Standard
	6	等级或精度 Tolerance or Accuracy	A级Grade A
	7	测量端形式 Lead Insulation	绝缘型Insulating type
	8	压紧弹簧 Spring Loaded	带With
	9	热电阻接线制 RTD Conn.	三线制Three-wire system
	10	零度电阻 ICE Pt. Resistance(Ω)	100
	11	铠套材质 Sheath Mat'l	304SS
	12	铠套外径 Sheath O. D.	Φ6
	13	接线盒形式 Terminal Box Style	防水型Waterproof type
	14	电气接口 Elec. Conn.	1/2"NPT
	15	防爆等级 Explosion Proof	NO
	16	防护等级 Enclosure Protection	IP65
	17	元件全长 Element Length	VTA
	18	可用范围 Available Range ℃	VTA
保护套 Thermo Well	19	结构形式 Construction Type	见次页See next page
	20	过程连接形式 Conn. Type	插焊Soldering with plug-in method
	21	过程连接规格 Size	NO
	22	法兰标准 Flange STD	NO
	23	压力等级 Pressure Rating	NO
	24	套管/法兰材质 Well / Flange Material	同管道材质
	25	密封面 Facing	NO
	26	套管最大外径 Well O. D. (Max.)	Φ26
	27	套管内径 Bore Diameter	Φ8
	28	元件连接尺寸 Internal Conn. Size	1/2"NPT(F)
	29	耐磨段材质 Anti-abrasion Material	NO
	30	耐磨段长度 Anti-abrasion Length mm	NO
	31	表面处理 Treatment	NO
	32	光洁度 Finish	NO
	33	套管喷涂层 Coating	NO
	34	标记 Stamping	NO
	35	延伸段长度 Lagging Extension Length(T)	NO
	36	管接头长度 Nipple Union Length (N)	VTA
其他 Miscell.	37	电涌防护器 Surge Protection Device	NO
	38		
	39		



说明 NOTES：

垫片和焊接套管随仪表配套提供。Gaskets and welding sleeves are provided together with the instrument.

带不锈钢仪表铭牌及位号牌。Equipped with stainless steel instrument nameplates and tag plates.

版次 REV	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.
		Comprehensive inspection report			

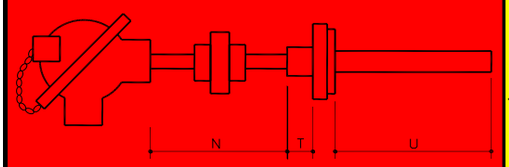
	仪表规格书(温度元件) DATA SHEET(THERMOELEMENT)	图号	CO2-JIA-INS-DTS-001
		主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device	专业	自控
		设计阶段	
		页码	第2页 共6页

序号 Item No.	仪表位号 Tag No.	检测对象 Service	介质名称 Fluid Name	管道/设备号 Pipe/Equip. No.	材质 Pipe/Equip. Mat'l	流程图号 P&ID No.	操作/设计压力 Oper./Des. Press. MPa(g)	操作/设计温度 Oper./Des. Temp. ℃	保护套 Thermo Well	熱電阻全長 Length mm	保护管全长/插入深度 Well Length L/U (mm)	测量范围 Calibration Range ℃
1	TE-101	Raw Gas Temperature Indication	CO2(g)	CO101-650-L1B	20#	CO2-JIA-PR-D/01	0.02/0.1	40/60	整体钻孔保护管/20#	430	380/330mm	0～150℃
2	TE-102	E101 Outlet Raw Gas Temperature Indication	CO2(g)	CO105-650-L1B-C	20#	CO2-JIA-PR-D/01	0.02/0.1	30/60	整体钻孔保护管/20#	400	350/300mm	0～150℃
3	TE-104	M203 Outlet Circulation Liquid Temperature Indication	Industrial Circulating Water	PL103-65-L1E-C	S30408	CO2-JIA-PR-D/01	0.3/0.6	5/60	整体钻孔保护管/S30408	150	100/50mm	-20～150℃
4	TE-105	T101 Outlet Raw Gas Temperature Indication	CO2(g)	CO105-650-L1B-C	20#	CO2-JIA-PR-D/01	0.02/0.1	5/60	整体钻孔保护管/20#	430	380/330mm	-20～150℃
5	TE-106	C102 Compressor Outlet Temperature Indication	CO2(g)	CO107-150-Q4E	S30408	CO2-JIA-PR-D/02	3.5/4.0	40/60	整体钻孔保护管/S30408	170	120/80mm	0～150℃
6	TE-107	T1 Inlet Gas Temperature Indication	CO2(g)	CO107-150-Q4E	S30408	CO2-JIA-PR-D/02	3.5/4.0	40/60	整体钻孔保护管/S30408	170	120/80mm	0～150℃
7	TE-401	Circulation Water Inlet Temperature Indication	Circulating water	CWS101-300-L1B	20#	CO2-JIA-PR-D/06	0.4/1.0	32/50	整体钻孔保护管/20#	250	200/150mm	0～150℃
8	TE-202	R744进冷箱温度	CO2(g)	FG203-125-P4B	20#	CO2-JIA-PR-D/05	1.4/2.5	40/60	整体钻孔保护管/20#	160	110/60mm	0～150℃
9	TE-201	V201 Temperature Indication	NH3	V-201	Q345R	CO2-JIA-PR-D/04	1.4/2.2	32/50	设备成套带套管	400	350/230mm	0～150℃

版次 REV	日期 DATE	说明DESCRIPTION	编制 COMPILE	校核 CHK.	审核 APP.

	仪表规格书(温度元件) DATA SHEET(THERMOELEMENT)	图号	CO2-JIA-INS-DTS-001
		主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device	专业	自控
		设计阶段	
		页码	第5页 共6页

温度元件 Thermo Element	1	仪表名称 Instrument Name	热电阻Thermal resistance
	2	型号 Thermo Element Model	Pt100
	3	标准 Standard	IEC 60751
	4	单支/多支 Single/Multiple	单支Single branch
	5	安装形式 Mounting Type	标准Standard
	6	等级或精度 Tolerance or Accuracy	A级Grade A
	7	测量端形式 Lead Insulation	绝缘型Insulating type
	8	压紧弹簧 Spring Loaded	带With
	9	热电阻接线制 RTD Conn.	三线制Three-wire system
	10	零度电阻 ICE Pt. Resistance(Ω)	100
	11	铠套材质 Sheath Mat'l	304SS
	12	铠套外径 Sheath O. D.	Φ6
	13	接线盒形式 Terminal Box Style	防水型Waterproof type
	14	电气接口 Elec. Conn.	1/2"NPT
	15	防爆等级 Explosion Proof	NO
	16	防护等级 Enclosure Protection	IP65
	17	元件全长 Element Length	VTA
	18	可用范围 Available Range ℃	VTA
保护套 Thermo Well	19	结构形式 Construction Type	见次页See next page
	20	过程连接形式 Conn. Type	见次页See next page
	21	过程连接规格 Size	见次页See next page
	22	法兰标准 Flange STD	见次页See next page
	23	压力等级 Pressure Rating	见次页See next page
	24	套管/法兰材质 Well / Flange Material	见次页See next page
	25	密封面 Facing	见次页See next page
	26	套管最大外径 Well O. D. (Max.)	Φ26
	27	套管内径 Bore Diameter	Φ8
	28	元件连接尺寸 Internal Conn. Size	见次页See next page
	29	耐磨段材质 Anti-abrasion Material	NO
	30	耐磨段长度 Anti-abrasion Length mm	NO
	31	表面处理 Treatment	NO
	32	光洁度 Finish	NO
	33	套管喷涂层 Coating	NO
	34	标记 Stamping	NO
	35	延伸段长度 Lagging Extension Length(T)	NO
	36	管接头长度 Nipple Union Length (N)	NO
其他 Miscell.	37	电涌防护器 Surge Protection Device	NO
	38		
	39		



说明 NOTES：

垫片和焊接套管随仪表配套提供。测量介质为氨的仪表禁油禁脂禁铜。Gaskets and welding sleeves are provided together with the instrument. The instrument for measuring ammonia must be free from oil, grease and copper.

带不锈钢仪表铭牌及位号牌。Equipped with stainless steel instrument nameplates and tag plates.

		Comprehensive inspection report			
版次 REV	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(温度元件) DATA SHEET(THERMOELEMENT) 12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device	图号	CO2-JIA-INS-DTS-001
		主项名称	
		专业	自控
		设计阶段	
		页码	第6页 共6页

序号 Item No.	仪表位号 Tag No.	检测对象 Service	介质名称 Fluid Name	管道/设备号 Pipe/Equip. No.	材质 Pipe/Equip. Mat'l	流程图号 P&ID No.	操作/设计压力 Oper./Des. Press. MPa(g)	操作/设计温度 Oper./Des. Temp. ℃	保护套 Thermo Well	熱電阻全長 Length mm	保护管插入深度 Well Length U (mm)	测量范围 Calibration Range ℃
1	TE-103	T101 Column Bottom Temperature Indication	Water	T-101	S30408	CO2-JIA-PR-D/01	0.02/0.1	10/60	Flg. Con. Prot.Pipe/ S30408/PN16 DN40 RF	400	300mm	0～150℃

版次 REV	日期 DATE	说明DESCRIPTION	编制 COMPILE	校核 CHK.	审核 APP.

	仪表规格书（雷达液位计） DATA SHEET(RADAR LEVEL TRANSMITTER)			图号	CO2-JIA-INS-DTS-001
				主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控
				设计阶段	
				页码	第1页 共1页

概况 General	1	仪表名称 Instrument Name		雷达液位计	
	2	位号 Tag Number	流程图号 P&ID No.	LT-401	CO2-JIA-PR-D/06
	3	检测对象 Service	设备材质 Vessel Mat'l	循环水池液位V-402Level of liquid	V-402
	4	设备等级 Vessel Class		常压	
工艺条件 Process Conditions	5	上部介质名称 Upper Fluid	下部介质名称 Lower Fluid	NO	水
	6	上部介质密度 U. Density kg/m3	下部介质密度 L. Density kg/m3	NO	1000
	7	操作压力 Oper. Press. MPa(g)	设计压力 Des. Press. MPa(g)	常压	常压
	8	操作温度 Oper. Temp. ℃	设计温度 Desi. Temp. ℃	32	60
	9	环境温度 Environment Temp. ℃	介质表面状态 Fluid Surface State	NO	NO
	10	运动黏度Kin Visc(mm2/s)	设备接管高度 Nozzle Height mm	NO	NO
	11	动力黏度 Dyn Visc(mPa. s)		NO	
	12	设备高度 Vessle Height mm	设备内径 Vessel I.D. mm	NO	NO
	13	雷达与设备壁距离 From Instrument to Vessle Wall mm		200	
	14	法兰面距测量基准点高度 From Flg. Surface to Vessel Btm. mm		NO	
天线/本体 Antenna/Body	15	型号 Model	安装形式 Mounting Style		顶装
	16	测量功能 Function	精度 Accuracy	高频	±5mm
	17	测量原理 Meas. Principle	测量范围 Calibration Range m	非接触式	0~4200mm
	18	适用温度 Allow. Oper. Temp. ℃	压力等级 Press. Rating	NO	PN10
	19	天线形式 Antenna Type	天线材质 Antenna Mat'l	平面	304
	20	天线尺寸 Antenna Size mm	插入深度 Insert Depth mm	VTA	NO
	21	导波管尺寸 Still Pipe Size mm	导波管材质 Still Pipe Mat'l	NO	NO
	22	过程连接形式 Conn. Type	连接规格 Size	法兰连接Flange connection	DN50
	23	法兰标准 Flange STD	法兰等级 Flange Rating	HG/T20592-2009	PN10
	24	法兰材质 Flange Mat'l	密封面 Facing	304	RF
变送器 Transmitter	25	型号 Model		VTA	
	26	主输出信号 Primary Output	辅助输出 Sec. Output	4～20mA+HART	NO
	27	负载阻抗 Load Resistance	温度输入类型 T. Input Type	VTA	NO
	28	温度输入点数 T. Input Qt'y	压力输入 P. Input Signal	NO	NO
	29	油水界面输入 Interface Signal		NO	
	30	开关类型 Switch Type	开关数量 Switch Qt'y	NO	NO
	31	触点形式 Contact Form	触点容量 Contact Rating	NO	NO
	32	开关1 触点动作 Switch 1 Contact Action		NO	
	33	开关2 触点动作 Switch 2 Contact Action		NO	
	34	电源 Power Supply	电气接口 Elec. Conn.	24VDC二线制	1/2″ NPT(F)+金属盲塞
	35	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	IP65
	36	表壳材质 Housing Mat'l		铸铝	
罐旁表 Tank Indicator	37	型号 Model	显示内容 Display Content	NO	NO
	38	电源 Power Supply	电气接口 Elec. Conn.	NO	NO
	39	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	NO
	40	表壳材质 Housing Mat'l	安装支架 Mounting Bracket	NO	NO
附 件 Accessories	41	清洗和吹扫接管 Clean & Flush Pipe	防护罩 Enclosure Shield	NO	NO
	42	隔离阀尺寸 Isolated Valve Size	隔离阀材质 Isolated Valve Mat'l	NO	NO
	43	显示表 Tank Indicator		NO	NO
	44	贸易交接认证 Custody Transfer Certification		NO	
	45	电涌防护器 Surge Protection Device		NO	
其他 Misc.	46	推荐制造商 Manufacturer		NO	
	47	询购单编号 Requisition No.		NO	

说明 NOTES：带不锈钢仪表铭牌及位号牌。

版次 REV	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.
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	仪表规格书(磁翻板液位计) DATA SHEET(MAGNETIC LEVEL GAUGE)			图号	CO2-JIA-INS-DTS-001
				主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控
				设计阶段	
				页码	第1页 共6页

概况 General	1	仪表名称 Instrument Name		带变送器的磁翻板液位计Magnetic flap level gauge with transmitter	
	2	位号 Tag Number	流程图号 P&ID No.	LIT-101	CO2-JIA-PR-D/01
	3	检测对象 Service	工艺管号 Pipe No.	洗涤塔液位T-101Level of liquid	T-101
	4	设备等级 Vessel Class	设备材质 Vessel Mat'l	VTA	VTA
	5				
工艺条件 Process Conditions	6	上部介质名称 Upper Fluid	下部介质名称 Lower Fluid	NO	H20
	7	上部介质密度 U. Density kg/m3	下部介质密度 L. Density kg/m3	NO	850
	8	操作压力 Oper. Press. MPa(g)	设计压力 Des. Press. MPa(g)	0.02	0.1
	9	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃	60	80
	10	运动黏度Kin Visc(mm2/s)	动力黏度 Dyn Visc(mPa. s)	NO	NO
	11				
本体 Body & Cage	12	型号 Model		VTA	
	13	法兰间距 Distance Between C. L. of Vessel Conn. mm		1600	
	14	适用温度 Allow. Oper. Temp. ℃	压力等级 Pressure Rating	VTA	PN10
	15	安装形式 Mounting Style	连接方位 Conn. Orientation	侧装式Side-mounted	Side Side
	16	静井长度 Insert Length mm		VTA	
	17	标尺单位 Scale Unit	精度 Accuracy	mm	±5mm
	18	指示器类型 Indicator Type	标尺颜色 Indicator Colour	磁翻板Magnetic flap plate	红/白Red/White
	19	筒体材质 Chamber Mat'l	浮子材质 Float Mat'l	304	304
	20	过程连接形式 Conn. Type	连接尺寸 Size	法兰连接Flange connection	DN25
	21	法兰标准 Flange STD	法兰等级 Flange Rating	HG/T20592-2009	PN10
	22	法兰材质 Flange Mat'l	密封面 Facing	304	RF
	23	其他接液部件材质 Other Wetted Parts Mat'l		304	
	24				
变送器/开关 Transmitter/Switch	25	输出信号 Output Signal	负载阻抗 Load Resistance	4～20mA+HART	VTA
	26	开关类型 Switch Type	开关数量 Switch Qt'y	NO	NO
	27	触点形式 Contact Form	触点容量 Contact Rating	NO	NO
	28	开关1 触点动作 Switch 1 Contact Action		NO	
	29	开关2 触点动作 Switch 2 Contact Action		NO	
	30	触点设定值 Calibration Value (for Switch)		NO	
	31	电源 Power Supply	电气接口 Elec. Conn.	24VDC LOOP	1/2"NPT
	32	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	IP65
	33	表壳材质 Housing Mat'l	整体表头 Integral Indicator	铸铝Aluminum casting	YES
	34				
附件 Accessories	35	排污阀 Drain Valve	排污阀材质 Drain Valve Mat'l	带With	304
	36	排污阀连接规格 Drain Valve Conn.	排污阀尺寸 Drain Valve Size	HG/T20592-2009 RF	PN10 DN15
	37	放空阀 Vent Valve	放空阀材质 Vent Valve Mat'l	NO	NO
	38	放空阀连接规格 Vent Valve Conn.	放空阀尺寸 Vent Valve Size	NO	NO
	39	排污堵丝 Drain Plug	放空堵丝 Vent Plug	NO	YES
	40	防烫保护装置 Protective Heat Shield		NO	
	41	蒸汽加热夹套 Steam Jacket	接头规格 Jacket Conn. Size	NO	NO
	42	伴热蒸汽压力 Steam Pressure MPa(g)		NO	
	43	防霜装置 Non Frosting Extension		NO	
	44	导向管 Stilling Well		NO	
	45	电涌防护器 Surge Protection Device		NO	
其他 Miscell	46	带不锈钢仪表铭牌及位号牌。		Equipped with stainless steel instrument nameplates and tag plates.	
	47				

说明 NOTES：量程无盲区。配套检测报告。The measuring range has no blind zone. Comes with a test report.

版次 REV.	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(磁翻板液位计) DATA SHEET(MAGNETIC LEVEL GAUGE)			图号	CO2-JIA-INS-DTS-001
				主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控
				设计阶段	
				页码	第2页 共6页

概况 General	1	仪表名称 Instrument Name		带变送器的磁翻板液位计Magnetic flap level gauge with transmitter	
	2	位号 Tag Number	流程图号 P&ID No.	LIT-201	CO2-JIA-PR-D/04
	3	检测对象 Service	工艺管号 Pipe No.	储氨罐液位V-201Level of liquid	V-201
	4	设备等级 Vessel Class	设备材质 Vessel Mat'l	VTA	VTA
	5				
工艺条件 Process Conditions	6	上部介质名称 Upper Fluid	下部介质名称 Lower Fluid	NO	H20
	7	上部介质密度 U. Density kg/m3	下部介质密度 L. Density kg/m3	NO	583
	8	操作压力 Oper. Press. MPa(g)	设计压力 Des. Press. MPa(g)	1.7	2.5
	9	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃	38	60
	10	运动黏度Kin Visc(mm2/s)	动力黏度 Dyn Visc(mPa. s)	NO	NO
	11				
本体 Body & Cage	12	型号 Model		VTA	
	13	法兰间距 Distance Between C. L. of Vessel Conn. mm		3200	
	14	适用温度 Allow. Oper. Temp. ℃	压力等级 Pressure Rating	VTA	PN25
	15	安装形式 Mounting Style	连接方位 Conn. Orientation	侧装式Side-mounted	Side Side
	16	静井长度 Insert Length mm		VTA	
	17	标尺单位 Scale Unit	精度 Accuracy	mm	±5mm
	18	指示器类型 Indicator Type	标尺颜色 Indicator Colour	磁翻板Magnetic flap plate	红/白Red/White
	19	筒体材质 Chamber Mat'l	浮子材质 Float Mat'l	304	304
	20	过程连接形式 Conn. Type	连接尺寸 Size	法兰连接Flange connection	DN25
	21	法兰标准 Flange STD	法兰等级 Flange Rating	HG/T20592-2009	PN25
	22	法兰材质 Flange Mat'l	密封面 Facing	304	M
	23	其他接液部件材质 Other Wetted Parts Mat'l		304	
	24				
变送器/开关 Transmitter/Switch	25	输出信号 Output Signal	负载阻抗 Load Resistance	4～20mA+HART	VTA
	26	开关类型 Switch Type	开关数量 Switch Qt'y	NO	NO
	27	触点形式 Contact Form	触点容量 Contact Rating	NO	NO
	28	开关1 触点动作 Switch 1 Contact Action		NO	
	29	开关2 触点动作 Switch 2 Contact Action		NO	
	30	触点设定值 Calibration Value (for Switch)		NO	
	31	电源 Power Supply	电气接口 Elec. Conn.	24VDC LOOP	1/2"NPT
	32	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	IP65
	33	表壳材质 Housing Mat'l	整体表头 Integral Indicator	铸铝Aluminum casting	YES
	34				
附件 Accessories	35	排污阀 Drain Valve	排污阀材质 Drain Valve Mat'l	带With	304
	36	排污阀连接规格 Drain Valve Conn.	排污阀尺寸 Drain Valve Size	HG/T20592-2009 MFM	PN25 DN15
	37	放空阀 Vent Valve	放空阀材质 Vent Valve Mat'l	NO	NO
	38	放空阀连接规格 Vent Valve Conn.	放空阀尺寸 Vent Valve Size	NO	NO
	39	排污堵丝 Drain Plug	放空堵丝 Vent Plug	NO	YES
	40	防烫保护装置 Protective Heat Shield		NO	
	41	蒸汽加热夹套 Steam Jacket	接头规格 Jacket Conn. Size	NO	NO
	42	伴热蒸汽压力 Steam Pressure MPa(g)		NO	
	43	防霜装置 Non Frosting Extension		NO	
	44	导向管 Stilling Well		NO	
	45	电涌防护器 Surge Protection Device		NO	
其他 Miscell	46	带不锈钢仪表铭牌及位号牌。		Equipped with stainless steel instrument nameplates and tag plates.	
	47				

说明 NOTES：The measuring range has no blind zone. Comes with a test report. Oil-free, fat-free, and copper-free.

版次 REV.	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(磁翻板液位计) DATA SHEET(MAGNETIC LEVEL GAUGE)			图号	CO2-JIA-INS-DTS-001
				主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控
				设计阶段	
				页码	第3页 共6页

概况 General	1	仪表名称 Instrument Name		磁翻板液位计Magnetic flap level gauge	
	2	位号 Tag Number	流程图号 P&ID No.	LG-251	CO2-JIA-PR-D/04
	3	检测对象 Service	工艺管号 Pipe No.	储氨罐液位V-201Level of liquid	V-201
	4	设备等级 Vessel Class	设备材质 Vessel Mat'l	VTA	VTA
	5				
工艺条件 Process Conditions	6	上部介质名称 Upper Fluid	下部介质名称 Lower Fluid	NO	NH3
	7	上部介质密度 U. Density kg/m3	下部介质密度 L. Density kg/m3	NO	583
	8	操作压力 Oper. Press. MPa(g)	设计压力 Des. Press. MPa(g)	1.7	2.5
	9	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃	38	60
	10	运动黏度Kin Visc(mm2/s)	动力黏度 Dyn Visc(mPa. s)	NO	NO
	11				
本体 Body & Cage	12	型号 Model		VTA	
	13	法兰间距 Distance Between C. L. of Vessel Conn. mm		800	
	14	适用温度 Allow. Oper. Temp. ℃	压力等级 Pressure Rating	VTA	PN25
	15	安装形式 Mounting Style	连接方位 Conn. Orientation	侧装式Side-mounted	Side Side
	16	静井长度 Insert Length mm		VTA	
	17	标尺单位 Scale Unit	精度 Accuracy	mm	±5mm
	18	指示器类型 Indicator Type	标尺颜色 Indicator Colour	磁翻板Magnetic flap plate	红/白Red/White
	19	筒体材质 Chamber Mat'l	浮子材质 Float Mat'l	304	304
	20	过程连接形式 Conn. Type	连接尺寸 Size	法兰连接Flange connection	DN25
	21	法兰标准 Flange STD	法兰等级 Flange Rating	HG/T20592-2009 MFM	PN25
	22	法兰材质 Flange Mat'l	密封面 Facing	304	M
	23	其他接液部件材质 Other Wetted Parts Mat'l		304	
	24				
变送器/开关 Transmitter/Switch	25	输出信号 Output Signal	负载阻抗 Load Resistance	NO	NO
	26	开关类型 Switch Type	开关数量 Switch Qt'y	NO	NO
	27	触点形式 Contact Form	触点容量 Contact Rating	NO	NO
	28	开关1 触点动作 Switch 1 Contact Action		NO	
	29	开关2 触点动作 Switch 2 Contact Action		NO	
	30	触点设定值 Calibration Value (for Switch)		NO	
	31	电源 Power Supply	电气接口 Elec. Conn.	NO	NO
	32	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	NO
	33	表壳材质 Housing Mat'l	整体表头 Integral Indicator	NO	NO
	34				
附件 Accessories	35	排污阀 Drain Valve	排污阀材质 Drain Valve Mat'l	带With	304
	36	排污阀连接规格 Drain Valve Conn.	排污阀尺寸 Drain Valve Size	HG/T20592-2009 MFM	PN25 DN15
	37	放空阀 Vent Valve	放空阀材质 Vent Valve Mat'l	NO	NO
	38	放空阀连接规格 Vent Valve Conn.	放空阀尺寸 Vent Valve Size	NO	NO
	39	排污堵丝 Drain Plug	放空堵丝 Vent Plug	NO	YES
	40	防烫保护装置 Protective Heat Shield		NO	
	41	蒸汽加热夹套 Steam Jacket	接头规格 Jacket Conn. Size	NO	NO
	42	伴热蒸汽压力 Steam Pressure MPa(g)		NO	
	43	防霜装置 Non Frosting Extension		NO	
	44	导向管 Stilling Well		NO	
	45	电涌防护器 Surge Protection Device		NO	
其他 Miscell	46	带不锈钢仪表铭牌及位号牌。		Equipped with stainless steel instrument nameplates and tag plates.	
	47				

说明 NOTES：The measuring range has no blind zone. Comes with a test report. Oil-free, fat-free, and copper-free.

版次 REV.	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(磁翻板液位计) DATA SHEET(MAGNETIC LEVEL GAUGE)			图号	CO2-JIA-INS-DTS-001
				主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控
				设计阶段	
				页码	第4页 共6页

概况 General	1	仪表名称 Instrument Name		磁翻板液位计Magnetic flap level gauge	
	2	位号 Tag Number	流程图号 P&ID No.	LG-451	CO2-JIA-PR-D/06
	3	检测对象 Service	工艺管号 Pipe No.	Water level of the storage tank	V403
	4	设备等级 Vessel Class	设备材质 Vessel Mat'l	NO	混凝土
	5				
工艺条件 Process Conditions	6	上部介质名称 Upper Fluid	下部介质名称 Lower Fluid	NO	H20
	7	上部介质密度 U. Density kg/m3	下部介质密度 L. Density kg/m3	NO	1000
	8	操作压力 Oper. Press. MPa(g)	设计压力 Des. Press. MPa(g)	Atmospheric pressure	0.1
	9	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃	32	60
	10	运动黏度Kin Visc(mm2/s)	动力黏度 Dyn Visc(mPa. s)	NO	NO
	11				
本体 Body & Cage	12	型号 Model		VTA	
	13	法兰间距 Distance Between C. L. of Vessel Conn. mm		NO	
	14	适用温度 Allow. Oper. Temp. ℃	压力等级 Pressure Rating	VTA	PN10
	15	安装形式 Mounting Style	连接方位 Conn. Orientation	顶装式	储水池顶部
	16	静井长度 Insert Length mm		0~4200	
	17	标尺单位 Scale Unit	精度 Accuracy	mm	±5mm
	18	指示器类型 Indicator Type	标尺颜色 Indicator Colour	磁翻板Magnetic flap plate	红/白Red/White
	19	筒体材质 Chamber Mat'l	浮子材质 Float Mat'l	304	304
	20	过程连接形式 Conn. Type	连接尺寸 Size	法兰连接Flange connection	DN100
	21	法兰标准 Flange STD	法兰等级 Flange Rating	HG/T20592-2009	PN10
	22	法兰材质 Flange Mat'l	密封面 Facing	304	RF
	23	其他接液部件材质 Other Wetted Parts Mat'l		304	
	24				
变送器/开关 Transmitter/Switch	25	输出信号 Output Signal	负载阻抗 Load Resistance	NO	NO
	26	开关类型 Switch Type	开关数量 Switch Qt'y	NO	NO
	27	触点形式 Contact Form	触点容量 Contact Rating	NO	NO
	28	开关1 触点动作 Switch 1 Contact Action		NO	
	29	开关2 触点动作 Switch 2 Contact Action		NO	
	30	触点设定值 Calibration Value (for Switch)		NO	
	31	电源 Power Supply	电气接口 Elec. Conn.	NO	NO
	32	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	NO
	33	表壳材质 Housing Mat'l	整体表头 Integral Indicator	NO	NO
	34				
附件 Accessories	35	排污阀 Drain Valve	排污阀材质 Drain Valve Mat'l	NO	NO
	36	排污阀连接规格 Drain Valve Conn.	排污阀尺寸 Drain Valve Size	NO	NO
	37	放空阀 Vent Valve	放空阀材质 Vent Valve Mat'l	NO	NO
	38	放空阀连接规格 Vent Valve Conn.	放空阀尺寸 Vent Valve Size	NO	NO
	39	排污堵丝 Drain Plug	放空堵丝 Vent Plug	NO	YES
	40	防烫保护装置 Protective Heat Shield		NO	
	41	蒸汽加热夹套 Steam Jacket	接头规格 Jacket Conn. Size	NO	NO
	42	伴热蒸汽压力 Steam Pressure MPa(g)		NO	
	43	防霜装置 Non Frosting Extension		NO	
	44	导向管 Stilling Well		自带	
	45	电涌防护器 Surge Protection Device		NO	
其他 Miscell	46	带不锈钢仪表铭牌及位号牌。		Equipped with stainless steel instrument nameplates and tag plates.	
	47				

说明 NOTES：

版次 REV.	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(磁翻板液位计) DATA SHEET(MAGNETIC LEVEL GAUGE)			图号	CO2-JIA-INS-DTS-001
				主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控
				设计阶段	
				页码	第5页 共6页

概况 General	1	仪表名称 Instrument Name		磁翻板液位计Magnetic flap level gauge	
	2	位号 Tag Number	流程图号 P&ID No.	LG-051	CO2-JIA-PR-D/00
	3	检测对象 Service	工艺管号 Pipe No.	检修井液位	V-002
	4	设备等级 Vessel Class	设备材质 Vessel Mat'l		
	5				
工艺条件 Process Conditions	6	上部介质名称 Upper Fluid	下部介质名称 Lower Fluid	NO	H20
	7	上部介质密度 U. Density kg/m3	下部介质密度 L. Density kg/m3	NO	1000
	8	操作压力 Oper. Press. MPa(g)	设计压力 Des. Press. MPa(g)	常压	常压
	9	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃	32	60
	10	运动黏度Kin Visc(mm2/s)	动力黏度 Dyn Visc(mPa. s)	NO	NO
	11				
本体 Body & Cage	12	型号 Model		VTA	
	13	法兰间距 Distance Between C. L. of Vessel Conn. mm		NO	
	14	适用温度 Allow. Oper. Temp. ℃	压力等级 Pressure Rating	VTA	PN10
	15	安装形式 Mounting Style	连接方位 Conn. Orientation	顶装式，需PTSC确认	检修井顶部，需PTSC确认
	16	静井长度 Insert Length mm		与检修井深度一致，需PTSC确认	
	17	标尺单位 Scale Unit	精度 Accuracy	mm	±5mm
	18	指示器类型 Indicator Type	标尺颜色 Indicator Colour	磁翻板Magnetic flap plate	红/白Red/White
	19	筒体材质 Chamber Mat'l	浮子材质 Float Mat'l	304	304
	20	过程连接形式 Conn. Type	连接尺寸 Size	法兰连接Flange connection	DN100
	21	法兰标准 Flange STD	法兰等级 Flange Rating	HG/T20592-2009	PN10
	22	法兰材质 Flange Mat'l	密封面 Facing	304	RF
	23	其他接液部件材质 Other Wetted Parts Mat'l		304	
	24				
变送器/开关 Transmitter/Switch	25	输出信号 Output Signal	负载阻抗 Load Resistance	NO	NO
	26	开关类型 Switch Type	开关数量 Switch Qt'y	NO	NO
	27	触点形式 Contact Form	触点容量 Contact Rating	NO	NO
	28	开关1 触点动作 Switch 1 Contact Action		NO	
	29	开关2 触点动作 Switch 2 Contact Action		NO	
	30	触点设定值 Calibration Value (for Switch)		NO	
	31	电源 Power Supply	电气接口 Elec. Conn.	NO	NO
	32	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	NO
	33	表壳材质 Housing Mat'l	整体表头 Integral Indicator	NO	NO
	34				
附件 Accessories	35	排污阀 Drain Valve	排污阀材质 Drain Valve Mat'l	NO	NO
	36	排污阀连接规格 Drain Valve Conn.	排污阀尺寸 Drain Valve Size	NO	NO
	37	放空阀 Vent Valve	放空阀材质 Vent Valve Mat'l	NO	NO
	38	放空阀连接规格 Vent Valve Conn.	放空阀尺寸 Vent Valve Size	NO	NO
	39	排污堵丝 Drain Plug	放空堵丝 Vent Plug	NO	YES
	40	防烫保护装置 Protective Heat Shield		NO	
	41	蒸汽加热夹套 Steam Jacket	接头规格 Jacket Conn. Size	NO	NO
	42	伴热蒸汽压力 Steam Pressure MPa(g)		NO	
	43	防霜装置 Non Frosting Extension		NO	
	44	导向管 Stilling Well		自带	
	45	电涌防护器 Surge Protection Device		NO	
其他 Miscell	46	带不锈钢仪表铭牌及位号牌。		Equipped with stainless steel instrument nameplates and tag plates.	
	47				

说明 NOTES：

版次 REV.	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

	仪表规格书(磁翻板液位计) DATA SHEET(MAGNETIC LEVEL GAUGE)			图号	CO2-JIA-INS-DTS-001
				主项名称	
	12.5t/h食品级液体二氧化碳装置 12.5t/h liquid carbon dioxide device			专业	自控
				设计阶段	
				页码	第6页 共6页

概况 General	1	仪表名称 Instrument Name		磁翻板液位计Magnetic flap level gauge	
	2	位号 Tag Number	流程图号 P&ID No.	LG-552	CO2-JIA-PR-D/07
	3	检测对象 Service	工艺管号 Pipe No.	吸收罐液位V-502Level of liquid	V-502
	4	设备等级 Vessel Class	设备材质 Vessel Mat'l	VTA	VTA
	5				
工艺条件 Process Conditions	6	上部介质名称 Upper Fluid	下部介质名称 Lower Fluid	NO	H20
	7	上部介质密度 U. Density kg/m3	下部介质密度 L. Density kg/m3	NO	1000
	8	操作压力 Oper. Press. MPa(g)	设计压力 Des. Press. MPa(g)	0.05	0.1
	9	操作温度 Oper. Temp. ℃	设计温度 Design Temp. ℃	32	60
	10	运动黏度Kin Visc(mm2/s)	动力黏度 Dyn Visc(mPa. s)	NO	NO
	11				
本体 Body & Cage	12	型号 Model		VTA	
	13	法兰间距 Distance Between C. L. of Vessel Conn. mm		2000	
	14	适用温度 Allow. Oper. Temp. ℃	压力等级 Pressure Rating	VTA	PN10
	15	安装形式 Mounting Style	连接方位 Conn. Orientation	侧装式Side-mounted	Side Side
	16	静井长度 Insert Length mm		VTA	
	17	标尺单位 Scale Unit	精度 Accuracy	mm	±5mm
	18	指示器类型 Indicator Type	标尺颜色 Indicator Colour	磁翻板Magnetic flap plate	红/白Red/White
	19	筒体材质 Chamber Mat'l	浮子材质 Float Mat'l	304	304
	20	过程连接形式 Conn. Type	连接尺寸 Size	法兰连接Flange connection	DN25
	21	法兰标准 Flange STD	法兰等级 Flange Rating	HG/T20592-2009	PN10
	22	法兰材质 Flange Mat'l	密封面 Facing	304	RF
	23	其他接液部件材质 Other Wetted Parts Mat'l		304	
	24				
变送器/开关 Transmitter/Switch	25	输出信号 Output Signal	负载阻抗 Load Resistance	NO	NO
	26	开关类型 Switch Type	开关数量 Switch Qt'y	NO	NO
	27	触点形式 Contact Form	触点容量 Contact Rating	NO	NO
	28	开关1 触点动作 Switch 1 Contact Action		NO	
	29	开关2 触点动作 Switch 2 Contact Action		NO	
	30	触点设定值 Calibration Value (for Switch)		NO	
	31	电源 Power Supply	电气接口 Elec. Conn.	NO	NO
	32	防爆等级 Explosion Proof	防护等级 Enclosure Protection	NO	NO
	33	表壳材质 Housing Mat'l	整体表头 Integral Indicator	NO	NO
	34				
附件 Accessories	35	排污阀 Drain Valve	排污阀材质 Drain Valve Mat'l	带With	304
	36	排污阀连接规格 Drain Valve Conn.	排污阀尺寸 Drain Valve Size	HG/T20592-2009 RF	PN10 DN15
	37	放空阀 Vent Valve	放空阀材质 Vent Valve Mat'l	NO	NO
	38	放空阀连接规格 Vent Valve Conn.	放空阀尺寸 Vent Valve Size	NO	NO
	39	排污堵丝 Drain Plug	放空堵丝 Vent Plug	NO	YES
	40	防烫保护装置 Protective Heat Shield		NO	
	41	蒸汽加热夹套 Steam Jacket	接头规格 Jacket Conn. Size	NO	NO
	42	伴热蒸汽压力 Steam Pressure MPa(g)		NO	
	43	防霜装置 Non Frosting Extension		NO	
	44	导向管 Stilling Well		NO	
	45	电涌防护器 Surge Protection Device		NO	
其他 Miscell	46	带不锈钢仪表铭牌及位号牌。		Equipped with stainless steel instrument nameplates and tag plates.	
	47				

说明 NOTES：The measuring range has no blind zone. Comes with a test report. Oil-free, fat-free, and copper-free.

版次 REV.	日期DATE	说明DESCRIPTION	编制 BY	校核 CHK.	审核 APP.

ATTACHMENT #3

TECHNICAL BID PROPOSAL

FORM T1 - TECHNICAL PROPOSAL (UNPRICE)

Project: HIGH-TECH CO_2 PRODUCTION PLANT

Date: 1/10/2026

Rev: B1

SCOPE OF SUPPLY							UNPRICED SCHEDULE OF PRICES						
No	Tag#	Scope of Supply	Description	Unit	QTY		Description	Brand	Model	Origin	Unit	Q'ty	Remark
1	FE-101	Completed set	涡街流量计Vortex flowmeter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	
2	FE-102	Completed set	涡街流量计Vortex flowmeter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	
3	FE-103	Completed set	涡街流量计Vortex flowmeter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	
4	FE-301a/b/c/d	Completed set	涡街流量计Vortex flowmeter, 4-20 mA + HART, complete with transmitter and accessories.	Set	4		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	4	
4.1	FE-401	Completed set	涡街流量计Vortex flowmeter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	
4.2	FE-001	Completed set	涡街流量计Electromagnetic Flowmeter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	
5	PT-101, PT-102, PT-103, PT-104, PT-1, PT-2, PT-3, PT-201, PT-202, PT-203, PT-301a/b/c, PT-302a/b/c, PT-303a/b/c, PT-304a/b/c, PT-305a/b/c, PT-401, PT-402, PT-403	Completed set	表压型 Gauge pressure transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	28		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	28	
6	LT-1	Completed set	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	
7	LT-2	Completed set	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	
8	LT-3	Completed set	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	
9	LT-4	Completed set	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	
10	LT-5	Completed set	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	
11	LT-301a/b/c	Completed set	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	3		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	3	
12	LT-302a/b/c	Completed set	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	3		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	3	
13	LT-303a/b/c	Completed set	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	3		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	3	
14	LT-304a/b/c	Completed set	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	3		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	3	
15	LT-305a/b/c	Completed set	差压式液位计Differential pressure level transmitter, 4-20 mA + HART, complete with transmitter and accessories.	Set	3		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	3	
16	LT-101	Completed set	带变送器的磁翻板液位计Magnetic level gauge with transmitter, 4-20 mA + HART, complete with accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	
17	LT-201	Completed set	带变送器的磁翻板液位计Magnetic level gauge with transmitter, 4-20 mA + HART, complete with accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	
18	LT-401	Completed set	雷达液位计Radar Level Transmitter, 4-20 mA + HART, complete with accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	
19	LG-251	Completed set	磁翻板液位计Magnetic flap level gauge, complete with accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	
~~20~~	~~LG-252~~	Completed set	~~磁翻板液位计Magnetic flap level gauge, complete with accessories.~~	~~Set~~	~~1~~		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	~~1~~	
21	LG-451	Completed set	磁翻板液位计Magnetic flap level gauge, complete with accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	
21.1	LG-051	Completed set	磁翻板液位计Magnetic flap level gauge, complete with accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	

~~22~~	~~LG-551~~	~~Completed set~~	~~磁翻板液位计Magnetic flap level gauge, complete with accessories.~~	~~Set~~	~~1~~		~~BIDDER to specify~~	~~BIDDER to specify~~	~~BIDDER to specify~~	~~BIDDER to specify~~	~~Set~~	~~1~~	
23	LG-552	Completed set	磁翻板液位计Magnetic flap level gauge, complete with accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	
24	TE-101, TE-102, TE-104, TE-105, TE-106, TE-107, TE-401, TE-201, TE-202	Completed set	热电阻Thermal resistance, complete with accessories.	Set	9		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	9	
25	TE-103, ~~TE-201~~	Completed set	热电阻Thermal resistance, complete with accessories.	Set	1		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	1	
25.1	TG-451, TG-452, TG-453, TG-454, TG-455, TG-456, TG-457, TG-458, TG-459, TG-460	Completed set	双金属温度计Bimetallic thermometer, complete with accessories.	Set	10		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	10	
26	PG-151, ~~PG-251~~, PG-451, PG-453, PG-154	Completed set	压力表 Pressure gauge, complete with accessories.	Set	4		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	4	
27	PG-152, PG-153a/b, PG-356a/b/c/d, PG-452a/b, ~~PG-351~~, ~~355a/b/c~~	Completed set	压力表 Pressure gauge, complete with accessories.	Set	9		BIDDER to specify	BIDDER to specify	BIDDER to specify	BIDDER to specify	Set	9	

Form T2 Deviation from Purchaser's Specification	**Project**	HIGH-TECH CO_2 PRODUCTION PLANT	**Vendor**			
	PTSC Project No.		**Vendor Project No.**			
	Item No.		**Contract No.**			
	Service					

Spec. No.	**Paragraph No.**	**Deviation**	**PTSC Justification**	**Client Conclusion**	**Remarks**	**Cost Effect When Deviation is Applied**

Form T3 - LIST OF SUBCONTRACTOR(S) AND COUNTRY OF ORIGIN

No.	Material/ Equipment/ Component / Activities	Supplier /Manufacturer/ Subcontractor	Location / Country of Origin
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
10			
11			
12			
13			

[*Depending on the nature of the Goods, Buyer to list out the material / equipment / major components / activities that require Bidder to advise the details of suppliers / manufacturer / sub-contractor and location / country of origin*]

FORM T4	Project	HIGH-TECH CO_2 PRODUCTION PLANT	Vendor						
SPARE PARTS LIST FOR	PTSC Project No.		Vendor Project No.						
INSTALLATION, COMMISSIONING	Item No.		Contract No.						
	Service								

Item no.	Part name	Drawing no.	Part no.	Spec (material)	Installed Q'ty per unit	Recommended Q'ty	Sketch	Unit price	Total price

FORM T5 SPECIAL TOOL LIST	**Project**	HIGH-TECH CO_2 PRODUCTION PLANT	**Vendor**		
	PTSC Project No.		**Vendor Project No.**		
	Item No.		**Contract No.**		
	Service				

No.	Tool name	Q'ty	Sketch	Unit price	Total price

Project:	**HIGH TECHNOLOGY CO2 PRODUCTION PLANT**	**TBC No.:**	-
Tag No.:	-	**Date of Issued:**	-
Bidder Name:	-	**Date of Response:**	-
Bidder Signature:	-		

Note:
BIDDER shall CONFIRM COMPLIANCE to all requirements in these Technical Bid Clarifications (TBC). If BIDDER is unable to meet any requirements, BIDDER shall provide sufficient reasoning for NOT COMPLYING to the requirements. BIDDER may provide COST or SCHEDULE IMPACT if any for meeting requirements (BIDDER to furnish additional details wherever required). BIDDER shall NOT use replies like "O.K", "FOLLOW", etc.
Where the cost impact is involved, the price information shall be submitted after all clarifications closed and upon receipt of Buyer's request.

ITEM NO.	Classify	Title	TECHNICAL QUERY_M	BIDDER'S CONFIRMATION / CLARIFICATION	COST IMPACT (YES/NO)	SCHEDULE IMPACT (YES/NO)	STATUS (OPEN/CLOSED)
GE- GENERAL							
G001							
G002							
PRO - PROCESS							
PRO1							
PRO2							
PRO3							
PRO4							
PRO5							
IN - INSTRUMENT							
INS000							
INS001							
INS002							
INS003							
INS004							
INS005							
PP - PIPING & LAYOUT							
PP1							
PP2							
PP3							
PP4							
PP5							
ELE - ELECTRICAL							
ELE1							
ELE2							
STR - STRUCTURE							
STR1							
STR2							
PRE - PRECOMMISSIONING AND COMMISSIONING							
PRE1							
PRE2							
QC - QUALITY CONTROL							
QC1							
QC2							
QC3							
OTHER							
OT1							
OT2							
OT3							

ATTACHMENT #4

VENDOR DATA REQUIREMENT LIST

CO2 PRODUCT.JSC	**HIGH-TECH CO_2 PRODUCTION PLANT**	PTSC THANH HOA

TECHNICAL REQUISITION FOR FIELD INSTRUMENTS	Document No.:	CO2-PTH-INS-TRD-025
	Revision:	B1

VENDOR DATA REQUIREMENT LIST (VDRL)

No.	Description	With Bid	Final after PO	Remark
1	Company Profile / Experience List	x		
2	Compliance Statement / Deviation List	x		For Technical Bid Evaluation
3	Vendor Data Index (VDI) / Document Schedule	x	x	
4	Product Datasheet (Filled)	x	x	
5	Technical Catalogue / Brochure	x	x	
6	Preliminary GA Drawing	x		
7	QA/QC Plan (Quality Plan)		x	
8	Inspection & Test Plan (ITP)		x	
9	Calculation Sheet/ Sizing Sheet	x	x	
10	Final GA & Detailed Drawings		x	
11	Bill of Materials (BOM)		x	
12	Test Procedures		x	
13	Factory Acceptance Test (FAT) Report		x	
14	Material Certificates (MTC)		x	EN10204 Type 3.1
15	Certificate of Conformity / Quality / Origin		x	
16	Third-party Inspection Release Note (if applicable)		x	
17	Installation, Operation & Maintenance Manual (IOM)		x	
18	Preservation & Packing Procedure		x	
19	Recommended Spare Parts List for 2 years		x	
20	Calibration / Painting Records (if applicable)		x	
21	Packing List, Fumigation, Insurance Certificates		x	
22	Commercial Invoice, Bill of Lading, Import Declaration		x	
23	Final Documentation (As-built)		x	