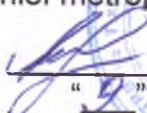
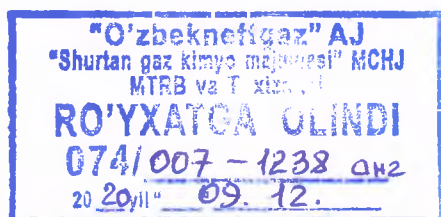




"CONFIRM"

Chief metrologist of Shurtan GCC LLC

 Kh. A. Makhmudov
"9" 12. 2020.



TECHNICAL ASSIGNMENT
for purchasing Control Valve
for the needs of Shurtan GCC LLC

SGCC- 2020

1. GENERAL INFORMATION

1.1. Name
Control Valve
1.2. Basis and purpose of purchasing spare parts
<p>Basis: an unscheduled application for 2021 approved by the first deputy general director of the enterprise, according to protocol No.16 of the NTS (scientific technical council) SGCC dated November 16, 2020.</p> <p>Purpose: to replace the failed control valves and ensure the stable operation of the Hydrogen production unit.</p>
1.3 Information about novelty (year of production/manufacture of spare parts)
The supplied products must be new and usable.
1.4 Stages of development/manufacturing
<p>According to the standard and technical documentation and design documentation of the manufacturer.</p> <p>The manufacturer of the goods must provide the customs code or other international codes.</p>
1.5 Documents for development/manufacturing
According to the standard and technical documentation and design documentation of the manufacturer.

2. SCOPE OF APPLICATION

Control valves are used in hydrogen production units. The valves are designed to seal the flow of the working medium on pipelines with elevated temperatures, high pressure and abrasive media. Since the valves are operated under very harsh conditions (duty cycle is over 8000 hours per year), frequent wear of the main internal valve structures is revealed.
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3. TECHNICAL REQUIREMENTS

3.1 Basic technical requirements		
Nº	Name	Technical description
1	Control valve included (poz. KV-115)	<p>Service: H2 to DA-1101. Steam Flow Rate {Qs}-6115 kg/h. Inlet Pressure {P1}- 3250 kPa. Outlet Pressure {P2}-2819 kPa. Temperature {T}-28°C. Liquid Sizing Coefficient {Cv}-50:1 Type: GLOBE VALVE / ANSI 300/ DN 3"/CVS 70 EQ% DIPHRAGM ACTUATOR TYPE/SGL.ACT. /FAIL CLOSED I/P-POSITIONER: SIPART PS2 IN: 4 to20mA / OUT: 0 to 100% Ambient Atmosphere: Extreme moisture, Refinery Ambient Location: Outdoors Ambient Temperature: MIN: -270 C / MAX:490 C Ex-Area Classification: IEC: Zone2Group IIC T3 Ex-Certificate: acc. To ATEX Additional Certificate: GOST-R FLOW (IN SEQUENCE E1): 6115 Nm3/h INLET OPERATING PRESSURE p1 *UNDER PLYG* Star E1:3250/End E1:2033 kPa OUTLET OPERATING PRESSURE p2 *OVER PLYG* Star E1:2819/End E1:2025 kPa FLOW (IN SEQUENCE R1): 7966 Nm3/h INLET OPERATING PRESSURE p1 *OVER PLYG* Star R1:2819/End R1:2025 kPa OUTLET OPERATING PRESSURE p2 *UNDER PLYG* Star R1:620/End R1:2011kPa BODY MATERIAL: ASTM A216Gr. WCB with C-content less/equal 0.25% ASME PROCESS CONNECTIONS-FLANGES: 300lbs ASME B16.5 RF/surf.: (125-250AARH) ANSI300. FLOW COEFFICIENT: CV: see above -RANGEABILITY 50.1 TRIM MATERIAL: STAINLESS STEEL. ACTUATOR1/4" NPT/POSITIONER:1/4"NPT-f WEATHER PROOF/min IP65 ELECTRICAL CONNECTIONS M20X1.5-EEX(i) CABLE GRANDS IP65</p>

3.2 Main technical, economic and operational factors
For stable operation of control valve, the period of repair and replacement of spare parts should be no more than once a year.
3.3 Design requirements, installation, and technical requirements
According to the standard and technical documentation and design documentation of the manufacturer.
3.4 Requirements for materials
It must comply with the materials designated on the technical requirements. Provide material certificates according to the regulatory technical documents and construction documents of the manufacturer.
3.5 Requirements to sizes and packing
<p>The dimensions must correspond to the attached drawings.</p> <p>The goods should be packed in the manufacturer's standard export package (sealed, tight, and duly packaged) to ensure its full safety from all kinds of damage during long-term storage and transportation of products, taking into account several overloads in transit. The packing should be designed for handling of goods by cranes and by manual.</p> <p>The Seller is responsible for all losses and-or damages arising from improper and-or negligent packaging or protection of the equipment.</p> <p>Other options and package sizes are subject to additional approval by the Customer to their acceptability.</p>
3.6 Requirements for spare parts and wearing parts
The service life of spare parts provided by the companies must be at least six months.

4. REQUIREMENTS TO RULES FOR DELIVERY AND ACCEPTANCE

4.1 Order of delivery and acceptance, Customer's additional requirements
<p>The goods should be accepted after incoming inspection and drawing up a report following the contract.</p> <p>The Customer accepts the goods according to the quantity, quality, complete of the lot, and the external signs of the safety of the goods (mechanical damage, visible deformation, and other similar damage) following the transport and enclosed documents, the manufacturer's quality certificates.</p> <p>In receiving the goods, a visual inspection will be carried out to determine the conformity according to quantity, complete and external signs of goods safety during transportation.</p> <p>At receiving the goods from the carrier, the Customer (consignee) should check the conformity of the goods with the information specified in the contract, specifications, or additional agreements to it, as well as in transport, enclosed documents, and the manufacturer quality certificates.</p> <p>In case receiving the goods from the carrier, if a non-conformity of the goods according to quality/quantity is determined, the Customer (consignee) has to stop receiving the goods. Take measures to ensure the safety of the goods and prevent mixing with other uniform goods as well as notify the Seller about this in writing within 20 (twenty) working days from the date of finding the shortage.</p> <p>The Seller is obliged to send the Customer (consignee), no later than 10 (ten) working days from the date of receipt of the notification, a response about the participation of his representative in the further acceptance of the goods. The Seller's representative must participate in the acceptance of the goods within a reasonable time, not exceeding 20 (twenty) calendar days from the date of receipt of the notification.</p>

If Seller refuses to participate in the receipt of goods or fails to respond to the notification or his representative fails to appear within the date specified in the contract, the Buyer has the right to carry out further receipt of goods according to the quality/quantity with the participation of Board of trade's representative or an independent expert organization to draw up report following the contract.

The following information must be indicated in the acceptance document of the goods:

- the name of the Customer (consignee) of the goods;
- number and date of drawing up the report, place of acceptance of goods, start and end of acceptance of goods;
- surnames and initials of the persons participating in the acceptance of the goods, their positions, information about the documents confirming the persons' authority to participate in the acceptance of the goods, their details;
- names and addresses of the manufacturer and the Seller;
- the date and number of the notification of the call to the Seller's representative;
- detected non-conformity of the goods, its nature;
- indication to the contract number and specification;
- name and labeling of goods according to the shipping documents for the corresponding lot of goods;
- number of pieces and weight of metal products according to shipping documents;
- the state of the container (packing);
- weight of the identified shortage for each place;
- number of the accompanying document and quality certificate;
- size, steel grade, lot number, presence of a label;
- conclusion on the nature of the identified defects in the goods and the reason for their origination.

All persons involved in the acceptance of the goods must sign the report.

4.2 Requirements for transfer of technical and other documents to the Customer at spare parts supply

The goods must be accompanied by the following documentation:

- certificate of conformance;
- Seller's invoice with a description of the goods, indicating the quantity, unit price, and total amount;
- a bill of lading issued in the name of Consignee with a stamp of dispatch-station, and the destination, Customer name, the number and date of signing of the existing contract;
- certificate of origin of the country of the goods indicating the number and date of the invoice;
- packing list;
- certificate of quality of the goods issued by the manufacturer;
- safety data sheet

4.3 Requirements for insurance of spare parts

The goods must be insured.

5. TRANSPORTATION REQUIREMENTS

The goods should be shipped in the manufacturer standard packing (sealed, tight, and duly packaged) ensuring its full safety from all kinds of damage during long-term storage and transportation of products, taking into account several overloads in transit.

6. REQUIREMENTS FOR GUARANTEE PERIOD

The goods must be produced no more than six months before the date of shipment, in full accordance with the description, specifications, manufacturer's specifications, and-or the terms of the present technical assignment, and also ensure the required quality.

7. SAFETY REQUIREMENTS

The goods must be safe during operation, storage, and disposal.
The quality of the goods must comply with the established standards and the manufacturer's specifications and should be confirmed by the manufacturer factory test certificate. The quality of goods must ensure the possibility of use without negative consequences.
Spare parts must meet international quality and environmental safety requirements.

8. REQUIREMENTS FOR QUALITY AND CLASSIFICATION

The goods must be of high quality, and the quality guarantee period is at least two years.
It is necessary to provide certificates (international standards ISO 9001, 14001, 45001, 50001, manufacturer's quality certificate and- or other certificates of international recognized laboratories and testing centers).
The lifetime of the goods as per the standard and technical documentation is two years.

9. REQUIREMENTS FOR QUANTITY, COMPLETE SET, AND TIME (PERIODICITY) OF DELIVERY

No	Name of product	Specifications	Unit	Quantity
1	Control valve Included (poz. KV-115)	GLOBE VALVE / ANSI 300/ DN 3"/	pcs	1

Before the delivery of spare parts, a detailed drawing should be provided to the Customer for approval.

Companies participating in the tender should submit their technical and commercial proposals to the Customer. The Buyer must provide a technical opinion.

The time of delivery is one month (60 calendar days).

10. REQUIREMENTS TO THE DELIVERY POINT OF GOODS

Container/Railway wagon shipping: CIP - railway station Kengsoy (station code - 732602), joint stock company "Uzbekistan Railways"

Truck Delivery: CIP – 180300, Shurtan settlement, Guzar district, Kashkadarya region, the Republic of Uzbekistan

11. Each participating company in the contestant should take into account the inclusion of the technical offer the following information:

The submitted technical proposal must be drawn up in Uzbek or Russian and duplicated in English.

The submitted technical proposal must have a copy in electronic media (CD/DVDs or USB data carrier).

It is necessary to indicate public information about the manufacturer (company website).

12. LIST OF ANNEXES

No.	Title of the annex	Number of sheets
1	Technical Data Sheet Control Valve	2 (two)

* Note: The developer is responsible for correct filling and blank items.

Developers:

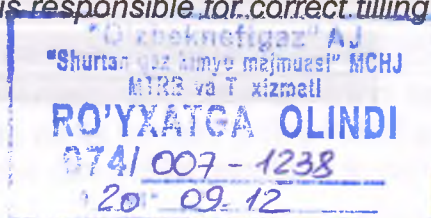
Engineer instrumentation:

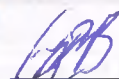
Engineer instrumentation:


Deputy Chief Metrologist:

Head of instrumentation:

Engineer instrumentation::




 Z. Qaynarov

 Sh. Botirov

 O. Achilov

 Z. Jalilov

 Sh. Allavarov

Abubakar

Technical Data Sheet Control Valve

JOB NO: 2210 AABW SHURTAN	DOCUMENT NO.: SAK-J-SD 7510	DATE 13.01.2010	Issue: 1	SHEET: 11 of 11
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INSTRUMENT TYPE / SIZE		INSTRUMENT TAG NO's		
IDNO	GLOBE VALVE TYPE: / ANSI300/ DN 3" CV5 70 EQ%	XV-115	XV-125	XV-135
5115	DIAPHRAGM ACTUATOR TYPE / SGL ACT / FAIL CLOSED	XV-145		
QTY.	MP-POSITIONER: Siemens SIPART PS2			
4	IN: 4 to 20 mA / OUT: 0 to 100 %			
	MNF.	SERVICE: SEQ: E1/R1, R0		
AMBIENT CONDITIONS		OPERATING CONDITIONS		
Ambient Atmosphere	Extreme moisture, Refinery Ambient	Design - PRODUCT H ₂		
Location	Outdoors	TEMPERATURE	28.0 °C	
Ambient Temperature	MIN.: -27°C / MAX.: 49 °C	DEW TEMPERATURE	-184.7 °C	
		MOL. WEIGHT (VAPOUR)	2.017 KG/MOL	
		DENSITY (VAPOUR)	2.674 KG/M ³	
		ENTROPY EXPONENT (VAPOUR)	1.438	
		Z-FACTOR (VAPOUR)	1.027	
Ex-Area Classification	IEC: Zone 2 Group IIC T3	H ₂	88.95460 mol-%	
Ex-Certificate	acc. To ATEX	N ₂	0.00010 mol-%	
Additional Certificate	GOST-R	AR	0.00000 mol-%	
		CO	0.00010 mol-%	
		CO ₂	0.00000 mol-%	
		CH ₄	0.00000 mol-%	
		H ₂ O	0.00000 mol-%	

SPECIFIC REQUIREMENTS			
0001	FLOW [IN SEQUENCE E1]	5115	Nm ³ /h
0002	INLET OPERATING PRESSURE p ₁ * UNDER PLUG *	Start E1: 3250 / End E1: 2033	kPa(g)
0003	OUTLET OPERATING PRESSURE p ₂ * OVER PLUG *	Start E1: 2819 / End E1: 2025	kPa(g)
0004	FLOW [IN SEQUENCE R1]	7964	Nm ³ /h
0005	INLET OPERATING PRESSURE p ₁ * OVER PLUG *	Start R1: 2819 / End R1: 2025	kPa(g)
0006	OUTLET OPERATING PRESSURE p ₂ * UNDER PLUG *	Start R1: 520 / End R1: 2011	kPa(g)
0007	Max. delta p for TIGHT SHUT OFF * OVER PLUG *	4400	kPa(d)
0008	Max. delta p for TIGHT SHUT OFF * UNDER PLUG *	3000	kPa(d)
0009	Max. delta p for ACTUATOR OPERATING * OVER PLUG *	2730 THROTTLING SERVICE	kPa(d)
0010	DIRECTION of FLOW at OPERATING CONDITIONS	NORMAL & REVERSE - 2 FLOW DIRECTIONS	
0011	DIRECTION of delta p at TIGHT SHUT OFF CONDITION	NORMAL & REVERSE - TIGHT FOR ANY DIRECTION	
0012	LEAKAGE RATE	ANSI / FCI 70-2 CLASS VI "bubble tight"	
0013	MARKING	flange at under plug side hard stamped with letter "A"	
0014			
0015	BODY MATERIAL	ASTM A 216 Gr. WCB with C-content less than 0.25%	
0016	PROCESS CONNECTIONS - FLANGES	300 lbs ASME B16.5 RF/surf. (125-250 AARH)	
0017	GASKETS	Non Asbestos Type	
0018	FLOW COEFFICIENT	CV: see above - RANGEABILITY 50:1	
0019	PORT DIAMETER / STEM DIAMETER / STROKE	PORT: mm / STEM: mm / TRAVEL: mm	
0020	TRIM MATERIAL: STAINLESS STEEL	SOFT SEAT: PTFE / Anti-Stem-Rotation Device	
0021	ACCEPTANCE TEST	DIN-EN 10204 3.1 & ADDITIONAL TEST acc. JSD 7511	
0022	MATERIAL CERTIFICATE	DIN EN 10204 3.1 & UNDE LS 051-6XX & LS 129-37	
0023	DIAPHRAGM ACTUATOR-Type: see above	Spring Chamber Purged by Positioner Exhaust Air	
0024	MP-POSITIONER (4 to 20) mA - increas. SIGNAL OPENS	Single Acting / Type: SIPART PS2, HART	
0025	MODULE FOR ANALOGUE FEEDBACK (4-20) mA Integr. in Positioner	MOUNTING KIT + Press. Gauge Block 1/4" NPT	
0026	Maximum STROKING TIME	(0 to 20) %: 2 sec / (100 to 0) %: 2 sec	
0027	AIR SUPPLY PRESSURE	Min: 400 kPa(g) / Max: 600 kPa(g)	
0028	AIR TUBING	10 mm stainless steel	
0029	PNEUMATIC CONNECTIONS	ACTUATOR: 1/4" NPT / POSITIONER: 1/4" NPT	
0030	FITTINGS	SWAGELDK - stainless steel	
0031	PROTECTION CLASS	WEATHER PROOF / min. IP65	
0032	ELECTRICAL CONNECTIONS	M20x1.5 - EExd Cable Glands IP65	
0033	EX-CERTIFICATE	see above: for all electrical components	
0034	DECLARATION OF CONFORMITY	CE / ATEX	

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Technical Data Sheet Control Valve

Weight and dimensions

globe valve with multi-spring actuator

Dimensions (in mm) of valves with flanges acc. to DIN EN 1092-1 resp. ANSI Class 150/300/600 RF/RTJ

	DN ANSI NPS	15 1/2"	20 -	25 1"	32 -	40 1 1/2"	50 2"	65 -	80 3"	100 4"	
Valve Type 8C	VBL PN16-PN40	130	150	160	180	200	230	290	310	350	
	VBL PN63	210	230	230	260	260	300	340	380	430	
	VBL Class 150 RF	184	-	184	-	222	254	-	298	352	
	VBL Class 150 RTJ	-	-	197	-	235	267	-	311	365	
	VBL Class 300 RF	190	-	197	-	235	267	-	317	368	
	VBL Class 300 RTJ	201	-	210	-	248	283	-	333	384	
	VBL Class 600 RF	203	-	210	-	251	286	-	337	394	
	VBL Class 600 RTJ	201	-	210	-	251	289	-	340	397	
	VH	DEK1/7	115				DEK1=115 / DEK7=135			156	181
		DEK3/8	170						263		267
		DEK4	228				233			390	390
		DEK5	on request								
VU		44	51	56	65	74	75	90	101	136	
Actuator Type 812	ØA	MFI	270								
		MFIII								400	
	AH	MFI	361						404		
		MFI(v)	-				381		-		
		MFIII	-				489				
		MFIII(v)	-						551		
	AHV	MFI	508						551		
		MFI(v)	-				528		-		
		MFIII	-				651				
		MFIII(v)							814		
	Weight * approx. kg	MFI	21	22.5	25	27	33	35	37	75	100
		MFIII								101	126
B		150							200		

* Weight: valve (with DEK1) + actuator without handwheel

