



OIL & GAS DEVELOPMENT COMPANY LIMITED  
PROCUREMENT DEPARTMENT (LOCAL), ISLAMABAD  
SCHEDULE OF REQUIREMENT

Due Date:

Material : **PROCUREMENT OF PRESUSURE CONTROL VALVE**

Tender Enquiry No: **PROC-LD/P&P/17139**

Bid Bond Value : 100000

Attachment(if any) : YES

EVALUATION WILL BE CARRIED OUT ON FULL PKG.

Sr No	Description	Quantity	Make/Brand offered	Unit	Unit Price (PKR) Inclusive Of All Taxes Except GST	Unit Price (PKR) Inclusive of GST	Total Price (PKR) Inclusive of GST	Delivery Period Offered	deviation from Tender Spec. If Any
1	Pressure Control Valve ( Globe type) complete with Actuator, Smart Positioner and Air Filter/Regulator. Valve Size: 10 Inch, ANSI Class 600# RF.Line Size: 14-inch, Schedule 80. See attachment for details.	1		Number					

**Special Note:-** The prospective bidders also download the master set of Tender Document  
- The prospective bidders may keep in touch with OGDCL web site for downloading the clarifications/amendments (if any) issued by OGDCL.  
- PAYMENT: AFTER DELIVERY, DELIVERY LOCATION: KUNNAR PLANT, DELIVERY TIME:14-18 WEEKS


Discount (if any) shall only be entertained on Schedule of Requirement of Bidding Document (Financial Proposal). If the discount is mentioned elsewhere in the bid, the same shall not be entertained.





## **General Specifications for Control Valve**

### **1. General**


- 1.1. This specification covers Pressure Control Valve intended for installation at Sales Gas Metering outlet as specified in enclosed datasheet. Offered Control Valve should be capable of installation in any position (horizontal / vertical) and should be fit for all-year service on site.
- 1.2. Offered valve shall comply with the requirement of this Specification as well as enclosed Instrument Datasheet. Control Valves which do not comply with the requirements of general specification and datasheet are liable for rejection.
- 1.3. The Control Valves shall come assembled with Actuator and Smart Electro-Pneumatic Positioner including instrument supply pressure filter regulator.
- 1.4. The supplier shall be responsible for operability and fitness for service of the valves, actuators and positioner under this Specification.
- 1.5. Dimensions of all the valves shall conform to the dimensions for such valves as per manufacturer's standard.
- 1.6. The Bidder shall submit with his bid, detailed printed technical literature (in original) giving a description of the valve design and mode of operation, the materials used for each valve and actuator quoted to this specification. The GA drawing of offered Control Valve showing dimensions of the offered Control Valve should also form part of the offer. The bidder should also submit Sales Reference along with contact details for supply of offered product to at least (3) three Oil & Gas Exploration & Production Companies of Pakistan along with the technical bid. Bids not in conformity to this requirement are liable for rejection.
- 1.7. Control Valve sizing calculation sheet including actuator sizing based on process conditions per enclosed Datasheet and Cv graph of offered control valve to be provided with the offer; this is mandatory requirement.
- 1.8. Factory Calibration Certificate and Factory Test Certificates must be provided with delivery of Control Valve.
- 1.9. All tubing along with Control Valve shall be of SS material
- 1.10. Material should be delivered as per General Specifications and enclosed Datasheet for required Control Valve. The Technical Compliance / Deviation should be indicated in the comments column of datasheet and if any specification mentioned in General Specifications and enclosed Datasheet is not being complied, it should be explicitly stated in technical bid.
- 1.11. Delivery period should be within 14 to 18 weeks after placement of order.
- 1.12. Bidder will confirm that OEM Certificate will be provided along with the material.
- 1.13. The bidder must be an Authorized Representative of OEM and should have support/technical assistance of OEM. The Authorization letter from OEM must form part of the Technical Bid; this is mandatory requirement.

		PRESSURE CONTROL VALVE		
		Document No.	Revision:	Date
		Prepared By	Checked By	Approved By
 OIL & GAS DEVELOPMENT COMPANY LTD.		AR	RA	MM
1	General	Required Parameters		Vendor Compliance / Deviations (vendor must fill this column with explicit information)
2	Tag No	PCV-6404		
3	Line No.	14"-64-G-023-D1		
4	Service	Sales Gas Metering Outlet PCV		
5	Piping Class	600#		
6	P&ID No.	D64-01-PRO-DWG-01		
7	Quantity	1		
8	Valve Body and Bonnet			
9	Valve Type	Globe		
10	Size	10-inch		
11	Body Material	ASTM A216 WCB (Refer Note# 13)		
12	Bonnet Material	ASTM A216 WCB (Refer Note# 13)		
13	Connections In / Out	RF Flange / RF Flange		
14	Flange Finish	As per ANSI B16.5		
15	Rating	ANSI 600#		
16	Gasket	1/8" THK. Spiral Wound CS Ring 304 SS or 316 SS Winding, ASME B16.20		
17	Flow Direction	VTS		
18	Bonnet Type	Standard (VTC)		
19	Lub & Iso. Valve	N/A		
20	Color	Mfr. Std.		
21	Manufacturer	VTS		
22	Model no	VTS		

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	AR	RA	MM	
<b>23</b>	<b>Trim</b>			
24	Trim type	Standard		
25	Trim size	VTS		
26	Trim Material	Stainless Steel (Refer Note# 13)		
27	Characteristic	Equal Percentage		
28	Balance / Unbalance	Balance		
29	Seat Material	Stainless Steel (Refer Note# 13)		
30	No. of Seats	1		
31	Leakage Class	ANSI Class IV		
<b>32</b>	<b>Actuator</b>			
33	Actuator Type	Spring Diaphragm / Piston		
34	Size	VTS		
35	On-Off or Modulating	Modulating		
36	Spring Action	Air to open		
37	Instrument Air failure position	Close		
	Instrument Air Available Pressure	116 Psig		
38	Pressure Rating (MAWP)	VTS		
39	Min. Req'd Pressure	VTS		
40	Bench Range	VTS		
40	Actuator Orientation	VTS		
41	Handwheel Type	N/A		
42	Color	Mfr. Std.		
43	Manufacturer	VTS		
44	Model no	VTS		

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<b>45</b>	<b>I/P Positioner</b>			
46	Type	Smart electro-Pneumatic Positioner with Linkage-less Position Feedback		
47	Input	4 - 20 mA (HART compliance)		
48	Output signal	VTS		
49	Instrument Air Supply	Regulated output from Air filter regulator (see Note-9)		
50	Gauges	Required		
51	Bypass	N/A		
52	Split Range	N/A		
53	Mounting	Control Valve mounted		
54	Electrical Area classification	EEx"i" IIA/ IIB, T5, IP66		
55	Cable entry	Screwed 20mm ISO with EEx 'd' M20 Cable Gland (Refer note-3)		
56	Pneumatic connection	1/4" NPT		
57	Transmission	02 wire		
58	Manufacturer	VTS		
59	Model no	VTS		
<b>60</b>	<b>Regulator/ Accessories</b>			
61	Case finish	Mfr. Std.		
62	Filter	Required		
63	Drain	Required		
64	Range	0-100 psig		
65	Connection	1/4" NPT		
66	Gauges	Required		
67	Manufacturer	VTS		
68	Model no	VTS		

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		Prepared By	Checked By		Approved By	
		AR	RA		MM	
		Units	Case 1	Case 2 (Normal)	Case 3	
69	<b>Process Condition</b>					
70	<b>Upstream Conditions</b>					
71	Vapor Mol Fraction		1	1	1	
72	Gas Flowrate W	MMSCFD	35	232	255	
		lb/hr	68,740	455,700	500,800	
73	Operating Temperature T1	°F	117	117	117	
74	Gas Density p1 @ T1	lb/ft <sup>3</sup>	4.230	2.87	4.230	
75	Inlet Pressure P1	psig	1250	875	1250	
76	Critical Pressure	psia	820.6	820.6	820.6	
77	Critical Temp	°F	-90.27	-90.27	-90.27	
78	Gas Viscosity @ T1	cP	0.014	0.014	0.014	
79	Gas Isentropic Exponent (cp/cv)	-	1.553	1.467	1.553	
80	<b>Downstream Conditions</b>					
81	Vapor Mol Fraction		1	1	1	
82	Outlet Pressure P2	psia	850	600	1200	
83	Effective Pressure Drop ΔP	psi	400	275	50	
84	Operating Temperature T2	°F	98.21	102.9	114.9	
85	Liquid Flow @ T2	lb/hr	-	-	-	
86	Liquid Density p2 @ T2	lb/ft <sup>3</sup>	-	-	-	
87	Liquid Viscosity p2 @ T2	cP	-	-	-	
88	Vapor Flow	lb/hr	68,740	455,700	500,800	
89	Molecular Weight	-	17.89	17.89	17.89	
90	Vapor Density p2 @ T2 (Note 2)	lb/ft <sup>3</sup>	2.92	1.99	4.07	
91	Comp Factor Z2 @ P2 (Note 2)	-	0.8848	0.917	1.546	
92	<b>Sizing</b>					
93	Cv (US) Total	-	VTS	VTS	VTS	
94	Body Size / Cv	inch	VTS	VTS	VTS	
95	Cvc / Cv	-	VTS	VTS	VTS	

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96	Control Valve Type	Globe				
97	Design Inlet Pressure	psia	1500			
98	<b>Mechanical Design</b>					
99	Design Inlet Temperature	°F	200			
100	Minimum Inlet Temperature	°F	75			
101	Max. Allowable Shutoff Differential Pressure	psi	1500	1500	1500	
102	Predicted Noise Level (See note-10)	dba	<85	<85	<85	

**Notes:**

- 1 Vendor shall stamp Tag Nos. on stainless steel tags and permanently attach the tags to appropriate equipment.
  - 2 Vendor shall confirm suitability of supplied equipment for the design parameters stated in data sheet.
  - 3 Vendor shall provide Cable Gland with Shroud suitable for EEx 'd' installation for armored cable.
  - 4 Positioner shall be provided with local indication of output & supply gas.
  - 5 Gas filter regulator shall be provided with gauge of suitable range.
  - 6 p2 and Z2 shall be calculated at P2 (or Pcrit) and its corresponding temperature.
  - 7 Case based on lowest and highest flow anticipated across the valve.
  - 8 All instrument installed in hazardous area shall be certified from "ATEX, FM, UL, PTB, BASEEFA, NEMA and KEMA flame proof". Vendor should provide copy of Calibration Certificate for Quoted Instruments.
  - 9 The regulator output pressure to be verified and confirmed by vendor as per its selected actuator size.
  - 10 Noise level shall also comply with 0.3 Mech Number
  - 11 Vendor to confirm minimum and maximum allowable pressure at actuator.
  - 12 SS tubing and Swagelok fittings to be used where required.
  - 13 Vendor shall be responsible to propose alternate material where specified material is not suitable.
  - 14 Control Valve sizing calculations will be in accordance with either ISA S75.01OR IEC 534.
  - 15 This calculated size is based on firstvue software calculation, vendor shall recalculate the same based on information provided in this data sheet.
- VTS. Vendor to Specify  
VTC. Vendor to Confirm

## **2. Valve Design**

- 2.1. Single Seated, Cage-guided Globe Valve with balanced plug type is required against this requirement with Class Rating, Flow Characteristic, Packing Material, Body and Trim Material as specified in the datasheet.
- 2.2. The Valve Body size should not be less than ½ the diameter of the inlet pipe.
- 2.3. The body should be of bolted bonnet design.
- 2.4. The Valve design should permit quick change of trim parts facilitating maintenance/replacement.
- 2.5. Valve Design with Screwed Seat Rings are not acceptable.
- 2.6. The shut-off classification should ANSI / FCI 70-2 Class IV minimum.
- 2.7. Maximum acceptable noise level for Control Valves is 85 dB(A) at 1m.
- 2.8. The control valve end-connections should be Flanged RF conforming to ASME B 16.5 with class rating as per requirement in datasheets.

## **3. Actuator**

- 3.1 Actuator with details as specified in datasheet should be offered.
- 3.2 Shut-off Pressure should be taken same as Design Pressure for purpose of Actuator sizing calculation.
- 3.3 The Actuator sizing sheet should be provided with Control Valve Sizing and Specification Sheet.

## **4 Valve Positioner**

- 4.1 Smart Electro-Pneumatic Positioner for input signal of 4-20 mA with HART protocol will be used. The offered positioner should have capability to add diagnostic feature in future, whenever required.
- 4.2 The offered Control Valve Positioner should have Linkage-Less Position Feedback mechanism.
- 4.3 The positioner output will be direct-acting unless otherwise specified in the datasheet.
- 4.4 The positioner will have a weatherproof enclosure with a degree of protection of at least IP 66.
- 4.5 The offered Positioner should come with integral Air Filter/Regulator for providing the required Supply pressure to Positioner.

## **5 Site Conditions:**

Min. & Max Ambient Temperature at Site throughout year: 0 Deg C / 50 Deg C  
Relative Humidity: 20 to 77%.