

Ref No. FD09/1622762/27032019

Date: 07.01.2019

FORWARDING LETTER

M/s _____

Sub: Tender No. SDG0211P19/09 for SUPPLY OF PRESSURE CONTROL VALVES

Dear Sirs,

- 1.0 OIL INDIA LIMITED (OIL), a “Navaratna” Category, Government of India Enterprise, is a premier oil Company engaged in exploration, production and transportation of crude oil & natural gas with its Headquarters at Duliajan, Assam. Duliajan is well connected by Air with nearest Airport being at Dibrugarh, 45 km away.
- 2.0 In connection with its operations, OIL invites International Competitive Bids (ICB) from competent and experienced manufacturers through OIL’s e-procurement site for “**SUPPLY OF PRESSURE CONTROL VALVES**”. One complete set of Bid Document for above is uploaded in OIL’s e-procurement portal. You are invited to submit your most competitive bid on or before the scheduled bid closing date and time through OIL’s e-procurement portal. For your ready reference, few salient points of the Tender are highlighted below:

E-Tender No	: SDG0211P19/09 DATED 07.01.2019
Type of Bidding	: SINGLE STAGE TWO BID SYSTEM
Tender Fee	: NOT APPLICABLE
Bid Closing Date & Time	: 27.03.2019; 11:00 HRS.
Technical Bid Opening Date & Time	: 27.03.2019; 14:00 HRS.
Price Bid Opening Date & Time	: To be decided later and shall be intimated separately to the qualifying bidders.
Bid Submission Mode	: Bids must be uploaded online in OIL’s E-procurement portal
Bid Opening Place	: Office of GM-Materials, Materials Department, Oil India Limited, Duliajan -786602, Assam, India.

Bid Validity	:	Bid should be valid for 120 days from actual bid closing date.
Bid Security Amount	:	INR 3,10,500.00 OR USD 4,750.00
Bid Security Validity	:	Upto 30.11.2019
Original Bid Security to be submitted	:	Office of GM-Materials, Materials Department, Oil India Limited, Duliajan -786602, Assam, India.
Performance Guarantee	:	Applicable @ 10% of Order value
Integrity Pact	:	To be submitted as per attached format
Pre-bid Conference	:	Not Applicable
Contact Details	:	AMRIT L BORA, MANAGER MATERIALS E-MAIL: MMFD1@OILINDIA.IN; PHN: 0374-2808720
E-Tender technical Support	:	TEL: 0374- 2804903, 2807171, 2807192, E-MAIL: ERP_MM@OILINDIA.IN
Bids to be addressed to	:	GM-Materials, Materials Department, Oil India Limited, Duliajan -786602, Assam, India.
LIST OF ANNEXURES APPLICABLE		
General Terms & Conditions	:	MM/GLOBAL/E-01/2005 for E-Procurement ICB Tenders
Annexure-A	:	Specification and various notes to bidders
Appendix -A1	:	Format of undertaking by Bidders towards submission of authentic information/documents
Annexure-B	:	Bid Evaluation & Rejection Criteria
Annexure-C	:	Check List (Commercial)
Annexure-D	:	Certificate of Annual Turnover & Net Worth
Annexure-E	:	Check List for Tender Notes
Annexure-F	:	Check List for Technical Specification
Others	:	Any other document uploaded online in OIL's E-procurement portal.

3.0 OIL now looks forward to your active participation in the Tender.

Thanking you,
Yours faithfully,
OIL INDIA LIMITED

sd/-
(Amrit Loushon Bora)
Manager Materials(FD)
For GM Materials
For Resident Chief Executive

AA:: SPECIFICATION & QUANTITY OF THE ITEMS TO BE PROCURED

Item no	Material Description	Quantity
10	<p>VALVE,CONTROL,PRESSURE,50MM(2")NB,150Class Diaphragm operated pneumatic control valve along with positioner and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification.</p> <p>1.0 SERVICE CONDITION:</p> <p>Fluid to be handled : Sweet Natural Gas contaminated with water. Gas Gravity : 0.65-0.70 Normal Operating Temp : 45 Deg C.</p> <p>Maximum Throughput : 0.30 MMSCMD Normal Throughput : 0.20 MMSCMD Minimum Throughput : 0.15 MMSCMD</p> <p>Maximum Inlet Pressure : 6.0 Kg/sq.cm Normal Inlet Pressure : 3.5 Kg/sq.cm Minimum Inlet Pressure : 1.0 Kg/sq.cm Maximum Outlet Pressure : 2.5 Kg/sq.cm Normal Outlet Pressure : 2.1 Kg/sq.cm Minimum Outlet Pressure : 0.7 Kg/sq.cm</p> <p>2.0 VALVE BODY & BONNET:</p> <p>2.1 DESIGN PARAMETERS:</p> <p>Valve Size & Rating : 50MM(2")NB,150Class End connection Size & Rating : Flanged,50MM(2")NB,150Class,Raised face Serrated.</p> <p>2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION:</p> <p>Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. Casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron. Stem Size : Suitable for service condition. (To be specified by bidder).</p> <p>3.0 TRIM :</p> <p>3.1 DESIGN PARAMETERS:</p>	20 nos.

No of Port : Single /Double (To be specified by bidder).
 Seat Ring & Port Size : To be designed by bidder.
 Flow Direction : Up / Both
 Seat Ring Type: Threaded
 Plug Design : Contoured
 Plug Characteristics : Linear
 Plug Balance : Unbalanced
 Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder).
 Cage : Not required
 Seat Leakage: Class IV as per ANSI/FCI 70.2 standard.
 Noise level: <90 dBA within 1 meter area from the control valve.
 Hysteresis Error : +/-3% of Full Span or less
 Independent Linearity : +/- 5% of Full Span or less

3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent
 Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent
 Guide Material : SS 410 / SS 440C or equivalent.

4.0 ACTUATOR:

4.1 DESIGN PARAMETERS:

Actuator action : Direct, Normally / Fail open, Air to Close.
 Servo & Signal Supply Medium: Natural Gas
 Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum)
 Actuator Shutoff pressure : 1.2 times Maximum inlet pressure
 Gas/Air connection : ¼ inch NPT (F)

4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated.
 Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced / equivalent or superior material suitable for natural gas as servo.
 Spring material : Spring Steel (Epoxy coated)
 Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated
 Plug, diaphragm & Stem connection : Clamp type (threaded stem)
 Stroke Scale : Required.

5.0 POSITIONER :

5.1 DESIGN PARAMETERS:

Split Range: Single Valve
 Output action : Direct /Field reversible
 Output characteristics :Linear
 Servo & input Signal Supply Medium : Natural Gas
 Input signal Pressure : 3 – 15 psig (0.21 -1.05 Kg/sq cm)
 Servo gas supply Pressure : 20 psig (1.4 Kg/Sq cm) (maximum)
 Maximum Steady State Servo Gas Consumption: 14.0 scfh
 Operating Temperature Limit: Upto 60 degree C
 Gas/Air connection Point: ¼ inch NPT (F)
 Hysteresis Error : +/- 1% of Full Span or less
 Independent Linearity : +/- 1% of Full Span or less
 Dead band : +/- 0.5% of Full Span or less

	<p>5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Postiton indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument(Signal), 40 mm (1.5")Dia, dual scale (psig & Kg/cm²), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure : Weatherproof, with screened venting at bottom/side Enclosure Rating : Ingression protection rating IP65 or IP66.</p> <p>Tube fitting : Complete with necessary SS tube fitting of size suitable for application.</p> <p>6.0 AIR/GAS FILTER REGULATOR :</p> <p>6.1 DESIGN PARAMETERS:</p> <p>Setting Range : 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity : 5 Micron</p> <p>6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Filter material : Cintered Bronze or equivalent Pressure Gauge : Required. Drain : Required Manual.</p> <p>7.0 COMPANION FLANGE AND STUDS & NUTS :</p> <p>7.1 DESIGN PARAMETERS:</p> <p>Flange Size & Class : Same as End connection Studs & Nuts : As required</p> <p>7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H</p>	
20	<p>VALVE,CONTROL,PRESSURE,100MM(4")NB,150Class Diaphragm operated pneumatic control valve along with positioner and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification.</p> <p>1.0 SERVICE CONDITION:</p> <p>Fluid to be handled : Sweet Natural Gas contaminated with water. Gas Gravity : 0.65-0.70 Normal Operating Temp : 45 Deg C.</p> <p>Maximum Throughput : 0.30 MMSCMD Normal Throughput : 0.20 MMSCMD Minimum Throughput : 0.15 MMSCMD</p>	50 Nos.

Maximum Inlet Pressure : 6.0 Kg/sq.cm
Normal Inlet Pressure : 3.5 Kg/sq.cm
Minimum Inlet Pressure : 1.0 Kg/sq.cm
Maximum Outlet Pressure : 2.5 Kg/sq.cm
Normal Outlet Pressure : 2.1 Kg/sq.cm
Minimum Outlet Pressure : 0.7 Kg/sq.cm

2.0 VALVE BODY & BONNET:

2.1 DESIGN PARAMETERS:

Valve Size & Rating : 100MM(4")NB,150Class
End connection Size & Rating : Flanged,100MM(4")NB,150Class,Raised face Serrated.

2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION:

Body Style: Globe, Straight through type
Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. Casting must be of radiographic quality as per ASTM B16.34.
Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01
Bonnet Style : Plain, Bolted
Bonnet Bolting: SA-193-B7 Studs/2H Nuts.
Gland Type : Bolted
Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid.
Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron.
Stem Size : Suitable for service condition. (To be specified by bidder).

3.0 TRIM :

3.1 DESIGN PARAMETERS:

No of Port : Single /Double (To be specified by bidder).
Seat Ring & Port Size : To be designed by bidder.
Flow Direction : Up / Both
Seat Ring Type: Threaded
Plug Design : Contoured
Plug Characteristics : Linear
Plug Balance : Unbalanced
Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder).
Cage : Not required
Seat Leakage: Class IV as per ANSI/FCI 70.2 standard.
Noise level: <90 dBA within 1 meter area from the control valve.
Hysteresis Error : +/-3% of Full Span or less
Independent Linearity : +/- 5% of Full Span or less

3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent
Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent
Guide Material : SS 410 / SS 440C or equivalent.

4.0 ACTUATOR :

4.1 DESIGN PARAMETERS:

Actuator action : Direct, Normally / Fail open, Air to Close.
Servo & Signal Supply Medium: Natural Gas
Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum)
Actuator Shutoff pressure : 1.2 times Maximum inlet pressure
Gas/Air connection : ¼ inch NPT (F)

4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated.
Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced / equivalent or superior material suitable for natural gas as servo.
Spring material : Spring Steel (Epoxy coated)
Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated
Plug, diaphragm & Stem connection : Clamp type (threaded stem)
Stroke Scale : Required.

5.0 POSITIONER :

5.1 DESIGN PARAMETERS:

Split Range: Single Valve
Output action : Direct /Field reversible
Output characteristics :Linear
Servo & input Signal Supply Medium : Natural Gas
Input signal Pressure : 3 – 15 psig (0.21 -1.05 Kg/sq cm)
Servo gas supply Pressure : 20 psig (1.4 Kg/Sq cm) (maximum)
Maximum Steady State Servo Gas Consumption: 14.0 scfh
Operating Temperature Limit: Upto 60 degree C
Gas/Air connection Point: ¼ inch NPT (F)
Hysteresis Error : +/- 1% of Full Span or less
Independent Linearity : +/- 1% of Full Span or less
Dead band : +/- 0.5% of Full Span or less

5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Type : Pneumatic, Linear Stem slide control, Single acting
Independent adjustment of zero and span : Required
Adjustable amplification & dampening: Required
Adjustable Stem travel: Required
Valve Position indicator: Required.
Pressure Gauge: Required for Inlet, output & Instrument(Signal), 40 mm (1.5")Dia, dual scale (psig & Kg/cm²), MS Powder coated/plastic casing, ¼ inch NPT brass connection,
Enclosure : Weatherproof, with screened venting at bottom/side
Enclosure Rating : Ingression protection rating IP65 or IP66.
Tube fitting : Complete with necessary SS tube fitting of size suitable for application.

6.0 AIR/GAS FILTER REGULATOR :

6.1 DESIGN PARAMETERS:

Setting Range : 0 to 7.0 Kg/sq cm

	<p>Inlet & Outlet connection: ¼” NPTF Filter porosity : 5 Micron</p> <p>6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Filter material : Cintered Bronze or equivalent Pressure Gauge : Required. Drain : Required Manual.</p> <p>7.0 COMPANION FLANGE AND STUDS & NUTS :</p> <p>7.1 DESIGN PARAMETERS:</p> <p>Flange : Flange Size & Class : Same as End connection Studs & Nuts : As required</p> <p>7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H</p>	
30	<p>VALVE,CONTROL,PRESSURE,150MM(6”)NB,150Class Diaphragm operated pneumatic control valve along with positioner and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification.</p> <p>1.0 SERVICE CONDITION:</p> <p>Fluid to be handled : Sweet Natural Gas contaminated with water. Gas Gravity : 0.65-0.70 Normal Operating Temp : 45 Deg C.</p> <p>Maximum Throughput : 0.30 MMSCMD Normal Throughput : 0.20 MMSCMD Minimum Throughput : 0.15 MMSCMD</p> <p>Maximum Inlet Pressure : 6.0 Kg/sq.cm Normal Inlet Pressure : 3.5 Kg/sq.cm Minimum Inlet Pressure : 1.0 Kg/sq.cm Maximum Outlet Pressure : 2.5 Kg/sq.cm Normal Outlet Pressure : 2.1 Kg/sq.cm Minimum Outlet Pressure : 0.7 Kg/sq.cm</p> <p>2.0 VALVE BODY & BONNET:</p> <p>2.1 DESIGN PARAMETERS:</p> <p>Valve Size & Rating : 150MM(6”)NB,150Class End connection Size & Rating : Flanged,150MM(6”)NB,150Class,Raised face Serrated.</p> <p>2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION:</p> <p>Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. The casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face</p>	30 Nos.

dimension as per ANSI/ISA-75.08.01
Bonnet Style : Plain, Bolted
Bonnet Bolting: SA-193-B7 Studs/2H Nuts.
Gland Type : Bolted
Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid.
Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron.
Stem Size : Suitable for service condition. (To be specified by bidder).

3.0 TRIM :

3.1 DESIGN PARAMETERS:

No of Port : Single /Double (To be specified by bidder)
Seat Ring & Port Size : To be designed by bidder.
Flow Direction : Up / Both
Seat Ring Type: Threaded
Plug Design : Contoured
Plug Characteristics : Linear
Plug Balance : Unbalanced
Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder).
Cage : Not required
Seat Leakage: Class IV as per ANSI/FCI 70.2 standard.
Noise level: <90 dBA within 1 meter area from the control valve.
Hysteresis Error : +/-3% of Full Span or less
Independent Linearity : +/- 5% of Full Span or less

3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent
Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent
Guide Material : SS 410 / SS 440C or equivalent.

4.0 ACTUATOR:

4.1 DESIGN PARAMETERS:

Actuator action : Direct, Normally / Fail open, Air to Close.
Servo & Signal Supply Medium: Natural Gas
Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum)
Actuator Shutoff pressure : 1.2 times Maximum inlet pressure
Gas/Air connection : ¼ inch NPT (F)

4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated.
Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced / equivalent or superior material suitable for natural gas as servo.
Spring material : Spring Steel (Epoxy coated)
Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated
Plug, diaphragm & Stem connection : Clamp type (threaded stem)
Stroke Scale : Required.

5.0 POSITIONER :

5.1 DESIGN PARAMETERS:

Split Range: Single Valve
Output action : Direct /Field reversible
Output characteristics :Linear
Servo & input Signal Supply Medium : Natural Gas
Input signal Pressure : 3 – 15 psig (0.21 -1.05 Kg/sq cm)
Servo gas supply Pressure : 20 psig (1.4 Kg/Sq cm) (maximum)
Maximum Steady State Servo Gas Consumption: 14.0 scfh
Operating Temperature Limit: Upto 60 degree C
Gas/Air connection Point: ¼ inch NPT (F)
Hysteresis Error : +/- 1% of Full Span or less
Independent Linearity : +/- 1% of Full Span or less
Dead band : +/- 0.5% of Full Span or less

5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Type : Pneumatic, Linear Stem slide control, Single acting
Independent adjustment of zero and span : Required
Adjustable amplification & dampening: Required
Adjustable Stem travel: Required
Valve Position indicator: Required.
Pressure Gauge: Required for Inlet, output & Instrument(Signal), 40 mm (1.5")Dia, dual scale (psig & Kg/cm²), MS Powder coated/plastic casing, ¼ inch NPT brass connection,
Enclosure : Weatherproof, with screened venting at bottom/side
Enclosure Rating : Ingression protection rating IP65 or IP66.
Tube fitting : Complete with necessary SS tube fitting of size suitable for application.

6.0 AIR/GAS FILTER REGULATOR :

6.1 DESIGN PARAMETERS:

Setting Range : 0 to 7.0 Kg/sq cm
Inlet & Outlet connection: ¼" NPTF
Filter porosity : 5 Micron

6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Filter material : Sintered Bronze or equivalent
Pressure Gauge : Required.
Drain : Required Manual.

7.0 COMPANION FLANGE AND STUDS & NUTS :

7.1 DESIGN PARAMETERS:

Flange Size & Class: Same as End Connection.
Studs & Nuts : As required

7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B.
Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H

40	<p>VALVE,CONTROL,PRESSURE,25MM(1")NB,300Class Diaphragm operated pneumatic control valve along with positioner and air filter regulator, and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification.</p> <p>1.0 SERVICE CONDITION:</p> <p>Fluid to be handled : Sweet Natural Gas contaminated with water. Gas Gravity : 0.65-0.70 Normal Operating Temp : 45 Deg C.</p> <p>Maximum Throughput : 0.30 MMSCMD Normal Throughput : 0.20 MMSCMD Minimum Throughput : 0.15 MMSCMD</p> <p>Maximum Inlet Pressure : 23.0 Kg/sq.cm Normal Inlet Pressure : 21.0 Kg/sq.cm Minimum Inlet Pressure : 18.0 Kg/sq.cm Maximum Outlet Pressure : 20.0 Kg/sq.cm Normal Outlet Pressure : 18.0 Kg/sq.cm Minimum Outlet Pressure : 16.0 Kg/sq.cm</p> <p>2.0 VALVE BODY & BONNET:</p> <p>2.1 DESIGN PARAMETERS:</p> <p>Valve Size & Rating : 25MM(1")NB x 300Class End connection Size & Rating : Flanged, 25MM(1")NB x 300Class,Raised face Serrated.</p> <p>2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION:</p> <p>Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. Casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron. Stem Size : Suitable for service condition. (To be specified by bidder).</p> <p>3.0 TRIM :</p> <p>3.1 DESIGN PARAMETERS:</p> <p>No of Port : Single /Double (To be specified by bidder). Seat Ring & Port Size : To be designed by bidder. Flow Direction : Up /Both Seat Ring Type: Threaded Plug Design : Contoured</p>	10 Nos.
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Plug Characteristics : Linear
Plug Balance : Unbalanced
Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder).
Cage : Not required
Seat Leakage: Class IV as per ANSI/FCI 70.2 standard.
Noise level: <90 dBA within 1 meter area from the control valve.
Hysteresis Error : +/-3% of Full Span or less
Independent Linearity : +/- 5% of Full Span or less

3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent
Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent
Guide Material : SS 410 / SS 440C or equivalent.

4.0 ACTUATOR:

4.1 DESIGN PARAMETERS:

Actuator action : Direct, Normally / Fail open, Air to Close.
Servo & Signal Supply Medium: Natural Gas
Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum)
Actuator Shutoff pressure : 1.2 times Maximum inlet pressure
Gas/Air connection : ¼ inch NPT (F)

4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated.
Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced / equivalent or superior material suitable for natural gas as servo.
Spring material : Spring Steel (Epoxy coated)
Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated
Plug, diaphragm & Stem connection : Clamp type (threaded stem)
Stroke Scale : Required.

5.0 POSITIONER :

5.1 DESIGN PARAMETERS:

Split Range: Single Valve
Output action : Direct /Field reversible
Output characteristics :Linear
Servo & input Signal Supply Medium : Natural Gas
Input signal Pressure : 3 – 15 psig (0.21 -1.05 Kg/sq cm)
Servo gas supply Pressure : 20 psig (1.4 Kg/Sq cm) (maximum)
Maximum Steady#State Servo Gas Consumption: 14.0 scfh
Operating Temperature Limit: Upto 60 degree C
Gas/Air connection Point: ¼ inch NPT (F)
Hysteresis Error : +/- 1% of Full Span or less
Independent Linearity : +/- 1% of Full Span or less
Dead band : +/- 0.5% of Full Span or less

5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Type : Pneumatic, Linear Stem slide control, Single acting

	<p>Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument(Signal), 40 mm (1.5")Dia, dual scale (psig & Kg/cm²), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure : Weatherproof, with screened venting at bottom/side Enclosure Rating : Ingression protection rating IP65 or IP66. Tube fitting : Complete with necessary SS tube fitting of size suitable for application.</p> <p>6.0 AIR/GAS FILTER REGULATOR : 6.1 DESIGN PARAMETERS:</p> <p>Setting Range : 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity : 5 Micron</p> <p>6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Filter material : Cintered Bronze or equivalent Pressure Gauge : Required. Drain : Required Manual.</p> <p>7.0 COMPANION FLANGE AND STUDS & NUTS : 7.1 DESIGN PARAMETERS:</p> <p>Flange Size & Class : Same as End Connection Studs & Nuts : As required</p> <p>7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H.</p>	
50	<p>VALVE,CONTROL,PRESSURE,100MM(4")NB,300Class Diaphragm operated pneumatic control valve along with positioner and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification.</p> <p>1.0 SERVICE CONDITION:</p> <p>Fluid to be handled : Sweet Natural Gas contaminated with water. Gas Gravity : 0.65-0.70 Normal Operating Temp : 45 Deg C.</p> <p>Maximum Throughput : 0.30 MMSCMD Normal Throughput : 0.20 MMSCMD Minimum Throughput : 0.15 MMSCMD</p> <p>Maximum Inlet Pressure : 23.0 Kg/sq.cm Normal Inlet Pressure : 21.0 Kg/sq.cm Minimum Inlet Pressure : 18.0 Kg/sq.cm Maximum Outlet Pressure : 20.0 Kg/sq.cm Normal Outlet Pressure : 18.0 Kg/sq.cm</p>	50 Nos.

Minimum Outlet Pressure : 16.0 Kg/sq.cm

2.0 VALVE BODY & BONNET:

2.1 DESIGN PARAMETERS:

Valve Size & Rating : 100MM(4")NB,300Class

End connection Size & Rating : Flanged, 100MM(4")NB,300Class,Raised face Serrated.

2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION:

Body Style: Globe, Straight through type

Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy coated. Casting must be of radiographic quality as per ASTM B16.34.

Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01

Bonnet Style : Plain, Bolted

Bonnet Bolting: SA-193-B7 Studs/2H Nuts.

Gland Type : Bolted

Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid.

Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron.

Stem Size : Suitable for service condition. (To be specified by bidder).

3.0 TRIM :

3.1 DESIGN PARAMETERS:

No of Port : Single /Double (To be specified by bidder)

Seat Ring & Port Size : To be designed by bidder

Flow Direction : Up / Both

Seat Ring Type: Threaded /Clamped

Plug Design : Contoured

Plug Characteristics : Linear

Plug Balance : Unbalanced /Balanced (To be specified by bidder)

Guiding : Top & Bottom / Top Post Guided, Or Balanced Cage Guided(To be specified by bidder).

Cage Characteristics : Linear (applicable for balanced cage guided type only)

Seat Leakage: Class IV as per ANSI/FCI 70.2 standard.

Noise level: <90 dBA within 1 meter area from the control valve.

Hysteresis Error : +/-3% of Full Span or less

Independent Linearity : +/- 5% of Full Span or less

3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent

Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent

Cage Material: CF8M SST /SS 420 / UNS S17400 SS (17Cr-4Ni Precipitation Hardened SS) / or equivalent. (applicable for balanced cage guided type only)

4.0 ACTUATOR:

4.1 DESIGN PARAMETERS:

Actuator action : Direct, Normally / Fail open, Air to Close.
Servo & Signal Supply Medium: Natural Gas
Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum)
Actuator Shutoff pressure : 1.2 times Maximum inlet pressure
Gas/Air connection : ¼ inch NPT (F)

4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated.
Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced / equivalent or superior material suitable for natural gas as servo.
Spring material : Spring Steel (Epoxy coated)
Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated
Plug, diaphragm & Stem connection : Clamp type (threaded stem)
Stroke Scale : Required.

5.0 POSITIONER :

5.1 DESIGN PARAMETERS:

Split Range: Single Valve
Output action : Direct /Field reversible
Output characteristics :Linear
Servo & input Signal Supply Medium : Natural Gas
Input signal Pressure : 3 – 15 psig (0.21 -1.05 Kg/sq cm)
Servo gas supply Pressure : 20 psig (1.4 Kg/Sq cm) (maximum)
Maximum Steady?State Servo Gas Consumption: 14.0 scfh
Operating Temperature Limit: Upto 60 degree C
Gas/Air connection Point: ¼ inch NPT (F)
Hysteresis Error : +/- 1% of Full Span or less
Independent Linearity : +/- 1% of Full Span or less
Dead band : +/- 0.5% of Full Span or less

5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

Type : Pneumatic, Linear Stem slide control, Single acting
Independent adjustment of zero and span : Required
Adjustable amplification & dampening: Required
Adjustable Stem travel: Required
Valve Position indicator: Required.
Pressure Gauge: Required for Inlet, output & Instrument(Signal), 40 mm (1.5")Dia, dual scale (psig & Kg/cm²), MS Powder coated/plastic casing, ¼ inch NPT brass connection,
Enclosure : Weatherproof, with screened venting at bottom/side
Enclosure Rating : Ingression protection rating IP65 or IP66.
Tube fitting : Complete with necessary SS tube fitting of size suitable for application.

6.0 AIR/GAS FILTER REGULATOR :

6.1 DESIGN PARAMETERS:

Setting Range : 0 to 7.0 Kg/sq cm
Inlet & Outlet connection: ¼" NPTF
Filter porosity : 5 Micron

6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION

	<p>Filter material : Cintered Bronze or equivalent Pressure Gauge : Required. Drain : Required Manual.</p> <p>7.0 COMPANION FLANGE AND STUDS & NUTS :</p> <p>7.1 DESIGN PARAMETERS:</p> <p>Flange Size & Class : Same as End Connection Studs & Nuts : As required</p> <p>7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H</p>	
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BB:: SPECIAL NOTES TO BIDDERS:

- 1.0 The bidder shall confirm that the goods, materials to be supplied shall be new, of recent make, of the best quality & workmanship. The bidder shall confirm that the materials shall be guaranteed for a period of 18 months from the date of despatch or 12 months from the date of receipt at destination, whichever is earlier, against defects arising from faulty materials, workmanship or design. Defective goods / materials or parts notified by OIL to the Seller shall be replaced immediately by the Seller on FOR destination basis including payment of all taxes and duties at Seller's expense. This guarantee shall survive and hold good notwithstanding inspection, payment for and acceptance of the goods.
- 2.0 The following documents/drawing/brochures shall be submitted along with technical bid:
 - i. Detailed cross sectional drawing with Part list & Material of Construction (MOC)/ Material Specification,
 - ii. General Arrangement Diagram (GAD) with dimensions,
 - iii. Technical catalogue for the quoted valves,
 - iv. Manufacturer's QAP.
- 3.0 In the technical bid bidder shall submit the document of Capacity Test & Characteristic Curve of Control Valve as per ANSI/ISA 75.02 standard for one no of similar type of control valve manufactured by them.
- 4.0 Valve body shall be manufactured in / procured from EIL / Lloyds approved foundries. The foundry certificate & Casting Heat No shall be provided along with the material supply.
- 5.0 The following tests shall be carried out and the test reports shall be submitted along with materials supply-
 - a) Chemical Analysis & Mechanical Property Test of all materials of components of the valves as per EN10204 Standard.
 - b) Radiographic testing of valve body & bonnet as per ASME SEC V / ASTM B16.34 Standard.
 - c) Hydraulic test for pressure containing part (Shell Test) of each valve as per ASME B 16.34/ISA S 75.19.01 Standard at 1.5 times the rated pressure.

- d) Hydraulic test for Assembled valve (Body Mount Leak Test) of each valve as per ASME /ISA S 75.19.01 Standard at 1.1 times the rated pressure.
- e) Seat Leakage Tests for Class IV as per FCI 70.2 standard, using air or water with suitable inhibitor to prevent corrosion.
- f) Control Valve Capacity Test & plotting of Characteristic Curve of Control Valve for one no of each Purchase Order Item as per Purchase Order Specification and as per ANSI/ISA 75.02 standard.
- g) Actuator Leak Test as per relevant standard/ Manufacturer's QAP, using compressed air at 1.5 times the supply pressure to the actuator as per Purchase Order specification.
- h) Linearity, hysteresis, stem over travel, & functional test with accessories connected shall be conducted as per relevant standard /Manufacturer's QAP.
- i) Cyclic & physical tests on each actuator shall be performed to ensure sound quality of diaphragm & spring as per relevant standard /Manufacturer's QAP .
- j) Necessary tests on the spring like SCRAG, STIFFNESS & PARALLELISM test as per relevant standard/ Manufacturer's QAP.

6.0 The valves shall bear the following permanent marks-

- (i) Manufacturer's Name
- (ii) Valve size
- (iii) Pressure Rating
- (iv) Serial No.
- (v) OIL's Purchase Order no.

7.0 **All valves shall be inspected by any one of OIL's approved Third party inspection agencies. viz. M/s Lloyds or M/s Bureau Veritas or M/s IRS or M/s Rites, M/s Tuboscope Vetco or M/s DNV.**

8.0 The Scope of Third Party Inspection will be as detailed below and TPI certificates shall be submitted along with material supply.

- i) To inspect stage wise from procurement of raw materials to assembly to ensure that proper technique and procedure are followed as per relevant standards and Purchase Order specification.
- ii) To review necessary chemical & mechanical test certificates to ensure that different components of the valve are as per relevant standards and Purchase Order specification.
- iii) To review heat number wise foundry certificates of castings in order to ensure that the materials used are as per relevant standards and Purchase Order specification.
- iv) To ensure that valve body castings are manufactured in / procured from foundries approved by M/s EIL or M/s Lloyds.
- v) To review and certify the radiographs of body & bonnet of all valves to ensure that casting are of radiographic quality.
- vi) To review and certify radiography of 10%. of valves randomly selected against each purchase order item to ensure that casting are of radiographic quality.
- vii) To witness, review & certify hydraulic & pneumatic test of each valve as per relevant standards and Purchase Order specification.
- viii) To witness, review & certify Linearity, Hysteresis, Capacity & Plug characteristic (Cv) tests (one no. against each item), leakage test etc as per relevant standards and Purchase Order specification.
- ix) To carry out visual & dimensional inspection to ensure that the valves are manufactured as per relevant standards and Purchase Order specification.
- x) To ensure that the valves are embossed as per relevant standards and Purchase Order specification.
- xi) To document, review and issue all inspection certificates to be provided along with material supply.

- 9.0 **OIL will depute its engineer at final stage of manufacturing for inspection of functional & hydraulic test of the valves at the manufacturing facility.** The supplier has to arrange & facilitate for the inspection accordingly and inform OIL for the same at least 15 days prior to such inspection. Expenditures related to such inspection visit (to and fro/accommodation etc.) shall be borne by OIL itself. However, inspection by OIL's engineer will remain at its discretion.
- 10.0 Only kerosene or water with suitable inhibitor to prevent corrosion shall be used for hydraulic testing. If water is used for testing, valves shall be properly dried and inside & internal parts of each valve shall be properly greased.
- 11.0 Valve body, bonnet & actuator shall be thoroughly cleaned & painted with suitable anti-corrosive epoxy paint.
- 12.0 Both ends of each valve/companion flange should also be provided with protective rubber / plastic caps, securely attached to the valves to prevent entry of foreign material during transportation and storage.
- 13.0 Valve shall be suitably protected to avoid any damage during transit or storage.
- 14.0 The Bidder must submit Technical & Commercial Compliance Check List duly filled along with technical bid as per Annexure-C, Annexure-E & Annexure-F attached in this tender document.
- 15.0 The tender items shall be used for critical process applications of hydrocarbon production, which involves severe Safety & Environmental hazards leading to accidents, blowout & fire incident which may eventually result in personnel injury, equipment damage, environmental pollution, damage to organizational image, and financial loss etc.

It may be noted that production operations of OIL are governed by relevant Acts & Regulations and Standards & Guidelines of DGMS, Pollution Control Boards, & OISD etc., and occurrence of any catastrophic incident might cause serious setback to the entire organization.

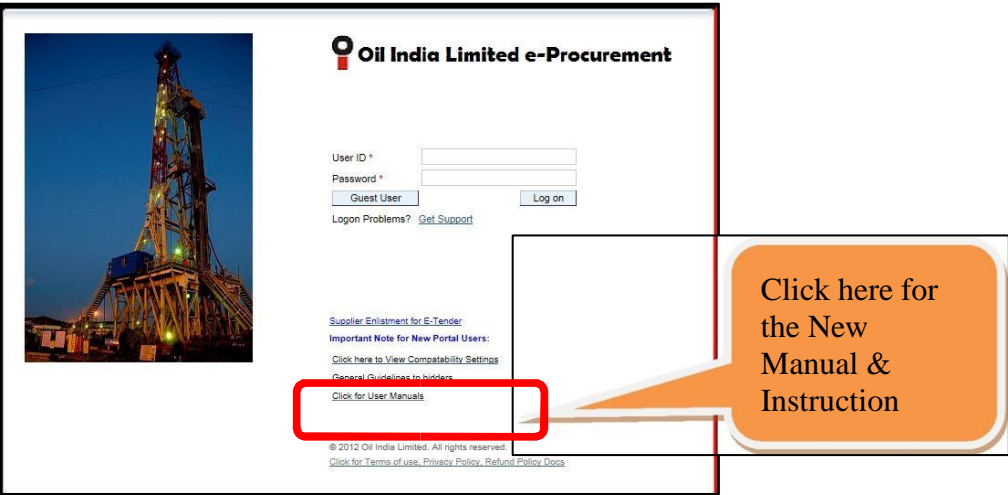
Considering the nature of the item, if the product offered by the lowest acceptable bidder (with or without price preference for MSE bidders) is not field proven in OIL, purchaser at its discretion may place a trial order to the extent of 25 % (maximum) only and balance quantity will be procured from other competitive bidders whose product has been field proven in OIL. (Refer clause no 3.6 under section D-BRC&BEC of General Terms & Condition MM/GLOBAL/01/2005).

- 16.0 Any deviation(s) from the tender specification should be clearly highlighted specifying justification in support of deviation.
- 17.0 Bidder should categorically confirm in the technical bid a delivery schedule within six (06) months, FOB Port of dispatch, after establishment of letter of credit (in case of foreign bidder) or for dispatch of the equipment within six (06) months after receipt of formal order (in case of indigenous bidder) failing which their offer will be rejected.

CC:: GENERAL NOTES TO BIDDERS:

Sl No	Clause description
1.0	<p>a) Bidders without having E-tender Login ID and Password should complete their online registration at least seven (7) days prior to the scheduled bid closing date and time of the tender. For online registration, Bidder may visit the OIL's E-tender site https://etender.srm.oilindia.in/irj/portal</p> <p>b) Necessary Login ID & Password will be issued by OIL only after submitting the complete online registration by the Bidder. In the event of late registration/incomplete registration by Bidder, OIL INDIA LIMITED shall not be responsible for late allotment of User ID & Password and request for bid closing date extension on that plea shall not be entertained by Company.</p> <p>c) MSEs Units (manufacturers/Service Providers only and not their dealers/distributors) who are already registered with District Industry Centers or Khadi & Village Industries Commission or Khadi & Village Industries Board or Coir Board or National Small Industries Corporation or Directorate of Handicrafts & Handloom or any other body specified by Ministry of MSME are exempted from payment of Bid Security (EMD) irrespective of monetary limit mentioned in their registration, provided they are registered for the item they intend to quote/participate.</p> <p>d) For availing benefits under Public Procurement Policy (Purchase preference & EMD exemption), the interested MSE Bidders must ensure that they are the manufacturer/ service provider of tendered item(s) and registered with the appropriate authority for the said item(s). Bids without EMD shall be rejected, if the technical offer does not include a valid copy of relevant MSE Certificate issued by appropriate authority specifying the item as per tender. Therefore, it is in the interest of such MSE Vendors to furnish a copy of complete certificate to the concerned tender handling officer of OIL at least seven (7) days prior to the scheduled Bid Closing Date of the tender; seeking clarification/confirmation as to whether their registered item is eligible for EMD exemption or not. Late communication in this regard and request for bid closing date extension on that plea shall not be entertained by Company.</p>
2.0	<p>Submission of Bid Security/EMD/Performance Bank Guarantee – Must be paid either through online mode or Submission of Bank Guarantee/LC only. No DD/Cheques/Cashier Cheque or any other mode will be acceptable.</p> <p>The Bank Guarantee issued by bank must be routed through SFMS platform as per following details:</p> <p>a. (i) “MT760/ MT760 COV for issuance of bank guarantee (ii) MT767/ MT767 COV for amendment of bank guarantee</p> <p>The above message/intimation shall be sent through SFMS by the BG issuing bank branch to Axis Bank, Duliajan Branch, IFS Code: UTIB0001129. Branch Address: Axis Bank Ltd., Duliajan Branch, Daily Bazar, Jyotinagar, Duliajan, DistDibrugarh, Pin- 786602.</p> <p>b. The vendor shall submit to OIL the copy of the SFMS message as sent by the issuing bank branch along with the original bank guarantee.</p>

3.0	The tender will be governed by “General Terms & Conditions” for e-Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders) including Amendments & Addendum to “General Terms & Conditions” for eProcurement.				
4.0	Bid must be submitted online through OIL’s e-procurement portal. Bid submitted in any other form will be rejected.				
5.0	<p>Please note that all tender forms and supporting documents are to be submitted through OIL’s e-Procurement site only except following documents which are to be submitted manually in sealed envelope super scribing tender no. and due date to The DGM Materials, Materials Department, Oil India Limited, Duliajan- 786602, Assam on or before 13:00 hrs (IST) on the Bid Closing Date mentioned in the Tender.</p> <p>a) Original Bid Security along with two duplicate copies of Bid Security. b) Any other documents which have been particularly asked for in this tender for submission.</p>				
6.0	Bidders must ensure that their bid is uploaded in the system before the tender closing date and time. Also, they must ensure that above documents which are to be submitted in a sealed envelope are also submitted at the above mentioned address before the bid closing date and time, failing which the offer shall be rejected.				
7.0	<p>The tender is invited under SINGLE STAGE-TWO BID SYSTEM. The bidder has to submit both the “TECHNO-COMMERCIAL UNPRICED BID” and “PRICED BID” through electronic form in the OIL’s e-Tender portal within the Bid Closing Date and Time stipulated in the e-Tender. The “Techno-commercial Unpriced Bid” shall contain all technical and commercial details except the prices which shall be kept blank. Details of prices as per Bid format / Commercial bid to be uploaded as attachment in the Attachment Tab “Notes and Attachments”. Any offer not complying with above submission procedure will be rejected as per Bid Rejection Criteria mentioned in the tender.</p> <table border="1" data-bbox="263 1321 622 1534"> <tr> <td data-bbox="263 1321 622 1411">Notes and Attachments</td> <td data-bbox="622 1321 1465 1411">→ Only Price Details Should Be Uploaded</td> </tr> <tr> <td data-bbox="263 1411 622 1534">Technical attachments</td> <td data-bbox="622 1411 1465 1534">→ All technical bid documents except price details</td> </tr> </table> <p>Please do refer “NEW INSTRUCTION TO BIDDER FOR SUBMISSION” for the above two points and also please refer “New Vendor Manual (effective 12.04.2017)” available in the login Page of the OIL’s E-tender Portal.</p>	Notes and Attachments	→ Only Price Details Should Be Uploaded	Technical attachments	→ All technical bid documents except price details
Notes and Attachments	→ Only Price Details Should Be Uploaded				
Technical attachments	→ All technical bid documents except price details				

	
8.0	<p>In Technical Bid opening, only Technical Rfx will be opened. Therefore, the bidder should ensure that “TECHNO-COMMERCIAL UNPRICED BID should contain details as mentioned in the technical specifications as well as BEC/ BRC and upload the same in the Technical RFX Response-> User - > Technical Bid. <u>No price should be given in above Technical Rfx otherwise the offer will be rejected.</u> Please go through the help document in details before uploading the document and ensure uploading of technical bid in the Technical RFX Response-> User - > Technical Bid only. The “PRICE BID” must contain the price schedule and the bidder’s commercial terms and conditions. Details of prices as per Bid format / Commercial bid can be uploaded as Attachment under the attachment option under “Notes & Attachments”.</p>
9.0	<p>PRICED BIDS OF ONLY THOSE BIDDERS WILL BE OPENED WHOSE OFFERS ARE FOUND TO BE TECHNO-COMMERCIALLY ACCEPTABLE.</p>
10.0	<p>Bidders are requested to examine all instructions, forms, terms and specifications in the bid. Failure to furnish all information required as per the bid or submission of offers not substantially responsive to the bid in every respect will be at the bidders risk and may result in rejection of its offer without seeking any clarifications.</p>
11.0	<p>Please mention clearly in your quotation the Net. Weight, Gross Weight & Volume, Indian Agent's Name and its Commission, Payment Terms, Ocean Freight/Air Freight Charges, Port of Loading, Delivery period, Country of origin with manufacturer's name, etc.</p>
12.0	<p>To ascertain the substantial responsiveness of the bid, OIL reserves the right to ask the bidder for clarification in respect of clauses covered under BRC also and such clarifications fulfilling the BRC clauses in toto must be received on or before the deadline given by OIL, failing which the offer will be summarily rejected.</p>
13.0	<p>Other terms and conditions of the tender shall be as per “General Terms & Conditions” for e- Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for Eprocurement (ICB Tenders). However, if any of the Clauses of the Bid Rejection Criteria (BRC) / Bid Evaluation Criteria (BEC) mentioned here contradict the Clauses in the “General Terms & Conditions” for e-Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders) of the tender and/or elsewhere, those mentioned in this BEC / BRC shall prevail.</p>

14.0	All the Bids must be Digitally Signed using “Class 3” digital certificate (e-commerce application) only as per Indian IT Act obtained from the licensed Certifying Authorities operating under the Root Certifying Authority of India (RCAI), Controller of Certifying Authorities (CCA) of India. The bid signed using other than “Class 3” digital certificate, will be liable for rejection.
15.0	Please do refer the User Manual provided on the portal on the procedure How to create Response for submitting offer.
16.0	Bidders to note that Govt. of India under Micro, Small and Medium Enterprises Development (MSMED) Act 2006, has proclaimed the Public Procurement Policy, 2012 with effect from 1st April, 2012 in respect of procurement of goods and services, produced and provided by micro and small enterprises, by its Ministries, Departments and Public Sector Undertakings for promotion and development of Micro and Small Enterprises. A new Clause on applicability of Public Procurement Policy for procurement of goods from Micro and Small Enterprises (MSE) in the tender is furnished vide Amendment to General Terms and Conditions for Global Tender (MM/GLOBAL/E-01/2005). Bidders are requested to take note of the same and to submit their offers accordingly.
17.0	The items shall be brand new, unused & of prime quality. The manufacturer shall warrant (in the event of an order) that the product supplied will be free from all defects & fault in material, workmanship & manufacture and shall be in full conformity with ordered specifications. This clause shall be valid for 18 months from date of shipment or 12 months from date of commissioning and handing over to OIL, whichever is earlier. The defective materials, if any, rejected by OIL shall be replaced by the supplier at their own expense. Bidders must confirm the same in their quotations.
18.0	Quantity of Individual item may be increased or decrease at the time of final placement of order. The minimum FOB/FCA charges in case of partial order for reduced quantity/enhanced quantity shall have to be indicated by the bidder. In case, this is not indicated specifically, the charges quoted would be pro-rata calculated and the same will be binding on the bidder.
19.0	Any deviation(s) from the tender specification should be clearly highlighted specifying justification in support of deviation.

20.0	<p>The Integrity Pact is applicable against this tender .OIL shall be entering into an Integrity Pact with the bidders as per format enclosed vide Annexure XII of the tender document. This Integrity Pact proforma has been duly signed digitally by OIL's competent signatory. The proforma has to be returned by the bidder (along with the technical bid) duly signed (digitally) by the same signatory who signed the bid, i.e., who is duly authorized to sign the bid. Uploading the Integrity Pact with digital signature will be construed that all pages of the Integrity Pact has been signed by the bidder's authorized signatory who sign the Bid. If any bidder refuses to sign Integrity Pact or declines to submit Integrity Pact with the offer, their bid shall be rejected straightway.</p> <p>OIL's Independent External Monitors at present are as under:</p> <p>SHRI RAJIV MATHUR, IPS (Retd.), Former Director (IB) Govt. of India e-Mail ID : rajivmathur23@gmail.com</p> <p>SHRI SATYANANDA MISHRA, IAS(Retd.) Former Chief Information Commissioner & Ex-Secretary, DOPT, Govt. of India E-mail Id : satyanandamishra@hotmail.com</p> <p>SHRI JAGMOHAN GARG, Ex-Vigilance Commissioner, CVC e-Mail id : jagmohan.garg@gmail.com</p>
21.0	<p>Original Bid Closing Date shall be considered by OIL for evaluation of BRC Criteria in case of any extension of the original bid closing date.</p>
22.0	<p>Performance Security clause (Clause No. 10.0 of Section-A) of "General Terms & Conditions for Global Tenders (MM/GLOBAL/01/2005)" has been amended and the new clause is detailed in the Amendment dated 25.04.2016 issued to MM/GLOBAL/01/2005. Successful bidder will be required to furnish a Performance Bank Guarantee @10% of the order value. Bidders to note the same and to confirm its acceptance in their offers.</p> <p>The Bank Guarantee issued by bank must be routed through SFMS platform as per following details:</p> <p>a. (i) "MT760/ MT760 COV for issuance of bank guarantee (ii) MT767/ MT767 COV for amendment of bank guarantee</p> <p>The above message/intimation shall be sent through SFMS by the BG issuing bank branch to Axis Bank, Duliajan Branch, IFS Code: UTIB0001129. Branch Address: Axis Bank Ltd., Duliajan Branch, Daily Bazar, Jyotinagar, Duliajan, DistDibrugarh, Pin- 786602.</p> <p>b. The vendor shall submit to OIL the copy of the SFMS message as sent by the issuing bank branch along with the original bank guarantee.</p>
23.0	<p>Bidder to sign and submit completely filled up Technical & Commercial check list and Technical Evaluation Matrix for Bid evaluation criteria and Technical specification failing which their offer will be rejected.</p>

24.0	Payment terms: Refer to “General Terms & Conditions” for e- Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders)
25.0	Liquidated Damage: Refer to “General Terms & Conditions” for e- Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders). The applicable GST on the Liquidated Damage shall have to be borne by the seller. Accordingly, the Liquidated Damage shall be recovered from the seller along with applicable GST.
26.0	<p>The items covered in this Tender shall be used by Oil India Limited in the PEL/ML areas and hence Nil rate of Customs Duty towards import (for foreign bidders) and concessional GST @5% (for foreign & indigenous bidder) will be applicable as per Govt. Policy in vogue.</p> <p>Overseas Bidders are not required to include Customs Duty and IGST components in their quoted cost, since all applicable taxes & Duties in India shall be to the account of Oil India Limited.</p> <p>In the event of an order on indigenous bidder, OIL will issue Project Authority Certificate (PAC) under Deemed Export Benefit Scheme, where import content is declared by the bidder for availing Custom Duty benefit on the import content.</p> <p>Supplier shall arrange to provide all necessary documents (invoice etc.) to OIL for applying Essentiality Certificate on receipt of request from OIL, if any. Further, Suppliers shall affect dispatch only on receipt of relevant certificates/shipment clearance from OIL, failing which all related liabilities shall be to Supplier’s account.</p>
27.0	Bidders to note that Ministry of Petroleum & Natural Gas, Government of India implemented PPLC Policy to provide Purchase Preference (linked with local content) by notification no. Ref. O-27011/44/2016-ONG-II/FP dtd.25.04.2017. Bidders are requested to take note of the same and to submit their offers accordingly wherever applicable. Policy details are available in APPENDIX-A2
28.1	In case of placement of order, OIL reserves the right to convert the order from FOB Port of export to C&F Kolkata term considering the ocean freight quoted by the party in their offer. In case the order is converted to C&F Kolkata Port, the performance security amount shall also be enhanced considering the quoted ocean freight charges.
28.2	Bidder should confirm in their quotation that in case of C&F order, their nominated freight forwarder should provide Delivery Order under Single Window facility having office of local agent in India at Kolkata and offer 14 days free detention time of containers at discharging port.
28.0	Along with the technical bid, bidders must submit duly filled undertaking as per format provided vide Appendix-A1 as undertaking towards submission of authentic information/documents.

Clauses related to GST

1. For the purposes of levy and imposition of GST, the expressions shall have the following meanings:
 - (a) GST - means any tax imposed on the supply of goods and/or services under GST Law.
 - (b) Cess – means any applicable cess, existing or future on the supply of Goods and Services as per Goods and Services Tax (Compensation to States) Act, 2017.
 - (c) GST Law - means IGST Act 2017, CGST Act 2017, UTGST Act, 2017 and SGST Act, 2017 and all related ancillary Rules and Notifications issued in this regard from time to time.
2. The rates quoted by the bidders shall be inclusive of all taxes, duties and levies. However, bidders are required to provide separately the rate and amount of all types of taxes, duties and levies. In case, the quoted information related to various taxes, duties & levies subsequently proves wrong, incorrect or misleading, OIL will have no liability to reimburse the difference in the duty/ tax, if the finally assessed amount is on the higher side and OIL will have to right to recover the difference in case the rate of duty/ taxes finally assessed is on the lower side. Further, bidders have to clearly show the amount of GST separately in the Tax Invoices. Further, it is the responsibility of the bidders to make all possible efforts to make their accounting / IT system GST compliant in order to ensure availability of Input Tax Credit (ITC) to Oil India Ltd.
3. Offers without giving any of the details of the taxes (Including rates and amounts) as specified above will be considered as inclusive of all taxes including GST. When a bidder mentions taxes as extra without specifying the rates & amount, the offer will be loaded with maximum value towards taxes received against the tender for comparison purposes. If the bidder emerges as lowest bidder after such loading, in the event of order on that bidder, taxes mentioned by OIL on the Purchase Order/ Contracts will be binding on the bidder.
4. Bidders are required to pass on the benefit arising out of introduction of GST, including seamless flow of Input Tax Credit, reduction in Tax Rate on inputs as well as final goods by way of reduction of price as contemplated in the provision relating to Anti-Profitteering Measure vide Section 171 of the CGST Act, 2017. Accordingly, for supplies made under GST, the bidders should confirm that benefit of lower costs has been passed on to OIL by way of lower prices/taxes and also provide details of the same as applicable. OIL reserves the right to examine such details about costs of inputs/input services of the bidders to ensure that the intended benefits of GST have been passed on to OIL.
5. Oil India Ltd. shall declare the value of free issue of materials and services, if any, involved in the execution of the contract. The Contractor should consider the same while working out the GST liability, if any. Further in cases where GST is leviable on any facilities provided by OIL and used by bidders and the consideration for which is recovered by OIL in the form of reduction in the invoice raised by bidders then OIL will raise GST invoices on such transactions and the same will be reimbursed by bidders.
6. **When Input tax credit is available for Set Off**

Evaluation of L-1 prices shall be done based on Quoted price after deduction of Input Tax Credit (ITC) of GST, if available to OIL. OIL shall evaluate the offers on the basis of the quoted rates only and any claim subsequently by the bidders for additional payment/liability shall not be admitted and has to be borne by the bidders

When Input tax credit is NOT available for Set Off

Evaluation of L-1 prices shall be done based on Quoted price only. OIL shall evaluate the offers on the basis of the quoted rates only and any claim subsequently by the bidders for additional payment/liability shall not be admitted and has to be borne by the bidders

7. Bidders agree to do all things not limited to providing GST compliant Tax Invoices or other documentation as per GST law relating to the supply of goods and/or services covered in the instant contract like raising of and /or acceptance or rejection of credit notes / debit notes as the case may be, payment of taxes, timely filing of valid statutory Returns for the tax period on the Goods and Service Tax Network (GSTN), submission of general information as and when called for by OIL in the customized format shared by OIL in order to enable OIL to update its database etc. that may be necessary to match the invoices on GSTN common portal and enable OIL to claim input tax credit in relation to any GST payable under this Contract or in respect of any supply under this Contract.
8. In case Input Tax Credit of GST is denied or demand is recovered from OIL by the Central / State Authorities on account of any non-compliance by bidders, including non-payment of GST charged and recovered, the Vendor/Supplier/Contractor shall indemnify OIL in respect of all claims of tax, penalty and/or interest, loss, damages, costs, expenses and liability that may arise due to such non-compliance. OIL, at its discretion, may also withhold/recover such disputed amount from the pending payments of the bidders.

Format of undertaking by Bidders towards submission of authentic
information/documents
(To be typed on the letter head of the bidder)

Ref. No _____

Date _____

Sub: Undertaking of authenticity of information/documents submitted

Ref: Your tender No. _____ **Dated** _____

To,
The HOD-Materials
Materials Deptt,
OIL, Duliajan

Sir,

With reference to our quotation against your above-referred tender, we hereby undertake that no fraudulent information/documents have been submitted by us.

We take full responsibility for the submission of authentic information/documents against the above cited bid.

We also agree that, during any stage of the tender/contract agreement, in case any of the information/documents submitted by us are found to be false/forged/fraudulent, OIL has right to reject our bid at any stage including forfeiture of our EMD and/or PBG and/or cancel the award of contract and/or carry out any other penal action on us, as deemed fit.

Yours faithfully,
For (type name of the firm here)

Signature of Authorised Signatory Name

:

Designation :

Phone No.

Place :

Date :

(Affix Seal of the Organization here, if applicable)

BID REJECTION CRITERIA (BRC) / BID EVALUATION CRITERIA (BEC)

The bids shall broadly conform to the specifications and terms and conditions given in this bid document. Bids shall be rejected in case the items offered do not conform to required parameters stipulated in the technical specifications and to the respective international/national standards wherever stipulated. Notwithstanding the general conformity of the bids to the stipulated specifications and terms and conditions, the following requirements will have to be particularly met by the Bidders without which the same will be considered as non-responsive and rejected.

I. BID REJECTION CRITERIA (BRC)

(A) TECHNICAL

1.0 BIDDER'S ELIGIBILITY:

1.1 The bidder should be an Original Equipment Manufacturer (OEM) of the tendered item (s) /equipment.

OR

1.2 The bidder should be a sole selling agent / authorised distributor / authorised dealer / authorised supply house of an Original Equipment Manufacturer (OEM) of the tendered item (s).

1.3 In case the bidder is quoting as agent /distributor/dealer/supply house, the bidder should submit valid authorisation certificate/letter issued by its Original Equipment Manufacturer (OEM), confirming the Bidders' status as their authorised supplier/dealer /distributor/wholly owned subsidiary (as the case may be) to sell their products with proper warranty and guarantee back up. Such authorisation certificate/letter shall be valid for the entire period of execution of the order.

1.4 NOTES TO BIDDER REGARDING AUTHORISATION

1.4.1 Authorization letter must be issued on the official letter head only of the OEM clearly mentioning the status of Bidder i.e., whether sole selling agent / authorised distributor / authorised dealer / authorised supply house of Original Equipment Manufacturer (OEM), failing which the bid shall not be considered for evaluation and in that case the offer shall be rejected straightway. Such certificates/authority letter issued by a party other than the OEM shall not be considered as valid authorization letter and in such as the bid shall be rejected without any further reference.

1.4.2 Authorization letter issued by the OEM in any other form such as Direct Chanel Partner /Indirect Chanel Partner/Chanel Partner/ seller/ Reseller/Sub Dealer / Sub Distributor/Sister Concern shall not be considered for bid evaluation and the offer shall be rejected.

1.4.3 In case the bidder is a wholly owned subsidiary company of the parent company (OEM), in addition to the authorization letter including warranty/guarantee backup, the bidder shall also upload/submit the documents such as board resolution / certificate of incorporation / any other legal certificate along with their offer that would establish the relation between the parent company with the subsidiary company without which the bid will not be evaluated and will be rejected straightway.

- 1.5 The bidder/OEM must submit an undertaking along with the Technical Bid that their offered equipment is not going to become obsolete during the next 5 (five) years from the date of successful installation & Commissioning/supply, if order is awarded on them by OIL and must guarantee uninterrupted supply of spares and availability of services for at least for ten (10) years with effect from the successful installation & Commissioning/supply of the equipment, without which offer will not be considered for evaluation/placement of order. This clause will be applicable only if the tender item has requirement of spares.

2.0 BIDDERS' EXPERIENCE

- 2.1 IN CASE THE BIDDER IS AN ORIGINAL EQUIPMENT MANUFACTURER (OEM): The bidder must comply with the following:

- 2.1.1 The bidder (OEM) should have at least 5 (five) years of manufacturing experience of similar items preceding to the original bid closing date of the tender.

Documentary evidence to substantiate manufacturing experience as above must be submitted in the form of self –certified copy which should be on the letter head and duly signed and sealed by CEO/CFO/any other person who holds the Power of Attorney of the company or by the statutory Auditor. A copy of Power of Attorney shall also be submitted for the same.

Similar item equipment of same or higher capacity and same or higher working pressure and same or higher sizes.

- 2.1.2 In addition to above, the bidder (OEM) should have supply experience of successfully executed at least 50% tendered quantity (rounded off to next higher integer) of each of tendered item of same or higher capacity and same or higher working pressure and same or higher sizes to any E&P companies/Oil & Gas Companies during last 5 (five) years as on original bid closing date of the tender (either by themselves or through their sole selling agent/distributor/dealer/supply house).

- 2.1.3 Documentary evidences to substantiate manufacturing & supply records must be submitted in the form of copies of relevant Purchase Order(s) & any one or combination of the following documents evidencing satisfactory execution of those Purchase Orders(s) such as:

- (i) Satisfactory supply /completion/installation report (OR)
- (ii) Bill of lading, Commercial Invoice/Payment Invoice (OR)
- (iii) Consignee receipt, delivery receipt (OR)
- (iv) Central Excise Gate Pass/Tax invoice issued under relevant rules of Central Excise/VAT/GST invoice.
- (v) Any other documents which shall prove that the bidder has successfully executed such order(s)

2.1.4 NOTES TO BIDDER REGARDING EXPERIENCE CRITERIA

- a) The Purchase Order need not be within 5 (five) years preceding original bid closing date of this tender. However, execution of supply should be within 5 (five) years preceding original bid closing date of this tender.
- b) Satisfactory supply/completion/installation report should be issued on company's letterhead with signature and stamp.

- c) Bidders showing supply experience towards supply to its sister concern/ subsidiaries shall not be considered as experience for the purpose of meeting BRC.

2.2 IN CASE THE BIDDER IS A SOLE SELLING AGENT / AUTHORISED DISTRIBUTOR / AUTHORISED DEALER / AUTHORISED SUPPLY HOUSE OF OEM: The bidder must fulfil the following requirements

2.2.1 The bidder's OEM (the Principal) should have at least 5 (five) years of manufacturing experience of similar items preceding to the original bid closing date of the tender.

Documentary evidence to substantiate manufacturing experience as above must be submitted in the form of self-certified copy which should be on the letter head and duly signed and sealed by CEO/CFO/any other person who holds the Power of Attorney of the company or by the statutory Auditor. A copy of Power of Attorney shall also be submitted for the same.

Similar item equipment of same or higher capacity and same or higher working pressure and same or higher sizes.

2.2.2 The bidder's OEM (the Principal) should have supply experience of successfully executed at least 50% tendered quantity (rounded off to next higher integer) of each of tendered item of same or higher capacity and same or higher working pressure and same or higher sizes to any E&P companies/Oil & Gas Companies during last 5 (five) years as on original bid closing date of the tender (either by themselves or through their sole selling agent/distributor/dealer/supply house).

2.2.3 Additionally, the bidder himself/themselves as sole selling agent/distributor/dealer/supply house should have supply experience of successfully executed at least 50% tendered quantity (rounded off to next higher integer) of each of tendered item of same or higher capacity and same or higher working pressure and same or higher sizes to any E&P companies/Oil & Gas Companies during last 5 (five) years as on original bid closing date of the tender (either from same OEM (the principal) from any other OEM).

2.2.4 Documentary evidences to substantiate manufacturing & supply records must be submitted in the form of copies of relevant Purchase Order(s) & any one or combination of the following documents evidencing satisfactory execution of those Purchase Orders(s) such as:

- (i) Satisfactory supply /completion/installation report (OR)
- (ii) Bill of lading, Commercial Invoice/Payment Invoice (OR)
- (iii) Consignee receipt, delivery receipt (OR)
- (iv) Central Excise Gate Pass/Tax invoice issued under relevant rules of Central Excise/VAT/GST invoice.
- (v) Any other documents which shall prove that the bidder has successfully executed such order(s)

2.2.5 NOTES TO BIDDER REGARDING EXPERIENCE CRITERIA

- a) The Purchase Order need not be within 5 (five) years preceding original bid closing date of this tender. However, execution of supply should be within 5 (five) years preceding original bid closing date of this tender.

- b) Satisfactory supply/completion/installation report should be issued on company's letterhead with signature and stamp.
- c) Bidders showing supply experience towards supply to its sister concern/subsidiaries shall not be considered as experience for the purpose of meeting BRC.

3.0 Delivery required against this tender is maximum 06 (six) months from the date of opening of LC in case order is placed on the foreign supplier OR within 06 (six) months from the date of receipt of order in case order is placed on indigenous supplier. Date of clean Bill of Lading (B/L in case of foreign supplier) or Consignment Note date (C/Note date in case of indigenous supplier) shall be considered as delivery date. Bidder must comply the above schedule and confirm in their Techno-Commercial bid. Bids not meeting time schedule as mentioned above shall be summarily rejected

(B) FINANCIAL CRITERIA

- 1.0 **Annual Turnover:** The bidder shall have an annual financial turnover of minimum **US\$ 1,19,000.00 or Rs 77.62 Lakhs** during any of the preceding 03 (three) financial years reckoned from the original bid closing date, irrespective of whether their bid is for all the tendered items or not of the tender.
- 2.0 "Net Worth" of the bidder should be positive for the preceding financial/accounting year **(i.e. FY 2017-18)**.
- 3.0 Considering the time required for preparation of Financial Statements, if the last date of preceding financial / accounting year falls within the preceding six months reckoned from the original bid closing date and the Financial Statements of the preceding financial / accounting year are not available with the bidder, then the financial turnover of the previous three financial / accounting years excluding the preceding financial / accounting year will be considered. In such cases, the Net worth of the previous financial / accounting year excluding the preceding financial / accounting year will be considered. However, the bidder has to submit an affidavit/undertaking certifying that 'the balance sheet/Financial Statements for the **financial year 2017-18** has actually not been audited so far'.

Note:

- (a) For proof of Annual Turnover & Net worth any one of the following document must be submitted along with the bid:-
 - i) A certificate issued by a practicing Chartered Accountant (with Membership Number and Firm Registration Number), certifying the Annual turnover & Net worth as per format prescribed in ANNEXURE.
 - OR
 - ii) Audited Balance Sheet along with Profit & Loss account. In case of foreign bidders, self-attested/digitally signed printed published accounts are also acceptable
- (b) In case the bidder is a Central Govt. Organization/PSU/State Govt. Organization/Semi-State Govt. Organization or any other Central/State Govt. Undertaking, where the auditor is appointed only after the approval of Comptroller and Auditor General of India and the Central Government, their certificates may be accepted even though FRN is not available. However, bidder to provide documentary evidence for the same.

- 4.0 In case the Audited Balance Sheet and Profit & Loss Account submitted along with the bid are in currencies other than INR or US\$, the bidder shall have to convert the figures in equivalent INR or US\$ considering the prevailing conversion rate on the date of Balance Sheet and Profit & Loss Account. A CA certificate is to be submitted by the bidder regarding converted figures in equivalent INR or US\$.

(C) COMMERCIAL

Commercial Bid Rejection Criteria will be as per Section D of General Terms & Conditions of Global Tender (MM/GLOBAL/E-01/2005) with following Special Bid Rejection Criteria.

- 1.0 Bids are invited under **Single Stage Two Bid System**. Bidders shall quote accordingly under Single Stage Two Bid System. **Please note that no price details should be furnished in the Technical (i.e. Unpriced) bid.** The “Unpriced Bid” shall contain all techno-commercial details except the prices, which shall be kept blank. The “Price Bid” must contain the price schedule and the bidder’s commercial terms and conditions.

Bidder not complying with above submission procedure will be rejected.

- 2.0 The prices offered shall have to be firm through delivery and not subject to variation on any account. A bid submitted with an adjustable price will be treated as non-responsive and rejected.
- 3.0 Bids received in physical form against online invitation through e-portal shall be rejected (except the documents specifically called for in hard copies, if any). Similarly, Bids received after the bid closing date and time shall be rejected. Also, modifications to bids received after the bid closing date & time shall not be considered.
- 4.0 Bids containing incorrect statement shall be rejected.
- 5.0 Validity of the bid shall be **minimum 120 days** from the date of actual Bid Closing Date. Bids with lesser validity will be straightway rejected.
- 6.0 **Bid Security in ORIGINAL** shall be furnished by the Bidder as a part of their Bid. The amount of Bid Security & its validity shall be specified in the covering letter of this bid document. **Any bid not accompanied by a proper bid security in ORIGINAL shall be rejected without any further consideration.** A bid shall be rejected straightway if Original Bid Security is not received within the stipulated date & time mentioned in the Tender and/or if the Bid Security validity is shorter than the validity indicated in Tender and/or if the Bid Security amount is lesser than the amount indicated in the Tender.

The Bank Guarantee issued by bank must be routed through SFMS platform as per following details:

- a. (i) “MT760/ MT760 COV for issuance of bank guarantee
(ii) MT767/ MT767 COV for amendment of bank guarantee
The above message/intimation shall be sent through SFMS by the BG issuing bank branch to Axis Bank, Duliajan Branch, IFS Code: UTIB0001129. Branch Address: Axis Bank Ltd., Duliajan Branch, Daily Bazar, Jyotinagar, Duliajan, Dist-Dibrugarh, Pin- 786602.

- b. The vendor shall submit to OIL the copy of the SFMS message as sent by the issuing bank branch along with the original bank guarantee.
- 6.1 For exemption for submission of Bid Security please refer Clause No. 9.8 (Section A) of “General Terms & Conditions” for e-Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders).
- 7.0 Bidders must confirm that Goods, materials or plant(s) to be supplied shall be new of recent make and of the best quality and workmanship and shall be guaranteed for a period of 18 months from the date of shipment/dispatch or twelve (12) months from the date of receipt of the items at destination or twelve (12) months from the date of successful installation of the items, whichever is earlier against any defects arising from faulty materials, workmanship or design. Defective goods/materials or parts rejected by OIL shall be replaced immediately by the supplier at the supplier’s expenses at no extra cost to OIL.
- 8.0 Successful bidder shall be required to furnish a Performance Security equivalent to ten (10%) of total evaluated value of Order, which should remain valid throughout the period execution, including extension, if any. The successful bidder shall submit Performance Security within 30 days of award, failing which OIL reserves the right to cancel the order and forfeit their Bid Security. Bidders should undertake in their bids to submit Performance Security as stated above
- 9.0 Offers should be submitted along with Integrity Pact duly signed by the authorized signatory of the bidder. If any bidder refuses to sign Integrity Pact or declined to submit Integrity Pact with the offer, their bid shall be rejected straightway.
- 10.0 Evaluation of Bids shall be done on individual item basis. Bidders must submit item wise prices as indicated in the price bid format provided hereunder. In case, various charges (except basic material value) is not indicated item wise specifically, the charges quoted would be pro-rata calculated and the same will be binding on the bidder. Hence, bidders are requested to quote accordingly.
- 11.0 Bidders are required to submit the summary of the prices in their price bids as per bid format (Summary), given below:

(i) Price Bid Format (SUMMARY) for Foreign Bidders:

- (A) Basic Material Value (to indicate HSN code) (item wise) :**
(B) Packing & FOB charges, if any (item wise) :
(C) Third Party Inspection charges, if any (item wise) :
(D) Pre-despatch Inspection charges including taxes, if any (item wise):
(E) FOB Value, A+B+C+D (item wise):
(F) Ocean Freight Charges upto Kolkata, India (item wise) :
(G) Banking & Insurance, @1.5% of E :
(H) CIF Value, E+F+G:
(I) IGST @ 5% on H:
(J) Total CIF+GST Value, H+I :
(K) Total CIF+GST Value in words :
(L) Gross Weight:
(M) Dimensions & Gross Volume :
(N) Name & Address of Manufacturer:
(O) Port of Despatch:
(P) Country of Origin:

(ii) Price Bid Format (SUMMARY) for Indigenous Bidders:

- (A) Basic Material Value (to indicate HSN code) (item wise) :**
- (B) Packing & Forwarding Charges, if any (item wise) :**
- (C) Third Party Inspection charges, if any (item wise) :**
- (D) Total Ex-Works Value, A+B+C (item wise):**
- (E) GST @ 5% on D against Essentiality Certificate:**
- (F) Total FOR Despatching Station Value, D+E (item wise):**
- (G) Inland Freight Charges upto Duliajan including GST (item wise):**
- (H) Transit Insurance Charges, if any including GST (item wise):**
- (I) Pre-despatch Inspection charges including taxes, if any (item wise):**
- (J) Total FOR Duliajan Value, F+G+H+I:**
- (K) Total FOR Duliajan Value in words :**
- (L) Gross Weight:**
- (M) Dimensions & Gross Volume:**
- (N) Import Content, if any:**
- (O) Name & Address of Manufacturer:**
- (P) Place of Despatch:**

12.0 Bidder shall accept and comply with the following clauses as given in the Bid Document, failing which bid shall be liable for rejection:

- i) Liquidated Damages
- ii) Warranty/Guarantee of material
- iii) Arbitration / Resolution of Dispute
- iv) Force Majeure
- v) Applicable Laws

13.0 A bid shall be rejected straightway if it does not conform to any one of the following clauses:

- a) Validity of bid shorter than the validity indicated in the Tender.
- b) Original Bid Security not received within the stipulated date & time mentioned in the Tender.
- c) Bid Security with (i) validity shorter than the validity indicated in Tender and/or (ii) Bid Security amount lesser than the amount indicated in the Tender.

II) BID EVALUATION CRITERIA

The bids conforming to the specifications, terms and conditions stipulated in the enquiry and considered to be responsive after subjecting to the Bid Rejection Criteria will be considered for further evaluation as per General Terms and Conditions for Global Tender and the Bid Evaluation Criteria given below:

1.0 The evaluation of bids shall be done as per the Price Bid Format (SUMMARY) provided in the Tender and detailed below

2.0 If there is any discrepancy between the unit price and the total price, the unit price will prevail and the total price shall be corrected. Similarly, if there is any discrepancy between words and figure, the amounts in words shall prevail and will be adopted for evaluation.

CHECK LIST

THE CHECK LIST MUST BE COMPLETED AND RETURNED WITH YOUR OFFER. PLEASE ENSURE THAT ALL THESE POINTS ARE COVERED IN YOUR OFFER. THESE WILL ENSURE THAT YOUR OFFER IS PROPERLY EVALUATED. PLEASE SELECT "Yes" OR "No" TO THE FOLLOWING QUESTIONS, IN THE RIGHT HAND COLUMN.

A.COMMERCIAL

Sl#	REQUIREMENT	COMPLIANCE
1.0	Whether bid submitted under Single Stage Two Bid System?	Yes / No
2.0	Whether quoted as manufacturer?	Yes / No
3.0	Whether ORIGINAL Bid Bond (not copy of Bid Bond) as per Revised Format(Annexure VII Revised) Sent separately? If YES, provide details	Yes / No
	(a) Amount :	
	(b) Name of issuing Bank :	
	(c) Validity of Bid Bond :	
4.0	Whether offered firm prices ?	Yes / No
4.1	Whether quoted offer validity of 120 days from the bid closing date of tender?	Yes / No
4.2	Whether quoted a firm delivery period?	Yes / No
4.3	Whether agreed to the NIT Warranty clause?	Yes / No
5.0	Whether confirmed to submit PBG as asked for in NIT?	Yes / No
5.1	Whether agreed to submit PBG within 30 days of placement of order?	Yes / No
6.0	Whether Price submitted as per Price Schedule ?	Yes / No
6.1	Whether cost of Recommended Spares for 2 yearsof operations quoted?	YES/NO
7.0	Whether quoted as per NIT (without any deviations)?	Yes / No
7.0	Whether quoted any deviation?	Yes / No
7.1	Whether deviation separately highlighted?	Yes / No
8.0	Whether indicated the country of origin for the items quoted?	Yes / No
8.1	Whether technical literature / catalogue enclosed?	Yes / No
8.2	Whether weight & volume of items offered indicated?	Yes / No
9.0	For Foreign Bidders - Whether offered FOB / FCA port of despatch including sea / air worthy packing & forwarding?	Yes / No
9.1	For Foreign Bidders – Whether port of shipment indicated. To specify:	Yes / No
9.2	For Foreign Bidders only - Whether indicated ocean freight up to Kolkata port (Excluding marine insurance) ?	Yes / No
9.3	Whether Indian Agent applicable ?	Yes / No
	If YES, whether following details of Indian Agent provided?	
	(a) Name & address of the agent in India – To indicate	

	(b) Amount of agency commission – To indicate	
	(c) Whether agency commission included in quoted material value?	
10.0	For Indian Bidders – Whether indicated the place from where the goods will be dispatched. To specify :	Yes / No
10.1	For Indian Bidders – Whether road transportation charges up to Duliajan quoted?	Yes / No
10.2	For Indian Bidders only - Whether offered Ex-works price including packing/forwarding charges?	Yes / No
10.3	For Indian Bidders only - Whether indicated import content in the offer?	Yes / No
10.4	For Indian Bidders only - Whether offered Deemed Export prices?	Yes / No
10.5	For Indian Bidders only – Whether all applicable Taxes & Duties have been quoted?	Yes / No
11.0	Whether all BRC/BEC clauses accepted ?	Yes / No
12.0	Whether Integrity Pact with digital signature uploaded?	Yes / No
12.1	Whether all the clauses in the Integrity Pact have been accepted?	Yes / No

B. TO BE FILLED UP IN DETAIL:

Sl No	Requirement	Bidder's Reply
01	Bid validity	120 days from bid closing date
02	Payment Terms	
03	Guarantee/Warranty Terms	
04	Delivery Period	
05	Port of Despatch / Despatching Station	
08	Confirm submission Integrity pact, if required as per NIT	Yes, submitted.
09	Confirm submission PBG, if required as per NIT	Confirm to submit within 30 days from receipt of Purchase Order @ 10% of the PO value and validity as stipulated in the PO.

10	Compliance to: a) Liquidated Damage b) Warranty/Guarantee c) Arbitration/Resolution of Dispute d) Force Majeure e) Applicable laws	
11	Import Content (in percentage) for Indigenous bidders only.	
12	Exception/Deviations quoted, if any, to be given in details or refer to respective page of the bid documents	

Signature _____

Name _____

Designation _____

CERTIFICATE OF ANNUAL TURNOVER & NET WORTH

TO BE ISSUED BY PRACTISING **CHARTARD ACCOUNTANTS' FIRM** ON THEIR LETTER HEAD

TO WHOM IT MAY CONCERN

This is to certify that the following financial positions extracted from the audited financial statements of M/s.....(Name of the bidder) for the last three (3) completed accounting years upto..... **(as the case may be)** are correct

YEAR	TURN OVER In INR (Rs.) Crores/ US \$ Million) *	NET WORTH In INR (Rs.) Crores / US \$ Million) *

*Rate of conversion (if used any): USD 1.00 = INR

Place:

Date:

Seal

Membership No:

Registration Code:

Signature

***Applicable only for GLOBAL tenders**

COMPLIANCE CHECK-LIST FOR TENDER NOTES:

II) TENDER NOTES		Compliance		Vendor's deviation/ remarks
Sl no	Tender requirement	Yes	No	
1.	The bidder shall confirm that the goods, materials to be supplied shall be new, of recent make, of the best quality & workmanship. The bidder shall confirm that the materials shall be guaranteed for a period of 18 months from the date of despatch or 12 months from the date of receipt at destination, whichever is earlier, against defects arising from faulty materials, workmanship or design. Defective goods / materials or parts notified by OIL to the Seller shall be replaced immediately by the Seller on FOR destination basis including payment of all taxes and duties at Seller's expense. This guarantee shall survive and hold good not-withstanding inspection, payment for and acceptance of the goods.			
2.	The following documents/drawing/brochures shall be submitted along with technical bid: <ul style="list-style-type: none"> i. Detailed cross sectional drawing with Part list & Material of Construction (MOC)/ Material Specification, ii. General Arrangement Diagram (GAD) with dimensions, iii. Technical catalogue for the quoted valves, iv. Manufacturer's QAP. 			
3.	In the technical bid bidder shall submit the document of Capacity Test & Characteristic Curve of Control Valve as per ANSI/ISA 75.02 standard for one no of similar type of control valve manufactured by them.			
4.	Valve body shall be manufactured in / procured from EIL / Lloyds approved foundries. The foundry certificate & Casting Heat No shall be provided along with the material supply			
5.	The following tests shall be carried out and the test reports shall be submitted along with materials supply- <ul style="list-style-type: none"> a) Chemical Analysis & Mechanical Property Test of all materials of components of the valves as per EN10204 Standard. b) Radiographic testing of valve body & bonnet as per ASME SEC V / ASTM B16.34 Standard. c) Hydraulic test for pressure containing part (Shell Test) of each valve as per ASME B 16.34/ISA S 75.19.01 Standard at 1.5 times the rated pressure. d) Hydraulic test for Assembled valve (Body Mount Leak Test) of each valve as per ASME /ISA S 75.19.01 Standard at 1.1 times the rated pressure. e) Seat Leakage Tests for Class IV as per FCI 70.2 standard, using air or water with suitable inhibitor to prevent corrosion. f) Control Valve Capacity Test & plotting of Characteristic Curve of Control Valve for one no of each Purchase Order Item as per Purchase Order Specification and as per ANSI/ISA 75.02 standard. g) Actuator Leak Test as per relevant standard/ Manufacturer's QAP, using compressed air at 1.5 times the supply pressure to the actuator as per Purchase Order specification. h) Linearity, hysteresis, stem over travel, & functional test with accessories connected shall be conducted as per relevant standard /Manufacturer's QAP. i) Cyclic & physical tests on each actuator shall be performed to ensure sound quality of diaphragm & spring as per relevant standard /Manufacturer's QAP . j) Necessary tests on the spring like SCRAG, STIFFNESS & PARALLELISM test as per relevant standard/ Manufacturer's QAP. 			
6.	The valves shall bear the following permanent marks- <ul style="list-style-type: none"> (i) Manufacturer's Name (ii) Valve size 			

	(iii) Pressure Rating (iv) Serial No. (v) OIL's Purchase Order no.			
7.	All valves shall be inspected by any one of OIL's approved Third party inspection agencies. viz. M/s Lloyds or M/s Bureau Veritas or M/s IRS or M/s Rites, M/s Tuboscope Vetco or M/s DNV.			
8.	The Scope of Third Party Inspection will be as detailed below and TPI certificates shall be submitted along with material supply. i) To inspect stage wise from procurement of raw materials to assembly to ensure that proper technique and procedure are followed as per relevant standards and Purchase Order specification. ii) To review necessary chemical & mechanical test certificates to ensure that different components of the valve are as per relevant standards and Purchase Order specification. iii) To review heat number wise foundry certificates of castings in order to ensure that the materials used are as per relevant standards and Purchase Order specification. iv) To ensure that valve body castings are manufactured in / procured from foundries approved by M/s EIL or M/s Lloyds. v) To review and certify the radiographs of body & bonnet of all valves to ensure that casting are of radiographic quality. vi) To review and certify radiography of 10%. of valves randomly selected against each purchase order item to ensure that casting are of radiographic quality. vii) To witness, review & certify hydraulic & pneumatic test of each valve as per relevant standards and Purchase Order specification. viii) To witness, review & certify Linearity, Hysteresis, Capacity & Plug characteristic (Cv) tests (one no. against each item), leakage test etc as per relevant standards and Purchase Order specification. ix) To carry out visual & dimensional inspection to ensure that the valves are manufactured as per relevant standards and Purchase Order specification. x) To ensure that the valves are embossed as per relevant standards and Purchase Order specification. xi) To document, review and issue all inspection certificates to be provided along with material supply.			
9.	OIL will depute its engineer at final stage of manufacturing for inspection of functional & hydraulic test of the valves at the manufacturing facility. The supplier has to arrange & facilitate for the inspection accordingly and inform OIL for the same at least 15 days prior to such inspection. Expenditures related to such inspection visit (to and fro/accommodation etc.) shall be borne by OIL itself. However, inspection by OIL's engineer will remain at its discretion.			
10.	Only kerosene or water with suitable inhibitor to prevent corrosion shall be used for hydraulic testing. If water is used for testing, valves shall be properly dried and inside & internal parts of each valve shall be properly greased.			
11.	Valve body, bonnet & actuator shall be thoroughly cleaned & painted with suitable anti-corrosive epoxy paint.			
12.	Both ends of each valve/companion flange should also be provided with protective rubber / plastic caps, securely attached to the valves to prevent entry of foreign material during transportation and storage.			
13.	Valve shall be suitably protected to avoid any damage during transit or storage.			
14.	The Bidder must submit Technical & Commercial Compliance Check List duly filled along with technical bid as per Annexure-C, Annexure-E & Annexure-F attached in this tender document.			

15.	<p>The tender items shall be used for critical process applications of hydrocarbon production, which involves severe Safety & Environmental hazards leading to accidents, blowout & fire incident which may eventually result in personnel injury, equipment damage, environmental pollution, damage to organizational image, and financial loss etc.</p> <p>It may be noted that production operations of OIL are governed by relevant Acts & Regulations and Standards & Guidelines of DGMS, Pollution Control Boards, & OISD etc., and occurrence of any catastrophic incident might cause serious setback to the entire organization.</p> <p>Considering the nature of the item, if the product offered by the lowest acceptable bidder (with or without price preference for MSE bidders) is not field proven in OIL, purchaser at its discretion may place a trial order to the extent of 25 % (maximum) only and balance quantity will be procured from other competitive bidders whose product has been field proven in OIL. (Refer clause no 3.6 under section D- BRC&BEC of General Terms & Condition MM/GLOBAL/01/2005).</p>			
16	Any deviation(s) from the tender specification should be clearly highlighted specifying justification in support of deviation.			
17	Bidder should categorically confirm in the technical bid a delivery schedule within six (06) months, FOB Port of dispatch, after establishment of letter of credit (in case of foreign bidder) or for dispatch of the equipment within six (06) months after receipt of formal order (in case of indigenous bidder) failing which their offer will be rejected.			

COMPLIANCE CHECK-LIST FOR TECHNICAL SPECIFICATION:

SI No	Material Code	Tender requirement	Compliance		Vendor's deviation / remarks
			Yes	No	
10	99065821	<p>VALVE,CONTROL,PRESSURE,50MM(2")NB,150Class Diaphragm operated pneumatic control valve along with positioner and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification.</p> <p>1.0 SERVICE CONDITION:</p> <p>Fluid to be handled : Sweet Natural Gas contaminated with water. Gas Gravity : 0.65-0.70 Normal Operating Temp : 45 Deg C.</p> <p>Maximum Throughput : 0.30 MMSCMD Normal Throughput : 0.20 MMSCMD Minimum Throughput : 0.15 MMSCMD</p> <p>Maximum Inlet Pressure : 6.0 Kg/sq.cm Normal Inlet Pressure : 3.5 Kg/sq.cm Minimum Inlet Pressure : 1.0 Kg/sq.cm Maximum Outlet Pressure : 2.5 Kg/sq.cm Normal Outlet Pressure : 2.1 Kg/sq.cm Minimum Outlet Pressure : 0.7 Kg/sq.cm</p> <p>2.0 VALVE BODY & BONNET:</p> <p>2.1 DESIGN PARAMETERS:</p> <p>Valve Size & Rating : 50MM(2")NB,150Class End connection Size & Rating : Flanged,50MM(2")NB,150Class,Raised face Serrated.</p> <p>2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION:</p> <p>Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. Casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron. Stem Size : Suitable for service condition. (To be specified by bidder).</p> <p>3.0 TRIM :</p> <p>3.1 DESIGN PARAMETERS:</p>			

	<p>No of Port : Single /Double (To be specified by bidder). Seat Ring & Port Size : To be designed by bidder. Flow Direction : Up / Both Seat Ring Type: Threaded Plug Design : Contoured Plug Characteristics : Linear Plug Balance : Unbalanced Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder). Cage : Not required Seat Leakage: Class IV as per ANSI/FCI 70.2 standard. Noise level: <90 dBA within 1 meter area from the control valve. Hysteresis Error : +/-3% of Full Span or less Independent Linearity : +/- 5% of Full Span or less</p> <p>3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent Guide Material : SS 410 / SS 440C or equivalent.</p> <p>4.0 ACTUATOR:</p> <p>4.1 DESIGN PARAMETERS:</p> <p>Actuator action : Direct, Normally / Fail open, Air to Close. Servo & Signal Supply Medium: Natural Gas Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum) Actuator Shutoff pressure : 1.2 times Maximum inlet pressure Gas/Air connection : ¼ inch NPT (F)</p> <p>4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated. Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced / equivalent or superior material suitable for natural gas as servo. Spring material : Spring Steel (Epoxy coated) Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated Plug, diaphragm & Stem connection : Clamp type (threaded stem) Stroke Scale : Required.</p> <p>5.0 POSITIONER :</p> <p>5.1 DESIGN PARAMETERS:</p> <p>Split Range: Single Valve Output action : Direct /Field reversible Output characteristics :Linear Servo & input Signal Supply Medium : Natural Gas Input signal Pressure : 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure : 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh</p>			
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		<p>Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error : +/- 1% of Full Span or less Independent Linearity : +/- 1% of Full Span or less Dead band : +/- 0.5% of Full Span or less</p> <p>5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Postiton indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument(Signal), 40 mm (1.5")Dia, dual scale (psig & Kg/cm2), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure : Weatherproof, with screened venting at bottom/side Enclosure Rating : Ingression protection rating IP65 or IP66.</p> <p>Tube fitting : Complete with necessary SS tube fitting of size suitable for application.</p> <p>6.0 AIR/GAS FILTER REGULATOR :</p> <p>6.1 DESIGN PARAMETERS:</p> <p>Setting Range : 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity : 5 Micron</p> <p>6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Filter material : Cintered Bronze or equivalent Pressure Gauge : Required. Drain : Required Manual.</p> <p>7.0 COMPANION FLANGE AND STUDS & NUTS :</p> <p>7.1 DESIGN PARAMETERS:</p> <p>Flange Size & Class : Same as End connection Studs & Nuts : As required</p> <p>7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H</p>			
20	99065823	<p>2. VALVE, CONTROL, PRESSURE, 100MM(4")NB, 150Class Diaphragm operated pneumatic control valve along with positioner and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification.</p> <p>1.0 SERVICE CONDITION:</p> <p>Fluid to be handled : Sweet Natural Gas contaminated with</p>			

		<p>water. Gas Gravity : 0.65-0.70 Normal Operating Temp : 45 Deg C.</p> <p>Maximum Throughput : 0.30 MMSCMD Normal Throughput : 0.20 MMSCMD Minimum Throughput : 0.15 MMSCMD</p> <p>Maximum Inlet Pressure : 6.0 Kg/sq.cm Normal Inlet Pressure : 3.5 Kg/sq.cm Minimum Inlet Pressure : 1.0 Kg/sq.cm Maximum Outlet Pressure : 2.5 Kg/sq.cm Normal Outlet Pressure : 2.1 Kg/sq.cm Minimum Outlet Pressure : 0.7 Kg/sq.cm</p> <p>2.0 VALVE BODY & BONNET:</p> <p>2.1 DESIGN PARAMETERS:</p> <p>Valve Size & Rating : 100MM(4")NB,150Class End connection Size & Rating : Flanged,100MM(4")NB,150Class,Raised face Serrated.</p> <p>2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION:</p> <p>Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. Casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron. Stem Size : Suitable for service condition. (To be specified by bidder).</p> <p>3.0 TRIM :</p> <p>3.1 DESIGN PARAMETERS:</p> <p>No of Port : Single /Double (To be specified by bidder). Seat Ring & Port Size : To be designed by bidder. Flow Direction : Up / Both Seat Ring Type: Threaded Plug Design : Contoured Plug Characteristics : Linear Plug Balance : Unbalanced Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder). Cage : Not required Seat Leakage: Class IV as per ANSI/FCI 70.2 standard. Noise level: <90 dBA within 1 meter area from the control valve.</p>			
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	<p>Hysteresis Error : +/-3% of Full Span or less Independent Linearity : +/- 5% of Full Span or less</p> <p>3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent Guide Material : SS 410 / SS 440C or equivalent.</p> <p>4.0 ACTUATOR :</p> <p>4.1 DESIGN PARAMETERS:</p> <p>Actuator action : Direct, Normally / Fail open, Air to Close. Servo & Signal Supply Medium: Natural Gas Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum) Actuator Shutoff pressure : 1.2 times Maximum inlet pressure Gas/Air connection : ¼ inch NPT (F)</p> <p>4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated. Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced / equivalent or superior material suitable for natural gas as servo. Spring material : Spring Steel (Epoxy coated) Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated Plug, diaphragm & Stem connection : Clamp type (threaded stem) Stroke Scale : Required.</p> <p>5.0 POSITIONER :</p> <p>5.1 DESIGN PARAMETERS:</p> <p>Split Range: Single Valve Output action : Direct /Field reversible Output characteristics :Linear Servo & input Signal Supply Medium : Natural Gas Input signal Pressure : 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure : 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error : +/- 1% of Full Span or less Independent Linearity : +/- 1% of Full Span or less Dead band : +/- 0.5% of Full Span or less</p> <p>5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required</p>			
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		<p>Valve Position indicator: Required.</p> <p>Pressure Gauge: Required for Inlet, output & Instrument(Signal), 40 mm (1.5")Dia, dual scale (psig & Kg/cm²), MS Powder coated/plastic casing, ¼ inch NPT brass connection,</p> <p>Enclosure : Weatherproof, with screened venting at bottom/side</p> <p>Enclosure Rating : Ingression protection rating IP65 or IP66.</p> <p>Tube fitting : Complete with necessary SS tube fitting of size suitable for application.</p> <p>6.0 AIR/GAS FILTER REGULATOR :</p> <p>6.1 DESIGN PARAMETERS:</p> <p>Setting Range : 0 to 7.0 Kg/sq cm</p> <p>Inlet & Outlet connection: ¼" NPTF</p> <p>Filter porosity : 5 Micron</p> <p>6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Filter material : Cintered Bronze or equivalent</p> <p>Pressure Gauge : Required.</p> <p>Drain : Required Manual.</p> <p>7.0 COMPANION FLANGE AND STUDS & NUTS :</p> <p>7.1 DESIGN PARAMETERS:</p> <p>Flange : Flange Size & Class : Same as End connection</p> <p>Studs & Nuts : As required</p> <p>7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B.</p> <p>Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H 2H.</p>			
30	99065824	<p>3. VALVE, CONTROL, PRESSURE, 150MM(6")NB, 150Class</p> <p>Diaphragm operated pneumatic control valve along with positioner and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification.</p> <p>1.0 SERVICE CONDITION:</p> <p>Fluid to be handled : Sweet Natural Gas contaminated with water.</p> <p>Gas Gravity : 0.65-0.70</p> <p>Normal Operating Temp : 45 Deg C.</p> <p>Maximum Throughput : 0.30 MMSCMD</p> <p>Normal Throughput : 0.20 MMSCMD</p> <p>Minimum Throughput : 0.15 MMSCMD</p> <p>Maximum Inlet Pressure : 6.0 Kg/sq.cm</p> <p>Normal Inlet Pressure : 3.5 Kg/sq.cm</p> <p>Minimum Inlet Pressure : 1.0 Kg/sq.cm</p> <p>Maximum Outlet Pressure : 2.5 Kg/sq.cm</p> <p>Normal Outlet Pressure : 2.1 Kg/sq.cm</p>			

	<p>Minimum Outlet Pressure : 0.7 Kg/sq.cm</p> <p>2.0 VALVE BODY & BONNET:</p> <p>2.1 DESIGN PARAMETERS:</p> <p>Valve Size & Rating : 150MM(6")NB,150Class End connection Size & Rating : Flanged,150MM(6")NB,150Class,Raised face Serrated.</p> <p>2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION:</p> <p>Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. The casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron. Stem Size : Suitable for service condition. (To be specified by bidder).</p> <p>3.0 TRIM :</p> <p>3.1 DESIGN PARAMETERS:</p> <p>No of Port : Single /Double (To be specified by bidder) Seat Ring & Port Size : To be designed by bidder. Flow Direction : Up / Both Seat Ring Type: Threaded Plug Design : Contoured Plug Characteristics : Linear Plug Balance : Unbalanced Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder). Cage : Not required Seat Leakage: Class IV as per ANSI/FCI 70.2 standard. Noise level: <90 dBA within 1 meter area from the control valve. Hysteresis Error : +/-3% of Full Span or less Independent Linearity : +/- 5% of Full Span or less</p> <p>3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent Guide Material : SS 410 / SS 440C or equivalent.</p> <p>4.0 ACTUATOR:</p> <p>4.1 DESIGN PARAMETERS:</p>			
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		<p>Actuator action : Direct, Normally / Fail open, Air to Close. Servo & Signal Supply Medium: Natural Gas Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum) Actuator Shutoff pressure : 1.2 times Maximum inlet pressure Gas/Air connection : ¼ inch NPT (F)</p> <p>4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated. Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced / equivalent or superior material suitable for natural gas as servo. Spring material : Spring Steel (Epoxy coated) Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated Plug, diaphragm & Stem connection : Clamp type (threaded stem) Stroke Scale : Required.</p> <p>5.0 POSITIONER :</p> <p>5.1 DESIGN PARAMETERS:</p> <p>Split Range: Single Valve Output action : Direct /Field reversible Output characteristics :Linear Servo & input Signal Supply Medium : Natural Gas Input signal Pressure : 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure : 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error : +/- 1% of Full Span or less Independent Linearity : +/- 1% of Full Span or less Dead band : +/- 0.5% of Full Span or less</p> <p>5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument(Signal), 40 mm (1.5")Dia, dual scale (psig & Kg/cm²), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure : Weatherproof, with screened venting at bottom/side Enclosure Rating : Ingression protection rating IP65 or IP66. Tube fitting : Complete with necessary SS tube fitting of size suitable for application.</p> <p>6.0 AIR/GAS FILTER REGULATOR :</p> <p>6.1 DESIGN PARAMETERS:</p> <p>Setting Range : 0 to 7.0 Kg/sq cm</p>			
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		<p>Inlet & Outlet connection: ¼" NPTF Filter porosity : 5 Micron</p> <p>6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Filter material : Cintered Bronze or equivalent Pressure Gauge : Required. Drain : Required Manual.</p> <p>7.0 COMPANION FLANGE AND STUDS & NUTS :</p> <p>7.1 DESIGN PARAMETERS:</p> <p>Flange Size & Class: Same as End Connection. Studs & Nuts : As required</p> <p>7.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Flange : Raised faced Serrated as per ANSI B-16.5 & line pipe threaded as per API5B. Studs & Nuts : Studs as per SA-193-B7 & Nuts as per SA-193-2H</p>			
40	99065828	<p>4.VALVE,CONTROL,PRESSURE,25MM(1")NB,300Class Diaphragm operated pneumatic control valve along with positioner and air filter regulator, and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification.</p> <p>1.0 SERVICE CONDITION:</p> <p>Fluid to be handled : Sweet Natural Gas contaminated with water. Gas Gravity : 0.65-0.70 Normal Operating Temp : 45 Deg C.</p> <p>Maximum Throughput : 0.30 MMSCMD Normal Throughput : 0.20 MMSCMD Minimum Throughput : 0.15 MMSCMD</p> <p>Maximum Inlet Pressure : 23.0 Kg/sq.cm Normal Inlet Pressure : 21.0 Kg/sq.cm Minimum Inlet Pressure : 18.0 Kg/sq.cm Maximum Outlet Pressure : 20.0 Kg/sq.cm Normal Outlet Pressure : 18.0 Kg/sq.cm Minimum Outlet Pressure : 16.0 Kg/sq.cm</p> <p>2.0 VALVE BODY & BONNET:</p> <p>2.1 DESIGN PARAMETERS:</p> <p>Valve Size & Rating : 25MM(1")NB x 300Class End connection Size & Rating : Flanged, 25MM(1")NB x 300Class,Raised face Serrated.</p> <p>2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION:</p>			

	<p>Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy painted. Casting must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron. Stem Size : Suitable for service condition. (To be specified by bidder).</p> <p>3.0 TRIM :</p> <p>3.1 DESIGN PARAMETERS:</p> <p>No of Port : Single /Double (To be specified by bidder). Seat Ring & Port Size : To be designed by bidder. Flow Direction : Up /Both Seat Ring Type: Threaded Plug Design : Contoured Plug Characteristics : Linear Plug Balance : Unbalanced Guiding : Top & Bottom / Top Post Guided, (To be specified by bidder). Cage : Not required Seat Leakage: Class IV as per ANSI/FCI 70.2 standard. Noise level: <90 dBA within 1 meter area from the control valve. Hysteresis Error : +/-3% of Full Span or less Independent Linearity : +/- 5% of Full Span or less</p> <p>3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent Guide Material : SS 410 / SS 440C or equivalent.</p> <p>4.0 ACTUATOR:</p> <p>4.1 DESIGN PARAMETERS:</p> <p>Actuator action : Direct, Normally / Fail open, Air to Close. Servo & Signal Supply Medium: Natural Gas Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum) Actuator Shutoff pressure : 1.2 times Maximum inlet pressure</p>			
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	<p>Gas/Air connection : ¼ inch NPT (F)</p> <p>4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated.</p> <p>Diaphragm material: Chloroprene/Neoprene rubber with fabric reinforced / equivalent or superior material suitable for natural gas as servo.</p> <p>Spring material : Spring Steel (Epoxy coated)</p> <p>Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated</p> <p>Plug, diaphragm & Stem connection : Clamp type (threaded stem)</p> <p>Stroke Scale : Required.</p> <p>5.0 POSITIONER :</p> <p>5.1 DESIGN PARAMETERS:</p> <p>Split Range: Single Valve</p> <p>Output action : Direct /Field reversible</p> <p>Output characteristics :Linear</p> <p>Servo & input Signal Supply Medium : Natural Gas</p> <p>Input signal Pressure : 3 – 15 psig (0.21 -1.05 Kg/sq cm)</p> <p>Servo gas supply Pressure : 20 psig (1.4 Kg/Sq cm) (maximum)</p> <p>Maximum Steady-State Servo Gas Consumption: 14.0 scfh</p> <p>Operating Temperature Limit: Upto 60 degree C</p> <p>Gas/Air connection Point: ¼ inch NPT (F)</p> <p>Hysteresis Error : +/- 1% of Full Span or less</p> <p>Independent Linearity : +/- 1% of Full Span or less</p> <p>Dead band : +/- 0.5% of Full Span or less</p> <p>5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Type : Pneumatic, Linear Stem slide control, Single acting</p> <p>Independent adjustment of zero and span : Required</p> <p>Adjustable amplification & dampening: Required</p> <p>Adjustable Stem travel: Required</p> <p>Valve Position indicator: Required.</p> <p>Pressure Gauge: Required for Inlet, output & Instrument(Signal), 40 mm (1.5")Dia, dual scale (psig & Kg/cm²), MS Powder coated/plastic casing, ¼ inch NPT brass connection,</p> <p>Enclosure : Weatherproof, with screened venting at bottom/side</p> <p>Enclosure Rating : Ingression protection rating IP65 or IP66.</p> <p>Tube fitting : Complete with necessary SS tube fitting of size suitable for application.</p> <p>6.0 AIR/GAS FILTER REGULATOR :</p> <p>6.1 DESIGN PARAMETERS:</p> <p>Setting Range : 0 to 7.0 Kg/sq cm</p> <p>Inlet & Outlet connection: ¼" NPTF</p> <p>Filter porosity : 5 Micron</p>			
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50	99065825	<p>5.VALVE,CONTROL,PRESSURE,100MM(4")NB,300Class</p> <p>Diaphragm operated pneumatic control valve along with positioner and air filter regulator, complete with companion flange and requisite number of Studs& Nuts, as per the following specification.</p> <p>1.0 SERVICE CONDITION:</p> <p>Fluid to be handled : Sweet Natural Gas contaminated with water. Gas Gravity : 0.65-0.70 Normal Operating Temp : 45 Deg C.</p> <p>Maximum Throughput : 0.30 MMSCMD Normal Throughput : 0.20 MMSCMD Minimum Throughput : 0.15 MMSCMD</p> <p>Maximum Inlet Pressure : 23.0 Kg/sq.cm Normal Inlet Pressure : 21.0 Kg/sq.cm Minimum Inlet Pressure : 18.0 Kg/sq.cm Maximum Outlet Pressure : 20.0 Kg/sq.cm Normal Outlet Pressure : 18.0 Kg/sq.cm Minimum Outlet Pressure : 16.0 Kg/sq.cm</p> <p>2.0 VALVE BODY & BONNET:</p> <p>2.1 DESIGN PARAMETERS:</p> <p>Valve Size & Rating : 100MM(4")NB,300Class End connection Size & Rating : Flanged, 100MM(4")NB,300Class,Raised face Serrated.</p> <p>2.2 MATERIAL OF CONSTRUCTION & SPECIFICATION:</p> <p>Body Style: Globe, Straight through type Body and Bonnet Material: Cast carbon Steel (ASTM A-216, Gr. WCB/WCC or ASTM A352, Gr. LCB/LCC), epoxy coated. Casting</p>			

	<p>must be of radiographic quality as per ASTM B16.34. Body End Connection: Flanges conforming to ANSI B-16.5. Face-to-face dimension as per ANSI/ISA-75.08.01 Bonnet Style : Plain, Bolted Bonnet Bolting: SA-193-B7 Studs/2H Nuts. Gland Type : Bolted Gland Packing: Double, PTFE V-ring or equivalent/superior, suitable for the handling fluid. Stem Material: S31600 SST (SS 316) or equivalent. Finished to less than 4 micron. Stem Size : Suitable for service condition. (To be specified by bidder).</p> <p>3.0 TRIM :</p> <p>3.1 DESIGN PARAMETERS:</p> <p>No of Port : Single /Double (To be specified by bidder) Seat Ring & Port Size : To be designed by bidder Flow Direction : Up / Both Seat Ring Type: Threaded /Clamped Plug Design : Contoured Plug Characteristics : Linear Plug Balance : Unbalanced /Balanced (To be specified by bidder) Guiding : Top & Bottom / Top Post Guided, Or Balanced Cage Guided(To be specified by bidder). Cage Characteristics : Linear (applicable for balanced cage guided type only) Seat Leakage: Class IV as per ANSI/FCI 70.2 standard. Noise level: <90 dBA within 1 meter area from the control valve. Hysteresis Error : +/-3% of Full Span or less Independent Linearity : +/- 5% of Full Span or less</p> <p>3.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Seat Ring : S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath or equivalent Plug Material: S31600 SST (SS 316)/ S 41000 SST(SS 410), with CoCr-A (Stellite 6) Sheath and Guide or equivalent Cage Material: CF8M SST /SS 420 / UNS S17400 SS (17Cr-4Ni Precipitation Hardened SS) / or equivalent. (applicable for balanced cage guided type only)</p> <p>4.0 ACTUATOR:</p> <p>4.1 DESIGN PARAMETERS:</p> <p>Actuator action : Direct, Normally / Fail open, Air to Close. Servo & Signal Supply Medium: Natural Gas Servo gas supply pressure : 20 psig (1.4 kg / sq. cm) (maximum) Actuator Shutoff pressure : 1.2 times Maximum inlet pressure Gas/Air connection : ¼ inch NPT (F)</p> <p>4.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Actuator type: Yolk mounted, spring loaded, pneumatic diaphragm operated. Diaphragm material: Chloroprene/Neoprene rubber with fabric</p>			
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	<p>reinforced / equivalent or superior material suitable for natural gas as servo. Spring material : Spring Steel (Epoxy coated) Casing : Weather proof, Corrosion Resistant, Pressed steel, Epoxy coated Plug, diaphragm & Stem connection : Clamp type (threaded stem) Stroke Scale : Required.</p> <p>5.0 POSITIONER :</p> <p>5.1 DESIGN PARAMETERS:</p> <p>Split Range: Single Valve Output action : Direct /Field reversible Output characteristics :Linear Servo & input Signal Supply Medium : Natural Gas Input signal Pressure : 3 – 15 psig (0.21 -1.05 Kg/sq cm) Servo gas supply Pressure : 20 psig (1.4 Kg/Sq cm) (maximum) Maximum Steady State Servo Gas Consumption: 14.0 scfh Operating Temperature Limit: Upto 60 degree C Gas/Air connection Point: ¼ inch NPT (F) Hysteresis Error : +/- 1% of Full Span or less Independent Linearity : +/- 1% of Full Span or less Dead band : +/- 0.5% of Full Span or less</p> <p>5.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Type : Pneumatic, Linear Stem slide control, Single acting Independent adjustment of zero and span : Required Adjustable amplification & dampening: Required Adjustable Stem travel: Required Valve Position indicator: Required. Pressure Gauge: Required for Inlet, output & Instrument(Signal), 40 mm (1.5")Dia, dual scale (psig & Kg/cm²), MS Powder coated/plastic casing, ¼ inch NPT brass connection, Enclosure : Weatherproof, with screened venting at bottom/side Enclosure Rating : Ingression protection rating IP65 or IP66. Tube fitting : Complete with necessary SS tube fitting of size suitable for application.</p> <p>6.0 AIR/GAS FILTER REGULATOR :</p> <p>6.1 DESIGN PARAMETERS:</p> <p>Setting Range : 0 to 7.0 Kg/sq cm Inlet & Outlet connection: ¼" NPTF Filter porosity : 5 Micron</p> <p>6.2 MATERIAL OF CONSTRUCTION & SPECIFICATION</p> <p>Filter material : Cintered Bronze or equivalent Pressure Gauge : Required. Drain : Required Manual.</p> <p>7.0 COMPANION FLANGE AND STUDS & NUTS :</p> <p>7.1 DESIGN PARAMETERS:</p>			
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