


ESP-001-2A Rev.00		PRODUCT STANDARD PROJECT ENGINEERING & SYSTEMS DIVISION HYDERABAD		Std. / Doc. Number		
				Misc-MRPL-DS-01		
				Rev. No.	00	
				Sheet	1	of 1
Accessories Requirement for Control Valve/Pneumatic On-Off Ball Valves						
<u>Pneumatic Actuator</u>						
S.No.	Description	:	Specification			
1	Make	:	As per Vendor List			
2	Model Number	:	Bidder to Specify			
3	Type	:	Preferably Spring Return Actuator			
4	Sizing Pressure / Air Pressure	:	4.0 kg/cm2(g)			
5	Ingress Protection	:	IP-65 as min.			
6	Manual Override/Handwheel	:	Yes, Required			
7	Location	:	Top/Side Mounted			
8	Air Fail	:	As per P&ID			
9	Air to	:	Bidder to Specify			
10	Shut-off Pressure	:	Design pressure as per P&ID			
11	Diaphragm Material	:	nylon reinforced neoprene or Buna N rubber			
12	Actuator Colour	:	Fail open: Green/Fail Close : Red			
13	Stroke Time	:	<10 sec			
<u>Solenoid Valve</u>						
S.No.	Description	:	Specification			
1	Make	:	As per Vendor List			
2	Model Number	:	Bidder to Specify			
3	Body Material	:	SS316			
4	Reset Type	:	Auto			
5	Supply Voltage	:	110 VDC			
6	Design	:	Ex Proof Design			
7	Enclosure	:	Ex-proof			
8	Ex-Proof	:	IIA/IIB, Temp Class T3 as min.			
9	Ingress Protection	:	IP-65 as min.			
10	Cable Entry	:	1/2" NPT			
11	Cable Gland	:	Double Compression Ex-Proof, MOC:SS316, 1/2"NPT. Suitable for Gas Group IIA/IIB T3, PESO Certified with Slipper type PVC Shrouds.; Supply Quantity = 1 No's/SOV			
12	Dummy Plug	:	MOC:SS316; Quantity = 1 No's/SOV			
13	SIL	:	--			
14	Type of Coil	:	Single coil			
15	Insulation Type	:	H class insulation			
16	Redundant of SOV	:	NO			
17	Command Philosophy	:	SOV shall be energized under normal conditions and de-energized which will drive the valve to failsafe condition.			
18	Special Feature	:	Surge suppression diode shall be integral part of solenoid vatve.			
19	Prefabricated FRP Canopy (Machine moulded)	:	Required			

<u>Air Filter Regulator</u>		
S.No.	Description	: Specification
1	Make	: As per Vendor List
2	Model Number	: Bidder to Specify
3	Body Material	: SS316
4	Enclosure	: Weather Proof
5	Ingress Protection	: IP-65
6	Filter Element Material	: Bidder to Specify
7	Filter element Size	: Bidder to Specify
8	Pneumatic Connection size	: 1/4" NPT(F)
9	Drain	: Manual

<u>Limit Switches</u>		
S.No.	Description	: Specification
1	Make	: As per vendor list
2	Model Number	: Bidder to Specify
3	Type	: Proximity Design with metallic enclosure
4	Design	: Intrinsic Safe
5	Intrinsic safe to	: IIA/IIB, Temp Class T3 as min.
6	Switch Make	: As per vendor list
7	Cable Entry	: 1/2" NPT
8	Cable Gland Material	: Double Compression Ex-Proof, MOC:SS316, 1/2"NPT. Suitable for Gas Group IIA/IIB T3, PESO Certified with Slipper type PVC Shrouds; Supply Quantity = 1 No's/SOV
9	Supply Voltage	: 24VDC, 1 Amp
10	Barriers at DCS/PLC	: BHEL's Scope
11	SIL	: --
12	Special Feature	: Limit Switch mounting arrangements plates, linkages, etc shall be min SS316

<u>Pneumatic Tube & Tube Fittings</u>		
S.No.	Description	: Specification
1	Make	: As per vendor list
2	Material	: SS316
3	Type	: double ferrule type(Double compression) type
4	Tube size	: 12mm (For Valves ≥ 8 Inch) 6mm (Based on requirement)

<u>Junction Box (If applicable)</u>		
S.No.	Description	: Specification
1	Make	: As per Vendor list.
2	Model Number	: Bidder to Specify
3	Material of Construction	: SS
4	Cable Gland Material	: SS
5	Cable Gland Type	: Flareless Double compression
6	Enclosure	: Exproof
7	Ex-Proof	: IIA/IIB, Temp Class T3 as min.
8	Cable Entry/Exit size	: 1/2" NPT
	Number of Terminals	: Bidder to Specify

<u>Positioner</u>		
S.No.	Description	: Specification
1	Make	: Refer Sub vendor list
2	Type	: 1) all positioners are SMART type 2) Positioner shall be of Non-Contact type design 3) Intrinsic safe design to be followed.

3	Position Transmitter(Integral with positioner)	:	Required for all control- Valves
4	Advance Diagnostic Softwares	:	AMS Plug-in Software for Advanced Diagnostics of Valve & Actuator along with Licenses (valid for Maximum possible Tags) shall be supplied.
5	SIL	:	--
6	Enclosure	:	Metallic
7	Ingress Protection	:	IP-65 as min.
8	Special Feature	:	Mounting plates, linkages and connecting rods, etc shall be min SS316
9	Goose Neck/Vent protection from water	:	Required
10	Prefabricated FRP Canopy (Machine moulded)	:	Required
11	Guaranteed air consumptions	:	For Single acting Positioners: < 0.2 Nm ³ /hr For Double acting Positioners: < 0.6 Nm ³ /hr
12	In-built position transmitter	:	Required
13	Positioner mounting	:	Positioner mounting to Actuator shall be in accordance with IEC60534-6-1, VDIIVDE-3847, IEC60534-6-2, VDIIVDE- 3845 & NAMUR mounting standards.
14	P&ID design requirement	:	When a control valve is used as a final element of a protective function (valid only for non SIL loops / for loops where an On-Off valve already exists in series with the above mentioned Control Valve), it shall be equipped with a solenoid-operated valve between the valve positioner and the actuator.
15	Valve Travel Indication (Local)	:	SS Scale With Travel marking in %
16	Packing Type	:	Live Loadable only (without disconnecting actuator)
17	Any other requirements	:	Valve & Actuator Colour Coding shall be decided during detail engineering

Notes:

- (1) Exproof/Intrinsic safe Certification : Yes
- (2) CCOE certificate required: Yes (for all exproof/intrinsic safe applications for Positioner, Junction Box, Limit Switch, Solenoid Valve & Cable Glands)
- (3) All bolts used for mounting of Instruments, Junction Boxes shall be of SS.