

ANNEXURE-7B: CONTROL VALVE AND ON-OFF VALVE REQUIREMENTS

Accessories Requirement for Control Valve/Pneumatic On-Off Ball Valves

Pneumatic Actuator

Make	:	Valve body & actuator shall be from same OEM as mentioned in the vendor list.
Model Number	:	Bidder to Specify
Type	:	Preferably Spring Return Actuator
Sizing Pressure / Air Pressure	:	3.5 kg/cm ² (g)
Ingress Protection	:	IP-65 as min.
Manual Override/Handwheel	:	Yes, Required
Location	:	Top/Side Mounted
Air Fail	:	As per P&ID
Air to	:	Bidder to Specify
Shut-off Pressure	:	Design pressure as per P&ID
Diaphragm Material	:	nylon reinforced neoprene or Buna N rubber
Actuator Colour	:	Green/Red
Stroke Time	:	< 5 sec

Solenoid Valve

Make	:	As per Vendor List
Model Number	:	Bidder to Specify
Body Material	:	SS316
Reset Type	:	Auto
Supply Voltage	:	24 VDC
Design	:	IS Design
Enclosure	:	Ex-proof
Ex-Proof	:	IIA/IIB, Temp Class T3 as min.
Ingress Protection	:	IP-65 as min.
Cable Entry	:	1/2" NPT
SIL	:	SIL-2 as per IEC 61508/61511
Type of Coil	:	Single Coil
Insulation Type	:	H class
Redundancy of SOV	:	NO
Command Philosophy	:	SOV shall be energized under normal conditions and de-energized which will drive the valve to failsafe condition. All SOVs shall be de energized to trip.

Air Filter Regulator

Make	:	As per Vendor List
Model Number	:	Bidder to Specify
Body Material	:	SS316
Enclosure	:	Weather Proof
Ingress Protection	:	IP-65
Filter Element Material	:	phosphor bronze filter element
Filter element Size	:	5 micron
Pneumatic Connection size	:	1/4" NPT(F)
Drain	:	Standard

Pressure Gauge

Make	:	as per Vendor List
Model No	:	Bidder to Specify
Casing material	:	as per Vendor List
Internals material	:	as per Vendor List
Pressure Gauge Dial Size	:	2" Dial size

Limit Switches

Make	:	As per vendor list
Model Number	:	Bidder to Specify
Type	:	Proximity Design with metallic enclosure
Design	:	Intrinsic Safe
Ex-Proof	:	IIA/IIB, Temp Class T3 as min.
Switch Make	:	P&F Make
Cable Entry	:	1/2" NPT
Cable Gland Material	:	SS
Cable Gland Type	:	Flareless Double compression
Supply Voltage	:	24VDC, 1 AMPS
Barriers	:	BHEL's Scope
SIL	:	SIL-2 as per IEC 61508/61511

Junction Box

Make	:	As per Vendor list.
Model Number	:	Bidder to Specify
Material of Construction	:	Die Cast Aluminium
Cable Gland Material	:	Ni/brass plated/SS
Cable Gland Type	:	Flareless Double compression
Enclosure	:	Exproof
Ex-Proof	:	IIA/IIB, Temp Class T3 as min.
Cable Entry/Exit size	:	1/2" NPT
Number of Terminals	:	Bidder to Specify

Pneumatic Tube & Tube Fittings

Make : Swagelok / Parker
Material : SS316
Type : double ferrule type

Positioner

Make : As Per Vendor List

Type : ELECTRO-PNEUMATIC WITH SMART(IN
BUILT POSITION TRANSMITTER)
Diagnostic Software : NA
SIL : SIL-2 as per IEC 61508/61511
Enclosure : Metallic
Ingress Protection : IP-65 as min.

Misc

Body Stud/Nut Material : As per PMS

Volume Booster

Make : As per Vendor Std.
Model : As per Vendor Std.
Tubing size : As per Vendor Std.

Quick Exhaust Valve

Make : As per Vendor Std.
Model : As per Vendor Std.
Tubing size : As per Vendor Std.

Note:

Exproof/Intrinsic safe Certification : Yes

CCOE approval required: Yes (for exproof application: Junction Box,Limit Switch & Solenoid Valve)