

VENDOR CHECKLIST FOR CONTROL VALVE (BUTTERFLY VALVE TYPE)

BHEL Material Code:L143014220020001

TAG NO. COG63E-H

TOS:TSK:003CTV/Rev.01

Enquiry No.

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(COG FLOW CONTROL CUM TRIP VALVE)

	DESCRIPTION	BHEL REQUIREMENT	VENDOR CONFIRMATION
1.0	Flow Parameters		
1.1	Service	Coke oven gas flow control cum trip valve	
1.2a	Flow @ Min./ Max	600/1150 Ncu.m/Hr	
1.2b	Inlet Pressure @ Min./Max Flow	400/400 mm wc	
1.2c	Outlet Pressure @ Min./Max Flow	300/350 mm wc	
1.3	Actuator sizing DP mm wc	2000 mm wc	
1.4	Gas temp. Min/Nor./Max	3/27/50 deg.C	
1.5	Specific gravity	0.449	
1.6	Maximum line temperature	50 deg.C	
1.7	CV Req'd. @ Min./Max Flow	Vendor to furnish for both conditions	
1.8	Valve CV @Min./Max. Flow	Vendor to furnish for both conditions	
1.9	Flap positions @ Min./Max. Flow	10 deg / 65 deg(vendor to specify)	
1.10	Valve closing time	<1 sec	
1.11	Valve opening time	6 to 10 sec adjustable	
2.0	Valve Details		
2.1	Valve Make and Model	Vendor to specify	
2.2	Line size ODxT (mmxmm)	Ø 168.27 x 7.11t reduced to NB100. (Reducer under purchaser's scope) Vendor to offer end connection details.	
2.3	Valve body size	NB100 mm	
2.4	Valve / Disc type	Double Eccentric Butterfly, =% / Modified parabolic	
2.5	Ends	Flanged	
2.6	Body rating	PN 6 or higher	
2.7	Body material	Carbon steel (Cast/fabricated)	
2.8	Disc material	Carbon steel	
2.9	Seat Material	Stainless steel	
2.10	Stem Material	Stainless steel	
2.11	Seal Material	Resilient seals with better seal life and easily replaceable	
2.12	Handwheel material	Cast steel	
2.13	Packing Materials	Vendor to specify	
2.14	Stem size	Vendor to specify	
2.15	Seat leakage class	As per API 598-bubble tight shut off	
2.16	Leakage thro' glands	Zero	
2.17	Max. Valve torque	Vendor to specify	
2.18	Mating flange	To suit line and valve size	
2.19	Fasteners for flange	ASTM A193 GR. B	
2.20	Non-asbestos gasket	Non-Asbestos	
3.0	Actuator	Spring return rack & pinion/ scotch yoke type (Rotary)	
3.1	Make and Model	Vendor to specify	

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	DESCRIPTION	BHEL REQUIREMENT	VENDOR CONFIRMATION
3.2	Size and Volume	Vendor to specify	
3.3	Spring number/ Range	Vendor to specify	
3.4	Action	Air to Open / Close	
3.5	Air Pr. Kg/sq.cm(g)	4	
3.6	Torque developed at 4 kg/sq.cm(g)	Vendor to specify	
3.7	Pressure port connection	Vendor to specify	
3.8	Action on air failure	Stayput	
3.9	Air lock up valve	Vendor to offer	
4.0	SOLENOID PILOT		
4.1	Make / Type No	Vendor to specify	
4.2	Style	Vendor to specify	
4.3	To Open Main Valve	Energise Solenoid coil	
4.4	To Close Main Valve	De-Energise Solenoid coil	
4.5	Enclosure	NEMA 7 & 9 Explosion Proof	
4.6	Coil Duty	Continuous, for 100° C ambient	
4.7	Coil Rating	24V DC; SINGLE COIL	
4.8	Insulation Class	Class H	
4.9	Inrush / Hold Wattage	Vendor to specify	
4.10	Valve Flow Cv	Vendor to specify	
4.11	Body Matl	Forged Brass	
4.12	Wetted parts	Stainless Steel	
4.13	Seating	Resilient for tight shut	
4.14	Valve End sizes	To suit open/close time. Vendor to specify	
4.15	Cable entry	1/2 " conduit	
5.0	QUICK EXHAUST VALVE	To meet 1.10	
5.1	Make/type No	Vendor to specify	
5.2	Port Connection	Vendor to specify	
6.0	FLOW RESTRICTOR	To meet 1.11	
6.1	Make/type No	Vendor to specify	
6.2	Port Connection	Vendor to specify	
	Adjustable Time Range	Vendor to specify	
7.0	LIMIT SWITCHES	2 NOS, 1 no. open & 1 no. close	
7.1	Make/type No	Vendor to specify	
7.2	Mounted for	Full open/Full close/% open	
7.3	Contacts	DPDT (2NO+2NC)	
7.4	Contact Rating	240 AC 10 Amp, 220 DC 0.25 Amp	
7.5	Enclosure	NEMA 7&9 Explosion proof	
7.6	Cable Entry	Vendor to specify	
8.0	Positioner model	Pneumatic/Electro-pneumatic	
8.1	Make/Type no.	Vendor to specify	
8.2	Action	Direct / Reverse - Field Adjustable	
8.3	Gauges	Three numbers	
8.4	Signal pressure	0.2 to 1 kg/sq.cm(g)	

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8.5	Supply pressure	4 kg/sq.cm(g)	
8.6	Enclosure	NEMA 7 & 9	
8.7	Air set make & type no.	Vendor to offer	
8.8	Air set End connection & pressure range	3/8" NPT(F). Vendor to confirm.	
9.0	Position Transmitter		
9.1	Make/Type no.	Vendor to specify	
9.2	Style	3-wire potentiometer	
9.3	Input/Output	24V DC / 4-20 mA	
9.4	Enclosure	NEMA 7 & 9	
9.5	Cable entry	Vendor to specify	
9.6	Load	Vendor to specify	
10.0	Junction Box		
10.1	Enclosure	Explosion proof suitable for Zone-II, Gas group II-B, T2	
10.2	No. of terminals	24	
11.0	Applicable Standards		
11.1	Control valve sizing equations	ANSI / ISA S75.01	
11.2	Control valve capacity test procedure	ANSI / ISA S75.01	
11.3	Seat leakage	API 598	
11.4	Face to face dimensions	Vendor to specify.	
11.5	Flange dimensions & drilling	Vendor to specify.	
12.0	Special Requirements		
12.1	11.1 This valve shall operate both as control valve and trip valve. The valve shall be quick closing (<1 sec) and slow opening.	Vendor to confirm	
12.2	11.2 The line temperature may reach 50 deg.C at the time of steam/nitrogen	Valve seal, seat materials shall withstand the temperature	
12.3	11.3 Mating flanges, Non- asbestos gaskets & Fasteners are in vendor's scope	Vendor to confirm	
12.4	11.4 Enclosures for all accessories shall be explosion proof suitable for COG area Class-I, Zone- II, Group- II B, T2 to the extent of IS- 5572.	Vendor to confirm	
12.5	11.5 Valve mounting position shall be suitable for both horizontal and vertical pipe mounting.	Vendor to confirm	
		BHEL	VENDOR
	Prepared		
	Checked & Approved		