



PART - I: DATASHEET FOR BUTTERFLY TRIP VALVE
BFG MAIN TRIP VALVE (Tag: BG40)

UNITS: Flow-Liquid Cu m / hr, Steam-Kg / hr, Gas-NCu m / hr, Pr-kg / cmSq (g), Temp-° C
BHEL Material Code: L143014220016001

O.FLOW DATA		C.SOLENOID PILOT			
1. Line Fluid		1. Make / Type No			
2. Flow Max		2. Style			
3. Normal in pr		3. To Open Main Valve	Energise Solenoid coil		
4. Allowable DP		4. To Close Main Valve	De-Energise Solenoid coil		
5. Actuator Sizing DP		5. Enclosure			
6. Temp Max		6. Coil Duty	Continuous, for 100° C ambient		
7.Flow Temp		7. Coil Rating	24 V DC		
8. Flow Sp Gravity		8. Insulation Class			
9. Flow Viscosity		9. Inrush / Hold Wattage			
10. Max Flow Cv		10. Valve Flow Cv			
11. Flap rotation %		11. Body Material	Forged Brass		
12. Valve Cv		12. Wetted parts	Stainless Steel		
13. Valve Closing Time	Sec.	13. Seating	Resilient for tight shut		
14. Valve Opening Time	Sec. Adjustable	14. Valve Ends			
		15. Cable entry			
A. VALVE BODY		16. Terminal Block	Provided		
1. Make/Type No		D. QUICK EXHAUST VL	To meet O.13		
2. Line Size	ODxT mm	1. Make/type No			
3. Body/port Size	Nb mm	2. Port Conn			
4. Flap rotation	degrees				
5. Body Style / Rating	NP	E. FLOW RESTRICTOR	To meet O.14		
6. Ends	Flanged to :	1. Make/Type No			
7. Valve Disc type		2. Port Conn			
8. Disc Material		3. Adjustable Time Range			
9. Body Matl	Carbon Steel				
10. Seat Material		F. AIRSET	Type No		
11. Stem Size /Material		1. Airset set pressure			
12.Seal Matl		2. End Connection			
13. Seat Leak Class	Bubble tight shut off as per API 598	G. LIMIT SWITCHES			off
14. Bonnet / packing		1. Make/Type No			
15. Noise Level		2. Mounted For	Full open	Full close	% Open
16. Mating flanges	To suit valve & line size	3. Contacts			Off
17. Fasteners for flanges	Qty	4. Contact Rating	240Ac 10Amp	110 Dc 0.5 Amp	
18. Non-asbestos gaskets	Specify	5. Enclosure			
19. Handwheel material	Cast steel	6.Cable Entry			
		H. JUNCTION BOX	Provided		
		1.Enclosure			
		2. No. of Terminals			
		I.SUPPLY CONDITION			
		1. Assembly – 1			
		2. Assembly – 2			
		3. Pneumatic Terminal	To suit 1/2" SS tubing. Vendor to specify.		
		4. Spares	Individually tagged and packed		
B. ACTUATOR ASSY		IBR	NO		
1. Make/Type No		REF. DOCUMENTS:(SPECIFY DWG/MANUAL REF.Nos.BELOW)			
2. Style		1.Assy Dimensional Dwg			
3. Size/Volume		2.Assy Hookup Dwg			
4. Spring No/Range		S.No	ITEM	O & M Manual	Spares identifier
5. Spring to	Close				Catalog&Spec
6. Air to	Open				
7. Signal pr		3	A		
8. Pr port Conn		4	B		
9. On Air Failure	Stay Put	5	B 11		
10. Lockup Valve type No		6	C		
11. Lockup Valve Set pr		7	D		
12. Available air pressure	4 kg/sqcm(g)	8	E		
		9	F		
		10	G		
PREPARED BY (VENDOR)		DATE	APPROVED BY (BHEL)		DATE



**FUEL SYSTEMS
PE (BOILERS)**

**TOS:TSK:005MTV/ REV:01
SHEET 2 OF 4**

**PART - II: VENDOR CHECK LIST FOR BUTTERFLY TRIP VALVE
BFG MAIN TRIP VALVE (Tag: BG40)**

BHEL MATERIAL CODE: L143014220016001

ENQUIRY No.:

UNITS: Flow-Liquid Cu m/ hr, Steam-Kg / hr, Gas-NCu m/ hr, Pr-kg / cmSq (g), Temp-°C

IIB	BHEL SPECIFICATION	VENDOR CONFIRMATION			
J. APPLICABLE STANDARDS:					
1. Control valve sizing equations	ANSI / ISA S75.01				
2. Control valve capacity test procedure	ANSI / ISA S75.02				
3. Seat leakage	API 598				
4. Face to face dimensions	Vendor to specify				
5. Flange dimensions & drilling	Vendor to specify				
O. FLOW DATA					
1. Line Fluid	Blast Furnace Gas (BFG)+ LD gas				
2. Flow Max	225000+5% Nm ³ /hr				
3. Normal in pr	850 mm wc				
4. Allowable DP	5 mm wc				
5. Actuator Sizing DP	1800 mm wc				
6. Temp Max	50°C				
7. Flow Temp	27°C				
8. Flow Sp Gravity	1.011				
9. Flow Viscosity	18.882 x 10 ⁻⁶ Ns/Sq.m				
10. Max Flow Cv	Vendor to specify				
11. Flap rotation (%)	Full				
12. Valve Cv	Vendor to specify				
13. Valve Closing Time	< 5 Sec.				
14. Valve Opening Time	6 to 10 Sec. Adjustable				
A. VALVE BODY					
1. Make/Type No	Vendor to specify				
2. Line Size mm	OD 2620 x 10 t				
3. Body / port Size mm	NB 2600 mm				
4. Flap rotation (degrees)	Vendor to specify				
5. Body Style / Rating	Flanged PN 6 or higher				
6. Ends	Flanged				
7. Valve disc type	Double/Triple Eccentric type				
8. Disc Material	Carbon Steel				
9. Body Matl	Carbon Steel				
10. Seat Matl	Vendor to specify				
11. Hand wheel Matl	Cast steel				
12. Stem Size / Matl	Vendor to specify / SS				
13. Seal Matl	Vendor to specify				
14. Seat Leak Class	Bubble tight shut-off as per API 598				
15. Bonnet / packing	Std / Extended Specify				
16. Noise Level	< 85 dBA				
17. Valve Internals	Shall not vibrate				
18. Mating flange	To suit valve end & stated line size				
19. Fasteners for End flanges	ASTM A193 GRB				
20. Gaskets	Non asbestos				
BHEL		VENDOR			
PREPARED BY	APPROVED	DATE	PREPARED BY	APPROVED BY	DATE
Sairam N	Gangadhar MCHS	27/02/19			



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BHEL SPECIFICATION		VENDOR CONFIRMATION	
B. ACTUATOR ASSY Spring return piston type (rotary)			
1. Make/Type No	Vendor to specify		
2. Style	Vendor to specify		
3. Size/Volume	Vendor to specify		
4. Spring No/Range	Vendor to specify		
5. Spring to	Close		
6. Air to	Open		
7. Signal pr	Vendor to specify		
8. Pr port Conn	Vendor to specify		
09. On Air Failure	Stay Put		
10. Lockup Valve type No	Vendor to specify		
11. Lockup Valve Set pr	Vendor to specify		
12. Available air pressure	4 kg/sq.cm(g)		
C.SOLENOID PILOT 3Way Single coil 24 V DC			
1. Make / Type No	Vendor to specify		
2. Style	Vendor to specify		
3. To Open Main Valve	Energise Solenoid coil		
4. To Close Main Valve	De-Energise Solenoid coil		
5. Enclosure	NEMA 7 & 9 Explosion Proof		
6. Coil Duty	Continuous, for 100° C ambient		
7. Coil Rating	24V DC; SINGLE COIL		
8. Insulation Class	Class H		
9. Inrush / Hold Wattage	Vendor to specify		
10. Valve Flow Cv	Vendor to specify		
11. Body Matl	Forged Brass		
12. Wetted parts	Stainless Steel		
13. Seating	Resilient for tight shut		
14. Valve End sizes	To suit open/close time. Vendor to specify		
15. Cable entry	1/2 " conduit		
D. QUICK EXHAUST VALVE		To meet O.13	
1. Make/type No	Vendor to specify		
2. Port Connection	Vendor to specify		
E.FLOW RESTRICTOR		To meet O.14	
1. Make/type No	Vendor to specify		
2. Port Connection	Vendor to specify		
3. Adjustable Time Range	Vendor to specify		
F. AIRSET		Type No – Make & Model	
1. Airset set pr	End Conn.	Vendor to specify	
G.LIMIT SWITCHES		2 NOS 1 no Open, 1no Close	
1. Make/Type No	Vendor to specify		
2. Mounted For	Full open	Full close	% Open
3. Contacts	DPDT (2NO+2NC)		
4. Contact Rating	240Ac 10Amp	220 Dc	0.25 Amp
5. Enclosure	NEMA 7 & 9 Explosion Proof		
6. Cable Entry	1/2" - 14 NPSM		
H. PNEUMATIC TERMINAL		To suit 1/2" SS tube. Vendor to specify.	
BHEL		VENDOR	
PREPARED BY	APPROVED	DATE	PREPARED BY
Sairam N	Gangadhar MCHS	27/02/19	
			APPROVED BY
			DATE



IIA		BHEL SPECIFICATION	VENDOR CONFIRMATION		
I. JUNCTION BOX					
1.Enclosure		NEMA 7 & 9 Explosion Proof			
2. No. of Terminals		Vendor to specify			
3.Spares offer		commissioning / Customer			
REFERENCE DOCUMENTS:-(SPECIFY DWG/MANUAL REF.NOs.BELOW)					
1. Assy Dimensional Dwg		Vendor to furnish			
2. Assy Hookup Dwg		Vendor to furnish			
3.Spares Catalogue/DRG No		Vendor to specify			
J.MARKING					
1.S S name plate		Vendor to specify			
2. Spares individually tagged		Vendor to specify			
K. PAINTING		Epoxy coated			
L.PACKING		Land worthy			
M.TEST CERTIFICATES					
1.Hydraulic test					
2.Seat leak test		Vendor to specify			
3.Material certificates		Vendor to specify			
4.Std. test on Actuator		Vendor to specify			
5.Dimensional test		Vendor to specify			
N.OPR. & INSTRN. MANUALS					
1.6 Hard copies & 1 soft form		Vendor to confirm			
IIB	SPECIAL CONTRACT REQUIREMENT, IF ANY				
	1.Enclosures for all accessories shall be explosion proof suitable for BFG area Class-I, Zone- II, Group- II A, T2 to the extent of IS-5572. 2.All counter flanges, fasteners and gaskets shall be in vendor's scope. 3.Valve mounting position shall be suitable for both horizontal and vertical pipe mounting. Vendor to confirm to each point of the special contract requirements. (USE AN ANNEXURE IF THIS SPACE IS INADEQUATE)				
BHEL			VENDOR		
PREPARED BY	APPROVED BY	DATE	PREPARED BY	APPROVED BY	DATE
Sairam N	Gangadhar MCHS	27/02/19			