



FUEL SYSTEMS
PE (BOILERS)

TOS: TSK:004/ REV: 01
SHEET 1 OF 8

DATA SHEET FOR BUTTERFLY VALVE (MANUAL)
COG operating floor Vent Valve (Tag: COG32A)

BHEL MATERIAL CODE: L143014220012001

IIA	BHEL SPECIFICATION	
0.0		
1.0	SERVICE	Coke Oven Gas Vent valve
1.1	Flow max.	Ncu.m/hr
1.2	Inlet pr. Normal / Max.	mmWC
1.3	Allowable DP	mmWC
1.5	Temp. Normal / Max.	27 / 50 deg C
1.6	CV Reqd. @ 100% open	
1.7	Valve CV rating	
1.8	Valve opening / closing time	
2.0	VALVE MAKE & TYPE	
2.1	Valve size overall : L x b x h	x x mm
2.2	Valve / Disc Type	Double eccentric type
2.3	Ends	Flanged ends
2.4	Line size OD x T mm	OD 508.0 x 6.3 t
2.5	Body size / Body rating	NB500 mm / PN 6 or higher
2.6	Body Material	carbon steel (cast/ fabricated)
2.7	Disc material	
2.8	Seat material	
2.9	Stem material	Stainless steel
2.10	Seal material	
2.11	Packing material	
2.12	Stem size	
2.13	Seat leak class	Bubble tight shut-off as per API 598
2.14	Leakage thro' glands	
2.15	Torque required for Butterfly valve operation	
2.16	Weight of entire valve assemblies	
3.0	Type of Bearings	
3.1	Lubricant	
4.0	Limit Switches – 1 No. for closed position	
4.1	Type / Rating	
4.2	Enclosure	
4.3	Cable entry	
5.0	JUNCTION BOX	
5.1	Enclosure	
5.2	No. of terminals	
6.0	Recommended spares	

PREPARED BY (VENDOR)	DATE	APPROVED BY (BHEL)	DATE

**FUEL SYSTEMS
PE (BOILERS)****TOS: TSK:004/ REV : 01
SHEET 2 OF 8****PART- IIA: VENDOR CHECK LIST FOR BUTTERFLY VALVE (MANUAL)****COG Operating floor Vent Valve (Tag: COG32A)****BHEL MATERIAL CODE: L143014220012001****ENQUIRY No.:**

BHEL SPECIFICATION		VENDOR CONFIRMATION			
1.0	Service	COG gas vent line			
1.1	Flow max.	46000 Ncu.m/hr			
1.2	Inlet pr. Normal / Max.	900 / 1200 mmWC			
1.3	Allowable DP	5 mmWC			
1.4	Temp. Normal / Max.	27 / 50 deg C			
1.5	CV Req'd. @ 100% open				
1.6	Valve CV rating				
1.7	Valve opening / closing time	Sec.			
2.0	Valve size overall Lxbxh	x mm			
2.1	Valve / Disc Type	Double eccentric type			
2.2	Ends	Flanged ends			
2.3	Line size ODxT mm	OD 508.0 x 6.3 t mm			
2.4	Body size / rating	NB500 mm / PN 6 or higher			
2.5	Body Material	Carbon steel (cast/ fabricated)			
2.6	Valve Flap material	Carbon steel			
2.7	Shaft material	Stainless steel			
2.8	Bushes,gland,stuffing box :	Stainless steel			
2.9	Hand wheel material	Cast steel			
2.10	Seal material	Vendor to specify.			
2.11	Packing material	Vendor to specify			
2.12	Seat leak class	Bubble tight shut-off as per API-598			
2.13	Leakage thro' glands	Vendor to specify			
2.14	Mating Flanges	To suit valve & line size			
2.15	Fasteners for flange	ASTM A193 GRB. Specify Qty			
2.16	Gaskets	Non asbestos.			
2.17	Flange drilling & dimension std	Vendor to specify.			
2.18	Valve face to face dimension std	Vendor to specify.			
3.0	Type of bearings				
3.1	Lubrication				
4.0	Limit Switches	1 no. for fully closed (2NO+2NC)			
4.1	Type / Rating	Microswitches,DPDT,220VDC,10A			
4.2	Enclosure	Explosion proof			
4.3	Cable entry	1/2",14 NPSM (F)			
5.0	Junction box	Vendor to specify			
5.1	Enclosure	Explosion proof			
5.2	No. of terminals	12			
6.0	Marking				
6.1	Stainless steel name plate				
6.2	Each spares shall be individually tagged				
7.0	Painting				
7.1	Interior surface with rust preventive oil				
7.2	Epoxy coated over red oxide primer				
8.0	Packing				
8.1	All opening shall be firmly capped.				
8.2	Seaworthy packed in wooden boxes.				
9.0	Test Certificates				
9.1	Body hydraulic test				
9.2	Seat Leak Test				
9.3	Material test				
9.4	Standard performance test				
9.5	Dimensional test				
9.6	Chemical composition test				
10.0	Documents enclosed :				
10.1	O & M manuals				
10.2	Complete dimensional drawings				
10.3	Quality plan				
10.4	Spares identification Drgs.				
IIB	Special Contract Requirements, if any	Vendor to confirm to each point of the special contract reqmt.			
	1.Enclosures for all accessories shall be explosion proof suitable for COG - Class -I, Zone -II, Group-II B 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 mounting.				
BHEL		VENDOR			
PREPARED BY	APPROVED BY	DATE	PREPARED BY	APPROVED BY	DATE
SAIRAM N	MCHS GANGADHAR	25/02/19			



FUEL SYSTEMS
PE (BOILERS)

TOS: TSK:004/ REV:01
SHEET 3 OF 8

DATA SHEET FOR BUTTERFLY VALVE (MANUAL)
COG Burner Isolation Valve (Tag No. COG49A-D & E-H)

BHEL MATERIAL CODE: L143014220012002

IIA	BHEL SPECIFICATION	
0.0		
1.0	SERVICE	Coke Oven Gas Isolation
1.1	Flow max.	Ncu.m/hr
1.2	Inlet pr. Normal / Max.	mmWC
1.3	Allowable DP	mmWC
1.5	Temp. Normal / Max.	27 / 50 deg C
1.6	CV Req'd. @ 100% open	
1.7	Valve CV rating	
1.8	Valve opening / closing time	
2.0	VALVE MAKE & TYPE	
2.1	Valve size overall : L x b x h	x x mm
2.2	Valve / Disc Type	Double eccentric type
2.3	Ends	Flanged ends
2.4	Line size OD x T mm	OD 406.4 x 6.3 t
2.5	Body size / Body rating	NB400 mm / PN 6 or higher
2.6	Body Material	carbon steel (cast/ fabricated)
2.7	Disc material	
2.8	Seat material	
2.9	Stem material	Stainless steel
2.10	Seal material	
2.11	Packing material	
2.12	Stem size	
2.13	Seat leak class	Bubble tight shut-off as per API 598
2.14	Leakage thro' glands	
2.15	Torque required for Butterfly valve operation	
2.16	Weight of entire valve assemblies	
3.0	Type of Bearings	
3.1	Lubricant	
4.0	Limit Switches – 1 No. for Open position	
4.1	Type / Rating	
4.2	Enclosure	
4.3	Cable entry	
5.0	JUNCTION BOX	
5.1	Enclosure	
5.2	No. of terminals	
6.0	Recommended spares	

PREPARED BY (VENDOR)	DATE	APPROVED BY (BHEL)	DATE

**FUEL SYSTEMS
PE (BOILERS)****TOS: TSK:004/ REV:01
SHEET 4 OF 8****PART- IIA: VENDOR CHECK LIST FOR BUTTERFLY VALVE (MANUAL)****COG Burner Isolation Valve (Tag No. COG49A-D & E-H)****BHEL MATERIAL CODE: L143014220012002****ENQUIRY No.:**

BHEL SPECIFICATION		VENDOR CONFIRMATION
1.0	Service	Isolating COG gas
1.1	Flow max.	5750 Ncu.m/hr
1.2	Inlet pr. Normal / Max.	900 / 1200 mmWC
1.3	Allowable DP	5 mmWC
1.4	Temp. Normal / Max.	27 / 50 deg C
1.5	CV Req'd. @ 100% open	
1.6	Valve CV rating	
1.7	Valve opening / closing time	Sec.
2.0	Valve size overall Lxbxh	x mm
2.1	Valve / Disc Type	Double eccentric type
2.2	Ends	Flanged ends
2.3	Line size ODxT mm	OD 406.4 x 6.3 T mm
2.4	Body size / rating	NB400 mm / PN 6 or higher
2.5	Body Material	Carbon steel (cast/ fabricated)
2.6	Valve Flap material	Carbon steel
2.7	Shaft material	Stainless steel
2.8	Bushes,gland,stuffing box :	Stainless steel
2.9	Hand wheel material	Cast steel
2.10	Seal material	Vendor to specify.
2.11	Packing material	Vendor to specify
2.12	Seat leak class	Bubble tight shut-off as per API-598
2.13	Leakage thro' glands	Vendor to specify
2.14	Mating Flanges	To suit valve & line size
2.15	Fasteners for flange	ASTM A193 GRB. Specify Qty
2.16	Gaskets	Non asbestos.
2.17	Flange drilling & dimension std	Vendor to specify.
2.18	Valve face to face dimension std	Vendor to specify.
3.0	Type of bearings	
3.1	Lubrication	
4.0	Limit Switches	1 for full open (2NO+2NC)
4.1	Type / Rating	Microswitches,DPDT,220Vdc, 10A
4.2	Enclosure	Explosion proof
4.3	Cable entry	1/2" ,14 NPSM (F)
5.0	Junction box	Vendor to specify
5.1	Enclosure	Explosion proof
5.2	No. of terminals	12
6.0	Marking	
6.1	Stainless steel name plate	
6.2	Each spares shall be individually tagged	
7.0	Painting	
7.1	Interior surface with rust preventive oil	
7.2	Epoxy coated over red oxide primer	
8.0	Packing	
8.1	All opening shall be firmly capped.	
8.2	Seaworthy packed in wooden boxes.	
9.0	Test Certificates	
9.1	Body hydraulic test	
9.2	Seat Leak Test	
9.3	Material test	
9.4	Standard performance test	
9.5	Dimensional test	
9.6	Chemical composition test	
10.0	Documents enclosed :	
10.1	O & M manuals	
10.2	Complete dimensional drawings	
10.3	Quality plan	
10.4	Spares identification Drgs.	
IIB	Special Contract Requirements, if any	Vendor to confirm to each point of the special contract reqmt.
	1.Enclosures for all accessories shall be explosion proof suitable for COG - Class -I, Zone -II, Group-II B 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 mounting.	
BHEL		VENDOR
PREPARED BY	APPROVED BY	DATE
SAIRAM N	MCHS GANGADHAR	25/02/19



**FUEL SYSTEMS
PE (BOILERS)**

**TOS: TSK:004/ REV:01
SHEET 5 OF 8**

**DATA SHEET FOR BUTTERFLY VALVE (MANUAL)
BFG Operating Floor Vent Valve (Tag: BG32A)**

BHEL MATERIAL CODE: L143014220012003

IIA	BHEL SPECIFICATION	
0.0		
1.0	SERVICE	Blast Furnace Gas venting
1.1	Flow max.	Ncu.m/hr
1.2	Inlet pr. Normal / Max.	mmWC
1.3	Allowable DP	mmWC
1.5	Temp. Normal / Max.	27 / 50 deg C
1.6	CV Reqd. @ 100% open	
1.7	Valve CV rating	
1.8	Valve opening / closing time	
2.0	VALVE MAKE & TYPE	
2.1	Valve size overall : L x b x h	x x mm
2.2	Valve / Disc Type	Double Eccentric type
2.3	Ends	Flanged ends
2.4	Line size OD x T mm	OD 1016 x 10 t
2.5	Body size / Body rating	NB1000 mm / PN 6 or higher
2.6	Body Material	carbon steel (cast/ fabricated)
2.7	Disc material	
2.8	Seat material	
2.9	Stem material	Stainless steel
2.10	Seal material	
2.11	Packing material	
2.12	Stem size	
2.13	Seat leak class	Bubble tight shut-off as per API 598
2.14	Leakage thro' glands	
2.15	Torque required for Butterfly valve operation	
2.16	Weight of entire valve assemblies	
3.0	Type of Bearings	
3.1	Lubricant	
4.0	Limit Switches – 1 No. for Closed position	
4.1	Type / Rating	
4.2	Enclosure	
4.3	Cable entry	
5.0	JUNCTION BOX	
5.1	Enclosure	
5.2	No. of terminals	
6.0	Recommended spares	

PREPARED BY (VENDOR)	DATE	APPROVED BY (BHEL)	DATE



**FUEL SYSTEMS
PE (BOILERS)**

**TOS:TSK:004/ REV:01
SHEET 6 OF 8**

PART- IIA: VENDOR CHECK LIST FOR BUTTERFLY VALVE (MANUAL)

BFG Operating Floor Vent Valve (Tag: BG32A)

BHEL MATERIAL CODE: L143014220012003

ENQUIRY No.:

BHEL SPECIFICATION			VENDOR CONFIRMATION			
1.0	Service	BFG+LD Gas vent line				
1.1	Flow max.	225000 Ncu.m/hr				
1.2	Inlet pr. Normal / Max.	600 / 850 mmWC				
1.3	Allowable DP	5 mmWC				
1.4	Temp. Normal / Max.	27 / 50 deg C				
1.5	CV Req'd. @ 100% open					
1.6	Valve CV rating					
1.7	Valve opening / closing time	Sec.				
2.0	Valve size overall Lxbxh	x mm				
2.1	Valve / Disc Type	Double eccentric type				
2.2	Ends	Flanged ends				
2.3	Line size ODxT mm	OD 1016 x 10 t mm				
2.4	Body size / rating	NB1000mm / PN 6 or higher				
2.5	Body Material	Carbon steel (cast/ fabricated)				
2.6	Valve Flap material	Carbon steel				
2.7	Shaft material	Stainless steel				
2.8	Bushes,gland,stuffing box :	Stainless steel				
2.9	Hand wheel material	Cast steel				
2.10	Seal material	Vendor to specify.				
2.11	Packing material	Vendor to specify				
2.12	Seat leak class	Bubble tight shut-off as per API-598				
2.13	Leakage thro' glands	Vendor to specify				
2.14	Mating Flanges	To suit valve & line size				
2.15	Fasteners for flange	ASTM A193 GRB. Specify Qty				
2.16	Gaskets	Non asbestos.				
2.17	Flange drilling & dimension std	Vendor to specify.				
2.18	Valve face to face dimension std	Vendor to specify.				
3.0	Type of bearings					
3.1	Lubrication					
4.0	Limit Switches	1 for fully closed (2NO+2NC)				
4.1	Type / Rating	Microswitches,DPDT,220Vdc,10A				
4.2	Enclosure	Explosion proof				
4.3	Cable entry	1/2" ,14 NPSM (F)				
5.0	Junction box	Vendor to specify				
5.1	Enclosure	Explosion proof				
5.2	No. of terminals	12				
6.0	Marking					
6.1	Stainless steel name plate					
6.2	Each spares shall be individually tagged					
7.0	Painting					
7.1	Interior surface with rust preventive oil					
7.2	Epoxy coated over red oxide primer					
8.0	Packing					
8.1	All opening shall be firmly capped.					
8.2	Seaworthy packed in wooden boxes.					
9.0	Test Certificates					
9.1	Body hydraulic test					
9.2	Seat Leak Test					
9.3	Material test					
9.4	Standard performance test					
9.5	Dimensional test					
9.6	Chemical composition test					
10.0	Documents enclosed :					
10.1	O & M manuals					
10.2	Complete dimensional drawings					
10.3	Quality plan					
10.4	Spares identification Drgs.					
IIB	Special Contract Requirements, if any		Vendor to confirm to each point of the special contract reqmt.			
	1.Enclosures for all accessories shall be explosion proof suitable for BFG - 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 mounting.					
BHEL			VENDOR			
PREPARED BY		APPROVED BY	DATE	PREPARED BY	APPROVED BY	DATE
SAIRAM N		MCHS GANGADHAR	25/02/19			



**FUEL SYSTEMS
PE (BOILERS)**

**TOS:TSK:004/ REV:01
SHEET 7 OF 8**

**DATA SHEET FOR BUTTERFLY VALVE (MANUAL)
BFG Burner Isolation Valve (Tag No. BG49A-D)**

BHEL MATERIAL CODE: L143014220012004

IIA	BHEL SPECIFICATION	
0.0		
1.0	SERVICE	Blast Furnace Gas + LD Gas isolation
1.1	Flow max.	Ncu.m/hr
1.2	Inlet pr. Normal / Max.	mmWC
1.3	Allowable DP	mmWC
1.5	Temp. Normal / Max.	27 / 50 deg C
1.6	CV Req'd. @ 100% open	
1.7	Valve CV rating	
1.8	Valve opening / closing time	
2.0	VALVE MAKE & TYPE	
2.1	Valve size overall : L x b x h	x x mm
2.2	Valve / Disc Type	Double Eccentric type
2.3	Ends	Flanged ends
2.4	Line size OD x T mm	OD 1016 x 10 t
2.5	Body size / Body rating	NB1000 mm/ PN 6 or higher
2.6	Body Material	carbon steel (cast/ fabricated)
2.7	Disc material	
2.8	Seat material	
2.9	Stem material	Stainless steel
2.10	Seal material	
2.11	Packing material	
2.12	Stem size	
2.13	Seat leak class	Bubble tight shut-off as per API 598
2.14	Leakage thro' glands	
2.15	Torque required for Butterfly valve operation	
2.16	Weight of entire valve assemblies	
3.0	Type of Bearings	
3.1	Lubricant	
4.0	Limit Switches – 1 No. for Open position	
4.1	Type / Rating	
4.2	Enclosure	
4.3	Cable entry	
5.0	JUNCTION BOX	
5.1	Enclosure	
5.2	No. of terminals	
6.0	Recommended spares	

PREPARED BY (VENDOR)	DATE	APPROVED BY (BHEL)	DATE



PART- IIA: VENDOR CHECK LIST FOR BUTTERFLY VALVE (MANUAL)

BFG Burner Isolation Valve (Tag No. BG49A-D)

BHEL MATERIAL CODE: L143014220012004

ENQUIRY No.:

IIA	BHEL SPECIFICATION		VENDOR CONFIRMATION		
1.0	Service	Isolating BFG+LD gas			
1.1	Flow max.	56250 Ncu.m/hr			
1.2	Inlet pr. Normal / Max.	600 / 850 mmWC			
1.3	Allowable DP	5 mmWC			
1.4	Temp. Normal / Max.	27 / 50 deg C			
1.5	CV Req'd. @ 100% open				
1.6	Valve CV rating				
1.7	Valve opening / closing time	Sec.			
2.0	Valve size overall Lxbxh	x mm			
2.1	Valve / Disc Type	Double eccentric type			
2.2	Ends	Flanged ends			
2.3	Line size ODxT mm	OD 1016 x 10 t mm			
2.4	Body size / rating	NB1000 mm / PN 6 or higher			
2.5	Body Material	Carbon steel (cast/ fabricated)			
2.6	Valve Flap material	Carbon steel			
2.7	Shaft material	Stainless steel			
2.8	Bushes,gland,stuffing box :	Stainless steel			
2.9	Hand wheel material	Cast steel			
2.10	Seal material	Vendor to specify.			
2.11	Packing material	Vendor to specify			
2.12	Seat leak class	Bubble tight shut-off as per API-598			
2.13	Leakage thro' glands	Vendor to specify			
2.14	Mating Flanges	To suit valve & line size			
2.15	Fasteners for flange	ASTM A193 GRB. Specify Qty			
2.16	Gaskets	Non asbestos.			
2.17	Flange drilling & dimension std	Vendor to specify.			
2.18	Valve face to face dimension std	Vendor to specify.			
3.0	Type of bearings				
3.1	Lubrication				
4.0	Limit Switches	1 for full open (2NO+2NC)			
4.1	Type / Rating	Microswitches,DPDT,220Vdc,10A			
4.2	Enclosure	Explosion proof			
4.3	Cable entry	1/2" ,14 NPSM (F)			
5.0	Junction box	Vendor to specify			
5.1	Enclosure	Explosion proof			
5.2	No. of terminals	12			
6.0	Marking				
6.1	Stainless steel name plate				
6.2	Each spares shall be individually tagged				
7.0	Painting				
7.1	Interior surface with rust preventive oil				
7.2	Epoxy coated over red oxide primer				
8.0	Packing				
8.1	All opening shall be firmly capped.				
8.2	Seaworthy packed in wooden boxes.				
9.0	Test Certificates				
9.1	Body hydraulic test				
9.2	Seat Leak Test				
9.3	Material test				
9.4	Standard performance test				
9.5	Dimensional test				
9.6	Chemical composition test				
10.0	Documents enclosed :				
10.1	O & M manuals				
10.2	Complete dimensional drawings				
10.3	Quality plan				
10.4	Spares identification Drgs.				
IIB	Special Contract Requirements, if any		Vendor to confirm to each point of the special contract reqmt.		
	1.Enclosures for all accessories shall be explosion proof suitable for BFG - 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 mounting.				
BHEL		VENDOR			
PREPARED BY	APPROVED BY	DATE	PREPARED BY	APPROVED BY	DATE
SAIRAM N	MCHS GANGADHAR	25/02/19			