
		WEST CLIFF COAL PREPARATION PLANT RAW COAL CIRCUIT AND RELIABILITY IMPROVEMENT PROJECT ABN 91 760 798 210				 bhpbilliton Resourcing the future Equipment tag:					
		Valve Datasheet ACTUATED ON/OFF KNIFE GATE VALVE DN350				FV 4-4C.5					
FILE NAME .: 333588-0000-60-107-0089 Date Printed: 08-Oct-10		Electronic version current Uncontrolled copy valid only at time of printing				Current Revision no.: 1 Number of pages: 1					
Usage:	CONTROL	A	31/03/2010	Internal Review	TD	NM	JW	NM	KW	MR	
Project No.:	333588	0	09/07/10	Approved for Enquiry	TD	NM	JW	JH	KW		
Plant Area:	0600	1	11/10/2010	Approved for Use	TD	DW	MR	JH	KW		
Equipment Description:	ACTUATED VALVE										
		REV	Date	Description of Issue	Originator	CHKD	INSTR LEAD	AREA PIPE ENG.	AREA PROCESS ENG.	AREA MECH ENG.	
IDENTITY	1	Equipment Tag	Old Tag	FV 4-4C.5							1
	2	P&ID Number	WCP-10047								
	3	Service Description	Actuated Knife Gate valve								
	4	Operated Type	Pneumatic Actuated								
	5	Valve Type	VK3								
	6	Valve Code	VK3-43-350								
	7	Area	0600								
	8	Hazardous Area Classification	None								
	9	Installation Detail	#							1	
EQUIPMENT / LINE DATA	10	Equipment Number	404-V1626								
	11	Line Number	350-SL-4.04E-XS								
	12	Line Size and Schedule	DN350		Extra Strong						
	13	Pipe Material	Carbon Steel								
	14	Pipe Code	AS 4041								
	15	Jacket Material									
	16	Flange Rating	1400kPag								
	17	Fluid Medium	Slurry								
	18	Fluid State	% Solids (w/w)	Liquid	22%						
SERVICE CONDITIONS	19	Fail Action (Loss of Signal / Loss of Air)	Fail Close		Fail Last					1	
	20	Air Supply Pressure (Min / Nominal / Max) (kPag)	420 kPa		690 kPa		850 kPa				
	21		UNITS	OPERATING		MINIMUM		MAXIMUM			
	22	Slurry Flow	m³/h	45							
	23	Gas Flow	Am³/h	N/A							
	24	Inlet Pressure	kPag	30		0		30			
	25	Outlet Pressure	kPag	N/A							
	26	Pressure Drop	kPa	N/A							
	27	Inlet Temperature	°C	20		10		35			
	28	Inlet Specific Gravity		1.1							
	29	Inlet Compressibility Factor		N/A							
	30	Inlet Viscosity	cP	N/A							
	31	Inlet Critical Pressure	KPag	N/A							
	32	Ambient Temperature °C	Max shut-off pressure (kPag)	0 to 50 °C		30					
	33	Inlet Vapour Pressure	kPa (estimated)	N/A							
CALCULATED RESULTS	34	Flow Coefficient (CV)	N/A								
	35	Travel	N/A								
VALVE BODY	36	Manufacturer	Model No.	Keystone		Figure 952 (Note 1, 2, 3 & 4)				1	
	37	Body Type	Reference Std	Knife Gate Lugged, Uni-direct" & Deflect" Cone		#				1	
	38	Body Size	Face to Face Dim.	DN 350		85 mm # # (including deflection cone & gasket)				1	
	39	Body Material	Flange Material	ASTM A351 CF8		N/A					
	40	Steam Jacket Type	Jacket Material	N/A		N/A					
	41	End Connection Type	Rating	Lugged to suit table E		1000kPag					
	42	Selected CV	Flow Characteristic	N/A		N/A					
	43	Bonnet Type	Bonnet Material	N/A		N/A					
	44	Trim Type / Size	Gland packing	N/A		H-LON					
	45	Seat Material	Stem Material	ASTM A351 CF8		Stainless Steel 304					
	46	Mass		93 kg # #						1	
	47	Plug / Ball / Disc Material		Stainless Steel 316							
	48	Break Torque (Nm)	Leakage	#		Tight Shutoff					
	49	Estimated Sound Pressure Level (@ 1m)		N/A							
	50	NACE Cert. Req'd - Yes or No		No							
VALVE ACTUATOR	51	Manufacturer	Model No.	Keystone		F738 Type P8				1	
	52	Type	Action	Double Acting Cylinder		Air to open and close					
	53	Spring Size	End Cap Material	N/A		Anodised aluminum					
	54	Force / Torque	Mass	#		85 kg # #				1	
	55	Mounting Orientation	Accessories	Top - perpendicular to pipe		Supporting bracket				1	
SOLENOID	56	Manufacturer	Model No.	SMC		EVS7-10-FG-S-3-A04T MO with sub-base V57-3-A02T				1	
	57	Type	Qty	5/2 way		1 solenoid					
	58	Coil Voltage	Power	24VDC							
	59	Electrical connection	Enclosure	M20 x 1.5		Anodized Aluminum IP65 (Note 5)				1	
	60	Exhaust port		with SMC Series ANA1-N04 muffler #							
	61	Manual override		Required without the use of a tool to operate							
	62	Connection type	Connection and Material	G 1/4		304 S/S					
LIMIT SWITCHES	63	Hazardous Area Certification		None							
	64	Manufacturer	Model No.	Keystone		Proximity Switches				1	
	65	Type	Qty	Proximity		2					
	66	Contact type/rating	Electrical connection	PNP		24VDC		10m flying leads		1	
	67	Mounting / Enclosure		Proximity switches to be mounted on actuator assembly (Note 5)						1	
ACCESSORIES	68	Hazardous Area Cert.	NACE Cert. Req'd - Yes or No	None		No					
	69	Filter Regulator		Yes						1	
	70	Manufacturer	Model No.	SMC		AC40B-N04DE				1	
	71	Material	Size	Epoxy coated aluminum		1/2 inch NPT				1	
	72	Incoming Air Isolation Valve		Yes						1	
	73	Manufacturer	Model No.	SMC		VHS4500-N04-NH-X116				1	
	74	Connection Size/Type		1/2 inch NPT		Suit SS tube				1	
	75	Material	Lockable	Epoxy coated aluminum		Yes				1	
	76	Speed Control		Yes						1	
	77	Manufacturer	Model No.	SMC		AS 4000-N-04				1	
	78	Type	Qty	Speed controller		2				1	
	79	Size	Material	1/2 inch NPT		Epoxy coated aluminum				1	
	80	Mounting / Enclosure		Panel mounted						1	
	81	Hazardous Area Cert.	NACE Cert. Req'd - Yes or No	None		No				1	
	NOTES	82	Deflection Cones								1
83		Material	Gasket	Number Required	28% chrome iron		3mm rubber full face insertion		1 - located in the upstream side # #	1	
84		Valve Gasket		3mm rubber full face insertion						1	
85		Note 1 - To be read in conjunction with Specification H333588-0000-60-123-0011 (Specification for Automated Valves)								1	
86		Note 2 - Valve to be lockable									
87		Note 3 - Testing requirements to MSS SP-81									
88		Note 4 - Markings shall be in accordance with MSS SP-25. Equipment tag number shall be stamped on the nameplate for identification.								1	
89	Note 5 - Installation contractor to supply enclosures for solenoid & limit switch terminations								1		
90	# Supplier to complete	# # Supplier to confirm							1		