













در ارتباط با PCV ها که عمدتاً برای رگولاسیون فلوهای بسیار پایین با دقت بالا مثلاً در سیستم تزریق نیتروژن سیستم تانک گجینگ استفاده میشود نیاز به تکنولوژی خاص دارد که عمدتاً سازندگان محدودی تولید میکنند و امکان تولید در داخل نیست.
ردیف 5 پر فورما





Owner: 		PMC: 		Project: 2 nd Ammonia and Urea Project - Kermanshah				Contractor: 			
		Doc. Title: INSTRUMENT DATA SHEET FOR PRESSURE SELF REGULATING VALVE				Licensor & Basic Designer: 					
Contract No.: KPIC/99/PC/362				Doc. No.: 2UA-229-44-IN-DSH-44040				Rev.: 03b		Page : 14 of 17	
GENERAL	1	Tag Number		P&ID No.		2-42-PCV-0150		2UA-362-42-PR-PID-14073			
	2	Service		2-TK-4220 STORAGE TANK TO ATM.							
	3	Allowable Sound Pressure Level (dBA)		<=85							
	4	Line: Number (In)	Size (In)	Schedule (In)	2-N4202-3"(1P1)-N		3	in	STD		
	5	Line: Number (Out)	Size (Out)	Schedule (Out)	2-N4203-3"(1P1)-N		3	in	STD		
	6	Line Class		Pipe Material		1P1		CARBON STEEL			
FUNCTION	7	Pressure Reducing		Back Pressure Regulator		Yes (Internal Pressure Tap)					
	8										
DESIGN	9	Pressure		Temperature		10.6 bar-g		77 °C			
	10	Fluid		Fluid State		NITROGEN		V			
	11			@ Min. Flow		@ Norm. Flow	@ Max. Flow	Units			
	12	Inlet Density		1.1		1.1	1.1	kg/m ³			
	13	Molecular Mass				28	---				
	14	Inlet Specific Heats Ratio Cp / Cv				---					
	15	Inlet Compressibility Factor				---					
	16	Inlet Viscosity				0.019	mPa.s				
	17	Critical Pressure				bar-g					
	18	Mass Vaporized		Solids %							
	19	Flow Rate		3.4 (VTA)		64 (VTA)	70 (VTA)	kg/h			
	20	Inlet Pressure				0.89	bar-a				
	21	Pressure Drop				0.015	bar				
	22	Inlet Temperature				AMB.	°C				
	23	Max Shut-off Differential Pressure				bar					
	24	Leakage Class		Pressure Failure Action		ANSI IV (standard)					
	25	Pressure: Range		Setting				bar-a			
26											
CALC. DATA	27	Flow Coefficient Cv				(*)	(*)	---			
	28	Sound Pressure Level				(*)	(*)	dBA			
	29	Vendor Flow Coefficient Cv				(*)	(*)	---			
	30										
SELECTED VALVE	31	Type		Globe							
	32	Cv	Rangeability	(*)	(*)						
	33	T. Max	DP. Max	(*)	(*)						
	34	Leakage Class		ANSI IV							
	35	Sound Pressure Level		(*)							
	36										
BODY	37	End Connection: Type		Flanged							
	38	Roughness		125-250 AARH							
	39	Size		3"							
	40	Rating		300#							
	41	Facing		RF							
	42	Flow Action To		Open							
	43	Bonnet Type	Lubric.	Standard	No						
	44	Jacket and Connection									
TRIM	45	Port: No.	Full / Red.	1	Full						
	46	Plug: Type	Character.		Quick Open						
	47	Sealing Seat / Plug		Metallic							
	48	Plug Guide		Top only							
ACTUATOR	49	Type	Model	Diaphragm	(*)						
	50	Direct Operated		Self Actuated							
	51	Spring Range		(*)							
	52	Size	Travel	(*)	(*)						
	53	Process Connection		Internal							
	54	Ext. Connection Size									
	55	Orientation		Vertical Up							
MATERIAL	56	Body / Bonnet	Jacket	A216WCB(1)							
	57	Plug	Seat	316L+HF(2)		316L+HF(2)					
	58	Plug Guides	Stem	(*)		SS 316					
	59	Yoke / Housing	Packing	CS		PTFE					
	60	Actuator Diaphragm		PTFE							
	61	Actuator Connection									
	62										
	PILOT	63	Type								
		64	Model								
		65	Assembling								
66		Process Connection Size									
PILOT MATERIAL	67										
	68	Body									
	69	Trim									
	70	Connection									
	71	Diaphragm									
OPTIONS	72										
	73										
	74	Pressure Gauge									
PURCHASE	75										
	76	MR No.	2UA-229-44-IN-REQ-45121								
	77	PO No.									
	78	Manufacturer	(*)								
	78	Model	(*)								
78	Supplier	(*)									
Notes: See notes											

مربوط به ردیف 6 پروفورما می باشد که هم دارای طراحی خاص می باشد و بعضا متریال سافورکس باید تامین گردد. دو نمونه شیر از مجموعه انتخاب گردیده است





 K.P.I.C	 NDEC	2nd Ammonia and Urea Project - Kermanshah				 SAZEH CONSULTANTS  Stamcarbon pure knowledge	
		Doc Title: INSTRUMENT DATA SHEET FOR ON-OFF VALVE					Licensor & Basic Designer:
Contract No.: KPIC/99/PC/362		Doc. No.: 2UA-229-44-IN-DSH-44043		Rev.: 2	Page : 19 of 20		
GENERAL	1	Tag Number	P&ID No.	2-42-XV -0015	2UA-229-42-PR-PID-14060		
	2	Service	UREA MELT TO 2-TK-4204				
	3	Allowable Sound Pressure Level (dBA)	<=85				
	4	Air Supply Pressure: Min / Nor / Max / Design	7.5 bar-a	8 bar-a	8.5 bar-a	11.6 bar-a	
	5	Fire-Safe Execution	Antistatic Device				
	6	Line: Number (In)	Size (In)	Schedule (In)	2-US4019-3"(3U7A)-D (Port B)	3 in	40S
					2-UAS4001-0.75"(3U7A)-C (Port A)	3 in	40S
	7	Line: Number (Out)	Size (Out)	Schedule (Out)	2-US4060-3"(1U7A)-C (Port AB)	3 in	10S
	8	Line Class	Pipe Material		3U7A	SS316/316L- BC09 DUAL GRADE	
9							
DESIGN	10	Pressure Min / Max	Temperature Min / Max	0 24.3 bar-g	-25 190 °C		
HAZARDOUS AREA	11	Classification	Zone 2, IIA, T4				
	12	Execution	Certification	EEx-ia (Solenoid & Limit Switch)	ATEX		
PROCESS CONDITIONS	13	Fluid	Fluid State	Urea Melt	Liquid		
	14		@ Min. Flow	@ Norm. Flow	@ Max. Flow	Units	
	15	Inlet Density	1220	1220	1220	kg/m³	
	16	Specific Gravity				---	
	17					---	
	18					---	
	19	Inlet Viscosity	2.23	2.23	2.23	mPa.s	
	20	Solids %					
	21	Flow Rate	50508	84207	92628	kg/h	
	22	Inlet Pressure	3.65	3.65	3.65	bar-a	
	23	Pressure Drop				bar	
	24	Inlet Temperature	139.8	139.8	139.8	°C	
	25	Max Shut-off Differential Pressure	24.3 bar				
	26	Leakage Class	ANSI IV (standard)				
27	Power Failure Position	Air Failure Position	(4)	(4)			
28	Travel Time	<5 sec (*)					
CALCULATION DATA	29	Flow Coefficient Cv			---		
	30	Sound Pressure Level			dBA		
SELECTED VALVE	31	Type	Three Way Plug (1)				
	32	Cv	Leakage Class	(*)	IV (*)		
	33	Temper. Max	DP Max	(*)	(*)		
	34	Sound Pressure Level	(*)				
	35						
BODY	36	End Connection: Type	Flanged				
	37	Roughness	125 - 250 AARH				
	38	Size	3"x3"x3" (7)				
	39	Rating	300#				
	40	Facing	RF				
	41	Flow Action To					
	42	Bonnet Type	Lubric.	Standard	No		
	43	Jacket and Connection	No				
TRIM	44	Port	Full				
	45	Plug Type	Character.	(*)	On/Off		
	46	Sealing Seat / Plug	Metallic				
	47	Plug Guide	(*)				
	48	Type	Model	Diaphragm	(*)		
	49	Piston Acting					
	50	Open / Close Time	< 5 sec (*)				
ACTUATOR	51	Handwh. Loc.	No				
	52	Size	Spring Range	(*)	(*)		
	53	Travel	Travel Lock	(*)	(*)		
	54	PNEUMATIC CONNECTION	Material	SS			
	55	CONNECTION	Size	1/4" NPT(F)			
	56	Execution					
	57	Actuator Orientation	Vertical Up (*)				
	MATERIAL	57	Body / Bonnet	Jacket	A351CF8M(2)		
		58	Plug	Seat	316L+HF(3)	316L+HF(3)	
		59	Sealing	Packing		(8)	
		60	Plug Guides				
		61					
		AIR SET	62	Filter Regulator & Gauge	Yes		
63			Material	Model	(*)	(*)	
LIMIT SWITCH	64	Tag Number	2-42-XZSH/L-0015				
	65	Quantity	Model	2	(*)		
SOLENOID VALVE	66	Tag Number	2-42-XY-0015				
	67	Quantity	Model	1	(*)		
68							
PNEUMATIC DISTRIBUTOR	69	Tag Number					
	70	Model					
OPTIONS	71						
	72	Partial Stroke Device					
	73	Quick Exhaust					
	74	Air Lock					
	75	Actuator fire Proofing					
	76	Thermal Fuse					
	77						
	78						
PURCHASE	79	MR No.					
	80	PO No.					
	81	Manufacturer					
	82	Model					
	83	Supplier					

Notes: See notes

Owner:  K.P.I.C	PMC:  NDEC	Project: 2nd Ammonia and Urea Project - Kermanshah	Contractor:  SAZEH
Doc Title: INSTRUMENT DATA SHEET FOR ON-OFF VALVE		Licensor & Basic Designer:  Stamicarbon pure knowledge	
Contract No.: KPIC/99/PC/362	Doc. No.: 2UA-229-44-IN-DSH-44043	Rev.: 2	Page : 20 of 20
Tag Number : 2-42-XV -0015			
<p>(*) Vendor specified data</p> <p>(1) Valve shall be 3 way convergence type. Port A : Low Pressure steam to 2-TK-4204 Port B: Urea melt to 2-TK-4204 Port AB : To Urea Dissolving Tank 2-TK-4204 Valve shall have 3-way plug which shall be switched from A-> AB to B-> AB. Steam should not enter Urea header & vice versa.</p> <p>(2) Valve body material composition requirement shall comply with requirements specified under material designation code BC.09 of stamicarbon material specification A4-18005.</p> <p>(3) Plug, seat, stem & glands material shall comply with requirements specified under material designation code BC.09 of stamicarbon material specification A4-18005.</p> <p>HF: Hardfaced.</p> <p>(4) XV-0015 is normally in LP steam to 2-TK-4204 from Port A to Port AB , in case of Air/Power Failure or Trip, it directs Melt to 2-TK-4204 from Port B to Port AB.</p> <p>(5) Valve shall be designed to withstand full vacuum.</p> <p>(6) Body & stuffing box to be well traced & insulated for heat loss.</p> <p>(7) Valve size should be line size for the connection from Urea Melt to 2-TK-4204 (B->AB). For LP steam to 2-TK-4204 (A->AB) connection, a smaller connection can be used.</p> <p>(8) Aramide PTFE.</p> <p>(9) 190°C design temperature to be considered for LP steam system.</p> <p>(10) Maximum shut-off differential pressure to be considered for LP steam system.</p> <p>(11) Fluid has fouling tendency.</p> <p>(12) Fire safe design shall be considered by vendor according to API 6FA (if applicable).</p>			

Owner:  K.P.I.C	PMC:  NDEC	Project: 2nd Ammonia and Urea Project - Kermanshah		Contractor:  SAZEH CONSULTANTS مشاوران مهندسی						
		Doc Title: INSTRUMENT DATA SHEET FOR ON-OFF VALVE		Licensors & Basic Designer:  Stamicarbon pure knowledge						
Contract No.: KPIC/99/PC/362		Doc. No.: 2UA-229-44-IN-DSH-44043		Rev.: 2						
				Page : 9 of 20						
GENERAL	1	Tag Number	P&ID No.	2-41-XV -0016	2UA-229-41-PR-PID-14018					
	2	Service		CO2 to HP stripper 2-E-4102						
	3	Allowable Sound Pressure Level (dBA)		<=85						
	4	Air Supply Pressure: Min / Nor / Max / Design		7.5 bar-a	8 bar-a	8.5 bar-a	11.6 bar-a			
	5	Fire-Safe Execution	Antistatic Device							
	6	Line: Number (In)	Size (In)	Schedule (In)	2-CD4009-8"(15U3)-3	8 in	160			
	7	Line: Number (Out)	Size (Out)	Schedule (Out)	2-CD4010-8"(15U3)-1	8 in	160			
	8	Line Class	Pipe Material		15U3	SS316L-BC01				
	9									
DESIGN	10	Pressure Min / Max	Temperature Min / Max	170	135					
HAZARDOUS AREA	11	Classification		Zone 2, IIA, T4						
	12	Execution	Certification	EEx-ia (Solenoid & Limit Switch)						
PROCESS CONDITIONS	13	Fluid	Fluid State	CO2	Gas					
	14			@ Min. Flow	@ Norm. Flow	@ Max. Flow	Units			
	15	Inlet Density			250.8		kg/m ³			
	16	Specific Gravity					---			
	17						---			
	18						---			
	19	Inlet Viscosity			0.027		mPa.s			
	20	Solids %								
	21	Flow Rate			37740	62900	69190	kg/h		
	22	Inlet Pressure				144.2		bar-g		
	23	Pressure Drop						bar		
	24	Inlet Temperature				120		°C		
	25	Max Shut-off Differential Pressure			170			bar		
	26	Leakage Class			ANSI V					
27	Power Failure Position	Air Failure Position		Close						
28	Travel Time			(3, 4, 5)						
CALCULATION DATA	29	Flow Coefficient Cv				---				
	30	Sound Pressure Level				dBA				
SELECTED VALVE	31	Type	Angle valve		57	Body / Bonnet	Jacket	Safurex(BE.06)		
	32	Cv	Leakage Class	(*)	V (*)	58	Plug (6)	Seat (6)	Safurex(BE.06)	Safurex(BE.06)
	33	Temper. Max	DP Max	(*)	(*)	59	Sealing	Packing	(*)	PTFE
	34	Sound Pressure Level			60	Plug Guides			(*)	
	35						61			
BODY	36	End Connection: Type	Flanged		AIR SET	62	Filter Regulator & Gadge	Yes		
	37	Roughness	To suit lenticular gasket			63	Material	Model	(*)	(*)
	38	Size	8"		LIMIT SWITCH	64	Tag Number	2-41-XZSH/L-0016		
	39	Rating	1500#			65	Quantity	Model	2	(*)
	40	Facing	LENTICULAR		SOLENOID VALVE	66	Tag Number	2-41-XY-0016-A/B		
	41	Flow Action To	Open			67	Quantity	Model	2	(*)
	42	Bonnet Type	Lubric.	Standard		No	68			
43	Jacket and Connection	No		PNEUMATIC DISTRIBUTOR	69	Tag Number				
44	Port	Full Bore			70	Model				
45	Plug Type	Character.	(*)		On/Off	71				
TRIM	46	Sealing Seat / Plug	Metallic		72	Partial Stroke Device				
	47	Plug Guide	Top only		73	Quick Exhaust				
ACTUATOR	48	Type	Model	Diaphragm	(*)	74	Air Lock			
	49	Piston Acting			OPTIONS	75	Actuator fire Proofing			
	50	Open / Close Time	(3, 4, 5)			76	Thermal Fuse			
	51	Handwh. Loc.	No			77				
	52	Size	Spring Range	(*)		(*)	78			
	53	Travel	Travel Lock	(*)	(*)	PURCHASE	79	MR No.		
	54	PNEUMATIC CONNECTION	Material	SS	80		PO No.			
	55	CONNECTION	Size	1/4" NPT(F)	81		Manufacturer			
	56	Execution			82		Model			
	57	Actuator Orientation	Vertical Up (*)		83	Supplier				

Notes: See notes

Owner:  K.P.I.C	PMC:  NDEC	Project: 2nd Ammonia and Urea Project - Kermanshah	Contractor: 
		Doc Title: INSTRUMENT DATA SHEET FOR ON-OFF VALVE	Licenser & Basic Designer: 
Contract No.: KPIC/99/PC/362	Doc. No.: 2UA-229-44-IN-DSH-44043	Rev.: 2	Page : 10 of 20

Tag Number: 2-41-XV -0016

(* Vendor Specified data

(1) Fluid is normally not corrosive, however due to backflow carbamate, which is very corrosive, may enter the line and valve. So for backflow reason the valve is made of corrosion resistant BC.01.

(2) The actuator will be designed for a shut-off pressure of at least 30.0 bar.

(3) Closing time when XY-0016-B is de-energized: 5 seconds

(4) Closing time when XY-0016-A is de-energized: between 20 to 30 sec via adjustable restriction

(5) RO-XV-0016 in XY-0016-A vent to be provided for slow closing of valve between 20 to 30 seconds.

(6) Plug and stem in one piece. Seat and body in one piece

Trim completely made of Safurex(BE.06) (This material has to be hardened by means of heat treatment; min. 280 HBr. The difference in hardness between the plug and seat shall be 40 HBr).

(7) Design basis for control valves in high pressure section:

7-1) The occurrence of harmful crevices shall be minimal. Crevices are considered harmful if the width/depth ratio is 1/10 or more

7-2) For parts of valves exposed to the atmosphere, the use of copper or its alloys is not allowed

7-3) The stuffing box must be located as deep as possible into the valve body

7-4) The alignment of stem/disk and seat must be perfect.

7-5) Material of all wetted parts must meet the requirements mentioned in Stamicarbon's Material Specification A4-18005

(8) Fire safe design shall be considered by vendor according to API 6FA (if applicable).

عموما در پلنتهای پتروشیمی بدلیل شرایط فرآیندی خاص جهت حاصل شدن تولید مورد نظر، لایسنسورها طراحی های خاصی متناسب تجربیات خاص خود به همراه استفاده از متریهالی خاص و سازندگان بخصوصی انجام میدهند که پروژه پتروشیمی کرمانشاه نیز ازین قاعده مستثنی نبوده و از طرفی بدلیل در دسترس نبودن لایسنسور میبایست مخصوصا متریهالی مشخص شده توسط وی استفاده شود چرا که مطمئن در طی سالها تجربه لایسنسور متریهالی انتخابی از تمام جهات فیزیکی و شیمیایی و سختی در مقابل خوردگی و ساییدگی و مورد نظر قرار گرفته ایت علی الخصوص که میبایست تکرار پذیری مکرر هم داشته باشند یعنی بدلیل حساسیت و تامین ایمنی مجتمع میبایست در بازه های زمانی متفاوت مکرر باز و GATE و BALL برای شیرهای قطع و وصلی از نوع بسته شوند، لذا طراحی و ساخت و در نظر گرفتن متریهالی بصورت کلی زمان قطع و وصل و تمامی جهات برای اینگونه شیرها نقش مهمی در بازدهی پلنت ایفا میکند چرا که همانگونه که در مدارک دیتاشیت مشخص شده میبایست در فشارهای بالا مثلا 155 بار، یا دماهای بالا مثلا 455 درجه سانتیگراد درکل طول عمر مشخص شده مجتمع ایفای نقش کنند




ردیف یک پرفورما

K.P.I.C	NDEC	INSTRUMENT DATA SHEET FOR CONTROL VALVE (BALL VALVES)		SAZEH CONSULTANTS Engineering & Construction	
Contract No.: KPIC/99/PC/362		Doc. No.: 2UA-229-21-IN-DSH-40008		Rev.: 4	Page : 6 of 31

SEE NEXT SHEET FOR PROCESS DATA

	1	TAG NO.	2 21 HV 1001		
	2	QUANTITY	1		
B O D Y	3	VALVE CONFIGURATION	THRU <input checked="" type="checkbox"/>	ANGLE <input type="checkbox"/>	3-WAY <input type="checkbox"/>
	4	BODY SIZE	TRIM	16"	FULL <input checked="" type="checkbox"/> REDUCED <input type="checkbox"/>
	5	BODY STYLE	PORTS	GLOBE <input type="checkbox"/>	DOUBLE <input type="checkbox"/> BALL <input checked="" type="checkbox"/> BFLY <input type="checkbox"/> SINGLE <input checked="" type="checkbox"/> *TRUNNION MOUNTED BALL
	6	END CONNECTIONS	FLANGED <input checked="" type="checkbox"/>	SCREWED <input type="checkbox"/>	
		RATING & FACING	WELDED <input type="checkbox"/>	1500# RJ	
	7	BODY MATERIAL	CARBON STEEL <input checked="" type="checkbox"/>	ST. STEEL <input type="checkbox"/>	
			*ASTM A 350 Gr LF2		
T R I M	8	TRIM MATERIAL	ST. STEEL 316SS <input type="checkbox"/>	STELLITE <input type="checkbox"/>	
			*ASTM A 182 GrF51 Chrome Plated <input checked="" type="checkbox"/>		
	9	SEAT INSERT	*METAL SEAT <input checked="" type="checkbox"/>	316 ST.ST/STELLITED <input type="checkbox"/>	
			*ASTM A 182 GrF51 Stellite <input checked="" type="checkbox"/>		
	10	CHARACTERISTIC	E.P. <input type="checkbox"/>	ON/OFF <input checked="" type="checkbox"/>	
		LEAKAGE CLASS V (TIGHT SHUT OFF)	LINEAR <input type="checkbox"/>	INCHING <input checked="" type="checkbox"/>	
	11	*INNER VALVE GUIDING	TOP & BOTTOM <input type="checkbox"/>	TOP <input type="checkbox"/>	
			CAGE <input type="checkbox"/>		
A C T U A T O R	12	*BONNET	STD <input checked="" type="checkbox"/>	FIN <input type="checkbox"/>	PLAIN EXT. <input type="checkbox"/>
			BELLOWS SEAL <input type="checkbox"/>		
	13	GLAND PACKING	*PTFE <input checked="" type="checkbox"/>		
	14	*LUBRICATOR & ISOL. VALVE	NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/>	
	15	ACTUATOR	PNEU <input checked="" type="checkbox"/>	ELECTRO. HYD <input type="checkbox"/>	
			ELECT <input type="checkbox"/>		
	16	ACTUATOR TYPE	ACT. ORIENTATION	Piston Spring Return	* VERTICAL UPWARDS
17	OPER. RANGE(NOM) CLOSE/OPEN		0.2 BarG*	1.0 BarG*	
18	AIR CONN. SIZE & TYPE		1/4"*	NPT	
	19	VALVE ACTION ON AIR FAILURE	OPEN <input type="checkbox"/>	CLOSE <input checked="" type="checkbox"/>	STAYPUT <input type="checkbox"/>
			DRIFT OPEN <input type="checkbox"/>	DRIFT CLOSE <input type="checkbox"/>	
20	HANDWHEEL	TOP MTD. <input type="checkbox"/>	SIDE MTD. <input type="checkbox"/>		
P O S I T I O N E R	21	POSITIONER	YES <input checked="" type="checkbox"/>	TYPE: FF/P	
			GAUGES <input checked="" type="checkbox"/>	BYPASS <input type="checkbox"/>	
	22	SIGNAL RANGE	ACTION	DIR <input checked="" type="checkbox"/>	REV <input type="checkbox"/>
	23	AIR SET	AIR SUPPLY(Bara)	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Min 7.5 Norm 8 Max 8.5
24	AIR CONN.	SIZE & TYPE	1/4"*	NPT	

(*) - VENDOR TO SPECIFY OR CONFIRM IN CASE ALREADY SPECIFIED.

Owner:  K.P.I.C	PMC  NDEC	Project: 2nd Ammonia and Urea Project - Kermanshah Doc Title: INSTRUMENT DATA SHEET FOR CONTROL VALVE (BALL VALVES)	Contractor:  SAZEH CONSULTANTS Engineering & Construction
Contract No.: KPIC/99/PC/362	Doc. No.: 2UA-229-21-IN-DSH-40008	Rev.: 4	Page : 7 of 31

CONTROL VALVE NO. **2-21-HV-1001**

PLANT AREA	AMMONIA PLANT
P & ID NO.	2UA-229-21-PR-PID-11435
LINE NO.	2-SG1011-16"(15P2)-N
SIZE & SCHEDULE	*16" / 120
VALVE SPEC	15P2
VALVE TYPE <input type="checkbox"/> REQUIRED	BALL VALVE
PROCESS FLUID	SYNTHESIS GAS
DESIGN PRESSURE, BARG	154.0
FLEX HIGH/LOW TEMP	90
INLET FLUID STATE	VAPOUR
OPERATION	ON / OFF/INCHING
SHUTOFF CLASS	V
FAIL POSITION	FAIL CLOSE
HANDWHEEL	NO

PROCESS DATA	UNITS	MAX FLOW	NORM FLOW	MIN FLOW	ALT FLOW
MASS FLOWRATE	kg/h		302,974		
OPERATING TEMP	°C		52		
P1 (UPSTREAM)	barA		143.80		
P2 (DOWNSTREAM)	barA		143.80		
VISCOSITY (LIQ)	cP				
CRITICAL PRESS (LIQ)	barA		"CRITICAL" SERVICE ONLY		
UPSTREAM DENSITY	kg/m ³		53.54		
MOLECULAR WT (VAP)			10.499		
VAPOR PRESS (LIQ)	barA				
DP TO SIZE ACTUATOR	barA		154.9		
C _v					
*EST SOUND PRESS	barA				
*EST VALVE BODY SIZE	inch		16"		

NOTES & SPECIAL REQUIREMENTS:

- NORMAL ATMOSPHERIC PRESSURE = 877.6 mBARA. MAX / MIN ATMOSPHERIC PRESSURE = 881.2 / 851.6 mBARA RESPECTIVELY.
- CLOSING TIME SHALL BE LESS THAN 5 SEC. AND OPENING TIME SHALL BE LESS THAN 20 SEC.
- THE ABOVE TAG NO. SHALL BE EQUIPPED WITH:
3 WAY 24V DC SOLENOID, OPEN & CLOSED PROXIMITY SWITCHES
SOLENOID VALVE WITH MANUAL RESET
SOLENOID VALVE TAG NO. 2-21-HY-1001B , ELECTRICAL CONNECTION : M20x1.5
OPEN LIMIT SWITCH TAG NO. 2-21-ZSO-1001 , ELECTRICAL CONNECTION : M20x1.5
CLOSE LIMIT SWITCH TAG NO.2-21-ZSC-1001 , ELECTRICAL CONNECTION : M20x1.5
POSITIONER TAG NO.2-21-HY-1001A , ELECTRICAL CONNECTION : M20x1.5
MANUFACTURER: VTA
ACTUATOR TYPE: VTA
VALVE TYPE: VTA

(*) - VENDOR TO SPECIFY OR CONFIRM IN CASE ALREADY SPECIFIED.
VTA:Vendor To Advise

مربوط به ردیف دوم پر فرما می باشد

با توجه به سایز، شرایط فرایندی و کرستریکتیو مورد نیاز ولو امکان تولید این شیر در داخل وجود ندارد





بر اساس مشخصات فنی پروژه سایزینگ این شیر ها باید به گونه ای باشد که به ازای ماکزیمم و مینیم جریان عبوری شیر، سی وی شیر باید بین 20 تا 80 درصد شیر باشد. که این شرایط را، حتی برخی از شرکت های خارجی نتوانستند مهیا کنند

از طرفی ایجاد شرایط عملکرد خطی شیر با توجه به مشخصات فوق برای سازندگان مشکل بود

پوزیشنر شیر نیز باید به سیستم فیلدباس وصل شود که در ایران تولید نمی شود





K.P.I.C		NDEC		INSTRUMENT DATA SHEET FOR CONTROL VALVE - BUTTERFLY				Licensor & Basic Designer Stamicarbon pure knowledge		
Contract No.: KPIC/99/PC/362			Doc. No.: 2UA-229-44-IN-DSH-44037			Rev.: 2		Page : 8 of 29		
GENERAL	1	Tag Number		P&ID No.		2-41-FV-0061		2UA-229-41-PR-PID-14032		
	2	Service LP STEAM TO DESORBER 2-T-4104								
	3	Allowable Sound Pressure Level (dBA) <=85								
	4	Air Supply Pressure: Min / Nor / Max / Design		7.5 bar-a		8 bar-a		8.5 bar-a		11.6 bar-a
	5	Line: Number (In)	Size (In)	Schedule (In)	2-LPS4062-12"(1S1)-1		12 in		STD	
	6	Line: Number (Out)	Size (Out)	Schedule (Out)	2-LPS4062-12"(1S1)-1		12 in		STD	
	7	Line Class	Pipe Material		1S1		CARBON STEEL			
	8									
DESIGN	9	Pressure	Temperature		9 bar-g		190 °C			
HAZARDOUS AREA	10	Classification Zone 2, IIA, T4								
	11	Execution	Certification EEx-ia							
PROCESS CONDITIONS	12	Fluid	Fluid State			LP Steam		Gas/Vapor		
	13		@ Min. Flow	@ Norm. Flow	@ Max. Flow	Units				
	14	Inlet Density	4.308		2.498		2.461		kg/m³	
	15	Molecular Mass					18		---	
	16	Inlet Specific Heats Ratio Cp / Cv	1.4		1.38		1.38		---	
	17	Inlet Compressibility Factor	0.9378		0.957		0.957		---	
	18	Inlet Viscosity	0.014		0.014		0.014		mPa·s	
	19	Critical Pressure	220.6 bar-a							
	20	Mass Vaporized	Solids %							
	21	Flow Rate	3967		6612		10736		kg/h	
	22	Inlet Pressure	8.3 (3,4)		4.67 (3,4)		4.6 (3,4)		bar-a	
	23	Pressure Drop	4.35 (4)		0.712 (4)		0.568 (4)		bar	
	24	Inlet Temperature	SATURATED(172)		149.7		149.7		°C	
	25	Max Shut-off Differential Pressure	9.88 bar							
	26	Leakage Class	ANSI IV (standard)							
	27	Power Failure Position	Air Failure Position			Close		Close		
	28									
	CALC. DATA	29	Flow Coefficient Cv	---		51.331 (*)		208.002 (*)		360.243 (*)
30		Sound Pressure Level	dBA		80 (*)		77 (*)		78 (*)	
31		Vendor Flow Coefficient Cv	---		(*)		(*)		(*)	
SELECTED VALVE	32	Type	Butterfly							
	33	Cv	Rangeability	(*)		(*)				
	34	Temp. Max	D.P. Max	(*)		(*)				
	35	Leakage Class	ANSI IV							
	36	Sound Pressure Level	(*)							
	37	End Connection: Type	Lug Type							
BODY	38	Roughness	125-250 AARH							
	39	Size	10" (*)							
	40	Rating	300#							
	41	Facing	RF							
	42	Flow Action To	Open							
	43	Bonnet Type	Lubricat.	Standard		No				
	44	Jacket & Connection								
	45									
	46									
	47									
TRIM	48	Port No.	Full / Red.			Full				
	49	Plug Type	Character.	(*)		Linear				
	50	Sealing Seat / Plug	Metallic							
	51	Balance	Plug Guide							
	52									
	ACTUATOR	53	Type	Model	Diaphragm	(*)				
		54	Action	Handwheel	Reverse	No				
		55	Size	Spring Range	(*)		(*)			
56		Travel	Travel Lock	(*)		(*)				
57		Actuator Orientation	Vertical Up							
MATERIAL		58	Body / Bonnet	Jacket	A216WCB(1)					
		59	Plug	Seat	316L+HF(2)		316L+HF(2)		316	
		60	Plug Guides	Stem	(*)		316			
		61	Yoke / Housing	Packing	Carbon Steel		Grafoil			
		62	Bellows							
	63	Tag Number	2-41-FY-0061							
	64	Type	Model	SMART	(*)					
	65	Input Signal	Action	FF	Direct					
	66	PNEUMATIC CONNECTION	Material	SS						
	67	CONNECTION	Size	1/4" NPT(F)						
POSITIONER	68	Mechanical Protection	IP-65							
	69	Electrical Connection	ISO M20 x 1.5 mm							
	70	Grounding Connection	Internal & External							
	AIR SET	71	Filter Regulat. & Gauge	Yes						
		72	Material	Model	(*)		(*)		(*)	
		73	Tag Number	---						
	LIMIT SWITCH	74	Quantity	Model						
		75	Tag Number	---						
		76	Quantity	Model						
	SOLENOID VALVE	77								
78		Booster	Air Lock							
79		MR No.								
PURCHASE	80	PO No.								
	81	Manufacturer								
	82	Model								
	83	Supplier								

Notes:
See notes

Owner:  K.P.I.C		PMC:  NDEC		Project: 2 nd Ammonia and Urea Project - Kermanshah			Contractor:  SAZEH CONSULTANTS		
				Doc. Title: INSTRUMENT DATA SHEET FOR CONTROL VALVE - BUTTERFLY			Licenser & Basic Designer:  Stamicarbon pure knowledge		
Contract No.: KPIC/99/PC/362				Doc. No.: 2UA-229-44-IN-DSH-44037			Rev.: 2		Page : 10 of 29
GENERAL	1	Tag Number		P&ID No.		2-41-PV-0028		2UA-229-41-PR-PID-14021	
	2	Service LP STEAM TO RECIRCULATION HEATER 2-E-4106							
	3	Allowable Sound Pressure Level (dBA) <=85							
	4	Air Supply Pressure: Min / Nor / Max / Design				7.5 bar-a	8 bar-a	8.5 bar-a	11.6 bar-a
	5	Line: Number (In)	Size (In)	Schedule (In)		2-LPS4038-10"(1S1)-1		10 in	STD
	6	Line: Number (Out)	Size (Out)	Schedule (Out)		2-LPS4038-10"(1S1)-1		10 in	STD
	7	Line Class		Pipe Material		1S1		CARBON STEEL	
	8								
DESIGN	9	Pressure		Temperature		9 bar-g		190 °C	
HAZARDOUS AREA	10	Classification Zone 2, IIA, T4							
	11	Execution		Certification		EEx-ia			
PROCESS CONDITIONS	12	Fluid		Fluid State		LP Steam		Gas/Vapor	
	13			@ Min. Flow		@ Norm. Flow	@ Max. Flow	Units	
	14	Inlet Density		4.308		2.446	2.43	kg/m ³	
	15	Molecular Mass					18	---	
	16	Inlet Specific Heats Ratio Cp / Cv		1.4		1.38	1.38	---	
	17	Inlet Compressibility Factor		0.9378		0.957	0.957	---	
	18	Inlet Viscosity		0.014		0.014	0.014	mPa·s	
	19	Critical Pressure							
	20	Mass Vaporized		Solids %					
	21	Flow Rate		7091		11909	13141	kg/h	
	22	Inlet Pressure		8.3		4.57	4.54	bar-a	
	23	Pressure Drop		4.35		0.656	0.624	bar	
	24	Inlet Temperature		SATURATED(172)		149.6	149.6	°C	
	25	Max Shut-off Differential Pressure		9.88		bar			
	26	Leakage Class		ANSI IV (standard)					
	27	Power Failure Position		Air Failure Position		Open		Open	
	28								
	CALC. DATA	29	Flow Coefficient Cv		---		98.058(*)	378.184 (*)	427.565 (*)
30		Sound Pressure Level		dBA		82(*)	81 (*)	81 (*)	
31		Vendor Flow Coefficient Cv		---		(*)	(*)	(*)	
SELECTED VALVE	32	Type		Butterfly					
	33	Cv	Rangeability	(*)		58	Body / Bonnet	Jacket	A216WCB(1)
	34	Temp. Max	D.P. Max	(*)		59	Plug	Seat	316L+HF(2)
	35	Leakage Class		ANSI IV		60	Plug Guides	Stem	(*)
	36	Sound Pressure Level		(*)		61	Yoke / Housing	Packing	Carbon Steel
	37	End Connection: Type		Lug Type		62	Bellows		Grafoil
BODY	38	Roughness		125-250 AARH		63	Tag Number		2-41-PY-0028
	39	Size		10" (7)		64	Type	Model	SMART (*)
	40	Rating		300#		65	Input Signal	Action	FF
	41	Facing		RF		66	PNEUMATIC CONNECTION	Material	SS
	42	Flow Action To				67	CONNECTION	Size	1/4" NPT(F)
	43	Bonnet Type	Lubricat.	Standard	No	68	Mechanical Protection		IP-65
	44	Jacket & Connection				69	Electrical Connection		ISO M20 x 1.5 mm
	45					70	Grounding Connection		Internal & External
	46					71	Filter Regulat. & Gauge		Yes
	47					72	Material	Model	(*) (*)
TRIM	48	Port No.	Full / Red.	Full		73	Tag Number		---
	49	Plug Type	Character.	(*)		74	Quantity	Model	
	50	Sealing Seat / Plug		Metallic		75	Tag Number		2-41-PY-0028-B
	51	Distance	Plug Guide			76	Quantity	Model	1 (*)
	52					77			
ACTUATOR	53	Type	Model	Diaphragm	(*)	78	Booster	Air Lock	
	54	Action	Handwheel	Direct	Yes (5)	79	MR No.		
	55	Size	Spring Range	(*)		80	PO No.		
	56	Travel	Travel Lock	(*)		81	Manufacturer		
	57	Actuator Orientation		Vertical Up		82	Model		
					83	Supplier			
Notes: See notes									

با توجه به سایز، شرایط فرایندی و کرستریکتیو مورد نیاز ولو امکان تولید این شیر در داخل وجود ندارد.
 بر اساس مشخصات فنی پروژه سایزینگ این شیر ها باید به گونه ای باشد که به ازای ماکزیمم و مینیمم جریان عبوری شیر، سی وی شیر باید بین 20 تا 80 درصد شیر باشد. که این شرایط را حتی برخی از شرکت های خارجی نتوانستند مهیا کنند.
 از طرفی ایجاد شرایط درصد برابر با توجه به مشخصات فوق مشکل بود.

K.P.I.C		NDEC		INSTRUMENT DATA SHEET FOR CONTROL VALVE - BUTTERFLY				Stamicarbon pure knowledge			
Contract No.: KPIC/99/PC/362			Doc. No.: 2UA-229-44-IN-DSH-44037			Rev.: 2		Page : 16 of 29			
GENERAL	1	Tag Number		P&ID No.		2-41-PV-0049		2UA-229-41-PR-PID-14027			
	2	Service LP STEAM TO 1ST STAGE EVAPORATOR 2-E-4110									
	3	Allowable Sound Pressure Level (dBA) <=85									
	4	Air Supply Pressure: Min / Nor / Max / Design		7.5 bar-a		8 bar-a		8.5 bar-a		11.6 bar-a	
	5	Line: Number (In)	Size (In)	Schedule (In)	2-LPS4042-18"(1S1)-1		18 in		STD		
	6	Line: Number (Out)	Size (Out)	Schedule (Out)	2-LPS4042-18"(1S1)-1		18 in		STD		
	7	Line Class	Pipe Material		1S1		CARBON STEEL				
	8										
DESIGN	9	Pressure	Temperature		9 bar-g		190 °C				
HAZARDOUS AREA	10	Classification Zone 2, IIA, T4									
	11	Execution	Certification EEx-ia								
PROCESS CONDITIONS	12	Fluid	Fluid State		LPS Steam		Gas/Vapor				
	13		@ Min. Flow	@ Norm. Flow	@ Max. Flow	Units					
	14	Inlet Density	4.308		2.499		2.493		kg/m³		
	15	Molecular Mass			18		---				
	16	Inlet Specific Heats Ratio Cp / Cv	1.4		1.38		1.38		---		
	17	Inlet Compressibility Factor	0.9378		0.957		0.957		---		
	18	Inlet Viscosity	0.014		0.014		0.014		mPa·s		
	19	Critical Pressure	bar-g								
	20	Mass Vaporized	Solids %								
	21	Flow Rate	20733		34555		38010		kg/h		
	22	Inlet Pressure	8.3		4.671		4.66		bar-a		
	23	Pressure Drop	4.35		0.97		0.958		bar		
	24	Inlet Temperature	SATURATED(172)		149.7		149.7		°C		
	25	Max Shut-off Differential Pressure	9.88		bar						
	26	Leakage Class	ANSI IV (standard)								
27	Power Failure Position	Air Failure Position		Open		Open					
28											
CALC. DATA	29	Flow Coefficient Cv	---		273.473 (*)		936.335 (*)		1036.080 (*)		
	30	Sound Pressure Level	dBA		90 (*)		90 (*)		92 (*)		
	31	Vendor Flow Coefficient Cv	---		(*)		(*)		(*)		
SELECTED VALVE	32	Type	Butterfly								
	33	Cv	Rangeability	(*)		(*)					
	34	Temp. Max	D.P. Max	(*)		(*)					
	35	Leakage Class	ANSI IV								
	36	Sound Pressure Level	(*)								
BODY	37	End Connection: Type	Lug Type								
	38	Roughness	125-250 AARH								
	39	Size	18" (4)								
	40	Rating	300#								
	41	Facing	RF								
	42	Flow Action To	Close								
	43	Bonnet Type	Lubricat.	Standard		No					
	44	Jacket & Connection									
	45										
	46										
TRIM	48	Port No.	Full / Red.			Full					
	49	Plug Type	Character.	(*)		Equal %					
	50	Sealing Seat / Plug	Metallic								
	51	Balance Plug Guide									
	52										
	ACTUATOR	53	Type	Model	Diaphragm	(*)					
		54	Action	Handwheel	Direct	No					
		55	Size	Spring Range	(*)		(*)				
		56	Travel	Travel Lock	(*)		(*)				
		57	Actuator Orientation	Vertical Up							
MATERIAL	58	Body / Bonnet	Jacket	A216WCB(1)							
	59	Plug	Seat	316L+HF(2)		316L+HF(2)					
	60	Plug Guides	Stem	(*)		316					
	61	Yoke / Housing	Packing	Carbon Steel		Grafoil					
	62	Bellows									
	63	Tag Number	2-41-PY-0049								
	64	Type	Model	SMART		(*)					
	65	Input Signal	Action	FF		Direct					
	66	PNEUMATIC CONNECTION	Material	SS							
	67	CONNECTION	Size	1/4" NPT(F)							
POSITIONER	68	Mechanical Protection	IP-65								
	69	Electrical Connection	ISO M20 x 1.5 mm								
	70	Grounding Connection	Internal & External								
	71	Filter Regulat. & Gauge	Yes								
	72	Material	Model	(*)		(*)					
AIR SET	73	Tag Number									
	74	Quantity	Model								
	75	Tag Number									
LIMIT SWITCH	76	Quantity	Model								
	77										
	78	Booster	Air Lock								
SOLENOID VALVE	79	MR No.									
	80	PO No.									
	81	Manufacturer									
	82	Model									
	83	Supplier									
Notes: See notes											

Owner:  K.P.I.C	PMC:  NDEC	Project: 2nd Ammonia and Urea Project - Kermanshah	Contractor:  SAZEH CONSULTANTS
		Doc. Title: INSTRUMENT DATA SHEET FOR CONTROL VALVE - BUTTERFLY	Licensors & Basic Designer:  Stamicarbon <small>pure knowledge</small>
Contract No.: KPIC/99/PC/362	Doc. No.: 2UA-229-44-IN-DSH-44037	Rev.: 2	Page : 17 of 29
Tag Number: 2-41-PV-0049			
<p>(*) Vendor specified data</p> <p>(1) Valve body material shall comply with the requirements specified under material designation code AA.01 of Stamicarbon material specification A4-18005.</p> <p>(2) Valve disc, seat, stem & gland material shall comply with the requirements specified under material designation code BC.09 of Stamicarbon material specification A4-18005.</p> <p>(3) Maximum upstream pressure due to upstream 2-D-4102 PSV set pressure.</p> <p>(4) Due to upset condition available pressure drop might be minimal. For this reason line size body, full bore and equal % valve is specified.</p> <p>(5) Fluid is erosive in nature.</p> <p>(6) Valve shall be designed to withstand full vacuum condition.</p>			

مربوط به ردیف 3 پر فورما می باشد. تعداد چند عدد شیر که دارای شرایط فرایندی سختی می باشند، مشخص شده اند.

لطفاً به قسمت های هایت لایت شده با رنگ زرد مراجعه نمایید. شایان ذکر است که شیر باید به گونه ای سایز شود که سی وی شیر برای ماکزیمم و مینیمم فلو باید بین 20 تا 80 درصد باشد. (مطابق با مشخصات فنی پروژه)





همچنین نویز ایجاد شده هواره باید کمتر 85 دسیبل باشد





پوزیشنر شیر باید دارای الزامات فیلد باس باشد و در کتر از 20 ثانیه باید شیر را ببندد





Owner:







K.P.I.C		NDEC		INSTRUMENT DATA SHEET FOR CONTROL VALVE - ANGLE				Stamicarbon pure knowledge	
Contract No.: KPIC/99/PC/362		Doc. No.: 2UA-229-44-IN-DSH-44038		Rev.: 2		Page : 7 of 34			
GENERAL	1	Tag Number	P&ID No.	2-41-FV-0009		2UA-229-41-PR-PID-14016			
	2	Service		AMMONIA TO HP AMMONIA PUMP 2-P-4104A					
	3	Allowable Sound Pressure Level (dBA)		<=85					
	4	Air Supply Pressure: Min / Nor / Max / Design		7.5 bar-a	8 bar-a	8.5 bar-a	11.6 bar-a		
	5	Line: Number (In)	Size (In)	Schedule (In)	2-AM4009-3"(15R1B)-N		3 in	160	
	6	Line: Number (Out)	Size (Out)	Schedule (Out)	2-AM4009-3"(15R1B)-N		3 in	160	
	7	Line Class	Pipe Material	15R1B		LTCS			
	8								
DESIGN	9	Pressure	Temperature	0 212 (3) bar-g		-33 80 °C			
HAZARDOUS AREA	10	Classification		Zone 2, IIA, T4					
	11	Execution	Certification	EEx-ia					
PROCESS CONDITIONS	12	Fluid	Fluid State	Ammonia (5)		Liquid			
	13			@ Min. Flow	@ Norm. Flow	@ Max. Flow	Units		
	14	Inlet Density		584.2 (6)	584.2	584.2	kg/m³		
	15	Specific Gravity		0.585 (6)	0.585	0.585	---		
	16	Inlet Vapour Pressure		14.7 (6)	14.7	14.7	bar-a		
	17						---		
	18	Inlet Viscosity		0.13	0.13	0.13	mPa·s		
	19	Critical Pressure		113.1 bar-a					
	20	Mass Vaporized	Solids %						
	21	Flow Rate		0	23320(6)	25652(6)	kg/h		
	22	Inlet Pressure		165.7 (4)	165.7 (4)	165.7 (4)	bar-a		
	23	Pressure Drop		140.2	140.2	140.2	bar		
	24	Inlet Temperature		37	37	37	°C		
	25	Max Shut-off Differential Pressure		212 (3) bar					
	26	Leakage Class		ANSI IV (standard)					
	27	Power Failure Position	Air Failure Position	Open		Open			
	28								
	CALC. DATA	29	Flow Coefficient Cv		---	0 (*)	6.958 (*)	7.654 (*)	
30		Sound Pressure Level		dBA	0 (*)	82 (*)	88 (*)		
31		Vendor Flow Coefficient Cv		---		(*)			
SELECTED VALVE	32	Type	Angle						
	33	Cv	Rangeability	(*)	(*)				
	34	Temp. Max	D.P. Max	(*)	(*)				
	35	Leakage Class		ANSI IV					
	36	Sound Pressure Level		(*)					
	37	End Connection: Type		Flanged					
BODY	38	Roughness		63 AARH Maximum					
	39	Size		2" (*)					
	40	Rating		1500#					
	41	Facing		RJ					
	42	Flow Action To		Open					
	43	Bonnet Type	Lubricat.	Standard	No				
	44	Jacket & Connection							
	45								
	46								
	47								
MATERIAL	58	Body / Bonnet	Jacket	A352LCB(1)					
	59	Plug	Seat	316L+HF(2)		316L+HF(2)			
	60	Plug Guides	Stem	(*)		316			
	61	Yoke / Housing	Packing	Carbon steel		PTFE			
	62	Bellows							
	63	Tag Number		2-41-FY-0009					
POSITIONER	64	Type	Model	SMART		(*)			
	65	Input Signal	Action	FF	Direct				
	66	PNEUMATIC CONNECTION	Material	SS					
	67		Size	1/4" NPT(F)					
	68	Mechanical Protection		IP-65					
	69	Electrical Connection		ISO M20 x 1.5 mm					
	70	Grounding Connection		Internal & External					
AIR SET	71	Filter Regulat. & Gauge		Yes					
	72	Material	Model	(*)	(*)				
LIMIT SWITCH	73	Tag Number							
	74	Quantity	Model						
	75	Tag Number							
SOLENOID VALVE	76	Quantity	Model						
	77								
	78	Booster	Air Lock						
OPTIONS	79	MR No.							
	80	PO No.							
	81	Manufacturer							
	82	Model							
	83	Supplier							
PURCHASE	84								
	85								
	86								
	87								
ACTUATOR	53	Type	Model	Diaphragm	(*)				
	54	Action	Handwheel	Direct	No				
	55	Size	Spring Range	(*)	(*)				
	56	Travel	Travel Lock	(*)	(*)				
57	Orientation		Vertical Up						
Notes: See notes									





Owner:  K.P.I.C		PMC:  NDEC		Project: 2 nd Ammonia and Urea Project - Kermanshah				Contractor:  SAZEH CONSULTANTS			
		Doc. Title: INSTRUMENT DATA SHEET FOR CONTROL VALVE - ANGLE				Licensor & Basic Designer:  Stamicarbon pure knowledge					
Contract No.: KPIC/99/PC/362				Doc. No.: 2UA-229-44-IN-DSH-44038				Rev.: 2		Page : 9 of 34	
GENERAL	1	Tag Number		P&ID No.		2-41-FV-0010		2UA-229-41-PR-PID-14016			
	2	Service									NH3 TO HP SCRUBBER 2-T-4103
	3	Allowable Sound Pressure Level (dBA)									<=85
	4	Air Supply Pressure: Min / Nor / Max / Design			7.5 bar-a		8 bar-a		8.5 bar-a		11.6 bar-a
	5	Line: Number (In)	Size (In)	Schedule (In)	2-AM4007-4"(15R1B)-N		4 in		160		
	6	Line: Number (Out)	Size (Out)	Schedule (Out)	2-AM4014-4"(15R1B)-N		4 in		160		
	7	Line Class		Pipe Material		15R1B		LTCS			
	8										
DESIGN	9	Pressure		Temperature		0 212 (3) bar-g		-33 80 °C			
HAZARDOUS AREA	10	Classification									Zone 2, IIA, T4
	11	Execution		Certification		EEx-ia					
PROCESS CONDITIONS	12	Fluid		Fluid State		Ammonia (5)		Liquid			
	13			@ Min. Flow		@ Norm. Flow		@ Max. Flow		Units	
	14	Inlet Density		584.2 (6)		584.2		584.2		kg/m ³	
	15	Specific Gravity		0.585 (6)		0.585		0.585		---	
	16	Inlet Vapour Pressure		18.3 (6)		18.3		18.3		bar-a	
	17									---	
	18	Inlet Viscosity		0.13		0.13		0.13		mPa·s	
	19	Critical Pressure		113.1				bar-a			
	20	Mass Vaporized		Solids %							
	21	Flow Rate		28208		47013		51778		kg/h	
	22	Inlet Pressure		165.4		165		164.8		bar-a	
	23	Pressure Drop		19.18 (4)		17.9 (4)		17.47 (4)		bar	
	24	Inlet Temperature		46.2 (4)		46.2 (4)		46.2 (4)		°C	
	25	Max Shut-off Differential Pressure		212 (3)		bar					
	26	Leakage Class		ANSI IV (standard)							
	27	Power Failure Position		Air Failure Position		Open		Open			
	28										
CALC. DATA	29	Flow Coefficient Cv		---		9.746 (*)		16.817 (*)		18.748 (*)	
	30	Sound Pressure Level		dBA		56 (*)		58 (*)		58 (*)	
	31	Vendor Flow Coefficient Cv		---		(*)		(*)		(*)	
SELECTED VALVE	32	Type		Angle							
	33	Cv	Rangeability	(*)	(*)						
	34	Temp. Max	D.P. Max	(*)	(*)						
	35	Leakage Class		ANSI IV							
	36	Sound Pressure Level		(*)							
BODY	37	End Connection: Type		Flanged							
	38	Roughness		63 AARH Maximum							
	39	Size		3" (*)							
	40	Rating		1500#							
	41	Facing		RJ							
	42	Flow Action To		Open							
	43	Bonnet Type	Lubricat.	Standard	No						
	44	Jacket & Connection									
	45										
	46										
TRIM	48	Port No.	Full / Red.	1	Full						
	49	Plug Type	Character.	(*)	Equal %						
	50	Sealing Seat / Plug		Metallic							
	51	Balance	Plug Guide		Top only						
	52										
	53	Type	Model	Diaphragm	(*)						
	54	Action	Handwheel	Direct	No						
	55	Size	Spring Range	(*)	(*)						
	56	Travel	Travel Lock	(*)	(*)						
	57	Orientation		Vertical Up							
ACTUATOR	58	Body / Bonnet		Jacket		A352LCB(1)		316L+HF(2)			
	59	Plug		Seat		316L+HF(2)		316L+HF(2)			
	60	Plug Guides		Stem		(*)		316			
	61	Yoke / Housing		Packing		Carbon Steel		PTFE			
	62	Bellows									
	63	Tag Number		2-41-FY-0010							
	64	Type	Model	SMART	(*)						
	65	Input Signal	Action	FF	Direct						
	66	PNEUMATIC CONNECTION		Material		SS					
	67	CONNECTION		Size		1/4" NPT(F)					
68	Mechanical Protection		IP-65								
69	Electrical Connection		ISO M20 x 1.5 mm								
70	Grounding Connection		Internal & External								
71	Filter Regulat. & Gauge		Yes								
72	Material	Model	(*)	(*)							
73	Tag Number										
74	Quantity	Model									
75	Tag Number										
76	Quantity	Model									
77											
SOLENOID VALVE	78	Booster		Air Lock							
	79	MR No.									
	80	PO No.									
	81	Manufacturer									
	82	Model									
	83	Supplier									
Notes: See notes											

Owner:  K.P.I.C.	PMC:  NDEC	Project: 2 nd Ammonia and Urea Project - Kermanshah	Contractor:  سزاه مشاوران SAZEH CONSULTANTS
		Doc. Title: INSTRUMENT DATA SHEET FOR CONTROL VALVE - ANGLE	Licensor & Basic Designer:  Stamicarbon pure knowledge
Contract No.: KPIC/99/PC/362	Doc. No.: 2UA-229-44-IN-DSH-44038	Rev.: 2	Page : 10 of 34
Tag Number : 2-41-FV-0010			
<p>(*) Vendor specified data</p> <p>(1) Valve body material shall comply with the requirements specified under material designation code AA.01 of Stamicarbon material specification A4-18005.</p> <p>(2) Valve plug, seat, stem and glands material shall comply with the requirements specified under material designation code BC.09 of Stamicarbon material specification A4-18005. The trim shall be stellited or shall be completely made of Ferralium 255 or A905. (This material has to be hardened by means of heat treatment. Minimum hardness of 280 HBr shall be provided. 40 BHR difference in hardness shall be maintained between the plug and seat.) Valve Plug & stem shall be in one piece. Seat shall be clamped in.</p> <p>(3) Design pressure and maximum shut off differential pressure to be confirmed based on pump 2-P-4104A/B shut-off pressure.</p> <p>(4) Upstream pressure to be confirmed based on pump 2-P-4104A/B curve.</p> <p>(5) Fluid is erosive in nature.</p> <p>(6) Valve should be capable to handle the rated pump capacity at increased synthesis pressure (setting PSH-0023).</p> <p>(7) At normal conditions pressure drop over valve should be at least 15 bar in order to achieve over full pressure range of the synthesis.</p>			

Owner:  K.P.I.C		PMC:  NDEC		Project: 2 nd Ammonia and Urea Project - Kermanshah				Contractor:  SAZEH CONSULTANTS			
				Doc. Title: INSTRUMENT DATA SHEET FOR CONTROL VALVE - ANGLE				Licensors & Basic Designer:  Stamicarbon pure knowledge			
Contract No.: KPIC/99/PC/362				Doc. No.: 2UA-229-44-IN-DSH-44038				Rev.: 2	Page : 11 of 34		
GENERAL	1	Tag Number		P&ID No.		2-41-FV-0011		2UA-229-41-PR-PID-14016			
	2	Service		AMMONIA TO HP AMMONIA PUMP 2-P-4104B							
	3	Allowable Sound Pressure Level (dBA)		<=85							
	4	Air Supply Pressure: Min / Nor / Max / Design		7.5 bar-a		8 bar-a		8.5 bar-a		11.6 bar-a	
	5	Line: Number (In)	Size (In)	Schedule (In)		2-AM4001-3"(15R1B)-N		3 in		160	
	6	Line: Number (Out)	Size (Out)	Schedule (Out)		2-AM4001-3"(15R1B)-N		3 in		160	
	7	Line Class		Pipe Material		15R1B		LTCS			
	8										
DESIGN	9	Pressure		Temperature		0 212 (3) bar-g		-33 80 °C			
HAZARDOUS AREA	10	Classification		Zone 2, IIA, T4							
	11	Execution		Certification		EEx-ia					
PROCESS CONDITIONS	12	Fluid		Fluid State		AMMONIA (5)		Liquid			
	13			@ Min. Flow		@ Norm. Flow		@ Max. Flow		Units	
	14	Inlet Density		584.2 (6)		584.2		584.2		kg/m ³	
	15	Specific Gravity		0.585 (6)		0.585		0.585		---	
	16	Inlet Vapour Pressure		14.7 (6)		14.7		14.7		bar-a	
	17									---	
	18	Inlet Viscosity		0.13		0.13		0.13		mPa·s	
	19	Critical Pressure		113.1				bar-a			
	20	Mass Vaporized		Solids %							
	21	Flow Rate		0		23320(6)		25652(6)		kg/h	
	22	Inlet Pressure		165.7		165.7		165.7		bar-a	
	23	Pressure Drop		140.2 (4)		140.2 (4)		140.2 (4)		bar	
	24	Inlet Temperature		37 (4)		37 (4)		37 (4)		°C	
	25	Max Shut-off Differential Pressure		212 (3)		bar					
	26	Leakage Class		ANSI IV (standard)							
	27	Power Failure Position		Air Failure Position		Open		Open			
	28										
CALC. DATA	29	Flow Coefficient Cv		---		0 (*)		6.958 (*)		7.654 (*)	
	30	Sound Pressure Level		dBA		0 (*)		88 (*)		88 (*)	
	31	Vendor Flow Coefficient Cv		---				(*)			
SELECTED VALVE	32	Type		Angle							
	33	Cv	Rangeability	(*)		(*)					
	34	Temp. Max	D.P. Max	(*)		(*)					
	35	Leakage Class		ANSI IV							
	36	Sound Pressure Level		(*)							
BODY	37	End Connection: Type		Flanged							
	38	Roughness		63 AARH Maximum							
	39	Size		2" (*)							
	40	Rating		1500#							
	41	Facing		RJ							
	42	Flow Action To		Open							
	43	Bonnet Type	Lubricat.	Standard		No					
	44	Jacket & Connection									
	45										
	46										
	47										
TRIM	48	Port No.	Full / Red.	1		Full					
	49	Plug Type	Character.	(*)		Equal %					
	50	Sealing Seat / Plug		Metallic							
	51	Balance	Plug Guide			Top only					
	52										
	53	Type	Model	Diaphragm		(*)					
	54	Action	Handwheel	Direct		No					
ACTUATOR	55	Size	Spring Range	(*)		(*)					
	56	Travel	Travel Lock	(*)		(*)					
	57	Orientation		Vertical Up							
	58	Body / Bonnet		Jacket		A352LCB(1)					
	59	Plug		Seat		316L+HF(2)		316L+HF(2)			
MATERIAL	60	Plug Guides		Stem		(*)		316			
	61	Yoke / Housing		Packing		Carbon Steel		PTFE			
	62	Bellows									
	63	Tag Number		2-41-FY-0011							
	64	Type	Model	SMART		(*)					
	65	Input Signal	Action	FF		Direct					
	66	PNEUMATIC CONNECTION		Material		SS					
	67			Size		1/4" NPT(F)					
	68	Mechanical Protection		IP-65							
	69	Electrical Connection		ISO M20 x 1.5 mm							
	70	Grounding Connection		Internal & External							
	AIR SET	71	Filter Regulat. & Gauge		Yes						
		72	Material	Model	(*)		(*)				
		73	Tag Number								
	LIMIT SWITCH	74	Quantity	Model							
75		Tag Number									
SOLENOID VALVE	76	Quantity	Model								
	77										
OPTIONS	78	Booster	Air Lock								
	79	MR No.									
	80	PO No.									
	81	Manufacturer									
	82	Model									
	83	Supplier									

Notes:
See notes

Owner:  K.P.I.C	PMC:  NDEC	Project: 2 nd Ammonia and Urea Project - Kermanshah	Contractor:  SAZEH CONSULTANTS P.C.							
		Doc. Title: INSTRUMENT DATA SHEET FOR CONTROL VALVE - ANGLE	Licensor & Basic Designer:  Stamicarbon pure knowledge							
Contract No.: KPIC/99/PC/362		Doc. No.: 2UA-229-44-IN-DSH-44038	Rev.: 2 Page : 13 of 34							
GENERAL	1	Tag Number	P&ID No.	2-41-FV-0037 (9)	2UA-229-41-PR-PID-14024					
	2	Service			HP CARBAMATE PUMP 2-P-4107A MINIMUM FLOW LINE (11)					
	3	Allowable Sound Pressure Level (dBA)			<=85					
	4	Air Supply Pressure: Min / Nor / Max / Design			7.5 bar-a	8 bar-a	8.5 bar-a	11.6 bar-a		
	5	Line: Number (In)	Size (In)	Schedule (In)	2-CA4095-2"(15U3)-C	2 in	160			
	6	Line: Number (Out)	Size (Out)	Schedule (Out)						
	7	Line Class	Pipe Material	15U3	SS316L-BC01					
	8									
DESIGN	9	Pressure	Temperature	202 (4) bar-g	180 °C					
HAZARDOUS AREA	10	Classification			Zone 2, IIA, T4					
	11	Execution	Certification	EEx-ia						
PROCESS CONDITIONS	12	Fluid	Fluid State	Carbamate Solution (8)	Liquid					
	13			@ Min. Flow	@ Norm. Flow	@ Max. Flow	Units			
	14	Inlet Density		1218	1218 (6)	1218	kg/m ³			
	15	Specific Gravity		1.22	1.22 (6)	1.22	---			
	16	Inlet Vapour Pressure		2.45	2.45 (6)	2.45	bar-a			
	17						---			
	18	Inlet Viscosity		2.73	2.73	2.73	mPa.s			
	19	Critical Pressure		221			bar-a			
	20	Mass Vaporized	Solids %							
	21	Flow Rate		0		19000	kg/h			
	22	Inlet Pressure		149.5 (5)		149.5 (5)	bar-a			
	23	Pressure Drop		143.9		143.9	bar			
	24	Inlet Temperature		76.1		76.1	°C			
	25	Max Shut-off Differential Pressure		202.1 (4)			bar			
	26	Leakage Class		ANSI IV (standard)						
	27	Power Failure Position	Air Failure Position	Open	Open					
28										
CALC. DATA	29	Flow Coefficient Cv		---	0 (*)		2.7 (*)			
	30	Sound Pressure Level		dBA	0 (*)		74 (*)			
	31	Vendor Flow Coefficient Cv		---		(*)				
SELECTED VALVE	32	Type	Angle		58	Body / Bonnet	Jacket	A351CF3M(1)		
	33	Cv	Rangeability	(*)	(*)	59	Plug	Seat	316L+HF(2)	316L+HF(2)
	34	Temp. Max	D.P. Max	(*)	(*)	60	Plug Guides	Stem	(*)	316L (2)
	35	Leakage Class	ANSI IV			61	Yoke / Housing	Packing	Carbon Steel	Aramide PTFE
	36	Sound Pressure Level	(*)			62	Bellows			
	37	End Connection: Type	Flanged			63	Tag Number	2-41-FY-0037		
BODY	38	Roughness	TO SUIT LENTICULAR GASKET			64	Type	Model	SMART	(*)
	39	Size	2" (*)			65	Input Signal	Action	FF	Direct
	40	Rating	1500#			66	PNEUMATIC CONNECTION	Material	SS	
	41	Facing	LENTICULAR			67	CONNECTION	Size	1/4" NPT(F)	
	42	Flow Action To	Open			68	Mechanical Protection	IP-65		
	43	Bonnet Type	Lubricat.	Standard	No	69	Electrical Connection	ISO M20 x 1.5 mm		
	44	Jacket & Connection				70	Grounding Connection	Internal & External		
	45					71	Filter Regulat. & Gauge	Yes		
	46					72	Material	Model	(*)	(*)
	47					73	Tag Number			
TRIM	48	Port No.	Full / Red.	1	Full	74	Quantity	Model		
	49	Plug	Character.	(*)	Equal %	75	Tag Number			
	50	Sealing Seat / Plug	Metallic			76	Quantity	Model		
	51	Balance	Plug Guide		Top only	77				
	52					78	Booster	Air Lock		
ACTUATOR	53	Type	Model	Diaphragm	(*)	79	MR No.			
	54	Action	Handwheel	Direct	No	80	PO No.			
	55	Size	Spring Range	(*)	(*)	81	Manufacturer			
	56	Travel	Travel Lock	(*)	(*)	82	Model			
	57	Orientation	Vertical Up			83	Supplier			
Notes: See notes										

Owner:  K.P.I.C		PMC:  NDEC		Project: 2 nd Ammonia and Urea Project - Kermanshah				Contractor:  SAZEH CONSULTANTS								
				Doc. Title: INSTRUMENT DATA SHEET FOR CONTROL VALVE - ANGLE				Licenser & Basic Designer:  Stamicarbon pure knowledge								
Contract No.: KPIC/99/PC/362				Doc. No.: 2UA-229-44-IN-DSH-44038				Rev.: 2		Page: 15 of 34						
GENERAL	1	Tag Number		P&ID No.		2-41-FV-0038 (9)		2UA-229-41-PR-PID-14024								
	2	Service				HP CARBAMATE PUMP 2-P-4107B MINIMUM FLOW LINE (11)										
	3	Allowable Sound Pressure Level (dBA)				<=85										
	4	Air Supply Pressure: Min / Nor / Max / Design				7.5 bar-a		8 bar-a		8.5 bar-a		11.6 bar-a				
	5	Line: Number (In)		Size (In)		Schedule (In)		2-CA4094-2"(15U3)-C		2 in		160				
	6	Line: Number (Out)		Size (Out)		Schedule (Out)										
	7	Line Class		Pipe Material		15U3		SS316L-BC01								
	8															
DESIGN	9	Pressure		Temperature		202 (4) bar-g		180 °C								
HAZARDOUS AREA	10	Classification				Zone 2, IIA, T4										
	11	Execution		Certification		EEx-ia										
PROCESS CONDITIONS	12	Fluid		Fluid State		Carbamate Solution (8)		Liquid								
	13					@ Min. Flow		@ Norm. Flow		@ Max. Flow	Units					
	14	Inlet Density				1218		1218 (6)		1218		kg/m ³				
	15	Specific Gravity				1.22		1.22 (6)		1.22		---				
	16	Inlet Vapour Pressure				2.45		2.45 (6)		2.45		bar-a				
	17											---				
	18	Inlet Viscosity				2.73		2.73		2.73		mPa·s				
	19	Critical Pressure				221		bar-a								
	20	Mass Vaporized		Solids %												
	21	Flow Rate				0				19000		kg/h				
	22	Inlet Pressure				149.5 (5)				149.5 (5)		bar-a				
	23	Pressure Drop				143.5				143.9		bar				
	24	Inlet Temperature				76.1				76.1		°C				
	25	Max Shut-off Differential Pressure				202.1 (4)		bar								
26	Leakage Class				ANSI IV (standard)											
27	Power Failure Position		Air Failure Position		Open			Open								
28																
CALC. DATA	29	Flow Coefficient Cv				---		0 (*)		2.7 (*)						
	30	Sound Pressure Level				dBA		0 (*)		74 (*)						
	31	Vendor Flow Coefficient Cv				---				(*)						
SELECTED VALVE	32	Type		Angle				58		Body / Bonnet		Jacket	A351CF3M(1)			
	33	Cv		Rangeability		(*)		(*)		59		Plug		Seat	316L+HF(2)	316L+HF(2)
	34	Temp. Max		D.P. Max		(*)		(*)		60		Plug Guides		Stem	(*)	316L (2)
	35	Leakage Class		ANSI IV						61		Yoke / Housing		Packing	Carbon Steel	Aramide PTFE
	36	Sound Pressure Level		(*)						62		Bellows				
	37	End Connection: Type		Flanged						63		Tag Number		2-41-FY-0038		
BODY	38	Roughness		TO SUIT LENTICULAR GASKET						64		Type		Model	SMART	(*)
	39	Size		2" (*)						65		Input Signal		Action	FF	Direct
	40	Rating		1500#						66		PNEUMATIC CONNECTION		Material	SS	
	41	Facing		LENTICULAR						67		CONNECTION		Size	1/4" NPT(F)	
	42	Flow Action To		Open						68		Mechanical Protection		IP-65		
	43	Bonnet Type		Lubricat.		Standard		No		69		Electrical Connection		ISO M20 x 1.5 mm		
	44	Jacket & Connection								70		Grounding Connection		Internal & External		
	45									71		Filter Regulat. & Gauge		Yes		
	46									72		Material		Model	(*)	(*)
	47									73		Tag Number				
TRIM	48	Port No.		Full / Red.		1		Full		74		Quantity		Model		
	49	Plug Type		Character.		(*)		Equal %		75		Tag Number				
	50	Sealing Seat / Plug		Metallic						76		Quantity		Model		
	51	Balance		Plug Guide				Top only		77						
	52									78		Booster		Air Lock		
ACTUATOR	53	Type		Model		Diaphragm		(*)		79		MR No.				
	54	Action		Handwheel		Direct		No		80		PO No.				
	55	Size		Spring Range		(*)		(*)		81		Manufacturer				
	56	Travel		Travel Lock		(*)		(*)		82		Model				
	57	Orientation		Vertical Up						83		Supplier				
Notes: See notes																




عموما در پلنتهای پتروشیمی بدلیل شرایط فرآیندی خاص جهت حاصل شدن تولید مورد نظر، لایسنسورها طراحی های خاصی متناسب تجربیات خاص خود به همراه استفاده از متریالهای خاص و سازندگان بخصوصی انجام میدهند که پروژه پتروشیمی کرمانشاه نیز ازین قاعده مستثنی نبوده و از طرفی بدلیل در دسترس نبودن لایسنسور میبایست مخصوصا متریالهای مشخص شده توسط وی استفاده شود چرا که مطمینا در طی سالها تجربه لایسنسور متریال انتخابی از تمام جهات فیزیکی و شیمیایی و سختی در مقابل خوردگی و ساییدگی که میبایست تکرارپذیری مکرر هم داشته باشند یعنی بدلیل حساسیت و تامین GATE و BALL و مورد نظر قرار گرفته است علی الخصوص برای شیرهای قطع و وصلی از نوع ایمنی مجتمع میبایست در بازه های زمانی متفاوت مکرر باز و بسته شوند، لذا طراحی و ساخت و در نظر گرفتن متریال بصورت کلی زمان قطع و وصل و تمامی جهات برای اینگونه شیرها نقش مهمی در بازدهی پلنت ایفا میکند چرا که همانگونه که در مدارک دیتاشیت مشخص شده میبایست در فشارهای بالا مثلا 155 بار، یا دماهای بالا مثلا 455 درجه سانتیگراد در کل طول عمر مشخص شده مجتمع ایفای نقش کنند

یک نمونه متریال و دما به عنوان مثال مشخص شده است

ردیف 4 پر فرما

K.P.I.C	NDEC	INSTRUMENT DATA SHEET FOR CONTROL VALVES (GATE)		SAZEH CONSULTANTS Engineering & Construction
Contract No.: KPIC/99/PC/362	Doc. No.:	2UA-229-21-IN-DSH-40004	Rev.: 4	Page : 7 of 8

GENERAL	1	TAG NO.	2-21-HV-1034	
	2	SERVICE	2-R-2106 IN	
	3	SUPPLIER / MODEL NO.	*	
	4	P&ID	2UA-229-21-PR-PID-11431	
	5	LINE NO.	2-PG1018-14"(6P1D)-1	
	6	QUANTITY	1	
BODY	7	VALVE CONFIGURATION	THRU <input checked="" type="checkbox"/> ANGLE <input type="checkbox"/> 3-WAY <input type="checkbox"/>	
	8	BODY SIZE	TRIM	*14" FULL <input checked="" type="checkbox"/> REDUCED <input type="checkbox"/>
	9	BODY STYLE	PORTS	GATE <input checked="" type="checkbox"/> DOUBLE <input type="checkbox"/> BALL <input type="checkbox"/> BTFLY <input type="checkbox"/> SINGLE <input type="checkbox"/>
	10	END CONNECTIONS		FLANGED <input checked="" type="checkbox"/> SCREWED <input type="checkbox"/> RATING & FACING WELDED <input type="checkbox"/> # 600 RF
	11	*BODY MATERIAL		LOW ALLOY STEEL <input type="checkbox"/> ST. STEEL <input type="checkbox"/> A217 WC6 <input checked="" type="checkbox"/>
	12	*BONNET		STD <input type="checkbox"/> FINNED <input checked="" type="checkbox"/> PLAIN EXT. <input type="checkbox"/> BELLOWS SEAL <input type="checkbox"/>
TRIM	13	*STEM MATERIAL		ST. STEEL <input type="checkbox"/> STELLITE <input type="checkbox"/> *PLUG(DISK): SCM435(STELLITED),GUIDE:SUS420J2(HARDENING)
	14	*SEAT INSERT (SEAT RING)		PTFE <input type="checkbox"/> SUS304 (STELLITED SEAT) <input checked="" type="checkbox"/>
	15	CHARACTERISTIC		E.P. <input type="checkbox"/> ON/OFF <input checked="" type="checkbox"/> LEAKAGE CLASS LINEAR <input type="checkbox"/> INCHING <input checked="" type="checkbox"/> V, TIGHT SHUT OFF
	16	*INNER VALVE GUIDING		TOP & BOTTOM <input type="checkbox"/> TOP <input type="checkbox"/> CAGE <input type="checkbox"/> SEALING RING <input type="checkbox"/>
	17	GLAND PACKING		PTFE <input type="checkbox"/> *LAMINATED GRAPHITE <input checked="" type="checkbox"/>
	18	*LUBRICATOR & ISOL. VALVE		NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
ACTUATOR	19	ACTUATOR		PNEU <input checked="" type="checkbox"/> ELECTRO. HYD <input type="checkbox"/> ELECT <input type="checkbox"/>
	20	ACTUATOR TYPE	MODEL	*PISTON DOUBLE ACTING WITH VOLUME TANK
	21	ACTUATOR SIZE	ACT. ORIENTATION	* * VERTICAL UPWARDS
	22	OPER. RANGE(NOM) CLOSE/OPEN		*0.2 Barg *1 Barg
	23	SIGNAL CONN. SIZE & TYPE		* 1/2" NPT
	24	VALVE ACTION ON AIR FAILURE		OPEN <input type="checkbox"/> CLOSE <input checked="" type="checkbox"/> STAYPUT <input type="checkbox"/> DRIFT OPEN <input type="checkbox"/> DRIFT CLOSE <input type="checkbox"/>
	25	*VALVE STROKING TIME(S) (OPEN/CLOSE)		*
26	AIR FAILURE VALVE	POSITION INDICATOR		* YES
27	HANDWHEEL		TOP MTD. <input type="checkbox"/> SIDE MTD. <input type="checkbox"/>	
POSITNR	28	POSITIONER	TAG NO.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> 2-21-HY-1034A
	29	TYPE	EEx CLASS	FF/P, GAUGES (50 mm) <input checked="" type="checkbox"/> BYPASS <input type="checkbox"/> EExia IIC T4
	30	MECH. PROTECTION	ELECT. CONN.	IP 66 MIN. M 20×1.5 ISO
	31	SIGNAL RANGE	ACTION	FF (FUNDATION FIELDBUS) DIR <input type="checkbox"/> REV <input type="checkbox"/> NOTE 1
SOLENOID VALVE	32	SOLENOID VALVE	TAG NO.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> 2-21-HY-1034B
	33	TYPE		3 WAY , NAMUR MOUNT TYPE
	34	MECH. PROTECTION	EEx CLASS	IP 65 MIN. EExia IIC T4
	35	CONN. SIZE & TYPE	HOUSING MATERIAL	* 1/2" NPT 316SS
	36	POWER SUPPLY	ELECT. CONN.	24 VDC M 20×1.5 ISO
	37	MANUAL RESET	QTY.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> 1
LIMIT SWITCH	38	LIMIT SWITCH	TAG NO.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> 2-21-HZSO-1034 / 2-21-HZSC-1034
	39	TYPE		PROXIMITY SWITCH,NAMUR MOUNT TYPE
	40	MECH. PROTECTION	EEx CLASS	IP 65 MIN. EExia IIC T4
	41	ELECT. CONN.	HOUSING MATERIAL	M 20×1.5 ISO *
	42	CONTACT RATING	CONTACT FORM	* 1 SPDT PER POSITION
AIR SET	43	AIR SET	AIR SUPPLY (Bara)	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Min 7.5 Nor 8 Max 8.5
	44	SET RANGE	BODY MATERIAL	* *
	45	AIR CONN. SIZE	AIR CONN. TYPE	* 1/2" NPTF
	46	GAUGE SIZE		50 mm
NOTES	(*) - VENDOR TO SPECIFY OR CONFIRM IN CASE ALREADY SPECIFIED. 1. SIGNAL INCREASE TO CONTROL VALVE OPEN			

Owner:  K.P.I.C	PMC:  NDEC	Project: 2nd Ammonia and Urea Project - Kermanshah	Contractor:  SAZEH CONSULTANTS Engineering & Construction
		Doc Title: INSTRUMENT DATA SHEET FOR CONTROL VALVES (GATE)	
Contract No.: KPIC/99/PC/362	Doc. No.: 2UA-229-21-IN-DSH-40004	Rev.: 4	Page : 8 of 8

CONTROL VALVE NO. : 2-21-HV-1034

PLANT AREA	AMMONIA PLANT
P & ID NO.	2UA-229-21-PR-PID-11431
LINE NO.	2-PG1018-14"(6P1D)-1
SIZE & SCHEDULE	*14" / STD
VALVE SPEC	6P1D
VALVE TYPE	GATE VALVE
PROCESS FLUID	PROCESS GAS
DESIGN PRESSURE, BARG	36.6
FLEX HIGH/LOW TEMP (°C)	455
INLET FLUID STATE	VAPOUR
OPERATION	ON / OFF/INCHING
SHUTOFF CLASS	V
FAIL POSITION	FAIL CLOSE
HANDWHEEL	NO

PROCESS DATA	UNITS	MAX FLOW	NORM FLOW	MIN FLOW	ALT FLOW
MASS FLOWRATE	kg/h	64,809.8	59,418		0
OPERATING TEMP	°C		316		316
P1 (UPSTREAM)	barA		31.70		31.70
P2 (DOWNSTREAM)	barA		31.70		31.70
VISCOSITY (LIQ)	cP		-		-
CRITICAL PRESS (LIQ)	barA		-		-
UPSTREAM DENSITY	kg/m ³		5.56		5.56
MOLECULAR WT (VAP)			8.689		8.689
VAPOR PRESS (LIQ)	barA		-		-
DP TO SIZE ACTUATOR	bar		37.5		37.5
C _v			-		-
EST SOUND PRESS	barA		-		-
EST VALVE BODY SIZE	inch		14"		14"

NOTES & SPECIAL REQUIREMENTS:

1. NORMAL ATMOSPHERIC PRESSURE = 877.6 mBARA. MAX / MIN ATMOSPHERIC PRESSURE = 881.2 / 851.6 mBARA RESPECTIVELY.