

Steam Conditioning Valve



1	Client	Valve & Automation (Pty) Ltd.		ARTES-no.	5501137.1		
2	Project	Sasol		Pos.	1		
3	Item			Units	2		
4	KKS-no.			Serial-no.	3142425.1 & 3142425.2		
5	Pipe connection data			Inlet	Outlet		
6	Pipe	Ø D x s	mm	323,9 x 10,0	914,0 x 16,0		
7	Pipe material			1.5415	1.0460		
8	Valve information - connection data			Inlet	Outlet		
9	Nominal size	NPS		12"	36"		
10	Nominal pressure	class		600	300		
11	Weld connection	Ø D x s	mm	323,9 x 10,0	--		
12	Flange connection			--	ASME B16.47 - Series B		
13	Material			1.5415	1.5415		
14	Valve information - design data			Inlet	Outlet		
15	Pressure	bar(g)		48,85	9,00		
16	Temperature	°C		442	410		
17	Test pressure - Hydrostatic shell test						
18	Operation data		Point	Point	Point	Point	Point
19	Fluid	Steam	1	2	3	4	5
20	Flowrate	kg/s	52,63	53,11	6,94		
21	Temperature t1	°C	435,00	435,00	435,00		
22	Temperature t2	°C	--	--	--		
23	Pressure inlet	bar(a)	40,85	40,85	40,85		
24	Pressure outlet	bar(a)	4,75	6,85	4,75		
25	Noise level	dB(A)					
26	K _v value 1. step	m³/h	556,20	570,00	69,90		
27	Type of valve Angle Valve						
28							
29	Material			Design of valve			
30							
31	Body	1.5415		Ø Seat	200	mm	
32	Stem and			Ø Stem	60	mm	
33	Perforated Cage	1.4122 nitrided		Pressure reduction steps	4 + 1		
34	Seat	1.5415 stellited		K _{vS} -value	650	m³/h	
35				Control Characteristic	linear		
36	Seal	Graphite, K80 + K80S		max. Δp actuator	22	bar	
37				Stroke	110	mm	
38				Length	cf. dimensional drawing mm		
39	Inspected acc. to			Pressure Equipment Directive 2014/68/EU			
40				requirement	AD2000 / TRD		
41				leakage	0,5% of K _{vS} -Value		
42	Special rools						
43							
44	Actuator	pneumatic					
45	Model	ARCA Type 811.47 UV-120.v-ATO-HV					
46		Positioner ARCA Pro 827A.E2-A00-M10-G					
47		filter and pressure reducing station type 961					
48		booster SMC EVEX 1300-02F					
49		air pressure 6,0 bar(a)					
50							
51	Remarks						
52							
53							
54							
55	Revision	0	1	2	3	4	5
56	Date	26.01.2018	05.02.2018	10.09.2018			
57	prepared	H. Roßmann	P. Schüler	P. Schüler			
58	checked	H. Jäkel	H. Roßmann	M. Majewski			

Motive Steam Cooler



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3	Item				Units	2	
4	KKS no.				Serial-no.	part of 3142425.1 & 3142425.2	
5							
6	Pipe connection data				Motive Steam	Cooling Water	
7	Pipe	Ø D x s	mm		integrated	89,0 x 4,0	
8	Pipe material				--		
9	Valve information - connection data				Motive Steam	Cooling Water	
10	Nominal size	NPS			--	3"	
11	Nominal pressure	class			--	600	
12	Weld connection	Ø D x s	mm		--	88,9 x 4,0	
13	Material				--	1.0460	
14	Valve information - design data				Motive Steam	Cooling Water	
15	Pressure	bar(g)			--	50	
16	Temperature	°C			--	250	
17							
18	Operation data			Point	Point	Point	Point
19				1	2	3	4
20	Fluid	steam					
21	Flowrate	kg/s	52,63	53,11	6,94		
22	Temperature t1	°C	435,00	435,00	435,00		
23	Temperature t2	°C	170,00	170,00	170,00		
24	Pressure	bar(a)	4,75	6,85	4,75		
25	Velocity	m/s	42,80	29,57	5,64		
26	Fluid	cooling water					
27	Flowrate	kg/s	10,25	10,65	1,35		
28	Temperature	°C	38,00	38,00	38,00		
29	Pressure Inlet	bar(a)	22,49	26,00	5,06		
30	Pressure outlet	bar(a)	4,75	6,85	4,75		
31	K _v value	m³/h	8,80	8,80	8,80		
32							
33	Fluid	Motive Steam					
34	Flowrate	kg/s	3,36	3,47	2,90		
35	Temperature	°C	426,00	427,00	424,00		
36	Pressure Inlet	bar(a)	27,40	28,30	23,70		
37	Pressure outlet	bar(a)	4,75	6,85	4,75		
38	K _v value	m³/h	50,00	50,00	50,00		
39							
40	Type of valve				Integrated Motive Steam Cooler		
41							
42	Inspected acc. to				Pressure Equipment Directive 2014/68/EU		
43					requirement AD2000 / TRD		
44							
45	Special rools				Length of straight outflow pipe	8	m
46					Min-Distance to the temperature sensor	15	m
47	Remarks						
48	Motive steam cooler is an integrated part of the steam conditioning valve						
49							
50							
51							
52							
53							
54	Revision	0	1	2	3	4	5
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