

DATA SHEET NUMBER: 0001 VALVES WITH ELECTRIC ACTUATORS							
Rev. no.	Completed by the CLIENT			Rev. no.	Completed by the SUPPLIER		
<b>GENERAL VALVE INFORMATION</b>				<b>GENERAL INFORMATION</b>			
1	NAME AND NUMBER OF VALVE SPECIFICATION	ball valve - HCA11, 12, 31		40	ACTUATOR MANUFACTURER		
2	SITE OF INSTALLATION	HPS		41	TYPE OF ACTUATOR		
3	TYPE OF VALVE	BALL VALVE		42	WIRING SCHEMATIC - MANUFACTURER'S INTERFACE DOCUMENTATION NO.:		
4	DN	1000		43	CONNECTION TO VALVE (FLANGE) PER ISO		
5	P&ID	J171-GOT-HPS-SO-600-SK-6003		44	MANUFACTURER'S CATALOGUE MARKING		
6	TAG. NUMBER			45	TECHNICAL SPECIFICATION - MANUFACTURER'S DOCUMENT NO.:		
<b>VALVE OPERATING AND DESIGN PARAMETERS</b>				<b>ACTUATOR OPERATING AND DESIGN PARAMETERS</b>			
7	AMBIENT CONDITIONS AT SITE OF OPERATION	-29°C / +59°C		46	MAX. MEDIA WORKING PRESSURE (bar)		
8	WORKING MEDIUM	natural gas		47	(MAX / MIN) MEDIA WORKING TEMPERATURE (°C)		
9	MEDIA COMPOSITION	mech. impurity content up to 5 mm max. 100 g/m <sup>3</sup>		48	DESIGN PRESSURE (bar)		
10	MAX. WORKING PRESSURE	8.4 MPa(g)		49	DESIGN TEMPERATURE (MAX. / MIN.) (°C)		
11	DIFFERENTIAL PRESSURE			50	NUMBER OF OPERATING CYCLES WITHOUT WORKING MEDIA		
12	MAX./MIN. WORKING MEDIA TEMPERATURE	0°C / 40°C		51	MAX. TORQUE		
13	ELEVATION			52	ACTUATOR TORQUE RATING		
14	DIRECTION OF FLOW OF WORKING MEDIA			53	LEVEL OF IP PROTECTION PER IEC 60529		
15	VALVE CLOSING/OPENING REQUIREMENTS	Max	Open ....90 s Close 90 s	54	MANUFACTURER'S DESIGN VALUES - VALVE CLOSING/OPENING	Max	Open ..... s Close ..... s
		Min.	Open ..... s Close ..... s			55	Min.
Notes:				Notes:			
<b>GENERAL ACTUATOR TECHNICAL DATA</b>				<b>TECHNICAL DATA SPECIFIED BY THE MANUFACTURER</b>			
17	ELECTRIC CONTROL TYPE			56	PNEUMATIC CONTROL TYPE		
18	NAME AND NUMBER OF CONTROL SPECIFICATION	J171-GOT-LCG-PC-MTO-SK-6001		57	WORKING MEDIUM		
19	CONTROL WORKING MEDIUM	natural gas		58	SPECIFICATIONS OF WORK. MEDIUM AT CONNECTION POINT		
20	CONNECTION (INTERFACE) SPECIFICATIONS	WORKING MEDIUM		59	MANUFACTURER'S DESIGN FOR CONNECTION (INTERFACE)	WORKING MEDIUM	
		VALVE				VALVE	
		I&C (Feldbus, Profibus etc.)	no			I&C (Feldbus, Profibus etc.)	
21	VALVE POSITION SENSOR	CONTINUOUS POSITION CHECK		60	VALVE POSITION SENSOR - MANUFACTURER-RECOMMENDED LIMIT SENSORS	CONTINUOUS POSITION CHECK	
		LIMIT POSITION	yes			LIMIT POSITION	
		SAFE POSITION	FL - holds last position			SAFE POSITION	
22	MAX. AMBIENT TEMPERATURE (°C)	-29°C / +59°C		61	MAG. VALVES - MANUFACTURER SPECIFICATIONS		
23	MAX. RELATIVE HUMIDITY (%)			62	PILOT-MANUFACTURER SPECIFICATIONS		
24	ALTITUDE / ELEVATION			63	SHUT-OFF VALVES - MANUFACTURER SPECIFICATIONS		
25	ENVIRONMENT REQUIREMENTS / SPECIFICATIONS			64	PRIMARY ACTUATOR DIMENSIONS		
26	Ex ZONE	2		65	TRANSPORT WEIGHT OF ACTUATOR		
27	ESD, SAV,PILOT			66	TRANSPORT PACKAGING, PROTECTION FROM DAMAGE		
<b>LOCAL CONTROL</b>				<b>LOCAL CONTROL DESIGNED BY MANUFACTURER</b>			
28	CONTROL BUTTONS - LOCAL	OPEN	yes	67	CONTROL BUTTONS - LOCAL	OPEN	
		CLOSED	yes			CLOSED	
		STOP				STOP	
<b>REMOTE CONTROL</b>				<b>REMOTE CONTROL DESIGNED BY MANUFACTURER</b>			
29	REMOTE CONTROL	OPEN	yes	68	REMOTE CONTROL	OPEN	
		CLOSED	yes			CLOSED	
		STOP				STOP	
	LOCAL POSITION INDICATOR						
	REMOTE CONTROL VOLTAGE	24 VDC					
	REMOTE CONTROL POWER SUPPLY	EXTERNAL					
	POTENTIOMETER FOR REMOTE POSITION INDICATION						
	REMOTE MARKING SEQUENCE	VALVE POSITION					
		OPEN					
		DURING REGULATION					
		CLOSED					
	OTHER SWITCHING	OTHER SWITCHING CONTACTS	1 2 3 X				
		POSITION OF CONTACTS WHEN VALVE IS CLOSED	1 2 3 X				

DATA SHEET NUMBER: 0001 VALVES WITH ELECTRIC ACTUATORS						
Rev. no.	Completed by the CLIENT			Rev. no.	Completed by the SUPPLIER	
		POSITION OF CONTACTS WHEN VALVE IS CONTROLLED (%)	1 2 3 X			
<b>REQUIREMENTS FOR MATERIALS AND CORROSION PROTECTION</b>				<b>DESIGN OF MATERIALS AND CORROSION PROTECTION FROM MANUFACTURER</b>		
	30	MOTOR PROTECTION	AUTOMATIC RESET			
	30	IMPULSE TUBES	stainless		69	IMPULSE TUBES
	31	PRESSURE VESSEL	stainless		70	PRESSURE VESSEL
		MAGNETIC VALVES	stainless			MAGNETIC VALVES
	32	CONTROL PANEL	stainless		71	CONTROL PANEL
	33	CORROSION PROTECTION	J171-GOT-LCG-PC-SPC-SK-6001		72	CORROSION PROTECTION
<b>ACTUATOR CABLING SPECIFICATIONS</b>						
	34	<b>POWER WIRING:</b>	INPUT 1	INPUT 2		
		(a) CONDUCTOR GAUGE	..... mm <sup>2</sup>	..... mm <sup>2</sup>		
		(b) NUMBER OF COILS				
		(c) CABLE GLAND DETAILS				
		<b>CONTROL CABLES:</b>	INPUT 3	INPUT 4		
		(a) CONDUCTOR GAUGE	..... mm <sup>2</sup>	..... mm <sup>2</sup>		
		(b) NUMBER OF COILS				
		(c) CABLE GLAND DETAILS				
	35	GAUGE OF PROTECTIVE CONDUCTOR				
	36	PROTECTIVE CONDUCTOR				
	37	TERMINAL				
<b>CERTIFICATION</b>				<b>CERTIFICATION</b>		
	34	DRGV- RESTRICTED PRESSURISED EQUIPMENT	yes		73	DRGV- RESTRICTED PRESSURISED EQUIPMENT
	35	ATEX	yes		74	ATEX
<b>DOCUMENTATION AND TESTING</b>				<b>DOCUMENTATION AND TESTING</b>		
	36	FAT	J171-GOT-LCG-PC-SPC-SK-6001		75	FAT SPECIFICATION AND IMPLEMENTATION PROCEDURE -DOC. NO.:
	37	CERTIFICATION REQUIREMENTS UNDER EN 10 204	3.2		76	CONFIRMATION OF MANUFACTURER'S CERTIFICATION TESTING UNDER EN 10 204
	38	DOCUMENTATION REQUIREMENTS FOR FINAL CONFIGURATION	J171-GOT-LCG-PC-SPC-SK-6001		77	DOCUMENTATION FOR FINAL CONFIGURATION
	39	REQUIREMENTS FOR PACKAGING AND TRANSPORT	J171-GOT-LCG-PC-SPC-SK-6001		78	MANUFACTURER'S DECLARATION - CLIENT'S SPECIFICATIONS ACCEPTED IN FULL
					79	YES NO (ALTERNATIVE DESIGN SPECIFICATIONS BELOW)

**NOTES:**

This data sheet is used as a reference for purchasing electrically controlled ball valves for HPS and KS01 installations. All actuators defined in the list of ball valves shall be specified in detail in Phase 7 of the project's implementation documentation.

This translation of the Data sheet from the Slovak into the English language is for an informative purpose only. The Procuring Entity provides no guarantee for quality of this translation and the binding wording of the Data sheet is in the Slovak language.

DATA SHEET NUMBER: 0002 VALVES WITH ELECTRIC ACTUATORS							
Rev. no.	Completed by the CLIENT			Rev. no.	Completed by the SUPPLIER		
<b>GENERAL VALVE INFORMATION</b>				<b>GENERAL INFORMATION</b>			
1	NAME AND NUMBER OF VALVE SPECIFICATION	ball valve - HCA30, HCA109		40	ACTUATOR MANUFACTURER		
2	SITE OF INSTALLATION	HPS		41	TYPE OF ACTUATOR		
3	TYPE OF VALVE	BALL VALVE		42	WIRING SCHEMATIC - MANUFACTURER'S INTERFACE DOCUMENTATION NO.:		
4	DN	1000		43	CONNECTION TO VALVE (FLANGE) PER ISO		
5	P&ID	J171-GOT-HPS-SO-600-SK-6003		44	MANUFACTURER'S CATALOGUE MARKING		
6	TAG. NUMBER			45	TECHNICAL SPECIFICATION - MANUFACTURER'S DOCUMENT NO.:		
<b>VALVE OPERATING AND DESIGN PARAMETERS</b>				<b>ACTUATOR OPERATING AND DESIGN PARAMETERS</b>			
7	AMBIENT CONDITIONS AT SITE OF OPERATION	-29°C / +59°C		46	MAX. MEDIA WORKING PRESSURE (bar)		
8	WORKING MEDIUM	natural gas		47	(MAX / MIN) MEDIA WORKING TEMPERATURE (°C)		
9	MEDIA COMPOSITION	mech. impurity content up to 5 mm max. 100 g/m <sup>3</sup>		48	DESIGN PRESSURE (bar)		
10	MAX. WORKING PRESSURE	7.25 MPa(g)		49	DESIGN TEMPERATURE (MAX / MIN.) (°C)		
11	DIFFERENTIAL PRESSURE			50	NUMBER OF OPERATING CYCLES WITHOUT WORKING MEDIA		
12	MAX./MIN. WORKING MEDIA TEMPERATURE	0°C / 40°C		51	MAX. TORQUE		
13	ELEVATION			52	ACTUATOR TORQUE RATING		
14	DIRECTION OF FLOW OF WORKING MEDIA			53	LEVEL OF IP PROTECTION PER IEC 60529		
15	VALVE CLOSING/OPENING REQUIREMENTS	Max	Open ...90 s Close 90 s	54	MANUFACTURER'S DESIGN VALUES - VALVE CLOSING/OPENING	Max	Open ..... s Close ..... s
		Min.	Open ..... s Close ..... s			Min.	Open ..... S Close ..... s
Notes:				Notes:			
<b>GENERAL ACTUATOR TECHNICAL DATA</b>				<b>TECHNICAL DATA SPECIFIED BY THE MANUFACTURER</b>			
17	ELECTRIC CONTROL TYPE			56	ELECTRIC CONTROL TYPE		
18	NAME AND NUMBER OF CONTROL SPECIFICATION	J171-GOT-LCG-PC-MTO-SK-6001		57	WORKING MEDIUM		
19	CONTROL WORKING MEDIUM	natural gas		58	SPECIFICATIONS OF WORK. MEDIUM AT CONNECTION POINT		
20	CONNECTION (INTERFACE) SPECIFICATIONS	WORKING MEDIUM		59	MANUFACTURER'S DESIGN FOR CONNECTION (INTERFACE)	WORKING MEDIUM	
		VALVE				VALVE	
		I&C (Feldbus, Profibus etc.)	no			I&C (Feldbus, Profibus etc.)	
21	VALVE POSITION SENSOR	CONTINUOUS POSITION CHECK		60	VALVE POSITION SENSOR - MANUFACTURER-RECOMMENDED LIMIT SENSORS	CONTINUOUS POSITION CHECK	
		LIMIT POSITION	yes			LIMIT POSITION	
		SAFE POSITION	FL - holds last position			SAFE POSITION	
22	MAX. AMBIENT TEMPERATURE (°C)	-29°C / +59°C		61	MAG. VALVES - MANUFACTURER SPECIFICATIONS		
23	MAX. RELATIVE HUMIDITY (%)			62	PILOT-MANUFACTURER SPECIFICATIONS		
24	ALTITUDE / ELEVATION			63	SHUT-OFF VALVES - MANUFACTURER SPECIFICATIONS		
25	ENVIRONMENT REQUIREMENTS / SPECIFICATIONS			64	PRIMARY ACTUATOR DIMENSIONS		
26	Ex ZONE	2		65	TRANSPORT WEIGHT OF ACTUATOR		
27	ESD, SAV,PILOT			66	TRANSPORT PACKAGING, PROTECTION FROM DAMAGE		
<b>LOCAL CONTROL</b>				<b>LOCAL CONTROL DESIGNED BY MANUFACTURER</b>			
28	CONTROL BUTTONS - LOCAL	OPEN	yes	67	CONTROL BUTTONS - LOCAL	OPEN	
		CLOSED	yes			CLOSED	
		STOP				STOP	
<b>REMOTE CONTROL</b>				<b>REMOTE CONTROL DESIGNED BY MANUFACTURER</b>			
29	REMOTE CONTROL	OPEN	yes	68	REMOTE CONTROL	OPEN	
		CLOSED	yes			CLOSED	
		STOP				STOP	
	LOCAL POSITION INDICATOR						
	REMOTE CONTROL VOLTAGE	24 VDC					
	REMOTE CONTROL POWER SUPPLY	EXTERNAL					
	POTENTIOMETER FOR REMOTE POSITION INDICATION						
	REMOTE MARKING SEQUENCE	VALVE POSITION					
		OPEN					
		DURING REGULATION					
		CLOSED					
	OTHER SWITCHING	OTHER SWITCHING CONTACTS	1 2 3 X				
		POSITION OF CONTACTS WHEN VALVE IS CLOSED	1 2 3 X				

DATA SHEET NUMBER: 0002 VALVES WITH ELECTRIC ACTUATORS						
Rev. no.	Completed by the CLIENT			Rev. no.	Completed by the SUPPLIER	
		POSITION OF CONTACTS WHEN VALVE IS CONTROLLED (%)	1 2 3 X			
<b>REQUIREMENTS FOR MATERIALS AND CORROSION PROTECTION</b>				<b>DESIGN OF MATERIALS AND CORROSION PROTECTION FROM MANUFACTURER</b>		
	30	MOTOR PROTECTION	AUTOMATIC RESET			
	30	IMPULSE TUBES	stainless	69	IMPULSE TUBES	
	31	PRESSURE VESSEL	stainless	70	PRESSURE VESSEL	
		MAGNETIC VALVES	stainless		MAGNETIC VALVES	
	32	CONTROL PANEL	stainless	71	CONTROL PANEL	
	33	CORROSION PROTECTION	J171-GOT-LCG-PC-SPC-SK-6001	72	CORROSION PROTECTION	
<b>ACTUATOR CABLING SPECIFICATIONS</b>						
	34	<b>POWER WIRING:</b>	INPUT 1	INPUT 2		
		(a) CONDUCTOR GAUGE	..... mm <sup>2</sup>	..... mm <sup>2</sup>		
		(b) NUMBER OF COILS				
		(c) CABLE GLAND DETAILS				
		<b>CONTROL CABLES:</b>	INPUT 3	INPUT 4		
		(a) CONDUCTOR GAUGE	..... mm <sup>2</sup>	..... mm <sup>2</sup>		
		(b) NUMBER OF COILS				
		(c) CABLE GLAND DETAILS				
	35	GAUGE OF PROTECTIVE CONDUCTOR				
	36	PROTECTIVE CONDUCTOR				
	37	TERMINAL				
<b>CERTIFICATION</b>				<b>CERTIFICATION</b>		
	34	DRGV- RESTRICTED PRESSURISED EQUIPMENT	yes	73	DRGV- RESTRICTED PRESSURISED EQUIPMENT	
	35	ATEX	yes	74	ATEX	
<b>DOCUMENTATION AND TESTING</b>				<b>DOCUMENTATION AND TESTING</b>		
	36	FAT	J171-GOT-LCG-PC-SPC-SK-6001	75	FAT SPECIFICATION AND IMPLEMENTATION PROCEDURE -DOC. NO.:	
	37	CERTIFICATION REQUIREMENTS UNDER EN 10 204	3.2	76	CONFIRMATION OF MANUFACTURER'S CERTIFICATION TESTING UNDER EN 10 204	
	38	DOCUMENTATION REQUIREMENTS FOR FINAL CONFIGURATION	J171-GOT-LCG-PC-SPC-SK-6001	77	DOCUMENTATION FOR FINAL CONFIGURATION	
	39	REQUIREMENTS FOR PACKAGING AND TRANSPORT	J171-GOT-LCG-PC-SPC-SK-6001	78	MANUFACTURER'S DECLARATION - CLIENT'S SPECIFICATIONS ACCEPTED IN FULL	YES
				79		NO (ALTERNATIVE DESIGN SPECIFICATIONS BELOW)

**NOTES:**

This data sheet is used as a reference for purchasing electrically controlled ball valves for HPS and KS01 installations. All actuators defined in the list of ball valves shall be specified in detail in Phase 7 of the project's implementation documentation.

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DATA SHEET NUMBER: 0003 VALVES WITH ELECTRIC ACTUATORS									
Rev. no.	Completed by the CLIENT				Rev. no.	Completed by the SUPPLIER			
<b>GENERAL VALVE INFORMATION</b>					<b>GENERAL INFORMATION</b>				
1	NAME AND NUMBER OF VALVE SPECIFICATION	ball valve - GA01			40	ACTUATOR MANUFACTURER			
2	SITE OF INSTALLATION	HPS			41	TYPE OF ACTUATOR			
3	TYPE OF VALVE	BALL VALVE			42	WIRING SCHEMATIC - MANUFACTURER'S INTERFACE DOCUMENTATION NO.:			
4	DN	1000			43	CONNECTION TO VALVE (FLANGE) PER ISO			
5	P&ID	J171-GOT-HPS-SO-600-SK-6003			44	MANUFACTURER'S CATALOGUE MARKING			
6	TAG. NUMBER				45	TECHNICAL SPECIFICATION - MANUFACTURER'S DOCUMENT NO.:			
<b>VALVE OPERATING AND DESIGN PARAMETERS</b>					<b>ACTUATOR OPERATING AND DESIGN PARAMETERS</b>				
7	AMBIENT CONDITIONS AT SITE OF OPERATION	-29°C / +59°C			46	MAX. MEDIA WORKING PRESSURE (bar)			
8	WORKING MEDIUM	natural gas			47	(MAX / MIN) MEDIA WORKING TEMPERATURE (°C)			
9	MEDIA COMPOSITION	mech. impurity content up to 5 mm max. 100 g/m <sup>3</sup>			48	DESIGN PRESSURE (bar)			
10	MAX. WORKING PRESSURE	7.25 MPa(g)			49	DESIGN TEMPERATURE (MAX / MIN.) (°C)			
11	DIFFERENTIAL PRESSURE				50	NUMBER OF OPERATING CYCLES WITHOUT WORKING MEDIA			
12	MAX./MIN. WORKING MEDIA TEMPERATURE	0°C / 40°C			51	MAX. TORQUE			
13	ELEVATION				52	ACTUATOR TORQUE RATING			
14	DIRECTION OF FLOW OF WORKING MEDIA				53	LEVEL OF IP PROTECTION PER IEC 60529			
15	VALVE CLOSING/OPENING REQUIREMENTS	Max	Open .....90 s		54	MANUFACTURER'S DESIGN VALUES - VALVE CLOSING/OPENING	Max	Open ..... s	
		Min.	Open ..... S		55		Min.	Open ..... S	
	Notes:					Notes:			
<b>GENERAL ACTUATOR TECHNICAL DATA</b>					<b>TECHNICAL DATA SPECIFIED BY THE MANUFACTURER</b>				
17	ELECTRIC CONTROL TYPE				56	ELECTRIC CONTROL TYPE			
18	NAME AND NUMBER OF CONTROL SPECIFICATION	J171-GOT-LCG-PC-MTO-SK-6001			57	WORKING MEDIUM			
19	CONTROL WORKING MEDIUM	natural gas			58	SPECIFICATIONS OF WORK. MEDIUM AT CONNECTION POINT			
20	CONNECTION (INTERFACE) SPECIFICATIONS	WORKING MEDIUM			59	MANUFACTURER'S DESIGN FOR CONNECTION (INTERFACE)	WORKING MEDIUM		
		VALVE					VALVE		
		I&C (Feldbus, Profibus etc.)	no				I&C (Feldbus, Profibus etc.)		
21	VALVE POSITION SENSOR	CONTINUOUS POSITION CHECK			60	VALVE POSITION SENSOR - MANUFACTURER-RECOMMENDED LIMIT SENSORS	CONTINUOUS POSITION CHECK		
		LIMIT POSITION	yes				LIMIT POSITION		
		SAFE POSITION					SAFE POSITION		
22	MAX. AMBIENT TEMPERATURE (°C)	-29°C / +59°C			61	MAG. VALVES - MANUFACTURER SPECIFICATIONS			
23	MAX. RELATIVE HUMIDITY (%)				62	PILOT-MANUFACTURER SPECIFICATIONS			
24	ALTITUDE / ELEVATION				63	SHUT-OFF VALVES - MANUFACTURER SPECIFICATIONS			
25	ENVIRONMENT REQUIREMENTS / SPECIFICATIONS				64	PRIMARY ACTUATOR DIMENSIONS			
26	Ex ZONE	2			65	TRANSPORT WEIGHT OF ACTUATOR			
27	ESD, SAV,PILOT				66	TRANSPORT PACKAGING, PROTECTION FROM DAMAGE			
<b>LOCAL CONTROL</b>					<b>LOCAL CONTROL DESIGNED BY MANUFACTURER</b>				
28	CONTROL BUTTONS - LOCAL	OPEN	yes		67	CONTROL BUTTONS - LOCAL	OPEN		
		CLOSED	yes				CLOSED		
		STOP					STOP		
<b>REMOTE CONTROL</b>					<b>REMOTE CONTROL DESIGNED BY MANUFACTURER</b>				
29	REMOTE CONTROL	OPEN			68	REMOTE CONTROL	OPEN		
		CLOSED					CLOSED		
		STOP					STOP		
	LOCAL POSITION INDICATOR								
	REMOTE CONTROL VOLTAGE								
	REMOTE CONTROL POWER SUPPLY								
	POTENTIOMETER FOR REMOTE POSITION INDICATION								
	REMOTE MARKING SEQUENCE	VALVE POSITION							
		OPEN							
		DURING REGULATION							
		CLOSED							
	OTHER SWITCHING	OTHER SWITCHING CONTACTS	1						
				2					
			3						
			X						
		POSITION OF CONTACTS WHEN VALVE IS CLOSED	1						
			2						
			3						
			X						

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		POSITION OF CONTACTS WHEN VALVE IS CONTROLLED (%)	1 2 3 X			
	<b>REQUIREMENTS FOR MATERIALS AND CORROSION PROTECTION</b>			<b>DESIGN OF MATERIALS AND CORROSION PROTECTION FROM MANUFACTURER</b>		
	30	MOTOR PROTECTION	AUTOMATIC RESET			
	30	IMPULSE TUBES	stainless	69	IMPULSE TUBES	
	31	PRESSURE VESSEL	stainless	70	PRESSURE VESSEL	
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	33	CORROSION PROTECTION	J171-GOT-LCG-PC-SPC-SK-6001	72	CORROSION PROTECTION	
	<b>ACTUATOR CABLING SPECIFICATIONS</b>					
		<b>POWER WIRING:</b>	INPUT 1	INPUT 2		
	34	(a) CONDUCTOR GAUGE	..... mm <sup>2</sup>	..... mm <sup>2</sup>		
		(b) NUMBER OF COILS				
		(c) CABLE GLAND DETAILS				
		<b>CONTROL CABLES:</b>	INPUT 3	INPUT 4		
		(a) CONDUCTOR GAUGE	..... mm <sup>2</sup>	..... mm <sup>2</sup>		
		(b) NUMBER OF COILS				
		(c) CABLE GLAND DETAILS				
	35	GAUGE OF PROTECTIVE CONDUCTOR				
	36	PROTECTIVE CONDUCTOR				
	37	TERMINAL				
	<b>CERTIFICATION</b>			<b>CERTIFICATION</b>		
	34	DRGV- RESTRICTED PRESSURISED EQUIPMENT	yes	73	DRGV- RESTRICTED PRESSURISED EQUIPMENT	
	35	ATEX	yes	74	ATEX	
	<b>DOCUMENTATION AND TESTING</b>			<b>DOCUMENTATION AND TESTING</b>		
	36	FAT	J171-GOT-LCG-PC-SPC-SK-6001	75	FAT SPECIFICATION AND IMPLEMENTATION PROCEDURE -DOC. NO.:	
	37	CERTIFICATION REQUIREMENTS UNDER EN 10 204	3.2	76	CONFIRMATION OF MANUFACTURER'S CERTIFICATION TESTING UNDER EN 10 204	
	38	DOCUMENTATION REQUIREMENTS FOR FINAL CONFIGURATION	J171-GOT-LCG-PC-SPC-SK-6001	77	DOCUMENTATION FOR FINAL CONFIGURATION	
	39	REQUIREMENTS FOR PACKAGING AND TRANSPORT	J171-GOT-LCG-PC-SPC-SK-6001	78	MANUFACTURER'S DECLARATION - CLIENT'S SPECIFICATIONS ACCEPTED IN FULL	YES
				79		NO (ALTERNATIVE DESIGN SPECIFICATIONS BELOW)

**NOTES:**

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1	NAME AND NUMBER OF VALVE SPECIFICATION	ball valve - GA20		40	ACTUATOR MANUFACTURER	
2	SITE OF INSTALLATION	HPS		41	TYPE OF ACTUATOR	
3	TYPE OF VALVE	BALL VALVE		42	WIRING SCHEMATIC - MANUFACTURER'S INTERFACE DOCUMENTATION NO.:	
4	DN	1000		43	CONNECTION TO VALVE (FLANGE) PER ISO	
5	P&ID	J171-GOT-HPS-SO-600-SK-6003		44	MANUFACTURER'S CATALOGUE MARKING	
6	TAG. NUMBER			45	TECHNICAL SPECIFICATION - MANUFACTURER'S DOCUMENT NO.:	
	<b>VALVE OPERATING AND DESIGN PARAMETERS</b>				<b>ACTUATOR OPERATING AND DESIGN PARAMETERS</b>	
7	AMBIENT CONDITIONS AT SITE OF OPERATION	-29°C / +59°C		46	MAX. MEDIA WORKING PRESSURE (bar)	
8	WORKING MEDIUM	natural gas		47	(MAX / MIN) MEDIA WORKING TEMPERATURE (°C)	
9	MEDIA COMPOSITION	mech. impurity content up to 5 mm max. 100 g/m <sup>3</sup>		48	DESIGN PRESSURE (bar)	
10	MAX. WORKING PRESSURE	8.4 MPa(g)		49	DESIGN TEMPERATURE (MAX. / MIN.) (°C)	
11	DIFFERENTIAL PRESSURE			50	NUMBER OF OPERATING CYCLES WITHOUT WORKING MEDIA	
12	MAX./MIN. WORKING MEDIA TEMPERATURE	0°C / 40°C		51	MAX. TORQUE	
13	ELEVATION			52	ACTUATOR TORQUE RATING	
14	DIRECTION OF FLOW OF WORKING MEDIA			53	LEVEL OF IP PROTECTION PER IEC 60529	
15	VALVE CLOSING/OPENING REQUIREMENTS	Max	Open ...90 s Close 90 s	54	MANUFACTURER'S DESIGN VALUES - VALVE CLOSING/OPENING	Max Open ..... s Close ..... s
		Min.	Open ..... s Close ..... s	55		Min. Open ..... S Close ..... s
Notes:			Notes:			
	<b>GENERAL ACTUATOR TECHNICAL DATA</b>				<b>TECHNICAL DATA SPECIFIED BY THE MANUFACTURER</b>	
17	ELECTRIC CONTROL TYPE			56	ELECTRIC CONTROL TYPE	
18	NAME AND NUMBER OF CONTROL SPECIFICATION	J171-GOT-LCG-PC-MTO-SK-6001		57	WORKING MEDIUM	
19	CONTROL WORKING MEDIUM	natural gas		58	SPECIFICATIONS OF WORK. MEDIUM AT CONNECTION POINT	
20	CONNECTION (INTERFACE) SPECIFICATIONS	WORKING MEDIUM		59	MANUFACTURER'S DESIGN FOR CONNECTION (INTERFACE)	WORKING MEDIUM
		VALVE				VALVE
		I&C (Feldbus, Profibus etc.)	no			I&C (Feldbus, Profibus etc.)
21	VALVE POSITION SENSOR	CONTINUOUS POSITION CHECK		60	VALVE POSITION SENSOR - MANUFACTURER-RECOMMENDED LIMIT SENSORS	CONTINUOUS POSITION CHECK
		LIMIT POSITION	yes			LIMIT POSITION
		SAFE POSITION				SAFE POSITION
22	MAX. AMBIENT TEMPERATURE (°C)	-29°C / +59°C		61	MAG. VALVES - MANUFACTURER SPECIFICATIONS	
23	MAX. RELATIVE HUMIDITY (%)			62	PILOT-MANUFACTURER SPECIFICATIONS	
24	ALTITUDE / ELEVATION			63	SHUT-OFF VALVES - MANUFACTURER SPECIFICATIONS	
25	ENVIRONMENT REQUIREMENTS / SPECIFICATIONS			64	PRIMARY ACTUATOR DIMENSIONS	
26	Ex ZONE	2		65	TRANSPORT WEIGHT OF ACTUATOR	
27	ESD, SAV,PILOT			66	TRANSPORT PACKAGING, PROTECTION FROM DAMAGE	
	<b>LOCAL CONTROL</b>				<b>LOCAL CONTROL DESIGNED BY MANUFACTURER</b>	
28	CONTROL BUTTONS - LOCAL	OPEN	yes	67	CONTROL BUTTONS - LOCAL	OPEN
		CLOSED	yes			CLOSED
		STOP				STOP
	<b>REMOTE CONTROL</b>				<b>REMOTE CONTROL DESIGNED BY MANUFACTURER</b>	
29	REMOTE CONTROL	OPEN		68	REMOTE CONTROL	OPEN
		CLOSED				CLOSED
		STOP				STOP
	LOCAL POSITION INDICATOR					
	REMOTE CONTROL VOLTAGE					
	REMOTE CONTROL POWER SUPPLY					
	POTENTIOMETER FOR REMOTE POSITION INDICATION					
	REMOTE MARKING SEQUENCE	VALVE POSITION				
		OPEN				
		DURING REGULATION				
		CLOSED				
	OTHER SWITCHING CONTACTS	1				
		2				
		3				
		X				
	OTHER SWITCHING POSITION OF CONTACTS WHEN VALVE IS CLOSED	1				
		2				
		3				
		X				

DATA SHEET NUMBER: 0004 VALVES WITH ELECTRIC ACTUATORS						
Rev. no.	Completed by the CLIENT			Rev. no.	Completed by the SUPPLIER	
		POSITION OF CONTACTS WHEN VALVE IS CONTROLLED (%)	1 2 3 X			
	REQUIREMENTS FOR MATERIALS AND CORROSION PROTECTION				DESIGN OF MATERIALS AND CORROSION PROTECTION FROM MANUFACTURER	
	30	MOTOR PROTECTION	AUTOMATIC RESET			
	30	IMPULSE TUBES	stainless		69	IMPULSE TUBES
	31	PRESSURE VESSEL	stainless		70	PRESSURE VESSEL
		MAGNETIC VALVES	stainless			MAGNETIC VALVES
	32	CONTROL PANEL	stainless		71	CONTROL PANEL
	33	CORROSION PROTECTION	J171-GOT-LCG-PC-SPC-SK-6001		72	CORROSION PROTECTION
	ACTUATOR CABLING SPECIFICATIONS					
		POWER WIRING:	INPUT 1		INPUT 2	
	34	(a) CONDUCTOR GAUGE	..... mm <sup>2</sup>		..... mm <sup>2</sup>	
		(b) NUMBER OF COILS				
		(c) CABLE GLAND DETAILS				
		CONTROL CABLES:	INPUT 3		INPUT 4	
		(a) CONDUCTOR GAUGE	..... mm <sup>2</sup>		..... mm <sup>2</sup>	
		(b) NUMBER OF COILS				
		(c) CABLE GLAND DETAILS				
	35	GAUGE OF PROTECTIVE CONDUCTOR				
	36	PROTECTIVE CONDUCTOR				
	37	TERMINAL				
	CERTIFICATION				CERTIFICATION	
	34	DRGV- RESTRICTED PRESSURISED EQUIPMENT	yes		73	DRGV- RESTRICTED PRESSURISED EQUIPMENT
	35	ATEX	yes		74	ATEX
	DOCUMENTATION AND TESTING				DOCUMENTATION AND TESTING	
	36	FAT	J171-GOT-LCG-PC-SPC-SK-6001		75	FAT SPECIFICATION AND IMPLEMENTATION PROCEDURE -DOC. NO.:
	37	CERTIFICATION REQUIREMENTS UNDER EN 10 204	3.2		76	CONFIRMATION OF MANUFACTURER'S CERTIFICATION TESTING UNDER EN 10 204
	38	DOCUMENTATION REQUIREMENTS FOR FINAL CONFIGURATION	J171-GOT-LCG-PC-SPC-SK-6001		77	DOCUMENTATION FOR FINAL CONFIGURATION
	39	REQUIREMENTS FOR PACKAGING AND TRANSPORT	J171-GOT-LCG-PC-SPC-SK-6001		78	MANUFACTURER'S DECLARATION - CLIENT'S SPECIFICATIONS ACCEPTED IN FULL
					79	YES NO (ALTERNATIVE DESIGN SPECIFICATIONS BELOW)

**NOTES:**

This data sheet is used as a reference for purchasing electrically controlled ball valves for HPS and KS01 installations. All actuators defined in the list of ball valves shall be specified in detail in Phase 7 of the project's implementation documentation.

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DATA SHEET NUMBER: 0005 VALVES WITH ELECTRIC ACTUATORS								
Rev. no.	Completed by the CLIENT				Rev. no.	Completed by the SUPPLIER		
<b>GENERAL VALVE INFORMATION</b>				<b>GENERAL INFORMATION</b>				
1	NAME AND NUMBER OF VALVE SPECIFICATION	ball valve - HA01		40	ACTUATOR MANUFACTURER			
2	SITE OF INSTALLATION	KS01		41	TYPE OF ACTUATOR			
3	TYPE OF VALVE	BALL VALVE		42	WIRING SCHEMATIC - MANUFACTURER'S INTERFACE DOCUMENTATION NO.:			
4	DN	1000		43	CONNECTION TO VALVE (FLANGE) PER ISO			
5	P&ID	J171-GOT-KSN-SO-570-SK-6003		44	MANUFACTURER'S CATALOGUE MARKING			
6	TAG. NUMBER			45	TECHNICAL SPECIFICATION - MANUFACTURER'S DOCUMENT NO.:			
<b>VALVE OPERATING AND DESIGN PARAMETERS</b>				<b>ACTUATOR OPERATING AND DESIGN PARAMETERS</b>				
7	AMBIENT CONDITIONS AT SITE OF OPERATION	-29°C / +59°C		46	MAX. MEDIA WORKING PRESSURE (bar)			
8	WORKING MEDIUM	natural gas		47	(MAX / MIN) MEDIA WORKING TEMPERATURE (°C)			
9	MEDIA COMPOSITION	mech. impurity content up to 5 mm max. 100 g/m <sup>3</sup>		48	DESIGN PRESSURE (bar)			
10	MAX. WORKING PRESSURE	7.25 MPa(g)		49	DESIGN TEMPERATURE (MAX. / MIN.) (°C)			
11	DIFFERENTIAL PRESSURE			50	NUMBER OF OPERATING CYCLES WITHOUT WORKING MEDIA			
12	MAX./MIN. WORKING MEDIA TEMPERATURE	0°C / 40°C		51	MAX. TORQUE			
13	ELEVATION			52	ACTUATOR TORQUE RATING			
14	DIRECTION OF FLOW OF WORKING MEDIA			53	LEVEL OF IP PROTECTION PER IEC 60529			
15	VALVE CLOSING/OPENING REQUIREMENTS	Max	Open ...90 s Close 90 s	54	MANUFACTURER'S DESIGN VALUES - VALVE CLOSING/OPENING	Max	Open ..... s Close ..... s	
		Min.	Open ..... s Close ..... s	55		Min.	Open ..... S Close ..... s	
Notes:				Notes:				
<b>GENERAL ACTUATOR TECHNICAL DATA</b>				<b>TECHNICAL DATA SPECIFIED BY THE MANUFACTURER</b>				
17	ELECTRIC CONTROL TYPE			56	ELECTRIC CONTROL TYPE			
18	NAME AND NUMBER OF CONTROL SPECIFICATION	J171-GOT-LCG-PC-MTO-SK-6001		57	WORKING MEDIUM			
19	CONTROL WORKING MEDIUM	natural gas		58	SPECIFICATIONS OF WORK. MEDIUM AT CONNECTION POINT			
20	CONNECTION (INTERFACE) SPECIFICATIONS	WORKING MEDIUM	insulating flange (cathodic protection)	59	MANUFACTURER'S DESIGN FOR CONNECTION (INTERFACE)	WORKING MEDIUM		
		VALVE	no			VALVE		
		I&C (Feldbus, Profibus etc.)	no			I&C (Feldbus, Profibus etc.)		
21	VALVE POSITION SENSOR	CONTINUOUS POSITION CHECK		60	VALVE POSITION SENSOR - MANUFACTURER-RECOMMENDED LIMIT SENSORS	CONTINUOUS POSITION CHECK		
		LIMIT POSITION				LIMIT POSITION		
		SAFE POSITION				SAFE POSITION		
22	MAX. AMBIENT TEMPERATURE (°C)	-29°C / +59°C		61	MAG. VALVES - MANUFACTURER SPECIFICATIONS			
23	MAX. RELATIVE HUMIDITY (%)			62	PILOT-MANUFACTURER SPECIFICATIONS			
24	ALTITUDE / ELEVATION			63	SHUT-OFF VALVES - MANUFACTURER SPECIFICATIONS			
25	ENVIRONMENT REQUIREMENTS / SPECIFICATIONS			64	PRIMARY ACTUATOR DIMENSIONS			
26	Ex ZONE	2		65	TRANSPORT WEIGHT OF ACTUATOR			
27	ESD, SAV,PILOT			66	TRANSPORT PACKAGING, PROTECTION FROM DAMAGE			
<b>LOCAL CONTROL</b>				<b>LOCAL CONTROL DESIGNED BY MANUFACTURER</b>				
28	CONTROL BUTTONS - LOCAL	OPEN	yes	67	CONTROL BUTTONS - LOCAL	OPEN		
		CLOSED	yes			CLOSED		
		STOP				STOP		
<b>REMOTE CONTROL</b>				<b>REMOTE CONTROL DESIGNED BY MANUFACTURER</b>				
29	REMOTE CONTROL	OPEN		68	REMOTE CONTROL	OPEN		
		CLOSED				CLOSED		
		STOP				STOP		
	LOCAL POSITION INDICATOR							
	REMOTE CONTROL VOLTAGE							
	REMOTE CONTROL POWER SUPPLY							
	POTENTIOMETER FOR REMOTE POSITION INDICATION							
	REMOTE MARKING SEQUENCE	VALVE POSITION						
		OPEN						
		DURING REGULATION						
		CLOSED						
	OTHER SWITCHING CONTACTS	OTHER SWITCHING CONTACTS	1 2 3 X					
		POSITION OF CONTACTS WHEN VALVE IS CLOSED	1 2 3 X					

DATA SHEET NUMBER: 0005 VALVES WITH ELECTRIC ACTUATORS						
Rev. no.	Completed by the CLIENT			Rev. no.	Completed by the SUPPLIER	
		POSITION OF CONTACTS WHEN VALVE IS CONTROLLED (%)	1 2 3 X			
	<b>REQUIREMENTS FOR MATERIALS AND CORROSION PROTECTION</b>			<b>DESIGN OF MATERIALS AND CORROSION PROTECTION FROM MANUFACTURER</b>		
	30	MOTOR PROTECTION	AUTOMATIC RESET			
	30	IMPULSE TUBES	stainless		69	IMPULSE TUBES
	31	PRESSURE VESSEL	stainless		70	PRESSURE VESSEL
		MAGNETIC VALVES	stainless			MAGNETIC VALVES
	32	CONTROL PANEL	stainless		71	CONTROL PANEL
	33	CORROSION PROTECTION	J171-GOT-LCG-PC-SPC-SK-6001		72	CORROSION PROTECTION
	<b>ACTUATOR CABLING SPECIFICATIONS</b>					
		<b>POWER WIRING:</b>	INPUT 1	INPUT 2		
	34	(a) CONDUCTOR GAUGE	..... mm <sup>2</sup>	..... mm <sup>2</sup>		
		(b) NUMBER OF COILS				
		(c) CABLE GLAND DETAILS				
		<b>CONTROL CABLES:</b>	INPUT 3	INPUT 4		
		(a) CONDUCTOR GAUGE	..... mm <sup>2</sup>	..... mm <sup>2</sup>		
		(b) NUMBER OF COILS				
		(c) CABLE GLAND DETAILS				
	35	GAUGE OF PROTECTIVE CONDUCTOR				
	36	PROTECTIVE CONDUCTOR				
	37	TERMINAL				
	<b>CERTIFICATION</b>			<b>CERTIFICATION</b>		
	34	DRGV- RESTRICTED PRESSURISED EQUIPMENT	yes		73	DRGV- RESTRICTED PRESSURISED EQUIPMENT
	35	ATEX	yes		74	ATEX
	<b>DOCUMENTATION AND TESTING</b>			<b>DOCUMENTATION AND TESTING</b>		
	36	FAT	J171-GOT-LCG-PC-SPC-SK-6001		75	FAT SPECIFICATION AND IMPLEMENTATION PROCEDURE -DOC. NO.:
	37	CERTIFICATION REQUIREMENTS UNDER EN 10 204	3.2		76	CONFIRMATION OF MANUFACTURER'S CERTIFICATION TESTING UNDER EN 10 204
	38	DOCUMENTATION REQUIREMENTS FOR FINAL CONFIGURATION	J171-GOT-LCG-PC-SPC-SK-6001		77	DOCUMENTATION FOR FINAL CONFIGURATION
	39	REQUIREMENTS FOR PACKAGING AND TRANSPORT	J171-GOT-LCG-PC-SPC-SK-6001		78	MANUFACTURER'S DECLARATION - CLIENT'S SPECIFICATIONS ACCEPTED IN FULL
					79	YES NO (ALTERNATIVE DESIGN SPECIFICATIONS BELOW)

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