



**NET4GAS, s.r.o**

**HP PIPELINE DN 1400, NODE  
KATEŘINSKÝ POTOK – NODE  
PŘIMDA**

**Ball Valves with Combined Sealing  $\geq$   
DN 300 Datasheet**

30.07.2018

DVZ

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### REVISION HISTORY

Rev.	Date	Issue, Purpose	Prepared	Checked	Approved
002	30.07.2018	Re-Approved	Mustafa	Balatinec	Schorling
001	26.06.2018	Re-Approved	Mustafa	Balatinec	Schorling
000	12.06.2018	Approved	Mustafa	Balatinec	Schorling
B01	03.05.2018	Issue for Review	Mustafa	Balatinec	Schorling
A01	20.04.2018	Issue for IDC	Mustafa	Balatinec	Schorling

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Note 1: LVS Jirkov is alternative location to LVS Vrskman. Only one LVS of those two stations shall be constructed, either Jirkov or Vrskman.

**BALL VALVE - DN 500**

GENERAL INFORMATION					
1					
2	LOCATION	LVS JIRKOV	5	QUANTITY	2 (Note 6)
3	EQUIPMENT	BALL VALVE	6	TECHNICAL SPECIFICATION	C4G-HPPL-ILF-GENER-STR-SPC-824
4	TAG No.	MOV-7.3, MOV-7.4	7	P&ID-No.	C4G-HPPL-ILF-TU33S-STR-DIA-110
8					
OPERATION AND DESIGN DATA					
9	AMBIENT CONDITIONS	C4G-HPPL-ILF-GENER-GEN-SPC-901	16	MAX. OPERATING PRESSURE	85 barg
10	MEDIUM	NATURAL GAS	17	OPERATING TEMPERATURE	+5 to +25 °C
11	GAS COMPOSITION	C4G-HPPL-ILF-GENER-GEN-DAT-820	18	DESIGN PRESSURE	100 barg
12	PIPING CLASS	CS100-0	19	DESIGN TEMPERATURE	-20 to +50 °C
13	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	20	TEST PRESSURE	150 barg
14	FLANGE STANDARD / RATING	N/A	21	SAFETY FACTOR (TO YIELD POINT)	2.15
15	INSTALLATION	ABOVEGROUND	22	SAFETY FACTOR ON WELD ENDS (TO YIELD POINT)	1.68
23					
VALVE DATA					
24	VALVE BODY / BALL DESIGN	FULLY WELDED BODY	36	SUPPORT LEGS	YES
25	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	37	LIFTING LUGS	YES
26	NOMINAL PIPE SIZE / OD / THICKNESS	DN 500 / 508 mm / 12.5 mm	38	FLOW DIRECTION	BIDIRECTIONAL
27	PIPELINE CONNECTION TYPE	WELD / WELD	39	LEAK RATE	ACC. TO EN 12266-1, -2; RATE A
28	MAIN SEALS	METAL	40	MAX. VALVE LIFT	*
29	SECONDARY SEALS	SOFT	41	STEM DIAMETER / TYPE	* / ANTI-BLOW-OUT
30	SEATS RINGS	DOUBLE PISTON EFFECT	42	LOCK POSITION	YES
31	CAVITY PRESSURE RELIEF VALVE	N/A	43	ADJUSTABLE LIMIT STOP	*
32	DOUBLE BLOCK & BLEED	YES	44	ANTI STATIC DESIGN	YES
33	VENT	YES	45	FIRE SAFE DESIGN	YES
34	DRAIN	YES	46	SEALANT LINE INJECTION MEDIA	4 INDPEDENT GREASE FITTINGS
35	INSULATION	NO	47		
48					
ACTUATOR AND ACCESSORIES					
49	ACTUATOR TYPE	ELECTRO MOTOR (Note 2) (Note 7)	61	STROKING TIME TO OPEN (Min./Max.)	40 s/180 s
50	MANUFACTURER/ MODEL	AUMATIC SAEx	62	STROKING TIME TO CLOSE (Min./Max.)	60 s /180 s
51	GEAR BOX WITH HANDWHEEL	N/A	63	LIMIT SWITCH	YES
52	DESIGN TORQUE FOR ACTUATOR	*	64	POSITIONER MANUFACT / MODEL	*
53	ACTUATOR ATTACHMENT	ACC. TO EN ISO 5211	65	STEM	*
54	FAIL SAFE POSITION	N/A	66	STEM EXTENSION FOR UNDERGROUND INSTALLATION	VALVE CL TO ACTUATOR FLANGE N/A VALVE CL TO GROUND LEVEL N/A
55	POWER SUPPLY	400V / 50 Hz / 3 Ph	67		
56	IP-CODE	IP 65 (IEC 60529)	68	BY-PASS AND AIR-BLEED VALVE	N/A
57	INSULATING CLASS	I	69	OIL AND GAS FILTERS	N/A
58	HAZARDOUS AREA	ZONE 1	70	CONTROL UNIT	C4G-HPPL-ILF-GENER-STR-SPC-824
59	EXPLOSION PROTECTION	II 2G IIB T3	71	ACTUATOR LOCKING	SELF LOCKING
60	MINIMUM SUPPLY PRESSURE	N/A	72	MECANICAL POSITION INDICATOR	YES - OPEN/CLOSE
73					
DIMENSIONS, WEIGHT, MECHANICAL AND ELECTRICAL INTERFACES					
74	FITTING LENGTH	*	78	WEIGHT (VALVE)	*
75	FITTING HEIGHT	*	79	WEIGHT (VALVE + ACTUATOR)	*
76	WALL THICKNESS	*	80	CABLE CONNECTION TYPE	Exd Cable Gland
77			81	CABLE CONNECTION SIZE	*
82					
MATERIALS, TESTING AND DOCUMENTATION					
83	MATERIAL OF PIPE END	L360NE	92	STANDARD TEST	ACC TO CSN EN 14141 / API 6D
84	VALVE MATERIAL	ACC. TO ČSN EN 1594/API 6D	93	LEAKAGE TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
85	BALL MATERIAL	C4G-HPPL-ILF-GENER-STR-SPC-824	94	PRESSURE TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
86	PUP PIECES MATERIAL	*	95	TIGHTNESS TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
87	MATERIAL STEM	*	96	FIRE SAFE TEST	ACC. TO API 607 / ISO 10497
88	MATERIAL BOLTS / NUTS	ACC. TO ČSN EN ISO 898	97	ATEX CERTIFICATION	ACC. TO CSN EN 60079-10
89	MATERIAL SEAT / SEAL	A350 LF2 / HNBR (Therban) *	98	SAFETY INTEGRITY LEVEL	N/A
90	ANTI - CORROSION PROTECTION	C4G-HPPL-ILF-GENER-STR-SPC-824	99	FINAL ACCEPTANCE TEST	ČSN EN 10204 / 3.2
91	DOCUMENTATION	C4G-HPPL-ILF-GENER-STR-SPC-824	100	CE-CONFORMITY	ACC. TO PED 2014/68/EU
101					
NOTES					
102	* To be filled/confirmed by Supplier				
103	Note 1: This data sheet shall be read with the Specification C4G-HPPL-ILF-GENER-STR-SPC-824				
104	Note 2: Motor Operated Valve (MOV) with Local and Remote Control and Monitoring Functionality				
105	Note 3: CL - Center Line				
106	Note 4: N/A - Not Applicable				
107	Note 5: Control and Signaling Voltage 24 VDC				
108	Note 6: LVS Jirkov is alternative location to LVS Vrskman. Only one LVS of those two stations shall be constructed, either Jirkov or Vrskman				
109	Note 7: The type of wiring diagram shall be "TPCAA121D1H1-E460 TPA00R200-012-000"				
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**BALL VALVE - DN 500**

GENERAL INFORMATION					
1					
2	LOCATION	LVS VRSKMAN	5	QUANTITY	2 (Note 6)
3	EQUIPMENT	BALL VALVE	6	TECHNICAL SPECIFICATION	C4G-HPPL-ILF-GENER-STR-SPC-824
4	TAG No.	MOV-7.10, MOV-7.11	7	P&ID-No.	C4G-HPPL-ILF-KS07B-STR-DIA-110
8					
OPERATION AND DESIGN DATA					
9	AMBIENT CONDITIONS	C4G-HPPL-ILF-GENER-GEN-SPC-901	16	MAX. OPERATING PRESSURE	85 barg
10	MEDIUM	NATURAL GAS	17	OPERATING TEMPERATURE	+5 to +25 °C
11	GAS COMPOSITION	C4G-HPPL-ILF-GENER-GEN-DAT-820	18	DESIGN PRESSURE	100 barg
12	PIPING CLASS	CS100-0	19	DESIGN TEMPERATURE	-20 to +50 °C
13	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	20	TEST PRESSURE	150 barg
14	FLANGE STANDARD / RATING	N/A	21	SAFETY FACTOR (TO YIELD POINT)	2.15
15	INSTALLATION	ABOVEGROUND	22	SAFETY FACTOR ON WELD ENDS (TO YIELD POINT)	1.68
23					
VALVE DATA					
24	VALVE BODY / BALL DESIGN	FULLY WELDED BODY	36	SUPPORT LEGS	YES
25	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	37	LIFTING LUGS	YES
26	NOMINAL PIPE SIZE / OD / THICKNESS	DN 500 / 508 mm / 12.5 mm	38	FLOW DIRECTION	BIDIRECTIONAL
27	PIPELINE CONNECTION TYPE	WELD / WELD	39	LEAK RATE	ACC. TO EN 12266-1, -2; RATE A
28	MAIN SEALS	METAL	40	MAX. VALVE LIFT	*
29	SECONDARY SEALS	SOFT	41	STEM DIAMETER / TYPE	* / ANTI-BLOW-OUT
30	SEATS RINGS	DOUBLE PISTON EFFECT	42	LOCK POSITION	YES
31	CAVITY PRESSURE RELIEF VALVE	N/A	43	ADJUSTABLE LIMIT STOP	*
32	DOUBLE BLOCK & BLEED	YES	44	ANTI STATIC DESIGN	YES
33	VENT	YES	45	FIRE SAFE DESIGN	YES
34	DRAIN	YES	46	SEALANT LINE INJECTION MEDIA	4 INDPEDENT GREASE FITTINGS
35	INSULATION	NO	47		
48					
ACTUATOR AND ACCESSORIES					
49	ACTUATOR TYPE	ELECTRO MOTOR (Note 2) (Note 7)	61	STROKING TIME TO OPEN (Min./Max.)	40 s/180 s
50	MANUFACTURER/ MODEL	AUMATIC SAEx	62	STROKING TIME TO CLOSE (Min./Max.)	60 s /180 s
51	GEAR BOX WITH HANDWHEEL	N/A	63	LIMIT SWITCH	YES
52	DESIGN TORQUE FOR ACTUATOR	*	64	POSITIONER MANUFACT / MODEL	*
53	ACTUATOR ATTACHMENT	ACC. TO EN ISO 5211	65	STEM	*
54	FAIL SAFE POSITION	N/A	66	STEM EXTENSION FOR UNDERGROUND INSTALLATION	VALVE CL TO ACTUATOR FLANGE N/A
55	POWER SUPPLY	400V / 50 Hz / 3 Ph	67		VALVE CL TO GROUND LEVEL N/A
56	IP-CODE	IP 65 (IEC 60529)	68	BY-PASS AND AIR-BLEED VALVE	N/A
57	INSULATING CLASS	I	69	OIL AND GAS FILTERS	N/A
58	HAZARDOUS AREA	ZONE 1	70	CONTROL UNIT	C4G-HPPL-ILF-GENER-STR-SPC-824
59	EXPLOSION PROTECTION	II 2G IIB T3	71	ACTUATOR LOCKING	SELF LOCKING
60	MINIMUM SUPPLY PRESSURE	N/A	72	MECANICAL POSITION INDICATOR	YES - OPEN/CLOSE
73					
DIMENSIONS, WEIGHT, MECHANICAL AND ELECTRICAL INTERFACES					
74	FITTING LENGTH	*	78	WEIGHT (VALVE)	*
75	FITTING HEIGHT	*	79	WEIGHT (VALVE + ACTUATOR)	*
76	WALL THICKNESS	*	80	CABLE CONNECTION TYPE	Exd Cable Gland
77			81	CABLE CONNECTION SIZE	*
82					
MATERIALS, TESTING AND DOCUMENTATION					
83	MATERIAL OF PIPE END	L360NE	92	STANDARD TEST	ACC TO CSN EN 14141 / API 6D
84	VALVE MATERIAL	ACC. TO ČSN EN 1594/API 6D	93	LEAKAGE TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
85	BALL MATERIAL	C4G-HPPL-ILF-GENER-STR-SPC-824	94	PRESSURE TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
86	PUP PIECES MATERIAL	*	95	TIGHTNESS TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
87	MATERIAL STEM	*	96	FIRE SAFE TEST	ACC. TO API 607 / ISO 10497
88	MATERIAL BOLTS / NUTS	ACC. TO ČSN EN ISO 898	97	ATEX CERTIFICATION	ACC. TO CSN EN 60079-10
89	MATERIAL SEAT / SEAL	A350 LF2 / HNBR (Therban) *	98	SAFETY INTEGRITY LEVEL	N/A
90	ANTI - CORROSION PROTECTION	C4G-HPPL-ILF-GENER-STR-SPC-824	99	FINAL ACCEPTANCE TEST	ČSN EN 10204 / 3.2
91	DOCUMENTATION	C4G-HPPL-ILF-GENER-STR-SPC-824	100	CE-CONFORMITY	ACC. TO PED 2014/68/EU
101					
NOTES					
102	* To be filled/confirmed by Supplier				
103	Note 1: This data sheet shall be read with the Specification C4G-HPPL-ILF-GENER-STR-SPC-824				
104	Note 2: Motor Operated Valve (MOV) with Local and Remote Control and Monitoring Functionality				
105	Note 3: CL - Center Line				
106	Note 4: N/A - Not Applicable				
107	Note 5: Control and Signaling Voltage 24 VDC				
108	Note 6: LVS Jirkov is alternative location to LVS Vrskman. Only one LVS of those two stations shall be constructed, either Jirkov or Vrskman				
109	Note 7: The type of wiring diagram shall be "TPCAA121D1H1-E460 TPA00R200-012-000"				
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**BALL VALVE - DN 500**

GENERAL INFORMATION			
1			
2	LOCATION	LVS HRUSOVANY	5 QUANTITY
3	EQUIPMENT	BALL VALVE	6 TECHNICAL SPECIFICATION
4	TAG No.	MOV-7.3, MOV-7.4	7 P&ID-No.
8			2 C4G-HPPL-ILF-GENER-STR-SPC-824
4			7 C4G-HPPL-ILF-TU51S-STR-DIA-110
OPERATION AND DESIGN DATA			
9	AMBIENT CONDITIONS	C4G-HPPL-ILF-GENER-GEN-SPC-901	16 MAX. OPERATING PRESSURE
10	MEDIUM	NATURAL GAS	17 OPERATING TEMPERATURE
11	GAS COMPOSITION	C4G-HPPL-ILF-GENER-GEN-DAT-820	18 DESIGN PRESSURE
12	PIPING CLASS	CS100-0	19 DESIGN TEMPERATURE
13	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	20 TEST PRESSURE
14	FLANGE STANDARD / RATING	N/A	21 SAFETY FACTOR (TO YIELD POINT)
15	INSTALLATION	ABOVEGROUND	22 SAFETY FACTOR ON WELD ENDS (TO YIELD POINT)
16			85 barg
17			+5 to +25 °C
18			100 barg
19			-20 to +50 °C
20			150 barg
21			2.15
22			1.68
VALVE DATA			
24	VALVE BODY / BALL DESIGN	FULLY WELDED BODY	36 SUPPORT LEGS
25	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	37 LIFTING LUGS
26	NOMINAL PIPE SIZE / OD / THICKNESS	DN 500 / 508 mm / 12.5 mm	38 FLOW DIRECTION
27	PIPELINE CONNECTION TYPE	WELD / WELD	39 LEAK RATE
28	MAIN SEALS	METAL	40 MAX. VALVE LIFT
29	SECONDARY SEALS	SOFT	41 STEM DIAMETER / TYPE
30	SEATS RINGS	DOUBLE PISTON EFFECT	42 LOCK POSITION
31	CAVITY PRESSURE RELIEF VALVE	N/A	43 ADJUSTABLE LIMIT STOP
32	DOUBLE BLOCK & BLEED	YES	44 ANTI STATIC DESIGN
33	VENT	YES	45 FIRE SAFE DESIGN
34	DRAIN	YES	46 SEALANT LINE INJECTION MEDIA
35	INSULATION	NO	47
36			YES
37			YES
38			BIDIRECTIONAL
39			ACC. TO EN 12266-1, -2; RATE A
40			*
41			* / ANTI-BLOW-OUT
42			YES
43			*
44			YES
45			YES
46			4 INDPEDENT GREASE FITTINGS
47			
ACTUATOR AND ACCESSORIES			
49	ACTUATOR TYPE	ELECTRO MOTOR (Note 2) (Note 6)	61 STROKING TIME TO OPEN (Min./Max.)
50	MANUFACTURER/ MODEL	AUMATIC SAEx	62 STROKING TIME TO CLOSE (Min./Max.)
51	GEAR BOX WITH HANDWHEEL	N/A	63 LIMIT SWITCH
52	DESIGN TORQUE FOR ACTUATOR	*	64 POSITIONER MANUFACT / MODEL
53	ACTUATOR ATTACHMENT	ACC. TO EN ISO 5211	65 STEM
54	FAIL SAFE POSITION	N/A	66 STEM EXTENSION FOR UNDERGROUND INSTALLATION
55	POWER SUPPLY	400V / 50 Hz / 3 Ph	67 BY-PASS AND AIR-BLEED VALVE
56	IP-CODE	IP 65 (IEC 60529)	68 OIL AND GAS FILTERS
57	INSULATING CLASS	I	69 CONTROL UNIT
58	HAZARDOUS AREA	ZONE 1	70 ACTUATOR LOCKING
59	EXPLOSION PROTECTION	II 2G IIB T3	71 MECHANICAL POSITION INDICATOR
60	MINIMUM SUPPLY PRESSURE	N/A	72
61			40 s / 180 s
62			60 s / 180 s
63			YES
64			*
65			*
66			VALVE CL TO ACTUATOR FLANGE
67			VALVE CL TO GROUND LEVEL
68			N/A
69			N/A
70			C4G-HPPL-ILF-GENER-STR-SPC-824
71			SELF LOCKING
72			YES - OPEN/CLOSE
DIMENSIONS, WEIGHT, MECHANICAL AND ELECTRICAL INTERFACES			
74	FITTING LENGTH	*	78 WEIGHT (VALVE)
75	FITTING HEIGHT	*	79 WEIGHT (VALVE + ACTUATOR)
76	WALL THICKNESS	*	80 CABLE CONNECTION TYPE
77			81 CABLE CONNECTION SIZE
78			*
79			Exd Cable Gland
MATERIALS, TESTING AND DOCUMENTATION			
83	MATERIAL OF PIPE END	L360NE	92 STANDARD TEST
84	VALVE MATERIAL	ACC. TO ČSN EN 1594/API 6D	93 LEAKAGE TEST
85	BALL MATERIAL	C4G-HPPL-ILF-GENER-STR-SPC-824	94 PRESSURE TEST
86	PUP PIECES MATERIAL	*	95 TIGHTNESS TEST
87	MATERIAL STEM	*	96 FIRE SAFE TEST
88	MATERIAL BOLTS / NUTS	ACC. TO ČSN EN ISO 898	97 ATEX CERTIFICATION
89	MATERIAL SEAT / SEAL	A350 LF2 / HNBR (Therban) *	98 SAFETY INTEGRITY LEVEL
90	ANTI - CORROSION PROTECTION	C4G-HPPL-ILF-GENER-STR-SPC-824	99 FINAL ACCEPTANCE TEST
91	DOCUMENTATION	C4G-HPPL-ILF-GENER-STR-SPC-824	100 CE-CONFORMITY
92			ACC TO CSN EN 14141 / API 6D
93			C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
94			C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
95			C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
96			ACC. TO API 607 / ISO 10497
97			ACC. TO CSN EN 60079-10
98			N/A
99			ČSN EN 10204 / 3.2
100			ACC. TO PED 2014/68/EU
NOTES			
102	* To be filled/confirmed by Supplier		
103	Note 1: This data sheet shall be read with the Specification C4G-HPPL-ILF-GENER-STR-SPC-824		
104	Note 2: Motor Operated Valve (MOV) with Local and Remote Control and Monitoring Functionality		
105	Note 3: CL - Center Line		
106	Note 4: N/A - Not Applicable		
107	Note 5: Control and Signaling Voltage 24 VDC		
108	Note 6: The type of wiring diagram shall be "TPCAA121D1H1-E460 TPA00R200-012-000"		
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**BALL VALVE - DN 500**

GENERAL INFORMATION			
1			
2	LOCATION	LVS SYROVICE	5 QUANTITY
3	EQUIPMENT	BALL VALVE	6 TECHNICAL SPECIFICATION
4	TAG No.	MOV-7.3, MOV-7.4	7 P&ID-No.
8			2 C4G-HPPL-ILF-GENER-STR-SPC-824
4			7 C4G-HPPL-ILF-TU52S-STR-DIA-110
OPERATION AND DESIGN DATA			
9	AMBIENT CONDITIONS	C4G-HPPL-ILF-GENER-GEN-SPC-901	16 MAX. OPERATING PRESSURE
10	MEDIUM	NATURAL GAS	17 OPERATING TEMPERATURE
11	GAS COMPOSITION	C4G-HPPL-ILF-GENER-GEN-DAT-820	18 DESIGN PRESSURE
12	PIPING CLASS	CS100-0	19 DESIGN TEMPERATURE
13	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	20 TEST PRESSURE
14	FLANGE STANDARD / RATING	N/A	21 SAFETY FACTOR (TO YIELD POINT)
15	INSTALLATION	ABOVEGROUND	22 SAFETY FACTOR ON WELD ENDS (TO YIELD POINT)
16			85 barg
17			+5 to +25 °C
18			100 barg
19			-20 to +50 °C
20			150 barg
21			2.15
22			1.68
VALVE DATA			
24	VALVE BODY / BALL DESIGN	FULLY WELDED BODY	36 SUPPORT LEGS
25	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	37 LIFTING LUGS
26	NOMINAL PIPE SIZE / OD / THICKNESS	DN 500 / 508 mm / 12.5 mm	38 FLOW DIRECTION
27	PIPELINE CONNECTION TYPE	WELD / WELD	39 LEAK RATE
28	MAIN SEALS	METAL	40 MAX. VALVE LIFT
29	SECONDARY SEALS	SOFT	41 STEM DIAMETER / TYPE
30	SEATS RINGS	DOUBLE PISTON EFFECT	42 LOCK POSITION
31	CAVITY PRESSURE RELIEF VALVE	N/A	43 ADJUSTABLE LIMIT STOP
32	DOUBLE BLOCK & BLEED	YES	44 ANTI STATIC DESIGN
33	VENT	YES	45 FIRE SAFE DESIGN
34	DRAIN	YES	46 SEALANT LINE INJECTION MEDIA
35	INSULATION	NO	47
36			YES
37			YES
38			BIDIRECTIONAL
39			ACC. TO EN 12266-1, -2; RATE A
40			*
41			* / ANTI-BLOW-OUT
42			YES
43			*
44			YES
45			YES
46			4 INDPEDENT GREASE FITTINGS
47			
ACTUATOR AND ACCESSORIES			
49	ACTUATOR TYPE	ELECTRO MOTOR (Note 2) (Note 6)	61 STROKING TIME TO OPEN (Min./Max.)
50	MANUFACTURER/ MODEL	AUMATIC SAEx	62 STROKING TIME TO CLOSE (Min./Max.)
51	GEAR BOX WITH HANDWHEEL	N/A	63 LIMIT SWITCH
52	DESIGN TORQUE FOR ACTUATOR	*	64 POSITIONER MANUFACT / MODEL
53	ACTUATOR ATTACHMENT	ACC. TO EN ISO 5211	65 STEM
54	FAIL SAFE POSITION	N/A	66 STEM EXTENSION FOR UNDERGROUND INSTALLATION
55	POWER SUPPLY	400V / 50 Hz / 3 Ph	67 BY-PASS AND AIR-BLEED VALVE
56	IP-CODE	IP 65 (IEC 60529)	68 OIL AND GAS FILTERS
57	INSULATING CLASS	I	69 CONTROL UNIT
58	HAZARDOUS AREA	ZONE 1	70 ACTUATOR LOCKING
59	EXPLOSION PROTECTION	II 2G IIB T3	71 MECHANICAL POSITION INDICATOR
60	MINIMUM SUPPLY PRESSURE	N/A	72
61			40 s / 180 s
62			60 s / 180 s
63			YES
64			*
65			*
66			VALVE CL TO ACTUATOR FLANGE
67			VALVE CL TO GROUND LEVEL
68			N/A
69			N/A
70			N/A
71			C4G-HPPL-ILF-GENER-STR-SPC-824
72			SELF LOCKING
			YES - OPEN/CLOSE
DIMENSIONS, WEIGHT, MECHANICAL AND ELECTRICAL INTERFACES			
74	FITTING LENGTH	*	78 WEIGHT (VALVE)
75	FITTING HEIGHT	*	79 WEIGHT (VALVE + ACTUATOR)
76	WALL THICKNESS	*	80 CABLE CONNECTION TYPE
77			81 CABLE CONNECTION SIZE
78			*
79			Exd Cable Gland
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MATERIALS, TESTING AND DOCUMENTATION			
83	MATERIAL OF PIPE END	L360NE	92 STANDARD TEST
84	VALVE MATERIAL	ACC. TO ČSN EN 1594/API 6D	93 LEAKAGE TEST
85	BALL MATERIAL	C4G-HPPL-ILF-GENER-STR-SPC-824	94 PRESSURE TEST
86	PUP PIECES MATERIAL	*	95 TIGHTNESS TEST
87	MATERIAL STEM	*	96 FIRE SAFE TEST
88	MATERIAL BOLTS / NUTS	ACC. TO ČSN EN ISO 898	97 ATEX CERTIFICATION
89	MATERIAL SEAT / SEAL	A350 LF2 / HNBR (Therban) *	98 SAFETY INTEGRITY LEVEL
90	ANTI - CORROSION PROTECTION	C4G-HPPL-ILF-GENER-STR-SPC-824	99 FINAL ACCEPTANCE TEST
91	DOCUMENTATION	C4G-HPPL-ILF-GENER-STR-SPC-824	100 CE-CONFORMITY
92			ACC TO CSN EN 14141 / API 6D
93			C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
94			C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
95			C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
96			ACC. TO API 607 / ISO 10497
97			ACC. TO CSN EN 60079-10
98			N/A
99			ČSN EN 10204 / 3.2
100			ACC. TO PED 2014/68/EU
NOTES			
102	* To be filled/confirmed by Supplier		
103	Note 1: This data sheet shall be read with the Specification C4G-HPPL-ILF-GENER-STR-SPC-824		
104	Note 2: Motor Operated Valve (MOV) with Local and Remote Control and Monitoring Functionality		
105	Note 3: CL - Center Line		
106	Note 4: N/A - Not Applicable		
107	Note 5: Control and Signaling Voltage 24 VDC		
108	Note 6: The type of wiring diagram shall be "TPCAA121D1H1-E460 TPA00R200-012-000"		
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**BALL VALVE - DN 1200**

GENERAL INFORMATION					
1					
2	LOCATION	LVS MALMERICE	5	QUANTITY	1
3	EQUIPMENT	BALL VALVE	6	TECHNICAL SPECIFICATION	C4G-HPPL-ILF-GENER-STR-SPC-824
4	TAG No.	GHV-2.3	7	P&ID-No.	C4G-HPPL-ILF-TU53S-STR-DIA-110
OPERATION AND DESIGN DATA					
9	AMBIENT CONDITIONS	C4G-HPPL-ILF-GENER-GEN-SPC-901	16	MAX. OPERATING PRESSURE	85 barg
10	MEDIUM	NATURAL GAS	17	OPERATING TEMPERATURE	+5 to +25 °C
11	GAS COMPOSITION	C4G-HPPL-ILF-GENER-GEN-DAT-820	18	DESIGN PRESSURE	100 barg
12	PIPING CLASS	CS100-0	19	DESIGN TEMPERATURE	-20 to +50 °C
13	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	20	TEST PRESSURE	150 barg
14	FLANGE STANDARD / RATING	N/A	21	SAFETY FACTOR (TO YIELD POINT)	2.15
15	INSTALLATION	UNDERGROUND	22	SAFETY FACTOR ON WELD ENDS (TO YIELD POINT)	1.68
VALVE DATA					
24	VALVE BODY / BALL DESIGN	FULLY WELDED BODY - FULL BORE	36	SUPPORT LEGS	YES
25	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	37	LIFTING LUGS	YES
26	NOMINAL PIPE SIZE / OD / THICKNESS	DN 1200 / 1219 mm / 22.2 mm	38	FLOW DIRECTION	BIDIRECTIONAL
27	PIPELINE CONNECTION TYPE	WELD / WELD	39	LEAK RATE	ACC. TO EN 12266-1, -2; RATE A
28	MAIN SEALS	METAL	40	MAX. VALVE LIFT	*
29	SECONDARY SEALS	SOFT	41	STEM DIAMETER / TYPE	* / ANTI-BLOW-OUT
30	SEATS RINGS	DOUBLE PISTON EFFECT	42	LOCK POSITION	NO
31	CAVITY PRESSURE RELIEF VALVE	N/A	43	ADJUSTABLE LIMIT STOP	*
32	DOUBLE BLOCK & BLEED	YES	44	ANTI STATIC DESIGN	YES
33	VENT	YES	45	FIRE SAFE DESIGN	YES
34	DRAIN	YES	46	SEALANT LINE INJECTION MEDIA	4 INDPEDENT GREASE FITTINGS
35	INSULATION	NO	47		
ACTUATOR AND ACCESSORIES					
49	ACTUATOR TYPE	GAS HYDRAULIC WITH LBC (Note 2) (Note 6)	61	STROKING TIME TO OPEN (Min./Max.)	60 s/180 s
50	MANUFACTURER/ MODEL	*	62	STROKING TIME TO CLOSE (Min./Max.)	60 s /180 s
51	GEAR BOX WITH HANDWHEEL	N/A	63	LIMIT SWITCH	YES
52	DESIGN TORQUE FOR ACTUATOR	*	64	POSITIONER MANUFACT / MODEL	*
53	ACTUATOR ATTACHMENT	ACC. TO EN ISO 5211	65	STEM	*
54	FAIL SAFE POSITION	N/A	66	STEM EXTENSION FOR UNDERGROUND INSTALLATION	VALVE CL TO ACTUATOR FLANGE 2420 mm * VALVE CL TO GROUND LEVEL 1670 mm
55	POWER SUPPLY	N/A	67		
56	IP-CODE	IP 65 (IEC 60529)	68	BY-PASS AND AIR-BLEED VALVE	N/A
57	INSULATING CLASS	I	69	OIL AND GAS FILTERS	YES
58	HAZARDOUS AREA	ZONE 1	70	CONTROL UNIT	C4G-HPPL-ILF-GENER-STR-SPC-824
59	EXPLOSION PROTECTION	II 2G IIB T3	71	ACTUATOR LOCKING	SELF LOCKING
60	MINIMUM SUPPLY PRESSURE	38.0 barg	72	MECHANICAL POSITION INDICATOR	YES - OPEN/CLOSE
DIMENSIONS, WEIGHT, MECHANICAL AND ELECTRICAL INTERFACES					
74	FITTING LENGTH	*	78	WEIGHT (VALVE)	*
75	FITTING HEIGHT	*	79	WEIGHT (VALVE + ACTUATOR)	*
76	WALL THICKNESS	*	80	CABLE CONNECTION TYPE	N/A
77			81	CABLE CONNECTION SIZE	*
MATERIALS, TESTING AND DOCUMENTATION					
83	MATERIAL OF PIPE END	L485ME	92	STANDARD TEST	ACC TO CSN EN 14141 / API 6D
84	VALVE MATERIAL	ACC. TO ČSN EN 1594/API 6D	93	LEAKAGE TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
85	BALL MATERIAL	C4G-HPPL-ILF-GENER-STR-SPC-824	94	PRESSURE TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
86	PUP PIECES MATERIAL	*	95	TIGHTNESS TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
87	MATERIAL STEM	*	96	FIRE SAFE TEST	ACC. TO API 607 / ISO 10497
88	MATERIAL BOLTS / NUTS	ACC. TO ČSN EN ISO 898	97	ATEX CERTIFICATION	ACC. TO CSN EN 60079-10
89	MATERIAL SEAT / SEAL	A350 LF2 / HNBR (Therban) *	98	SAFETY INTEGRITY LEVEL	N/A
90	ANTI - CORROSION PROTECTION	C4G-HPPL-ILF-GENER-STR-SPC-824	99	FINAL ACCEPTANCE TEST	ČSN EN 10204 / 3.2
91	DOCUMENTATION	C4G-HPPL-ILF-GENER-STR-SPC-824	100	CE-CONFORMITY	ACC. TO PED 2014/68/EU
NOTES					
102	* To be filled/confirmed by Supplier				
103	Note 1: This data sheet shall be read with the Specification C4G-HPPL-ILF-GENER-STR-SPC-824				
104	Note 2: Gas Hydraulic Valve (GHV) with Local and Remote Control and Monitoring Functionality and Line Break Control (LBC)				
105	Note 3: CL - Center Line				
106	Note 4: N/A - Not Applicable				
107	Note 5: Control and Signaling Voltage 24 VDC				
108	Note 6: LBC - Line Break Control shall be mechanical type. Pre-set pressure drop shall be 5 bar/min, and shall be ajustable				
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**BALL VALVE - DN 500**

GENERAL INFORMATION					
1					
2	LOCATION	LVS MALMERICE	5	QUANTITY	4
3	EQUIPMENT	BALL VALVE	6	TECHNICAL SPECIFICATION	C4G-HPPL-ILF-GENER-STR-SPC-824
4	TAG No.	MOV-7.5, MOV-7.6, MOV-7.7, MOV-7.8	7	P&ID-No.	C4G-HPPL-ILF-TU53S-STR-DIA-110
OPERATION AND DESIGN DATA					
9	AMBIENT CONDITIONS	C4G-HPPL-ILF-GENER-GEN-SPC-901	16	MAX. OPERATING PRESSURE	85 barg
10	MEDIUM	NATURAL GAS	17	OPERATING TEMPERATURE	+5 to +25 °C
11	GAS COMPOSITION	C4G-HPPL-ILF-GENER-GEN-DAT-820	18	DESIGN PRESSURE	100 barg
12	PIPING CLASS	CS100-0	19	DESIGN TEMPERATURE	-20 to +50 °C
13	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	20	TEST PRESSURE	150 barg
14	FLANGE STANDARD / RATING	N/A	21	SAFETY FACTOR (TO YIELD POINT)	2.15
15	INSTALLATION	ABOVEGROUND	22	SAFETY FACTOR ON WELD ENDS (TO YIELD POINT)	1.68
VALVE DATA					
24	VALVE BODY / BALL DESIGN	FULLY WELDED BODY	36	SUPPORT LEGS	YES
25	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	37	LIFTING LUGS	YES
26	NOMINAL PIPE SIZE / OD / THICKNESS	DN 500 / 508 mm / 12.5 mm	38	FLOW DIRECTION	BIDIRECTIONAL
27	PIPELINE CONNECTION TYPE	WELD / WELD	39	LEAK RATE	ACC. TO EN 12266-1, -2; RATE A
28	MAIN SEALS	METAL	40	MAX. VALVE LIFT	*
29	SECONDARY SEALS	SOFT	41	STEM DIAMETER / TYPE	* / ANTI-BLOW-OUT
30	SEATS RINGS	DOUBLE PISTON EFFECT	42	LOCK POSITION	YES
31	CAVITY PRESSURE RELIEF VALVE	N/A	43	ADJUSTABLE LIMIT STOP	*
32	DOUBLE BLOCK & BLEED	YES	44	ANTI STATIC DESIGN	YES
33	VENT	YES	45	FIRE SAFE DESIGN	YES
34	DRAIN	YES	46	SEALANT LINE INJECTION MEDIA	4 INDPEDENT GREASE FITTINGS
35	INSULATION	NO	47		
ACTUATOR AND ACCESSORIES					
49	ACTUATOR TYPE	ELECTRO MOTOR (Note 2) (Note 6)	61	STROKING TIME TO OPEN (Min./Max.)	40 s/180 s
50	MANUFACTURER/ MODEL	AUMATIC SAEx	62	STROKING TIME TO CLOSE (Min./Max.)	60 s /180 s
51	GEAR BOX WITH HANDWHEEL	N/A	63	LIMIT SWITCH	YES
52	DESIGN TORQUE FOR ACTUATOR	*	64	POSITIONER MANUFACT / MODEL	*
53	ACTUATOR ATTACHMENT	ACC. TO EN ISO 5211	65	STEM	*
54	FAIL SAFE POSITION	N/A	66	STEM EXTENSION FOR UNDERGROUND INSTALLATION	VALVE CL TO ACTUATOR FLANGE N/A VALVE CL TO GROUND LEVEL N/A
55	POWER SUPPLY	400V / 50 Hz / 3 Ph	67		
56	IP-CODE	IP 65 (IEC 60529)	68	BY-PASS AND AIR-BLEED VALVE	N/A
57	INSULATING CLASS	I	69	OIL AND GAS FILTERS	N/A
58	HAZARDOUS AREA	ZONE 1	70	CONTROL UNIT	C4G-HPPL-ILF-GENER-STR-SPC-824
59	EXPLOSION PROTECTION	II 2G IIB T3	71	ACTUATOR LOCKING	SELF LOCKING
60	MINIMUM SUPPLY PRESSURE	N/A	72	MECANICAL POSITION INDICATOR	YES - OPEN/CLOSE
DIMENSIONS, WEIGHT, MECHANICAL AND ELECTRICAL INTERFACES					
74	FITTING LENGTH	*	78	WEIGHT (VALVE)	*
75	FITTING HEIGHT	*	79	WEIGHT (VALVE + ACTUATOR)	*
76	WALL THICKNESS	*	80	CABLE CONNECTION TYPE	Exd Cable Gland
77			81	CABLE CONNECTION SIZE	*
MATERIALS, TESTING AND DOCUMENTATION					
83	MATERIAL OF PIPE END	L360NE	92	STANDARD TEST	ACC TO CSN EN 14141 / API 6D
84	VALVE MATERIAL	ACC. TO ČSN EN 1594/API 6D	93	LEAKAGE TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
85	BALL MATERIAL	C4G-HPPL-ILF-GENER-STR-SPC-824	94	PRESSURE TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
86	PUP PIECES MATERIAL	*	95	TIGHTNESS TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
87	MATERIAL STEM	*	96	FIRE SAFE TEST	ACC. TO API 607 / ISO 10497
88	MATERIAL BOLTS / NUTS	ACC. TO ČSN EN ISO 898	97	ATEX CERTIFICATION	ACC. TO CSN EN 60079-10
89	MATERIAL SEAT / SEAL	A350 LF2 / HNBR (Therban) *	98	SAFETY INTEGRITY LEVEL	N/A
90	ANTI - CORROSION PROTECTION	C4G-HPPL-ILF-GENER-STR-SPC-824	99	FINAL ACCEPTANCE TEST	ČSN EN 10204 / 3.2
91	DOCUMENTATION	C4G-HPPL-ILF-GENER-STR-SPC-824	100	CE-CONFORMITY	ACC. TO PED 2014/68/EU
NOTES					
102	* To be filled/confirmed by Supplier				
103	Note 1: This data sheet shall be read with the Specification C4G-HPPL-ILF-GENER-STR-SPC-824				
104	Note 2: Motor Operated Valve (MOV) with Local and Remote Control and Monitoring Functionality				
105	Note 3: CL - Center Line				
106	Note 4: N/A - Not Applicable				
107	Note 5: Control and Signaling Voltage 24 VDC				
108	Note 6: The type of wiring diagram shall be "TPCAA121D1H1-E460 TPA00R200-012-000"				
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BALL VALVE - DN 300			
<b>GENERAL INFORMATION</b>			
1			
2	LOCATION	LVS MALMERICE	5 QUANTITY
3	EQUIPMENT	BALL VALVE	6 TECHNICAL SPECIFICATION
4	TAG No.	MOV-8.10, MOV-8.12	7 P&ID-No.
8			2 C4G-HPPL-ILF-GENER-STR-SPC-824
4			7 C4G-HPPL-ILF-TU53S-STR-DIA-110
<b>OPERATION AND DESIGN DATA</b>			
9	AMBIENT CONDITIONS	C4G-HPPL-ILF-GENER-GEN-SPC-901	16 MAX. OPERATING PRESSURE
10	MEDIUM	NATURAL GAS	17 OPERATING TEMPERATURE
11	GAS COMPOSITION	C4G-HPPL-ILF-GENER-GEN-DAT-820	18 DESIGN PRESSURE
12	PIPING CLASS	CS100-0	19 DESIGN TEMPERATURE
13	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	20 TEST PRESSURE
14	FLANGE STANDARD / RATING	N/A	21 SAFETY FACTOR (TO YIELD POINT)
15	INSTALLATION	ABOVEGROUND	22 SAFETY FACTOR ON WELD ENDS (TO YIELD POINT)
23			168
<b>VALVE DATA</b>			
24	VALVE BODY / BALL DESIGN	FULLY WELDED BODY	36 SUPPORT LEGS
25	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	37 LIFTING LUGS
26	NOMINAL PIPE SIZE / OD / THICKNESS	DN 300 / 323.9 mm / 8.8 mm	38 FLOW DIRECTION
27	PIPELINE CONNECTION TYPE	WELD / WELD	39 LEAK RATE
28	MAIN SEALS	METAL	40 MAX. VALVE LIFT
29	SECONDARY SEALS	SOFT	41 STEM DIAMETER / TYPE
30	SEATS RINGS	DOUBLE PISTON EFFECT	42 LOCK POSITION
31	CAVITY PRESSURE RELIEF VALVE	N/A	43 ADJUSTABLE LIMIT STOP
32	DOUBLE BLOCK & BLEED	YES	44 ANTI STATIC DESIGN
33	VENT	YES	45 FIRE SAFE DESIGN
34	DRAIN	YES	46 SEALANT LINE INJECTION MEDIA
35	INSULATION	NO	47
48			4 INDPEDET GREASE FITTINGS
<b>ACTUATOR AND ACCESSORIES</b>			
49	ACTUATOR TYPE	ELECTRO MOTOR (Note 2) (Note 6)	61 STROKING TIME TO OPEN (Min./Max.)
50	MANUFACTURER/ MODEL	AUMATIC SAEx	62 STROKING TIME TO CLOSE (Min./Max.)
51	GEAR BOX WITH HANDWHEEL	N/A	63 LIMIT SWITCH
52	DESIGN TORQUE FOR ACTUATOR	*	64 POSITIONER MANUFACT / MODEL
53	ACTUATOR ATTACHMENT	ACC. TO EN ISO 5211	65 STEM
54	FAIL SAFE POSITION	N/A	66 STEM EXTENSION FOR UNDERGROUND INSTALLATION
55	POWER SUPPLY	400V / 50 Hz / 3 Ph	67
56	IP-CODE	IP 65 (IEC 60529)	68 BY-PASS AND AIR-BLEED VALVE
57	INSULATING CLASS	I	69 OIL AND GAS FILTERS
58	HAZARDOUS AREA	ZONE 1	70 CONTROL UNIT
59	EXPLOSION PROTECTION	II 2G IIB T3	71 ACTUATOR LOCKING
60	MINIMUM SUPPLY PRESSURE	N/A	72 MECANICAL POSITION INDICATOR
73			YES - OPEN/CLOSE
<b>DIMENSIONS, WEIGHT, MECHANICAL AND ELECTRICAL INTERFACES</b>			
74	FITTING LENGTH	*	78 WEIGHT (VALVE)
75	FITTING HEIGHT	*	79 WEIGHT (VALVE + ACTUATOR)
76	WALL THICKNESS	*	80 CABLE CONNECTION TYPE
77			81 CABLE CONNECTION SIZE
82			* Exd Cable Gland
<b>MATERIALS, TESTING AND DOCUMENTATION</b>			
83	MATERIAL OF PIPE END	L360NE	92 STANDARD TEST
84	VALVE MATERIAL	ACC. TO ČSN EN 1594/API 6D	93 LEAKAGE TEST
85	BALL MATERIAL	C4G-HPPL-ILF-GENER-STR-SPC-824	94 PRESSURE TEST
86	PUP PIECES MATERIAL	*	95 TIGHTNESS TEST
87	MATERIAL STEM	*	96 FIRE SAFE TEST
88	MATERIAL BOLTS / NUTS	ACC. TO ČSN EN ISO 898	97 ATEX CERTIFICATION
89	MATERIAL SEAT / SEAL	A350 LF2 / HNBR (Therban) *	98 SAFETY INTEGRITY LEVEL
90	ANTI - CORROSION PROTECTION	C4G-HPPL-ILF-GENER-STR-SPC-824	99 FINAL ACCEPTANCE TEST
91	DOCUMENTATION	C4G-HPPL-ILF-GENER-STR-SPC-824	100 CE-CONFORMITY
101			ACC TO CSN EN 14141 / API 6D
102			C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
103			C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
104			C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
105			ACC. TO API 607 / ISO 10497
106			ACC. TO CSN EN 60079-10
107			N/A
108			ČSN EN 10204 / 3.2
109			ACC. TO PED 2014/68/EU
<b>NOTES</b>			
110	* To be filled/confirmed by Supplier		
111	Note 1: This data sheet shall be read with the Specification C4G-HPPL-ILF-GENER-STR-SPC-824		
112	Note 2: Motor Operated Valve (MOV) with Local Control and Monitoring as well as Remote Open/Closed Monitoring Functionality		
113	Note 3: CL - Center Line		
114	Note 4: N/A - Not Applicable		
115	Note 5: Control and Signaling Voltage 24 VDC		
116	Note 6: The type of wiring diagram shall be "TPCAA121D1H1-E460 TPA00R200-012-000"		
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**BALL VALVE - DN 300**

GENERAL INFORMATION				
1				
2	LOCATION	LVS MALMERICE	5	QUANTITY
3	EQUIPMENT	BALL VALVE	6	TECHNICAL SPECIFICATION
4	TAG No.	MOV-8.11, MOV-8.13	7	P&ID-No.
8				
OPERATION AND DESIGN DATA				
9	AMBIENT CONDITIONS	C4G-HPPL-ILF-GENER-GEN-SPC-901	16	MAX. OPERATING PRESSURE
10	MEDIUM	NATURAL GAS	17	OPERATING TEMPERATURE
11	GAS COMPOSITION	C4G-HPPL-ILF-GENER-GEN-DAT-820	18	DESIGN PRESSURE
12	PIPING CLASS	CS100-0	19	DESIGN TEMPERATURE
13	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	20	TEST PRESSURE
14	FLANGE STANDARD / RATING	N/A	21	SAFETY FACTOR (TO YIELD POINT)
15	INSTALLATION	ABOVEGROUND	22	SAFETY FACTOR ON WELD ENDS (TO YIELD POINT)
23				
VALVE DATA				
24	VALVE BODY / BALL DESIGN	FULLY WELDED BODY	36	SUPPORT LEGS
25	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	37	LIFTING LUGS
26	NOMINAL PIPE SIZE / OD / THICKNESS	DN 300 / 323.9 mm / 8.8 mm	38	FLOW DIRECTION
27	PIPELINE CONNECTION TYPE	WELD / WELD	39	LEAK RATE
28	MAIN SEALS	METAL	40	MAX. VALVE LIFT
29	SECONDARY SEALS	SOFT	41	STEM DIAMETER / TYPE
30	SEATS RINGS	DOUBLE PISTON EFFECT	42	LOCK POSITION
31	CAVITY PRESSURE RELIEF VALVE	N/A	43	ADJUSTABLE LIMIT STOP
32	DOUBLE BLOCK & BLEED	YES	44	ANTI STATIC DESIGN
33	VENT	YES	45	FIRE SAFE DESIGN
34	DRAIN	YES	46	SEALANT LINE INJECTION MEDIA
35	INSULATION	NO	47	
48				
ACTUATOR AND ACCESSORIES				
49	ACTUATOR TYPE	ELECTRO MOTOR (Note 2) (Note 6)	61	STROKING TIME TO OPEN (Min./Max.)
50	MANUFACTURER/ MODEL	AUMATIC SAEx	62	STROKING TIME TO CLOSE (Min./Max.)
51	GEAR BOX WITH HANDWHEEL	N/A	63	LIMIT SWITCH
52	DESIGN TORQUE FOR ACTUATOR	*	64	POSITIONER MANUFACT / MODEL
53	ACTUATOR ATTACHMENT	ACC. TO EN ISO 5211	65	STEM
54	FAIL SAFE POSITION	N/A	66	STEM EXTENSION FOR UNDERGROUND INSTALLATION
55	POWER SUPPLY	400V / 50 Hz / 3 Ph	67	BY-PASS AND AIR-BLEED VALVE
56	IP-CODE	IP 65 (IEC 60529)	68	OIL AND GAS FILTERS
57	INSULATING CLASS	I	69	CONTROL UNIT
58	HAZARDOUS AREA	ZONE 1	70	ACTUATOR LOCKING
59	EXPLOSION PROTECTION	II 2G IIB T3	71	MECHANICAL POSITION INDICATOR
60	MINIMUM SUPPLY PRESSURE	N/A	72	
73				
DIMENSIONS, WEIGHT, MECHANICAL AND ELECTRICAL INTERFACES				
74	FITTING LENGTH	*	78	WEIGHT (VALVE)
75	FITTING HEIGHT	*	79	WEIGHT (VALVE + ACTUATOR)
76	WALL THICKNESS	*	80	CABLE CONNECTION TYPE
77			81	CABLE CONNECTION SIZE
82				
MATERIALS, TESTING AND DOCUMENTATION				
83	MATERIAL OF PIPE END	L360NE	92	STANDARD TEST
84	VALVE MATERIAL	ACC. TO ČSN EN 1594/API 6D	93	LEAKAGE TEST
85	BALL MATERIAL	C4G-HPPL-ILF-GENER-STR-SPC-824	94	PRESSURE TEST
86	PUP PIECES MATERIAL	*	95	TIGHTNESS TEST
87	MATERIAL STEM	*	96	FIRE SAFE TEST
88	MATERIAL BOLTS / NUTS	ACC. TO ČSN EN ISO 898	97	ATEX CERTIFICATION
89	MATERIAL SEAT / SEAL	A350 LF2 / HNBR (Therban) *	98	SAFETY INTEGRITY LEVEL
90	ANTI - CORROSION PROTECTION	C4G-HPPL-ILF-GENER-STR-SPC-824	99	FINAL ACCEPTANCE TEST
91	DOCUMENTATION	C4G-HPPL-ILF-GENER-STR-SPC-824	100	CE-CONFORMITY
101				
NOTES				
102	* To be filled/confirmed by Supplier			
103	Note 1: This data sheet shall be read with the Specification C4G-HPPL-ILF-GENER-STR-SPC-824			
104	Note 2: Motor Operated Valve (MOV) with Local Control and Monitoring			
105	Note 3: CL - Center Line			
106	Note 4: N/A - Not Applicable			
107	Note 5: Control and Signaling Voltage 24 VDC			
108	Note 6: The type of wiring diagram shall be "TPCAA121D1H1-E460 TPA00R200-012-000"			
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BALL VALVE - DN 300					
<b>GENERAL INFORMATION</b>					
1			5	QUANTITY	1
2	LOCATION	LVS MALMERICE	6	TECHNICAL SPECIFICATION	C4G-HPPL-ILF-GENER-STR-SPC-824
3	EQUIPMENT	BALL VALVE	7	P&ID-No.	C4G-HPPL-ILF-TU53S-STR-DIA-110
4	TAG No.	8.14			
<b>OPERATION AND DESIGN DATA</b>					
9	AMBIENT CONDITIONS	C4G-HPPL-ILF-GENER-GEN-SPC-901	16	MAX. OPERATING PRESSURE	85 barg
10	MEDIUM	NATURAL GAS	17	OPERATING TEMPERATURE	+5 to +25 °C
11	GAS COMPOSITION	C4G-HPPL-ILF-GENER-GEN-DAT-820	18	DESIGN PRESSURE	100 barg
12	PIPING CLASS	CS100-0	19	DESIGN TEMPERATURE	-20 to +50 °C
13	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	20	TEST PRESSURE	150 barg
14	FLANGE STANDARD / RATING	ASME B16.5 / #600 - RF	21	SAFETY FACTOR (TO YIELD POINT)	2.15
15	INSTALLATION	ABOVEGROUND	22	SAFETY FACTOR ON WELD ENDS (TO YIELD POINT)	N/A
<b>VALVE DATA</b>					
24	VALVE BODY / BALL DESIGN	FULLY WELDED BODY	36	SUPPORT LEGS	YES
25	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	37	LIFTING LUGS	YES
26	NOMINAL PIPE SIZE / OD / THICKNESS	DN 300 / 323.9 mm / 8.8 mm	38	FLOW DIRECTION	BIDIRECTIONAL
27	PIPELINE CONNECTION TYPE	FLANGE / FLANGE	39	LEAK RATE	ACC. TO EN 12266-1, -2; RATE A
28	MAIN SEALS	METAL	40	MAX. VALVE LIFT	*
29	SECONDARY SEALS	SOFT	41	STEM DIAMETER / TYPE	* / ANTI-BLOW-OUT
30	SEATS RINGS	DOUBLE PISTON EFFECT	42	LOCK POSITION	YES
31	CAVITY PRESSURE RELIEF VALVE	N/A	43	ADJUSTABLE LIMIT STOP	*
32	DOUBLE BLOCK & BLEED	YES	44	ANTI STATIC DESIGN	YES
33	VENT	YES	45	FIRE SAFE DESIGN	YES
34	DRAIN	YES	46	SEALANT LINE INJECTION MEDIA	4 INDPEDENT GREASE FITTINGS
35	INSULATION	NO	47		
<b>ACTUATOR AND ACCESSORIES</b>					
49	ACTUATOR TYPE	MANUAL	61	STROKING TIME TO OPEN (Min./Max.)	N/A
50	MANUFACTURER/ MODEL	*	62	STROKING TIME TO CLOSE (Min./Max.)	N/A
51	GEAR BOX WITH HANDWHEEL	YES	63	LIMIT SWITCH	N/A
52	DESIGN TORQUE FOR ACTUATOR	*	64	POSITIONER MANUFACT / MODEL	*
53	ACTUATOR ATTACHMENT	N/A	65	STEM	*
54	FAIL SAFE POSITION	N/A	66	STEM EXTENSION FOR UNDERGROUND INSTALLATION	VALVE CL TO ACTUATOR FLANGE N/A
55	POWER SUPPLY	N/A	67		VALVE CL TO GROUND LEVEL N/A
56	IP-CODE	N/A	68	BY-PASS AND AIR-BLEED VALVE	N/A
57	INSULATING CLASS	N/A	69	OIL AND GAS FILTERS	N/A
58	HAZARDOUS AREA	ZONE 1	70	CONTROL UNIT	N/A
59	EXPLOSION PROTECTION	II 2G IIB T3	71	ACTUATOR LOCKING	N/A
60	MINIMUM SUPPLY PRESSURE	N/A	72	MECHANICAL POSITION INDICATOR	YES - OPEN/CLOSE
<b>DIMENSIONS, WEIGHT, MECHANICAL AND ELECTRICAL INTERFACES</b>					
74	FITTING LENGTH	*	78	WEIGHT (VALVE)	*
75	FITTING HEIGHT	*	79	WEIGHT (VALVE + ACTUATOR)	*
76	WALL THICKNESS	*	80	CABLE CONNECTION TYPE	N/A
77			81	CABLE CONNECTION SIZE	*
<b>MATERIALS, TESTING AND DOCUMENTATION</b>					
83	MATERIAL OF PIPE END	L360NE	92	STANDARD TEST	ACC TO CSN EN 14141 / API 6D
84	VALVE MATERIAL	ACC. TO ČSN EN 1594/API 6D	93	LEAKAGE TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
85	BALL MATERIAL	C4G-HPPL-ILF-GENER-STR-SPC-824	94	PRESSURE TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
86	PUP PIECES MATERIAL	*	95	TIGHTNESS TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
87	MATERIAL STEM	*	96	FIRE SAFE TEST	ACC. TO API 607 / ISO 10497
88	MATERIAL BOLTS / NUTS	ACC. TO ČSN EN ISO 898	97	ATEX CERTIFICATION	ACC. TO CSN EN 60079-10
89	MATERIAL SEAT / SEAL	A350 LF2 / HNBR (Therban) *	98	SAFETY INTEGRITY LEVEL	N/A
90	ANTI - CORROSION PROTECTION	C4G-HPPL-ILF-GENER-STR-SPC-824	99	FINAL ACCEPTANCE TEST	ČSN EN 10204 / 3.2
91	DOCUMENTATION	C4G-HPPL-ILF-GENER-STR-SPC-824	100	CE-CONFORMITY	ACC. TO PED 2014/68/EU
<b>NOTES</b>					
102	* To be filled/confirmed by Supplier				
103	Note 1: This data sheet shall be read with the Specification C4G-HPPL-ILF-GENER-STR-SPC-824				
104	Note 2: CL - Center Line				
105	Note 3: N/A - Not Applicable				
106					
107					
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**BALL VALVE - DN 500**

GENERAL INFORMATION				
1				
2	LOCATION	LVS MLADOTICE	5	QUANTITY
3	EQUIPMENT	BALL VALVE	6	TECHNICAL SPECIFICATION
4	TAG No.	MOV-7.3, MOV-7.4	7	P&ID-No.
8				
OPERATION AND DESIGN DATA				
9	AMBIENT CONDITIONS	C4G-HPPL-ILF-GENER-GEN-SPC-901	16	MAX. OPERATING PRESSURE
10	MEDIUM	NATURAL GAS	17	OPERATING TEMPERATURE
11	GAS COMPOSITION	C4G-HPPL-ILF-GENER-GEN-DAT-820	18	DESIGN PRESSURE
12	PIPING CLASS	CS100-0	19	DESIGN TEMPERATURE
13	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	20	TEST PRESSURE
14	FLANGE STANDARD / RATING	N/A	21	SAFETY FACTOR (TO YIELD POINT)
15	INSTALLATION	ABOVEGROUND	22	SAFETY FACTOR ON WELD ENDS (TO YIELD POINT)
23				
VALVE DATA				
24	VALVE BODY / BALL DESIGN	FULLY WELDED BODY	36	SUPPORT LEGS
25	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	37	LIFTING LUGS
26	NOMINAL PIPE SIZE / OD / THICKNESS	DN 500 / 508 mm / 12.5 mm	38	FLOW DIRECTION
27	PIPELINE CONNECTION TYPE	WELD / WELD	39	LEAK RATE
28	MAIN SEALS	METAL	40	MAX. VALVE LIFT
29	SECONDARY SEALS	SOFT	41	STEM DIAMETER / TYPE
30	SEATS RINGS	DOUBLE PISTON EFFECT	42	LOCK POSITION
31	CAVITY PRESSURE RELIEF VALVE	N/A	43	ADJUSTABLE LIMIT STOP
32	DOUBLE BLOCK & BLEED	YES	44	ANTI STATIC DESIGN
33	VENT	YES	45	FIRE SAFE DESIGN
34	DRAIN	YES	46	SEALANT LINE INJECTION MEDIA
35	INSULATION	NO	47	
48				
ACTUATOR AND ACCESSORIES				
49	ACTUATOR TYPE	ELECTRO MOTOR (Note 2) (Note 6)	61	STROKING TIME TO OPEN (Min./Max.)
50	MANUFACTURER/ MODEL	AUMATIC SAEx	62	STROKING TIME TO CLOSE (Min./Max.)
51	GEAR BOX WITH HANDWHEEL	N/A	63	LIMIT SWITCH
52	DESIGN TORQUE FOR ACTUATOR	*	64	POSITIONER MANUFACT / MODEL
53	ACTUATOR ATTACHMENT	ACC. TO EN ISO 5211	65	STEM
54	FAIL SAFE POSITION	N/A	66	STEM EXTENSION FOR UNDERGROUND INSTALLATION
55	POWER SUPPLY	400V / 50 Hz / 3 Ph	67	BY-PASS AND AIR-BLEED VALVE
56	IP-CODE	IP 65 (IEC 60529)	68	OIL AND GAS FILTERS
57	INSULATING CLASS	I	69	CONTROL UNIT
58	HAZARDOUS AREA	ZONE 1	70	ACTUATOR LOCKING
59	EXPLOSION PROTECTION	II 2G IIB T3	71	MECHANICAL POSITION INDICATOR
60	MINIMUM SUPPLY PRESSURE	N/A	72	
73				
DIMENSIONS, WEIGHT, MECHANICAL AND ELECTRICAL INTERFACES				
74	FITTING LENGTH	*	78	WEIGHT (VALVE)
75	FITTING HEIGHT	*	79	WEIGHT (VALVE + ACTUATOR)
76	WALL THICKNESS	*	80	CABLE CONNECTION TYPE
77			81	CABLE CONNECTION SIZE
82				
MATERIALS, TESTING AND DOCUMENTATION				
83	MATERIAL OF PIPE END	L360NE	92	STANDARD TEST
84	VALVE MATERIAL	ACC. TO ČSN EN 1594/API 6D	93	LEAKAGE TEST
85	BALL MATERIAL	C4G-HPPL-ILF-GENER-STR-SPC-824	94	PRESSURE TEST
86	PUP PIECES MATERIAL	*	95	TIGHTNESS TEST
87	MATERIAL STEM	*	96	FIRE SAFE TEST
88	MATERIAL BOLTS / NUTS	ACC. TO ČSN EN ISO 898	97	ATEX CERTIFICATION
89	MATERIAL SEAT / SEAL	A350 LF2 / HNBR (Therban) *	98	SAFETY INTEGRITY LEVEL
90	ANTI - CORROSION PROTECTION	C4G-HPPL-ILF-GENER-STR-SPC-824	99	FINAL ACCEPTANCE TEST
91	DOCUMENTATION	C4G-HPPL-ILF-GENER-STR-SPC-824	100	CE-CONFORMITY
101				
NOTES				
102	* To be filled/confirmed by Supplier			
103	Note 1: This data sheet shall be read with the Specification C4G-HPPL-ILF-GENER-STR-SPC-824			
104	Note 2: Motor Operated Valve (MOV) with Local and Remote Control and Monitoring Functionality			
105	Note 3: CL - Center Line			
106	Note 4: N/A - Not Applicable			
107	Note 5: Control and Signaling Voltage 24 VDC			
108	Note 6: The type of wiring diagram shall be "TPCAA121D1H1-E460 TPA00R200-012-000"			
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**BALL VALVE - DN 500**

GENERAL INFORMATION			
1			
2	LOCATION	LVS HUBENOV	5 QUANTITY
3	EQUIPMENT	BALL VALVE	6 TECHNICAL SPECIFICATION
4	TAG No.	MOV-7.3, MOV-7.4	7 P&ID-No.
8			2 C4G-HPPL-ILF-GENER-STR-SPC-824
9			7 C4G-HPPL-ILF-TU41S-STR-DIA-110
OPERATION AND DESIGN DATA			
9	AMBIENT CONDITIONS	C4G-HPPL-ILF-GENER-GEN-SPC-901	16 MAX. OPERATING PRESSURE
10	MEDIUM	NATURAL GAS	17 OPERATING TEMPERATURE
11	GAS COMPOSITION	C4G-HPPL-ILF-GENER-GEN-DAT-820	18 DESIGN PRESSURE
12	PIPING CLASS	CS100-0	19 DESIGN TEMPERATURE
13	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	20 TEST PRESSURE
14	FLANGE STANDARD / RATING	N/A	21 SAFETY FACTOR (TO YIELD POINT)
15	INSTALLATION	ABOVEGROUND	22 SAFETY FACTOR ON WELD ENDS (TO YIELD POINT)
16			85 barg
17			+5 to +25 °C
18			100 barg
19			-20 to +50 °C
20			150 barg
21			2.15
22			1.68
VALVE DATA			
24	VALVE BODY / BALL DESIGN	FULLY WELDED BODY	36 SUPPORT LEGS
25	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	37 LIFTING LUGS
26	NOMINAL PIPE SIZE / OD / THICKNESS	DN 500 / 508 mm / 12.5 mm	38 FLOW DIRECTION
27	PIPELINE CONNECTION TYPE	WELD / WELD	39 LEAK RATE
28	MAIN SEALS	METAL	40 MAX. VALVE LIFT
29	SECONDARY SEALS	SOFT	41 STEM DIAMETER / TYPE
30	SEATS RINGS	DOUBLE PISTON EFFECT	42 LOCK POSITION
31	CAVITY PRESSURE RELIEF VALVE	N/A	43 ADJUSTABLE LIMIT STOP
32	DOUBLE BLOCK & BLEED	YES	44 ANTI STATIC DESIGN
33	VENT	YES	45 FIRE SAFE DESIGN
34	DRAIN	YES	46 SEALANT LINE INJECTION MEDIA
35	INSULATION	NO	47
36			YES
37			YES
38			BIDIRECTIONAL
39			ACC. TO EN 12266-1, -2; RATE A
40			*
41			* / ANTI-BLOW-OUT
42			YES
43			*
44			YES
45			YES
46			4 INDPEDENT GREASE FITTINGS
47			
ACTUATOR AND ACCESSORIES			
49	ACTUATOR TYPE	ELECTRO MOTOR (Note 2) (Note 6)	61 STROKING TIME TO OPEN (Min./Max.)
50	MANUFACTURER/ MODEL	AUMATIC SAEx	62 STROKING TIME TO CLOSE (Min./Max.)
51	GEAR BOX WITH HANDWHEEL	N/A	63 LIMIT SWITCH
52	DESIGN TORQUE FOR ACTUATOR	*	64 POSITIONER MANUFACT / MODEL
53	ACTUATOR ATTACHMENT	ACC. TO EN ISO 5211	65 STEM
54	FAIL SAFE POSITION	N/A	66 STEM EXTENSION FOR UNDERGROUND INSTALLATION
55	POWER SUPPLY	400V / 50 Hz / 3 Ph	67
56	IP-CODE	IP 65 (IEC 60529)	68 BY-PASS AND AIR-BLEED VALVE
57	INSULATING CLASS	I	69 OIL AND GAS FILTERS
58	HAZARDOUS AREA	ZONE 1	70 CONTROL UNIT
59	EXPLOSION PROTECTION	II 2G IIB T3	71 ACTUATOR LOCKING
60	MINIMUM SUPPLY PRESSURE	N/A	72 MECANICAL POSITION INDICATOR
61			40 s/180 s
62			60 s /180 s
63			YES
64			*
65			*
66			VALVE CL TO ACTUATOR FLANGE
67			VALVE CL TO GROUND LEVEL
68			N/A
69			N/A
70			N/A
71			C4G-HPPL-ILF-GENER-STR-SPC-824
72			SELF LOCKING
			YES - OPEN/CLOSE
DIMENSIONS, WEIGHT, MECHANICAL AND ELECTRICAL INTERFACES			
74	FITTING LENGTH	*	78 WEIGHT (VALVE)
75	FITTING HEIGHT	*	79 WEIGHT (VALVE + ACTUATOR)
76	WALL THICKNESS	*	80 CABLE CONNECTION TYPE
77			81 CABLE CONNECTION SIZE
78			*
79			*
80			Exd Cable Gland
81			*
MATERIALS, TESTING AND DOCUMENTATION			
83	MATERIAL OF PIPE END	L360NE	92 STANDARD TEST
84	VALVE MATERIAL	ACC. TO ČSN EN 1594/API 6D	93 LEAKAGE TEST
85	BALL MATERIAL	C4G-HPPL-ILF-GENER-STR-SPC-824	94 PRESSURE TEST
86	PUP PIECES MATERIAL	*	95 TIGHTNESS TEST
87	MATERIAL STEM	*	96 FIRE SAFE TEST
88	MATERIAL BOLTS / NUTS	ACC. TO ČSN EN ISO 898	97 ATEX CERTIFICATION
89	MATERIAL SEAT / SEAL	A350 LF2 / HNBR (Therban) *	98 SAFETY INTEGRITY LEVEL
90	ANTI - CORROSION PROTECTION	C4G-HPPL-ILF-GENER-STR-SPC-824	99 FINAL ACCEPTANCE TEST
91	DOCUMENTATION	C4G-HPPL-ILF-GENER-STR-SPC-824	100 CE-CONFORMITY
92			ACC TO CSN EN 14141 / API 6D
93			C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
94			C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
95			C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
96			ACC. TO API 607 / ISO 10497
97			ACC. TO CSN EN 60079-10
98			N/A
99			ČSN EN 10204 / 3.2
100			ACC. TO PED 2014/68/EU
NOTES			
102	* To be filled/confirmed by Supplier		
103	Note 1: This data sheet shall be read with the Specification C4G-HPPL-ILF-GENER-STR-SPC-824		
104	Note 2: Motor Operated Valve (MOV) with Local and Remote Control and Monitoring Functionality		
105	Note 3: CL - Center Line		
106	Note 4: N/A - Not Applicable		
107	Note 5: Control and Signaling Voltage 24 VDC		
108	Note 6: The type of wiring diagram shall be "TPCAA121D1H1-E460 TPA00R200-012-000"		
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**BALL VALVE - DN 500**

GENERAL INFORMATION				
1				
2	LOCATION	LVS SVINOMAZY	5	QUANTITY
3	EQUIPMENT	BALL VALVE	6	TECHNICAL SPECIFICATION
4	TAG No.	MOV-7.25, MOV-7.26	7	P&ID-No.
8				
OPERATION AND DESIGN DATA				
9	AMBIENT CONDITIONS	C4G-HPPL-ILF-GENER-GEN-SPC-901	16	MAX. OPERATING PRESSURE
10	MEDIUM	NATURAL GAS	17	OPERATING TEMPERATURE
11	GAS COMPOSITION	C4G-HPPL-ILF-GENER-GEN-DAT-820	18	DESIGN PRESSURE
12	PIPING CLASS	CS100-0	19	DESIGN TEMPERATURE
13	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	20	TEST PRESSURE
14	FLANGE STANDARD / RATING	N/A	21	SAFETY FACTOR (TO YIELD POINT)
15	INSTALLATION	ABOVEGROUND	22	SAFETY FACTOR ON WELD ENDS (TO YIELD POINT)
23				
VALVE DATA				
24	VALVE BODY / BALL DESIGN	FULLY WELDED BODY	36	SUPPORT LEGS
25	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	37	LIFTING LUGS
26	NOMINAL PIPE SIZE / OD / THICKNESS	DN 500 / 508 mm / 12.5 mm	38	FLOW DIRECTION
27	PIPELINE CONNECTION TYPE	WELD / WELD	39	LEAK RATE
28	MAIN SEALS	METAL	40	MAX. VALVE LIFT
29	SECONDARY SEALS	SOFT	41	STEM DIAMETER / TYPE
30	SEATS RINGS	DOUBLE PISTON EFFECT	42	LOCK POSITION
31	CAVITY PRESSURE RELIEF VALVE	N/A	43	ADJUSTABLE LIMIT STOP
32	DOUBLE BLOCK & BLEED	YES	44	ANTI STATIC DESIGN
33	VENT	YES	45	FIRE SAFE DESIGN
34	DRAIN	YES	46	SEALANT LINE INJECTION MEDIA
35	INSULATION	NO	47	
48				
ACTUATOR AND ACCESSORIES				
49	ACTUATOR TYPE	ELECTRO MOTOR (Note 2) (Note 6)	61	STROKING TIME TO OPEN (Min./Max.)
50	MANUFACTURER/ MODEL	AUMATIC SAEx	62	STROKING TIME TO CLOSE (Min./Max.)
51	GEAR BOX WITH HANDWHEEL	N/A	63	LIMIT SWITCH
52	DESIGN TORQUE FOR ACTUATOR	*	64	POSITIONER MANUFACT / MODEL
53	ACTUATOR ATTACHMENT	ACC. TO EN ISO 5211	65	STEM
54	FAIL SAFE POSITION	N/A	66	STEM EXTENSION FOR UNDERGROUND INSTALLATION
55	POWER SUPPLY	400V / 50 Hz / 3 Ph	67	BY-PASS AND AIR-BLEED VALVE
56	IP-CODE	IP 65 (IEC 60529)	68	OIL AND GAS FILTERS
57	INSULATING CLASS	I	69	CONTROL UNIT
58	HAZARDOUS AREA	ZONE 1	70	ACTUATOR LOCKING
59	EXPLOSION PROTECTION	II 2G IIB T3	71	MECHANICAL POSITION INDICATOR
60	MINIMUM SUPPLY PRESSURE	N/A	72	
73				
DIMENSIONS, WEIGHT, MECHANICAL AND ELECTRICAL INTERFACES				
74	FITTING LENGTH	*	78	WEIGHT (VALVE)
75	FITTING HEIGHT	*	79	WEIGHT (VALVE + ACTUATOR)
76	WALL THICKNESS	*	80	CABLE CONNECTION TYPE
77			81	CABLE CONNECTION SIZE
82				
MATERIALS, TESTING AND DOCUMENTATION				
83	MATERIAL OF PIPE END	L360NE	92	STANDARD TEST
84	VALVE MATERIAL	ACC. TO ČSN EN 1594/API 6D	93	LEAKAGE TEST
85	BALL MATERIAL	C4G-HPPL-ILF-GENER-STR-SPC-824	94	PRESSURE TEST
86	PUP PIECES MATERIAL	*	95	TIGHTNESS TEST
87	MATERIAL STEM	*	96	FIRE SAFE TEST
88	MATERIAL BOLTS / NUTS	ACC. TO ČSN EN ISO 898	97	ATEX CERTIFICATION
89	MATERIAL SEAT / SEAL	A350 LF2 / HNBR (Therban) *	98	SAFETY INTEGRITY LEVEL
90	ANTI - CORROSION PROTECTION	C4G-HPPL-ILF-GENER-STR-SPC-824	99	FINAL ACCEPTANCE TEST
91	DOCUMENTATION	C4G-HPPL-ILF-GENER-STR-SPC-824	100	CE-CONFORMITY
101				
NOTES				
102	* To be filled/confirmed by Supplier			
103	Note 1: This data sheet shall be read with the Specification C4G-HPPL-ILF-GENER-STR-SPC-824			
104	Note 2: Motor Operated Valve (MOV) with Local and Remote Control and Monitoring Functionality			
105	Note 3: CL - Center Line			
106	Note 4: N/A - Not Applicable			
107	Note 5: Control and Signaling Voltage 24 VDC			
108	Note 6: The type of wiring diagram shall be "TPCAA121D1H1-E460 TPA00R200-012-000"			
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BALL VALVE - DN 500				
<b>GENERAL INFORMATION</b>				
1				2
2	LOCATION	LVS BOR	5	QUANTITY
3	EQUIPMENT	BALL VALVE	6	TECHNICAL SPECIFICATION
4	TAG No.	MOV-7.3, MOV-7.4	7	P&ID-No.
4				C4G-HPPL-ILF-TU48S-STR-DIA-110
<b>OPERATION AND DESIGN DATA</b>				
9	AMBIENT CONDITIONS	C4G-HPPL-ILF-GENER-GEN-SPC-901	16	MAX. OPERATING PRESSURE
10	MEDIUM	NATURAL GAS	17	OPERATING TEMPERATURE
11	GAS COMPOSITION	C4G-HPPL-ILF-GENER-GEN-DAT-820	18	DESIGN PRESSURE
12	PIPING CLASS	CS100-0	19	DESIGN TEMPERATURE
13	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	20	TEST PRESSURE
14	FLANGE STANDARD / RATING	N/A	21	SAFETY FACTOR (TO YIELD POINT)
15	INSTALLATION	ABOVEGROUND	22	SAFETY FACTOR ON WELD ENDS (TO YIELD POINT)
15				1.68
<b>VALVE DATA</b>				
24	VALVE BODY / BALL DESIGN	FULLY WELDED BODY	36	SUPPORT LEGS
25	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	37	LIFTING LUGS
26	NOMINAL PIPE SIZE / OD / THICKNESS	DN 500 / 508 mm / 12.5 mm	38	FLOW DIRECTION
27	PIPELINE CONNECTION TYPE	WELD / WELD	39	LEAK RATE
28	MAIN SEALS	METAL	40	MAX. VALVE LIFT
29	SECONDARY SEALS	SOFT	41	STEM DIAMETER / TYPE
30	SEATS RINGS	DOUBLE PISTON EFFECT	42	LOCK POSITION
31	CAVITY PRESSURE RELIEF VALVE	N/A	43	ADJUSTABLE LIMIT STOP
32	DOUBLE BLOCK & BLEED	YES	44	ANTI STATIC DESIGN
33	VENT	YES	45	FIRE SAFE DESIGN
34	DRAIN	YES	46	SEALANT LINE INJECTION MEDIA
35	INSULATION	NO	47	
35				4 INDPEDENT GREASE FITTINGS
<b>ACTUATOR AND ACCESSORIES</b>				
49	ACTUATOR TYPE	ELECTRO MOTOR (Note 2) (Note 6)	61	STROKING TIME TO OPEN (Min./Max.)
50	MANUFACTURER/ MODEL	AUMATIC SAEx	62	STROKING TIME TO CLOSE (Min./Max.)
51	GEAR BOX WITH HANDWHEEL	N/A	63	LIMIT SWITCH
52	DESIGN TORQUE FOR ACTUATOR	*	64	POSITIONER MANUFACT / MODEL
53	ACTUATOR ATTACHMENT	ACC. TO EN ISO 5211	65	STEM
54	FAIL SAFE POSITION	N/A	66	STEM EXTENSION FOR UNDERGROUND INSTALLATION
55	POWER SUPPLY	400V / 50 Hz / 3 Ph	67	BY-PASS AND AIR-BLEED VALVE
56	IP-CODE	IP 65 (IEC 60529)	68	OIL AND GAS FILTERS
57	INSULATING CLASS	I	69	CONTROL UNIT
58	HAZARDOUS AREA	ZONE 1	70	ACTUATOR LOCKING
59	EXPLOSION PROTECTION	II 2G IIB T3	71	MECHANICAL POSITION INDICATOR
60	MINIMUM SUPPLY PRESSURE	N/A	72	
60				YES - OPEN/CLOSE
<b>DIMENSIONS, WEIGHT, MECHANICAL AND ELECTRICAL INTERFACES</b>				
74	FITTING LENGTH	*	78	WEIGHT (VALVE)
75	FITTING HEIGHT	*	79	WEIGHT (VALVE + ACTUATOR)
76	WALL THICKNESS	*	80	CABLE CONNECTION TYPE
77			81	CABLE CONNECTION SIZE
77				Exd Cable Gland
77				*
<b>MATERIALS, TESTING AND DOCUMENTATION</b>				
83	MATERIAL OF PIPE END	L360NE	92	STANDARD TEST
84	VALVE MATERIAL	ACC. TO ČSN EN 1594/API 6D	93	LEAKAGE TEST
85	BALL MATERIAL	C4G-HPPL-ILF-GENER-STR-SPC-824	94	PRESSURE TEST
86	PUP PIECES MATERIAL	*	95	TIGHTNESS TEST
87	MATERIAL STEM	*	96	FIRE SAFE TEST
88	MATERIAL BOLTS / NUTS	ACC. TO ČSN EN ISO 898	97	ATEX CERTIFICATION
89	MATERIAL SEAT / SEAL	A350 LF2 / HNBR (Therban) *	98	SAFETY INTEGRITY LEVEL
90	ANTI - CORROSION PROTECTION	C4G-HPPL-ILF-GENER-STR-SPC-824	99	FINAL ACCEPTANCE TEST
91	DOCUMENTATION	C4G-HPPL-ILF-GENER-STR-SPC-824	100	CE-CONFORMITY
91				ACC. TO PED 2014/68/EU
<b>NOTES</b>				
102	* To be filled/confirmed by Supplier			
103	Note 1: This data sheet shall be read with the Specification C4G-HPPL-ILF-GENER-STR-SPC-824			
104	Note 2: Motor Operated Valve (MOV) with Local and Remote Control and Monitoring Functionality			
105	Note 3: CL - Center Line			
106	Note 4: N/A - Not Applicable			
107	Note 5: Control and Signaling Voltage 24 VDC			
108	Note 6: The type of wiring diagram shall be "TPCAA121D1H1-E460 TPA00R200-012-000"			
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**BALL VALVE - DN 300**

GENERAL INFORMATION					
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2	LOCATION	RU PRIMDA	5	QUANTITY	1
3	EQUIPMENT	BALL VALVE	6	TECHNICAL SPECIFICATION	C4G-HPPL-ILF-GENER-STR-SPC-824
4	TAG No.	MOV-8.33	7	P&ID-No.	C4G-HPPL-ILF-RU005-STR-DIA-110
OPERATION AND DESIGN DATA					
9	AMBIENT CONDITIONS	C4G-HPPL-ILF-GENER-GEN-SPC-901	16	MAX. OPERATING PRESSURE	85 barg
10	MEDIUM	NATURAL GAS	17	OPERATING TEMPERATURE	+5 to +25 °C
11	GAS COMPOSITION	C4G-HPPL-ILF-GENER-GEN-DAT-820	18	DESIGN PRESSURE	100 barg
12	PIPING CLASS	CS100-0	19	DESIGN TEMPERATURE	-20 to +50 °C
13	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	20	TEST PRESSURE	150 barg
14	FLANGE STANDARD / RATING	N/A	21	SAFETY FACTOR (TO YIELD POINT)	2.15
15	INSTALLATION	ABOVEGROUND	22	SAFETY FACTOR ON WELD ENDS (TO YIELD POINT)	1.68
VALVE DATA					
24	VALVE BODY / BALL DESIGN	FULLY WELDED BODY	36	SUPPORT LEGS	YES
25	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313	37	LIFTING LUGS	YES
26	NOMINAL PIPE SIZE / OD / THICKNESS	DN 300 / 323.9 mm / 8.8 mm	38	FLOW DIRECTION	BIDIRECTIONAL
27	PIPELINE CONNECTION TYPE	WELD / WELD	39	LEAK RATE	ACC. TO EN 12266-1, -2; RATE A
28	MAIN SEALS	METAL	40	MAX. VALVE LIFT	*
29	SECONDARY SEALS	SOFT	41	STEM DIAMETER / TYPE	* / ANTI-BLOW-OUT
30	SEATS RINGS	DOUBLE PISTON EFFECT	42	LOCK POSITION	YES
31	CAVITY PRESSURE RELIEF VALVE	N/A	43	ADJUSTABLE LIMIT STOP	*
32	DOUBLE BLOCK & BLEED	YES	44	ANTI STATIC DESIGN	YES
33	VENT	YES	45	FIRE SAFE DESIGN	YES
34	DRAIN	YES	46	SEALANT LINE INJECTION MEDIA	4 INDPEDENT GREASE FITTINGS
35	INSULATION	NO	47		
ACTUATOR AND ACCESSORIES					
49	ACTUATOR TYPE	ELECTRO MOTOR (Note 2) (Note 6)	61	STROKING TIME TO OPEN (Min./Max.)	40 s/180 s
50	MANUFACTURER/ MODEL	AUMATIC SAEx	62	STROKING TIME TO CLOSE (Min./Max.)	60 s /180 s
51	GEAR BOX WITH HANDWHEEL	N/A	63	LIMIT SWITCH	YES
52	DESIGN TORQUE FOR ACTUATOR	*	64	POSITIONER MANUFACT / MODEL	*
53	ACTUATOR ATTACHMENT	ACC. TO EN ISO 5211	65	STEM	*
54	FAIL SAFE POSITION	N/A	66	STEM EXTENSION FOR UNDERGROUND INSTALLATION	VALVE CL TO ACTUATOR FLANGE N/A VALVE CL TO GROUND LEVEL N/A
55	POWER SUPPLY	400V / 50 Hz / 3 Ph	67		
56	IP-CODE	IP 65 (IEC 60529)	68	BY-PASS AND AIR-BLEED VALVE	N/A
57	INSULATING CLASS	I	69	OIL AND GAS FILTERS	N/A
58	HAZARDOUS AREA	ZONE 1	70	CONTROL UNIT	C4G-HPPL-ILF-GENER-STR-SPC-824
59	EXPLOSION PROTECTION	II 2G IIB T3	71	ACTUATOR LOCKING	SELF LOCKING
60	MINIMUM SUPPLY PRESSURE	N/A	72	MECANICAL POSITION INDICATOR	YES - OPEN/CLOSE
DIMENSIONS, WEIGHT, MECHANICAL AND ELECTRICAL INTERFACES					
74	FITTING LENGTH	*	78	WEIGHT (VALVE)	*
75	FITTING HEIGHT	*	79	WEIGHT (VALVE + ACTUATOR)	*
76	WALL THICKNESS	*	80	CABLE CONNECTION TYPE	Exd Cable Gland
77			81	CABLE CONNECTION SIZE	*
MATERIALS, TESTING AND DOCUMENTATION					
83	MATERIAL OF PIPE END	L360NE	92	STANDARD TEST	ACC TO CSN EN 14141 / API 6D
84	VALVE MATERIAL	ACC. TO ČSN EN 1594/API 6D	93	LEAKAGE TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
85	BALL MATERIAL	C4G-HPPL-ILF-GENER-STR-SPC-824	94	PRESSURE TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
86	PUP PIECES MATERIAL	*	95	TIGHTNESS TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
87	MATERIAL STEM	*	96	FIRE SAFE TEST	ACC. TO API 607 / ISO 10497
88	MATERIAL BOLTS / NUTS	ACC. TO ČSN EN ISO 898	97	ATEX CERTIFICATION	ACC. TO CSN EN 60079-10
89	MATERIAL SEAT / SEAL	A350 LF2 / HNBR (Therban) *	98	SAFETY INTEGRITY LEVEL	N/A
90	ANTI - CORROSION PROTECTION	C4G-HPPL-ILF-GENER-STR-SPC-824	99	FINAL ACCEPTANCE TEST	ČSN EN 10204 / 3.2
91	DOCUMENTATION	C4G-HPPL-ILF-GENER-STR-SPC-824	100	CE-CONFORMITY	ACC. TO PED 2014/68/EU
NOTES					
102	* To be filled/confirmed by Supplier				
103	Note 1: This data sheet shall be read with the Specification C4G-HPPL-ILF-GENER-STR-SPC-824				
104	Note 2: Motor Operated Valve (MOV) with Local Control and Monitoring				
105	Note 3: CL - Center Line				
106	Note 4: N/A - Not Applicable				
107	Note 5: Control and Signaling Voltage 24 VDC				
108	Note 6: The type of wiring diagram shall be "TPCAA121D1H1-E460 TPA00R200-012-000"				
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BALL VALVE - DN 300						
<b>GENERAL INFORMATION</b>						
1				5	QUANTITY	1
2	LOCATION	RU PRIMDA		6	TECHNICAL SPECIFICATION	C4G-HPPL-ILF-GENER-STR-SPC-824
3	EQUIPMENT	BALL VALVE		7	P&ID-No.	C4G-HPPL-ILF-RU005-STR-DIA-110
4	TAG No.	8.34				
<b>OPERATION AND DESIGN DATA</b>						
9	AMBIENT CONDITIONS	C4G-HPPL-ILF-GENER-GEN-SPC-901		16	MAX. OPERATING PRESSURE	85 barg
10	MEDIUM	NATURAL GAS		17	OPERATING TEMPERATURE	+5 to +25 °C
11	GAS COMPOSITION	C4G-HPPL-ILF-GENER-GEN-DAT-820		18	DESIGN PRESSURE	100 barg
12	PIPING CLASS	CS100-0		19	DESIGN TEMPERATURE	-20 to +50 °C
13	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313		20	TEST PRESSURE	150 barg
14	FLANGE STANDARD / RATING	ASME B16.5 / #600 - RF		21	SAFETY FACTOR (TO YIELD POINT)	2.15
15	INSTALLATION	ABOVEGROUND		22	SAFETY FACTOR ON WELD ENDS (TO YIELD POINT)	N/A
<b>VALVE DATA</b>						
24	VALVE BODY / BALL DESIGN	FULLY WELDED BODY		36	SUPPORT LEGS	YES
25	DESIGN STANDARD	CSN EN 13942 / API 6D / ISO 14313		37	LIFTING LUGS	YES
26	NOMINAL PIPE SIZE / OD / THICKNESS	DN 300 / 323.9 mm / 8.8 mm		38	FLOW DIRECTION	BIDIRECTIONAL
27	PIPELINE CONNECTION TYPE	FLANGE / FLANGE		39	LEAK RATE	ACC. TO EN 12266-1, -2; RATE A
28	MAIN SEALS	METAL		40	MAX. VALVE LIFT	*
29	SECONDARY SEALS	SOFT		41	STEM DIAMETER / TYPE	* / ANTI-BLOW-OUT
30	SEATS RINGS	DOUBLE PISTON EFFECT		42	LOCK POSITION	YES
31	CAVITY PRESSURE RELIEF VALVE	N/A		43	ADJUSTABLE LIMIT STOP	*
32	DOUBLE BLOCK & BLEED	YES		44	ANTI STATIC DESIGN	YES
33	VENT	YES		45	FIRE SAFE DESIGN	YES
34	DRAIN	YES		46	SEALANT LINE INJECTION MEDIA	4 INDPEDENT GREASE FITTINGS
35	INSULATION	NO		47		
<b>ACTUATOR AND ACCESSORIES</b>						
49	ACTUATOR TYPE	MANUAL		61	STROKING TIME TO OPEN (Min./Max.)	N/A
50	MANUFACTURER/ MODEL	*		62	STROKING TIME TO CLOSE (Min./Max.)	N/A
51	GEAR BOX WITH HANDWHEEL	YES		63	LIMIT SWITCH	N/A
52	DESIGN TORQUE FOR ACTUATOR	*		64	POSITIONER MANUFACT / MODEL	*
53	ACTUATOR ATTACHMENT	N/A		65	STEM	*
54	FAIL SAFE POSITION	N/A		66	STEM EXTENSION FOR UNDERGROUND INSTALLATION	VALVE CL TO ACTUATOR FLANGE N/A
55	POWER SUPPLY	N/A		67		VALVE CL TO GROUND LEVEL N/A
56	IP-CODE	N/A		68	BY-PASS AND AIR-BLEED VALVE	N/A
57	INSULATING CLASS	N/A		69	OIL AND GAS FILTERS	N/A
58	HAZARDOUS AREA	ZONE 1		70	CONTROL UNIT	N/A
59	EXPLOSION PROTECTION	II 2G IIB T3		71	ACTUATOR LOCKING	N/A
60	MINIMUM SUPPLY PRESSURE	N/A		72	MECANICAL POSITION INDICATOR	YES - OPEN/CLOSE
<b>DIMENSIONS, WEIGHT, MECHANICAL AND ELECTRICAL INTERFACES</b>						
74	FITTING LENGTH	*		78	WEIGHT (VALVE)	*
75	FITTING HEIGHT	*		79	WEIGHT (VALVE + ACTUATOR)	*
76	WALL THICKNESS	*		80	CABLE CONNECTION TYPE	N/A
77				81	CABLE CONNECTION SIZE	*
<b>MATERIALS, TESTING AND DOCUMENTATION</b>						
83	MATERIAL OF PIPE END	L360NE		92	STANDARD TEST	ACC TO CSN EN 14141 / API 6D
84	VALVE MATERIAL	ACC. TO ČSN EN 1594/API 6D		93	LEAKAGE TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
85	BALL MATERIAL	C4G-HPPL-ILF-GENER-STR-SPC-824		94	PRESSURE TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
86	PUP PIECES MATERIAL	*		95	TIGHTNESS TEST	C4G-HPPL-ILF-GENER-STR-SPC-824 (TABLE III)
87	MATERIAL STEM	*		96	FIRE SAFE TEST	ACC. TO API 607 / ISO 10497
88	MATERIAL BOLTS / NUTS	ACC. TO ČSN EN ISO 898		97	ATEX CERTIFICATION	ACC. TO CSN EN 60079-10
89	MATERIAL SEAT / SEAL	A350 LF2 / HNBR (Therban) *		98	SAFETY INTEGRITY LEVEL	N/A
90	ANTI - CORROSION PROTECTION	C4G-HPPL-ILF-GENER-STR-SPC-824		99	FINAL ACCEPTANCE TEST	ČSN EN 10204 / 3.2
91	DOCUMENTATION	C4G-HPPL-ILF-GENER-STR-SPC-824		100	CE-CONFORMITY	ACC. TO PED 2014/68/EU
<b>NOTES</b>						
102	* To be filled/confirmed by Supplier					
103	Note 1: This data sheet shall be read with the Specification C4G-HPPL-ILF-GENER-STR-SPC-824					
104	Note 2: CL - Center Line					
105	Note 3: N/A - Not Applicable					
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