Base Load Power Hub (BLPH)

SDV/BDV AND TIGHT SHUT-OFF XV VALVES

INSTRUMENT AND VALVE DATA SHEETS

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Fluitek Valves

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GENERAL	1	Tag Number	Location				25-BDV-005		25
	2	Service					HYDROGEN STORAGE TANK V-25001A DEPRESS.		
	3	P&ID Number	Area Classification				123A90-DDL-PR-PID-80015		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number					4"-HY-142-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet			4" / 3,05 mm		4" / 3,05 mm
	6	Line Material	Line Insulation				ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid					HYDROGEN		
	8	Fluid State	Phase				GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]		-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]		40		
	11	Operating Temperature Norm/Min/Max			[°C]		AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]		80		
	13	Max. Diff. Pressure for Actuator Size			[bar]		40		
	14								
	15								
	16	Speed of	Design				Close : (12)		Open : (12)
	17	Operation (seconds)	Actual				Close : (*)		Open : (*)
	18								
	19								
VALVE BODY (34)	20	Body Type					BALL VALVE (FLOATING BALL) - SPLIT BODY (BA03C01RFH)		
	21	Body Size	Body Form				4"		FULL BORE
	22	Body Material	Bonnet Type				ASTM A351 CF8M		NA
	23	Connections	Rating				FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material				RF		VITON GLT/AED+GRAPH.(38)
	25	Packing	Lubrication & Isolation				Graphite (33)		NA (*)
	26	Bolting					A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat		A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class					(1)		
	29	Fire Safe					(2)		
ACTUATOR	30	Manufacturer	Type				Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size				CP/S-055-200A/BA		055
	32	Actuator Orientation	Actuator Form				(30)		(*)
	33	Ingress Protection	Certification				IP-66		(9)
	34	Air Supply	Min	Max	Design		4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure				OPEN		OPEN
	36	Fireproofing					NOT APPLICABLE		
	37	Solenoid Valve					**25-BDY-005 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open				**25-ZSL-005 (9, 17)**		**25-ZSH-005 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)					NOT REQUIRED		
	40	Air Set	Handwheel				4 barg		NOT REQUIRED
	41	Mounting Position					~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility					NOT REQUIRED		
	43	Control Type					-		
	44	Electrical Connection	Electrical Class				No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code				-		-
	46	No of Strokes Per Capacity					-		
	47	Safety Valve	Model				-		-
	48	Check Valve	Mounting				-		-
PURCHASE	49	Manufacturer					FLUITEK VALVES S.r.l.		
	50	Model					FLOATING B.V. FB2		
	51	Purchase Order Number					1724000204		

GENERAL	1	Tag Number	Location			25-BDV-022		25
	2	Service				HYDROGEN TO FUEL CELL PACKAGE DEPRESS.		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80014		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-144-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3,38 mm		1" / 3,38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			Graphite (33)		NA (*)
	26	Bolting				A193 B8M/A194 G8M		
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1)		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-035-080A/AA		035
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			OPEN		OPEN
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**25-BDY-022 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-022 (9, 17)**		**25-ZSH-022 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				NOT REQUIRED		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-	-	-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number		Location			25-BDV-007		25
	2	Service					HYDROGEN STORAGE TANK V-25001B DEPRESS.		
	3	P&ID Number		Area Classification			123A90-DDL-PR-PID-80016		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number					4"-HY-167-03HSS-N		
	5	Line Size and Schedule		Inlet		Outlet	4" / 3,05 mm		4" / 3,05 mm
	6	Line Material		Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid					HYDROGEN		
	8	Fluid State		Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max				[barg]	-	7,5	30
	10	Design Pressure		Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max				[°C]	AMB	-	-
	12	Design Temperature		Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size				[bar]	40		
	14								
	15								
	16	Speed of		Design			Close : (12)		Open : (12)
	17	Operation (seconds)		Actual			Close : (*)		Open : (*)
	18								
	19								
VALVE BODY (34)	20	Body Type					BALL VALVE (FLOATING BALL) - SPLIT BODY (BA03C01RFH)		
	21	Body Size		Body Form			4"		FULL BORE
	22	Body Material		Bonnet Type			ASTM A351 CF8M		NA
	23	Connections		Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish		Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing		Lubrication & Isolation			Graphite (33)		NA (*)
	26	Bolting					A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat		A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class					(1)		
	29	Fire Safe					(2)		
ACTUATOR	30	Manufacturer		Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.		Size			CP/S-055-200A/BA		055
	32	Actuator Orientation		Actuator Form			(30)		(*)
	33	Ingress Protection		Certification			IP-66		(9)
	34	Air Supply		Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure		Action on Power Failure			OPEN		OPEN
	36	Fireproofing					NOT APPLICABLE		
	37	Solenoid Valve					**25-BDY-007 (9, 14, 15, 16)**		
	38	Limit Switch Closed		Limit Switch Open			**25-ZSL-007 (9, 17)**		**25-ZSH-007 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)					NOT REQUIRED		
	40	Air Set		Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position					~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility					NOT REQUIRED		
	43	Control Type					-		
	44	Electrical Connection		Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity		Fabrication Code			-		-
	46	No of Strokes Per Capacity					-		
	47	Safety Valve		Model			-		-
	48	Check Valve		Mounting			-		-
PURCHASE	49	Manufacturer					FLUITEK VALVES S.r.l.		
	50	Model					FLOATING B.V. FB2		
	51	Purchase Order Number					1724000204		

GENERAL	1	Tag Number		Location			25-BDV-010		25
	2	Service					HYDROGEN STORAGE TANK V-25001C DEPRESS.		
	3	P&ID Number		Area Classification			123A90-DDL-PR-PID-80017		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number					4"-HY-171-03HSS-N		
	5	Line Size and Schedule		Inlet		Outlet	4" / 3,05 mm		4" / 3,05 mm
	6	Line Material		Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid					HYDROGEN		
	8	Fluid State		Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max				[barg]	-	7,5	30
	10	Design Pressure		Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max				[°C]	AMB	-	-
	12	Design Temperature		Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size				[bar]	40		
	14								
	15								
	16	Speed of		Design			Close : (12)		Open : (12)
	17	Operation (seconds)		Actual			Close : (*)		Open : (*)
	18								
	19								
VALVE BODY (34)	20	Body Type					BALL VALVE (FLOATING BALL) - SPLIT BODY (BA03C01RFH)		
	21	Body Size		Body Form			4"		FULL BORE
	22	Body Material		Bonnet Type			ASTM A351 CF8M		NA
	23	Connections		Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish		Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing		Lubrication & Isolation			Graphite (33)		NA (*)
	26	Bolting					A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat		A182 F316/316L	API A6 CRA UNS N07718	RPTFE
	28	Leakage Class					(1)		
	29	Fire Safe					(2)		
ACTUATOR	30	Manufacturer		Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.		Size			CP/S-055-200A/BA		055
	32	Actuator Orientation		Actuator Form			(30)		(*)
	33	Ingress Protection		Certification			IP-66		(9)
	34	Air Supply		Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure		Action on Power Failure			OPEN		OPEN
	36	Fireproofing					NOT APPLICABLE		
	37	Solenoid Valve					**25-BDY-010 (9, 14, 15, 16)**		
	38	Limit Switch Closed		Limit Switch Open			**25-ZSL-010 (9, 17)**		**25-ZSH-010 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)					NOT REQUIRED		
	40	Air Set		Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position					~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility					NOT REQUIRED		
	43	Control Type					-		
	44	Electrical Connection		Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity		Fabrication Code			-	-	-
	46	No of Strokes Per Capacity					-		
	47	Safety Valve		Model			-		-
	48	Check Valve		Mounting			-		-
PURCHASE	49	Manufacturer					FLUITEK VALVES S.r.l.		
	50	Model					FLOATING B.V. FB2		
	51	Purchase Order Number					1724000204		

GENERAL	1	Tag Number	Location			25-BDV-013		25
	2	Service				HYDROGEN STORAGE TANK V-25001D DEPRESS.		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80018		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				4"-HY-175-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		4" / 3,05 mm		4" / 3,05 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BA03C01RFH)		
	21	Body Size	Body Form			4"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A351 CF8M		NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			Graphite (33)		NA (*)
	26	Bolting				A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1)		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-055-200A/BA		055
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			OPEN		OPEN
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**25-BDY-013 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-013 (9, 17)**		**25-ZSH-013 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				NOT REQUIRED		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number	Location			25-BDV-016		25
	2	Service				HYDROGEN STORAGE TANK V-25001E DEPRESS.		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80019		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				4"-HY-180-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		4" / 3,05 mm		4" / 3,05 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BA03C01RFH)		
	21	Body Size	Body Form			4"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A351 CF8M		NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			Graphite(33)		NA (*)
	26	Bolting				A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1)		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-055-200A/BA		055
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			OPEN		OPEN
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**25-BDY-016 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-016 (9, 17)**		**25-ZSH-016 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				NOT REQUIRED		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number	Location			25-BDV-019		25
	2	Service				HYDROGEN STORAGE TANK V-25001F DEPRESS.		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80020		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				4"-HY-184-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		4" / 3,05 mm		4" / 3,05 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BA03C01RFH)		
	21	Body Size	Body Form			4"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A351 CF8M		NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			Graphite (33)		NA (*)
	26	Bolting				A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1)		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-055-200A/BA		055
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			OPEN		OPEN
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**25-BDY-019 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-019 (9, 17)**		**25-ZSH-019 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				NOT REQUIRED		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-	-	-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number	Location			25-SDV-001		25
	2	Service				HYDROGEN TO STORAGE TANKS		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80013		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-007-03HSS-N		
	5	Line Size and Schedule	Inlet		Outlet	1" / 3,38 mm		1" / 3,38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	-	5	65
	12	Design Temperature	Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		(*)
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			Graphite(33)		NA (*)
	26	Bolting				A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-035-080A/AA		035
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**25-SDY-001 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-001 (9, 17)**		**25-ZSH-001 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				OPTION **(37)** (HOLD 2)		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number	Location			25-SDV-023		25
	2	Service				HYDROGEN TO FUEL CELL PACKAGE		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80014		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1-1/2"-HY-148-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1-1/2" / 3,68 mm		1-1/2" / 3,68 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1-1/2"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			Graphite (33)		NA (*)
	26	Bolting				A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-035-100A/BA		035
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**25-SDY-023 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-023 (9, 17)**		**25-ZSH-023 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				OPTION **(37)** (HOLD 2)		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number	Location				64-SDV-001		64
	2	Service					NITROGEN TO H2 STORAGE VESSELS INLET		
	3	P&ID Number	Area Classification				123A90-DDL-PR-PID-80027		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number					1"-N-128-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet			1" / 3,38 mm		1" / 3,38 mm
	6	Line Material	Line Insulation				ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid					NITROGEN GAS		
	8	Fluid State	Phase				GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]		6	-	-
	10	Design Pressure	Full Vacuum		[barg]		10		
	11	Operating Temperature Norm/Min/Max			[°C]		AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]		100		
	13	Max. Diff. Pressure for Actuator Size			[bar]		10		
	14								
	15								
	16	Speed of	Design				Close : (12)		Open : (12)
	17	Operation (seconds)	Actual				Close : (*)		Open : (*)
	18								
	19								
VALVE BODY (34)	20	Body Type					BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFHS)		
	21	Body Size	Body Form				1"		FULL BORE
	22	Body Material	Bonnet Type				ASTM A182 F316/316L		NA
	23	Connections	Rating				FLANGED ASME B31.3 / ASME B16.5		#300
	24	Flange Finish	Gasket Material				RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation				GRAPHITE (*)		NA (*)
	26	Bolting					A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat		A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class					(1)		
	29	Fire Safe					(2)		
ACTUATOR	30	Manufacturer	Type				Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size				CP/S-035-080A/AA		035
	32	Actuator Orientation	Actuator Form				(30)		(*)
	33	Ingress Protection	Certification				IP-66		(9)
	34	Air Supply	Min	Max	Design		4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure				CLOSE		CLOSE
	36	Fireproofing					NOT APPLICABLE		
	37	Solenoid Valve					**64-SDY-001 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open				**64-ZSL-001 (17)**		**64-ZSH-001 (17)**
	39	Elect. Reset Pushbutton (Actuator mounted)					NOT REQUIRED		
	40	Air Set	Handwheel				4 barg		NOT REQUIRED
	41	Mounting Position					~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility					OPTION **(37)** (HOLD 2)		
	43	Control Type					-		
	44	Electrical Connection	Electrical Class				No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code				-		-
	46	No of Strokes Per Capacity					-		
	47	Safety Valve	Model				-		-
	48	Check Valve	Mounting				-		-
PURCHASE	49	Manufacturer					FLUITEK VALVES S.r.l.		
	50	Model					FLOATING B.V. FB2		
	51	Purchase Order Number					1724000204		

GENERAL	1	Tag Number	Location			25-XV-004		25
	2	Service				HYDROGEN STORAGE TANK V-25001A INLET		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80015		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-015-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3,38 mm		1" / 3,38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	-	5	65
	12	Design Temperature	Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			Graphite (33)		NA (*)
	26	Bolting				A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-035-080A/AA		035
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**25-XY-004 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-004 (17)**		**25-ZSH-004 (17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				-		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number	Location			25-XV-006	25
	2	Service				HYDROGEN STORAGE TANK V-25001A OUTLET	
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80015	Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-026-03HSS-N	
	5	Line Size and Schedule	Inlet	Outlet		1" / 3,38 mm	1" / 3,38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L	NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN	
	8	Fluid State	Phase			GAS	GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5 / 30
	10	Design Pressure	Full Vacuum		[barg]	40	
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	- / -
	12	Design Temperature	Minimum	Maxi	[°C]	80	
	13	Max. Diff. Pressure for Actuator Size			[bar]	40	
	14						
	15						
	16	Speed of	Design			Close : (12)	Open : (12)
	17	Operation (seconds)	Actual			Close : (*)	Open : (*)
	18						
	19						
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)	
	21	Body Size	Body Form			1"	FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L	NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5	#300
	24	Flange Finish	Gasket Material			RF	VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			GRAPHITE(33)	NA (*)
	26	Bolting				A193 B8M / A194 G8M (38)	
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718 / RPTFE
	28	Leakage Class				(1, 3) TSO	
	29	Fire Safe				(2)	
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems	Scotch yoke (11)
	31	Model No.	Size			CP/S-035-080A/AA	035
	32	Actuator Orientation	Actuator Form			(30)	(*)
	33	Ingress Protection	Certification			IP-66	(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg / 11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE	CLOSE
	36	Fireproofing				NOT APPLICABLE	
	37	Solenoid Valve				**25-XY-006 (9, 14, 15, 16)**	
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-006 (17)**	**25-ZSH-006 (17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED	
	40	Air Set	Handwheel			4 barg	NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve	
	42	Partial Stroke Test Facility				-	
	43	Control Type				-	
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)	H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-	-
	46	No of Strokes Per Capacity				-	
	47	Safety Valve	Model			-	-
	48	Check Valve	Mounting			-	-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.	
	50	Model				FLOATING B.V. FB2	
	51	Purchase Order Number				1724000204	

GENERAL	1	Tag Number	Location			25-XV-008		25
	2	Service				HYDROGEN STORAGE TANK V-25001B INLET		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80016		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-016-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3,38 mm		1" / 3,38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	-	5	65
	12	Design Temperature	Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			Graphite (33)		NA (*)
	26	Bolting				A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-035-080A/AA		035
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**25-XY-008 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-008 (9, 17)**		**25-ZSH-008 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				-		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number	Location			25-XV-009		25
	2	Service				HYDROGEN STORAGE TANK V-25001B OUTLET		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80016		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-132-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3,38 mm		1" / 3,38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			Graphite (33)		NA (*)
	26	Bolting				A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-035-080A/AA		035
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**25-XY-009 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-009 (9, 17)**		**25-ZSH-009 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				-		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number		Location			50-XV-001		50
	2	Service					SEA WATER P-50001A DISCHARGE		
	3	P&ID Number		Area Classification			123A90-DDL-PR-PID-80021		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number					1-1/2"-SWS-031-01SD-E		
	5	Line Size and Schedule		Inlet		Outlet	1-1/2" / 3,68 mm		1-1/2" / 3,68 mm
	6	Line Material		Line Insulation			ASTM A790 UNS S32760		ELECTRICALLY HEAT TRACED (35)
PROCESS DATA	7	Fluid					SEA WATER SUPPLY		
	8	Fluid State		Phase			LIQUID		LIQUID
	9	Operating Pressure Norm/Min/Max				[barg]	15	-	-
	10	Design Pressure		Full Vacuum		[barg]	17,7		
	11	Operating Temperature Norm/Min/Max				[°C]	22	-	-
	12	Design Temperature		Minimum	Maxi	[°C]	100		
	13	Max. Diff. Pressure for Actuator Size				[bar]	17,7		
	14								
	15								
	16	Speed of		Design			Close : (12)		Open : (12)
	17	Operation (seconds)		Actual			Close : (*)		Open : (*)
	18								
	19								
VALVE BODY (34)	20	Body Type					BALL VALVE (FLOATING BALL) - SPLIT BODY (BS01F01RF)		
	21	Body Size		Body Form			1-1/2"		FULL BORE
	22	Body Material		Bonnet Type			ASTM A182 GR F53		NA
	23	Connections		Rating			FLANGED ASME B31.3 / ASME B16.5		#150
	24	Flange Finish		Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing		Lubrication & Isolation			GRAPHITE (*)		NA (*)
	26	Bolting					A193 B7 / A194 G2H +HDG (38)		
	27	Trim Material	Ball	Stem	Seat		182 F53	A182 F53	RPTFE
	28	Leakage Class					(1)		
	29	Fire Safe					(2)		
ACTUATOR	30	Manufacturer		Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.		Size			CP/S-035-100A/BA		035
	32	Actuator Orientation		Actuator Form			(30)		(*)
	33	Ingress Protection		Certification			IP-66		(9)
	34	Air Supply		Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure		Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing					NOT APPLICABLE		
	37	Solenoid Valve					**50-XY-001 (9, 14, 15, 16)**		
	38	Limit Switch Closed		Limit Switch Open			**50-ZSL-001 (9, 17)**		**50-ZSH-001 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)					NOT REQUIRED		
	40	Air Set		Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position					~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility					-		
	43	Control Type					-		
	44	Electrical Connection		Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity		Fabrication Code			-		-
	46	No of Strokes Per Capacity					-		
	47	Safety Valve		Model			-		-
	48	Check Valve		Mounting			-		-
PURCHASE	49	Manufacturer					FLUITEK VALVES S.r.l.		
	50	Model					FLOATING B.V. FB2		
	51	Purchase Order Number					1724000204		

GENERAL	1	Tag Number	Location			25-XV-011		25
	2	Service				HYDROGEN STORAGE TANK V-25001C INLET		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80017		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-017-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3,38 mm		1" / 3,38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	-	5	65
	12	Design Temperature	Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			Graphite (33)		NA (*)
	26	Bolting				A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-035-080A/AA		035
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**25-XY-011 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-011 (9, 17)**		**25-ZSH-011 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				-		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number	Location			25-XV-012		25
	2	Service				HYDROGEN STORAGE TANK V-25001C OUTLET		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80017		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-133-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3,38 mm		1" / 3,38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			Graphite (33)		NA (*)
	26	Bolting				A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-035-080A/AA		035
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**25-XY-012 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-012 (9, 17)**		**25-ZSH-012 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				-		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-	-	-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number	Location			25-XV-015		25
	2	Service				HYDROGEN STORAGE TANK V-25001D OUTLET		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80018		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-134-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3,38 mm		1" / 3,38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			Graphite (33)		NA (*)
	26	Bolting				A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-035-080A/AA		035
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**25-XY-015 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-015 (9, 17)**		**25-ZSH-015 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				-		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number	Location				25-XV-014		25
	2	Service					HYDROGEN STORAGE TANK V-25001D INLET		
	3	P&ID Number	Area Classification				123A90-DDL-PR-PID-80018		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number					1"-HY-018-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet			1" / 3,38 mm		1" / 3,38 mm
	6	Line Material	Line Insulation				ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid					HYDROGEN		
	8	Fluid State	Phase				GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]		-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]		40		
	11	Operating Temperature Norm/Min/Max			[°C]		-	5	65
	12	Design Temperature	Minimum	Maxi	[°C]		80		
	13	Max. Diff. Pressure for Actuator Size			[bar]		40		
	14								
	15								
	16	Speed of	Design				Close : (12)		Open : (12)
	17	Operation (seconds)	Actual				Close : (*)		Open : (*)
	18								
	19								
VALVE BODY (34)	20	Body Type					BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form				1"		FULL BORE
	22	Body Material	Bonnet Type				ASTM A182 F316/316L		NA
	23	Connections	Rating				FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material				RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation				Graphite (33)		NA (*)
	26	Bolting					A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat		A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class					(1, 3) TSO		
	29	Fire Safe					(2)		
ACTUATOR	30	Manufacturer	Type				Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size				CP/S-035-080A/AA		035
	32	Actuator Orientation	Actuator Form				(30)		(*)
	33	Ingress Protection	Certification				IP-66		(9)
	34	Air Supply	Min	Max	Design		4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure				CLOSE		CLOSE
	36	Fireproofing					NOT APPLICABLE		
	37	Solenoid Valve					**25-XY-014 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open				**25-ZSL-014 (9, 17)**		**25-ZSH-014 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)					NOT REQUIRED		
	40	Air Set	Handwheel				4 barg		NOT REQUIRED
	41	Mounting Position					~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility					-		
	43	Control Type					-		
	44	Electrical Connection	Electrical Class				No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code				-		-
	46	No of Strokes Per Capacity					-		
	47	Safety Valve	Model				-		-
	48	Check Valve	Mounting				-		-
PURCHASE	49	Manufacturer					FLUITEK VALVES S.r.l.		
	50	Model					FLOATING B.V. FB2		
	51	Purchase Order Number					1724000204		

GENERAL	1	Tag Number	Location			25-XV-017		25
	2	Service				HYDROGEN STORAGE TANK V-25001E INLET		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80019		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-019-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3,38 mm		1" / 3,38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	-	5	65
	12	Design Temperature	Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			Graphite (33)		NA (*)
	26	Bolting				A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-035-080A/AA		035
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**25-XY-017 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-017 (9, 17)**		**25-ZSH-017 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				-		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-	-	-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number	Location			25-XV-018		25
	2	Service				HYDROGEN STORAGE TANK V-25001E OUTLET		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80019		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-135-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3,38 mm		1" / 3,38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			GRAPHITE (33)		NA (*)
	26	Bolting				A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-035-080A/AA		035
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**25-XY-018 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-018 (9, 17)**		**25-ZSH-018 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				-		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number	Location			25-XV-020	25
	2	Service				HYDROGEN STORAGE TANK V-25001F INLET	
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80020	Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-020-03HSS-N	
	5	Line Size and Schedule	Inlet	Outlet		1" / 3,38 mm	1" / 3,38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L	NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN	
	8	Fluid State	Phase			GAS	GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]	40	
	11	Operating Temperature Norm/Min/Max			[°C]	-	5	65
	12	Design Temperature	Minimum	Maxi	[°C]	80	
	13	Max. Diff. Pressure for Actuator Size			[bar]	40	
	14						
	15						
	16	Speed of	Design			Close : (12)	Open : (12)
	17	Operation (seconds)	Actual			Close : (*)	Open : (*)
	18						
	19						
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)	
	21	Body Size	Body Form			1"	FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L	NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5	#300
	24	Flange Finish	Gasket Material			RF	VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			Graphite (33)	NA (*)
	26	Bolting				A193 B8M / A194 G8M (38)	
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO	
	29	Fire Safe				(2)	
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems	Scotch yoke (11)
	31	Model No.	Size			CP/S-035-080A/AA	035
	32	Actuator Orientation	Actuator Form			(30)	(*)
	33	Ingress Protection	Certification			IP-66	(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE	CLOSE
	36	Fireproofing				NOT APPLICABLE	
	37	Solenoid Valve				**25-XY-020 (9, 14, 15, 16)**	
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-020 (9, 17)**	**25-ZSH-020 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED	
	40	Air Set	Handwheel			4 barg	NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve	
	42	Partial Stroke Test Facility				-	
	43	Control Type				-	
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)	H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-	-
	46	No of Strokes Per Capacity				-	
	47	Safety Valve	Model			-	-
	48	Check Valve	Mounting			-	-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.	
	50	Model				FLOATING B.V. FB2	
	51	Purchase Order Number				1724000204	

GENERAL	1	Tag Number	Location			25-XV-021		25
	2	Service				HYDROGEN STORAGE TANK V-25001F OUTLET		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80020		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-136-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3,38 mm		1" / 3,38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			Graphite (33)		NA (*)
	26	Bolting				A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-035-080A/AA		035
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**25-XY-021 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-021 (9, 17)**		**25-ZSH-021 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				-		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number	Location			50-XV-002		50
	2	Service				SEA WATER P-50001A INLET		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80021		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-SWS-146-01SD-E		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3,38 mm		1" / 3,38 mm
	6	Line Material	Line Insulation			ASTM A790 UNS S32760		ELECTRICALLY HEAT TRACED (35)
PROCESS DATA	7	Fluid				SEA WATER SUPPLY		
	8	Fluid State	Phase			LIQUID		LIQUID
	9	Operating Pressure Norm/Min/Max			[barg]	-	ATM	15
	10	Design Pressure	Full Vacuum		[barg]	17,7		
	11	Operating Temperature Norm/Min/Max			[°C]	-	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	100		
	13	Max. Diff. Pressure for Actuator Size			[bar]	17,7		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS01F01RF)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 GR F53		NA
	23	Connections	Rating			FLANGED ASME B31.3 / ASME B16.5		#150
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			GRAPHITE (*)		NA (*)
	26	Bolting				A193 B7 / A194 G2H +HDG (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F53	A182 F53	RPTFE
	28	Leakage Class				(1)		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-035-080A/AA		035
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**50-XY-002 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**50-ZSL-002 (9, 17)**		**50-ZSH-002 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				-		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number	Location			25-XV-024		25
	2	Service				HYDROGEN TO STORAGE TANKS DEPRESS.		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80013		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-143-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3,38 mm		1" / 3,38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7,5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	-	5	65
	12	Design Temperature	Minimum	Maxi	[°C]	80		
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			Graphite (33)		NA (*)
	26	Bolting				A193 B8M / A194 G8M (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-035-080A/AA		035
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**25-XY-024 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**25-ZSL-024 (9, 17)**		**25-ZSH-024 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				NOT REQUIRED		
	43	Control Type						
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number	Location			50-XV-003		50
	2	Service				SEA WATER P-50001B DISCHARGE		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80021		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1-1/2"-SWS-033-01SD-E		
	5	Line Size and Schedule	Inlet	Outlet		1-1/2" / 3,68 mm		1-1/2" / 3,68 mm
	6	Line Material	Line Insulation			ASTM A790 UNS S32760		ELECTRICALLY HEAT TRACED (35)
PROCESS DATA	7	Fluid				SEA WATER SUPPLY		
	8	Fluid State	Phase			LIQUID		LIQUID
	9	Operating Pressure Norm/Min/Max			[barg]	15	-	-
	10	Design Pressure	Full Vacuum		[barg]	17,7		
	11	Operating Temperature Norm/Min/Max			[°C]	22	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	100		
	13	Max. Diff. Pressure for Actuator Size			[bar]	17,7		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS01F01RF)		
	21	Body Size	Body Form			1-1/2"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 GR F53		NA
	23	Connections	Rating			FLANGED ASME B31.3 / ASME B16.5		#150
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			GRAPHITE (*)		NA (*)
	26	Bolting				A193 B7 / A194 G2H +HDG (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F53	A182 F53	RPTFE
	28	Leakage Class				(1)		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-035-100A/BA		035
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**50-XY-003 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**50-ZSL-003 (9, 17)**		**50-ZSH-003 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				-		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number	Location			50-XV-004		50
	2	Service				SEA WATER P-50001B INLET		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80021		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-SWS-147-01SD-E		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3,38 mm		1" / 3,38 mm
	6	Line Material	Line Insulation			ASTM A790 UNS S32760		ELECTRICALLY HEAT TRACED (35)
PROCESS DATA	7	Fluid				SEA WATER SUPPLY		
	8	Fluid State	Phase			LIQUID		LIQUID
	9	Operating Pressure Norm/Min/Max			[barg]	-	ATM	15
	10	Design Pressure	Full Vacuum		[barg]	17,7		
	11	Operating Temperature Norm/Min/Max			[°C]	-	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	100		
	13	Max. Diff. Pressure for Actuator Size			[bar]	17,7		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS01F01RF)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 GR F53		NA
	23	Connections	Rating			FLANGED ASME B31.3 / ASME B16.5		#150
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			GRAPHITE (*)		NA (*)
	26	Bolting				A193B7 / A194 G2H +HDG (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F53	A182 F53	RPTFE
	28	Leakage Class				(1)		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-035-080A/AA		035
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**50-XY-004 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**50-ZSL-004 (9, 17)**		**50-ZSH-004 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				-		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

GENERAL	1	Tag Number	Location			80-XV-001		80
	2	Service				HYDROGEN TO FUEL CELL PACKAGE VENTED		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80012		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-163-01HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3,38 mm		1" / 3,38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	3,5	6,5
	10	Design Pressure	Full Vacuum		[barg]	10		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	100		
	13	Max. Diff. Pressure for Actuator Size			[bar]	10		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : (*)		Open : (*)
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS01C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		NA
	23	Connections	Rating			FLANGED ASME B31.12 / ASME B16.5		#150
	24	Flange Finish	Gasket Material			RF		VITON GLT/AED+GRAPH. (38)
	25	Packing	Lubrication & Isolation			Graphite (33)		NA (*)
	26	Bolting				A193 B8M / A194 G8 (38)		
	27	Trim Material	Ball	Stem	Seat	A182 F316/316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork Fluid Systems		Scotch yoke (11)
	31	Model No.	Size			CP/S-035-080A/AA		035
	32	Actuator Orientation	Actuator Form			(30)		(*)
	33	Ingress Protection	Certification			IP-66		(9)
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				**80-XY-001 (9, 14, 15, 16)**		
	38	Limit Switch Closed	Limit Switch Open			**80-ZSL-001 (9, 17)**		**80-ZSH-001 (9, 17)**
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			4 barg		NOT REQUIRED
	41	Mounting Position				~~HORIZONTAL~~ / VERTICAL Suitable for vertical stem valve		
	42	Partial Stroke Test Facility				-		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No.1 / M20x1,5 (SOV)		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK VALVES S.r.l.		
	50	Model				FLOATING B.V. FB2		
	51	Purchase Order Number				1724000204		

RFS Notes

With ref to Note 12) operating times are not adjustable as flow regulators are not included in contrtol pane.
Due to small actuator size, especially for fail action, operating times could be very low, close to minimum operating times indicated in below table. Actuators so configured cannot operate with operating times lower than ones indicated.

3 STANDARD ACTUATOR - Minimum operating time

These tables are applicable to single acting and double acting standard actuators without any cushioning system. It is not necessary to ask for a bespoke quotation if the stroking time is equal or greater than the values listed in the tables below.

Actuator Model	Minimum Operating Time [sec]	
	With Manual Override [1] [3]	Without Manual Override [2] [3]
CP-SR CP-DA 035	1,0	0,3
CP-SR CP-DA 045	1,5	0,3
CP-SR CP-DA 055	2,0	0,3
CP-SR CP-DA 065	2,5	0,3
CP-SR CP-DA 035 (Ver.1)	1,0	1,0
CP-SR CP-DA 045 (Ver.1)	1,5	1,5

Table 1. CP minimum operating times.

With ref. to DS Line 41, due to the presence of air filter regulator, the only assembly feasible is on valve vertical stem . We have indicated clearly this on Overall Dimensions. The actuator cannot be turned on site.

With ref to Note 19) Double Ferrule Fittings only will be in AISI 316 and not AISI 316L

With ref to Note 24) only tubing is dual certificated. In addition, the material of all components included is indicated in Operating Diagram.

With ref to Note 16), solenoid coil is equipped by suppression diode.

With ref to Note 20), we will consider this requirement applicable to all pressure retaining part of the actuator, tubing and fittings.

TAGNAME	TYPOLOGY	P&ID	SIZE	CLASS	RATING	FLANGES	B. MATERIAL	TYPICAL	TSO	AIR FAIL	FULL BORE
25-BDV-003	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80013	1"	03HSS	#300	B31.12	SS	4	-	FO	YES
25-BDV-022	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80014	1"	03HSS	#300	B31.12	SS	4	-	FO	YES
25-BDV-005	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80015	3"	03HSS	#300	B31.12	SS	4	-	FO	YES
25-BDV-007	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80016	3"	03HSS	#300	B31.12	SS	4	-	FO	YES
25-BDV-010	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80017	3"	03HSS	#300	B31.12	SS	4	-	FO	YES
25-BDV-013	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80018	3"	03HSS	#300	B31.12	SS	4	-	FO	YES
25-BDV-016	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80019	3"	03HSS	#300	B31.12	SS	4	-	FO	YES
25-BDV-019	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80020	3"	03HSS	#300	B31.12	SS	4	-	FO	YES
25-SDV-001	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80013	1"	03HSS	#300	B31.12	SS	2	-	FC	YES
25-SDV-023	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80014	1,5"	03HSS	#300	B31.12	SS	2	-	FC	YES
64-SDV-002	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80027	1"	01CS	#150	B31.3	CS	2	-	FC	YES
25-XV-002	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80013	1"	03HSS	#300	B31.12	SS	1	-	FC	YES
25-XV-004	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80015	1"	03HSS	#300	B31.12	SS	1	-	FC	YES
25-XV-006	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80016	1"	03HSS	#300	B31.12	SS	1	-	FC	YES
25-XV-008	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80016	1"	03HSS	#300	B31.12	SS	1	-	FC	YES
25-XV-009	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80016	1"	03HSS	#300	B31.12	SS	1	-	FC	YES
25-XV-011	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80017	1"	03HSS	#300	B31.12	SS	1	-	FC	YES
25-XV-012	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80017	1"	03HSS	#300	B31.12	SS	1	-	FC	YES
25-XV-014	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80018	1"	03HSS	#300	B31.12	SS	1	-	FC	YES
25-XV-015	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80018	1"	03HSS	#300	B31.12	SS	1	-	FC	YES
25-XV-017	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80019	1"	03HSS	#300	B31.12	SS	1	-	FC	YES
25-XV-018	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80019	1"	03HSS	#300	B31.12	SS	1	-	FC	YES
25-XV-020	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80020	1"	03HSS	#300	B31.12	SS	1	-	FC	YES
25-XV-021	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80020	1"	03HSS	#300	B31.12	SS	1	-	FC	YES
25-XV-024	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80014	1,5"	03HSS	#300	B31.12	SS	1	-	FC	YES
50-XV-001	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80021	1,5"	01SD	#150	B31.3	SD	1	-	FC	YES
50-XV-002	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80021	1"	01SD	#150	B31.3	SD	1	-	FC	YES
50-XV-003	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80021	1,5"	01SD	#150	B31.3	SD	1	-	FC	YES
50-XV-004	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80021	1"	01SD	#150	B31.3	SD	1	-	FC	YES
80-XV-001	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80012	1"	01HSS	#150	B31.12	SS	1	-	FC	YES
25-XV-023	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80013	1"	03HSS	#300	B31.12	SS	4	-	FO	YES
64-SDV-001	ON-OFF BALL VALVE	123A90-DDL-PR-PID-80027	1"	01CS	#150	B31.3	CS	2	-	FC	YES