Ballard Power Systems Europe A/S
Majsmarken 1
9500 Hobro
Denmark

Revision history		
Rev.	**Date.**	**Description**
001	2/17/2023	First Issue
002	9/1/2025	Updated list
003	9/18/2025	Update, added PM for 3 parts

KBR
ACCEPTANCE
FOR ENGINEERING USE

THIS DOCUMENT IS:

ACCEPTED	(Code 1) ____
ACCEPTED WITH COMMENTS	(Code 2) ____
NOT ACCEPTED	(Code 3) ____
NOT REVIEWED	(Code 4)

ACCEPTANCE DOES NOT RELIEVE SUPPLIER FROM FURNISHING MATERIAL IN CONFORMANCE WITH ORDER. REFER TO SDR-1 FOR FULL DEFINITION OF ACCEPTANCE CONDITIONS.

DISCIPLINE _____ BY _____
DATE _____

Document Title:	**BLPH Project - Recommended Spares for 2 Years Operating**
Document Number:	K559-2254-CWIWP4202202-N03-001
Revision:	Rev003
Sequence Number:	001
File Name:	K559-2254-CWIWP4202202-N03-001Rev003
Purchaser Job:	K559-2254
Purchase Order:	CWIWP4202202
Code:	N03
Requsition Number:	n/a
Customer:	CrossWind C.V., Rotterdam, The Netherlands

BALLARD

May-27-2025

Field Replaceable Unit List, Container Solution, Crosswinds

Part Number	Superseded / Equivalent	Description	UoM	Preventive Maintaince	Quantity	Unit Price (EUR)	Extended Price (EUR)	Lead Time in Weeks
FCwave (Top Unit)								
7000040-001	7500038	FRU, H2E Ventilation Fans	Ea		2	€ 658	€ 1,316	30 weeks
7000107-001	7500017	FRU, Purge Valve	Ea	PM	6	€ 1,058	€ 6,348	11 weeks
7000111-001	7500018	FRU, H2E Ventilation Airflow Switch	Ea		2	€ 734	€ 1,468	13 weeks
7000113-001	7500037	FRU, Sensor, Temperature PT-100, L=50mm, Ø3.5mm	Ea		2	€ 524	€ 1,048	17 weeks
7000116-001	7500016	FRU, Sensor, Pressure 0-4 barg	Ea		2	€ 467	€ 934	17 weeks
7000123-001	7500034	FRU, Differential Pressure Safety Switch	Ea		2	€ 420	€ 840	12 weeks
7000690-001	7500035	FRU, Sensor, H2 Enclosure Water Ingress	Ea		2	€ 486	€ 972	11 weeks
7000949-001	7500007	FRU, HRB	Ea		2	€ 7,343	€ 14,686	37 weeks
7000950-001	7500025	FRU, Hydrogen Valve Block Assembly	Ea		2	€ 11,286	€ 22,572	27 weeks
7001155-001	7500011	FRU, HRB Motor	Ea		1	€ 2,315	€ 2,315	37 weeks
7001345-001	7500036	FRU, Sensor, H2 , 0 - 4%	Ea	PM	24	€ 620	€ 14,880	13 weeks
7100274-001	-	FRU, HRB Motor Controller, Programmed	Ea		1	€ 2,896	€ 2,896	26 weeks
7100275-001	-	FRU, Coolant Pump Motor Controller, Programmed	Ea		1	€ 2,896	€ 2,896	26 weeks
7100276-001	-	FRU, Gen3 Air Compressor Inverter 2.0B, Programmed	Ea		1	€ 3,781	€ 3,781	44 weeks
FCwave (Bottom Unit)								
7000008-001	7500355	FRU, Coolant Pump	Ea		1	€ 8,124	€ 8,124	37 weeks
7000114-001	7500058	FRU, Sensor, Air Compressor Pressure	Ea		1	€ 524	€ 524	17 weeks
7000118-001	7500085	FRU, Sensor, Temperature PT-100, L=50mm, Ø8mm	Ea		1	€ 629	€ 629	17 weeks
7000119-001	7500090	FRU, Sensor, Temperature PT-100, L=150mm, Ø8mm	Ea		1	€ 505	€ 505	17 weeks
7000130-001	75000128	FRU, HV Panel	Ea		1	€ 15,800	€ 15,800	20 weeks
7000131-001	75000130	FRU, LV Panel	Ea		1	€ 28,953	€ 28,953	19 weeks
5155847-001	7500359	FRU, Humidifier, Membrane v2	Ea	PM	6	€ 2,772	€ 16,632	35 weeks
7000146-001	7500061	FRU, Shutoff Valve, 3"	Ea		3	€ 1,943	€ 5,829	11 weeks
7000156-001	7500095	FRU, DI Filter Cartridge	Ea	PM	12	€ 496	€ 5,952	13 weeks
7000165-001	7500349	FRU, Fuse Bundle	Ea		2	€ 1,086	€ 2,172	11 weeks
7000309-001	7500162	FRU, Intake Air Filters	Ea	PM	24	€ 743	€ 17,832	11 weeks
7000322-001	7500068	FRU, Shutoff Valve, 1.75"	Ea		3	€ 800	€ 2,400	11 weeks
7000689-001	7500078	FRU, Coolant Tank Level Switch	Ea		2	€ 553	€ 1,106	11 weeks
7000910-001	7500053	FRU, Gen3 Air Compressor	Ea		1	€ 18,277	€ 18,277	42 weeks
7000917-001	7500088	FRU, Coolant Valve Actuator	Ea		1	€ 1,029	€ 1,029	11 weeks
7000976-001	7500149	FRU, Smoke Detector	Ea	PM	12	€ 210	€ 2,520	11 weeks
7000978-001	N/A	FRU, Humidifier Assembly O-Ring Seals	Ea		12	€ 162	€ 1,944	11 weeks
7001509-001	7500059	FRU, MAF Sensor & Inlet Filter	Ea	PM	6	€ 705	€ 4,230	17 weeks
							#REF!	
CONTAINER UNIT								
7001548		Pressure sensor for LT Circuit	Ea		1	€ 316	€ 316	In Ballard stock
7001812		Ventilation Box - Filter (Medium)	Ea	PM	32	€ 194	€ 6,199	TBC
7001813		Ventilation Box - Filter (large)	Ea	PM	8	€ 194	€ 1,550	LT pending
7002680		Battery (set of 2) for 24V UPS system	Ea		2	€ 195	€ 389	In Ballard stock
601456B - ACM31		For main PLC, IO Card	Ea		1	€ 589	€ 589	In Ballard stock
7000297		For main PLC, IO Card	Ea		1	€ 621	€ 621	In Ballard stock
7000298		For main PLC, IO Card	Ea		1	€ 684	€ 684	In Ballard stock
7000299		For main PLC, IO Card	Ea		1	€ 468	€ 468	In Ballard stock
2CTB802346R2500		Surge Supressor for AUX AC Supply	Ea		1	€ 448	€ 448	TBC
7001597		Ventilation Intake/Outlet Damper Motor	Ea		2	€ 264	€ 528	In Ballard stock
7001550		Ventilation Intake Sensor	Ea		2	€ 118	€ 236	In Ballard stock
4007861		Isolation Monitor	Ea		1	€ 3,859	€ 3,859	In Ballard stock
Ethyleneglycol		Top up at each service visit (no more than 6 months)	Ea	PM	1	€ 937	€ 937	1 week
601456B - 5021526		DCAC Fuse (1 package, 10pcs)	Ea		1	€ 309	€ 309	TBC
601456B - 5021526		DC Measurement Fuse (1 package, 10pcs)	Ea		1	€ 309	€ 309	TBC
601456B - 2078032		Main DCAC Fuse	Ea		2	€ 305	€ 609	TBC
601456B - 071532		DCDC Cabinet Fuse	Ea		2	€ 308	€ 615	TBC
601456B - 5101		Temperature Sensor for process monitoring	Ea		1	€ 165	€ 165	In Ballard stock
601456B - 1050		Temperature Sensor for process monitoring	Ea		1	€ 173	€ 173	In Ballard stock
601456B - 4104		Flow/Temp Sensor	Ea		1	€ 668	€ 668	In Ballard stock
930S043801		H2 Manifold Pressure Sensor	Ea		1	€ 145	€ 145	In Ballard stock
601456B - LMT01A		H2 Heater Level Sensor	Ea		1	€ 481	€ 481	TBC
601456B - PA3589		Header Tank Level Sensor	Ea		1	€ 532	€ 532	In Ballard stock

Notes:

1. Suggested Spare Parts List for 2 years of operation, based on 1,255 hours/year, and 6 FCwave fuel cell modules
2. All Prices are in EUR, and do not include customs duties, import/export brokerage and associated fees, commodity or sales/use taxes.
3. Delivery based on EXW, Ballard Facilities, Hobro, Denmark (Incoterms 2020)
4. Warranty period is 6 months from date of Delivery.
5. Prices are valid until July 31, 2025