

BOAT Name TO KEFI MAS Sail Nr GRE-1430	GPH 596.7	HULL Length Overall 12.270m Maximum Beam 3.878m Displacement 8,996kg Draft 2.139m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0.257% Fwd Accommodation Yes Hull Construction Solid Carbon Rudder No Crew Arm Extension
GENERAL Class ELAN 410 (SD) Designer R. HUMPHREYS Builder ELAN Series 05/2007 Age 05/2010 Age Allowance 0.390% Offset File ELAN410N.OFF - 23/02/2011 19:59:30 Measurement by - 19/06/2010		IMSL 11.565m VCGD 0.090m Sink 25.26kg/mm RL 9.395m VCGM 0.031m WS 34.16m² LSM0 11.671m Displacement/Length ratio 5.6588



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SCORING OPTIONS						
Time on Distance	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
	579.6			647.7		
Time on Time	1.0352			1.0421		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	688.8	527.0	469.0	893.2	652.6	560.8
Time on Time	0.9800	1.2808	1.4392	0.7557	1.0344	1.2036

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1021.8	841.7	741.4	688.9	668.4	659.6	645.3
52°	665.3	560.7	501.1	477.0	467.8	463.6	459.5
60°	627.7	533.2	484.5	464.6	455.0	450.8	447.9
75°	599.3	512.2	473.0	454.4	442.4	433.8	426.1
90°	605.0	505.2	463.7	448.3	437.6	425.0	404.6
110°	602.6	499.0	457.6	436.4	419.0	406.4	388.4
120°	621.4	512.1	463.6	440.1	419.8	400.2	371.2
135°	693.5	563.7	489.8	456.3	435.3	414.9	374.1
150°	825.6	654.8	554.3	491.5	457.9	437.8	399.2
Run VMG	953.4	756.1	639.9	561.9	510.1	471.0	429.6

Certificate
Number **00680S**
ORC Ref **GRE01016324**
Issued On **18/09/2019**
VPP Ver. **2019 1.01**
Valid until **28/02/2020**

Crew Weight
Default **858kg**
Maximum **750kg**
Minimum* **563kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

Special Scoring
ToD ToT
Non Spin GPH **630.5 0.9516**
Non Spin OSN **611.3 0.9815**

Selected Courses							
Windward / Leeward	987.6	798.9	690.7	625.4	589.3	565.3	537.4
Circular Random	825.6	664.9	578.6	528.6	498.0	478.0	452.8
Coastal / Long Distance	984.2	749.4	620.5	545.2	507.4	478.6	433.1
Non Spinnaker	887.1	708.2	610.5	552.8	517.2	494.1	465.7

Sails Limitations
Headsails **6** | Spinnakers **4**

Velocity Prediction in Knots for True Wind Speeds							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	43.1°	41.3°	40.7°	40.3°	39.4°	39.0°	38.4°
Beat VMG	3.52	4.28	4.86	5.23	5.39	5.46	5.58
52°	5.41	6.42	7.18	7.55	7.70	7.76	7.84
60°	5.74	6.75	7.43	7.75	7.91	7.99	8.04
75°	6.01	7.03	7.61	7.92	8.14	8.30	8.45
90°	5.95	7.13	7.76	8.03	8.23	8.47	8.90
110°	5.97	7.21	7.87	8.25	8.59	8.86	9.27
120°	5.79	7.03	7.77	8.18	8.57	9.00	9.70
135°	5.19	6.39	7.35	7.89	8.27	8.68	9.62
150°	4.36	5.50	6.50	7.32	7.86	8.22	9.02
Run VMG	3.78	4.76	5.63	6.41	7.06	7.64	8.38
Gybe Angles	144.4°	148.8°	150.9°	154.6°	166.3°	180.0°	180.0°

Class Division Length
CDL = **10.481**

Storm Sails Areas
Heavy Weather Jib **36.43**
Storm Jib (JL=10.68) **13.49**
Storm Trysail **15.34**

Owner

BOAT	
Name TO KEFI MAS	Sail Nr GRE-1430
File GR1430	Data in meters/kilograms

RIG	
Forestay Tension Aft	Spreaders 2
Inner Stay None Fitted	Runners 0
Carbon Mast No	Jumper Struts None
Taper Hollows No	Jib Furler No
Fiber Rigging No	Main Furler No
Lenticular Rigging No	Without Backstay No
Articulated Bowsprit No	
P 16.150	E 5.425 MDT1 0.130 MW 0.150
IG 16.390	J 4.612 MDL1 0.250 GO 0.160
ISP 17.490	SFJ 0.075 MDT2 0.130 BD 0.169
BAS 1.570	SPL 5.024 MDL2 0.150 MWT
FSP 0.078	TPS 5.045 TL 2.790 MCG

INCLINING TEST AND FREEBOARDS		
Inclining Test Current Inclining		
Flotation date 20/03/2019	SG 1.0290	
FFM 1.456	FF 1.452	SFFP 0.430
FAM 1.092	FA 1.095	SAFP 11.848
W1 110.6	PD1 547.5	WD 13.105
W2 110.6	PD2 560.4	GSA 1.0
W3 110.6	PD3 568.7	RSA 1.0
W4 110.6	PD4 562.5	PLM 9000.0
LCF from stem on CL / on sheer		6.786 / 7.034
Maximum beam station from stem		7.500
RM Measured		203.9kg-m
RM Default		204.7kg-m
Limit of positive stability / Stab.Index		117.6° / 123.1
Freeboard at mast at 4.687		1.254



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MIZZEN RIG AND SAILS	
N/A	

PROPELLER		
Installation Strut	PRD 0.440	
Type Feathering 3 blades	PBW 0.100	
Twin Screw No	PIPA 0.0035	
ST1 0.067	ST3 0.179	ST5 0.295
ST2 0.179	ST4 0.096	EDL 3.060

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COMMENTS	

MOVABLE BALLAST	
N/A	

CENTERBOARD	
N/A	



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SAILS (Maximum Areas)									
Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula	
	0.160	1.17	1.99	3.37	4.44	51.03	51.89	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric	SLU	SLE	SL	SHW	SFL	112.88		SL · (SFL + 4·SHW) / 6	
	16.25	16.25	16.25	8.37	8.20				
Asymmetric	SLU	SLE	SL	SHW	SFL	111.85		AS · (SFL + 4·SHW) / 6	
	16.82	14.68	15.75	8.60	8.21				

HEADSAILS												
Area = 0.1125·HLU · (1.445·HLP + 2·HQW + 2·HHW + 1.5·HTW + HUW + 0.5·HHB)												
HHB	HUW	HTW	HHW	HQW	HLP	HLU	Area	Btn	Fly	Meas.Date	Material	Comment
0.10	0.75	1.38	2.61	3.80	4.85	16.24	41.47			27/03/2019	Carbon	
0.07	0.54	1.01	2.00	2.99	3.94	16.50	32.97			14/05/2010	Kevlar	No 2
					2.61	10.33	13.73			19/05/2010	Dacron	STORM JIB

MEASUREMENT INVENTORY				
Measurer GRE-21				
Date 20/03/2019				
Comment				
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG Description</i>
<i>Id</i>	<i>Item</i>	<i>Maker</i>	<i>Model</i>	
1	Engine	VOLVO PENTA	D2-40F	
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG Description</i>

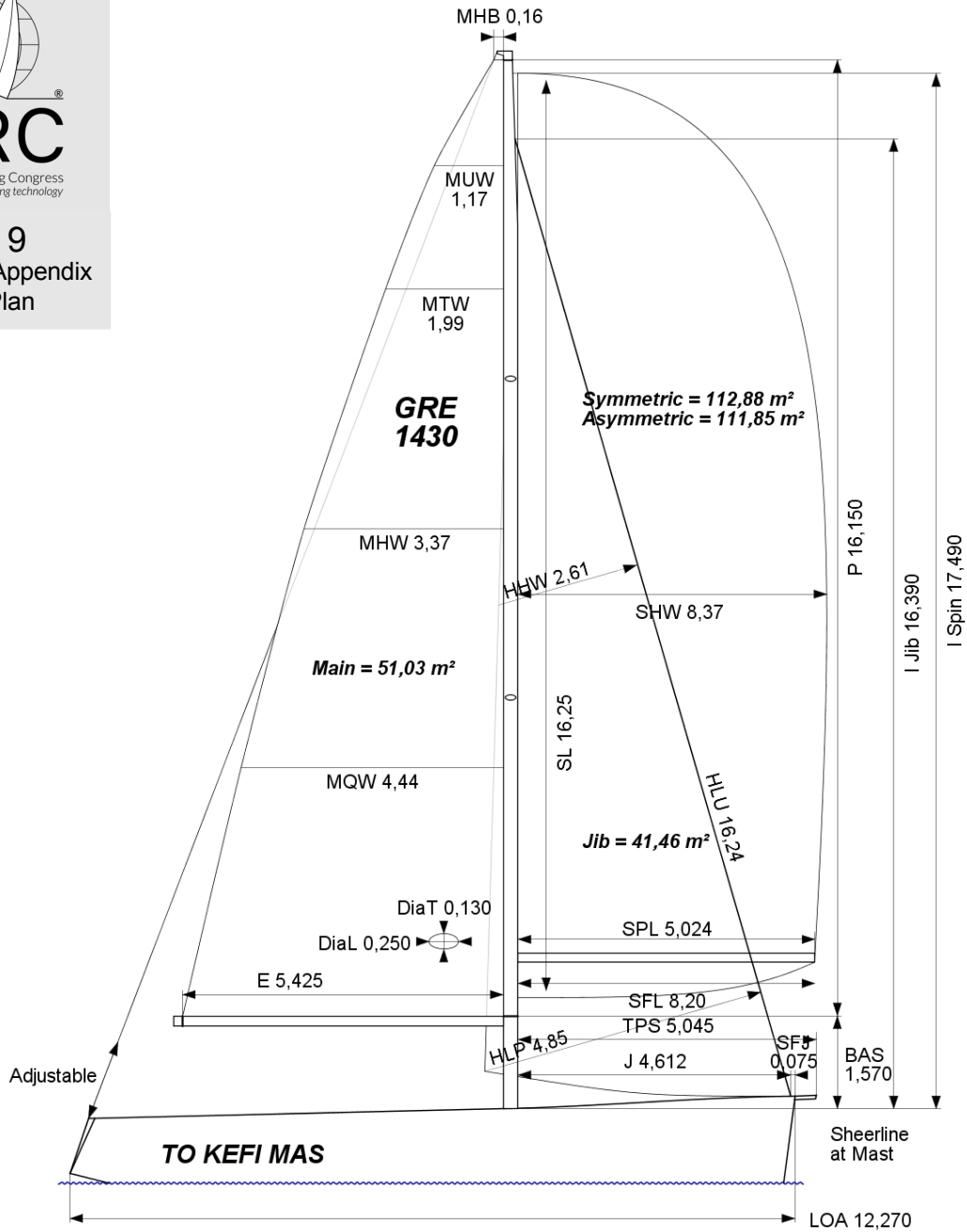
MEASUREMENT INVENTORY							
<i>Id</i>	<i>Item</i>	<i>Tank Use</i>	<i>Tank Type</i>	<i>Capcty</i>	<i>Dist.</i>	<i>VCG</i>	<i>Condtn Description</i>
1	Tank	WATER	PVC	230.0	5.70		0-0
2	Tank	WATER	PVC	120.0	5.20		0-0
3	Tank	FUEL	PVC	145.0	9.90		30-0
4	Tank	WASTE	PVC	100.0	9.80		0-0
5	Tank	WASTE	PVC	60.0	2.70		0-0
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG</i>	<i>Description</i>		
1	Battery		6.60		1 x 85 Ah		
2	Battery		6.70		1 x 45 Ah		
3	Battery		2.10		3 x 90 Ah		
1	Misc	30.0	2.10		DESALINATOR		
2	Misc	10.0	4.50		WATER HEATER		



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Sail Plan



SAILS INVENTORY

MAINSAIL (1)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
1	0.16	1.17	1.99	3.37	4.44	51.04		27/03/2019	KAKITSIS	Carbon	

HEADSAILS (3)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
4	0.10	0.75	1.38	2.61	3.80	4.85	16.24	105%	41.47				27/03/2019	KAKITSIS	Carbon	
2		0.07	0.54	1.01	2.99	3.94	16.50	85%	32.97				14/05/2010	KAKITSIS	Kevlar	No 2
3						2.61	10.33	57%	13.73				19/05/2010	KAKITSIS	Dacron	STORM JIB

SYMMETRIC SPINNAKERS (2)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
1	16.25	16.25	16.25	8.37	8.20	112.89		14/05/2010	KAKITSIS	Nylon	
3	16.29	16.29	16.29	8.28	8.08	111.86		29/11/2015	KAKITSIS	Nylon	

ASYMMETRIC SPINNAKERS (1)

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
1	16.82	14.68	15.75	8.60	8.21	111.86	asym		14/05/2010	KAKITSIS	Nylon	