


BOAT Name TO KEFI MAS Sail Nr GRE-1430	GPH 597.0	HULL Length Overall 12.270m Maximum Beam 3.878m Displacement 8,996kg Draft 2.139m Plan Review IMS Reg. Division Cruiser/Racer Dynamic Allowance 0.253% 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 0.422% Offset File ELAN410N.OFF - 23/02/2011 19:59:30 Measurement by - 19/06/2010		IMSLS 11.565m VCGD 0.090m Sink 25.26kg/mm RL 9.364m VCGM 0.031m WS 34.16m² LSM0 11.671m Displacement/Length ratio 5.6588



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SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	579.8			648.2		
Time on Time	1.0348			1.0414		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	689.1	527.2	469.2	893.7	652.9	561.4
Time on Time	0.9796	1.2804	1.4386	0.7553	1.0338	1.2023

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1023.8	842.7	742.3	690.0	669.9	661.1	646.5
52°	666.2	560.9	501.4	477.2	468.1	464.0	459.7
60°	628.1	533.2	484.6	464.7	455.2	451.1	448.5
75°	599.4	512.2	473.1	454.4	442.5	433.9	426.3
90°	605.0	505.4	463.9	448.5	437.5	424.9	404.4
110°	602.6	499.0	457.6	436.4	418.9	406.2	388.1
120°	621.2	512.0	463.5	440.0	419.6	399.7	370.9
135°	693.1	563.1	489.6	456.2	435.1	414.6	373.5
150°	825.1	654.3	553.8	491.1	457.8	437.6	398.7
Run VMG	952.7	755.5	639.4	561.5	509.9	470.8	429.3

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Selected Courses							
Windward / Leeward	988.2	799.1	690.9	625.8	589.9	566.0	537.9
Circular Random	826.0	665.1	578.8	528.8	498.2	478.2	452.8
Coastal / Long Distance	984.7	749.5	620.6	545.5	507.6	478.8	433.2
Non Spinnaker	887.3	708.4	610.6	552.9	517.2	493.8	464.5

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 **630.7 0.9513**
Non Spin OSN **611.5 0.9811**

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°	40.5°	40.3°	39.4°	39.0°	38.6°
Beat VMG	3.52	4.27	4.85	5.22	5.37	5.45	5.57
52°	5.40	6.42	7.18	7.54	7.69	7.76	7.83
60°	5.73	6.75	7.43	7.75	7.91	7.98	8.03
75°	6.01	7.03	7.61	7.92	8.14	8.30	8.45
90°	5.95	7.12	7.76	8.03	8.23	8.47	8.90
110°	5.97	7.21	7.87	8.25	8.59	8.86	9.28
120°	5.79	7.03	7.77	8.18	8.58	9.01	9.71
135°	5.19	6.39	7.35	7.89	8.27	8.68	9.64
150°	4.36	5.50	6.50	7.33	7.86	8.23	9.03
Run VMG	3.78	4.76	5.63	6.41	7.06	7.65	8.39
Gybe Angles	144.0°	149.0°	151.0°	154.5°	166.0°	180.0°	180.0°

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

Class Division Length
CDL = **10.460**

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/Checkstays	0
Carbon Mast	No	Jib Furler	No
Fiber Rigging	No	Main Furler	No
Non-Circular Rigging	No		
Articulated Bowsprit	No		
P	16.150	E	5.425
IG	16.390	J	4.612
ISP	17.490	SFJ	0.075
BAS	1.570	SPL	5.024
FSD	0.039	TPS	5.045
MDT1	0.130	MDL1	0.250
MDT2	0.130	MDL2	0.150
TL	2.790	MW	0.150
		GO	0.160
		BD	0.169
		MWT	
		MCG	

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining			
Flotation date		20/03/2019	SG 1.0290
FFM	1.456	FF	1.452
FAM	1.092	FA	1.095
W1	110.6	PD1	547.5
W2	110.6	PD2	560.4
W3	110.6	PD3	568.7
W4	110.6	PD4	562.5
SFFP	0.430	SAFP	11.848
WD	13.105	GSA	1.0
RSA	1.0	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
ST2	0.179	ST4	0.096
		ST5	0.295
		EDL	3.060

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COMMENTS			

MOVABLE BALLAST			
N/A			

CENTERBOARD			
N/A			

SAILS (Maximum Areas)									
Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula	
	0.16	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				
	16.25	16.25	16.25	8.37	8.20	112.88		SL · (SFL + 4·SHW) / 6	
Asymmetric	SLU	SLE	SL	SHW	SFL				
	16.82	14.68	15.75	8.60	8.21	111.85		AS · (SFL + 4·SHW) / 6	

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

MEASUREMENT INVENTORY				
Measurer	GRE-21			
Date	20/03/2019			
Comment				
Internal Ballast total = 0.0				
Id	Item	Weight	Distance	VCG Description
Id	Item	Maker	Model	
1	Engine	VOLVO PENTA	D2-40F	
Id	Item	Weight Description		

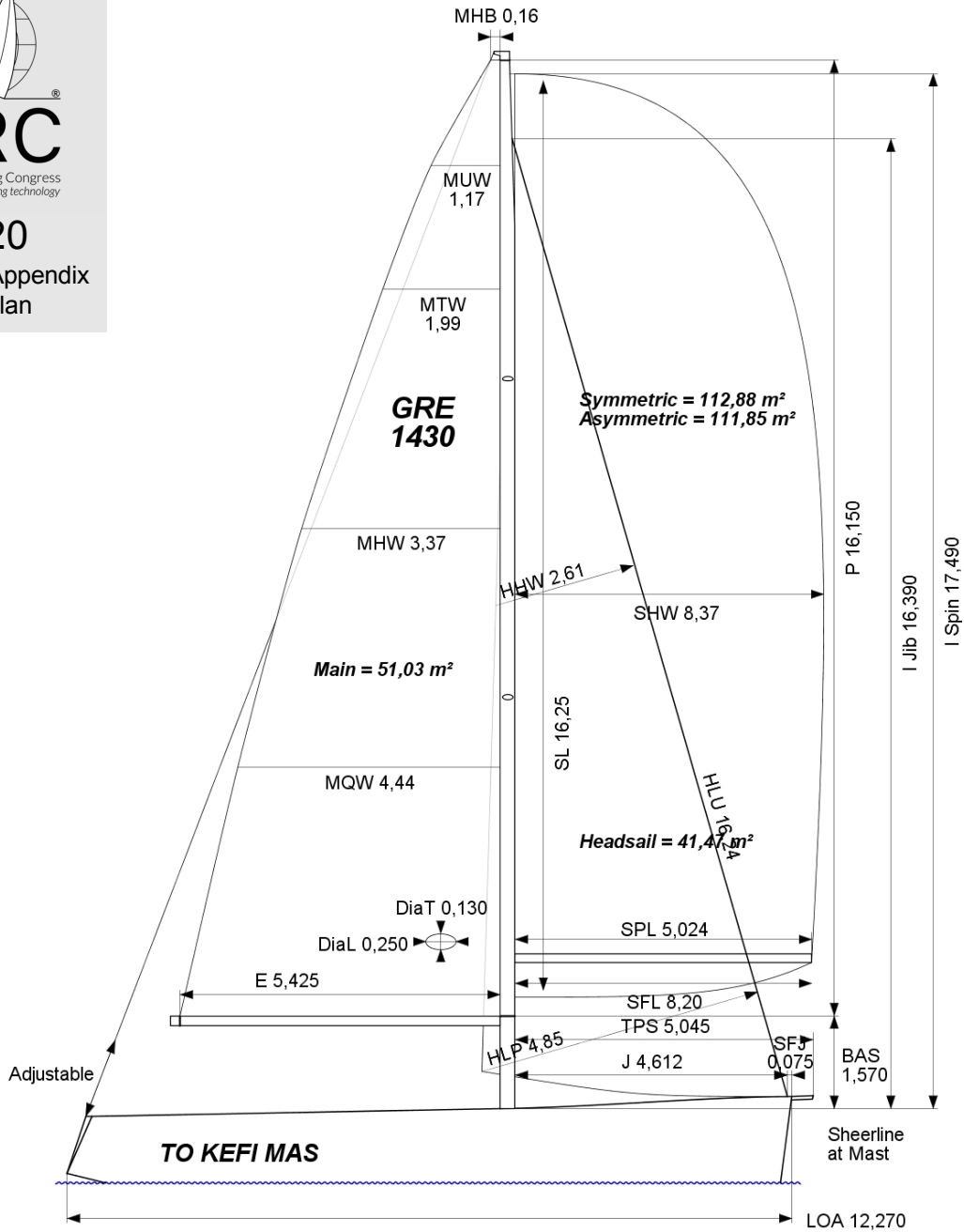
MEASUREMENT INVENTORY							
Id	Item	Tank Use	Tank Type	Capcty	Dist.	VCG	Condtn Description
1	Tank	WATER	PVC	230.0	5.70		0-0
2	Tank	WATER	PVC	120.0	5.20		0-0
3	Tank	FUEL	PVC	145.0	9.90		30-0
4	Tank	WASTE	PVC	100.0	9.80		0-0
5	Tank	WASTE	PVC	60.0	2.70		0-0
Id	Item	Weight	Distance	VCG Description			
1	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	Flying	Measurer	Meas.Date	Manufacture	Material	Comment
4	0.10	0.75	1.38	2.61	3.80	4.85	16.24	105%	41.47		No		27/03/2019	KAKITSIS	Carbon	
2		0.07	0.54	1.01	2.00	2.99	3.94	16.50	85%	32.97		No	14/05/2010	KAKITSIS	Kevlar	No 2
3						2.61	10.33	57%	13.73		No		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	