

BOAT Name PEGA-MUSTO Sail Nr GRE-970	GPH 619.4	HULL Length Overall 10.720m Maximum Beam 3.472m Displacement 5,236kg Draft 2.236m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0.054% Fwd Accommodation Yes Hull Construction Cored Carbon Rudder No Crew Arm Extension
GENERAL Class X-362 Sport Designer N.JEPPESEN Builder X-YACHTS Series 10/1993 Age 11/2002 Age Allowance 0.487% Offset File IX362SHK.OFF - 27/04/1999 18:16:26 Measurement by - 12/04/2005		IMSL 9.702m VCGD -0.046m Sink 18.95kg/mm RL 9.178m VCGM -0.002m WS 25.24m² LSM0 9.667m Displacement/Length ratio 5.7959



2019
ORC International
Certificate

Rating Office

Offshore
Racing
Congress



SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	601.9			668.1		
Time on Time	0.9968			1.0103		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	706.8	549.5	491.5	910.4	671.1	584.3
Time on Time	0.9550	1.2284	1.3733	0.7414	1.0058	1.1553

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1003.1	834.9	738.4	697.0	682.0	675.7	672.7
52°	663.5	562.9	517.9	500.6	494.0	490.7	489.4
60°	630.3	542.3	506.6	490.2	481.8	477.7	474.9
75°	605.9	528.6	498.4	480.0	465.9	456.3	448.6
90°	614.4	530.2	496.6	477.5	460.7	444.3	422.5
110°	640.4	532.8	491.8	466.5	443.0	426.0	406.1
120°	661.7	545.9	498.0	471.5	446.5	422.8	387.1
135°	734.7	598.6	523.7	490.1	465.7	440.8	393.9
150°	870.9	691.1	585.5	522.0	490.9	467.9	422.4
Run VMG	1005.6	798.0	675.1	593.9	536.8	500.3	454.9

Certificate
Number **00555P**
ORC Ref **GRE01016309**
Issued On **11/09/2019**
VPP Ver. **2019 1.01**
Valid until **28/02/2020**

Crew Weight
Default **656kg**
Maximum **680kg**
Minimum* **510kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

Special Scoring
ToD ToT
Double H.GPH **627.9 0.9556**
Double H.OSN **611.8 0.9807**
Non Spin GPH **645.0 0.9302**
Non Spin OSN **625.9 0.9586**

Selected Courses							
Windward / Leeward	1004.4	816.4	706.7	645.5	609.4	588.0	563.8
Circular Random	849.5	687.5	601.1	551.2	520.7	500.8	475.5
Coastal / Long Distance	1004.5	768.6	640.3	568.5	531.3	502.1	455.0
Non Spinnaker	895.6	720.0	625.2	570.0	536.0	513.9	485.7

Sails Limitations
Headsails **5** Spinnakers **3**

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	41.9°	40.7°	39.4°	37.7°	37.2°	36.8°	37.2°
Beat VMG	3.59	4.31	4.88	5.16	5.28	5.33	5.35
52°	5.43	6.40	6.95	7.19	7.29	7.34	7.36
60°	5.71	6.64	7.11	7.34	7.47	7.54	7.58
75°	5.94	6.81	7.22	7.50	7.73	7.89	8.03
90°	5.86	6.79	7.25	7.54	7.81	8.10	8.52
110°	5.62	6.76	7.32	7.72	8.13	8.45	8.86
120°	5.44	6.59	7.23	7.63	8.06	8.52	9.30
135°	4.90	6.01	6.87	7.35	7.73	8.17	9.14
150°	4.13	5.21	6.15	6.90	7.33	7.69	8.52
Run VMG	3.58	4.51	5.33	6.06	6.71	7.20	7.91
Gybe Angles	144.9°	149.6°	151.8°	157.5°	180.0°	180.0°	180.0°

Class Division Length
CDL = **9.441**

Storm Sails Areas
Heavy Weather Jib **27.42**
Storm Jib (JL=9.27) **10.16**
Storm Trysail **11.38**

Owner

BOAT	
Name PEGA-MUSTO	Sail Nr GRE-970
File GR970	Data in meters/kilograms

INCLINING TEST AND FREEBOARDS			
Inclining Test		Current Inclining	
Flotation date 08/04/2017		SG 1.0250	
FFM 1.255	FF 1.255	SFFP 0.332	
FAM 0.994	FA 0.994	SAFP 9.573	
W1 91.7	PD1 597.9	WD 10.950	
W2 91.7	PD2 605.6	GSA 1.0	
W3 91.7	PD3 596.0	RSA 1.0	
W4 91.7	PD4 599.4	PLM 9000.0	
LCF from stem on CL / on sheer		6.045 / 6.276	
Maximum beam station from stem		6.875	
RM Measured		131.9kg-m	
RM Default		131.6kg-m	
Limit of positive stability / Stab.Index		116.2° / 116.8	
Freeboard at mast at 4.140		1.122	



ORC
Offshore Racing Congress
World leader in rating technology

2019
IMS Measurement
Certificate

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 13.860	E 4.690	MDT1 0.112	MW 0.184
IG 14.210	J 3.780	MDL1 0.185	GO 0.195
ISP 14.215	SFJ 0.360	MDT2 0.099	BD 0.180
BAS 1.650	SPL 3.860	MDL2 0.171	MWT 153.00
FSP 0.068	TPS	TL 1.200	MCG 5.230

MIZZEN RIG AND SAILS	
N/A	

PROPELLER			
Installation Strut	PRD 0.400		
Type Folding 2 blades	PBW 0.110		
Twin Screw No	PIPA 0.0033		
ST1 0.042	ST3 0.180	ST5 0.250	
ST2 0.180	ST4 0.112	EDL 1.917	

Certificate	
Number 00555P	
ORC Ref GRE01016309	
Issued On 11/09/2019	
VPP Ver. 2019 1.01	
Valid until 28/02/2020	

COMMENTS	
ex "GUAPA"	

MOVABLE BALLAST	
N/A	



CENTERBOARD	
N/A	

SAILS (Maximum Areas)									
Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula	
	0.150	1.01	1.80	3.04	3.95	38.90	39.67	P/8 · (E + 2·MQW + 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric	SLU	SLE	SL	SHW	SFL	81.32		SL · (SFL + 4·SHW) / 6	
	13.87	13.87	13.87	7.12	6.70				
Asymmetric									
Not Available									

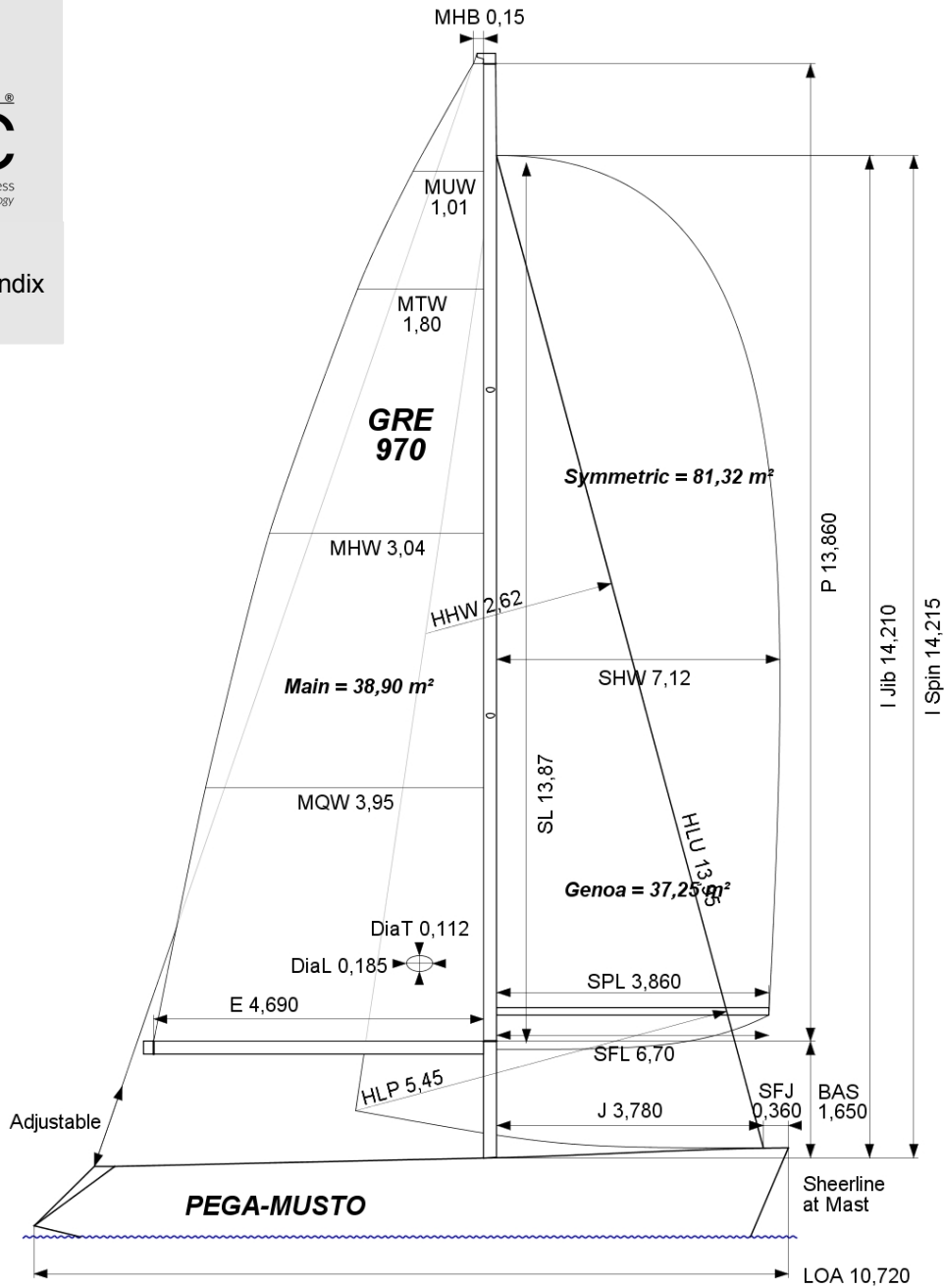
HEADSAILS												
Area = 0.1125·HLU · (1.445·HLP + 2·HQW + 2·HHW + 1.5·HTW + HUW + 0.5·HHB)												
HHB	HUW	HTW	HHW	HQW	HLP	HLU	Area	Btn	Fly	Meas.Date	Material	Comment
0.08	0.65	1.29	2.62	4.00	5.45	13.95	37.26			03/07/2018	Carbon	
0.08	0.61	1.19	2.50	3.89	5.35	14.14	36.50			07/06/2011	Kevlar	
0.06	0.62	1.19	2.45	3.81	5.26	14.10	35.78	N		14/07/2018	Carbon	
0.05	0.53	1.00	1.96	2.95	3.99	13.90	27.59			06/09/2017	Polyest	

MEASUREMENT INVENTORY				
Measurer	Date 08/04/2017			
Comment				
Id	Item	Weight	Distance	VCG Description
Id	Item	Maker	Model	
1	Engine	YANMAR	3GM	
Id	Item	Weight Description		

MEASUREMENT INVENTORY							
Id	Item	Tank Use	Tank Type	Capcty	Dist.	VCG	Condtn Description
1	Tank Fuel		Inox	80.0	6.50		5-0
2	Tank Water		Inox	90.0	3.60		0-0
3	Tank Water		Inox	135.0	4.80		0-0
Id	Item	Weight	Distance	VCG Description			
1	Battery	4.90		72Ah			
2	Battery	6.20		77Ah			
3	Battery	5.50		145Ah			



2019
Certificate Appendix
Sail Plan



SAILS INVENTORY

MAINSAIL (2)																
Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
2	0.15	1.01	1.80	3.04	3.95	38.91		03/11/2015	BANKS	Unknown						
1	0.17	1.02	1.75	3.02	3.94	38.71		03/07/2018	NORTH	Carbon						
HEADSAILS (4)																
Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
1	0.08	0.65	1.29	2.62	4.00	5.45	13.95	144%	37.26				03/07/2018	NORTH	Carbon	
4	0.08	0.61	1.19	2.50	3.89	5.35	14.14	142%	36.50				07/06/2011	NORTH	Kevlar	
3	0.06	0.62	1.19	2.45	3.81	5.26	14.10	139%	35.78		N		14/07/2018	BANKS	Carbon	
5	0.05	0.53	1.00	1.96	2.95	3.99	13.90	106%	27.59				06/09/2017	BANK SAILS	Polyest	
SYMMETRIC SPINNAKERS (5)																
Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
1	13.87	13.87	13.87	7.12	6.70	81.33		03/07/2018	NORTH	Nylon	S2 0.6					
2	13.90	13.90	13.90	6.77	6.80	78.49		30/10/2015	NORTH	Nylon						
3	13.81	13.81	13.81	6.85	6.65	78.38		07/06/2011	NORTH	Nylon	0.6 RUNNER					
4	13.99	13.99	13.99	6.72	6.62	78.12		07/06/2011	NORTH	Nylon	0.9 RUNNER					
5	13.89	13.89	13.89	6.65	6.65	76.98		07/06/2011	NORTH	Nylon	0.75 S3					
ASYMMETRIC SPINNAKERS (0)																
Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment				