

IMS RATING CERTIFICATE No. 99913
Based on: CLUB VCG (Metric)

IMS AMENDED TO JANUARY 2006
Offshore Racing Congress
Chelmsford, England
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IMS AMENDED TO JANUARY 2006 VPP: 28/FEB/06 19:04:02
Cert No 99913 2 HA370-1.DAT 28/FEB/06 19:00:38
OFF Meas'd: 00/00/00 HA370-1.OFF 11/APR/05 19:31:54

NOT VALID AFTER 00/00

---GPH---
! 640.0 !

----- YACHT DESCRIPTION -----
Name: HANSE 370
Sail No: HA370-1
Class: HANSE 370 105%
LOA: 11.280m Beam(MB) 3.760m
Designer: JVC
Builder: YC GREIFSWALD
Rig: FRACTIONAL SLOOP 105% Jib
Keel/CB: FIXED KEEL
PropInst: Pre-1988 STRUT DRIVE
FwdAccom: YES Spin: SYMMETRIC
HullCnst: HVYCORE RudCnst: STNDRD!
Forestay: ADJST AFT BoomMtl: HEAVY!
Spreadrs: 2 Sets InrFsty: NONE !
Runners: NONE Jumpers: NONE !
Dates: AGE:0/2005 SERIES : 0/2005!
COMMENTS-----!
105% FOCK

----- RATING OFFICE: -----
Issued: 2006-VERS.09.12 2005
28/FEB/06 TESTCALCULATION
Measured: ***NOT PERMITTED***
03/MAY/00 ****FOR RACING*****
Revalidation Authority: D.S.V.
Measurer: KALL
"I CERTIFY THAT I UNDERSTAND MY
RESPONSIBILITIES UNDER THE IMS."
OWNER:.....

-----CENTERBOARD AND DRAFT-----
ECM 0.000 CBRC 0.000 CBMC 0.000 CBTC 0.000
WCBA 0.0 CBDA 0.000 KCDA 0.000 ECE 0.000
WCBB 0.0 CBDB 0.000 ENDPLATE ADJ (KEDA) 0.000

-----PROPELLER AND INSTALLATION-----
PIPA was entered directly. This is a pre-1988 strut
drive PIPA.
PIPA 0.0031

-----FLOTATION DATA-----
FFPS 1.414 AFPS 1.148 SFFP 0.300 SAFP 11.210
FFM 1.390 FAM 1.120 FFPV 0.000 AFPV 0.000
FF 1.392 FA 1.121 RMst 191.4 SG 1.020

-----STABILITY DATA-----
No inclining test was performed. Club righting
moment is based on class standard vertical center of
gravity of 0.155 to the offset file datum.
SMB 7.488
RM2 196.6 RM20 171.0 RM40 125.0 RM60 83.4
RM90 31.1 WBV 0.0 CREW ARM (CRA) 1.856
CALCULATED LIMIT OF POSITIVE STABILITY: 112.2 DEGREES
RATIO STABILITY CURVE AREAS, POSITIVE/NEGATIVE 2.084

----- LIMITS AND REGULATIONS -----
Limit of Positive Stability: MEETS REQ Measurement Inventory: 03/MAY/00
Minimum Displacem't 3642kg: MEETS REQ Accom Lgth: RACE= 11.3 C/R= 11.3
Maximum Crew Weight: 550 kg Accom Certificate: C/R DA= 1.12%
Stability Index: 115.0 Plan Approval: NONE FILED
C/R HeavyItems Pitch Adjustm't 0.00000 Anchor(s) Weight: 0 Dist: 0.00
Applied Age Allowance: 0.05%

NOTE TO OWNER: The range available to revise crew weight is 512- 946 kg.

----- TIME ALLOWANCES IN SEC/MI BY TRUE WIND VELOCITY & ANGLE -----
(NOT WIND-AVERAGED)

Wind Velocity:	6kt	8kt	10kt	12kt	14kt	16kt	20kt	CHECKSUM
BEAT ANGLES:	45.5	43.8	44.5	42.4	41.1	40.5	40.4	(298.2)
BEAT VMG:	1159.4	950.5	830.8	775.2	745.5	728.0	715.5	(5904.9)
52 :	736.8	607.2	542.9	512.4	496.8	487.1	479.0	(3862.2)
R 60 :	683.4	564.8	515.6	483.8	469.9	462.8	456.5	(3636.8)
E 75 :	640.2	531.0	481.5	462.7	446.7	436.7	427.7	(3426.5)
A 90 :	595.1	507.2	464.1	444.3	435.2	427.9	407.3	(3281.1)
C 110 :	615.5	520.4	473.6	447.2	425.9	406.9	386.8	(3276.3)
H 120 :	656.7	540.9	488.8	456.1	434.7	412.8	374.6	(3364.6)
135 :	754.1	605.4	525.7	481.4	453.7	433.8	393.8	(3647.9)
150 :	903.7	708.8	592.9	525.9	484.4	456.6	418.2	(4090.5)
RUN VMG:	1043.5	818.5	684.6	595.2	538.7	498.2	448.1	(4626.8)
GYBE ANGLES:	142.7	148.6	149.1	160.7	168.5	170.5	175.4	(1115.5)

NOTE: To convert any time allowance above to speed in knots: Kt = 3600/TA

----- TIME ALLOWANCES FOR SELECTED COURSES (AFTER WIND-AVERAGING) -----

Wnd/Lwd VMG	1121.8	896.8	769.6	694.8	649.7	620.0	588.2	(5340.9)
CircularRandom	893.6	716.4	620.1	563.7	528.7	505.8	477.5	(4305.8)
Ocean for PCS	1008.2	785.6	658.7	578.9	525.3	486.9	433.6	(4477.2)
Non-Spinnaker	979.3	776.7	664.7	597.6	555.3	527.6	494.0	(4595.2)

----- SIMPLIFIED SCORING OPTIONS -----

	Time-on-Distance (sec/mi)	Time-on-Time TMF	Performance Line PLT PLD
! OFFSHORE	640.0 (=GPH)	0.9375 (=600/GPH)	0.703 42.3 (Ocean)
! INSHORE	726.3 (=ILC)	0.9294 (=675/ILC)	0.901 254.3 (Olympic)
! Performance Line Corrected Time = (PLT x Elapsed Time)-(PLD x Distance) !			
! ----- TRI-NUMBER TMFS BY WIND RANGE ----- !			
! WINDWARD	Low	Medium	High
! /LEEWARD	0.6798	0.9438 1.1091	CIRCULAR Low Medium High RANDOM 0.9028 1.1984 1.3629

-----HYDROSTATICS-----MEASUREMENT TRIM--SAILING TRIM--
KEEL DRAFT (DHK0) 1.925 (DHKA) 1.960
2ND MOMENT LENGTH (LSM0) 10.557 (LSM1) 10.766
DISPLACEMENT (WEIGHT) (DSPM) 7208 (DSPS) 8028
WETTED SURFACE (WSM) 30.47 (WSS) 31.84
VCG FROM OFFSETS DATUM (For CLUB RM) (VCGD) 0.155
VCG FROM MEASUREMENT TRIM WATERLINE (VCGM) 0.131
INTEGRATED BEAM ATTENUATED WITH DEPTH (B) 3.361
MAXIMUM SECTION AREA (AMS1) 1.447
BEAM/DEPTH RATIO (BTR) 5.159
EFFECTIVE DRAFT (D) 1.668
2 DEG HEEL (LSM2) 10.782 25 DEG HEEL (LSM3) 11.082
SUNK (LSM4) 11.908 AVG LENGTH (L) 10.686
TRIM: 1mm/12.087m-kg SINK: 1mm/23.393kg

SAIL AREAS: MAIN+FORE+MIZZEN: 74.19 MAIN: 43.07
GENOA: 34.02 SYM: 107.86 ASYM: 0.00 MIZ'N: 0.00

-----FORETRIANGLE-----MAIN & SPARS-----
IG 15.000 J 4.150 HB 0.150 TH NO
MW 0.222 FSP 0.072 MGT 1.00 TL 0.000
GO 0.222 LPG 4.30 MGU 1.84 MDT1 0.136
ISP 15.000 LP 4.37 MGM 3.20 MDL1 0.222
IM 15.000 JL 0.00 MGL 4.27 MDT2 0.136
HBI 1.194 JR 0.00 MSW 22.0 MDL2 0.222
SFJ 0.285 P 14.400 MWT 220.0
SPL 4.150 TPS 0.000 E 5.150 MCG 5.900
SL 15.00 ASL EC 5.150 BD 0.180
SMW 7.70 AMG BAS 1.700 CPW 2.590
SF 7.50 ASF SPS 3.000 BAL 0.152

-----MIZZEN-----
IY 0.000 PY 0.000 HBY 0.000 TLY 0.000
EB 0.000 EY 0.000 MGTY 0.000 MDT1Y 0.000
YSD 0.00 ECY 0.000 MGUY 0.000 MDL1Y 0.000
YSF 0.00 BASY 0.000 MGY 0.000 MDT2Y 0.000
YSMG 0.00 BALLY 0.000 MGLY 0.000 MDL2Y 0.000
HBIY 0.000 BDY 0.000

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IMS AMENDED TO JANUARY 2006 VPP: 28/FEB/06 19:04:02
Cert No 99913 2 HA370-2.DAT 28/FEB/06 19:01:00
OFF Meas'd: 00/00/00 HA370-1.OFF 11/APR/05 19:31:54

NOT VALID AFTER 00/00

---GPH---
! 631.9 !

----- YACHT DESCRIPTION ----- RATING OFFICE:-----
Name: HANSE 370 ! Issued: 2006-VERS.09.12 2005
Sail No: HA370-2 ! 28/FEB/06 TESTCALCULATION
Class: HANSE 370 140% ! Measured: ***NOT PERMITTED***
LOA: 11.280m Beam(MB) 3.760m ! 03/MAY/00 ****FOR RACING*****
Designer: JVC !
Builder: YC GREIFSWALD ! Revalidation Authority: D.S.V.
Rig: FRACTIONAL SLOOP 143% Jib ! Measurer: KALL
Keel/CB: FIXED KEEL !
PropInst: Pre-1988 STRUT DRIVE ! "I CERTIFY THAT I UNDERSTAND MY
FwdAccom: YES Spin: SYMMETRIC ! RESPONSIBILITIES UNDER THE IMS."
HullCnst: HVYCORE RudCnst: STNDRD !
Forestay: ADJST AFT BoomMtl: HEAVY ! OWNER:.....
Spreadrs: 2 Sets InrFsty: NONE !
Runners: NONE Jumpers: NONE !
Dates: AGE:0/2005 SERIES : 0/2005!
COMMENTS-----!
140% GENOA

----- LIMITS AND REGULATIONS -----
Limit of Positive Stability: MEETS REQ Measurement Inventory: 03/MAY/00
Minimum Displacem't 3642kg: MEETS REQ Accom Lgth: RACE= 11.3 C/R= 11.3
Maximum Crew Weight: 550 kg Accom Certificate: C/R DA= 0.92%
Stability Index: 115.0 Plan Approval: NONE FILED
C/R HeavyItems Pitch Adjustm't 0.00000 Anchor(s) Weight: 0 Dist: 0.00
Applied Age Allowance: 0.05%

NOTE TO OWNER: The range available to revise crew weight is 512- 946 kg.
----- TIME ALLOWANCES IN SEC/MI BY TRUE WIND VELOCITY & ANGLE -----
(NOT WIND-AVERAGED)

Wind Velocity:	6kt	8kt	10kt	12kt	14kt	16kt	20kt	CHECKSUM
BEAT ANGLES:	45.6	45.0	44.2	42.0	40.8	40.2	40.1	(297.9)
BEAT VMG:	1101.7	913.8	812.6	763.5	735.3	718.7	707.3	(5752.9)
52 :	700.7	579.4	530.7	507.4	492.7	483.6	476.6	(3771.1)
R 60 :	648.7	544.8	501.6	479.0	467.7	461.2	455.5	(3558.5)
E 75 :	604.0	520.2	478.3	454.6	443.0	436.5	428.4	(3365.0)
A 90 :	595.1	507.2	464.1	444.3	435.1	424.3	407.0	(3277.1)
C 110 :	615.5	520.4	473.6	447.2	425.9	406.9	386.8	(3276.3)
H 120 :	656.7	540.9	488.8	456.1	434.7	412.8	374.6	(3364.6)
135 :	754.1	605.4	525.7	481.4	453.7	433.8	393.8	(3647.9)
150 :	903.7	708.8	592.9	525.9	484.4	456.6	418.2	(4090.5)
RUN VMG:	1043.5	818.5	684.6	595.2	538.7	498.2	448.1	(4626.8)
GYBE ANGLES:	142.7	148.6	149.1	160.7	168.5	170.5	175.4	(1115.5)

NOTE: To convert any time allowance above to speed in knots: Kt = 3600/TA

----- TIME ALLOWANCES FOR SELECTED COURSES (AFTER WIND-AVERAGING) -----

Wnd/Lwd VMG	1093.1	879.2	759.8	688.5	644.5	615.3	584.1	(5264.5)
CircularRandom	876.5	705.3	612.8	558.6	525.0	502.9	475.5	(4256.6)
Ocean for PCS	990.6	774.2	650.9	573.6	521.6	484.3	432.9	(4428.1)
Non-Spinnaker	941.9	751.3	646.8	584.5	545.4	519.9	489.0	(4478.8)

----- SIMPLIFIED SCORING OPTIONS -----

Time-on-Distance (sec/mi)	Time-on-Time TMF	Performance Line PLT PLD
! OFFSHORE 631.9 (=GPH)	0.9495 (=600/GPH)	0.724 50.8 (Ocean)
! INSHORE 714.6 (=ILC)	0.9446 (=675/ILC)	0.960 285.8 (Olympic)
! Performance Line Corrected Time = (PLT x Elapsed Time)-(PLD x Distance) !		
! TRI-NUMBER TMFS BY WIND RANGE !		
! WINDWARD Low Medium High	! CIRCULAR	Low Medium High
! /LEEWARD 0.6963 0.9542 1.1175	! RANDOM	0.9226 1.2094 1.3700

-----CENTERBOARD AND DRAFT-----
ECM 0.000 CBRC 0.000 CBMC 0.000 CBTC 0.000
WCBA 0.0 CBDA 0.000 KCDA 0.000 ECE 0.000
WCBB 0.0 CBDB 0.000 ENDPLATE ADJ (KEDA) 0.000

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SMB 7.488
RM2 196.6 RM20 171.0 RM40 125.0 RM60 83.4
RM90 31.1 WBV 0.0 CREW ARM (CRA) 1.856
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GENOA: 46.47 SYM: 107.86 ASYM: 0.00 MIZ'N: 0.00

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SMW 7.70 AMG BAS 1.700 CPW 2.590
SF 7.50 ASF SPS 3.000 BAL 0.152

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EB 0.000 EY 0.000 MGTY 0.000 MDT1Y 0.000
YSD 0.00 ECY 0.000 MGUY 0.000 MDL1Y 0.000
YSF 0.00 BASY 0.000 MGY 0.000 MDT2Y 0.000
YSMG 0.00 BALLY 0.000 MGLY 0.000 MDL2Y 0.000
HBIY 0.000 BDY 0.000