Stabitlity calculation according to ISO 6185-2 and ISO 12217-3-2017

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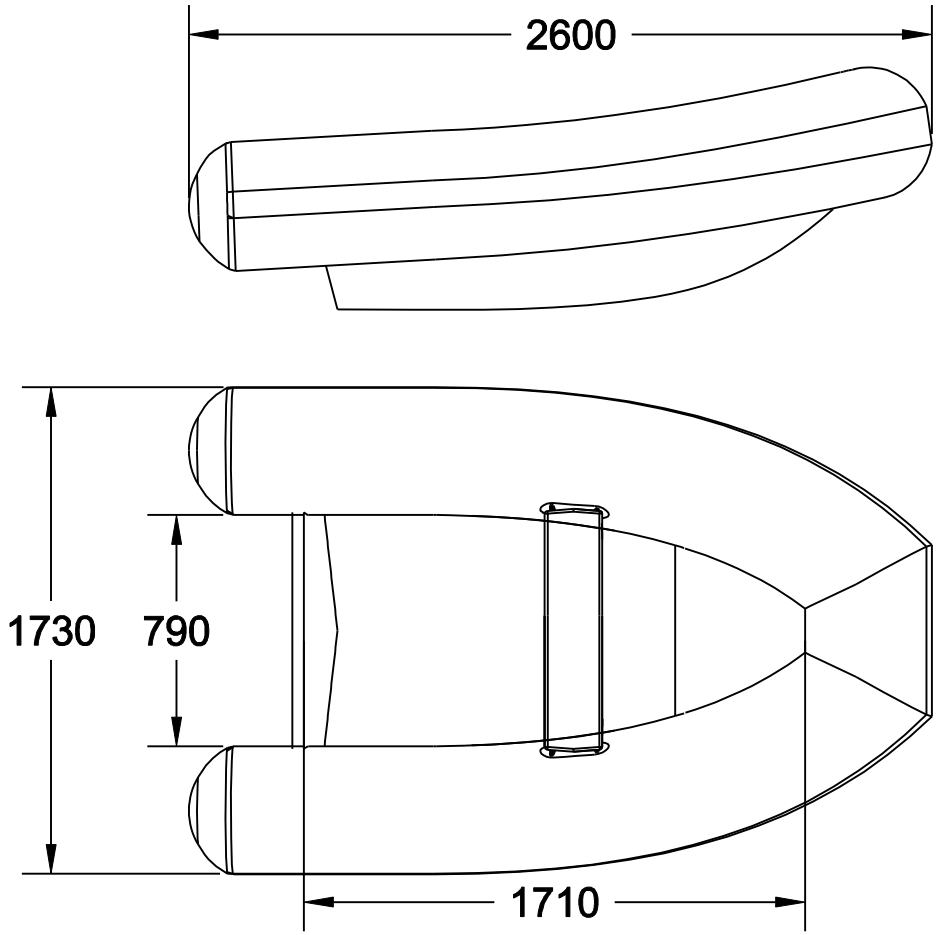
DND DAWN YACHT DESIGN 厦门道恩建筑设计有限公司			ITEM	PROJECT:	CL 260
			CL260	Cat.	cat. C
	Signature			PAPER	SCALE
Design by			Stability calculations	A4	
Checked by				sheet	1 of 8
Technic by					
Approved by		DATE 2018.07			

CONTENT



SPECIFICATION

Loa	2600mm
Beam	1730mm
Inside Length	1710mm
Inside Width	790mm
Weight	52Kg
Max Pax	3+child
Max Load	360Kg
Max HP	10
Shaft	Short
Tube	44cm
Airtight Chambers	3

DND
DAWN YACHT DESIGN

	Signature		
Design by	S.C/L		
Checked by			
Technic by			
Approved by		DATE	2017.04.19

Drawing Title

General Arrangement

Project Name: CL260

Drawing NO cl26-01-01

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R2

CL260 Weight			
Weight of the boat	52	kg	
Weight of the motor	60	kg	
test load	175.88	kg	3 passengers+child
TOTAL test mass:	**287.88**	kg	

The total test load m_t, in kilograms, shall be calculated using the following formula:

$m_t = (0{,}67 \times n \times 75) + (0{,}67 \times 37{,}5)$ for a child, if applicable

n is the maximum permissible number of adults determined by the manufacturer (see 6.1), i.e. 75 kg for each permissible adult and 37,5 kg for a child, if applicable.

Offset load condition

	weight(kg)	x (mm)	y(mm)	z(mm)	Mx	My	Mz
boat	112	444	0	206	49728	0	23072
load	175.88	444	400	490	78088.5	70350	86178.75
	287.88	444.0	244.4	379.5	**127816.5**	**70350**	**109251**

Maximum power

6.2 Maximum motor power

This is applicable to Type V boats only.

The motor maximum power, in kilowatts, shall be determined by the manufacturer and shall not exceed that calculated using the following formula:

$$P_{max} = 10 \times F(d) - 33$$

where

P_{max} is the maximum motor power rating, in kilowatts, determined in accordance with ISO 8665;

$F(d)$ is the dimensional factor = $l \times b$

where

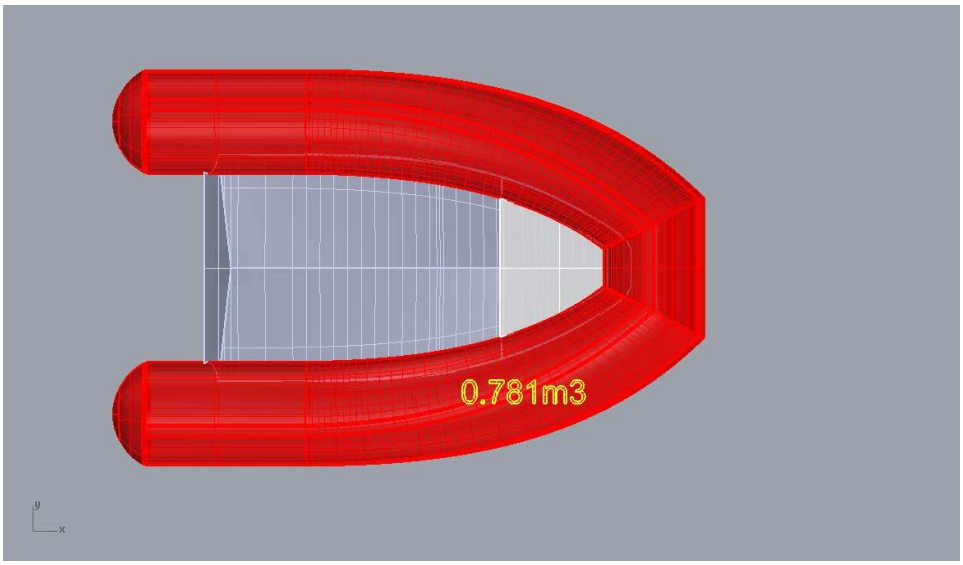
l is the overall length of the boat, in metres, from the bow to the extremity of the rear float (excluding handholds or other fittings);

b is the overall beam of the boat, in metres (excluding handholds or other fittings).

	l(m)	b(m)	Pmax Kw	Pmax HP
CL 260	2.6	1.730	11.98	**16.07**

CL260 Buoyancy

Inflatable Buoyancy tube: **0.781** m^3



Maximum Load

The maximum load which may be carried by the boat shall be determined by the manufacturer and shall not exceed that calculated using the following formula:

$$m = (0{,}75 \times V \times 1\,000) - m_b$$

where

m is the maximum load capacity, in kilograms (total mass on board including persons, equipment, motor(s) and fuel);

V is the volume, in cubic metres, of the buoyancy of the boat;

m_b is the total mass, in kilograms, of the boat as supplied by the manufacturer [inclusive of all permanently installed equipment supplied with the boat: hull, fittings and similar items but without motor(s) and fuel]. Permanently installed engine(s) and drive systems shall also be included.

Buoyancy volume (m3)	M (kg)	m (kg)	Max load reccomended by manufacturer:
m^3	kg	kg	kg
0.781	52	533.75	360

Maximum number of passengers

$$n = \frac{l_i}{0{,}38} - 1$$

where l_i is the inboard length, in metres.

Under no circumstances shall the value, n, expressed in body mass, exceed the maximum load capacity (see 6.4).

The value n shall always be rounded down to the nearest integer but, if the first decimal place is greater than 5, a child may be added, or if greater than 7, an adult may be added.

For calculations, the body mass of a child is defined as 37,5 kg and the body mass of an adult as 75 kg.

The data displayed on the builder's plate(s), see clause 8 e), shall include at least one adult and not more than one child.

	l_i	n		N. persons
CL 260	1.71	3.500		3+child

Hydrostatics Report

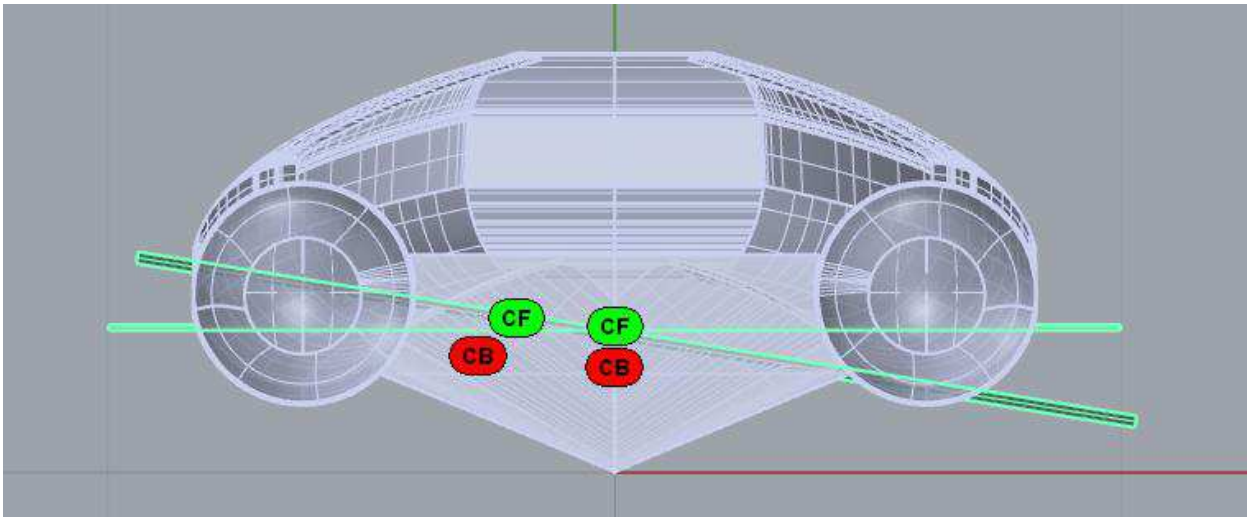
Length Overall, LOA	2.600	m
L_H=	2.600	m
Beam Overall, Boa	1.730	m
Waterline Length, Lwl	2.122	m
Waterline Beam, Bwl	1.647	m
Navigational Draft, T	0.285	m
Displacement Weight	287.880	kgf
Volume	0.281	m³
LCG	0.444	m
TCG	0.000	m
VCG	0.380	m
Fluid Density	1025.000	kg/m³
LCB	0.445	m
TCB	0.000	m
VCB	0.207	m
Wetted Surface Area	3.049	m²
Waterplane Area, Awp	2.478	m²
LCF	0.502	m
TCF	0.243	m
Weight To Immerse	25.421	kgf/cm
I(transverse)	0.535	m^4
I(longitudinal)	0.592	m^4
BMt	1.906	m
BMl	2.108	m
GMt	1.734	m
GMl	1.936	m
Mt	1.828	m
Ml	2.030	m
Heel Angle	0.000	deg
Trim Angle	0.213	deg
Cb	0.282	
Cwp	0.709	
Cvp	0.397	
Cws	3.951	

Offset load test simulation

1.General

Length Overall, LOA	2.600	m
L_H=	2.600	m
Beam Overall, Boa	1.730	m
Waterline Length, Lwl	2.104	m
Waterline Beam, Bwl	1.529	m
Navigational Draft, T	0.270	m
Displacement Weight	287.880	kgf
Volume	0.281	m³
LCG	0.444	m
TCG	0.245	m
VCG	0.380	m
Fluid Density	1025.000	kg/m³
LCB	0.443	m
TCB	0.270	m
VCB	0.228	m
Wetted Surface Area	2.738	m²
Waterplane Area, Awp	2.103	m²
LCF	0.521	m
TCF	0.194	m
Weight To Immerse	21.574	kgf/cm
I(transverse)	0.334	m^4
I(longitudinal)	0.543	m^4
BMt	1.191	m
BMl	1.935	m
GMt	1.038	m
GMl	1.781	m
Mt	1.105	m
Ml	1.848	m
Heel Angle	-9.329	deg
Trim Angle	-0.442	deg

2.Test



Water does not enter into the boat.