

Tonnage calculation
Mahutavuse arvutus

Workboat "ISBJÖRN"

ISBJÖRN - 059 – M&S.1388



KOOSKÕLASTATUD

Transpordiamet
Laevade üksus

08 " 12 23
..... 20a.

MSS Group Ltd.

Butorin Aleksander
01.08.23

+372 5 541 395
e-mail: mss@hot.ee
mssgroupestonia@gmail.com
www.mssgroupestonia.com

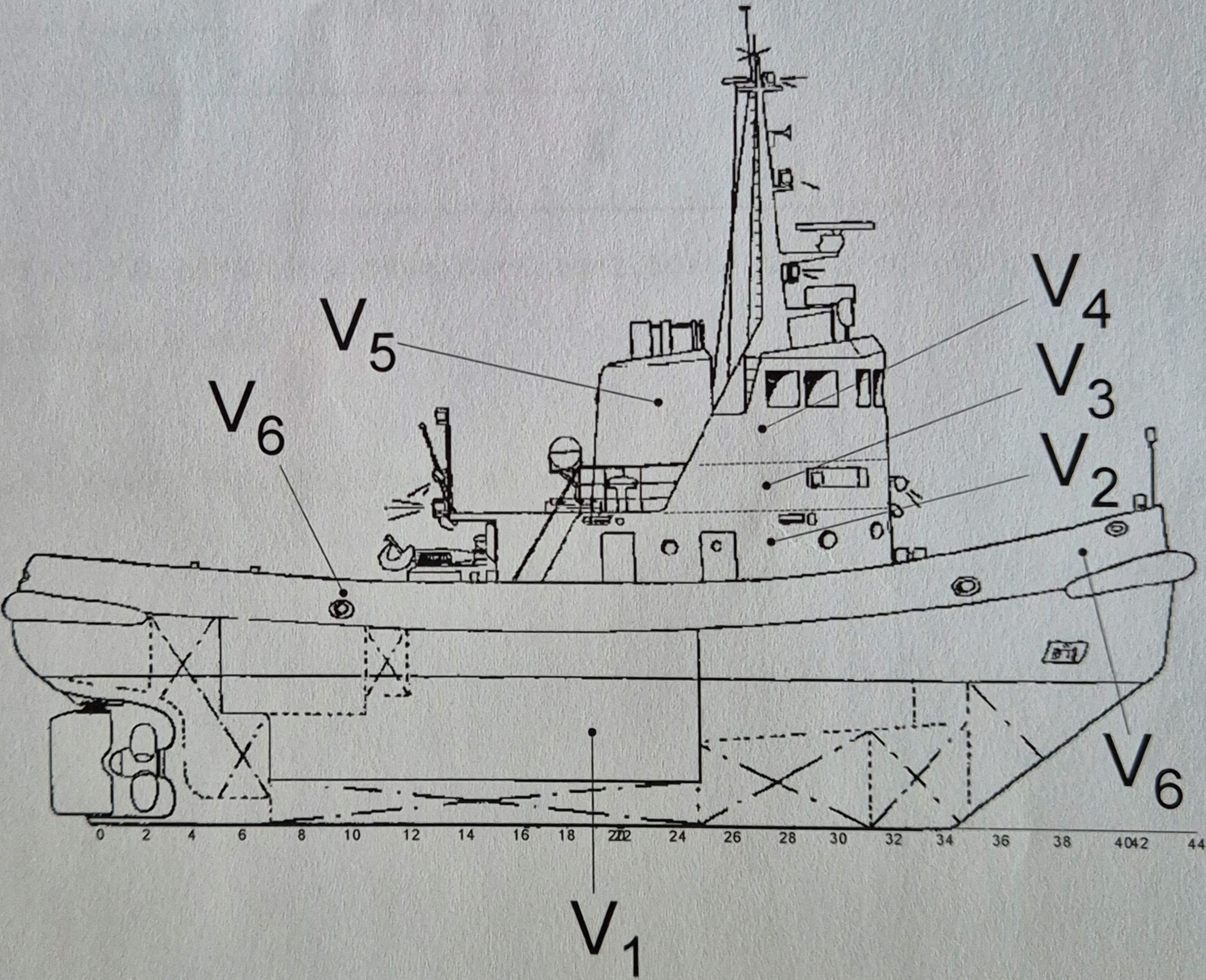
Workboat "ISBJÖRN"

The present calculation was made for ship "ISBJÖRN" in accordance with Estonian Transport Administration requirements - "Alla 24-meetrise kogupikkusega laevadele mõõtekirja väljastamise tingimused", Vastu võetud 11.02.2003 nr 29 ja „Majandus-ja kommunikatsiooniministri 11. veebruari 2003. a määruse nr 29 „Alla 24- meetrise kogupikkusega laevadele mõõtekirja väljastamise tingimused" muutmise", Vastu võetud 23.01.2012 nr 8.

1 MAIN DIMENSIONS

Name.....	ISBJÖRN
Type of ship.....	Workboat
Build.....	1964, Finland
Length max, Loa.....	24.93 m.
Length, L.....	23.14 m.
Breadth, B.....	8.15 m.
Depth, D.....	4.00 m.
Freeboard, f.....	0.61 m.

2 CLOSED SPACES



- Volume under Main deck (was calculated by Stability program):

T, M	D, T	V, CUB.M	XC, M	ZC, M	S, SQ.M	XF, M	IX, : SQ.M*SQ.M	IYF, SQ.M	RB, M	RL, M	ZMB, M	DELTA	ALFA	BETA	OMEGA, SQ.M
5.52	489.8	489.8	-0.50	2.702	0.	0.00	0.	0.	0.00	0.00	2.702	1.746	0.000	2.276	427.

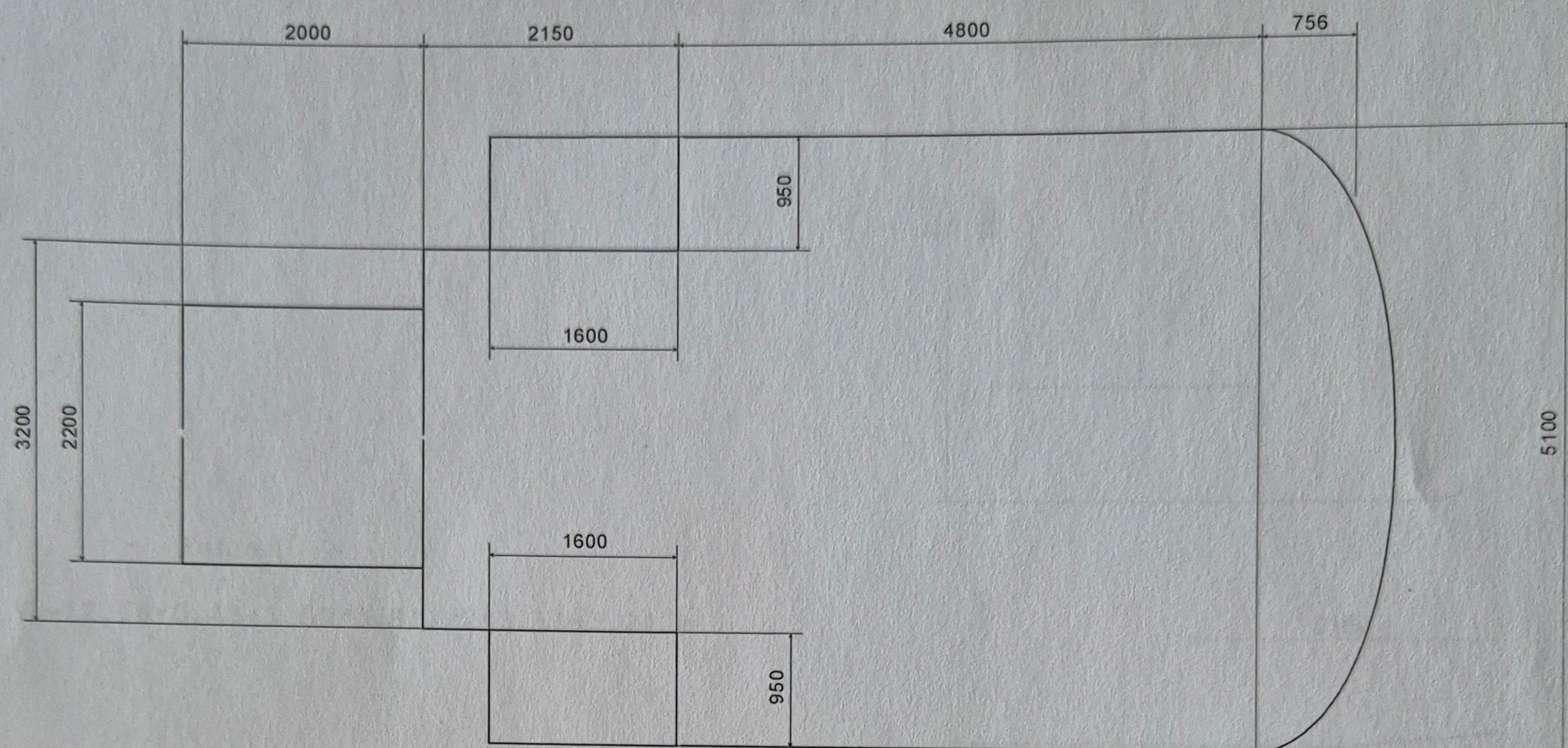
V₁ = 489.80 m³

Workboat "ISBJÖRN"

- Volume of closed space above freeboard deck

- deckhouse 1 tier

$$h=2.50/1.30 \text{ m}$$

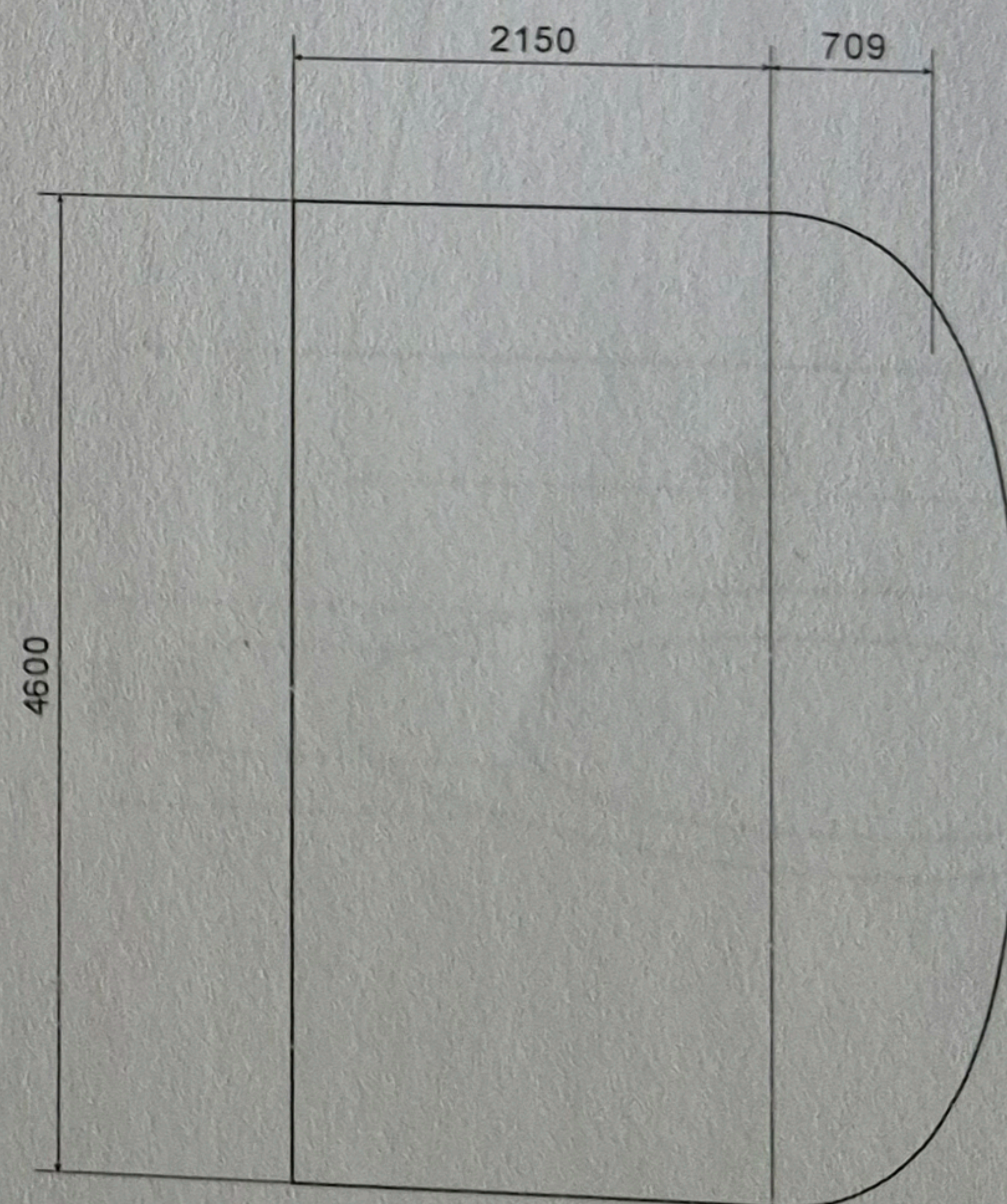


$$V_2 = 2.00 \times 2.20 \times 1.30 + 2.15 \times 3.20 \times 2.50 + 4.80 \times 5.10 \times 2.50 + 0.76 \times 5.10 \times 2.50 + 1.60 \times 0.95 \times 2.50 / 2 \times 2 = 97.61 \text{ m}^3$$

- deckhouse 2 tier

$$h=1.10 \text{ m}$$

$$V_3 = 2.15 \times 4.60 \times 1.10 + 0.71 \times 4.60 \times 1.10 = 14.47 \text{ m}^3$$

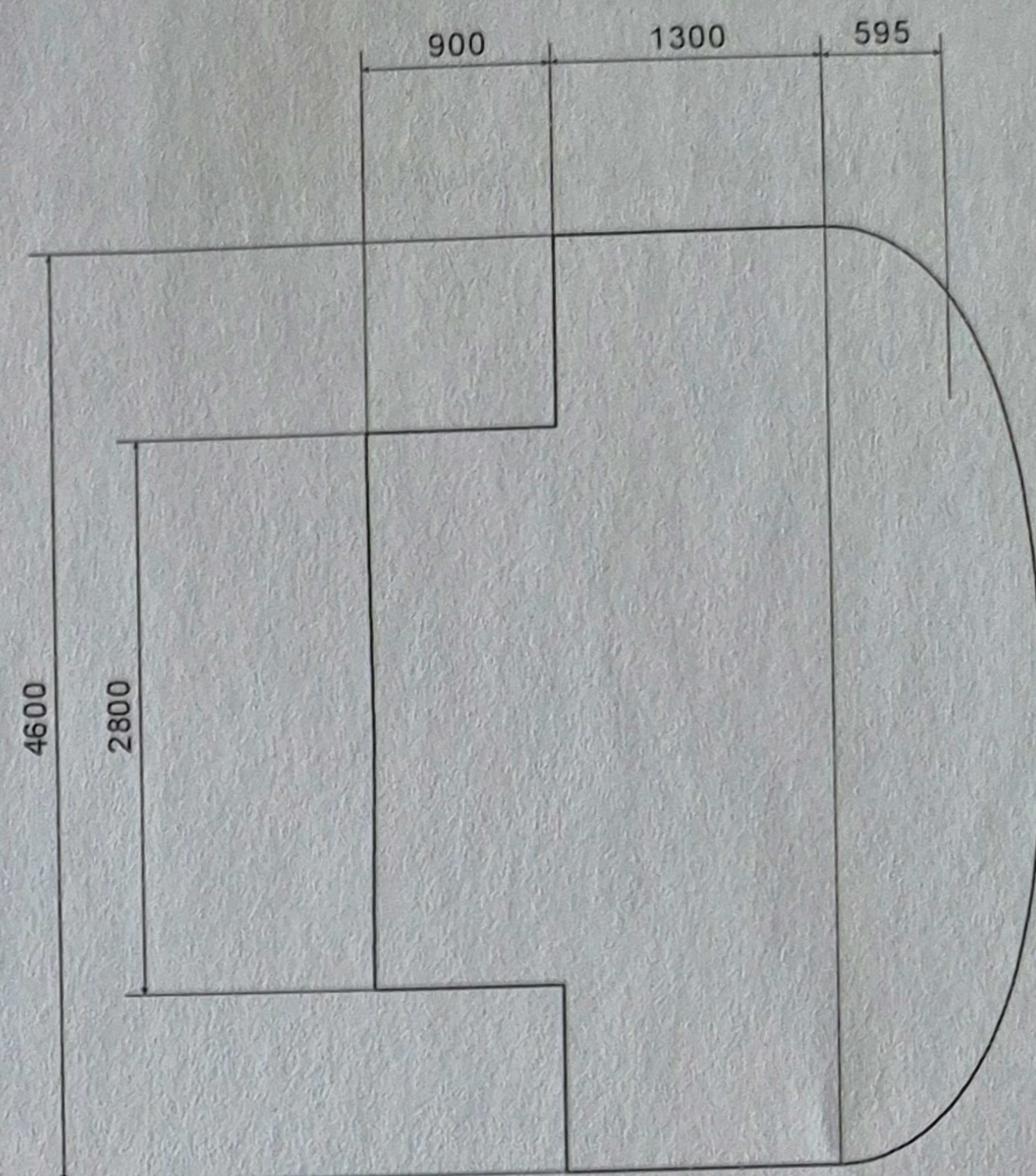


Workboat "ISBJÖRN"

- deckhouse 3 tier

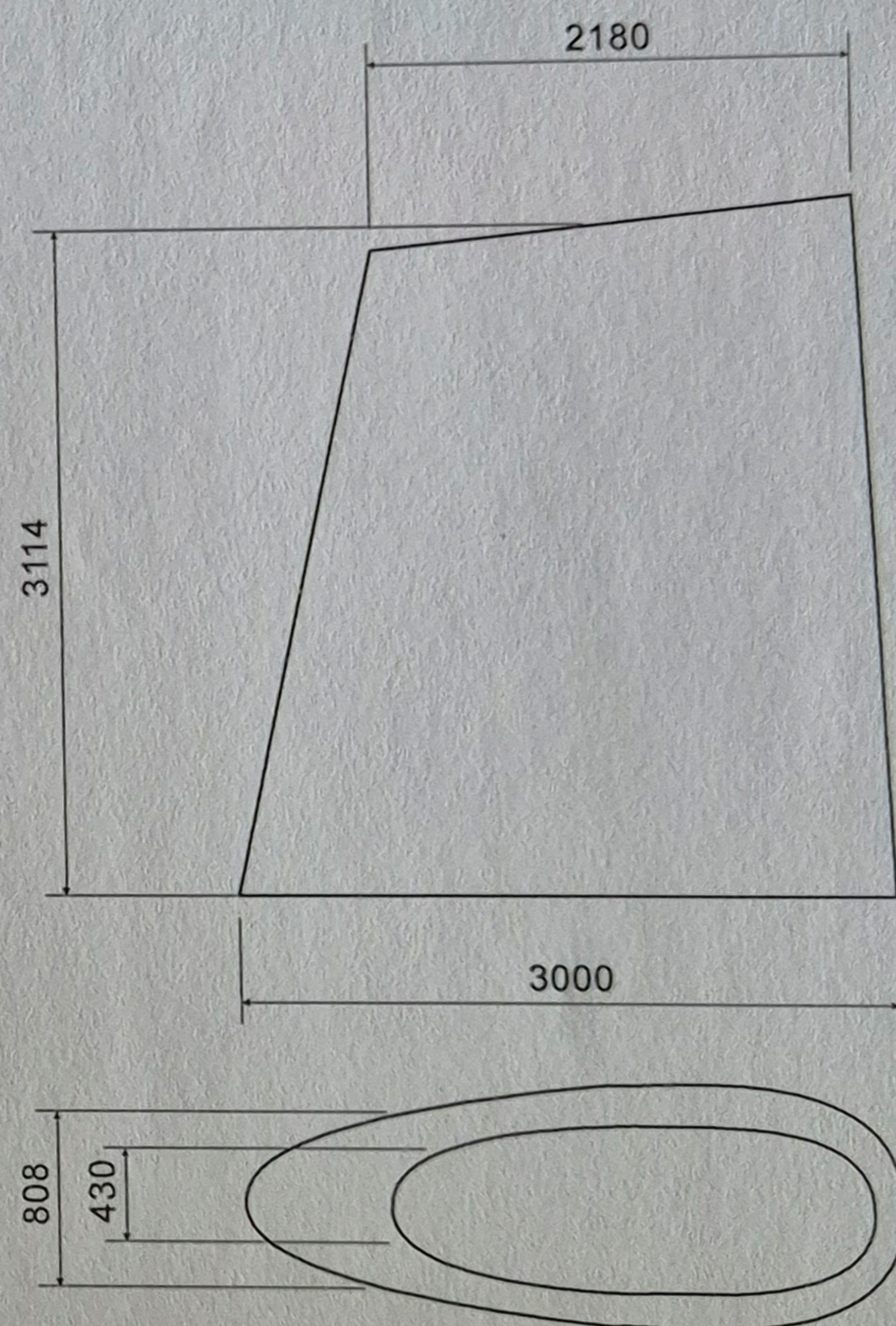
$$h=2.50 \text{ m}$$

$$V_4=0.90*2.80*2.50+1.30*4.60*2.50+0.60*4.60*2.50 \\ =28.15 \text{ m}^3$$



- Funnel

$$V_5=(2.18*0.43+3.00*0.81)/2*3.11=5.24 \text{ m}^3$$



- Hatchways

$$V_6=1.10*1.10*0.90+0.80*0.80*0.90=1.67 \text{ m}^3$$

Workboat "ISBJÖRN"

3 GROSS TONNAGE

$$GT = (V_1 + V_2 + V_3 + V_4 + V_5 + V_6) * K_1 = (489.80 + 97.61 + 14.47 + 28.15 + 5.24 + 1.67) * 0.25 = 636.94 * 0.25 = 159.24$$

where

$$\text{Factor } K_1 = 0.25$$

$$\text{Accept: } GT = 159$$

4 NET TONNAGE

$$NT = 0.3 * GT = 0.3 * 159 = 47.70$$

$$\text{Accept: } NT = 47$$

5 CONCLUSION

Accept according to present calculation:

Gross tonnage: GT = 159

Net tonnage: NT = 47

6 REFERENCE

- LINES PLAN ISBÖRN - 059-M&S.1385
- GENERAL ARRANGEMENT 867B-100-1
- Onboard measurements