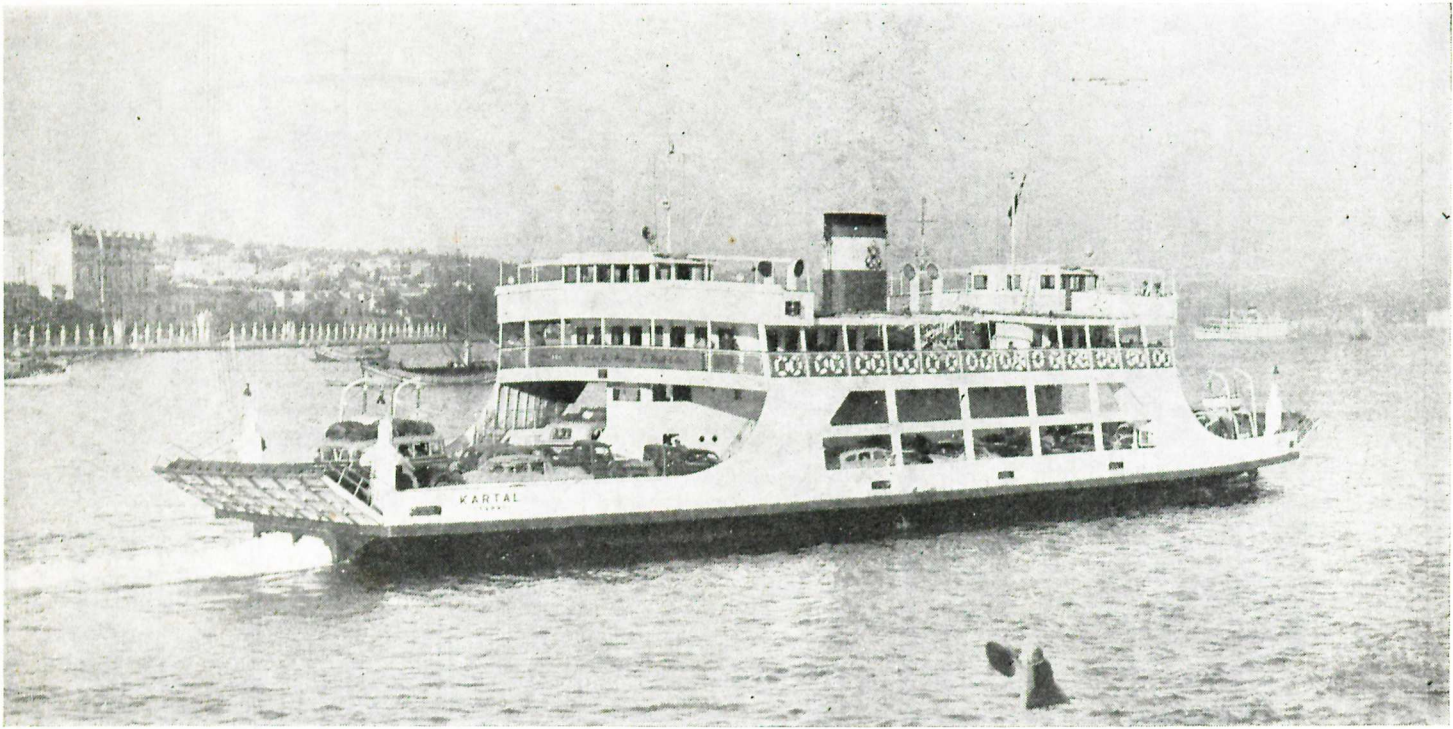




**S/S KARTAL**  
**S/S KABATAŞ**  
**S/S HÜRRIYET**



**ESAS BOYUTLAR VE KARAKTERİSTİKLER :**

|                                 |                       |
|---------------------------------|-----------------------|
| Boy (Dıştan dışa) .....         | 58,20 m.              |
| Boy (S. H. ) .....              | 49,72 m.              |
| Boy (Kaimeler arası) .....      | 48,80 m.              |
| Genişlik (Güv. - Kalıp) .....   | 13,50 m.              |
| Genişlik (çıkma) .....          | 16,00 m.              |
| Genişlik (Dıştan Dışa) .....    | 16,55 m.              |
| Derinlik (Kalıp) .....          | 4,50 m.               |
| Çektiği su .....                | 2,90 m.               |
| Güv. ara yüksekliği (net) ..... | 4,00 m.               |
| Otomobil pasaj genişliği .....  | 5,25 m.               |
| Otomobil saha alanı .....       | 482,00 m <sup>2</sup> |
| Otomobil sayısı .....           | 42 oto                |
| Deadweight .....                | 250 ton               |
| Deplasman .....                 | 970,0 ton             |

**Makine : Buhar - üç genişlemeli, pistonlu**

|                        |          |
|------------------------|----------|
| IHP (Kartal) .....     | 2 x 650  |
| » (Kabataş) .....      | 2 x 740  |
| » (Hürriyet) .....     | 2 x 640  |
| RPM (devir) .....      | 140      |
| Sürat (Maksimum) ..... | 11 Knots |
| » (Servis) .....       | 10 Knots |
| Gross Tonnage .....    | 763      |
| Nett Tonnage .....     | 219      |

**İNŞA TARİHLERİ :**

|                         |           |
|-------------------------|-----------|
| <b>Denize indirme :</b> |           |
| Kartal                  | 1/7/1953  |
| Kabataş                 | 29/4/1955 |
| Hürriyet (servis)       | 1/7/1960  |

|                          |            |
|--------------------------|------------|
| <b>Servise başlama :</b> |            |
| Kartal                   | 9/4/1954   |
| Kabataş                  | 18/2/1956  |
| Hürriyet                 | 29/10/1960 |

|                        |               |
|------------------------|---------------|
| <b>Maliyet Fiati :</b> |               |
| Kartal                 | 2,849,600 T.L |
| Kabataş                | 3,621,500 T.L |
| Hürriyet               | 6,000,100 T.L |

**Sahibi :**

**Denizcilik Bankası**  
**Şehir Hatları İşletmesi**

**İnşa eden Tersane :**

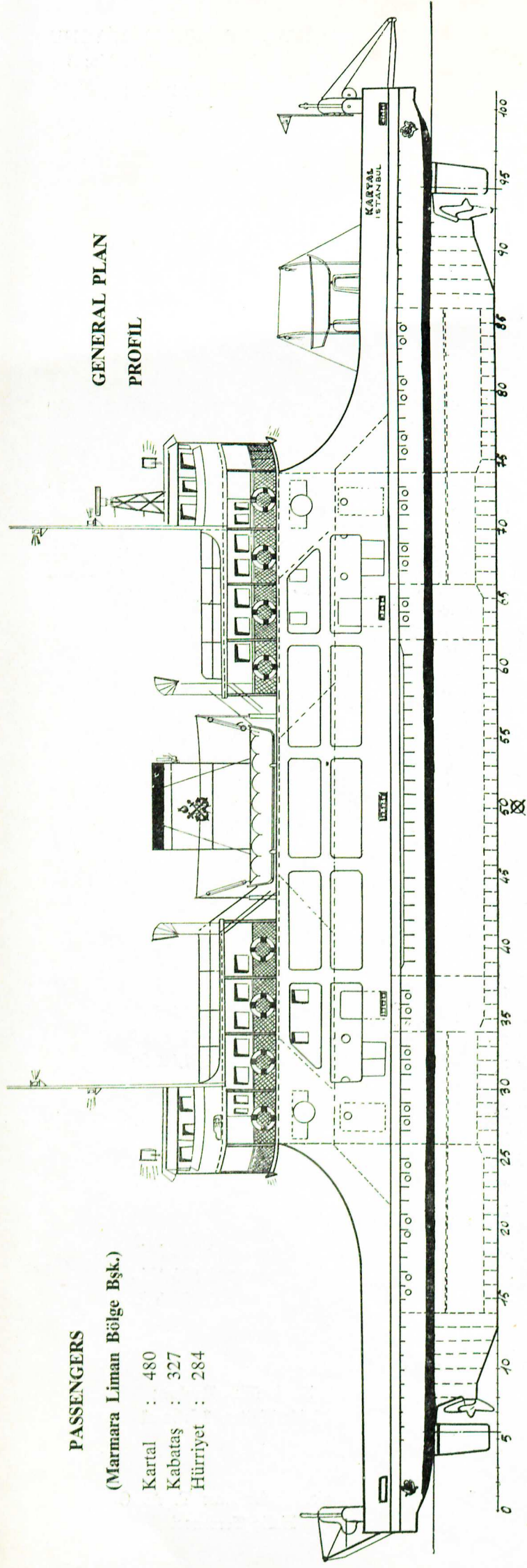
Denizcilik Bankası T. A. O.  
Haliç Tersanesi

**PASSENGERS**

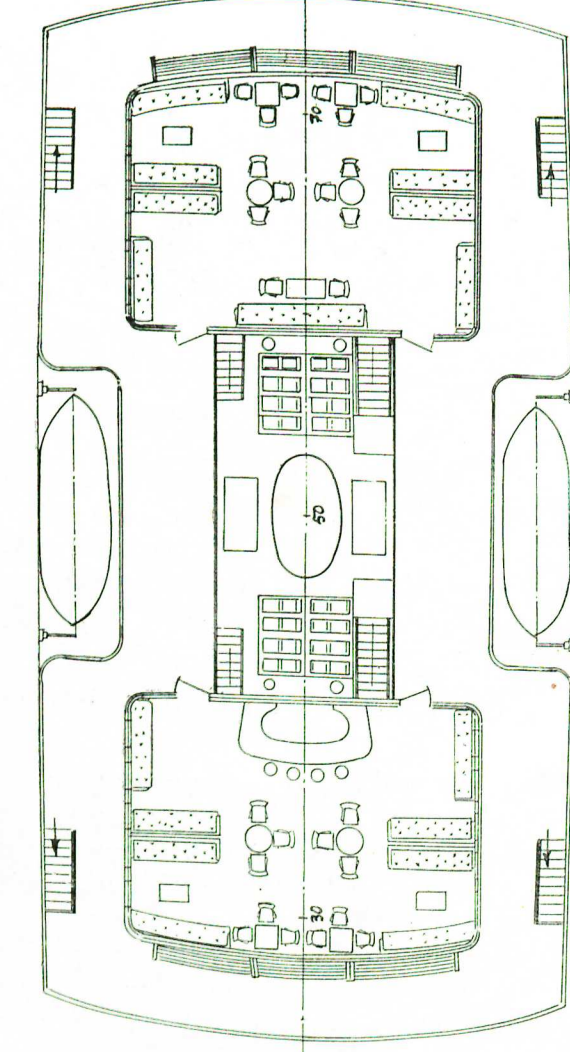
(Marmara Liman Bölge Bşk.)

Kartal : 480  
Kabatlaş : 327  
Hürriyet : 284

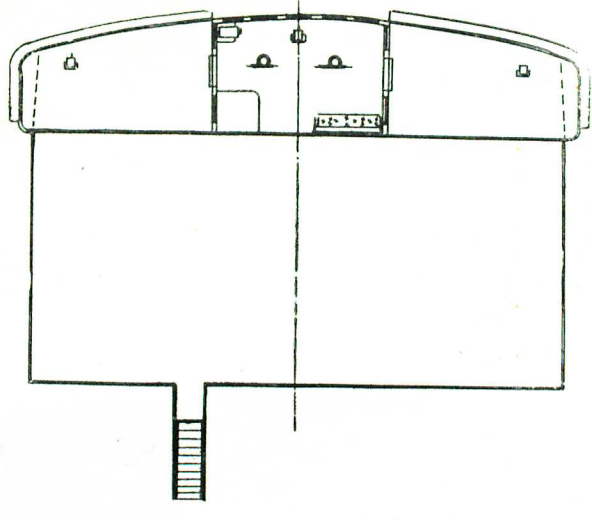
**GENERAL PLAN  
PROFIL**



**PROMENADE DECK  
YOLCU GÜVERTESİ**



**BRIDGE DECK**



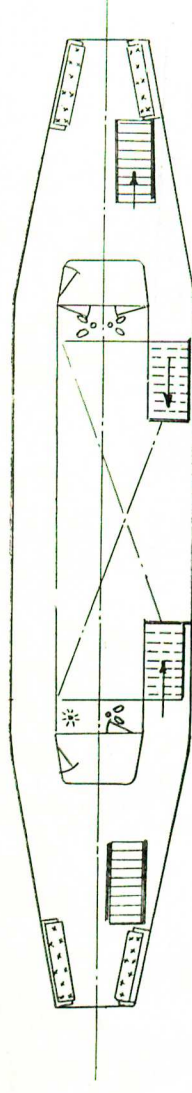
**TANK CAPACITIES**

|                         |                       |
|-------------------------|-----------------------|
| 1 and 5 Fuel Oil        | 2 x 30 m <sup>3</sup> |
| 6 and 10 Feed Water     | 2 x 30 m <sup>3</sup> |
| 2 and 4 Fuel Oil (serv) | 2 x 12 m <sup>3</sup> |
| 7 and 9 Feed Water      | 2 x 12 m <sup>3</sup> |
| 3 Diesel Oil            | 9,8 m <sup>3</sup>    |
| 8 Feed Water (Drink)    | 9,8 m <sup>3</sup>    |
| 10 Feed Water           | 30 m <sup>3</sup>     |

Note : Boats have been dispensed with, (Filikalar sonradan çıkarılmıştır)

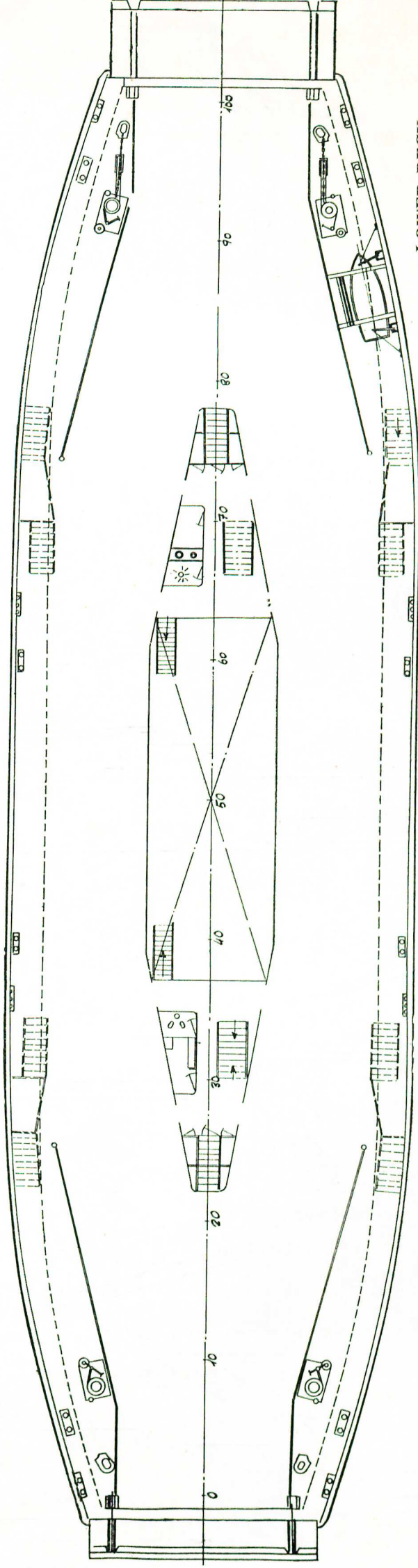
**BOILER CASING**

**BACA TRANKİ**



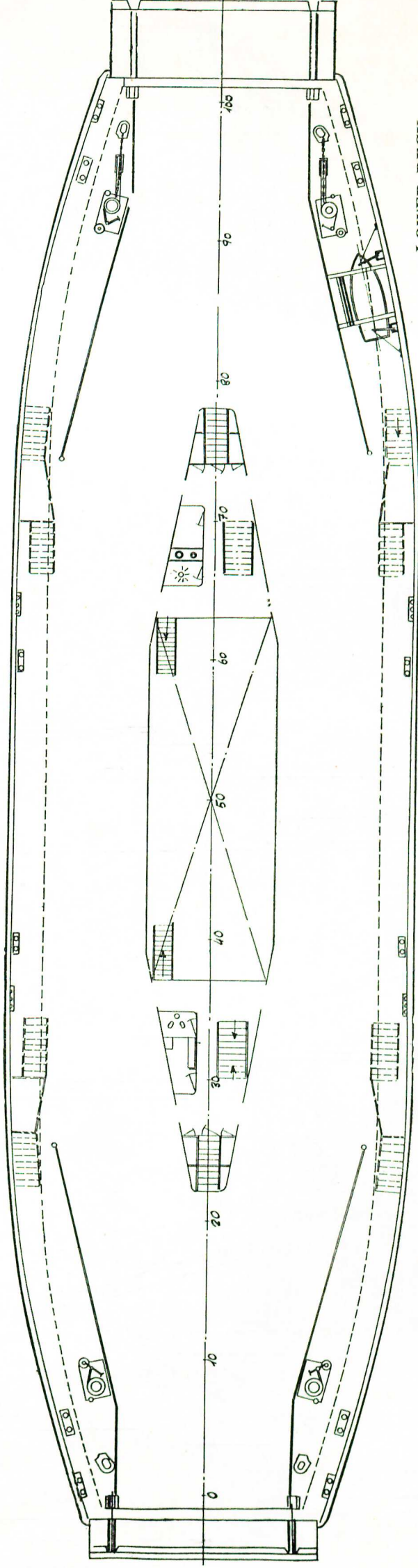
**MAIN DECK**

**ANA GÜVERTE**



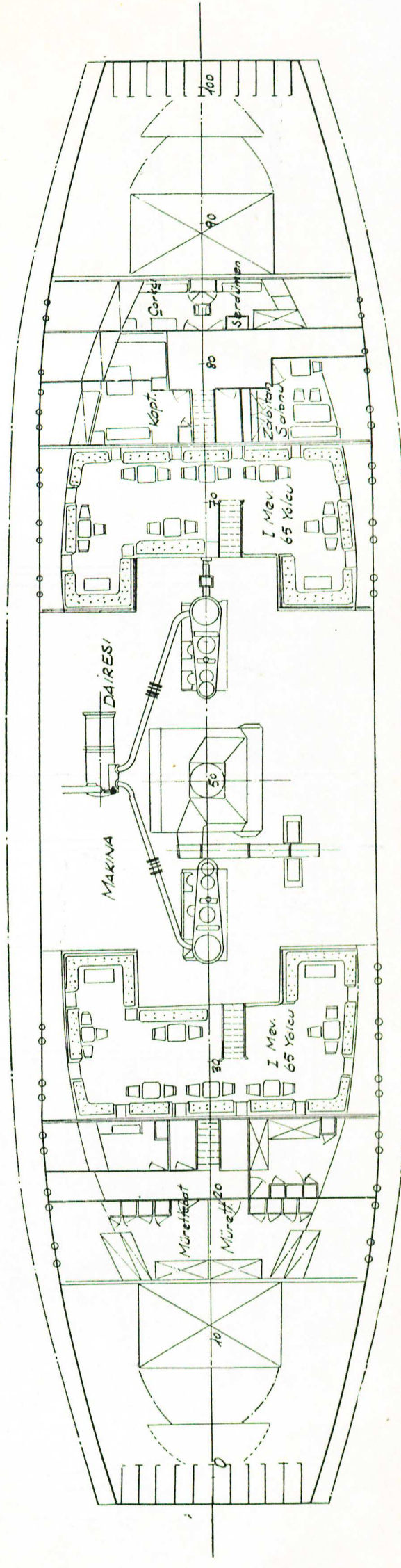
**CAR DECK**

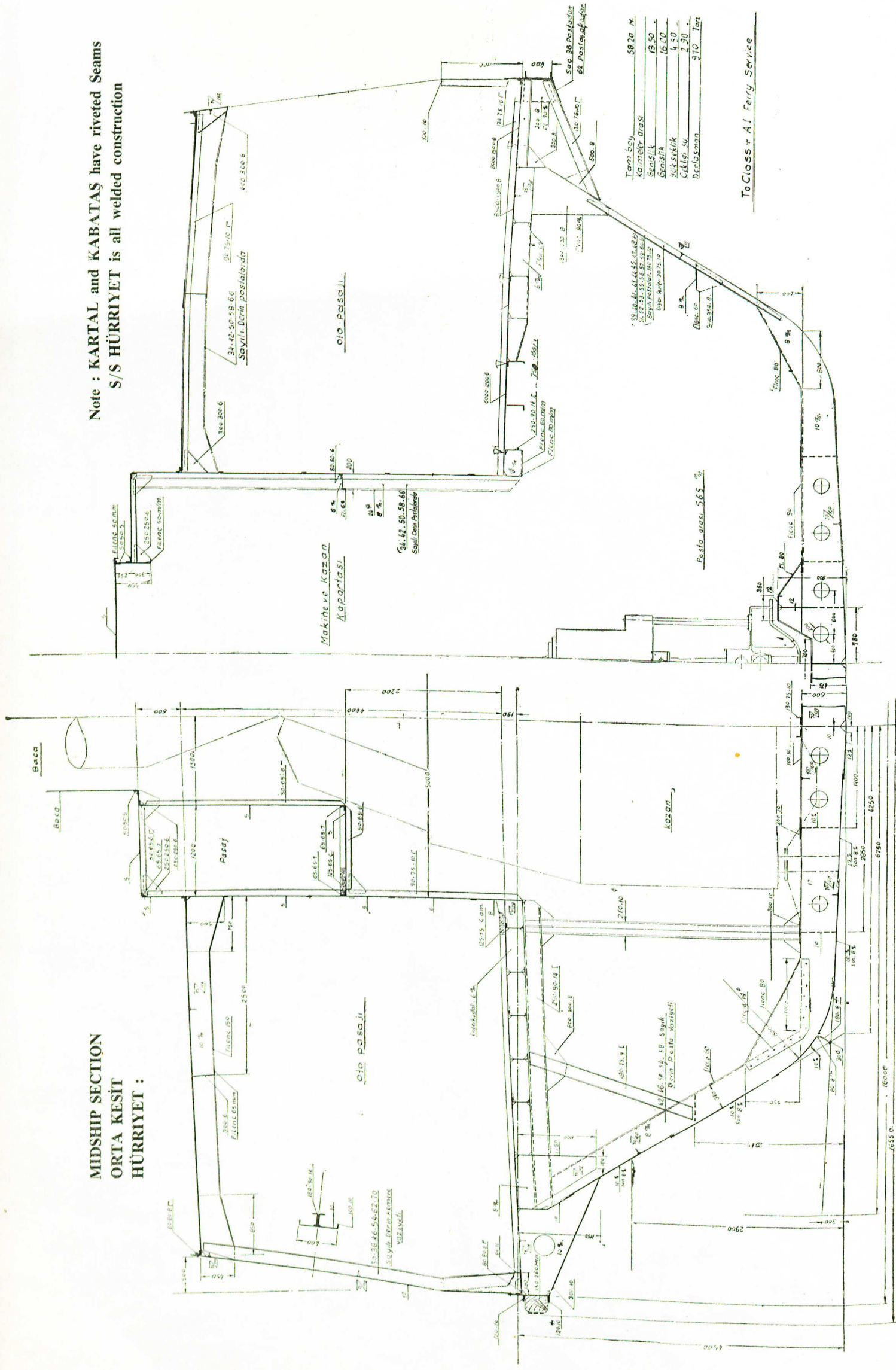
**OTOMOBİL GÜVERTESİ**



**LOWER DECK**

**ALT GÜVERTE**





**MIDSHIP SECTION  
ORTA KESİT  
HÜRRIYET :**

**Note : KARTAL and KABATAŞ have riveted seams  
S/S HÜRRIYET is all welded construction**

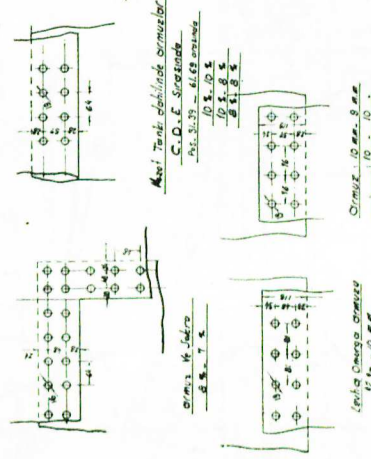
**ABS SCANTLING :  
CLASS : + A, Ferry Service**

- Frame spacing : 565 m/m.
- Frames : 130x75x10 — 90x75x10
- Floors : 600x10 — Fl. 8 0m/m.
- Web Fr. : 340x8 — Fl. 80 m/m.
- Deck. Long. : 250x100x12
- Deck beams : 250x90x14 bulb (Trans.)
- Pillars : Two rows  $\phi$  250x10 — 4 Fr. Sp.
- Deck Stringer angle 80x80x8

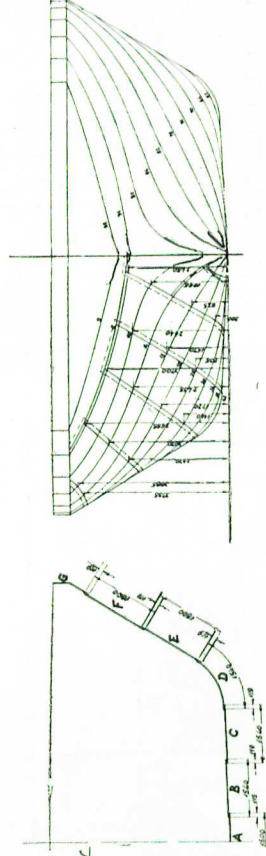
- Flat plate keel 1500x12 m/m
- Bottom and Side Shell 1500x10 m/m
- Deck Stringer pl. 1500x8 m/m
- Deck pl. 1500x6 m/m
- Boiler Coamings 8 - 5 m/m.
- Deck Coverings : Wood 75 m/m.
- (Hürriyet) Asphalt 70 m/m
- Side Stringer 350x9 - Fl. 60 m/m
- Sponsons 130 x 75 x 10

- Vertical Keel 600x10
- Rider Plate (angles) 2 x 130 x 75 x 10
- Engine foundations - girders 12 m/m
- Side Kellsions 600 x 10 - Fl. 150 m/m
- Promenade deck beams 300 x 10 - Fl. 150 m/m
- Fenders 400 x 250 oak
- Gunwale 1000 x 6 m/m

**Riveting Details :**



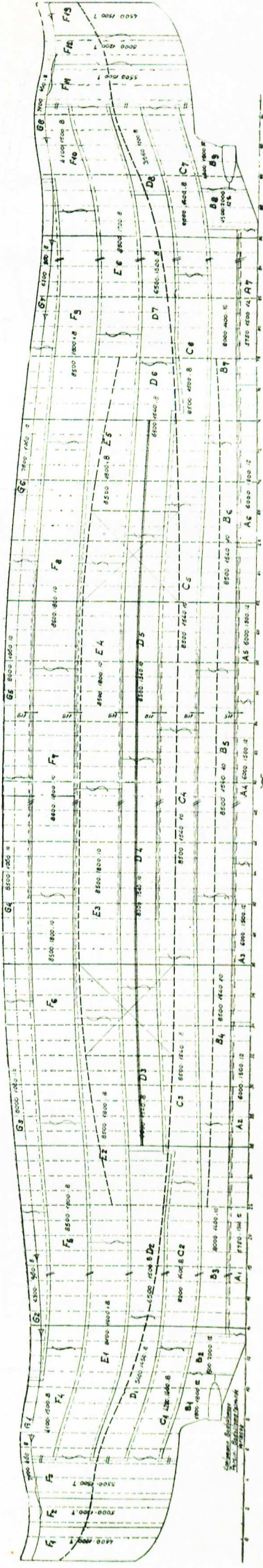
**Shell seams (Kartal - Kabataş)**



**Equipment :**

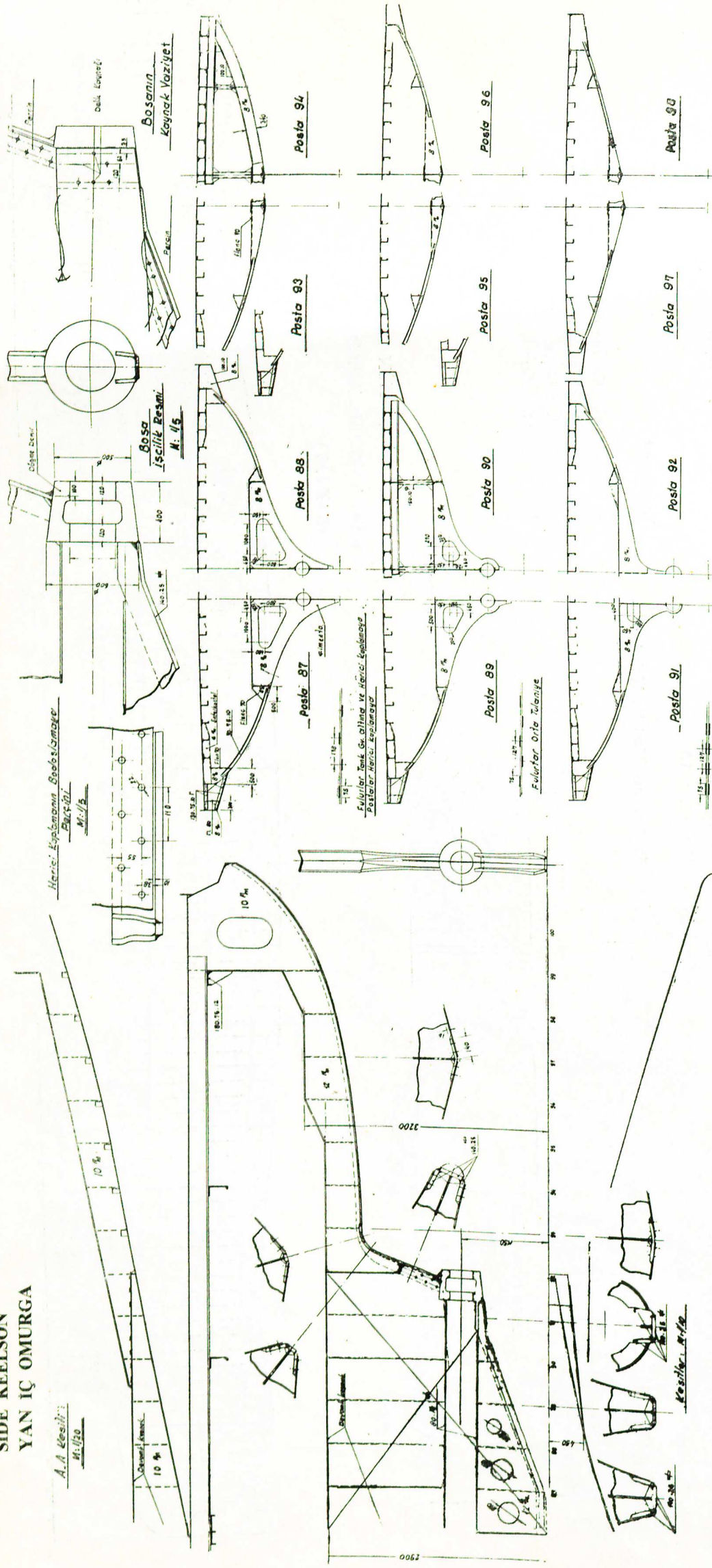
- Anchors : 2x810 Kg. Stockless
- Chain Cables : 385 m. x  $\psi$  35 m/m. Stud lik
- Steel wire cable : 110 m. x 28.5 m/m  $\psi$
- Manilla : 140 x 215 m/m.

**SHELL EXPANSION  
DIŞ KAPLAMA AÇILIMI  
(KARTAL)**

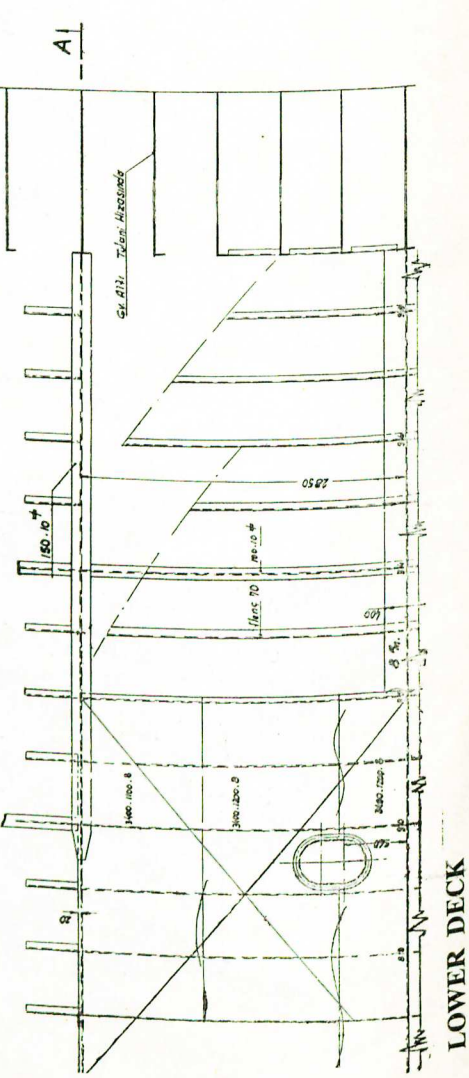
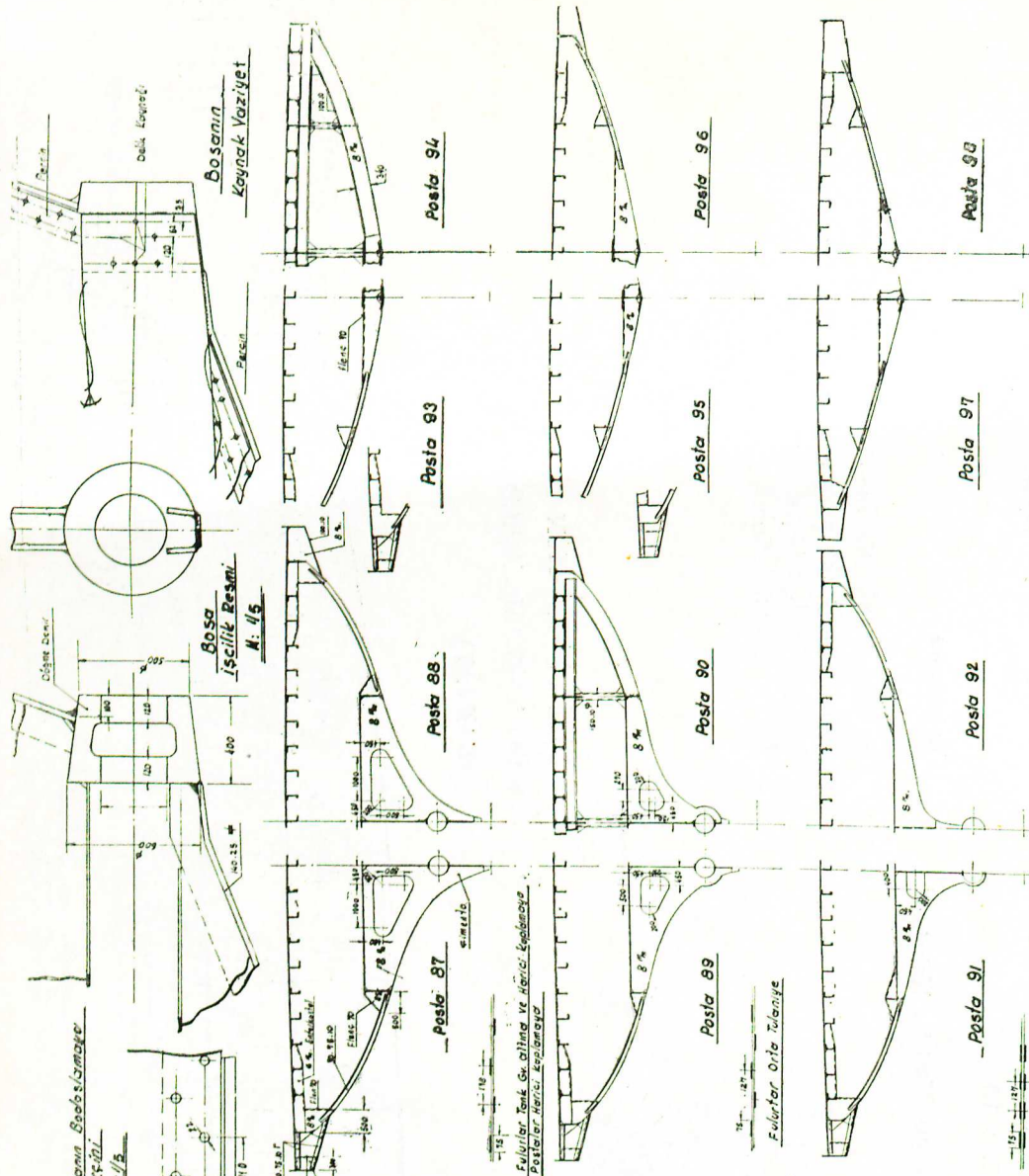


**SIDE KEELSON  
YAN İÇ ÖMÜRGA**

A.A. Kesiti  
M.1/50

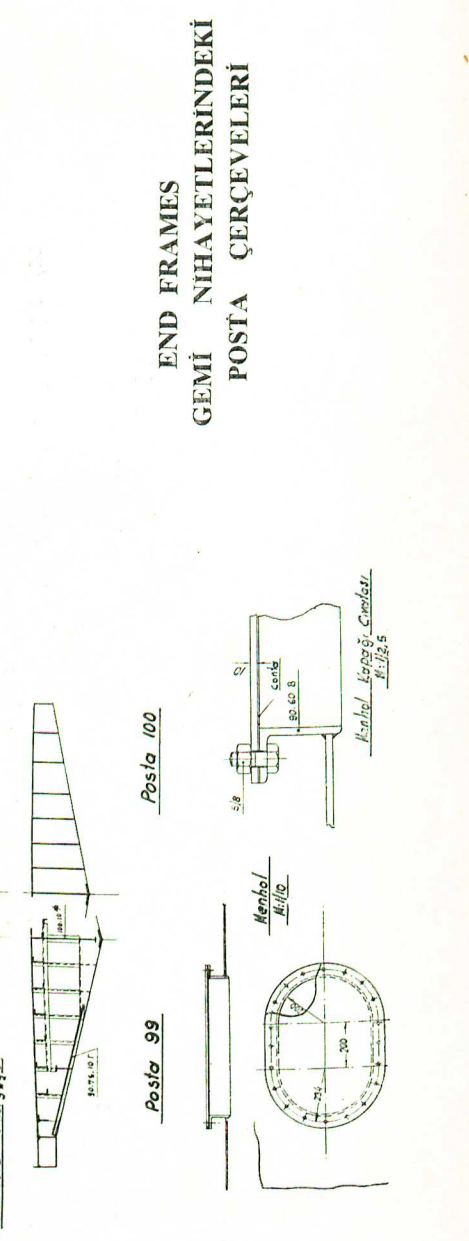


**BOSSING**

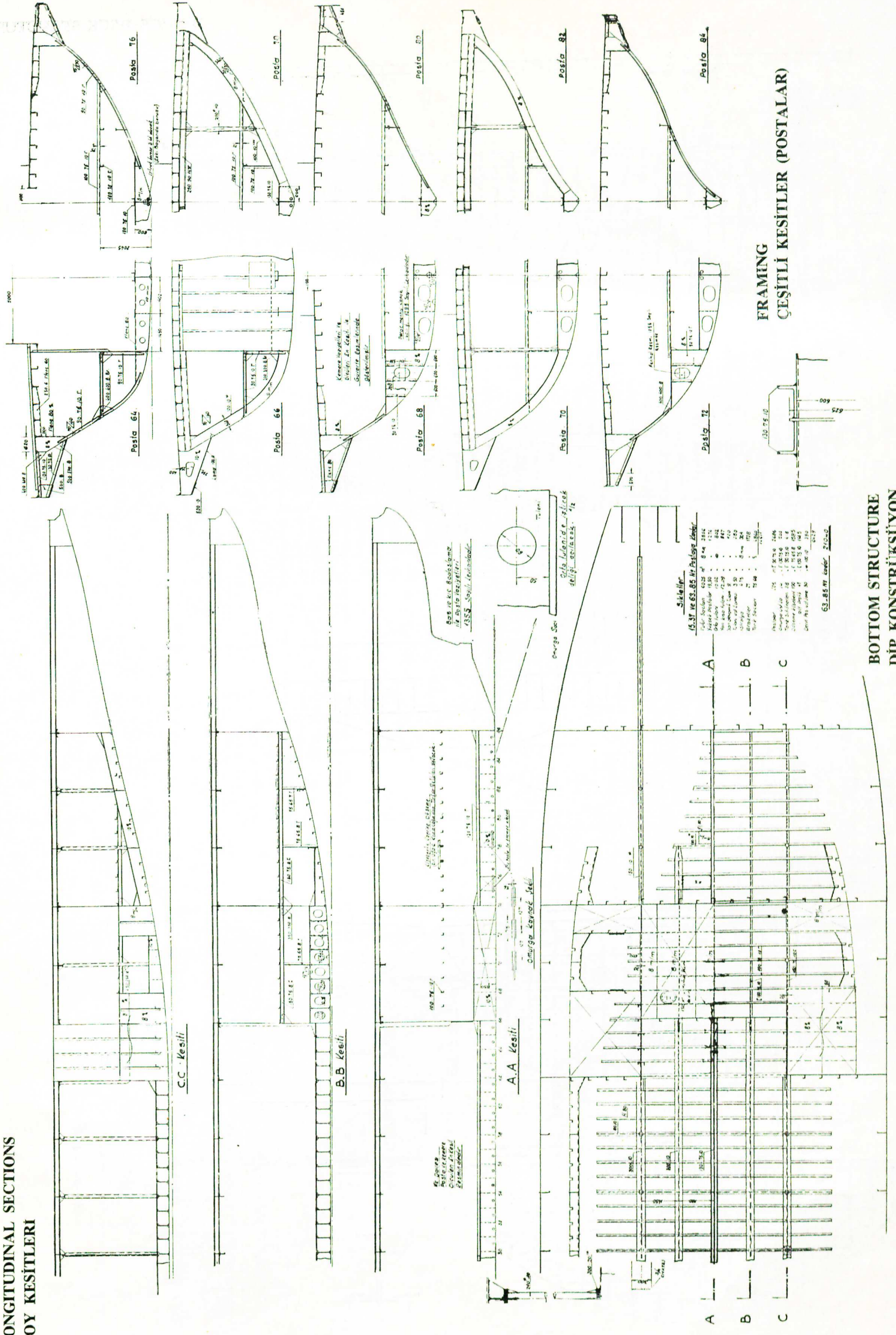


**LOWER DECK**

**END FRAMES  
GEMİ NİHAİYETLERİNDEKİ  
POSTA ÇERÇEVELERİ**



**LONGITUDINAL SECTIONS  
BOY KESİTLERİ**



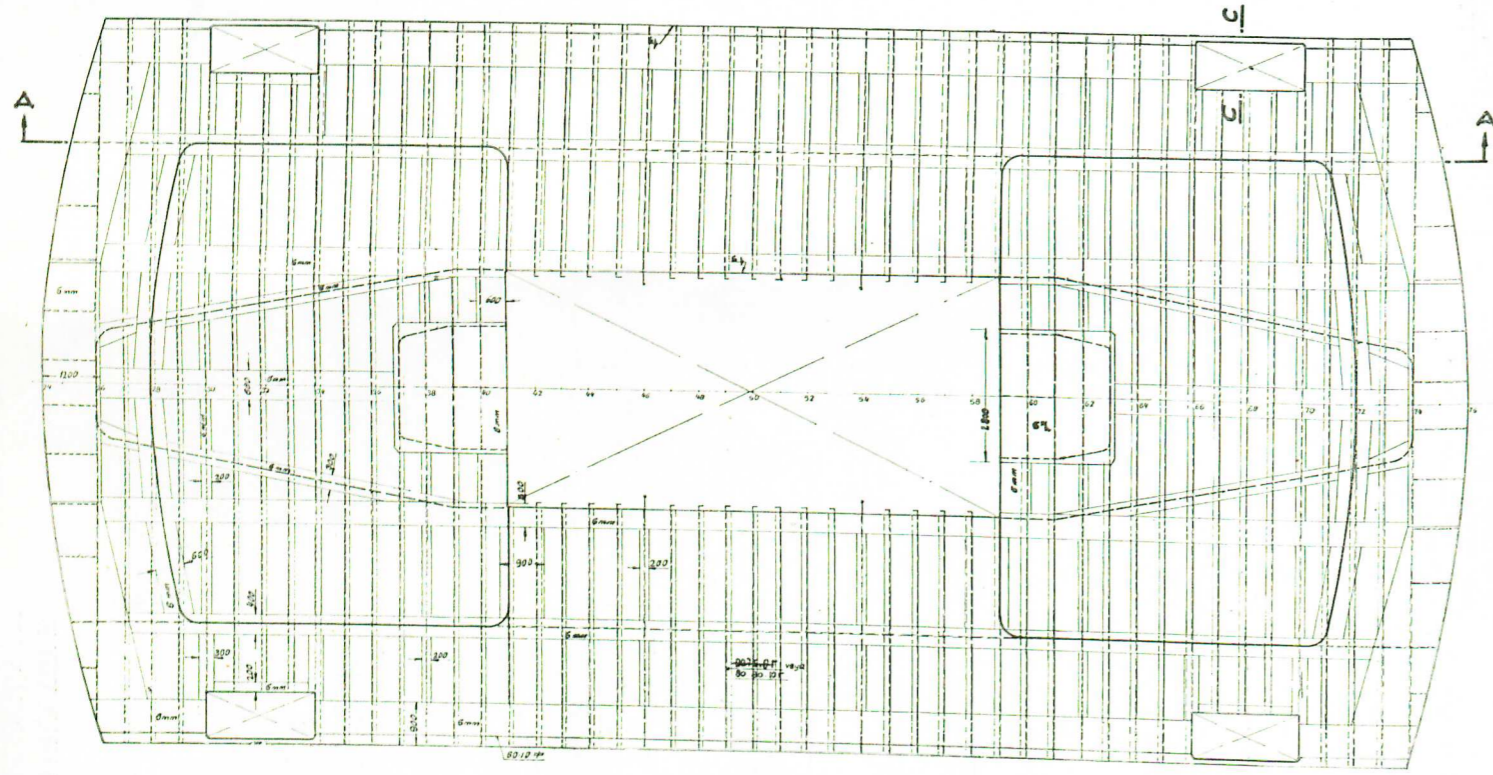
**FRAMING  
ÇEŞİTLİ KESİTLER (POSTALAR)**

**BOTTOM STRUCTURE  
DİP KONSTRÜKSİYON**

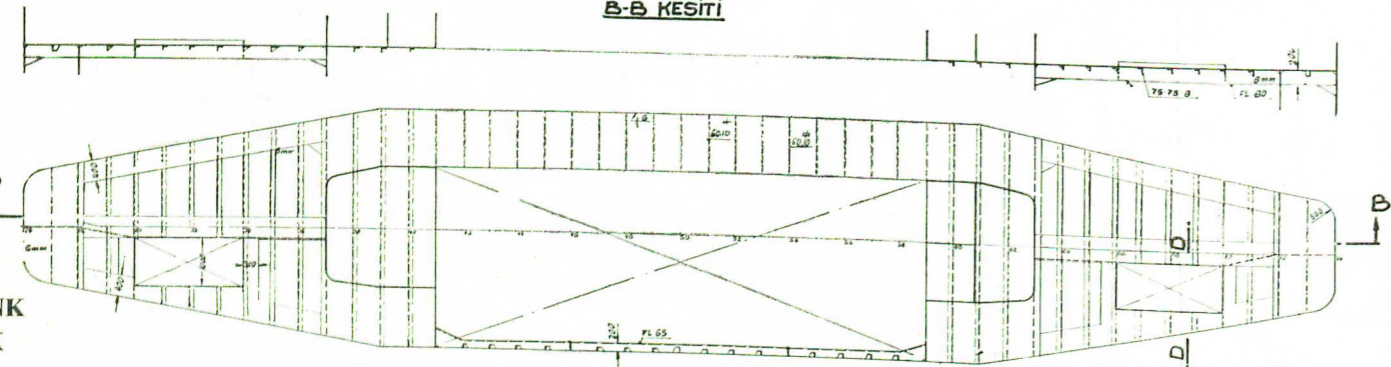
BRIDGE DECK STRUCTURE



26-30-74 BAYLI  
KEMERLER İÇİN 1/22 SAYILI  
RESME BAĞLAKLAR



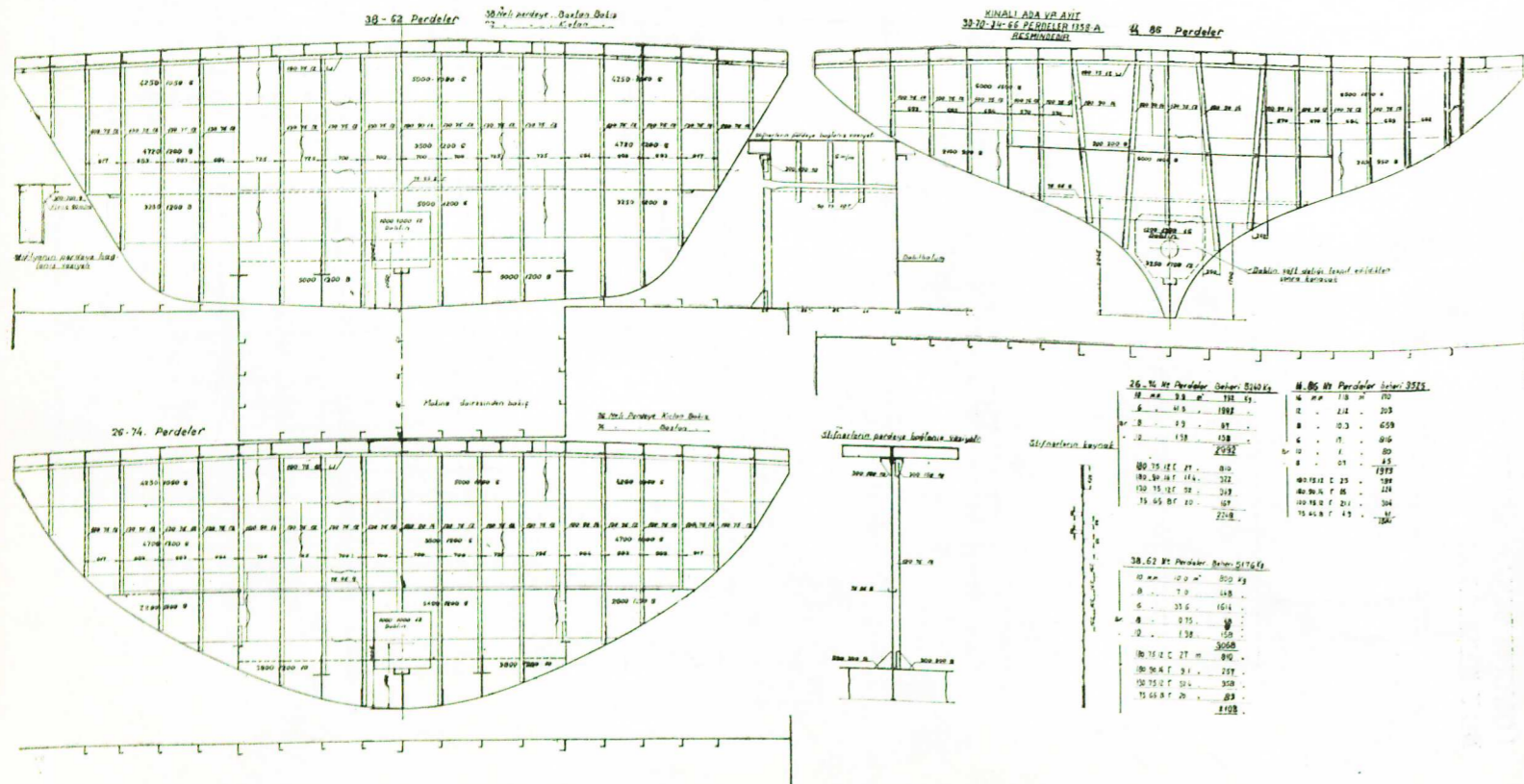
B-B KESİTİ



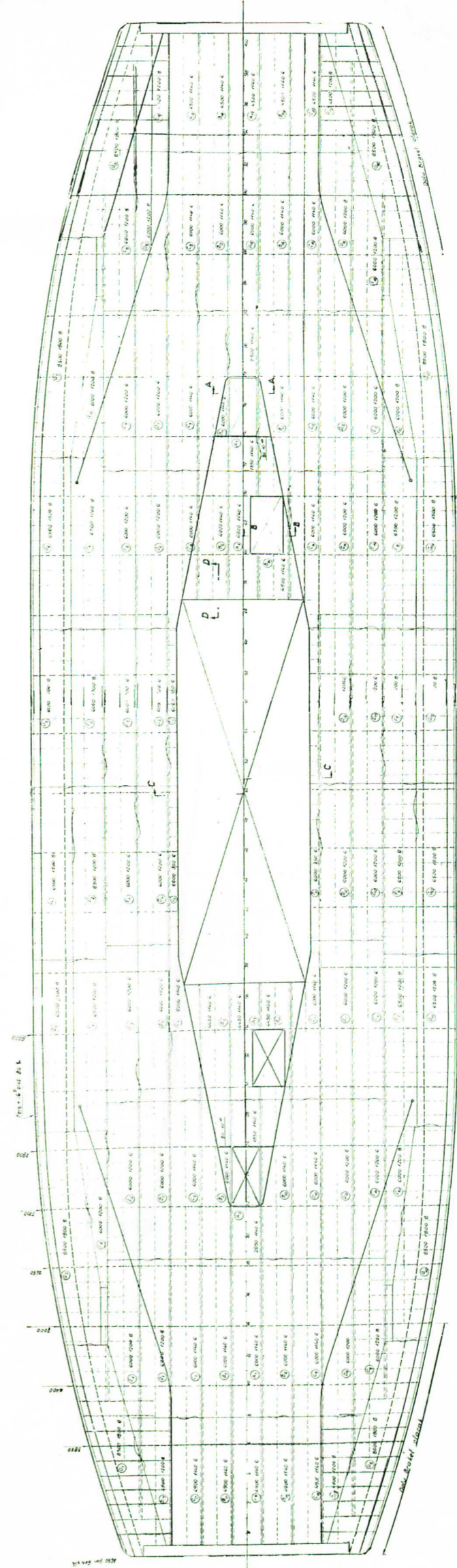
TRUNK DECK

SU GEÇMEZ PERDELER

WATERTIGHT BULKHEADS

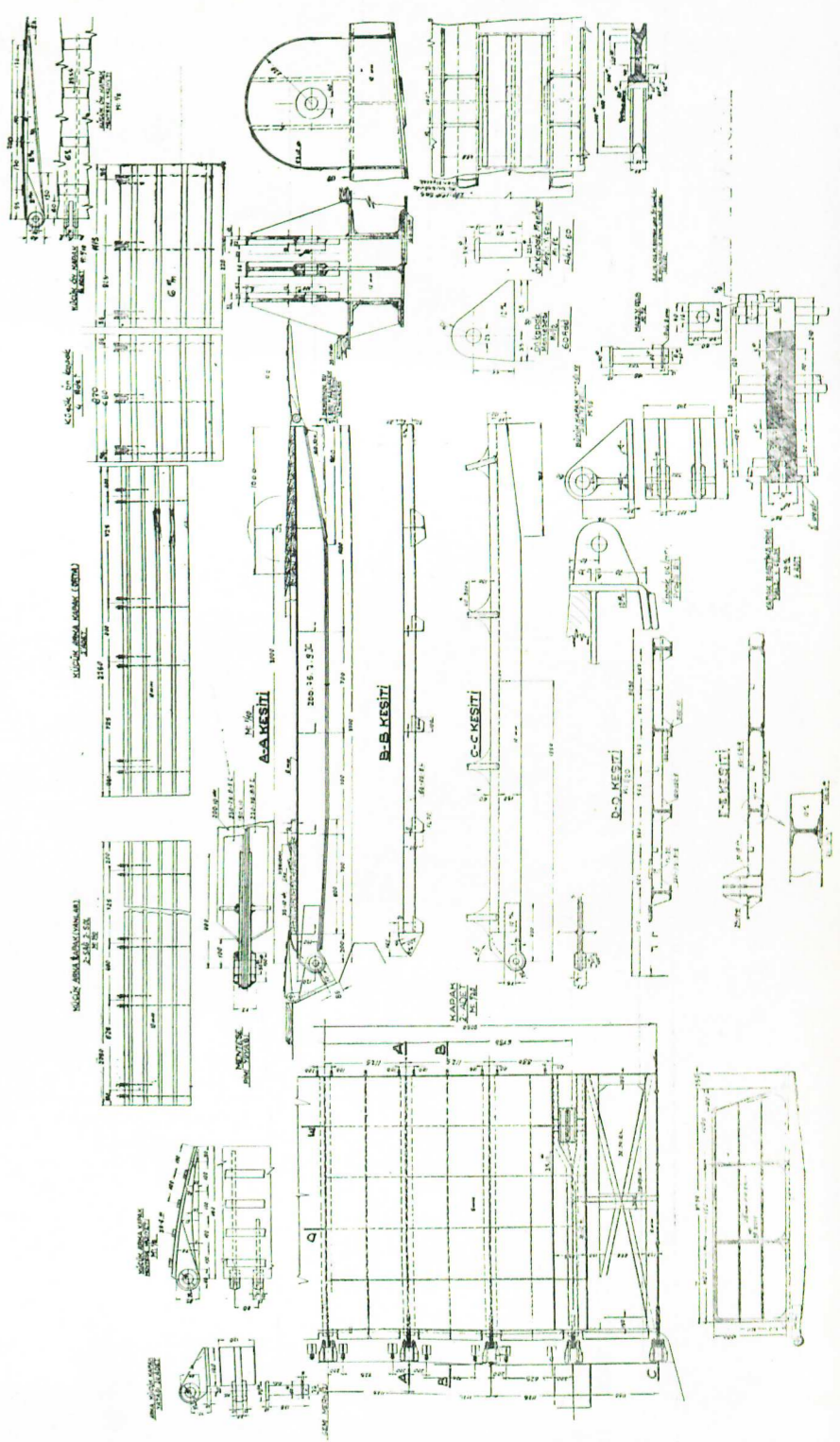


| 26-30-74 BAYLI |    | 38-62 BAYLI |    |
|----------------|----|-------------|----|
| K              | Y  | K           | Y  |
| 1              | 1  | 1           | 1  |
| 2              | 2  | 2           | 2  |
| 3              | 3  | 3           | 3  |
| 4              | 4  | 4           | 4  |
| 5              | 5  | 5           | 5  |
| 6              | 6  | 6           | 6  |
| 7              | 7  | 7           | 7  |
| 8              | 8  | 8           | 8  |
| 9              | 9  | 9           | 9  |
| 10             | 10 | 10          | 10 |
| 11             | 11 | 11          | 11 |
| 12             | 12 | 12          | 12 |
| 13             | 13 | 13          | 13 |
| 14             | 14 | 14          | 14 |
| 15             | 15 | 15          | 15 |
| 16             | 16 | 16          | 16 |
| 17             | 17 | 17          | 17 |
| 18             | 18 | 18          | 18 |
| 19             | 19 | 19          | 19 |
| 20             | 20 | 20          | 20 |
| 21             | 21 | 21          | 21 |
| 22             | 22 | 22          | 22 |
| 23             | 23 | 23          | 23 |
| 24             | 24 | 24          | 24 |
| 25             | 25 | 25          | 25 |
| 26             | 26 | 26          | 26 |
| 27             | 27 | 27          | 27 |
| 28             | 28 | 28          | 28 |
| 29             | 29 | 29          | 29 |
| 30             | 30 | 30          | 30 |



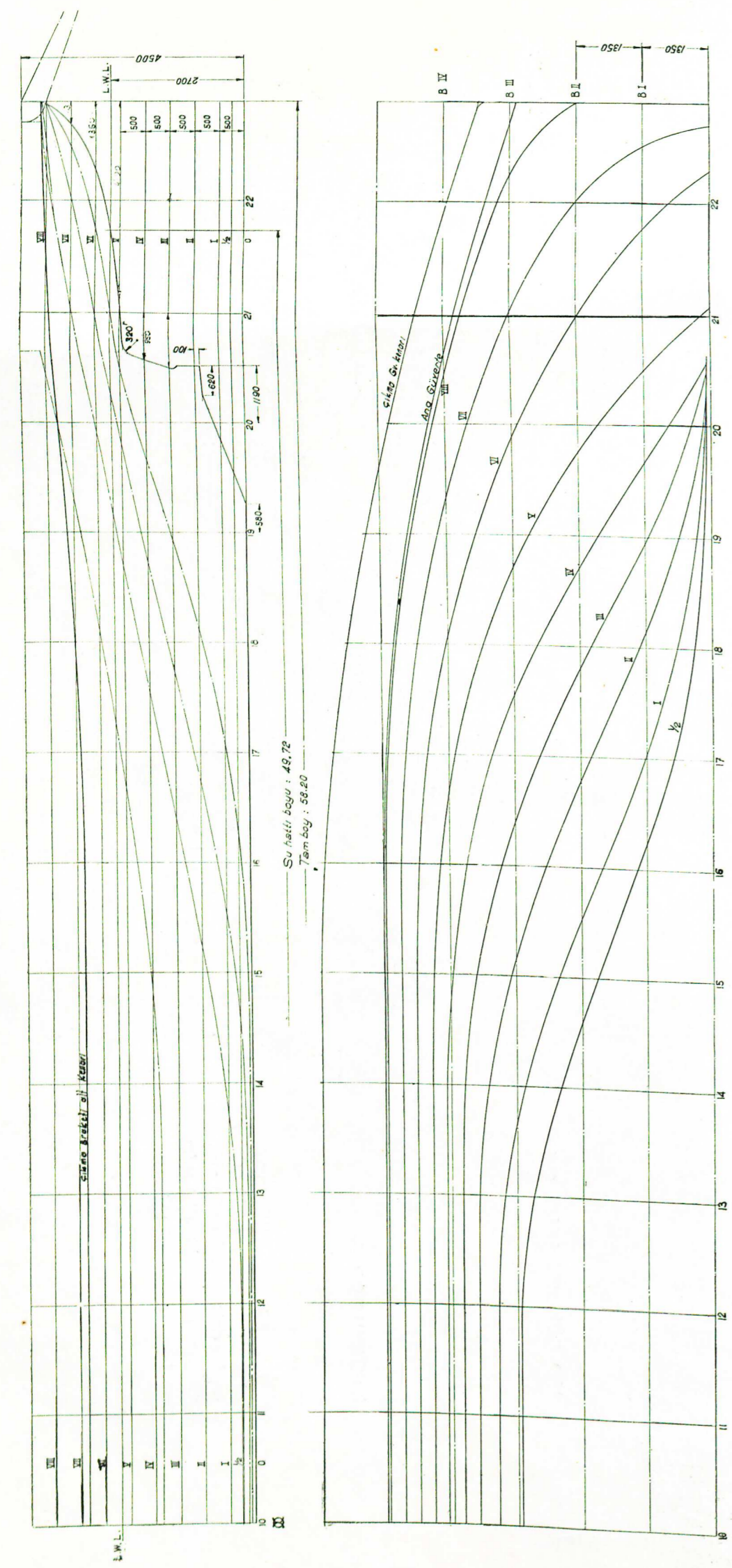
MAIN DECK STRUCTURE

ANA GÜVERTE ÇELİK PLANI



LANDING DOORS

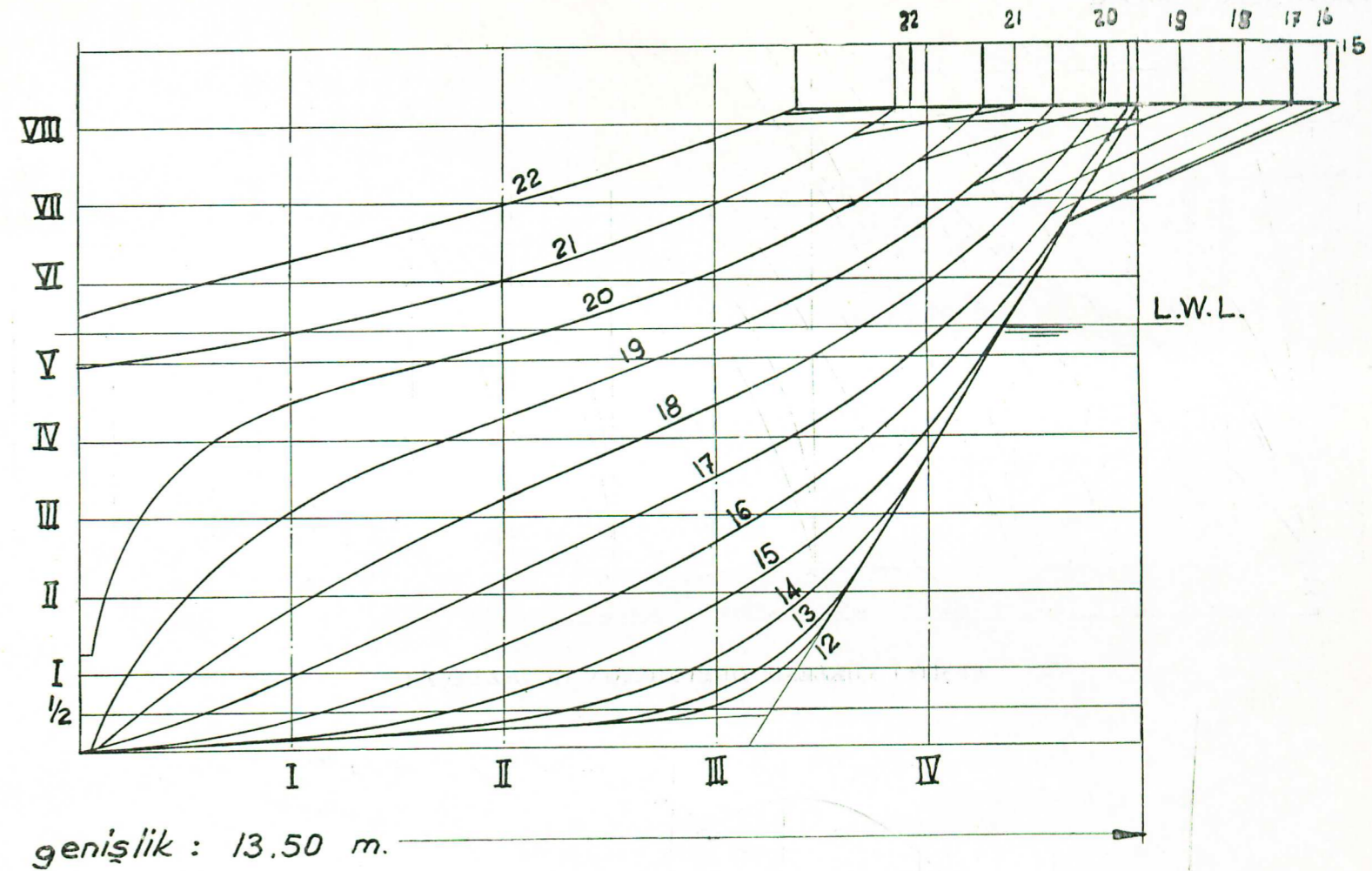
Designed for 40t. load  
 Dimensions :  
 Clear with : 9.050 m.  
 length 3.700 m.  
 Total weight 6.000 tons  
 Steel wire 4 x 18 φ m/m  
 Speed 1 m/sec



**Design Characteristics :**

- L/B = 4.15
- B/d = 4.15
- $L / (\frac{L}{100})^3 = 227$
- $L/\Delta^{1/3} = 5,01$
- $\delta = 0.55$
- $\beta = 0.80$
- $\gamma = 0.69$
- $\alpha = 0.82$
- $\psi = 0.67$
- Parallel middle body :  
% 18 L.
- LWL = 163 ft.
- $V/\sqrt{L} = 0.863$
- $V/\sqrt{L} = 0.784$  (Service)
- W.L. W.S.
- IV 496 m<sup>2</sup>
- V 575 »
- L.W.L 621 »
- VI 682 »
- W.S.
- $\frac{V}{\nabla^{2/3}} = 6.35$
- T = 5.5 seconds

**BODY PLAN**



**AĞIRLIK HESABI**  
**PRELIMINARY WEIGHT ESTIMATION**

| TEKNE (481,035 Tons)<br>KG = 3842 m |               |  |                     | MAKİNA (158,250 Tons)<br>KG = 1247 m |  |                    |               |  |
|-------------------------------------|---------------|--|---------------------|--------------------------------------|--|--------------------|---------------|--|
| İsmi                                | Ağırlığı (kg) | Ağırlık oranlarının kaidelerden Yücesineği (%) | İsmi                | Ağırlığı (kg)                        | Ağırlık oranlarının kaidelerden Yücesineği (%) | İsmi               | Ağırlığı (kg) | Ağırlık oranlarının kaidelerden Yücesineği (%) |
| <b>HULL</b>                         |               |  | <b>WOOD</b>         |                                      |  | <b>FITTING</b>     |               |  |
| Dişlolar                            | 22779         | 3,027  | Ana Gü. Kapaaması   | 5600                                 | 4,660  | Tel kaplan         | 300           | 4,987  |
| Floorlar                            | 22908         | 0,783  | Kapak               | 3780                                 | 3,780  | Baba               | 360           | 4,290  |
| Partiler                            | 27533         | 2,852  | Kap. köşü           | 1978                                 | 40,290   | Kap. sağı          | 400           | 4,600  |
| İç ön ve yan kul.                   | 48429         | 1,993  | İç duvar            | 475                                  | 41,650   | Kap. ön sağ merd.  | 400           | 9,200  |
| Bodasızlama                         | 448           | 2,041  | Tavan               | 400                                  | 42,480   | Üst Gü. Gü.        | 40            | 6,700  |
| Sıraaya                             | 1806          | 2,040  | Üst Gü. Kapaaması   | 4600                                 | 7,640  | altı tarayıcı      | 40            | 8,900  |
| Kap. Sıkaları                       | 494           | 1,605  | Kasa Sand.          | 1000                                 | 8,200  | Kuzne              | 200           | 9,400  |
| Hava Kapaama                        | 4442          | 1,671  | Melurmat            | 6440                                 | 2,848  | Melurmatın merd.   | 176           | 2,400  |
| Loça                                | 1308          | 4,050  | Usturmaşa           | 10200                                | 4,300  | Melurmatın merd.   | 148           | 1,800  |
| Tanklar                             | 3000          | 1,800  | Melur ve Zalı Melur | 2519                                 | 2,739  |                    | 148           | 2,400  |
| Usturmaşa                           | 2832          | 4,300  |                     |                                      |  |                    |               |  |
| Max Davane                          | 8128          | 0,784  | <b>CEMENT</b>       |                                      |  | <b>ARRANGEMENT</b> |               |  |
| Ana Gü.                             | 98262         | 4,495  | Cimento             | 40000                                | 3,920  | Tali su baru ana   | 4000          | 1,400  |
| Kapaklar                            | 5978          | 4,495  | Boya-Macun          | 5000                                 | 3,920  | Kim.               | 700           | 1,800  |
| Binalar ve Üst Gü.                  | 41903         | 6,325  | Peyin               | 4000                                 | 3,920  | Tuz.               | 120           | 4,500  |
| Kaplan Köşü                         | 6823          | 4,950  | Layiner             | 4000                                 | 3,920  | Mühürleme          | 100           | 4,500  |
| Dümen                               | 2344          | 2,027  | Boya vs.            |                                      |  | Yıkılardan         | 2000          | 4,400  |
|                                     |               |  |                     |                                      |  |                    |               |  |
|                                     |               |  |                     |                                      |  | <b>EQUIPMENT</b>   |               |  |
|                                     |               |  |                     |                                      |  | Göz aynası         | 1300          | 3,900  |
|                                     |               |  |                     |                                      |  | Panor.             | 230           | 4,700  |
|                                     |               |  |                     |                                      |  | Zincir             | 115           | 4,800  |
|                                     |               |  |                     |                                      |  | Çapa               | 6070          | 3,200  |
|                                     |               |  |                     |                                      |  | Zincir             | 500           | 4,900  |
|                                     |               |  |                     |                                      |  | Tel halat          | 500           | 4,900  |
|                                     |               |  |                     |                                      |  | Lü.                | 200           | 4,800  |
|                                     |               |  |                     |                                      |  | Metalürne          | 1600          | 4,900  |
|                                     |               |  |                     |                                      |  | Bat.               | 800           | 8,200  |
|                                     |               |  |                     |                                      |  | Siniflar           | 160           | 6,900  |

LIGHT WEIGHT = 639,285  
KG = 3,327

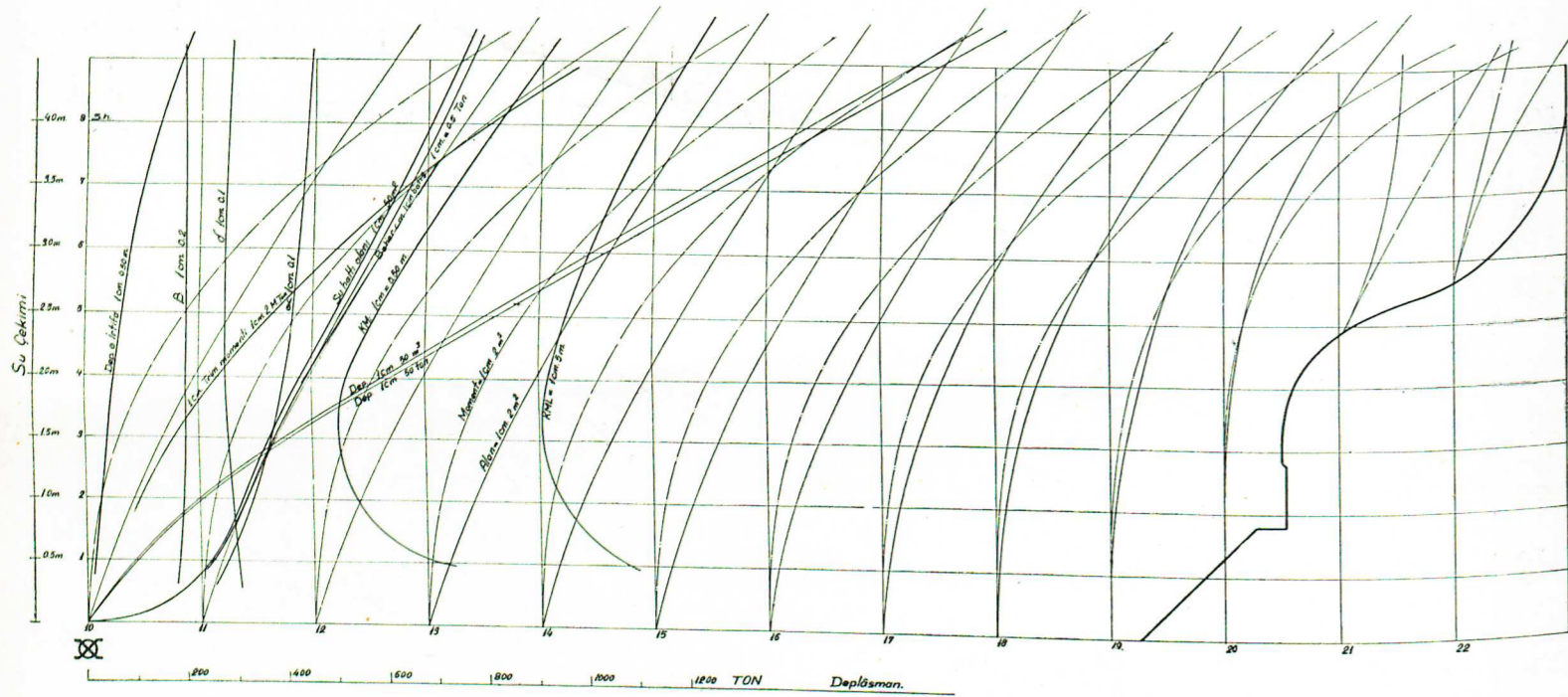
YÜK (244,000 Tons)  
KG = 5,415 m

DISPLACEMENT = 883,285 Tons  
KG = 3,949 m

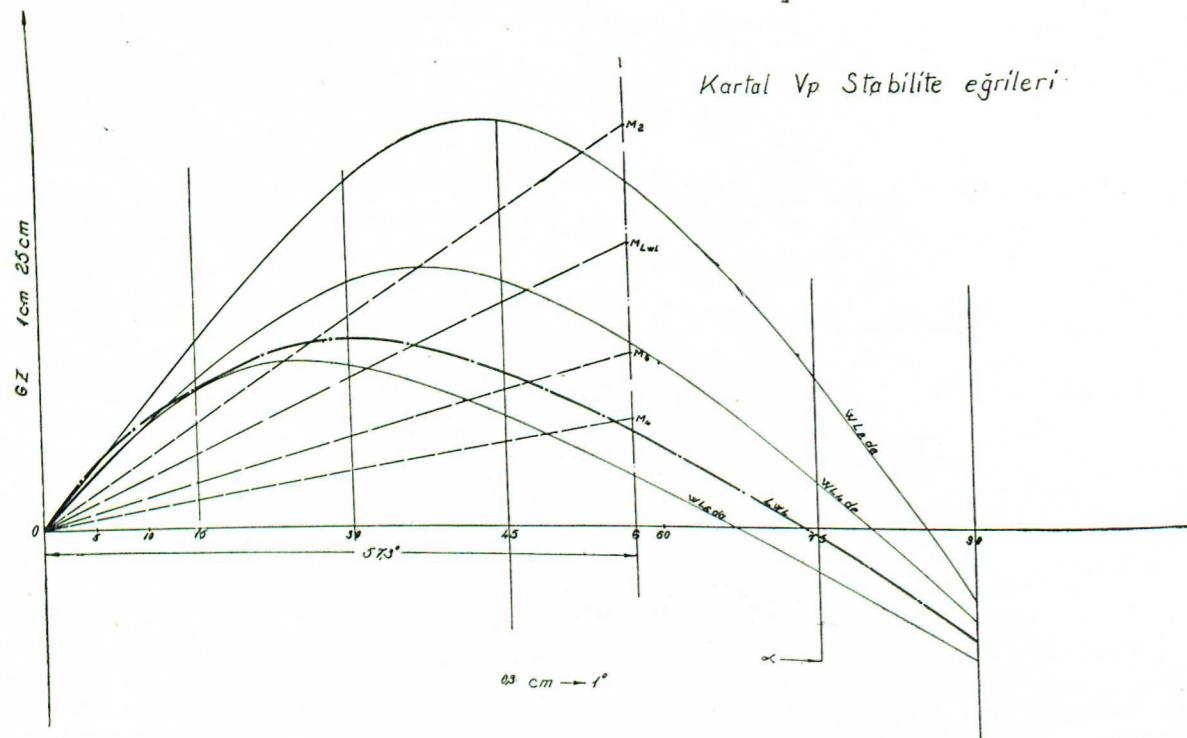
**D.W.**

|       |        |      |
|-------|--------|------|
| Yük   | 200000 | 6000 |
| Yalıu | 16000  | 5000 |
| Yakıt | 25000  | 1800 |
| Su    | 3000   | 300  |

**HYDROSTATICS  
HİDROSTATİK EĞRİLERİ**



**ÇEŞİTLİ YÜKLEME DURUMUNDA MUVAZENET :**

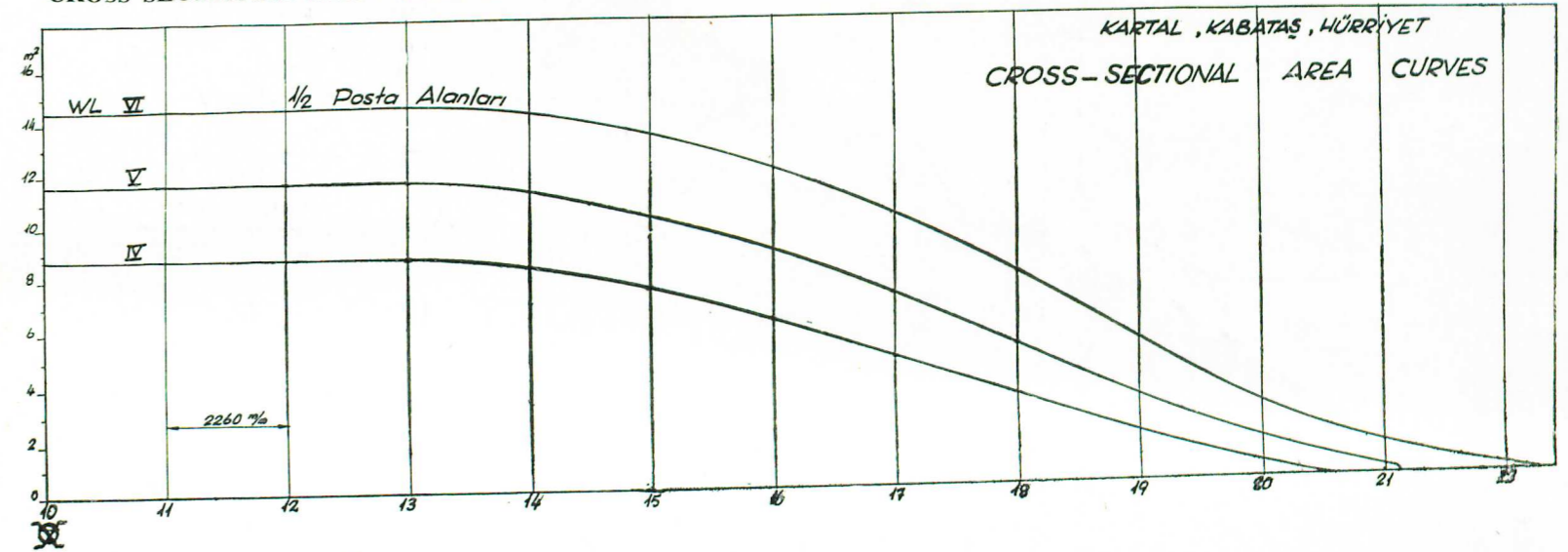


**STABILITY**  
(According to Inclining experiment 23-3-1954)  
**CONDITION (A) LIGHT SHIP :**  
Water in Boiler, anchors & chain missing  
No changeable weight  
Drafts:  $d_{alt} = 2,535$  } mean = 2,50 m.  
 $d_{for} = 2,465$  }  
  
Disp. = 815 tons  
KM = 580 m.  
GM = 2,52 m.  
KG = 3,28 m.

**STABILITY**  
**CONDITION (B)**  
**LOADED :**  
14 Trucks, 10 Automobiles  
Disp. = 1057 tons  
KM = 6,60 m.  
GM = 2,97 m.  
KG = 3,63 m.  
d = 3,04 m.  
F = 1,46 m.

**CONDITION (C)**  
**LOADED, NO FUEL**  
14 Trucks, 10 Auto,  
700 Pass. No Water  
Disp. = 1023 tons  
KM = 6,50 m.  
KG = 4,06 m.  
GM = 2,44 m.  
d = 3,00 m.  
F = 1,50 m.

**CROSS SECTIONAL AREA CURVES**



**PROPELLER**

Diameter  
Pitch  
No of blades  
D. area ratio  
Weight  
Thickness Fr.  
Hub dia. ratio

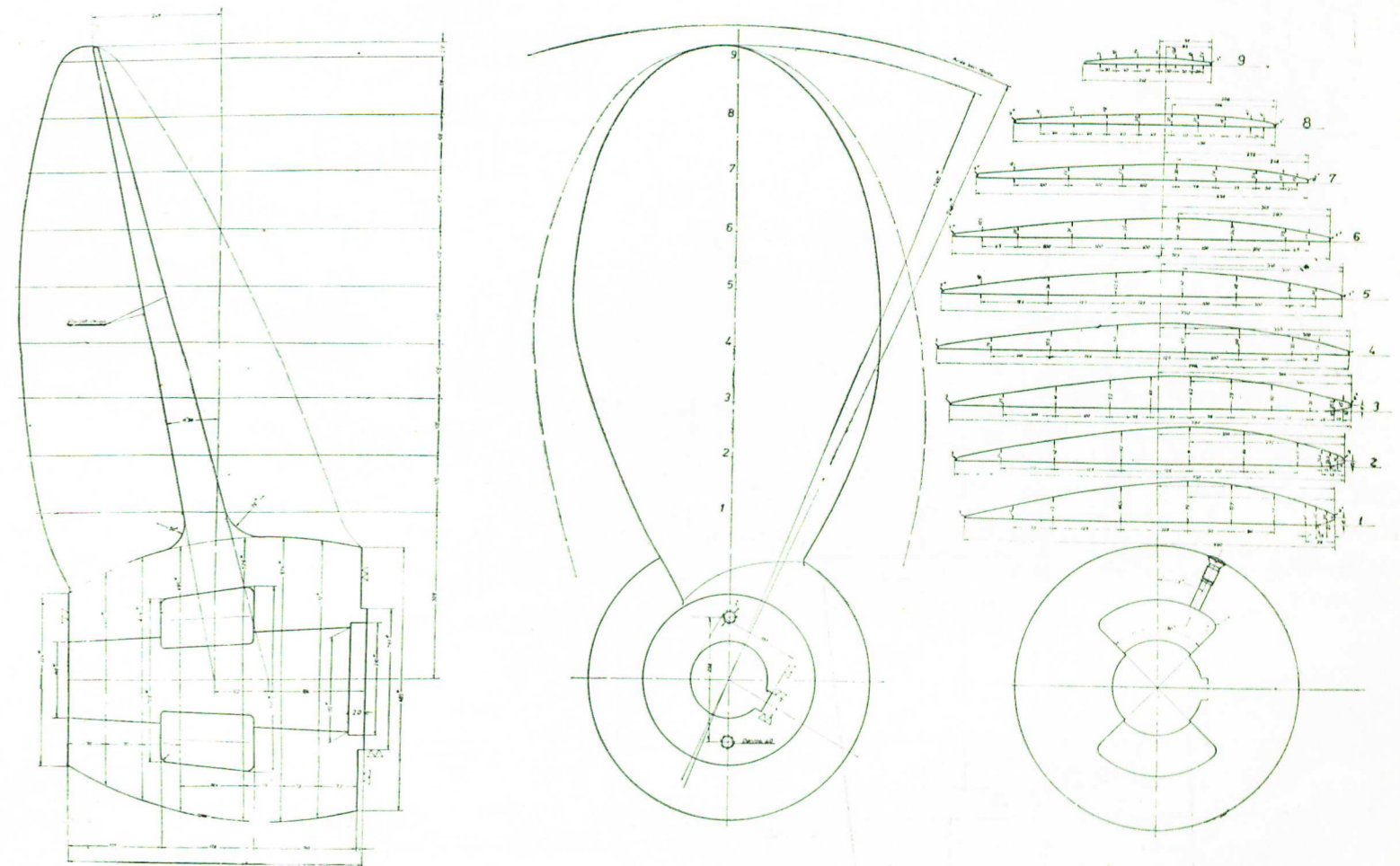
**PERVANE : (Hürriyet)**

Kutur 2.400 m.  
Piç 3.430 m. (Konst.)  
Kanat Sayısı 3  
Aa/Ad 0,38  
Takribî ağırlık 1400 Kg.  
Kalınlık oranı  $102/2400 = \%4.5$   
525  
Göbek  $\frac{\quad}{2400} = 0.215$

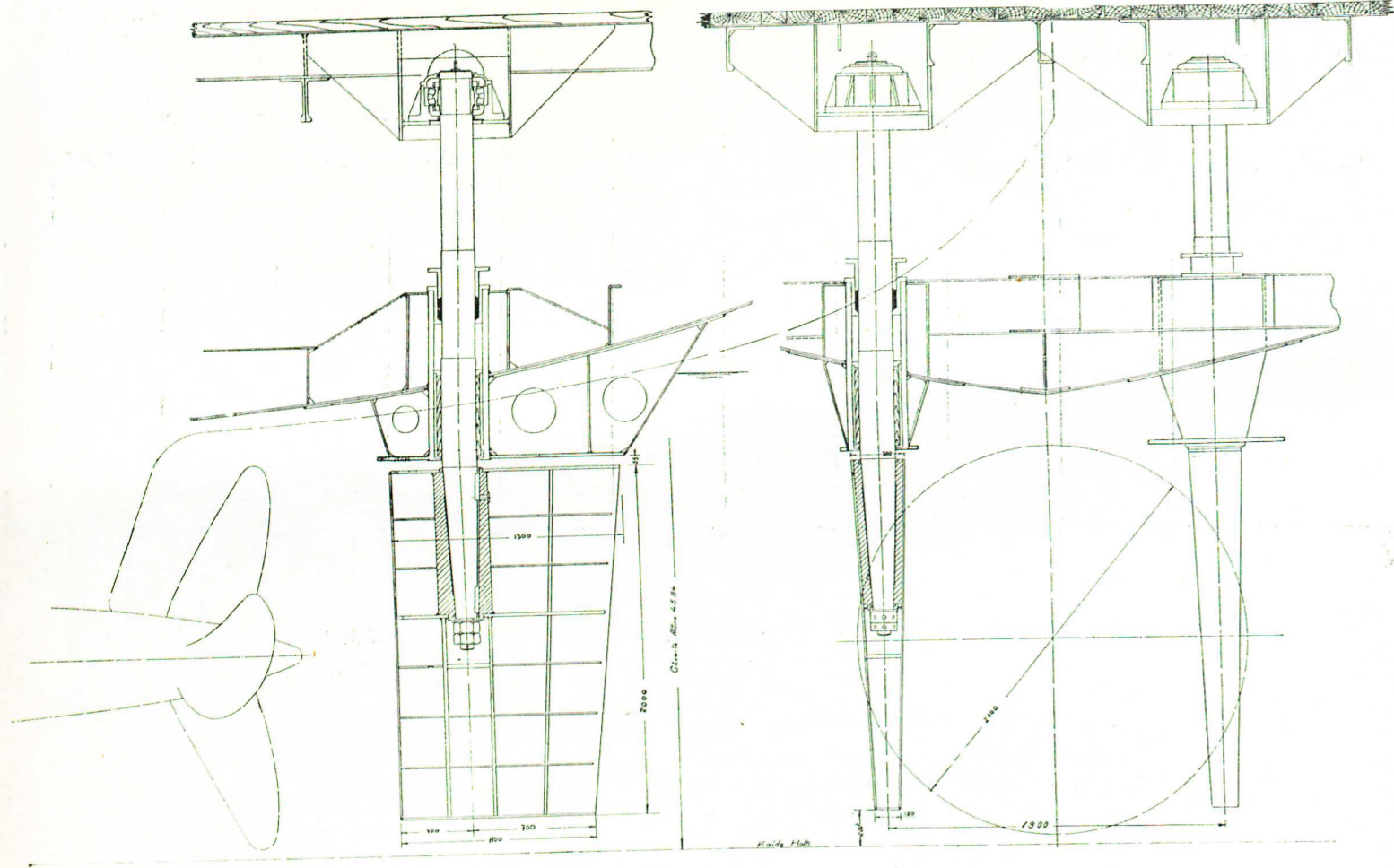
**(Kabatay)**

2.370  
3.500  
3  
1344  
 $\% 5$   
 $\% 19.65$

Ağırlık 1400 Kg. Dökme demir  
MATERIAL : Özel Bronz  
Kopma 45 Kg/mm<sup>2</sup> uz. % 26-%40

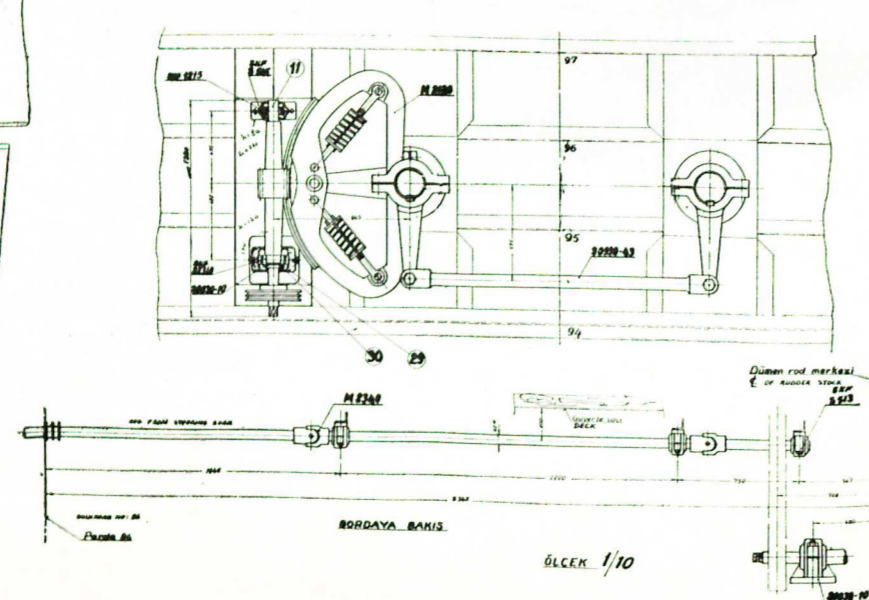
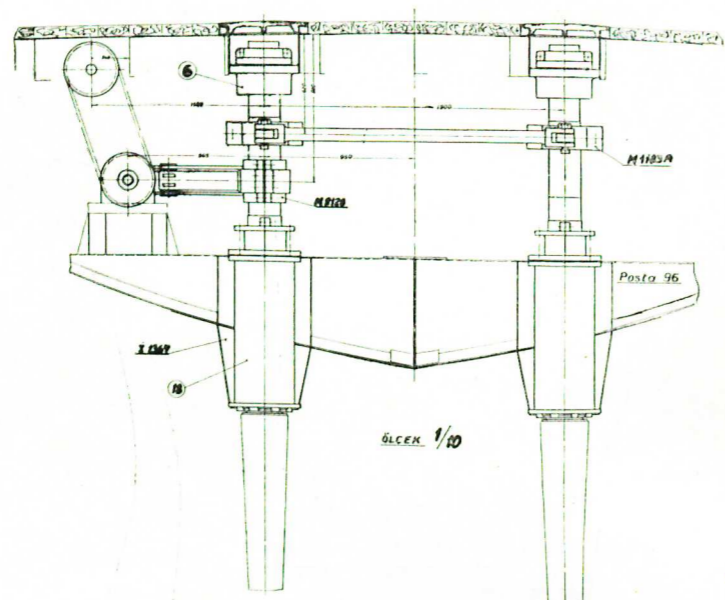
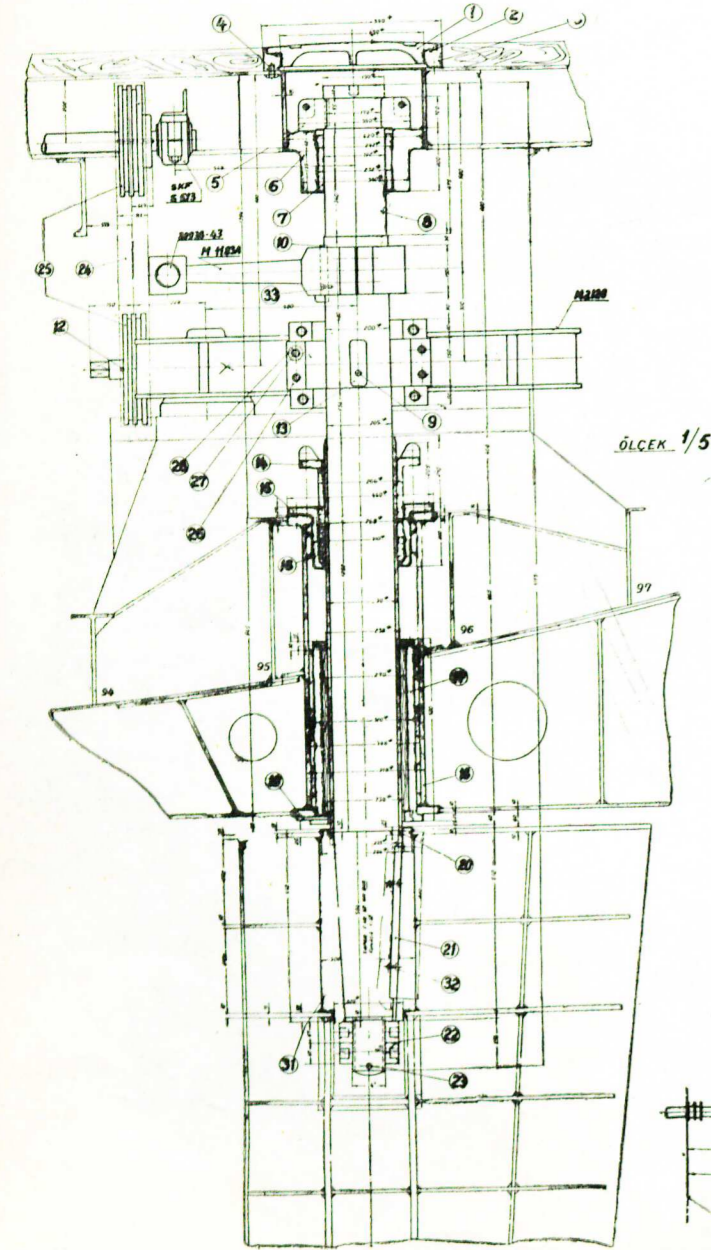


DISPOSITION OF TWIN RUDDERS

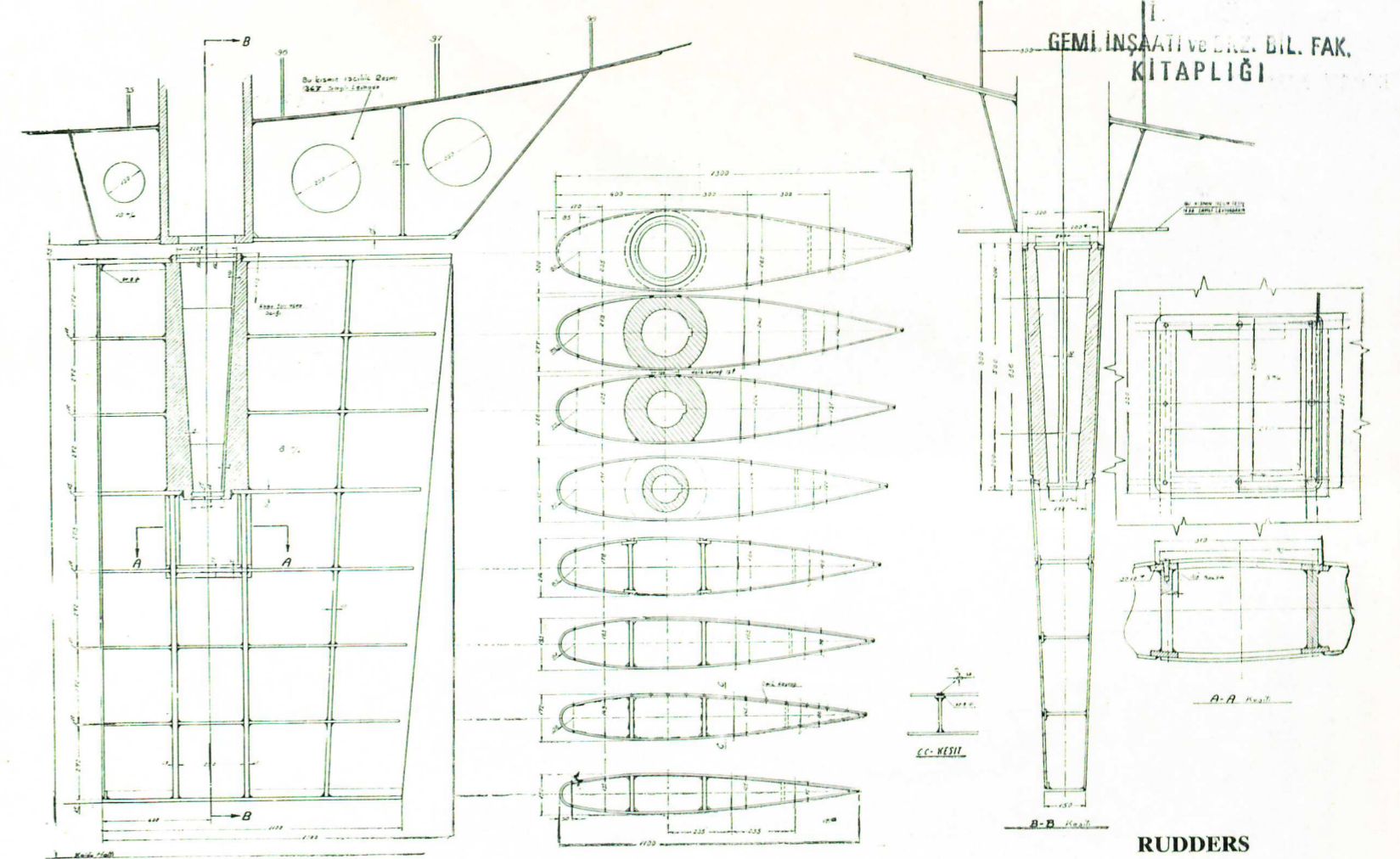


Rudder Area : 2 x 2.40 m<sup>2</sup>  
 Dümen alanı » »

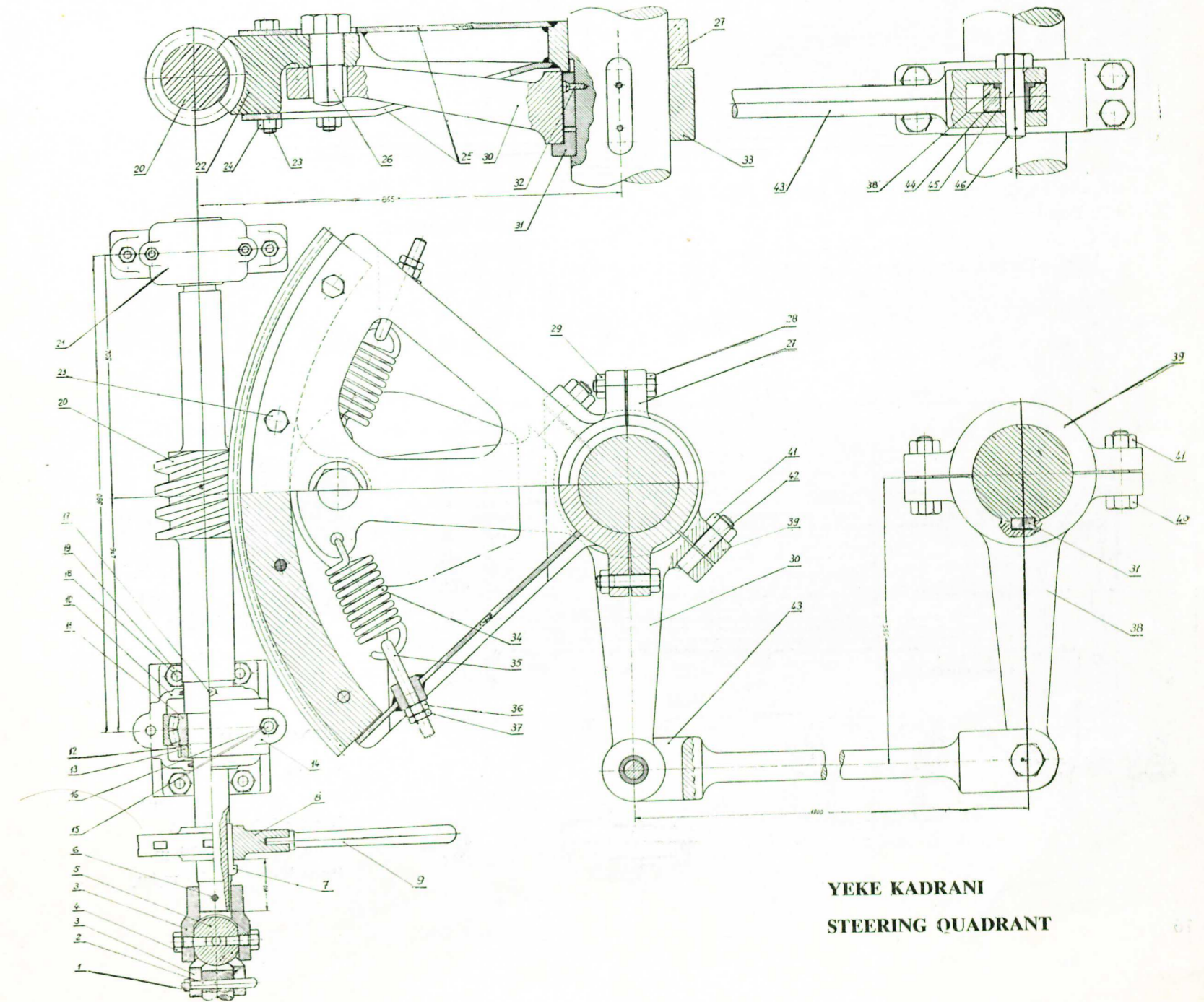
ÇİFT DÜMEN TERTİBATI



ÖLÇEK 1/10



RUDDERS

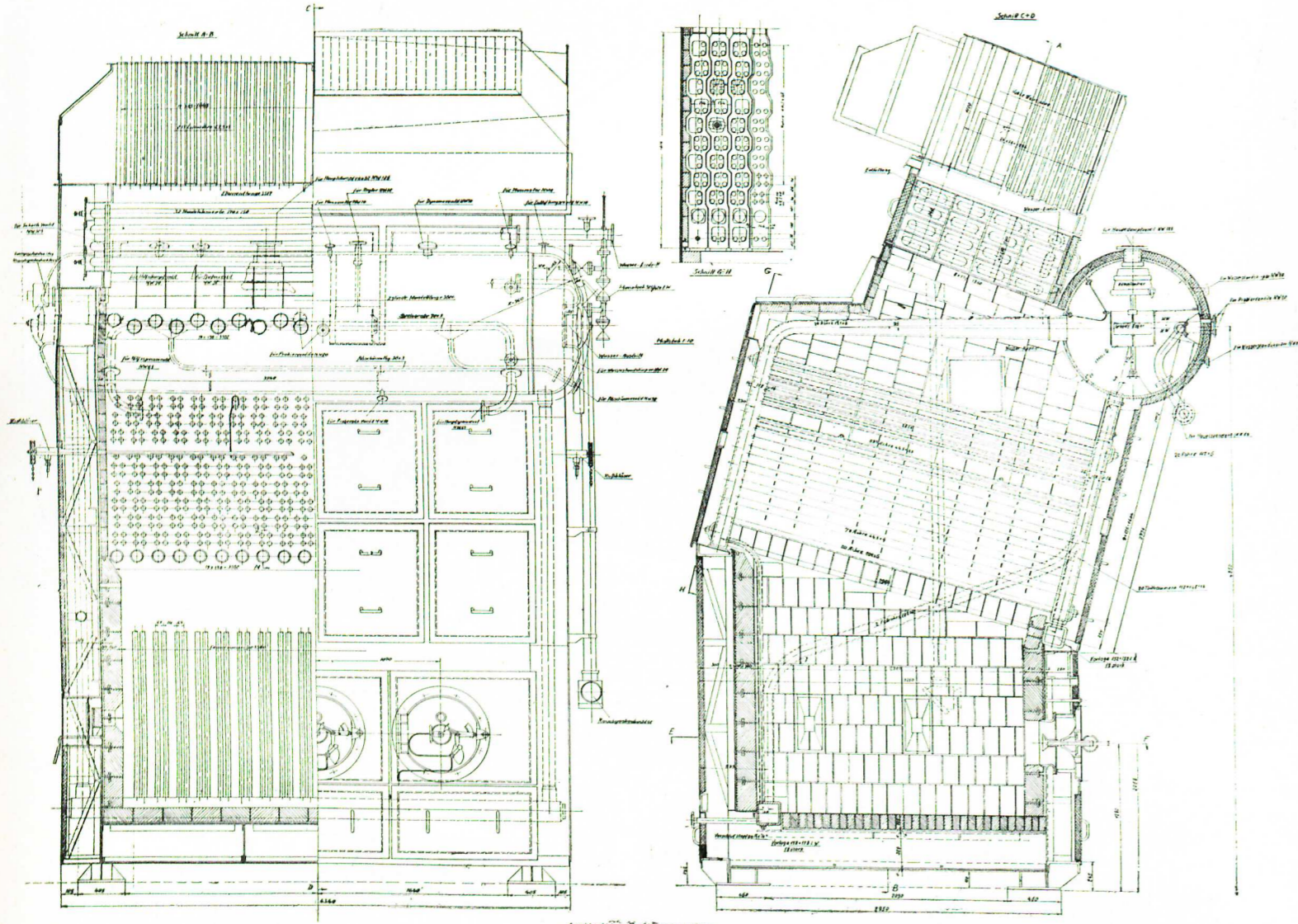


YEKE KADRANI  
 STEERING QUADRANT



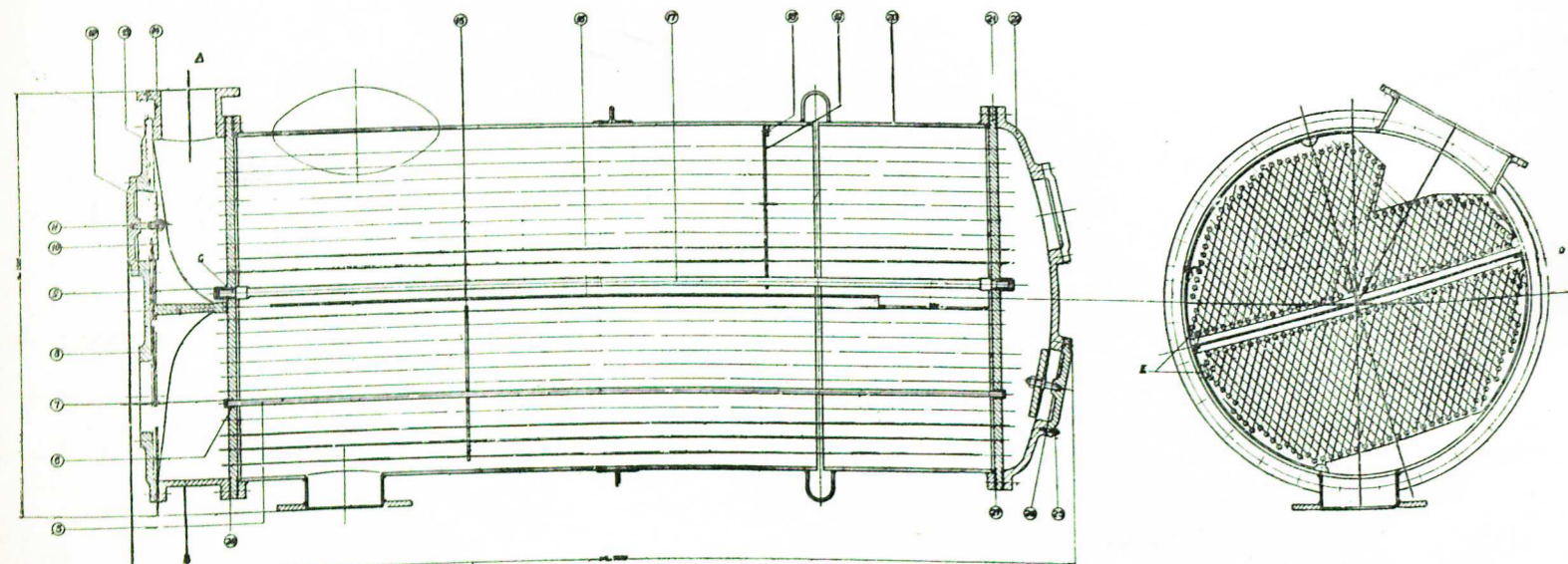
MAIN BOILER

ANA KAZAN



Kazan Ebadı (mm) 4340 x 3250 x 4850  
 Su Boruları : 20 adet 102 x 6 x 2814  
 78 adet 44.5 x 4 x 2814  
 583 adet 44.5 x 3.5 x 2814  
 36 adet 44.5 x 4

Isıtma yüzeyi : 300 m<sup>2</sup>  
 Buhar Kapasitesi : 9 ton/saat  
 Basınç : 13 Atü  
 Ottensener Eisenwerke, ALMANYA

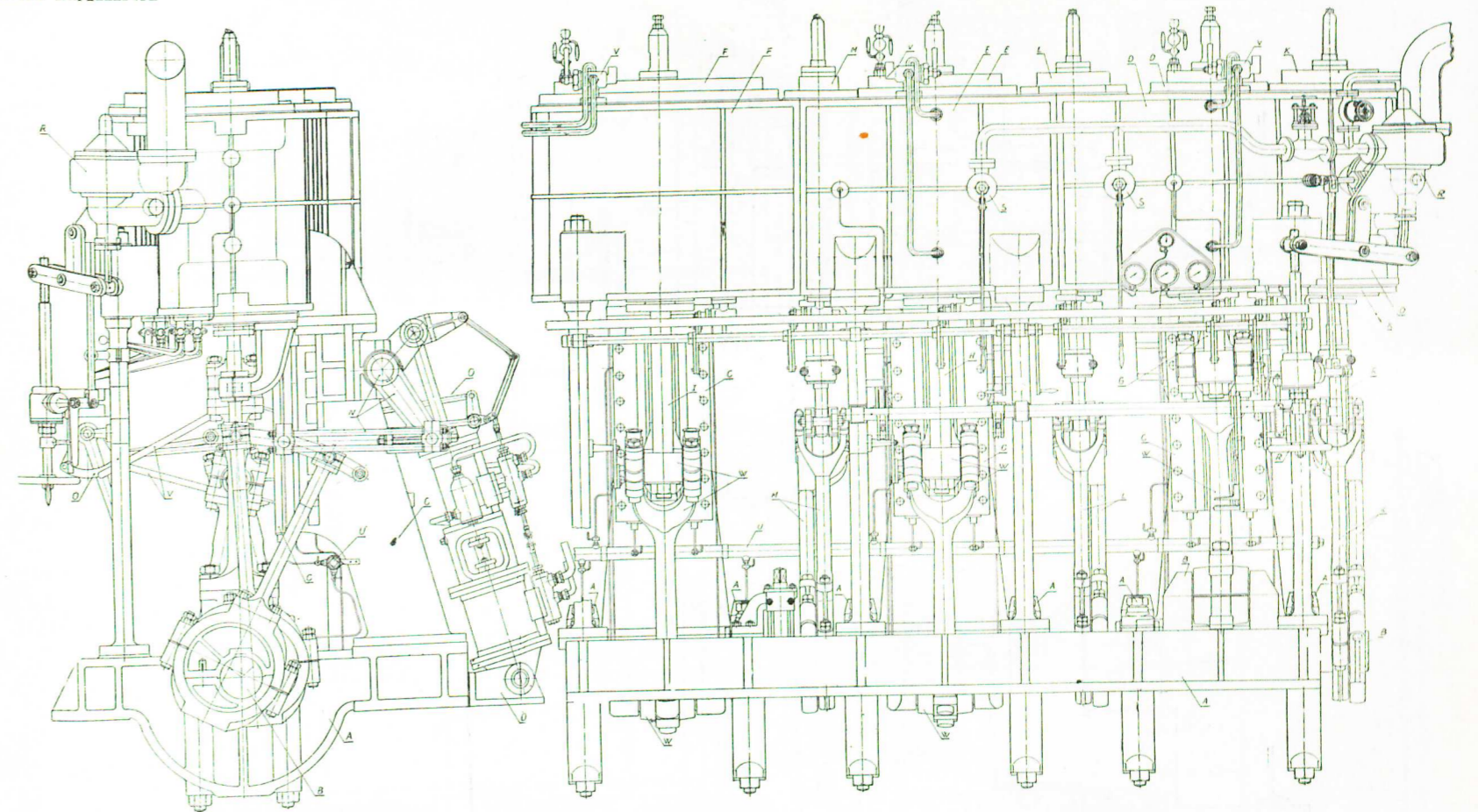


CONDENSER

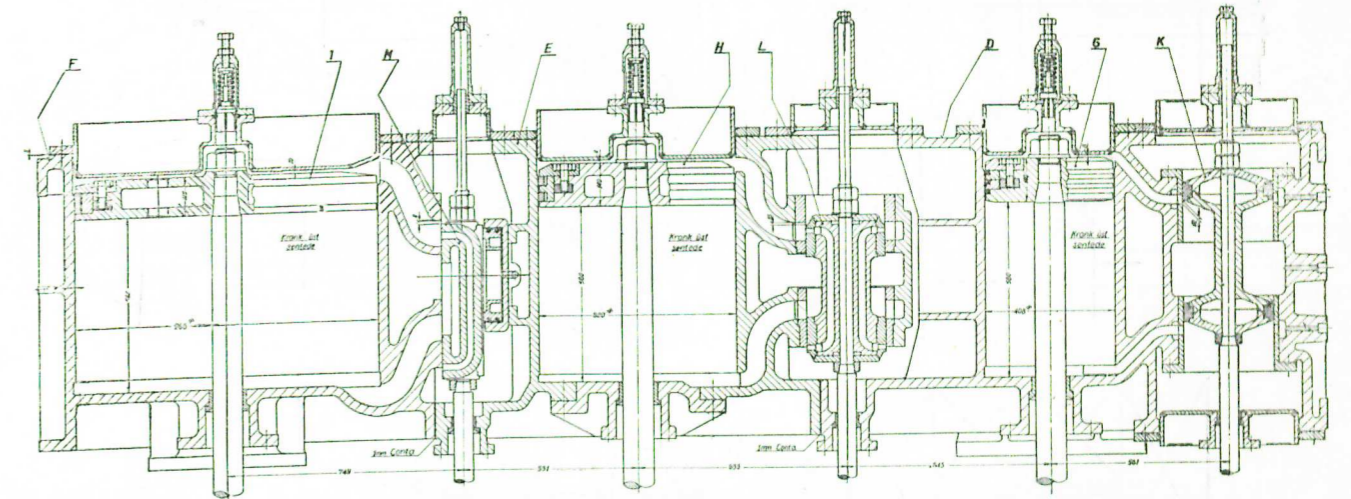
Soğutma sathı : 176.5 m<sup>2</sup>  
 Boru adedi 1114  
 Boru boyu 2,73 m.  
 Boru Kutru 19 m/m.

ANA MAKİNA

MAIN ENGINE



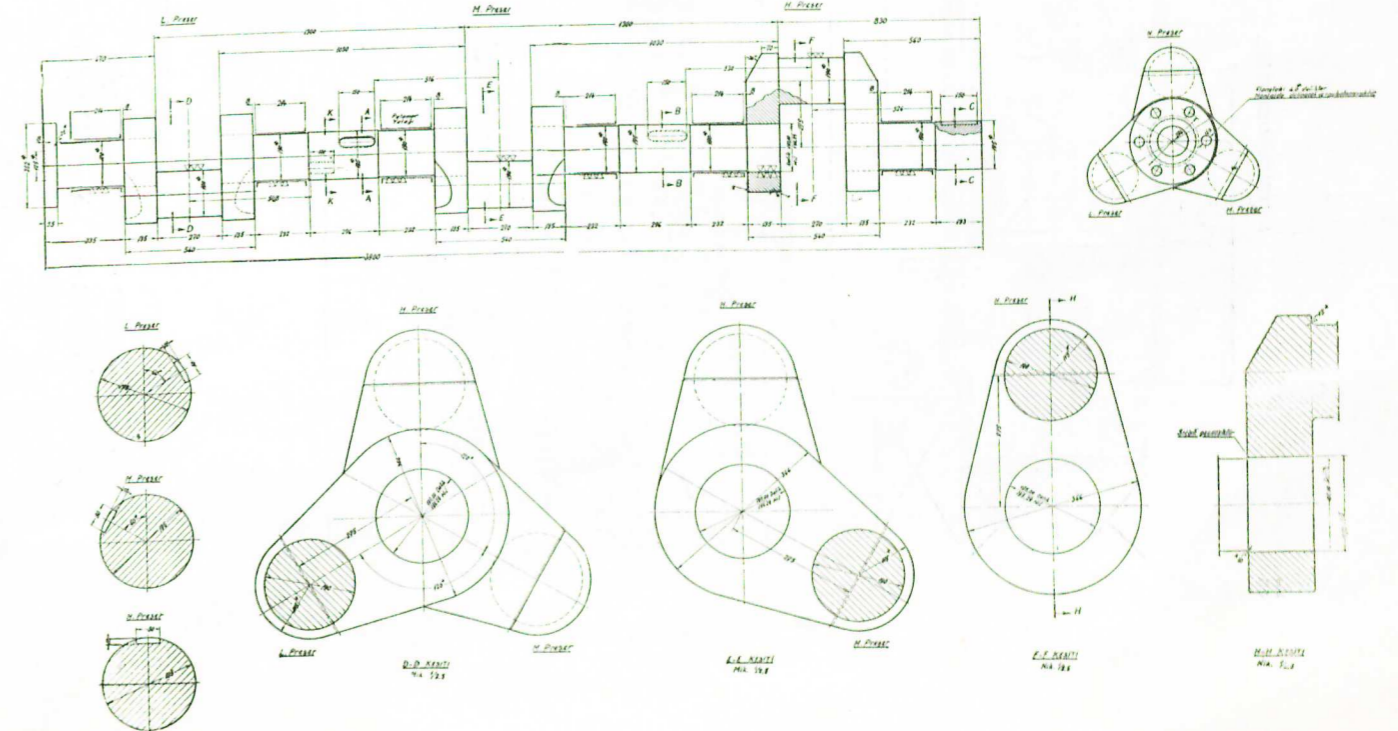
SİLİNDİR KESİTLERİ

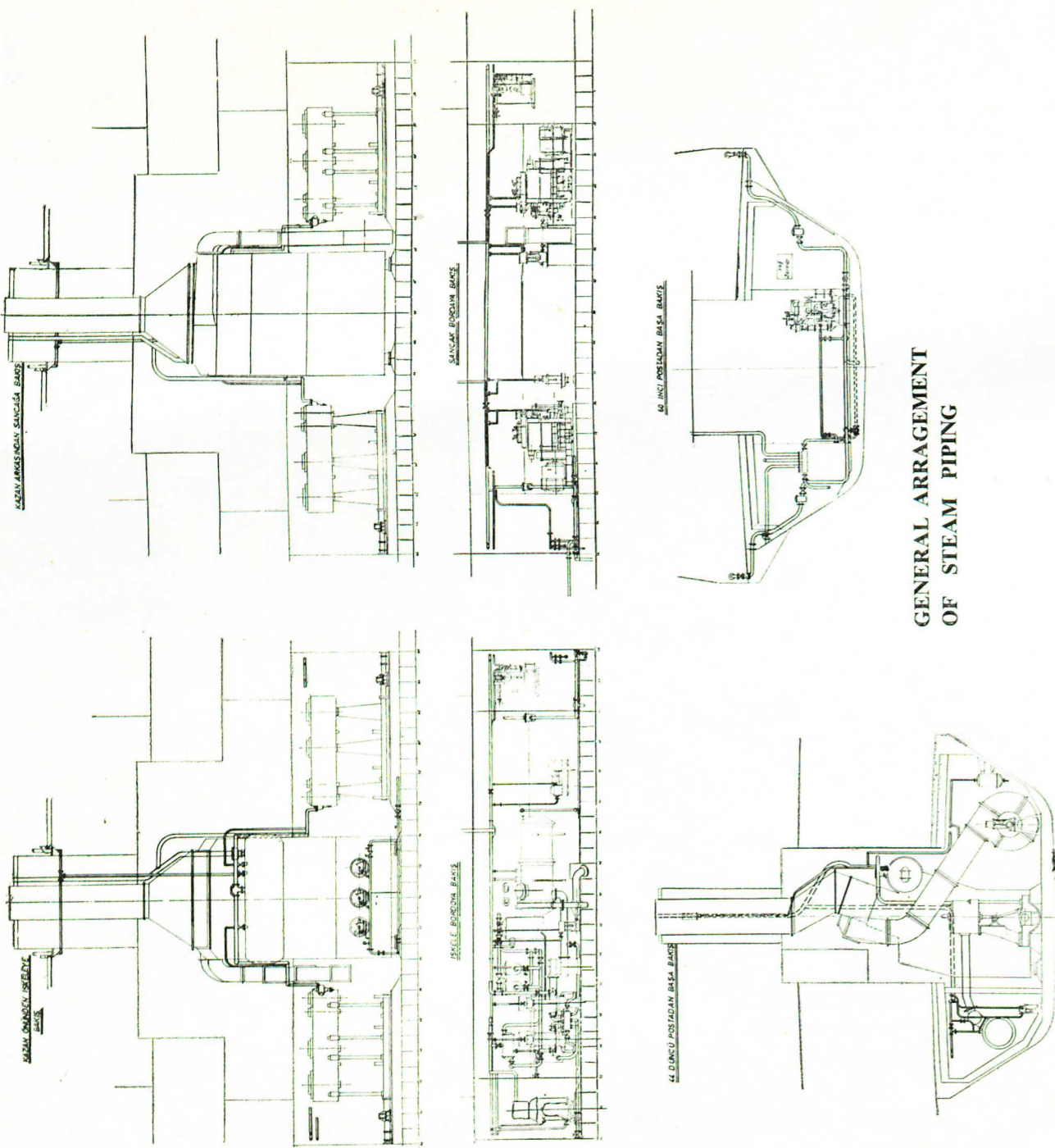


Silindir kuturları : 410 x 625 x 970 m/m.  
 Stroke : 550 m/m.

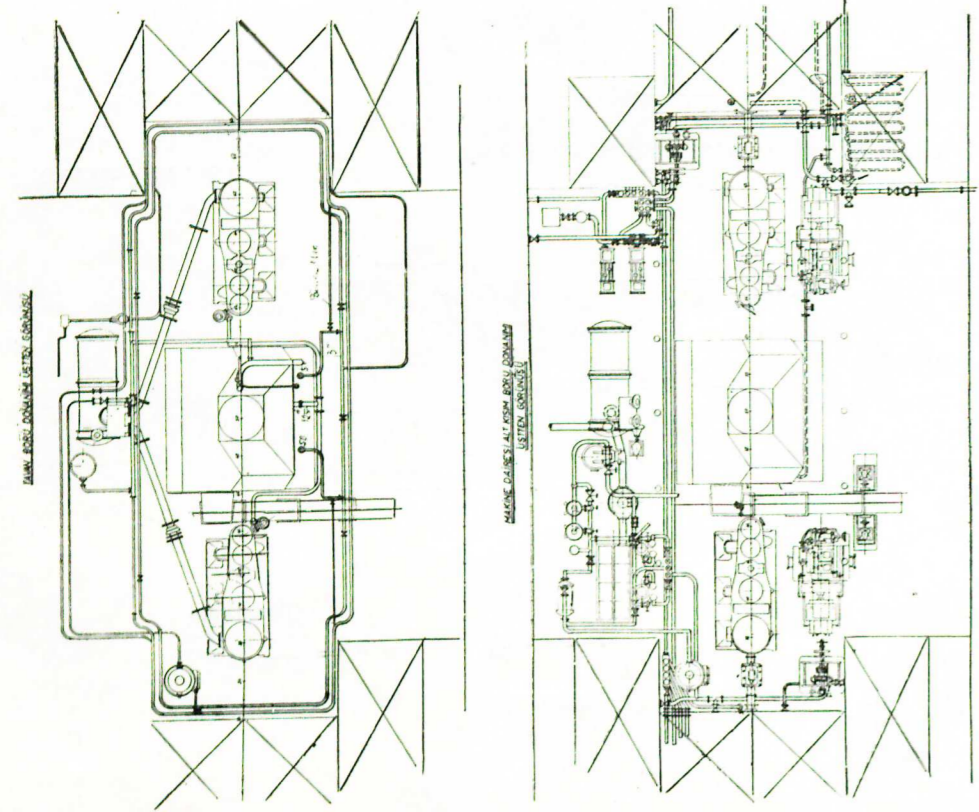
CRANK SHAFT :

KRANK ŞAFT :



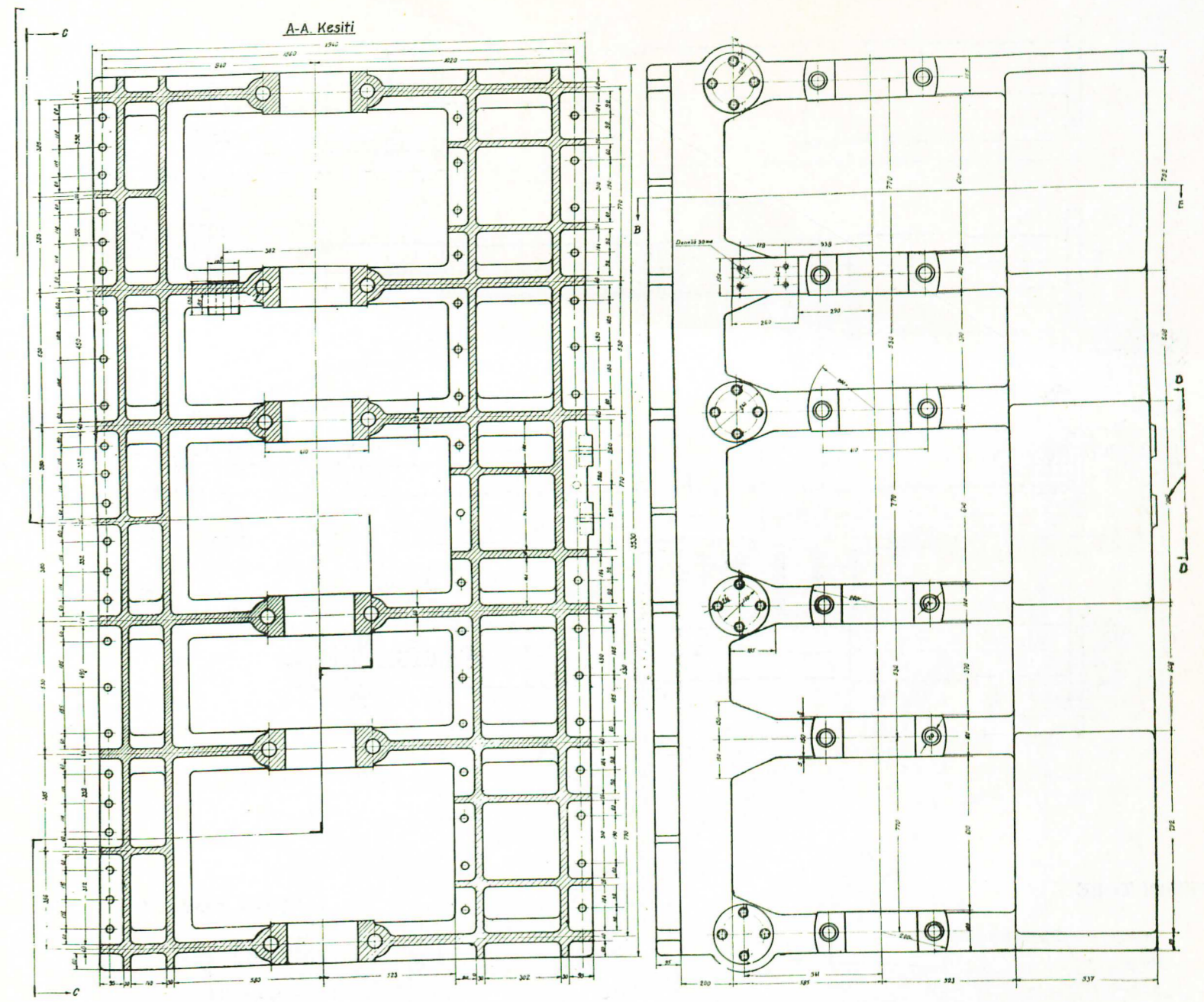


GENERAL ARRANGEMENT OF STEAM PIPING

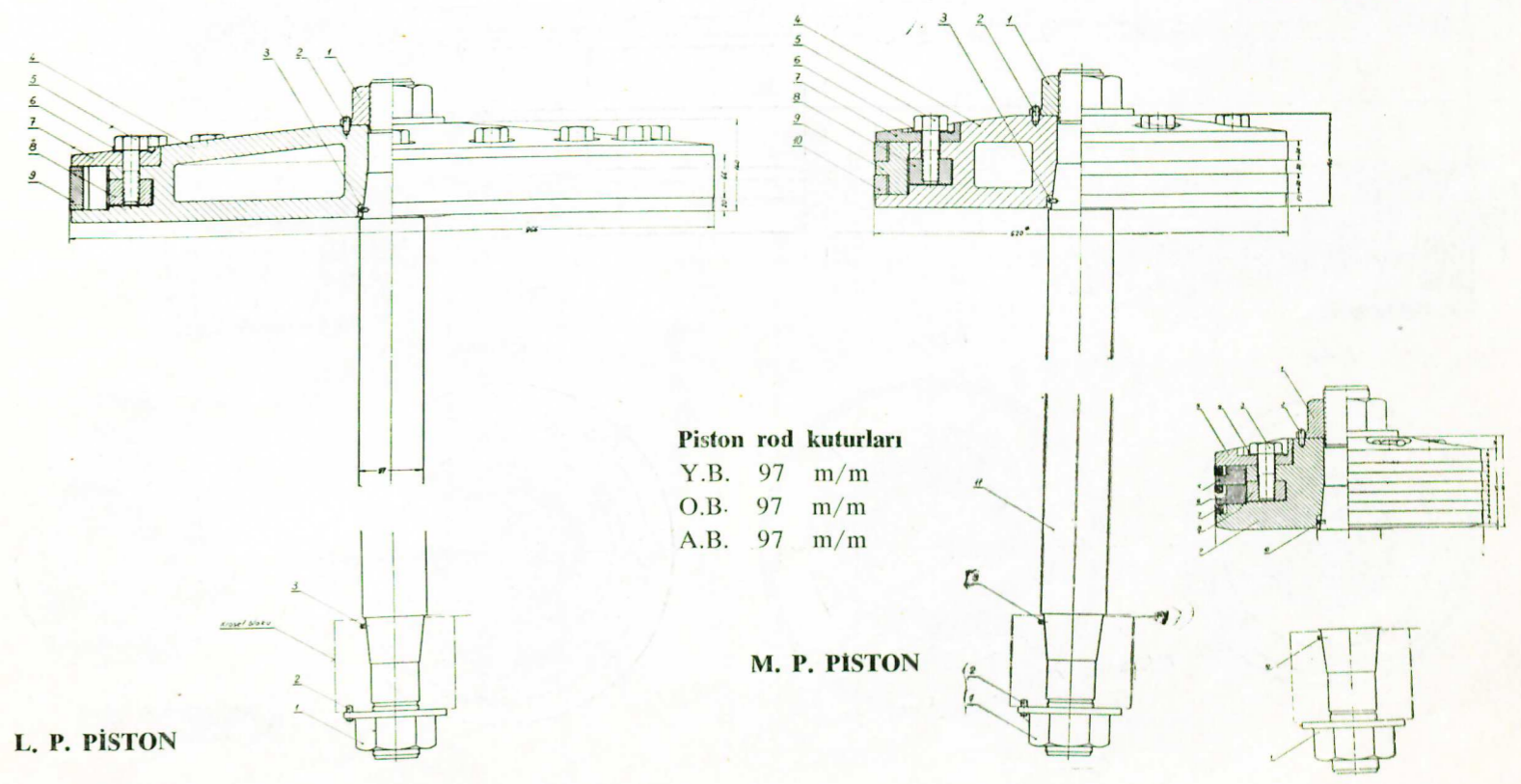


BUHAR BORU DONANIMI

Buhar boruları — Çelik 125 m/m  
Egzost boruları — » 300 m/m



BED PLATE



Piston rod kuturları

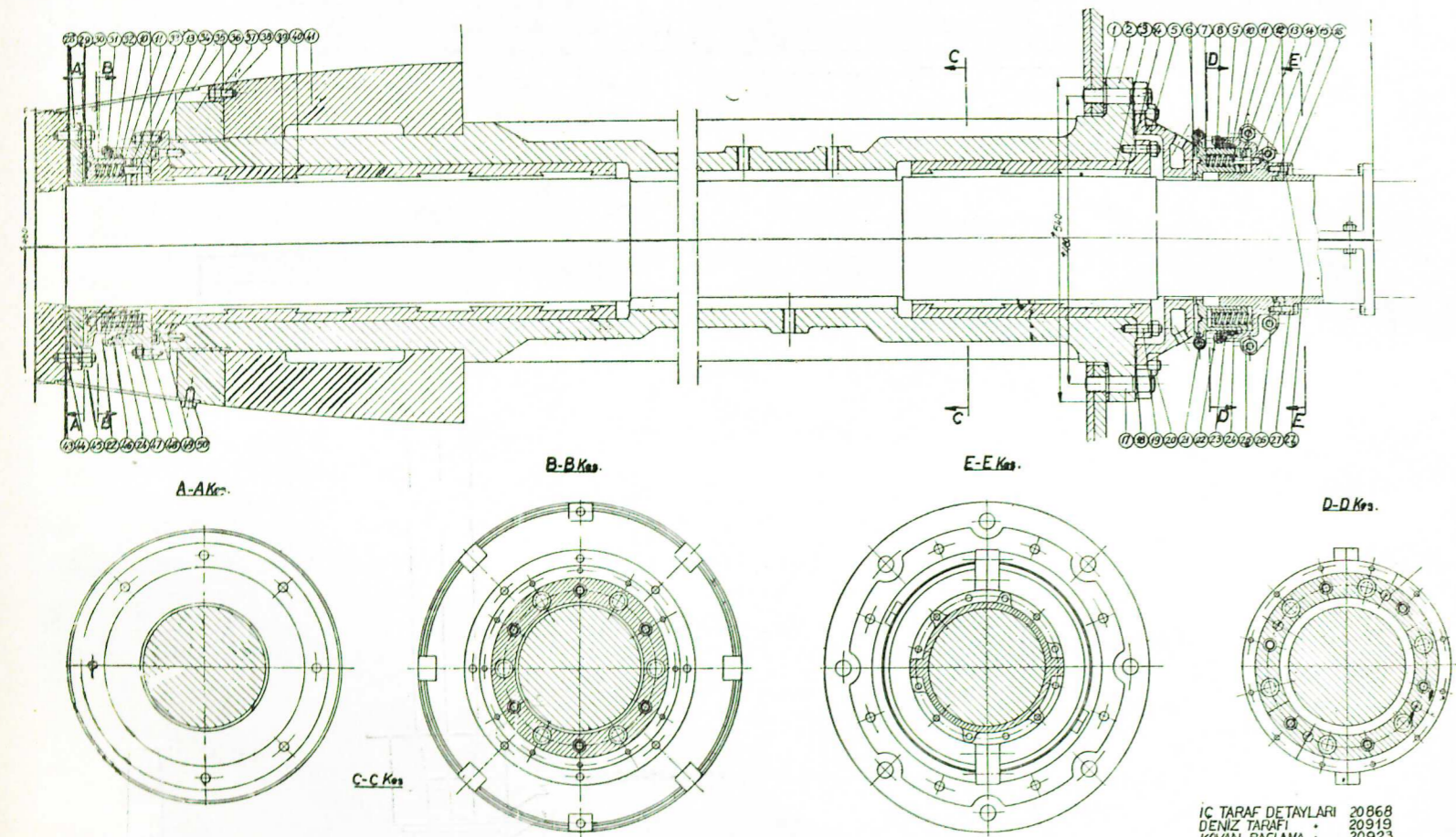
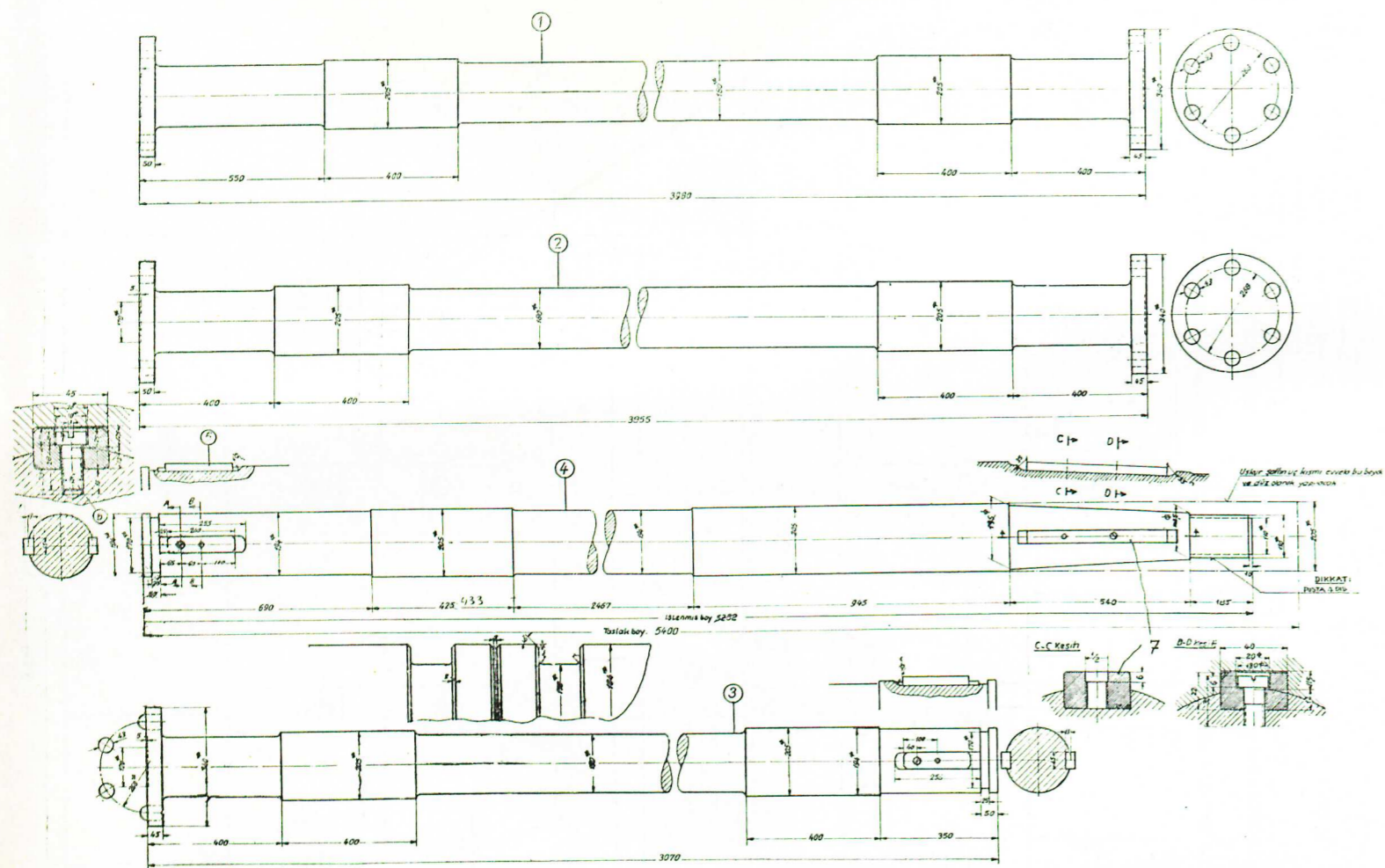
|      |        |
|------|--------|
| Y.B. | 97 m/m |
| O.B. | 97 m/m |
| A.B. | 97 m/m |

L. P. PİSTON

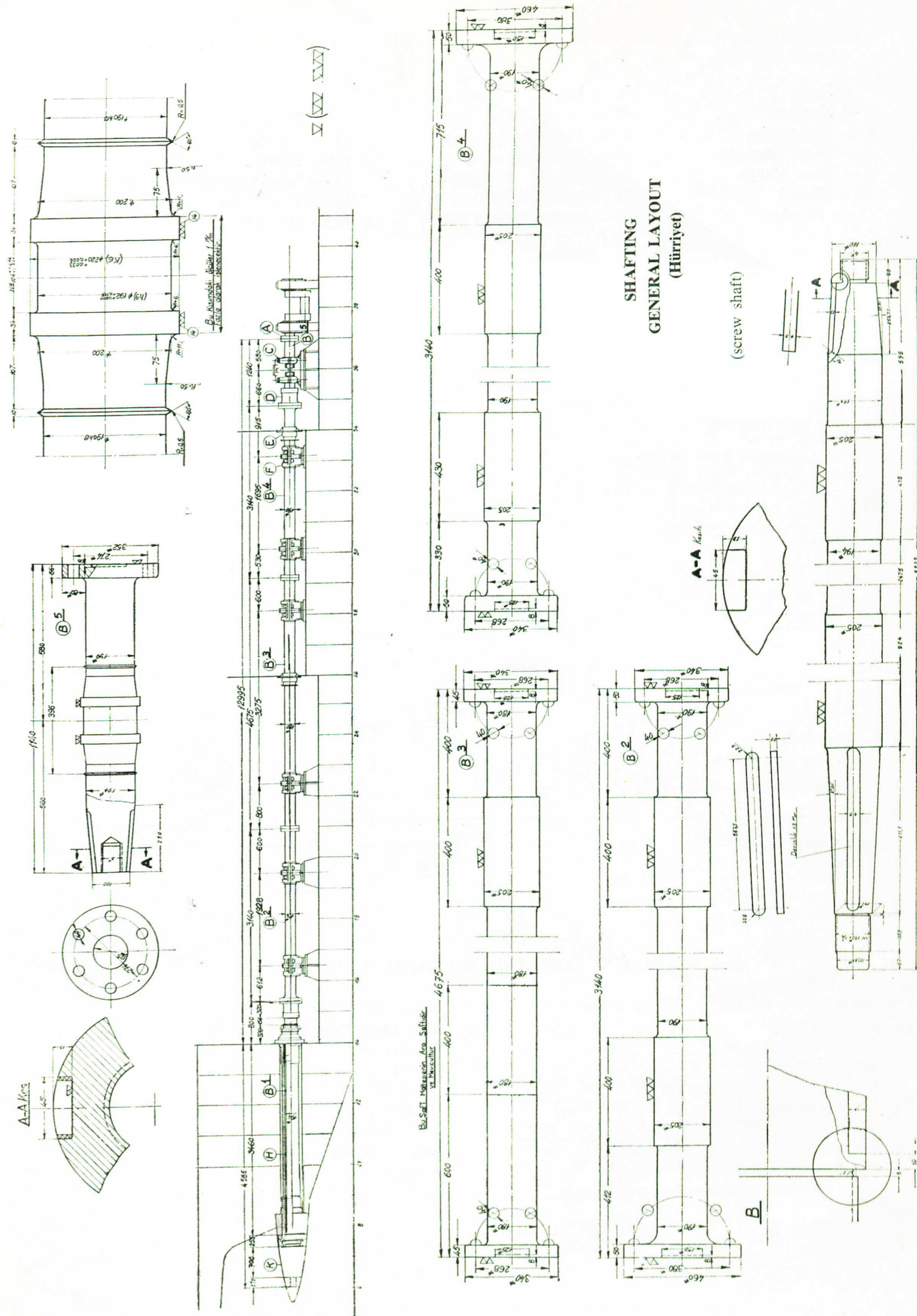
M. P. PİSTON

H. P. PİSTON

PİSTONLAR



İÇ TARAF DETAYLARI 20968  
DENİZ TARAFI 20919  
KOVAN BAĞLAMA 20923

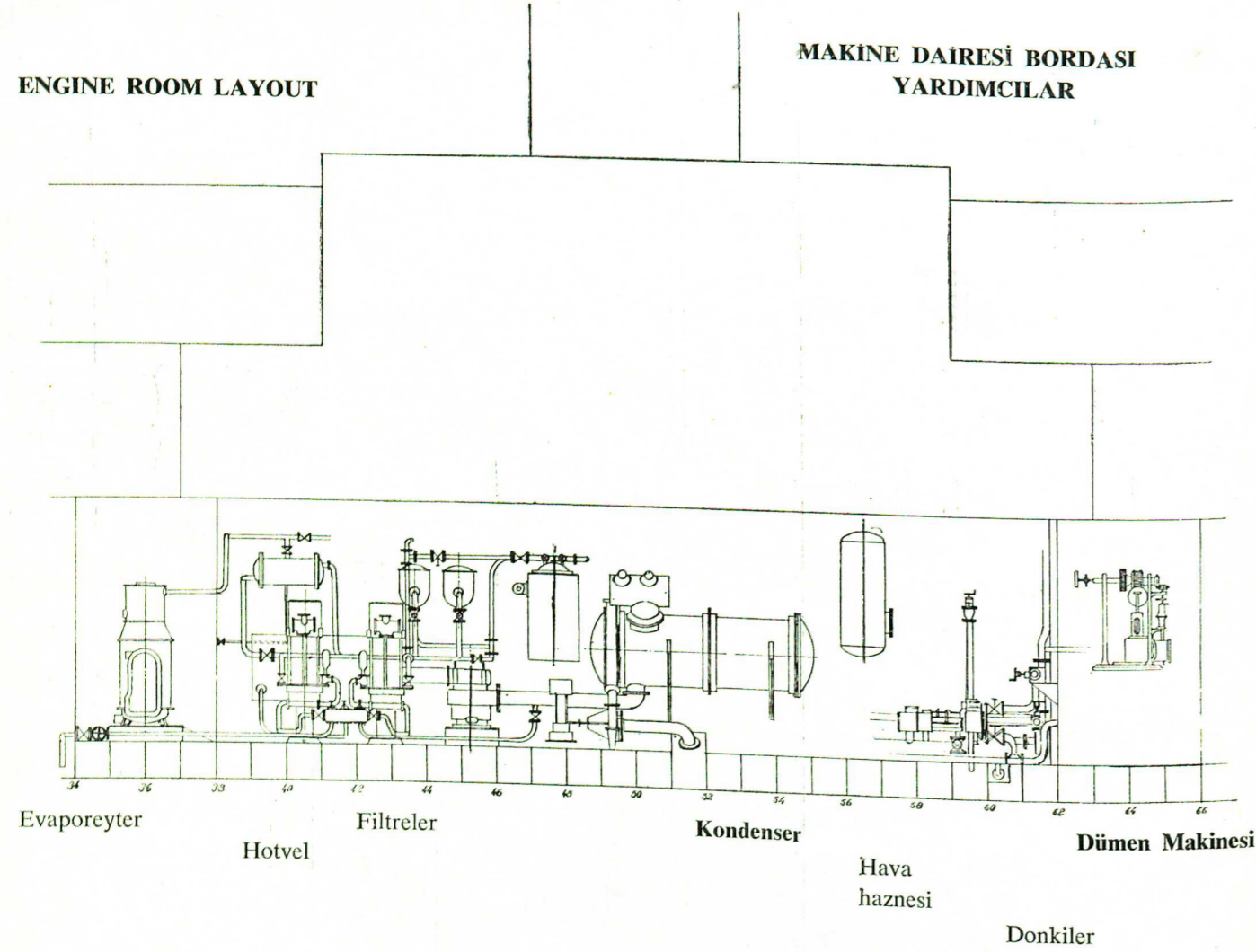


SHAFTING  
GENERAL LAYOUT  
(Hürriyet)

(screw shaft)

- |                      |                      |                       |
|----------------------|----------------------|-----------------------|
| 1 — Kazan            | 8 — Ervesli          | 15 — Tazyik Tankı     |
| 2 — Kondenser        | 9 — Erpamp           | 16 — Emme filtreleri  |
| 3 — Ana makine       | 10 — Viyerler        | 17 — Viyerler         |
| 4 — Diesel generatör | 11 — Sentrefigal     | 18 — Hiterler         |
| 5 — Hava körüğü      | 12 — Hiter           | 19 — Liman jeneratörü |
| 6 — Hotvel           | 13 — Balast Donkisi  | 20 — Evaporeyter      |
| 7 — Filtreler        | 14 — Sintine Donkisi | 21 — Hidrofor         |
|                      |                      | 22 — Dümen makinesi   |

### ENGINE ROOM LAYOUT

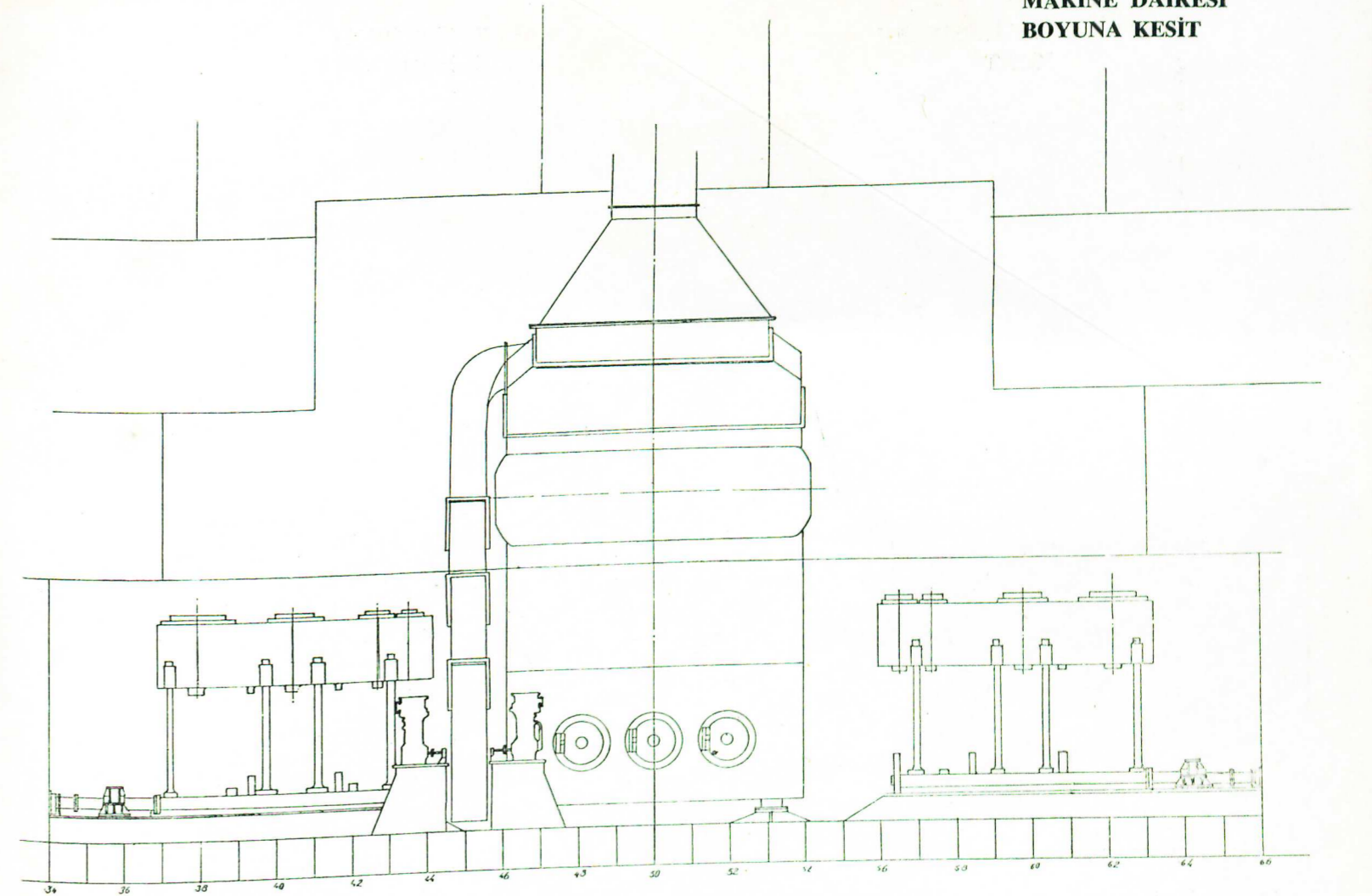


### MAKİNE TESİSATINA AIT GENEL BİLGİLER

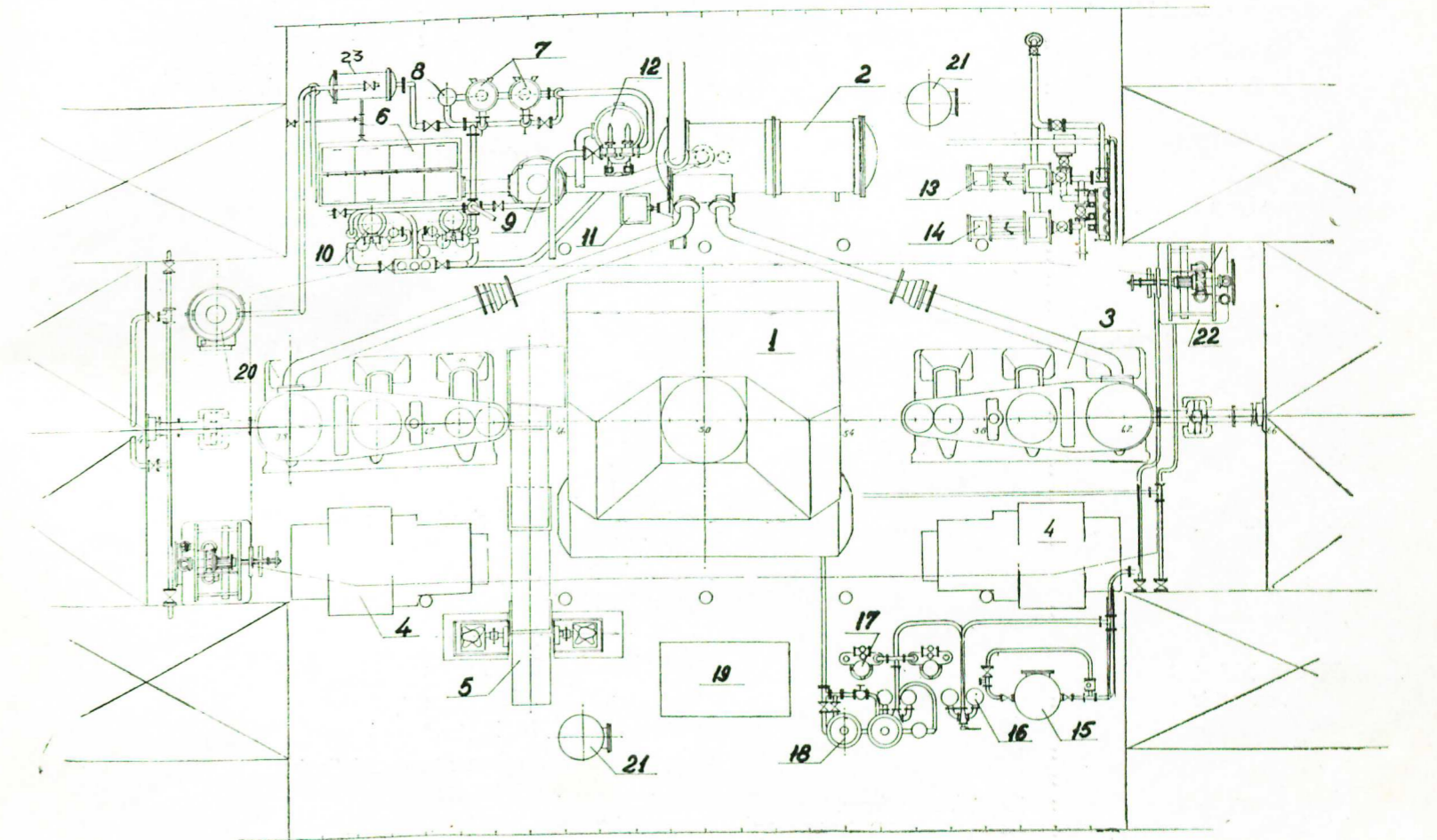
Kazan basıncı 13 Kg/cm<sup>2</sup> Babcock-Wilcox  
 Teshin sathı 300 m<sup>2</sup>  
 Meme adedi : 3 Burner  
 Ekonomizer 153 m<sup>2</sup>  
 Körük kapasitesi 2800 m<sup>3</sup>/h  
 Fit suyu suhuneti 110 C°  
 Fit tulumbası kapasitesi 11.5 m<sup>3</sup>/h.  
 HP stop valfta basınç 12 Kg/cm<sup>2</sup>  
 Stim suhuneti 200 C°  
 Saatte stim hasil etme kapasitesi 9 ton/saat

Günde su sarfiyatı  
 Ana makine beygir gücü 640 IHP  
 Devir sayısı 140 dv/dk.  
 Silindir ebadı :  
 HP 410 MP 620 LP 960 m/m  
 Strok : 550  
 Vakum — 680 m/m Hg.  
 Satte yakıt sarfiyatı 360 Kg/h.  
 Katoflar %35, %50, %65  
 A.H. Valf donanımının Sistemi : Stephenson

### MAKİNE DAİRESİ BOYUNA KESİT

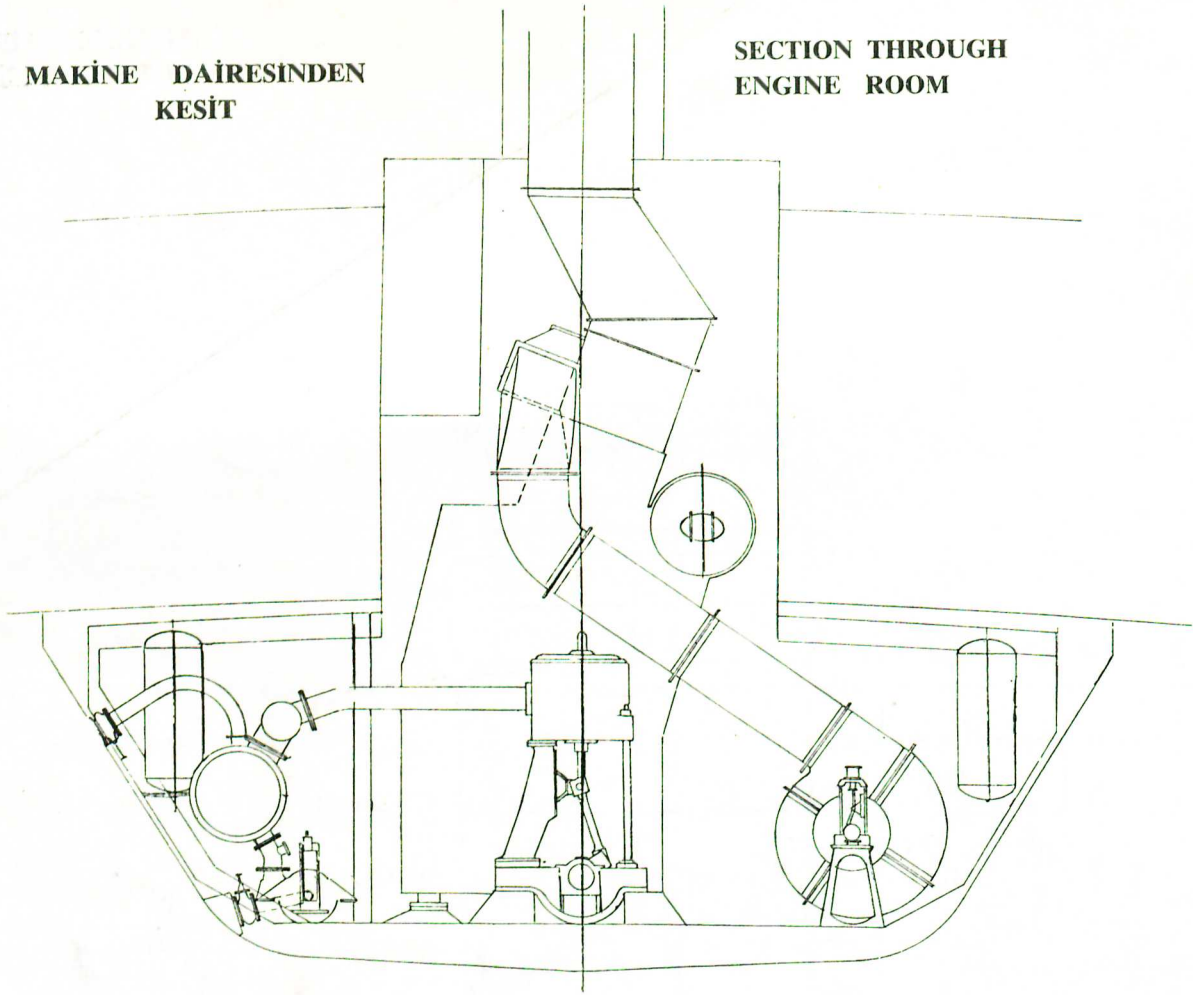


### ENGINE ROOM LAYOUT



MAKİNE DAİRESİNDEN  
KESİT

SECTION THROUGH  
ENGINE ROOM



**Yardımcı Makineler**

|                     |   |               |
|---------------------|---|---------------|
| <b>Mazot viyeri</b> | : |               |
| Silindir çapları    | : | 165 - 80 (mm) |
| Strok               | : | 300 m/m       |
| Kapasite            | : | 3 Ton/Saat    |

**Sintine ve umumi hizmet donkisi**

|                    |   |                |
|--------------------|---|----------------|
| Silindir kuturları | : | (mm) 165 - 145 |
| Strok              | : | 260            |
| Kapasite           | : | 45 ton/saat    |

**Kazan viyeri :**

|                  |   |                           |
|------------------|---|---------------------------|
| Silindir çapları | : | 260 - 180                 |
| Strok            | : | 300                       |
| Kapasite         | : | 11.5 m <sup>3</sup> /saat |

**Elektrik makinesi (Hürriyet):**

|                  |   |               |
|------------------|---|---------------|
| Diesel generatör | : | (FIAT)        |
| Güç              | : | 60 Kw/saat    |
| Devir            | : | 1500 Dev/Dak. |
| Volt             | : | D. C. 220 V   |
| Adet             | : | 2             |

**Kompresör**

|          |   |            |
|----------|---|------------|
| Güç      | : | 15 Kw/saat |
| Kapasite | : | 40 m/saat  |
| Basınç   | : | 30 Kg/sm   |

**(Kartal, Kabataş)**

|                 |   |                                 |
|-----------------|---|---------------------------------|
| Dizel generatör | : | (PLACSTONE)                     |
| Güç             | : | 80                              |
| Devir           | : | 600                             |
| Adet            | : | 2                               |
| Volt, Amp.      | : | 220 W. 182 Amp.                 |
| Marka           | : | (R.A. LISTER MARINE SALES LTD.) |

**Körük Makinesi**

|                             |   |                                    |
|-----------------------------|---|------------------------------------|
| Tek Silindir buhar makinesi | : |                                    |
| Silindir çapı               | : | 170 m/m                            |
| Strok                       | : | 130 m/m                            |
| Devir                       | : | 500 dv/dk.                         |
| Kapasite                    | : | 28000 m/h                          |
| Hava Basıncı                | : | 96 mm SS                           |
| İmalat                      | : | Ottensener Eisenwerke Hamburg 1951 |

**Irgatlar :**

|                    |   |                   |
|--------------------|---|-------------------|
| Kartal Kabataş     | : | 4 adet            |
| Hürriyet           | : | 2 adet            |
| Elektrik motoru :  |   |                   |
| Volt               | : | 220 Volt          |
| RPM                | : | 1500              |
| HP                 | : | 15                |
| Demiralma sürati : |   | 4.8 - 3.34 m/sec. |

**Kapak Vinçleri :**

|                            |   |                |
|----------------------------|---|----------------|
| Elektrik motorları :       |   |                |
| Volt                       | : | 220 Amp. 62.2  |
| RPM                        | : | 1500           |
| HP                         | : | 12.5 KW.       |
| Palanga sistemi (Hürriyet) | : | 2 x çift dilli |

**Kartal Tek Kabataş Tek**

**Dümen Makineleri :**

|                            |   |                       |
|----------------------------|---|-----------------------|
| <b>Adet 2 (baş - kıç)</b>  |   |                       |
| Silindir kuturları         | : | 2x150 m/m             |
| Strok                      | : | 152 m/m               |
| Basınç                     | : | 10 Kg/cm <sup>2</sup> |
| Alabandan alabandaya zaman | : | 35 Saniye             |
| Dümen zinciri              | : | φ 22                  |

**Evaporeyter**

|       |   |                |
|-------|---|----------------|
| Günde | : | 7 Ton Tatlı su |
|-------|---|----------------|