



# TÜRK LOYDU

## TYPE APPROVAL CERTIFICATE

Certificate No: TO.DEB.12-0342-4

This Certificate consists of 2 pages.

This is to certify that the

### ELECTRO HYDRAULIC STEERING GEAR

With type designations

DDS 3000 ( DDS 2x1500 )

Manufactured by

DATA HİDROLİK MAKİNA SANAYİ A.Ş.  
Tuzla / İSTANBUL

Is found to comply with

Türk Loydu Rules for Classification of Ships.

**Application** : The electro hydraulic steering gear intended for ships, tugs, yachts and other marine application.

**Design** : DATA HİDROLİK MAKİNA SANAYİ A.Ş.

**Sizes** : 3000 daN.m ( at 35° )

**Address of Manufacturer** : İstanbul Deri Organize Sanayi Bölgesi Yan Sanayi Alanı  
YA-8 Parsel Aydınlı-Tuzla / İstanbul / TURKEY

**Place and date** : Tuzla / İSTANBUL - 16.07.2012

**Subject to the conditions referred to 2<sup>nd</sup> page, this certificate is valid until 15.07.2017**

İlker KARPUZ  
Head of Marine Industry Division

  
Hasan HABİBOĞLU  
Surveyor

47292

**Product description:**

DDS 3000 – Double Action Cylinder      DDS 2x1500  
Nominal torque : 3000 daN.m - Max. transmitted torque : 3750 daN.m Rudder angle : 2 x 35°  
Nominal working pressure : 95 bar Max. pressure : 119 bar Displacement : 4415 cm<sup>3</sup>  
Rudder Stock : Ø 100 mm – Ø 180 mm

**Type Designation** : DDS 3000 ( DDS 2x1500 ) Electro Hydraulic Steering Gear

**Materials used** : To be referred to the approved drawings 10.10.2011

**Application/ Limitation (Approval conditions):**

- Nominal torque 3000 daN.m – Test pressure 179 bar - Relief valve set up pressure 119 bar
- When required by the rules the accessories fitted on the steering gear must be type approved.

**Documentation** :

Approved drawings, Test reports No : B. 30.2.YIL.029.11.00/060.11. 189,183,190 –  
B.30.2.YIL.0.29.00.04 / 949,945947 B.30.2.YIL.0.29.00.04/060.01.06 -23 , 08 33 , 36

**Test carried out (and results) :**

Following tests were carried out, found satisfactory.

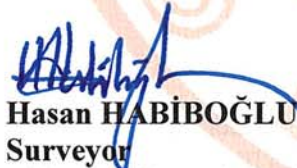
- Visual inspection
- Material test ( mechanical and chemical )
- Hydraulic pressure test
- Relief valve adjustment
- System function test
- Dye- penetrant test ( PT )
- Ultrasonic test ( UT )

**Place of test carried out** :

- YTÜ Laboratory
- Data Hidrolik Makina Sanayi A.Ş.

**Marking of product:** The product to be marked same as below mentioned.

- Manufacturer's name or trade mark
- Serial number of the units
- Equipment type or model identification
- Power – revolution
- Flow – relief valve set up
- Manufacture date

  
**Hasan HABİBOĞLU**  
Surveyor

This certificate is valid if retention/renewal surveys carried out to the satisfaction of TL surveyor and following entries made:

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Surveyor	Surveyor	Surveyor	Surveyor
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Survey Date	Survey Date	Survey Date	Survey Date

This certificate is subject to terms and conditions described below.

Any significant change in design or construction may render this Certificate invalid. Type Approval Certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. This certificate is not valid for products without TL marking above mentioned. The manufacturer should notify TÜRK LOYDU of any modifications or changes to the equipment in order to obtain valid certificate. This certificate shows that tested specimens as representative of the product complies of the TÜRK LOYDU rules, and relevant international instruments that apply to it.