



TÜRK LOYDU

TYPE APPROVAL CERTIFICATE

Certificate No: TO.DEB.12-0342-5

This Certificate consists of 2 pages.

This is to certify that the

ELECTRO HYDRAULIC STEERING GEAR

With type designations

DDS 6000 (DDS 2x3000)
DDS 6000-45 (DDS 2x3000-45)

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 : 6000 daN.m (at 35°) – 5180 daN.m (at 45°)

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 2nd page, this certificate is valid until 15.07.2017


İlker KARPUZ
Head of Marine Industry Division


Hasan HABİBOĞLU
Surveyor



Product description:

DDS 6000 – Double Action Cylinder DDS 2x3000

Nominal torque : 6000 daN.m - Max. transmitted torque : 7500 daN.m Rudder angle : 2 x 35°

Nominal working pressure : 112 bar Max. pressure : 140 bar Displacement : 7670 cm³

Rudder Stock : Ø 150 mm – Ø 200 mm

Type Designation

: DDS 6000 (DDS 2x3000) Electro Hydraulic Steering Gear

DDS 6000-45 (DDS 2x3000-45) Electro Hydraulic Steering Gear

Materials used

: To be referred to the approved drawings 21.04.2009

Application/ Limitation (Approval conditions):

-Nominal torque 6000 daN.m – Test pressure 210 bar - Relief valve set up pressure 140 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:

Surveyor	Surveyor	Surveyor	Surveyor
.../.../2013	.../.../2014	.../.../2015	.../.../2016
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.