# 3 STAGE PUMP 8V92


*OCS owned 3 staged pump (8V92 engine driven) units are skid mounted pumping unit that can be used for low pressure feed water or high pressure water. Main type of operations performed using these units are pipeline pre-commissioning, Pipeline post burial (Trenching) and Pile remedial operations using Jet/Airlift techniques. Three of the skids have been designed to accommodate* ***3 stage fluid ends*** *(200SLD280-43X3) for pipeline flooding or pile jetting operations while the remaining two have been designed for low pressure/ high volume fluid ends (SLOW350-380B) to provide feed water to OCS high pressure / volume 4 stage pressure pumps. These are of course depends on the type of services required for.*

*The power train used for this pump skids is a Detroit 8V92 diesel driven engine. The Detroit Diesel Series 92 is a two-stroke cycle, V-block diesel engine, produced with versions ranging from six to 16 cylinders. 8V92 engine is an 8 cylinder engine with 92 cubic inches volume per cylinder producing 285BHP (212.5kW) @1200 RPM and upto 450BHP (336kW)@2100RPM. In order to prevent overstressing the engine is usually run at approximately 1600RPM. The fuel consumption rate varies from 14 USG/hr @1200 RPM to 19 USG/hr @ 1800 RPM*

*The performance characteristics for the 8V92 driven fluid ends employed by OCS are as follows:*

| ***3 stage pump specifications*** | |
|---|---|
| *Fluid End* | *200SLD280-43*3* |
| *Flow Rating* | *321 m3/hr* |
| *Suction Inlet* | *8" # 150* |
| *Discharge* | *8" # 150* |
| *Power Train* | *GM 8V-92TA 2 Stroke Diesel Engine* |
| *Power Output bhp (kW)* | *450 (336) @ 2100rpm* |
| *Peak Torque –lb ft (N.m)* | *1250 (1695) @1300rpm* |
| *Skid Framing* | *3800 x 1500 x 2420mm x 5MT* |
| *No Of Units* | *5* |

*The pumps skids of the units have been designed to comply with DNV criteria (DNV 2.7-3) for offshore portable equipment lifting operations*

**Offshore Construction Specialist Pte.Ltd.**
36 Kian Teck road, Singapore 628781
Tel: +65 68980210 Fax: +65 68980209

*OCS has Equipment passports for individual Engine, Skids and Fluid Ends which must be reviewed before each project to assess the status. The equipment passport gives the working history, maintenance and certification history for Engines, Fluid Ends and Pump skids.*

*It is important to regularly review the list of critical spare parts of the equipment before each project.*

*Where failures occur during operations Equipment bulletins will be issued to document the problem and the remediation solutions applied. The equipment bulletin will be circulated to all field engineers to be informed about the possible failure that can occur during the operation and thereby avoid future failure.*

*This equipment file remains a live document and will be constantly updated by the equipment department.*

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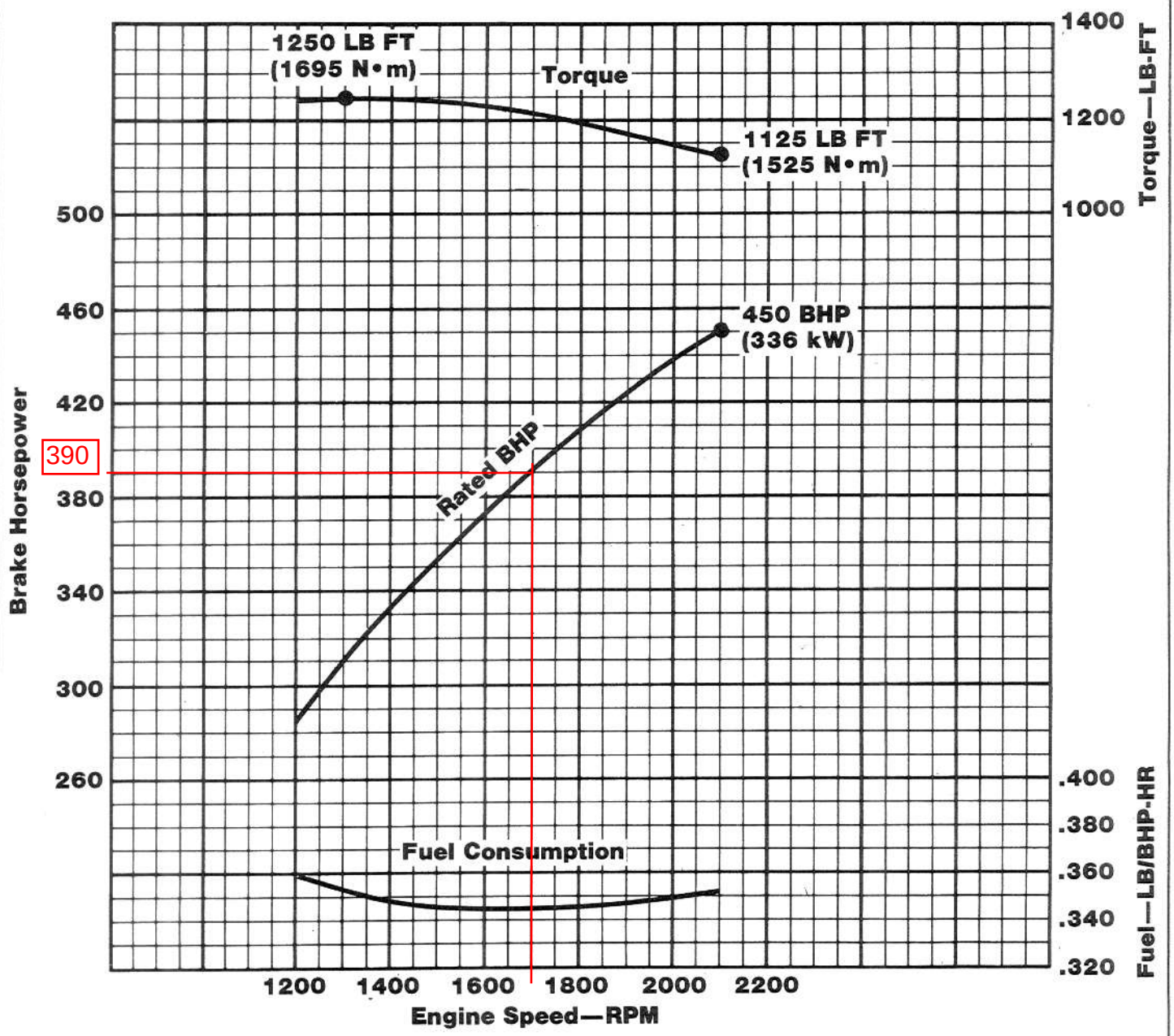
DETROIT DIESEL CORPORATION

**8V-92TA**
**Industrial**
**Rated BHP**
**450 BHP @ 2100 RPM**
**1250 LB-FT @ 1300 RPM**
**Injector: 9G85**
**Turbocharger: TV8511 (1.39 A/R)**

# ENGINE PERFORMANCE CURVE




**Air Intake Restriction - in. $H_2O$ (kPa) . . 10 (2.5)** | **Exhaust Back Pressure - in. $H_2O$ (kPa) . . 15 (3.7)**

- Power output guaranteed within 5% at SAE J1349 conditions: 77°F (25°C) air inlet temperature; 29.31 in. Hg (99kPa) dry barometer; 100°F (39°C) fuel inlet temperature (.853 specific gravity at 60°F).
- Conversion factors: Power: kW = bhp × 0.746
  Fuel: kg/kW•hr = lb/bhp•hr × 0.608
  Torque: N•m = lb•ft × 1.356
- Values derived are from currently available data and are subject to change without notice.

**Certified by:**

B S Knudsen

**Curve No.**
**E4-8083-32-8**
**Date: 7-25-84**
**Rev./Date:**
**Sht. 1 of 2**

# SHANGHAI LIAN CHENG(GROUP)GO.,LTD

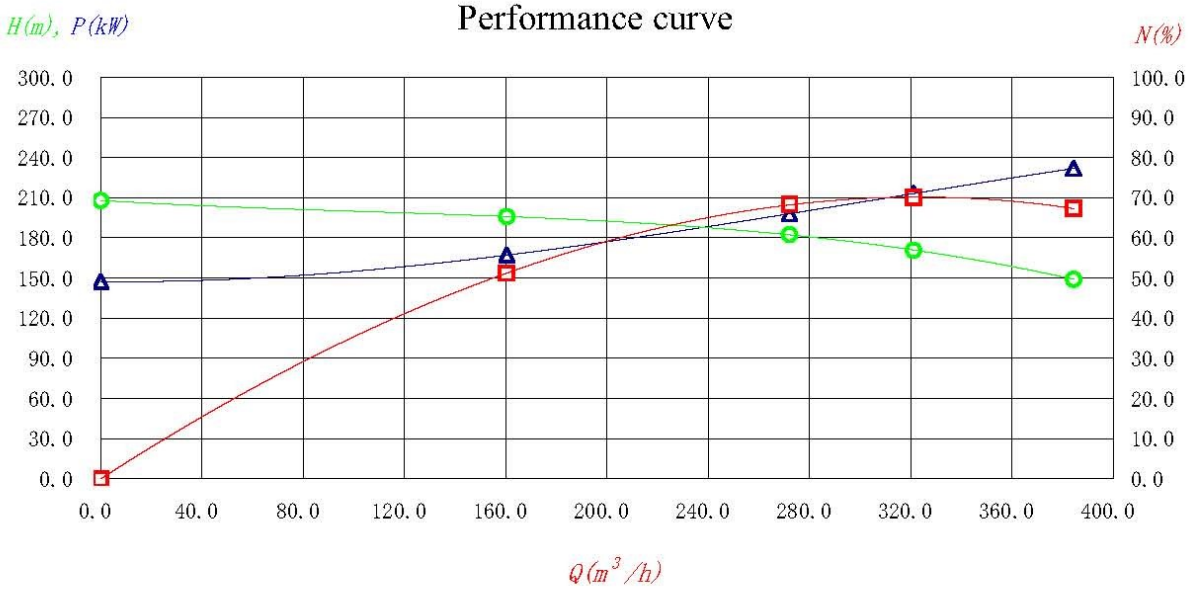
## 水泵检测数据表

水泵编号Number: 02

## (PUMP INSPECTION REPORT)

| 水泵型号 type pump | 200SLD280-43*3 | 流量（$m^3/h$） Capacity | 321 | 功率（kW）Power | 286 |
|---|---|---|---|---|---|
| 泵效率Pump Eff(%) | 70.0% | 扬程（m）Head | 170 | 转速（r/min） Speed | 1700 |
| 序号NO | 流量 Capacity（$m^3/h$） | 扬程 Head （m） | 轴功率 Driver shaft power(kw) | 泵效 Pump Eff(%) | 换算至额定转速 transfor to rating speed |
| 1 | 0.00 | 207.94 | 147.34 | 0.0 | |
| 2 | 160.43 | 195.91 | 167.12 | 51.2 | |
| 3 | 272.19 | 182.44 | 198.03 | 68.3 | |
| 4 | 321.16 | 170.75 | 213.11 | 70.1 | |
| 5 | 384.40 | 149.12 | 231.89 | 67.3 | |

性能曲线
Performance curve




**结论：** 合格 **测试：** 胡学刚 **日期：** 2008年11月

Conclusion: conformity testing: HXG **date:** Nov-08

Donaldson
FILTRATION SOLUTIONS

Donaldson Filtration (Asia Pacific) Pte.Ltd.
No3 Changi Business Park Vista, #02-01
Singapore 486051

Tel: (65) 6311 7373
Fax: (65) 6311 7399
www.donaldson.com

To Whom It May Concern

1 April 2015

**RE: Spark Arrestor Qualification**

Dear Customer

This is to certify that the items mentioned below are qualified by the United States Department of Agriculture (Forestry) Equipment Development Centre, San Dimas, California 91773 submitted by Donaldson Company Inc.

| MODEL | POSITION |
|---|---|
| ~~M080024~~ | ~~HORIZONTAL or VERTICAL~~ |
| ~~M090091~~ | ~~HORIZONTAL or VERTICAL~~ |
| M100016 | HORIZONTAL or VERTICAL |

Yours Sincerely,

Signature

**Goh Wee Choon**
Product Engineering Manager – Southeast Asia
**Donaldson Filtration (Asia Pacific) Pte Ltd**

(3-STAGE PUMP)

**P.T. DIESELINDO UTAMA NUSA**
*DISTRIBUTOR & STOCKIST OF MARINE / INDUSTRIAL ENGINE APPLICATION*

AUTHORIZED SERVICE DEALER OF
**DETROIT DIESEL**

# Test Certificate

DUN 1240
REFF : Detroit Diesel 8V-92TA
DATE : September 11, 2015

TIME : 13.43 to 14,57
CUSTOMER : OFFSHORE CONSTRUCTION SPECIALISTS PTE LTD

ENGINE SERIAL NO : 08VF121419 MODEL : 8087-7899 INJECTOR : M15 CALIBRATION : -

| RPM | BHP | KW | COOLANT TEMP (°C) | OIL TEMP (°F) | OIL PRESSURE (PSI) | AIRBOX PRESSURE (PSI) | BOOST PRESSURE (PSI) | FUEL PRESSURE (PSI) |
|---|---|---|---|---|---|---|---|---|
| Idle 641,5 | 3,5 | | 70 | 176 | 12 | 1 | - | 10 |
| No. Load 2239 | 46,1 | | 70 | 211 | 65 | 7,5 | 5 | 60 |
| 1000 | 9,5 | | 70 | 184 | 30 | 2 | 1 | 30 |
| 1200 | 13,4 | | 70 | 191 | 37 | 3 | 1 | 40 |
| 1500 | 220,3 | | 70 | 206 | 45 | 7,5 | 5 | 50 |
| 1800 | 403,5 | | 75 | 229 | 55 | 15 | 17,5 | 60 |
| FULL LOAD 2138,4 | 500,4 | | 78 | 226 | 60 | 23 | 20 | 60 |

MAX HORSE POWER AS PER ENGINE SPECIFICATION 500 BHP 2100 RPM
REMARKS : _____

TESTED BY

Mohamad Juhaedi

SATISFACTION GUARANTEED

Jakarta, 14 September 2015
APPROVED BY

P.T. DIESELINDO UTAMA NUSA
JAKARTA

Muhammad Fadli Sahar