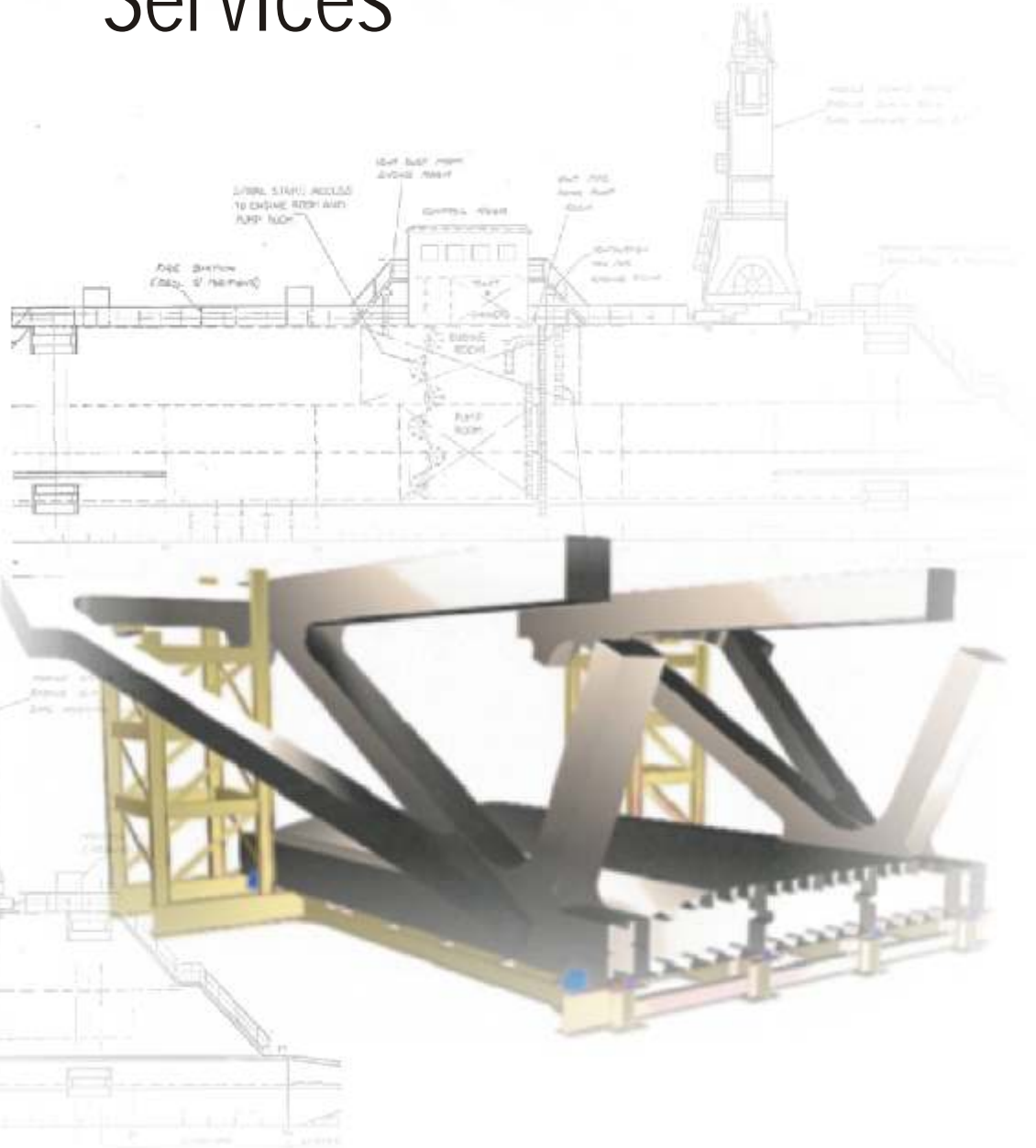




MP Design

Services





The Company

May we introduce ourselves as an English Company with more than twenty years experience in providing **skilled tradesmen** for engineering and shipbuilding projects. We also provide our own highly experienced **in-house design** department.

These pages give a more detailed account of our services and facilities and also show a breakdown of all recent projects we have worked on (including references).

Services and Fields of Experience

We offer the following:

A) In-house Design Department

We have an experienced in-house design operation offering the following facilities:

- Intel Pentium IV Based CAD Workstations
 - Microstation
 - AutoCAD 2002
 - Tribon
 - PDMS
- PC Workstations
 - MS Office XP Pro
 - Various Database and Design software
- E-Mail
- Internet
- Fax
- Photocopying / Scanning
- Large format printing / plotting

B) Skilled Design Engineers

Design Engineers provided by us have all served a five-year apprenticeship and have an additional minimum of five years experience in engineering / shipbuilding industries. The following categories can be offered:

- Piping
- Structural
- H Vac
- Material
- Electrical
- Other Shipbuilding / Offshore fields

The Projects

There follows a detailed list of the design projects we have been involved with in the last 5 years.

They are listed by country and the project, scope of work and other details are given for each job.

Countries we have worked in during the last 15 years include: Sweden, Finland, Norway, Holland, and Turkey.

Details of Projects

FINLAND

ELLOMATIC (1986 -1987).

Project: Class drawings for 2 Italian and 2 Spanish Cruise Ships.

Scope of Work: All class drawings;
Scantlings;
Machinery room equipment.

ELLOMATIC – TURKU (1990).

Project: Vessel – Viking Serenade Modification.

Scope of Work: Structural design / detail design of the following:
New bow;
New sponsors;
Modification to bow-bulb;
Modification to Transom stem;
Deck layout for all cabins;
Main lounges and facilities;
Stair and passageways;
Restaurants;
Funnels and exhausts.

R.R OFFSHORE – PORRI (1991).

Project: Jack up drilling rig.

Design Layout: Spud cans;
Pump rooms;
Cantilevered drill floor;
Shale shaker house;
Machinery rooms;
Mud mixing and tanks;
Barite and Bentonite tanks;
Piping design layout;
H.V.A.C. layout;
Electrical cable runs for all the above.

Design

Estimates: For all areas (Hours);
For all drawings (Hours).

PI CONSULTANTS – VANTAA (1993)

Project: Piping design of boiler plant.

Scope of Work: Piping design; Piping support; Layout.

Reference: Mr Matti Weckman.

K.M.Y. HELSINKI (1996).

Project: Cruise Ship.

Scope of Work: Design calculations for pressure props and flow fluctuations in all H.V.A.C. systems;
Design / detail design for all H.V.A.C. systems.

Reference: Mr Timo Mahlahan.



NORWAY

MARITIME ENGINEERING – OSLO (1986,1989,1995).

Project: Semi-submersible drilling rig.
Scope of Work: Piping design of mud rooms;
Piping design of drilling floor;
Piping design of drilling systems;
Piping design of hydraulic systems.

Project: Semi-submersible drilling rig: Scarabeo 7.

Scope of Work: Acceptance test required for all drilling facilities, which had to be approved by Norwegian oil Directorate.

Project: Supply Vessel

Scope of Work: Structural (part class drawings);
Scantlings;
Structural layout.

BREVIK ENGINEERING (1985).

Project: Bingo II Semi-submersible drilling rig.

Scope of Work: Design estimate for all drawings (cost) of drilling systems;
Design estimate for all drawings, several drawings per area;
Design layout of equipment:
• Drill floor;
• Under drill floor;
• Mezzanine deck;
• Sub-sea equipment.
Piping design for all drilling / mud systems;
Structural detail design for all walkways, ladder, platform and foundations.

FRAMVAES MEK VERKSTED (1981).

Project: Semi-submersible drilling rig: Treasure Swan.

Scope of Work: Design convention of a semi-submersible accommodation / diving vessel to a drilling rig.

Structural: Redesign of main deck, design calculations for DNV approval;
Design calculations for drill floor;
Design calculations for crane foundation;
Structural design / detail design of:
• Main deck;
• Drill floor;
• Mud room;
• Shale shaker house etc.

Piping: All piping systems;
Drilling systems;
Hydraulic systems;
Mud systems;
Water systems.

Piping Design: All areas:
• Main deck;
• Mud room;
• Derrick;
• Shale shaker house;
• Columns;
• Pontoons.

Electrical: Recalculation of power generation required for modification to drilling rig;
All cable tray layouts;
Electrical cabinets layout;
Single line diagrams.

Instrument: Design of all instrument systems for complete drilling rig.

H.V.A.C: Design for complete H.V.A.C. system;
Pressure drops;
Flow fluctuation;
Design of the following areas:
• Mud room;
• Electric generator room;
• Accommodation;
• Columns.

SWEDEN

KARLSKRONAVARVET PROJECT DESIGN (1996-1997,1998 In House).

Project. Oresund Bridge. 11KM long bridge between Denmark and Sweden.

Scope of Work: Design of jigs and fixtures for erection of 20 metre sections of high bridge.

Number of Sections: 56.

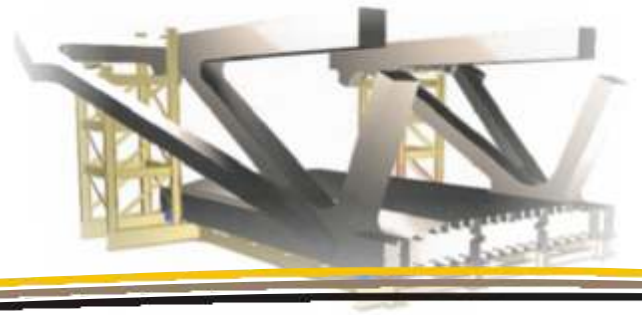
Size of sections: 20m long;
15m wide;
10 m high;
455 Tons, average weight per section.

Drawings: A0 - A1 – approximately 90;
A2 – approximately 40;
A4 charts – 350.

Scope of Work: Design of jigs and fixtures for assembling each 140m long GIRDER (7x20m sections).

Number of Girders: 8.

Number of Drawings: A1 -15; A4 -15.



SWEDEN (continued)

SCANRAFF REFINERYLYSEKIL (1990,1993,1994).

Project: Design of all modifications for a 4 yearly shut down and plant upgrade;

Piping 1 structural design for towers, heat exchangers, pumps & fin -fan

Coolers;

Pipe racks.

Design estimates for: Total number of drawings;
Each drawing (hours);
Total design hours;
Fabrication and erection costs.

SIGMA DESIGN – FROLUNDA (1987-1988).

Project: Chlorate plant.

Piping Design: Equipment layout in each area;
Pipe racks;
Vessels;
All equipment hook ups;
Isometrics;
Pipe support details;
Structural design of ladders, walkways, stairways and foundations.

G.V.A. – VESTA (1985 -1986).

Project: 3 Semi-submersible drilling rigs (Vinny, Wildcat & Balmoral).

Scope of Work: To design:

- Drilling facilities;
- Mud room;
- Shaker room;
- Drilling floor;
- Hydraulic Systems;
- Piping systems;
- Electric cable layout.

TURKEY

SAIPEM – ISTANBUL (1999 -2000).

Project: Semi-submersible drilling rig conversion.

Scope of Work:

1) Structural

Design and calculations for equipment foundations and seating, i.e. thrusters pumps, generators, cranes etc. Also module support blast wall, sequence of operation for removal aft end deck and pontoons for remods lengthening.

2) Piping

Design of:

- P&I diagrams – marine systems;
- Design layout and equipment layout in pontoons, columns and deck;
- Piping design layout, pontoons and columns, lower deck.

Preparation of:

- Piping line list;
- Equipment list;
- Valve list.

3) Instrument

Design selection of:

- Instrument equipment to meet required codes of practice and class requirements;
- Instrument lists for all equipment / vales and P&I diagram.

Site Engineers

Working at the Tuzla Shipyard site engineering of the drilling rig.

Disciplines:

- Piping;
- Structural.

For more information on MP Engineering or to discuss our services and facilities — please contact us:

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MP Engineering
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HOLLAND

Verolme Botlek BV -Nov 2001 to date

Updating existing P.I. drawings to drilling platform.