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# MACHINERY & COMPETENCIES

valmont sm part of Valmont Industries, Inc.

## 3 REASONS TO CHOOSE VALMONT SM FOR YOUR NEXT HEAVY ENGINEERING PROJECT

# INNOVATION

# AUTOMATION

# PROCESS OPTIMIZATION

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**Valmont SM is ISO 9001, ISO 14001 and OHSAS 18001 verified.**
Valmont SM will demonstrate environmental responsibility and create and maintain safe and healthy working conditions for all employees.
Valmont SM will achieve continuous improvements on the environment and working environment through the involvement of our employees.

The quality department of Valmont SM upholds a quality assurance system in accordance with DS/EN ISO 9001. In addition, we maintain following certificates:
EN ISO 3834-2, AD 2000-Merkblatt HPO, EN 1090-1/2 EXC4, GEN DIN 18800-7.

# EXPERTS IN FABRICATION

Valmont SM has long-standing relationships with large global customers, where we use our know-how and capabilities to optimize manufacturing steel construction. You depend on Valmont SM to provide input on how best to manufacture structures. We are a trusted resource when you need to develop new, heavy, complex steel structures and pilot projects.

The broad experience that we have accumulated through years of manufacturing different types of structures for various industries gives us the strong competencies and capabilities to take a product from conception through to delivery.

The Valmont SM steel fabrication workshop is where order production of oil and gas equipment, components for the wind industry, transmission towers, material handling systems, bridges, and other constructions are completed. The facilities are built and designed to allow for a high degree of flexibility. Valmont SM can handle large and complex structures, while meeting the high demands of strict documentation and traceability.

Machining is incorporated as part of the manufacturing process. The machining workshop is well equipped for small and large structures with high complexity and high demands. The machining workshop has modern, flexible milling and turning capabilities that can handle up to 60 tons.

Employees are organized in specialized workshops to ensure attention to detail and quality results. Our certified welders are supported by a variety of machinery and cranes during the steel fabrication process. In the production facilities, structures can be manufactured with weights up to 200 tons under roof and up to 600 tons for assembled constructions at the factory.

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# PROJECT MANAGEMENT

**Complex problems often require complex custom solutions.** At Valmont SM, we work hard to simplify project management simple for you.

We start by making sure we fully understand your expectations before the conclusion of a contract. Then, our experienced team will guide you through the entire process, before, during and after the project. We are a multi-disciplinary team. Yet, we work as one to provide you the best service.

At Valmont SM the project manager will be your single point of contact. Together with our skilled teams in construction, production, quality, and coating, we will take you through the process of co-engineering to offer you the best, most economical and fastest solution.

**REQUEST FOR PROPOSAL**

Co-engineering proposal quotation

**EFFECTIVE ORDER**

1. Kick-off
2. Engineering detailed
3. Manufacturing
4. QC inspection
5. Procurement
6. Shipping
7. Mobilizing on site
8. Installation
9. Commissioning
10. Performance Guarantee test

**OPERATION**

Warranty Period

**END OF WARRANTY**

**SALES**

**PROJECT MANAGEMENT**

**24/7 EXTERNAL SERVICE & SPARE PARTS**

**SERVICE**


*"Through co-engineering with our client, dialog with our sub-suppliers, continuous improvement and experiments in the production, we have been able to reduce the shell thickness with 30%, the weld volume with 25% and the hour comsumption with more than 50% in our Rotorhouse production.*

**Erhard Frederiksen – Head of Project Department Rotorhouse, Valmont SM**

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# MACHINERY FACILITIES & COMPETENCIES

## Cutting, sawing and drilling

**Plates:**

- Flame / plasma cutting machines
- Cutting table sizes up to 30.000 x 4.000 mm
- Max cutting thickness – Flame cutting: 160 mm
- Max cutting thickness – Underwater plasma cutting: 50 mm
- Automatic cutting / beveling thickness – Underwater plasma cutting: Up to 35 mm (depending on bevel angle)

**Profiles:**

- Beam drill and saw line
- Max dimensions W x H x L: 1.000 x 450 x 16.000 mm
- Min dimensions W x H: 80 x 10 mm
- Sawing mitre: +/- 60°
- Drilling diameter: Up to 40 mm
- Drilling thickness: Up to 50 mm
- 1 vertical drilling unit, 2 horizontal drilling units

**MAX PLATE CUTTING THICKNESS**

160 mm

**ROLLING THICKNESS RANGE UP TO**

# 115 mm

**DEPENDING ON STEEL GRADE, PLATE WIDTH AND DIAMETER**

## Plate bending and rolling

- Amount of plate bending / rolling machines: 7
- The facilities can roll plates up to a thickness of 90 mm in 3 meter widths depending on steel grade and diameter – even up to a thickness of 115 mm in smaller width depending on steel grade and diameter
- Diameters up to 8,0 meter in one size
- Lowest rolling diameter is Ø300 in a thickness of max 8 mm depending on steel grade


## Heat treatment

- Amount of heat treatment furnaces: 2
- The largest heat treatment furnace is capable of a max temperature up to 750°C with an internal furnace size L x W x H of 9.100 x 9.100 x 4.000 mm. Max weight of component to be heat treated: 75 tonnes

**LARGEST HEAT TREATMENT FURNACE**

**SIZE IN METRES (L x W x H)**

# 9.1 x 9.1 x 4

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**CNC MILLING CAPACITY UP TO:**

LONGITUDINAL TRAVEL

X = 14.000 mm

TRANSVERSE TRAVEL

Y = 2.100 mm

VERTICAL TRAVEL

Z = 5.000 mm

# Machining

- Amount of (CNC) milling machines and lathes: 10
- Milling machines with capacities up to:
  - Table size: 14.000 x 3.000 mm
  - Rotary table size: 2.500 x 2.500 mm
  - Traveling: X = 14.000 mm
    Y = 1.500 mm
    Y = 2.100 mm (with spindle extension)
    Z = 5.000 mm
  - Max weight: 5.000 kg / $m^2$
- Lathes with capacities up to:
  - Max length: 6.000 mm
  - Max diameter: 730 mm
  - Max weight: Approximately 6.000 kg

**WELDING PROCEDURES TO ABOVE**

# 300 mm

**IN MATERIAL THICKNESS FOR CARBON STEEL**

## Welding

- Welding processes:
  - 111: Shielded metal arc welding (SMAW)
  - 121: Submerged arc welding (SAW)
  - 135: Gas metal arc welding (GMAW)
  - 136: Flux-cored arc welding (FCAW)
  - 141: Gas tungsten arc welding (GTAW)
- Valmont SM has several semi-automatic welding stations and robots, which provides efficiency and a high level of production, combined with top quality welds
- Welding procedures and experience within:
  - Primary steel:
    - From non-alloy structural steel S235 up to high yield strength structural steel S690
    - Steels for pressure purposes P235 to P355
  - Other steels:
    - 15NiCuMoNb5
    - 12CrMo19 5 & 42Cr
    - AISI 304 / 1.4301
    - AISI 316 / 1.4404
    - Duplex / 1.4462
    - Monel 400
    - Inconel 625
    - Corten
    - S165M
- Valmont SM possesses welding procedures to above 300 mm in material thickness for carbon steel depending on steel type, delivery conditions, welding process, requirements for impact properties and other factors
- Highly skilled and very experienced welding specialists in-house:
  - International Welding Engineer, IWE
  - International Welding Specialist, IWS
- Certification in accordance to EN 1090-2 EXC 4
- Certification in accordance to EN ISO 3834-2 – Welding Quality Assurance System
- Welders certified in accordance with ISO 9606-1, ISO 14732 and PED approved where required

*"Having a high-tech production facility and featuring state of the art production methods have reduced our $CO_2$ emission with 75% in our coating facility.*

**Oluf Lauridsen –**
**Development Manager, Valmont SM**

# Non Destructive Testing (NDT)

- Valmont SM has its own 'non destructive testing' department (NTO authorized) with qualified and certified NDT-personnel in accordance to ISO 9712, level II
- The following testing can be performed in-house:
  - Visual testing, VT
  - Magnetic particle testing, MPI
  - Penetrant testing, PT
  - Ultrasonic testing, UT
  - Flatness measurements of flanges

# Surface treatment

**Coating by automated robotics**
Featuring state of the art automated robotics, the Valmont SM coating facility is designed and fully dedicated to sandblasting, metallization and coating of wind turbine towers and other tubular structures with diameter up to 6,5 meters.

The entire process from sandblasting to hardening is carried out in one indoor facility separated by split walls and sliding doors. Being located in one facility ensures optimal production with limited energy consumption as the steel can keep the same temperature throughout the process, which is essential for coating.

- The Valmont SM fully-automated sandblasting set-up can complete the process on time to eliminate the risk of corrosion
- Fully automated metallization ensures even layer thickness
- Robot automated coating is more efficient and more uniform than manual coating
- The facility can handle specifications for surface treatments subject to the latest requirements and norms within industrial painting, onshore as well as offshore

**Traditional coating**
Sometimes, the traditional methods of coatings are still the best. That's why Valmont SM provides traditional coatings for specific situations, including:

- Oil and gas equipment and rotor houses that require traditional coatings
- Maximum item size is 6m x 6m x 35m and/or weighing up to 250 tons

# Installation and service

- Valmont SM's installation department has approximately 50 employees. The department has disposal of an in-house assembly hall of 30 x 75 meter with crane capacity of 60 tonnes from where the employees will be deployed for external jobs
- The department has large experience within installation and welding of complex constructions, machinery components and pressure vessels
- Within servicing typically jobs include contract work on machinery, smaller work shop deliveries, and larger audits of power plants

# Certifications and quality

Valmont SM has well-developed standards and procedures to ensure quality in production and full documentation to customers and third party representatives. Furthermore it is the goal of Valmont SM to create and maintain safe and healthy work conditions and environment for all employees.

Valmont SM has obtained the following certifications:

- ISO 9001 – Quality Management Systems
- ISO 14001 – Environment Management Systems
- OHSAS 18001 – Occupational Health and Safety Management Systems
- EN ISO 3834-2 – Quality Requirements for Fusion Welding of Metallic Materials
- EN 1090-1/2 EXC 4 – Execution and Technical Requirements of Steel Structures

**CONTACT US TO DISCUSS YOUR PROJECT REQUIREMENTS**

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+45 7439 3333

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**Valmont SM production facilities in Rødekro covers 540,000 m², with about 69,000 m² of indoor production facility, corresponding to 20 production areas.**

Valmont SM is located in Rødekro, about 20 km from the Danish/German borderwithin easy reach of the E45 motorway and only 10 km from Aabenraa Port or 200 km from Hamburg International Port.

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Valmont SM is ISO 9001, ISO 14001 and OHSAS 18001 verified. In addition, we maintain following certificates: EN ISO 3834-2, EN 1090-1/2 EXC4

Valmont SM upholds a QA and a QC department. The quality department has a registration as NTO and is registered by a Certified Body according to EN 473/NORDTEST.
The Non-destructive Testing(NDT) personal has operation authorisation to the following test methods: UT, MT, PT, VT.