



Olkiluoto mechanical engineering services



NUCLEAR SERVICES



Pioneer in nuclear power expertise at your service

TVO Nuclear Services Oy (TVONS), a subsidiary of Teollisuuden Voima Oyj (TVO), provides its clients with TVO's high-quality services for the entire lifecycle of a nuclear power plant, based on 30 years of experience. Our skilled personnel and continuous improvement have brought us excellent results, indicated by the Olkiluoto nuclear power plant's capacity factors, which are top class internationally. The reliability of electricity generation is a clear demonstration of our expertise. We specialize in demanding machining operations. Read about our mechanical engineering services and request an offer. We also perform quality management and NDT inspections.

Services at Olkiluoto

We provide a wide range of maintenance services, repair shop and servicing services, machining services as well as expert and consultation services. The quality of all these is based on more than 30 years of experience of a nuclear power plant and of service production.

MAINTENANCE SERVICE

Our internationally esteemed maintenance expertise includes maintenance of both large equipment and individual components in annual outages, repair planning, scheduling, and the supervision of the work.

Our extensive maintenance know-how includes:

- Assessment and development planning of outages and maintenance activities
- Precise advance planning and control of demanding maintenance, repair, and modification operations
- Preparation of maintenance instructions, programs, and plans.

The processing and management of the manufacture, repair, and modification of pressure equipment represent our expertise at its best.

We offer the following services in these areas:

- Quality system assessment, development control, and preparation of instructions
- Planning and control of welding method tests
- Preparation of welding instructions and qualification of welders
- Training related to the above.

The services are suited to power plants, the process industry, and small and medium-sized companies that manufacture pressure equipment.

REPAIR SHOP AND SERVICING

Our repair shop provides the entire range of services of a well-equipped workshop, from planning to the implementation and documentation of repairs, maintenance, and machining in the required scope, as well as the calibration of tools and measuring instruments. These can also be documented to the necessary extent.

The high operational reliability achieved at Olkiluoto as well as the experience of electrical and automation systems will be available for your projects involving preventive maintenance systems, spare part acceptance, installation and commissioning tasks and the management of electrical installations or the operation of an electrical plant.

Our specialized services include:

- Design and expert services
- Welding services
- Comprehensive machining services
- Inspection services approved by the regulatory body
- Sandblasting and painting services
- Electrical and instrumentation engineering support services.

Our extensive range of machining tools includes a large broaching tool suitable for machining large objects. A versatile axle and blade wheel balancing device is available for maintenance and repairs. In addition to valve maintenance, we provide a testing station for testing safety valves. Our services also include the calibration of length and torque measurement devices.

WELDING SERVICES

We carry out the following tasks, among others, with skill and experience:

- Welding and inspection of pressure equipment
- Planning and direction of method tests
- Preparation of welding instructions
- Qualification of welders
- Pre-fabrication of pipework
- Welding of stainless steel
- Device systems (welding + machining)
- Supervision of installation projects

MACHINING SERVICES

The machine repair shop can handle the machining and balancing of a wide range of parts. We use cutting methods to machine single pieces and small batches of parts precisely following the customer's requirements.

In addition, we rent out various tools, special equipment, and machines, such as lifting aids and air cushion equipment.

We also offer precision balancing services.

CONSULTATION AND EXPERT SERVICES

- Evaluation of operations and plans for development
- Planning and direction of demanding repairs and modifications
- Design of maintenance programs and instructions
- Development of welding and pressure equipment work

OTHER SERVICES

- Inspection and calibration
- Sandblasting and painting
- Renting of tools and machines

Read our latest maintenance references at the TVONS website at www.tvons.fi

Equipment capacity



LATHE WORK CAPACITY AT OLKILUOTO

We have eight turning machines available, and the variety of lathes enables the processing of a wide range of different objects.

Maximum dimensions for turning:

- Turning diameter on guide bars: 1,350mm
- Turning diameter on carriage: 1,050mm
- Turning length between tips: 7,000mm
- Weight between tips: 9 tonnes.

MILLING CAPACITY AT OLKILUOTO

We have two broaching drills and three cutters available.

The modern equipment also enables the processing of large objects. Maximum dimensions for milling:

- Maximum weight: 8 tonnes
- Attachment surface: 1,800 x 2,000mm

BALANCING EQUIPMENT

A versatile axle and blade wheel balancing device is available for maintenance and repairs.

CALIBRATIONS OF LENGTH AND TORQUE MEASUREMENT DEVICES

Our equipment is suitable for a variety of calibration operations:

- Circular, screw, double image, and depth micrometers
- Diameter and bore gauges
- Slide callipers
- Electronic torque measurement devices enable measurement up to 5,000Nm.

We offer calibration services for the following measured quantities and ranges:

- Pressure: 50 mbar...200 bar
- Temperature: temperature sensors -20...+600°C.
- Calibration and simulation of Pt100 and thermal elements
- Voltage: DC 0...1,000 V, AC 0...1,000 V, 45 Hz...10 kHz.
- Current: DC 0...11 A, AC 0...11 A, 45 Hz...1 kHz and clip-on ammeters 0...550 A, 45 Hz...1 kHz.
- Resistance: 0...330.
- Frequency: 45 Hz...500 kHz.

The measurement standards are traceable to an accredited or national measuring laboratory.

Measurement standards

Dead weight testers

- Ametek RK-2000 N-SS
- Desgranges et Huot 5202S.

Calibration furnaces

- Jofra D55SE
- Jofra 650SE.

Calibrators

- Fluke 5500A
- DMM Fluke 8506A.





Machine list

BALANCING MACHINE

Schenk H 40 B

- Belt operation and angled pulling device
- Maximum working length: approximately 7m
- Loadbearing capacity 20–3,000kg, per bearing bracket 1,500kg
- Maximum diameter 1,600mm
- Diameter (belt operation) 30–600mm
- Supporting bearing 15–240mm
- Precision 8gmm

LATHES

Centering lathe, Poreba TR-135 B2 x 7,000mm

- Gap 7,000mm
- Max turning diam., guide bars 1,350mm
- Max turning diam., carriage 1,050mm
- Digital measuring instruments

Centering lathe, V/O Stankoimport USSR 165 x 5,000mm

- Gap 5,000mm
- Max turning diam., guide bars 1,000mm
- Max turning diam., carriage 600mm
- Digital measuring instruments

Centering lathe, Tos SN55B x 3000mm

- Gap 3,000mm
- Max turning diam., guide bars 550mm
- Max turning diam., carriage 310mm
- Digital measuring instruments

Centering lathe, Harrison M500 x 2000mm, 2 machines

- Gap 2,000mm
- Max turning diam., guide bars 530mm
- Max turning diam., carriage 370mm
- Digital measuring instruments

Centering lathe, Cu400 x 1,000mm

- Gap 1,000mm
- Max turning diam., guide bars 440mm
- Max turning diam., carriage 230mm
- Digital measuring instruments

Centering lathe, Tos SN40B x 1,000mm

- Gap 1,000mm
- Max turning diam., guide bars 400mm
- Max turning diam., carriage 220mm
- Digital measuring instruments

Centering lathe, Trens SN 500 SA

- Gap 1,500mm
- Max turning diam., guide bars 505mm
- Max turning diam., carriage 270mm
- Digital measuring instruments



CUTTERS

Universal milling machine 6 P 82 W

- Bed 320 x 1,300mm
- Vertical range Y = 370mm
- Traverse range X = 800mm
- Longitudinal range Z = 240mm
- Plunge head, max. plunge range 105mm
- Digital measuring instruments

Universal milling machine TOS FU 20

- Bed 300 x 1,375mm
- Vertical range Y = 420mm
- Traverse range X = 900mm
- Longitudinal range Z = 275mm
- Table turns $\pm 45^\circ$
- Digital measuring instruments

CNC milling machine CME-01

- Bed 1,400 x 600mm
- Vertical range Z = 500mm
- Traverse range Y = 700mm
- Longitudinal range X = 1,200mm

Capacity 3,000kg

- Heidenhain controls TNC 360

SAWS

Band saw MEBA ECO 355 A

- Round 355mm
- Flat 500 x 355mm

Band saws MEBA 305, 2 pcs.

BROACHING TOOLS

Broaching tool 2A620-1, V/O Stankoinport USSR

- Bed 1,120 x 1,250mm
- Vertical range Y = 1,000mm
- Traverse range X = 1,250mm
- Longitudinal range Z = 1,000mm
- Drill spindle range W = 710mm
- Slide range U = 160mm
- Capacity 4 tonnes
- Digital measuring instruments

CNC boring machine UNION BFT 130

- Bed 1,800 x 2,000mm
- Vertical range Y = 2,520mm
- Traverse range X = 2,785mm
- Longitudinal range Z = 2,320mm
- Drill spindle range W = 900mm
- Slide range U = 250mm
- Capacity 8 tonnes
- Heidenhain controls TNC 530

BORING MACHINES

1. Radial drill 2M 55
2. Radial drill MAS VR2 and upright drills

Contact information

LOCATION AND DRIVING INSTRUCTIONS



CONTACT INFORMATION

TVO Nuclear Services Ltd
Olkiluoto
FI-27160 Eurajoki, Finland
www.tvons.fi

CONTACT US AND REQUEST AN OFFER!

Sales
Lauri Kuivalainen
lauri.kuivalainen@tvo.fi
Tel. +358 2 8381 2830