



ARGO-HYTOS Protech

Test stands – hydraulic oil testing

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(ISO 16016:2002)

We produce fluid power **solutions**

Test stands – hydraulic oil testing

Distinctiveness

- › Concept of each of the test stand respects all customer's requirements for testing of specific component:
- › hydraulic power unit that provides required pressure and flow supply
- › valve control blocks and pipelines for distribution of oil during the test procedure
- › pneumatic circuit (with or without compressed air source) – exhausting the air from tested component before test, blowing the oil out from tested component after the test, marking of tested component, handling
- › sensors – pressure transducers and gauges for measurement of oil pressure, flow transducers and indicators for measurement of oil flow, revolution indicators etc.
- › electric control that provides feeding and control of test stand el. operated components according to test requirements (automatic, semiautomatic and manual test control), visualization, storage of test results
- › process layout – compact construction usually with inbuilt hydraulic power unit, distributing valve blocks, pipelines, pneumatic circuit, electric control and workplaces, alternatively formed of several functionally interconnected units interconnected in testing room
- › workplace with drip tray underneath, fixing plate and perforated plates on sides, hydraulic oil and compressed air outputs, covers, lightening etc.
- › fixing of tested component on workplace – mechanically, alternatively electrohydraulically
- › exhausting the air from tested component before the test – vacuum circuit
- › blowing the oil out from tested component after the test
- › multiple filtration – screen in return line (to minimize pressure drop), circulating filtration at tank, pressure line filtration at tested component input and separate fine filtration
- › setting of oil temperature according to test requirements – switching of heating and cooling

Test stands – hydraulic oil testing

Main strong points - advantages

- › Test stands are equipped with electric, hydraulic and pneumatic components which we commonly use in hydraulic and pneumatic systems which we design or components which customer prefer to be used for test stand assembly
- › Compact technical solution that respects all customer's requirements for testing of specific component
- › Communication with customer during the test stand designing to fulfill his requirements
- › Use of standard hydraulic, pneumatic and electric components of world-known producers
- › Tendency all the time to improve our technical solutions
- › Usage of our high technical erudition and flexibility at solving of various customer's requirements
- › Interesting price of competitive customized technical solution of the test stand

Test stands – hydraulic oil testing

Test stand of hydraulic filter bodies



Customer: ARGO-HYTOS (DE)
Project No.: 0506/98
Purpose: **Static and dynamic testing of bodies of hydraulic pressure filters**

Equipment:

- › **Hydraulic circuit,** el.control. of pressure and flow supply, **55 kW / up to 100 l/min / up to 300/630 bar**
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, valve blocks, pipelines and other
- › **Specialties:** Tank with circulating filtration, heating and cooling, p/Q sensors, intensifier of pressure

Electric control

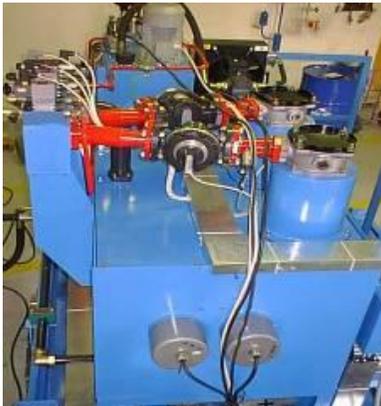
- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
- › **Scope :** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other
- › **Specialties:** Dynamic measurements, closed-loop control, graphs

Mechanics

Test stand is formed of several functionally interconnected units –hydraulic power unit, workplace, el. control.

Test stands – hydraulic oil testing

Test stand of filter elements of hydraulic filters



- Customer:** ARGO-HYTOS (DE)
- Project No.:** 0588/99
- Purpose:** **Testing of filter elements through the change of pressure drop**
- Equipment:**
- › **Hydraulic circuit,** el.control. of pressure and flow supply, **22 kW / up to 400 l/min / up to 10 bar**
 - › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
 - › **Scope:** Hydraulic power unit, valve blocks, pipelines and other
 - › **Specialties:** Tank with circulating filtration, heating and cooling, p/Q sensors
- Electric control**
- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
 - › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other
 - › **Specialties:** Frequency converter used for control of Emotor/pump revolution/flow, graphs
- Mechanics**
- Test stand is formed of several functionally interconnected units -hydraulic power unit, workplace, el. control.

Test stands – hydraulic oil testing

Test stand of pressure sensors



Customer: BD Sensors (CZ)

Project No.: 1051/01

Purpose: **Dynamic pulse testing of pressure sensors**

Equipment:

- › **Hydraulic circuit,** el.control. of pressure and flow supply,
7,5 kW / up to 11 l/min / up to 250/1000 bar
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, valve blocks, pipelines and other
- › **Specialties:** Tank with circulating filtration, heating and cooling, p/Q sensors, intensifier of pressure

Electric control

- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
- › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other
- › **Specialties:** Dynamic measurements, closed-loop control, graphs

Mechanics

Test stand is formed of several functionally interconnected units -hydraulic power unit, workplace, el. control.

Test stands – hydraulic oil testing

Test stand of pressure sensors



- Customer:** ARGO-HYTOS (CZ)
- Project No.:** 2055/02, 3121/03 – extension
- Purpose:** **Testing of control valve blocks of mobile scissor lifts**
- Equipment:**
- › **Hydraulic circuit,** el. control. of pressure and flow supply,
11 kW / up to 60 l/min / up to 240 bar
 - › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
 - › **Scope:** Hydraulic power unit, valve blocks, pipelines and other
 - › **Specialties:** 2-room tank with circulating filtration, heating and cooling, p/Q and contamination sensors
- Pneumatic circuit, max. 10 bar**
- › **Function:** Blowing the oil out from tested component after test
 - › **Scope:** Unit of compressed air conditioning, valves, distributing hoses
- Electric control**
- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
 - › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other
- Mechanics** All the equipments of the test stand are built-in common frame. Workplace is external.

Test stands – hydraulic oil testing

Test stand of priority flow control valves - DELPHI



Customer: ARGO-HYTOS (CZ)
Project No.: 3030/03
Purpose: Testing of „Priority flow control valves“ – steering and damping in cars

Equipment:

- › **Hydraulic circuit,** el. control. of pressure and flow supply, 7,5 kW / up to 20 l/min / up to 200 bar
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, valve blocks, pipelines and other
- › **Specialties:** 2-room tank with circulating filtration, heating and cooling, p/Q and contamination sensors

Pneumatic circuit, max. 10 bar

- › **Function:** Marking of tested component after test
- › **Scope:** Unit of compressed air conditioning, valves, pneumatic cylinders, distributing hoses
- › **Specialties:** Vacuum circuit (- 0,7 bar) with accessories for exhausting the air from tested component before test

Electric control

- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
- › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output etc.
- › **Mechanics** All the equipments of the test stand are built-in common frame. Workplace is part of the test stand.

Test stands – hydraulic oil testing

Test stand of solenoid operated cartridge valves 3/4-16UNF a 7/8-14UNF



- Customer:** ARGO-HYTOS (CZ)
- Project No.:** 3037/03, 7044/07, 14036/14
- Purpose:** **Testing of solenoid operated cartridge valves**
- Equipment:**
- › **Hydraulic circuit,** el. control. of pressure and flow supply, **30 kW / up to 80 l/min / up to 160 bar**
 - › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
 - › **Scope:** Hydraulic power unit, valve blocks, pipelines and other
 - › **Specialties:** 2-room tank with circulating filtration, heating and cooling, p/Q and contamination sensors
- Pneumatic circuit, max. 10 bar**
- › **Function:** Blowing the oil out from tested component after test, marking
 - › **Scope:** Unit of compressed air conditioning, valves, pneumatic cylinders, distributing hoses
 - › **Specialties:** Vacuum circuit (- 0,7 bar) with accessories for exhausting the air from tested component before test
- Electric control**
- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
 - › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output etc.
- Mechanics**
- All the equipments of the test stand are built-in common frame. 2 workplaces are part of the test stand.

Test stands – hydraulic oil testing

Test stand of solenoid operated valves with CETOP 03, 05, 07, 08 interf.



Customer: ARGO-HYTOS (CZ, CN)
Project No.: 3049/03, 6010/06 (2 pcs), 7043/07, 7142/07, 13062/13
Purpose: **Testing of solenoid operated valves with CETOP interface**

Equipment:

- › **Hydraulic circuit,** el. control. of pressure and flow supply,
30 kW / up to 80 l/min / up to 160 bar
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, valve blocks, pipelines, hydraulic fixing and other
- › **Specialties:** 2-room tank with circulating filtration, heating and cooling. p/Q and contamination sensors

Pneumatic circuit, max. 10 bar

- › **Function:** Blowing the oil out from tested component after test, marking
- › **Scope:** Unit of compressed air conditioning, valves, pneumatic cylinders, distributing hoses
- › **Specialties:** Vacuum circuit (- 0,7 bar) with accessories for exhausting the air from tested component before test

Electric control

- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
- › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output etc.

Mechanics

All the equipments of the test stand are built-in common frame. 2 workplaces are part of the test stand.

Test stands – hydraulic oil testing

Test stand of solenoid operated valves with CETOP 03, 05, 07, 08 interf.



Customer: Technical University Liberec (CZ)
Project No.: 3061/03
Purpose: **Test stand for training about hydraulics at the university**

Equipment:

- › **Hydraulic circuit,** man. control. of pressure and flow supply,
7,5 kW / up to 29 l/min / up to 320 bar
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, valve blocks, pipelines and other
- › **Specialties:** Pressure and return line filtration, without cooling and heating, p/Q sensors

Electric control

- › **Function:** Manual test control, visualization of pressure and flow values on displays, man. p/Q supply setting
- › **Scope:** El. cabinet with controllers, lamps and displays

Mechanics

Test stand is formed of several functionally interconnected units -hydraulic power unit, workplace, el. control.



Test stands – hydraulic oil testing

Test stand of solenoid operated valves with CETOP 03, 05, 07, 08 interf.



Customer: ARGO-HYTOS (CZ)
Project No.: 4012/04 (2 pcs), 0669/00 (2 pcs)
Purpose: **Testing of hydraulic valves and circuits for automotive industry**
Equipment:

- › **Hydraulic circuit,** el. control. of pressure and flow supply,
4 kW / 8 l/min / 250 bar
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, valve blocks, pipelines and other
- › **Specialties:** Tank with circulating filtration, heating and cooling, p/Q and contamination sensors

Pneumatic circuit, max. 10 bar

- › **Function:** Control of input and output conveyer, marking
- › **Scope:** Unit of compressed air conditioning, valves, pneumatic cylinders, distributing hoses
- › **Specialties:** Vacuum circuit (- 0,7 bar) with accessories for exhausting the air from tested component before test

Electric control

- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
- › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output etc.

Mechanics

All the equipments of the test stand are built-in common frame.
 Workplace is part of the test stand.



Test stands – hydraulic oil testing

Test stand of valve blocks - Carraro / Fendt



- Customer:** ARGO-HYTOS (CZ)
- Project No.:** 4044/04
- Purpose:** **Testing of control valve blocks for mobile platforms and tractors**
- Equipment:**
- › **Hydraulic circuit,** el. control. of pressure and flow supply,
7,5 kW / up to 60 l/min / up to 60 bar
 - › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
 - › **Scope:** Hydraulic power unit, valve blocks, pipelines and other
 - › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q and contamination sensors
- Pneumatic circuit, max. 10 bar**
- › **Function:** Blowing the oil out from tested component after test
 - › **Scope:** Unit of compressed air conditioning, valves, distributing hoses
- Electric control**
- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
 - › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other
 - › **Specialties:** Frequency converter used for control of Emotor/pump revolution/flow adjustment
- Mechanics** All the equipments of the test stand are built-in common frame. Workplace is part of the test stand.

Test stands – hydraulic oil testing

General purpose test stand



Customer:

ARGO-HYTOS (CZ, FR, NC, IN, CN)

Project No.:

4095/04 (2 pcs), 7090/07, 8003/08, 8080/08, 8100/08, 8101/08, 14060/14

Purpose:

Testing of standard hydraulic components and circuits

Equipment:

- › **Hydraulic circuit,** man./el. control. of pressure and flow supply, **30 kW / up to 70 l/min / up to 350 bar**
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, pressure and return line block, pipelines, pilot pressure and flow supply unit and other
- › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q and contamination sensors

Electric control

- › **Function:** Manual test control, visualization of pressure and flow values on displays, man. p/Q supply setting
- › **Scope:** El. cabinet with controllers, lamps and displays and operator panel
- › **Specialties:** Switching of up to 6 pcs of solenoids at the same time by adjusted DC and AC supply

Mechanics

All the equipments of the test stand are built-in common frame. Workplace is part of the test stand.

Test stands – hydraulic oil testing

Test stand of pressure relief valves - Sauer-Danfoss



- Customer:** ARGO-HYTOS (CZ)
Project No.: 5111/05, 1026/01
Purpose: **Testing of pressure relief valves with by-pass check valve**
Equipment:
- › **Hydraulic circuit,** man. control. of pressure and flow supply, **30 kW / up to 47 l/min / up to 350 bar**
 - › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
 - › **Scope:** Hydraulic power unit, pressure and return line block, pipelines, pilot pressure and flow supply unit and other
 - › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q and contamination sensors
- Electric control**
- › **Function:** Manual test control, visualization of pressure and flow values on displays, man. p/Q supply setting
 - › **Scope:** El. cabinet with controllers, lamps and displays and operator panel
- Mechanics**
Test stand is formed of several functionally interconnected units -hydraulic power unit, workplace, el. control.

Test stands – hydraulic oil testing

Development test stand



Customer: EATON formerly Integrated Hydraulics (GB)
Project No.: 6003/06 (3 pcs)
Purpose: **Testing of standard hydraulic components and circuits**

Equipment:

- › **Hydraulic circuit,** customer's external pressure and flow supply, **up to 360 l/min / up to 350 bar**
- › **Function:** Hydraulic pressure and flow adjustment and distribution according to test requirements
- › **Scope:** Pressure and return line outputs, load blocks, filters, pipelines and other
- › **Specialties:** External pressure and flow supply, heating and cooling. Filtration and p/Q sensors on test stand.

Electric control

- › **Function:** Manual test control, visualization of pressure and flow values on displays, man. p/Q supply setting
- › **Scope:** El. cabinet with controllers, lamps and displays and operator panel

Mechanics
All the equipments of the test stand are built-in common frame. Workplace is part of the test stand.

Test stands – hydraulic oil testing

Test stand of fuel filter bodies



Customer: Zdeněk MUSIL (CZ)
Project No.: 6034/01
Purpose: **Dynamic pulse testing of bodies of fuel filters**

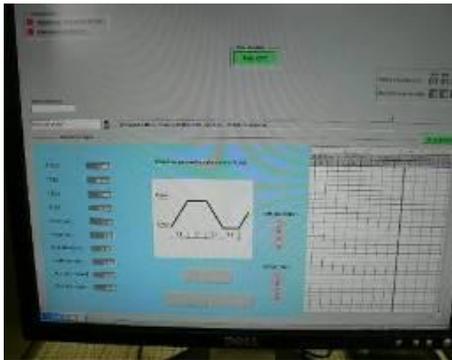
- Equipment:**
- › **Hydraulic circuit,** el. control. of pressure and flow supply, **3 kW / up to 4,8 l/min / up to 130 bar**
 - › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
 - › **Scope:** Hydraulic power unit, valve blocks, pipelines and other
 - › **Specialties:** Tank with circulating filtration, heating and cooling, p/Q sensors

Electric control

- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
- › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other
- › **Specialties:** Dynamic measurements, closed-loop control, graphs, frequency converter for flow adjustment

Mechanics

Test stand is formed of several functionally interconnected units - hydraulic power unit, workplace, el. control.



Test stands – hydraulic oil testing

Test stand L450 of big size valve blocks - Steyer



Customer: ARGO-HYTOS (CZ)

Project No.: 6089/06

Purpose: **Testing of big size control valve blocks for mobile machines**

Equipment:

- › **Hydraulic circuit,** el. control. of pressure and flow supply, **22 kW / up to 30 l/min / up to 350 bar**
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, valve blocks, pipelines, pilot pressure and flow supply unit and other
- › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q and contamination Sensors

Pneumatic circuit, max. 10 bar

- › **Function:** Blowing the oil out from tested component after test
- › **Scope:** Unit of compressed air conditioning, valves, distributing hoses

Electric control

- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
- › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other
- › **Specialties:** Switching of up to 6 pcs of solenoids at the same time by adjusted DC and AC supply
- › **Mechanics** Test stand is formed of several functionally interconnected units -hydraulic power unit, workplace, el. control.

Test stands – hydraulic oil testing

General purpose test stand



Customer: EATON formerly Integrated Hydraulics (GB)
Project No.: 6115/06 (2 pcs), 8028/08
Purpose: **Testing of standard hydraulic components and circuits**

Equipment:

- › **Hydraulic circuit,** man./el. control. of pressure and flow supply, **75 kW, up to 90 l/min / up to 350 bar**
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, valve blocks, pipelines and other
- › **Specialties:** Tank with circulating filtration and cooling, without heating, with p/Q sensors

Electric control

- › **Function:** Manual test control, visualization of pressure and flow values on displays, el./man. p/Q supply setting
- › **Scope:** El. cabinet with controllers, lamps and displays and operator panel

Mechanics

Test stand is formed of several functionally interconnected units - hydraulic power unit, workplace, el. control.



Test stands – hydraulic oil testing

Test stand of overcentre cartridges



Customer: EATON formerly Integrated Hydraulics (GB)

Project No.: 6145/06

Purpose: **Testing of overcentre cartridge valves**

Equipment:

- › **Hydraulic circuit,** man. control. of pressure and flow supply, **2x 4,8 l/min / up to 350 bar**
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Main and pilot pressure and flow supply units, connecting plates, filters, pipelines and other
- › **Specialties:** External tank with heating and cooling. Filtration and p/Q sensors on test stand



Electric control

- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
- › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other

Mechanics

All the equipments of the test stand are built-in common frame. 2 workplaces are part of the test stand.

Test stands – hydraulic oil testing

Performance I, II test stand



Customer: Sauer – Danfoss (SK)
Project No.: 7060/07
Purpose: **Dynamic and static testing of standard hydraulic components and circuits**

Equipment:

- › **Hydraulic circuit,** el. control. of pressure and flow supply, **200/132 kW / up to 480 l/min / up to 350 bar**
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, pressure and return line outputs, load blocks, filters, pipelines and other
- › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q and contamination sensors

Pneumatic circuit, max. 10 bar

- › **Function:** Control of pneumatic operated hydraulic ball valves
- › **Scope:** Unit of compressed air conditioning, valves, distributing hoses

Electric control

- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
- › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other
- › **Specialties:** Dynamic measurements, closed-loop control, graphs
- › **Mechanics** Test stand is formed of several functionally interconnected units - hydraulic power unit, workplace, el. control.



Test stands – hydraulic oil testing

Endurance test stand



- Customer:** Sauer – Danfoss, SK,
Project No.: 7061/07
Purpose: **Dynamic and static testing of standard hydraulic components and circuits**
- Equipment:**
- › **Hydraulic circuit,** el. control. of pressure and flow supply, **2x 75kW / up to 170 l/min / up to 500 bar**
 - › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
 - › **Scope:** Hydraulic power unit, pressure and return line outputs, filters, pipelines and other
 - › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q and contamination sensors
- Pneumatic circuit, max. 10 bar**
- › **Function:** Control of pneumatic operated hydraulic ball valves
 - › **Scope:** Unit of compressed air conditioning, valves, distributing hoses
- Electric control**
- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
 - › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other
 - › **Specialties:** Dynamic measurements, closed-loop control, graphs
- Mechanics**
- Test stand is formed of several functionally interconnected units -hydraulic power unit, workplace, el. control.



Test stands – hydraulic oil testing

Performance III test stand



Customer: Sauer – Danfoss, (I)
Project No.: 7062/07
Purpose: **Dynamic and static testing of standard hydraulic components and circuits**

Equipment:

- › **Hydraulic circuit,** el. control. of pressure and flow supply, **132 kW / up to 160 l/min / up to 350 bar**
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, pressure and return line outputs, load blocks, filters, pipelines and other
- › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q and contamination sensors

Pneumatic circuit, max. 10 bar

- › **Function:** Control of pneumatic operated hydraulic ball valves
- › **Scope:** Unit of compressed air conditioning, valves, distributing hoses

Electric control

- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
- › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other
- › **Specialties:** Dynamic measurements, closed-loop control, graphs

Mechanics

Test stand is formed of several functionally interconnected units -hydraulic power unit, workplace, el. control.

Test stands – hydraulic oil testing

Test stand of valve blocks - Fendt



Customer: ARGO-HYTOS (CZ)
Project No.: 7083/07
Purpose: **Testing of control valve blocks for tractors**

Equipment:

- › **Hydraulic circuit,** el. control. of pressure and flow supply,
22 kW / up to 30 l/min / up to 350 bar
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, valve blocks, pipelines, pilot pressure and flow supply unit and other
- › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q and contamination sensors

Pneumatic circuit, max. 10 bar

- › **Function:** Blowing the oil out from tested component after test
- › **Scope:** Unit of compressed air conditioning, valves, distributing hoses

Electric control

- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
- › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other

Mechanics

All the equipments of the test stand are built-in common frame. 2 workplaces are part of the test stand.

Test stands – hydraulic oil testing

Test stand of SPA under oil hydraulic power units



Customer: ARGO-HYTOS (CZ)
Project No.: 8007/08, 1070/01
Purpose: **Testing of modular hydraulic power units SPA**

Equipment:

- › **Hydraulic circuit,** pressure and flow supply from SPA, **up to 20 l/min / up to 250 bar**
- › **Function:** Hydraulic connections for testing of hydraulic power units with customized functional circuit
- › **Scope:** Hydraulic power unit, valves, filters and other all needed for testing of modular units without tank
- › **Specialities:** Tanking of tested units, loading circuit, filtration, heating, cooling, p/Q and contamination sensors

Pneumatic circuit, max. 10 bar

- › **Function:** Handling with tested units during the test and blowing the oil out from the units after test
- › **Scope:** Unit of compressed air conditioning, valves, distributing hoses

Electric control, max. 3 kW AC/DC

- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
- › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other.

Mechanics

All the equipments of the test stand are built-in common frame. 2 workplaces are part of the test stand.

Test stands – hydraulic oil testing

Test stand L080 of solenoid operated poppet cartridge valves



Customer: ARGO-HYTOS (CZ)
Project No.: 8022/08
Purpose: **Testing of solenoid operated poppet cartridge valves**
Equipment:

- › **Hydraulic circuit,** el. control. of pressure and flow supply,
60 kW / up to 74 l/min / up to 420 bar
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, valve blocks, pneumatic operated ball valves, pipelines and other
- › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q and contamination sensors

Pneumatic circuit, max. 10 bar

- › **Function:** Blowing the oil out from tested component after test, marking
- › **Scope:** Unit of compressed air conditioning, valves, pneumatic cylinders, distributing hoses
- › **Specialties:** Vacuum circuit (- 0,7 bar) with accessories for exhausting the air from tested component before test

Electric control

- › **Function:** Automatic, semiautomatic nad manual test control, visualization, storage of test results
- › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output etc.

Mechanics

All the equipments of the test stand are built-in common frame. 2 workplaces are part of the test stand.

Test stands – hydraulic oil testing

Test stand L040 of pressure relief cartridge valves



- Customer:** ARGO-HYTOS (CZ)
- Project No.:** 8023/08
- Purpose:** **Testing of direct/pilot operated pressure relief cartridge valves**
- Equipment:**
- › **Hydraulic circuit,** el. control. of pressure and flow supply, **60 kW / up to 74 l/min / up to 420 bar**
 - › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements. Setting of cartridges.
 - › **Scope:** Hydraulic power unit, valve blocks, pneumatic operated ball valves, pipelines, setting access. and other
 - › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q and contamination sensors
- Pneumatic circuit, max. 10 bar**
- › **Function:** Blowing the oil out from tested component after test, control of ball valves
 - › **Scope:** Unit of compressed air conditioning, valves, distributing hoses
 - › **Specialties:** Vacuum circuit (- 0,7 bar) with accessories for exhausting the air from tested component before test
 - › **Electric control**
 - › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
 - › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other
- Mechanics** All the equipments of the test stand are built-in common frame. 2 workplaces are part of the test stand.

Test stands – hydraulic oil testing

Test stand L470 of valve blocks - Fendt



Customer: ARGO-HYTOS (CZ)

Project No.: 8036/08, 0754/00

Purpose: **Testing of control valve blocks for tractors**

Equipment:

- › **Hydraulic circuit,** el. control. of pressure and flow supply,
22 kW / up to 30 l/min / up to 350 bar
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, valve blocks, pipelines, pilot pressure and flow supply unit and other
- › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q and contamination sensors

Pneumatic circuit, max. 10 bar

- › **Function:** Blowing the oil out from tested component after test
- › **Scope:** Unit of compressed air conditioning, valves, distributing hoses

Electric control

- › **Function:** Automatic, semiautomatic, manual test control, visualization, storage of test results
- › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other

Mechanics

All the equipments of the test stand are built-in common frame. Workplace is part of the test stand.

Test stands – hydraulic oil testing

Test stand of SMA modular hydraulic power units



Customer: ARGO-HYTOS (CZ)

Project No.: 8047/08 (2 pcs)

Purpose: **Testing of modular hydraulic power units SMA**

Equipment:

- › **Hydraulic circuit,** pressure and flow supply from SMA, **up to 30 l/min / up to 350 bar**
- › **Function:** Hydraulic connections for testing of hydraulic power units with customized functional circuit
- › **Scope:** Hydraulic equipment for testing of hydraulic power units with customized accessories
- › **Specialties:** Tanking of tested units, loading circuit, filtration, heating, cooling, p/Q and contamination sensors

Pneumatic circuit, max. 10 bar

- › **Function:** Control of pneumatic operated hydraulic ball valves
- › **Scope:** Unit of compressed air conditioning, valves, distributing hoses

Electric control, max. 3 kW AC/DC

- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
- › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other
- › **Specialties:** Controlled DC voltage supply for electromotors

Mechanics

Test stand is formed of several functionally interconnected units – tank with accessories and work place, el. control..

Test stands – hydraulic oil testing

Test stand of hydraulic cylinders



Customer: Charvát Group (CZ), Chvalis (CZ)

Project No.: 9075/09, 11024/11

Purpose: **Testing of hydraulic cylinders**

Equipment:

- › **Hydraulic circuit,** el. control. of pressure and flow supply (main/pilot),
15/2,2 kW // up to 60/2 l/min // up to 310/ 450 bar
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, valve blocks, pipelines, pilot pressure and flow supply unit and other
- › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q and contamination sensors

Pneumatic circuit, max. 10 bar

- › **Function:** Functional test of hydraulic cylinder, replacement of oil after test, control of hydraulic ball valves
- › **Scope:** Unit of compressed air conditioning, valves, distributing hoses
- › **Specialties:** Vacuum circuit (- 0,7 bar) with accessories for exhausting the air from tested component before test



Electric control

- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
- › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output etc.

Mechanics

All the equipments of the test stand are built-in common frame.
Workplace is part of the test stand.

Test stands – hydraulic oil testing

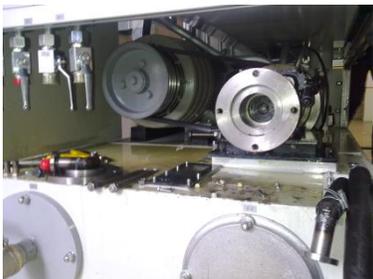
Test stand of hydrostatic steering units



- Customer:** SALEO formerly Prommedinvest JSC (BLR)
- Project No.:** 9088/09, 14061/14
- Purpose:** **Testing of Open Center and Load Sense Hydrostatic Steering Units**
- Equipment:**
- › **Hydraulic circuit,** el. control. of pressure and flow supply (main/pilot),
22/2,2 kW // up to 60/5 l/min // up to 260/ 280 bar
 - › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
 - › **Scope:** Hydraulic power unit, valve blocks, pipelines, pilot pressure and flow supply unit and other
 - › **Specialties:** 2-room tank with circulating filtration, heating and cooling, p/Q sensors
- Electric control**
- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
 - › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other
 - › **Specialties:** El. controlled servomotor to provide the steering movement.
- Mechanics**
- All the equipments of the test stand are built-in common frame.
Workplace is part of the test stand.
- › **Specialties:** Mechanical fixing assembly hand operated.

Test stands – hydraulic oil testing

General purpose test stand; hydraulic pumps and motors testing



Customer: SALEO formerly Prommedinvest JSC (BLR)
Project No.: 10063/10 (2 pcs), 11075/11
Purpose: **Testing of standard hydraulic components, circuits, pumps and motors**

Equipment:

- › **Hydraulic circuit,** man. control. of pressure and flow supply, **30 kW / up to 47 l/min / up to 300 bar**
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, pressure and return line ports, working ports of tested pumps
- › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q sensors, reversible main pump

Electric control

- › **Function:** Manual test control, visualization of pressure and flow values on gauges and displays
- › **Scope:** El. cabinet with controllers, lamps and displays and operator panel. Main electromotor with 2 shafts.
- › **Specialties:** Adjustable DC and AC supply for solenoid valve control. Reversible control of tested pump drive.

Mechanics

All the equipments of the test stand are built-in common frame. Workplace is part of the test stand. Drive of tested pumps below workplace driven by revers.controlled main electromotor.

Test stands – hydraulic oil testing

Test stand of pressure relief valves of hydrostatic steering units



- Customer:** SALEO formerly Prommedinvest JSC (Belarus)
- Project No.:** 11055/11
- Purpose:** **Testing and setting of pressure relief valves of hydrostatic steering units**
- Equipment:**
- › **Hydraulic circuit,** man. control. of pressure and flow supply, **30 kW // to 80/2 l/min // up to 300 bar**
 - › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
 - › **Scope:** Hydraulic power unit, pressure and return line ports, measurement
 - › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q sensors, double pump
- Electric control**
- › **Function:** Manual test control, visualization of pressure and flow values on gauges and displays
 - › **Scope:** El. cabinet with controllers, lamps and displays and operator panel.
 - › **Specialties:** Adjustable DC and AC supply for solenoid valve control.
- Mechanics**
- All the equipments of the test stand are built-in common frame. Workplace is part of the test stand.
- › **Specialties:** Mechanical fixing assembly hand operated.

Test stands – hydraulic oil testing

Endurance test stand of hydrostatic steering units



Customer: SALEO formerly Prommedinvest JSC (Belarus)
Project No.: 11056/11
Purpose: **Endurance testing of up to 2pcs of hydrostatic steering units simultaneously**

Equipment:

- › **Hydraulic circuit,** man. control. of pressure and flow supply, **30 kW / 14 l/min / up to 100 bar / drive of additional pumps**
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, pressure and return line ports, working ports of driven additional pumps
- › **Specialties:** 2-room tank, circulating filtration, cooling, p/Q sensors

Electric control

- › **Function:** Manual test control, visualization of pressure and flow values on gauges and displays
- › **Scope:** El. cabinet with controllers, lamps and displays and operator panel. Main electromotor with 2 shafts.
- › **Specialties:** Adjustable DC and AC supply for solenoid valve control.

Mechanics

- › **Specialties:** All the equipments of the test stand are built-in common frame. Workplace is part of the test stand.
 Mechanical fixing assembly hand operated with hydraulic actuator as a drive of h. steering unit (instead of weel).

Test stands – hydraulic oil testing

Multifunctional test stand of hydraulic components; Turkish army



- Customer:** SAVSAN (TR)
- Project No.:** 12116/12
- Purpose:** **Testing of hy. valves, cylinders, pumps, motors of military equipment**
- Equipment:**
- › **Hydraulic circuit,** el. control of pressure and flow supply for testing with NATO or motor liquid
37/4 kW / 58/2 l/min / 350/700 bar, 90 kW drive of tested pumps
 - › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
 - › **Scope:** 2x Hydraulic power unit, directional, pressure and flow control valves, pressure and return line outputs, filters, pipelines and other
 - › **Specialties:** 2x stainless steel tank for different liquid, each with circulating filtration, heating and cooling, p/Q/Temp/time/Torque/Revs sensors
- Electric control**
- › **Function:** Automatic, semiautomatic and manual test control, visualization, storage of test results
 - › **Scope:** El. cabinet, PC, screen, keyboard, mouse, separate control panel on each test bench, el. cables, printer output and other
 - › **Specialties:** Frequency converter to control 90 kW electromotor, static and dynamic measurements, closed-loop control, graphs
- Mechanics**
- › **Specialties:** Test stand is formed of several functionally interconnected units - hydraulic power units, 4x test bench, el. control cabinet. Mechanical assemblies for mounting and connecting of tested components like pumps, hydromotors or cylinders. Protecting guards on work places

Test stands – hydraulic oil testing

Test stand of high flow directional control valves and pumps



Customer: SALEO formerly Prommedinvest JSC (Belarus)
Project No.: 13002/13
Purpose: **Testing of man./el. oper. directional valves and hydraulic pumps**
Equipment:

- › **Hydraulic circuit,** man. control. of pressure and el. control of flow supply, **160/3 kW / 350/13 l/min / 300/100 bar (160 kW altern. drive of test. pumps)**
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, pressure and return line ports, working ports of tested pumps
- › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q sensors, hydraulic cylinders for visualization of flow direction in working ports

Electric control

- › **Function:** Manual test control, visualization of pressure and flow values on gauges and displays
- › **Scope:** El. cabinet with controllers, lamps and displays and operator panel. Main electromotor with 2 shafts.
- › **Specialties:** Adjustable DC and AC supply for solenoid valve control. Reversible control of tested pump drive.
- › **Mechanics** Test stand is formed of several functionally interconnected units - hydraulic power units and test bench with working area and el. control cabinet.
- › **Specialties:** Protecting guards on work place, main pump mechanical shaft disconnection of main pump when testing the pumps connected to 2nd electromotor shaft

Test stands – hydraulic oil testing

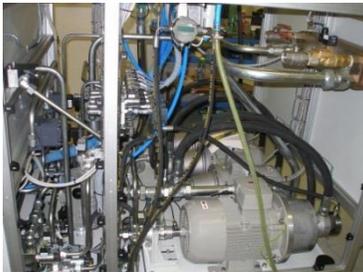
Test stand of hydraulic pumps



- Customer:** ARGO-HYTOS (CN)
- Project No.:** 13063/13
- Purpose:** **Testing of single and multi-stage (double) hydraulic pumps**
- Equipment:**
- › **Hydraulic circuit,** el. control. of pressure and flow supply,
drive of tested pumps 90 kW / 300 ÷ 3000 rpm / up 180 l/min-section / up to 300 bar
 - › **Function:** Hydraulic pressure pressure/load adjustment according to test requirements, raw and fine pressure filtration, measurement of parameters
 - › **Scope:** Hydraulic power unit to provide oil volume with required temperature and cleanness, suction and pressure ports for connection of tested pumps
 - › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q/Temp/Revs and contamination
- Electric control**
- › **Function:** Automatic test control, visualization, storage of test results
 - › **Scope:** El. cabinet, PC, screen, keyboard, mouse, separate control panel on test bench, el. cables, printer output and other
 - › **Specialties:** Frequency converter to control 90 kW electromotor
- Mechanics**
- All the equipments of the test stand are built-in common frame. Workplace with safety guards is part of the test stand. Mechanical fixing and connecting assembly designed for use in serial production.

Test stands – hydraulic oil testing

Test stand of proportional valves



Customer: ARGO-HYTOS (CZ)
Project No.: 13066/13
Purpose: **Testing of direct and pilot operated cartridge prop. pressure valves**
Equipment:

- › **Hydraulic circuit,** el. control. of pressure and flow supply,
3x 4,4/1x5,5 kW // 0,04 ÷ 16 l/min / up to 400 bar
- › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
- › **Scope:** Hydraulic power unit, valve blocks, pipelines, distribution of oil into 3 testing positions on a work place and other
- › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q and contamination sensors, controlled 5,5 kW electromotor, el./pneu controlled ball valves

Pneumatic circuit, max. 10 bar

- › **Function:** Blowing the oil out from tested component after test, control of pneumatic operated hydraulic ball valves
- › **Scope:** Unit of compressed air conditioning, valves, distributing hoses

Electric control

- › **Function:** Automatic, semiautomatic, manual test control, visualization, storage of test results
- › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output etc.
- › **Specialties:** Frequency converter to control 5,5 kW electromotor, static and dynamic measurements, closed-loop control, graphs

Mechanics

All the equipments of the test stand are built-in common frame.
 Workplace is part of the test stand.

Test stands – hydraulic oil testing

Test stand of valve blocks – Mathieu, Gomselmash



- Customer:** ARGO-HYTOS (CZ), SALEO (BLR)
- Project No.:** 14037/14, 14065/14
- Purpose:** **Testing of control valve blocks for mobile and industrial applications**
- Equipment:**
- › **Hydraulic circuit,** el. control. of pressure and flow supply, **22 kW/4 kW // up to 55/6 l/min / up to 350 bar**
 - › **Function:** Hydraulic pressure and flow supply and distribution according to test requirements
 - › **Scope:** Hydraulic power unit, valve blocks, pipelines, pilot pressure and flow supply unit and other
 - › **Specialties:** 2-room tank, circulating filtration, heating and cooling, p/Q and contamination sensors, el./pneu controlled ball valves, hydraulic cylinders for visualization of flow direction in working ports
- Pneumatic circuit, max. 10 bar**
- › **Function:** Blowing the oil out from tested component after test, control of pneumatic operated hydraulic ball valves
 - › **Scope:** Unit of compressed air conditioning, valves, distributing hoses
- Electric control**
- › **Function:** Automatic, semiautomatic, manual test control, visualization, storage of test results
 - › **Scope:** El. cabinet, PC, screen, keyboard, mouse, el. cables, printer output and other
- Mechanics**
- All the equipments of the test stand are built-in common frame. Workplace is part of the test stand.



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