Main features as follows

- Max. press and extension force up to 45 kN
- Max. stroke 360 mm (i.e. +/- 180 mm)
- Max. total length of the shock absorber = 1100 mm
- Max. speed of the sinus curve profile up to 550 mm/sec.
- Test position from 0° vertical to 120°, fully adjustable
- Hydraulic system controlled by servo-valves incorporating a synchronous cylinder and a 7,5 kW up to 45 kW drive unit

Overview of the main components

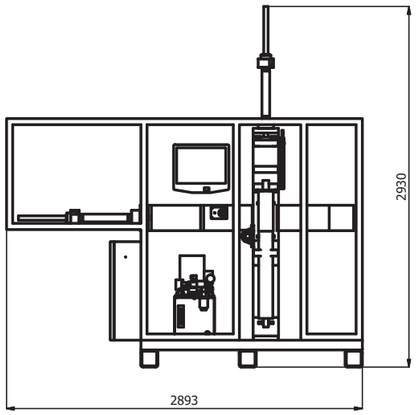
- **Steel construction**
  with high stability floor frame and C-profile load aperture. The loading aperture can be swung from a vertical position by 120 °. Within this range, the actual testing position can be further adjusted by using a joystick.

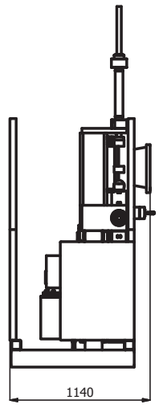
- **Actuator**
  The integration of servo valves and the synchronised hydraulic cylinders enables the operator to generate an opposing force from the shock absorber up to 45 kN over a stroke of 360 mm. Swivel cylinder allows the realignment of the loading frame aperture.

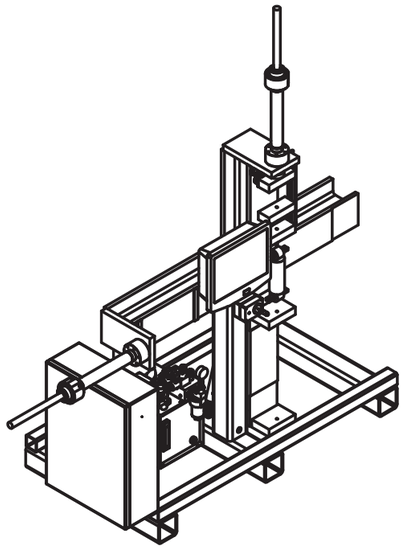
- **Power Drive**
  Variable flow pump with 7,5 kW up to 45 kW, oil tank 60 Ltr., air- oil heat exchanger, pressure accumulator, proportional-servo valves plus filter.

- **Sensors**
  High precision pressure sensor for measuring of the shock absorber compression and extension force. Travel distance sensor for measuring shock absorber stroke. Protractor sensor for controlling force direction / angle of test run.

Control Interfacing / Software
System control with the “Ulbrich © shock absorber test programme“.
Interface connectivity via a Siemens PC based automation system.
The control system transmits the “cylinder motion signal“ via regulating valves which allow the setting of speed, also the pre-programming of sinus curve profiles or simple trapezoid movements can be simply achieved using the Ulbrich © test programme software.
The speed input is fully variable up to a max. of 0,35 m/sec. over the complete stroke length. For shorter strokes, it is possible to increase this speed depending on the length of stroke given.







Universal shock absorber test machine

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Brief summary of the test cycle

The operator places the shock absorber into the fixing position, then, with use of the joystick, the upper puffer contact surface is brought into the test operating position and attached to the anchoring on the shock absorber cylinder.

The operator closes the safety door and chooses the appropriate test cycle corresponding to a particular contract No., and or shock absorber type.

The test machine brings the shock absorber into the corresponding pre-programmed start position (i.e. the position of the cylinder prior to the application of force, and in relation to the angle as to be found in the real life environment).

Following the “Test start“ the shock absorber is subjected to the pre-programmed No. of strokes with a pre-defined speed and force.

An open-ended choice of test cycle parameter to be displayed and saved is available to the operator.

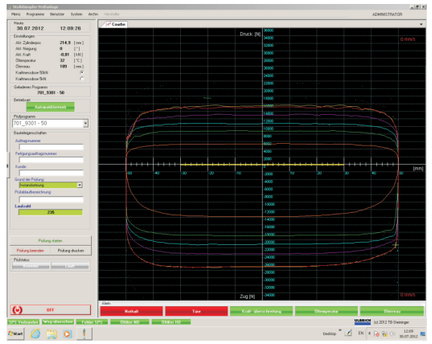
These cycles can be represented in the form of a computer generated curve with the coordinates “stroke / force“. Pre-determined speed profiles are also shown and saved in the PC, or can be printed out.

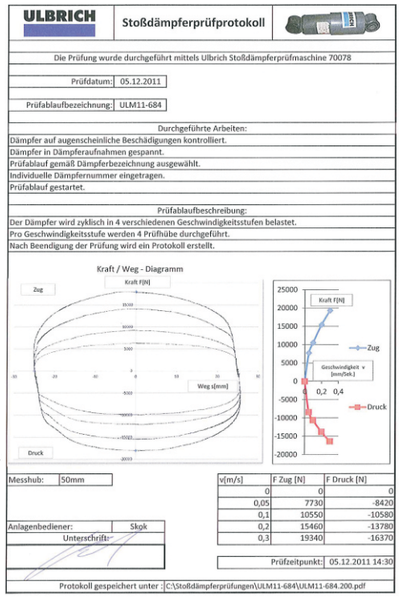
The following information / data is shown on the print out result form =>

- actual curve achieved
- the test criterion to be evaluated
- the actual condition of the shock absorber in relation to required and actual physical performance
- I.O. or N.I.O. analysis

Basic characteristics of the control and test software

- Display shows the required / achieved data for the distance and speed
- Speed profile over the stroke from the stroke starting position and the No. of strokes-fully programmable
- Envelope for press curve graphically available on the screen panel
- I.O. / N.I.O. result on the screen panel
- Saving of Operator details and contract No.
- Memory for XX programmes
- Programme call up in accordance to contract No. or type of shock absorber
- All relevant process data shown on a operator friendly display screen
- Test result , operator, date, time , test parameter , contract No. and or type will saved and archived on the computers hard drive
- Test curve in the form of stroke / force diagram also available on the screen
- Printing / coding of results in the form of a sticker – optional
- Statistical analysis option available
- Memo field available for extra remarks





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Stoßdämpferprüfprotokoll

Die Prüfung wurde durchgeführt mittels Ulbrich Stoßdämpferprüfmaschine 70078

Prüfdatum:	05.12.2011
Prüfablaufbezeichnung:	ULM11-684

Durchgeführte Arbeiten:

Dämpfer auf augenscheinliche Beschädigungen kontrolliert.
Dämpfer in Dämpferaufnahmen gespannt.
Prüfablauf gemäß Dämpferbezeichnung ausgewählt.
Individuelle Dämpfernummer eingetragen.
Prüfablauf gestartet.

Prüfablaufbeschreibung:

Der Dämpfer wird zyklisch in 4 verschiedenen Geschwindigkeitsstufen belastet.
Pro Geschwindigkeitsstufe werden 4 Prüfhübe durchgeführt.
Nach Beendigung der Prüfung wird ein Protokoll erstellt.

Kraft / Weg - Diagramm

Messhub:	50mm
Anlagenbediener:	Skgk
Unterschrift:	

v[m/s]	F Zug [N]	F Druck [N]
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0,1	10550	-10580
0,2	15460	-13780
0,3	19340	-16370

Prüfzeitpunkt: 05.12.2011 14:30

Protokoll gespeichert unter : C:\Stoßdämpferprüfungen\ULM11-684\ULM11-684.200.pdf

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