

Servo Hydraulic High Cycle Fatigue Testing Machine V2H

General Information

- Very stiff load frame in vertical design as a floor standing machine
- Type V2H with 2 columns and pedestral
(Type V4H with 4 columns and pedestral on request)
- Force capacity up to ± 250 kN
- Integrated actuator mounted in the pedestral or upper crosshead
- Crosshead adjustable in height manually or with electrical drive
- Crosshead lockable by screws in any desired position
(hydraulic clamping as an option)
- Designed for dynamic and static tests on a wide range of materials and components
- Special actuator with hydrostatic bearing for non-slipping servo-hydraulic control in static and dynamic mode
- Seal-free actuator and therefore low maintenance
- Precision servo valve type "Moog" for closed loop control
- Precision load cell better class 1 according DIN EN ISO 7500-1
- Integrated precision displacement sensor class 0,25
- LN2 - accumulators in pressure and return line
- Different options possible for the hydraulic configuration and dynamic performance so suit required applications
- CE compliant safety protection possible if required



V2H 20 HCF



V4H 100 HCF

Technical Data

	V2H 20 HCF	V2H 100 HCF	V2H 250 HCF
Nominal static force	20 kN	100 kN	250 kN
Nominal dynamic force	± 17 kN	± 70 kN	± 175 kN
Number of columns	2	2	2
Actuator mounted	in pedestral	in pedestral	in pedestral
Actuator stroke	100 mm ¹⁾	100 mm ¹⁾	100 mm ¹⁾
Max. test frequency	100 Hz	100 Hz	100 Hz
Width between columns	540 mm	540 mm	540 mm
Height test space without grips	800 mm	800 mm	800 mm

¹⁾ Alternative strokes on request



DYNA-CLC (Closed-Loop-Controller)

High Performance MSR – Controller for dynamically operated testing machines.



DYNA-CLCsingle

Clearly structured hardware concept

- Interface: analogue / digital / CAN bus
- Up to six analogue inputs, three SSI inputs and four counter inputs per control channel
- PC – connection via Ethernet, no additional interface cards required
- Compatible with existing systems
- Universally usable for the drive types
 - pneumatic
 - electric
 - hydraulic
- Visually appealing design with functional light bar
- Delivered with DYNA-RC, a hand operating unit with axis switching and digital display for force, displacement and further status information



DYNA-RC

Modular design

Availability of electronics for one or multiple actuators

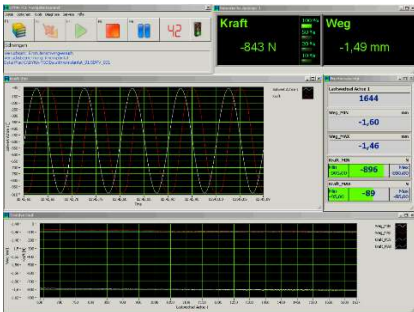
- Up to 6 control channels possible (CLCmulti)
- Individual adjustment to customer-specific requirements is possible
- Flexible configuration of the control channels possible (independent and simultaneous or coupled together and synchronized)

Excellent signal and control quality

- Absolutely synchronous real-time data processing of all channels by state-of-the-art processors
- Iterative learning control
- Sampling rate up to 20 kHz per channel, regardless of the number of control channels
- Control rate up to 20 kHz
- Parallel working A/D converters with 24 bit resolution (no multiplexer)



Software DYNA-TCC



DYNA-MESS develops the test software "DYNA-TCC" in-house and is constantly adapting to the growing requirements with regards to interfaces, design, operating systems, user tools and the state of the art.

Simple integration into a higher-level "Laboratory Information and Management System" (LIMS) by standardized and adaptable interfaces.

DYNA-TCC is our uniform standard software for all test systems from DYNA-MESS and is therefore tried and tested worldwide.

The DYNA-TCC software is also used in our fatigue and static testing machines and thus forms an ideal platform for a universal laboratory solution. Therefore it is not a "one application development" but an additional software module extension of DYNA-TCC.

It is a real-time software for the configuration of all curves as a real-time setpoint for servo drives via freely definable and expandable software (closed-loop control) and not, as with some providers, through changes to the fixed hardware configuration consisting of "motor, drives and gearboxes" with the associated changeover effort, the new validation and of course a considerable amount of time.

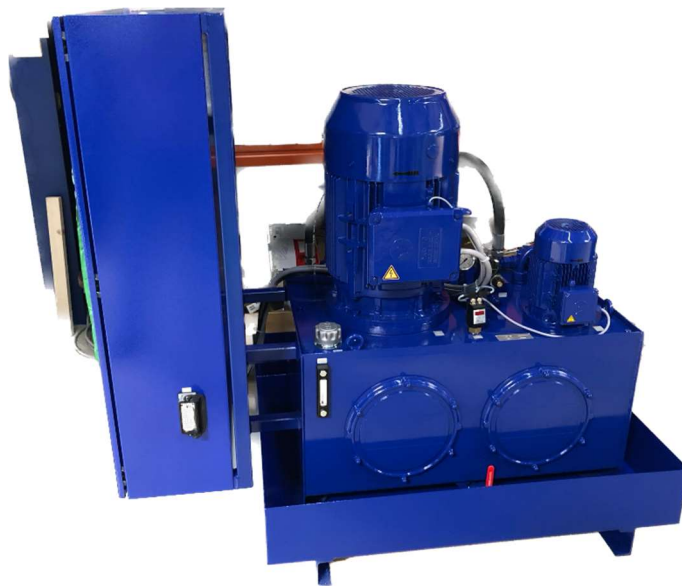
Available Software Modules and AddOns

- Cyclic testing
- Multistep cyclic testing
- Ramp testing
- Sweep testing
- Tensile/Compression testing
- Elastomer testing
- Road signal testing
- Automatic control DYNA-AC
- Dynamic evaluation Elastomer & Sweep
- Calculated channels
- DYNA-MultiGraph
- Cycle based values
- Language switch
- DYNA-ReportEditor
- Other customer specific features on request



Hydraulic Power Unit

- Hydraulic power supply for servo hydraulic control
- Flow rate of pump: 45 l/min
- Operating pressure: 280 bar
- Oil tank volume: 250 liters
- Low noise internal gear pump with high/low pressure switch
- Oil filter 3 µm with optical und electrical soiling display
- Oil / water heat exchanger (max. water consumption approx. 1,2 m³/h)
NOTE: The customer is responsible for sufficient quantity of cooling water of the appropriate quality.
- Temperature monitoring for emergency cutout by over temperature
- Filling level monitoring min/max
- Oil collecting trough according WHG
- Set of hoses (approx. 3 m) for connecting test cylinder
- Secondary circulation flow pump in bypass for oil cooling
- Including filling with 250 liters hydraulic oil
- Electrical control for hydraulic power pack
- Emergency switch
- Terminal block with terminal assignment for electronics DYNA-CLC
- Housing mounted on hydraulic power pack
- Connected value: 400 V, 50 Hz, 3 Ph N/PE, CEE-plug
- Set of cables (approx. 3 m) for electronics DYNA-CLC
- Acoustic attenuation on request
- Other pumps with another flow rate on request



About DYNA-MESS



Plant DYNA-MESS Prüfsysteme GmbH in Stolberg/Aachen

DYNA-MESS Prüfsysteme GmbH was founded in 1985 in Aachen. The company designs and produces machines (tension, compression, bending and torsion) as single or multi axis machines for static and dynamic testing of materials and components.

The roots of DYNA-MESS lie in the rope and lifting technology. The company received its first orders for the inspection of wire and synthetic fiber ropes as well as slings and chains.

This has resulted in the development of a wide range of machines for material and component testing.

As a manufacturer of testing equipment for mechanical testing, DYNA-MESS focuses on the development, conception and realization of customized testing machines.

The focus is on dynamic component testing, which is carried out in the form of continuous vibration tests or continuous function tests, as well as on special machines for special applications.

For conventional testing tasks, DYNA-MESS has standard series of testing machines.

