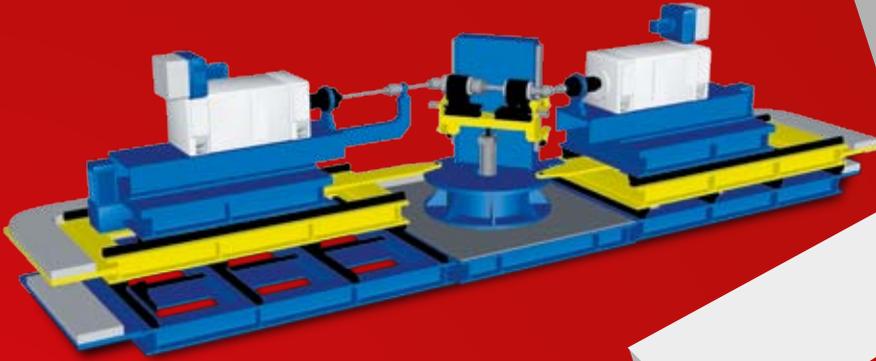
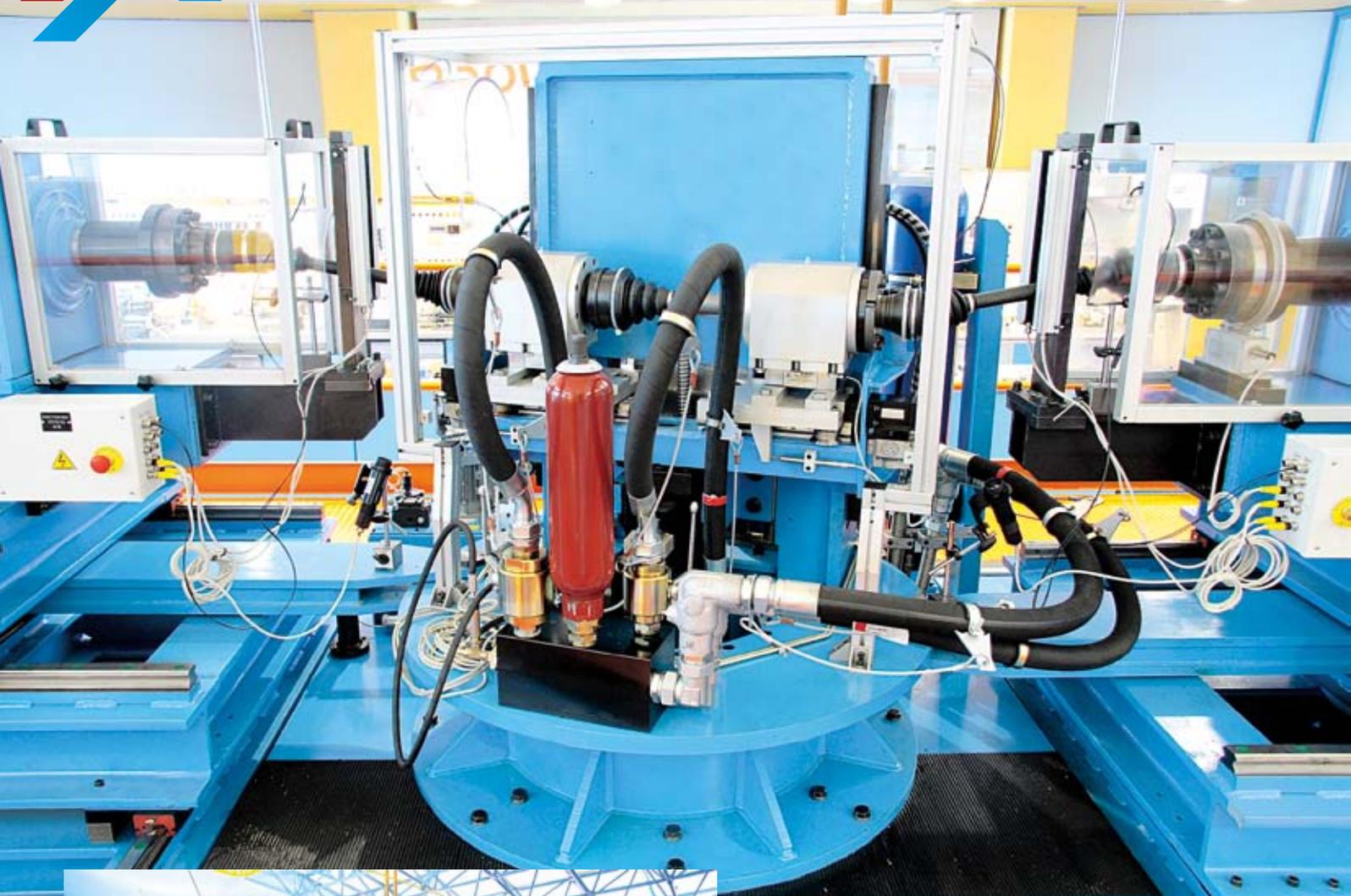


AXLE SHAFT TESTING SYSTEM



AUTOMOTIVE TESTING SOLUTIONS

AXLE SHAFT TESTING SYSTEM

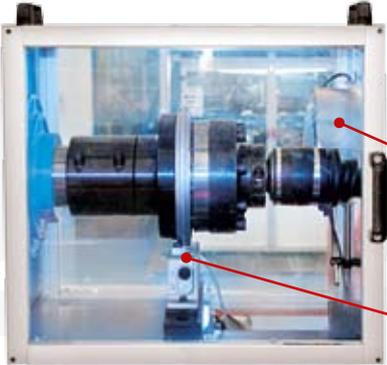


AC motor

AC motor



Axle shaft



Oil leakage detection

Torque meter

AXLE SHAFT TESTING SYSTEM

FEATURES

The test rig was specifically designed to carry out endurance tests on axle shafts for passenger cars and light duty trucks. It allows to run durability and reliability tests on the basis of fully automated cycles.

The axles can be tested by simulating all the working conditions they can experience in the real vehicle.

The bench controls dynamically following movements:

- Rotational speed
- Torque
- Vertical stroke
- Axial stroke
- Steering angle

The mechanical set-up for a shaft is a one-man operation. Shafts of different lengths can be installed: from 350 to 1300 mm.

The measurement system used in the test rig, aided by the high power of last generation computers, allows a complete control and monitoring to the main sizes. The analysis of this data produces an exhaustive study related to the relationship between the performances and the wear of the axles being tested.

The SW application allows the complete real time control of all circuits of the system for the simulation of speed, torque and vibrations both in steady state and transient conditions.

The test cycles for the simulation of the driving patterns are fully automated, so it is the data acquisition. The Automation SW is based on the INT9000 SW-Platform.

Thanks to a very user-friendly interface, the configuration of the test cycles is very easy. It's possible to create and/or modify tests sequences without specific computer skills.

The system is equipped with regenerative inverters that allow to recover a great part of the energy used for the test thus reducing considerably the power consumption of the bench.

TECHNICAL SPECIFICATIONS

MECHANICAL SET-UP

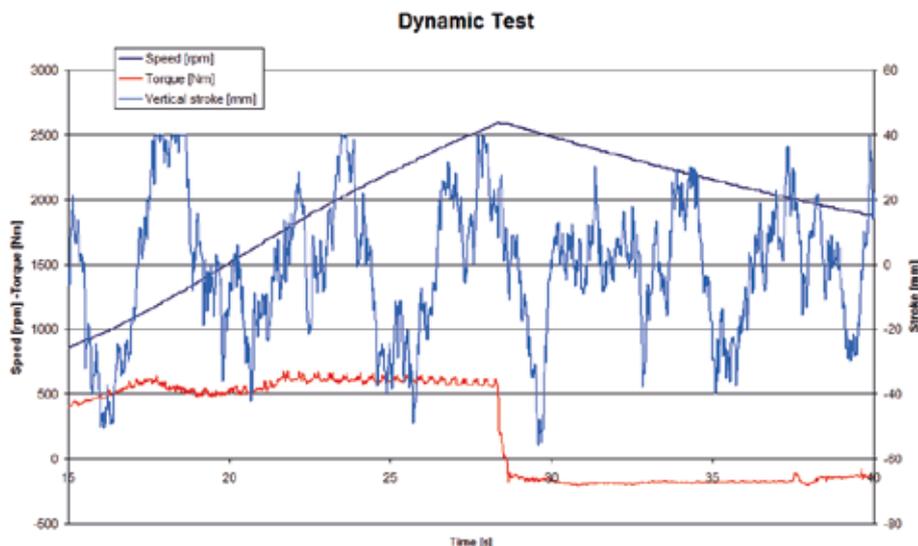
The test rig consists of:

- Two AC electric motors for torque and speed simulation
- One mobile central support
- One vertical hydraulic actuator
- Two axial hydraulic actuators
- One actuator for support rotation
- One high pressure hydraulic generator for the actuators
- Torque meter on the shaft
- Shaft rpm counter
- Infrared temperature sensors

MAIN PERFORMANCE OF THE SYSTEM

- Max speed: ± 3500 rpm
- Max torque: ± 2600 Nm
- Max vertical stroke: ± 150 mm
- Max vertical frequency: 20 Hz
- Max horizontal stroke: ± 6 mm
- Max horizontal frequency: 15 Hz

Note: all the performances are adaptable on customer needs.



CONTROL SYSTEM

Expert engineering, flexible deployment.

Control System is a leading producer of Testing Facility solutions for the Automotive sector providing all-round service and extensive specialization across the vehicle testing spectrum: Engine Testing Cells, Components Testing Rigs, Powertrain & Gearbox Testing Solutions. Control System also develops in-house complete dedicated management Software that is a key feature of the entire test process alongside the other elements in the Testing chain.

The high-level technical and entrepreneurial capacity acquired in over 20 years experience in the Automotive sector enables Control System to deliver cutting-edge solutions comprising latest-generation technology as well as sophisticated Hardware and Software systems. Proven expertise in the sector has enabled the Company to collaborate with top automakers both in Italy and worldwide with consistently excellent results.

Control System's real strength is its highly flexible ability to design and produce solutions tailored to customer specifications or developed in conjunction with customers themselves – a versatility that has become a fundamental market plus in the development of each project.



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