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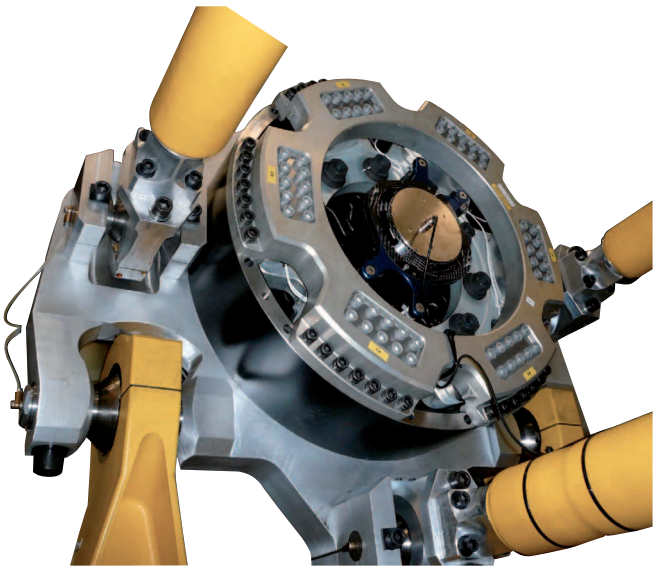
RoaDyn® S6HT nsp System 2000

Type 9269A2

6-Component Measuring Hub for Commercial Vehicles

Measuring hub for measuring three forces and three moments on a non-spinning wheel for operation on tire test machines.

- Modular design with interchangeable strain gage load cells and system components
- Reduction of local stress concentrations by means of CAD/FEM
- Robust design suitable for fatigue strength tests
- High-precision measurement ensured by calibration of individual load cells and overall system
- Outstanding signal quality due to digitalization in hub electronics
- Online diagnostics, crosstalk and lever arm compensation



Description

RoaDyn S6HT nsp Type 9269A2 is a modular wheel force measuring system consisting of six 3-component heavy duty strain gage load cells, inner part for connecting sensors to the hub and outer part which connects to the test stand. Strain gage signals are amplified in the load cell and passed on via short cables to hub electronics. Via a cable data are transmitted to control room electronics, which provides the calculated wheel forces and moments to analog and digital interfaces.

Application

RoaDyn S6HT nsp is used as a multiaxial force measuring unit in road simulators for physical simulation of loads in durability tests. They are used for iteration (determination of the transfer function) and for monitoring of axle test benches.

Technical Data

Standard Measuring Range[1)]

F_x	kN	±180
F_y	kN	±100
F_z	kN	±180
M_x	kN·m	±25
M_y	kN·m	±50
M_z	kN·m	±25

Maximum Loads

Max. shock acceleration	x	g	40
	y	g	20
	z	g	40

Accuracy

Linearity	% FS	≤1
Hysteresis	% FS	≤1
Crosstalk forces	%	≤1

[1)] It is assumed that the maximum forces and torques do not act simultaneously. The torques are specified relative to the center of the wheel (Offset = 0).

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Assembly and Components of RoaDyn® S6HT nsp System 2000

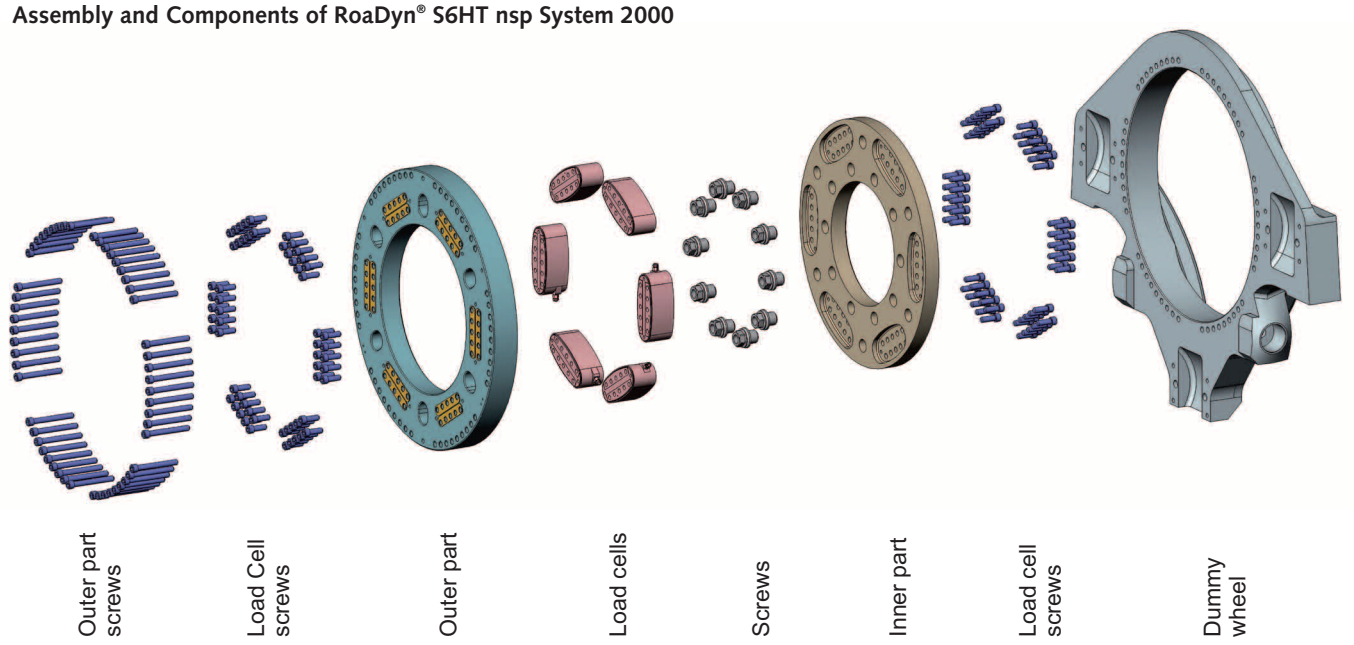

Fig. 1: Assembly and components of RoaDyn® S6HT nsp

Mounting

Kistler supplies weight and strength optimized customized adapters for mounting the sensor to the test rig.

Typical Configuration of Wheel Force Hub RoaDyn® S6HT System 2000

	Type/Art. No.
• Precision load cells (strain gage based), fully encapsulated, 6 pieces per wheel sensor	9190A66...
• Outer part for RoaDyn S6HT/S6XT 1 piece per wheel sensor	9737A6Q
• Inner part for RoaDyn S6HT/S6XT adapts to one particular bolt pattern, 1 piece per wheel sensor	9745A6Q
• Electronics connector carrier for wheel electronics, 1 piece per wheel sensor	Z39904
• Hub electronics 1 piece per wheel sensor	5243A18
• Connection cable for tire test machine digital or analog, 1 piece per wheel sensor	1700A88...
• Control room electronics for ½ axle System 2000	9887A1000Q...
• Control Room Electronics for 1 axle, System 2000	9887A2000Q...

Optional Accessories

	Type/Art. No.
• External hub electronics	5277A2120
• Adapter ring for offset compensation 1 piece per wheel sensor	Z39918A
• Interface for digital tire test machines (IST)	5623A2
• Interface cable for digital tire test machines (IST)	Z30904A1
• Interface for digital tire test machine (MTS)	5623A3
• Interface box for digital tire test machine (MTS)	Z31232
• RoaDyn UDP SCoUt, version 4.01	2885A4.01.1

Ordering Code

• RoaDyn S6HT nsp System 2000 6-component measuring hub for commercial vehicles	**Type 9269A2**

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