

RoaDyn® Rental System

Type 9957S6...

for Vehicle Dynamics and Operating Load Measurements

RoaDyn wheel force transducers are preferred measuring devices for vehicle dynamics measurement applications or for the acquisition of operating loads. The Kistler modular RoaDyn rental system provides fast and flexible wheel force transducers for your unique application needs.

- Fast delivery
- Various combinations of rims and sensors available
- Internal and external transmission of the signal data
- CAD models of all RoaDyn wheel force transducer sensor-wheel combinations
- Simple combination of additional sensors for vehicle dynamic analysis is possible

Description

Three distinct RoaDyn sensors are available for various load classes in the area of passenger car applications: S625, S635 and S650 – for matching measuring ranges from 20, 35 or 50 kN (max. vertical load). For this purpose, the sensors are calibrated in combination and pre-assembled.

The rental system is designed in such a way that a uniform pitch circle diameter on the rim permits a simple combination of sensors and rim sizes. Appropriate 3D models, which permit a straightforward check of the wheel force transducer installation at the vehicle to be measured for all existing combinations of sensors and rims, can be found at www.kistler.com.

Application

- Acquisition of load collectives for typical vehicle driving maneuvers
- Input data for the design of new structural elements
- Verification of load assumptions
- Determination of test stand control data for street simulators
- Development of active chassis frame control systems, such as ABS, ESP, etc.
- Analysis of vehicle behavior for typical or critical driving situations
- Development data for fatigue calculations and numerical simulations
- Development of computer models



Technical data

			S625	S635	S650
Measurement range	F _x	kN	-20 ... 20	-35 ... 35	-50 ... 50
	F _y	kN	-15 ... 15	-20 ... 20	-30 ... 30
	F _z	kN	-20 ... 20	-35 ... 35	-50 ... 50
	M _x	kN·m	-4 ... 4	-5 ... 5	-6 ... 6
	M _y	kN·m	-4 ... 4	-5 ... 5	-6 ... 6
	M _z	kN·m	-4 ... 4	-5 ... 5	-6 ... 6
Max. knock accelerations	X	g	50		
	Y	g	50		
	Z	g	50		
Weight WFT incl. rim	7,5 x 17"	kg	15,5	18,9	19,3
	8,5 x 18"	kg	17,1	20,5	20,9
	8,5 x 19"	kg	17,5	20,9	21,3
Angle of rotation accuracy	F _x , F _z , F _y	°	≈0,1 for internal transmission ≈0,35 for external transmission		
Crosstalk	F _y → F _x , F _z	%	≤1		
	F _x ↔ F _z	%	≤1		
	F _x , F _z → F _y	%	≤2		
Linearity		% v.E.	≤0.5		
Hysteresis		% v.E.	≤0.5		

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The information corresponds to the current state of knowledge. Kistler reserves the right to make technical changes without advance notice. Liability for the consequential damages arising from the application of Kistler products is excluded.

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System components

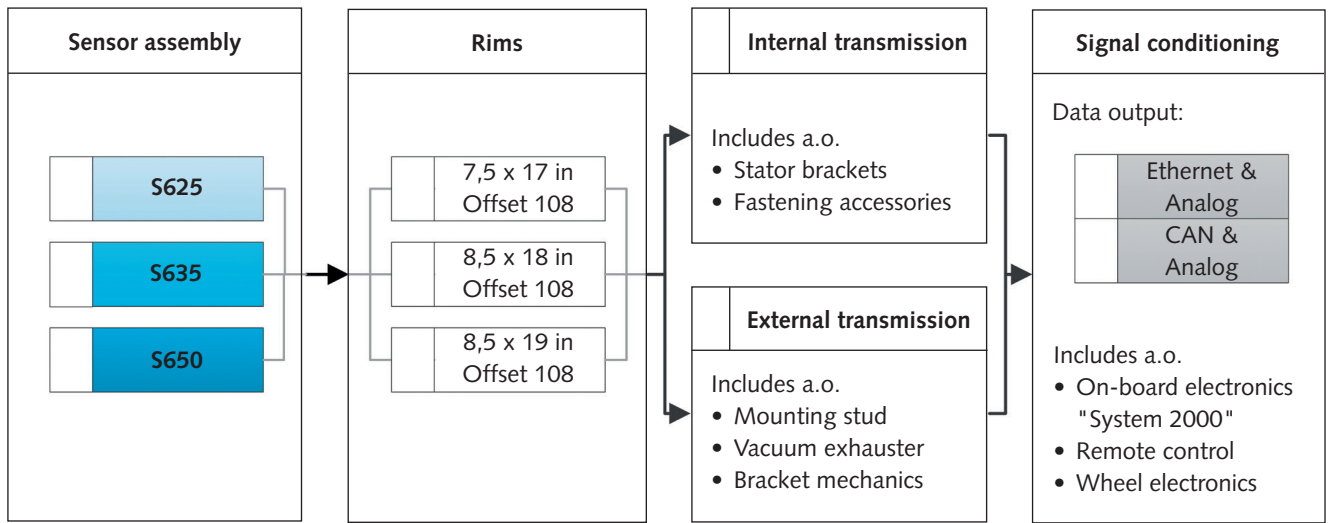


Fig. 1: RoaDyn® rental system, components

Rim design

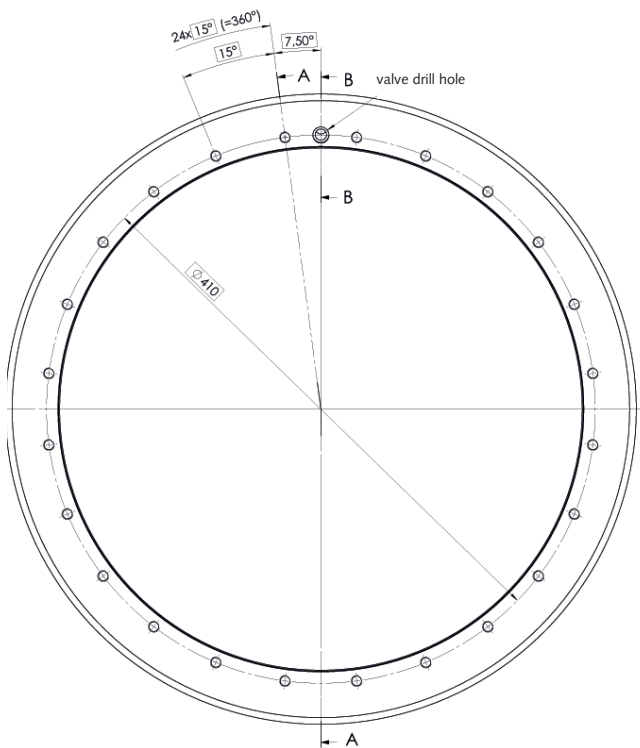


Fig. 2: Design of the rims for the RoaDyn® rental system

Free brake travel

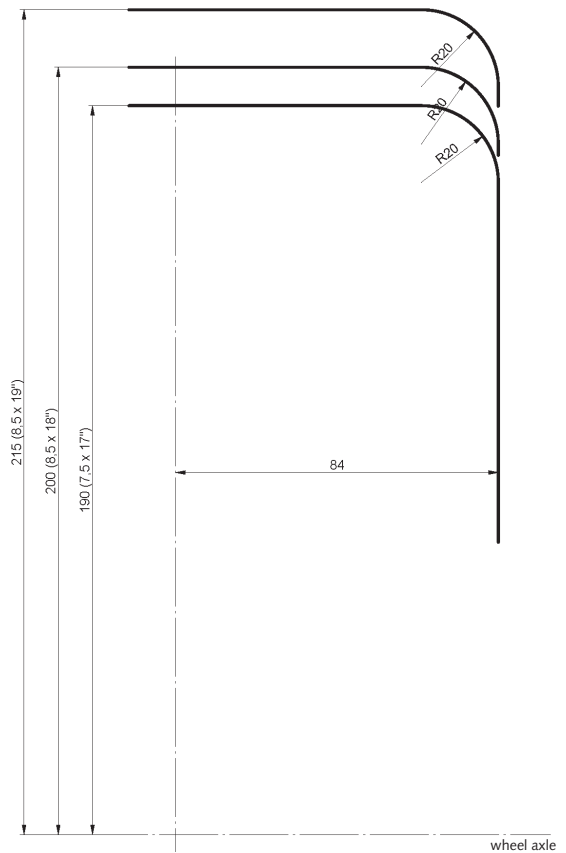


Fig. 3: Max. free brake travel

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Order process

Please refer to the following information to place an order for the RoaDyn rental system:

- 3D models of all possible sensor-rim combinations for the control of the free brake travel, etc., as well as an order checklist can be found at www.kistler.com
- Special requirements for rims can be fulfilled. Contact your local Kistler sales representative or visit our website for more information or to schedule an appointment.

Additional information

Additional information about the RoaDyn wheel force transducers and the on-board electronics System 2000 can be found on our website.

Related documents

- Checklist RoaDyn rental system: 960-006d-06.14
- Data sheet Kistler RoaDyn S625: 9266A_000-495d-10.09
- Data sheet Kistler RoaDyn S635: 9267A_000-559d-10.09
- Data sheet Kistler RoaDyn S650: 9268A_000-497d-10.09

Included Accessories

Wheel force transducer components:

- Calibrated and pre-assembled RoaDyn wheel force transducer sensor
- Documentation

Signal conditioning components:

- On-board electronics "System 2000"
- Remote control
- Wheel electronics
- Analog water-level
- Digital water-level
- Extension cable
- Mounting stud
- Centering sleeve wrench
- Documentation

External transmission components:

- External transmitter
- Bracket mechanics
- Vacuum exhauster
- Bracket for optical and mechanical auxiliary sensors
- Aluminum pipes
- Power cable

Internal transmission components:

- Stators
- Stator adjustment gauge
- Various pins for the stator connection
- Various pipes for the stator connection
- Stator clamping blocks
- Allen wrench
- Bracket for optical and mechanical auxiliary sensors

Optional Accessories

- Wheel offset adapter, Type 9746A...

Ordering key

995756 –

Wheel Force Transducer Type

RoaDyn S625	1
RoaDyn S635	2
RoaDyn S650	3

Number of Wheel Force Transducers

1 wheel force transducer	1
2 wheel force transducers	2
4 wheel force transducers	4

Rim Size

7,5 x 17"	17075
8,5 x 18"	18085
8,5 x 19"	19085
No/other rims	00000

Transmission

Internal transmission	1
External transmission	2

Data Output

Ethernet + analog	1
CAN + analog	2

