

RoaDyn rental system

Type 9966B13-SYS...

For road load data acquisition and vehicle dynamics measurements

RoaDyn wheel force transducers are preferred measuring devices for vehicle dynamics measurement applications or for the acquisition of road load data. 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 S660 – for matching measuring ranges from 20, 35 or 60 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. On request, you can get 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.

Application

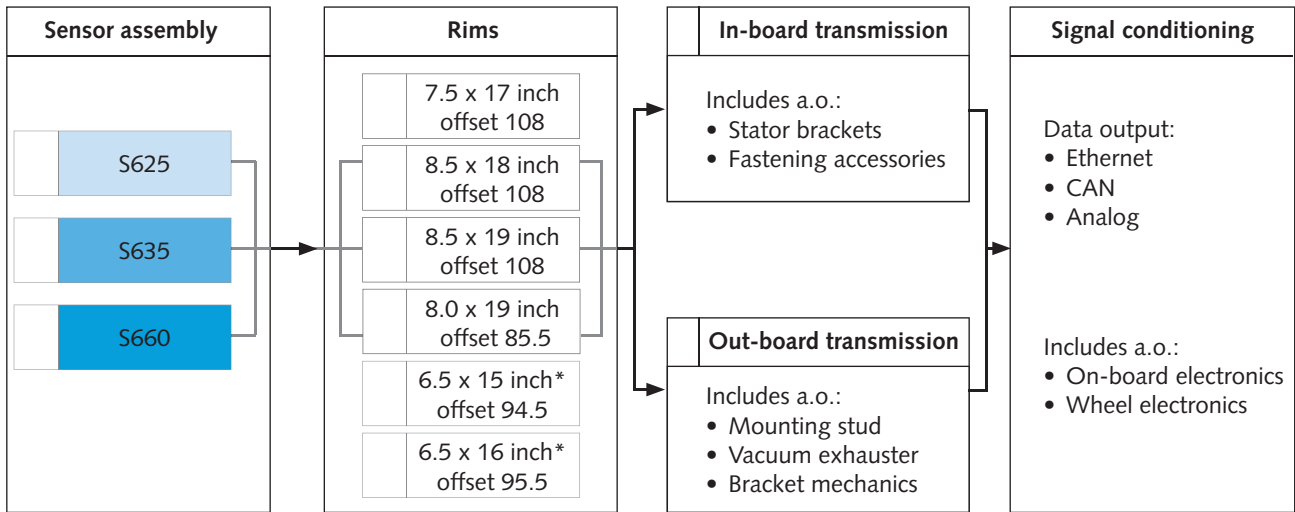
- Acquisition of road load data for typical vehicle driving maneuvers
- Input data for the design of new structural elements
- Verification of load assumptions
- Determination of test stand control data for road simulators
- Development of active chassis frame control systems, such as ABS, ESP, etc.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



Technical data

			S625	S635	S660
Measurement range	F _x	kN	±20	±35	±60
	F _y	kN	±15	±20	±36
	F _z	kN	±20	±35	±60
	M _x	kN·m	±4	±5	±7.5
	M _y	kN·m	±4	±5	±8.5
	M _z	kN·m	±4	±5	±8.5
	M _z	kN·m	±4	±5	±8.5
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
Accuracy of rotation angle	F _x , F _z , F _y	°	≈0.1 for internal transmission ≈0.35 for external transmission		
	Crosstalk				
Crosstalk	F _y → F _x , F _z	%	≤0.5		
	F _x ↔ F _z	%	≤0.5		
	F _x , F _z → F _y	%	≤0.5		
Linearity		% v.E.	≤0.5		
Hysteresis		% v.E.	≤0.5		

System components



* for S625 only

Fig. 1: RoaDyn rental system, components

Rim design

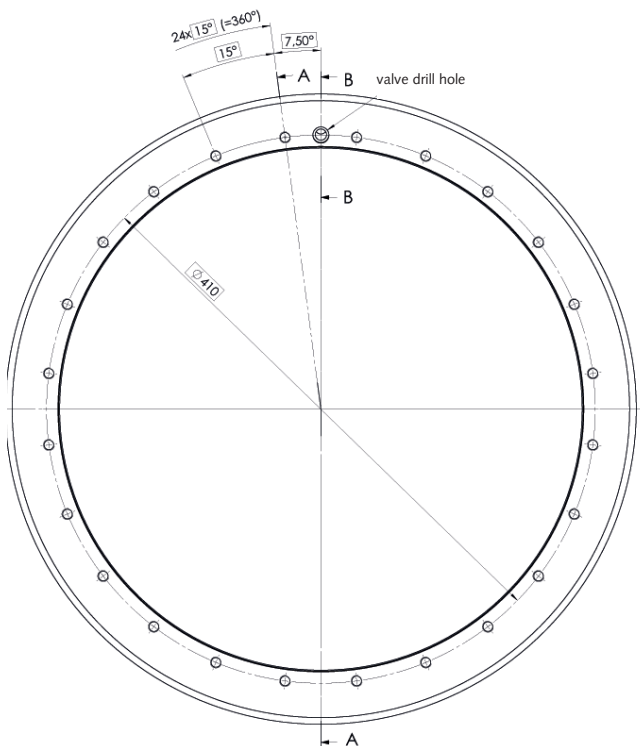


Fig. 2: Design of the rims for the RoaDyn rental system

Free brake travel

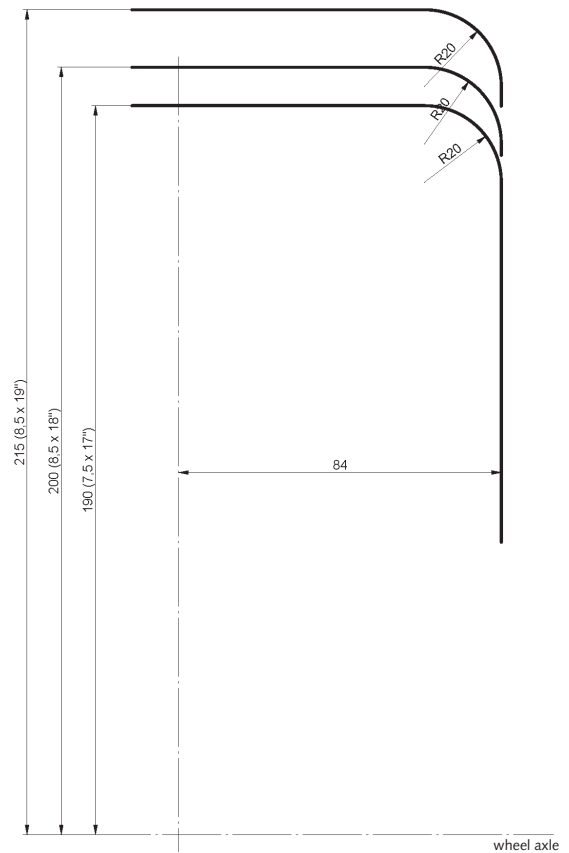


Fig. 3: Max. free brake travel

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This information corresponds to the current state of knowledge. Kistler reserves the right to make technical changes. Liability for consequential damage resulting from the use of Kistler products is excluded.

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 are available on request.
- Vehicle-specific requirements regarding rims or adapters 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 can be found on our website.

Related documents

- Checklist RoaDyn rental system: 960-006d
- Data sheet Kistler RoaDyn S625: 9266A_000-495d
- Data sheet Kistler RoaDyn S635: 9267A1_000-559d
- Data sheet Kistler RoaDyn S660: 9248A1_000-970e

Included Accessories

Wheel force transducer components:

- Calibrated and pre-assembled RoaDyn WFT
- Documentation

Signal conditioning components:

- On-board electronics
- Wheel electronics
- Analog spirit level
- Inclinometer
- Extension cable
- Mounting stud
- Centering sleeve wrench
- Documentation

External transmission components:

- External transmitter
- Bracket mechanics
- Suction holder
- 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

Accessories

- Wheel offset adapter, Type 9746A...

Ordering key

9966B13-SYS –

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	3

Test days	
5 ... 99	*

Transmission	
Internal transmission	1
External transmission	2

Ordering example

Type 9966B13-SYS-12212

RoaDyn S625, 2 WFTs, number of test days 21, external transmission