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| **Product Name :** | **Product Code :** |
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| Fundamentals of Statics | TN884 |


**Description :**

Fundamentals of Statics

**Technical Specification :**

Fundamentals of Statics
The unit is perform the following experiments and investigations:

Learning Objectives / Experiments:
Accumulation and resolution of forces with force parallelogram
Equilibrium of forces
Law of levers, determination of moments and equilibrium of moments
Combined lever systems
Forces in bearings
Deflection and resolution of force by fixed and free pulleys
Included together with sets;
Inclined plane; friction
Pulley blocks
Gear wheels

Specifications:
Experimental setup to demonstrate simple, planar force systems
Panel with rails around the edges for easy mounting of various experimental components
Panel with imprinted 50mm line grid and facility to write on using erasable marker
Lever rods with 50mm grid

Wide range of mountings: cables, rods, pulleys, torque disks, pivot bearings and the like
Force gauges for tensile and compressive forces, with large-format display
Transparent dial on force gauge rotatable
Storage system to house all parts.

Technical Data:
Panel
Width x Height: 600x700mm, 13kg
Line grid: 50mm
Force gauges for tensile and compressive force
Measuring range: ±50N
Display diameter: Ø=110mm
Protected against overloading
Weights
2x 5N (hanger)
6x 5N
Dimensions and Weight
Width x Height: 600x700mm (panel)
Length x Width x Height: 604x404x132mm (storage system)
Weight: 30kg
Inclined Plane and Friction Set
Elastic deflection of a helical spring (Hooke’s law)
Dynamic friction as a function of the normal force, contact area and surface properties of the friction body
Determination of the friction coefficient
Rolling friction
Forces on the inclined plane.

Specification:
Supplementary set for experimental unit Fundamentals of statics
Experiments relating to Hooke's law: friction and inclined plane
Friction body which can be set up to give 3 different surface options
Rail forming the inclined plane
Steel helical spring
Storage system to house all parts.

Technical Data:
Helical spring
Spring constant: 0,95n/cm
Max. Load: 25n
Aluminium friction body
Length x Width x Height: 110x40x40mm
Dead-load: 5N
2 sides with different sized areas
2 sides with different surface roughness
Aluminium rail, anodized
Length x Width x Height: 800x50x10mm
Dimensions and Weight
Length x Width x Height: 160x103x75mm (storage system)
Weight: 5kg

2. Pulley Blocks Set
Setup and principle of pulley blocks with 4 pulleys and with 6 pulleys; differential pulley block
Principle of "simple machines": force transmission, lifting work and potential energy

Specifications:
[1] supplementary set for experimental unit Fundamentals of statics
[2] pulley layout and cable routing clearly visible
[3] pulley blocks: with 4 or 6 pulleys; differential block with roller chain
[4] cable pulleys made of anodized aluminium ball bearing-mounted
[5] chain wheels to DIN 8191
[6] pullers: nylon cord, roller chain
[7] materials stainless steel or steel, galvanized
[8] storage system for the components

Technical Data:
Pullers
Nylon cord: Ø=2mm
Roller chain: 6,0x2,8mm to DIN 8187
Chain wheels
Number of teeth: z=18, 28, 38
Cable pulleys
Made of anodized aluminium ball bearing-mounted
Dimensions and Weight
Length x Width x Height: 604x404x132mm (storage system)
Weight: 12kg

3. Gear Wheels Set
Transmission ratio of speed and moment on a single-stage gear
Influence of intermediate wheels on the direction of rotation
Transmission ratio on a two-stage gear
Conversion of rotation into linear motion and vice versa

Specification:
[1] supplementary set for experimental unit Fundamentals of statics
[2] experiments with single-stage and multistage gears
[3] aluminium spur wheels with ball bearing mounts
[4] quick assembly of the elements
[5] deflection roller, mounting rail and gear wheels made of anodised aluminium
[6] storage system for the components

Technical Data:
Aluminium spur gears
Modulus: m=2mm
Number of teeth: z=20, 25, 30, 40, 50, 60
Ball bearing gear wheel mounts, secured by thrust pads to grooved pins
Rack
Modulus: m=2mm
Length: l=300mm
Mounting rail anodized aluminium
Length x Width x Height: 760x30x30mm
Dimensions and Weight
Length x Width x Height: 604x404x132mm (storage system)
Weight: 12kg.

# Naugralabequipments

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