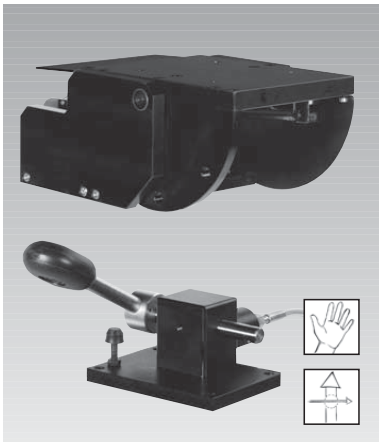
Issue 9-07 E

ROEMHELD information M 2.101

Tilting Module KMB 100
Max. load 1,000 N, load balanced manual operation



Advantages:
- Easy tilting and fixing of components in angle positions 0° and 90°
- Compensation of the tilting torques by pneumatic balancer
- Locking of individual tilting positions 0° / 90°
- High load potential
- Suitable for table mounting
- Good accessibility from all sides
- Optimised ergonomics
- Easily combinable with other *modulog* modules

Application
Tilting module for universal use in assembly and handlingy processes in the industry.

Principal use
- Assembly of car seats
- Motor assembly
- Plant construction
- Construction of power units

Material

Cylinder body:	steel, black oxide
Tilting plate:	steel, black oxide
Body balancer:	aluminium
Body indexing:	aluminium
Indexing mechanism:	steel, hardened

Description
The tilting module KMB 100 with pedal-operated indexing offers the possibility of easy manual tilting of heavy components by ±90° and their reliable fixing.

The tilting module is equipped with a pneumatic balancer that compensates almost completely generated torques during tilting. Therefore only little forces are required for tilting of the component part.

The balancer is adapted to the weight of the component part by a pneumatic pressure reducing valve.

The operating unit of the indexing is connected by a 2 m long hydraulic hose to the tilting module.
This flexible connection allows the individual placement of the operating unit at the most favourable ergonomic position.

The standard indexing positions are set to 0° and 90°. Other indexing positions are available on request.

modulog
Tilting module

Part-no. on request

Technical characteristics

Max. load:	1,000 N
Max. torque:	500 Nm
Max. balancable torque:	300 Nm

Operation
- Manual

Indexing
Indexing angle: 0° / 90°
Operation by pedal

Combinable with the modules
- Rotating module - vertical axis DMV 1000 as per data sheet M 3.101
- Lifting modules as per data sheet M 4.XXX

***modulog* interfaces**
- Flange plate: 140 x 140 - M10
- Body: 140 x 140 - Ø 10.5 mm

Mounting
To fix *modulog* modules or components of the user, the tilting module has a 140 x 140 interface in the flange plate and the body.

Important notes
The pneumatic balancer requires compressed air supply.

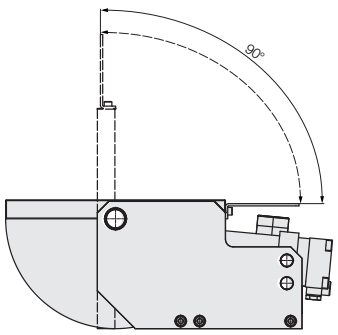
Operation
The tilting module does not have operating elements. The tilting operation is effected manually directly at the component part or at the assembly fixture.

The indexing is operated by a foot pedal. By operating the foot pedal by 35° the index is released and the component part or the fixture can be tilted.

If the foot pedal is not operated, the index bolt engages automatically into the next indexing position.

The operation with a foot pedal guarantees that the operator always has both hands free.

Function



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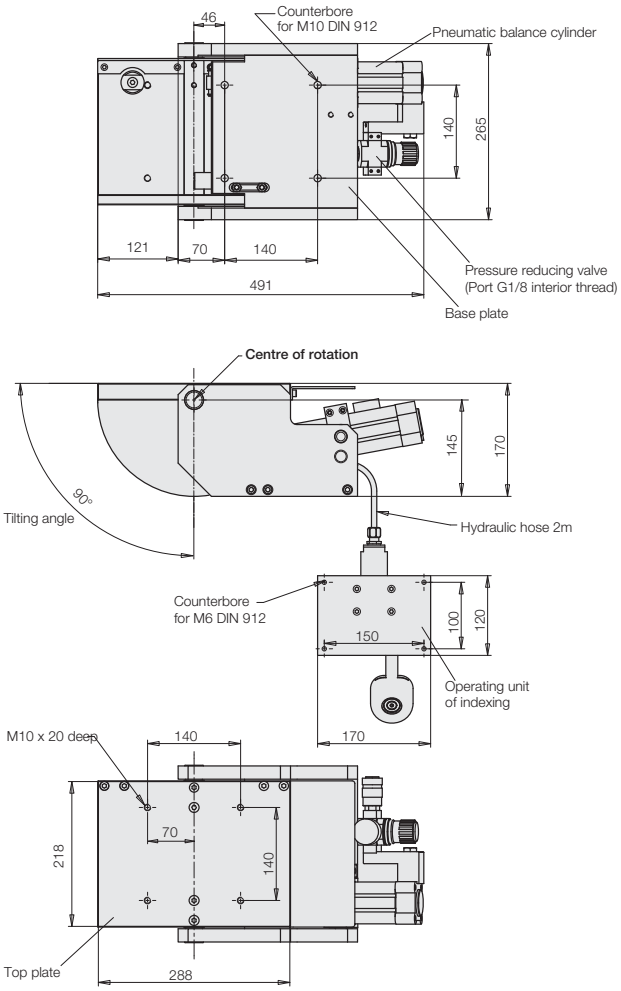
Technical Characteristics
Dimensions

Dimensions

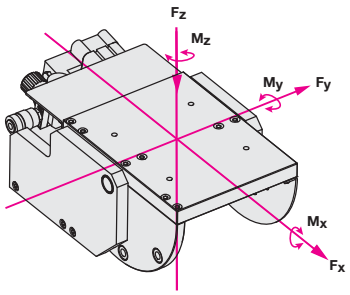


Part-no. on request

Technical characteristics

Operation:	manual
Tilting angle:	0° and 90°
Balancer:	pneumatic, max. balancable torque 300 Nm, compressed air 0 to 10 bar (range of adjustment)
Indexing:	hydromechanical, operation with foot pedal indexing positions 0° / 90° positioning precision < ±1°
Weight:	Tilting module 39 kg Operation unit 4 kg

Maximum admissible load



Maximum admissible forces

Fx = ± 1,000 N
Fy = ± 1,000 N
Fz = + 1,000 N

Maximum admissible torques

Mx or **Mz** = 500 Nm
My = 500 Nm (for the engaged mode)
My = 300 Nm (for the engaged mode)

The total of all occuring forces or torques must not exceed the highest single value.

Application example

Tilting module KMB 100 – mounted on lifting unit Shop-Floor

Delivery

The tilting module and the indexing unit including hydraulic hose and hydraulic oil are delivered as a completely assembled unit ready for use.

Important notes

The adjusted compensation weight or torque is always effective. Therefore the tilting module must only be loaded and unloaded in horizontal position. In tilted position unlocking must not be made without load.

For the pneumatic connection a compressed air coupling ND 7.2 is recommended.

The fixing screws M10 are not included in our delivery.

The tilting module is designed for applications within closed rooms.

Balancable torque

The pneumatic balancer can balance torques up to 300 Nm.

The torque, which will be balanced, depends on the existing pneumatic pressure that can be adjusted at the pneumatic pressure reducing valve of the balancer. Range of adjustment: 0 up to 10 bar