



Schiller GmbH

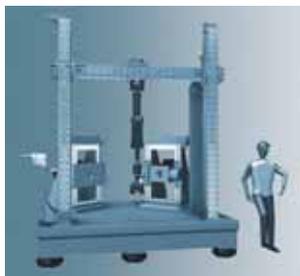


MOCOKIT[®]

Modular Construction Kit

The efficient solution for your component test lab

MOCOKIT[®] 25, 65, 65 SE, 250, 250 SE, 400, 600



Universal modular construction kit for static and dynamic test setups

Are you operating your own test lab for component testing or planning a new test lab?



Test arrangement with passenger car seat

Apart from servo-hydraulic components like linear actuators and rotary actuators do you also need appropriate devices to mount simply actuators and test-specimens flexible and safely? In order to keep down investment cost, modular solutions are especially useful when test setups are frequently modified.

With our universal modular construction kit **MOCOKIT®** we provide you with the flexibility you need in your daily business – high quality at affordable prices.

MOCOKIT® is specially customized to suit the demands of component tests and fulfils the demands of an up-to-date test lab in terms of rigidity, mounting and versatility.

Linear actuators and rotary actuators as well as test specimens can easily be mounted by means of specific adaptor plates, which you can either manufacture yourself or which can be supplied by us. Various sizes, graded by their maximum permissive static load, allow you to construct test frames for static forces up to 600 kN.

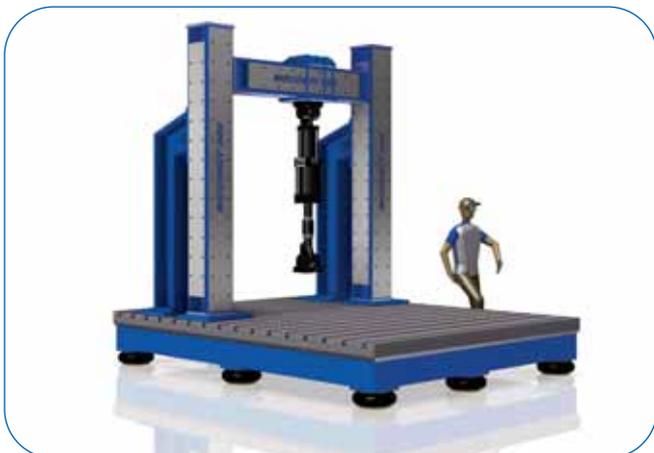
We supply dynamic load values on request.



Implementation **MOCOKIT® 250**

Only by a few tools you can modify the configuration according to a new test arrangement.

We also look forward to assisting you in the selection of the required components for your particular test configuration.

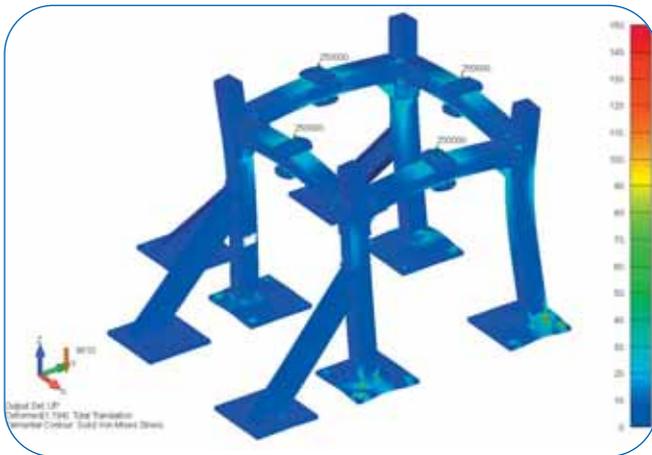


Truck axle testing, bending test with **MOCOKIT® 400** application



Construction of a portal **MOCOKIT® 600**

FEA Calculation



Example for a FEA Calculation

On request, we offer an FE-analysis of your specific test configuration. As mentioned before, we can provide you with customized flange and adaptor plates for all servo-hydraulic actuators available on the market.

MOCOKIT® Available standard sizes:		
Series	Max. Load actuators up to:	Adjustability
MOCOKIT® 25	≈ 25 kN (static) ≈ 18 kN (dynamic)	stepless
MOCOKIT® 65	≈ 65 kN (static)	75mm grid / stepless *
MOCOKIT® 65 SE	≈ 46,8 kN (dynamic)	stepless
MOCOKIT® 250	≈ 250 kN (static)	100mm grid / stepless*
MOCOKIT® 250 SE	≈ 180 kN (dynamic)	stepless
MOCOKIT® 400	≈ 400 kN (static) ≈ 288 kN (dynamic)	200mm grid
MOCOKIT® 600	≈ 600 kN (static) ≈ 500 kN (dynamic)	250mm grid

Cost effective and high quality series manufacturing



Example: Mounting **MOCOKIT®**



Example: Fabrication of a **MOCOKIT®** beam



Example: Weld for a **MOCOKIT®** beam

General description & Application examples

The universal modular construction kit **MOCOKIT®** is an erectorset consisting of beams, supports, brackets, adjustable units and other components.

The system allows nearly flexible and easy mounting of test-rig components in unlimited configurations.

The complete **MOCOKIT®** system is manufactured inhouse of CFM Schiller GmbH.

We manufacture the universal modular construction kit series **MOCOKIT® 65, 65 SE, 250, 250 SE, 400** and **600** as a welded steel structure.

All surfaces are rectangular and parallel to each other and are equipped with bores on the top and bottom and tapped holes on the sides. All not machined surfaces are painted light grey in the colour RAL 7035.

The **MOCOKIT® 25** is made of structural square tubing without threaded holes and is galvanized.

The **MOCOKIT® 65 SE** and **MOCOKIT® 250 SE** (**S**imple **E**dition) are made similar to **MOCOKIT® 65** and **MOCOKIT® 250** but without threaded holes. Fixation through clamping only.

Furthermore **MOCOKIT®** is designed for a first resonance frequency of 8-10 Hz. Please note that significantly higher resonance frequencies can be achieved using specific configurations.

Basic safety measures

Principles of statics and dynamics have to be considered and check in any **MOCOKIT®** application!



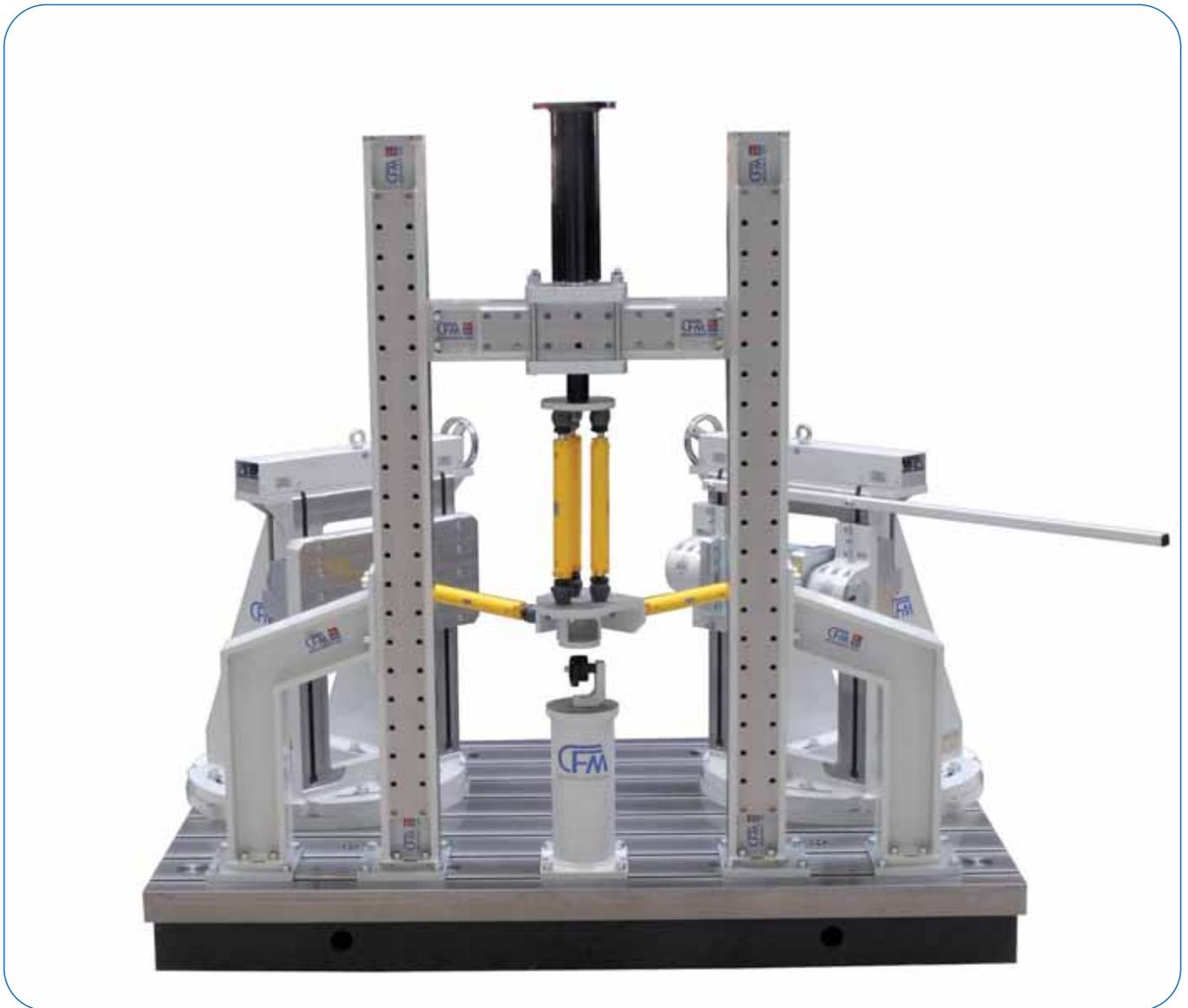
Application with **MOCOKIT® 65**, for 6 degrees of freedom, truck cabin support



A multi axial test configuration with **MOCOKIT® 250**



MOCOKIT® 250 components



MOCOKIT® 250 for 3-axial elastomere test rig

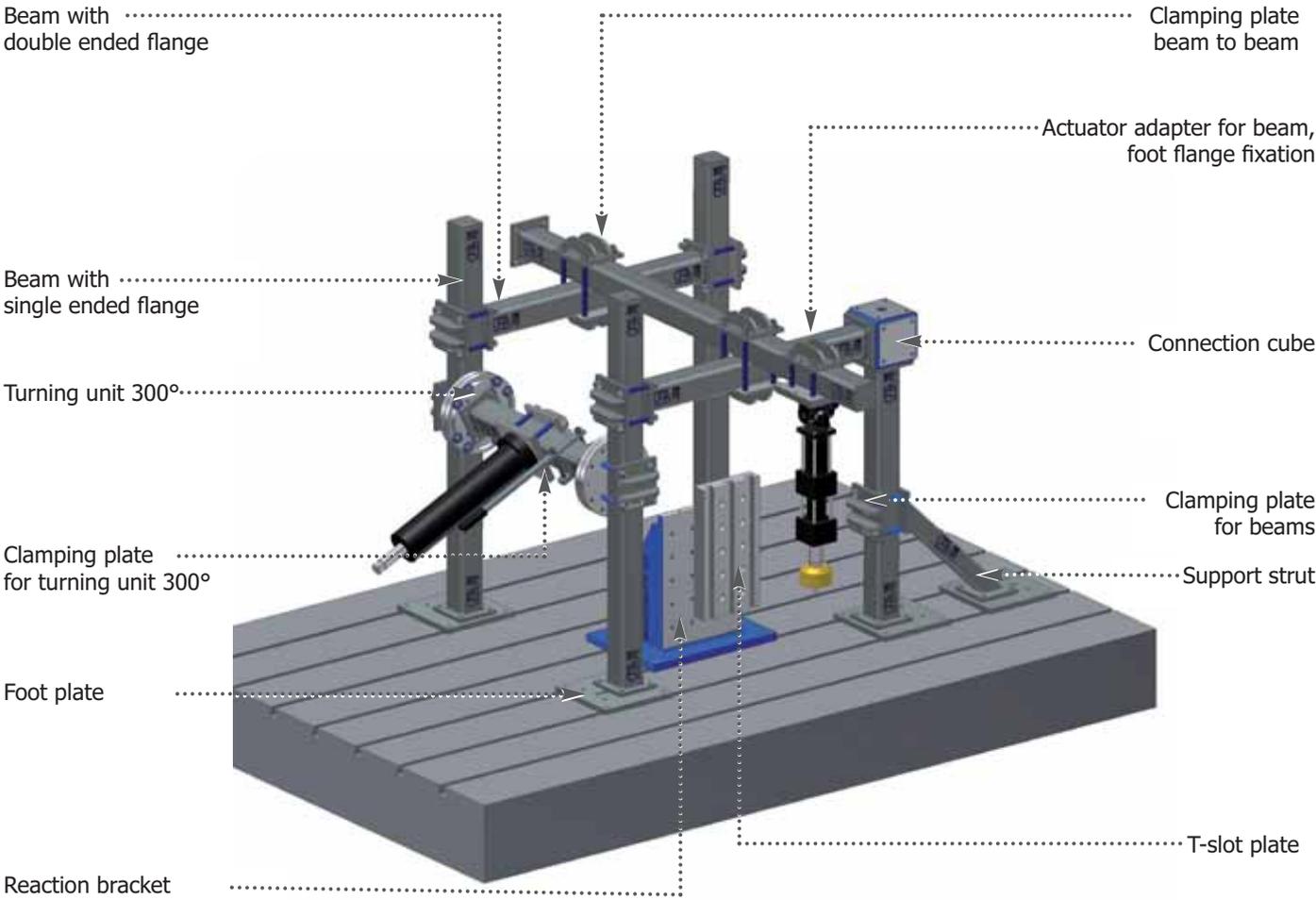


Fixation of height adjustable clamping bracket by means of a bolted connection

MOCOKIT® performs via:

-> Unlimited number of test configurations possible
-> Short re-built times for different test configurations
-> Test configurations vary from single axis test up to multi axis tests
-> All **MOCOKIT®** parts are interchangeable
-> Additional **MOCOKIT®** components can be purchased due to accomodate growing testing needs
-> Choose the **MOCOKIT®** specification suited for your specific range of test load

**Example Test Rig Design
- Component Layout -**



	Beam with single ended flange			
	The Beam with single ended flange is used for vertical column application or horizontal beam. Width x height: 100 x 100mm Mounting plate: 160 x 160mm			
	Application	Sizes [mm] Length	Weight ~ [kg]	Order-No. VPK ...
	Column and lateral beam	1000	29	002 494
		1500	43	000 361
	Column	2000	56	000 360
		2500	70	001 835
3000		84	002 495	
3500		97	002 001	

	Beam with double ended flange			
	The Beam with double ended flange for vertical column application or horizontal beam. Width x height: 100 x 100mm Mounting plate: 160 x 160mm			
	Application	Sizes [mm] Length	Weight ~ [kg]	Order-No. VPK ...
	Column and lateral beam	750	25	002 496
		1000	32	000 362
		1500	45	002 463
	Column	2000	59	002 002
2500		72	001 836	

	Support strut			
	The support strut is used for stiffening of loadframes.			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	Support strut for beams	500 x 160 x 500	16	000 367
610 x 160 x 1000		24	000 526	

 For the fixation of support struts to vertical beams, the clamping plate for beams/support struts [see page 8] is required.

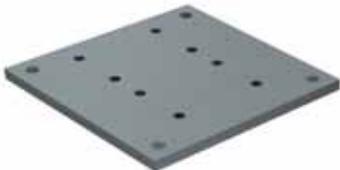
	Turning unit 300°			
	<p>The Turning unit is used for the adjustment of the angles of horizontal beams. Adjustment according to angle scale reading. Every individual application to be checked through CFM.</p>			
	Application	Sizes [mm]	Weight ~ [kg]	Order-No. VPK ...
For beam with double ended flange	Turning unit $\varnothing 300 \times 50$ Hand lever 30 x 600 x 135	54	002 120	
<p> The turning unit to be used in combination with support strut only. A beam with double ended flange is not scope of supply. [see page 7] For the fixation of the turning unit on beams, a clamping plate for the turning unit [see next] is necessary.</p>				

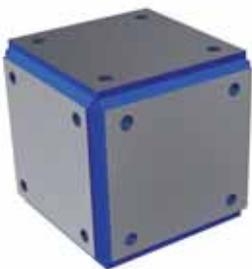
	Clamping plate for turning unit 300°			
	<p>The Clamping plate for turning unit is used for the fixation (clamping) of the turning unit on vertical beams, which are used as columns. Anchor bolt M16</p>			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
For turning unit 300°	180 x 180 x 190	6	000 527	

	Clamping plate for beams / support strut			
	<p>The Clamping plate for beams / support strut is used for the fixation of horizontal beams on vertical beams, which are used as columns. Anchor bolt M16</p>			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
for beams / support strut	180 x 180 x 210	8	000 517	

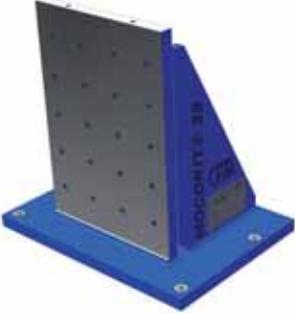
	Clamping plate beam to beam			
	<p>The Clamping plate beam to beam is used for the fixation of a pair of stacked beams. Anchor bolt M16</p>			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
Beam to beam	180 x 180 x 330	12	000 363	

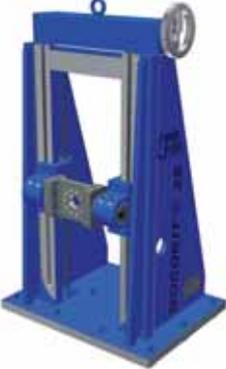
	Actuator adapter for foot flange fixation			
	The Actuator adapter is used for the fixation of the actuators via foot plate fixation. Anchor bolt M16			
	Technical remark	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	-	210 x 210 x 190	15	000 364
 The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.				

	Foot plate			
	The Foot plate is used for the adaption of support struts and beams as columns on a base plate.			
	For T-slots distance [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	350 x 300 x 20	16	000 928
	200	250 x 300 x 20	12	000 929
250	325 x 300 x 20	15	000 365	
individual				000 930

	Connection cube			
	The Connection cube is used for the connection of several beams.			
	Technical remark	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	-	190 x 190 x 190	19	002 094

	T-slot plate			
	The T-slot plate is used for the fixation of actuator or test specimens, it can be secured to the Universal reaction bracket. T-slots DIN 650 to 18H12, T-slots distance: 90mm			
	Technical remark	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	3 T-slots	250 x 500 x 58	47	000 359

	Universal reaction bracket with mounting thread			
	The Universal reaction bracket with mounting thread is used for the fixation of actuators or test specimen. Hole matrix: 90 x 90 mm, thread: M16			
	for T-slots distance [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	550 x 400 x 550	118	003 097
200	003 102			
250	000 366			
 For the fixation of actuators or test specimens a T-slot plate is necessary [see page 9].				

	Reaction bracket with vertical adjustment for turnable actuators				
	The Reaction bracket with vertical adjustment for turnable actuators is used for the horizontal clamping of actuator. The actuator is rotatable in a range of $\pm 25^\circ$ at middle height. Minimal position: 250 mm				
	For T-slots distance [mm]	Height adjustment range [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	± 350	820 x 625 x 1410	522	003 096
200	003 101				
250	002 093				
 The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.					

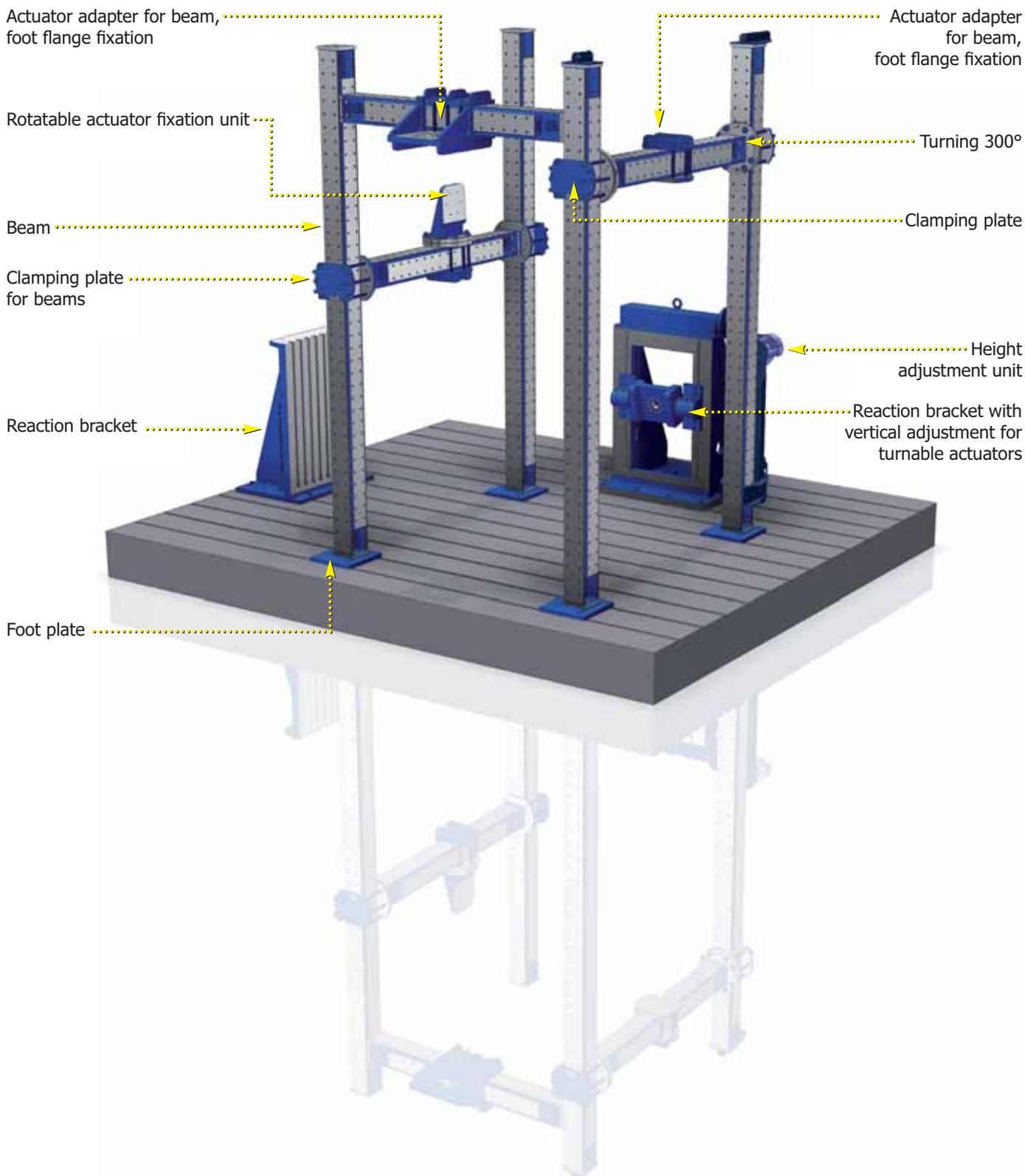
	Reaction bracket with vertical adjustment				
	The Reaction bracket with vertical adjustment is used for the horizontal clamping of actuator. Minimal position: 250 mm				
	For T-slots distance [mm]	Height adjustment range [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	± 350	625 x 820 x 1410	501	003 098
200	003 103				
250	002 882				
 The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.					

	Reaction bracket with vertical adjustment for turnable actuators on rotation plate				
	The Reaction bracket with vertical adjustment for turnable actuators on rotation plate is used for the horizontal clamping of actuator. The turning adjustment range is 90°. The actuator is rotatable in a range of ±25° at middle height. Minimal position: 250 mm				
	for T-slots distance [mm]	Height adjusting range [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	± 350	Ø 1170 x 1450	973	003 099
200	003 104				
250	002 902				
 The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.					

	Reaction bracket with vertical adjustment on rotation plate				
	The Reaction bracket with vertical adjustment on rotation plate is used for the horizontal clamping of hydraulic actuator. The turning adjustment range is 90°. Minimal: 250 mm				
	for T-slots distance [mm]	Height adjusting range [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	± 350	Ø 1170 x 1450	953	003 100
200	003 105				
250	002 901				
 The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.					

Mounting material			
	Description	Details	Order-No. VPK ...
	Collar nut	DIN 6331 M16 Property class 10	VKT 000 410
	T-slot nut	DIN 508 M16 x 18 M16 x 22	see page 52
	Socket head cap screw	DIN EN ISO 4762 M16 Property class 10.9	see page 52

**Example Test Rig Design
- Component Layout -**



Beam with mounting thread			
 <p>The Beam with mounting thread is used for vertical column application or horizontal beam. Width x height: 155 x 155 mm Hole matrix: 75 x 75 mm, thread: M16</p>			
Column and lateral beam	600	45	003 341
	750	61	000 284
	1050	88	000 285
	1500	130	000 286
Column	2250	198	000 287
	2550	225	001 627
	3000	267	001 426
	3750	328	001 424
	4500	395	002 300

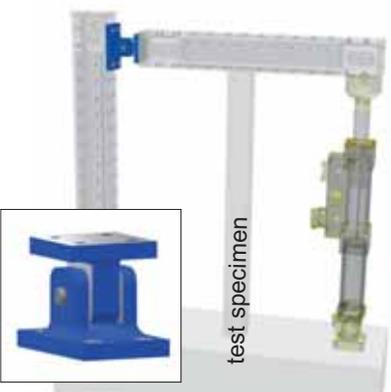
Beam without mounting thread (SE-Design)			
 <p>The Beam without mounting thread is used for vertical column application or horizontal beam. Width x height: 155 x 155 mm</p>			
Application	Sizes Length [mm]	Weight ~ [kg]	Order-No. VPK ...
Column and lateral beam	600	46	003 342
	750	62	001 623
	1050	88	001 624
	1500	132	001 625
Column	2250	212	001 626
	2550	232	001 425
	3000	275	001 667
	3750	346	001 427
	4500	417	002 301

 For fixation purpose of steel beam to steel beam **SE**-type, the clamping flange for beams [see page 17] needs to be used.

	Support strut for beams with mounting thread			
	The Support strut for beams with mounting thread is used for stiffening of load frames. Width: 180mm			
	Application	Sizes [mm] Length x height	Weight ~ [kg]	Order-No. VPK ...
	for 1050mm beam	508 x 845	76	003 172
	for 1500mm beam	508 x 1295	104	003 173
	for 2250mm beam	708 x 2045	162	003 174
	for 2550mm beam	708 x 2345	181	003 175
	for 3000mm beam	708 x 2795	210	003 176
	for 3750mm beam	908 x 3545	267	003 177
for 4500mm beam	908 x 4295	315	003 178	

	Support strut for beams without mounting thread (<i>SE</i>-Design)			
	The Support strut for beams without mounting thread is used for stiffening of load frames. Width: 280mm			
	Application	Sizes Length [mm]	Weight ~ [kg]	Order-No. VPK ...
	for 1050mm beam	508 x 845	99	003 179
	for 1500mm beam	508 x 1295	130	003 108
	for 2250mm beam	708 x 2045	139	003 181
	for 2550mm beam	708 x 2345	187	003 182
	for 3000mm beam	708 x 2795	234	003 183
	for 3750mm beam	908 x 3545	291	003 184
for 4500mm beam	908 x 4295	339	003 185	

 For the fixation of support struts to vertical beams of *SE*-type, the clamping flange for beams [see page 17] is required.

	Pivot joint for straight beam			
	The Pivot joint for straight beam is used for the connection of straight beams and vertical columns. To be used under the condition of: Max. Load: 50 kN The specimen to be fixed in the center of the straight beam. The actuator to be fixed at one end of the straight beam.			
	For length of lateral beam max. [mm]	Sizes Length [mm]	Weight ~ [kg]	Order-No. VPK ...
2550	125 x 200 x 150	12	003 522	

 Max. Load: 50 kN

	Stiffening bracket 45°			
	The Stiffening bracket is used for stiffening purpose of load frames, especially for cantilever arm application.			
	Technical remark	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
-	550 x 155 x 550	43	000 293	

	Support angle 90°			
	The Support angle is used for stiffening purpose of load frames, especially for cantilever arm application.			
	Technical remark	Sizes Length [mm]	Weight ~ [kg]	Order-No. VPK ...
-	161 x 153 x 170	7	000 294	

	Angle section (pair)			
	The Angle section is used for the diagonal application for beams as stiffening strut. Can be used as stiffener support as well.			
	Description	Sizes Length [mm]	Weight ~ [kg]	Order-No. VPK ...
	Angle section 45° + 45°	each 171x155x212	each 14	002 079
Angle section 22,5° + 67,5°	160 x 155 x 360 175 x 155 x 185	18 15	002 080	

	Turning unit 300°			
	The Turning unit is used for the adjustment of the angles of horizontal beam or cross beam. Adjustment according to angle scale reading. Every individual application to be checked through CFM.			
	Application	Sizes [mm]	Weight ~ [kg]	Order-No. VPK ...
	for beam	Turning unit each \varnothing 300x50 hand lever 36x600x21	54	002 118
for cross beam	Turning unit each \varnothing 450x50 hand lever 36x600x21	124	002 104	



The turning unit to be used in combination with support strut only. For the fixation of the turning unit to vertical beams without mounting thread or for stepless height adjustment, the clamping plate [see page right] is required.

	Clamping plate			
	<p>The clamping plate is used for the fixation of the turning unit and braces on vertical beams of SE-type, which are used as column. Anchor bolt M16</p>			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	for beam	280 x 210 x 250	16	000 910
for cross beam	270 x 320 x 250	21	002 434	

	Clamping plate			
	<p>The Clamping plate is used for the fixation of a pair of stacked beams. Anchor bolt M16</p>			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	for beam to beam	210 x 280 x 450	28	000 525
	for beam to cross beam	210 x 280 x 605	30	002 218
for cross beam to cross beam	210 x 280 x 760	32	002 407	

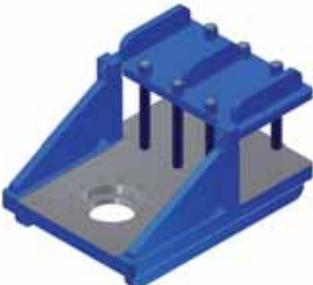
	Clamping flange (pair)			
	<p>The Clamping flange is used for the fixation of horizontal beams or cross beams on vertical beams of SE-type, which are used as column. Anchor bolt M16</p>			
	Application	Sizes [mm] Diameter x Length	Weight ~ [kg]	Order-No. VPK ...
	for beam	each 300 x 250	each 29	001 657
for cross beam	each 400 x 250	each 37	002 090	

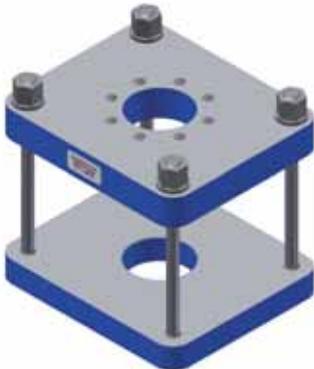
	Height adjustment unit				
	<p>The height adjustment unit is used for vertical adjustment of beams or cross beams, i.e. in case of non-availability of a roof crane. Step- or stepless adjustment according to specification.</p>				
	Application	Load max. [kg]	Technical remark	Weight ~ [kg]	Order-No. VPK ...
	Stepless via crank lever bracket	500	The vertical adjustment unit with crank lever bracket enables the full height adjustment of lateral beams and beams.	55	002 927
Stepless	Min. distance between clamping flange and manual winch: 850mm		35	002 928	
Step adjustment	Adjustment in the fixation grid		34	002 621	
<p> For stepless adjustment, the clamping plate for beam [VPK 001 657] needs to be applied. For stepless adjustment, the clamping plate for cross beam [VPK 002 090] needs to be applied.</p>					

	Actuator fixation for foot flange adaption			
	<p>The Actuator fixation is used for the fixation of the hydraulic actuators via base plate fixation. Anchor bolt M16</p>			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
for beams	280 x 210 x 250	26	000 298	
for cross beam	280 x 210 x 405	28	002 217	
<p> The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.</p>				

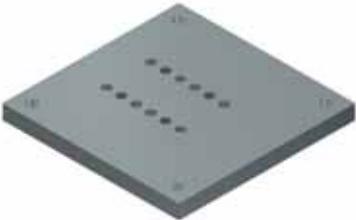
	Rotatable actuator fixation unit			
	<p>The Rotatable actuator fixation unit is used for angle adjustment of actuator mounted on a beam or cross beam via base plate fixation. The adjustment according to angle scale reading. The horizontal adjustment is stepless. Anchor bolt M16 Every individual application to be checked through CFM.</p>			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
for beam	590 x 300 x 300	62	001 003	
for cross beam	890 x 450 x 450	99	002 408	
<p> The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.</p>				
<p> The Rotatable actuator fixation unit is used in combination with support strut only.</p>				

	Actuator fixation unit for head flange			
	The Actuator fixation unit for head flange is used for the fixation of an actuator via head flange fixation. Stepless or step-fixation according to specification.			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	for beam	590 x 300 x 300	62	002 423
	for cross beam	620 x 400 x 440	70	002 424
 The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.				

	Actuator fixation unit via head flange (stepless)			
	The Actuator fixation unit is used for the fixation of actuators via head flange fixation. Anchor bolt M16			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	for beam	360 x 500 x 308	80	003 287
	for cross beam	360 x 500 x 463	91	003 288
 The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.				

	Actuator fixation unit via head flange with guidance			
	The Actuator fixation unit is used for the fixation of actuators via head flange fixation. The horizontal adjustment is stepless. Anchor bolt M16			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	for beam	280 x 210 x 230	20	003 289
	for cross beam	280 x 210 x 390	23	003 290
 Note: The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.				

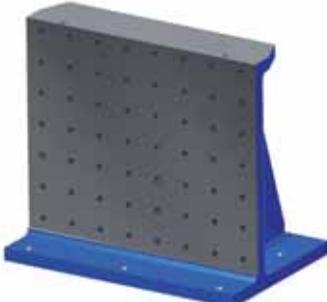
	Actuator plate for actuator fixation			
	The Actuar plate is used for actuator fixation via base plate fixation.			
	for T-slots distance [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	400 x 400 x 25	31	003 282
	200	500 x 500 x 25	49	003 283
250	600 x 600 x 25	70	003 284	
 The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.				

	Foot plate			
	The Foot plate is used for the adaption of support struts (as columns) on a base plate.			
	for T-slots distance [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	350 x 250 x 25	17	000 300
	200	300 x 250 x 25	15	000 301
250	300 x 300 x 25	18	000 302	
individual			000 288	

	Connection cube			
	The Connection cube is used to connect several beams.			
	Technical remark	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	-	155 x 155 x 155	12	002 081

	Spacer (pair)				
	The Spacer is used for the adjustment of beams or cross beams.				
	Application	Adjustment [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	for beam	50	each 155 x 155 x 25	each 5	001 648
		100	each 155 x 155 x 50	each 9	001 649
	for cross beam	50	each 155 x 310 x 25	each 10	003 054
100		each 155 x 310 x 50	each 18	003 055	

	Universal reaction bracket with T-slots			
	The Universal reaction bracket with T-slots is used for the fixation of actuator or test specimens. T-slots: 18H12 nach DIN 650 T-slots distance: 75 mm			
	for T-slots distance [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	600 x 400 x 550	230	003 106
	200			003 118
	250			001 807
	150	750 x 550 x 1 055	518	003 107
200	003 119			
250	001 808			
 For the fixation of actuators or test specimens a T-slot plate or an actuator plate [see page 20 or 23] is necessary.				

	Universal reaction bracket with mounting thread			
	The Universal reaction bracket with mounting thread is used for the fixation of actuator or test specimens. Hole matrix: 75 x 75 mm, Thread: M16			
	for T-slots distance [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	600 x 400 x 550	170	003 108
	200			003 120
	250			000 305
	150	750 x 550 x 1 055	412	003 109
200	003 121			
250	000 306			
 For the fixation of actuators or test specimens a T-slot plate or an actuator plate [see page 20 or 23] is necessary.				

	Reaction bracket with vertical adjustment for turnable actuators				
	The Reaction bracket with vertical adjustment for turnable actuators is used for the horizontal clamping of actuator. The actuator is rotatable in a range of $\pm 25^\circ$ at middle height. Minimal position: 350 mm				
	for T-slots distance [mm]	Height adjustment range [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	± 250	800 x 800 x 1 311	800	003 110
	200				003 122
	250				002 904
	150	± 500	1 000 x 1 000 x 1 810	943	003 114
200	003 126				
250	002 911				
 The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.					

	Reaction bracket with vertical adjustment				
	The Reaction bracket with vertical adjustment is used for the horizontal clamping of actuator. Minimal position: 350 mm				
	for T-slots distance [mm]	Height adjustment range [mm]	Length x width x height [mm]	Weight ~ [kg]	Order-No. VPK ...
	150	±250	800 x 800 x 1311	731	003 111
	200				003 123
	250				002 903
	150	±500	850 x 850 x 1810	930	003 115
200	003 127				
250	002 912				
 The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.					

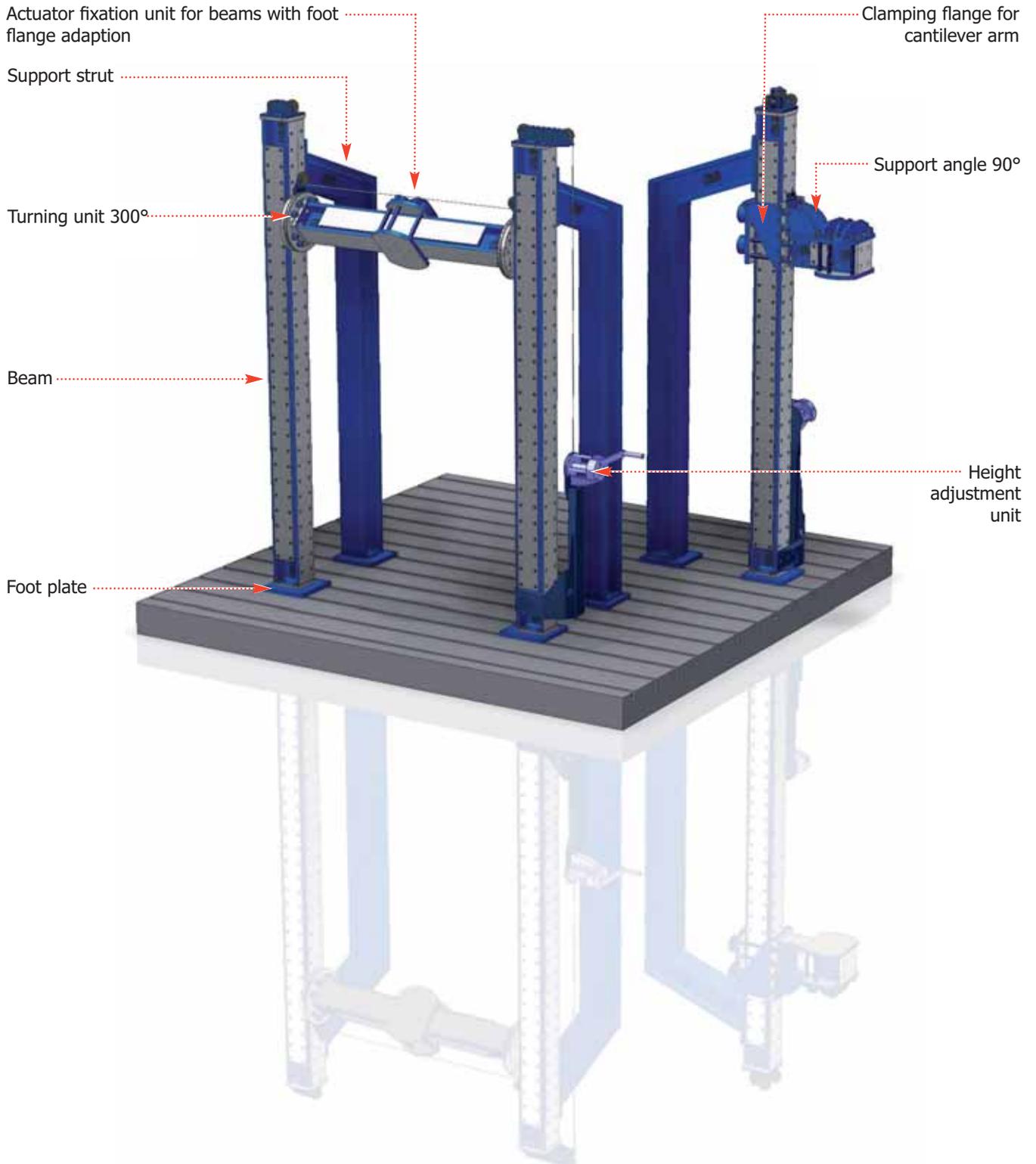
	Reaction bracket with vertical adjustment for turnable actuators on rotation plate				
	The Reaction bracket with vertical adjustment for turnable actuators on rotation plate is used for the horizontal clamping of actuator. The turning adjustment range is 90°. The actuator is rotatable in a range of ±25° at middle position. Minimal position: 350 mm				
	for T-slots distance [mm]	Height adjustment range [mm]	Sizes [mm] diameter x height	Weight ~ [kg]	Order-No. VPK ...
	150	±250	Ø 1170 x 1300	1200	003 112
	200				003 124
	250				002 906
	150	±500	Ø 1270 x 1800	1700	003 116
200	003 128				
250	002 913				
 The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.					

	Reaction bracket with vertical adjustment on rotation plate				
	The Reaction bracket with vertical adjustment on rotation plate is used for the horizontal clamping of actuator. The turning adjustment range is 90°. Minimal position: 350 mm				
	for T-slots distance [mm]	Height adjustment range [mm]	Sizes [mm] diameter x height	Weight ~ [kg]	Order-No. VPK ...
	150	±250	Ø 1170 x 1300	1000	003 113
	200				003 125
	250				002 905
	150	±500	Ø 1270 x 1800	1500	003 117
200	003 129				
250	002 914				
 The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.					

	T-slot plate				
	The T-slot plate is used for the fixation of actuator or test specimens. It can be secured to the universal reaction bracket. T-slot: 18H12 to DIN 650 T-slots distance: 75 mm				
	Description	Technical remark	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	small	3 T-slots	500 x 300 x 58	56	000 303
	large	9 T-slots	1 000 x 750 x 58	274	000 304

Mounting material				
	Description	Technical remark	Details	Order-No. VPK ...
	Handling bar with ring eye bolt	For the safe transport and handling of beams via crane.	160 x 50 x 200 mm	000 520
	Collar nut	-	DIN 6331 - M16 Property class 10	VKT 000 410
	T-slot nut	-	DIN 508 M16 x 18 / 22 / 28	see page 52
	Socket head cap screw	-	DIN EN ISO 4762 - M16 Property class 10.9	see page 52

**Example Test Rig Design
- Component Layout 1 -**



**Example Test Rig Design
- Component Layout 2 -**

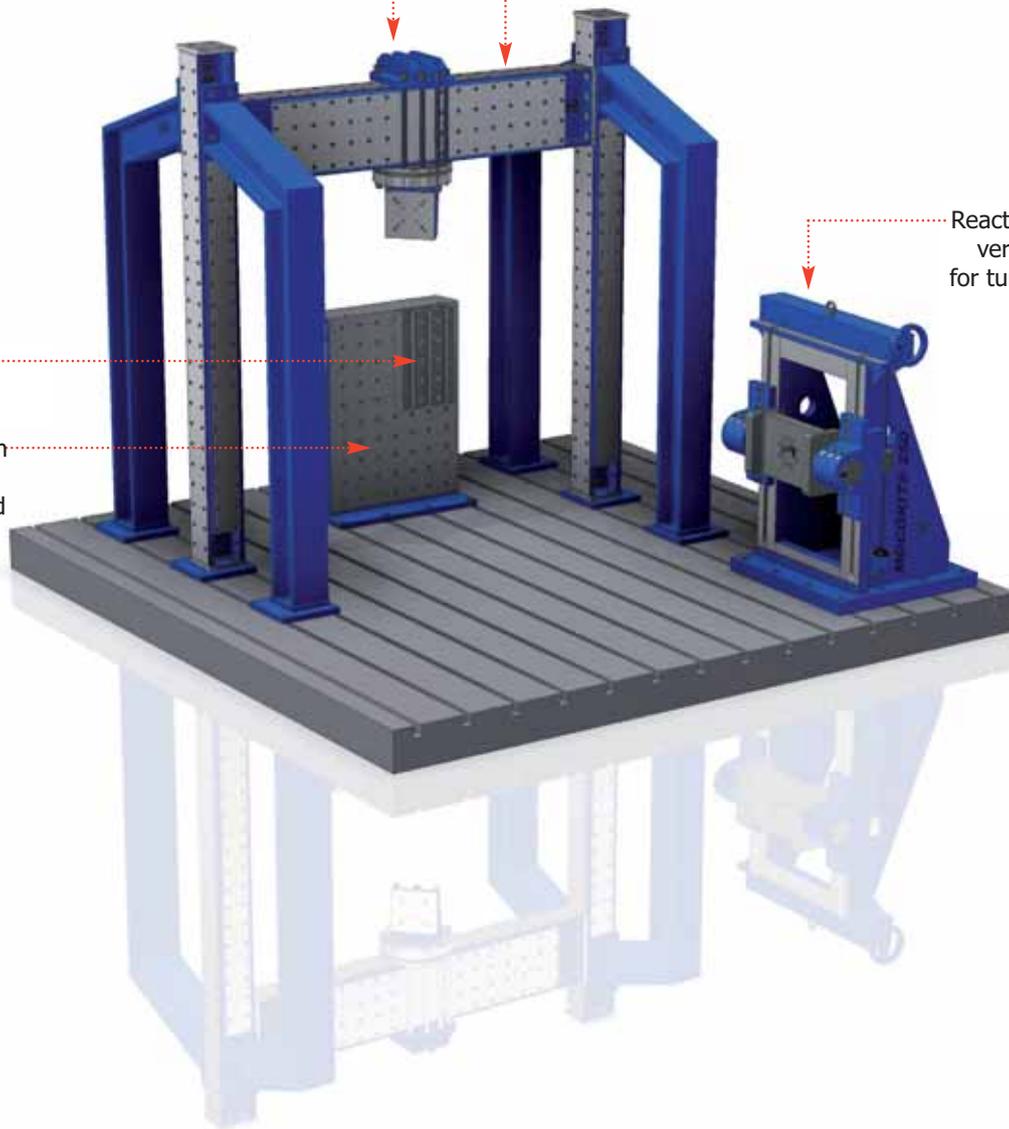
Cross beam

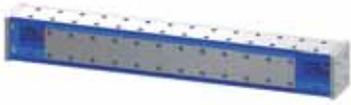
Rotatable actuator
fixation unit

T-slot plate

Universal reaction
bracket with
mounting thread

Reaction bracket with
vertical adjustment
for turnable actuators



Beam with mounting thread							
				The Beam with mounting thread is used for vertical column application or horizontal beam. Width x height: 195 x 195 mm, Hole matrix: 100 x 100 mm, Thread: M24			
				Application	Sizes Length [mm]	Weight ~ [kg]	Order-No. VPK ...
Column and lateral beam	500	58	000 314				
	1 000	126	000 315				
Column	1 500*	195	000 316				
	2 000	264	000 317				
	2 500	332	000 318				
	3 000	401	001 788				
	3 500	470	001 789				
	4 500	607	001 790				
	5 500	744	002 234				
 * To be used as lateral beam with max. static load 160 kN							

Beam without mounting thread (SE -Design)							
				The Beam without mounting thread is used for vertical column application or horizontal beam. Width x height: 195 x 195 mm			
				Application	Sizes Length [mm]	Weight ~ [kg]	Order-No. VPK ...
Column and lateral beam	500	62	001 633				
	1 000	134	001 634				
Column	1 500*	202	001 635				
	2 000	274	001 636				
	2 500	345	001 637				
	3 000	417	001 791				
	3 500	488	001 792				
	4 500	630	001 793				
	5 500	774	002 237				
 For fixation purpose of steel beam to steel beam SE -type, the clamping flange for beams [see page 30] needs to be used. * To be used as lateral beam with max. static load 160 kN							

Lateral beam with guidance for actuator							
				The Lateral beam with guidance for actuator is used for vertical column application or horizontal beam. Width x height: 195 x 195 mm Hole matrix: 100 x 100mm Width of guidance slot: 100mm Thread: M24			
				Max. traverse path [mm]	Sizes Length [mm]	Weight ~ [kg]	Order-No. VPK ...
600	1 000	114	002 931				
1 000	1 500*	162	002 932				
 For fixation purpose of steel beam to steel beam SE -type, the clamping flange for beams [see page 30] needs to be used. Piston rod enlargement necessary. * To be used as lateral beam with max. static load 160 kN							

Support strut for beams with mounting thread							
				<p>The Support strut for beams with mounting thread is used for stiffening of load frames. Width: 200mm</p>			
				Application	Sizes (mm) Length x Height	Weight ~ (kg)	Order-No. VPK ...
				for 1 000mm beam	558 x 840	99	000 322
				for 1 500mm beam	558 x 1 340	144	003 189
				for 2 000mm beam	558 x 1 840	188	003 190
				for 2 500mm beam	758 x 2 340	245	003 192
				for 3 000mm beam	758 x 2 840	289	003 193
				for 3 500mm beam	958 x 3 340	347	003 194
				for 4 500mm beam	958 x 4 340	435	003 195
				for 5 500mm beam	958 x 5 340	529	003 196

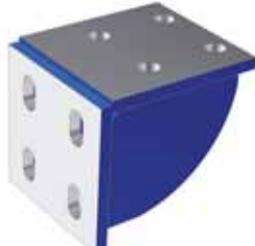
Support strut for beams without mounting thread (SE -Design)							
				<p>The Support strut for beams without mounting thread is used for stiffening of load frames. Width: 370mm</p>			
				Application	Sizes (mm) Length x Height	Weight ~ (kg)	Order-No. VPK ...
				for 1 000mm beam	558 x 840	110	003 197
				for 1 500mm beam	558 x 1 340	155	003 198
				for 2 000mm beam	558 x 1 840	199	003 199
				for 2 500mm beam	758 x 2 340	256	003 201
				for 3 000mm beam	758 x 2 840	300	003 202
				for 3 500mm beam	958 x 3 340	357	003 203
				for 4 500mm beam	958 x 4 340	446	003 204
				for 5 500mm beam	958 x 5 340	535	003 205



For the fixation of support struts to beams of **SE**-type, the clamping flange for beams [see page 30] is required.

	<h3>Pivot joint for straight beam</h3> <p>The Pivot joint for straight beam is used for the connection of straight beams and vertical columns.</p> <p>To be used under the condition of:</p> <p>Max. Load: 100 kN The specimen to be fixed in the center of the straight beam. The actuator to be fixed at one end of the straight beam.</p>			
	for length of lateral beam max. [mm]	Sizes Length [mm]	Weight ~ [kg]	Order-No. VPK ...
2500	150 x 250 x 200	27	003 523	
 Max. Load: 100 kN				

	<h3>Stiffening bracket 45°</h3> <p>The Support angle 45° is used for stiffening purpose of MOCOKIT® 250 load frames, especially for cantilever arm application.</p>			
	Description	Sizes [mm] Length x width x height	Weight ~ (kg)	Order-No. VPK ...
-	585 x 200 x 560	73	000 319	

	<h3>Support angle 90°</h3> <p>The Support angle 90° is used for stiffening purpose of MOCOKIT® 250 load frames, especially for cantilever arm application.</p>			
	Description	Sizes [mm] Length x width x height	Weight ~ (kg)	Order-No. VPK ...
-	245 x 193 x 201	14	000 320	

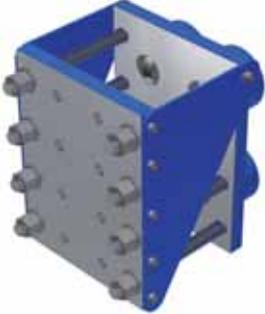
	<h3>Angle section (pair)</h3> <p>The Angle section is used for the diagonal application for beams as stiffening strut. Can be used as stiffener support as well.</p>			
	Description	Sizes [mm] Length x width x height	Weight ~ (kg)	Order-No. VPK ...
	Angle section 45° + 45°	each 211 x 195 x 302	each 26	002 097
Angle section 22,5° + 67,5°	200 x 195 x 388 220 x 195 x 249	27 30	002 098	

	Turning unit 300°			
	<p>The Turning unit is used for the adjustment of the angles of horizontal beam or cross beam. Adjustment according to angle scale reading. Every individual application to be checked through CFM.</p>			
	Application	Sizes [mm]	Weight ~ [kg]	Order-No. VPK ...
	for beam	turning unit each $\varnothing 370 \times 50$ hand lever 40 x 805 x 336	86	002 119
for cross beam	turning unit each $\varnothing 565 \times 80$ hand lever 40 x 1505 x 488	306	002 103	
<p> The turning unit to be used in combination with support strut only. For the fixation of the turning unit to vertical beams without mounting thread or for stepless height adjustment, the clamping plate [see page right] is required.</p>				

	Clamping plate			
	<p>The Clamping plate is used for the fixation of the turning unit and braces on vertical beams without mounting thread which are used as column. Anchor bolt M24</p>			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	for beam	275 x 380 x 335	36	001 007
for cross beam	400 x 350 x 335	45	002 270	

	Clamping plate			
	<p>The Clamping plate is used for the fixation of a pair of stacked beams or cross beam. Anchor bolt M24</p>			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	for beam to beam	380 x 275 x 620	65	000 753
	for beam to cross beam	380 x 275 x 815	68	002 235
for cross beam to cross beam	380 x 275 x 1 010	72	002 209	

	Clamping flange for beam / cross beam (pair)			
	<p>For the fixation of horizontal beams and cross beams on vertical beams of SE-type, which are used as column. Anchor bolt M24</p>			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	for beam	each 380 x 340 x 370	each 61	001 658
for cross beam	each 340 x 350 x 459	each 76	001 979	

	Clamping and adjustment unit for cantilever arm			
	The Clamping and adjustment unit is used for the fixation of cantilever arms. Cantilever arm: Beam 500mm with Support angle 90° Anchor bolt: M24			
	Technical remark	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	-	370 x 310 x 400	93	003 214

	Height adjustment unit for cantilever arm			
	The Height adjustment unit is used for vertical adjustment (stepless) of cantilever arms.			
	Technical remark	Load max. [kg]	Weight ~ [kg]	Order-No. VPK ...
	The adjustability is possible on full rope length.	500	52	003 215

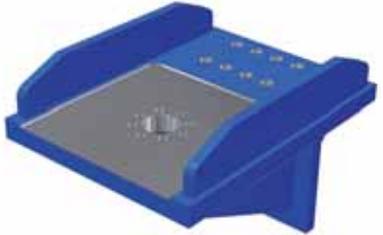
	Height adjustment unit				
	The Height adjustment unit is used for vertical adjustment of beams or cross beams, i.e. in case of non-availability of a roof crane. Step- or stepless adjustment according to specification.				
	Application	Load max. [kg]	Technical remark	Weight ~ [kg]	Order-No. VPK ...
	stepless via crank lever bracket	1 600	The vertical adjustment unit with crank lever bracket enables the full height adjustment of lateral beams and beams.	63	002 934
	stepless		Min. distance between clampingflange and manual winch: 850mm	44	002 935
step adjustment	Adjustment in the fixation grid		44	002 622	



For stepless adjustment, the clamping plate for beams [see page 30] needs to be applied.
 For stepless adjustment, the clamping plate for cross beams [see page 30] needs to be applied.

	<h3>Actuator fixation for foot flange adaption</h3>			
	<p>The Actuator fixation is used for the fixation of the hydraulic actuators via base plate fixation. The horizontal adjustment is stepless. Anchor bolt M24</p>			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	for beam	380 x 275 x 340	58	000 324
	for cross beam	380 x 275 x 535	63	000 337
<p>i The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.</p>				

	<h3>Rotatable actuator fixation unit</h3>			
	<p>The Rotatable actuator fixation unit is used for angle adjustment of actuator mounted on a beam or cross beam via base plate fixation. Adjustment according to angle scale reading. The horizontal adjustment is stepless. Anchor bolt M24 Installation of Rotatable actuator fixation unit under following requirements only: Max. Load: 100 kN</p>			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	for beam	405 x 380 x 690	167	001 004
	for cross beam	405 x 380 x 885	175	002 452
<p>i The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.</p>				
<p>! Max. Load: 100 kN The rotatable actuator fixation is used in combination with support strut only.</p>				

	<h3>Actuator fixation unit for head flange</h3>			
	<p>The Actuator fixation unit is used for the fixation of actuator via head flange mounting. Installation of actuator fixation unit for head flange under following requirements only: Max. Load: 100 kN</p>			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	for beam	550 x 420 x 325	98	002 116
	for cross beam	550 x 420 x 520	122	002 368
<p>i The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.</p>				
<p>! Max. Load: 100 kN</p>				



Actuator fixation unit via head flange (stepless)

The Actuator fixation unit is used for the fixation of actuators via head flange fixation. The horizontal adjustment is stepless.

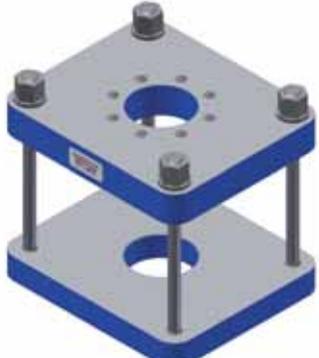
Anchor bolt M24

Installation of actuator fixation unit via head flange under following requirements only:
Max. Load: 100 kN

Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
for beam	360 x 590 x 348	103	003 297
for cross beam	650 x 420 x 520	120	003 298

i The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.

! Max. Load: 100 kN



Actuator fixation unit via head flange with guidance

The Actuator fixation unit is used for fixation of actuators via head flange fixation. The horizontal adjustment is stepless.

Anchor bolt: M24

Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
for beam	335 x 335 x 335	63	003 300
for cross beam	335 x 335 x 485	64	003 301

i The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.

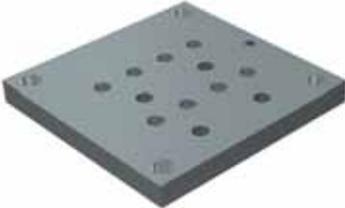


Actuator plate for actuator flange

The Actuar plate is used for fixation of actuator on a universal reaction bracket or on a base plate via base plate fixation.

for T-slots distance [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
150	400 x 400 x 30	37	003 292
200	500 x 500 x 30	58	003 293
250	600 x 600 x 30	84	003 294

i The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.

	Foot plate			
	The Foot plate is used for the adaption of support struts and beams (as columns) on a base plate.			
	for T-slots distance (mm)	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	350 x 350 x 30	28	000 326
	200	450 x 350 x 30	36	000 327
	250	300 x 300 x 30	20	000 328
individual			000 334	

	Connection cube			
	The connection cube is used to connect several beams.			
	Technical remark	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	-	195 x 195 x 195	24	002 099

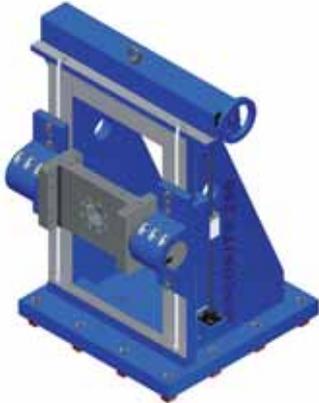
	Spacer (pair)				
	The Spacer is used for adjustment of beams or cross beams.				
	Application	Adjustment [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	for beam	50	each 195 x 195 x 25	each 7	001 650
		100	each 195 x 195 x 50	each 14	001 651
	for cross beam	50	each 195 x 390 x 25	each 14	003 056
100		each 195 x 390 x 50	each 28	003 057	

	Universal reaction bracket with T-slots			
	The Universal reaction bracket is used for the fixation of actuator or test specimens. T-slots DIN 650 28H12, T-slots distance: 100mm			
	for T-slots distance [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	800 x 550 x 550	327	003 130
	200			003 134
	250			001 800
	150	800 x 580 x 1055	628	003 131
200	003 135			
250	001 801			

 For the fixation of actuators or test specimens a T-slot plate [see page 37] or an actuator plate [see page 33] is necessary.

	Universal reaction bracket with mounting thread			
	The Universal reaction bracket is used for the fixation of actuator or test specimens. Hole matrix: 100 x 100mm, thread: M24			
	for T-slots distance [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	800 x 550 x 550	240	003 132
	200			003 136
	250			000 331
	150	800 x 580 x 1055	429	003 133
200	003 137			
250	000 332			

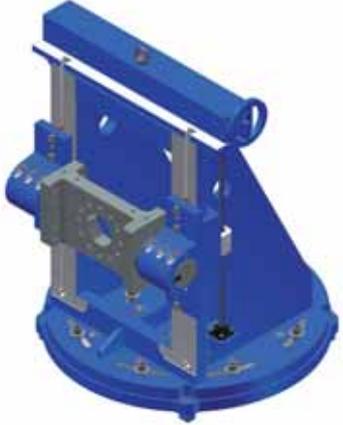
 For the fixation of actuators or test specimens a T-slot plate [see page 37] or an actuator plate [see page 33] is necessary.

	Reaction bracket with vertical adjustment for turnable actuators				
	The Reaction bracket is used for the horizontal clamping of actuator. The actuator is rotatable in a range of ±25° at middle height. Minimal position: 400 mm				
	for center space [mm]	Height adjustment range [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	±250	1060 x 850 x 1420	1.210	003 138
	200				003 142
	250				002 102
	150	±500	1000 x 1000 x 1900	1.405	003 146
200	003 150				
250	002 915				

 The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.

	Reaction bracket with vertical adjustment				
	The Reaction bracket is used for the horizontal clamping of actuator. Minimal position: 400 mm				
	for T-slot distance [mm]	Height adjustment range [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	±250	1060 x 850 x 1420	1355	003 139
200	003 143				
250	002 907				
150	±500	1000 x 1000 x 1900	1400	003 147	
200				003 151	
250				002 916	

i The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.

	Reaction bracket with vertical adjustment for turnable actuators on rotation plate				
	The Reaction bracket is used for the horizontal clamping of actuator. The turning adjustment range is 90°. The actuator is rotatable in a range of ±25° at middle height. Minimal position: 400 mm				
	for T-slot distance [mm]	Height adjustment range [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	±250	ø1147 x 1450	1565	003 140
200	003 144				
250	002 908				
150	±500	ø1147 x 1950	1769	003 148	
200				003 152	
250				002 917	

i The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.

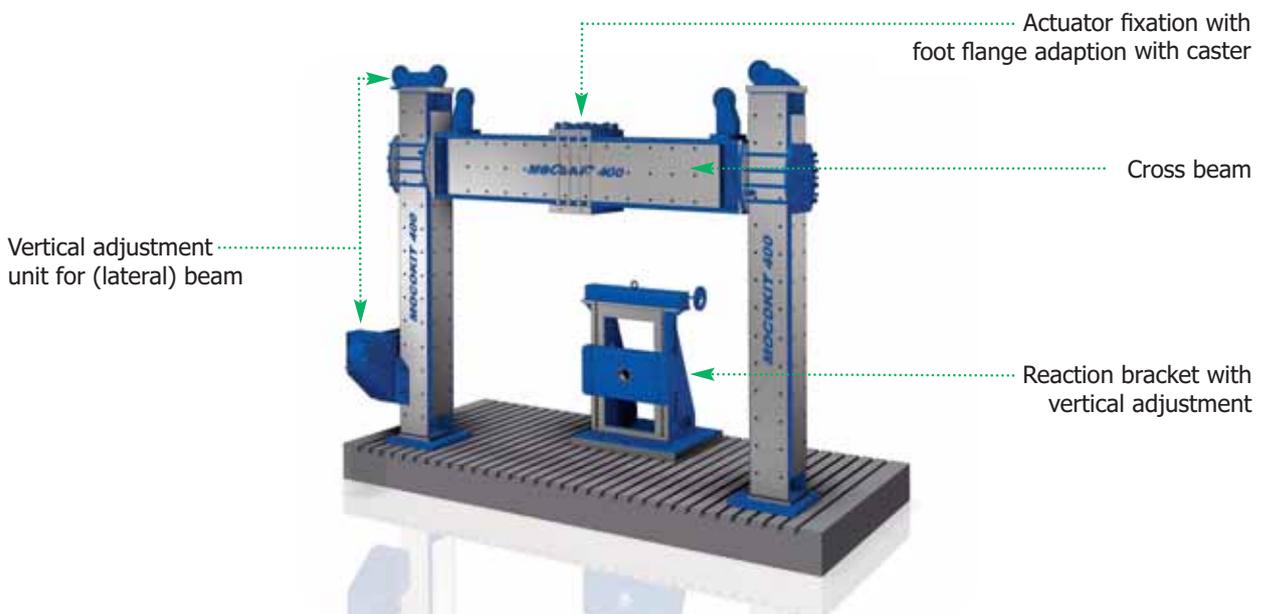
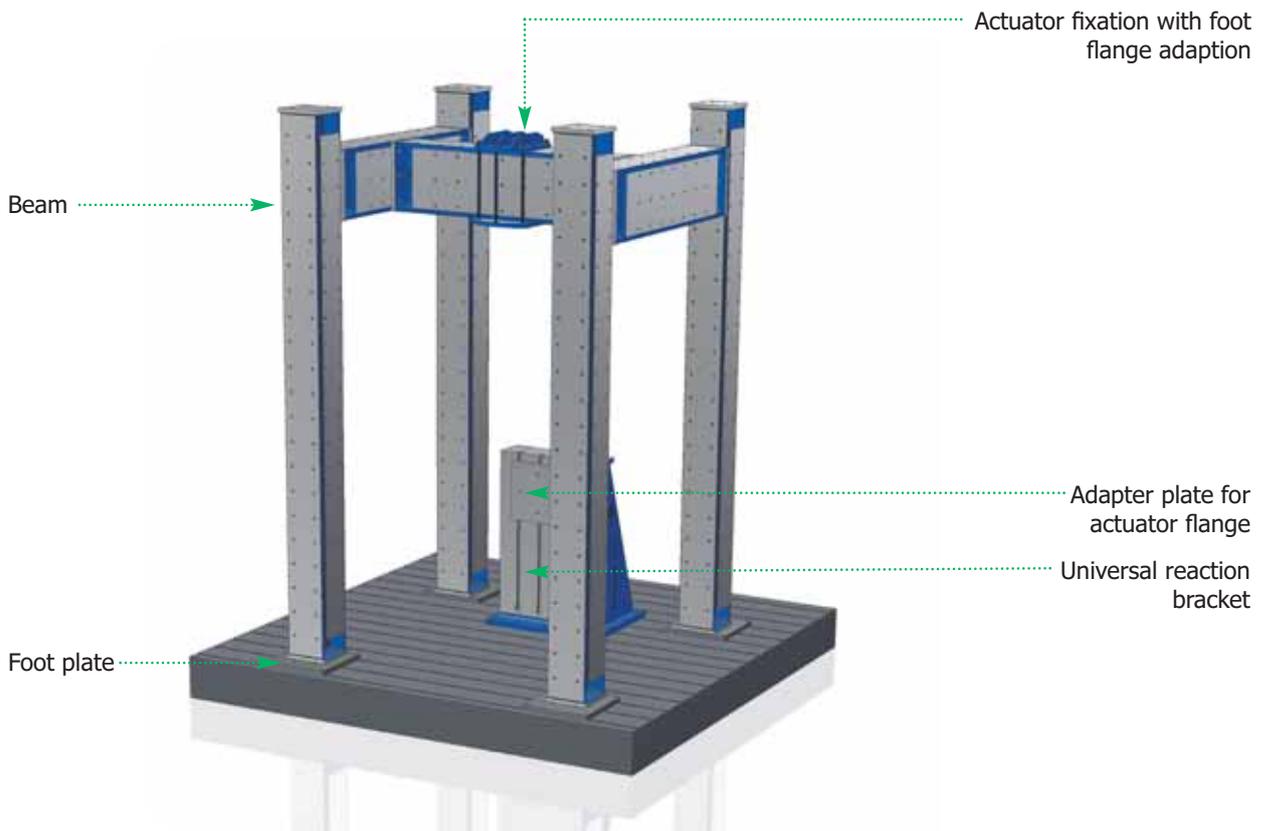
	Reaction bracket with vertical adjustment on rotation plate				
	The Reaction bracket is used for the horizontal clamping of actuator. The turning adjustment range is 90°. Minimal position: 400 mm				
	for T-slot distance [mm]	Height adjustment range [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	150	±250	ø1170 x 1450	1250	003 141
200	003 145				
250	002 909				
150	±500	ø1147 x 1950	1790	003 149	
200				003 153	
250				002 918	

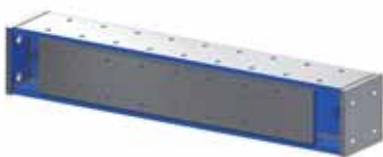
i The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.

	T-slot plate				
	The T-slot plate is used for the fixation of actuator or test specimen. It can be secured to the universal reaction bracket. T-slot: 28H12 to DIN 650 T-slots distance: 100 mm				
	Description	Technical remark	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	small	3 T-slots	500 x 300 x 80	69	000 329
large	7 T-slots	1 000 x 750 x 80	333	000 330	

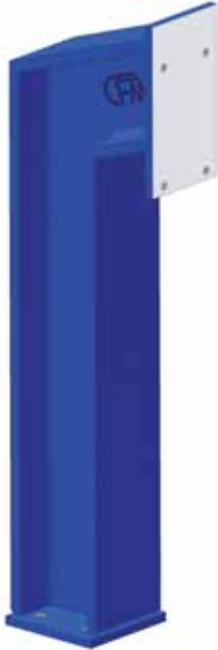
Mounting material				
	Description	Technical remark	Details	Order-No. VPK ...
	Handling bar with ring eye bolt	For the safe transport and handling of beams via crane.	180 x 50 x 219 mm	000 522
	Collar nut	-	DIN 6331 - M24 Property class 10	VKT 000 410
	T-slot nut	-	DIN 508 M24 x 28	see page 52
	Socket head cap screw	-	DIN EN ISO 4762 - M24 Property class 10.9	see page 52

Example Test Rig Design - Component Layout -



Beam with mounting thread				
<p>The Beam is used for vertical column application. Width x height: 350 x 350mm Hole matrix: 200 x 200mm, Thread: M24</p>				
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	Column	2000	766	001 556
		2400	924	001 557
		3000	1 158	001 552
		3400	1 316	002 276
		4000	1 550	001 553
		4400	1 708	001 803
		5000	1 942	001 804
		5400	2 100	001 785
		6000	2 335	002 241

Cross beam with mounting thread				
<p>The Cross beam is used for horizontal beam. Width: 350mm Hole matrix: 200 x 200mm, Thread: M24</p>				
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	Cross beam	550 x 1000	528	003 528
		550 x 2000	1 070	002 277
		750 x 3000	2 085	002 278
		750 x 4000	2 749	002 279

Support strut for beam with mounting thread						
				<p>The Support strut is used for stiffening of loadframes. Width: 309 mm</p>		
				Application	Sizes Length x height [mm]	Weight ~ [kg]
	for 2000mm beam	855 x 1740	548	003 272		
	for 2400mm beam	855 x 2140	644	003 273		
	for 3000mm beam	855 x 2740	791	003 274		
	for 3400mm beam	855 x 3140	889	003 275		
	for 4000mm beam	855 x 3740	1039	003 276		
	for 4400mm beam	955 x 4140	1150	003 277		
	for 5000mm beam	955 x 4740	1297	003 278		
	for 5400mm beam	1055 x 5140	1412	003 279		
	for 6000mm beam	1055 x 5740	1561	003 280		

Support strut 45°						
				<p>The Support strut 45° is used for stiffening purpose of load frames.</p>		
				Technical remark	Sizes [mm] Length x width x height	Weight ~ [kg]
	-	1250 x 309 x 1250	392	001 786		
	-	2250 x 309 x 2250	743	002 275		

Stiffening bracket 45°						
				<p>The Stiffening bracket 45° is used for stiffening purpose of load frames, especially for cantilever arm application.</p>		
				Technical remark	Sizes [mm] Length x width x height	Weight ~ [kg]
	-	840 x 309 x 840	255	001 567		

	Support angle 90°			
	<p>The Support angle 90° is used for stiffening purpose of loadframes or beams.</p> <p>For Hole matrix: 200 x 200mm, Thread: M24</p>			
	Technical remark	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
-	456 x 350 x 380	107	001 564	

	Angle section (pair)			
	<p>The Angle section is used for the diagonal application for beam as stiffening strut. Can be used as stiffener support as well.</p>			
	Description	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
Angle section 45°+ 45°	each 350 x 350 x 469	each 125	002 105	

	Height adjustment unit			
	<p>The Height adjustment unit is used for vertical adjustment of cross beams.</p>			
	Description	Load max. [kg]	Technical remark	Weight ~ [kg]
	stepless	3 400	Min. distance between clampingflange and manual winch: 100mm	434
step by step	Adjustment in the hole matrix		434	
			Order-No. VPK ...	
			002 983	
			003 222	



Actuator fixation for foot flange adaption

The Actuator fixation is used for the fixation of actuators via base plate fixation. The horizontal adjustment is stepless.
Anchor bolt: M24

for height of cross beam [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
550	615 x 440 x 700	149	002 453
750	615 x 440 x 900	155	003 524

i The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.



Actuator fixation for foot flange adaption with casters

The Actuator fixation is used for fixation of actuators via base plate fixation. The carriage is equipped with a spring loaded bearing unit located at the upper side. After untightening of the anchor bolts it is possible to move the carriage including the actuator very easily by hand on the horizontal beam.
Anchor bolt: M24

for height of cross beam [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
550	350 x 543 x 737	194	003 209
750	350 x 543 x 937	197	003 525

i The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.

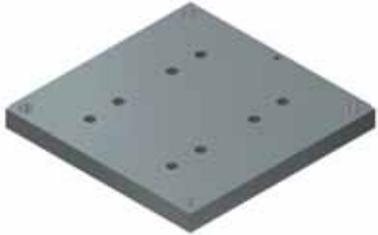


Adapter plate for actuator flange

The Adapter flange is used for the fixation of actuator on a universal reaction bracket or on a base plate via base plate fixation.

Description	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
small	500 x 500 x 40	78	001 593
large	700 x 700 x 40	153	001 594

i Note: The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.

	Foot plate				
	The Foot plate is used for the adaption of support struts and beams (as columns) on a base plate.				
	Application	for T-slots distance [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	for beam / support strut	200	450 x 450 x 40	62	001 643.100
		250	550 x 550 x 40	93	001 644.100
	for support strut 45°	200	680 x 450 x 40	95	001 643.200
250		700 x 550 x 40	120	001 644.200	

	Universal reaction bracket with T-slots			
	The Universal reaction bracket is used for the fixation of actuator or test specimens. T-slots: 28H12 to DIN 650 T-slots distance: 200 mm			
	for T-slots distance [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	250	1060 x 700 x 985	1088	001 805
		1060 x 810 x 1385	1523	001 806
		1060 x 900 x 1500	1720	002 109
1060 x 1060 x 1800		2187	002 110	
 For the fixation of actuators or test specimens a T-slot plate [see page 45] or an actuator plate [see page 42] is necessary.				

Universal reaction bracket with mounting thread				
	<p>The Universal reaction bracket is used for the fixation of actuator or test specimens. Hole matrix: 200 x 200 mm, Thread: M24</p>			
	for T-slots distance [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	250	1060 x 700 x 985	964	001 562
		1060 x 810 x 1385	1344	001 563
		1060 x 900 x 1500	1527	002 107
1060 x 1060 x 1800		1956	002 108	
<p> For the fixation of actuators or test specimens a T-slot plate [see page 45] or an actuator plate [see page 42] is necessary.</p>				

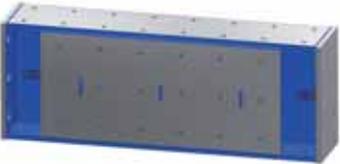
Reaction bracket with vertical adjustment					
	<p>The Reaction bracket is used for the horizontal clamping of actuator. Minimal position: 400 mm</p>				
	for T-slots distance [mm]	Height adjustment range [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	250	±250mm	1060 x 900 x 1392	1749	003 206
±500mm		1160 x 1000 x 1992	2223	003 207	
<p> Note: The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.</p>					

	T-slot plate				
	The T-slot plate is used for fixation of actuator or test specimens. it can be secured to the universal reaction bracket. T-slots: 28H12 DIN 650 T-slots distance : 200 mm				
	Description	Technical remark	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	small	3 T-slots	900 x 700 x 90	400	001 565
large	4 T-slots	1300 x 900 x 90	838	001 566	

	Guiding gib (Set)			
	The guiding gib is used for the horizontal guiding of cross beams. (4 off guiding gib)			
	Technical remark	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
-	450 x 15 x 75	each 2	001 592	

Mounting material				
	Description	Technical remark	Details	Order-No. VPK ...
	T-slot nut	-	DIN 508 M24 x 28	see page 52
	Socket head cap screw	-	DIN EN ISO 4762 - M24 Property class 10.9	see page 52

	Beam with mounting thread			
	The Beam with mounting thread is used for vertical application as a column. Width x height: 415 x 415mm, Hole matrix: 250 x 250 mm, Thread: M30			
	Application	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	Column	2500	1170	002 583
		3000	1412	002 584
4000		1895	002 585	
5000		2382	002 586	

	Cross beam with mounting thread			
	The cross beam is used for horizontal application. Width: 415mm, Hole matrix: 250 x 250 mm, Thread: M30			
	Application	Sizes [mm] Length x height	Weight ~ [kg]	Order-No. VPK ...
	Cross beam	1000 x 750	696	002 587
		2000 x 750	1431	002 588
3000 x 1000		2771	002 589	

	Support strut for beam with mounting thread			
	The support strut is used to amplify a load frame. Width x length: 330 x 850mm			
	Description	Sizes Height [mm]	Weight ~ [kg]	Order-No. VPK ...
	-	1925	588	002 590
		2425	716	002 591
3425		971	002 592	

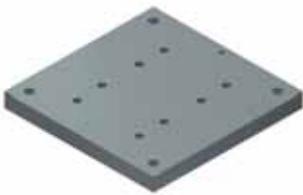
	Actuator fixation for foot flange adaption			
	The Actuator fixation is used for the fixation of the actuators via base plate fixation. Anchor bolt: M30			
	Height of cross beam [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	750	430 x 540 x 920	202	002 593
	1000	430 x 540 x 1170	209	003 520



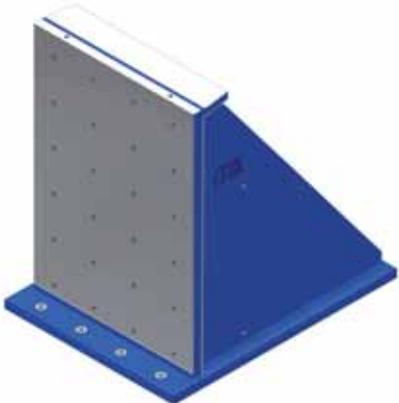
The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.

	Actuator fixation for foot flange adaption with casters			
	<p>The Actuator fixation is used for fixation of vertical actuators via base plate fixation. The carriage is equipped with a spring loaded bearing unit located at the upper side. After untightening of the anchor bolts it is possible to move the carriage including the actuator very easily by hand on the horizontal beam.</p> <p>Anchor bolt: M30</p>			
	height of cross beam [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	750	350 x 644 x 937	233	003 210
1000	350 x 644 x 1 187	237	003 521	
<p>i The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.</p>				

	Adapter plate for actuator flange			
	<p>The Adapter flange is used for the fixation of actuator on a universal reaction bracket or on a base plate via base plate fixation.</p>			
	Description	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	small	600 x 600 x 40	112	002 610
large	950 x 950 x 40	227	002 611	
<p>i The hole pattern of the hydraulic actuator has to be provided by the customer in case of ordering.</p>				

	Foot plate			
	<p>The Foot plate is used for the adaption of support struts and beams (as columns) on the base plate.</p>			
	for T-slots distance [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	250	600 x 600 x 55	152	002 609

	Universal reaction bracket with T-slots			
	<p>The Universal reaction bracket with T-slots is used for fixation of actuator or test specimens.</p> <p>T-slots 36H12 to DIN 650 , T-slots distance: 250mm</p>			
	for T-slots distance [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	250	1 060 x 1 400 x 1 500	2 601	002 598
		1 060 x 1 400 x 2 500	3 973	002 602
1 060 x 1 400 x 3 000		4 606	002 606	

	Universal reaction bracket with mounting thread			
	The Universal reaction bracket with mounting thread is used for the fixation of actuator or test specimens. Hole matrix: 250 x 250mm, Thread: M30			
	for T-slots distance [mm]	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	250	1 060 x 1 400 x 1 500	2 414	002 596
1 060 x 1 400 x 2 500		3 634	002 600	
1 060 x 1 400 x 3 000		4 175	002 604	
 For the fixation of actuators or test specimens a T-slot plate [see page 45] or an actuator plate [see page 48] is necessary.				

	T-slot plate				
	The T-slot plate is used for the fixation of actuator or test specimens. It can be secured to the universal reaction bracket. T-slots DIN 650 36H12, T-slots distance: 250mm				
	Description	Technical remark	Sizes [mm] Length x width x height	Weight ~ [kg]	Order-No. VPK ...
	small	3 T-slots	1 250 x 1 000 x 100	858	002 607
large	4 T-slots	2 500 x 1 000 x 100	1 719	002 608	

Mounting material				
	Description	Bemerkung	Detail	Order-No. VPK ...
	Collar nut	-	DIN 6331 M30 Property class 10	VKT 000 410
	T-slot nut	-	DIN 508 M24 x 28 M30 x 36	see page 52
	Socket head cap screw	-	DIN EN ISO 4762 M24 M30 Property class 10.9	see page 52

Connection rod						
				For load introduction (length without ball joints). Connection to ball joint via clamped thread.		
				Sizes Length (mm)	Order-No. VPK ...	Technical remark
250			Application up to 25kN			
500						
750						
1000						
250			Application up to 65kN			
500						
750						
1000						
250			Application up to 100kN			
500						
750						
1000						
500			Application up to 160kN			
750						
1000						
500			Application up to 250kN			
750						
1000						

Adapter plate for bell-crank 90°						
				For fixation of a joint to the bell-crank 90°.		
				Fixation \varnothing (mm)	Order-No. VPK ...	Technical remark
\varnothing 100			Application up to 25kN			
\varnothing 145			Application up to 65kN			
\varnothing 185			Application up to 100kN			
\varnothing 235			Application up to 250kN			

Socket head cap screw DIN EN ISO 4762

Additional information about their application

for MOCOKIT® 25, 65 and 65 SE all screws with tensile strength = 10.9 tightening torque = 290Nm	VKT 000 181...						
	.030	.035	.040	.045	.055	.060	.070
	M16, Length ... [mm]						
	30	35	40	45	55	60	70
MOCOKIT® 25							
Beam on Foot plate		x					
Beam on Turning unit			x				
Support strut on Foot plate		x					
Beam on Connection cube		x					
T-slot plate on Universal reaction bracket							x
Foot plate on Base plate with T-slot 18H12				x			
Foot plate on Base plate with T-slot 22H12					x		
MOCOKIT® 65							
Beam / Cross beam on Beam		x					
Beam on Foot plate		x					
Beam / Cross beam on Turning unit		x					
Beam / Cross beam on Clamping flange		x					
Support strut on Beam		x					
Support strut on Foot plate			x				
Pivot joint on Beam (Column)			x				
Pivot joint on Cross beam		x					
Stiffening bracket on Beam / Cross beam		x					
Support angle on Beam / Cross beam		x					
Angle section (Pair) on Beam		x					
Angle section (Pair) on Foot plate			x				
Beam on Connection cube	x						
Actuator fixation unit via head flange (stepless) on Beam / Cross beam			x				
Actuator plate on Universal reaction bracket					x		
T-slot plate on Universal reaction bracket							x
T-slot plate on Beam			x			x	
Actuator plate on Base plate with T-slot 18H12					x		
Foot plate on Base plate with T-slot 18H12					x		
Actuator plate on Base plate with T-slot 22H12						x	
Foot plate on Base plate with T-slot 22H12						x	
Actuator plate on Base plate with T-slot 28H12							x
Foot plate on Base plate with T-slot 28H12							x

for MOCOKIT® 600 all screws with tensile strength = 10.9 tightening torque = 1950 Nm	VKT 001 183...			
	.080	.090	.110	.120
	M30, Length ... [mm]			
	80	90	110	120
MOCOKIT® 600				
Cross beam on Beam	x			
Beam on Foot plate		x		
Support strut on Beam	x			
Support strut on Foot plate		x		
Actuator plate on Universal reaction bracket				x
T-slot plate on Universal reaction bracket				x
T-slot plate on Beam			x	
Actuator plate on Base plate with T-slot 36H12				
Foot plate on Base plate with T-slot 36H12				

for MOCOKIT® 250, 250 SE all screws with tensile strength = 10.9 tightening torque = 970Nm	VKT 000 182...							
	.040	.045	.055	.075	.080	.090	.100	
	M24, Length ... [mm]							
	40	45	55	75	80	90	100	
MOCOKIT® 250								
Beam / Cross beam on Beam		x						
Beam on Foot plate		x						
Beam on Turning unit		x						
Cross beam on Turning unit			x					
Beam / Cross beam on Clamping flange		x						
Support strut on Beam / Foot plate		x						
Pivot joint on Beam (Column)			x					
Pivot joint on Cross beam			x					
Stiffening bracket on Beam / Cross beam		x						
Support angle on Beam		x						
Angle section (Pair) on Beam / Foot plate		x						
Beam on Connection cube		x						
Actuator fixation unit via head flange (stepless) on Beam / Cross beam			x					
Actuator plate an Universal reaction bracket					x			
T-slot plate an Universal reaction bracket								x
T-slot plate an Beam						x		
Actuator plate on Base plate with T-slot 28H12					x			
Foot plate on Base plate with T-slot 28H12					x			
Actuator plate on Base plate with T-slot 36H12								x
Foot plate on Base plate with T-slot 36H12								x

for MOCOKIT® 400 all screws with tensile strength = 10.9 tightening torque = 970Nm	VKT 000 182...					
	.065	.070	.085	.95	.100	.110
	M24, Length ... (mm)					
	65	70	85	95	100	110
MOCOKIT® 400						
Cross beam on Beam	x					
Beam on Foot plate	x					
Support strut on Beam	x					
Support strut on Foot plate	x					
Stiffening bracket on Beam / Cross beam	x					
Support angle on Beam / Cross beam	x					
Angle section (Pair) on Beam	x					
Angle section (Pair) on Foot plate		x				
Actuator plate on Universal reaction bracket				x		
T-slot plate on Universal reaction bracket						x
T-slot plate on Beam					x	
Actuator plate on Base plate with T-slot 28H12				x		
Foot plate on Base plate with T-slot 28H12				x		
Actuator plate on Base plate with T-slot 36H12						x
Foot plate on Base plate with T-slot 36H12						x

T-slot nuts DIN 508

Additional information about their application

T-slot nut DIN 508	MOCOKIT®					Order-No. VKT 000 376...
M16 x 18	25	65				.001
M16 x 22	25	65				.002
M16 x 28		65				.003
M24 x 28			250	400	600	.004
M30 x 36					600	.005

Maintenance & corrosion protection
auxiliary material

Untreated and functional areas must be covered at all times with a thin wax film. Herefore we offer:

MOCOKIT® transparent protective wax:
For cleaning and corrosion protection.

Volume: 400 ml
Order-No.: VKT 000 450



Base plates

Any test bench configuration starts on a robust and flexible baseplate. This plate guarantees a very stable and reproducible installation of the **MOCOKIT®** single components. Made of special steel casting the plates are available in different dimensions. We can install the plate onto the ground floor or at a specified working height.

Furthermore CFM Schiller offers different vibration isolation systems with defined eigenfrequencies to react on the required applications and test conditions. The standard dimensions are listed below, but in case of special requirements concerning baseplate specification, please contact us for immediate support and an individual quote.



Base plate for **MOCOKIT®**

Dimensions [mm]	T-slot DIN 650	MOCOKIT®					Order-Nr. VPK ...
3 000 x 2 000	18H12	25	65				002 111.018
	22H12	25	65				002 111.022
	28H12		65	250	400		002 111.028
	36H12					600	002 111.036
3 000 x 3 000	18H12	25	65				002 112.018
	22H12	25	65				002 112.022
	28H12		65	250	400		002 112.028
	36H12					600	002 112.036
4 000 x 3 000	18H12	25	65				002 113.018
	22H12	25	65				002 113.022
	28H12		65	250	400		002 113.028
	36H12					600	002 113.036
4 000 x 4 000	18H12	25	65				002 114.018
	22H12	25	65				002 114.022
	28H12		65	250	400		002 114.028
	36H12					600	002 114.036
6 000 x 5 000	18H12	25	65				002 115.018
	22H12	25	65				002 115.022
	28H12		65	250	400		002 115.028
	36H12					600	002 115.036

Universal modular fixing system for actuator fixation

Technical data /Application:

- welded steel construction with various sizes and forces

Forces:

- 25 kN / 50 kN /100 kN / 200 kN / 250 kN / 500 kN
- according to used for test frequency up to 75 Hz

Vertical adjustment:

- 25kN + 50kN +/- 450 mm
- 100kN + 200kN +/- 450 mm
- 500kN +/- 250 mm

- actuator flange plate for swiveling support available



Reaction bracket with vertical adjustment and additional rotational axis.

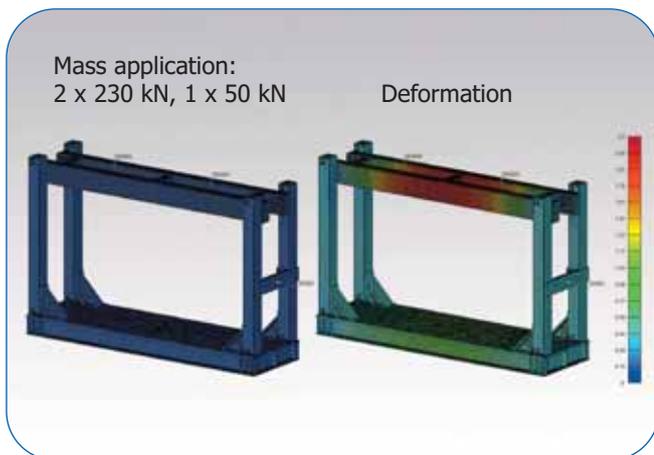


Actuator flange plate for fixed support

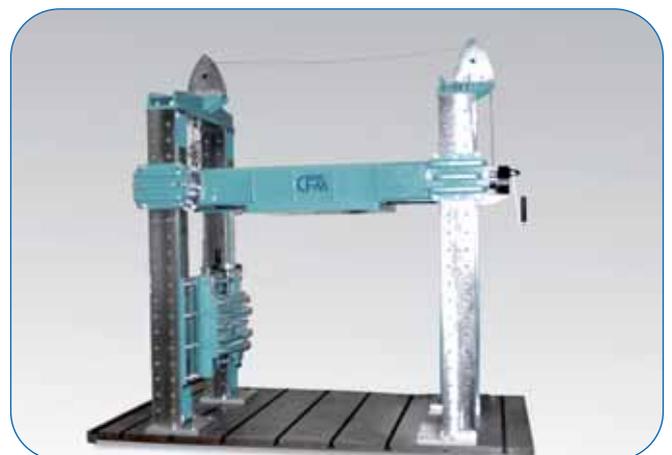


Base frame bracket. With and without vertical adjustment. The vertical adjustment is retrofittable.

Individual solutions based on MOCOKIT® components



Example for a FEA calculation



Application of standard and special components

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Vibration Isolation Systems
for electrodynamic shakers



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Test Rig Components



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