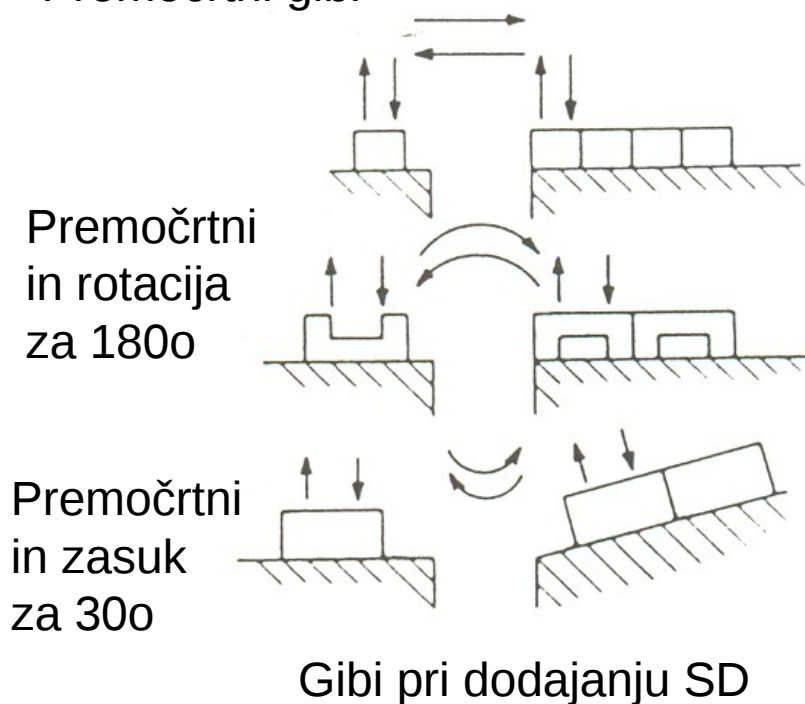


## Manipulatorji – Pick and Place units, enote “primi in odloži”

So enote, ki primejo urejen sestavni dela (obdelovanec, izdelek) na točno določenem mestu in ga odložijo na predvideno mesto z v naprej določeno hitrostjo gibanja

### Premočrtni gibi

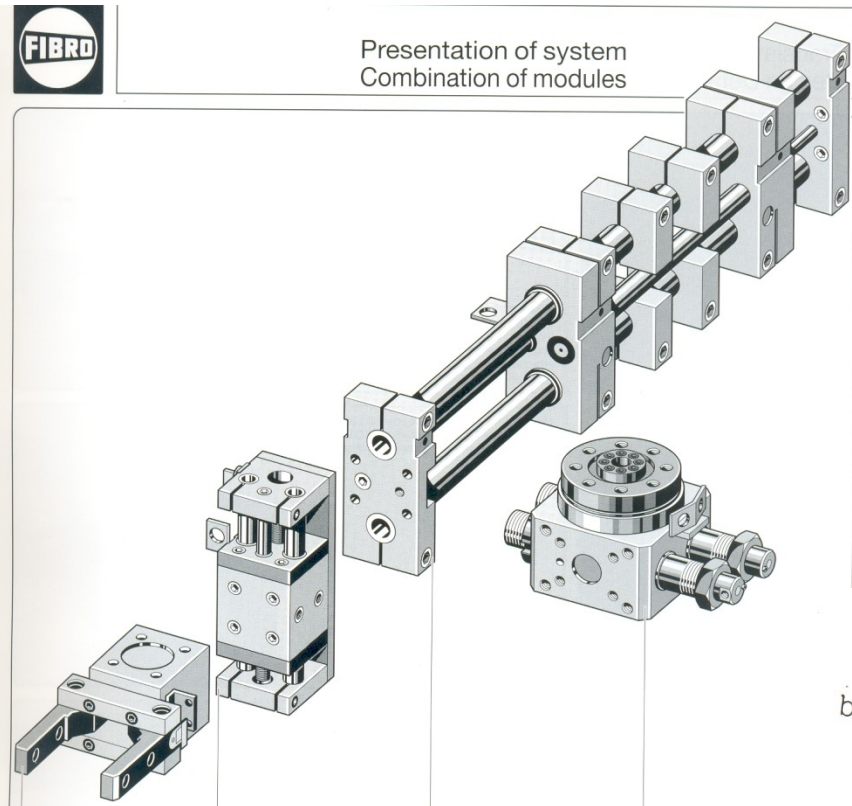


So modulno grajene strežne in dodajalne enote, ki jih sestavimo iz:

- linearnih – kratkohodnih/ dolgohodnih modulov,
- rotacijskih (zasučnih) modulov
  
- prijemal
- ogrodja



Presentation of system  
Combination of modules



e

b

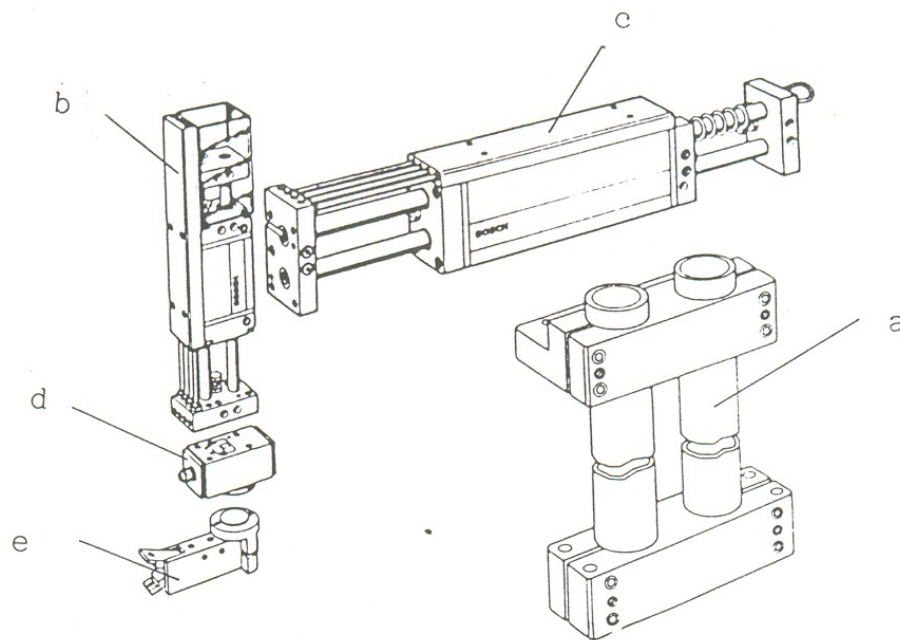
c

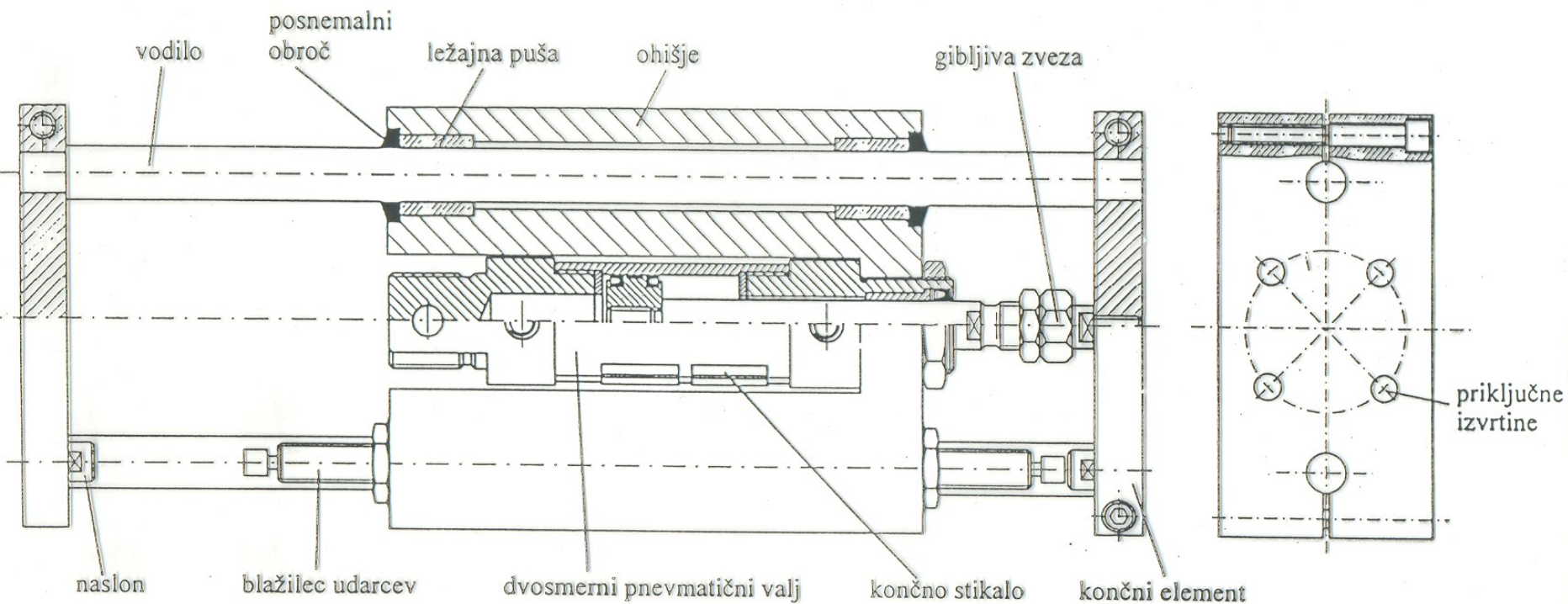
d

b – linearni kratkohodni modul

Hidravlični in pnevmatični moduli za  
gradnjo strežnih naprav -  
manipulatorjev

Ogrodje – a, linearni modul – b in – c,  
zasušni modul – d, prijemalo - e

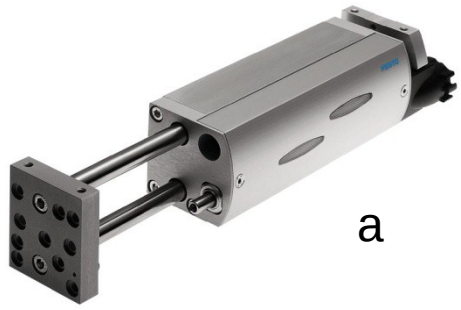




Zgradba pnevmatičnega linearnega modula z dvema okroglima vodiloma



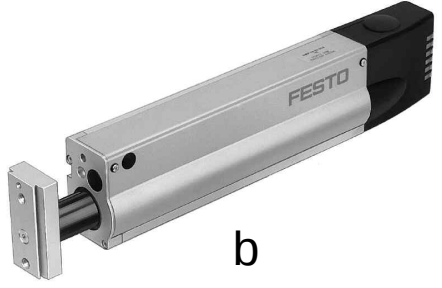
# Linearni pnevmatični moduli



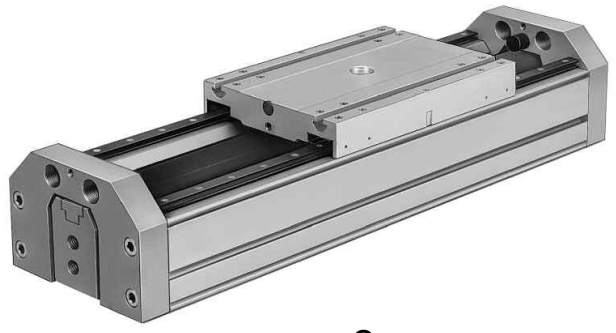
a



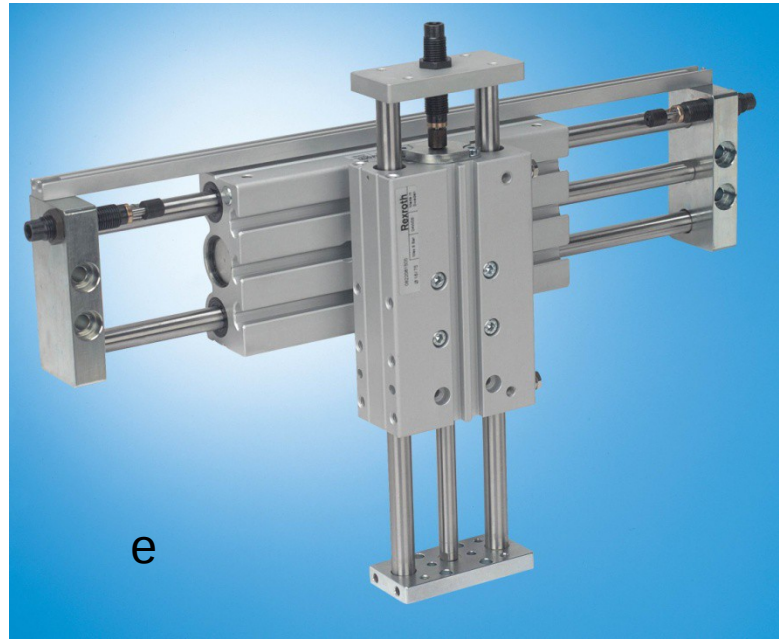
d



b



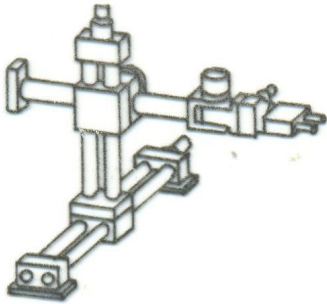

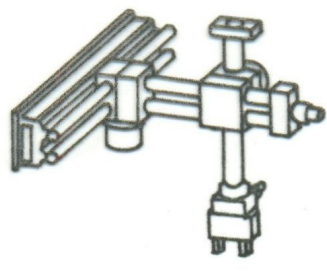

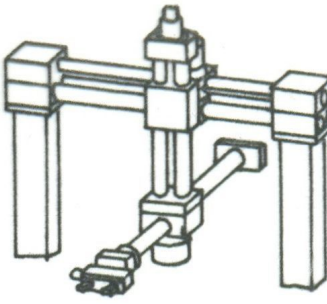

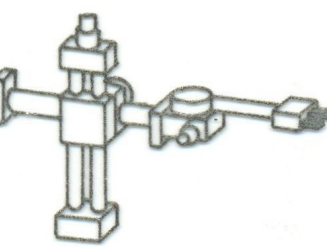

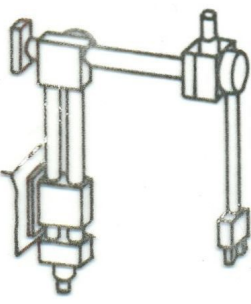

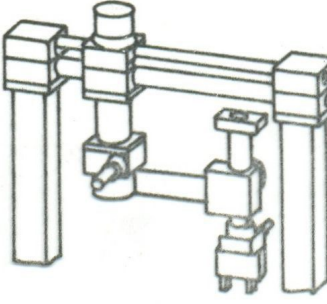

c



e

Pnevmatični linearni moduli z batnico in vodilom – a, z ovalnim batom – b, z dvema vodiloma – e, brez batnice – d, kratkohodni – c



Razporeditev strežnega mehanizma		
stoječ	stranski	viseč
 <p>TTT</p> 	 <p>TTT</p> 	 <p>TTT</p> 
 <p>TTR</p> 	 <p>TTR</p> 	 <p>TRT</p> 

Sestavljanje modulov

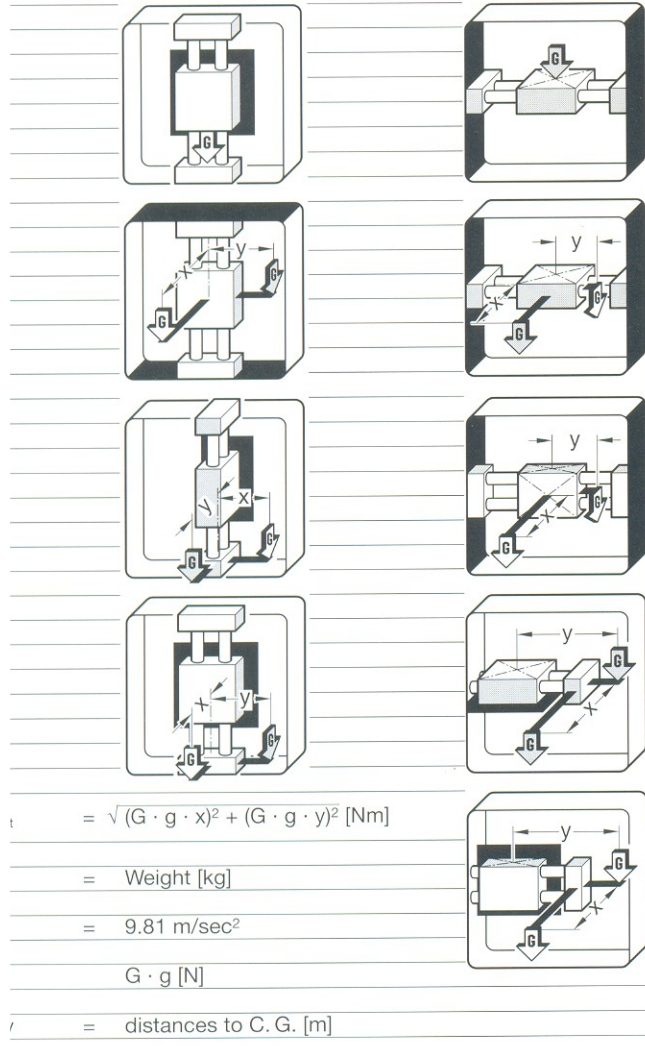
Načini pritrditve

Delovni prostor

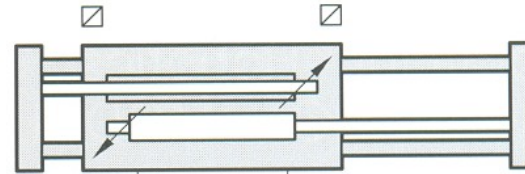
Prostostne stopnje

# Load Capacities

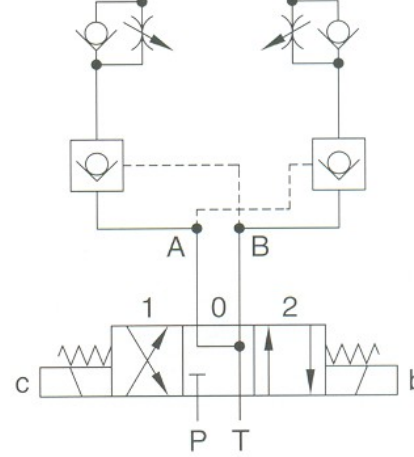
permitted load  $G_{max} = 8 \text{ kg}$   
 permitted tilting moment  $M_{tilt,perm} = 12 \text{ Nm}$



a



b



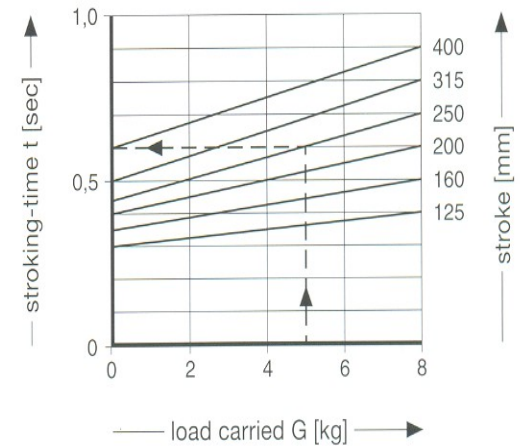
size 6

Načini pritrditve modula in pritrditev bremena – a, krmilna shem – b, diagram za določitev časa giba odvisno od bremena in dolžine giba – c

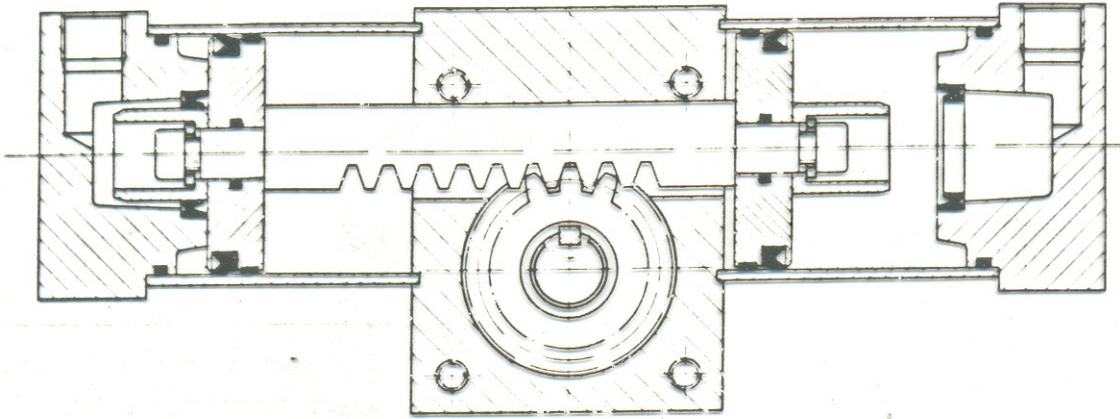
## Time Diagram (stroking-time recommendations)

Example  
 given:  $G = 5 \text{ kg}$   
 stroke:  $250 \text{ mm}$   
 wanted: stroking-time  
 result:  $0.6 \text{ sec.}$

c

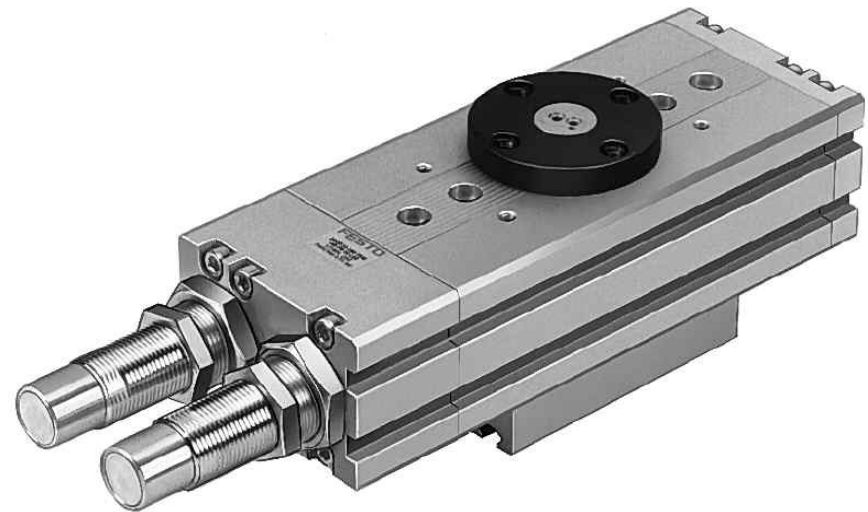


NB: excluding switching- and valve times



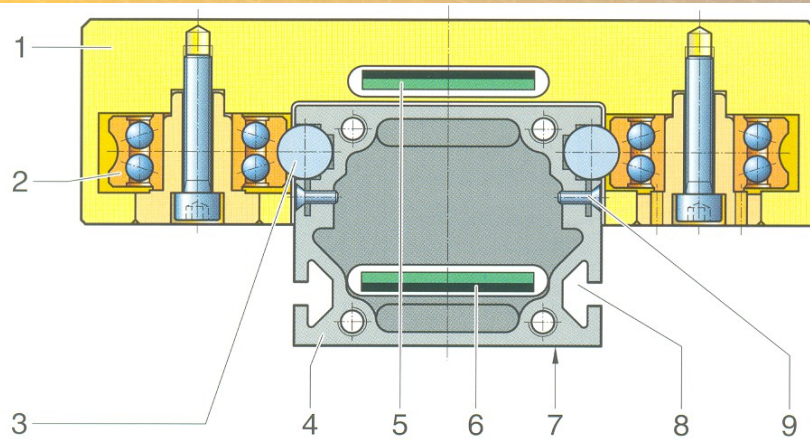
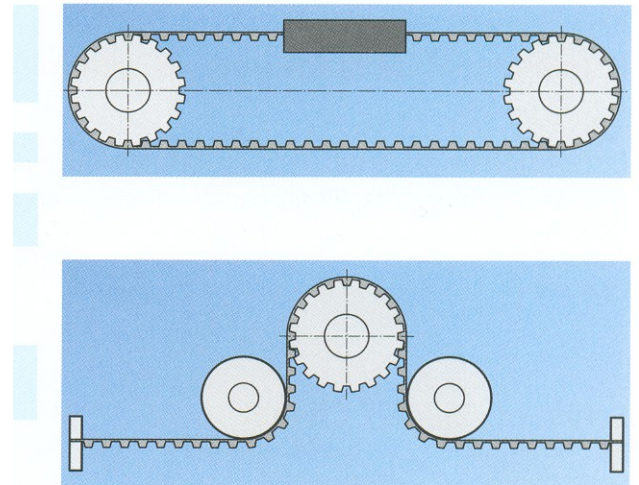
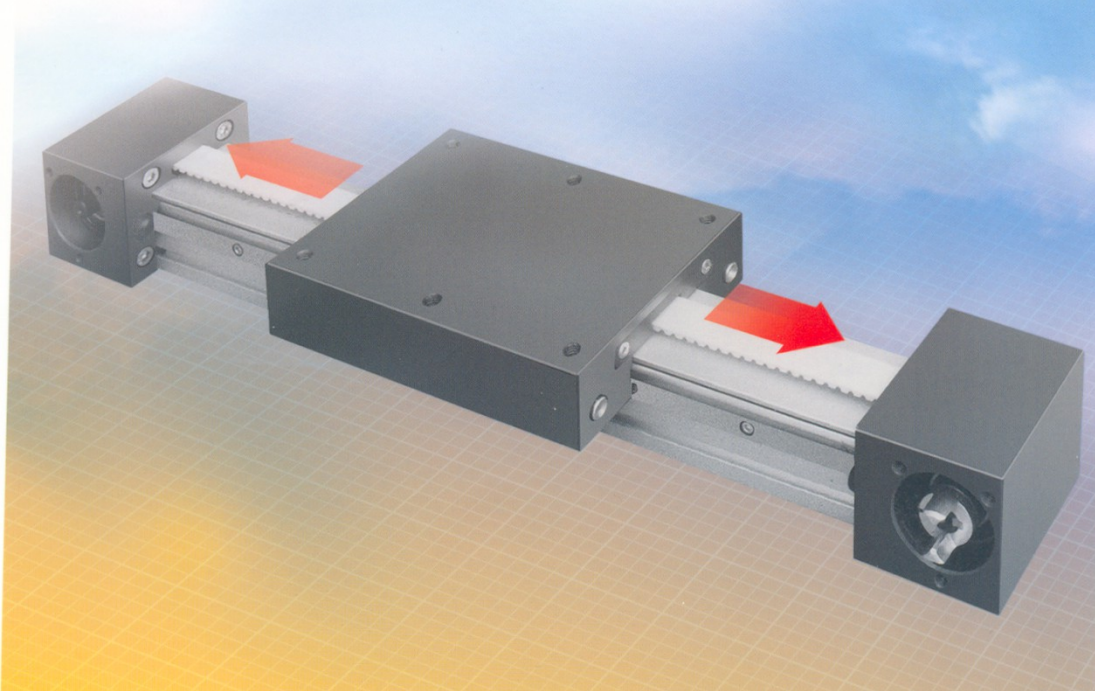
Z enim valjem

Zasučni pnevmatični modul



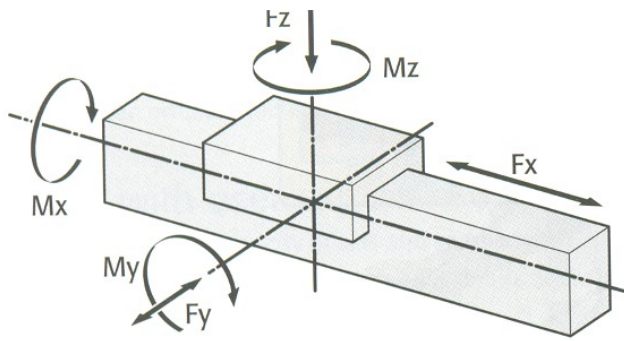
Z dvema valjema





Linearna enota z zobatim jermenom





Schlittenbelastungen (dynamisch)  
 Slide forces (dynamic)  
 Forces appliquées au chariot (dynamique)

Profilquerschnitt Profile section Section transversale mm	Schlittenlänge Slide length Longueur de chariot mm	Rollen Rollers Roulement	Last (Horizontal)* Load (Horizontal)* Charge (Horizontal)* kg	V** m/sec	a** m/sec <sup>2</sup>	Fx N	Fy N	Fz N	Mx Nm	My Nm	Mz Nm			
40	150	4	10	1	3	700	1200	930	20	30	60			
	250					1050***						50	100	
60	200	4	50	1	3	1150	2500	1600	43	120	170			
	300	6				2400***						54	180	250
	500	8				3100						65	300	400
90	300	4	100	1	3	2400	6500	3800	190	375	600			
	500	6				5200***						8500	5000	240

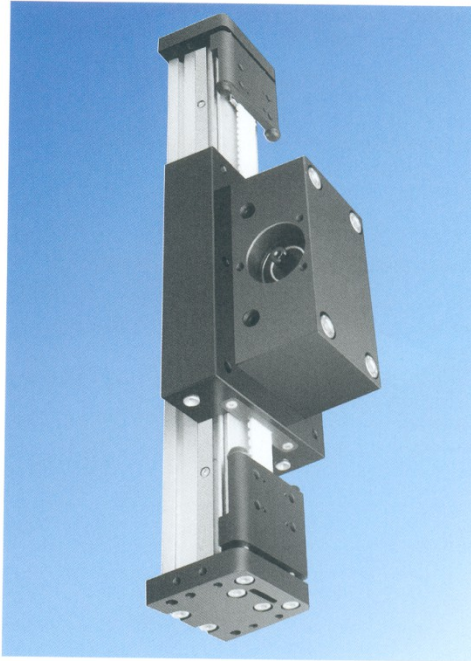
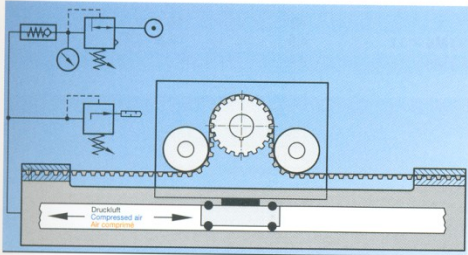
(\*) Last am Schlitten bezogen auf die angegebenen Geschwindigkeits- und Beschleunigungswerte.

Zahnriemenantrieb am Schlitten und Antrieb pneumatisch  
 Belt drive at slide and pneumatic drive  
 Entraînement de la courroie sur le chariot et vérin pneumatique

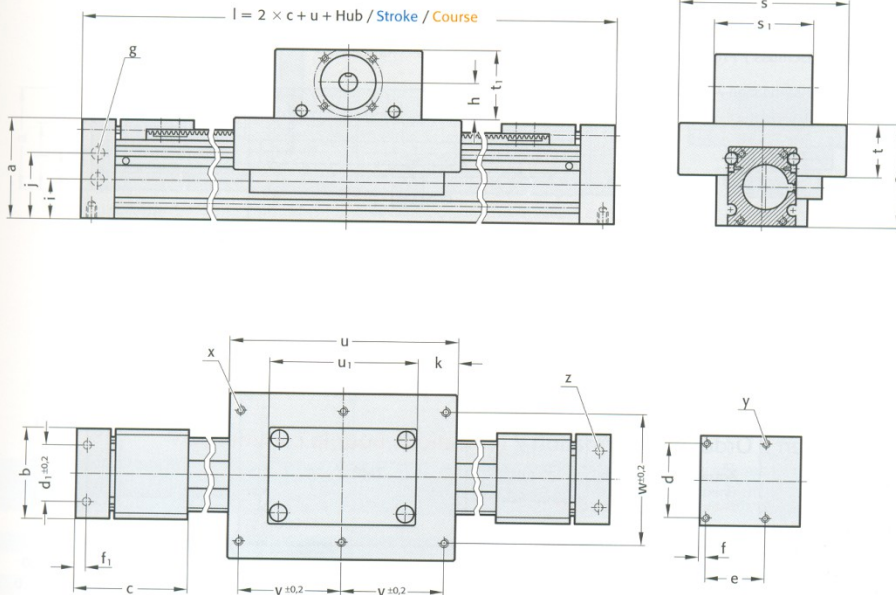
Hinweis / Note / Remarque

Anwendungsbeispiele siehe Seite 38 – 40.  
 Application examples see pages 38 – 40.  
 Exemples d'utilisation voir pages 38 – 40.

Achse mit integriertem Lastausgleich  
 Axis with integrated weight counterbalance  
 Axes avec équilibrage de poids intégré

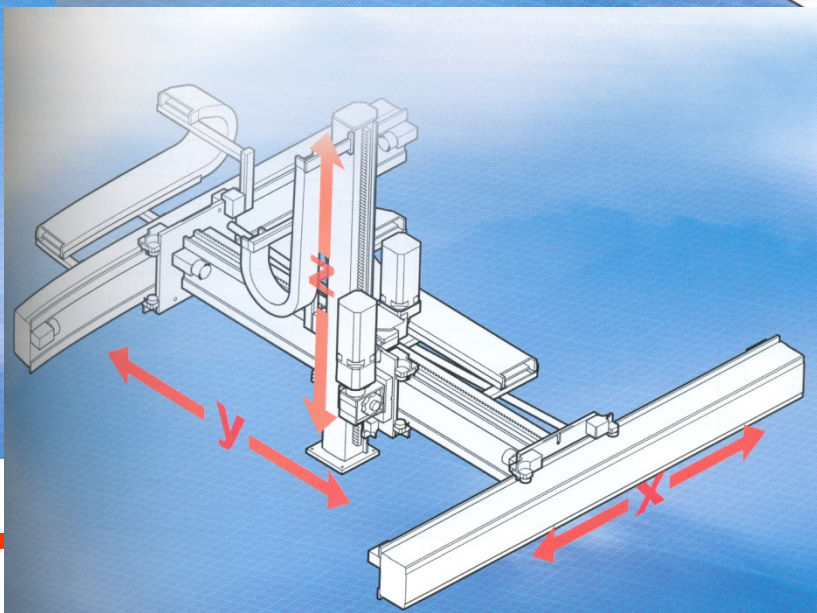
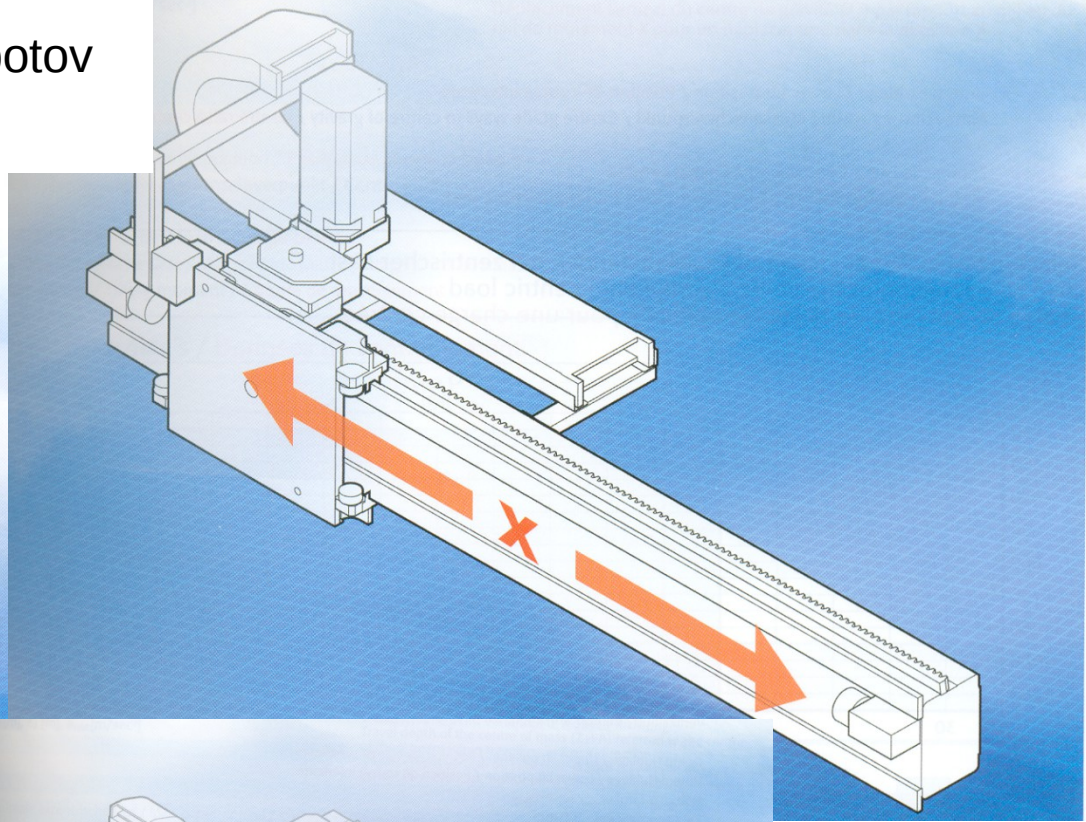
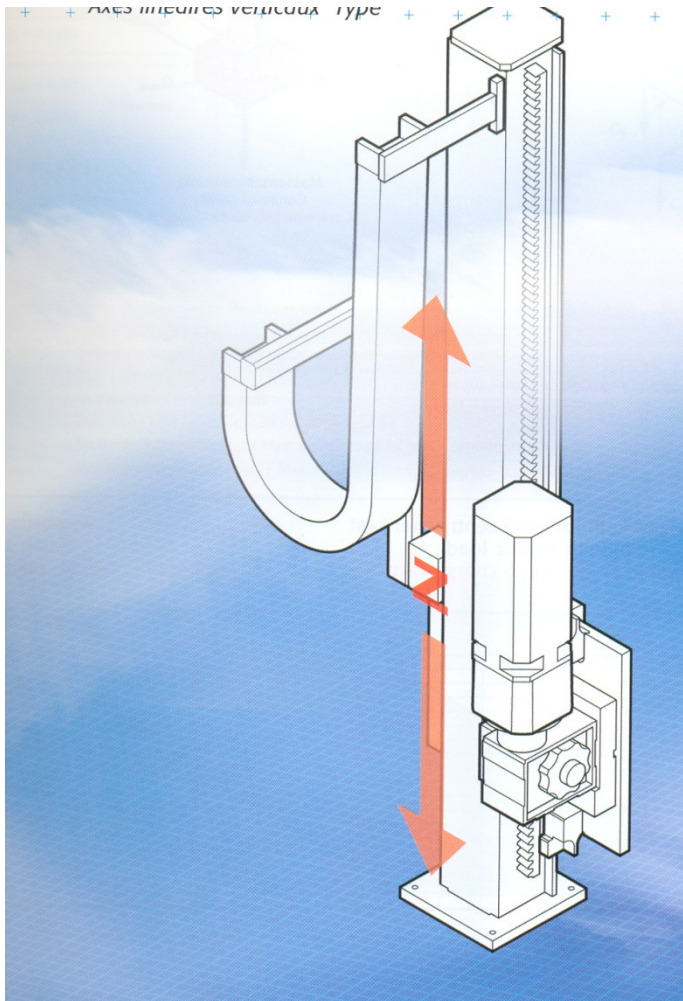


Linearna enota z valjem brez batnice in zobatim jermenom

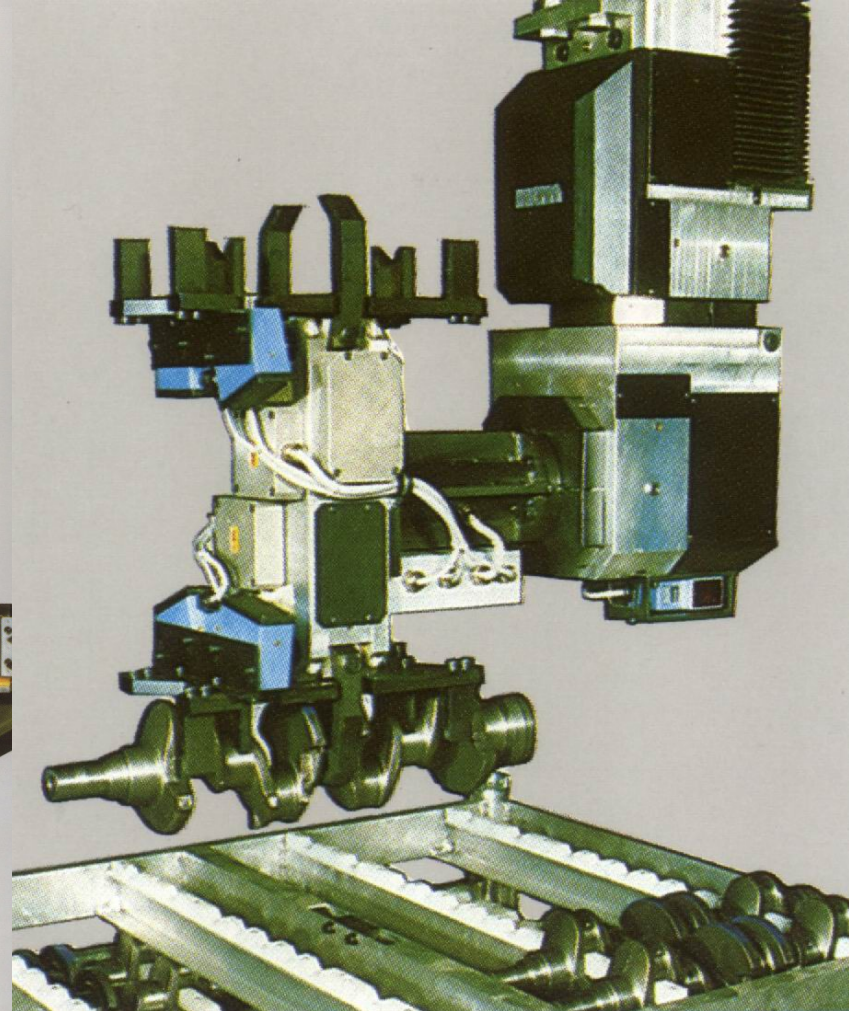
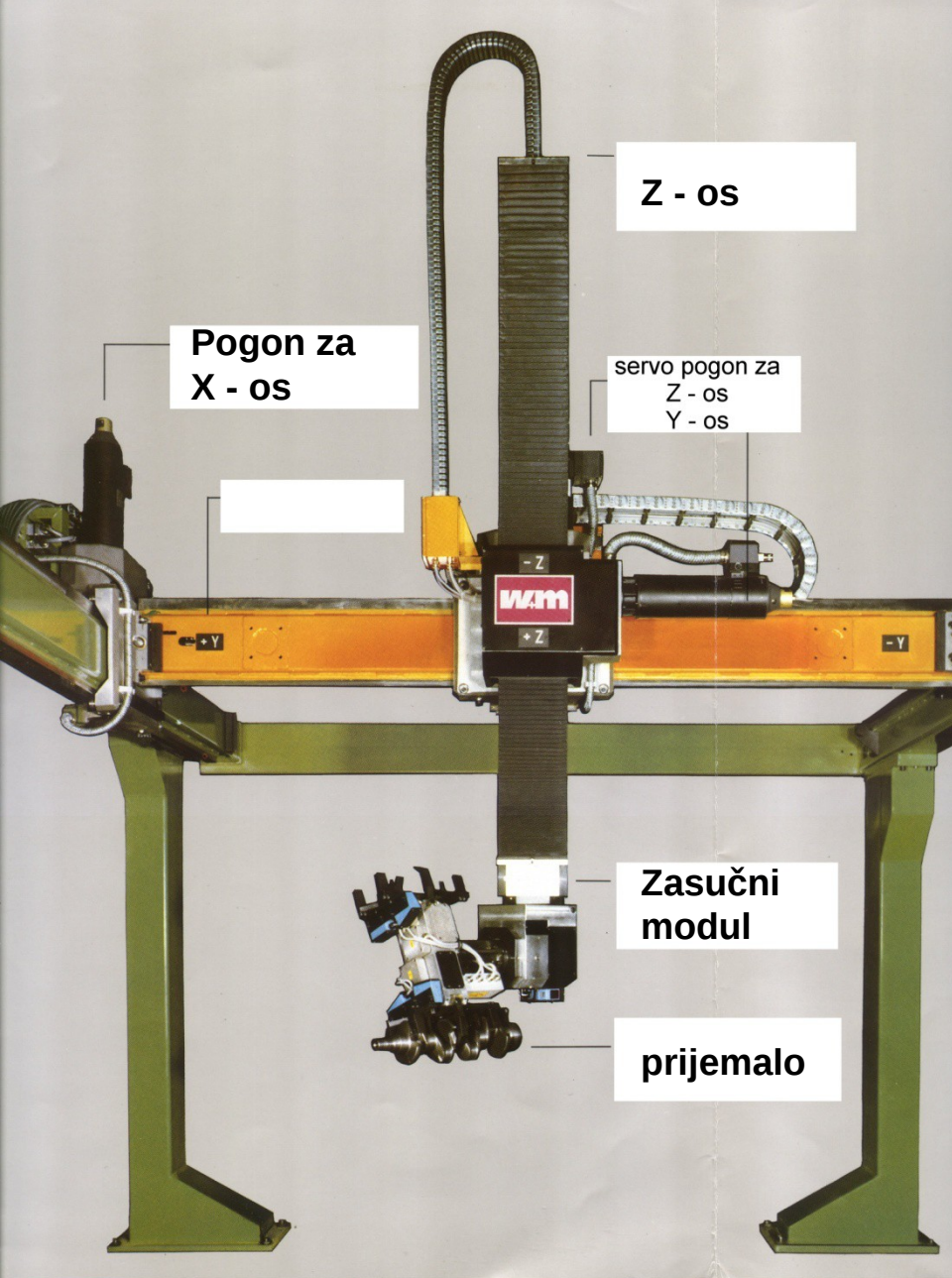




# Linearne osi z elektromotornim pogonom za gradnjo kartezičnih robotov







Kartezični robot zgrajen iz modulov z elektromotornim pogonom

Dvojno prijemalo za strego obdelovalnih strojev - stružnic