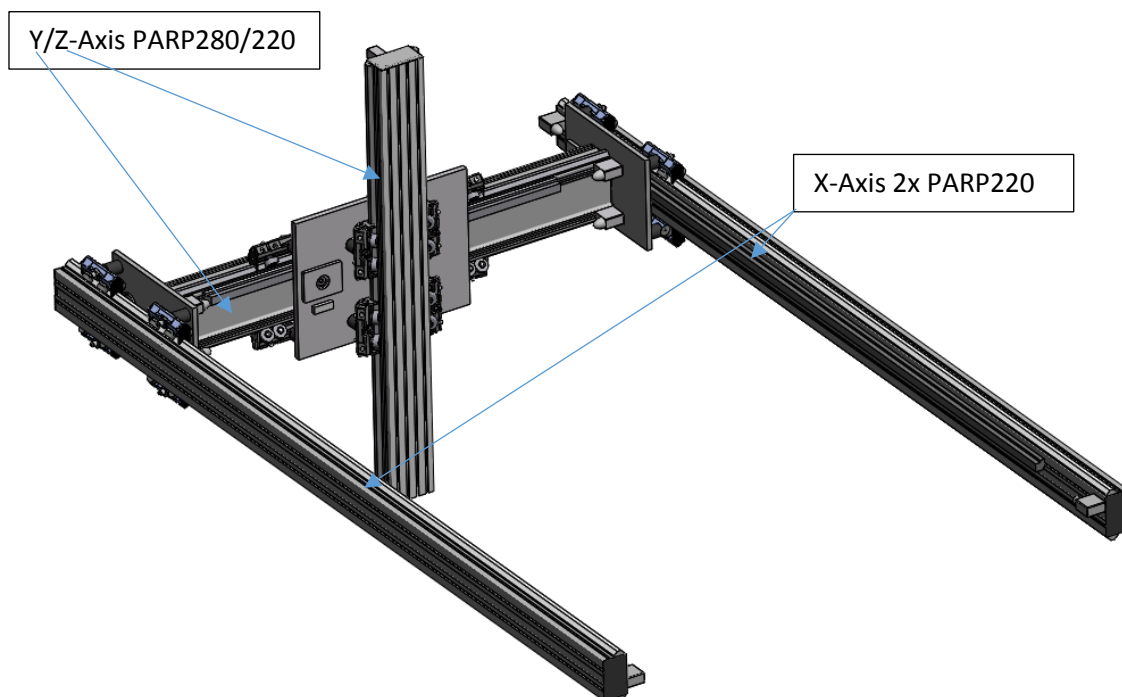


# Components - Overview

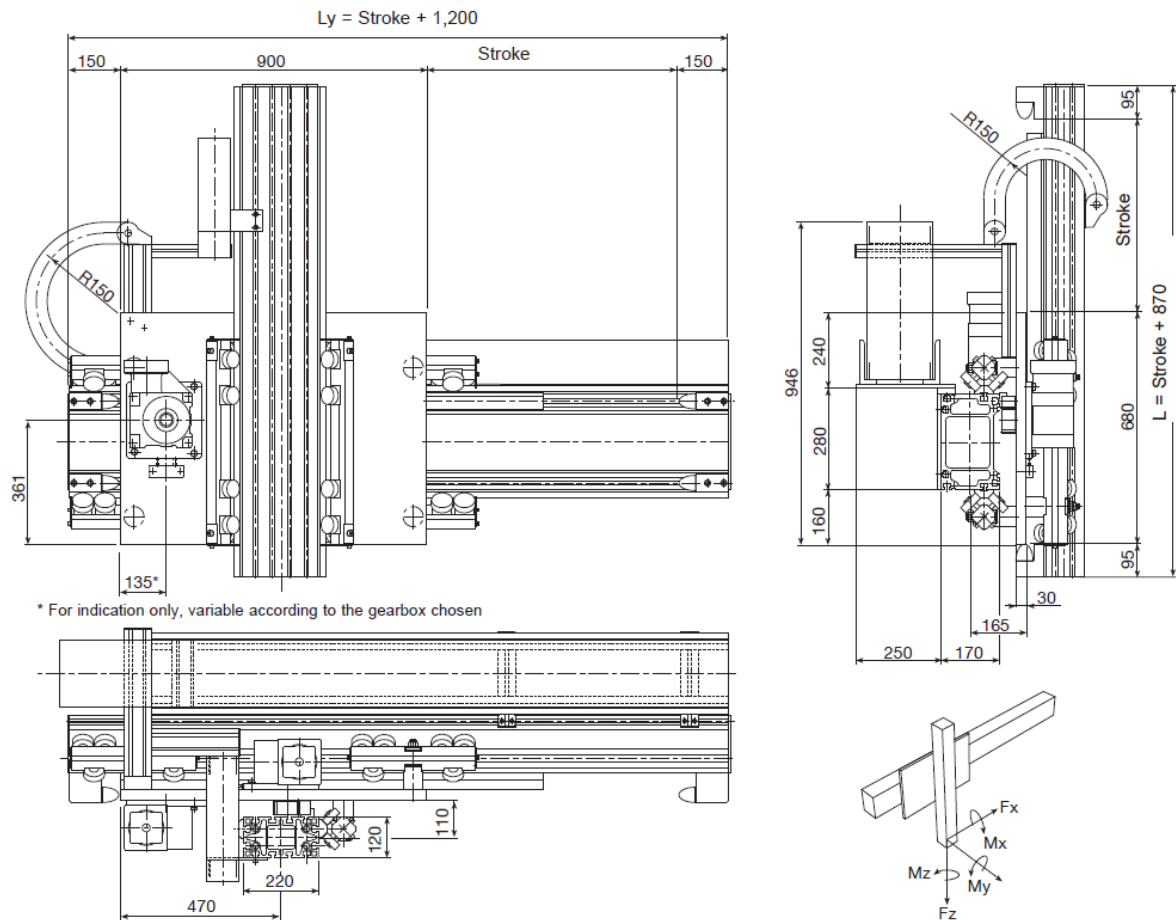
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PARP 280/220 + 2x PARP220



### PARP280/220



### Technical Data:

Constructive data	Y-axis	Z-axis
Load-bearing beam (see page 15/17)	Pratyca	Logyca
Rack (tempered, helical teeth: module KTD)	module 4	module 4 [mm <sup>2</sup> ]
Guide rails	55x25 (hardened and polished)	55x25 (hardened and polished)
Translation	4 roller slides with 6 rollers Ø62	2 roller slides with 6 rollers Ø52 *
Room available for energy chain	175x45	75x45 [mm <sup>2</sup> ]
Pinion pitch diameter type ND	76.39 (as an alternative 106.10)	76.39 (as an alternative 106.10) [mm]

\*Vertical axis is made with Rollers Ø62 instead of Ø52

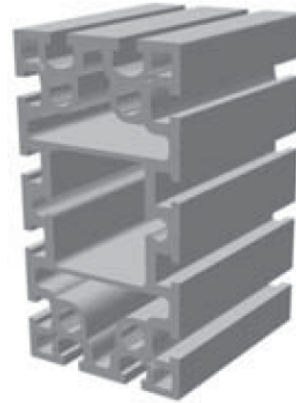
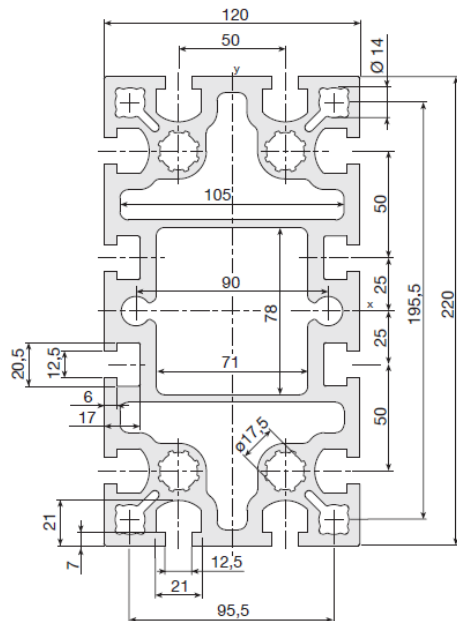
### Profile:

The system is made of the following profiles:

Z-Axis: 1x LOGYCA Profile

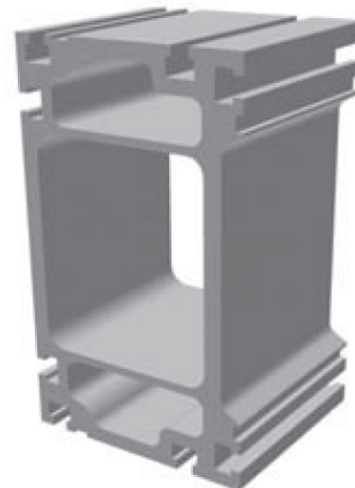
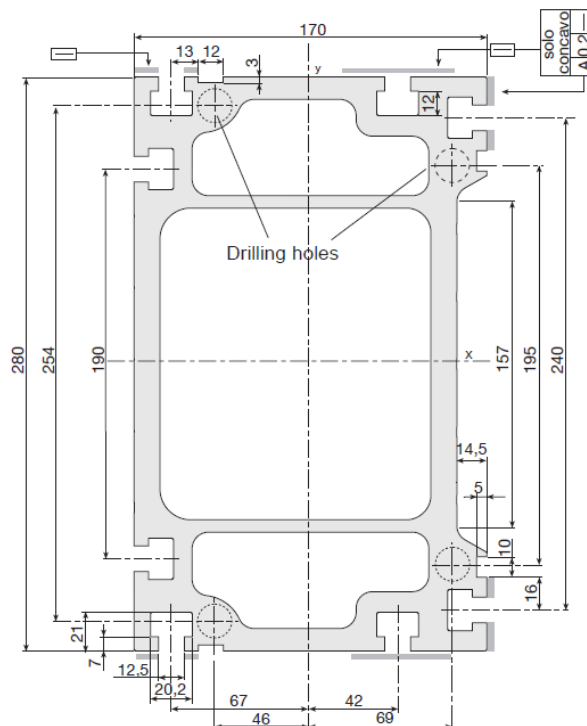
Y-Axis: 1x PRATYCA Profile

### Z-Axis:



LOGYCA (120x220)	code 202.2184	
Weight	25	kg/m
Max. length	12	m
Moment of inertia I <sub>x</sub>	46,550,000	mm <sup>4</sup>
Moment of inertia I <sub>y</sub>	15,650,000	mm <sup>4</sup>
Polar moment of inertia I <sub>z</sub>	14,300,000	mm <sup>4</sup>
Bending section modulus W <sub>x</sub>	423,182	mm <sup>3</sup>
Bending section modulus W <sub>y</sub>	260,833	mm <sup>3</sup>
Only anodized up to	9	m

### Y-Axis:

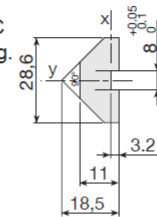


PRATYCA (170x280)	code 202.1147	
Weight	40	kg/m
Max. length	12	m
Moment of inertia I <sub>x</sub>	134,103,000	mm <sup>4</sup>
Moment of inertia I <sub>y</sub>	50,288,000	mm <sup>4</sup>
Polar moment of inertia I <sub>z</sub>	72,700,000	mm <sup>4</sup>
Bending section modulus W <sub>x</sub>	957,790	mm <sup>3</sup>
Bending section modulus W <sub>y</sub>	591,620	mm <sup>3</sup>

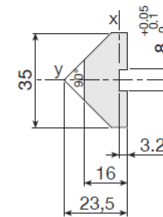
### Guiding System:

#### Steel V-shaped guide rails

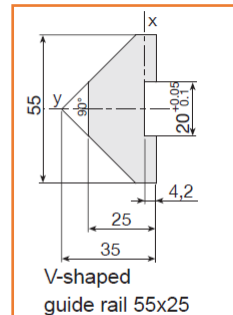
Material: high-performance alloy steel:  $R > 900 \text{ MPa}$   
 Hardened and tempered: core hardness 240 HB.  
 Induction-hardened and polished. Track hardness  $> 58 \text{ HRC}$   
 Guide rail 28.6x11 code 203.0012 has anti-oxidation coating.  
 Anti-oxidation coating is available for all versions upon request.



V-shaped guide rail 28.6x11



V-shaped guide rail 35x16



V-shaped guide rail 55x25

Features	28.6x11	35x16	55x25	
Moment of inertia $I_x$	2,148	7,932	41,906	$\text{mm}^4$
Moment of inertia $I_y$	14,490	36,405	194,636	$\text{mm}^4$
Weight	2	3.5	7.8	$\text{Kg/m}$

### Sliders + Rollers:

#### Rollers:

##### Spare roller with stud

Make sure that all the components are locked in place with the appropriate screws. The recommended tightening torque for pin locking screws and nuts is 50 Nm.



##### Max. load factors for hardened and tempered guides

Roller	$C_w$ [N]	$C_{0w}$ [N]	$F_r$ amm. [N]	Max. S.
Ø30	5,000	3,000	1,350	7 m/s
Ø40	9,800	6,200	2,500	7 m/s
Ø52	15,800	10,500	4,250	6 m/s
Ø62	21,100	14,500	5,300	5 m/s

##### Max. load factors for induction-hardened guides

Roller	$C_w$ [N]	$C_{0w}$ [N]	$F_r$ amm. [N]	Max. S.
Ø30	5,000	3,000	400	2 m/s
Ø40	9,800	6,200	800	13 m/s
Ø52	15,800	10,500	1,400	2.5 m/s
Ø62	21,100	14,500	1,900	2 m/s

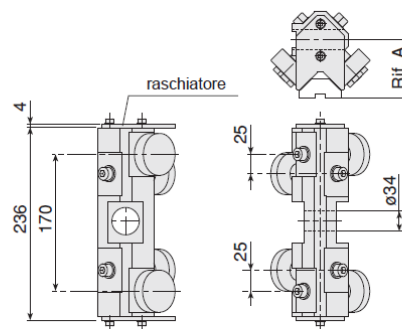
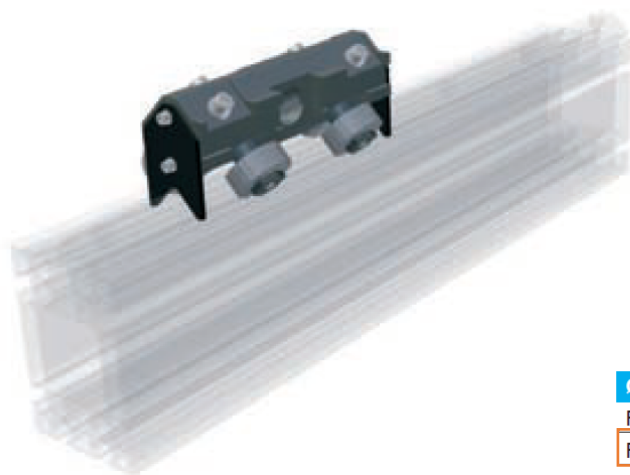
Spare roller with pin	Weight [kg]	Code
Ø30 Concentric	0.02	406.0056
Ø40 Concentric	0.22	205.0464
Ø40 Excentric ( $\pm 0.75 \text{ mm}$ )	0.25	205.0463
Ø52 Concentric	0.4	205.0163
Ø62 Concentric	0.55	205.0165

Z-Axis:

### Type G roller slides (roller Ø52) and H type (roller Ø62) for V-shaped guide rails 55x25

Tilting 4-roller slides Suitable for assembly pins: **Type 9**

Use the roller slide eccentric pin to adjust the backlash along the plane between the guide rails.



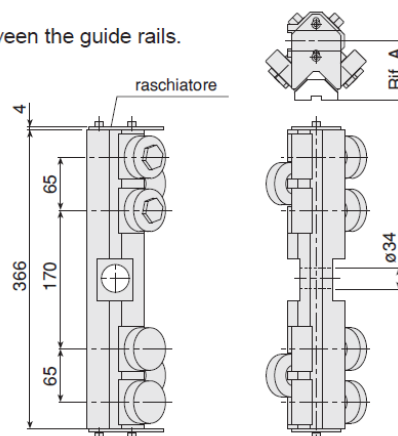
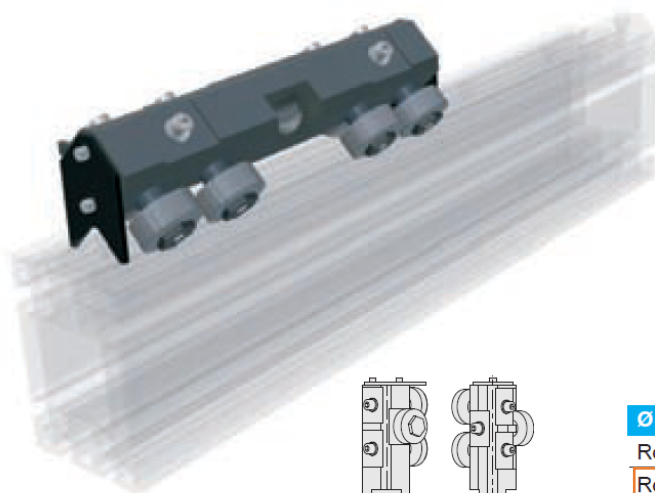
Ø Rollers	Rif. A	
Roller Ø52	71.75	
Roller Ø62	78.85	
Technical characteristics	Ø52	Ø62
N° roller	4	4
Weight [kg.]	3,2	3.8
Spare parts code	204.1520	204.1521

Y-Axis:

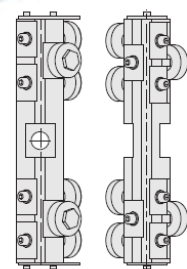
### I-type roller slides (roller Ø52) and L-type (roller Ø62) for V-shaped guide rails V 55x25

Tilting 4-roller slides Suitable for assembly pins: **Type 9**

Use the roller slide eccentric pin to adjust the backlash along the plane between the guide rails.



Ø Roller	Rif. A	
Roller Ø52	71.75	
Roller Ø62	78.85	
Technical characteristics	Ø52	Ø62
N° rollers	6	6
Weight [kg.]	4.9	5.9
Spare parts code	204.1522	204.1523



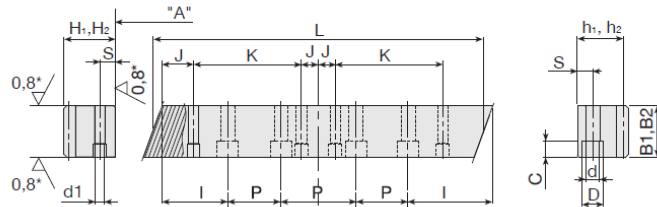
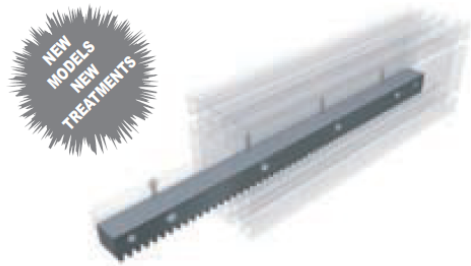
**K version**

inverted roller position see page 63

### Rack & Pinion:

#### Helical teeth

Rack with helical teeth, right-hand 19° 31' 42", pressure angle 20°.



\*Surface machining **not available** on KBD, KTD versions

Type	Rs	Hardness tooth	Quality	Precision
KBD CK45 normalized milled	650 N/mm <sup>2</sup>	-	Q8	0.085mm/300mm
KTD CK45 normalized induction-hardened teeth	650 N/mm <sup>2</sup>	> HRC 56	Q9	0.085mm/300mm
KSD CK45 norm. induction-hard., teeth and ground sides	> 650 N/mm <sup>2</sup>	≥ HRC 56	Q6	0.025mm/300mm
KRD AISI 9840 alloy steel induct.-hard., teeth and ground sides	> 900 N/mm <sup>2</sup>	HRC 60 c.a.	Q6	0.025mm/300mm

### Pinion Gears

Straight or helical toothed pinions (19° 31' 42" left-hand). Pressure angle 20°.

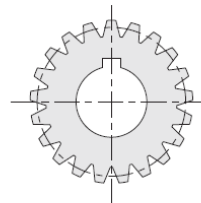
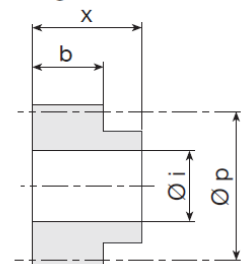


Fig. B

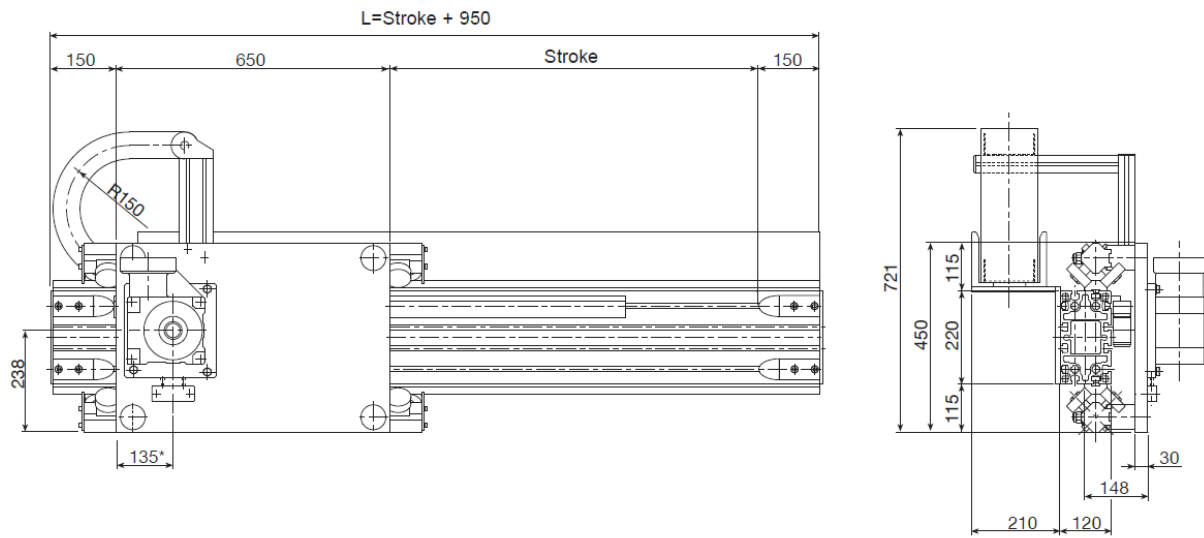


Type	Material	Surface treatment	RS	Quality	Tooth hardness
ND Pinion with helical teeth	Special steel	tempered and hardened	>900 N/mm <sup>2</sup>	Q8	HRC 50
RD Pinion with ground helical teeth	16MnCr5	temp. induction-hardened	>900 N/mm <sup>2</sup>	Q7	HRC 60

#### Helical tooth pinion

mod.	Weight	Z	Øp	Øi avail.	b	x	Code
2	0.2	21	44.56	22	28	56	201.0005
2	0.6	30	63.66	22,30,32	28	56	201.0012
3	0.8	20	63.66	22,25,30,32	28	65	201.0007
3	1.4	28	89.13	25,30,32	28	65	201.0013
4	1.5	18	76.39	32	40	75	201.0009
4	2.8	25	106.10	55	40	80	201.0014

### 2x PARP200



\* For indication only, variable according to the gearbox chosen

### Technical Data

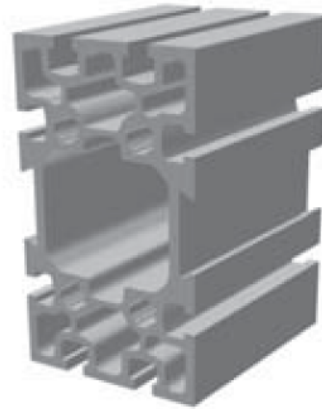
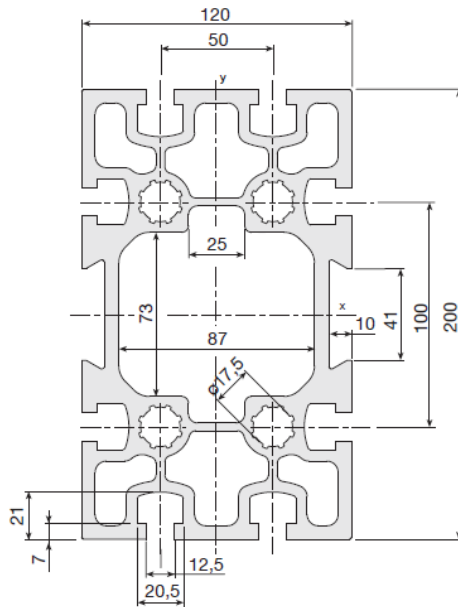
Construction data	X-axis
Load-bearing beam (see page 15/17)	Logyca
Rack (tempered, helical teeth: module KTD)	module 4 [mm <sup>2</sup> ]
Guide rail	55x25 (hardened and polished)
Translation	4 roller slides with 4 rollers Ø62
Room available for energy chain	115x45 [mm <sup>2</sup> ]
Ø Pinion pitch diameter type ND	76.39 (as an alternative 106.10) [mm]



### Profile:

The system is made of the following profiles:

X-Axis: 2x VALYDA Profile



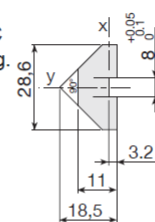
VALYDA (120x200)	code 202.1146	
Weight	21	kg/m
Max. length	12	m
Moment of inertia I <sub>x</sub>	32,980,000	mm <sup>4</sup>
Moment of inertia I <sub>y</sub>	12,980,000	mm <sup>4</sup>
Polar moment of inertia I <sub>z</sub>	10,500,000	mm <sup>4</sup>
Bending section modulus W <sub>x</sub>	329,800	mm <sup>3</sup>
Bending section modulus W <sub>y</sub>	215,130	mm <sup>3</sup>
Only anodized up to	9	m

\* Dovetail inserts available in various size

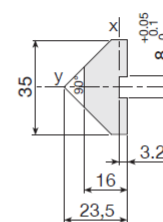
### Guiding System:

#### Steel V-shaped guide rails

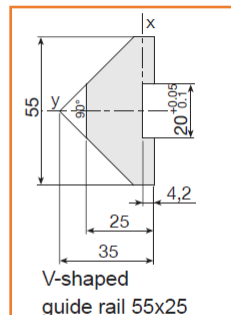
Material: high-performance alloy steel: R > 900 MPa  
 Hardened and tempered: core hardness 240 HB.  
 Induction-hardened and polished. Track hardness > 58 HRC  
 Guide rail 28.6x11 code 203.0012 has anti-oxidation coating.  
 Anti-oxidation coating is available for all versions upon request.



V-shaped guide rail 28.6x11



V-shaped guide rail 35x16



V-shaped guide rail 55x25

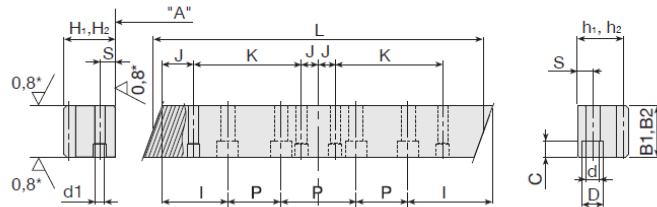
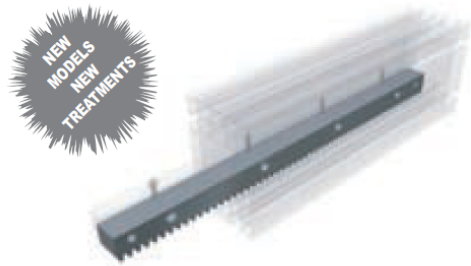
Features	28.6x11	35x16	55x25	
Moment of inertia I <sub>x</sub>	2,148	7,932	41,906	mm <sup>4</sup>
Moment of inertia I <sub>y</sub>	14,490	36,405	194,636	mm <sup>4</sup>
Weight	2	3.5	7.8	Kg/m



### Rack & Pinion:

#### Helical teeth

Rack with helical teeth, right-hand 19° 31' 42", pressure angle 20°.



\*Surface machining **not available** on KBD, KTD versions

Type	Rs	Hardness tooth	Quality	Precision
KBD CK45 normalized milled	650 N/mm <sup>2</sup>	-	Q8	0.085mm/300mm
KTD CK45 normalized induction-hardened teeth	650 N/mm <sup>2</sup>	> HRC 56	Q9	0.085mm/300mm
KSD CK45 norm. induction-hard., teeth and ground sides	> 650 N/mm <sup>2</sup>	≥ HRC 56	Q6	0.025mm/300mm
KRD AISI 9840 alloy steel induct.-hard., teeth and ground sides	> 900 N/mm <sup>2</sup>	HRC 60 c.a.	Q6	0.025mm/300mm

### Pinion Gears

Straight or helical toothed pinions (19° 31' 42" left-hand). Pressure angle 20°.

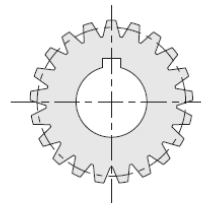
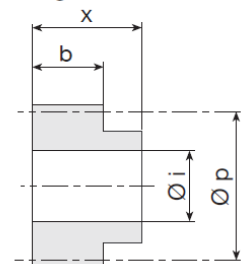


Fig. B



Type	Material	Surface treatment	RS	Quality	Tooth hardness
ND Pinion with helical teeth	Special steel	tempered and hardened	>900 N/mm <sup>2</sup>	Q8	HRC 50
RD Pinion with ground helical teeth	16MnCr5	temp. induction-hardened	>900 N/mm <sup>2</sup>	Q7	HRC 60

#### Helical tooth pinion

mod.	Weight	Z	Øp	Øi avail.	b	x	Code
2	0.2	21	44.56	22	28	56	201.0005
2	0.6	30	63.66	22,30,32	28	56	201.0012
3	0.8	20	63.66	22,25,30,32	28	65	201.0007
3	1.4	28	89.13	25,30,32	28	65	201.0013
4	1.5	18	76.39	32	40	75	201.0009
4	2.8	25	106.10	55	40	80	201.0014