

Positioning system HDU 12

Specifications

Belt drive

Function:

Combined lifting-/rotating- unit consisting of two rigid lightweight aluminium profiles and 2 ball rails size 12 - this combination keeps the masses low. The lifting motion is achieved trough a backlash-free pre-tensioned belt.

The rotating motion is realized by a small servo motor on the backside of the guide body profile. An additional bearing protects the motor from axial forces. 4 bores in the carriage are used for mounting the unit.

Fitting position:

As required, max. 400 mm

Carriage mounting:

4 bores in the carriage

Mounting: (e.g. gripper)

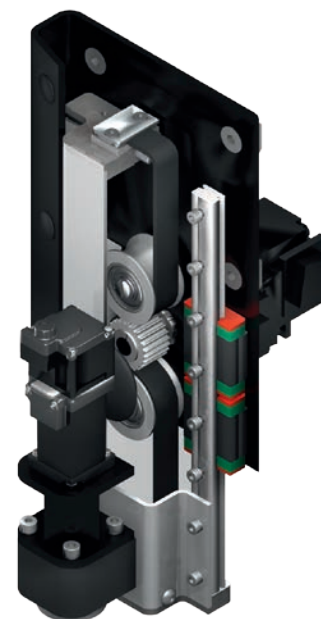
Rotary flange (dimensions see next page)

Belt type:

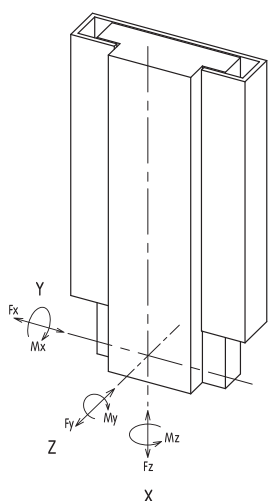
HTD 3M12 reinforced with Kevlar

Carriage support:

Ball rails size 12



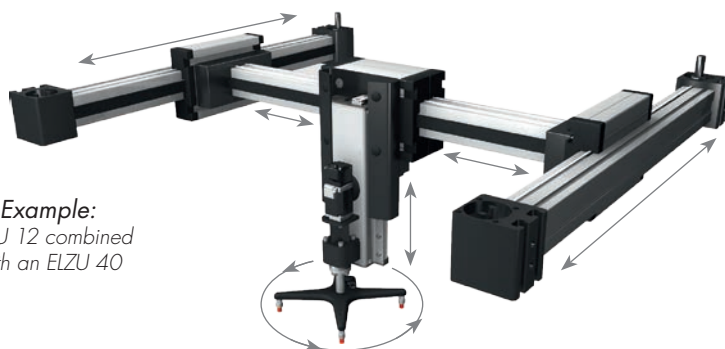
Forces and torques



Size	HDU 12	
	static	dynamic
Forces/Torques		
F_x (N)	160	120
F_y (N)	230	200
F_z (N)	230	200
M_x (Nm)	14	12
M_y (Nm)	16	14
M_z (Nm)	16	14
All forces and torques related to the following:		
existing values	$\frac{F_y}{F_{y_{dyn}}} + \frac{F_z}{F_{z_{dyn}}} + \frac{M_x}{M_{x_{dyn}}} + \frac{M_y}{M_{y_{dyn}}} + \frac{M_z}{M_{z_{dyn}}} \leq 1$	
table values		
No-load torque		
Nm	0,3	
Speed		
(m/s) max	1,4	
Tensile force		
permanent (N)	120	
0,2 s (N)	160	
Geometrical moments of inertia of aluminium profile		
I_x mm ⁴	13366,21	
I_y mm ⁴	125018,26	
Elastic modulus N/mm ²	70,000	

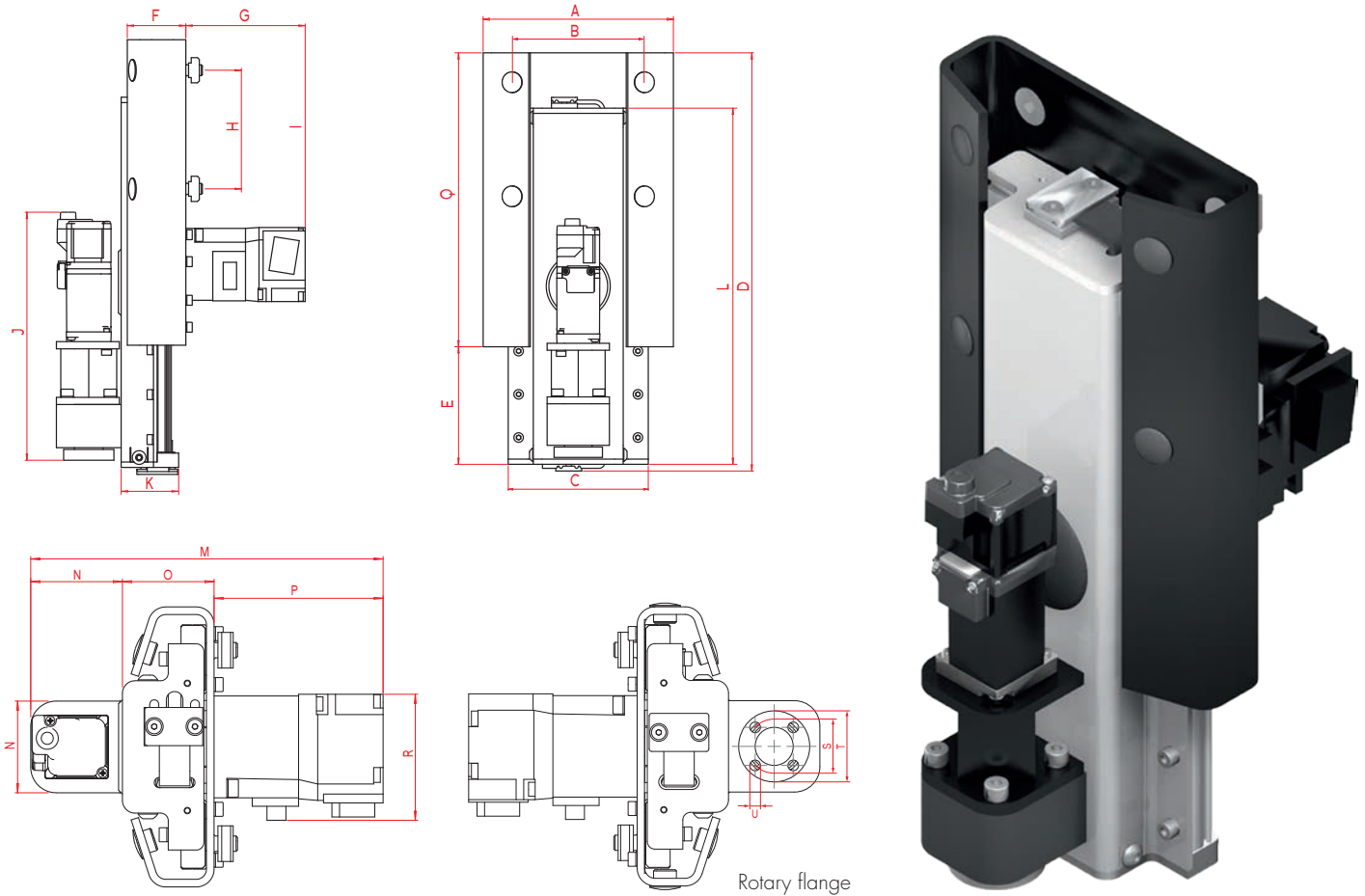
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Example:
HDU 12 combined
with an ELZU 40



Positioning system HDU 12

Dimensions (mm)



Rotary flange

Size	Basic length L	A	B	C	D	E	F	G	H	I	J	K	M	N	O	P	Q	R	S	T	U	Basic weight	Weight per 100 mm
HDU 12	206	110	76	81	241,9	68	32,6	66,4	66	104,5	138	32	138,4	36	36	66,4	170	49,5	15	28	M5	1,53 kg	164,24 g

0 Choice of guide body profile:

- (0) Standard (1) corrosion-protected screws
- (4) expanded corrosion-protected version (depending on the availability of components)

Belt	HTD 3M 12
Pulley	20 teeth
mm/rev.	60

HDU 12 0 0 0 0 0 0 0 0 0306 — — Basic length + stroke = total length

Pos. 1 2 3 4 5 6 7

Sample ordering code:
HDU 12 with standard body profile, 100 mm stroke