

Positioning system HDU 12

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)

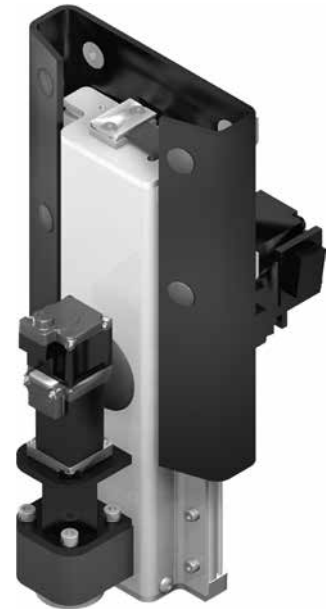
Rotary flange (dimensions see next page)

Belt type:

HTD 3M12 reinforced with Kevlar

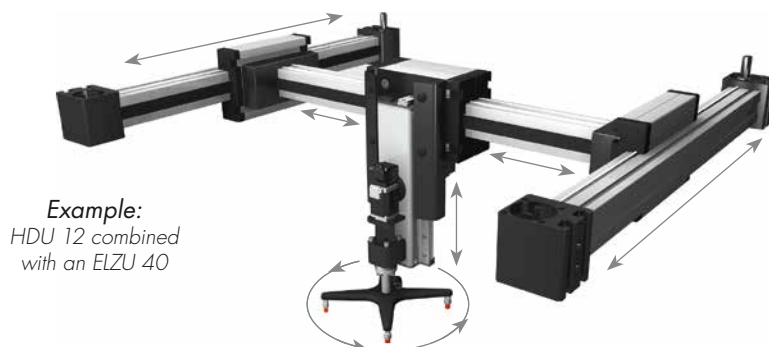
Carriage support:

Ball rails size 12



Forces and torques	Size	HDU 12		
	Forces/Torques	static	dynamic	
	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	$\frac{F_y}{F_{y_{dyn}}} + \frac{F_z}{F_{z_{dyn}}} + \frac{M_x}{M_{x_{dyn}}} + \frac{M_y}{M_{y_{dyn}}} + \frac{M_z}{M_{z_{dyn}}} \leq 1$		
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			

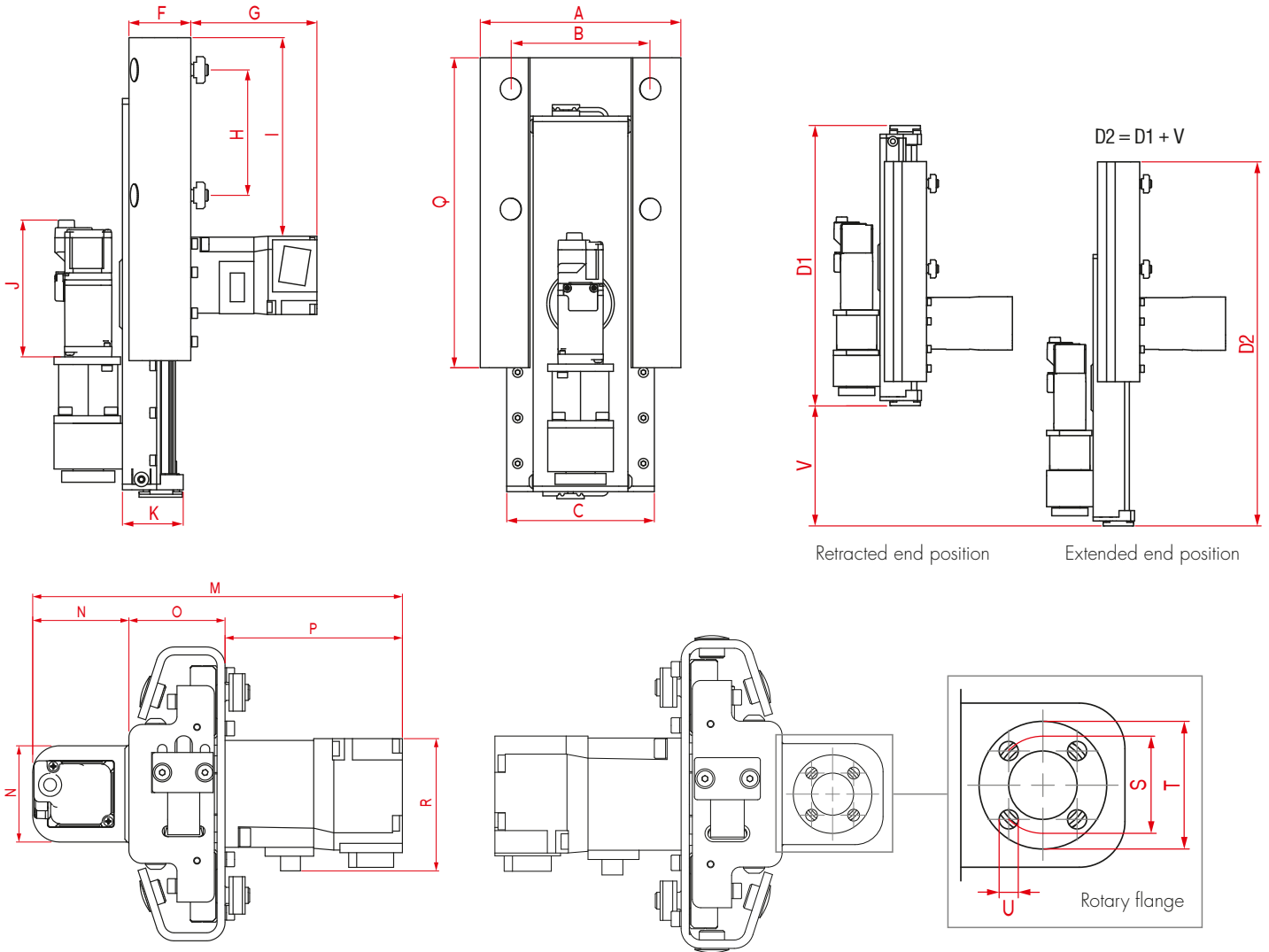
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Example:
HDU 12 combined
with an ELZU 40

Positioning system HDU 12

Dimensions (mm)



J, P and R depending on engine H and Q depending on mounting dimensions V = Hub

Size	A	B	C	D1	D2	F	G	H	I	J	K	M	N	O	P	Q	R	S	T	U	V	Basic weight	Weight per 100 mm
HDU 12	110	76	81	189	282	33	67	66	105	72	32	139	36	36	67	170	50	15	28	M5	93	1,69 kg	165 g

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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