

Attachment- and Auxiliary Supplement



baseplate



threaded bold
(external thread)



shackle
toggle joint



angle joint with
clamping head

limit switch
1- or 2- polar



way limit switch

potentiometer



electronic position
transmitter



cardan joint



bracket
for pivot

switch box
incl.
overload unit



brake motor



norm motor

handwheel
with or without electrical shutdown



Yoke end

gear motor

Technical Explanation

Calculations:

1. Determination of push-pull forces

For the calculations of push-pull forces for **EUBA**-actuators you have to consider the acceleration factors as specified in the chart below. This leads to the following calculation models:

a) Horizontal movement b) Vertical movement

$$F_B = m \cdot a = \frac{G}{g} \cdot a \qquad F = F_B + F_R + G$$

$$F_R = \mu \cdot G$$

$$F = F_B + F_R$$

- F_B = acceleration force [N]
- m = body weight [kg]
- a = acceleration [m/s²]
- G = load [N]
- g = gravitational force [m/s²]
- F_R = frictional force [N]
- μ = coefficient of friction
- F = necessary force of EUBA-actuator [N]

2. Acceleration factors

According to the specific velocity you have to use the following acceleration factors as an average value:

v [mm/s]	25	45	75	90	120	150	175	180
a [m/s ²]	1	2	3	4	5	6	7	8

3. Operating frequency

The operating frequency (s/min) of the EUBA-actuators depend on the maximum switching operations of the commercial motors and its electrical self-heating.

Based on years of experience, the maximum operating frequency of the EUBA-actuators meets half of the maximum no-load switchings of the motor per minute.

Hence we may infer the following average values :

P [kW]	0,09	0,12	0,18	0,25	0,37	0,55	0,75
s [1/min]	35	35	30	25	25	20	20

P [kW]	1,1	1,5	2,2	3	4	5,5	7,5
s [1/min]	18	15	15	10	8	6	6

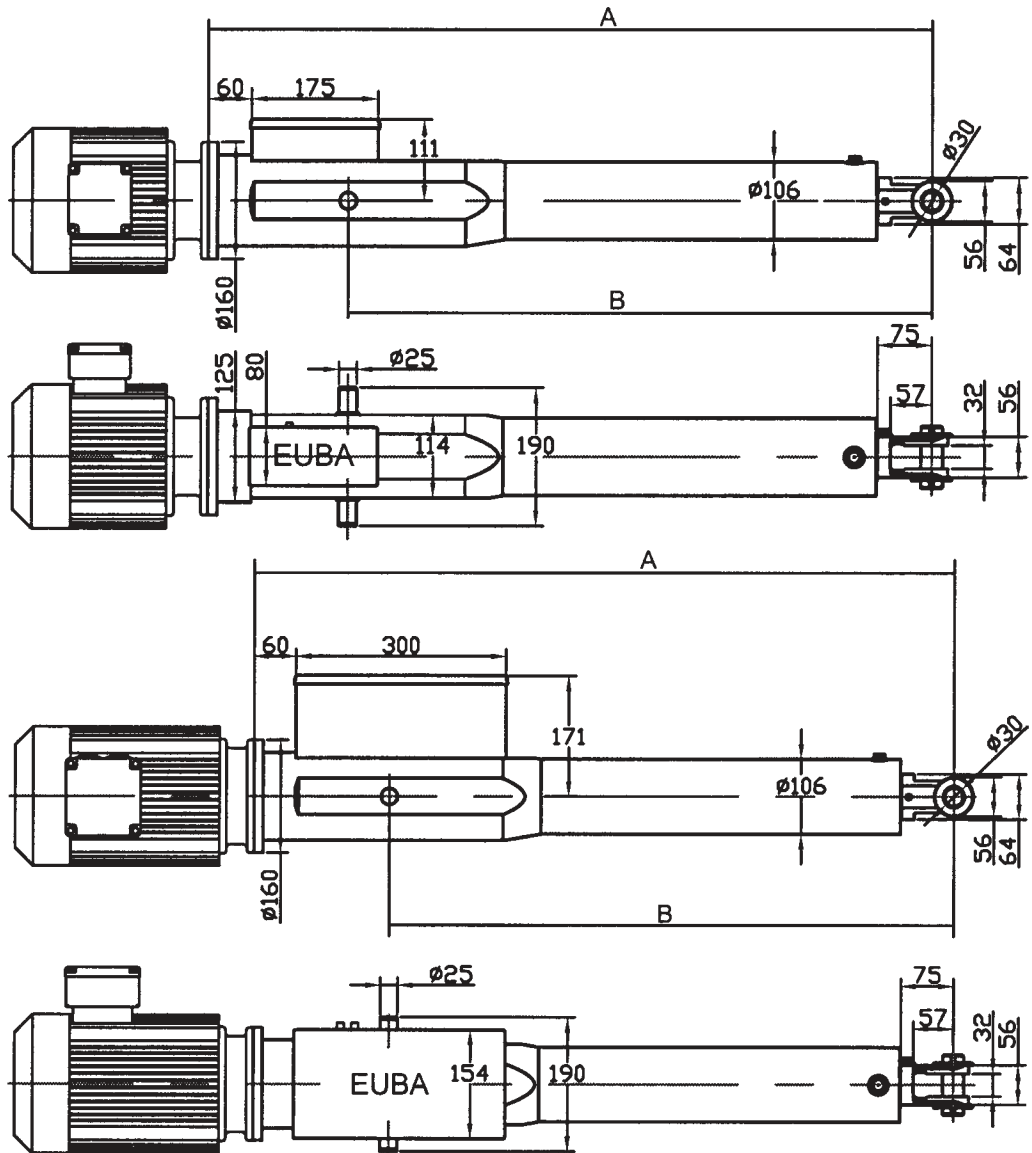
Above given data is meant for n=1500 min⁻¹ and a maximum ambient temperature of t=40° C.

The operating frequency depends on stroke and velocity also.

Attention:

A motor-switch over from a left-handed into a right-handed rotation or vice versa is not allowed without a shutdown of the motor itself.

Type B4:



Mounting dimension actuator in mm (weight: 60-80 kg)													
stroke	0	50	100	150	200	250	300	350	400	450	500	550	600
A-size	502	552	602	652	702	752	802	852	902	952	1002	1052	1102
B-size	308	358	408	458	508	558	608	658	708	758	808	858	908
stroke	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
A-size	1152	1202	1252	1302	1352	1402	1452	1502	1552	1602	1652	1702	1752
B-size	958	1008	1058	1108	1158	1208	1258	1308	1358	1408	1458	1508	1558

Actuator dimensions can vary, especially the motor dimensions due to different brands.

B-size changeable (+/- 100 mm)

Motor dimensions depending on motor type and supplier

Power chart:

P in kW in accordance with DIN IEC								
v in mm/s		5	25	40	63	80	94	118
F in daN	500	0,09	0,37	0,75	1,10	1,50	1,50	2,20
	750	0,12	0,55	1,10	1,50	2,20	2,20	3,00
	1000	0,18	0,75	1,50	2,20	-	3,00	4,00
	1500	0,25	1,10	2,20	-	-	-	-
	2000	0,37	1,50	3,00	-	-	-	-
	2500	0,37	2,20	3,00	-	-	-	-

Forces in between min. and max. can be realised continuously.

Standard design:

- Pivot
- Clevis

Special design:

- Brackets
- Foot mounting
- Cardan joint
- Special fixing
- Shackle toggle joint
- Angle ball

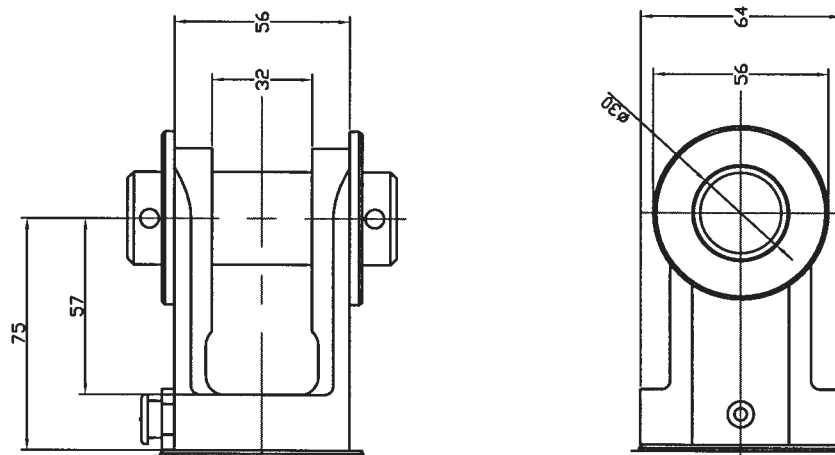
Actuator:

- Steel, with overload switches
- Acme screw thread spindle
- Spindle bearing system, on both sides supported by spring piles
- Chrome plated push rod with internal torsion protection

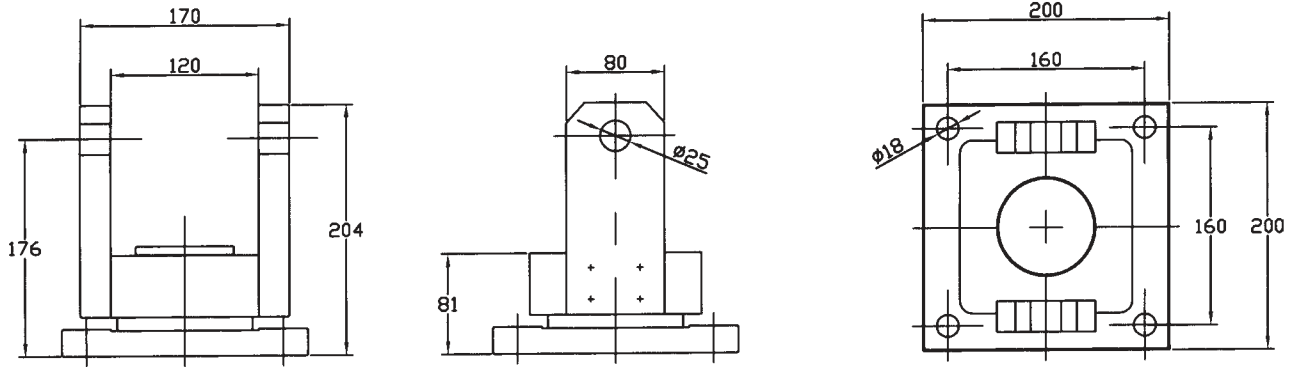
Motor:

Attachment of DIN IEC flange- and gear motors (manufacturer independent)

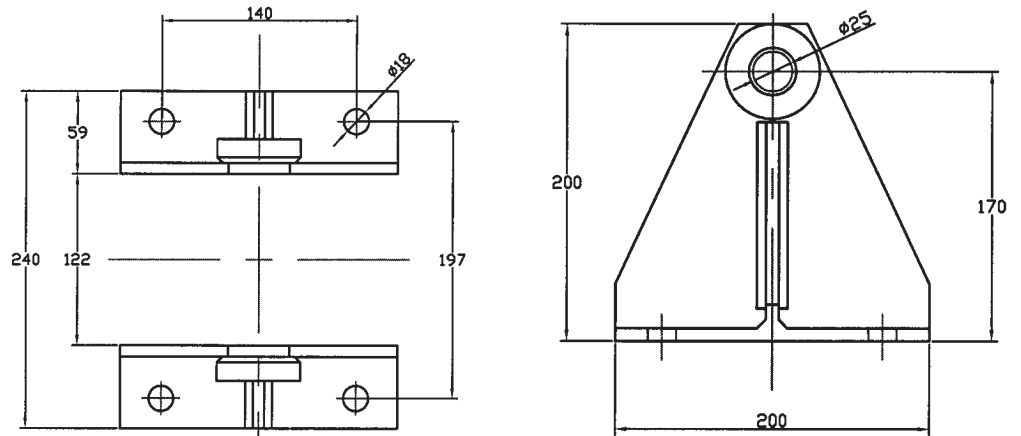
Clevis:



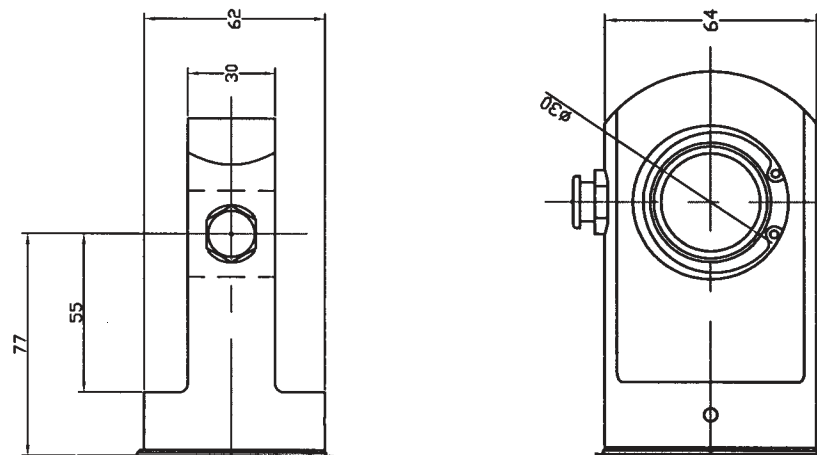
Cardan joint:



Brackets for pivot:



Shackle toggle joint:



Please use Fax request sheet on page 29 for a detailed technical layout.
 Minor changes in dimensions are possible due to production tolerances.