OSCILLATING DRIVE HEAD TYPE ST
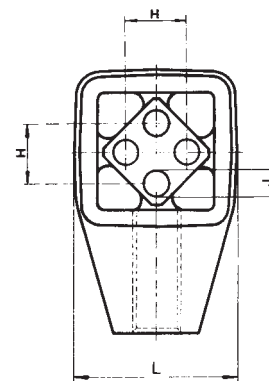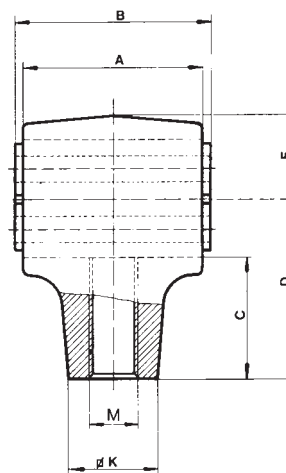
Art. No.	Type	F	$\sphericalangle \alpha$ max.	n_{err} max. in min^{-1}	A	$B_{-0.3}^{0}$	C	D	E	H	$J_{0}^{+0.5}$	K	L	M	Weight in kg
07 031 001	ST 18	400	10°	1200	50	55	31.5	45	20	$12^{\pm0.3}$	Ø 6	22	39	M 12	0.19
07 041 001	ST 18 L	400	10°	1200	50	55	31.5	45	20	$12^{\pm0.3}$	Ø 6	22	39	M 12 L	0.19
07 031 002	ST 27	1000	10°	1200	60	65	40.5	60	27	$20^{\pm0.4}$	Ø 8	28	54	M 16	0.42
07 041 002	ST 27 L	1000	10°	1200	60	65	40.5	60	27	$20^{\pm0.4}$	Ø 8	28	54	M 16 L	0.42
07 031 003	ST 38	2000	10°	800	80	90	53	80	37	$25^{\pm0.4}$	Ø 10	42	74	M 20	1.05
07 041 003	ST 38 L	2000	10°	800	80	90	53	80	37	$25^{\pm0.4}$	Ø 10	42	74	M 20 L	1.05
07 031 004	ST 45	3500	10°	800	100	110	67	100	44	$35^{\pm0.5}$	Ø 12	48	89	M 24	1.83
07 041 004	ST 45 L	3500	10°	800	100	110	67	100	44	$35^{\pm0.5}$	Ø 12	48	89	M 24 L	1.83
07 031 005	ST 50	6000	10°	600	120	130	69.5	105	48	$40^{\pm0.5}$	M 12 x 40	60	93	M 36	5.50
07 041 005	ST 50 L	6000	10°	600	120	130	69.5	105	48	$40^{\pm0.5}$	M 12 x 40	60	93	M 36 L	5.50
07 031 006	ST 60	12000	6°	400	200	210	85	130	60	45	M 16 x 22	80	116	M 42	16.30
07 041 006	ST 60 L	12000	6°	400	200	210	85	130	60	45	M 16 x 22	80	116	M 42 L	16.30
07 031 007	ST 80	24000	6°	400	300	310	100	160	77	60	M 20 x 28	100	150	M 52	31.00
07 041 007	ST 80 L	24000	6°	400	300	310	100	160	77	60	M 20 x 28	100	150	M 52 L	31.00

F = max. acceleration force in N

Mountings for higher loads (up to 63 000 N) available on request

Material Structure

The housings up to size ST 45 are made out of light metal die cast, from type ST 50 in nodular cast; inner square in light alloy profile.

Typical Calculation

Given:

Weight of trough	= 200 kg
Material on trough	= 50 kg
of this 20% coupling effect	= 10 kg
Total weight of oscillating mass m	
(trough and coupling effect)	= 210 kg
Eccentric radius R	= 14 mm
Speed n_{err}	= 320 min^{-1}
Connecting rod length L	= 600 mm
Ratio   R : L   = 1 : 0.023; α = ±1.3°

Since the ratio R : L is very low (< 0.1) it is possible to achieve harmonic excitation.

Wanted:

Acceleration force F in N

$$F = m \cdot R \cdot 0.001 \cdot \left(\frac{2\pi}{60} \cdot n_{err}\right)^2$$

$$= 210 \cdot 14 \cdot 0.001 \cdot \left(\frac{2\pi}{60} \cdot 320\right)^2 = 3301\ N$$

Selected: 1 piece of ST 45

Guidelines for Fitting

For ideal conditions the force introduction should be applied slightly ahead of the centre of gravity S and 90° to the angle β. The element axis must be 90° to the longitudinal axis of the trough and run centrally to the centre of gravity S. Fixing is done with shaft screws of 8.8 quality (analogous to fixing the universal joint support).

ROSTA