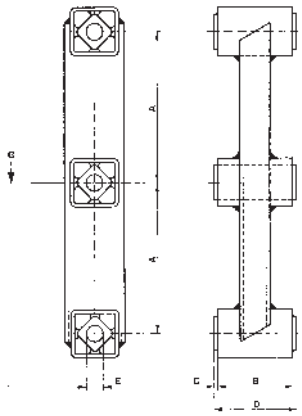
Double Suspension

Type AD-C



Art. No.	Type	G K = 2	G K = 3	G K = 4	n_{err}	sw	c_d	A	B	C	D	E	Weight in kg
07 101 001	AD-C 18	150	120	100	640	17	22	100	50	2.5	55	$13^{\ 0}_{-0.2}$	0.84
07 101 002	AD-C 27	300	240	200	590	21	32	120	60	2.5	65	$16^{+0.5}_{+0.3}$	1.84
07 101 003	AD-C 38	600	500	400	510	28	45	160	80	5	90	$20^{+0.5}_{+0.2}$	4.09
07 101 004	△ AD-C 45	1200	1000	800	450	35	50	200	100	5	110	$24^{+0.5}_{+0.2}$	6.08

G = max. loading in N per suspension
K = oscillating machine factor
n_{err} = max. frequency in min^{-1} at ∢ 10°, from zero ∢ ±5°
sw = max. amplitude in mm
c_d = dynamic spring value in N/mm at ∢ ±5°, in frequency range 300 – 600 min^{-1}
Suspensions for higher loads or asymmetric distances between centres A available on request

△ available on request

Material Structure

Rocker arm made out of welded steel structure; inner square in light alloy profile.

Typical Calculation

Given:

Weight of trough = 200 kg
Weight of counter mass = 200 kg
Material on trough = 50 kg
of this 20 % coupling effect = 10 kg
Total weight of oscillating mass m
(trough, counter mass and coupling effect) = 410 kg

Eccentric radius R = 14 mm

Speed n_{err} = 360 min^{-1}

Ocillating machine factor $K = \frac{\left(\frac{2\pi}{60} \cdot n_{err}\right)^2 \cdot R}{9810}$ = 2.0

Total spring value $c_t = m \cdot \left(\frac{2\pi}{60} \cdot n_{err}\right)^2 \cdot 0.001$ = 582.7 N/mm

Wanted:
Number of double rocker suspensions of size 38 for example

a) in resonance operation
Here the total spring value of the suspensions must be about 10 % above the total spring value c_t of the installation. From this follows:
Spring value c_d of the rocker suspension AD 38 = 45 N/mm

Number of suspensions $z = \frac{c_t}{0.9 \cdot c_d} = \frac{582.7}{0.9 \cdot 45}$ = 14.4 pieces

Selected: 14 of AD-P 38 or
AD-C 38

b) without resonance operation
Here the total weight G must be taken up by the total number of rocker suspensions. The oscillating machine factor K = 2.0 must be taken into account, also the admissible loading of one AD 38 under acceleration 2 g = 600 N

Number of suspensions $z = \frac{m \cdot g}{G} = \frac{410 \cdot 9.81}{600}$ = 6.7 pieces

Selected: 8 of AD-P 38 or
AD-C 38