Oscillating Mountings for Gyratory Sifters

Type AK – Universal Joints

AK 100-5: Ø30 H7 x 30
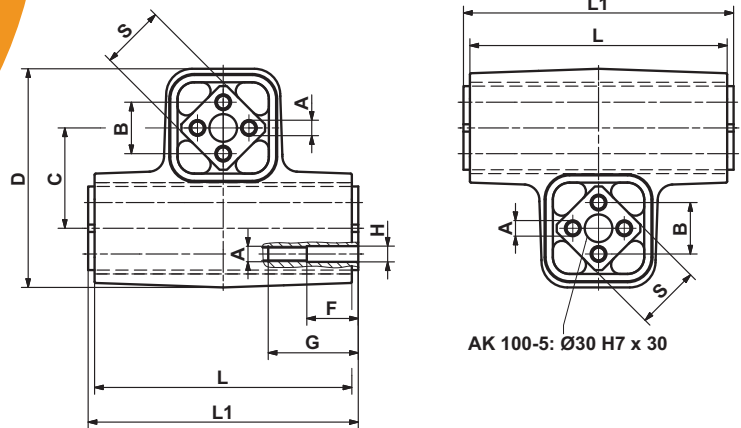
Art. No.	Type	Max. load G [N] by system:			A	B	C	D	F	G	ø H	L	L1 ±0.2	□ S
		hanging	staying crank driven	staying free oscillating										
07 061 001	AK 15	160	128	80	$5^{+0.5}_{0}$	$10^{\pm0.2}$	27	54	–	–	–	60	65	15
07 061 002	AK 18	300	240	150	$6^{+0.5}_{0}$	$12^{\pm0.3}$	32	64	–	–	–	80	85	18
07 061 003	AK 27	800	640	400	$8^{+0.5}_{0}$	$20^{\pm0.4}$	45	97	–	–	–	100	105	27
07 061 004	AK 38	1'600	1'280	800	$10^{+0.5}_{0}$	$25^{\pm0.4}$	60	130	–	–	–	120	130	38
07 061 005	AK 45	3'000	2'400	1'500	$12^{+0.5}_{0}$	$35^{\pm0.5}$	72	156	–	–	–	150	160	45
07 061 011	AK 50	5'600	4'480	2'800	M12	$40^{\pm0.5}$	78	172	40	70	12.25	200	210	50
07 061 012	AK 60	10'000	8'000	5'000	M16	45	100	218	50	80	16.5	300	310	60
07 061 013	AK 80	20'000	16'000	10'000	M20	60	136	283	50	90	20.5	400	410	80
07 061 009	AK 100-4	30'000	24'000	15'000	M24	75	170	354	50	100	25	400	410	100
07 061 010	AK 100-5	40'000	32'000	20'000	M24	75	170	340	50	100	25	500	510	100

G = max. load in N per support column

Art. No.	Type	Weight [kg]	Material structure			Bolting on inner square
			Inner square	Housing	Protection	
07 061 001	AK 15	0.4	Light metal profile	Steel welded construction	ROSTA blue painted	End-to-end screw or threaded bar quality 8.8
07 061 002	AK 18	0.6				
07 061 003	AK 27	1.9		Nodular cast iron		
07 061 004	AK 38	3.7				
07 061 005	AK 45	6.7				
07 061 011	AK 50	11.4				
07 061 012	AK 60	37.4	Steel			Shoulder studs quality 8.8 for optimizing frictional connection
07 061 013	AK 80	85.4				
07 061 009	AK 100-4	124				
07 061 010	AK 100-5	137		Steel welded construct.		

Usual drive parameters out of practice

– Driving speed n_s
  up to approx. 380 min^{-1}
– Oscillation angle α
  up to approx. ±3.5°

General advises

The operating parameters shall not exceed the guidelines of the "frequency spectrum" in the Technology part of the ROSTA general catalogue.

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Calculation Example

Machine type: staying sifter with positive crank drive

| Description	Symbol	Example	Unit	Calculation formula
Total oscillating mass (material included)	m	1600	kg	**Angle of oscillation**
Eccentric radius	R	25	mm	
Length of support column	X	600	mm	$\alpha = \arctan \left(\dfrac{R}{X} \right)$ [°]
Angle of oscillation (out of R and X)	$\alpha\pm$	2.4	°	
Revolutions	n_s	230	min⁻¹	
Quantity of support columns	z	4	pcs.	**Load per column**
Load per column	G	3924	N	$G = \dfrac{m \cdot g}{z}$ [N]
Max. load capacity per column with AK 50 mounts	G_{max}	4480	N	

Element selection: 4 columns consisting of 2 pcs. AK 50 → **8 psc. AK 50**

Installation guidelines for AK universal joints

① Install the two AK per column in the same line, in order that the distance X between the two inner squares of the 90° "distorted" element parts and the two inner squares of the "in-line" element parts is identical.

② Install the four identical connection columns (provided by the customer) between the two AK. Also by slightly inclined screen-boxes the distance or length X of the connection columns has to be identical – compensate the inclination with e.g. the higher positioning of the fixation brackets by the discharge-end of the screen-box.

③ Up to the size AK 50 we do recommend to use our fixation brackets type **WS** for the AK mounting on machine frame and screen-box – see ROSTA general catalogue "Rubber suspensions".

④ To avoid unwanted tilting motions or screen-box distortions (by standstill) we do recommend the installation of the upper AK-brackets on the level of the center of gravity "S" of the screen-box.
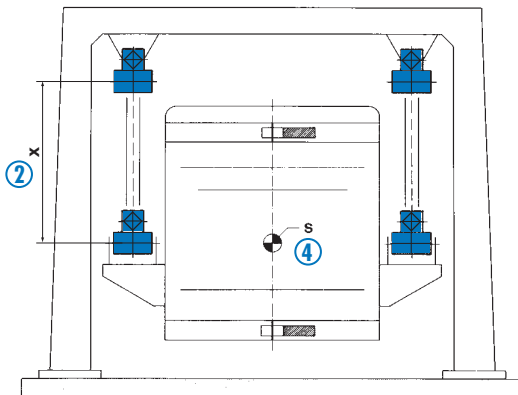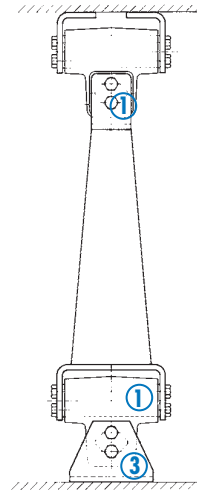
Hanging and freely oscillating gyratory sifter
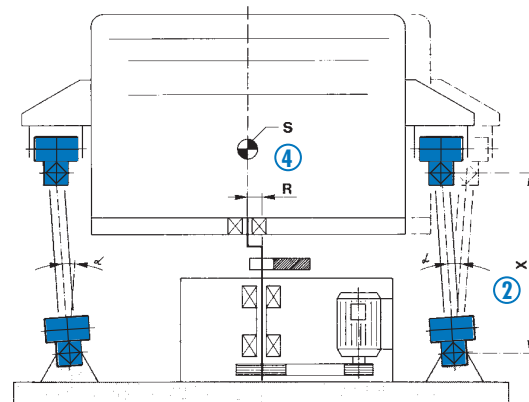
Staying gyratory sifter with positive crank shaft drive

Oscillating Mountings

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