

KEE & SEE URAS VIBRATORS

Features:

Fully enclosed: All vibrator housings are totally enclosed and are suited for use in dusty environment which meet the requirements of the IP-66, International Protection Standards.

Wide selection: Vibrators in 2 to 8 pole are available in 100 models including 50 standard models, permitting wide applications.

Antivibration construction: Antivibration devices developed exclusively for use in our vibrators - such as ductile iron casting for the bracket, special compound for the terminal box, and Antivibration cable for the cable - have been applied to ensure long service life.

Long service life, easy maintenance: Even though the bearings are subjected to severe impacts, URAS vibrators provide a long service life if operated and lubricated properly - more than 5,000 hours for 2-pole models and 10,000 hours for 4- and above models. Moreover, the smaller capacity models are closed type so eliminating the need of lubrication. In medium and large capacity models the periodical lubrication can be carried out from outside.

Powerful vibration: Large-capacity machines use roller bearing which are highly resistant to vibration. Moreover, medium-capacity models have adopted a plastic retainer having superior Antivibration characteristics. Hence, powerful vibrations are generated.

Reduced weight, free installation direction: When modified exclusively for 60Hz district a reduction of 20% in weight can be expected in large-capacity models. The adoption of new Antivibration bearings facilitates installation of all models.

Easy adjustment of forces: Vibratory force can be set easily and steplessly by adjusting the unbalanced weights.

Quiet operation: Unlike the electromagnetic type, which produces impact noise, URAS vibrators are of the rotary type and generate no annoying noise.

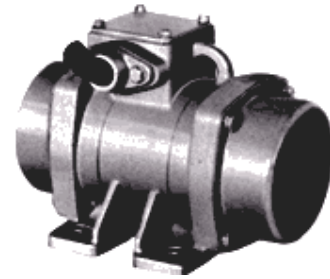
○ Range of Manufacture

Type	No. of poles (P)	No. of types	Capacity (kW)	Vibratory force(kN)
KEE Standard type	2	10	40(W) ~ 3.0	0.5 ~ 40
	4	12	65(W) ~ 7.5	1.5 ~ 110
	6	15	0.2 ~ 18	3 ~ 250
	8	11	0.4 ~ 15	5 ~ 240
Single phase SEE	2	6	15(W) ~ 0.35	0.1 ~ 6

THREE PHASE, fixed type. 2 POLE

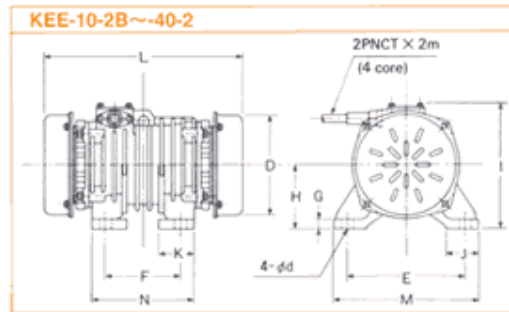
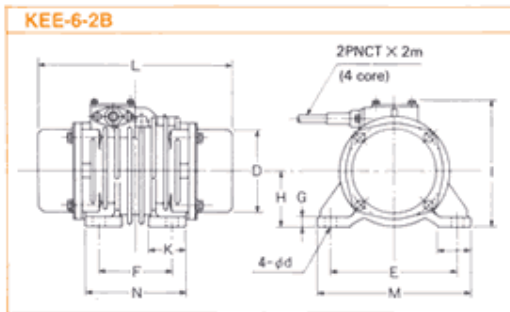
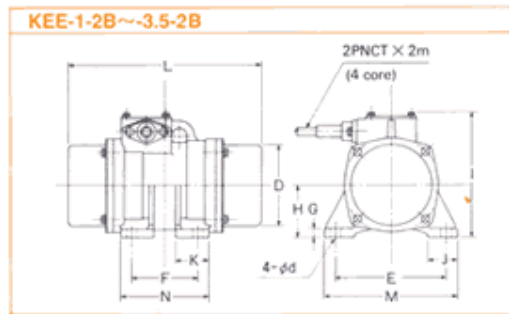
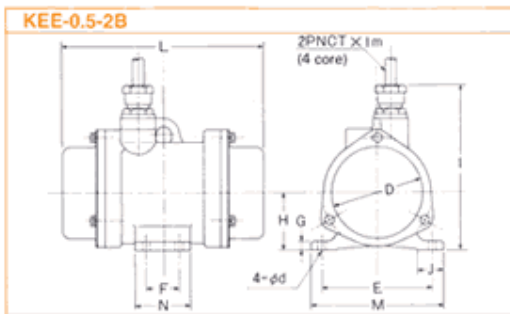
Main applications:

- Hoppers (to prevent discharge difficulties)
- Moulding machines including concrete
- Vibrating feeders (small-capacity resonance vibration type)
- Paper joggers
- Vibrating tables



URAS Vibrators are most frequently applied to hoppers in order to prevent their discharge difficulties. They are also highly estimated in the field of small-capacity vibration applying machines, for their dependable operations and low noise.

■ Three-phase, fixed type. 2 pole



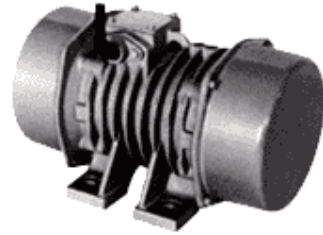
Continuous ratings: Three phase, 415V, 50Hz

Type	Vibratory force (kN)	Output (kW)	Full-load current (A) 50Hz	Dimension (mm)													Mass (kg)
				D	E	F	G	H	I	J	K	L	M	N	d	Bolt dia.	
KEE- 0.5-2B	0.5	40W	0.10	85	100	30	8	52	150	23	—	185	120	50	7	M 6	4.5
KEE- 1-2B	1	75W	0.30	90	120	40	9	56	145	35	—	205	145	65	10	M 8	7.5
KEE- 2-2B	2	0.15	0.42	105	130	80	10	62	160	37	40	215	160	110	12	M 10	9.5
KEE- 3.5-2B	3.5	0.25	0.62	110	150	90	12	71	175	40	45	265	180	120	14	M 12	14
KEE- 6-2B	6	0.4	0.90	125	190	110	15	84	195	50	55	300	230	150	18	M 16	22
KEE- 10-2B	10	0.75	1.4	170	220	120	18	92	210	60	65	350	270	170	22	M 20	35
KEE- 16-2	16	1.2	2.4	170	240	140	22	130	260	70	75	420	300	200	26	M 24	52
KEE- 23-2	23	1.7	3.5	190	260	150	22	142	280	70	80	450	320	210	26	M 24	64
KEE- 30-2	30	2.2	4.2	225	310	170	28	158	320	85	95	500	380	240	33	M 30	92
KEE- 40-2	40	3.0	5.7	225	350	220	33	185	360	100	—	560	430	300	39	M 36	135

THREE PHASE 4 POLE

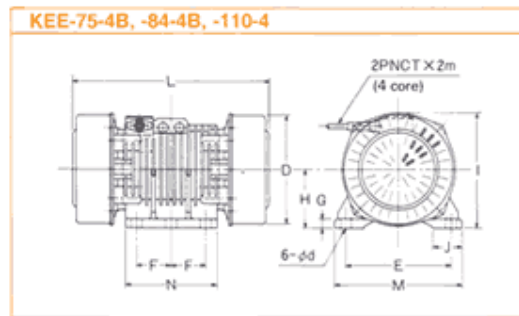
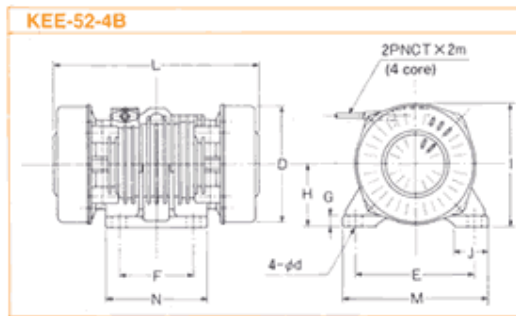
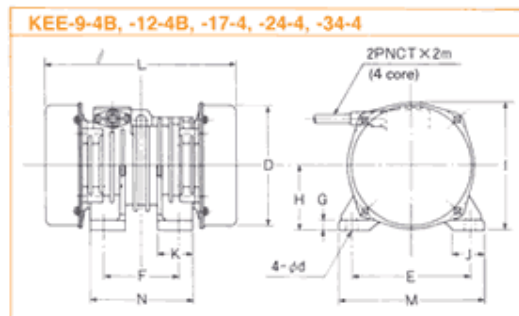
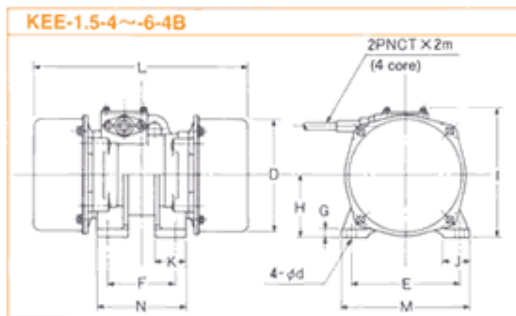
Main applications:

- Concrete hoppers (vibrating plate type)
- Vibrating feeders (medium capacity)
- Vibrating conveyors
- Vibrating hoppers
- Vibrating screens
- Vibrating tables
- Vibrating crushers (small-capacity models)



These types are most popular vibration sources for a variety of vibration applying machines. They are also highly estimated in fields other than above.

■ Three-phase 4 pole



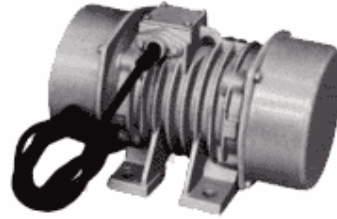
Continuous ratings: Three phase, 415V, 50Hz

Type	Vibratory force (kN)	Output (kW)	Full-load current (A) 50Hz	Dimension (mm)														Mass (kg)
				D	E	F	G	H	I	J	K	L	M	N	d	Bolt da		
KEE- 1.5-4	1.5	65W	0.3	135	120	80	9	75	165	30	38	230	145	105	10	M 8	11	
KEE- 3-4B	3	0.13	0.52	155	150	80	10	84	180	35	40	270	180	110	12	M10	17	
KEE- 6-4B	6	0.25	0.72	170	160	100	12	92	195	40	45	320	190	130	14	M12	24	
KEE- 9-4B	9	0.4	1.1	190	180	110	15	102	210	50	55	340	220	150	18	M16	34	
KEE- 12-4B	12	0.6	1.4	225	220	140	18	120	240	60	65	360	270	190	22	M20	46	
KEE- 17-4	17	0.85	1.9	245	240	140	22	130	260	70	75	420	300	200	26	M24	62	
KEE- 24-4	24	1.1	2.5	265	260	150	22	142	280	70	80	480	320	210	26	M24	84	
KEE- 34-4	34	1.5	3.1	295	310	170	28	158	320	85	95	530	380	240	33	M30	122	
KEE- 52-4B	52	2.2	4.1	345	350	220	33	185	365	100	—	590	430	300	39	M36	180	
KEE- 75-4B	75	3.7	7.3	395	380	125	33	210	415	105	—	630	460	330	39	M ³⁶ _{×6}	245	
KEE- 84-4B	84	5.5	10.8	395	380	125	33	210	415	105	—	670	460	330	39	M ³⁶ _{×6}	270	
KEE- 110-4	110	7.5	13.9	465	440	140	38	240	475	125	—	730	530	370	45	M ⁴² _{×6}	395	

THREE PHASE 6 POLE

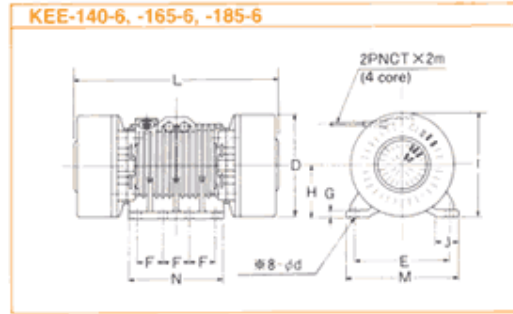
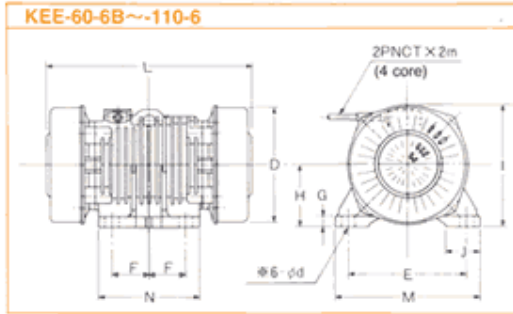
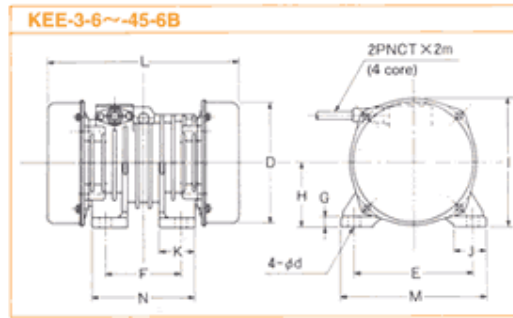
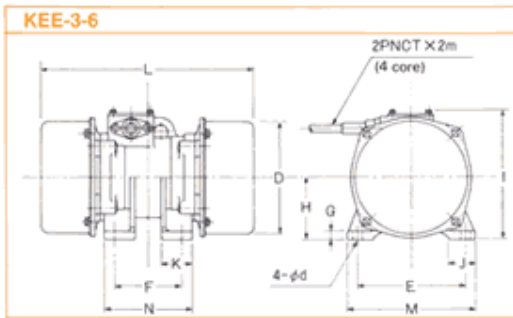
Main applications:

- Vibrating screens (medium capacity)
- Vibrating feeders (large capacity)
- Vibrating grizzly feeders
- Vibrating conveyors
- Vibrating hoppers
- Vibrating tables (shake out, packer)



These types are widely used, same as the 4-pole models. However, these are more frequently used for larger machines than the 4-pole versions.

■ Three-phase 6 pole



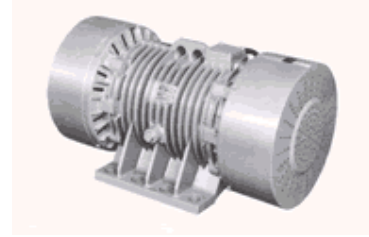
Continuous ratings: Three phase, 415V, 50Hz

Type	Vibratory force (kN)	Output (kW)	Full-load current (A) 50Hz	Dimension (mm)													Mass (kg)
				D	E	F	G	H	I	J	K	L	M	N	d	Bolt dia	
KEE- 3-6	3	0.2	0.83	170	160	100	12	92	195	40	45	330	190	130	14	M12	25
KEE- 5-6	5	0.35	1.0	190	180	110	15	102	210	50	55	370	220	150	18	M16	36
KEE- 9-6B	9	0.6	1.9	225	220	140	18	120	240	60	65	410	270	190	22	M20	54
KEE- 13-6B	13	0.85	2.3	245	240	140	22	130	260	70	75	440	300	200	26	M24	71
KEE- 18-6B	18	1.2	3.2	265	260	150	22	142	280	70	80	500	320	210	26	M24	94
KEE- 24-6B	24	1.6	4.3	295	310	170	28	158	320	85	95	550	380	240	33	M30	125
KEE- 34-6	34	2.2	5.3	345	350	220	33	185	365	100	—	610	430	300	39	M36	175
KEE- 45-6B	45	3.0	6.8	345	350	220	33	185	365	100	—	690	430	300	39	M36	213
KEE- 60-6B	60	3.7	7.8	395	380	125	33	210	415	105	—	700	460	330	39	M36 ×6	270
KEE- 80-6B	80	5.5	11.4	395	380	125	33	210	415	105	—	800	460	330	39	M36 ×6	335
KEE- 110-6	110	7.5	16.1	465	440	140	38	240	475	125	—	820	530	370	45	M42 ×6	460
KEE- 140-6	140	9.0	19.9	515	480	140	38	265	525	125	—	940	570	510	45	M42 ×8	630
KEE- 165-6	165	11.0	24	515	480	140	38	265	525	125	—	980	570	510	45	M42 ×8	690
KEE- 185-6	185	13.0	27	560	520	140	38	290	570	125	—	970	610	510	45	M42 ×8	810

THREE PHASE 8 POLE

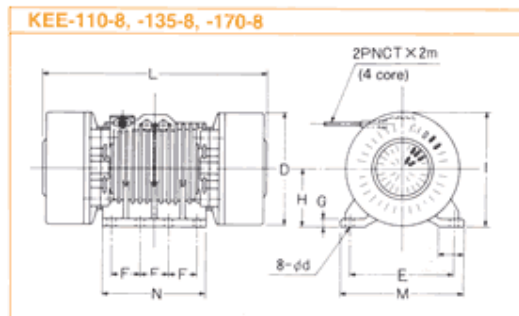
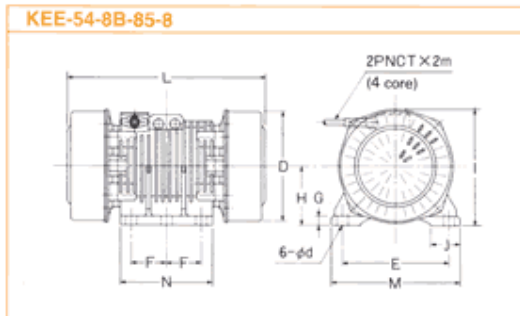
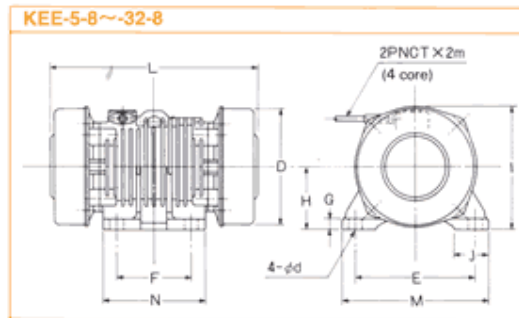
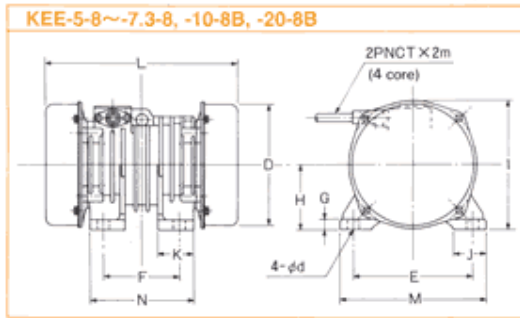
Main applications:

- Vibrating grizzly feeders
- Vibrating screens (large capacity)
- Vibrating feeders (superlarge capacity)
- Vibrating tables (superlarge capacity for steelmaking)
- Vibrating conveyors



These types have been highly rated for their superior durability and safety characteristics in place of belt-driven type vibrating mechanism.

■ Three-phase 8 pole



Continuous ratings: Three phase, 415V, 50Hz

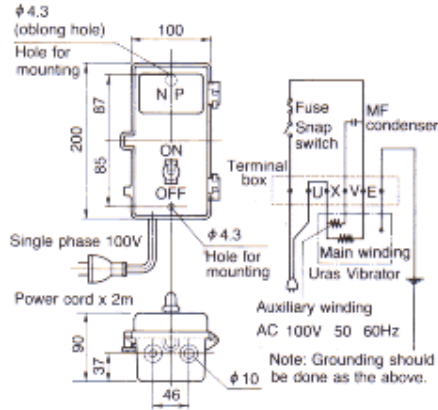
Type	Vibratory force (kN)	Output (kW)	Full-load current (A) 50Hz	Dimension (mm)														Mass (kg)
				D	E	F	G	H	I	J	K	L	M	N	d	Bolt dia		
KEE- 5-8	5	0.4	1.7	225	220	140	18	120	240	60	65	410	270	190	22	M20	52	
KEE- 7.3-8	7.3	0.6	2.2	245	240	140	22	130	260	70	75	440	300	200	26	M24	67	
KEE- 10-8B	10	0.75	3.3	265	260	150	22	142	280	70	80	500	320	210	26	M24	90	
KEE- 20-8B	20	1.5	4.7	295	310	170	28	158	320	85	95	610	380	240	33	M30	149	
KEE- 32-8	32	2.2	6.2	345	350	220	33	185	365	100	—	710	430	300	39	M36	230	
KEE- 54-8B	54	3.7	9.4	395	380	125	33	210	415	105	—	790	460	330	39	M36	327	
KEE- 85-8	85	6.0	18.6	465	440	140	38	240	475	125	—	900	530	370	45	M42	520	
KEE- 110-8	110	7.5	21.2	515	480	140	38	265	525	125	—	1030	570	510	45	M42	685	
KEE- 135-8	135	9.0	22.3	515	480	140	38	265	525	125	—	1080	570	510	45	M42	765	
KEE- 170-8	170	11.0	32.5	560	520	140	38	290	570	125	—	1090	610	510	45	M42	895	

SEE - SINGLE PHASE

SINGLE PHASE VIBRATORS

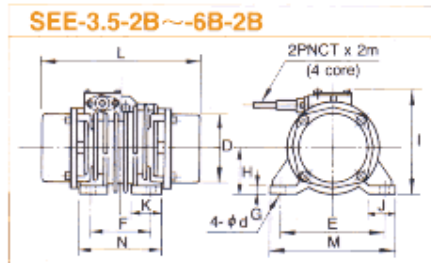
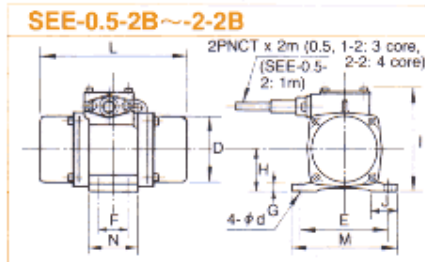
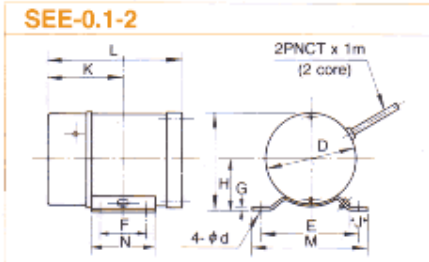
STARTER:

Following three models: SEE-0.1-2, 0.5-2B and 1-2B are inbuilt with capacitor. The larger sizes than SEE-2-2 need a separate starter. Shown in the drawing is our standard starter.



Continuous ratings: Single phase, 240V, 50Hz

Type	Vibratory force (N)	Output (W)	Full-load current (A) 50Hz	Dimension (mm)													Mass (kg)
				D	E	F	G	H	I	J	K	L	M	N	d		
SEE-0.1-2	0.1	15	0.19	85	90	44	2.3	45	90	18	—	135	107	90	8.5	M6	2.5
SEE-0.5-2B	0.5	30	0.28	90	120	40	9	56	165	35	—	190	145	65	10	M8	6.5
SEE- 1-2B	1	65	0.51	105	130	80	10	62	180	37	40	210	180	110	12	M10	9.5
SEE- 2-2B	2	120	0.9	110	150	90	12	71	175	40	45	230	180	120	14	M12	13
SEE-3.5-2B	3.5	220	1.4	125	190	110	13	84	195	50	55	300	230	150	18	M16	21
SEE- 6-2B	6	350	2.1	156	220	120	16	92	210	60	65	290	270	170	22	M20	27



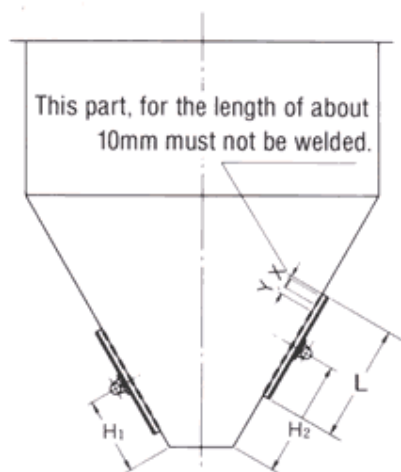
APPLICATION TO HOPPERS

To ensure smooth flow of material through the hopper, the side wall is made steeper and the outlet made larger when the material is not expected to fall through easily. Yet, depending on moisture, temperature, grain size, and retention time, discharge often becomes difficult. In such cases, vibrating the hopper permits material to flow smoothly thus ensuring normal discharge. The type of vibration varies, as the characteristics of the material and the shape of the hopper. However, the effect of vibration is generally in proportion to the product of vibration amplitude and frequency. To produce the same vibration effect, a 4-pole vibrator will have to produce twice the amplitude of a 2-pole vibrator. Since the stress created in a vibrated structure is in proportion to the maximum vibration amplitude, a 2-pole vibrator, with a small amplitude, would be more suitable in general cases. For a hopper designed to withstand great stress, however, a 4-pole vibrator would be a better choice considering its low noise. Standard data and installing dimensions of URAS Vibrator to a conical and angular hopper which does not have reinforced ribs Select suitable ones on the basis of the plate thickness (t) from the following table. The welded portion is minimised. The total amplitude ranges 0.3 to 0.5mm at the centre of installation space of URAS Vibrator. Arrange so that it is within the range referring to the following table for the selection on the basis of the plate thickness (t) of the hopper to be installed.

URAS Vibrator type	Angle dimension	t	E	F	G	A	B	L (m)	a	c	d ₁	d ₂	X	Y	Bolt dimension for d	Bolt dimension d	Construction
KEE-0.5-2	25 × 25 × 3	1.2~ _{2.3}	100	30	72	95	125	0.4 ~ 0.6	6	45	7	7	75	50	M6 × 25	M6 × 25	Fig.1
KEE- 1-2	30 × 30 × 5	2.3~ _{3.2}	120	40	92	120	150	0.5 ~ 0.7	6	60	10	10	75	50	M8 × 30	M8 × 30	
KEE- 2-2	40 × 40 × 5	3.2~ _{4.5}	130	80	145	185	170	0.6 ~ 1.0	9	105	12	12	75	50	M10 × 40	M10 × 40	
KEE-3.5-2	50 × 50 × 6	4.5 ~ 6	150	90	170	220	190	0.7 ~ 1.1	12	120	14	14	75	50	M12 × 50	M12 × 50	
KEE- 6-2	65 × 65 × 6	6 ~ 9	190	110	210	275	240	0.8 ~ 1.2	12	145	18	18	75	50	M16 × 60	M16 × 60	
KEE- 10-2	75 × 75 × 9	9 ~ 12	220	120	240	315	280	1.0 ~ 1.5	16	165	22	22	100	80	M20 × 70	M20 × 70	
KEE- 16-2	90 × 90 × 10	12	240	140	280	370	310	1.1 ~ 1.6	16	190	26	26	100	80	M24 × 80	M24 × 70	
KEE- 23-2	100 × 100 × 13	16	260	150	300	400	330	1.2 ~ 1.8	19	200	26	26	100	80	M24 × 90	M24 × 80	
KEE- 30-2	130 × 130 × 15	16 ~ 19	310	170	370	500	390	1.2 ~ 1.8	22	240	33	33	100	100	M30 × 100	M30 × 90	
KEE- 40-2	150 × 150 × 15	19 ~ 22	350	220	450	600	440	1.4 ~ 2.0	25	300	39	39	100	100	M36 × 120	M36 × 100	

Notes:

- When installing over two vibrators in one hopper their installation levels must be different by 100mm from each other.
H₂~H₁>100mm
- When welding the base angle to the hopper carry out after having tightening the base plate temporarily so as to flatten.
- When tightening use bolts, S washers, flat washers and nuts.
* Tap hole thread dimension



① Conical hopper



Fig. 1

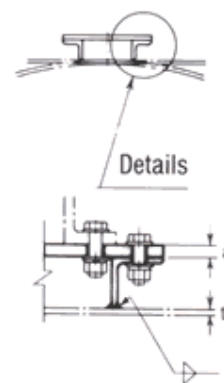


Fig.1