AJAX

Stainless Steel Rotary Electric Vibrators

Applications for Flow Aids, Densification and Metering

- Factory support engineering
- Continuous duty
- Inverter duty rated
- CE certification
- Standard units available in 4, 6 and 8 pole
- Voltages from 115V to 690V in 50/60 hertz
- IP 66 enclosure protection

RENOLD

Superior Technology

www.renold.com

AJAX R/VSS

Stainless Steel Rotary Electric Vibrators
R/VSS Types

Renold stainless steel motors were developed to meet the constantly increasing demands for Food/ Pharmaceutical Grade use. The housing and the terminal box cover of this series are made of cast stainless steel and are hermetically sealed by stainless steel sheet metal covers. The new R/VSS series matches competitive mounting holes. Our full line consists of models operating at frequencies of 900, 1200, 1800 RPM. Eccentric weights can be manually adjusted to vary the centrifugal force from 0 through 100%. A suitable model can be supplied for most any type application or environment, and are rated for continuous operation. Special features include: foot mounting, cast stainless housing, O'ring groove sealed end covers, increased corrosion protection, external ground lug with CE certification.

Applications

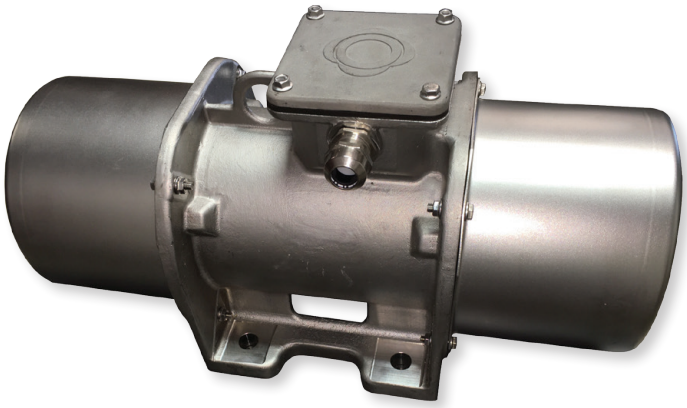
The AJAX R/VSS Series Rotary Electric Vibrators are specifically suited for flow aids, densification, shake-out and metering of solid materials.

Flow Aids

When moisture, temperature or grain size of material causes irregular flow through bins, hoppers, chutes, etc., vibration can be introduced to solve problems. AJAX vibrators break up bridging in storage vessels, keeping material in continuous motion and thus minimizing friction along the transporting body.

Densification or Shakeout

Dual counter-rotating vibrators produce a rectilinear motion, which is ideal for increasing the density of material in a container. The result is 20-50% more material in the container and a reduction in containers, warehouse space and freight costs. The same principle in reverse will shake-out foundry molds.

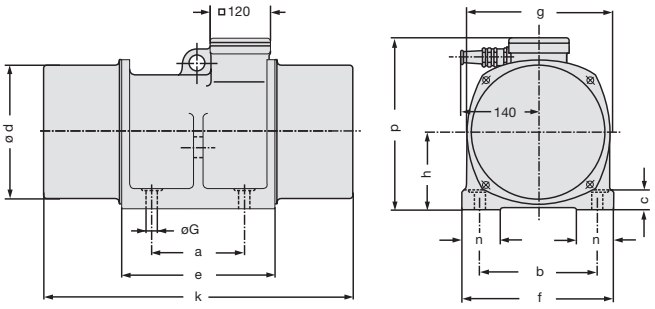


Metering or Transporting

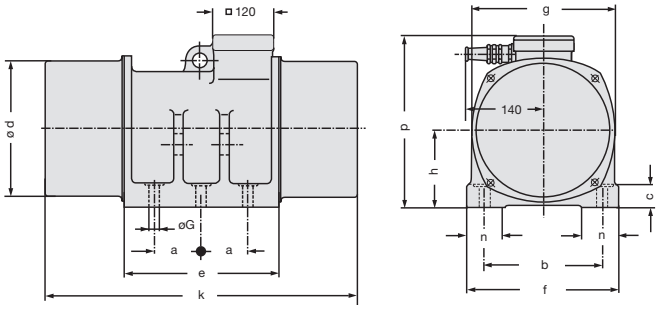
Dual counter rotating vibrators attached to feeders, screeners, sorters and conveyors will meter and transport materials. Both vibrators synchronize producing a rectilinear motion at 30 degrees to the flow path. Special consideration must be given to fabricating a rugged mounting drive triangle as the vibrators must be attached to the same one-piece mounting structure. Here, 1200 and 900 RPM are generally the recommend frequency choices. Special attention must be given to the structures moment of inertia when exceeding 1200 RPM. A dual magnetic starter having a single starter with two overloads is required for operation (refer to page 7 diagram). Other enhancements include: variable speed control for tuning the flow rate or fast/dribble feed control and dynamic braking to cut off the flow immediately.

1800 RPM

4 Pole 230/460/3/60



TYPE R/VSS DWG #2

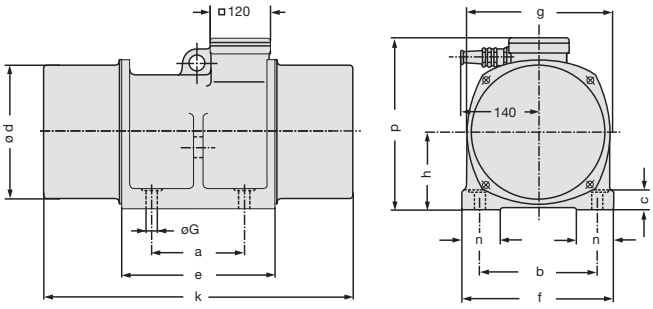


TYPE R/VSS DWG #3

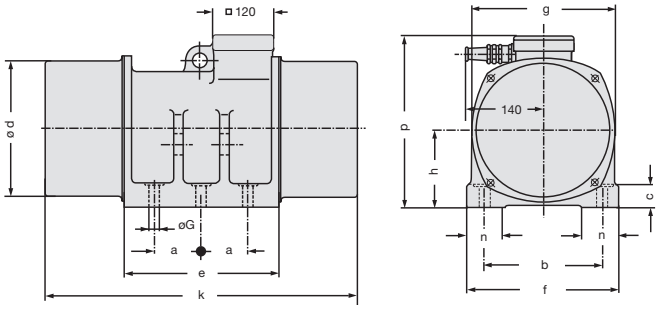
Model	HP	Max Force (lbs)	Amp Draw 460	Wt (lbs)	Unbal	Draw Ref	A Ref	B	C	D	E	F	g	G	H	K	N	P
R/VSSA 30-4	0.4	1198	0.89	66	26	#2	5.51	6.69	0.59	6.34	7.56	8.27	7.09	0.71	4.53	16.06	2.20	8.86
R/VSSA 40-4	0.4	1598	0.89	71	35	#2	5.51	6.69	0.59	6.34	7.56	8.27	7.09	0.71	4.53	16.06	2.20	8.86
R/VSSB 60-4	1.05	2396	1.81	99	52	#2	5.51	6.69	0.71	7.56	8.35	8.66	8.82	0.71	4.49	16.38	2.36	10.16
R/VSSB 75-4	1.05	2997	1.81	104	65	#2	5.51	6.69	0.71	7.56	8.35	8.66	8.82	0.71	4.49	16.38	2.36	10.16
R/VSSB 90-4	1.05	3595	1.81	106	78	#2	5.51	6.69	0.71	7.56	8.35	8.66	8.82	0.71	4.49	16.38	2.36	10.16
R/VSSB 125-4	1.05	4993	1.81	123	108	#2	5.51	6.69	0.71	7.56	8.35	8.66	8.82	0.71	4.49	19.53	2.36	10.16
R/VSSC 150-4	1.88	5991	2.80	192	130	#3	3.27	9.06	0.91	9.84	10.00	11.02	11.10	0.87	5.91	18.23	2.95	12.05
R/VSSC 200-4	1.88	7990	2.80	203	174	#3	3.27	9.06	0.91	9.84	10.00	11.02	11.10	0.87	5.91	18.23	2.95	12.05

1200 RPM

6 Pole 230/460/3/60



TYPE R/VSS DWG #2

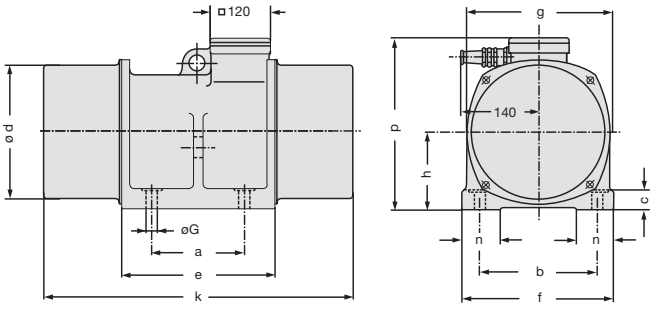


TYPE R/VSS DWG #3

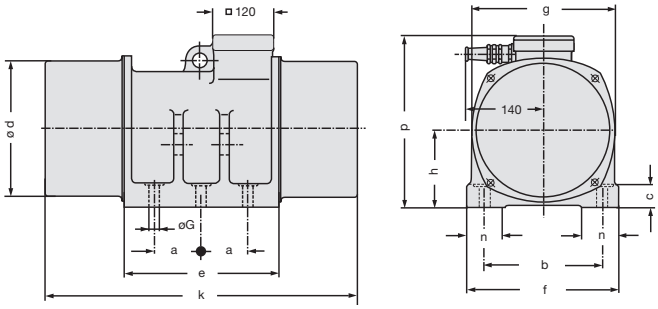
Model	HP	Max Force (lbs)	Amp Draw 460	Wt (lbs)	Unbal	Draw Ref	A Ref	B	C	D	E	F	g	G	H	K	N	P
R/VSSA 40-6	0.27	710	0.89	71	35	#2	5.51	6.69	0.59	6.34	7.56	8.27	7.09	0.71	4.53	16.06	2.2	8.86
R/VSSA 55-6	0.27	978	0.89	77	48	#2	5.51	6.69	0.59	6.34	7.56	8.27	7.09	0.71	4.53	16.06	2.2	8.86
R/VSSA 75-6	0.27	1333	0.89	82	65	#2	5.51	6.69	0.59	6.34	7.56	8.27	7.09	0.71	4.53	19.61	2.2	8.86
R/VSSB 90-6	0.67	1598	1.52	115	78	#2	5.51	6.69	0.71	7.56	8.35	8.66	8.82	0.71	4.49	16.38	2.36	10.16
R/VSSB 125-6	0.67	2219	1.52	123	108	#2	5.51	6.69	0.71	7.56	8.35	8.66	8.82	0.71	4.49	19.53	2.36	10.16
R/VSSB 150-6	0.67	2664	1.52	134	130	#2	5.51	6.69	0.71	7.56	8.35	8.66	8.82	0.71	4.49	19.53	2.36	10.16
R/VSSB 201-6	0.67	3552	1.52	148	174	#2	5.51	6.69	0.71	7.56	8.35	8.66	8.82	0.71	4.49	22.44	2.36	10.16
R/VSSC 200-6	1.74	3552	3.30	203	174	#3	3.27	9.06	0.91	9.84	10.00	11.02	11.10	0.87	5.91	18.23	2.95	12.05
R/VSSC 250-6	1.74	4438	3.30	216	217	#3	3.27	9.06	0.91	9.84	10.00	11.02	11.10	0.87	5.91	20.2	2.95	12.05
R/VSSC 300-6	1.74	5326	3.30	234	260	#3	3.27	9.06	0.91	9.84	10.00	11.02	11.10	0.87	5.91	20.2	2.95	12.05
R/VSSC 350-6	1.74	6214	3.30	238	304	#3	3.27	9.06	0.91	9.84	10.00	11.02	11.10	0.87	5.91	21.81	2.95	12.05

900 RPM

8 Pole 230/460/3/60



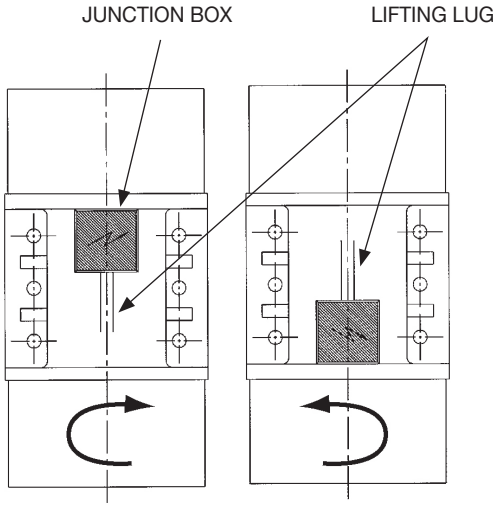
TYPE R/VSS DWG #2



TYPE R/VSS DWG #3

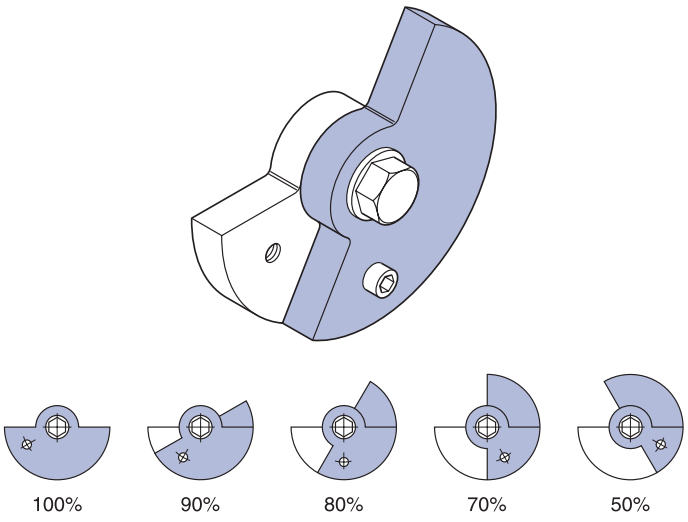
Model	HP	Max Force (lbs)	Amp Draw 460	Wt (lbs)	Unbal	Draw Ref	A Ref	B	C	D	E	F	g	G	H	K	N	P
R/VSSA 30-8	0.20	301	0.53	66	26	#2	5.51	6.69	0.59	6.34	7.56	8.27	7.09	0.71	4.53	16.06	2.20	8.86
R/VSSA 40-8	0.20	400	0.53	71	35	#2	5.51	6.69	0.59	6.34	7.56	8.27	7.09	0.71	4.53	16.06	2.20	8.86
R/VSSA 75-8	0.20	751	0.53	82	65	#2	5.51	6.69	0.59	6.34	7.56	8.27	7.09	0.71	4.53	19.61	2.20	8.86
R/VSSA 95-8	0.20	949	0.53	90	82	#2	5.51	6.69	0.59	6.34	7.56	8.27	7.09	0.71	4.53	19.61	2.20	8.86
R/VSSB 125-8	0.60	1250	1.65	123	108	#2	5.51	6.69	0.71	7.56	8.35	8.66	8.82	0.71	4.49	19.53	2.36	10.16
R/VSSB 150-8	0.60	1499	1.65	134	130	#2	5.51	6.69	0.71	7.56	8.35	8.66	8.82	0.71	4.49	19.53	2.36	10.16
R/VSSB 200-8	0.60	1999	1.65	141	174	#2	5.51	6.69	0.71	7.56	8.35	8.66	8.82	0.71	4.49	22.44	2.36	10.16
R/VSSC 250-8	1.61	2498	3.75	223	217	#3	3.27	9.06	0.91	9.84	10.00	11.02	11.10	0.87	5.91	20.20	2.95	12.05
R/VSSC 300-8	1.61	2997	3.75	234	260	#3	3.27	9.06	0.91	9.84	10.00	11.02	11.10	0.87	5.91	20.20	2.95	12.05
R/VSSC 350-8	1.61	3496	3.75	238	304	#3	3.27	9.06	0.91	9.84	10.00	11.02	11.10	0.87	5.91	21.81	2.95	12.05

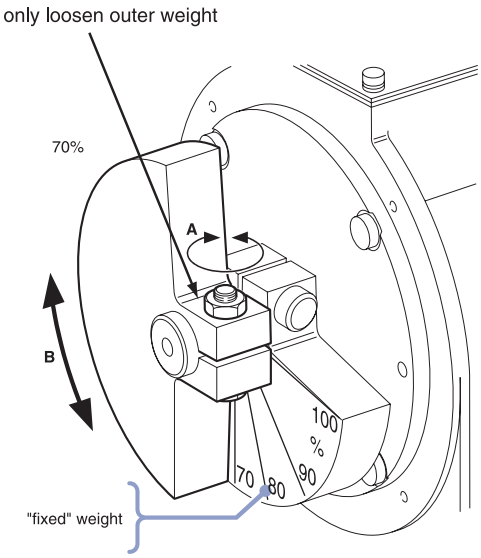
Setting of Eccentric Weight

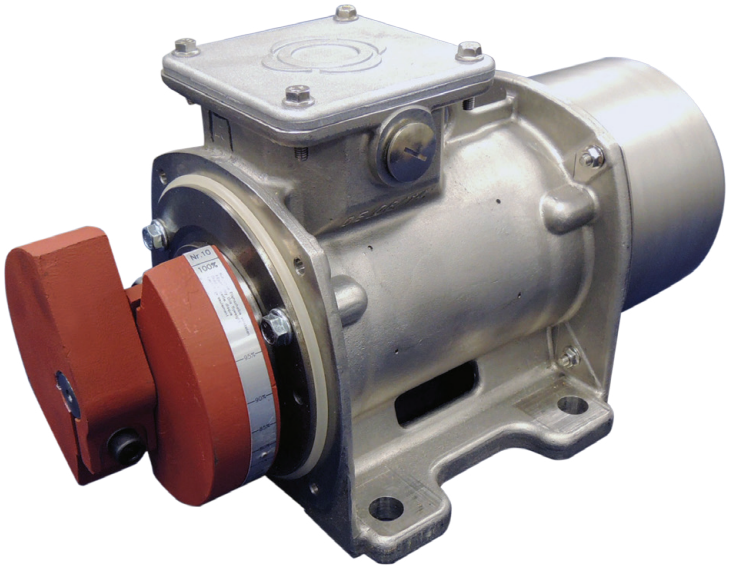


If adjustments are made:

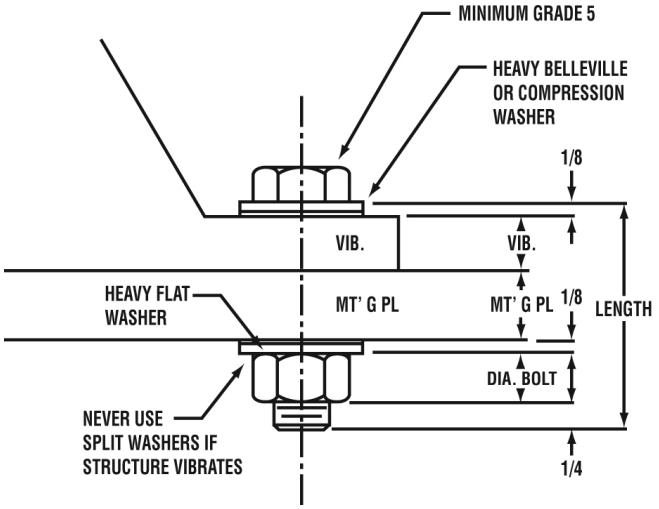
- ensure both ends of the vibrators' eccentric weights equal the same percentage value
- when utilizing dual vibrators in a configuration to produce a rectilinear motion; ensure one is running CW, and one is running CCW
- when utilizing dual vibrators for feeders, and the outer eccentric weight is thinner than the inner weight, one vibrator must be rotated 180˚ so the vibrators synchronize when settings are less than 100% (It is a good rule to do this all of the time)







Proper Hardware/Bolt Sizing



DETERMINING BOLT LENGTHS

- Add 1/8" for all washers
- Add bolt diameter for nut height
- Add 1/4" for thread past nut
- Round stack-up dimensions to largest quarter

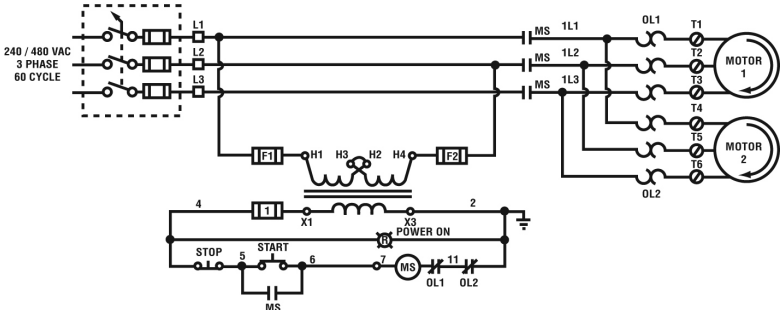
EXAMPLE:

2 1/16" = next size = 2 1/4" large bolt

Dual Magnetic Starter

Notes:

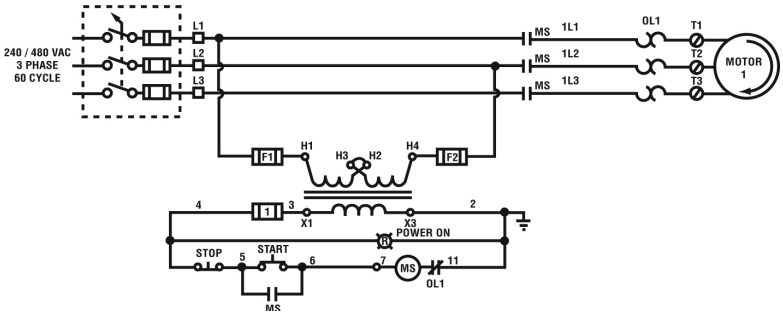
1. Fusible disconnect supplied by others.
2. Control transformer always wired to customer stated input voltage.
3. Control wires are 18 awg.
4. Overload size based upon amperage draw and voltage.
5. Motors should always be wired counter rotating.

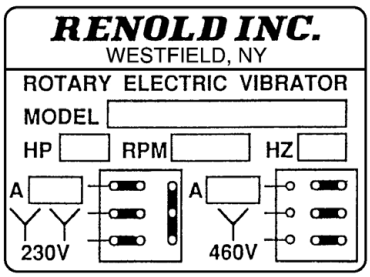


Single Magnetic Starter

Notes:

1. Fusible disconnect supplied by others.
2. Control transformer always wired to customer stated input voltage.
3. Control wires are 18 awg.
4. Overload size based upon amperage draw and voltage.
5. Motor should always be wired to rotate into the product load or flow.





Note:

1. You can not synchronize (2) vibrators with a single starter.
2. You can hookup (2) vibrators to most VFD's, variable speed controllers to synchronize.
3. If you require a VFD, but also need Dynamic Braking Model, you must include a dual magnetic starter in your controls.

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