

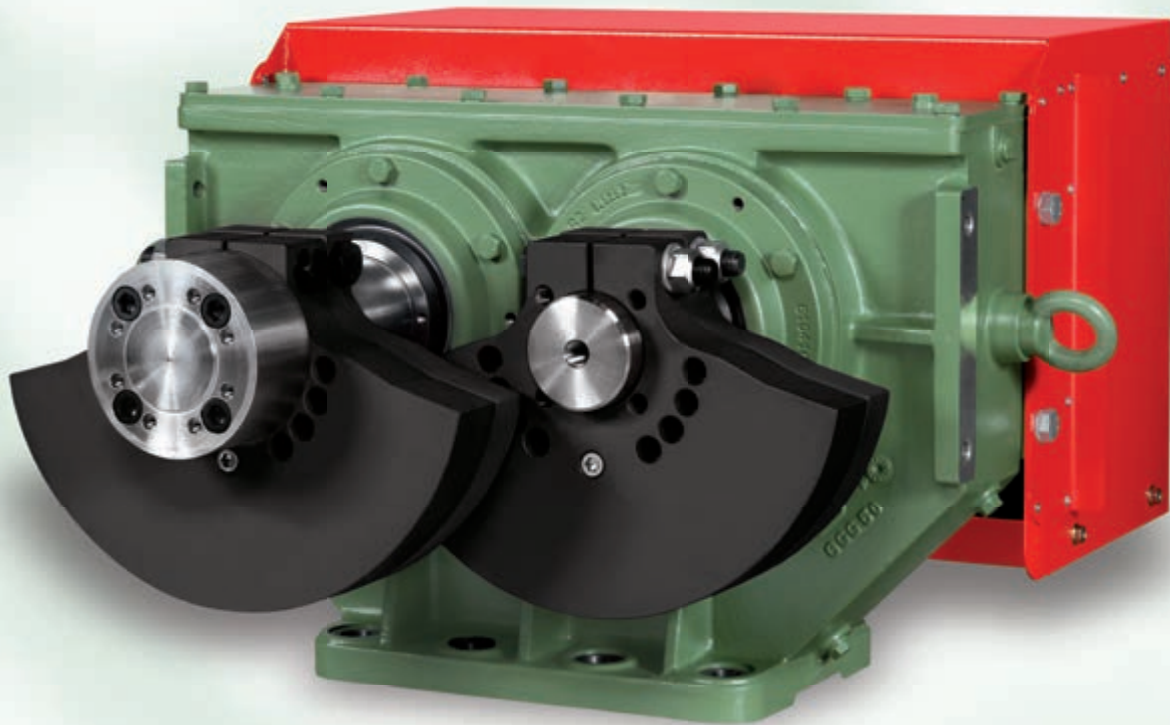
USA

Unbalance exciter

>> Types | Technical data

60 Hz

Type F16 / F17



 **Vimarc**[®]

 FRIEDRICH  Vimarc[®]

>> Philosophy

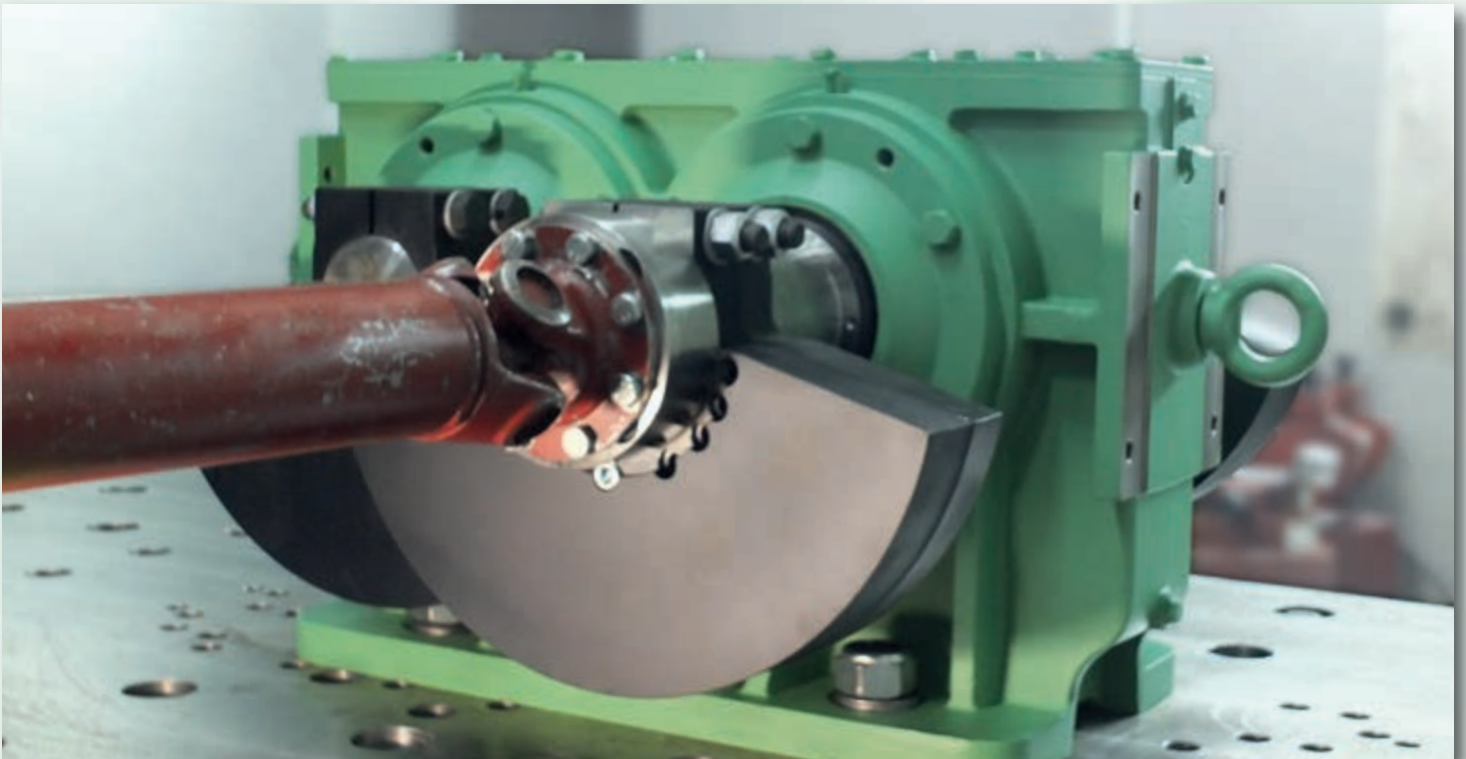


About Us

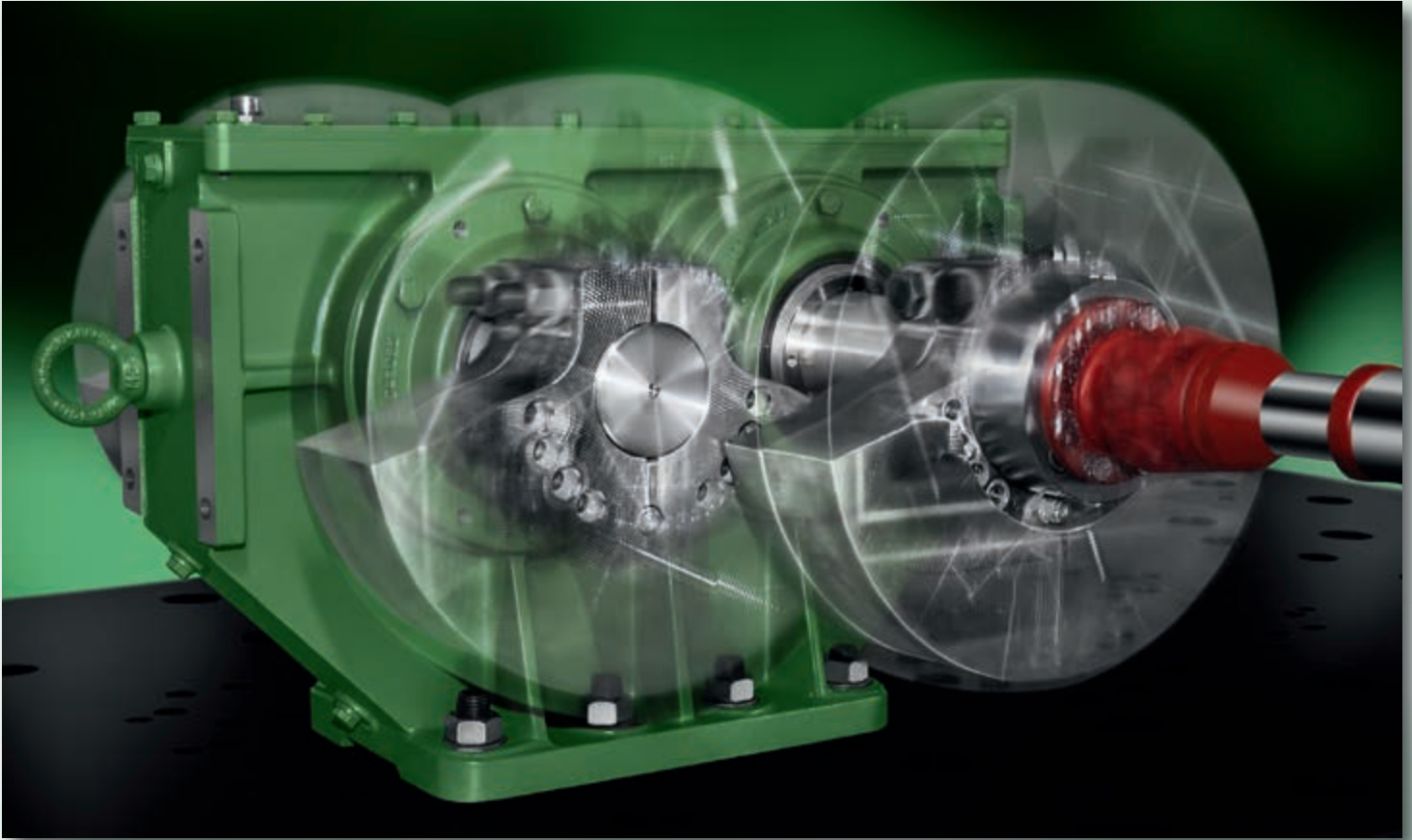
Vimarc was founded in 1951 in Breda, The Netherlands. We now manufacture our products in two locations to better serve the world markets, Houston, TX (since 2007) and Haan, Germany. Since our beginnings, we have been a leader in the supply of high quality, cost effective vibrator motors to industry in explosionproof, standard TENV, and now food grade versions.

Since 1973, our sister company FRIEDRICH Schwingtechnik GmbH was first to introduce a maintenance free vibrator motor product line with lifetime lubrication, as well as introduction of a line of unbalanced vibrating exciters.

Vimarc Inc. is also the distributor for FRIEDRICH Schwingtechnik GmbH vibrator motors and gear driven unbalanced exciters in the North American market, with the purpose of further market development and improving aftermarket support for North American customers.



>> Quality



Vimarc Exciters are made in our ISO 9001 certified facilities with only USA and EU sourced components. Major components are machined inside our own facilities to ensure quality requirements are met.

Based on our large storage facilities and constant procurement of all the spare parts we are not only able to ensure short delivery times of complete unbalance exciters, but also to provide all the spare parts and aftermarket support.

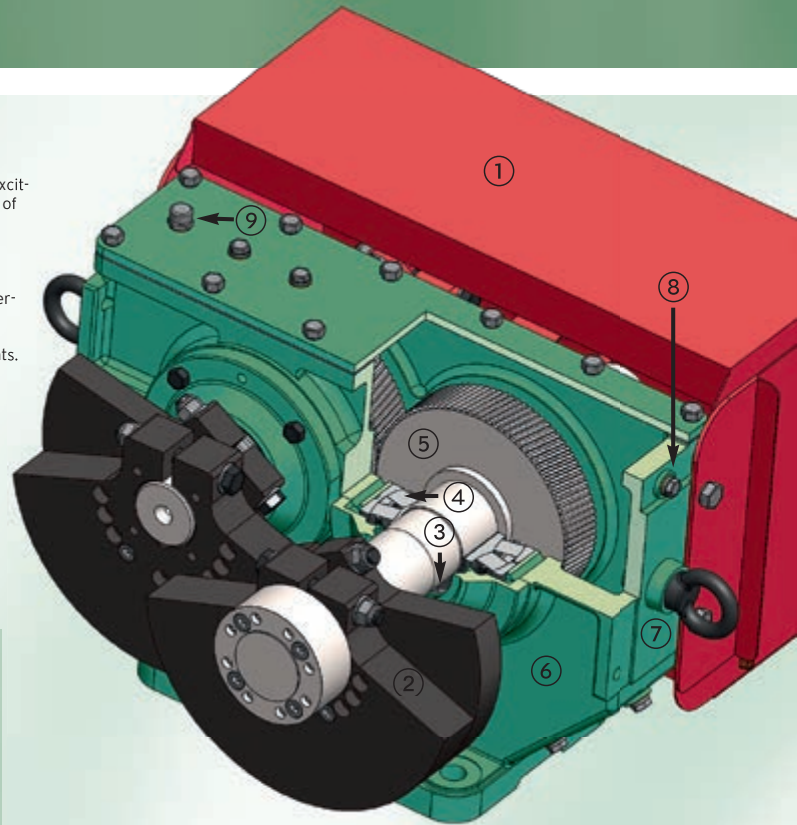
Extensive quality assurance means: Each unbalance exciter is tested on a test bench for several hours.

We are the only producer worldwide who concentrates on the production of drives as core competence in the field of unbalance exciters. Our carefully graded production program covers the total spectrum from small to big. Our entire capacity is at the disposal of our customers.

Customers are the focus of our attention!

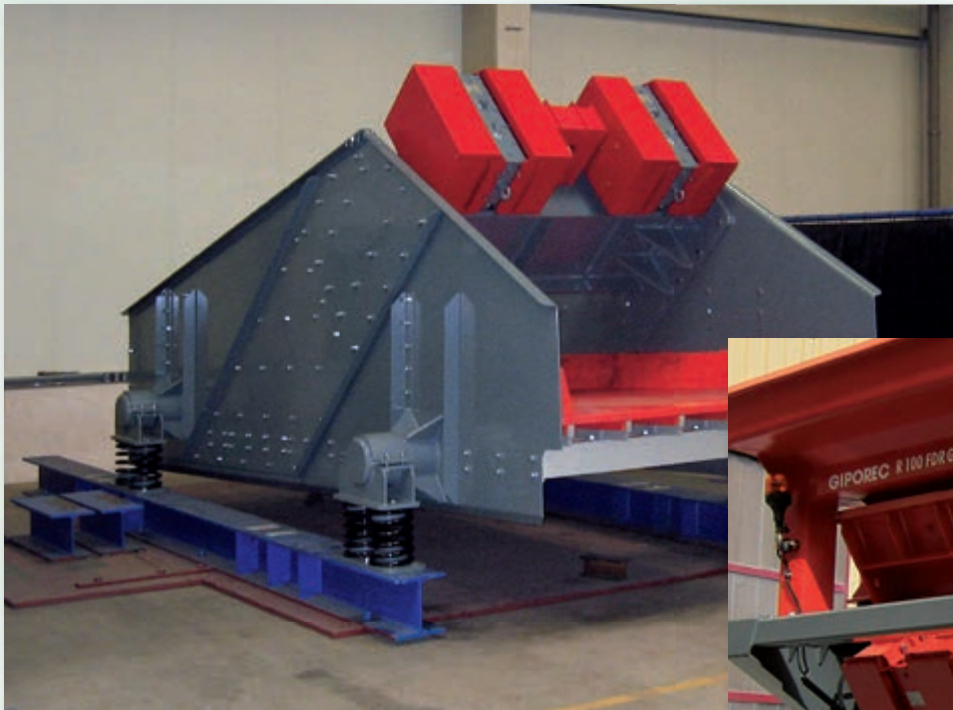
>> Technical features

- ① Strong painted steel covers supplied blind or with opening for drive shaft.
- ② Graduated adjustment of the working moment (amplitude) by turning the rear eccentric weights. All exciters are supplied with a drive shaft connection flange already installed on one side. The universal joint of the drive shaft is bolted to this flange and can be switched to opposite side.
- ③ High Strength bearing housing with dust tight seal.
- ④ Special roller bearings with high load carrying capacity and increased internal clearance. Bearings operate in oil bath lubrication system.
- ⑤ Pair of low-noise gears especially designed for high loads and synchronization of the centrifugal weights. Gears are oil splash lubricated.
- ⑥ Totally enclosed rigid case for effective transmission of high acceleration loads to the structure and to reduced noise.
- ⑦ Removable lifting eyes for safe and easy mounting.
- ⑧ Multiple oil fill and drain plugs for mounting in any position.
- ⑨ Breather vent to prevent internal pressure build up



- >> Powerful drive for excitation of large vibrating masses
- >> Designed for high performance under the most severe working conditions
- >> Minimum maintenance requirements

- >> Long service life
- >> Continuous operation
- >> Low noise operation
- >> All Vimarc UE exciters may be coupled together to accommodate applications on larger and wider machines



Oil lubrication

The gears and bearings are lubricated by means of a combined oil splash and mist lubrication.

Caution! The unbalance exciters are not filled with oil upon delivery! Before operating, oil must be added according to the operating manual.

Operation mode

FRIEDRICH unbalance exciters are designed for continuous operation at 100 % centrifugal force. It is imperative to observe the maximum permissible speed of the unbalance exciter! To achieve a greater working moment, any desired number of unbalance exciters can be coupled together.

Permissible ambient temperature and operating temperature

An ambient temperature of $-40\text{ }^{\circ}\text{C}$ ($-40\text{ }^{\circ}\text{F}$) to $+50\text{ }^{\circ}\text{C}$ ($122\text{ }^{\circ}\text{F}$) or an operating temperature of $80\text{ }^{\circ}\text{C}$ ($176\text{ }^{\circ}\text{F}$) must not be exceeded. Depending on the ambient temperature, a gear oil of the corresponding viscosity must be used. For other temperatures, please contact us.

Mounting

Mounting surface must be machined and free of debris. No Paint! Use Grade 5 fasteners and high quality self-locking nuts. Do not use flat or lock washers and other means of securing. Tighten only with a torque wrench to fastener manufacturer torque recommendations.

M 20 or 3/4" diameter

M 24 or 1" diameter

M 36 or 1-3/8" diameter

Check screw fitting frequently until retightening is no longer possible.

Drive motor selection

Any standard 60Hz three-phase motor can be used as drive motor. The unbalance exciter selection table on page 6 lists the rated powers of these standard electric motors for driving an unbalance exciter. The ratings are recommended driving powers under normal operation. Use only motors with high starting torque design. A general rule is that the motor starting torque rating should be at least 2.5 times the nominal motor torque rating. This is especially important for acceleration through the 0-300 rpm speed range. If you couple two or more unbalance exciters by means of universal joints, the drive motor must be accordingly larger.

Type key

The first two letters are the abbreviation for "unbalance exciter". The following figures indicate one hundredth of the maximum working torque in kgcm (working moment = 2 x static moment). These are followed by a dash and the maximum permitted speed of the drive motor which is indicated by the number of poles.

This results in the following speeds:

6 pole 60Hz = 1200rpm

8 pole 60Hz = 900rpm

Maximum speed

All UE unbalance exciters can be operated at speeds from 500 rpm up to the maximum permissible speed for that model. For example, UE 30-8 can be operated at speeds between 500-900 rpm. In another example a UE 17-6 can be operated only in the range of 500-1,200 rpm. Do not operate outside this range without first consulting with us. This may cause damage to the exciter or machine and could be a safety concern.

Frequency converter operation

The dimensioning of the frequency converter is based not only on the electric power of the drive motor, but also on the increased starting power/starting moment (see drive motor selection). If you wish to increase the rated speed of the motor, please contact us first.

Repair/replacement parts

We have the standard wear and replacement parts in stock, also for older models. In addition, we can carry out repairs in our facilities.

Mounting angle

Our unbalance exciters can be mounted at angles of -90 ° (unbalance exciter bolted onto base upright), 0 ° (unbalance exciter bolted on vertically) and 180 ° (unbalance exciter bolted on upside down).

Caution: Breather, oil drain plug and oil level bolt must be adapted to the mounting angle.



>> Dimensions

RPM ² min ⁻¹	Working moment ¹ in-lb		Centrifugal force Pounds		Nominal motor power HP	Type ⁴	Dimension sketch #	Dimensions Inches											Assembly Weight ⁵ lbs.	Weight Guards lbs.	Mount Bolt Grade 5	
	min	max	min	max				a	b	b1	c	e	f	g	h	k	l	m				n
1200	262	469	5357	9590	3	UE 5,3-6 F16	B	3,94	6,69	-	0,98	10,24	9,06	21,22	15,24	10,14	18,7	3,35	9,06	278	35	3/4"
900	262	469	3014	5394	3	UE 5,3-8 F16	B	3,94	6,69	-	0,98	10,24	9,06	21,22	15,24	10,14	18,7	3,35	9,06	278	35	3/4"
900	333	538	3830	6188	3	UE 6-8 F16	B	3,94	6,69	-	0,98	10,24	9,06	21,22	15,24	10,14	18,7	3,35	9,06	285	35	3/4"
1200	420	750	8550	15300	5	UE 8-6 F16	B	3,94	14,57	-	1,18	10,63	10,63	23,78	16,61	10,47	19,49	3,94	9,45	403	44	3/4"
900	420	750	4800	8600	5	UE 8-8 F16	B	3,94	14,57	-	1,18	10,63	10,63	23,78	16,61	10,47	19,49	3,94	9,45	403	44	3/4"
900	550	880	6250	10100	5	UE 10-8 F16	B	3,94	14,57	-	1,18	10,63	10,63	23,78	16,61	10,47	19,49	3,94	9,45	417	44	3/4"
1200	535	955	10930	19520	7,5	UE 11-6 F16	B	3,94	14,57	-	1,57	10,63	10,63	26,38	19,69	11,93	20,47	4,72	11,22	531	60	1"
900	780	1390	9000	16000	7,5	UE 16-8 F16	B	3,94	14,57	-	1,57	10,63	10,63	26,38	19,69	13,9	20,47	4,72	11,22	562	60	1"
1200	930	1550	18950	31600	10	UE 17-6 F16	C	4,33	14,57	3,15	1,38	15,75	10,63	27,56	19,09	14,41	27,95	4,41	11,1	739	68	1"
900	930	1550	10690	17800	10	UE 17-8 F16	C	4,33	14,57	3,15	1,38	15,75	10,63	27,56	19,09	14,41	27,95	4,41	11,1	739	68	1"
900	1155	1770	13280	20400	10	UE 20-8 F16	C	4,33	14,57	3,15	1,38	15,75	10,63	27,56	19,09	14,41	27,95	4,41	11,1	763	68	1"
1200	1240	2170	25300	44400	15	UEV 25-6 F16	C	4,33	14,57	3,94	1,38	15,75	10,63	30,31	20,47	16,69	33,15	4,92	11,81	1041	88	1"
900	1690	2640	19400	30400	15	UEV 30-8 F16	C	4,33	14,57	3,94	1,38	15,75	10,63	30,31	20,47	16,69	33,15	4,92	11,81	1054	88	1"
900	2190	3130	25200	36000	15	UEV 36-8 F16	C	4,33	14,57	3,94	1,38	15,75	10,63	30,31	20,47	16,69	33,15	4,92	11,81	1109	88	1"
1200	2220	3300	45390	67500	20	UE 38-6 F17	D	5,51	9,84	5,51	1,38	27,56	14,94	33,86	23,03	17,83	34,29	5,91	12,99	1565	112	1-3/8"
900	2680	4430	30800	51000	20	UE 50-8 F17	D	5,51	9,84	5,51	1,38	27,56	14,94	33,86	23,03	17,83	34,29	5,91	12,99	1696	112	1-3/8"
900	3370	5100	38800	58700	20	UE 58-8 F17	D	5,51	9,84	5,51	1,38	27,56	14,94	33,86	23,03	17,83	34,29	5,91	12,99	1773	112	1-3/8"
1200	2310	3740	47200	76300	20	UE 43-6 F17	D	5,51	9,84	5,51	1,38	27,56	14,94	33,86	23,03	18,7	36,65	5,91	12,99	1631	119	1-3/8"
900	3830	5760	44100	66300	20	UE 65-8 F17	D	5,51	9,84	5,51	1,38	27,56	14,94	33,86	23,03	18,7	36,65	5,91	12,99	1885	119	1-3/8"
1200	2980	5040	56800	103000	20	UE 59-6 F17	D	6,5	12,2	6,97	1,77	25,59	15,75	41,73	26,57	19,64	36,3	6,89	14,57	1995	216	1-3/8"
900	4200	7640	48300	87900	30	UE 88-8 F17	D	6,5	12,2	6,97	1,77	25,59	15,75	41,73	26,57	19,64	36,3	6,89	14,57	2270	216	1-3/8"

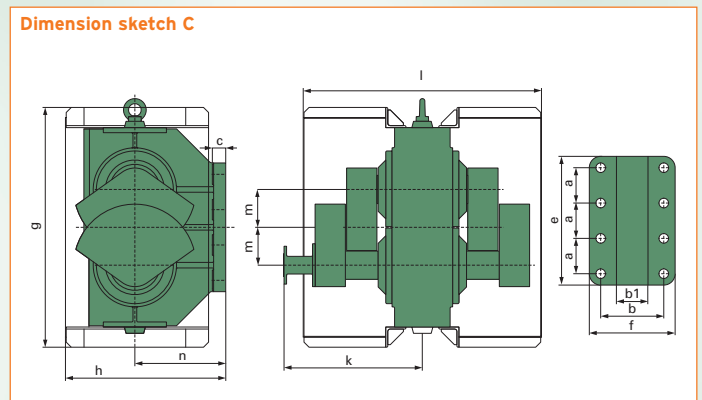
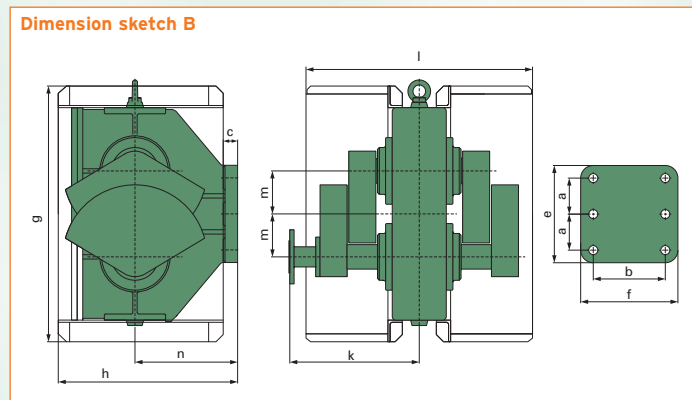
¹ Working moment = 2 x static moment

² The unbalance exciters can be operated from a speed of 500 rpm up to the maximum permissible speed.

³ For operation in rough environment special sealings are available.

⁴ For Series UE 38-6, UE 50-8, UE 58-8, UE 43-6, UE 65-8 alternative mounting hole patterns are available on request.

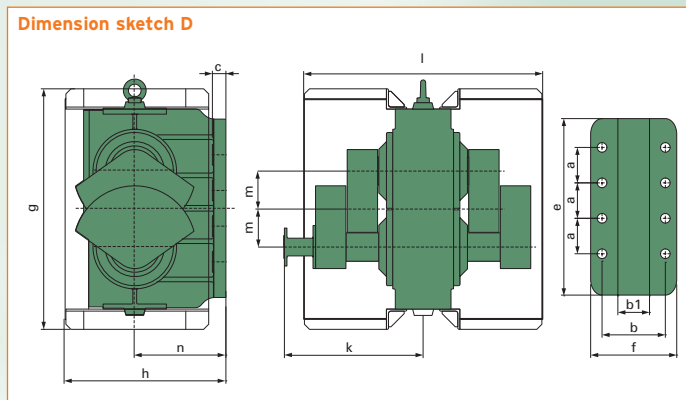
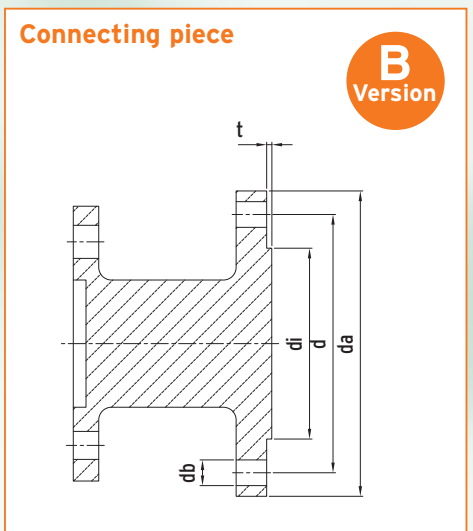
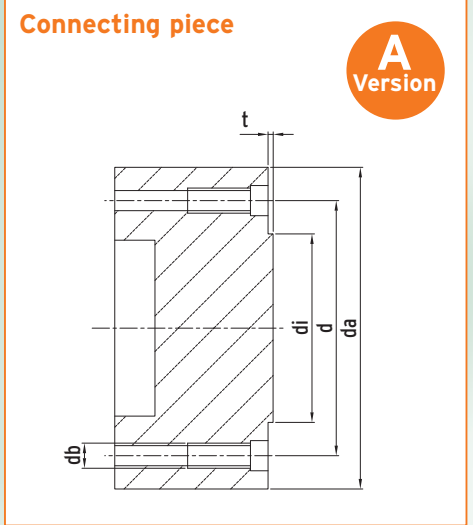
⁵ Weights excludes eccentric weight covers and adapters.



Illustrated working angle $\pm 0^\circ$

Connecting piece	Type	db	d	da	di	t	Version
61070105	UE 5,3-6 F16	M6	Ø 62 6xM6x30-10.9	96	42h6	1,5	A
61070105	UE 5,3-8 F16	M6	Ø 62 6xM6x30-10.9	96	42h6	1,5	A
61070106	UE 6-8 F16	M6	Ø 62 6xM6x30-10.9	96	42h6	1,5	A
61070110	UE 8-6 F16	M8	Ø 84 6xM8x30-10.9	102	57h6	2	A
61070110	UE 8-8 F16	M8	Ø 84 6xM8x30-10.9	102	57h6	2	A
61070111	UE 10-8 F16	M8	Ø 84 6xM8x30-10.9	102	57h6	2	A
61070116	UE 11-6 F16	10 c12	Ø 101,5 8xM10x40-10.9	120	75h6	2	B
61070116	UE 16-8 F16	10 c12	Ø 101,5 8xM10x40-10.9	120	75h6	2	B
61070120	UE 17-6 F16	M10	Ø 101,5 8xM10x40-10.9	128	75h6	2	A
61070120	UE 17-8 F16	M10	Ø 101,5 8xM10x40-10.9	128	75h6	2	A
61070121	UE 20-8 F16	M10	Ø 101,5 8xM10x40-10.9	128	75h6	2	A
61070130	UEV 25-6 F16	M10	Ø 101,5 8xM10x40-10.9	145	75h6	2	A
61070130	UEV 30-8 F16	M10	Ø 101,5 8xM10x40-10.9	145	75h6	2	A
61070131	UEV 36-8 F16	M10	Ø 101,5 8xM10x40-10.9	145	75h6	2	A
61070150	UE 38-6 F17	M12	Ø 130 8xM12x40-10.9	164	90h6	2	A
61070150	UE 50-8 F17	M12	Ø 130 8xM12x40-10.9	164	90h6	2	A
61070158	UE 58-8 F17	M12	Ø 130 8xM12x40-10.9	164	90h6	2	A
61070165	UE 43-6 F17	M12	Ø 130 8xM12x40-10.9	164	90h6	2	A
61070165	UE 65-8 F17	M12	Ø 130 8xM12x40-10.9	164	90h6	2	A
61070080	UE 59-6 F17	12 c 12	Ø 130 8xM12x50-10.9	150	90h6	2	B
61070080	UE 88-8 F17	12 c 12	Ø 130 8xM12x50-10.9	150	90h6	2	B

All dimensions in metric.



Illustrated working angle $\pm 0^\circ$

Food Grade vibrator motors



- » Centrifugal force: 500 - 35500 N
- » Working moment: 1.2 - 400 kgcm
- » Speed 50 Hz: 750, 1000, 1500 min⁻¹
- » Speed 60 Hz: 900, 1200, 1800 min⁻¹

Vibrator motors



- » Centrifugal force: 500 - 216600 N
- » Working moment: 1.2 - 6500 kgcm
- » Speed 50 Hz: 500, 600, 750, 1000, 1500, 3000 min⁻¹
- » Speed 60 Hz: 600, 900, 1200, 1800, 3600 min⁻¹

Hazardous location vibrator motors



- » II 2 G/D Ex e, T4/T3, T 120 °C
- » II 3 G/D, T 120 °C
- » II 2 G/D Ex d IIB T4
- » Class I, Groups C and D. Class II, Groups E, F and G - File N° 2R55503
- » Class II, Division 1, Groups C and D, Class II, Division 1, Groups E, F and G - N° 0M5A8.AE

Our further range of products:

- » Repair service
- » Spare parts service
- » Springs

Ask for our other catalogs or download from our website!

- » VIMARC® vibrator motor 50 and 60 Hz
- » VIMARC® explosion-proof-vibrator motor
- » Spare parts
- » FRIEDRICH Vibrator motor 50 and 60 Hz
- » FRIEDRICH ATEX-vibrator motor
- » FRIEDRICH Coupled motor
- » FRIEDRICH Vibrator motor with stainless steel end cover
- » FRIEDRICH Motor with split end covers

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