



## Unbalance Motors

### KEEPING BULK MATERIAL ON THE MOVE



# AViTEQ Vibration Technology

## WE DRIVE YOUR SUCCESS

For more than 75 years, AViTEQ Vibrationstechnik GmbH has provided oscillating conveyor solutions to almost 350,000 projects. Our extensive experience and vibrating conveyor expertise is evident with our 125 AViTEQ employees worldwide, who are always to support our international client base.

### UNSHAKEABLE QUALITY

AViTEQ systems and components feature comprehensive functionalities including: conveying, sorting and dosing, screening, classifying and dewatering, compacting and loosening, cooling and heating of various bulk materials. We provide extremely varied solutions and can apply these functionalities to suit small pills and coffee beans, as well as rocks and metal pieces weighing tons.

Every bulk material has its own special requirements and AViTEQ is most likely experienced with the process, as we have designed systems and components for more than 1,000 bulk materials to date. Endurance tests performed in our technical laboratories and numerous finite element calculations ensure the highest quality of our components and systems. Experience the unshakeable quality of AViTEQ.

## AViTEQ Worldwide



# AViTEQ Product Portfolio

## QUALIFIED PARTNER FOR SYSTEMS AND COMPONENTS

### Systems

AViTEQ plans and realises vibration and process engineering solutions. Furthermore, a comprehensive offer including all-round service is made possible through AViTEQ and AEG.



Hopper Discharge Units



Vibrating Screens



Tubular feeders



Spiral Conveyors

### Components

AViTEQ develops, builds and distributes drive components and control systems for vibrating conveyor systems. We also offer 24-hour replacement part support from the spare part warehouse, as well as various repair services (in-house or on-site).



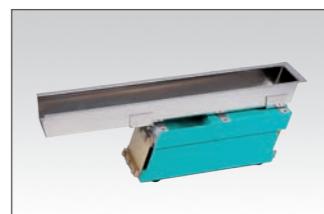
Unbalance Motors



Magnetic Vibrators



Parts Conveyors



Small Conveyors

#### UNBALANCE MOTORS

Unbalance motors by AViTEQ are specifically designed for discharging and conveying of bulk materials over long distances, as well as screening and dewatering. Renown for high performance, the unbalance motors also offer maximum operational availability and durability. Suitable for 50/60 Hz networks. The following pages offer you additional information about the more than 50 applications types available.

# Unbalance Motors by AViTEQ

## PERFORMANCE WITH LOYALTY

You can rely on a powerful and reliable performance with unbalance motors by AViTEQ. The performance drive with a robust design also features numerous clever details. Moreover, our superior production quality ensures a longer operation life – one of the many reasons we have been loyally serving many clients for more than 20 years.

Regardless of its surroundings, the unbalance motors by AViTEQ deliver high performance with energy-efficient consumption. What's more, thermistor protection and tropicalization are series standards. Select models also meet requirements for ATEX directives for zones 21 and 22, as well as CSA Classes I and II. AViTEQ unbalance motors are engineered for long lasting performance.

### TERMINAL BOARD

6-pin fully mounted (voltage up to 690 V without additional insulation).

- ADVANTAGE: solidly mounted, no risk of vibration fatigue failure

### CABLE GLAND

Simple electric connection (IP 66), second separate cable gland for thermistor connection.

- ADVANTAGE: easy-fit and high operational reliability

### PERFORMANCE DATA OVERVIEW

Centrifugal force range: 40 – 119,000 N

Working moment: 0.08 – 2.763 kgcm

Working weight: 1 – 11,250 kg

Rated Power: 0.03 – 10,000 W

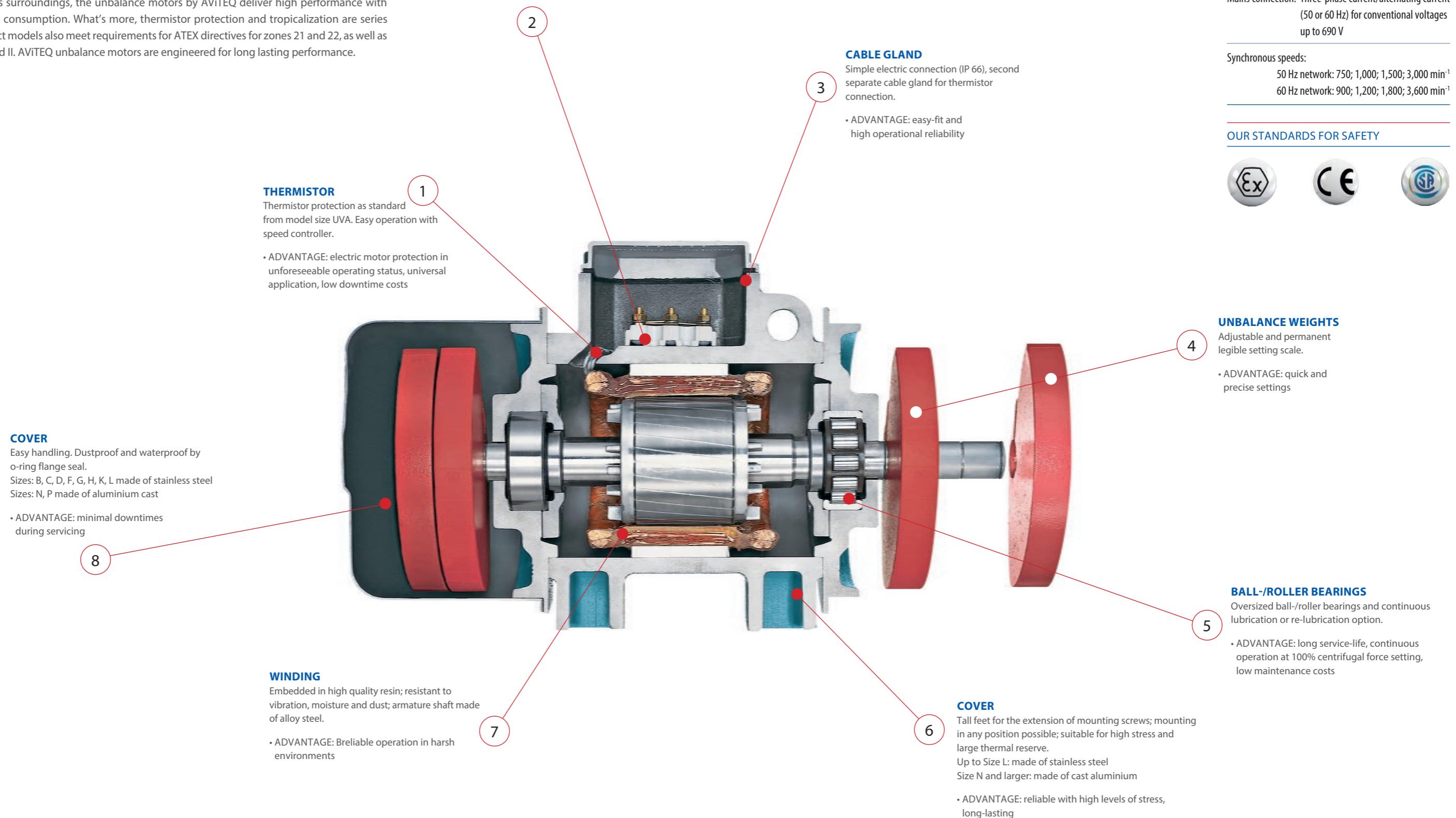
Temperature range: -20 °C – +40 °C / +55 °C

Mains connection: Three-phase current/alternating current (50 or 60 Hz) for conventional voltages up to 690 V

### Synchronous speeds:

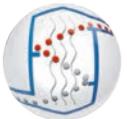
50 Hz network: 750; 1,000; 1,500; 3,000 min<sup>-1</sup>  
60 Hz network: 900; 1,200; 1,800; 3,600 min<sup>-1</sup>

### OUR STANDARDS FOR SAFETY



# Design and Motor Selection

## THE RIGHT MOTOR IN AN INSTANT



### DESIGN

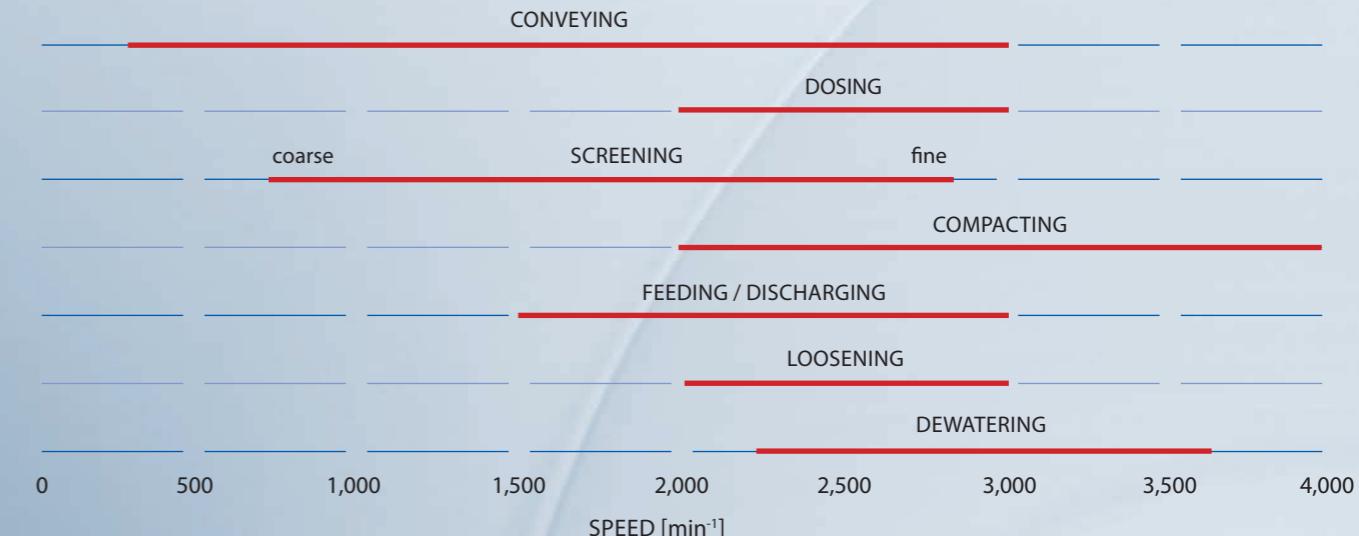
The vibration amplitude is the central benchmark in designing an unbalance motor. Together with acceleration of the respective frequency, the vibration amplitude delivers the power, which flows from the drive to the working unit. The motor characteristics on the next page demonstrate the optimal motor. The diagrams give you a quick and easy overview of the vibration amplitudes for all motor types, in relation to working weights.

### DIRECTION OF ROTATION

To ensure linear vibrations on longitudinal conveyors, such as trough feeders or vibrating screens, at least two motors with counter-rotating directions are required. Devices with torsional vibration, however, require drives with the same direction of rotation. Such intricate details, even in short-term operations, can cause major damage to working units.

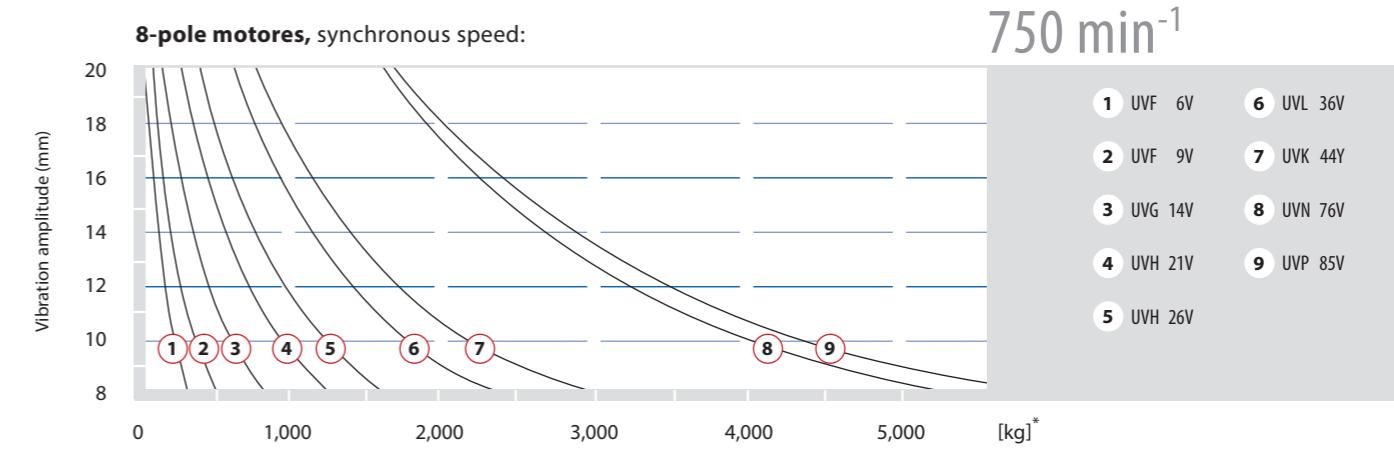
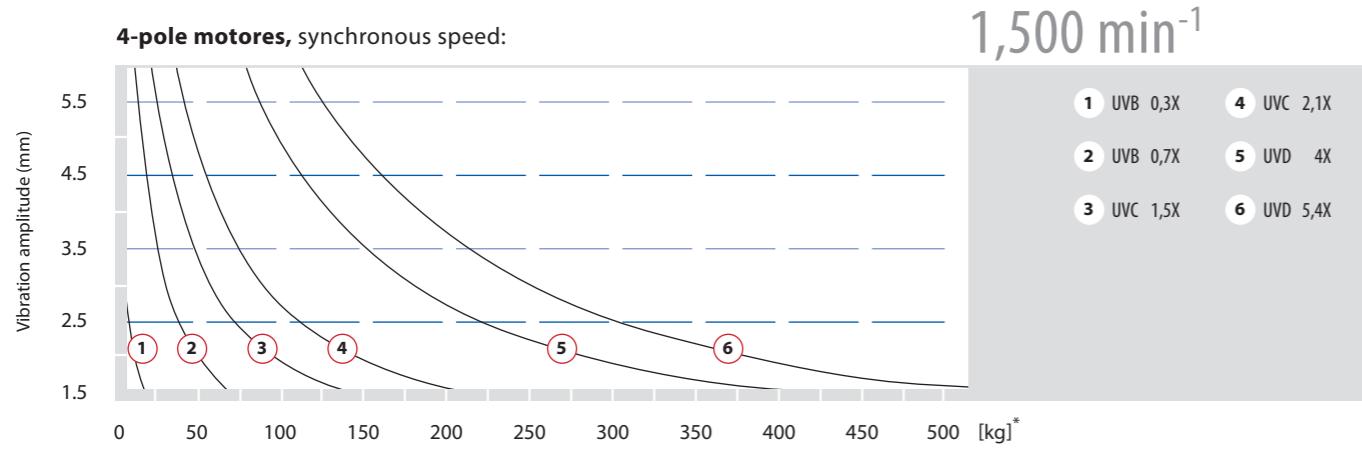
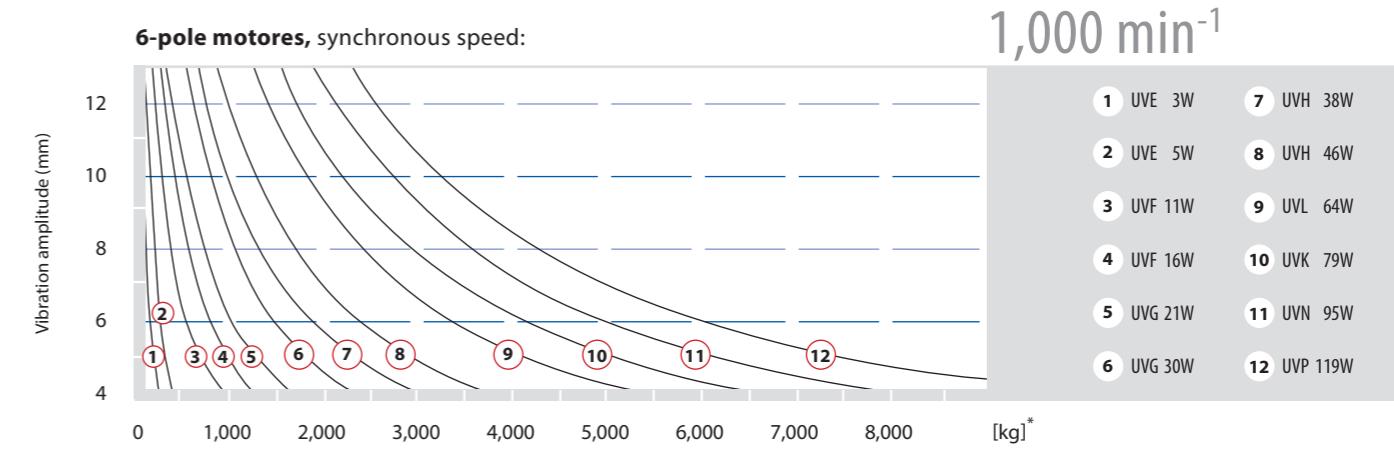
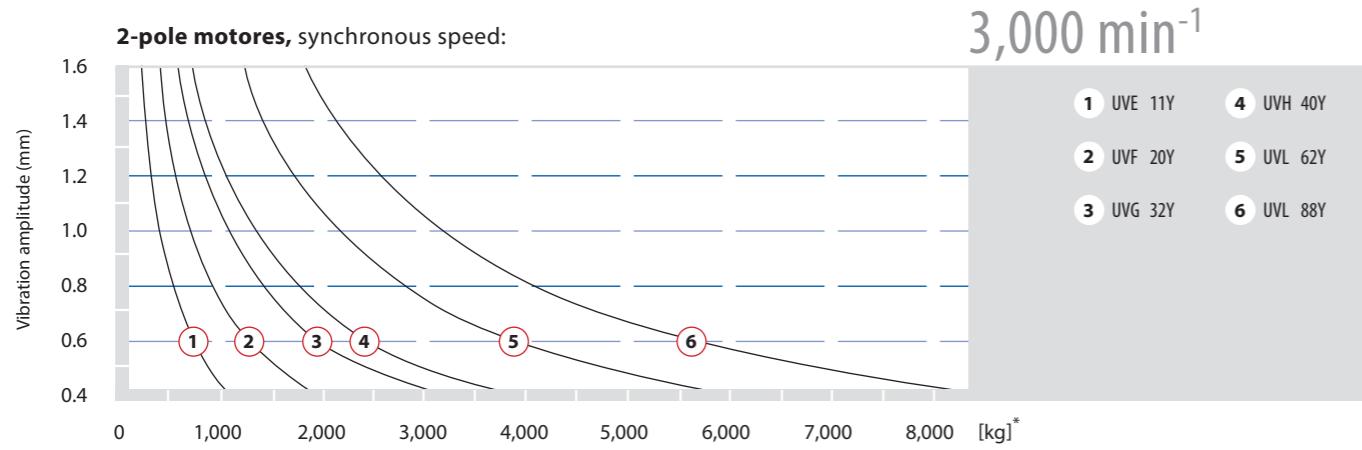
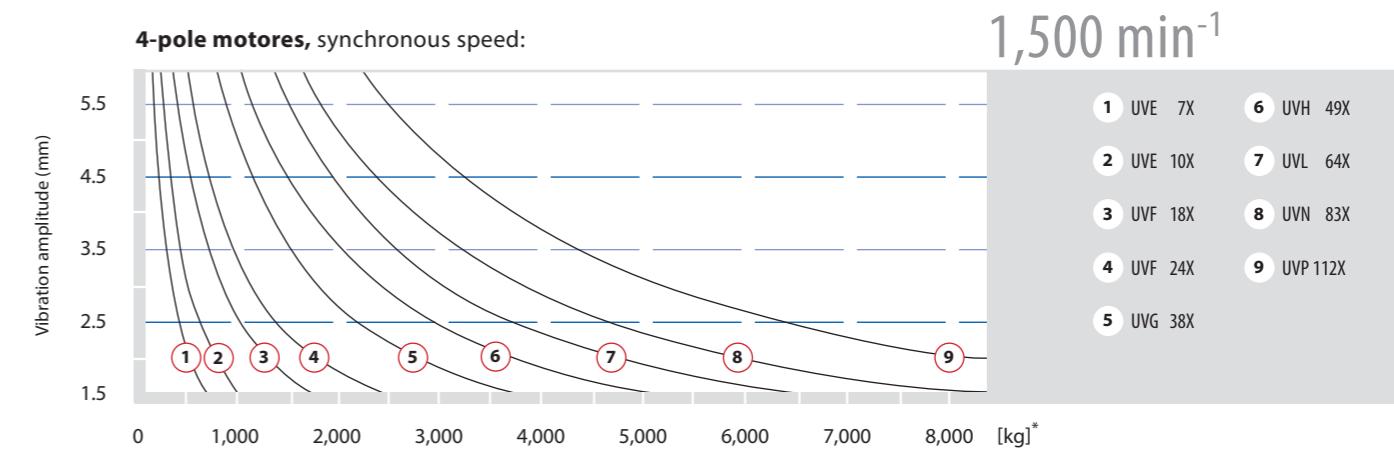
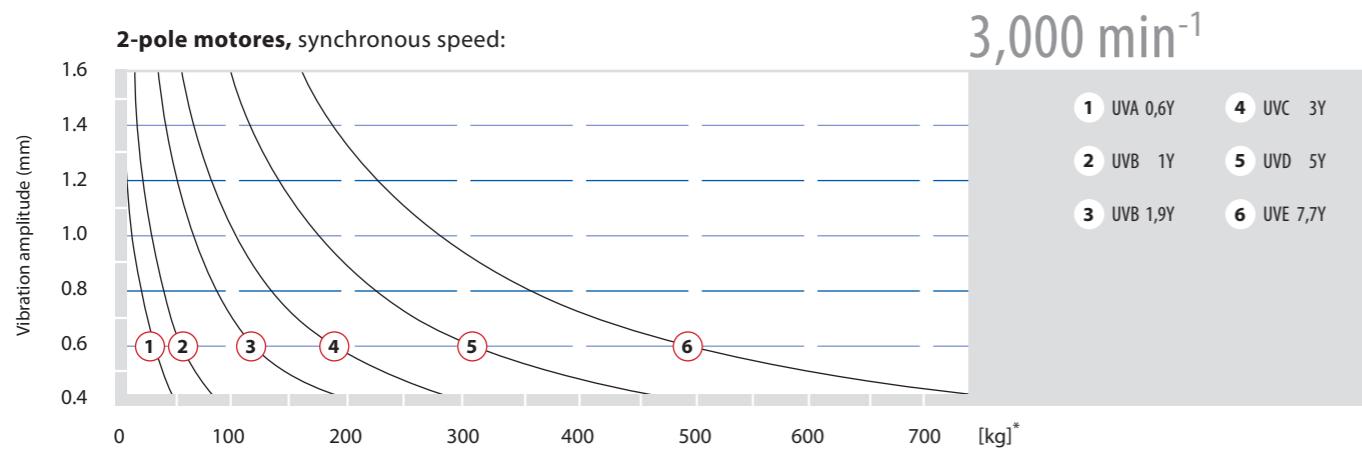
The mounting of the motor must take place on a rigid drive part, to avoid the significant risk of breaking. Furthermore, the motors cannot synchronize automatically and would exceed the energy consumption limitations. With large and long-distance longitudinal conveyors, cross vibration monitoring is used to ensure proper rotation at all times.

### STEP 1 TO THE RIGHT MOTOR: FUNCTIONALITY



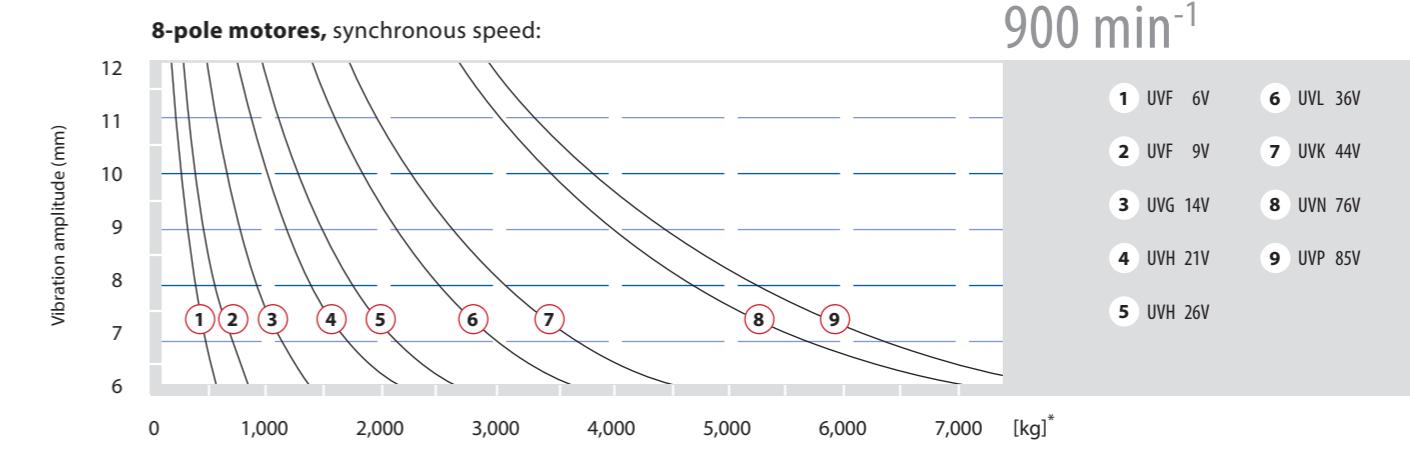
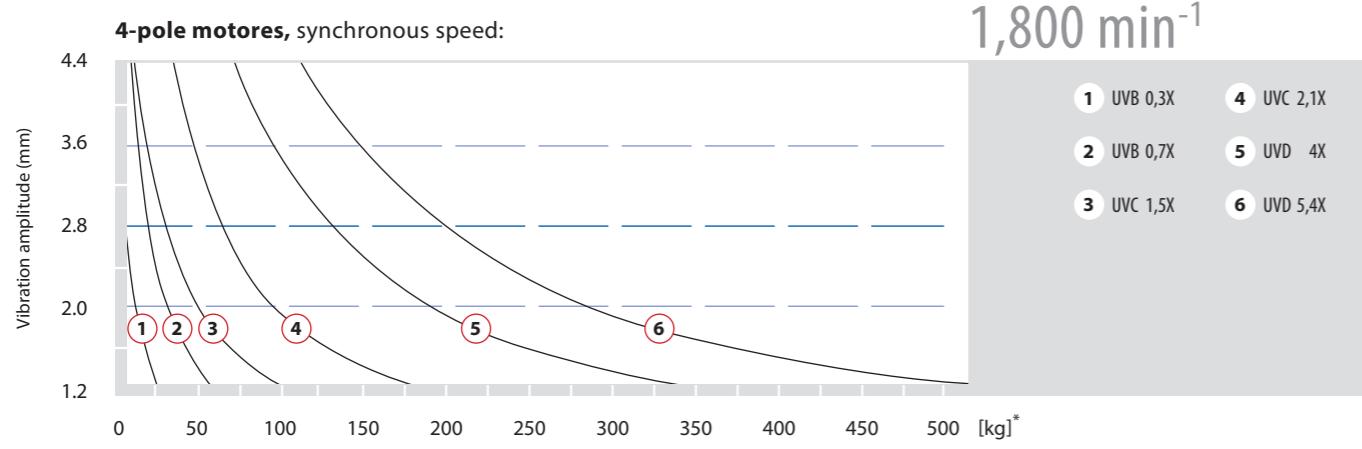
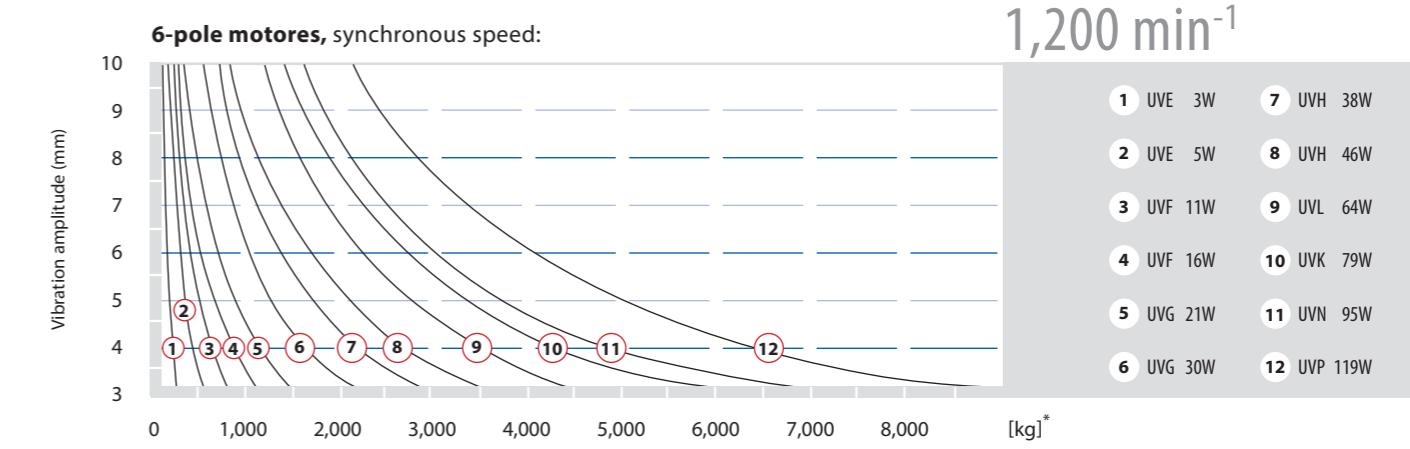
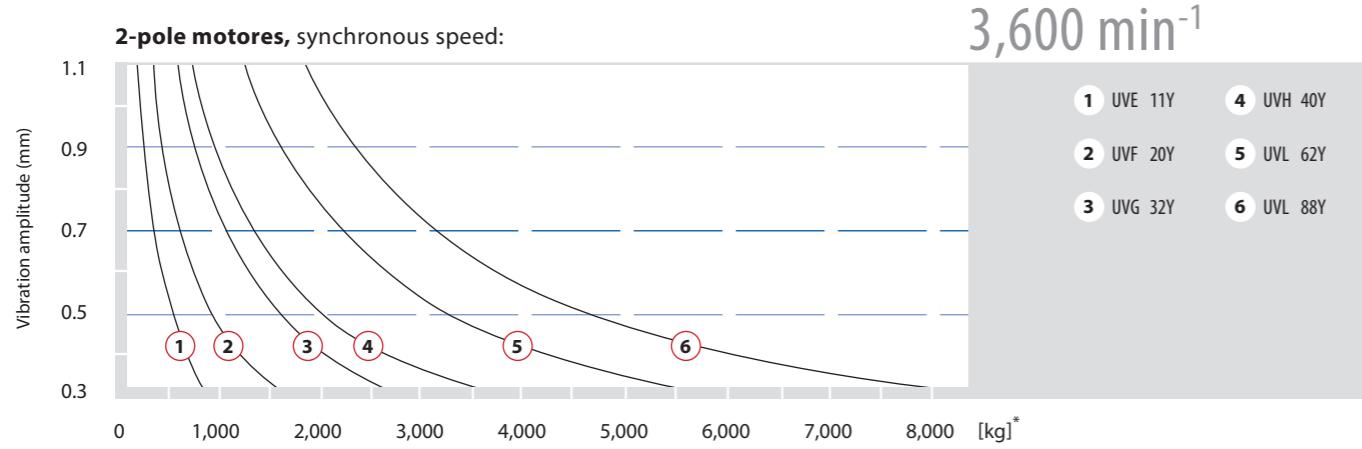
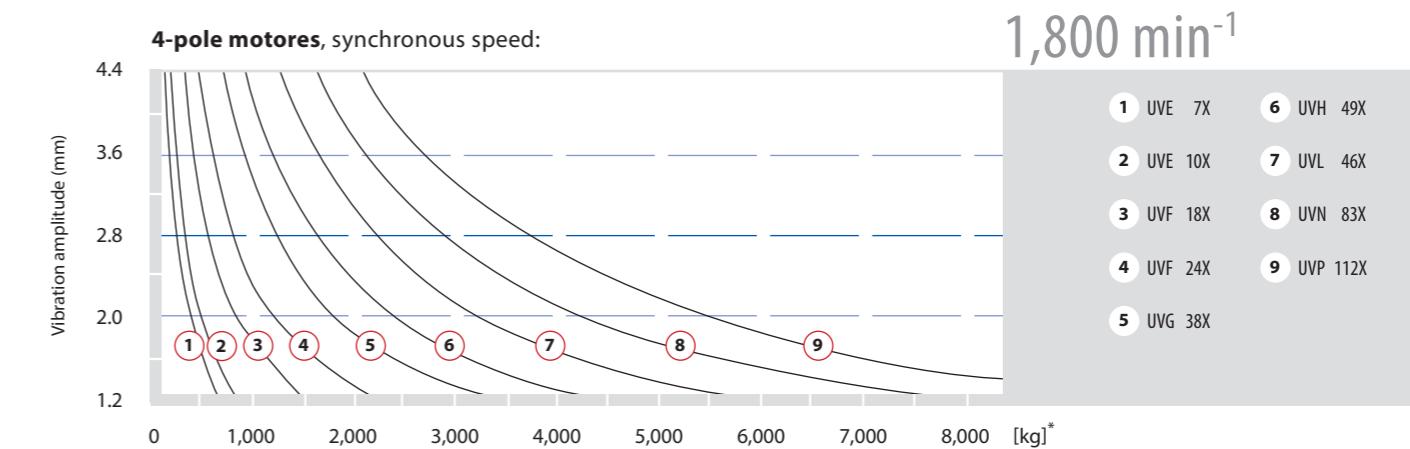
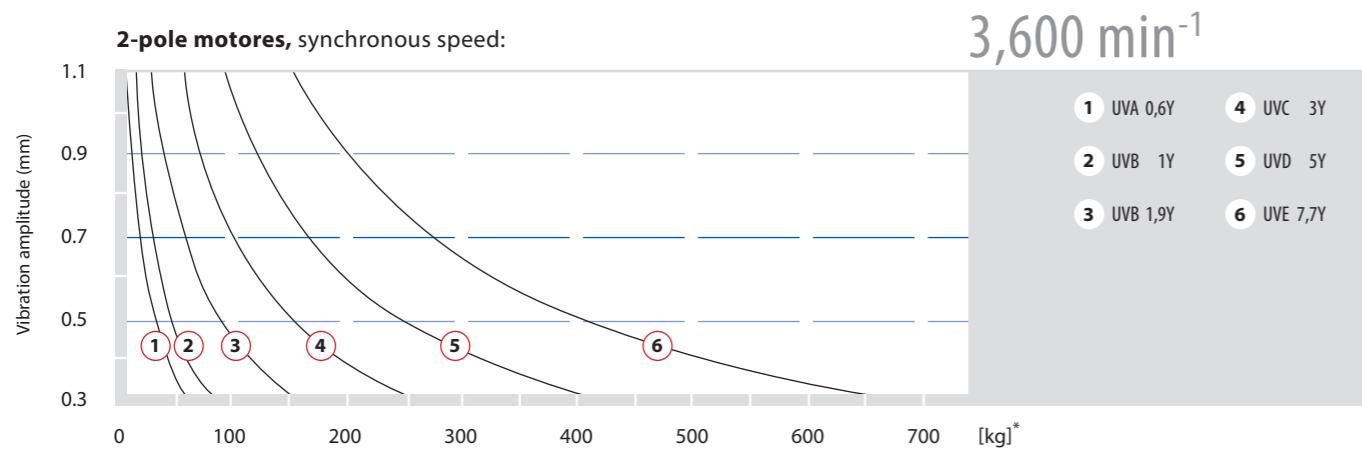
Depending on the type of application, vibration amplitudes and acceleration values are calculated based on the nominal speed in the relevant network

## PERFORMANCE CHARACTERISTICS IN A 50 HZ MAINS FREQUENCY



\* Working weight [kg] – when driven by two motors

## PERFORMANCE CHARACTERISTICS IN A 60 HZ MAINS FREQUENCY



\*Working weight [kg] – when driven by two motors

## 2-POLE AND 4-POLE MOTORS FOR A 50 Hz MAINS FREQUENCY

Series UV	Series eUV <sup>3)</sup>	Centrifugal force [N]	Working moment [kgcm]	Motor weight [kg]	Working weight range <sup>1)</sup> [kg]	Rated Current max. [A] <sup>3)</sup>	Rated Power max. [kW]
from to 230 V 400 V							
<b>2-pole motors (3,000 min<sup>-1</sup>)</b>							
UV1A 0,04Y <sup>2)</sup>	+	-	39	0.08	0.85	impact vibrator	impact vibrator
UVA 0,6Y	+	-	608	1.22	4.1	13	52
UVB 1Y	+	+	981	1.96	5.6	16	89
UVB 1,9Y	+	+	1,890	3.82	6.4	38	183
UVC 3Y	+	+	2,980	6.02	9.7	59	284
UVD 5Y	+	+	4,930	9.98	14.8	99	473
UVE 7,7Y	+	+	7,700	15.60	16.8	161	746
UVE 11Y	+	+	10,800	22.00	23.0	230	1,060
UVF 20Y	+	-	20,200	41.00	46.0	420	1,940
UVG 32Y	+	-	31,600	64.00	103.0	595	2,995
UVH 40Y	+	-	40,000	81.00	145.0	725	3,760
UVL 62Y	+	-	62,400	126.00	184.0	1,210	5,930
UVL 88Y	+	-	88,400	179.00	215.0	1,810	8,520
						31.30	18.00
						10.00	

## Dimensions [mm]

a	b	c	e	f	g	h	k	p	s	Screws
25 - 40	75	9	59	90	65	34	113	67	5.5	M5
62.5	95	24	86	127	96	70	197	123	11.5	M10
68.0	106	24	100	125	100	61	209	153	9.0	M8
68.0	106	24	100	125	100	61	225	153	9.0	M8
90.0	125	28	125	152	124	73	255	179	13.0	M12
105.0	140	30	140	167	143	83	284	203	13.0	M12
120.0	170	45	160	205	168	94	308	215	17.0	M16
120.0	170	54	162	205	181	105	354	225	13.0	M12
125.0	210	65	175	260	201	125	490	254	17.0	M16
165.0	260	65	230	330	270	160	594	334	26.0	M24
280.0	290	70	345	355	296	173	682	363	26.0	M24
200.0	320	90	270	390	334	189	666	381	28.0	M27
200.0	320	100	270	392	355	192	633	395	28.0	M27

Series UV	Series eUV <sup>3)</sup>	from	to	230 V	400 V
<b>4-pole motors (1,500 min<sup>-1</sup>)</b>					
UVB 0,3X	+	-	265	2.0	5.60
UVB 0,7X	+	-	746	5.9	6.7
UVC 1,5X	+	+	1,460	11.8	11.7
UVC 2,1X	+	+	2,090	16.8	12.5
UVF 4X	+	+	4,040	32.6	19.0
UVF 5,4X	+	+	5,420	43.8	20.4
UVE 7X	+	+	7,060	57.2	25.0
UVE 10X	+	+	10,300	83.0	35.0
UVF 18X	+	+	17,600	143.0	51.0
UVF 24X	+	+	23,700	192.0	71.0
UVG 38X	+	+	37,700	305.0	122.0
UVH 49X	+	+	49,100	398.0	168.0
UVL 64X	+	-	64,100	520.0	208.0
UVN 83X	+	+	82,600	669.0	317.0
UVP 112X	+	-	112,000	909.0	433.0
		2,165	11,255	30.30	17.50
				10.00	

a	b	c	e	f	g	h	k	p	s	Screws
68	106	24	100	125	100	61	209	153	9.0	M8
68	106	24	100	125	100	61	225	153	9.0	M8
90	125	28	128	152	124	73	295	179	13.0	M12
90	125	28	128	152	124	73	295	179	13.0	M12
105	140	30	140	167	143	83	340	203	13.0	M12
105	140	30	140	167	143	83	380	203	13.0	M12
120	170	45	160	205	168	94	378	215	17.0	M16
120	170	54	162	205	181	105	436	225	13.0	M12
125	210	65	175	260	201	125	490	255	17.0	M16
125	210	65	175	260	231	140	525	278	17.0	M16
165	260	65	230	330	270	160	594	334	26.0	M24
280	290	70	345	355	296	173	682	363	26.0	M24
200	320	90	270	390	334	189	666	381	28.0	M27
2 x 125	380	35	320	460	387	215	866	436	38.0	6 x M36
2 x 140	440	38	370	530	420	230	994	454	44.0	6 x M42

+ Available  
- Not available



All UV series are CE certified



Series UV: within normal range (Germany **and** explosion-proof areas (Zone 21 + 22)) in accordance with:  
Ex II 2D tD A21 IP66 T 135°C

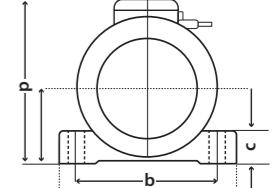
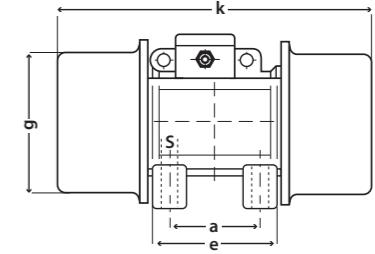
Series eUV: hazardous areas for dust (Zone 21 + 22) **and** gas explosion areas in accordance with:  
Ex II 2D tD A21 IP66 T 135°C, Ex II G e II T3 and/or T4 – Ex 2 D tD A21 IP66 T 135°C

<sup>1)</sup> driven by two unbalance motors

<sup>2)</sup> 1-phase alternating current unbalance motor with permanently installed three-core cable, only available in 230V/50Hz or 115V/60Hz

Motor housing type UV1A 0.04Y and UVA 0.6Y Alu blank. From Type UVB... in standard color RAL 5018 powder-coated (other colors upon request)

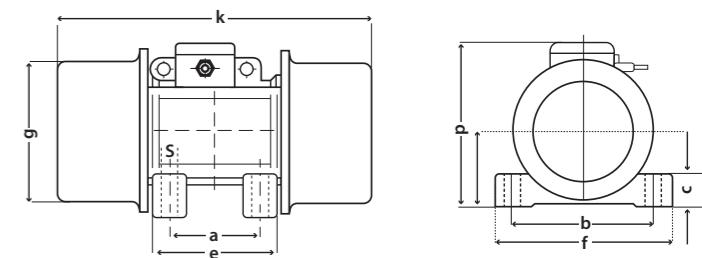
<sup>3)</sup> Series eUV, fUV and cUV have deviating technical data



# 6-POLE AND 8-POLE MOTORS FOR A 50 HZ MAINS FREQUENCY

Series UV	Series eUV <sup>3)</sup>	Centrifugal force [N]	Working moment [kgcm]	Motor weight [kg]	Working weight range <sup>1)</sup> [kg]	Rated Current max. [A] <sup>3)</sup>	Rated Power max. [kW]			
from to 230 V 400 V										
UVE 3W	+	-	3,150	57	25.0	40	235	1.25	0.72	0.35
UVE 5W	+	-	5,020	91	36.5	67	380	1.30	0.75	0.35
UVF 11W	+	-	11,100	202	58.0	195	895	2.85	1.65	0.75
UVF 16W	+	-	16,100	293	83.0	286	1,300	3.80	2.20	1.10
UVG 21W	+	-	21,100	385	130.0	335	1,665	7.15	4.10	1.96
UVG 30W	+	-	29,500	538	145.0	540	2,400	7.80	4.50	2.20
UVH 38W	+	-	37,500	684	195.0	665	3,030	8.83	5.10	2.50
UVH 46W	+	-	46,100	841	211.0	870	3,785	11.30	6.50	3.20
UVL 64W	+	-	64,000	1,168	263.0	1,270	5,315	14.30	8.20	4.30
UVK 79W	+	-	78,900	1,439	327.0	1,560	6,540	21.90	12.60	7.00
UVN 95W	+	-	95,100	1,735	384.0	1,900	7,910	23.50	13.50	7.60
UVP 119W	+	-	119,000	2,163	500.0	2,330	9,815	28.30	16.30	9.00

## Dimensions [mm]



a	b	c	e	f	g	h	k	p	s	Screws
120	170	45	160	205	168	94	378	215	17.0	M16
120	170	54	162	205	181	105	436	225	13.0	M12
125	210	65	175	260	201	125	560	255	17.0	M16
125	210	65	175	255	231	140	600	279	17.0	M16
165	260	65	230	330	270	160	662	334	26.0	M24
165	260	65	230	330	270	160	710	334	26.0	M24
280	290	70	345	355	296	173	774	363	26.0	M24
280	290	70	345	355	296	173	834	363	26.0	M24
200	320	90	270	390	334	189	840	381	28.0	M27
280	400	65	350	465	359	200	878	403	33.0	M30
2 x 125	380	35	320	460	387	215	866	436	38.0	6 x M36
2 x 140	440	38	370	530	420	230	994	454	44.0	6 x M42

Series UV	Series eUV <sup>3)</sup>	from to 230 V 400 V
UVF 6V	+	- 6,250 202 58 86 388 2.40 1.40 0.40
UVF 9V	+	- 9,045 293 83 128 566 3.80 2.20 0.95
UVG 14V	+	- 14,350 465 130 175 810 7.15 4.10 1.50
UVH 21V	+	- 21,110 684 195 295 1,320 9.40 5.40 2.00
UVH 26V	+	- 25,950 841 211 420 1,680 10.40 6.00 2.50
UVL 36V	+	- 36,020 1,168 263 640 2,395 14.30 8.20 4.00
UVK 44V	+	- 44,400 1,439 327 785 2,945 17.10 9.90 4.90
UVN 76V	+	- 76,440 2,478 438 1,600 5,320 22.90 13.20 6.80
UVP 85V	+	- 85,240 2,763 540 1,685 5,830 24.30 14.00 7.60

a	b	c	e	f	g	h	k	p	s	Screws
125	210	65	175	260	201	125	560	255	17.0	M16
125	210	65	175	255	231	140	600	279	17.0	M16
165	260	65	230	330	270	160	710	334	26.0	M24
280	290	70	345	355	296	173	774	363	26.0	M24
280	290	70	345	355	296	173	834	363	26.0	M24
200	320	90	270	390	334	189	840	381	28.0	M24
280	400	65	350	465	359	200	878	403	33.0	M30
2 x 125	380	35	320	460	387	215	1,002	436	38.0	6 x M36
2 x 140	440	38	370	530	423	230	1,070	454	44.0	6 x M42

+ Available  
- Not available

All UV series are CE certified

Series UV: within normal range (Germany and explosion-proof areas (Zone 21 + 22)) in accordance with:

Ex II 2D tD A21 IP66 T 135°C

Series eUV: hazardous areas for dust (Zone 21 + 22) and gas explosion areas in accordance with:

Ex II 2D tD A21 IP66 T 135°C, Ex II G e II T3 and/or T4 – Ex 2 D tD A21 IP66 T 135°C

<sup>1)</sup> driven by two unbalance motors

<sup>2)</sup> 1-phase alternating current unbalance motor with permanently installed three-core cable, only available in 230V/50Hz or 115V/60Hz

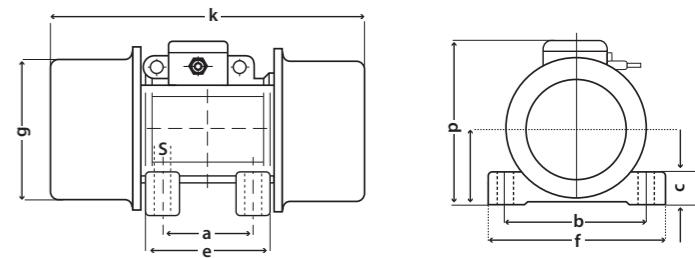
Motor housing type UV1A 0.04Y and UVA 0.6Y Alu blank. From Type UVB... in standard color RAL 5018 powder-coated (other colors upon request)

<sup>3)</sup> Series eUV, fUV and cUV have deviating technical data

## 2-POLE AND 4-POLE MOTORS FOR A 60 HZ MAINS FREQUENCY

Series UV	Series fUV <sup>3)</sup>	Series cUV <sup>3)</sup>	Centrifugal force [N]	Working moment [kgcm]	Motor weight [kg]	Working weight range <sup>1)</sup> [kg]	Rated Current max. [A] <sup>3)</sup>	Rated Power max. [kW]
<b>2-pole motors (3,600 min<sup>-1</sup>)</b>								
UV1 A 0,04Y <sup>2)</sup>	+	-	-	59	0.08	0.85	impact vibrator	impact vibrator
UVA 0,6 Y	+	-	-	690	0.98	4.1	10	57
UVB 1Y	+	+	+	942	1.31	5.6	16	79
UVB 1,9Y	+	+	+	1,740	2.42	6.2	35	152
UVC 3Y	+	+	+	2,910	4.08	9.2	58	256
UVF 5Y	+	+	+	4,620	6.48	14.8	93	407
UVE 7,7Y	+	+	+	7,400	10.40	15.9	157	661
UVE 11Y	+	+	+	10,400	14.60	22.0	220	940
UVF 20Y	+	+	+	18,200	25.60	44.0	380	1,640
UVG 32Y	+	+	+	31,300	44.10	99.0	605	2,745
UVH 40Y	+	-	-	40,200	56.60	141.0	750	3,490
UVL 62Y	+	+	+	63,000	88.60	178.0	1,255	5,550
UVL 88Y	+	-	-	88,000	124.00	210.0	1,835	7,850
							22.50	13.00
							9.30	

## Dimensions [mm]



				from	to	265 V	460 V	
<b>4-pole motors (1,800 min<sup>-1</sup>)</b>								
UVB 0,3X	+	+	+	373	2.10	5.6	1	25
UVB 0,7X	+	+	+	765	4.20	6.4	9	60
UVC 1,5X	+	+	+	1,260	7.10	11.7	12	98
UVC 2,1X	+	+	+	2,100	11.80	11.7	34	176
UVF 4X	+	+	+	4,030	22.60	18.2	71	345
UVF 5,4X	+	+	+	5,810	32.60	19.0	113	508
UVE 7X	+	+	+	7,460	41.80	22.0	145	655
UVE 10X	+	+	+	9,630	54.20	31.0	185	840
UVF 18X	+	+	+	17,200	97.00	48.5	345	1,520
UVF 24X	+	+	+	24,000	135.00	66.0	480	2,120
UVG 38X	+	+	+	36,700	207.00	117.0	685	3,215
UVH 49X	+	+	+	48,500	273.00	160.0	895	4,230
UVL 64X	+	+	+	64,700	364.00	195.0	1,230	5,675
UVN 83X	+	+	+	87,500	492.40	303.0	1,580	7,595
UVP 112X	+	+	+	112,000	633.20	411.0	1,990	9,730
							26.80	15.50
							10.50	

a	b	c	e	f	g	h	k	p	s	Screws
68	106	24	100	125	100	61	209	153	9.0	M8
68	106	24	100	125	100	61	225	153	9.0	M8
90	125	28	128	152	124	73	295	179	13.0	M12
90	125	28	128	152	124	73	295	179	13.0	M12
105	140	30	140	167	143	83	340	203	13.0	M12
105	140	30	140	167	143	83	380	203	13.0	M12
120	170	45	160	205	168	94	378	215	17.0	M16
120	170	54	162	205	181	105	436	225	13.0	M12
125	210	65	175	260	201	125	490	255	17.0	M16
165	260	65	230	330	270	160	594	334	26.0	M24
280	290	70	345	355	296	173	682	363	26.0	M24
200	320	90	270	390	334	189	666	381	28.0	M27
200	320	100	270	392	355	192	633	395	28.0	M27
2 x 125	380	35	320	460	387	215	866	436	38.0	6 x M36
2 x 140	440	38	370	530	420	230	994	454	44.0	6 x M42

+ Available  
- Not available

All UV series are CE certified

Series UV: in normal range, if special certification is not required

Series eUV: hazardous areas for dust certified in accordance to CSA 2593962 in Class II (dust), Division 1, Groups E, F and G

Series fUV: gas explosion area certified in accordance to CSA 1181557 in Class I (gas), Division 2, Groups A, B, C and D

<sup>1)</sup> driven by two unbalance motors

<sup>2)</sup> 1-phase alternating current unbalance motor with permanently installed three-core cable, only available in 230V/50Hz or 115V/60Hz

Motor housing type UV1A 0.04Y and UVA 0.6Y Alu blank. From Type UVB... in standard color RAL 5018 powder-coated (other colors upon request)

<sup>3)</sup> Series eUV, fUV and cUV have deviating technical data

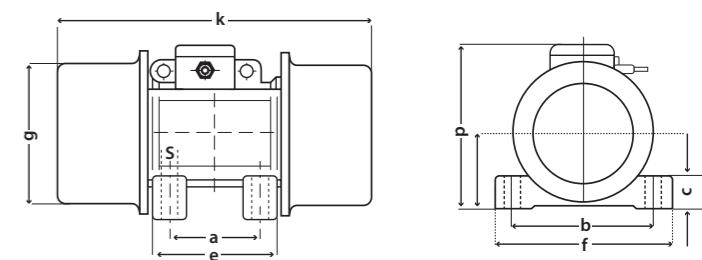
## 6-POLE AND 8-POLE MOTORS FOR A 60 HZ MAINS FREQUENCY

Series UV	Series fUV <sup>3)</sup>	Series cUV <sup>3)</sup>	Centrifugal force [N]	Working moment [kgcm]	Motor weight [kg]	Working weight range <sup>1)</sup> [kg]	Rated Current max. [A] <sup>3)</sup>	Rated Power max. [kW]
from to 265 V 460 V								
UVE 3W	+	+	+	3,320	42.0	23.0	40	235
UVE 5W	+	+	+	7,230	91.0	36.5	110	530
UVF 11W	+	+	+	11,300	143.0	51.0	185	850
UVF 16W	+	+	+	15,200	192.0	71.0	242	1,140
UVG 21W	+	+	+	21,100	268.0	120.0	295	1,550
UVG 30W	+	+	+	30,400	375.0	130.0	490	2,240
UVH 38W	+	+	+	37,600	476.0	177.0	600	2,820
UVH 46W	+	+	+	46,000	583.0	190.0	785	3,505
UVL 64W	+	+	+	64,000	811.0	234.0	1,155	4,940
UVK 79W	+	+	+	78,400	993.0	293.0	1,400	6,040
UVN 95W	+	+	+	89,400	1,133.0	343.0	1,580	6,870
UVP 119W	+	+	+	119,000	1,509.0	445.0	2,130	9,170

Series UV	Series fUV <sup>3)</sup>	Series cUV <sup>3)</sup>	from to 265 V 460 V
UVF 6V	+	+	+
UVF 9V	+	+	+
UVG 14V	+	+	+
UVH 21V	+	+	+
UVH 26V	+	+	+
UVL 36V	+	+	+
UVK 44V	+	+	+
UVN 76V	+	+	+
UVP 85V	+	+	+

## Dimensions [mm]

a	b	c	e	f	g	h	k	p	s	Screws
120	170	45	160	205	168	94	378	215	17.0	M16
120	170	54	162	205	181	105	436	225	13.0	M12
125	210	65	175	260	201	125	560	255	17.0	M16
125	210	65	175	255	231	140	600	279	17.0	M16
165	260	65	230	330	270	160	662	334	26.0	M24
165	260	65	230	330	270	160	710	334	26.0	M24
280	290	70	345	355	296	173	774	363	26.0	M24
280	290	70	345	355	296	173	834	363	26.0	M24
200	320	90	270	390	334	189	840	381	28.0	M27
280	400	65	350	465	359	200	878	403	33.0	M30
2 x 125	380	35	320	460	387	215	866	436	38.0	6 x M36
2 x 140	440	38	370	530	420	230	994	454	44.0	6 x M42



+ Available  
- Not available

All UV series are CE certified

Series UV: in normal range, if special certification is not required

Series eUV: hazardous areas for dust certified in accordance to CSA 2593962 in Class II (dust),

Division 1, Groups E, F and G

Series fUV: gas explosion area certified in accordance to CSA 1181557 in Class I (gas),

Division 2, Groups A, B, C and D

<sup>1)</sup> driven by two unbalance motors

<sup>2)</sup> 1-phase alternating current unbalance motor with permanently installed three-core cable, only available in 230V/50Hz or 115V/60Hz  
Motor housing type UV1A 0.04Y and UVA 0.6Y Alu blank. From Type UVB... in standard color RAL 5018 powder-coated (other colors upon request)

<sup>3)</sup> Series eUV, fUV and cUV have deviating technical data

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