



8

Netter Electric External Vibrators Series NEG



- Circular vibration
- Nominal frequency from 750 min⁻¹ to 3,600 min⁻¹
- Centrifugal force from 40 N to 217,700 N
- Smooth housing surface
- Stainless steel weight covers up to housing size 133
- Ex II 2 G D (ATEX) available
- Protection IP 66-7, Insulation class F
- Stainless steel versions available

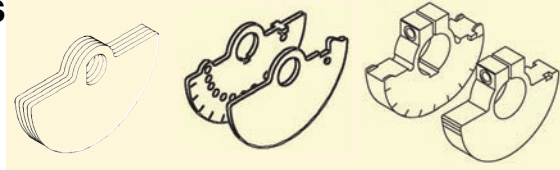




Netter Electric-External Vibrators

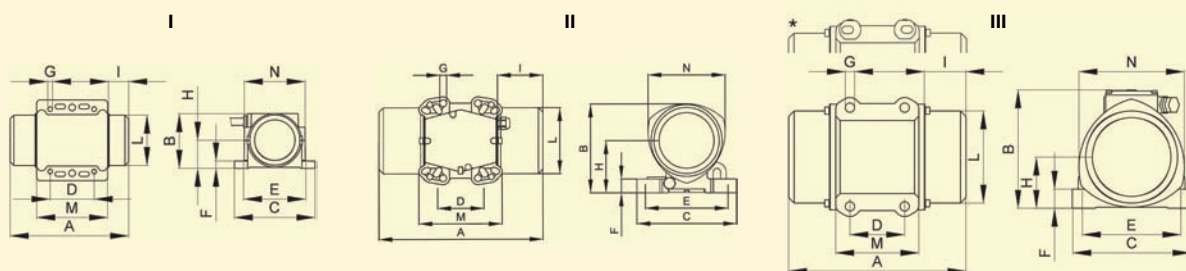
Series NEG 3-Phase
Series NEA Single Phase
Series NED Direct Current

Unbalance type XL Unbalance type XM Unbalance type XS



min-1	Type	Housing		Working Moment		Centrifugal Force		EEx e II **	Power Input				Nominal Current			
		Size	Material	[mmkg]		[N]			[kW]				[A]			
		NEG/NEA		NEG/NEA		NEG/NEA			NEG E	NEG		NEA		NEG		NEA
				50 Hz	60 Hz	50 Hz	60 Hz	50/60 Hz	50 Hz 400 V	60 Hz 480 V	50 Hz 230 V	60 Hz 115 V	50 Hz 400 V	60 Hz 480 V	50 Hz 230 V	60 Hz 115 V
3000 3600	NEA 504*	50	Al	0.8	0.8	40	57	–	–	–	0.024	0,024	–	–	0.13	0.30
	NEG/NEA 5020*	60	Al	3.9	3.9	192	277	–	0.035	0.035	0.035	0,035	0.15	0.15	0.17	0.42
	NEG/NEA 5050*			9.1	9.1	450	647		0.045	0.045	0.045	0,045	0.16	0.16	0.20	0.46
	NEG/NEA 5060	100	Al	12.2	12.2	602	867	–	0.12	0.12	0.165	0,165	0.27	0.23	0.75	1.52
	NEG/NEA 50120	101	Al	24	24	1,185	1,706	–	0.18	0.18	0.165	0,165	0.35	0.30	0.75	1.52
	NEG/NEA 50200			42	30	2,073	2,133									
	NEG/NEA 50300	110	Al	60.2	40.8	2,972	2,900	T3, T4	0.26	0.27	0.28	0,28	0.60	0.50	1.25	2.40
	NEG/NEA 50550	120	Al	99.7	64.8	4,921	4,606	T3, T4	0.45	0.50	0.5	0,5	0.80	0.75	2.30	4.50
	NEG/NEA 50770	130	Al	155.9	104.0	7,695	7,392	T3, T4	0.65	0.685	0.7	0,75	1.10	1.00	3.25	7.00
	NEG 50980 NEG 501140	133	Al	198 230	132 165	9,772 11,352	9,382 11,727	T3, T4	1	1.2	–	–	1.75	1.75	–	–
1500 1800	NEG 2530	101	Al	24	24	296	426	–	0.085	0.095	–	–	0.21	0.20	–	–
	NEG 2570			62	42	766	747									
	NEG 25210	110	Al	168.4	117.6	2,078	2,090	T4	0.17	0.17	–	–	0.41	0.40	–	–
	NEG 25420 NEG 25540	120	Al	326.4 438.0	226.6 326.4	4,028 5,405	4,027 5,800	T3, T4	0.30	0.35	–	–	0.60	0.60	–	–
	NEG 25700	130	Al	571.8	418.9	7,056	7,444	T3, T4	0.525	0.665	–	–	0.92	0.98	–	–
	NEG 25930	133	Al	750	520	9,254	9,239	T4	0.55	0.68	–	–	0.95	0.95	–	–
	1000 1200	NEG 1630	110	Al	60.2	60.2	331	476	–	0.12	0.135	–	–	0.30	0.30	–
NEG 1690		168.4			168.4	924	1,330									
NEG 16190		120	Al	326.4	326.4	1,790	2,578	T4	0.185	0.205	–	–	0.50	0.50	–	–
NEG 16310		130	Al	571.8	418.9	3,136	3,309	T4	0.35	0.38	–	–	0.72	0.68	–	–
NEG 16410 NEG 16500		133	Al	750 907	520 665	4,113 4,974	4,106 5,251	T4 –	0.35 0.42	0.38 0.46	– –	– –	0.75 0.79	0.67 0.77	– –	– –
NEG 12100		120	Al	326.4	326.4	1,007	1,450	T3	0.23	0.25	–	–	0.85	0.76	–	–
750 900	NEG 12180	130	Al	568	568	1,752	2,523	T3	0.35	0.38	–	–	1.10	1.05	–	–
	NEG 12230	133	Al	750	750	2,314	3,332	T4	0.28	0.30	–	–	0.60	0.68	–	–
	NED 50100	102	Al	20		987		–	0.13 (12 V =)		0.13 (24 V =)		11 (12 V =)		5.8 (24 V =)	
3000	NED 50200	103	Al	39		1, 925		–	0.22 (12 V =)		0.22 (24 V =)		18 (12 V =)		9 (24 V =)	

* Protection IP 65, ** Technical Data available upon request



	Type	Weight [kg]		Type of housing	Dimensions [mm]													Unbalance [No. of unbalance discs]							
		NEG/NEA		NEG	NEG/NEA													NEG/NEA							
		50 Hz	60 Hz	NEA	A	B	C	D	E	F	G	H	I	L	M	N	n²	Typ	50 Hz	60 Hz					
	NEA 504*	0.90	0.90	I	113	62,5	90	25-40	75	9	5.5	32	20	56.6	70.5	75	4	XL	8	8					
	NEG/NEA 5020*	1.75	1.70	I	154	74,5	110	60	85	10	6.5	38	27.5	68.6	97	85	4	XL	8	8					
	NEG/NEA 5050*	1.95	1.90		169			25-40	92				9			35			99	18	18				
									90																
	NEG/NEA 5060	4.8	4.8	II	197	121	126	60	100	20	9	72	33	92	88	105	4	XL	10	10					
						62	95	65	85												70	106			
	NEG/NEA 50120	6.1	6.0	II	207	143	165	65	140	25	13	86	44	100	156	123	4	XM	4	4					
								62-74	106												9	11	11		
	NEG/NEA 50200	6.7	6.5	II	223			80	110												115	135	11	11	52
								135	115		11								4	4					
								124	110		11														
	NEG/NEA 50300	10.3	10.1	II	247	172,5	165	65	140	25	13	103	50	124	156	146	4	XM	4	4					
						80	110	80	110												11	11			
						115	135	135	115												11	11			
								124	110		13														
								90	125																
	NEG/NEA 50550	16.3	16.1	II	283	192	217	100	180	30	17	113	62,5	143	137	168	4	XM	4	4					
								105	140		13														
	NEG/NEA 50770	22.3	21.3	III	308	212	238	100*	180*	43	17	93.5	63	168	163	193	4	XM	4	4					
								92-128*	167-203*																
	NEG 50980	24.5	23.4	III	324	216	219	100	180	35	17	93.5	76	168	153	193	4	XM	4	4					
	NEG 501140	25.0	24.0	II																	4	4			
	NEG 2530	6.1	5.8	II	207	143	165	65	140	25	13	86	44	100	156	123	4	XM	4	4					
									62-74												106	9	11	11	
									80												110	115	135	11	11
	NEG 2570	7.3	6.9		243			135	115		11		62						4	4					
								124	110		11														
								65	140		13														
								80	110		11														
	NEG 25210	12.8	11.8	II	307	172,5	165	115	135	25	11	103	80	124	156	146	4	XS	4	4					
								135	115		11														
								124	110		11														
								90	125		13														
	NEG 25420	20.7	19.7	II	355	192	217	100	180	30	17	113	98.5	143	137	168	4	XS	4	4					
	NEG 25540	22.7	21.7					391	105		140		13								116.5				
	NEG 25700	29.4	28.4	III	392	212	238	100*	180*	43	17	93.5	105	168	163	193	4	XS	4	4					
								92-128*	167-203*																
	NEG 25930	34.2	32.7	III	452	216	219	100	180	35	17	93.5	140	168	153	193	4	XS	4	4					
	NEG 1630	12.0	10.1	II	247	172,5	165	65	140	25	13	103	50	124	156	146	4	XM	4	4					
									80												110	115	135	11	11
									135												115	124	110	11	11
	NEG 1690	12.7	12.7		307			90	125		13		80					XS							
								100	180		17														
	NEG 16190	20.5	20.5	II	355	192	217	105	140	30	13	113	98.5	143	137	168	4	XS	4	4					
	NEG 16310	28.9	27.9	III	392	212	238	100*	180*	43	17	93.5	105	168	163	193	4	XS	4	4					
								92-128*	167-203*																
	NEG 16410	34.1	33.6	III	452	216	219	100	180	35	17	93.5	140	168	153	193	4	XS	4	4					
	NEG 16500	36.1	35.1																			4	4		
	NEG 12100	20.5	20.5	II	355	192	217	100	180	30	17	113	98.5	143	137	168	4	XS	4	4					
								105	140		13														
	NEG 12180	28.0	28.0	III	392	212	238	100*	180*	43	17	93.5	105	168	163	193	4	XS	4	4					
								92-128*	167-203*																
	NEG 12230	34.6	34.6	III	452	216	219	100	180	35	7	93.5	140	168	152	193	4	XS	4	4					
	NED 50100	4.6		II	210	142	125	62-74	106	15	9	55	40	90	102	10	4	XLs	12	12					
								65	140		13														
	NEG 50200	6.2		II	257	157	165	74	106	20	9	70	45.5	112	140	119	4	XLs	10	10					
								80	110												11	11			
								118	135												13	13			

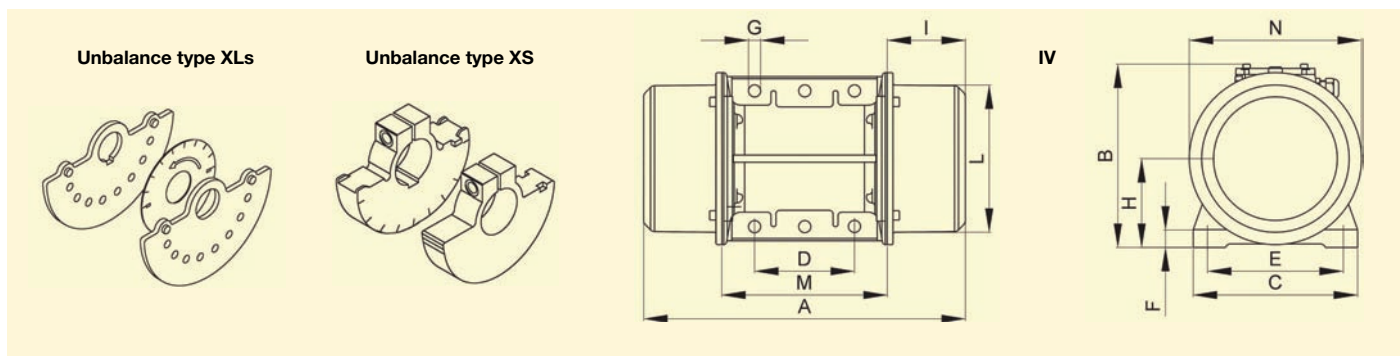
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Netter Electric-External Vibrators Series NEG 3-Phase

min ⁻¹	Type	Housing Size	Material	Working Moment [mmkg]		Centrifugal Force [N]		EEx e II **	Power Input [kW]		Nominal Current [A]		Weight [kg]	
				50 Hz	60 Hz	50 Hz	60 Hz		50 Hz 400 V	60 Hz 480 V	50 Hz 400 V	60 Hz 480 V	50 Hz	60 Hz
3000 3600	NEG 501510	150	GGG	306	204	15,103	14,499	T3, T4	1.4	1.45	2.3	2.0	44	43
	NEG 501770			358	256	17,669	18,195	T3	2.0	2.0	3.3	2.9	45	44
	NEG 502020			410	256	20,236	18,195	T3	2.2	2.2	3.5	3.0	49	47
	NEG 502270			460	306	22,704	21,748	T3	2.2	2.2	3.5	3.0	50	49
	NEG 503400	170	GGG	688	430	33,957	30,561	–	3.8	3.8	6.2	5.4	106	102
	NEG 503820			774	516	38,202	36,673	–	4.0	4.0	6.5	5.6	107	103
	NEG 506220			1260	886	62,189	62,970	–	5.5	5.5	9.2	8.0	188	181
	NEG 508830			1790	1238	88,347	87,988	–	10.0	9.3	18.0	13.0	215	210
1500 1800	NEG 251370	140	GGG	1112	800	13,721	14,215	T3, T4	0.9	1.05	1.45	1.5	57	54
	NEG 251760	150	GGG	1428	970	17,620	17,235	T3, T4	1.1	1.2	2.0	1.9	64	60
	NEG 252060			1666	1123	20,557	19,954	–	1.35	1.45	2.5	2.3	68	64
	NEG 252450	160	GGG	1984	1382	24,481	24,556	T3, T4	1.6	1.7	3.2	3.0	85	79
	NEG 253080			2500	1740	30,848	30,917	–	1.9	2.0	3.8	3.5	95	92
	NEG 253720	170	GGG	3016	2067	37,214	36,726	T3, T4	2.2	2.5	3.9	3.9	127	122
	NEG 254310			3492	2347	43,088	41,702	–	2.5	2.8	4.8	4.65	125	120
	NEG 254900	180	GGG	3968	2728	48,961	48,472	T3	3.6	3.4	6.0	5.0	174	166
	NEG 256460	190	GGG	5238	3646	64,632	64,783	–	6.0	6.0	10.5	9.0	212	200
	NEG 258040	195	GGG	6520	4520	80,450	80,312	–	10.0	9.3	18.0	13.0	215	210
	NEG 258260	197	GGG	6692	4924	82,573	87,490	–	7.5	8.5	12.2	12.0	317	303
	NEG 2511210	200	GGG	9088	6332	112,137	112,508	–	10.0	10.5	17.5	15.5	433	411
	NEG 2513850			11228	8252	138,542	145,981	–	11.0	12.0	20.0	20.0	458	424
	NEG 16780	140	GGG	1428	1118	7,831	8,829	T3, T4	0.68	0.76	1.4	1.35	60	55
	NEG 161080	150	GGG	1964	1428	10,771	11,277	T3, T4	0.75	0.75	1.65	1.5	70	61
	NEG 161470			2678	1874	14,686	14,799	–	1.0	1.0	1.8	1.7	81	74
1000 1200	NEG 161660	160	GGG	3031	1984	16,622	15,668	T3, T4	1.1	1.3	2.6	2.8	96	86
	NEG 162150			3928	2750	21,541	21,717	–	1.5	1.7	3.0	2.75	105	93
	NEG 162550	170	GGG	4642	3230	25,457	25,507	T3	1.96	2.1	4.1	3.75	140	127
	NEG 163030			5534	4000	30,348	31,588	–	2.2	2.4	4.5	4.3	156	141
	NEG 163820	180	GGG	6964	4674	38,191	38,253	T3, T4	2.5	3.0	5.1	5.0	200	182
	NEG 164700			8570	5874	46,998	46,387	–	3.2	3.6	6.5	6.0	219	198
	NEG 165190	190	GGG	9464	6584	51,901	51,994	T3	3.8	4.0	7.0	6.5	247	225
	NEG 166270			11428	7950	62,671	62,781	–	4.3	5.0	8.2	8.1	279	251
	NEG 166670	197	GGG	12166	7958	66,718	62,844	–	5.0	5.9	10.0	9.8	285	257
	NEG 167890	195	GGG	14394	9934	78,937	78,448	–	7.0	7.5	9.6	13.0	320	282
	NEG 168500			15504	10770	85,024	85,050	–	7.5	8.2	14.0	12.9	326	289
	NEG 169510	197	GGG	17346	11328	95,125	89,457	–	4.6	8.0	13.5	12.4	381	340
	NEG 1612060	200	GGG	21992	1086	120,604	119,134	–	9.0	9.5	16.3	15.0	500	445
	NEG 1613890			25324	17400	138,877	137,407	–	10.6	11.3	19.0	18.0	643	605
	NEG 1617000	205	GGG	31000	20878	170,004	164,873	–	13.0	13.7	24.5	23.0	705	656
750 900	NEG 1621960	210	GGG	40050	25106	219,634	198,261	–	19.0	19.0	33.0	2.5	926	896
	NEG 12440	140	GGG	1428	142.8	4,405	6,343	–	0.4	0.45	1.2	1.2	60	60
	NEG 12610	150	GGG	1964	1964	6,058	8,724	T3	0.4	0.5	1.4	1.3	70	70
	NEG 12930	160	GGG	3031	3031	9,350	13,464	T3, T4	0.95	1.1	2.2	2.2	95	95
	NEG 121430	170	GGG	4642	4642	14,319	20,620	T3	1.5	1.79	4.1	4.2	133	133
	NEG 122150	180	GGG	6964	6964	21,482	30,934	T3	2.0	2.3	5.4	5.2	201	201
	NEG 122640			8570	8570	26,436	38,068	T3	2.5	3.0	6.0	6.0	217	217
	NEG 122920	190	GGG	9644	9644	29,194	42,839	–	2.8	3.35	6.5	6.5	242	242
	NEG 123530			11428	11428	35,253	50,764	T3	4.0	4.3	8.2	7.85	267	267
	NEG 124440	195	GGG	14394	14394	44,402	63,939	T3	4.9	5.8	9.9	9.5	320	320
	NEG 127640	197	GGG	24780	21946	76,440	97,485	–	6.8	7.5	13.2	12.0	438	419
	NEG 128520	200	GGG	27632	24814	85,238	110,225	–	7.6	8.3	14.0	13.5	540	520
	NEG 1211070	205	GGG	35892	31000	110,718	137,703	–	9.2	9.6	21.0	19.5	702	680
	NEG 1213160			42674	38128	131,639	169,366	–	10.4	11.2	22.0	20.0	755	711
	NEG 1217670	210	GGG	57266	49016	176,651	217,731	–	12.5	16.2	26.5	28.0	1015	981

** Technical Data available upon request



min ⁻¹	Type	Type of housing	Dimensions [mm]													Unbalance [No. of unbalance discs]			
			NEG NEA	A	B	C	D	E mounting pattern	F	G	H	I	L	M	N	n ₂	Typ	50 Hz	60 Hz
3000 3600	NEG 501510	IV	428	235	232	140	190	25	17	104	86.5	188	248	224	4	XLs	12	8	
	NEG 501770		14								10								
	NEG 502020		16								10								
	NEG 502270		18								12								
	NEG 503400	IV	558	335	310	155	255	30	23.5	160	108	274	302	310	4	XLs	16	10	
	NEG 503820																18	12	
	NEG 506220	IV	670	380	390	200	320	32	28	189	155	340	352	384	4	XS	4	4	
	NEG 508830	IV	636	403	392	200	320	35	28	200	138	367	360	402	4	XS	4	4	
NEG 251370	IV	451	257	231	140	190	25	17	124.5	109.5	206	224	241	4	XS	4	4		
1500 1800	NEG 251760	IV	501	257	231	140	190	25	17	124.5	134.5	206	224	241	4	XS	4	4	
	NEG 252060		573								170.5								
	NEG 252450	IV	535	283	278	155	225	28	22	140	136	236	255	271	4	XS	4	4	
	NEG 253080		619								178								
	NEG 253720	IV	588	335	310	155	255	30	23,5	160	139	274	302	310	4	XS	4	4	
	NEG 254310		670								180								
	NEG 254900	IV	640	369	340	180	280	30	26	173	155	302	322	340	4	XS	4	4	
	NEG 256460	IV	670	380	390	200	320	32	28	189	155	340	352	384	4	XS	4	4	
	NEG 258040	IV	629	395	392	200	320	35	28	192	135	355	270	375	4	XS	4	4	
	NEG 258260	IV	862	436	460	125	380	35	38	215	230	387	320	414	6	XS	4	4	
	NEG 2511210	IV	990	454	530	140	440	38	45	230	240	423	370	448	6	XS	4	4	
	NEG 2513850																		
	1000 1200	NEG 16780	IV	501	257	231	140	190	25	17	124.5	134.5	206	224	241	4	XS	4	4
		NEG 161080	IV	573	257	231	140	190	25	17	124.5	170.5	206	232	241	4	XS	4	4
NEG 161470																			
NEG 161660		IV	619	283	278	155	225	28	22	140	178	236	255	271	4	XS	4	4	
NEG 162150																			
NEG 162550		IV	670	335	310	155	255	30	23,5	160	180	247	302	310	4	XS	4	4	
NEG 163030			710								200								
NEG 163820		IV	742	369	340	180	280	30	26	173	206	302	322	340	4	XS	4	4	
NEG 164700			802								236								
NEG 165190		IV	772	380	390	200	320	32	28	189	206	340	352	384	4	XS	4	4	
NEG 166270			850								245								
NEG 166670		IV	750	436	460	125	380	35	38	215	174	387	320	414	6	XS	4	4	
NEG 167890		IV	870	395	392	200	320	35	28	192	255	355	270	375	4	XS	4	4	
NEG 168500																			
NEG 169510		IV	862	436	460	125	380	35	38	215	230	387	320	414	6	XS	4	4	
NEG 1612060		IV	990	454	530	140	440	38	45	230	240	420	370	448	6	XS	4	4	
NEG 1613890	IV	960	526	570	140	480	41	45	268	200	495	510	516	8	XS	4	4		
NEG 1617000		1,040								240				8	XS	4	4		
NEG 1621960	IV	1,150	607	610	140	520	38	45	297	297.5	542	510	582	8	XS	4	4		
750 900	NEG 12440	IV	501	257	230	140	190	25	17	124.5	134.5	206	224	241	4	XS	4	4	
	NEG 12610	IV	573	257	230	140	190	25	17	124.5	170.5	206	232	241	4	XS	4	4	
	NEG 12930	IV	619	283	278	155	225	28	22	140	178	236	255	271	4	XS	4	4	
	NEG 121430	IV	670	335	310	155	255	30	23.5	160	180	274	302	310	4	XS	4	4	
	NEG 122150	IV	742	369	340	180	280	30	26	173	206	302	322	340	4	XS	4	4	
	NEG 122640		802								236								
	NEG 122920	IV	772	380	390	200	320	32	28	189	206	340	352	384	4	XS	4	4	
	NEG 123530		850								245								
	NEG 124440	IV	870	395	392	200	320	35	28	192	255	355	270	375	4	XS	4	4	
	NEG 127640	IV	1,002	436	460	125	380	35	38	215	300	387	320	414	6	XS	4	4	
	NEG 128520	IV	1,070	454	530	140	440	38	45	230	280	423	370	448	6	XS	4	4	
	NEG 1211070	IV	1,040	526	570	140	480	41	45	268	240	485	510	516	8	XS	4	4	
	NEG 1213160		1,120								280								
	NEG 1217670	IV	1,150	607	610	140	520	38	45	297	279.5	542	510	582	8	XS	4	4	



Netter Electric External Vibrators Series NEG

Special Version with Reduced Duty Time

Applications

Series NEG electric external vibrators are designed for continuous operation with 100% duty time. In addition, special versions with reduced duty times are available. The reduced duty time allows the use of smaller units possible with the same power output.

Design and functioning principle

Special vibrators with larger unbalances can be used for intermittent or short-time operation. Despite smaller unit size they deliver the same centrifugal forces as the next housing size up.

NEG with reduced duty times are built according to the customer's requirements, to enable individual solutions.

Special Version with CC Unbalances



Applications

The special version with CC unbalances are used when two different unbalance settings need to be available during operation.

Design and functioning principle

In order to use the CC unbalances, a suitable electric switching circuit is required so that the NEG can be operated in both directions. When the NEG rotates in one direction it operates with e.g. maximum unbalance.

When the direction of rotation changes, the outer unbalance disc automatically turns through a specified angle against the inner unbalance disc, creating a reduced unbalance setting. The CC unbalances are built according to the customer's requirements and allow a second unbalance setting of 25-100% of the main value.

Special Version NEG S in Stainless Steel



Applications

Series NEG S electric external vibrators can be used wherever the surfaces are subject to particular requirements for chemical resistance. An important feature of the NEG S series is its modular construction. This enables economical production of even the smallest of series in various steel materials. The protection class IP 66 (protection from dust entry and water flooding) allows cleaning with power jets and aggressive cleaning agents.

Design and functioning principle

All internal components of the stainless steel vibrators come from the established NEG series and are thus production proved.

Even the standard version of the NEG S has a surface quality of 6,3 µm and therefore satisfies the requirements for the chemical and pharmaceutical industries. A higher surface quality can easily be provided if required, e.g. for the food industry. Stainless steel housings are generally heavier than the standard housings. The greater mass must therefore be considered in the layout stage.

Netter Frequency Converter Series NFU

Applications

Series NFU frequency converters are used to regulate the frequency of series NEG electric external vibrators. Certain applications require frequencies which cannot be achieved with the normal multipole external vibrators at mains frequency. The special feature of this frequency converter is its robust and simple construction. The fully equipped units are designed for wall-mounting.

Design and functioning principle

Low-loss power electronics make operation with high tolerance input voltages possible. The frequency converters produce constant 3-phase voltages at frequencies of 0.5 Hz to 120 Hz, making rotational speeds of 30 to 7200 rpm/min. possible with a 2-pole NEG. This enables easy adjustment of the rotational speed.

The permissible temperature range lies between 0°C and +40°C.



Type	kW/A	Supply Voltage	Protection Class
NFU 1-002/1.5	0.18/1.5	1~: 170 to 264 V, 50/60 Hz	IP 55
NFU 1-004/3.3	0.37/3.3	1~: 170 to 264 V, 50/60 Hz	IP 55
NFU 1-004/3.7	0.55/3.7	1~: 170 to 264 V, 50/60 Hz	IP 55
NFU 1-007/4.2	0.75/4.2	1~: 170 to 264 V, 50/60 Hz	IP 55
NFU 1-011/6.9	1.1/6.9	1~: 170 to 264 V, 50/60 Hz	IP 55
NFU 1-015/8	1.5/8.0	1~: 170 to 264 V, 50/60 Hz	IP 55
NFU 1-022/11	2.2/11	1~: 170 to 264 V, 50/60 Hz	IP 55
NFU 2-004/1.5	0.37/1.5	3~: 323 to 550 V, 50/60 Hz	IP 55
NFU 2-006/1.9	0.55/1.9	3~: 323 to 550 V, 50/60 Hz	IP 55
NFU 2-007/2.3	0.75/2.3	3~: 323 to 550 V, 50/60 Hz	IP 55
NFU 2-011/3	1.1/3.0	3~: 323 to 550 V, 50/60 Hz	IP 55
NFU 2-015/4.1	1.5/4.1	3~: 323 to 550 V, 50/60 Hz	IP 55
NFU 2-022/5.5	2.2/5.5	3~: 323 to 550 V, 50/60 Hz	IP 55
NFU 2-030/7.1	3.0/7.1	3~: 323 to 550 V, 50/60 Hz	IP 55
NFU 2-040/9.5	4.0/9.5	3~: 323 to 550 V, 50/60 Hz	IP 55

The use of a braking resistance allows rapid braking within a few revolutions after switching off the supply voltage, in order to avoid undesired resonance vibrations.

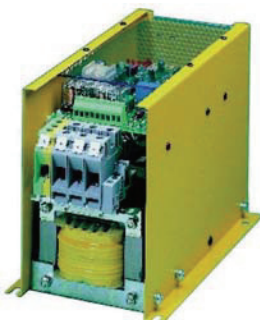
Type	Ohm/Watt	Protection Class
BZ 100/100	100/100	IP 54

Netter Braking Devices Series BZ

Applications

Series BZ braking devices are used to bring the running NEG to a standstill, as quickly as possible. It is often necessary to be able to switch off vibrating tables and conveyors without them running on, in order to avoid the symptoms of resonance.

A special feature of these devices is a very high braking efficiency with compact unit size.



Name	Supply Voltage	Protection Class	Max. Nominal Power NEG at 50 Hz/60 Hz
BZ 30	1~230 V or 3~400 V 50/60 Hz	IP 23	5 kW/5,5 kW
BZ 70	1~230 V or 3~400 V 50/60 Hz	IP 23	10 kW/11 kW
BZ 200	1~230 V or 3~400 V 50/60 Hz	IP 23	26 kW/28 kW

The max. nominal power serves only as a guide for selection.
Please consult us, we will help you with your layout!

Design and functioning principle

Upon activation the load-resistant power electronics change the direction of the electric rotational field, thus bringing the NEG to an immediate standstill. The momentarily high braking currents are easily tolerated by the NEG.

The permissible temperature range lies between 0°C and +40°C.

These braking devices are only suitable for constant mains frequencies of 50Hz or 60 Hz. Operation together with a frequency converter is not permitted.



Netter Electric External Vibrators Series NEG

Formulas

Working Moment	$M = s \times m$	Centrifugal force	$F = a_{(g)} \times m \times 9.81$
Acceleration	$a_{(g)} = s \times \left(\frac{n}{1000}\right)^2 \times 0.559$	Centrifugal force	$F = M \times \left(\frac{n}{1000}\right)^2 \times 5.484$

Symbols and Units

s	Stroke	mm	n	Frequency	min ⁻¹
m	Weight with vibrator	kg	M	Working Moment	mmkg
F	Centrifugal force	N	a _(g)	Acceleration	g

Which Kind of Vibrator for Which Kind of Duty?

Duty	Frequency	Acceleration [a _(g)] Times acceleration due to gravity	Amplitude	Vibration	
				Rotary Linear	
Conveying, dosing	750 – 3000	2 – 5	Large	↔	
Sieving	1000 – 1500	3 – 4	Large	↔	
Draining	1500 – 3000	3 – 5	Medium	↔	
Cleaning, shaking off filters	1500 – 3000	2 – 3	Medium	↻	
Lightening, loosening Emptying bulk material	1500 – 3000	0.15 - 0.2 of weight of material in the conical part of the silo	Medium	↻	
Compacting bulk material	1500 – 6000	2 – 4	Small	↻	↔
Concrete compaction	3000 – 9000	0.8 – 1.5	Very small	↻	↔
Testing components	300 – 6600	0.5 – 5	Adjustable	↻	↔



Conveying



Sieving



Compacting

Applications

Series NEG, NEA or NED electric external vibrators are used whenever, for example, conveyor chutes or sieves need to be driven. In addition, these devices can loosen material blockages and adhesions in silos. When used on concrete forms, the especially even vibration produces high surface quality and compaction of the concrete.

The special feature of the NEG is its maintenance-free operation, even in rough environmental conditions.

Design and functioning principle

Electric external vibrators are unbalance motors, and, apart from a few significant differences, are very similar to conventional electric motors. The 3-phase NEG units run at 750, 1000 or 3000 min⁻¹ with a 230/400V, 50 Hz power supply, depending on the number of poles.

The NEA single phase units run at 3000 min⁻¹ with a 230V, 50 Hz power supply. Additional voltages are available. The direct current NED units run at 3000 min⁻¹ with a 12 or 24 Volt power supply. Unbalances sitting on each end of the shaft produce an unidirectional sinus-shaped rotation at the frequency of the respective speed of rotation.

All NEG/NEA are also designed for operation at 60 Hz. The speed of rotation then lies at 20% above the values at 50 Hz. The unbalance is adjusted if necessary.

Generously dimensioned rolling bearings guarantee high operational safety. All NEG are suitable for operation with Netter frequency converters.

VSS provides solutions.
Consult our experienced application technicians.

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