



## Netter Electric External Vibrators Series NEG/NEA/NED



- Circular vibration
- Nominal frequency from 750 min<sup>-1</sup> to 3.600 min<sup>-1</sup>
- Centrifugal force from 40 N to 217.731 N
- Smooth housing surface
- Stainless steel weight covers
- Ex II 2 GD (ATEX) available
- Protection IP 66-7, Insulation class F
- Stainless steel versions available



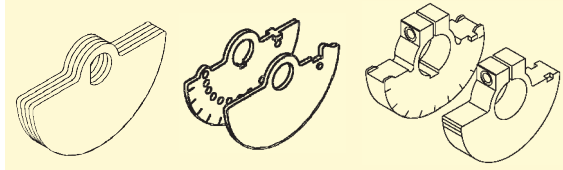


NetterVibration

Unbalance type XL Unbalance type XM Unbalance type XS



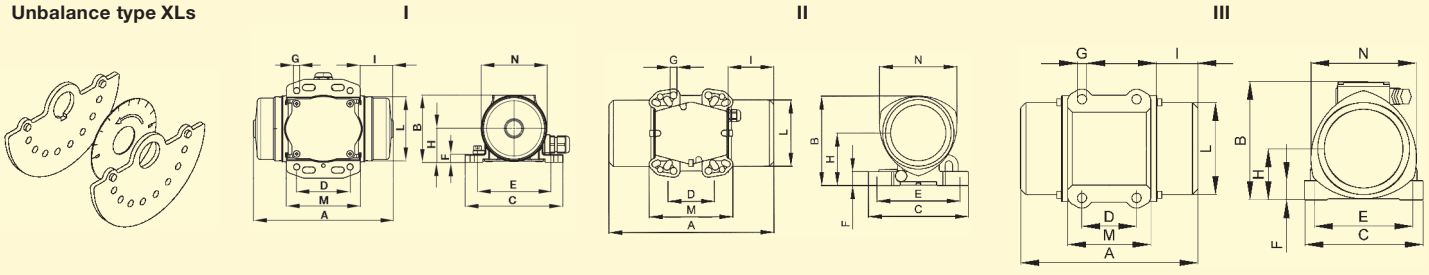
**Netter Electric External Vibrators**  
 Series NEG 3-Phase  
 Series NEA Single Phase  
 Series NED Direct Current



min <sup>-1</sup>	Type	Housing		Unbalance [cmkg]		Centrifugal Force [N]		EEx e II **	Power Input [kW]				Nominal Current [A]				
		Size	Material	NEG/NEA		NEG/NEA			NEG E	NEG		NEA		NEG		NEA	
				50 Hz	60 Hz	50 Hz	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	0,08	0,08	40	57	-	-	-	0,024	0,024	-	-	0,13	0,30	
	NEG/NEA 5020*	60	Al	0,39	0,39	192	277	-	0,035	0,035	0,035	0,035	0,15	0,15	0,17	0,42	
	NEG/NEA 5050*			0,91	0,91	450	647	-	0,045	0,045	0,045	0,045	0,16	0,16	0,20	0,46	
	NEG/NEA 5060	100	Al	1,272	1,272	627	904	-	0,12	0,12	0,11	0,11	0,27	0,23	0,56	1,52	
	NEG/NEA 50120	101	Al	2,4	2,4	1.185	1.708	-	0,18	0,18	0,165	0,165	0,35	0,30	0,75	1,52	
	NEG/NEA 50200			4,2	3,0	2.073	2.133	-	-	-	-	-	-	-	-	-	-
	NEG/NEA 50300	110	Al	6,02	4,08	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	9,99	6,48	4.930	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	15,59	10,40	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	19,8	13,2	9.772	9.382	T3,T4	1	1,2	-	-	1,75	1,75	-	-		
			23,0	16,5	11.352	11.727											
1500 1800	NEG/NEA 2530	101	Al	2,4	2,4	296	426	-	0,085	0,095	0,09	-	0,21	0,20	0,43	-	
	NEG/NEA 2570			6,2	4,2	766	747										
	NEG/NEA 25210	110	Al	16,84	11,76	2.078	2.090	T4	0,17	0,17	0,21	-	0,41	0,40	1,00	-	
	NEG/NEA 25420 NEG/NEA 25540	120	Al	32,64	22,66	4.028	4.027	T3,T4	0,30	0,35	0,24	-	0,60	0,60	1,20	-	
				43,80	32,64	5.405	5.800										
	NEG/NEA 25700	130	Al	57,18	41,89	7.056	7.444	T3,T4	0,525	0,665	0,45	-	0,92	0,98	2,50	-	
NEG 25930	133	Al	75,0	52,0	9.254	9.239	T4	0,55	0,68	-	-	0,95	0,95	-	-		
1000 1200	NEG 1630	110	Al	6,02	6,02	331	476	-	0,12	0,135	-	-	0,30	0,30	-	-	
	NEG 1690			16,84	16,84	924	1.330										
	NEG 16190	120	Al	32,64	32,64	1.790	2.578	T4	0,185	0,205	-	-	0,50	0,50	-	-	
	NEG 16310	130	Al	57,18	41,89	3.136	3.309	T4	0,35	0,38	-	-	0,72	0,68	-	-	
	NEG 16410	133	Al	75,0	52,0	4.113	4.106	T4	0,35	0,38	-	-	0,75	0,67	-	-	
	NEG 16500			90,7	66,5	4.974	5.251										-
750 900	NEG 12100	120	Al	32,64	32,64	1.007	1.450	T3	0,23	0,25	-	-	0,85	0,76	-	-	
	NEG 12180	130	Al	56,8	56,8	1.752	2.523	T3	0,35	0,38	-	-	1,10	1,05	-	-	
	NEG 12230	133	Al	75,0	75,0	2.314	3.332	T4	0,28	0,30	-	-	0,60	0,68	-	-	
3000	NED 50100	102	Al	2,39		1.180		-	0,10 (12 V =)		0,10 (24 V =)		8 (12 V =)		4 (24 V =)		
	NED 50200	103	Al	4,21		2.080		-	0,19 (12 V =)		0,19 (24 V =)		16 (12 V =)		8 (24 V =)		
	NED 50500	122	Al	9,98		4.930		-	0,27		0,27		22,5		11,3		
3600	NED 601110	133	Al	15,6		11.087		-	0,53 (24 V =)				22 (24 V =)				

\*Protection IP 65, \*\*Technical data available upon request

Unbalance type XLs



Type	Weight [kg]		Type of Housing	Dimensions [mm]														Unbalance [No. of Unbalance Discs]	
	NEG/NEA			NEG/NEA	NEG/NEA														NEG/NEA
	50 Hz	60 Hz	A		B	C	Mounting Pattern*			F	G	H	I	L	M	N	Type	50/60 Hz	
			D		E	n <sub>2</sub>													
NEA 504	1,00	1,00	I	111	67	90	25-40	75	4	9	5,5	34	24	63	59	65	XL	8	
NEG/NEA 5020	2,20	2,20	I	157	75	110	<b>60</b>	<b>85</b>	4	9	<b>6,5</b>	38	33	72	83	74	XL	8	
NEG/NEA 5050	2,45	2,45		25-40			92	39					18						
NEG/NEA 5060	4,9	4,9	II	197	121	125	60	100	4	20	8,5	71	33	92	86	105	XLs	4	
							62	95											
							<b>65</b>	<b>85</b>											
							70	106											
NEG/NEA 50120	5,9	5,8	II	207	143	165	62-74	106	4	25	<b>13</b>	86	44	100	156	123	XM	4	
							80	110											
							115	135											
							111	111											
NEG/NEA 50200	6,5	6,3	II	223	143	165	135	115	4	25	<b>13</b>	86	52	100	156	123	XM	4	
							124	110											
							111	111											
							111	111											
NEG/NEA 50300	10,2	10,0	II	247	173	165	<b>65</b>	<b>140</b>	4	25	<b>13</b>	103	50	124	156	146	XM	4	
							80	110											
							115	135											
							111	111											
							111	111											
							111	111											
NEG/NEA 50550	16,3	16,1	II	283	192	217	<b>100</b>	<b>180</b>	4	30	<b>17</b>	113	63	143	137	168	XM	4	
							105	140											
							13	13											
							13	13											
NEG/NEA 50770	22,1	21,6	III	308	212,5	226	100	180	4	35	17	93,5	63	167	162	193	XM	4	
NEG 50980	24,5	23,4	III	314	217	217	100	180	4	35	17	93,5	76	168	152	193	XM	4	
NEG 501140	25,0	24,0																	
NEG/NEA 2530	6,1	5,8	II	207	143	165	<b>65</b>	<b>140</b>	4	25	<b>13</b>	86	44	100	156	123	XM	4	
							62-74	106											
							80	110											
							115	135											
NEG/NEA 2570	7,3	6,9	II	243	143	165	135	115	4	25	<b>13</b>	86	62	100	156	123	XM	4	
							124	110											
							111	111											
							111	111											
NEG/NEA 25210	12,8	11,8	II	307	173	165	<b>65</b>	<b>140</b>	4	25	<b>13</b>	103	80	124	156	146	XS	4	
							80	110											
							115	135											
							111	111											
							111	111											
							111	111											
NEG/NEA 25420	20,7	19,7	II	355	192	217	<b>100</b>	<b>180</b>	4	30	<b>17</b>	113	99	143	137	168	XS	4	
	NEG/NEA 25540	22,7					21,7	105					140						117
NEG/NEA 25700	29,4	28,4	III	392	212,5	226	100	180	4	35	17	93,5	105	167	162	193	XS	4	
NEG 25930	34,2	32,7	III	442	217	217	100	180	4	35	17	93,5	140	168	152	193	XS	4	
NEG 1630	12,0	10,1	II	247	173	165	<b>65</b>	<b>140</b>	4	25	<b>13</b>	103	50	124	156	146	XM	4	
							80	110											
							115	135											
							111	111											
NEG 1690	12,7	12,7	II	307	173	165	135	115	4	25	<b>13</b>	103	80	124	156	146	XS	4	
							124	110											
							111	111											
							111	111											
NEG 16190	20,5	20,5	II	355	192	217	<b>100</b>	<b>180</b>	4	30	<b>17</b>	113	99	143	137	168	XS	4	
NEG 16310	28,9	27,9	III	392	212,5	226	100	180	4	35	17	93,5	105	167	162	193	XS	4	
NEG 16410	34,1	33,6	III	442	217	217	100	180	4	35	17	93,5	140	168	152	193	XS	4	
NEG 16500	36,1	35,1																	
NEG 12100	20,5	20,5	II	355	192	217	<b>100</b>	<b>180</b>	4	30	<b>17</b>	113	99	143	137	168	XS	4	
							105	140											
NEG 12180	28,0	28,0	III	392	212,5	226	100	180	4	35	17	93,5	105	167	162	193	XS	4	
NEG 12230	34,6	34,6	III	442	217	217	100	180	4	35	17	93,5	140	168	152	193	XS	4	
NED 50100	5,0	II	208	146,5	162	<b>65</b>	<b>140</b>	4	25	<b>13</b>	88	45	100	157	117	XM	4		
						115/135	135/115												
						74/80	106/110												
NED 50200	6,0	II	257	146,5	162	<b>65/115</b>	<b>140/135</b>	4	25	<b>13</b>	88	53	100	140	117	XM	4		
						74/80	106/110												
						9/11	9/11												
NEG 50500	13,1	II	288	203	167	105	140	4	30	13	82,5	65	145	140	160	XM	4		
NEG 601110	20	III	308	215	205	120	170	4	45	17	94	63	168	160	182	XM	4		

\*Variable mounting pattern see operating manual, \*\*Recommended mounting pattern in bold type.



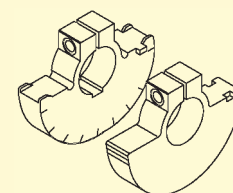
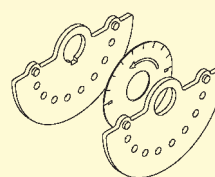
**NetterVibration**



# Netter Electric External Vibrators Series NEG 3-Phase

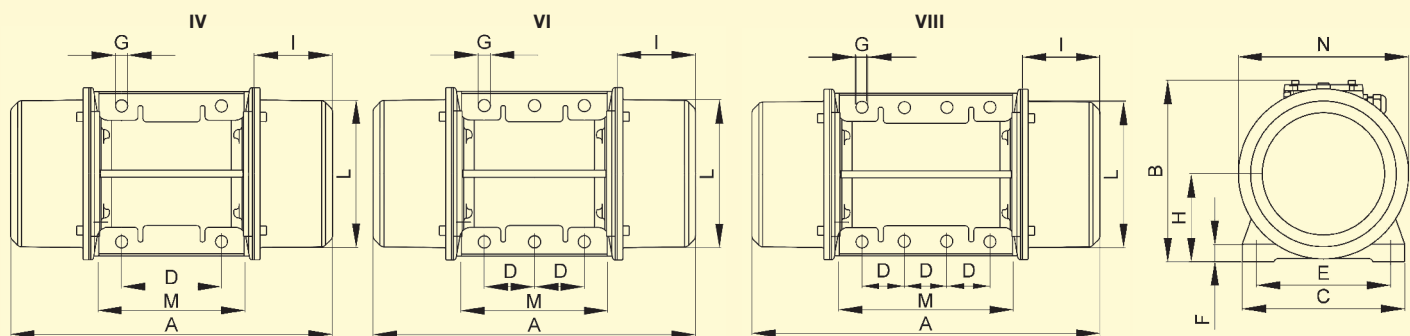
Unbalance type XLs

Unbalance type XS



rpm <sup>-1</sup>	Type	Housing		Unbalance		Centifugal Force		EEx e II *	Power Input		Nominal Current		Weight		
		Size	Material	[cmkg]		[N]			50/60 Hz	[kW]		[A]		[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 6000	NEG 501540	140	AL	30,6	20,4	15.103	14.499	T3, T4	1,4	1,45	2,3	2,0	34,3	32,8	
	NEG 501800			35,8	25,6	17.669	18.195		T3	2,0	2,0	3,3	2,9	35,1	33,6
	NEG 502020	150	GGG	41,0	25,6	20.236	18.195	T3	2,2	2,2	3,5	3,0	49	47	
	NEG 502270			46,0	30,6	22.704	21.748		T3	2,2	2,2	3,5	3,0	50	49
	NEG 503400	170	GGG	65,6	43,7	32.364	31.052	-	3,8	3,8	6,2	5,4	106	102	
	NEG 503820			76,5	54,6	37.764	38.827	-	4,0	4,0	6,5	5,6	107	103	
	NEG 506220			126,0	88,6	62.189	62.970	-	5,5	5,5	9,2	8,0	188	181	
NEG 508830	190	GGG	179,0	123,8	88.347	87.988	-	10,0	9,3	18,0	13,0	215	210		
NEG 251410	140		AL	112	80,0	13.820	14.215	T3, T4	0,9	1,05	1,45	1,5	44,8	41,8	
NEG 251800		142,8		97,0	17.620	17.235	-		1,1	1,2	2,0	1,9	49,3	45,3	
NEG 252060		163		112,4	20.113	19.971	-		1,35	1,45	2,5	2,3	54	52	
NEG 252370		160		AL	192,4	134,8	23.740		23.951	T3, T4	1,6	1,7	3,2	3,0	75
NEG 253050	247,0		171,6		30.477	30.490	-	1,9	2,0		3,8	3,5	82	79	
NEG 253720	170	GGG	301,6	206,7	37.214	36.726	T3, T4	2,2	2,5	3,9	3,9	127	122		
NEG 254310			349,2	234,7	43.088	41.702		-	2,5	2,8	4,8	4,65	125	120	
NEG 254900			396,8	272,8	48.961	48.472		T3	3,6	3,4	6,0	5,0	174	166	
NEG 256460	180	GGG	523,8	364,6	64.632	64.783	-	6,0	6,0	10,5	9,0	212	200		
NEG 258040	190		652,0	452,0	80.450	80.312	-	7,0	8,0	11,6	11,5	225	210		
NEG 258260	195	GGG	669,2	492,4	82.573	87.490	-	7,5	8,5	12,2	12,0	317	303		
NEG 2511210	197		908,8	633,2	112.137	112.508	-	10,0	10,5	17,5	15,5	433	411		
NEG 2513850		200	1.122,8	825,2	138.542	145.981	-	11,0	12,0	20,0	20,0	458	424		
1500 1800	NEG 16810	140	AL	144,2	111,8	7.908	8.829	T3, T4	0,68	0,76	1,4	1,4	46	41	
	NEG 161130			202,0	142,8	11.078	11.277		-	0,75	0,75	1,7	1,5	57	48
	NEG 161420			254,2	187,4	13.940	14.799		-	0,95	1,0	1,8	1,7	65	58
	NEG 161610	160	AL	292,8	192,4	16.057	15.194	T3, T4	1,1	1,3	2,2	2,2	80	76	
	NEG 162110			385,4	263,6	21.135	20.816		-	1,5	1,77	3,0	2,8	95	83
	NEG 162550	170	GGG	464,2	323,0	25.457	25.507	T3	1,96	2,1	4,1	3,75	140	127	
	NEG 163030			553,4	400,0	30.348	31.588		-	2,2	2,4	4,5	4,3	156	141
	NEG 163820	180	GGG	696,4	467,4	38.191	38.253	T3, T4	2,5	3,0	5,1	5,0	200	182	
	NEG 164700			857,0	587,4	46.998	46.387		-	3,2	3,6	6,5	6,0	219	198
	NEG 165190			946,4	658,4	51.901	51.994		T3	3,8	4,0	7,0	6,5	247	225
	NEG 165580	190	GGG	1.008,8	706,2	54.560	55.768	-	3,8	3,9	7,0	7,1	240	245	
	NEG 166270			1.142,8	795,0	62.671	62.781	-	4,3	5,0	8,2	8,1	279	251	
	NEG 166670	197	GGG	1.216,6	795,8	66.718	62.844	-	5,0	5,9	10,0	9,8	285	257	
	NEG 167890	195		1.439,4	993,4	78.937	78.448	-	7,0	7,5	9,6	13,0	320	282	
	NEG 168500		1.550,4	1.077,0	85.024	85.050	-	7,5	8,2	14,0	12,9	326	289		
	NEG 169510	197	GGG	1.734,6	1.132,8	95.125	89.457	-	7,6	8,0	13,5	12,4	381	340	
	NEG 1612060	200		2.199,2	1.508,6	120.604	119.134	-	9,0	9,5	16,3	15,0	500	445	
	NEG 1613890	205	GGG	2.532,4	1.740,0	138.877	137.407	-	10,6	11,3	19,0	18,0	643	605	
	NEG 1617000			3.100,0	2.087,8	170.004	164.873	-	13,0	13,7	24,5	23,0	705	656	
	NEG 12460			140	AL	144,4	142,2	4.454	6.317	T3	0,4	0,45	1,2	1,2	46
NEG 12640	202,0	195,6	6.231			8.689	T3, T4	0,5	1,4			1,3	57	57	
NEG 12900	160	AL	292,8	292,8	9.032	13.006	T3	0,95	1,1	2,2	2,2	80	80		
NEG 121430	170	GGG	464,2	464,2	14.319	20.620	T3	1,5	1,79	4,1	4,2	133	133		
NEG 122150	696,4		696,4	21.482	30.934	T3		2,0	2,3	5,4	5,2	201	201		
NEG 122640	180	GGG	857,0	857,0	26.436	38.068	-	2,5	3,0	6,0	6,0	217	217		
NEG 122920			964,4	964,4	29.194	42.839		T3	2,8	3,35	6,5	6,5	242	242	
NEG 123530	190	GGG	1.142,8	1.142,8	35.253	50.764	T3	4,0	4,3	8,2	7,85	267	267		
NEG 124440	1.439,4		1.439,4	44.402	63.939	-		4,9	5,8	9,9	9,5	320	320		
NEG 127640	197	GGG	2.478,0	2.194,6	76.440	97.485	-	6,8	7,5	13,2	12,0	438	419		
NEG 128520	200		2.763,2	2.481,4	85.238	110.225	-	7,6	8,3	14,0	13,5	540	520		
NEG 1211070	205	GGG	3.589,2	3.100,0	110.718	137.703	-	9,2	9,6	21,0	19,5	702	680		
NEG 1213160			4.267,4	3.812,8	131.639	169.366	-	10,4	11,2	22,0	20,0	755	711		
NEG 1217670			210	5.726,6	4.901,6	176.651	217.731	-	12,5	16,2	26,5	28,0	1.015	981	

\*Technical data available upon request



Type	Type of Housing NEG	Dimensions [mm]													Unbalance [No. of Unbalance Discs]	
		A 50/60 Hz	B	C	D	E	n <sub>2</sub> Befestigungsmaße	F	G	H	I 50/60 Hz	L	M	N	Type	50/60 Hz
NEG 501540	IV	438	257	230	140	190	4	25	17	124,5	103	201	224	241	XLs	12/8
NEG 501800		14/10														
NEG 502020	IV	463	235	230	140	190	4	22	17	104	104	188	248	224	XLs	16/10
NEG 502270																18/12
NEG 503400	IV	590	335	310	155	255	4	30	23,5	160	140	274	302	310	XLs	12/8
NEG 503820																14/10
NEG 506220	IV	670	380	390	200	320	4	32	28	189	155	340	360	384	XS	4
NEG 508830	IV	629	395	392	200	320	4	100	28	192	134,5	358	270	375	XS	4
NEG 251410	IV	438	257	230	140	190	4	25	17	124,5	103	201	224	241	XS	4
NEG 251800		490														
NEG 252060		560														
NEG 252370		523														
NEG 253050	IV	600	283	275	155	225	4	28	22	140	130	231	255	271	XS	4
NEG 253720		670/588														
NEG 254310	IV	670/588	335	310	155	255	4	30	23,5	160	139	274	302	310	XS	4
NEG 254900	IV	640	369	340	180	280	4	30	26	173	155	301	322	336	XS	4
NEG 256460	IV	670	380	390	200	320	4	32	28	189	155	340	360	384	XS	4
NEG 258040	IV	624	402	392	200	320	4	35	28	199,5	132	358	352	402	XS	4
NEG 258260	VI	862	434,5	460	125	380	6	35	38	215	230	379	392	439	XS	4
NEG 2511210	VI	990	454	530	140	440	6	38	44	230	240	423	510	448	XS	4
NEG 2513850																
NEG 16810	IV	490/438	257	230	140	190	4	25	17	124,5	129/103	201	224	241	XS	4
NEG 161130		560														
NEG 161420																
NEG 161610	IV	600/523	283	275	155	225	4	28	22	140	168,5/130	231	255	271	XS	4
NEG 162110		655/600									196/168,5					
NEG 162550	IV	670/610	335	310	155	255	4	30	23,5	160	180/150	274	302	310	XS	4
NEG 163030		710									200					
NEG 163820	IV	742	369	340	180	280	4	30	26	173	206	301	322	336	XS	4
NEG 164700		802									236					
NEG 165190	IV	772	380	390	200	320	4	32	28	189	206	340	360	384	XS	4
NEG 165580		836									238	334	352			
NEG 166270		850									245	340	360			
NEG 166670		VI									750	434,5	460			
NEG 167890	IV	854	402	392	200	320	4	35	28	199,5	247	358	352	402	XS	4
NEG 168500																
NEG 169510	VI	862	434,5	460	125	380	6	35	39	215	230	379	392	439	XS	4
NEG 1612060	VI	990	454	530	140	440	6	38	44	230	240	423	510	448	XS	4
NEG 1613890	VIII	960	526	570	140	480	8	41	45	268	200	488	560	516	XS	4
NEG 1617000		1.040									240					
NEG 12460	IV	490	257	230	140	190	4	25	17	124,5	129	201	224	241	XS	4
NEG 12640		560									164					
NEG 12900	IV	600	283	275	155	225	4	28	22	140	168,5	231	255	271	XS	4
NEG 121430	IV	670	335	310	155	255	4	30	23,5	160	180	274	302	310	XS	4
NEG 122150	IV	742	369	340	180	280	4	30	26	173	206	301	322	336	XS	4
NEG 122640		802									236					
NEG 122920	IV	772	380	390	200	320	4	32	28	189	206	340	360	384	XS	4
NEG 123530		850									245					
NEG 124440	IV	854	402	392	200	320	4	35	28	199,5	247	358	352	402	XS	4
NEG 127640	VI	1.002	434,5	460	125	380	6	35	39	215	300	379	392	439	XS	4
NEG 128520	VI	1.070	454	530	140	440	6	38	44	230	280	423	510	448	XS	4
NEG 1211070	VIII	1.040	526	570	140	480	8	41	45	268	240	488	560	516	XS	4
NEG 1213160		1.120									280					
NEG 1217670	VIII	1.150	607	610	140	520	8	38	45	297	280	542	510	582	XS	4



## Netter Electric External Vibrators Series NEG

### Special Version with Reduced Duty Time

#### Applications

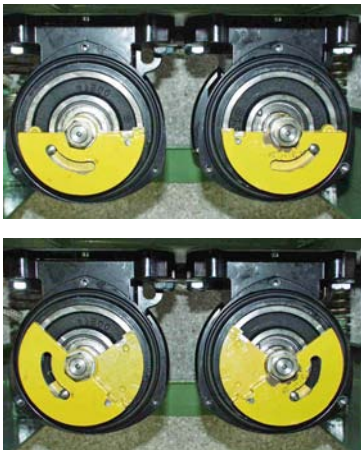
Series NEG electric external vibrators are designed for continuous operation with 100% duty time. In addition, special versions with reduced duty times are available. The reduced duty time allows the use of smaller units possible with the same power output.

#### 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 (top picture).

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 (picture below).

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.

## Static Adjustable Frequency Converter Series NFI/NFU Static Adjustable Frequency Control Series SRF

### Applications

The frequency control of the series SRF and the frequency converters of the series NFI and NFU are used for speed regulation of electric vibrators.

Special applications require frequencies which cannot be achieved with normal multipole vibrators at line frequency. These frequency converters are characterized by their robust and straight-forward design.

### Design and Functioning Principle

Low-loss power electronics permit the operation at input voltages with high tolerances. The frequency converters generate three-phase voltages with variable frequencies of 0 Hz to 500 Hz, thus making it possible to easily adjust the speed. The permissible temperature range is 0°C to +40°C.

All required parameters such as starting and stopping time, run-up ramp, maximum motor and pulse frequency, slip compensation and U/F characteristic are predefined by **NetterVibration**. Optionally a brake resistor can be used for time-critical applications or large vibrators which permits a rapid braking / deceleration within a few revolutions after switching off the supply voltage in order to avoid unwanted resonance vibrations.



SRF frequency controls are mounted in a switch cabinet with protection type IP 54.



NFI frequency converters are mounted in an IP 2x housing for installation in a customer existing switch cabinet. The performance data correspond to those of the series SRF.



NFU frequency converters with motor output in the IP 54 housing for wall-mounting are equipped with an on-off switch, direction switch and set point potentiometer.

Type*	Supply Voltage	Max. Motor		Dimensions (W× H× D) [mm]
		Power Input [kW]	Current [A]	
SRF 1-007/4,8	1 ~ 200 ... 240 V 50/60 HZ	0,75	4,8	300 × 400 × 200
SRF 1-011/6,9		1,10	6,9	300 × 400 × 200
SRF 1-022/11		2,20	11,0	400 × 500 × 250
SRF 2-007/2,3	3 ~ 380 ... 415 V 50/60 HZ	0,75	2,3	400 × 500 × 250
SRF 2-015/4,1		1,50	4,1	
SRF 2-022/5,5		2,20	5,5	
SRF 2-040/9,5		4,00	9,5	
SRF 2-055/14,3		5,50	14,3	600 × 600 × 300
SRF 2-075/17		7,50	17,0	
SRF 2-110/27,7		11,00	27,7	
SRF 2-150/33	15,00	33,0		

\* Technical data apply also to NFI

Type	Supply Voltage	Max. Motor-Current		Dimensions (W× H× D) [mm]
		Power Input [kW]	Current [A]	
NFU 1-004/3,3	1 ~ 200 ... 240 V 50/60 HZ	0,4	3,3	210 × 240 × 163
NFU 1-007/4,8		0,75	4,8	215 × 297 × 192
NFU 1-011/6,9		1,1	6,9	
NFU 1-015/8		1,5	8,0	
NFU 1-022/11		2,2	11,0	230 × 340 × 208
NFU 2-004/1,5	3 ~ 380 ... 415 V 50/60 HZ	0,4	1,5	215 × 297 × 192
NFU 2-007/2,3		0,75	2,3	
NFU 2-011/3		1,1	3,0	
NFU 2-015/4,1		1,5	4,1	230 × 340 × 208
NFU 2-022/5,5		2,2	5,5	
NFU 2-040/9,5		4,0	9,5	

## Netter Braking Devices Series BZ



Type	Supply Voltage	Max. Nominal Power [kW]	Dimensions (W x H x D) [mm]
BZ 30	1 ~ 230 V /	5 / 5,5	55 × 68 × 110
BZ 70	3 – 400 V	10 / 11	158 × 185 × 110
BZ 200	50/60 Hz	26 / 28	145 × 270 × 180

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

### 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.

### Design and functioning principle

Upon activation of the brake the load-resistant power electronics changes 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 50 Hz or 60 Hz. Operation together with a frequency converter is not permitted.



## Netter Electric External Vibrators Series NEG

### Formulas

Unbalance	$M = s \times m$	Centrifugal force	$F = a_{(g)} \times m \times 9,81$
Acceleration	$a_{(g)} = s \times \left(\frac{n}{1000}\right)^2 \times 5,59$	Centrifugal force	$F = M \times \left(\frac{n}{1000}\right)^2 \times 54,84$

### Symbols and Units

s	Amplitude	cm	n	Frequency	min <sup>-1</sup>
m	Weight with vibrator	kg	M	Unbalance	cmkg
F	Centrifugal force	N	a <sub>(g)</sub>	Acceleration	g

### Which Kind of Vibrator for Which Kind of Duty?

Duty	Frequency	Acceleration [a <sub>(g)</sub> ] 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, which work according to the short circuit runner principle 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<sup>-1</sup> with a 230/400V, 50 Hz power supply, depending on the number of poles.

The NEA single phase units run at 3000 min<sup>-1</sup> with a 230V, 50 Hz power supply. Additional voltages are available.

The direct current NED units run at 3000 min<sup>-1</sup> 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, without limitation.

**Netter provides solutions.  
Consult our experienced application technicians.**

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