NetterVibration

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Static Adjustable Frequency Controls
Series SRF / NFU / ATV

- Infinitely adjustable spped control of electric external and internal vibrators
- Parallel connection of multiple vibrators
- Simple and robust design
- Clearly arranged menu navigation
- Special versions according to customer requirements

Electric External Vibrator NEG

Desk Switch Cabinet

Switch Cabinet

Serving industry with vibration

NetterVibration

Static Adjustable Frequency Controls
Series SRF

Type	Supply Voltage	Output Voltage	max. Motor- Power Input [kW]	max. Motor- Current [A]	Dimensions (W x H x D) [mm]
SRF 1-007/4,8	1~ 200..240 V 50/60 Hz	3~ voltage according to the feed-in	0,75	4,80	300 x 400 x 200
SRF 1-011/6,9			1,10	6,90	300 x 400 x 200
SRF 1-022/11			2,20	11,0	400 x 500 x 250
SRF 2-007/2,3	3~ 380..415 V 50/60 Hz	3~ voltage according to the feed-in	0,75	2,30	400 x 500 x 250
SRF 2-015/4,1			1,50	4,10	
SRF 2-022/5,5			2,20	5,50	
SRF 2-040/9,5			4,00	9,50	
SRF 2-0,55714,3			5,50	14,3	600 x 600 x 300
SRF 2-0,75/17			7,50	17,0	
SRF 2-110/27,7			11,0	27,7	
SRF 2-150/33			15,0	33,0	

Switch Cabinet
As a standard, the frequency control systems of the series SRF are mounted in switch cabinets. These switch cabinets are suitable for wall mounting and provide protection against dust and splash water (protection type IP 54).

SRF are also available as switch cabinet with socket, with frame and as a desk version.

The standard colour is light grey (RAL 7035), other colours or a stainless steel enclosure are available.

The motor outputs are connected to a terminal strip or, if requested by the customer, the housing of the switch cabinet is provided with plug connections.

The dimensions of the switch cabinet depend on the size of the frequency converter.

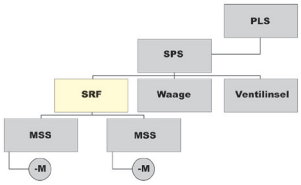
Operation
As a standard, the SRF can be operated and controlled using a 3,5“ colour touch panel. The vibration process can be started and stopped by this panel.

By buttons or a keyboard the operator can enter the desired frequency and shaking time, which are displayed on large screens.

German, English and French can be selected as languages.

The CC unbalance function (big/small working moment) and a control group for two vibrating tables are stored in the program and can be activated, if required.

Error messages and alarms are displayed in separate windows which simplifies maintenance and service. Depending on the customer‘s requests, the size of the touch panel and the program of the SRF can be adjusted to suit the requirements on site.



Configuration
If requested, ***Netter****Vibration* can configure additional inputs and outputs on the SRF, therewith safety devices or external operating units can be connected to the SRF. An optional mini control system allows complex monitoring and control tasks.

Bus Communication
SRF can be used for all kinds of communication configurations in industrial plants.
The communication via Modbus, CANopen or other bus systems is possible after consultation with ***Netter****Vibration.* When the SRF is integrated into an existing production process, it communicates with the central process control system.

Avoiding Uncontrolled Resonances
The integrated braking function in the frequency converter helps to prevent uncontrolled oscillation when decelerating the vibrators. This might have a negative effect on the vibration result.

Depending on the application and for the control of multipole vibrators with high working moments we recommend the use of separate brake resistors.

Static Adjustable Frequency Controls
Series NFU

NFU 1 and 2

Type	Supply Voltage	Output Voltage	max. Motor- Power Input [kW]	max. Motor- Current [A]	Dimensions (W x H x D) [mm]
NFU 1-004/3,3	1~ 200..240 V 50/60 Hz	3~ voltage according to the feed-in	0,40	3,30	250 x 340 x 182
NFU 1-007/4,8			0,75	4,80	
NFU 1-011/6,9			1,10	6,90	250 x 340 x 235
NFU 1-015/8			1,50	8,00	
NFU 1-022/11			2,20	11,0	
NFU 2-004/1,5	3~ 380..415 V 50/60 Hz	3~ voltage according to the feed-in	0,40	1,50	250 x 340 x 200
NFU 2-007/2,3			0,75	2,30	
NFU 2-011/3			1,10	3,00	
NFU 2-015/4,1			1,50	4,10	
NFU 2-022/5,5			2,20	5,50	250 x 340 x 235
NFU 2-040/9,5			4,00	9,50	
NFU 4-004/4,3	1~ 200..240 V 50/60 Hz	1~ voltage according to the feed-in	0,40	4,30	161 x 232 x 179

NFU 4 (for series NEA only)

Frequency converters of the series NFU with motor ouput in the IP 54 housingfor wall-mounting are equipped with an on-off switch, direction switch and potentiometer for frequency setting.

A display at the device shows the output frequency of the converter. The NFU can also communicate with other devices via Modbus or CANopen. The NFU offers the possibility to connect one vibrator. In case two or more vibrators are required, it is neccessary to connect an external motor terminal box as well as a motor protection relay.

Optionally, a brake resistor can be mounted and connected to prevent uncontrolled vibrations in critical applications if required. The NFU is pre-adjusted and ready for installation.

Design
Depending on the application a reserve should be calculated when designing the frequency converter, as bigger vibrators have a higher starting current.
If multi-pole vibrators (4 or 6 pole) are reuired, we recommend using frequency convertes by ***Netter****Vibration* with three-phase supply.

Static Adjustable Frequency Controls
Series ATV

Type	Supply Voltage	Output Voltage	max. Motor- Power Input [kW]	max. Motor- Current [A]	Dimensions (W x H x D) [mm]
ATV-320U07M2C	1~ 200..240 V 50/60 Hz	3~ voltage according to the feed-in	0,75	4,80	72 x 143 x 138
ATV-320U11M2C			1,10	6,90	105 x 142 x 158
ATV-320U22M2C			2,20	11,0	105 x 142 x 158
ATV-320U07N4C	3~ 380..415 V 50/60 Hz	3~ voltage according to the feed-in	0,75	2,30	105 x 143 x 158
ATV-320U15N4C			1,50	4,10	
ATV-320U22N4C			2,20	5,50	140 x 184 x 158
ATV-320U40N4C			4,00	9,50	
ATV-320U55N4C			5,50	14,3	150 x 232 x 232
ATV-320U75N4C			7,50	17,0	
ATV-320D11N4C			11,0	27,7	180 x 330 x 232
ATV-320D15N4C			15,0	33,0	

ATV frequency converters are mounted in an IP 2x housing for installation in a customer's existing switch cabinet. The performance data correspond to those of the series SRF.
Netter*Vibration* provides application-specific parameter settings on request.

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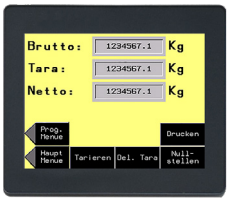
Static Adjustable Frequency Controls
Special version of the series SRF

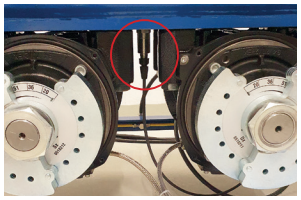


Integrated Weighing Mechanism
If required, ***Netter****Vibration* offers the SRF with integrated weighing mechnism. It is possible to simultaneously compact and weigh bulk material by mounting weighing cells at the vibration table. The current weight is shown on the touch panel of the SRF. Also weight-dependent shaking applications are possible.

Pre-adjusted and ready for installation
All required parameters, such as starting and stopping time, run-up ramp, maximum motor and pulse freuqency, slip compensation and U/K characteristic will be pre-adjusted and tested depending on the application by ***Netter****Vibration* before delivery.
After installation and connection at the customers' site the SRF is ready for operation.

Explosion-proof Control Systems
In dialogue with the user ***Netter****Vibration* implements control systems which fulfil all requirements of the STEX directive.
These control systems comply with the Equipment Group II. Depending on the version it can be used in hazardous areas of the zones 1, 2, 21 or 22.

Remote Controls for SRF and NFU
Remote controls for all frequency controls of the SRF and NFU series are available on request. With the individual remote controls, vibrators can be switched on and off effortlessly and wirelessly, and the frequencies can be conveniently regulated.



Acceleration Control
Small sensor, big effect: An optional additional acceleration sensor ensures automatic frequency adjustment of the vibration on the vibration table. The sensor, which can be mounted underneath the tabletop, measures the acceleration of the tabletop and passes the data on to the controller, which thus produces a constant acceleration.

Integrated weighing system

SRF in stainless steel

Vibrating table with SRF

Applications
The frequency control of the series SRF and the frequency converters of the series ATV and NFU are used for speed regulation of electric vibrators.
Special applications require frequencies which cannot be achieved with normal vibrators at line frequency. These frequency converters are characterised by their simple and robust design.

Design and Functioning Principle
Low-loss power electronics allow operation at input voltages with high tolerances.
The frequency converters generate three-phase voltages with variable frequencies from 0 Hz to 100 Hz. This makes it easy to adjust the speed. The permissible temperature range is between 0 °C and +40 °C.

All required parameters such as starting and stopping time, run-up ramp, maximum motor and pulse frequenc, slip compensation and U/F characteristic are defined by ***Netter****Vibration*.

Optionally for time-critical applications, the use of a braking resistor is recommended. The braking resistor is used for rapid braking within a few revolutions to avoid unwanted resonance oscillations.

Netter*Vibration* offers the accessories required for the mounting, installation, control and monitoring of vibrators and impactors.

Netter provides solutions.
Consult our experienced application technicians.

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