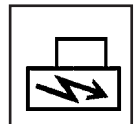




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Netter Static Adjustable Frequency Controls Series SRF / NFI / NFU



- Infinitely adjustable speed 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





NetterVibration



Netter Static Adjustable Frequency Controls Series SRF



| Type | Supply Voltage | Max. Motor- | | Dimensions (W x H x D) [mm] |
|----------------|-------------------------|------------------|-----------------|-----------------------------|
| | | Power Input [kW] | Current [A] | |
| SRF 1-007/4,8 | 1~ 200..240V 50/60Hz | 0,75 | 4,8 | 300 x 400 x 200 |
| SRF 1-011/6,9 | | 1,10 | 6,9 | |
| SRF 1-022/11 | | 2,20 | 11,0 | |
| SRF 2-007/2,3 | 3~ 380..415V 50/60Hz | 0,75 | 2,3 | 400 x 500 x 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 | |
| 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 | 600 x 600 x 300 | |

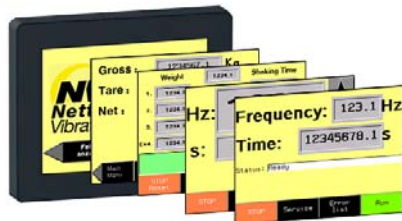


Switch Cabinet

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 IP54). Netter SRF are also available as switch cabinet with socket, with frame and as desk version.

The standard color is light grey. (RAL 7035), other colors 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" color touch panel.

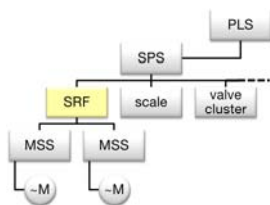
The vibration process can be started and stopped by this panel. By buttons or a keyboard the operator can enter the desired frequency and shaking time, readable on large displays. As languages G/E/F can be selected.

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, **NetterVibration** 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.

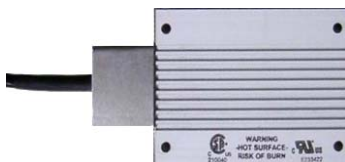


Bus Communication

Netter SRF can be used for all kinds of communication configurations in industrial plants.

The communication via Modbus, CANopen and other bus systems is possible after consultation with **NetterVibration**.

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.

Netter Static Adjustable Frequency Converter Series NFI



| Type | Supply Voltage | Max. Motor- | | Dimensions (W x H x D) [mm] |
|----------------|-------------------------|---------------------|----------------|-----------------------------------|
| | | Power Input [kW] | Current [A] | |
| NFI 1-007/4,8 | 1~ 200..240V 50/60Hz | 0,75 | 4,8 | 72 x 145 x 142 |
| NFI 1-011/6,9 | | 1,10 | 6,9 | 107 x 143 x 132 |
| NFI 1-022/11 | | 2,20 | 11,0 | 142 x 184 x 152 |
| NFI 2-007/2,3 | 3~ 380..415V 50/60Hz | 0,75 | 2,3 | 107 x 143 x 132 |
| NFI 2-015/4,1 | | 1,50 | 4,1 | 142 x 184 x 152 |
| NFI 2-022/5,5 | | 2,20 | 5,5 | |
| NFI 2-040/9,5 | | 4,00 | 9,5 | |
| NFI 2-055/14,3 | | 5,50 | 14,3 | 180 x 210 x 172 |
| NFI 2-075/17 | | 7,50 | 17,0 | |
| NFI 2-110/27,7 | | 11,00 | 27,7 | |
| NFI 2-150/33 | | 15,00 | 33,0 | 245 x 295 x 192 |

NFI 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 Static Adjustable Frequency Converter Series NFU



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

Netter frequency converters series NFU with motor output in the IP 54 housing for 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 necessary 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.

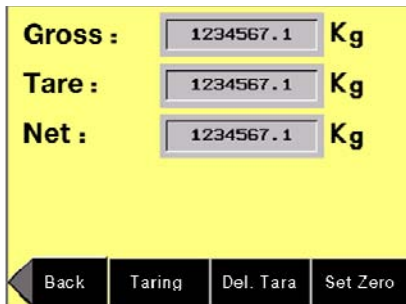
Design

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 required, we recommend using Netter frequency converters with three-phase supply.



NetterVibration

Netter Static Adjustable Frequency Controls Special version of the series SRF



Integrated Weighing Mechanism

If required, **NetterVibration** offers the SRF with integrated weighing mechanism. 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 frequency, slip compensation and U/K characteristic will be pre-adjusted and tested depending on the application by **NetterVibration** 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 **NetterVibration** implements control systems which fulfil all requirements of the ATEX 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.



SRF with vibrating table



Integrated weighing system



SRF and vibrating table made of stainless steel



Vibrating table with roller track

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 vibrators at line frequency. These frequency converters are characterized by their simple and robust design.

Design and Functioning Principle

Low-loss power electronics allows the operation at input voltages with high tolerances. The frequency converters generate three-phase voltages with variable frequencies of 0 Hz to 500 Hz, what makes 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 defined by **NetterVibration**.

Optionally a brake resistor can be used for time-critical applications. The brake resistor permits a fast braking within a few revolutions in order to avoid unwanted resonance vibrations.

NetterVibration 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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