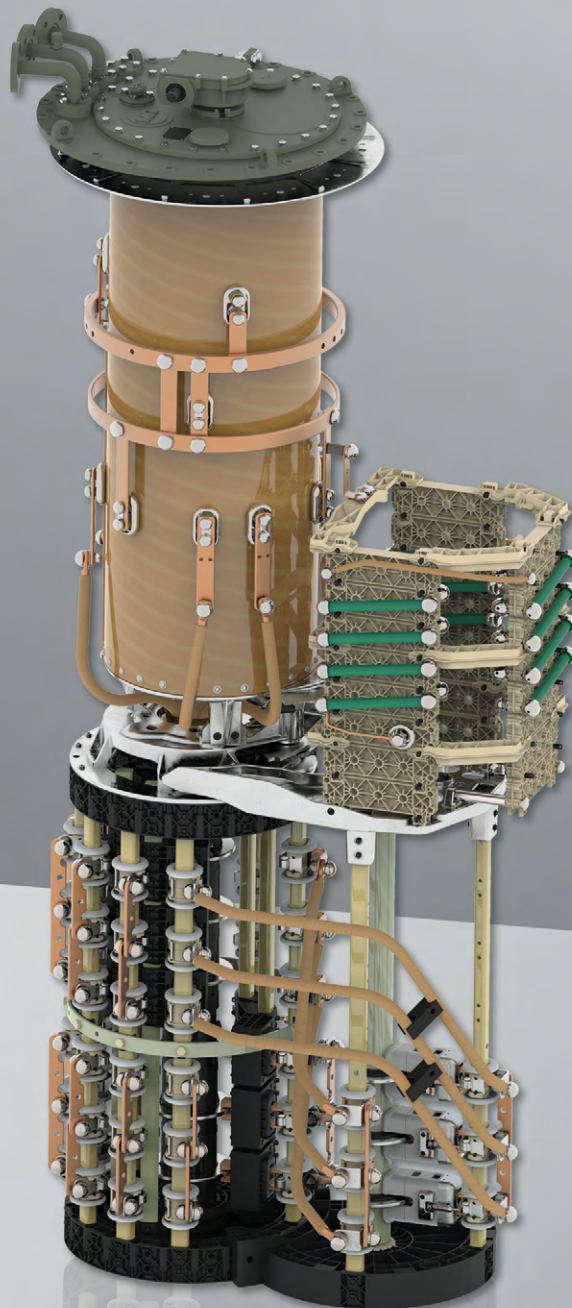




VACUTAP[®] VRL[®]

MAXIMUM PERFORMANCE
FOR HIGH-END APPLICATIONS.

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VACUTAP[®] VRL[®] – THE SUM OF OUR TECHNICAL EXPERTISE.

CURRENT CHALLENGES OF ENERGY SUPPLY

Increasing
demand
for energy



Volatile
networks

Sustainability



Electromobility



CO₂ reduction



Regenerative
energies



There is a rising demand for large
high-end transformers

- to manage energy flows in increasingly deregulated markets
- to make renewable energy available when and where it is needed
- to secure reliable power supply for high-end industry applications

VACUTAP® VRL® – WHEN MAXIMUM PERFORMANCE IS REQUIRED.



- Rated current up to 3,200 A
- Step voltages up to 6,000 V
- Switching capacity up to 10,000 kVA

VACUTAP® Advanced Arc Control System

- Optimum arc extinction

VACUTAP® Interrupter Exchange Module

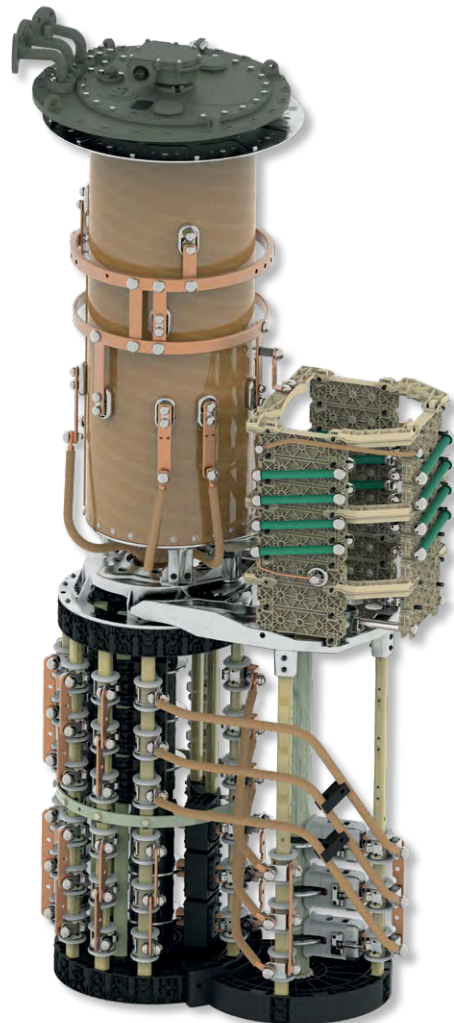
- Complete carrier unit with pre-installed vacuum interrupters
- Simplifies replacement after 600,000 tap-change operations
- Minimizes maintenance-related interruption of production

VACUTAP® Step Protection System

- Protects against over voltages from the grid
- Prevents insulation damage
- Reduces the scattering of response values

VACUTAP® Advanced Flux Control System

- Ensures the vacuum interrupters function at extreme currents and magnetic fields in high-end applications



VACUTAP® VRL®

TECHNICAL DATA.

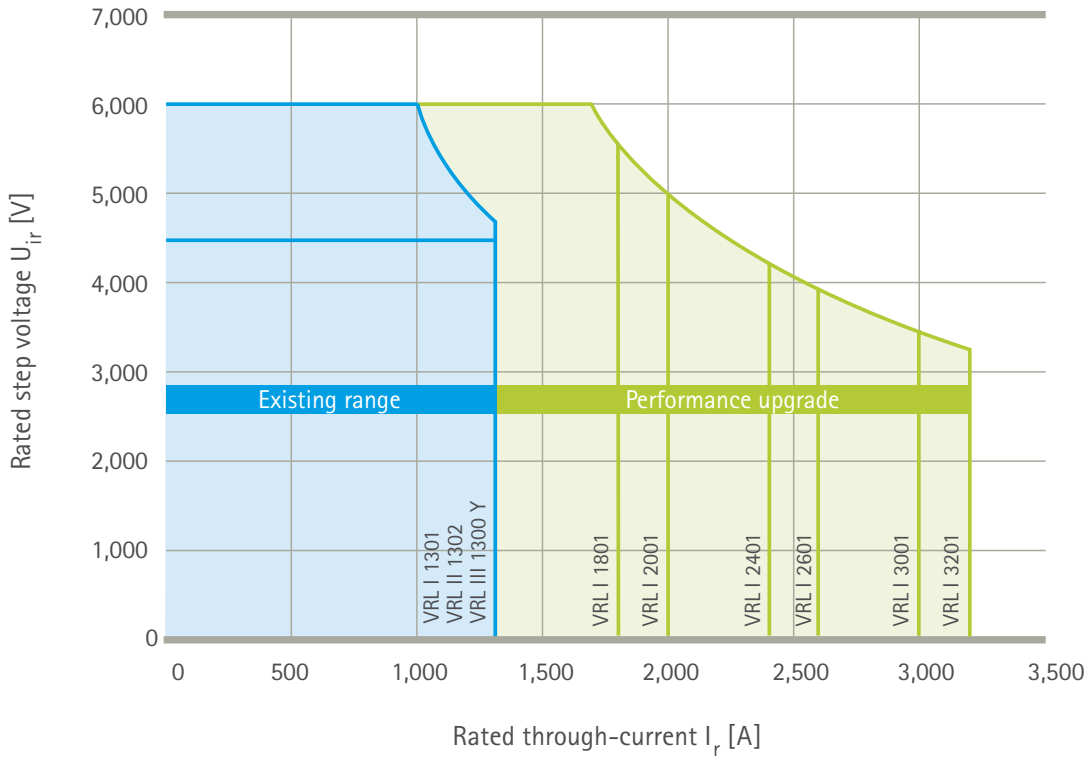
Variants and general data

| Designation | VACUTAP® VRL® I 1801 | VACUTAP® VRL® I 2001 | VACUTAP® VRL® I 2401 | VACUTAP® VRL® I 2601 | VACUTAP® VRL® I 3001 | VACUTAP® VRL® I 3201 |
|---|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Number of phases | 1 | 1 | 1 | 1 | 1 | 1 |
| Max. rated through-current I_r (A) | 1,800 | 2,000 | 2,400 | 2,600 | 3,000 | 3,200 |
| Rated short-time withstand current (kA) | 19 | 24 | 24 | 25 | 30 | 32 |
| Rated short-circuit duration (s) | 3 | 3 | 3 | 3 | 3 | 3 |
| Rated peak withstand current (kA) | 47.5 | 60 | 60 | 65 | 75 | 80 |
| Max. rated step voltage U_{ir} (V) | 6,000 | 6,000 | 6,000 | 6,000 | 6,000 | 6,000 |
| Step capacity P_{StN} (kVA) | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 |
| Rated frequency (Hz) | 50 – 60 | | | | | |
| Selector | RC, RD, RDE, RE – Pitch: 10, 12, 14, 16, 18 | | | | | |
| Operating positions | Without change-over selector: max. 18, with change-over selector: max. 35 | | | | | |
| Motor-drive unit | ETOS® | | | | | |

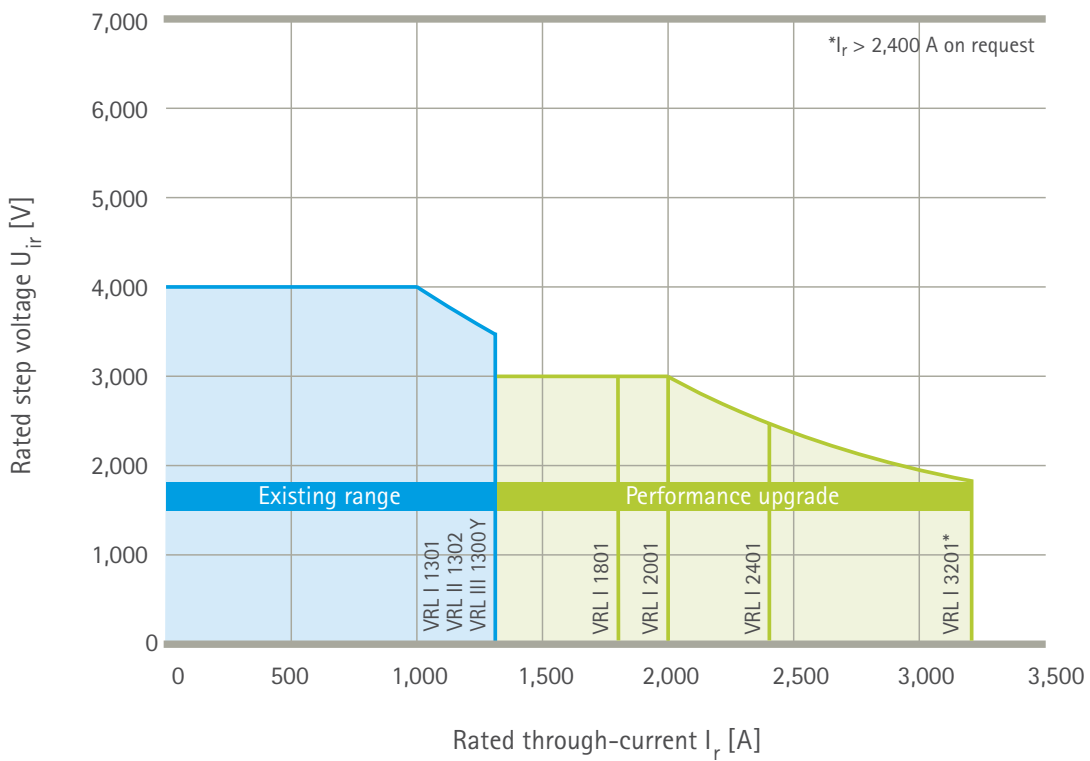
Rated insulation level

| | | | | | | | |
|--|------|-----|-----|-------|-------|-------|-------|
| Highest voltage for equipment U_m (kV) | 72.5 | 123 | 170 | 245 | 300 | 362 | 420 |
| Rated lightning impulse withstand voltage (kV, 1,2 50 μ s) | 350 | 550 | 750 | 1,050 | 1,050 | 1,175 | 1,425 |
| Rated short-duration power frequency withstand voltage (kV, 50 Hz, 1 Min.) | 140 | 230 | 325 | 460 | 460 | 510 | 630 |

Step capacity diagram for VR® grid



Step capacity diagram for VR® electric arc furnace



MORE POWER. MORE VALUE.



Most powerful vacuum tap-changer on the market.
Enforced current splitting obsolete in many cases.



Maintenance-free and long-lasting

- Maintenance interval of 300,000 tap changes without time-based components
- Minimal maintenance requirement despite maximum lifetime



Maximum operational reliability

- Absolutely reliable arc quenching thanks to VACUTAP® Advanced Arc Control System
- Maximum protection of the diverter switch in the event of surges in the network thanks to VACUTAP® Step Protection System



Low life-cycle costs

- Completely maintenance-free in most applications
- In extreme operating conditions (e. g. electric arc furnace), the Interrupter Exchange Module allows for a simplified replacement after 600,000 tap-change operations



Designed with future requirements in mind

- The top-performance vacuum on-load tap-changer for future applications
- Suitable for selected alternative insulation fluids

Maschinenfabrik Reinhausen GmbH

Falkensteinstrasse 8
93059 Regensburg, Germany

Phone: +49 941 4090-0
Fax: +49 941 4090-7001
E-mail: info@reinhausen.com

www.reinhausen.com

Further information:

[https://www.reinhausen.com/productdetail/
on-load-tap-changers/vacutap-vrl](https://www.reinhausen.com/productdetail/on-load-tap-changers/vacutap-vrl)



Please note:

The data in our publications may differ from the data of the devices delivered. We reserve the right to make changes without notice.

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THE POWER BEHIND POWER.

