

THE ONE STOP SHOP FOR MEDIUM VOLTAGE COMPONENTS



RV 53 Load Break Switch assemblies for OEM

Secure, safe operation and reliable SF₆ switching technology. Easy integration in existing medium voltage switchgear. OEM ready for fast installation in new switchgear.



Description

The RV 53 load break switch assemblies feature DA or DP drive mechanisms and housing with mimic diagram directly mounted onto the switch. The compact assembly can be directly mounted into medium voltage switchgear.

RV 53 is a three-position SF₆ gas insulated “sealed for life” load break switch with integrated earth. Its “built to last” design with double seals is maintenance free. The concept is safe and robust. It is focused on reliable operation during the full life time of medium voltage switchgear. It features an integrated earth. The switch enclosure consists of two half-shells in high quality epoxy material. The shell design features isolating epoxy walls that protect phases from flash over.

DA is a double spring drive mechanism for operator independent switching between open, closed or earthed position of the RV switch in incoming/outgoing functions. DP is a three spring drive mechanism for operator independent switching. It is designed for use in combination with fuses.

DA and DP have standard integrated functional interlocks to prevent incorrect operations.

DA and DP are fit to receive plug & play accessories to cover a wide range of applications.



Electrical characteristics and ratings

Rated voltage	kV	12	17,5	24
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Rated lightning impulse withstand voltage 1.2/50 µsec

- To earth and between phases	kV	75	95	125
- Over the insulated distance	kV	85	110	145

Rated short time power frequency withstand voltage 1 min.

- To earth and between phases	kV	28	38	50
- Over the insulated distance	kV	32	45	60

Rated frequency	Hz	50/60	50/60	50/60
Rated Current	A	630	630	630
Rated short time withstand current 1 sec	kA	20	20	20
Rated peak value withstand current	kA	50	50	50

Breaking capacity of the RV 53 (IEC 62271-102)	Hz	50/60	50/60	50/60
- Mainly active load	A	630	630	630
- Closed loop distribution circuit current	A	630	630	630
- Cable charging current	A	18	18	18
- Making capacity	kA	63	63	50
- Earth faults	A	100	100	100
- Cable and line charging current under earth fault	A	30	30	30



Advantages

- Reliable SF₆ switching technology
- Secure and safe operation
- Easy integration in existing medium voltage switchgear
- OEM ready for fast installation in new switchgear

Protection degree :	IP65
Mechanical endurance :	1000
Standards :	IEC 62271-100, IEC 62271-105, IEC 60694, IEC 62271-102
Certification :	KEMA, IPH

Discover more about the RV 53
Visit www.mevoco.be or e-mail us at :
➡ sales@mevoco.be

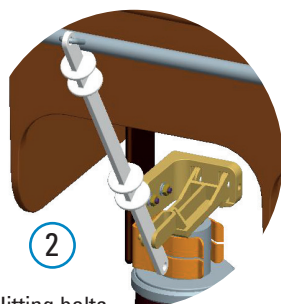


Main features



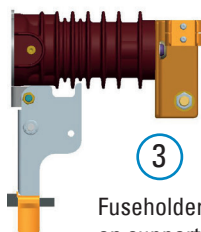
High epoxy walls limit the risk for flash over

①



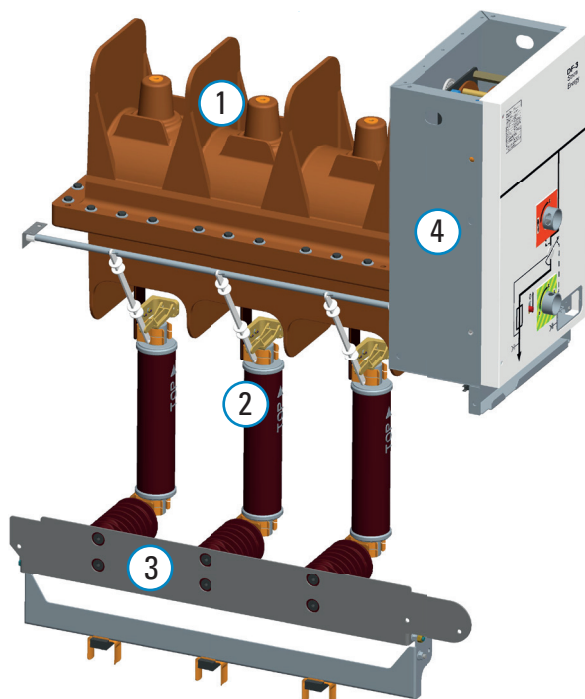
Hitting bolts with transfer for fuse operated switch off

②



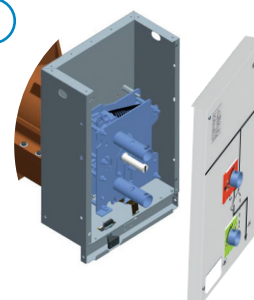
Fuseholders on support

③



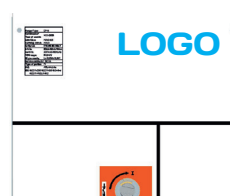
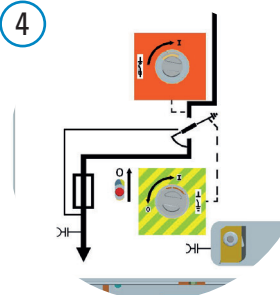
Robust drive mechanism for reliable and safe manual switching independent from operator

④



Mimic diagram with position indicator direct on switch shaft for secure and safe switching

④

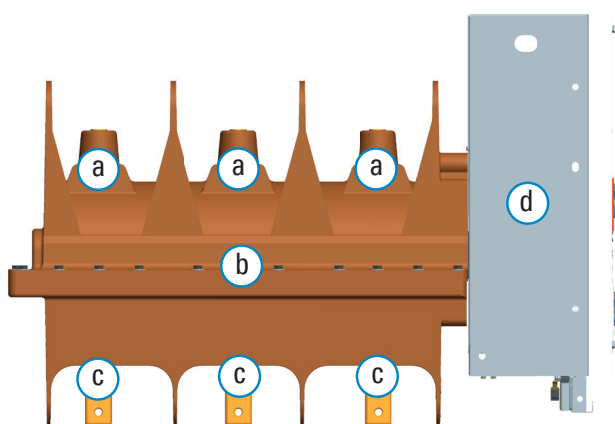
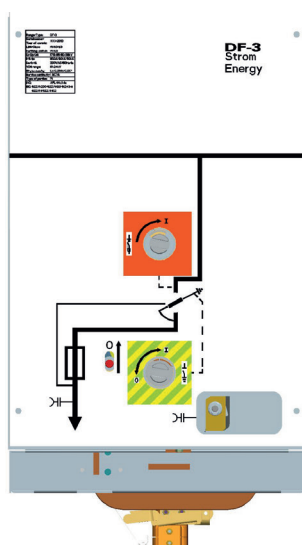


④

Company logo on front panel (optional)



Main components and dimensions



a upper connections

b epoxy enclosure

c lower connections

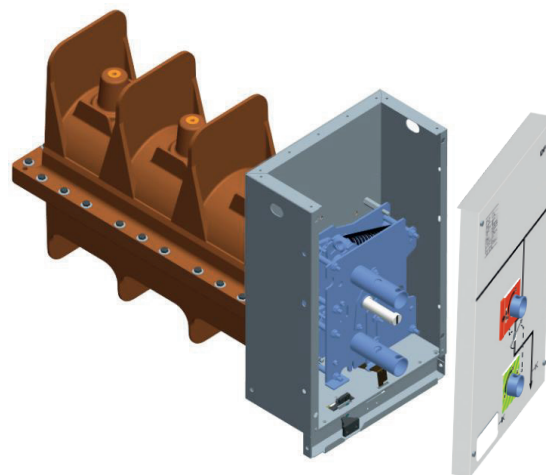
d low voltage compartment with spring mechanism



Typical units

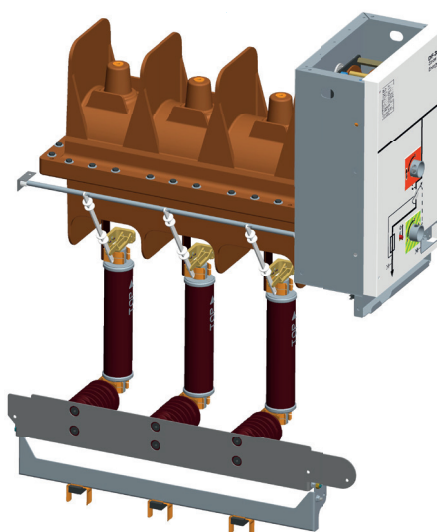
RV 53 + DA :

- For incoming/outgoing functions.
- 3 position SF₆ loadbreak switch.
- Auxiliary earthing switch interlocked with the main earthing switch.
- Door interlock (to be mounted).
- Low voltage compartment with spring mechanism.
- Operating lever.



RV 53 + DP :

- For fuse protection functions.
- Combination for fuses.
- Fuse holders (fuses not included).
- Switch off mechanism through hitting bolt.
- 3 position SF₆ loadbreak switch.
- Auxiliary earthing switch interlocked with the main earthing switch.
- Door interlock (to be mounted).
- Low voltage compartment with spring mechanism.
- Operating lever.



Ordering code*	Description	Main electrical characteristics	Weight	Shipment box	Total weight	Outer dimensions shipment box
RV532401	RV 53 + DA	17,5 / 24 kV - 630 A - lcc 20 ka	85 kg	41 kg	126 kg	1100 x 500 x 860 mm
RV531200	RV 53 + DP	17,5 kV - 630 A - lcc 20 ka	90 kg	41 kg	131 kg	1100 x 500 x 860 mm
RV532400	RV 53 + DP	24 kV - 630 A - lcc 20 ka	90 kg	41 kg	131 kg	1100 x 500 x 860 mm

* Ordering code for motorized types upon request

For more information on RV 53 assemblies for OEM or our other products, contact our sales team : sales@mevoco.be



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MEDIUM VOLTAGE COMPONENTS

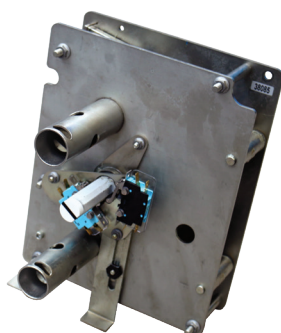
Industrielaan 33A, 9800 Deinze, Belgium
☎ +32 (0)9/380.30.49
www.mevoco.be
info@mevoco.be
 Mevoco



Drive mechanism

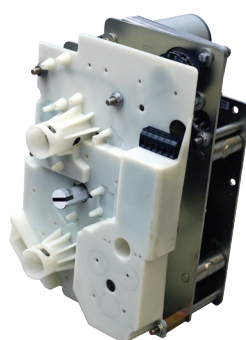
DA :

- **Manual handle operation.**
- Load break switch function.
- Earthing switch function.
- Switching energy stored in double springs.
- Open and close at operating speeds independent from operator.
- Shafts mechanically interlocked preventing incorrect operation.
- No movable parts accessible, preventing operator injuries.
- Special alloy steel types assure lifelong reliability.
- Prepared for later mounting of optional accessories.



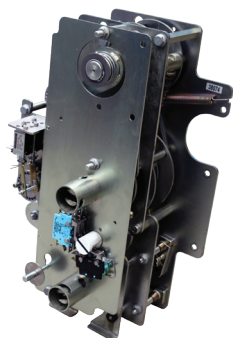
DA with motor :

- **Motorized operation.**
- Load break switch function.
- Earthing switch function.
- Switching energy stored in double springs.
- Manual handle operation in case of motor malfunction.
- Shafts mechanically interlocked preventing incorrect operation.
- No movable parts accessible, preventing operator injuries.
- Special alloy steel types assure lifelong reliability.
- Prepared for later mounting of optional accessories.



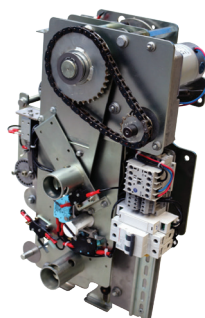
DP :

- **For use with fuses combination.**
- **Manual handle operation.**
- Load break switching with stored energy from double springs.
- Earthing switching with stored energy from separate spring.
- Open and close at operating speeds independent from operator.
- Shafts mechanically interlocked preventing incorrect operation.
- No movable parts accessible, preventing operator injuries.
- Special alloy steel types assure lifelong reliability.
- Prepared for later mounting of optional accessories.



DP with motor :

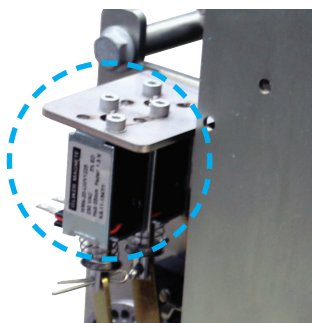
- **For use with fuses combination.**
- **Motorized operation.**
- Load break switching with stored energy from double springs.
- Earthing switching with stored energy from separate spring.
- Open and close at operating speeds independent from operator.
- Shafts mechanically interlocked preventing incorrect operation.
- Motorized operation with energy stored in three springs.
- Special alloy steel types assure lifelong reliability.
- Prepared for later mounting of optional accessories.





Auxiliary contacts :

- Allow the position of the apparatus to be signalled to a remote location.
- 3 line NO/NC + 3 earth NO/NC.
- Each can be a make contact or a break contact.
- 250 VAC - 16A.
- 250 VDC - 0,3A.

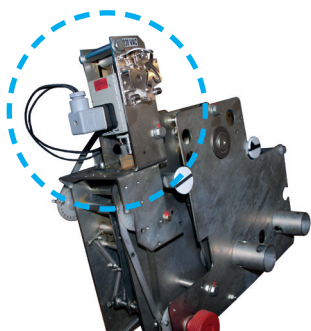


Opening coil :

- Electromechanical device.
- Opens the line contact.
- 2 opening coils possible.
- AC (50 Hz) : 48, 110 and 220 V.
- DC : 24, 48 and 110 V.

Closing coil :

- Electromechanical device.
- Closes the line contact after the electromagnet has been energized.
- AC (50 Hz) : 48, 110 and 220 V.
- DC : 24, 48 and 110 V.



Undervoltage release :

- Electromechanical device.
- Opens the line contact when the auxiliary power supply voltage drops or when it is interrupted for more than 3 seconds.
- AC (50 Hz) : 48, 110 and 220 V.
- DC : 24, 48 and 110 V.

Key interlocks :

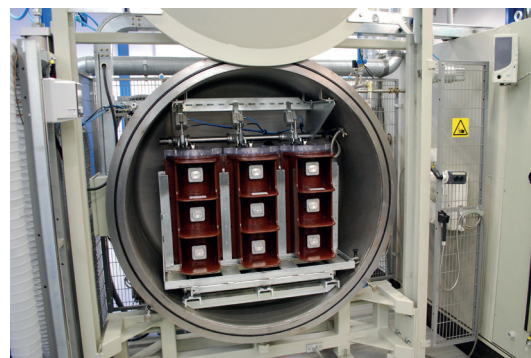
- Allows each of the operation seat of the apparatus (line and earth) to be locked in the open or closed positions.



Tests :

Helium leak test :

- All Mevoco RV 53 load break switches are SF₆ sealed for life.
- For lifelong permanent safety and reliability.
- Double O-rings ensure perfect sealing.
- All RV 53 are leak tested before leaving the factory.



Contact switching speeds test :

- All Mevoco DA or DP drive mechanisms have extra strong springs inside.
- For lifelong permanent safety and reliability.
- Special alloy steel parts ensure robust and ultrafast switching.
- All DA or DP are tested on switching speed test in the factory.


Certificates :

Physical and electrical properties :

- Salt spray 168h according IEC 60068-2-11.
- EMC according EN 61000-6-2.
- HV tracking test according IEC 60587.
- SF₆ tightness test at high temperature according TST 19-2.

Type tests :

- Short circuit and switching performance according IEC 62271-102.



TDT 2121-10

TYPE TEST CERTIFICATE OF SHORT-CIRCUIT AND SWITCHING PERFORMANCE

APPARATUS		A three-phase three-position SF ₆ load-break switch in a metal-enclosed switchgear assembly type DF-3	
DESIGNATION	RV53	SERIAL No.	S-010-010 and S-010-021
Rated voltage	24 kV	Rated normal current	630 A
Rated short-circuit current	20 kA	Rated frequency	50 Hz

MANUFACTURER	SGC N.V., Nevele, Belgium
TESTED FOR	SGC N.V., Nevele, Belgium
TESTED BY	KEMA HIGH-POWER LABORATORY Utrechtseweg 310 - 6812 AR Arnhem - The Netherlands
DATE(S) OF TESTS	16, 23, 26, 27 April and 8 June 2010

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this Certificate, has been subjected to the series of proving tests in accordance with

IEC 60265-1 subclauses 6.6 (STC) and 6.101 (Making and breaking).
IEC 62271-102 subclauses 6.6 (STC) and 6.101 (Making).

This Type Test Certificate has been issued by KEMA following exclusively the STL Guides.

The results are shown in the record of Proving Tests and the oscillograms attached hereto. The values obtained and the general performance are considered to comply with the above Standard(s) and to justify the ratings assigned by the manufacturer as listed on page 5.

This Certificate applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.


This Certificate consists of 330 sheets in total.

This Certificate falls under the scope of the accreditation certificate L 020 of the Dutch Council for Accreditation. See information sheet (page 2).

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Version: 1

KEMA Nederland B.V.



P. A. Buis
KEMA T&D Testing Services
Managing Director
Arnhem, 6 August 2010

MEVOCO

MEDIUM VOLTAGE COMPONENTS

Mevoco spearheads a drive for the development of medium voltage components that excel in quality and safety. Mevoco's range of products includes load break switches, circuit breakers, voltage detectors, a relay, and an arc-killer. Among its innovations, Mevoco created the Arc-killer SV-25, a patented mechanism that dramatically improves safety in medium voltage cubicles. It maximizes not only operator safety, but it reduces material damage as well. The story lies at the heart of a vision for safer medium voltage components. Mevoco is located in Belgium, at the heart of an international transportation network. It ships products worldwide.




Mevoco nv

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www.mevoco.be

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 Mevoco

Our products



RV 44
Load break switch



RP600
Digital Protection Relay



HR-2
(Non-)integrated
voltage detector



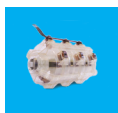
RV 53
Load break switch



VAS-2(RP)
Vacuum circuit
breaker



HR-3
Integrated
voltage-detector



RV 50
Load break switch



VA-2(RP)
Vacuum circuit
breaker



SV-25
Arc-killer



RV 54
Load break switch
(submersible)



VA-3
Vacuum circuit
breaker



SV-50
Arc-killer