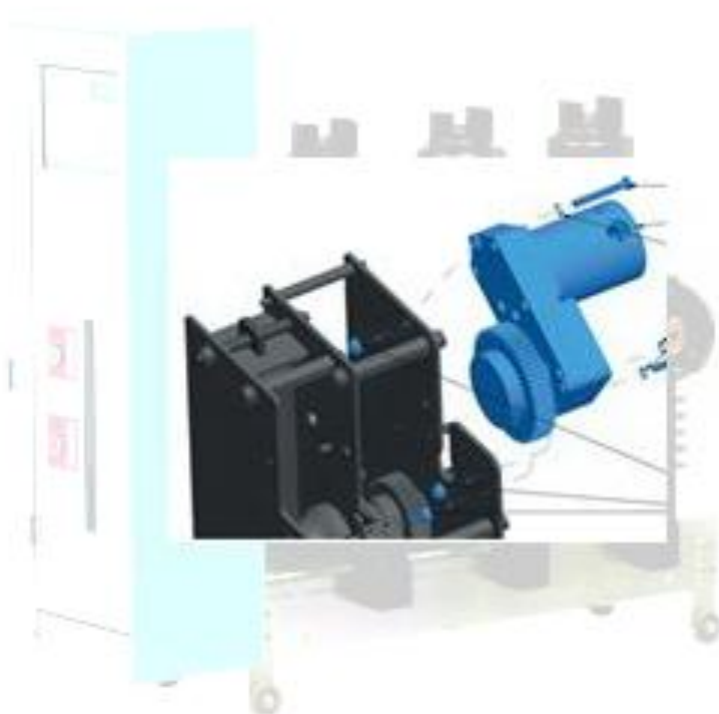


VA-2 (RP)

MOTORIZATION OF THE CIRCUIT BREAKER



User Manual



IT IS MANDATORY TO CONSULT THIS DOCUMENT AT ALL TIMES BEFORE OPERATION

MEVOCO
MEDIUM VOLTAGE COMPONENTS

Mevoco nv – Industrielaan 33A - B-9800 Deinze - Belgium

Tel: +32 (0)9/380.30.49 - Fax: +32 (0)9/380.30.48 - e-mail: info@mevoco.be - www.mevoco.be

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The information given is applicable to the standard version of the circuit breaker. Therefore, Mevoco nv cannot be held liable for any damage resulting from specifications that differ from the standard version of the circuit breaker.

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PREFACE

This document

This document is intended as a reference with which operators can safely and economically transport, install, use and maintain the circuit breaker. At all places where the word 'circuit breaker' is mentioned in this document, this refers to the circuit breaker VA-2 with the optional digital protection relay RP600. All cases involving specific information with respect to the digital protection relay RP600 (optional) are indicated as such. Therefore this document applies to the types of circuit breakers given below:

- VA-2: Circuit breaker
- VA-2RP: Circuit breaker + digital protection relay RP600

The chapters and sections are numbered. The page numbering (consisting of the chapter number and the page number) and the document code can be found at the bottom of each page.

Pictograms in the documentation

The following pictograms are used in the user's manual of the circuit breaker:



CAUTION

Procedures that - when not carried out with due care - can result in damage to the circuit breaker, the surrounding area or the environment.

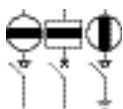


WARNING

Danger of high voltage



Notes, suggestions and advices



Open the load-break switch as well as the circuit breaker and close the earthing switch before carrying out the work described.



Consult the indicated information sources first.



Protect the circuit breaker from water or damp.



Ensure reuse or environment-friendly processing of the materials used.

Related documentation

The following related technical documentation is available for the circuit breaker:

- Circuit breaker brochure.
- Digital protection relay RP600 brochure.
- User's manual for digital protection relay RP600.

Service and technical support

For information concerning specific settings, maintenance or repair work that is not mentioned here, please contact Mevoco N.V.

In this case always mention the following data of the circuit breaker:

- type of circuit breaker
- rated voltage circuit breaker
- rated current circuit breaker
- trip power of circuit breaker
- serial number of circuit breaker
- serial number of digital protection relay

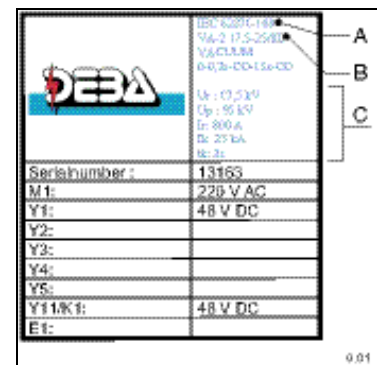
See "Identification of the circuit breaker".

Identification of the circuit breaker

Each circuit breaker is fitted with a type plate (fig. 0.01) and a stamped serial number (fig. 0.02).

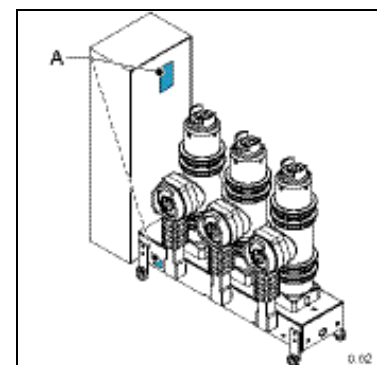
Identification plate (fig. 001)

- A IEC standard
- B Type of circuit breaker
- C Specifications



Serial number (fig. 002)

- A Serial number



General safety directions and instructions

Mevoco n.v. does not accept any liability for damage or injury caused by not (strictly) following the safety regulations and instructions, or by negligence during the installation, use, maintenance or repair of the circuit breaker and any accompanying options.

Depending on the specific circumstances of use or options applied, extra safety instructions may be necessary. Please contact Mevoco n.v. immediately if you encounter a potential danger when using the circuit breaker.

The operator/owner of the circuit breaker is fully responsible at all times for following the locally applicable safety regulations and guidelines.

User Manual

- Everyone using or operating the circuit breaker must know the contents of the user's manual and very closely follow the directions contained in it. The operator/owner must instruct the users in accordance with the user's manual and observe all directions and instructions.
- Never change the order of the activities to be carried out.
- Always keep the user's manual in the vicinity of the circuit breaker.

Pictograms and safety symbols

Pictograms, symbols and instructions on the circuit breaker are part of the safety provisions. Therefore, they may not be covered or removed and must be present and clearly legible throughout the entire lifetime of the circuit breaker.

- Replace or repair illegible or damaged pictograms, symbols and instructions immediately. For this purpose contact Mevoco n.v.

Technical specifications

- The technical specifications may not be changed.
- Modification of (parts of) the circuit breaker is not permitted.

Transport, storage, installation, use and maintenance

- See:
 - "Safety regulations – transport"
 - "Safety regulations – storage"
 - "Safety regulations – installation"
 - "Safety regulations – use"
 - "Safety instructions – maintenance"

Intended use

The circuit breaker has been exclusively designed for protection of distribution and dispersion switchgear, transformers, generators and electric motors so as to enable the circuit breaker to safely break or switch off the (normal) operating current as well as a fault current (current that occurs at a fault, thermal overload or short circuit) in conformity with the specifications and conditions provided by Mevoco n.v. Any other or further use is not considered to be in accordance with the intended use.¹

Mevoco n.v. accepts no liability for any damage or injury resulting from such unauthorised use.

The circuit breaker complies with the applicable standards and guidelines. See the Technical Brochure.

Only use the circuit breaker in a technically perfect condition in accordance with the intended use described above..



Keep sealed connections intact at all times. Breaking the sealed connections irrevocably voids any claims under guarantee.

¹ "Intended use" as laid down in EN 292-1 is "...the use for which the technical product is suited as specified by the manufacturer-including his directions in the sales brochure." In case of doubt it is the use that can be deduced from the construction, the model and the function of the technical product that is considered normal use. Operating the product within the limits of its intended use also involves observing the instructions in the user manual.

1 MOUNTING OPTIONS

One or more of the options given below can be mounted on the VA-2 (possibly combined):

- closing coil(s)
- trip coil(s)
- tensioning motor
- undervoltage coil(s)
- key lock(s)
- auxiliary contact(s)
- operation counter

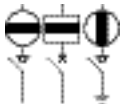
This manual informs on the motor and its mounting instructions.

2 POSITIONING A MOTOR

A motor can be mounted on the mechanical drive of the VA-2(RP). With the help of this motor the compression spring that is to provide the energy for the closing and opening cycles can be automatically tensioned. In almost all cases a VA-2(RP) with motor can also be equipped with a closing and tripping coil.

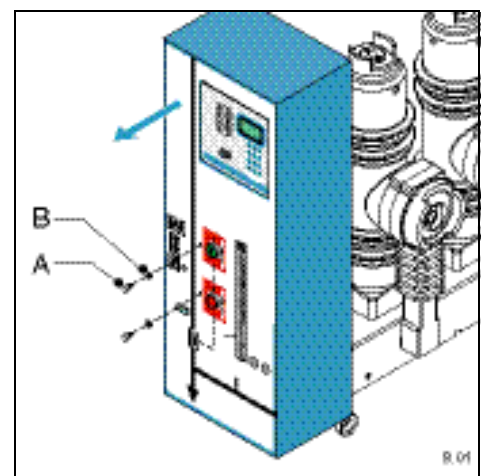
2.1 Preparation for mounting

The following preparations must always be made **before** starting to mount the motor:



- Make the entire medium voltage switchgear and the circuit breaker voltage free.
- On the concerned cubicle, open both the load-break switch and the circuit breakers.
- The HV cable connection side must also be voltage free.
- Close the earthing switch of the medium voltage switchgear.

- Remove the door of the medium voltage switchgear.
- Dismount the cover from the VA-2 (RP).
 - Unscrew the two (fig. 9.01A) screws.
 - Remove the two screws with their PVC rings (fig. 9.01B).
 - Remove the cover.



2.2 Mounting the motor - general

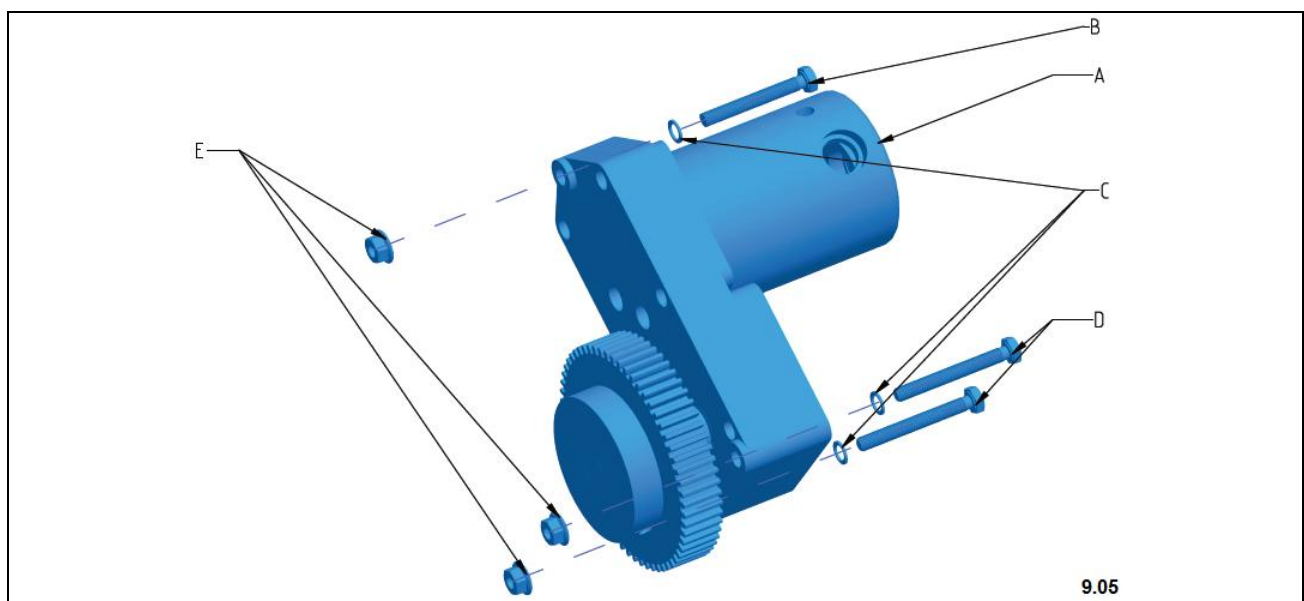
Special mounting kits are available for mounting the motor. The composition of these mounting kits depends on the type of motor.

Available mounting kits dependent on motor type:

order number	description
VA000013	Motor equipment VA-2/VA-2RP 24 VDC
VA000014	Motor equipment VA-2/VA-2RP 48 VDC
VA000012	Motor equipment VA-2/VA-2RP 60 VDC
VA000011	Motor equipment VA-2/VA-2RP 110 VDC
VA000015	Motor equipment VA-2/VA-2RP 110 VAC
VA000010	Motor equipment VA-2/VA-2RP 220 VAC
VA000009	Replacement motor VA-2/VA-2RP 220 VAC for serial number 34252
VA000008	Replacement motor VA-2/VA-2RP 110 VAC for serial number 34252
VA000007	Replacement motor VA-2/VA-2RP 110 VDC for serial number 34252
VA000006	Replacement motor VA-2/VA-2RP 48 VDC for serial number 34252
VA000005	Replacement motor VA-2/VA-2RP 24 VDC for serial number 34252

Order number mounting kit: VA00001x consists of:

order number	description	number	pos. no.
Depending on the selected voltage			
OP11xxxx	Motor, gear wheel (possibly a rectifier) depending on voltage	1	fig. 9.05 A
Mounting material:			
GR040645	Hexagonal threaded pin DIN 933 M6x45	1	fig. 9.05 B
GR071956	Schnorr locking cup spring Ø M6	3	fig. 9.05 C
GR040650	Hexagonal threaded pin DIN 933 M6x50	2	fig. 9.05 D
GR041306	Nut with collar RIPP CL10 M6	3	fig. 9.05 E



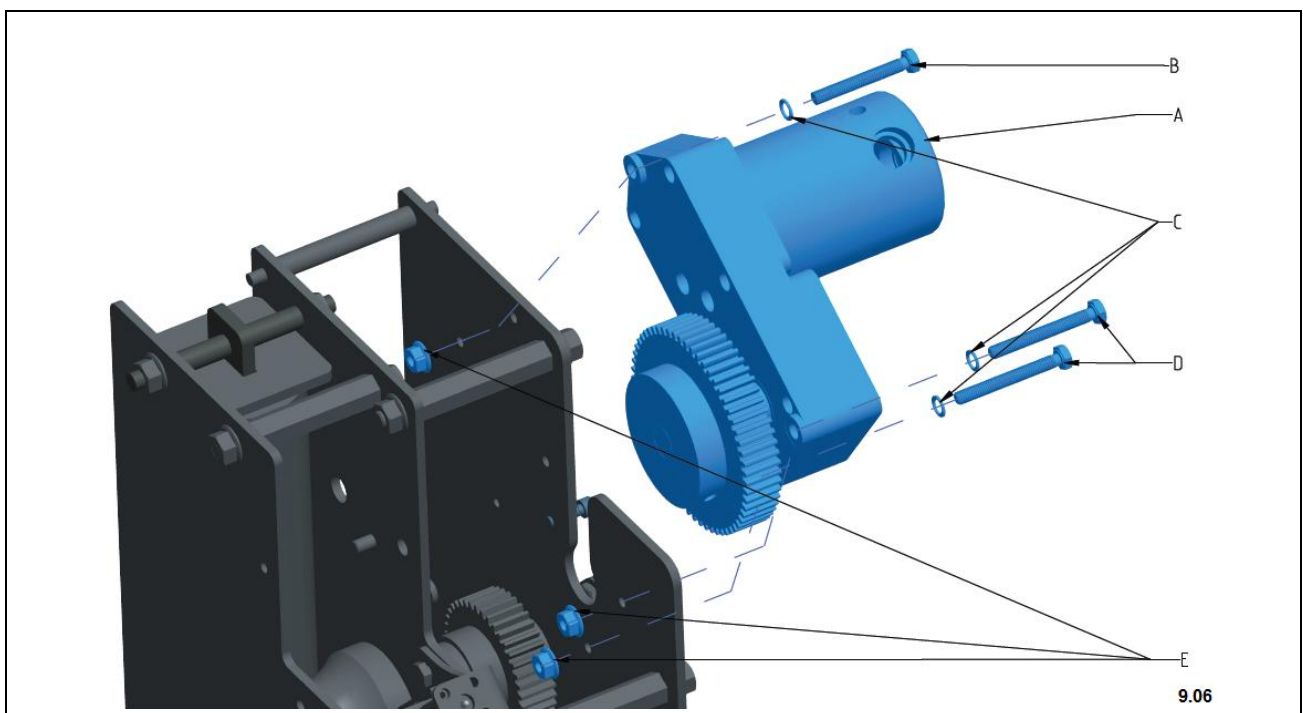
2.3 Mounting instructions

- Position the motor with the small gear wheel through the hole provided for this and fasten the motor using the two hexagonal screws (B & D), the locking rings (C) and the nuts (D).



The intermediate gear wheel may not be stuck after mounting the motor. There must be some manually felt play. In this way the teeth of the gear wheels just interlock.

- Depending on the voltage, a rectifier may or may not be supplied. Electrically connect the motor according to the electrical diagram delivered. The motor should also run via contacts to limit the starting and ending rotation positions.



3 FINAL CHECK AND COMMISSIONING

The following activities must always be carried out after mounting the motor.

- Check that the fitting materials are properly attached.
- Check that the intermediate gear wheel is running freely with a little play.
- Mount the sheet-metal shield of the VA-2 (RP).
- Put the entire medium voltage switchgear and the circuit breaker into operation.

