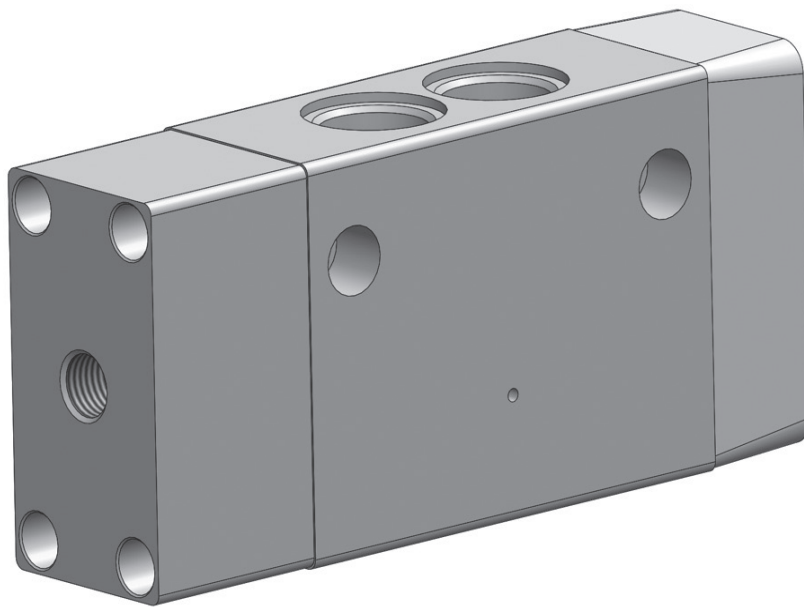


# SPOOL VALVE

## VAQ310

Installation, Maintenance and  
Operating Instructions



## TABLE OF CONTENTS

<b>1. INTRODUCTION.....</b>	<b>3</b>
1.1 Definitions.....	3
<b>2. LABEL DESCRIPTION.....</b>	<b>3</b>
<b>3. INSTALLATION PROCEDURE .....</b>	<b>3</b>
<b>4. TECHNICAL SPECIFICATION.....</b>	<b>4</b>
<b>5. MAINTENANCE .....</b>	<b>4</b>
<b>6. DISASSEMBLY .....</b>	<b>4</b>
6.1 Disassembly of VAQ310.....	4
6.2 Exploded view .....	5
<b>7. ASSEMBLY .....</b>	<b>6</b>
7.1 Part list.....	7
<b>8. PACKAGING &amp; STORE .....</b>	<b>7</b>
<b>9. ASSISTANCE .....</b>	<b>7</b>

### **READ THESE INSTRUCTIONS FIRST!**

These instructions provide information about safe handling and operation of the valve.  
If you require additional assistance, please contact the manufacturer or manufacturer's representative.  
Addresses and phone numbers are printed on the back cover.  
See also [www.metso.com/valves](http://www.metso.com/valves) for the latest documentation.

### **SAVE THESE INSTRUCTIONS!**

## 1. INTRODUCTION

Thank you for choosing METSO product. Each product is fully inspected after the production to offer you the highest quality. In order to fully utilize the product, we strongly recommend users to read this manual carefully and understood.

This manual provides information on installation; operation and maintenance procedures and related instructions for the RMEBS make VAQ310 SPOOL VALVE.

The aim of this literature is to support the use of products in correct manner, and all the technical information provided in the catalogue.

The manual should be given to the end user.

The manual can be changed or revised without any prior notice. Any changes in product's specification, structure, and/or any components may not result immediate revised version of the manual.

The manual should not be duplicated or reproduced for any purpose without any consent of RMEBS Manufacturers & Engineers Private Limited, INDIA.

### Manufacturer Warranty

For the safety, it is vital to follow instructions in the manual. It is not RMEBS's liability for any damages which caused by users' negligence.

It is not RMEBS's liability for any damages or accidents which resulted by any alteration or modification of the product and parts. If alteration or modification is necessary, please contact the RMEBS directly.

RMEBS warrants the product from the date of original retail purchase of the product for one (1) year, except as otherwise stated.

RMEBS warranty will not cover the products that the product have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; damages that occurs in shipment, failure due to power surge, and cosmetic damage. Improper or incorrectly performed maintenance or report voids this Limited Warranty.

For detailed warranty information, please contact: RMEBS MANUFACTURERS & ENGINEERS PRIVATE LIMITED, Manapada road, Dombivli (e), Maharashtra, India, Pin - 421204

### 1.1 Definitions

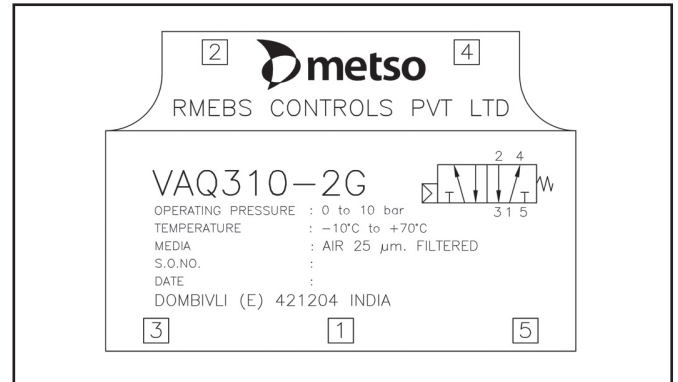
#### WARNING:

IF NOT OBSERVED, USER INCURS A HIGH RISK OF SEVERE DAMAGE TO PRODUCT AND/OR FATAL INJURY TO PERSONNEL.

**CAUTION:** If not observed, user may incur damage to product and/or injury to personnel.

**NOTE:** Advisory and information comments provided to assist maintenance personnel to carry out maintenance procedures.

## 2. LABEL DESCRIPTION



Label of the VAQ310-2G defines the precise feature. This description is written below the RMEBS logo and is as follow.

Model No.:	VAQ	SPOOL VALVE 5/2 valve
	3	1/4", 3 3/8", 4 1/2"
	10	2 Position, Pilot operated spring return.

External air pressure 3 to 10 bar.

Temperature -10°C to +70°C

S.O. NO. Sales order number.

DATE Date of manufacturing.

Dombivli – 421204 INDIA Brief address.

## 3. INSTALLATION PROCEDURE

**CAUTION:** Blow out air lines and fittings before installation. Use dry and oil free air. Do not dismantle the VAQ310 while operation is in line. Do not allow dirty air or fluids to get into the VAQ310. Use filter unit (filter size 40µm, 3°C) for dust and moisture removal.

**NOTE:** Ensure the installation meets the legal and regulatory requirements of the country and state of use. The VAQ310 assembly should be left in the original packing until it is required for the use.

1. Hemp filaments, jute or even Teflon ribbons are normally not required, As the part connections are accurately threaded. By chance, if any of these or any other tightening medium get into the operational area inside the VAQ310, possible damage of the VAQ310 could not be ruled out.
2. Clean all pipes and tube fittings thoroughly with suitable means. As even when brand new pipes are fitted, unclean interior are quite covered with dirt and dust.
3. Avoid impact on the VAQ310. These may happen during transportation/ erection/ mishandling.

## 4. TECHNICAL SPECIFICATION

Model	VAQ310
Operation type	External Pilot operated
Type	3/2 single solenoid
Port	3/8" BSP / 3/8" NPT
Operating Pressure	2.5 to 10 kg/cm <sup>2</sup>

## 5. MAINTENANCE

**NOTE:** The VAQ310 must be removed from installation prior to maintenance. All the connections/ports have to be disconnected prior to disassembly. All the mountings, accessories and spare parts used or replaced must be original from RMEBS.

RMEBS recommends "RMEBS M 55" grease for greasing. Apply the grease with soft brush or similar. In case of any difficulty consult RMEBS distributor.

1. Install, operate and maintain as per the instructions and recommendations of this manual.
2. Any deviation from the above will cease the responsibilities of RMEBS.

## 6. DISASSEMBLY

### WARNING:

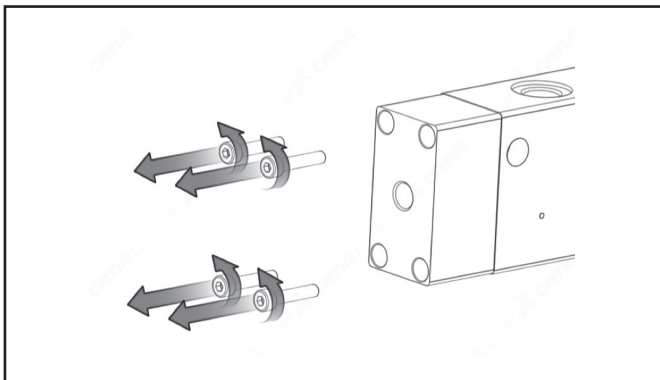
ALL ELECTRIC AND PNEUMATIC CONNECTIONS SHOULD BE REMOVED BEFORE STARTING DISASSEMBLY.

**CAUTION:** Do not place dismantled part on any diary/work bench but keep it on clean paper/cloth in same sequence as you have dismantled it.

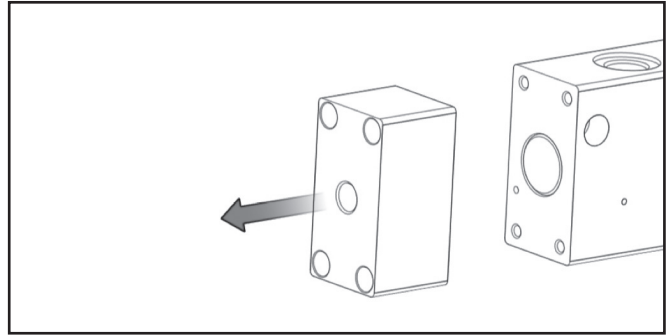
**NOTE:** It is advisable to replace all the rubber parts using genuine RMEBS spare kit. Numbers in parentheses, ( ) indicate the bubble number (reference number) used on the RMEBS Assembly details and Part List.

### 6.1 Disassembly of VAQ310

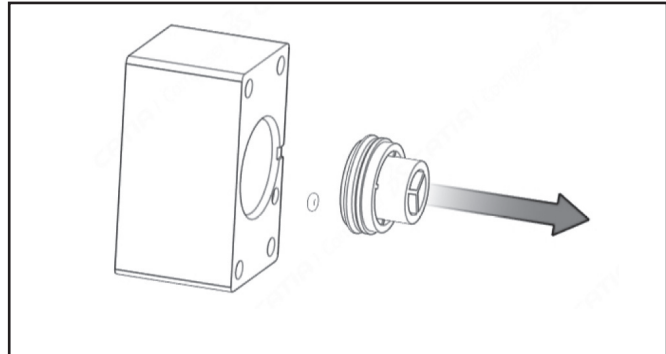
1. Remove the 4 screw (13) from the air operated cover (4).



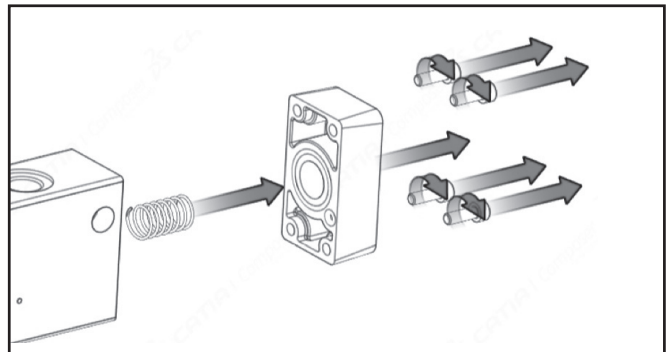
2. Now take out the air operated cover (4) from the body of spool valve (1).



3. Remove the helping piston (3), piston lip seal (5), O-ring (9) from the air operated cover (4).

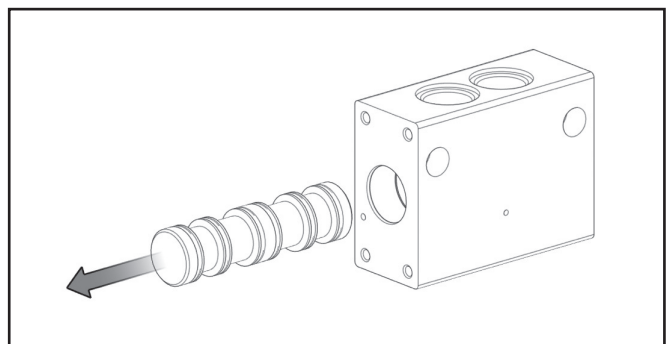


4. Separate out spring cover (6) and spring (7) by removing the 4 screw (12).

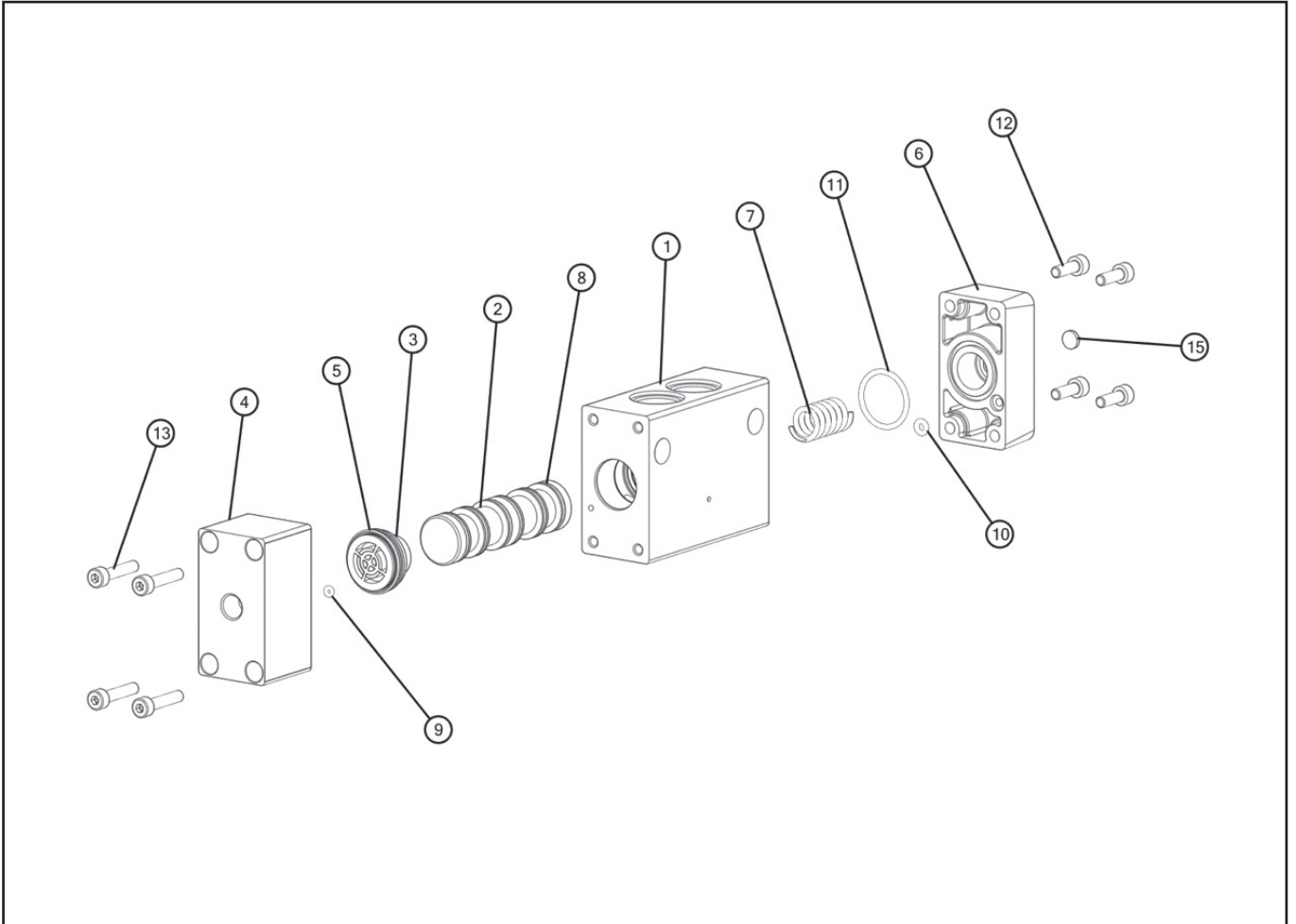


5. As both covers are removed, spool kit is disengaged, pull spool kit (2), (8) gently out of the valve body.

**NOTE:** remove spool kit gently with non metallic hammer, do not hammer heavily on the spool, by this spool may get jammed in bore during this operation.



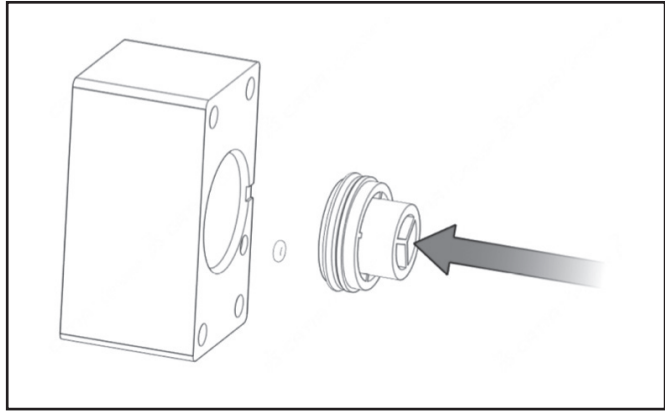
## 6.2 Exploded view



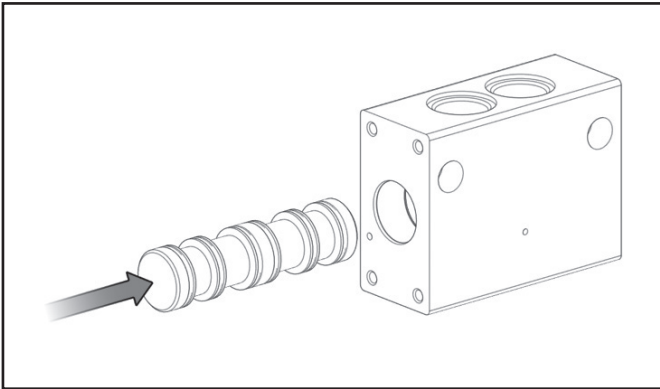
## 7. ASSEMBLY

**NOTE:** Follow the sequence as given below to ensure proper assembly.

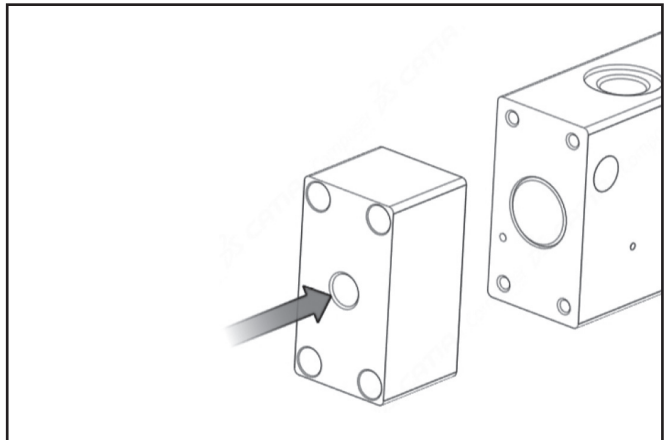
1. Clean all parts with soap water and dry.
2. Apply a layer of RMEBS recommended grease to the inner face of the body (1). (grease: RMEBS m 55).
3. Insert seal (8) on the spool (2)
4. While inserting spool into the body applies a thin layer of grease on the seal.
5. Insert the spool kit (2), (8) into the body (1).



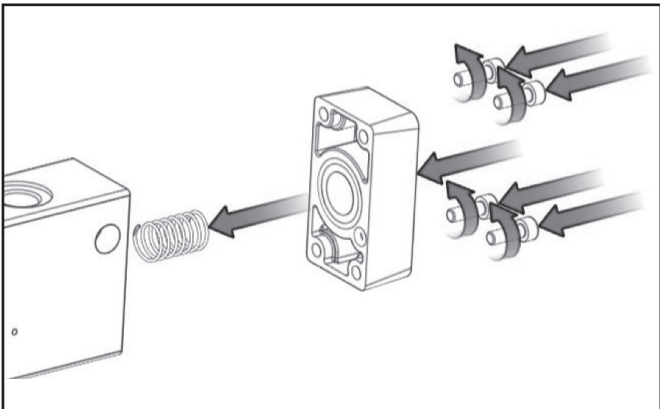
9. Insert the air operated cover (4) onto the body.



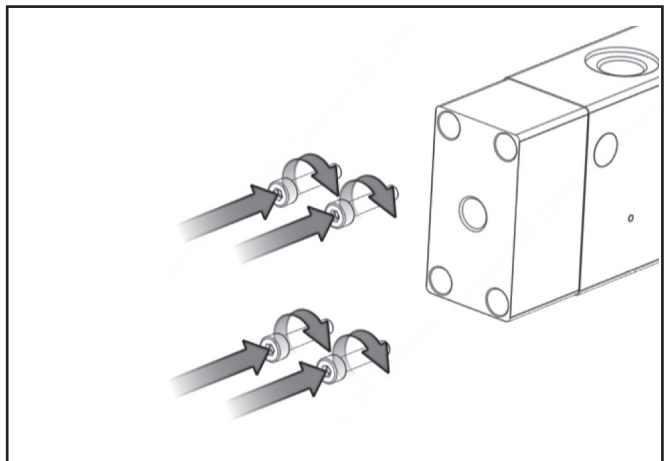
6. Insert the spring cover (6) and spring (7) onto the body by tightening the 4 screw (12).



10. Now insert the 4 screw (13) into the air operated cover to make the assembly.



7. Insert the lip seal (5) on the piston (3) apply a thin layer of grease on the lip seal.
8. Then insert the piston with lip seal and O-ring (9) into the air operated cover.



## 7.1 Part list

Sr. No.	Name	Quantity
1	BODY	1
2	SPOOL	1
3	HELPING PISTON	1
4	AIR OPERATED COVER	1
5	PISTON LIP SEAL	1
6	SPRING COVER	1
7	SPRING	1
8	SEAL FOR SPOOL	6
9	ORING 1.40 x 1.40	1
10	ORING 2.57 x 1.78	1
11	ORING 18.77 x 1.78	1
12	DIN 912 M4 x 12 -12	4
13	DIN 912 M4 x 20 - 20	4
14	BALL DIA 2 IS 2898	3
15	FILTER	1
16	DUST CAP FOR 1/4"	5
17	DUST CAP FOR 1/8"	1

## 8. PACKAGING & STORE

1. When not in use, VAQ310 ASSEMBLY should be kept in a sealed plastic bag in a cardboard box to prevent moisture or dust from contacting product.
2. VAQ310 should be stored in a dry place free from water and dust.
3. Store at temperature between 40°F and 120°F (4°C and 49°C).
4. Locate in an area to avoid damage by impact.

## 9. ASSISTANCE

For technical questions or assistance, contact any authorized distributor of Neles India Private limited or:

Subject to change without prior notice.  
Product names in this bulletin are all trademarks of Neles Finland Inc.

**Metso Corporation**

Töölönlahdenkatu 2, P.O. Box 1220, 00100 Helsinki, Finland  
Tel. +358 20 484 100

**Neles Finland Inc.**

Vanha Porvoontie 229, P.O. Box 304, FI-01301 Vantaa, Finland  
Tel. +358 20 483 150

**Neles USA Inc.**

44 Bowditch Drive, P.O. Box 8044, Shrewsbury, MA 01545, USA.  
Tel. +1 508 852 0200

<http://contact.metso.com/>

[www.metso.com/valves](http://www.metso.com/valves)

