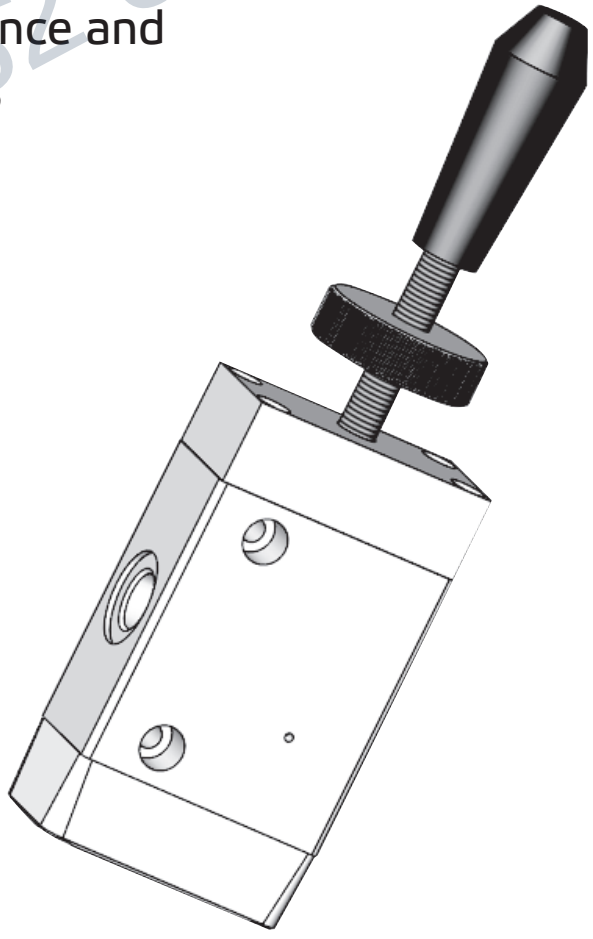
Air lock relay
ALR-3

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Installation, maintenance and operating instructions



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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.

SAVE THESE INSTRUCTIONS!

Addresses and phone numbers are printed on the back cover.

1. INTRODUCTION

Thank you for choosing Valmet 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 Neles brand ALR.

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 Valmet Flow Control INDIA PVT. LTD., INDIA.

MANUFACTURER WARRANTY

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

It is not Valmet 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 Valmet directly.

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

Valmet 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:
Valmet Flow Control INDIA PVT. LTD., 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. OPERATION PRINCIPLE

Whether the valve is set for direct or reverse action is determined by considerations to hold the valve position in the event of failure, to maintain the safety of process either by opening or closing the control valve.

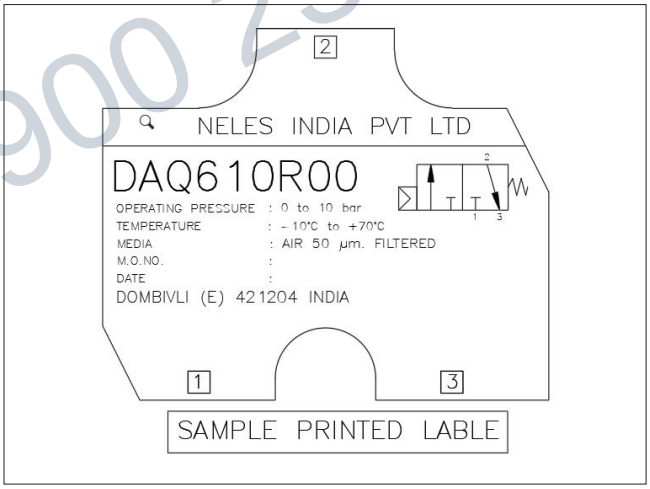
When pilot supply pressure drops down past a preset value, the device automatically locks the air piping between the instrument and the control valve and causes the control valve to hold its position until the air failure is rectified.

2.1 CONNECTION

Case-1
Air lock relay 3/2 ALR is connected between actuator & solenoid valve. On drop of pilot pressure below set pressure it locks actuator in position & unless pressure resumes it maintains position (Assumption that actuator & fittings have no leakage).

Case-2
Air lock relay 3/2 ALR-3 is connected before solenoid valve. On drop of pilot pressure below set pressure actuator remains in position depending upon solenoid valve position. Under energized condition & on the event of pilot air failure actuator remains actuated, on de- energisation, the actuator closes.

3. LABEL DESCRIPTION



Label of the ALR defines the precise feature. This description is written below the company logo and is as follow.

Model no.:	- ALR	AIR LOCK RELAY
	3	No. of ports
	2R	1/4" NPT
External air pressure	3 to 10 Bar	
Main air pressure	0 to 10 Bar	
Temperature	-10°C to +70°C	
S.O. NO.	Sale order number	
DATE	Date of manufacturing	
Dombivli – 421204 INDIA	Brief address	

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4. INSTALLATION PROCEDURE

CAUTION: Blow out air lines and fittings before installation. Use dry and oil free air. Do not dismantle the ALR while operation is in line. Do not allow dirty air or fluids to get into the ALR. 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 ALR 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 ALR, possible damage of the ALR 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 ALR. These may happen during transportation/ erection/ mishandling.

5. TECHNICAL SPECIFICATION

External (Pilot) Air supply	03-10 bar
Main Air Supply	0-10 bar
Sensing Pressure(adjustable)	03-10 bar
Sensitivity	0.5 bar
Response	0.5 bar
Body material	SS316 / Aluminium
Seals	NBR O-ring with PTFE glide ring
Fasteners	SS304/SS316
Connections	1/4" BSP / 1/4" NPT
*Pilot supply pressure can be changed as per customer requirements.	

6. MAINTENANCE

NOTE: The ALR 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 NELES.

Valmet recommends “NELES M 55” grease for greasing. Apply the grease with soft brush or similar. In case of any difficulty consult Valmet 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 Valmet.

7. DISASSEMBLY

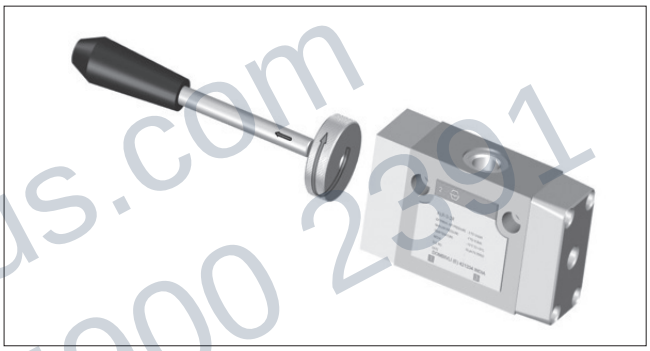
WARNING:
ALL ELECTRIC AND PNEUMATIC CONNECTIONS SHOULD BE REMOVED BEFORE STARTING DISASSEMBLY.

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.

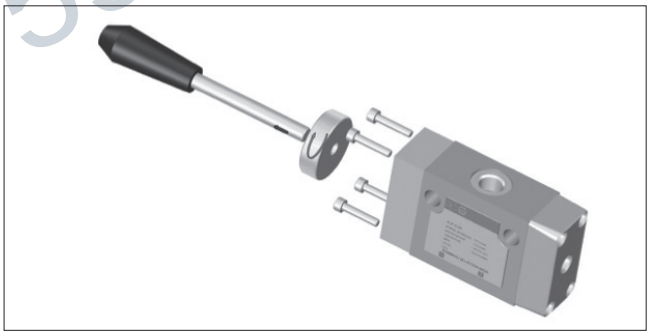
NOTE: It is advisable to replace all the rubber parts using genuine NELES spare kit. Numbers in parentheses, ( ) indicate the bubble number (reference number) used on the NELES Assembly details and Part List.

7.1 DISASSEMBLY OF ALRQ3

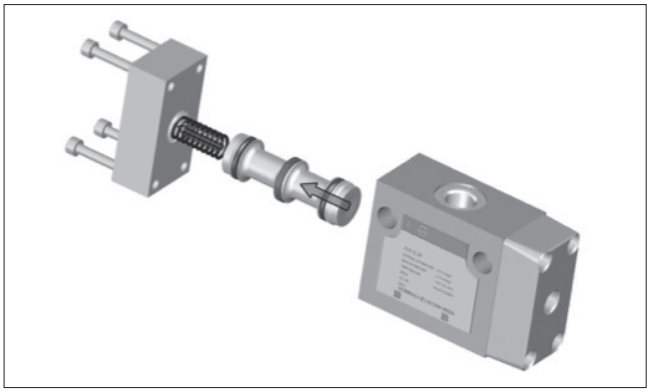
1. Remove handle (12) by loosing lock nut (11) from spring cover (5).



2. Remove the 4 screws (2) by loosening them.

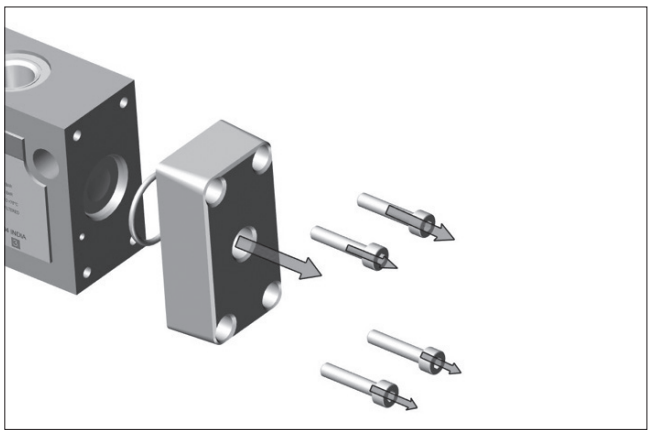


3. Remove spring cover (5) and spring cover (8) from spool body (1).
4. Remove spool Kit (9) from spool body (1).



5. Remove air cover (6) from spool body by loosening 4 screws (2).

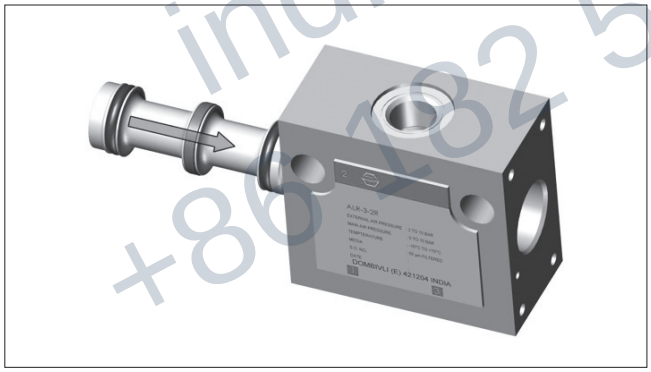
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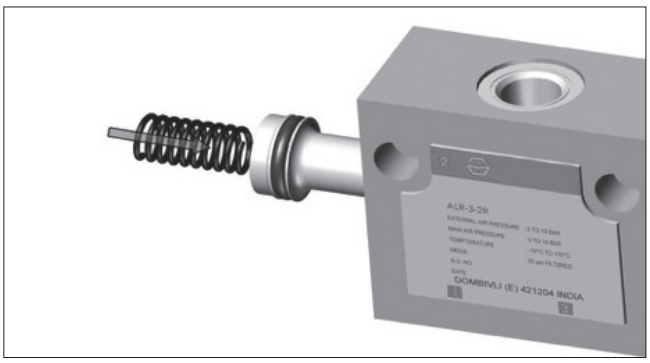
8. ASSEMBLY

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

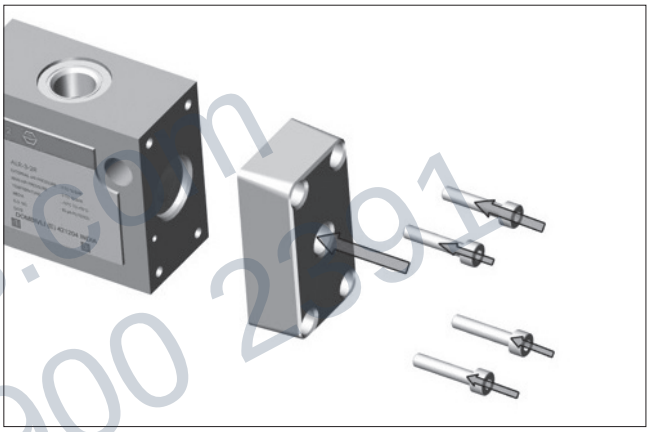
1. Clean all parts with soap water and dry.
2. Apply a layer of Valmet recommended grease to the inner face of the ALR body (1). (Grease: NELES M 55).
3. While inserting spool into the body, apply grease layer on the glide ring (3).
4. Assemble the spool (9) in the body (1).
5. While the time of inserting the spool in to the body apply a layer of grease on the o-ring (4) and guide ring (3) part of spool. After fit stud (10) on spool for manual operation.
6. Insert the end of spool from the both of body through the hole in body.



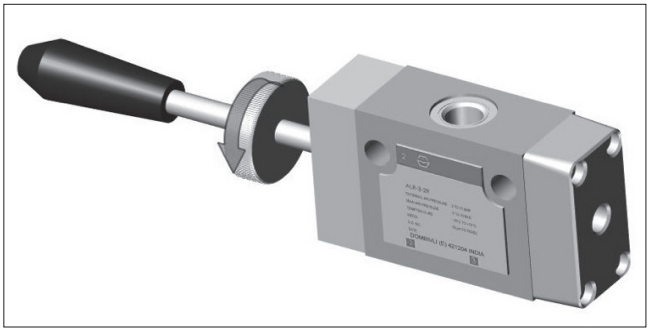
7. After inserting the spool assemble the spring (8) at locating hole for the purpose of locking.



8. Insert O-ring (15) in air cover (6) at located groove.
9. Put air cover (6) and second side spring cover (5) on the body insert 4 nos. of screw (2) put drop of oil on the thread of the screw tighten the screws equals.



10. Fit lock nut (11) on stud for setting of spool. Fix lock nut at final position.
11. At last fit knob (12) on stud for pulling.

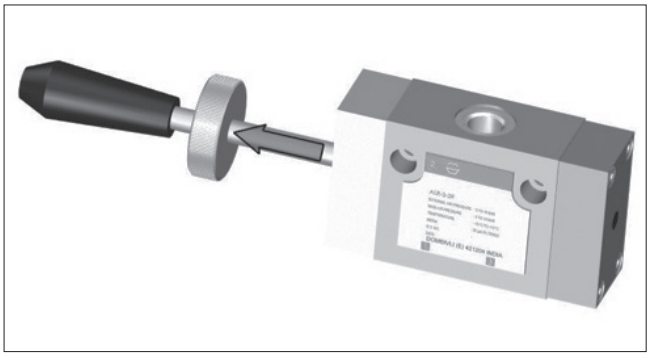


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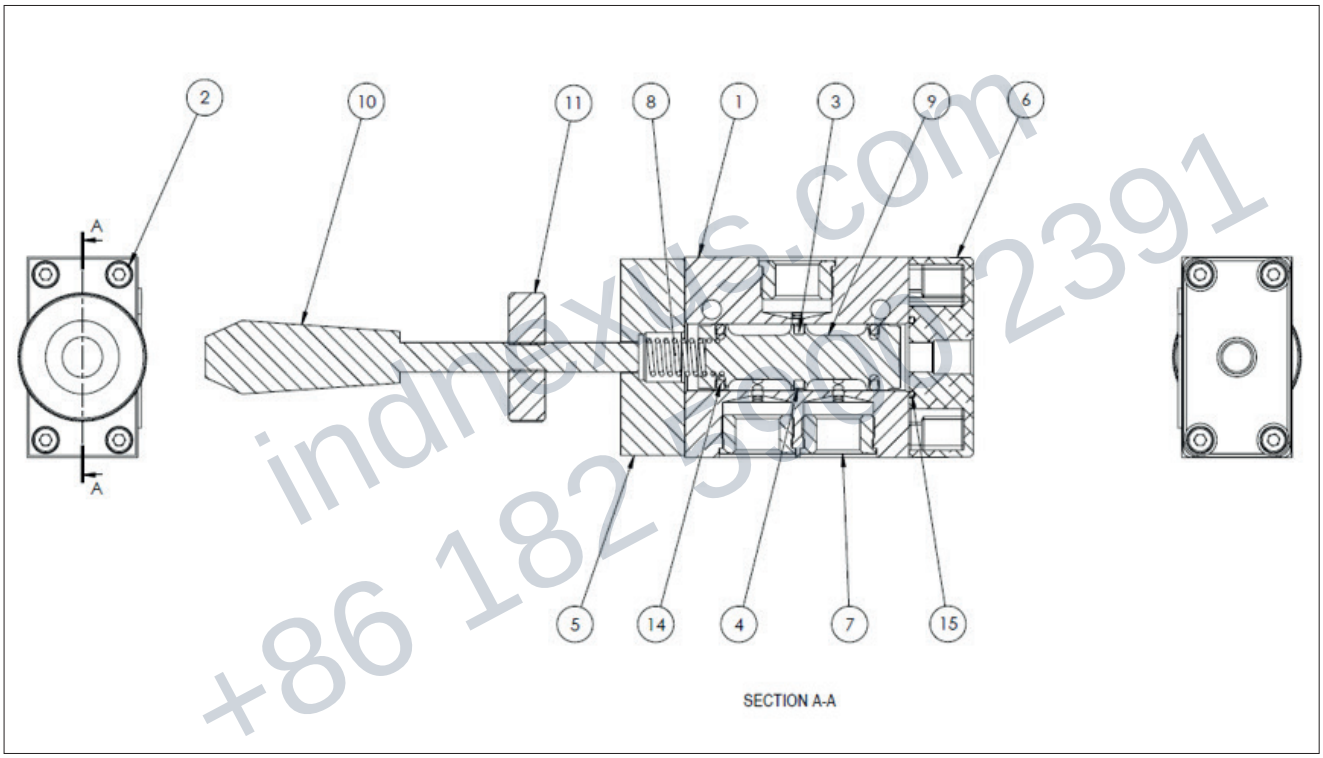
9. TESTING PROCEDURE

1. Provide (0-10) bar pressure to inlet port.
2. Provide (3-10) bar pressure to pilot port.
3. Connect outlet port to either solenoid valve or to the actuator, as required.
4. In manual operation, pull the knob (10) and rotate towards Spring cover (5) Side and lock position. So all inlet and outlet ports are connected to each other, although pilot pressure is not available.

CAUTION: In auto mode lock nut (11) to be full free / towards knob (10) side.

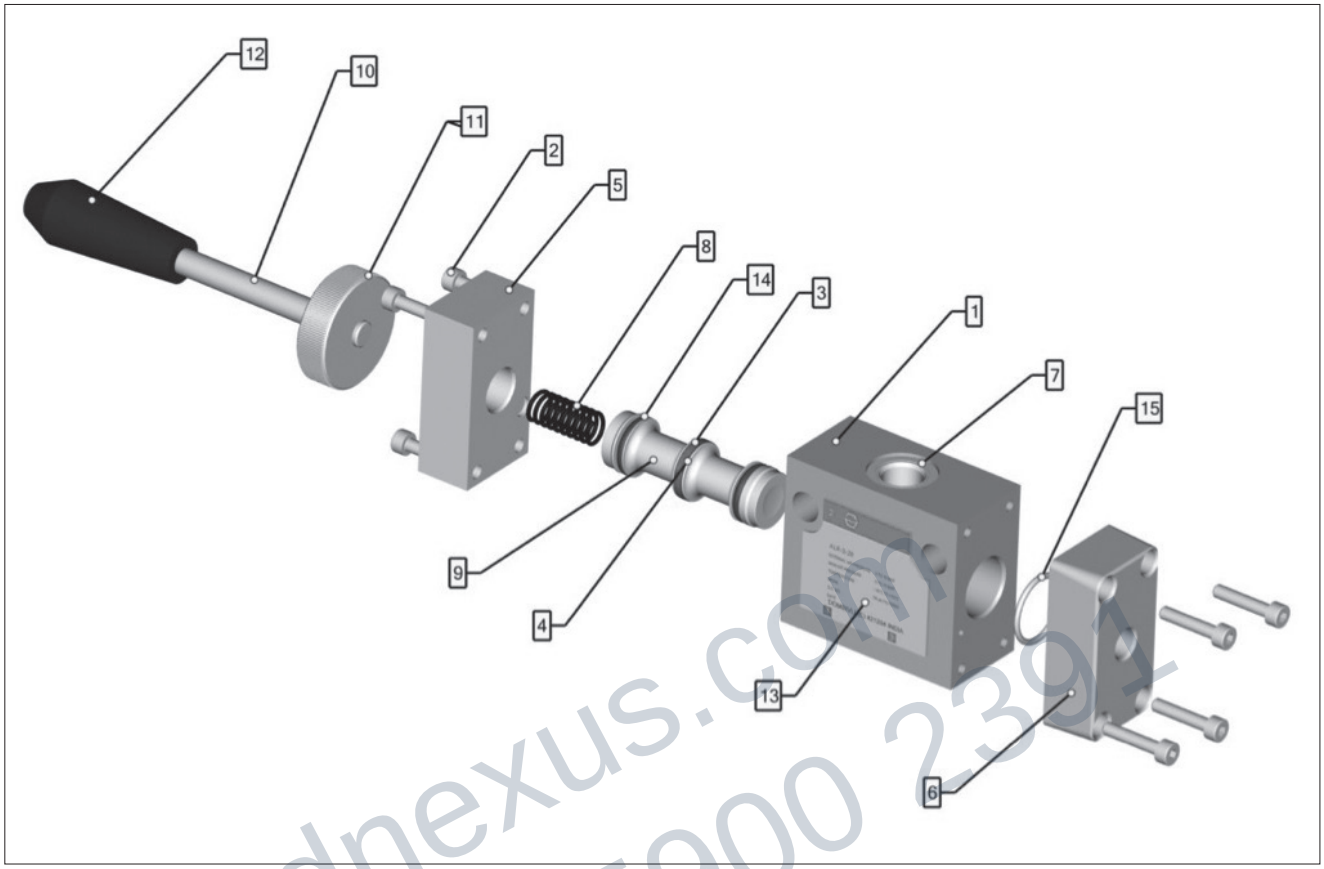


10. SECTIONAL DETAILS



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11. ASSEMBLY DETAILS



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11.1 PART LIST

Sr. No.	Name	Quantity
1	Body	1
2	Socket head cap screw	8
3	Guide ring	1
4	O-ring	1
5	Spring cover	1
6	Air cover	1
7	Bush	3
8	Spring	1
9	Spool	1
10	Stud	1
11	Lock nut	1
12	Knob	1
13	Name plate	1
14	O ring for spool	2
15	O – ring for Air cover	1

12. PACKAGING & STORE

1. When not in use, ALR ASSEMBLY should be kept in a sealed plastic bag in a cardboard box to prevent moisture or dust from contacting product.
2. ALR ASSEMBLY 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.

13. ASSISTANCE

For technical questions or assistance, contact any authorized distributor of Valmet Flow Control India Private limited or:

Valmet Flow Control Private Limited
Plot no:560 Manpada Road
Dombivli East, Maharashtra 421204
www.valmet.com/flowcontrol

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