



apeks®
TECHNICAL SUPPORT

MTX-R 1ST STAGE REGULATOR



MAINTENANCE MANUAL FOR AUTHORISED TECHNICIANS

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Contents

COPYRIGHT NOTICE.....	4
INTRODUCTION	4
WARNINGS, CAUTIONS & NOTES	4
SCHEDULED SERVICE	4
HOSE INSPECTION & CLEANING PROCEDURE.....	4
GENERAL GUIDELINES.....	5
GENERAL CONVENTIONS	5
DISASSEMBLY PROCEDURES.....	5
REASSEMBLY PROCEDURES	8
ADJUSTMENT.....	11
FINAL TESTING.....	12
TABLE 1 - TROUBLESHOOTING GUIDE.....	13
TABLE 2 - RECOMMENDED TOOL LIST.....	14
TABLE 3 - RECOMMENDED LUBRICANTS AND CLEANERS	15
TABLE 4 -TORQUE SPECIFICATIONS	16
TABLE 5 - TEST BENCH SPECIFICATIONS	16
CLEANING AND LUBRICATION PROCEDURE.....	17
EXPLODED PARTS DRAWING.....	18

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MTX-R 1st Stage Regulator Maintenance Manual
(AP5836 Issue 1)

INTRODUCTION

This manual provides factory prescribed procedures for the correct maintenance and repair of the Apeks MTX-R 1st Stage regulator. It is not intended to be used as an instructional manual for untrained personnel. The procedures outlined within this manual are to be performed only by personnel who have received factory authorised training through an Apeks Service & Repair Seminar. If you do not completely understand all of the procedures outlined in this manual, contact Apeks to speak directly with a Technical Advisor before proceeding any further.

WARNINGS, CAUTIONS & NOTES

Pay special attention to information provided in warnings, cautions, and notes that are accompanied by one of these symbols:

 **WARNINGS** indicate a procedure or situation that may result in serious injury or death if instructions are not followed correctly.

 **CAUTIONS** indicate any situation or technique that will result in potential damage to the product, or render the product unsafe if instructions are not followed correctly.

 **NOTES** are used to emphasise important points, tips, and reminders.

SCHEDULED SERVICE

It is recommended that the Apeks MTX-R 1st Stage regulator should be examined annually regardless of usage.

A full service should be performed every two years.

However, if you are at all unsure about the correct functioning of the Apeks MTX-R 1st Stage then it must be officially inspected immediately.

All service and inspection details need to be documented to keep the *Limited Lifetime Warranty* in effect.

A First Stage Official Inspection consists of:

1. A pressurised immersion test of the entire unit to check for air leakage.
2. Checking for stable medium pressure that is within the acceptable range.
3. Checking that all parts are tightly fastened together and that no parts are loose.
4. A visual inspection of the Environmental Diaphragm looking for tears or holes and checking the general condition.
5. A visual inspection of any filters for debris or discolouration.
6. Pulling back hose protectors and checking that the hoses are secure in the hose crimps.

If a regulator fails steps 1,2, or 3 the entire regulator should be serviced. If a regulator fails 4 or 5 it will be up to the technician's discretion whether or not a full service is required. Failure of step 6 requires replacement of the Hose.

HOSE INSPECTION & CLEANING PROCEDURE

Please refer to separate document labelled "Hose Inspection & Cleaning Procedure" for full details of the maintenance of hoses which can be found in the Technical section of the Apeks website.

AQUA LUNG®



HOSE INSPECTION AND
CLEANING PROCEDURE

GENERAL GUIDELINES

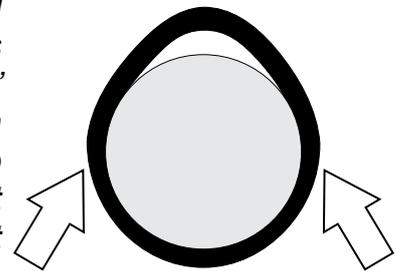
1. In order to correctly perform the procedures outlined in this manual, it is important to follow each step exactly in the order given. Read over the entire manual to become familiar with all procedures and to learn which specialty tools and replacement parts will be required before commencing disassembly. Keep the manual open beside you for reference while performing each procedure. Do not rely on memory.
2. All service and repair should be carried out in a work area specifically set up and equipped for the task. Adequate lighting, cleanliness, and easy access to all required tools are essential for an efficient repair facility.
3. During disassembly, reusable components should be segregated and not allowed to intermix with non-reusable parts or parts from other units. Delicate parts, including inlet fittings and valve seats which contain critical sealing surfaces, must be protected and isolated from other parts to prevent damage during the cleaning procedure.
4. Use only genuine Apeks parts provided in the 1st stage service kit (AP0241). DO NOT attempt to substitute an Apeks part with another manufacturer's, regardless of any similarity in shape or size.
5. Do not attempt to reuse mandatory replacement parts under any circumstances, regardless of the amount of use the product has received since it was manufactured or last serviced.
6. When reassembling, it is important to follow every torque specification prescribed in this manual, using a calibrated torque wrench. Most parts are made of either marine brass or plastic, and can be permanently damaged by undue stress.

GENERAL CONVENTIONS

Unless otherwise instructed, the following terminology and techniques are assumed:

1. When instructed to remove, unscrew, or loosen a threaded part, turn the part anti-clockwise.
2. When instructed to install, screw in, or tighten a threaded part, turn the part clockwise.
3. When instructed to remove an 'O' Ring, use the pinch method (see figure below) if possible, or use a brass, aluminium or plastic 'O' Ring removal tool. Avoid using hardened steel picks, as they may damage 'O' Ring sealing surfaces. All 'O' Rings that are removed are discarded and replaced with brand new 'O' Rings.

Pinch Method
Press upwards on sides of 'O' Ring to create a protrusion. Grab 'O' Ring or insert 'O' Ring tool at protrusion.



4. The following acronyms are used throughout the manual: MP is Medium Pressure; HP is High Pressure; PN is Part Number.
5. Numbers in parentheses reference the key numbers on the exploded parts schematics. For example, in the statement, "...remove 'O' Ring (12) from...", the number 12 is the key number to the Blanking Plug 'O' Ring.

DISASSEMBLY PROCEDURES

 **NOTE:** Before performing any disassembly, refer to the exploded parts drawing, which references all mandatory replacement parts. These parts should be replaced with new, and must not be reused under any circumstances - regardless of the age of the regulator or how much use it has received since it was last serviced.

 **CAUTION:** Use only a plastic, brass or aluminium 'O' Ring removal tool (PN AT79) when removing 'O' Rings to prevent damage to the sealing surface. Even a small scratch across an 'O' Ring sealing surface could result in leakage. Once an 'O' Ring sealing surface has been damaged, the part must be replaced with new. DO NOT use a dental pick, or any other steel instrument.

Removal of Hoses

1. Using a 9/16" spanner (or other, depending on hose fitted), remove all of the hoses from the first stage. Remove the O Ring from the Hose Nut end of the Hose.



Removal of Blanking Plugs

2. Using a 5mm Hex key remove all of the MP and HP blanking plugs (13 & 17).



3. Using the First Stage Work Handle (PN AT48) clamp the regulator in a vice.



4. Using a flat bladed screwdriver remove 5th port bumper (25), then remove the remaining blanking plug (17) using a 5mm Hex key.



NOTE: Use a 19mm spanner to hold the Turret Retaining Bolt (24) when removing the Blanking Plug (17) if it has become seized in place or the whole assembly has undone together.

5. Remove all of the O Rings (12 & 16) from the Blanking Plugs.



Removal of Balance Plug Assembly

6. Using a 6mm Hex key unscrew the Turret Retaining Bolt (24) and remove.



7. Remove O Ring (23) and Thrust Washer (22) from Turret (15).



8. Separate the HP Valve (18) and Spring (20) from the Turret Bolt (24).



9. Remove O Rings (21 & 19) from the Turret Bolt (24), taking care not to scratch the O Ring grooves.



10. Lift off the Turret (15) and remove O Ring (14).



Removal of Dry Sealed Chamber

11. Using tool AT93 loosen the End cap (1) with a 3/8" drive T bar, then remove tool and unscrew the End Cap fully by hand.



NOTE: Press the tool AT93 onto the End Cap (1) firmly to ensure a perfect fit before fitting the T bar.

CAUTION: Ensure the tool (AT93) is positioned flat on the End Cap (1) and even force is applied for removal. Failure to do so could result in the tool slipping and causing damage to the End Cap.

12. Remove Pressure Transmitter (2) and O Ring (5).



13. Unscrew the Diaphragm Clamp (6) using a 38mm spanner.



NOTE: The Spring Adjuster (3) can be left in the Diaphragm Clamp (6) for cleaning and re assembly.

14. Remove the Spring (4) and Spring Carrier (8), then remove the O ring (7) from the base of the Diaphragm Clamp (6)



15. Press down on the Diaphragm (9) towards the edge to enable it to lift. Using an O Ring pick (AT79) remove the diaphragm without causing damage to any sealing surfaces.



16. Remove the Valve Lifter (10) from the Body (11).



NOTE: If the First Stage has a DIN Connection, go to step 17, if it has a Yoke Connection follow step 20.

Removal of Din Connection

17. Using a 6mm Hex key, unscrew the DIN Connector (34) and separate the parts.



18. Remove the O Ring (29) from the end of the Handwheel Connector (34).



19. Use a thin dowel or Hex key to remove Conical Filter (33) and O Ring (16).



Removal of Yoke Connection

20. Unscrew the Yoke Knob (31) and remove the Dust Cap (30) from the Yoke Clamp (26).



21. Using a 3/4" A/F spanner, unscrew the Yoke Connector (27) and remove the Yoke Clamp (26) and O Ring (16) from the Yoke Connector (27).



22. Insert a dowel through the open end of the Yoke Connector (27) and push out the Disc Filter (28).



This Ends Disassembly

 **NOTE:** Before starting reassembly perform parts cleaning and lubrication according to the procedures outlined in 'Cleaning & Lubrication' on page 18.

REASSEMBLY PROCEDURES

Assembly and fitting of Yoke Connection

1. Insert a new Disc Filter (28) with the smooth side out, into the Yoke Connector (27), ensure the filter is fully installed.



2. Fit a new lubricated O Ring (16) into the end of the Connector (27). Insert the Yoke Clamp Connector (27) through the Yoke Clamp (26). With the Valve Body held so that the inlet connection port points down, screw the Yoke Clamp Connector (27) into the Valve Body (11) until finger tight.



 **CAUTION:** If the Yoke Clamp Assembly is not held vertically whilst it is screwed into the Valve Body, the O Ring in the end of the Yoke Clamp Connector may not remain in the correct position.

3. Secure the Valve Body (11) back into the vice using the First Stage Work Handle (AT48). Tighten the Yoke Clamp Connector (27) using a 3/4" A/F spanner to 20Nm (14.7 ft.lb).



4. Install the Protective Cap (30) with the logo facing outwards, onto the Yoke Clamp (26).



5. Screw the Yoke Knob (31) back into the Yoke Clamp (26), until the Protective Cap (30) is retained in place.



Assembling and fitting of DIN Connection

6. Install a new O Ring (29) into the face of the Handwheel Connector (34).



7. Install a new lubricated O Ring (16) into the opposite end of the Connector. Install the Conical Filter (33) into the Connector, through the O Ring.



 **NOTE:** Ensure that the O Ring is retained in the Connector after the Conical Filter has been fitted.

8. Insert the threaded end of the Handwheel Connector (34) through the threaded end of the Handwheel (32). With the Valve Body held so that the inlet connection port points down, screw the Handwheel Connector into the Valve Body (11) until finger tight.



 **CAUTION:** If the Handwheel Connector Assembly is not held vertically whilst it is screwed into the Valve Body, the O Ring in the end of the Handwheel Connector may not remain in the correct position.

9. Secure the Valve Body (11) back into the vice using the First Stage Work Handle (AT48). Tighten the Handwheel Connector (34) using a 6mm Hex key bit in a torque wrench to 20 Nm (14.7 ft.lb).



Fitting of the Dry Sealed Chamber

10. Drop the Valve Lifter (10) through the centre hole of the Valve Body (11). Press a new Diaphragm (9) into the Body. Run your finger around the edge of the diaphragm to make sure it is properly seated.



11. Fit new Lubricated O Ring (7) onto the Diaphragm Clamp (6).



12. Place the spring carrier (8) and Spring (4) centrally onto the diaphragm (9). Thread the Diaphragm Clamp (6) onto the Valve Body (11), making sure that the Spring (4) remains on the Spring Carrier (8), until hand tight.



13. Using a 38mm Spanner (AT??) tighten the Diaphragm Clamp (6) to 30Nm (22.1 ft/lb).



Fitting of the Turret & 5th Port

14. Fit new Lubricated O Ring (21) to the base of the thread on the Turret Bolt (24).



15. Install a new lubricated O Ring (19) into the end of the Turret Bolt (24). Ensure that the O Ring is fully in place and seated correctly.



16. Press the Spring (20) onto the end of the Turret Bolt (24).



17. Fit a new HP Valve (18) into the Turret Bolt assembly, pressing the valve into place using the metal shoulder of the valve avoiding contact with the sealing face.



18. Fit a new lubricated O Ring (14) onto the Body (11).



19. Fit the Turret (15) onto the body (11) ensuring not to displace the O Ring (14) already fitted.



20. Place the Thrust Washer (22) into the top of the Turret (15) then follow with a new lubricated O Ring (23).



21. Insert the Turret Bolt assembly into the valve body ensuring the HP valve (18) locates onto the lifter (10) and tighten using a 6mm Hex key to a torque value of 8Nm (5.9 ft.lb).



22. Fit a new O ring (16) onto the 3/8" MP Blanking Plug (17) and screw into the Turret Bolt. Torque to 5Nm (3.69 ft.lb) using a 5mm Hex key.



23. Press the Bumper (25) on top of the Turret Bolt (24) covering the blanking plug (17).



This Ends Re-assembly

ADJUSTING THE FIRST STAGE

⚠ WARNING: Compressed air can be highly explosive and is dangerous if misused. Ensure cylinder valve is opened slowly. Use Eye and Ear Personal Protective Equipment when performing any tests involving Compressed air.

1. Attach the first stage (with no Blanking Plugs fitted) to a fully charged 232 or 300 bar cylinder. Slowly open the cylinder valve, this will remove any particles or contaminants from the first stage.



2. Install new lubricated 'O' Rings (12 & 16) on all of the Blanking Plugs (13 & 17). Using a 5mm Hex key, install all of the Blanking Plugs into the Valve Body.



3. Attach a MP test gauge (0 - 20 bar) to a medium pressure hose and thread the hose into a MP port. If your test gauge does not have an over pressure relief valve, you must also attach a properly adjusted second stage to the first stage to act as the relief valve in case of a HP leak. Make sure Blanking Plugs are installed in any open ports.



⚠ CAUTION: If the pressure gauge rapidly exceeds 11 bar, then there is a HP leak. Quickly close the cylinder valve and purge the regulator. Refer to the troubleshooting table for the causes of the leak.

4. Slowly open the cylinder valve to pressurise the first stage and check for any audible leaks. If no leaks are detected adjust the MP by turning the Spring Adjuster (3) with a 6mm Hex key.



👉 NOTE: It is best practice to make adjustments with the first stage depressurised and setting the pressure with a supply of 207 Bar.

Turning in the Spring Adjuster (3) increases the MP; Turning out the Spring Adjuster decreases the MP. Turn the Spring Adjuster in 1/8th turn increments and purge the relief valve several times after each adjustment. When the MP reaches the nominal set point of 9.5 ± 0.5 bar (135 psi gauge reading - see table 5), purge the relief valve on and off 10-15 times. After cycling watch the gauge needle. The first stage MP should "lock-up" and be stable at the set point. Make any adjustments as necessary. Allow the first stage to stay pressurised for several minutes and check the MP again to make sure it remains "locked-up" between 9 and 10 bar (130.5 and 145 psi). If the MP creeps upward more than 0.25 bar (3.6psi), then there is a leak. Refer to the troubleshooting table for possible causes.

5. Close the cylinder valve and depressurise the regulator by opening the gauge relief valve or by pressing the purge button of the second stage regulator. Close the relief valve and repressurise the system. The MP should still read between 9 and 10 bar. If the pressure reading is different than the original setting, repeat steps 3 and 4 until the MP is stable.

This Ends Adjustment

Final Assembly

1. With the regulator still pressurised, insert the Load Transmitter (2) into the Diaphragm Clamp (6).



2. Press the End Cap (1) into the AT93 tool by hand, ensuring that it sits evenly, then screw onto Diaphragm Clamp (6) hand tight.



3. Fit the torque wrench into the AT93 tool and tighten to a torque value of 12Nm (8.85 ft.lb). Re-check the medium pressure making sure that it is still between 9 and 10 bar.



 **CAUTION:** Ensure the tool (AT93) is positioned flat on the End Cap (1) and even force is applied for fitting. Failure to do so could result in the tool slipping and causing damage to the End Cap.

4. Close the cylinder valve and depressurise the regulator. Remove the test gauge and reinstall the Blanking Plug.

This Ends Reassembly

Immersion Test

With the Blanking Plugs and at least one properly adjusted second stage installed, slowly open the cylinder valve and pressurise the first stage. Completely submerge the first stage in fresh water and check for leaks.

 **NOTE:** Do not confuse bubbles from trapped air with a true air leak. If there is an air leak, bubbles will come out in a steady constant stream.

Assuming that there are no leaks, close the cylinder valve and depressurise the regulator. Remove the first stage from the valve and secure the Dust Cap (30) in place with the Yoke Clamp Knob (31). If the regulator has a DIN connection fit the Protective DIN Cap (35).

If a leak is detected, note the source of the leak and refer to the troubleshooting table on page 13 for possible causes and corrective actions.

This Ends Testing

Table 1 - Troubleshooting Guide

SYMPTOM	POSSIBLE CAUSE	TREATMENT
High Pressure Creep (also causes second stage leaks)	1. HP Valve (18) is worn or damaged.	1. Replace HP Valve.
	2. O Ring (19) inside 5th Port (24) is damaged or worn.	2. Replace O Ring.
	3. O Ring (21) on 5th Port (24) is damaged or worn.	3. Replace O Ring.
	4. 5th Port internal wall damaged.	4. Replace 5th Port.
External air leakage	1. Blanking Plug O Rings (12,16) are worn or damaged.	1. Replace O Ring.
	2. Diaphragm (9) worn or damaged.	2. Replace diaphragm.
	3. Diaphragm seating surface damaged.	3. Replace Valve Body.
	4. Connector O Ring (16) worn or damaged.	4. Replace O Ring.
	5. Diaphragm Clamp (6) loose.	5. Tighten Diaphragm Clamp.
	6. O Ring on 5th Port (23) worn or damaged.	6. Replace O Ring.
Restricted air flow or high inhalation resistance through entire system	1. Cylinder valve not completely open.	1. Open valve, check fill pressure.
	2. Cylinder valve requires servicing	2. Switch to different cylinder.
	3. Conical Filter (33) or Disc Filter (28) is clogged.	3. Replace filter.
	4. Very Low Medium Pressure.	4. Adjust Medium Pressure to between 9 and 10 bar.
Environmental End Cap distended or burst	1. Diaphragm (9) worn or damaged.	1. Replace Valve Body.
	2. Diaphragm seating surface damaged.	2. Replace Valve Body.
	3. Diaphragm Clamp (6) loose.	3. Tighten Diaphragm Clamp.

Table 2 - Recommended Tool List

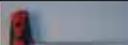
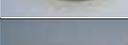
PART #	DESCRIPTION	APPLICATION	IMAGE
AP0430	I.P. test gauge	Intermediate pressure testing	
AT79	O Ring removal pick	O Ring removal	
AT48	First Stage Work Handle	Clamping Valve Body in Vice	
N/A	Flat bladed Screwdriver	Bumper Removal	
N/A	Torque wrench, Nm or lbf/ft	Installation of Balance Plug & DIN Connection	
N/A	6mm Hex key bit for torque wrench	Installation of 5th Port & DIN Connection	
N/A	9/16" spanner	Hose Removal	
AT37	5mm Hex key	Blanking Plugs	
AT38	6mm Hex key	Removal of 5th port, DIN Connection & Spring Adjuster	
AT??	38mm Crow's Foot Wrench	Removal and Fitting of Diaphragm Clamp	
AT33	3/4" ring spanner	Removal and fitting of Yoke Clamp Connector	
N/A	232 or 300 bar Diving cylinder	Testing of regulator	
AT93	End Cap Removal Tool	Removal and Fitting of Environmental End Cap	
N/A	T Bar 3/8"	Removal of Environmental End Cap	

Table 3 - Recommended Lubricants & Cleaners

LUBRICANT / CLEANER	APPLICATION	SOURCE
Christo-Lube® MCG-111 (Lubricant).	All O ring seals	Lubrication Technologies 310 Morton Street Jackson, OH 45640, USA (800) 477-8704, or Apeks Marine Equipment Ltd
PerFluoroLube® 20/1 (Lubricant).	All O ring seals	Performance Fluids Suite 101 Lomeshaye Buisness Park Turner Road Nelson Lancashire BB9 7DR
 CAUTION: Silicone rubber requires no lubrication or preservative treatment. DO NOT apply grease or spray to silicone rubber parts (eg. Diaphragm, Exhaust Valves.) Doing so may cause a chemical breakdown and premature deterioration of the material.		
Biox (Cleaning agent)	Biological immersion fluid for reusable stainless steel and brass parts	Biox LTD 52 Hughenden Avenue High Wycombe Bucks HP13 5SJ
White distilled vinegar (100gr.) (Cleaning agent)	Acid bath / ultrasonic cleaner for reusable stainless steel and brass parts	"Household" grade
 CAUTION: Do not use muriatic acid for the cleaning of any parts. Even if strongly diluted, muriatic acid can harm chrome plating and may leave a residue that is harmful to o-ring seals and other parts.		
Liquid dish washing detergent diluted with warm water (Cleaning agent)	Degreaser for stainless steel and brass parts, general cleaning solution for plastic and rubber	"Household" grade

Table 4 - Torque Specifications

PART NUMBER	DESCRIPTION / KEY NUMBER	TORQUE
AP1471	Handwheel Connector (31)	20 Nm / 14.7 ft/lb
AP1407	Yoke Connector	20 Nm / 14.7 ft/lb
AP5309-5BS	5th Port	8 Nm / 5.9 ft/lb
AP1473/1	Diaphragm Clamp	30 Nm / 22.1 ft/lb
AP1408S	Blanking Plug 3/8" Satin	5 Nm / 3.69 ft/lb
AP1413S	Blanking Plug 7/16" Satin	5 Nm / 3.69 ft/lb
AP2010	Environmental End Cap	12 Nm / 8.85 ft/lb

Table 5 - Test Bench Specifications

TEST	CONDITION	ACCEPTABLE RANGE
Leak Test	Inlet Pressure 150-232 bar / 2175-3364 psi	No Leaks Allowed
Medium Pressure	Inlet Pressure 207 bar / 3000 psi	9-10 Bar / 130-145 psi
Medium Pressure Creep	Inlet Pressure 207 bar / 3000 psi	0.25 Bar / 3.6 psi Max for 15 Seconds After Purging Regulator

Cleaning & Lubrication Procedure

Cleaning Brass and Stainless Steel Parts

1. If required, pre-clean in warm, soapy water* using a nylon bristle tooth brush.
2. Thoroughly clean parts in an ultrasonic cleaner filled with a solution of household white distilled vinegar (Acetic Acid) mixed with fresh water (max 50% vinegar). Clean ultrasonically for 5 minutes (max 10 minutes). DO NOT place plastic, rubber, silicone or anodized aluminium parts in vinegar.
3. Remove parts from the ultrasonic cleaner and rinse with fresh water. If tap water is extremely “hard,” place the parts in a bath of distilled water to prevent any mineral residue. Agitate lightly, and allow to soak for 5-10 minutes. Remove and blow dry with low pressure (25 PSI/1.7Bar) filtered air. Inspect closely to ensure proper cleaning and like-new condition.

Cleaning Plastic & Rubber Parts

Parts made of plastic or rubber may be soaked and cleaned in a solution of warm water mixed with mild dish soap. Use only a soft nylon toothbrush to scrub away any deposits. Rinse in fresh water and thoroughly blow dry, using low pressure filtered air.



Caution: Do not place plastic and rubber parts in acid solutions. Doing so may alter the physical properties of the component, causing it to prematurely degrade and/or break.

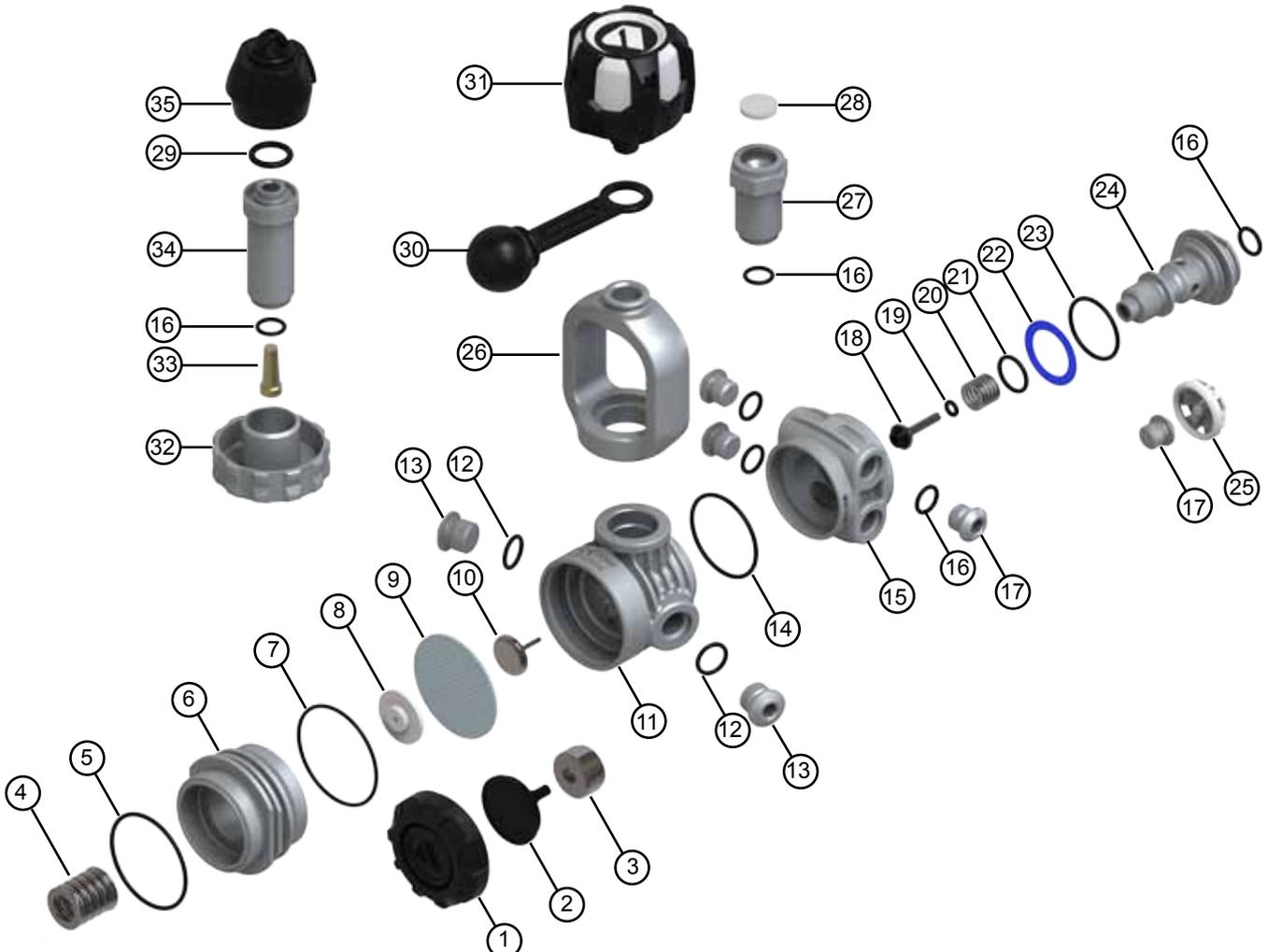
Lubrication and Dressing

All O rings should be lubricated with Christo-Lube MCG-111 or PerFluoroLube 20/1. Dress the O rings with a very light film of grease, and remove any visible excess by running the O ring between thumb and forefinger. Avoid applying excessive amounts of lubricant as this will attract particulate matter that may cause damage to the O ring.

*Soapy water is defined as “household” grade liquid dishwashing detergent diluted in warm water.

Exploded Parts Diagram

AP0063 Din Version - AP0062 Yoke Version

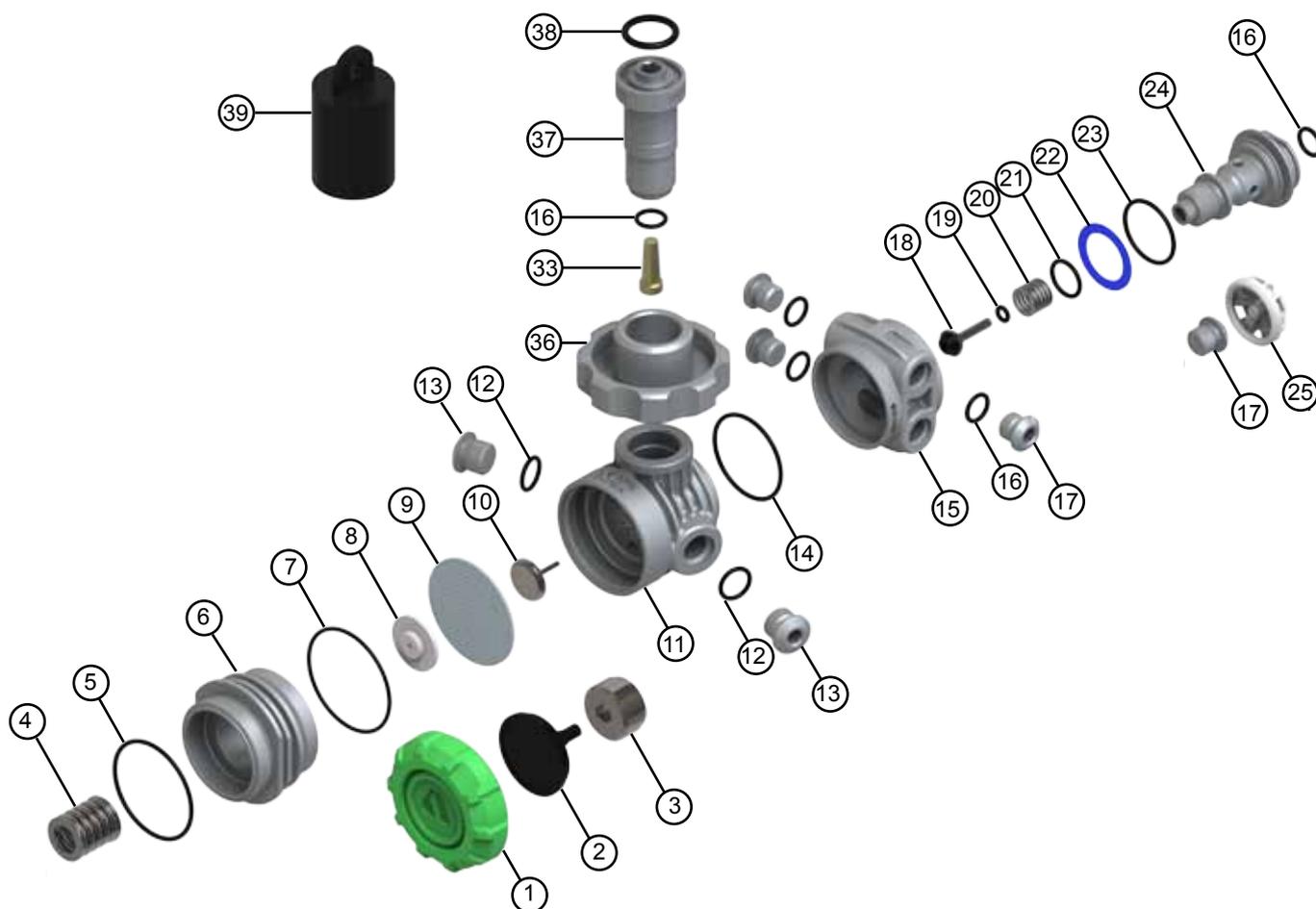


All items in bold italics to be replaced when servicing. Service kit AP0241

1	AP2010	Environmental End Cap	19	AP1299	O Ring
2	AP1483	Pressure Transmitter	20	AP1415	Spring
3	AP1474	Spring Adjuster	21	AP1410	O Ring
4	AP1475	Spring	22	AP1414	Thrust Washer
5	AP2013	O Ring	23	AP1438	O Ring
6	AP2009S	Diaphragm Clamp, Finned Satin	24	AP2011S	Turret Bolt 3/8 5th Port
7	AP7520	O Ring	25	AP2012W	Bumper, 5th Port, White
8	AP1476	Spring Carrier	26	AP1403/S	Yoke Clamp, Satin
9	AP1478	Diaphragm	27	AP1407/S	Yoke Clamp Connector, Satin
10	AP1479	Valve Lifter	28	AP1406	Filter
11	AP2007SE	Body, Finned, Satin	29	AP1166	O Ring
12	AP1445	O Ring	30	AP1404	Dust Cap
13	AP1413S	7/16" HP Blanking Plug Satin	31	AP7312SW	Yoke Knob, Satin White
14	AP1420	O Ring	32	AP7310S	Handwheel, Satin
15	AP2008SE	Turret, Finned, Satin	33	AP1472	Conical Filter
16	AP1409	O Ring	34	AP1471/S	Din Connector, Satin
17	AP1408S	3/8" MP Blanking Plug Satin	35	AP6202	Din Dust Cap
18	AP1419	HP Valve			

Exploded Parts Diagram

NP0063H M26 Nitrox Version



All items in bold italics to be replaced when servicing. Service kit AP0241

1	AP2010G	Environmental End Cap Nitrox	16	AP1409	O Ring
2	AP1483	Pressure Transmitter	17	AP1408S	3/8" MP Blanking Plug Satin
3	AP1474	Spring Adjuster	18	AP1419	HP Valve
4	AP1475	Spring	19	AP1299	O Ring
5	AP2013	O Ring	20	AP1415	Spring
6	AP2009S	Diaphragm Clamp, Finned Satin	21	AP1410	O Ring
7	AP7520	O Ring	22	AP1414	Thrust Washer
8	AP1476	Spring Carrier	23	AP1438	O Ring
9	AP1478	Diaphragm	24	AP2011S	Turret Bolt 3/8 5th Port
10	AP1479	Valve Lifter	25	AP2012W	Bumper, 5th Port, White
11	AP2007SE	Body, Finned, Satin	33	AP1472	Conical Filter
12	AP1445	O Ring	36	AP1870	Nitrox Handwheel
13	AP1413S	7/16" HP Blanking Plug Satin	37	AP1871	Nitrox Din Connector
14	AP1420	O Ring	38	AP1405	O Ring
15	AP2008SE	Turret, Finned, Satin	39	AP1270	12716 25mm Moss Cap



**MTX-R 1st STAGE
REGULATOR
MAINTENANCE MANUAL
FOR
AUTHORISED TECHNICIANS**