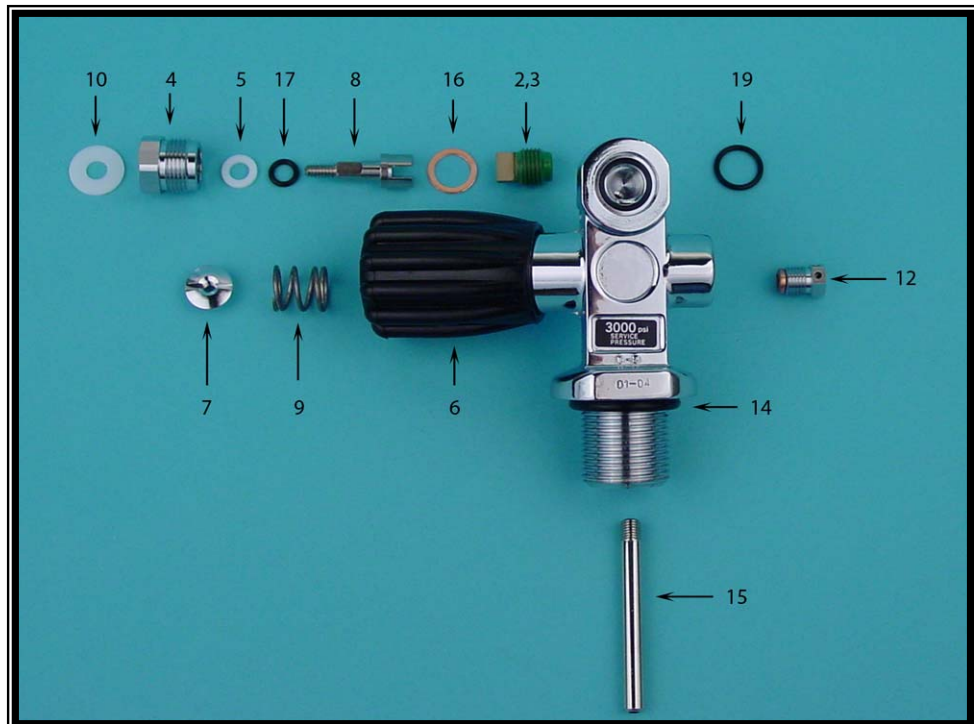


Thermo Valves Corporation

SCUBA DIVING VALVES MAINTENANCE MANUAL

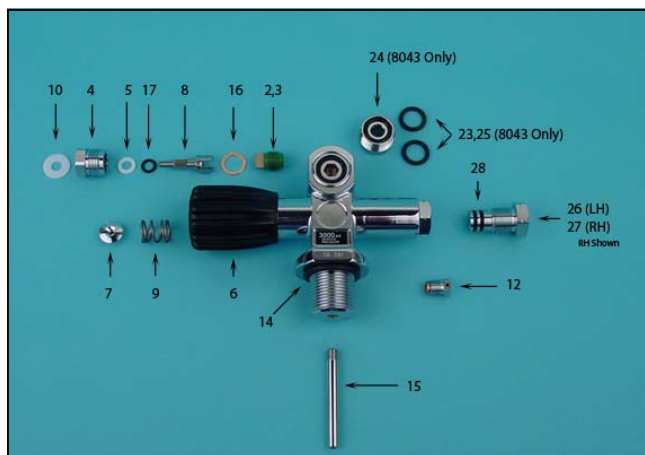
THE LEADER IN HIGH PRESSURE TECHNOLOGY





Thermo PRO

Thermo Scuba Products are Sold
Through Authorized Distributors
Only



Thermo Modular

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The products and processes described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Thermo Valves Corporation and its subsidiaries at any time without notice.



Thermo DIN



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Thermo Valves Corporation

THE LEADER IN HIGH PRESSURE TECHNOLOGY

SERVICE GUIDE FOR ALL THERMO BRAND SCUBA VALVES

Thermo scuba valves are built to give the user years and years of trouble free service. But for your Thermo scuba valve to remain in it's peak performance and for ultimate safety, the valve must be inspected every year and full maintenance must be performed every five (5) years—when your cylinder is hydrostatically tested for example— in order to remain a safe and reliable valve.

Exploded View drawings and a Parts Index can be found at the end of this manual.

ANNUAL INSPECTION

PRE-INSPECTION PROCEDURE

- ◆ Clean the exterior of the valve to facilitate inspection. **WARNING:** If cleaning agents are used, re-clean the exterior of the valve after inspection according to CGA G-4.1 “Cleaning Equipment for Oxygen Service”.
- ◆ Inspect the valve for bent, deformed, corroded or worn parts.
- ◆ Check the outlet of the valve for damaged, corroded or worn surfaces. This includes the valve body, handwheel and any visible areas of the valve.
- ◆ Check for any contamination in the outlet of the valve.
- ◆ Confirm that the service pressure of the valve and safety assembly rating is correct for the cylinder in which it is installed.



LEAK INSPECTION PROCEDURE, CONTINUED

LEAK INSPECTION PROCEDURE

- ◆ Start with full working pressure in cylinder and a properly functioning regulator attached to the outlet.
- ◆ Open and Close the valve while it is installed in the cylinder and feel for smooth operation. If the valve seems to be difficult to operate or any roughness is felt, the valve must undergo full maintenance.
- ◆ Slowly open the valve fully, then back a quarter to half a turn.
- ◆ Remove handwheel from valve body by turning handwheel screw (Part #7) in a counterclockwise direction and remove handwheel. **DO NOT REMOVE BONNET NUT!**
- ◆ Apply a non-ammonia soap and water solution (or a recognized leak detection agent such as “Snoop”) to the valve gland nut area, the inlet neck o-ring area, the safety assembly area and the outlet area.
- ◆ Allow the soap solution to sit for at least 15 seconds and check for signs of leakage. If you find leaks, the valve **MUST** undergo full maintenance.
- ◆ Turn the valve off with moderate force, then remove the regulator from the valve after the outlet pressure is completely blown off. Apply the soap solution to the valve outlet and check for leakage.

If after performing all of the items shown above and finding no irregularities or leakage, the valve may be returned to service. If any irregularities or leakage is found, the valve must undergo full maintenance.



FULL MAINTENANCE

In addition to the annual inspection, full maintenance must be performed every five (5) years—when your cylinder is hydrostatically tested for example— in order to remain a safe and reliable valve. Full maintenance is also performed if any irregularities or leakage is found during the annual inspection.

PRE-INSPECTION PROCEDURE & LEAK INSPECTION PROCEDURE

- ◆ Perform the Pre-Inspection Procedure & Leak Inspection Procedure as shown in the previous Annual Inspection.
- ◆ Empty the air from the cylinder and thoroughly rinse the soap solution from the valve with clean, fresh water. Blow or wipe dry.

DISASSEMBLY SEQUENCE

- ◆ If the valve is being disassembled because leakage or other irregularities were found during the Annual Inspection and the leakage was not from the safety assembly area, do not replace the safety assembly (Item 12).
- ◆ If the valve is being disassembled for Full Maintenance at the five (5) year interval, replace safety assembly (Item 12), plug & seat assembly (Item 2,3), bonnet gasket (Item 16), packing (Item 5) and all o-rings.
- ◆ Before removing valve from cylinder, loosen bonnet nut (Item 4). **WARNING!** You must insure that the cylinder is empty before loosening bonnet nut.
- ◆ Remove valve from cylinder using proper tool on the wrench flats only.
- ◆ Remove bonnet nut (Item 4) and stem (Item 8) from the valve body. Remove stem from bonnet nut and discard packing (Item 5) and stem o-ring (Item 17). Inspect stem and bonnet nut for any signs of defect, corrosion, damage to threads or any irregularity. Replace stem and/or bonnet nut if any defect or damage is found.
- ◆ Remove bonnet gasket (Item 16) from the valve body and discard it. The bonnet gasket must be removed from the valve before removing the plug & seat assembly (Item 2,3).



- ◆ Remove plug & seat assembly (Item 2,3) from valve body by rotating in a counter clockwise direction and discard. The plug & seat assembly must be replaced at every five (5) year inspection.
- ◆ Use compressed air to blow the seat area clean. Inspect for any damage to the inside of the valve or to the seat area. If any damage is found on the inside of the valve or the seat area the valve must be condemned.

ASSEMBLY SEQUENCE

- ◆ Before re-assembly, use compressed air to blow off all the components of the valve including new replacement parts.
- ◆ Clean the valve and all parts according to CGA G-4.1 “Cleaning Equipment for Oxygen Service”. If the valve is an EAN Ready valve as sold by Thermo Valves, then clean and inspect the valve as per CGA G-4.1 “Cleaning Equipment for Oxygen Service”.
- ◆ Insert plug & seat assembly (Item 2,3) into valve and screw in a clockwise direction until the plug & seat assembly contacts the lower seat. The stem (Item 8) may be used to screw the plug & seat assembly into the valve.
- ◆ Install a new bonnet gasket (Item 16) into valve body.
- ◆ Lightly lubricate the stem o-ring (Item 17) with an oxygen compatible grease such as Christolube MCG 111.
- ◆ Insert stem o-ring (Item 17) on to the stem (Item 8). Insert new packing (Item 5) on to the stem as shown in the diagrams at the end of this manual. Insert stem, stem o-ring and packing assembly into the bonnet nut (Item 4).
- ◆ Insert bonnet nut and stem assembly into valve body insuring that the slot in the stem engages the tang in the plug & seat assembly. Tighten bonnet nut hand tight.
- ◆ Remove inlet o-ring (Item 14) from the valve inlet and clean the valve inlet area with a dry cloth. Install a new inlet o-ring to the valve inlet.
- ◆ In case of Thermo-K valve, remove outlet o-ring (Item 19) and inspect outlet for any damage or corrosion. If damage or corrosion to the valve outlet is found, the valve must be condemned. Otherwise, replace outlet o-ring with new o-ring.



- ◆ In case of Thermo-PRO valve, remove outlet adaptor (Item 24) with an appropriate allen wrench and remove o-rings (Item 23, 25) from the outlet adaptor. Inspect outlet for any damage or corrosion. If damage or corrosion to the valve outlet is found, the valve must be condemned. Inspect outlet adaptor (Item 24) for any damage or corrosion. If damage or corrosion to the outlet adaptor is found, replace outlet adaptor. Otherwise, replace outlet o-rings (Item 23, 25) with new o-rings and re-insert outlet adaptor into valve outlet and tighten hand tight.
- ◆ Insert valve into cylinder and tighten to 40-50 ft. lbs. of torque. Note: Torque wrench may only be used on wrench flats of valve.
- ◆ Tighten bonnet nut to 35-40 ft. lbs. of torque using appropriate torque wrench.
- ◆ If safety assembly was replaced, tighten safety assembly to 80-100 inch lbs. of torque using an appropriately calibrated torque wrench. NOTE: The safety assembly must be tightened to the torque range shown in this section to operate properly.
- ◆ NOTE: If a safety assembly is removed from the valve or loosened after being tightened back into the valve, it must be replaced. A safety assembly is designed to be tightened one time only!
- ◆ Install handwheel washer (Item 10), handwheel (Item 6), spring (Item 9) and handwheel nut (Item 7) as shown in the diagrams at the end of this manual. Tighten handwheel nut (Item 7) until the top of the stem (Item 8) is flush with the top of the handwheel nut.
- ◆ Refill the cylinder and perform Leak Inspection Procedure as shown on page 5 of this manual. This includes removal of the handwheel to inspect for leaks around bonnet nut or stem, inspection for leaks between valve and cylinder interface and inspection for leaks through the outlet.



DIP TUBE INSTALLATION INSTRUCTIONS

- ◆ Dedicate a pair of pliers to this task and keep in an oxygen clean condition for use on EAN ready valves.
- ◆ Wrap white medical tape around the serrated end of the pliers.
- ◆ Insert the dip tube hand tight.
- ◆ Grip the tube with the pliers so that the white medical tape on each side of the pliers is the only item touching the tube. While firmly holding the pliers in the closed position, tighten the tube until it slips through the white medical tape.
- ◆ Replace white medical tape often to insure that it remains in an oxygen clean condition.



SPECIAL INSTRUCTIONS FOR THERMO MODULAR VALVES

FOR 8043, 8063 & 8082 THERMO MODULAR VALVES

- ◆ Perform Pre-Inspection Procedure, Leak Inspection Procedure, Disassembly Sequence and Assembly Sequence as shown earlier in this manual.
- ◆ In addition to all of the above items, remove Modular valve side plug (Item 26 or 27).
- ◆ Inspect Modular valve side plug threads located in valve body for any damage or corrosion. If damage or corrosion to the Modular valve side plug threads located in the valve body is found, the valve must be condemned.
- ◆ Remove o-rings (Item 28) from Modular valve side plug. Inspect Modular valve side plug and threads for any damage or corrosion. If damage or corrosion to the Modular valve side plug or threads is found, replace the Modular valve side plug.
- ◆ Install new o-rings (Item 28) to the Modular valve side plug and install Modular valve side plug into the valve body hand tight. Tighten Modular valve side plug to 40-50 inch lbs. of torque using a properly calibrated torque wrench.
- ◆ Refill the cylinder and perform Leak Inspection Procedure as shown on page 5 of this manual. This includes removal of the handwheel to inspect for leaks around bonnet nut or stem, inspection for leaks between valve and cylinder interface and inspection for leaks through the outlet. In addition, check Modular valve side plug for leaks.

WARNING - If the valve is an EAN Ready valve as sold by Thermo Valves, then clean and inspect the valve as per CGA G-4.1 “Cleaning Equipment for Oxygen Service” before assembly.



SPECIAL INSTRUCTIONS FOR THERMO MODULAR VALVES

FOR 9020 & 9040 SERIES THERMO H CONNECTORS

- ◆ Perform Pre-Inspection Procedure and Leak Inspection Procedure as shown earlier in this manual while the Thermo H Connector is still attached to the Thermo Modular Valve.
- ◆ Remove the Thermo H Connector from the Thermo Modular Valve before proceeding to the next step.
- ◆ Perform Disassembly Sequence and Assembly Sequence as shown earlier in this manual EXCEPT secure Thermo H Connector to a vice in order to remove and install bonnet nut. DO NOT remove or install bonnet nut while the valve is still attached to a Thermo Modular Valve.
- ◆ In addition to all of the above items, remove side connector o-rings (Item 28) and discard. Inspect side connector threads for damage or corrosion. If damage or corrosion is found, the valve must be condemned. Otherwise, install new side connector o-rings (Item 28).
- ◆ Attach Thermo H Connector to Thermo Modular valve and tighten side plug to 40-50 inch lbs. of torque using a properly calibrated torque wrench.
- ◆ Refill the cylinder and perform Leak Inspection Procedure as shown on page 5 of this manual. This includes removal of the handwheel to inspect for leaks around bonnet nut or stem, inspection for leaks between valve and cylinder interface and inspection for leaks through the outlet. In addition, check interface between Thermo H Connector and Thermo Modular valve for leaks.



SPECIAL INSTRUCTIONS FOR THERMO MODULAR VALVES

FOR 8002 CTR W VLV AND 8004 CENTER BARS

- ◆ Perform Pre-Inspection Procedure and Leak Inspection Procedure as shown earlier in this manual while the 8002 CTR W VLV or 8004 Center Bar is still attached to the two (2) Thermo Modular Valve.
- ◆ Remove the 8002 CTR W VLV or 8004 Center Bar from the Thermo Modular Valves before proceeding to the next step.

FOR 8002 CTR W VLV ONLY

- ◆ Perform Disassembly Sequence and Assembly Sequence as shown earlier in this manual EX-CEPT secure 8002 CTR W VLV to a vice in order to remove and install bonnet nut. DO NOT remove or install bonnet nut while the valve is still attached to a Thermo Modular Valve.

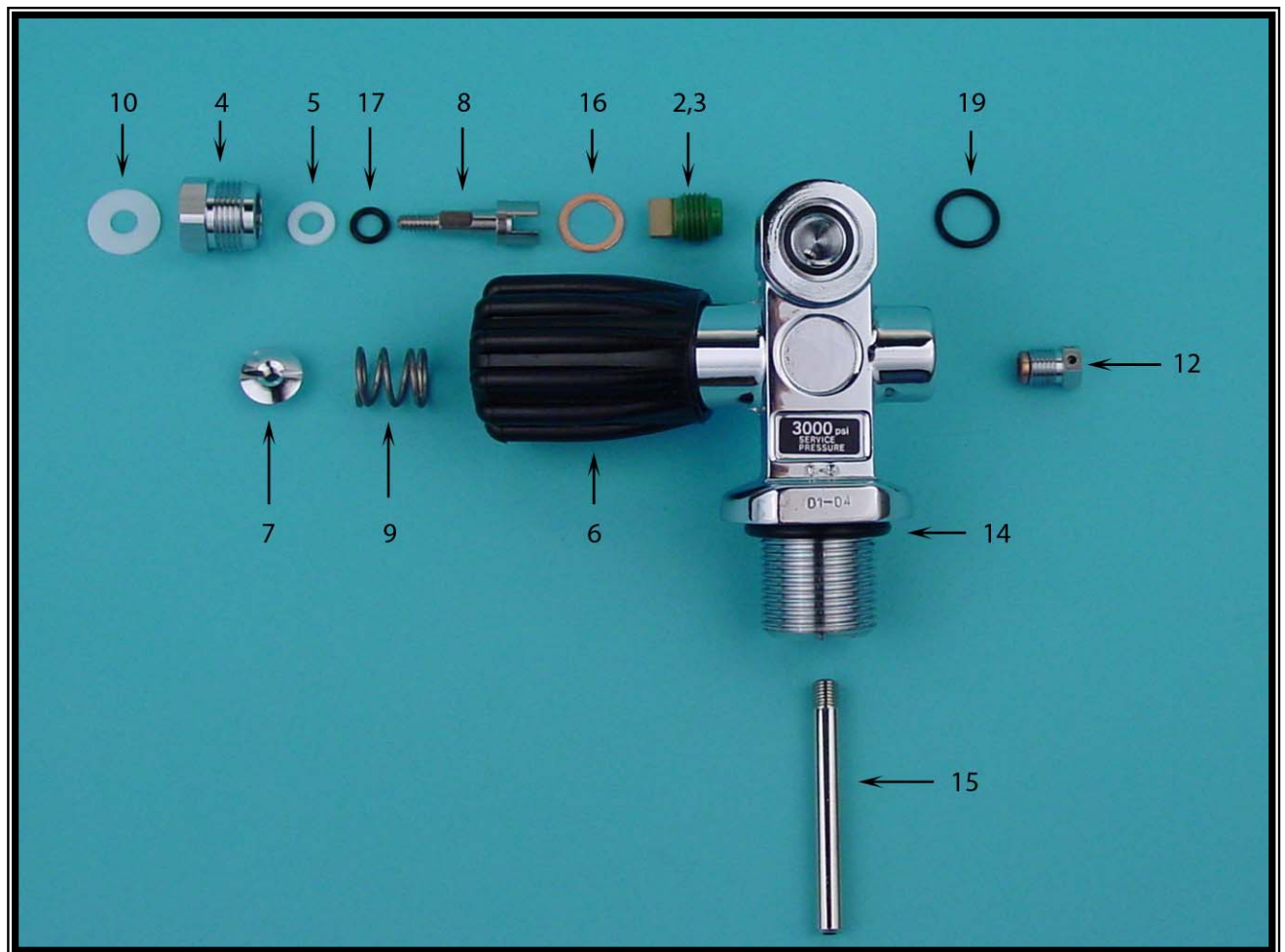
FOR 8002 CTR W VLV AND 8004 CENTER BAR

- ◆ In addition to all of the above items, remove side connector o-rings (Item 28) and discard. Inspect side connector threads for damage or corrosion. If damage or corrosion is found, the 8002 CTR W VLV or 8004 Center Bar must be condemned. Otherwise, install new side connector o-rings (Item 28).
- ◆ Attach 8002 CTR W VLV or 8004 Center Bar to Thermo Modular valves and tighten side plugs to 40-50 inch lbs. of torque using a properly calibrated torque wrench.
- ◆ Refill the cylinders and perform Leak Inspection Procedure as shown on page 5 of this manual. This includes removal of the handwheels to inspect for leaks around bonnet nut or stem, inspection for leaks between valve and cylinder interface and inspection for leaks through the outlet. In addition, check interfaces between 8002 CTR W VLV or 8004 Center Bar and the Thermo Modular valves for leaks.



EXPLODED VIEW

THERMO K



FOR 5251 SERIES

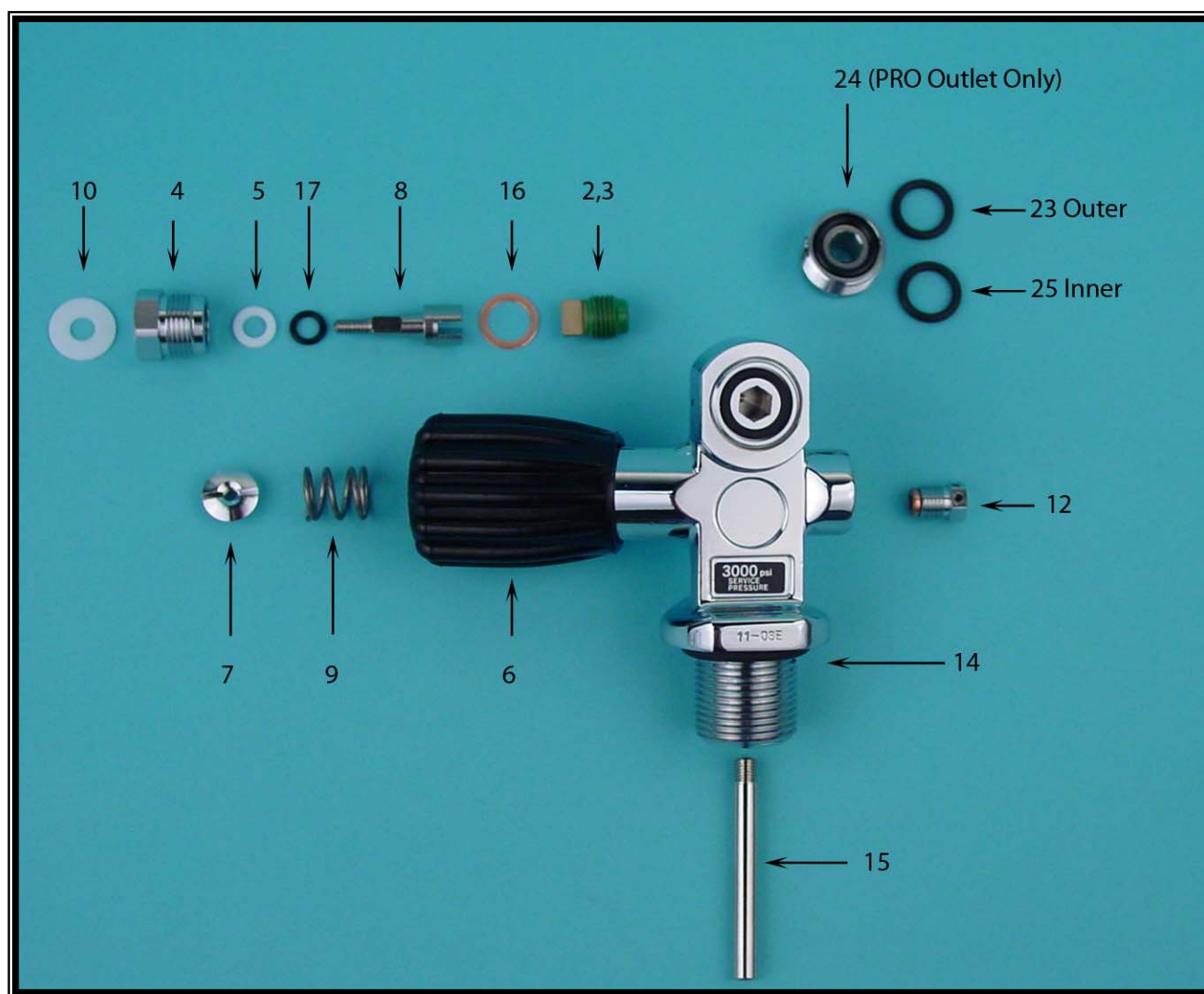
See Parts Index for Part Numbers

**See additional warnings and instructions at end of catalogue!*



EXPLODED VIEW

THERMO PRO, THERMO DIN



FOR 5651, 5654, 5262 & 5282 SERIES

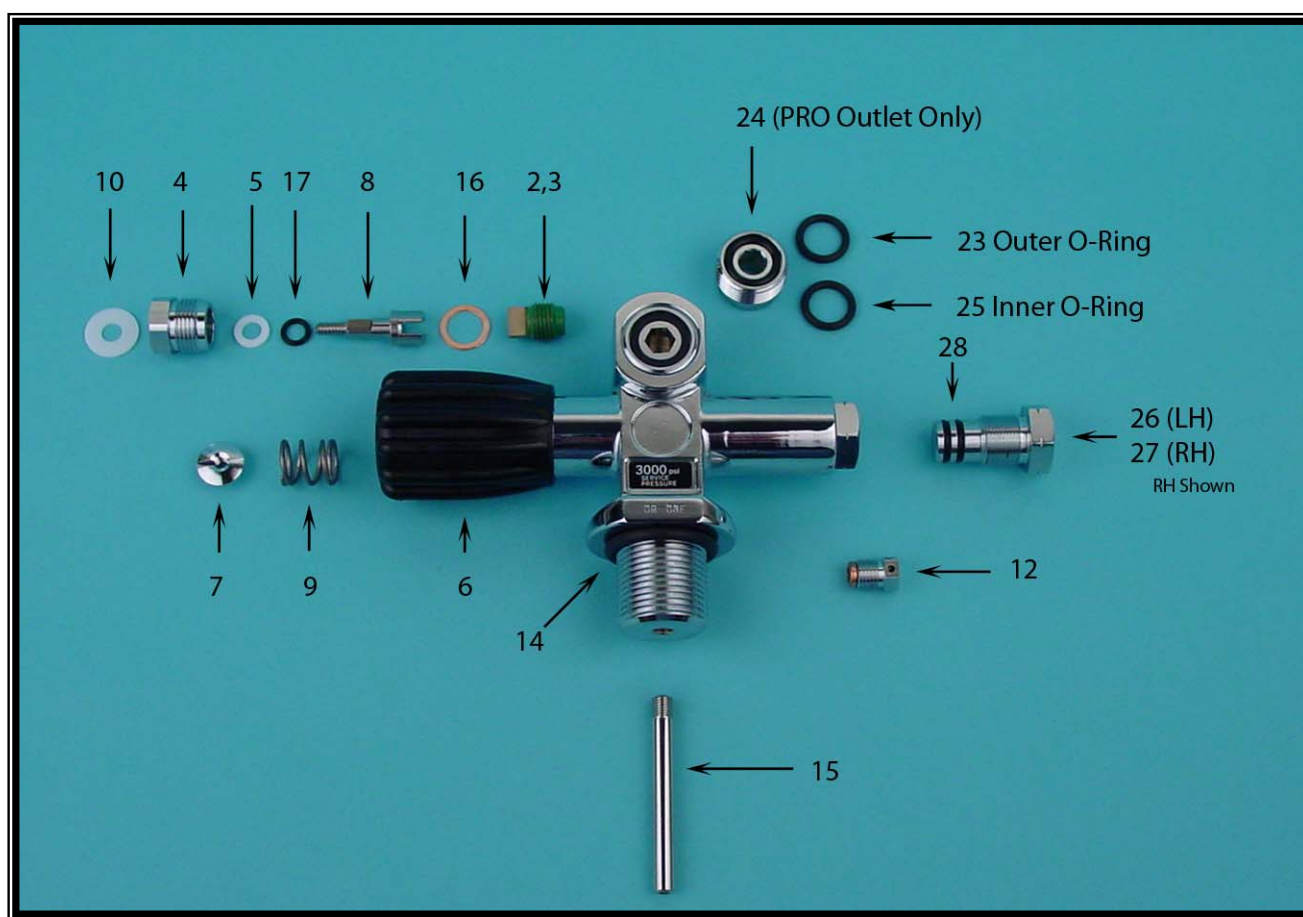
See Parts Index for Part Numbers

**See additional warnings and instructions at end of catalogue!*



EXPLODED VIEW

THERMO MODULAR



FOR 8043, 8044, 8063 & 8082 SERIES

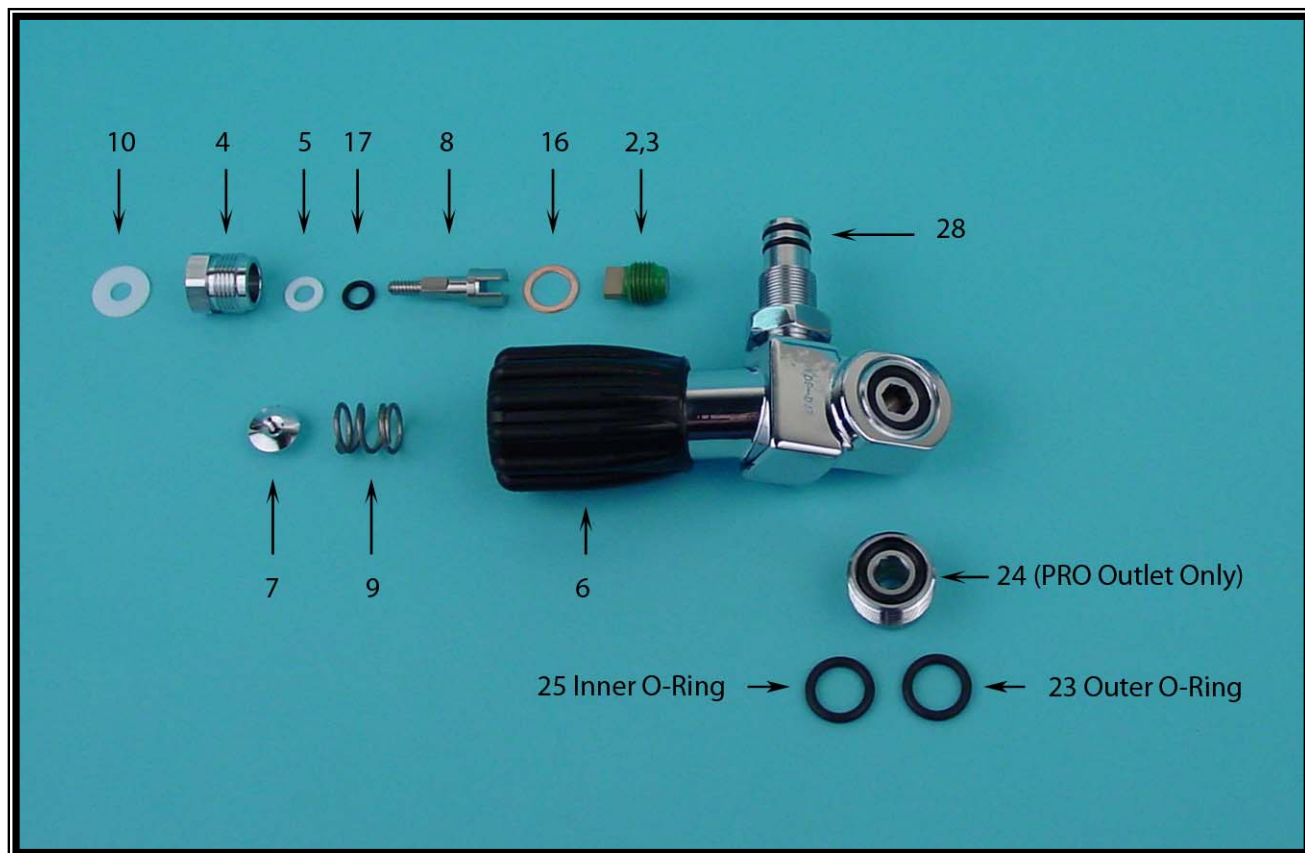
See Parts Index for Part Numbers

**See additional warnings and instructions at end of catalogue!*



EXPLODED VIEW

THERMO H CONNECTOR



FOR 9020, 9024 & 9040 SERIES

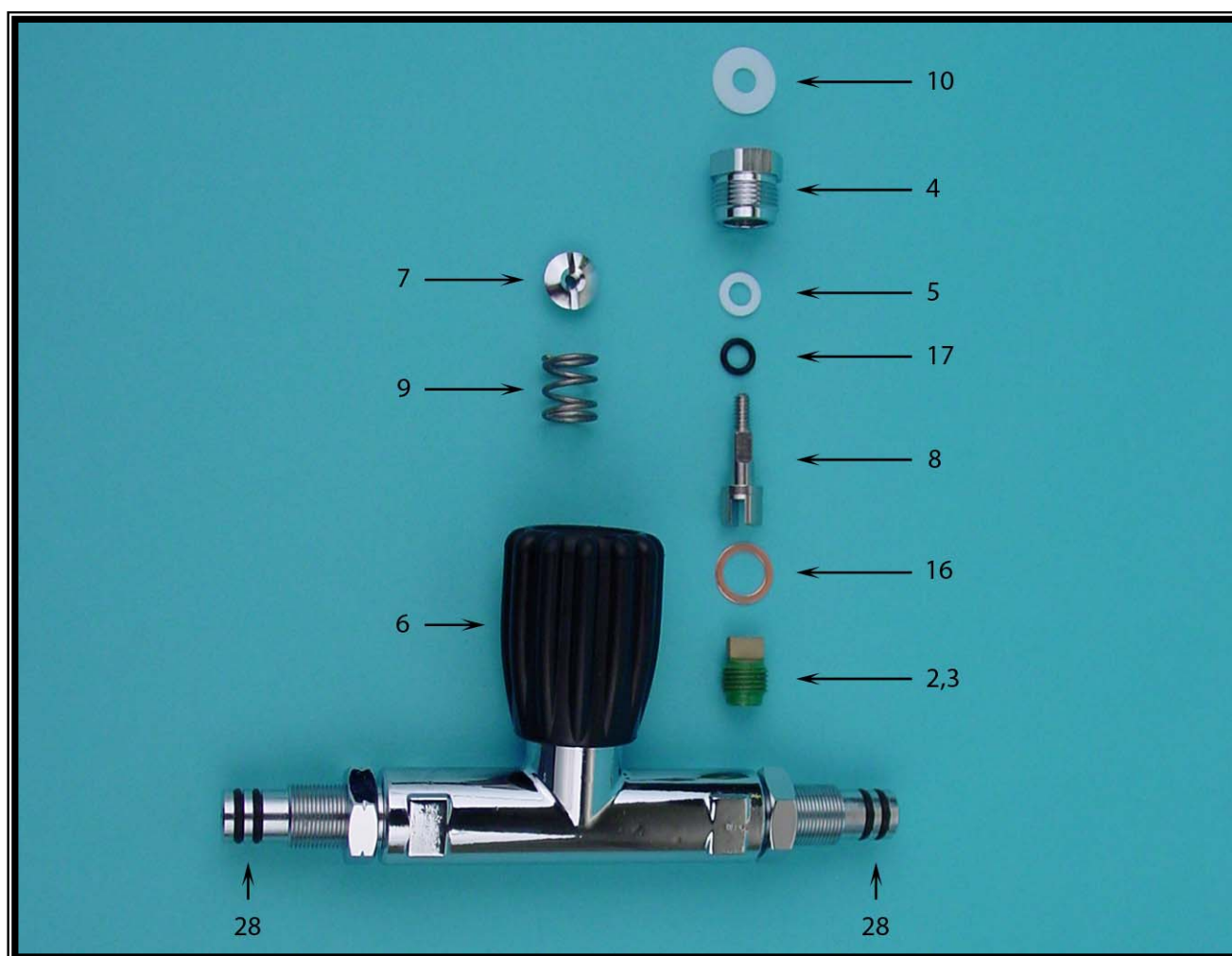
See Parts Index for Part Numbers

**See additional warnings and instructions at end of catalogue!*



EXPLODED VIEW

THERMO MANIFOLD CENTER BAR



FOR 8002 CTR W VLV

See Parts Index for Part Numbers

**See additional warnings and instructions at end of catalogue!*



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	5240-20N	PLUG & SEAT ASSEMBLY, NYLON	EAN READY
4	5270-4PN	BONNET NUT, PLATED	EAN READY
5	5270-5N	PACKING	EAN READY
6	5240-6A	HANDWHEEL, EASY GRIP, BLACK	EAN READY/AIR
	5270-6AN	HANDWHEEL, EASY GRIP, GREEN	EAN READY
7	5203-7P	HANDWHEEL NUT	EAN READY
8	5270-8PN	STEM, PLATED	EAN READY
9	5240-9	SPRING	EAN READY
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12	3990-3358N	SAFETY ASSEMBLY, 3358 PSI BURST PRESSURE	EAN READY
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17	3100-9	O-RING, STEM	AIR
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23	5440-23	O-RING, DIN/K OUTLET ADAPTOR, OUTER	AIR
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	5440-23N	PRO DIN/K OUTLET ADAPTOR	EAN READY
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27	5440-21(RH)	RIGHT HAND MODULAR VALVE SIDE PLUG	AIR
28	5440-250	O-RING, SIDE PLUG	AIR
	5440-250EP	O-RING, SIDE PLUG	EAN READY



SCUBA VALVE PARTS—PLEASE READ!

Thermo Valves scuba valve parts are for either Air service or for EAN ready service. The service is shown on the Thermo Valves Scuba Parts List which can be obtained from your distributor or from the Thermo Valves web-site.

A part intended for air service is designed for Thermo Valves breathing air scuba valves and may not be used for any other purpose. Valves with these parts are designed and intended for use only with Grade E breathing air (21% oxygen and 79% nitrogen by volume). **DO NOT** use this equipment with any other gas or enriched oxygen mixture above 21% oxygen. Failure to adhere to this warning may result in serious injury or death due to fire and explosion, or the serious deterioration or failure of the equipment.

A part intended for EAN ready service is designed for Thermo Valves EAN ready scuba valves or Thermo Valves breathing air scuba valves and may not be used for any other purpose. Valves with these parts may be used for either oxygen enriched breathing air with a maximum oxygen content of 40% OR Grade E breathing air (21% oxygen and 79% nitrogen by volume). Once the valve or parts are used for Grade E breathing air, they must be dedicated to breathing air service and **MAY NOT** be used for oxygen enriched breathing air. **IF AT ANY TIME AN EAN READY VALVE OR PARTS ARE USED WITH GRADE E BREATHING AIR OR ANY GAS OTHER THAN OXYGEN ENRICHED BREATHING AIR, DO NOT USE THE VALVE OR PARTS FOR OXYGEN ENRICHED BREATHING AIR THEREAFTER!**

Thermo Valves EAN ready scuba valve parts are to be operated, maintained and installed only by individuals who have been trained by a recognized agency in SCUBA Diving and in the use of oxygen enriched breathing air. Thermo Valves breathing air scuba valve parts are to be operated, maintained and installed only by individuals who have been trained by a recognized agency in SCUBA Diving.

Thermo Valves EAN ready scuba valve parts used for EAN service are to be installed only in Thermo Valves EAN ready series of scuba valves which have been maintained in an oxygen clean condition. If you are unsure if the Thermo Valves EAN ready series of scuba valves are still in an oxygen clean condition, **DO NOT** install the parts until the valve has been cleaned and tested according to Compressed Gas Association Pamphlet G-4.1 “CLEANING EQUIPMENT FOR OXYGEN SERVICE”.

Thermo Valves EAN ready series of scuba valves must be installed in cylinders which have been cleaned and tested for oxygen use. All other equipment attached to the valve which comes in contact with the oxygen enriched breathing air (regulator, BC, gauge panel, etc.) must also be approved by the manufacturer of the attachment for use with oxygen enriched breathing air.

If used with oxygen enriched breathing air, valve, cylinder and all attachments which come in contact with the oxygen enriched breathing air must be maintained in an oxygen clean condition. Any contamination by oil, grease, dust, or any contamination will cause a hazardous condition which could result in an explosion of the valve, cylinder, regulator or other equipment. If the valve and cylinder is contaminated by oil, grease, etc., the valve and cylinder must be re-cleaned and tested for oxygen use by a competent facility and in accordance with Compressed Gas Association Pamphlet G-4.1 “CLEANING EQUIPMENT FOR OXYGEN SERVICE”.

In all cases, if a lubricant is used on the o-rings or upon insertion of the valve into a cylinder, only use lubricants approved for oxygen use.

Before attaching the regulator to the valve, open the valve slightly for an instant in order to clear the opening of particles of dust, dirt and to remove any moisture.

ALWAYS OPEN VALVE SLOWLY UNTIL PRESSURE BUILDS UP THROUGHOUT THE REGULATOR!

All Thermo Valves scuba valves and scuba valve parts are to be used, installed and maintained according to Compressed Gas Association Pamphlet V-9 “STANDARD FOR COMPRESSED GAS CYLINDER VALVES”. All Thermo Valves EAN ready series of scuba valves and scuba valve parts must be used and maintained according to Compressed Gas Association V-9 “STANDARD FOR COMPRESSED GAS CYLINDER VALVES” and Pamphlet G-4 “OXYGEN”.



Warnings, Terms and Conditions of Sale Scuba Valves and Parts

These Terms and Conditions Supersede all Previous Terms and Conditions

Limited Warranty

Products of Thermo Valves Corporation are guaranteed against defects in material and workmanship for a period of one (1) year from the date of shipment from our warehouse. This warranty is limited to replacement or repairing, F.O.B. warehouse, any material which upon our inspection on our premises we find to be thus defective. Transportation charges on material returned must be prepaid.

Dimension and specifications of catalogued items are standard, and we shall adhere to these standards whenever possible, reserving, however, the right to make changes without notice.

Except as expressly stated above, Seller makes no warranty, expressed or implied, whether of merchantability or fitness for any particular purpose or use or otherwise, on any product, or on any parts or labor furnished during the sale, delivery or servicing of any product.

Limitation of Liability

Seller shall not be liable to the Buyer or to any other person, firm, or corporation for any incidental or consequential loss, damage, or injury arising out of any breach of warranty or any other act or default relating to Buyer's order or to products or services provided to Buyer, even if any such loss, damage, or injury is caused by Seller's negligence. The correction of defects as provided in the warranty statement above shall constitute Seller's full obligation with respect to all claims and Seller's liability shall in no event exceed the unit purchase price of the product in question.

Any lawsuit or other action based upon breach of this contract or upon any other claim arising out of this sale (other than an action by Seller for any amount due Seller by Buyer) must be commenced within one year from the date of the tender of delivery by the Seller or, in the case of cause of action based upon an alleged breach of warranty, within one year from date within the warranty period on which the defect is or should have been discovered by Buyer.

Notice of Claims

Immediately upon receipt of the goods, Buyer shall inspect the same. Any claims for shortage must be made within ten (10) days after Buyer's receipt. All other claims, including, but not limited to, for alleged defective goods, must be made within fifteen (15) days after Buyer learns of the fact upon which such claim is based.

Return of Material

Materials may not be returned for credit without our written permission. Returned material must be accompanied by instructions as to disposition.

Patents

Buyer will indemnify and defend Thermo Valves Corporation from and against any expense or loss resulting from infringements of patents or trademarks arising from compliance with designs, specifications or instructions furnished by Buyer.



Warnings, Terms and Conditions of Sale Scuba Valves and Parts

Continued

These Terms and Conditions Supersede all Previous Terms and Conditions

Warning

In order to ensure proper and continued performance of Thermo products, regular inspection and maintenance is required to detect any corrosion or unusual wear of metallic and nonmetallic parts.

Unless a valve has an original manufacturer's label that states "NITROX USE ONLY" or has the letter "E" permanently stamped by the manufacturer after the manufacturing month and year on the valve body, all other Thermo scuba equipment is designed and intended for use only with clean, compressed atmospheric air (21% oxygen and 79% nitrogen by volume). DO NOT use this equipment with any other gas or enriched oxygen mixture above 21% oxygen. Use of other gases or enriched oxygen materials could result in death or serious injury, fire, explosion, or other serious deterioration or failure of the equipment.

If a valve has an original manufacturer's label that states "NITROX USE ONLY" or has the letter "E" permanently stamped by the manufacturer after the manufacturing month and year on the valve body, the following warnings apply:

This valve is to be operated, maintained and installed only by individuals who have been trained by a recognized agency in SCUBA Diving and in the use of oxygen enriched breathing air.

This valve is designed and tested for oxygen enriched breathing air with an oxygen content not to exceed 40% use only!

This valve must be installed in a cylinder which has been cleaned and tested for oxygen use according to CGA G-4.1.

Valve and cylinder must be maintained in an oxygen clean condition. Any contamination by oil, grease, etc.. will cause a hazardous condition which could result in an explosion of the valve, cylinder or regulator. If the valve or cylinder is contaminated by oil, grease, etc., the valve and cylinder must be recleaned and tested for oxygen use by a competent facility and in accordance with Compressed Gas Association Pamphlet G-4.1 "CLEANING EQUIPMENT FOR OXYGEN SERVICE".

IF AT ANY TIME THIS VALVE IS USED WITH GRADE E BREATHING AIR OR ANY GAS OTHER THAN OXYGEN ENRICHED BREATHING AIR, DO NOT USE THE VALVE FOR OXYGEN ENRICHED BREATHING AIR THEREAFTER!

If a lubricant is used on the o-rings or upon insertion of the valve into a cylinder, only use lubricants approved for oxygen use.

Before attaching the regulator to the valve, open the valve slightly for an instant in order to clear the opening of particles of dust, dirt and to remove any moisture.

ALWAYS OPEN VALVE SLOWLY UNTIL PRESSURE BUILDS UP THROUGHOUT THE REGULATOR!

Valve is to be used and maintained according to Compressed Gas Association Pamphlet V-9 "STANDARD FOR COMPRESSED GAS CYLINDER VALVES" and Pamphlet G-4 "OXYGEN".

Notice

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SPECIFICATIONS

TIGHTENING TORQUES

<u>Item</u>	<u>Newton Meters</u>	<u>Inch Lbs./Ft. Lbs.</u>
Bonnet Nut (Item 4)	50 +/- 3	35-40 Ft. Lbs.
Safety Assembly (Item 11)	10 +/- 1	80-100 Inch Lbs.
Side Connector Nut	5 +/- 0.5	40-50 Inch Lbs.
PRO Outlet Adaptor	5 +/- 0.5	40-50 Inch Lbs.
Side Plug (Item 26 or 27)	5 +/- 0.5	40-50 Inch Lbs.

STEM O-RING GREASE

Manufacturer: Lubrication Technology, Inc.

Brand Name: Christo-Lube

Article Number: MCG111

THERMO VALVES




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