



User Manual
MCH36 Diesel Open
(Kubota)

Rev 07.18

If you have any questions on this equipment please contact Technical Support at:

Nuvair
1600 Beacon Place
Oxnard, CA 93033, USA

Phone: +1 805 815 4044
FAX: +1 805 486 0900
Email: info@nuvair.com

Hours: Monday through Friday
8:00 AM to 5:00 PM PST USA

Warning

This Operation Manual contains important safety information and should always be available to those personnel operating this equipment. Read, understand, and retain all instructions before operating this equipment to prevent injury or equipment damage.

Every effort was made to ensure the accuracy of the information contained within. Nuvair, however, retains the right to modify its contents without notice. If you have problems or questions after reading the manual, stop and call Nuvair at 1-805-815-4044 for information.

Table of Contents**Introduction**

1.0	Introduction	4
1.1	Required Operator Training	4
1.2	Important Information for the User	5
1.3	Foreword	5
1.4	Warranty	6
1.5	Assistance	7
1.6	Responsibility	7
1.7	Purpose of the Machine	7
1.8	Where the Compressor may be used	9
1.9	Running and Testing the Compressor	10
2.0	Safety Warnings	10
3.0	Safety and Operation Precautions	11
4.0	Description of the Compressor	12
5.0	System Components	14
6.0	Compressor Specifications	15
6.1	Unpack and Installation	15
7.0	Checks to be run at the start of each working day	16
7.1	Lubricating oil check	16
7.2	Check the refill hoses are in good condition	16
7.3	Storing technical documentation	16
8.0	Control Panel	17
8.1	1 st stage Pressure Gauge description	17
8.2	2 nd stage Pressure Gauge description	17
8.3	3 rd stage Pressure Gauge description	17
8.4	4 th stage (working) Pressure Gauge description	17
8.5	Oil Pressure Gauge	17
8.6	Fill pressure Gauge	17
9.0	Safety Valve Checks	17
10.0	Bottle Refill	18
11.0	Maintenance	19
11.1	About Maintenance	19
11.2	General	19
11.3	Unscheduled Work	19
11.4	Scheduled Maintenance Table	20
11.5	Troubleshooting	20
11.6	Checking and changing the lubricating oil and filter	22
11.7	Checking the Oil Level	21
11.8	Changing the lubricating oil and filter	22
11.9	Tightening Torque Values	23
11.10	CO Moisture Indicator	23
11.11	Changing the Air Intake Filter	24
12.0	Drive Belts	24
12.1	Checking the Drive Belts	24
13.0	HP Compressor Filtration Active Carbon Filters / Molecular Sieve	25
13.1	Temperature effect on filter life	26
13.2	Condensate Discharge	26

14.0	Storage	27
14.1	Stopping the machine for a brief period	27
14.2	Stopping the machine for a long period	27
15.0	Dismantling and putting the compressor out of service	27
15.1	Waste disposal	27
15.2	Dismantling the compressor	28
16.0	Instructions for emergency situations	28
16.1	Fire	28
17.0	Maintenance Register	29
17.1	Customer Service	29
17.2	Scheduled Maintenance	29
17.3	Using the compressor under heavy duty conditions	29
17.4	Nuvair Customer Care Contact	29
18.0	Start – Stop Operation	30
19.0	Spare Parts List	31
20.0	Service Record Log	32
21.0	Appendix	33
	Nuvair System Compressor Warranty Info	34

Separate Manuals Included:

Kubota Diesel Manual
Coltri MCH30/36 Parts Manual

Abbreviations used throughout this manual:

PSI Pounds per Square Inch
HP High Pressure
CO Carbon Monoxide
F° Fahrenheit

CFM Cubic Feet per Minute
RPM Rotations per Minute
L/min Liters per Minute
C° Celsius

1.0 Introduction

This manual will assist you in the proper set-up, operation and maintenance of the Nuvair MCH36 Kubota diesel compressor package. Be sure to read the entire manual.

Throughout this manual we will use certain words to call your attention to conditions, practices or techniques that may directly affect your safety. Pay particular attention to information introduced by the following signal words:

Danger

Indicates an imminently hazardous situation, which if not avoided, will result in serious personal injury or death.

Warning

Indicates a potentially hazardous situation, which if not avoided, could result in serious personal injury or death.

Caution

Indicates a potentially hazardous situation, which if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Notice

Notifies people of installation, operation or maintenance information which is important but not hazard-related.

1.1 Required Operator Training

This manual must be read carefully:

- All compressor operators / maintenance personnel must read this entire manual with due care and attention and observe the instructions/information contained herein.
- Company owners ensure that the operator has the required training for operation of the compressor and that he/she has read the manual.

1.2 Important Information for the User

The information/instructions for compressor use contained in this manual concern the **NUVAIR** compressor: **MCH36 Open Diesel (Kubota)**

The instruction manual must be read and used as follows:

- read this manual carefully; treat it as an essential part of the compressor;
- the instruction manual must be kept where it can readily be consulted by compressor operators and maintenance staff;
- keep the manual for the working life of the compressor;
- make sure updates are incorporated in the manual;
- make sure the manual is given to other users or subsequent owners in the event of resale;
- keep the manual in good condition and ensure its contents remain undamaged;
- do not remove, tear or re-write any part of the manual for any reason;
- keep the manual protected from damp and heat;
- if the manual is lost or partially damaged and its contents cannot be read it is advisable to request a copy from Nuvair or download an electronic version at www.nuvair.com.

1.3 Foreword

The regulations/instructions for use contained in this manual constitute an essential component of the supplied compressor. These regulations/instructions are intended for an operator who has already been trained to use this type of compressor. They contain all the information necessary and essential to safety and efficient, proper use of the compressor.

Hurried or careless preparation leads to improvisation, which is the cause of accidents.

Before beginning work, read the following suggestions carefully:

- 1) Before using the compressor, gain familiarity with the tasks to be completed and the admissible working position.
- 2) The operator must always have the instruction manual to hand.
- 3) Plan all work with due care and attention.
- 4) You must have a detailed understanding of where and how the compressor is to be used.
- 5) Before starting work make sure that safety devices are working properly and that their use is understood; in the event of any doubts do not use the compressor.
- 6) Observe the warnings given in this manual with due care and attention.
- 7) Constant and careful preventive maintenance will always ensure a high level of safety when using the compressor. Never postpone repairs and have them carried out by specialized personnel only; use only original spare parts.

1.4 Warranty

Notice

The Materials Supplied by NUVAIR are covered by a 1 year warranty, the 1 year warranty begins from the date of purchase on the invoice. NUVAIR shall repair or replace those parts it acknowledges to be faulty during the warranty period.

In replacing the faulty part, **NUVAIR** shall not be liable for any other expenses sustained by the dealer or his customer such as presumed damage (present or future), lost earnings or fines.

Routine and unscheduled maintenance must be carried out in compliance with the instructions contained in this manual. Should the required work not be covered by the manual or assistance be required you are advised to contact **NUVAIR** directly by fax or email, even where agreements have already been made on the phone. **NUVAIR** cannot be held liable for any delays or failure to execute work.

NUVAIR cannot be held liable for any damage or malfunctions caused by work carried out on the compressor by unauthorized personnel.

NUVAIR guarantees that its compressors are free from defects design, workmanship and the used materials for a period of 1 year starting from the date of purchase on the compressor invoice; should the customer note any flaws and/or defects he must report them, in writing, **to NUVAIR** within 2 months of their discovery otherwise the warranty shall be rendered null and void. The warranty only covers flaws and faults that occur where the compressor is used properly in compliance with the instructions contained in this manual and where periodic maintenance is carried out. The warranty does not cover faults caused by improper use of the compressor, exposure to atmospheric agents (rain etc.) or damage during transport; all materials subject to wear and those subject to periodic maintenance are not covered by the warranty and are to be paid for by the customer in full; in any event the warranty is rendered null and void if the compressor is tampered with or if work is carried out on it by personnel who have not been authorized by **NUVAIR**.

A compressor that has been acknowledged as faulty on account of flaws in design, workmanship or used materials shall be repaired or replaced free of charge by at **NUVAIR** at 2949 W 5th St., Oxnard, CA 93030 USA; costs regarding transport, delivery of spare parts and any materials subject to wear shall be met by the customer. Should warranty-covered work need to be carried out on the customer's premises, travel and accommodation costs for personnel sent by **NUVAIR** shall be met by the customer. The act of taking delivery of machines and/or faulty components or the sending of technicians to assess the presumed defects and/or flaws reported by the customer does not in itself imply acknowledgement that the defect is covered by warranty. Repairs and/or replacements made by **NUVAIR** during the warranty period do not in any way prolong the latter itself. Acknowledgement that a defect is covered by warranty does not in itself mean that **NUVAIR** is in any way liable to award compensation. **NUVAIR** cannot be held liable for any other direct or indirect damages imputable to compressor defects and flaws (loss of production or earnings etc.) except in cases where serious negligence is demonstrated.

1.5 Assistance

NUVAIR technicians are at your disposal for all routine/unscheduled maintenance work and repairs. Please contact **NUVAIR** for assistance:

Phone: +1 805 815 4044
Fax: +1 805 486 0900
Email: info@nuvair.com

1.6 Responsibility

NUVAIR considers itself exonerated from any responsibility or obligation regarding injury or damage caused by:

- Failure to observe the instructions contained in this manual that concern the running, use and maintenance of the compressor;
- Violent actions or incorrect maneuvers during use or maintenance of the compressor;
- Modifications made to the compressor without prior written authorization from **NUVAIR**;
- Incidents beyond the scope of routine, proper use of the compressor.

Warning

Maintenance and repairs must only be carried out using original spare parts and qualified technicians. NUVAIR cannot be held liable for any damages caused by failure to observe this rule. The compressor is guaranteed as per the contractual agreements made at the time of sale. Failure to observe the regulations and instructions for use contained in this manual shall render the warranty null and void.

1.7 Purpose of the Machine

The high pressure compressor model **MCH30 / MCH36** has been designed and built for the purpose of producing breathing air by drawing it from the surrounding environment. The surrounding environment air must be free from any harmful fumes or contaminates. The air is passed through an intake air filter, compressed and run through breathing air filtration before it is stored in bottles constructed to contain air at high pressure. The compressor can also be used for the pumping of gases:

- Nitrogen
- Helium
- Nitrox mixtures up to 40% - System is not cleaned for oxygen or mixes greater than 40%

Any other use is inappropriate: the manufacturer cannot be held liable for any personal injury or damage to objects / the machine itself caused by improper use.

Danger

- Use only tested, certified bottles: do not exceed the working pressure indicated on them.
- Drain air from tanks before filling when tanks have set for a period of time unused.
- Use the compressor in areas free from dust, risk of explosion, corrosion and fire.
- Improper use could have serious consequences for the user.
- Do not disconnect the hose from the fittings or the clamp when under pressure.
- Change the air purification filters regularly as described in section “13.0 changing the active carbon filters”.
- Drain the condensate regularly as illustrated in section “13.2 Condensate discharge”.
- Never operate the compressor when there is evident damage
- All routine and unscheduled maintenance tasks must be carried out with the compressor at a standstill, and all lines are depressurized.
- After switching off the compressor wait about 30 minutes before carrying out any maintenance tasks so as to prevent burns.
- The high pressure flex hose that connects to the bottle (also called the refill hose) must be in good condition, especially in the areas near the fittings. The plastic sheath that covers the hose must not show any signs of abrasion otherwise moisture could get in and corrode the steel braid thus weakening it. The hose must be changed periodically (yearly) or when it shows signs of wear. Failure to observe this rule could seriously endanger the users’ safety. Make sure the minimum bending radius of the hose is no less than 10 inches (250 mm).

To ensure maximum working efficiency, **NUVAIR** has constructed the compressor with carefully selected components and materials. The compressor is tested prior to delivery. Continued compressor efficiency over time will also depend on proper use and maintenance as per the instructions contained in this manual.

All the components, connections and controls used in its construction have been designed and built to a high degree of safety so as to resist abnormal strain or in any case a strain greater than that indicated in the manual. Materials are of the finest quality; their introduction and storage in the company and their utilization in the workshop are controlled constantly so as to prevent any damage, deterioration or malfunction.



Danger

This system is not cleaned for oxygen service and not all components are compatible with gas mixtures containing greater than 40% oxygen. Pumping gas mixtures containing greater than 40% oxygen will lead to explosions which may cause severe personal injury or death.

Warning

Each SCUBA cylinder belonging to a customer must be analyzed by that customer at the nitrox filling facility, using an oxygen analyzer independent of those used with the nitrox system. An employee must witness that the customer has properly analyzed the gas in each cylinder, noted the maximum operating depth for that mixture, and signed and dated

the fill log. The time of day must also be included with the date, since some customers may fill the same cylinder more than once a day.

 Danger

- Before carrying out any work on the compressor each operator must have a perfect understanding of how the compressor works, know how to use the controls and have read the technical information contained in this manual.
- It is forbidden to use the compressor under conditions or for purposes other than those indicated in this manual and NUVAIR cannot be held liable for breakdowns, problems or accidents caused by failure to observe this rule.
- Check that the fittings provide a proper seal by wetting them with soapy water: Stop the compressor and eliminate any leaks immediately when detected.
- Do not attempt to repair high pressure hoses by welding them or while the compressor is running.
- Do not empty the bottles completely, not even during winter storage as this practice allows damp air to get in and eventually corrode the bottle.
- It is forbidden to tamper with, alter or modify, even partially, the systems and equipment described in this instruction manual, especially as safety guards and safety symbols are concerned.
- It is also forbidden to carry out work in any way other than that described or to neglect the illustrated safety tasks. -The safety information and the general information given in this manual are very important.

1.8 Where the Compressor may be used

The compressor model MCH30 / MCH36 has been designed and built for the purpose of obtaining breathing air by drawing it from the surrounding environment, free from any harmful fumes. The air is passed through an intake filter and, after the filtration cycle, is stored in bottles constructed to contain air at high pressure. The compressor must only be used in environments having the characteristics described in the following table:

Area of Machine Use: Essential Data Table	
Ambient Temperature	Min. 41°F / Max. 113°F (Min. 5°C / Max. 45°C)
Air Humidity(%)	Maximum 80%
Weather Conditions: Rain, Hail, Snow	Do Not Use – Excessive Humidity
Max Tilt	6% (5.5°)

Check that the area in which the compressor is to be positioned is adequately ventilated: good air exchange (more than one window) with no dust and no risk of explosion, corrosion or fire. If ambient temperatures exceed 113°F (45°C) air conditioning will be required. Make sure that lighting in the area is sufficient to identify every detail (such as the writing on the info plates/stickers); use artificial lighting where daylight on its own is insufficient.

1.9 Running and Testing the Compressor

Each compressor is carefully run and tested prior to delivery. A new compressor must nevertheless be used with caution during the first **5** working hours so as to complete proper breaking in of its components. If the compressor is subject to an excessive workload during initial use, its potential efficiency will be prematurely compromised and functionality soon reduced. During the breaking in period proceed as follows:

- after starting up the compressor, let the compressor run un-loaded for 5-6 minutes. (crack open a fill whip to relieve pressure)

After the first **25 hours** carry out in addition to the scheduled maintenance the following tasks:

- change the compressor oil
- change the oil filter
- check and adjust nuts and bolts

Warning

When changing the oil filter, inspect the internal part and check for any deposits; if they are present track down the cause before restarting the compressor.

2.0 Safety Warnings

Nuvair has taken extreme care in providing you with the information you will need to operate this system. However, it is up to you to carefully read this manual and make the appropriate decisions about system safety.

Warning

This equipment is used to provide breathing gas for the purpose of underwater life support. Read this manual in its entirety. Failure to heed the warnings and cautions contained in this document may result in severe injury or death.

Warning

The equipment you will be using to compress air will expose you to both low and high-pressure gas. Gas, even under moderate pressures, can cause extreme bodily harm. Never allow any gas stream to be directed at any part of your body.

Warning

Any pressurized hose can cause extreme harm if it comes loose or separates from its restraint (or termination) while under pressure and strikes any part of your body. Use appropriate care in making and handling all gas connections.

Warning

Do not use any form of mineral oil or synthetic lubricant not rated for the MCH30 or MCH36 Compressor in this system. Use only the recommended Compressor Lubricant. Never mix

MCH36 Open Diesel (Kubota)

the Compressor Lubricant with other lubricants. The use of improper lubricants can lead to fire or explosions, which may cause serious personal injury or death.

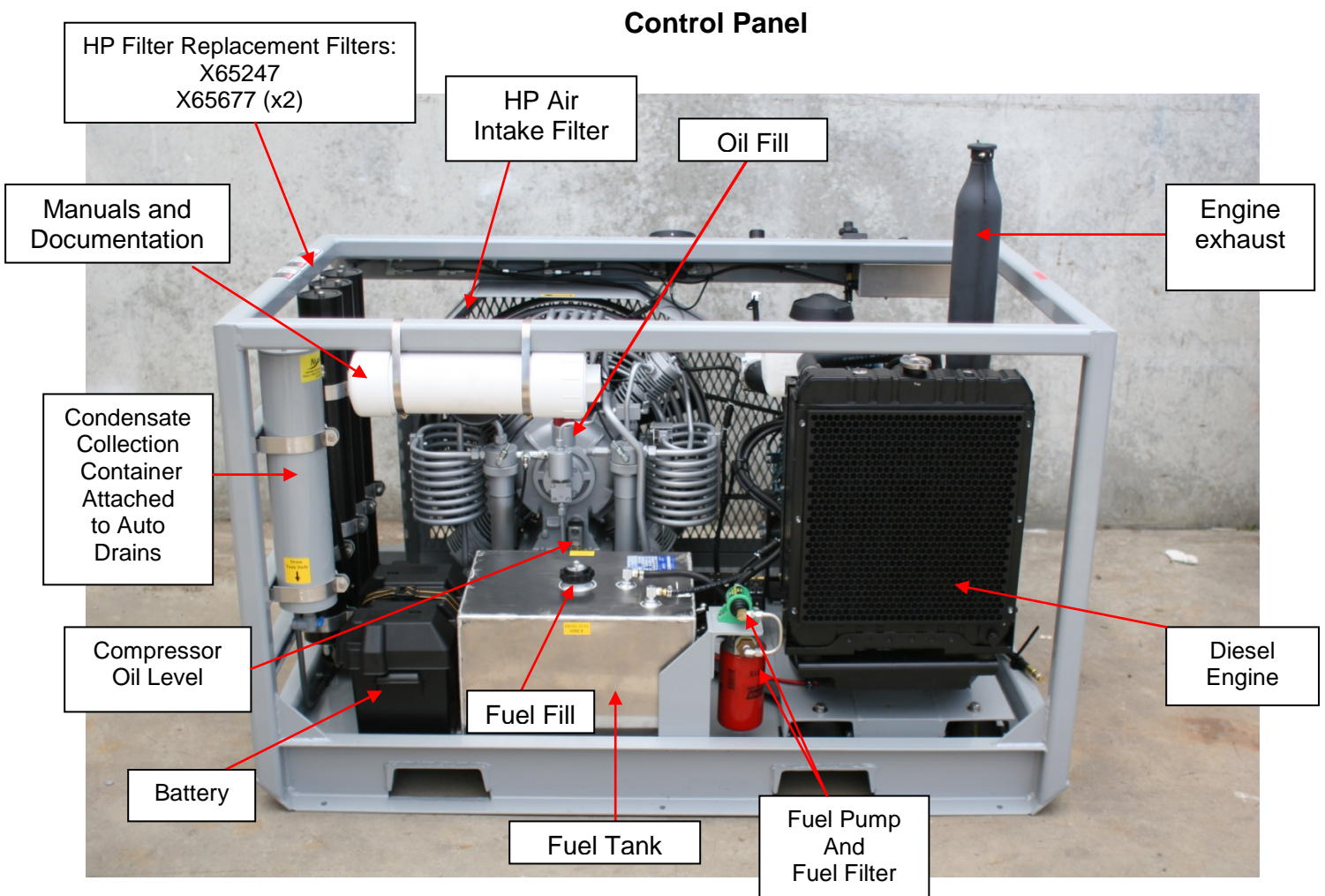
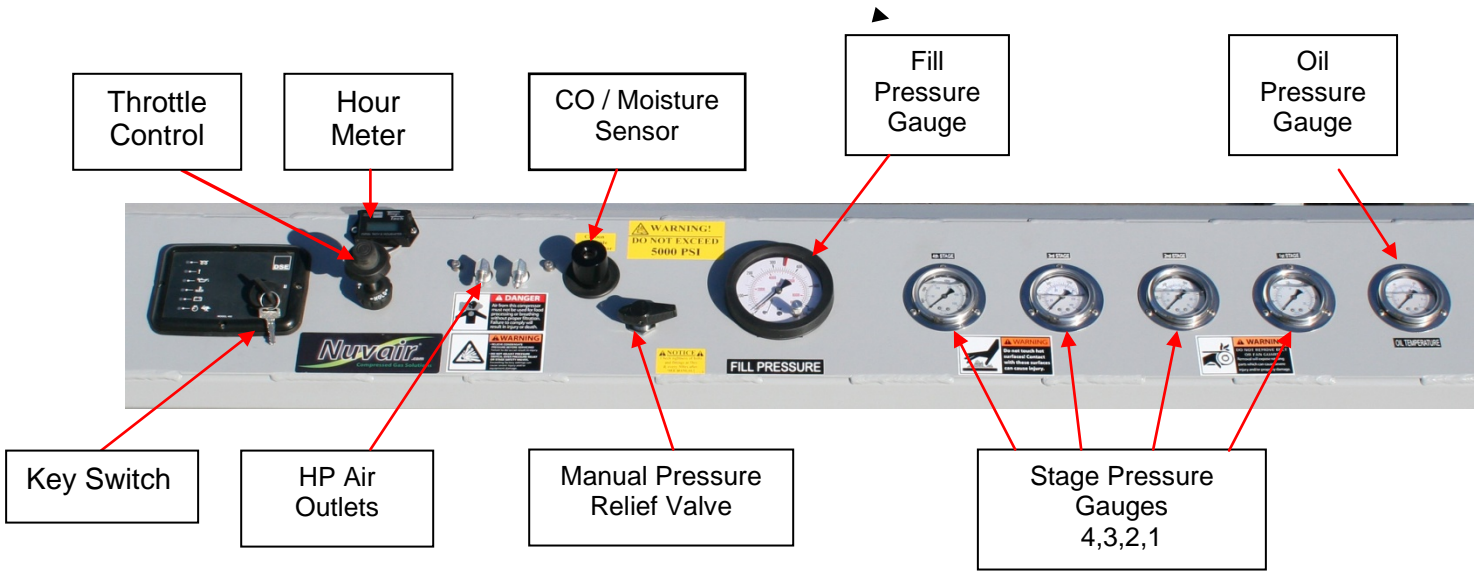
3.0 Safety And Operation Precautions

Because a compressor is a piece of machinery with moving and rotating parts, the same precautions should be observed as with any piece of machinery of this type where carelessness in operations or maintenance is hazardous to personnel. In addition to the many obvious safety precautions, those listed below must also be observed:

- 1) Read all instructions completely before operating any compressor.
- 2) For installation, follow all local safety codes, and the Occupational Safety and Health Administration (OSHA) standards.
- 3) Do not attempt to remove any parts without first relieving the entire system of pressure.
- 4) Do not attempt to service any part while System is in an operational mode.
- 5) Do not operate the System at pressures in excess of its rating.
- 6) Do not operate compressor at speeds in excess of its rating.
- 7) Periodically check all safety devices for proper operation. Do not change pressure setting or restrict operation in any way.
- 8) Be sure no tools, rags or loose parts are left on the Compressor System.
- 9) Do not use flammable solvents for cleaning the Air Inlet Filters or elements and other parts.
- 10) Exercise cleanliness during maintenance and when making repairs. Keep dirt away from parts by covering parts and exposed openings with clean cloth or Kraft paper.
- 11) Do not operate the compressor without guards, shields, and screens in place.
- 12) Do not install a shut-off valve in the compressor discharge line, unless a pressure relief valve, of proper design and size, is installed in the line between the compressor unit and shut-off valve.
- 13) Do not operate in areas where there is a possibility of inhaling carbon monoxide, carbon dioxide, nitrogen, or flammable or toxic fumes.
- 14) Be careful when touching the exterior of a recently run electric, gasoline, or diesel motor - it may be hot enough to be painful or cause injury. With modern motors this condition is normal if operated at rated load - modern motors are built to operate at higher temperatures.
- 15) Inspect unit daily to observe and correct any unsafe operating conditions found.
- 16) Do not "play around" with compressed air or direct air stream at body, because this can cause injuries.
- 17) Compressed air from this machine absolutely must not be used for food processing or breathing air without the downstream filters, purifiers and controls and periodic air quality testing.
- 18) Always use an air pressure-regulating device at the point of use, and do not use air pressure greater than marked maximum pressure.
- 19) Check hoses for weak or worn conditions before each use and make certain that all connections are secure.

The user of any compressor manufactured by NuVair is hereby warned that failure to follow the preceding Safety and Operation Precautions can result in injuries or equipment damage. However, NuVair does not state as fact or does not mean to imply that the preceding list of Safety and Operation Precautions is all-inclusive, and further that the observance of this list will prevent all injuries or equipment damage.

4.0 Description of the Compressor (Pictured is MCH36 with Kubota diesel)

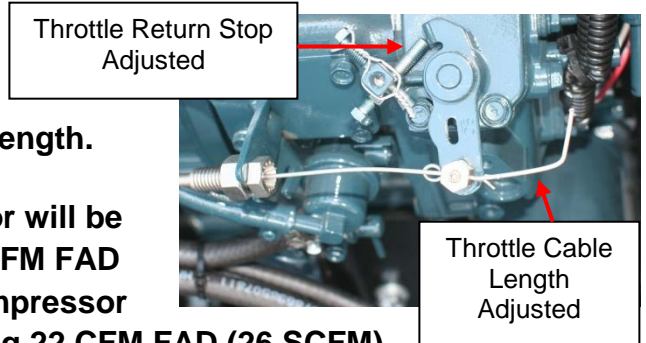


Rear View

Start Up and Belt Tension Aids

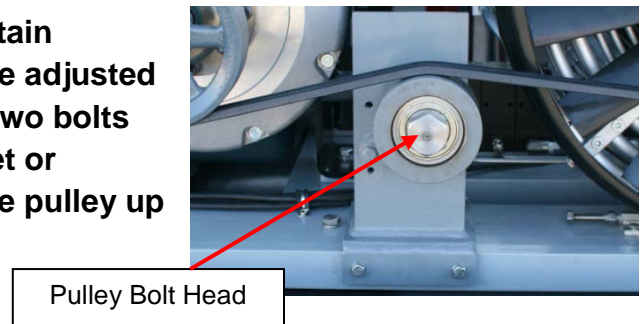
This unit has had additional equipment installed and modifications made to ensure that the drive belts maintain proper tension and contact with engine and compressor pulleys.

1. The Kubota diesel has been set so to run at a minimum speed of 1500 RPM. This has been accomplished by setting the throttle return stop and adjusting the throttle cable length.



- a. At idle (1500 engine RPM) the compressor will be turning at 812 RPM and producing 11.5 CFM FAD
- b. At full throttle (2400 engine RPM) the compressor will be turning at 1300 RPM and producing 22 CFM FAD (26 SCFM)

2. An Idler pulley has been installed to maintain tension on the drive belts. The idler can be adjusted to compensate for belt wear. Loosen the two bolts behind the pulley and use a 1-1/2 in socket or wrench on the pulley bolt head to lever the pulley up and re-tension the belts.



3. A manual Pressure Relief Valve has been installed to aid in startup. This decreases wear on the drive belts and the Kubota starter.

To start the unit:

- a. Turn the bypass valve to the “START-UP” position and allow any stored air pressure to escape.
- b. Start the Kubota and allow any necessary warm-up time.
- c. Bring the Kubota up to operating speed and turn the bypass valve to the “RUN” position.



***Note:** Do not leave the valve partially open, turn it all the way to the stop in either direction.

5.0 System Components

**Coltri MCH36 High Pressure Air Compressor
4 Cylinder, 4 stage, Air Cooled
Visual CO / Moisture Indicator
Hour Meter
Kubota Diesel
Interstate Pressure Gauges
2 Large Inter-stage Condensate Separators
Large Stainless Steel Interstage Cooling Tubes
Low Pressure Oil Pump with Filter
Oil Level Sight Gauge and Oil Pressure Gauge
Automatic Condensate Drains
Loadless Start
Low Oil Shutdown Switch
High Temp Switch set at 350* F
SEP-15 High Pressure Moisture Separator
Triple Filter Filtration (90,000 cu ft)
Powder Coated Steel Frame & Belt Guard with Fork Lift Slots
Vibration Isolation Frame Mounts**

Lubricant:

**Nuvair 455™ Food Grade Lubricant (standard)
Nuvair 751™ Diester Based Lubricant (optional)**

**Optional Certified Lifting Eyes
Optional Pro CO with Audible Alarm**

6.0 Compressor Specifications

	MCH 36 Kubota
SCFM Filling a tank 80 cu ft. tank from 500PSI	26.4 SCFM, 748 L/Min
FAD	22FAD , 623 L/Min
Kubota Diesel Engine	37hp (28kW)
Max Operating Pressure	6000 PSI (413 Bar)
RPM	1300
Number of Stages	4
Lubrication	5 Quarts (4.5 liters)
Oil Pressure	5.8 psi (.4-4 bar)
Air Quality	Grade E
Dimensions (WxDxH)	64in x 44in x 42in (163cm x 112cm x 107cm)
Weight	1600 lbs (726 kg)

 **Caution**

Ambient room temperature should never exceed 113°F (45°C) during operation of the Compressor System. Operation at higher temperatures may lead to system damage and malfunction.

6.1 Unpack and Installation

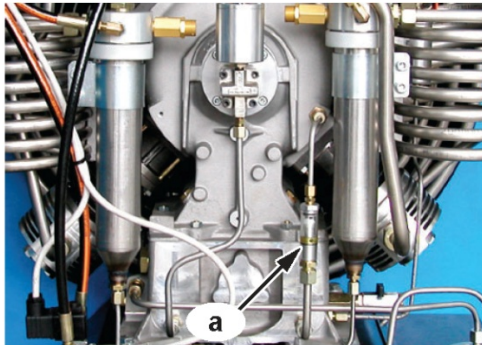
1. Please read all information supplied before physically installing the Compressor System.
2. Unpack the system and remove from the pallet. Visually inspect the system to make sure there has been no damage during shipping. If damaged, please call NuVair to file a damage report. Please take photos and supply detailed information about the damage.
3. Place the system in a permanent location allowing a minimum spacing of 36" from adjacent walls. Select a location where ambient room temperature is a minimum of 41°F to a maximum 113°F (°C Min. 5° - Max. 45°).
4. Make sure the installation space is well ventilated.

7.0 Checks to be run at the start of each working day

Inspect the exterior of the compressor (couplings, pipes, pneumatic components etc.) and check for any oil leaks. Replace parts where necessary or contact **NUVAIR**.

7.1 Lubricating oil level check

Check that the level of lubricating oil is within acceptable limits (i.e. between min. and max.). Note that an excessive quantity of oil can cause infiltrations in the cylinders and leave deposits on the valves, while too low a level prevents proper lubrication and could cause compressor seizure. If the oil level is not within the minimum and maximum limits top up or drain as needed.



Version produced up to 31-12-2005



7.2 Check that the refill hoses are in good condition

Inspect the refill hoses and make sure there are no cuts, holes, abrasions, leaks etc. If necessary replace with new hoses.

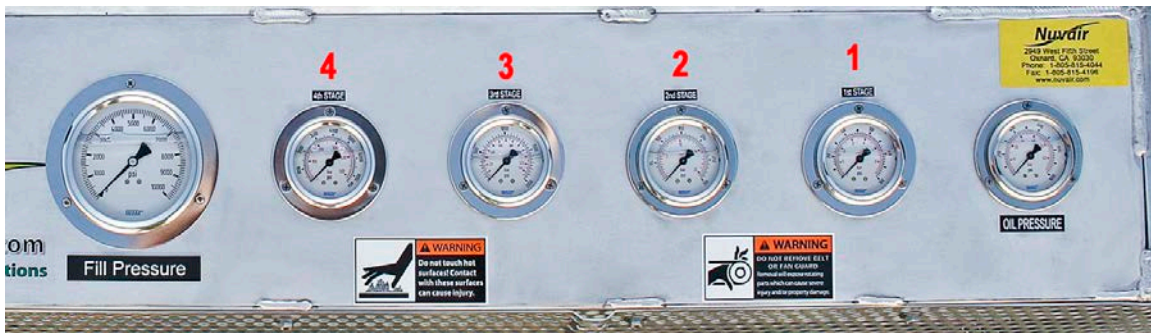
7.3 Storing technical documentation

The use and maintenance manual and its appendices must be stored carefully and must always be kept where they can be accessed easily for immediate review.

Warning

This Operation Manual contains important safety information and should always be available to those personnel operating this equipment. Read, understand, and retain all instructions before operating this equipment to prevent injury or equipment damage.

8.0 Control Panel



8.1 1st stage pressure gauge (1)

The (1) gauge indicates the pressure inside the 1st compression stage. If the Pressure is not between 45 PSI (3 bar) and 60 PSI (4 bar) switch off the compressor and contact Nuair.

8.2 2nd stage pressure gauge (2)

The (2) gauge indicates the pressure inside the 1st compression stage. If the Pressure is not between 230 PSI (16 bar) and 290 PSI (20 bar) switch off the compressor and contact Nuair.

8.3 3rd stage pressure gauge (3)

The (3) gauge indicates the pressure inside the 1st compression stage. If the Pressure is not between 940 PSI (65 bar) and 1200 PSI (80 bar) switch off the compressor and contact Nuair.

8.4 4th stage pressure gauge / Working Pressure Gauge (4)

This (4) gauge indicates the pressure as it exits the compressor. If the Pressure fails to reach the pressure set on the pressure switch, switch off the compressor and contact Nuair.

8.5 Oil Pressure Gauge-

If No Oil Pressure or High Pressure readings occur, switch off compressor and contact Nuair.

Oil Pressure	5.8 to 58 psi (.4 to 4 bar)
--------------	--------------------------------

8.6 Fill Pressure Gauge- Pressure at the fill whips.

9.0 Safety Valve Checks

Check that safety valves are working properly by starting the compressor with the end taps closed: this will raise circuit pressure fast and trip the valves when their pressure setting is reached. The valves are pre-adjusted to 3200 psi (225 bar), 4300 psi (300 bar), 4700 psi (330 bar) or 6000 psi (425 bar).

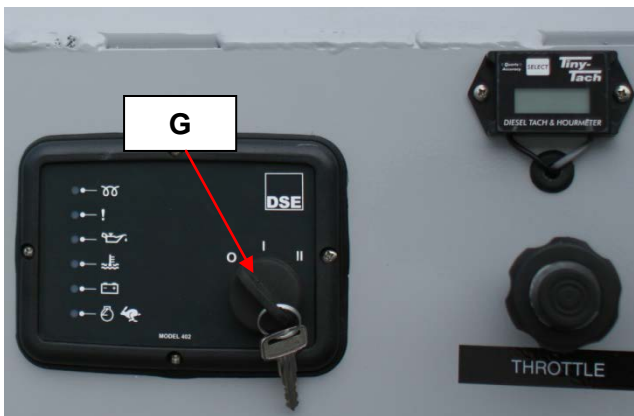
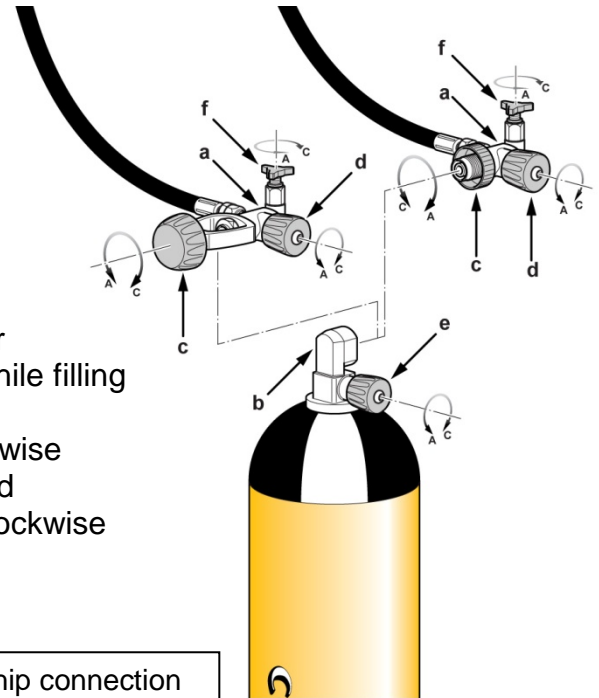
⚠ Caution

Tampering with the safety valve to increase the pressure setting is strictly forbidden. Tampering with the safety valve can seriously damage the compressor, cause serious injury to personnel and renders the warranty null and void.

10.0 Bottle Refill

To refill the bottles proceed as follows:

- Fit the hose connector (a) to the tank valve (b)
- Screw in the fixing knob (c) until it is completely tightened
- Check that the bleed valve (f) is closed by rotating it clockwise
- Open the valve (d) by rotating it counter clockwise
- Open the valve (e) by rotating it counter clockwise
- Start the compressor by turning the key on (g)
- When the refill has been completed the compressor shuts down automatically, monitor the fill pressure while filling
- Close valves (d) and (e) by rotating them clockwise
- Open the bleed valve (f) by rotating it counter clockwise until all the residual air in the fitting has been expelled
- Unscrew the fixing knob (c) by rotating it counter clockwise
- Disconnect the bottle coupling.



Fill Whip connection points on compressor



Options for this compressor that may or may not be installed are:

- **Pressure Switch:** Shuts down the compressor at a set pressure
- **Dial-A-Pressure Switch:** Allows the operator to dial in a pressure for the compressor to automatically shut off at when the pressure is reached during the filling process.

⚠ Notice

During refill the operator must be in the work area. It is advisable, during the bottle refill phase, to submerge the bottles in cold water so as to reduce the drop in pressure that accompanies cooling of the bottle.

Warning

During bottle refill those not involved in the refill procedure must maintain a safety distance of at least 9 feet (3 meters). Also, it is forbidden to disconnect the hoses from the fittings or the refill tap while the machine is under pressure.

Danger

Should bottles show evident signs of internal or external corrosion, do not refill them even if they have been tested.

Warning

Use only tested bottles (as proven by a test stamp and/or certificate). The working and bottle refill pressures are shown on the bottles themselves. It is forbidden to refill them at a pressure greater than that indicated.

11.0 Maintenance

11.1 About Maintenance

To obtain the best possible performance from the compressor and ensure a long working life for all its parts it is essential that personnel follow the use and maintenance instructions with extreme diligence. It is thus advisable to read the information below and consult the manual every time an inconvenience arises. For further information please contact Nuvair

Nuvair

Phone: +1 805 815 4044

Email: Info@nuvair.com

Address:

1600 Beacon Place

Oxnard, California 93033, USA

11.2 General

- Proper preservation of the compressor requires thorough cleaning.
- This type of refill station, designed and built according to the most advanced technological criteria, requires only minimum preventive and routine maintenance.
- Before carrying out any maintenance tasks, run checks and/or controls on the compressor, switch off the compressor, remove the plug from the mains socket.
- The residual pressure present in the compressor and all lines must be released.
- During disassembly and re-assembly of the compressor, always use suitable wrenches/tools so as not to damage the relevant components.
- Loosen stiff parts with a copper or plastic mallet.
- When refitting parts make sure they are clean and lubricated sufficiently.
- Compressor maintenance tasks must only be carried out by authorized personnel and recorded on page 31 Maintenance Log of this manual.

11.3 Unscheduled Work

Involves repairs and/or replacement of the mechanical parts of one or more compressor components, this work normally needs to be done after some years of use. If substantial modifications are made, the manufacturer cannot be held liable for any dangers that might

arise. This work must be carried out by a “Nuvair” qualified mechanic.

11.4 Scheduled Maintenance Table

Maintenance	Every 5 hours	Every Day	Every Year	250 (hours)	500 (hours)	1000 (hours)	3000 (hours)
Lubricating Oil Check		○					
Automatic Shutdown Check		○					
Condensate Container discharge	○	○					
Belt wear and tension			○		●		
Air intake filter			●	●			
Fitting / hose leak check			○		○		
Oil Filter and Oil change			●	●*			
Separator filter element cleaning			○			○	
1 st – 2 nd – 3 rd stage Valve replacement					○	●	
4 th stage valve replacement					●		
Water & HP oil separator replacement							●
HP filter body replacement							●

○ Checking and cleaning ● Change

- Oil Change every 100 hours when used with Nitrox

11.5 Troubleshooting

Problem	Cause	Solution
-Rotation speed and flow rate decrease	<ul style="list-style-type: none"> ●Motor power too low ●The belt slips 	<ul style="list-style-type: none"> ●Check the motor and the line
-The flow rate diminishes without rpm decreasing	<ul style="list-style-type: none"> ●Valves not working ●4th stage piston worn ●Fittings loose / leaking seals ●Intake filter clogged ●Intake extension kinked ●Piston or piston rings worn 	<ul style="list-style-type: none"> ●Check fuses or condenser ●Contact technical support ●Check for leaks with soapy water and eliminate them ●Replace filter ●Straighten, use stiffer pipe ●Contact technical support
-Air smells of oil	<ul style="list-style-type: none"> ●Cartridge filter exhausted ●Piston rings worn 	<ul style="list-style-type: none"> ●Replace filter ●Contact technical assistance
-Compressor overheats	<ul style="list-style-type: none"> ●Direction of rotation wrong ●Cooling tubes dirty ●Incomplete valve closure (causing overload of another stage) 	<ul style="list-style-type: none"> ●Check direction of rotation ●Contact technical support ●Contact technical support

11.6 Checking and changing the lubricating oil and filter

During the compressors initial break-in period the original oil filter and lubricating oil must be changed at the 25 hour mark. After the initial change of lubricants and filter the oil and oil filter must be changed every 100 hours of use or annually, whichever comes first.

HP Compressor Lubricant: Only use lubricants rated for use with Nitrox, such as Nuvair 455TM Synthetic Food Grade Lubricant or Nuvair 751TM. **Never mix Compressor Lubricants.** Nuvair Compressors are shipped with Nuvair 455 Synthetic Food Grade Lubricant or Nuvair 751TM in the compressor. Coltri OIL CE 750 and Anderol 755 may also be used, but not mixed with Nuvair oil.

Warning

Use only the specified Nuvair lubricants in this system. The use of incompatible lubricants presents a risk of fire and/or explosion, and may result in system damage. This can lead to severe personal injury and death.

Danger

Do not carry out these tasks if the compressor has only just shut down; wait for the compressor to cool. Pressure must be drained before opening LP Fill Plug. Any oil spilt during the oil/filter change could cause personnel to slip; wear protective garments and anti-slip footwear and remove traces of oil immediately. Both oil and filter are classified as special wastes and must therefore be disposed of in compliance with the anti-pollution laws in force. All maintenance work must be carried out with the compressor OFF and the key removed from the ignition.

Notice

The compressor must be placed on a solid surface with a tilt of no more than 6°.

11.7 Checking the Oil Level

The oil level must be checked every 5 working hours of the compressor.

The oil level must be between the minimum and the maximum shown on the oil level indicator.

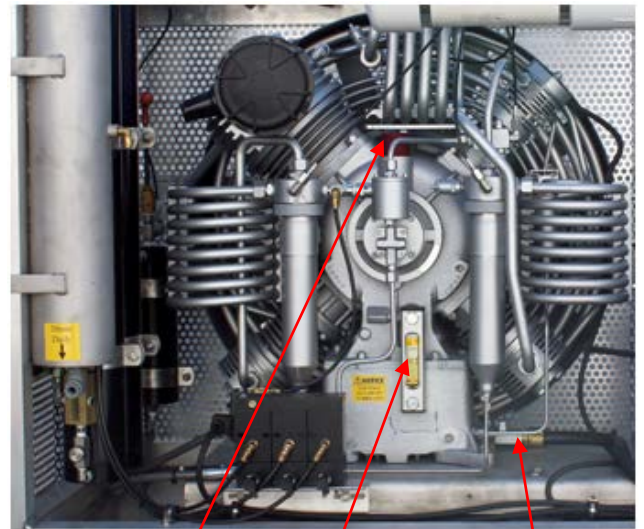
(See close-up picture bottom of next page)

If the oil level is above the maximum level:

- Position a recipient under the drain hose so that the oil flows into the exhausted oil recipient.
- Open the drain valve and let the oil flow out until the oil level returns within the max. and min. limits
- Close the drain valve.

If the oil level is below the minimum level:

- Open the top fill plug
- Top off with oil until the level returns within the max. and min. limits
- Close the fill plug.



Lubricant
Fill Plug

Oil Level
Indicator

Oil drain
valve

Caution

After running the compressor, the lubricant will be very hot. Take care when removing the drain plug and draining the lubricant to avoid burns.

⚠ Notice

Recommended Nitrox compressor lubricant is changed when the first 25 hours of use is reached, then change lubricant in 100 hour cycles or annually.

⚠ Caution

Wear gloves when handling compressor lubricant. If contact with skin is made, wash the skin surface with soap and water.

⚠ Caution

Always wear goggles when handling compressor lubricant. These materials can cause eye irritation. If you accidentally get lubricant into your eyes, flush with fresh water for 15 minutes and contact a physician if irritation develops.

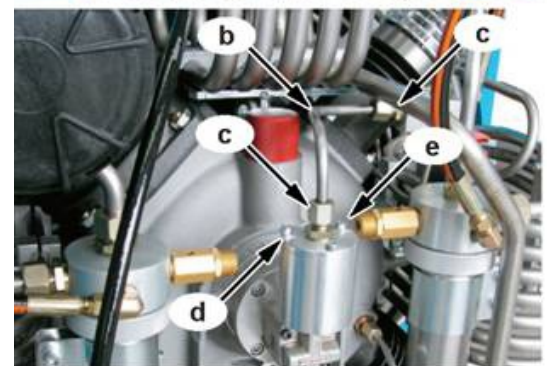
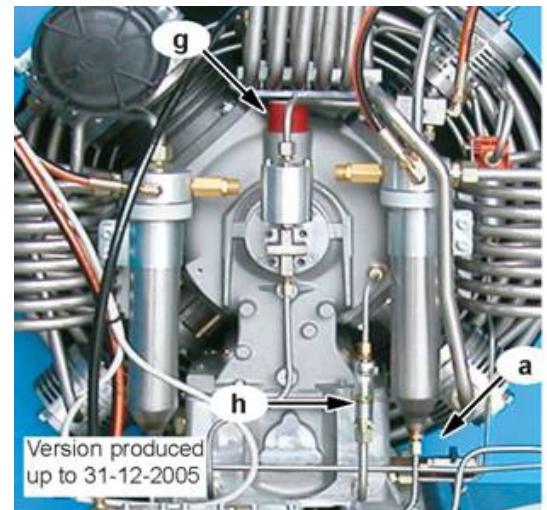
⚠ Caution

Compressor lubricant should be incinerated after use in a licensed facility in accordance with Federal, State, and local regulations.

11.8 Changing the lubricating oil and filter

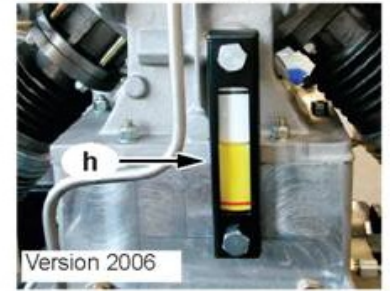
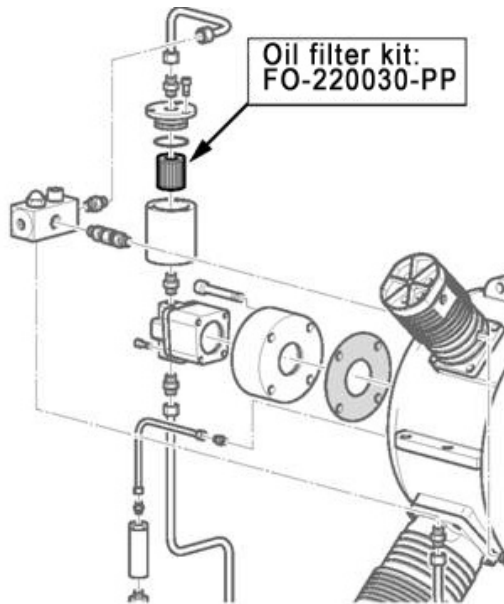
The lubricating oil must be changed every 250 working hours or annually. Every time the lubricating oil is changed the oil filter must be changed too. To change the oil continue as described:

- Position a recipient under the drain tap (a) so that the oil flows into the exhausted oil recipient (recipient capacity of at least 1.3 gallons or 5 liters required).
- Open the oil fill plug (g).
- Open the plug (a) and let all the oil flow out.
- Unscrew the fittings (c) and remove the pipe (b).
- Remove the fixing screws (e) and the cover (d).
- Replace the filter (f) with a new one.
- Re-close the plug (d) with the screws (e).
- Put the pipe (b) back and tighten the fittings (c).
- Close the drain tap (a). -remove the fill plug (g).
- Fill the oil sump with 1.3 gallons or 5 liters of oil from top oil plug
- Close the oil fill plug (g).
- Switch on the compressor and run it depressurized for 30 seconds.
- Switch off the compressor and remove the plug from the mains socket.
- Check the oil level (h); if it is not between the min. and max. lines proceed with the tasks described in paragraph "11.7 Checking the oil level".





(h) Version 2007 to present

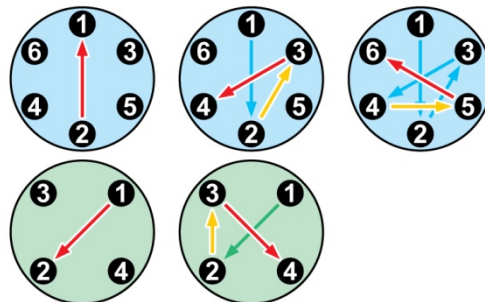


11.9 Tightening Torque Values – Should be done at 25 hour maintenance

The table below shows tightening torques for bolts or hexagonal-head screws or socket screws lubricated with grease, except for specific cases indicated in the manual. Pipe connections (swivel nuts) should be finger tight plus an additional 1/2 turn.

Tightening Torque Values	
Thread	Maximum Torque
M6 - 1/4"	10Nm (7ft-lbs)
M8 - 5/16"	25Nm (18ft-lbs)
M10 - 3/8"	45Nm (32ft-lbs)
M12 - 1/2"	75Nm (53ft-lbs)
M14 - 9/16"	120Nm (85ft-lbs)
M16 - 5/8"	200Nm (141ft-lbs)

6 bolt and 4 bolt torque sequence



11.10 CO Moisture Indicator

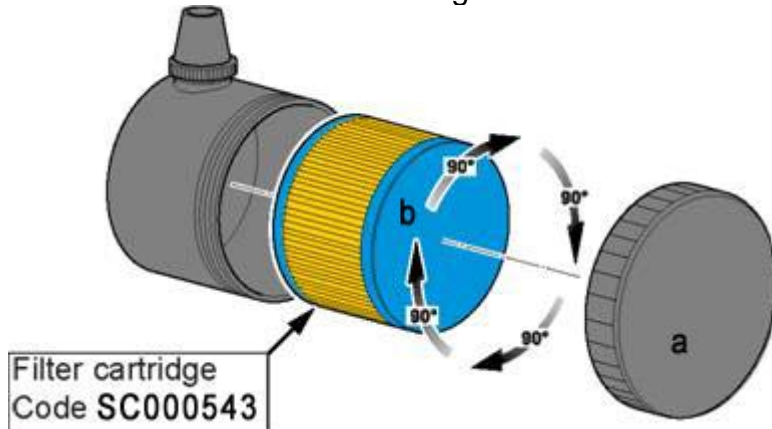
This element contains a CO indicating button and a humidity element in the form of a strip about 1/4 in. wide and 3/4 in. long. These items need to be installed per the manufacturer's instructions provided in the sealed foil packaging. When doing routine maintenance it is highly recommended these indicators are checked for damage and functionality or be replaced.



CO Moisture Monitor

11.11 Changing the Air intake filter

After putting the compressor into service the intake filter must be changed after the first 50 working hours. The air filter must then be changed every 250 working hours or annually. Every 50 working hours rotate the filtration cartridge inside the filter 90°.



The air intake filter must be changed every 250 working hours or annually. If the compressor is used in a dusty environment the filter change interval should be reduced to every 100 hours.

Change the Air filter as follows:

- Unscrew the air filter cover (a) by rotating it counter clockwise
- Remove the air filter cartridge (b)
- Replace the cartridge with a new one
- Re-close the cover (a): screw it back on

Danger

Do not carry out these tasks if the compressor has only just shut down and is hot; wait for the compressor to cool down. All maintenance work must be carried out with the compressor OFF and the power supply lead unplugged from the wall socket.

Notice

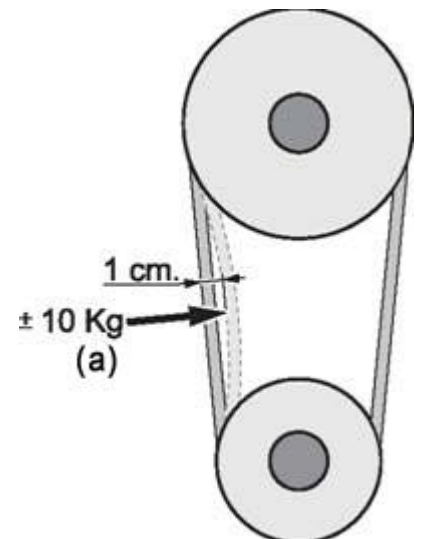
If the compressor is used in a dusty environment the filter change interval should be reduced to every 100 hours.

12.0 Drive Belts

Belt tension must be checked monthly. The Drive Belts must be replaced every 500 working hours of the compressor.

12.1 Checking the Drive Belts

To check for proper Drive Belt tension (a), exert a pressure of approximately 22 lbs (10 kg) on the belts; check that the belts do not flex by more than 1 cm (1/2 in) with respect to their original position. Should they flex more than this the belts must be replaced.



13.0 HP Compressor Filtration Active Carbon Filters / Molecular Sieve

The HP Compressor comes standard with Triplex filtration, utilizing a single Filter Element. Do **NOT** use any substitute. Change filter element every 90,000 cubic feet of air pumped. If the compressor system is operated in high humidity and/or high temperature, filter element must be changed more often. See 13.1 for details on filter element life factors.

- 1) Shut down the Compressor System
- 2) Open Manual Bleed Drain Valve to drain pressure. Leave valve open.
- 3) Unscrew the Filter Canister Cap.
- 4) Remove expended Element from Filter Canister.
- 5) Install New Element. Place pressure on element to seat.
- 6) Reinstall Canister Cap.
- 7) Close Manual Condensate Valve.

***Note: Pictures are for illustration purposes, not of the actual unit.**

Filter Canister Caps

HP Filter Replacement parts:
X65247
X65677 (x2)

3



4



5



Condensate Tank

Manual Bleed Drain Valve

Warning

Be sure that all pressure has been relieved from the system prior to opening any filtration canister. Failure to vent pressure from the system prior to opening the canister can lead to serious personal injury or death. Difficulty turning the filter cap may indicate there still is pressure in the filter canister.

⚠ Caution

If the compressor is located in an area where there is high humidity and high heat, the life of all Filtration Elements may be as little as 35% of rated operating capacity. Check the Compressor manual and Appendix for details on Filter Element Life Factors.

13.1 Temperature effect on filter life.

Filter replacement frequency calculation table

Temperature (°F)	Temperature (°C)	Filter duration (hours) MCH30	Filter duration (hours) MCH36
104	40	27	23.1
95	36	31.5	31
86	30	39.5	39.8
80	27	45	44.25
68	20	70	68.1
50	10	126	122.5

⚠ Warning

The active carbon filters are classified as special waste once the compressor has been used to make air: they must be disposed of in compliance with the anti-pollution standards in force.

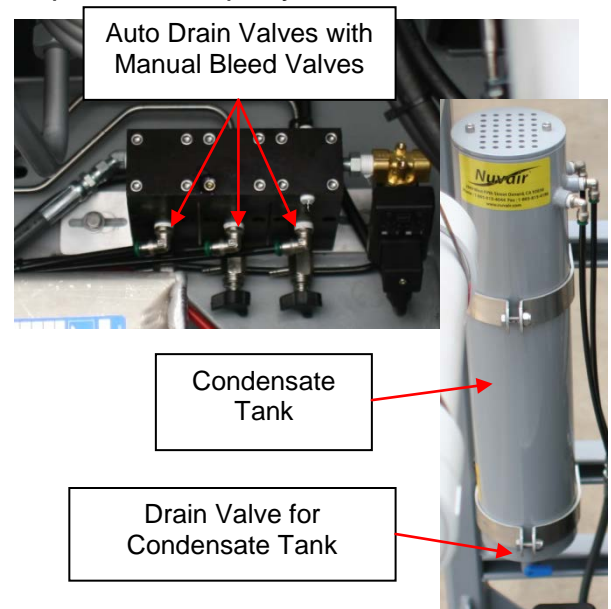
⚠ Notice

The Condensate tank must be drained at the end of every working day or every 2 to 3 hours of operation. The Compressor Condensate must be drained every 5-10 minutes of operation.

13.2 Condensate Discharge

An outflow of condensate water with lubricating oil is normal during refills: the quantity will depend on the level of humidity in the air. The condensate must be disposed of as per your local "Waste disposal" rules. To Drain the Condensate Tank:

- Open the Manual bleed valve pictured right and drain into a portable container for disposal. The Condensate Tank must be drained daily or every 6 working hours. You may run a hose from the condensate tank into a larger receiver and leave the ball valve in the open position.
- Manually Open Auto Drain Valves each day to check for Condensate and that the Auto Drains are functioning properly.



14.0 Storage

Should the compressor not be used, it must be stored in a dry sheltered area at an ambient temperature of between 32°F and 104°F (0°C and 40°C). Store the compressor away from sources of heat, flames or explosive.

14.1 Stopping the machine for a brief period

If you do not intend to use the compressor for a brief period proceed with general cleaning. Once the compressor has cooled down you should wipe off dirt, dust and moisture on the compressor and the surrounding area.

14.2 Stopping the machine for a long period

If you do not intend to use the compressor for a long period, extract the active carbon filter cartridge. Run the compressor for a few minutes without actually filling bottles so as to flush out all the residual condensate. Stop the compressor, disassemble the intake filter, restart the compressor and spray a few drops of oil into the air intake hole so that a light film of lubricant is aspirated and penetrates the interior of the compressor. Stop the compressor and refit the air intake filter. Clean the external parts: eliminate any moisture, salt or oil deposits. Protect the compressor from dust and water by storing it in a clean, dry place. Switch off the machine via the main switch and remove the plug from the mains power socket. Proceed with a thorough general clean of all machine parts. During machine down times it is advisable to run the compressor for 20 minutes every 15 days.

15.0 Dismantling and putting the compressor out of service

Should you decide not to use the compressor or any of its parts any longer you must precede with its dismantling and putting out of service. These tasks must be carried out in compliance with the standards in force.

Warning

Should the compressor, or a part of it, be out of service its parts must be rendered harmless so they do not cause any danger.

Warning

Bear in mind that oil, filters or any other compressor part subject to differentiated waste collection must be disposed of in compliance with the standards in force.

15.1 Waste Disposal

Use of the compressor generates **waste** that is classified as **special**. Bear in mind that residues from industrial, agricultural, crafts, commercial and service activities not classified by quality or quantity as urban waste must be treated as special waste. Deteriorated or obsolete machines are also classified as special waste. Special attention must be paid to active carbon filters as they cannot be included in urban waste: observe the waste disposal laws in force where the compressor is used. Bear in mind that it is compulsory to record loading/unloading of exhausted oils, special wastes and toxic-harmful wastes that derive from heavy/light industry processes. Exhausted oils, special wastes and toxic-harmful waste must be collected by authorized companies. It is especially important that exhausted oils be disposed of in compliance with the laws in the country of use.

Notice

Disassembly and demolition must only be carried out by qualified personnel.

15.2 Dismantling the compressor

Dismantle the compressor in accordance with all the precautions imposed by the laws in force in the country of use. Before demolishing request an inspection by the relevant authorities and relative report. Disconnect the compressor from the electrical system. Eliminate any interfaces the compressor may have with other machines, making sure that interfaces between remaining machines are unaffected. Empty the tank containing the lubricating oil and store in compliance with the laws in force. Proceed with disassembly of the individual compressor components and group them together according to the materials they are made of: the compressor mainly consists of steel, stainless steel, cast iron, aluminum and plastic parts. Then scrap the machine in compliance with the laws in force in the country of use.

Notice

At every stage of demolition observe the safety regulations contained in this manual carefully.

16.0 Instructions for emergency situations

16.1 Fire

In the event of fire use a CO₂ extinguisher in compliance with the relevant standards in force. Contact the fire department.

17.0 Maintenance Register

17.1 Customer Service

Customers continue to receive assistance after the purchase of a compressor. To this end **NUVAIR** has created a customer service network covering the entire country.

Notice

Our qualified technicians are at your disposal at any time to carry out maintenance work or repairs; we use only original spare parts so as to ensure quality and reliability.

17.2 Scheduled Maintenance

The scheduled maintenance program is designed to keep your compressor in perfect working order. Some simple tasks, described in this manual, can be carried out directly by the customer; others, instead, require that the work be carried out by trained personnel. For the latter we recommend you always contact our office. This section provides a simple tool with which to request assistance and register completed scheduled maintenance work. Start-up and maintenance checks/tasks, once completed by our qualified technician, are registered in this maintenance chapter by way of an official stamp, signature and inspection date; the number of working hours is also registered. The maintenance schedules/coupons easily let you know when our assistance service should be contacted to carry out work.

17.3 Using the compressor under heavy duty conditions

Where compressors are used in particularly difficult conditions (high levels of pollution, presence of solid particulate in suspension etc.), scheduled maintenance tasks must be carried out more frequently as per the advice given by our assistance network.

17.4 Nuvair Customer Care Contact

Telephone: +1 805 815 4044

Fax: +1 805 815 4196

info@nuvair.com

www.nuvair.com/manuals.html

18.0 Start-Stop Operation Quick start Guide

1. Check Oil Level in Engine
2. Check Oil Level in Compressor
3. Turn the Manual Bypass Valve to the Start position
4. Turn Key to Start Position
 - a. If engine does not start after 10 seconds of cranking; turn off key and rest starter for 30 seconds.
5. Once Engine Starts, turn the Manual Bypass Valve to the Run position
6. Adjust Throttle to desired RPM
7. Check Gauges for proper Stage Pressure
 - a. Oil 14.5 psi Min
 - b. 1st Stage 45-60 psi
 - c. 2nd Stage 230-290 psi
 - d. 3rd Stage 940-1200 psi
 - e. 4th Stage 5000 psi Max
8. To Stop Compressor reduce RPM
9. Turn Key to Off
10. Check that Automatic Drains are Open and Drain All Moisture

19.0 Spare Parts List

HP Air Compressor parts list.

Compressor System Components	Type	Part Number
Compressor Lubricant, Food Grade, Nitrox Compatible	Nuvair 451, 1 Gal (Other Sizes Available)	9406
	Nuvair 751, 1 Gal (Other Sizes Available)	9403
HP Filter Elements		
Black Canisters	Absorbent Filter (x2)	X65677
	Triplex Filter	X65247
Blue Canisters	Absorbent Filter	SC000543-M
	Triplex Filter	SC000543-MHC
Air Intake Filter Element		SC000543
Co ₂ Moisture Sensor Element		592-6
Oil Filter	Oil Filter MCH36-06-007	FO-220030-PP

21.0 Appendix

Supply and Breathing Air Specifications

All supply and breathing air must meet the following requirements of CGA G-7.1-1997. Supply air delivered to the Membrane System must be purified to meet Grade D or E quality, and periodic air quality testing to assure compliance is recommended. All breathing air for diving produced by the downstream compressor must be purified to meet Grade E quality, and periodic air quality testing to assure compliance is mandatory.

Item	Grade D	Grade E
Oxygen	19.5-23.5%	20-22%
Carbon Dioxide (maximum)	1000 PPM	1000 PPM
Carbon Monoxide (maximum)	10 PPM	10 PPM
Hydrocarbons (maximum)	Not specified	25 PPM
Water Vapor (maximum)	Not specified	Not specified
Dew Point (maximum) (1)	Not specified	Not specified
Oil & Particles (maximum) (2)	5 mg/m3	5 mg/m3
Odor	None	None

Notes: (1) Dew Point of supply air must be >10°F (6°C) colder than coldest ambient air expected
 (2) Supply air delivered to the Membrane System must contain <0.003 PPM Oil Vapor

All breathing Nitrox produced for diving must be purified to meet these same requirements, except for oxygen content. Nitrox oxygen content must measure within +/- 1% O₂ of the specified value of the mixture using a properly calibrated Oxygen Analyzer (i.e. Nitrox produced with a target content of 32% O₂ must measure in the range of 31-33% O₂). Periodic air quality testing to assure compliance is mandatory.

Filter Element Life Factors

Breathing air filter element life is typically rated by manufacturer based on an air temperature of 80°F at the filter inlet. Under normal operation this temperature is 12°F (5°C) warmer than the ambient air, resulting in an equivalent ambient temperature rating at 68°F (20°C).

To determine element life at a different ambient temperature, multiply the rated life by the life factor listed below:

Filter Temperature	Ambient Temperature	Filter Element Life Factor
53°F (12°C)	41°F (5°C)	2.6 x Life
62°F (17°C)	50°F (10°C)	1.8 x Life
71°F (23°C)	59°F (16°C)	1.35 x Life
80°F (27°C)	68°F (20°C)	1 x Life
89°F (32°C)	77°F (25°C)	0.8 x Life
96°F (36°C)	84°F (29°C)	0.55 x Life
105°F (41°C)	93°F (34°C)	0.45 x Life
114°F (46°C)	102°F (39°C)	0.35 x Life

NUVAIR COMPRESSOR SYSTEM WARRANTY

NUVAIR extends a limited warranty, which warrants the compressor System to be free from defects in materials and workmanship under normal use and service for a limited period. All other Original Equipment Manufacturer (OEM) components used in the system are warranted only to the extent of the OEM's warranty to NUVAIR. NUVAIR makes no warranty with respect to these OEM components, and only warrants the workmanship that NUVAIR has employed in the installation or use of any OEM component. This warranty is not transferable.

NUVAIR will, at its discretion and according to the terms as set forth within, replace or repair any materials which fail under normal use and service and do not exhibit any signs of improper maintenance, misuse, accident, alteration, weather damage, tampering, or use for any other than the intended purpose. Determination of failure is the responsibility of NUVAIR, which will work together with the customer to adequately address warranty issues. When any materials are repaired or replaced during the warranty period, they are warranted only for the remainder of the original warranty period. This warranty shall be void and NUVAIR shall have no responsibility to repair or replace damaged materials resulting directly or indirectly from the use of repair or replacement parts not approved by NUVAIR.

Maintenance Items:

Any materials which are consumed, or otherwise rendered not warrantable due to processes applied to them, are considered expendable and are not covered under the terms of this policy. This includes maintenance and consumable items listed as part of a suggested maintenance program included with system documentation.

Return Policy:

Application for warranty service can be made by contacting NUVAIR during regular business hours and requesting a Return Material Authorization number. Materials that are found to be defective must be shipped, freight pre-paid, to the NUVAIR office in Oxnard, California. Upon inspection and determination of failure, NUVAIR shall exercise its options under the terms of this policy. Warranty serviced materials will be returned to the customer via NUVAIR's preferred shipping method, at NUVAIR's expense. Any expedited return shipping arrangements to be made at customer's expense must be specified in advance.

Limitation of Warranty and Liability:

Repair, replacement or refund in the manner and within the time provided shall constitute NUVAIR'S sole liability and the Purchaser's exclusive remedy resulting from any nonconformity or defect. NUVAIR shall not in any event be liable for any damages, whether based on contract, warranty, negligence, strict liability or otherwise, including without limitation any consequential, incidental or special damages, arising with respect to the equipment or its failure to operate, even if NUVAIR has been advised of the possibility thereof. NUVAIR makes no other warranty or representation of any kind, except that of title, and all other warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, are hereby expressly disclaimed. No salesman or other representative of NUVAIR has authority to make any warranties.



Nuvair
Phone +1 805 815 4044
Fax +1 805 486 0900
1600 Beacon Place
Oxnard, CA 93033, USA
info@nuvair.com
www.nuvair.com
rev.07.18