DenComp Compressors

Owners Manual & Operating Instructions

Foreward

An Air Compressor is both an electrical and pressure device and as such should be treated with all due care and attention.

The air compressor is a vital piece of surgery equipment providing high-pressure air to allow operation of hand-pieces and 3 in 1 syringes.

As part of the compressed air system, filters should be installed for the removal of contaminant that may have formed as part of the compression process.

DenComp compressors with dryers when installed with appropriate recommended filters and properly maintained, will deliver clean dry air to Breathing Air Standard BS4275 and Compressed Air Purity Class ISO 8573-1:2001(E) class 1 (to the surgery). This is the recommended standard for private dental practice.

Under no circumstances should members of the public be allowed within the vicinity of the compressor.

Any maintenance work performed on the compressor should only be done so in accordance with the manufacturers instructions and by competent persons.

PLEASE READ THESE INSTRUCTIONS FULLY BEFORE USING THE DEVICE

Unpacking The Compressor

Unpack the compressor, taking care to lift it with the handles on the tanks for the DenComp 3 & 4 and DenComp AH 3 & 4 models and for the DenComp LN2, LN3 & LN4 models located in the black moulded covers at each end of the compressor. Always lift the compressor to move it as it rests on rubber suction feet. Locate the compressor on a level sound floor.

Ensure that there is an adequate power supply available to the compressor. At all times the compressor should be on a dedicated power supply not shared with any other piece of equipment with a guaranteed minimum 13 amps available for DenComp 3, 4, AH3, AH4, LN2, LN3 & LN4 models. The DenComp 8 model must have a dedicated supply of 20 amps. Failure to provide this will damage the electric motor and may invalidate the warranty. If in doubt please consult an electrician.

Before starting the compressor ensure that the air receiver is empty and that the power switch, Fig 1 & Fig 2, is in the OFF position.

To aid efficient and long life locate the compressor in a cool, dry, well ventilated dust free environment. An operating environment between +35 degrees C and -5 degrees C should be maintained. Ensure that the compressor does not have materials or objects around it that may prevent air flow to the cooling fans. We would be happy to give you guidance on this.

Important
The compressor is a pressure device that has air stored under high pressure. Never dismantle any part of the compressor or attached airlines until all air is expelled from the compressor, the system has completely depressurised and the compressor has been electrically isolated.

Operation

Once final electrical and airline checks have been made the compressor may be switched on. DenComp 3, 4 & 8 and AH 3 & 4 models are switched on with a pressure switch marked on Fig 1. DenComp LN2, LN3 & LN4 compressors are switched on with a push button located on the front panel marked Fig 2.

The compressor will automatically start and continue to build up pressure to approximately 7.5 bar as indicated on the pressure gauge marked on both Fig 1 & 2. Once this pressure is reached the compressor will automatically switch off. At the end of each cycle DenComp 3, 4 & 8 and AH 3 & 4 will emit a hiss of air. This is a normal function of the dryer regenerating itself and will stop after approximately 5 seconds. OF series compressors will stop in the same manner but will discharge a small amount of air from the pressure switch. This is a normal function. When the pressure gauge drops to approximately 5.5 bar the compressor will automatically start again. DenComp 8 compressors will start in a different manner. In order to reduce the electrical surge the left hand motor will start approximately 5 seconds ahead of the right hand motor.

Check that no air is escaping and that the airlines are secure and leak free. Air leaking from the system at any point will cause the compressor to work unnecessarily and may result in damage to the compressor. Typically, under normal operation, the compressor will not work for more than a 5 minute period at any one time. If the compressor continues to run for longer than this then careful attention should be given to discover if there are any leaks in the air system.

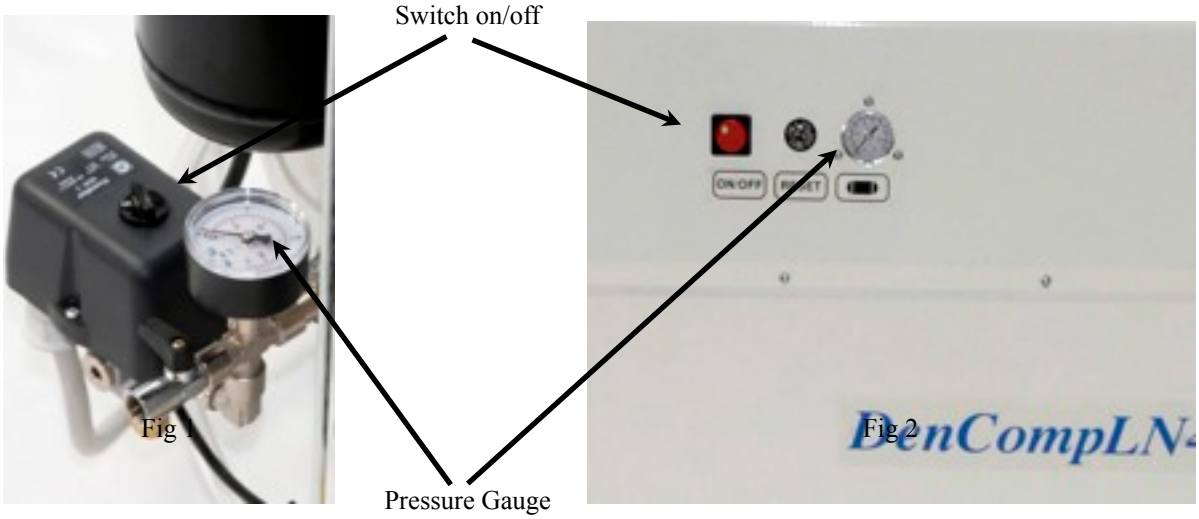

Fig 1 Fig 2

DenComp LN models have electric overload protection. If the machine should electrically trip then push the reset button, shown in Fig 2, to reset the power supply. If the machine continues to trip then call for assistance.

Maintenance

DenComp compressors are fully automatic devices that require very little user intervention.

It is important to switch the compressor off every night to prevent unnecessary running.

All DenComp compressors with dryers will expel moisture removed from the atmosphere into a water container. Once this container is half full it is very important that the bottle is emptied and the contents are disposed of. This water is not contaminated and may be emptied into a sink or waste outlet. To empty the bottle unscrew the black top, fig 3, and remove the inserted tube. The bottle can then be removed from its holder and emptied.

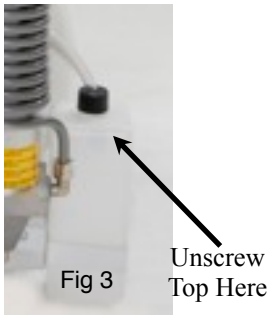

Fig 3

Place the bottle back in its holder, insert the tube and screw on the top.

OF series compressors will form water in the air receiver. This is a normal function of compressors that are not fitted with dryers. Periodically, suggested weekly, this water should be removed to prevent a high build up of water in the receiver. Carefully twist the brass valve located on the end of the tank, Fig 4, anti-clockwise allowing air and water to escape from the receiver. Once the water has stopped close the brass valve by twisting the brass valve clockwise.

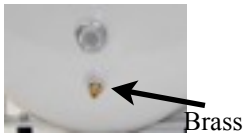

Fig 4

Periodically check the compressor and airlines for leaks or any signs of degradation. Consult a suitably qualified engineer for advice.

The compressor should be attended to on an annual basis by a qualified compressor engineer. At the annual service checks will be made to include the intake filter, safety valves, pump running performance, dryer performance and fittings and connectors.

At the 1 year service the cartridge in the dryer should be rotated.
At the 2 year service the dryer cartridge, part no DC2348, should be replaced.
At the 3 year service the cartridge in the dryer should be rotated.
At the 4 year service the dryer cartridge, part no DC2348, and non return valve, part nos DC2349, should be replaced.
At the 5 year service the cartridge in the dryer should be rotated and the pump should be fully serviced, part no DC2350.

At the back of this manual is a maintenance record which should be used to record details of any work undertaken.

Warranty

Manufactured to exacting European standards including ISO 9001, CSQ Med and IQNet, the DenComp range of compressors are covered by a comprehensive 12 months parts and labour warranty. This is extended for a further two years on all mechanical parts subject to annual service being carried out to the manufacturers recommendations and using genuine parts. Service should only be undertaken by a competent engineer.

Improving Your Compressed Air System

The air compressor is probably one of the least glamorous items in the dental surgery but is critical to the operation of the practice. Supplying air to the hand-pieces, 3-in-1 or scaler it is the most important investment the practice will make and is vital to the efficient running of the surgery.

The purchase of a DenComp compressor is a very sound decision, and will provide a well engineered heart, but there would be more that you could consider to enhance the overall compressed air supply.

An Emergency Back Up compressor is a very worthwhile addition to the system. For whatever reason that the main compressor is not available, or during servicing, this very economic standby compressor will ensure continuity of air supply.

Installing an air regulator, part no DC MSM 1, controls the output pressure of the compressor to a regulated constant supply to the surgeries of approximately 5 bar. This is an ideal pressure for the air to enter the surgery.

Additional filtration is recommended to meet current guidelines. DenComp 3, 4 & 8 and AH 3 & 4 compressors are oil free and are supplied with desiccant air dryers. The air that is stored in the tank is dry but the process of compressing the air itself means that unfiltered air is drawn in from the atmosphere and the mechanical action of the pump can itself create contaminant. Installing a DC D20XAC filter housing in the airline cleans the air to a very high standard exceeding the Breathing Air Standard of BS4275 and Compressed Air Purity Class ISO 8573-1:2001(E) class 1.

Test Certificates

In accordance with the:-

“Pressure Systems and Transportable Gas Containers Regulations 1989”

practices are required to hold certification for all pressure vessels that fall within the regulations.

All DenComp compressors are supplied with an appropriate certificate at installation which should be made available to your insurance company when required.

Compressors for 1 or 2 surgeries

Compressor Model	hp	Volt/Hz	Ltrs/Min @ 5bar	Tank Ltrs	Max Pressure	dB(A)	Dryer	Dental Surgeries	Dimensions LxDxH	Weight kgs
DenComp LN2	1.5	230/50	100	30	8	57	Yes	1 - 2	80x40x57	65

Compressor Model	hp	Volt/Hz	Ltrs/Min @ 5bar	Tank Ltrs	Max Pressure	dB(A)	Dryer	Dental Surgeries	Dimensions LxDxH	Weight kgs
DenComp 3	1.5	230/50	150	50	8	67	Yes	3	75x40x75	52
DenComp AH3	1.5	230/50	150	40	8	60	Yes	3	55x72x100	58
DenComp LN3	1.5	230/50	150	30	8	57	Yes	3	92x40x57	82
OF 3	1.5	230/50	150	50	8	67	No	3	75x40x75	46

Compressors for 3 surgeries

Compressor Model	hp	Volt/Hz	Ltrs/Min @ 5bar	Tank Ltrs	Max Pressure	dB(A)	Dryer	Dental Surgeries	Dimensions LxDxH	Weight kgs
DenComp 4	2.5	230/50	225	50	8	67.5	Yes	4	75x40x75	55
DenComp AH4	2.5	230/50	225	50	8	60.5	Yes	4	55x72x100	61
DenComp LN4	2.5	230/50	225	30	8	57	Yes	4	92x40x57	85
OF 4	2.5	230/50	225	50	8	67.5	No	4	75x40x75	49

Compressors for 4 surgeries

Compressor Model	hp	Volt/Hz	Ltrs/Min @ 5bar	Tank Ltrs	Max Pressure	dB(A)	Dryer	Dental Surgeries	Dimensions LxDxH	Weight kgs
DenComp 8	2 x 2.5	230/50	450	100	8	70	Yes	8	120x62x75	124
DenComp AH8	2 x 2.5	230/50	450	100	8	63	Yes	8	120x72x95	136
OF 8	2 x 2.5	230/50	450	100	8	70	No	8	120x62x75	112
DenComp 12	3 x 2.5	230/50	675	100	8	73	Yes	12	120x62x75	160
OF 8	2 x 2.5	230/50	675	100	8	73	No	12	120x62x75	148

Compressors for 8 surgeries plus

Maintenance Record

Date	Work Performed	Contractor	Time Of Arri.	Time Of Dep.	Hours On Site	Next Visit Due

Any maintenance or system modification work should be recorded here. Prior to the engineers leaving your premises ask them to record the work undertaken here.