



COMPRESSED AIR FILTERS



FT FILTERS

User's Maintenance & Spare Parts Manual

Dear Customer,

Thank you for choosing Pilot Air.

In order to get the best performances in the use of this product, please read this manual carefully. To avoid incorrect operations of the equipment and possible physical risks to the operator, please read and strictly follow the instructions contained in this manual. Note, these instructions are in addition to the safety rules that apply in the country where the filter is installed.

This manual must be maintained available in any moment for future references and it has to be intended as inherent part of the relevant filter.

Due to the continuous technical evolution, we reserve the right to introduce any necessary change without giving previous notice.

Should you experience any trouble, or for further information, please do not hesitate to contact us.

Best Regards,



PILOT AIR COMPRESSORS

<https://www.pilotair.com.au/>

Phone: 1300 667 579

Email: service@pilotair.com.au / spares@pilotair.com.au

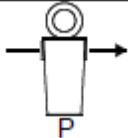
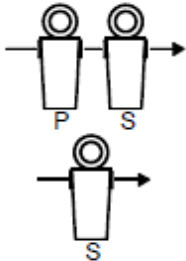
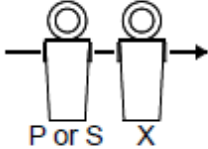
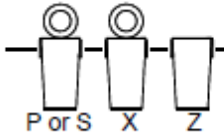
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Filtration Grades and Applications

The filters of the FT series are used for filtering small solid particles and removing water and oil condensate from compressed air and gas.

Filter grade	Characteristics	Installation example	Application example
P Series Green	Filter capable to separate emulsion and particles down to 3 micron.		Normal installed on the inlet of dryers. Ideal as pre-filter for on-line filters (series S-X-Z), and for vacuum pumps, pneumatic blowing plants.
S Series Red	Filter capable to separate particles down to 1 micron, liquid and oil included. Maximum contents of residual oil 0,1 mg/m ³ .		Normally used on outlet of dryers as (X) grade pre-filter. Used to prevent the deterioration of the pipes of compressed air plants, for surface treatment, on vacuum pumps exhaust, on compressed air motors, and as post-filter for adsorption dryers.
X Series Yellow	Oil removing filter capable to separate residual oil and extremely small particles down to 0,01 mg/m ³ . It produces air technical free from oil.		Used for the protection of control system, pneumatics haulage, painting system and as pre-filter for adsorption dryers.
Z Series Black	Activated carbon filter for the elimination of oil vapours and odour. When installed after a (X) grade filter, it lowers the maximum contents of residual oil to 0,003 mg/m ³ .		Used in the pharmaceutical industry, for dental applications, in photographic workshop, packaging and galvanic treatments.

Installation



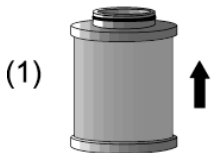
Operations to be performed by qualified personnel. Never operate with plants under pressure. The user is responsible to ensure that the filter will never be operated with pressure exceeding the nominal values. Eventual over-pressure could be dangerous both for the operator and the equipment.

FT*008 – FT*120

The filter assembly and installation procedures are as follows:



- If provided, install the clogging indicator or the Differential Pressure Gauge (optional) into the filter head. See specific point.



- Connect the filter head to the compressed air piping and check that the airflow respects the direction of the arrow positioned on the filter head cap (2). **To fix the filter head into the pipeline ends use only medium-strength thread locker glue or Teflon (PTFE). Do not use absolutely sealant and glue of Benzene or Chlorine-Methane base, which can damage and breaking the optional equipment installed.**



- Clean accurately the extremities of the piping and the filter head, after the installation, to remove any shaving, slaver or scrap from tooling.

- Lubricate the two O-rings and the sealing surfaces of the filter head and cartridge, use multipurpose grease (SILICON FREE).

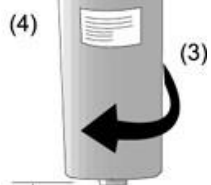
- Fit the filter cartridge (1) on the filter head simply by pressing, tightness is ensured by two o-ring.

- Fit the filter bowl and tight it accurately.



- The filters must always be installed in a vertical position with sufficient space around and below them. (see minimum distance C in the technical data table) so as to be able to disassemble the bowl and cartridge as shown (3).

- Stick the adhesive label showing the month and year for the next filtering element change (max. one year) on the filter bowl (4).



- Apply the stamps which show the filtering grade on the plastic cap (2) and the cartridge stick in the filter bowl.

- Pressurize the plant like shown at paragraph “Starting up” and check for air leakage.



Installation

FT*160 – FT*400

The filter assembly and installation procedures are as follows:



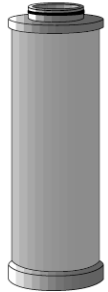
(1)

- If provided, install the clogging indicator or the Differential Pressure Gauge (optional) into the filter head. See specific point.



(2)

- Connect the filter head to the compressed air piping and check that the airflow respects the direction of the arrow positioned on the filter head cap (1).



(3)

- Clean accurately the extremities of the piping and the filter head, after the installation, to remove any shaving, slaver or scrap from tooling.

- Lubricate the two O-rings and the sealing surfaces of the filter head and cartridge. Use multi-purpose grease (SILICON FREE).

- Fit the filter cartridge (3) on the filter head (1) centering the filter bottom hole with the screwed rod (2). Tight the hexagonal nut (4) fixing the element.

- Fit on the filter bowl the drain (see specific instructions).

- Fit the filter bowl (5) and tight it accurately.



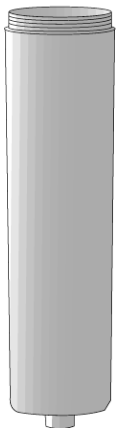
(4)

- The filters must always be installed in a vertical position with sufficient space around and below them (see minimum distance C in the technical data table) so as to be able to disassemble the bowl and the cartridge as shown.

- Stick the adhesive label showing the month and year for the next filtering element change (max. one year) on the filter bowl (5).

- Apply the stamps which show the filtering grade on the plastic cap (1) and the cartridge stick in the filter bowl.

- Pressurize the plant like shown at paragraph "Starting up" and check for air leakage.



(5)

Installation of Accessories



Operations to be performed by qualified personnel. Never operate with plants under pressure. The user is responsible to ensure that the filter will never be operated with pressure exceeding the nominal values. Eventual over-pressure could be dangerous for both the operator and equipment.



Key

Optional

- DIG 04 Differential Pressure Gauge
- DIG 05 Differential Pressure Gauge with alarm led
- DIG 06 Differential Pressure Gauge with volt free electric contact (cable L1,80m)
- CLI 02 Pop-Up Clogging Indicator
- MDR 04 Manual Drain
- ATD 03 Internal Float Drain
- ATD 02 Mini Float Drain
- SCG 20 Float Drain
- SCE 04 Mini timed drain
- SCE 02 Timed Drain
- SEC 02 Zero loss "intelligent" drain

CLI 02 Description

The instrument gives a visual indication of the filter element clogging, by using the compressed air pressure difference, between input and output connections of filter. The green field indicates that the filter cartridge is clean, otherwise the red field indicates that the filter cartridge is dirty or clogged, so it must be replaced.

Maximum working pressure : **CLI02 = 16 barg / 230 psig**

Maximum working temperature : **CLI02 = 120 °C / 250 °F**

CLI 02 Installation

- Take CLI02 out from the packing and check if there are no damages.
- Before connecting the CLI02 to the filter head you must take off the inner part of plastic data cover, which is located on the top of filter head.
- Turn the two screws out from the filter head.
- Turn out the two stainless steel screws (on the CLI02) for 5mm.
- Before you install CLI02 on the filter head, check if two O-Rings on the bottom side are in the right position.
- The arrow on the side of CLI 02 must be directed in the same direction as arrow on the plastic cover of the filter head, to ensure the correct air flow.
- Turn the screws in, to fix the CLI02 on the filter head.

DIG04 – DIG05 – DIG06 Description

DIG04 – DIG05 – DIG06 is a Differential Pressure Gauge. It works on the difference between inlet and outlet pressure. When the filter cartridge is clogged, the inlet pressure is higher than the outlet pressure of the filter. The material used to manufacture DIG04 – DIG05- DIG06 is reinforced plastic,

Maximum working pressure : 16 barg / 230 psig

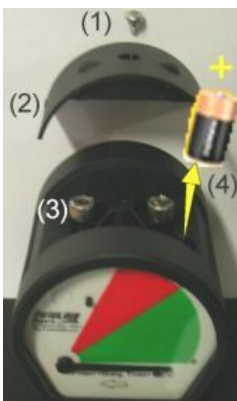
Maximum working temperature : 120 °C / 250 °F

DIG04 – DIG05 – DIG06 Installation

- Take the Differential Pressure Gauge out from the packing and check if there are no damages.
- Turn the screw (1) out to open the top plastic cover (2) from Differential Pressure Gauge body.
- Turn out the two stainless steel screws (3) of the Differential Pressure Gauge for 5 mm.
- Before you install Differential Pressure Gauge on the filter head, check if two O-Rings (5) on the bottom side are in the right position.
- The arrow (6) on the Differential Pressure Gauge must be directed in the same direction as arrow on the plastic cover of the filter head, to ensure the correct air flow.
- Turn the screws (3) in, to fix the Differential Pressure Gauge on the filter head.
- Put the plastic top cover (2) on the Differential Pressure Gauge and turn the screw (1) in.

DIG05 Maintenance

- Every year open the top plastic cover (2) and replace the battery (4) – Type MN21/23, A23, K23A or LRV08 (12 V). Ensure (+) positive pole upside.



DIG 06 Electric Connection

DIG 06 differential gauge permits to send the cartridge replacement signal at distance, by using a “volt free” electric contact:

- Efficient filter element (indicator on green area): wires Yellow/Green-Brown contact closed and wires Yellow/Green-Blue contact open.
- Replace filter element (indicator on red area): wires Yellow/Green-Brown contact open and wires Yellow/Green-Blue contact closed.



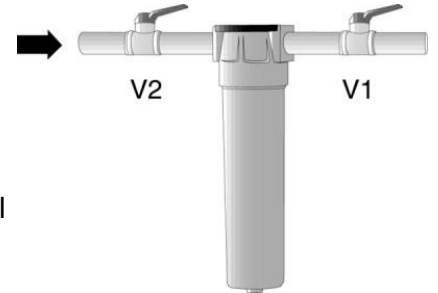
IP Protection Degree: 55

Maximum Volt, Ampere: 50V – 500mA



Starting Up

- Check that the operating data (pressure, temperature and flow- rate) do not exceed those on the specification plate.
- Close the on-off valve (V1) down-line from the filter, slowly open the on-off valve (V2) up-line from the filter, and let the air flow from the manual or automatic drain valve for a few minutes; close the drain valve and open the on-off valve (V1) down-line from the filter.



Operation

- At least once a week (grade P, S, X) check if condensate drain takes place regularly.
- If installed, at least once a week (grade P, S, X), check if clogging indicator or Differential Pressure Gauge is in the green area.
- If a filter grade Z is installed, check the good efficiency of the pre-filters, otherwise the presence of any oil and water aerosols make the absorption power of the filter void.

Maintenance

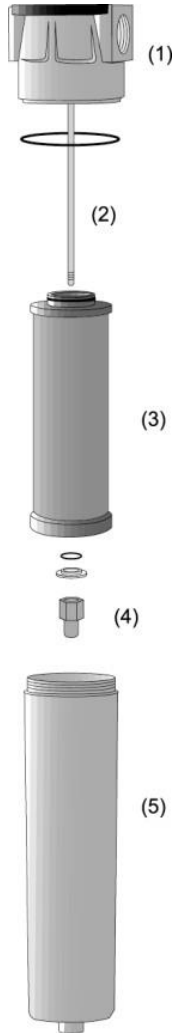


Operations to be performed by qualified personnel. **Before working on the filter, ensure that all parts of the system have been depressurized.**



A calibrated hole present in the filter head, warns the operator with a whistle of air, in case he works with filter under pressure.

Cartridge Replacement



Filters with grade P, S, X : change the filter cartridge at least once a year or when the clogging device recommends it (if installed) - Δp max. 0,6 bar.

Filters with grade Z (activated carbon) : the average life of the filtering element depends on the type of use and varies from case to case. But recommendation is that the cartridge must be replaced at least once a year.

- Remove the bowl (5).
- FT*160-400-Remove the hexagonal nut (4).
- Unthread the filter element (3).
- Clean accurately the bowl and the drain device installed.
- Clean accurately the head, in particular the seat for cartridge insertion.
- Lubricate the two O-rings and the sealing surfaces of the filter head and cartridge, use multipurpose grease (SILICON FREE).

NOTE : For the cleaning operations, use only PH neutral cleaning medium or general purpose detergent (not aggressive). Do not use absolutely cleaning products of Benzene or Chlorine-Methane base, which can damage and break the optional equipments installed.

- Fit the filter cartridge (3) on the filter head (1) simply by pressing, tightness is ensured by two O-ring.
- FT*160-400- Tight the hexagonal nut (4) fixing the element.
- Fit the filter bowl (5) and tight it accurately.
- Stick the adhesive label showing the month and year for the next filtering element change (max. one year) on the filter bowl (4).
- Pressurize the plant like shown at paragraph “Starting up” and check for air leakage.

Technical Data

Technical Data

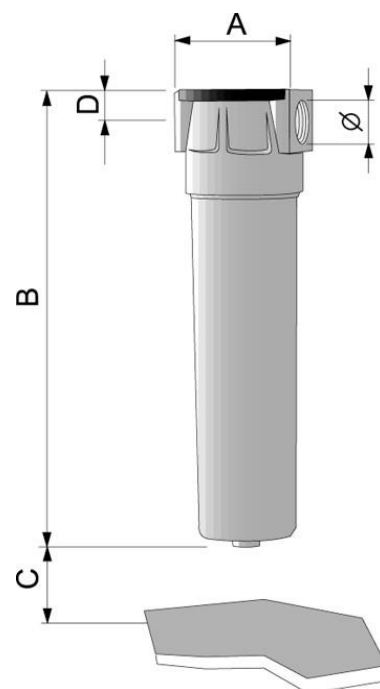
Maximum working pressure: FT*008 - FT*400 = 16 barg / 230 psig

Maximum working temperature: FT*008 - FT*400 = 120 °C / 250 °F

Model	Flow-Rate			Connections Ø [BSP-F]	Cartridge	Dimensions [mm]				Weight [kg]
	[Nl/min]	[Nm ³ /h]	[scfm]			A	B	C	D	
FT*008	850	51	30	G 3/8"	T*008	85	187	60	22	0.77
FT*012	1200	72	42	G 1/2"	T*012	85	187	60	22	0.77
FT*018	1850	111	65	G 3/4"	T*018	85	256	80	22	0.88
FT*030	3300	198	116	G 1"	T*030	125	263	100	32	2.2
FT*055	5500	330	194	G 1"	T*055	125	362	120	32	2.6
FT*080	8100	486	286	G 1.1/2"	T*080	125	452	140	32	2.9
FT*120	12500	750	441	G 1.1/2"	T*120	125	643	160	32	3.7
FT*160	16800	1008	593	G 2"	T*160	160	695	520	45	7.4
FT*250	26000	1560	918	G 2.1/2"	T*250	160	935	770	45	10
FT*400	42000	2520	1483	G 3"	T*400	250	1170	780	60	25

Correction factor for operating pressure changes:

Inlet Air Pressure [barg]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Factor	0.25	0.38	0.50	0.65	0.75	0.88	1.00	1.13	1.25	1.38	1.50	1.63	1.75	1.88	2.00	2.13



Declaration of Conformity



DICHIARAZIONE DI CONFORMITA'
DECLARATION OF CONFORMITY
ÜBEREINSTIMMUNGSERKLÄRUNG
DECLARATION DE CONFORMITE
DECLARACIÓN DE CONFORMIDAD
DECLARAÇÃO DE CONFORMIDADE

(Allegato VII Direttiva 97/23/EC - PED)
(Annex VII Directive 97/23/EC - PED)
(Anlage VII Richtlinie 97/23/EC - PED)
(Annexe VII Directive 97/23/EC - PED)
(Adjunto VII Directiva 97/23/EC - PED)
(Anexo VII Directriz 97/23/EC - PED)

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FRIULAIR S.r.l. Via Cisis, 36
33050 Cervignano del Friuli (UDINE)
ITALY

Dichiariamo che l'apparecchiatura sotto elencata
We herewith declare that the following product
erklären hiermit, dass nachstehendes Gerät
Déclarons que l'appareil ci-dessous
Declaramos que el equipamiento detallado más abajo
Declaramos que o equipamento abaixo discriminado

Tipo : Filtro per aria compressa serie FT
Type : Compressed air filter FT series
Typ : Druckluftfilter Serie FT

Type : Filtre à air comprimé série FT
Tipo : Filtro para aire comprimido serie FT
Tipo : Filtro para ar comprimido série FT

Model	Category	Volume	Max Pres.	Max Temp.
FT* 008	SEP	0.5 l (0.018 cuft)	16 barg (230 psig)	120 °C (250 °F)
FT* 012	SEP			
FT* 018	SEP	0.6 l (0.021 cuft)		
FT* 030	SEP	1.6 l (0.057 cuft)		
FT* 055	SEP	2.2 l (0.078 cuft)		
FT* 080	SEP	2.9 l (0.102 cuft)		
FT* 120	I	3.8 l (0.134 cuft)		
FT* 160	I	6.1 l (0.215 cuft)		
FT* 250	I	8.3 l (0.293 cuft)		

è in conformità con la Direttiva 97/23/EC - PED. Modulo di valutazione H. Ente notificato:
is in compliance with the Directive 97/23/EC - PED. Evaluation Module H. Notified body:
mit den Richtlinien 97/23/EC - PED übereinstimmt. Bewertungsformular H. Zustellungsanstalt:
est conforme à la Directive 97/23/EC - PED. Module d'évaluation H. Organisme notifié:
está de conformidad con la Directiva 97/23/EC - PED. Módulo de evaluación H. Ente notificado:
está conforme à Directriz 97/23/EC - PED. Formulário de Avaliação H. Organismo notificado:

Royal & SunAlliance
Manchester - UK

General Manager **LUIGI VACCARO**

Cervignano del Friuli, November 18th 2002


Firma / Signature

Warranty

Pilot Air Compressors Pty Ltd **manufactured goods - 1 Year Warranty and 3 Year Warranty (where applicable)**

(DATE)

Pilot Air Compressors Pty Ltd (**Pilot Air**) warrants to the first purchaser of goods (manufactured by it) (Product) from Pilot Air and the last purchaser prior to installation that, subject to compliance with the Conditions of Warranties below that:

1. For a period of 12 months from the date of purchase, the Product will be free from defects due to defective factory workmanship or materials; and
2. For a period of 12 months from the date of purchase that Pilot Air branded accessories supplied by Pilot Air will be free from defects due to defective factory workmanship or materials.
3. The compressor pump only (and excluding all other components of the unit) in the following units:
 - a. TM Series Units
 - b. Classic K Series Units
 - c. Petrol Industrial Series Units
 - d. Three Phase Industrial Series Units

will be free from defects due to defective factory workmanship or materials for a period of 3 years from the date of purchase.

4. The 'DCR', 'PAC' and 'FP' Series of Rotary Screw type compressors will be free from defects due to defective factory workmanship or materials for 3,000 working hours in the first 12 months from the date of purchase. This warranty is extended to a period of 2 years for the air end of the DCR PAC and FP Series Compressors.
5. Where compressors are powered with either petrol or diesel engines, the engine only is subject to the warranty provided by the manufacturer of the engine.
6. Non-Pilot Air accessories (meaning accessories which are not Pilot Air manufactured and branded) which are supplied by Pilot Air are not covered by this warranty. Purchasers are referred to the individual manufacturer's warranty. Purchasers can request a copy of the applicable warranties by contacting Pilot Air using the contact details below.

Warranty

Conditions of Warranties

The warranties specified herein are subject to the following conditions:

- (a) Pilot Air will not be liable for a breach of any of its warranties unless the Claimant provides proof of purchase of the Product and makes a written claim to Pilot Air at the address set out below, either within 30 days after the defect would have become reasonably apparent, or if the defect was reasonably apparent prior to installation, then the claim must be made prior to installation;
- (b) The warranties are not transferable;
- (c) The Product must be installed, operated, maintained and serviced strictly in accordance with the relevant Pilot Air literature current at the time of installation and must be installed in conjunction with the components or products specified in the Pilot Air literature. To obtain copies of such literature go to www.pilotair.com.au or telephone Pilot Air on (02) 9648 3099;
- (d) If the claimant chooses to rely upon any warranty specified herein the claimant's sole remedy under the warranty for breach of the warranty is (at Pilot Air's option) that Pilot Air will either supply replacement Product, rectify the affected Product or pay for the cost of the replacement or rectification of the affected product;
- (e) In the circumstances where the guarantees under the Australian Consumer Law do not apply in respect to the purchase of its Products, Pilot Air will not be liable for any losses or damages (whether direct or indirect) including property damage or personal injury, consequential loss, economic loss or loss of profits, arising in contract or negligence or howsoever arising. Without limiting the foregoing, Pilot Air will not be liable for any claims, damages or defects arising from misuse of the Product, inadequate maintenance and storage of the Product, repairs rendered necessary or arising from the use of non-genuine Pilot Air parts in the product, normal wear and tear maintenance of the Product, deterioration of any part of the Product due to normal wear and tear, work performed on the Product other than by an authorised Pilot Air service technician or their agent, use of the Product for any purpose other than which it was intended to be used, use of the Product after essential parts and accessories have been removed, operating the Product continuously under excessive load, and if the serial/model label has been removed or obscured on the Product;
- (f) In circumstances where the guarantees under the Australian Consumer Law do not apply in respect to the purchase of its Product/s: all warranties, conditions, liabilities and obligations other than those specified herein are excluded to the fullest extent allowed by law.

- (g) Parts repaired or replaced under any warranty specified herein are warranted only for the remaining period of the original warranty period.

Warranty

- (h) All defective parts that are the subject of a claim under any warranty specified herein become the property of Pilot Air.
- (i) The warranties specified herein do not apply to the following parts or conditions and cannot be relied upon in the situation whereby:
- i) any Pilot Air product or part has been subject to misuse, negligence, accidental damage, improper or inadequate use, inadequate maintenance or improper storage or been operated under unusual conditions or continuously under excessive load;
 - ii) the defect has been caused by the use of non-genuine Pilot Air parts;
 - iii) the defect or deterioration was due to normal use, fair wear and tear and exposure, unless due to any defect in material or workmanship;
 - iv) work was undertaken on any Pilot Air product or part by an unauthorised Pilot Air agent;
 - v) the serial /model label has been removed from any Pilot Air product or part;
 - vi) normal maintenance items/parts including valves and piston rings
- (j) Warranty repairs on all 240 Volt and portable units shall be on a back to base basis that the Claimant is required to return the Product to the nominated warranty agent as advised by Pilot Air, provided that such costs are not significant;
- (k) The replacement or repair of any defective part or correction of operating faults under any warranty specified herein is to be made only after Pilot Air, or its authorised representative, have examined the unit to their satisfaction, with their decision being final.
- (l) In the circumstances where Pilot Air accepts or it is determined by Pilot Air that the claimant has a valid claim under this warranty, and subject to paragraph (m) below, Pilot Air will bear all of the claimant's reasonable and proximate expenses incurred as a result of claiming under this warranty. The claimant is to inform Pilot Air in writing to the address identified below within 21 days from when the claimant first makes a claim under this warranty of all such claims and expenses and provide it with copies of all receipts and invoices where relevant before any reimbursement is made by Pilot Air to the claimant. The claimant is responsible for all other costs of claiming under this warranty.

- (m) Pilot Air will not be responsible for any courier, transport or freight related costs whatsoever associated with the return to it of any defective Product that have not first been approved by it. Pilot Air reserves the right to first inspect any defective Product and decide how, if at all, the defective Product is to be returned to it. Any unapproved courier, transport or freight related costs will be to the claimant's account.

Warranty

Important Note:

If you acquire goods from Pilot Air as a consumer according to the Australian Consumer Law, our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Any rights a consumer may have under any warranty specified herein are in addition to other rights and remedies of a consumer under a law in relation to the goods to which these warranties relate. Nothing in this document shall exclude or modify any legal rights a customer may have under the Australian Consumer Law or otherwise which cannot be excluded or modified at law.

Contact details if you wish to make a claim under any warranty specified herein:

For more information or to make a claim under any warranty specified herein please telephone Pilot Air on (02) 9648 3099, email Pilot Air via our website: <http://www.pilotair.com.au> or write to Pilot Air at:

Pilot Air Compressors Pty Ltd 115 Beaconsfield Road
Silverwater NSW 2128

