

SIP Industrial Products Limited

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Shepshed  
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Leicestershire  
LE12 9NH  
United Kingdom



## **SIP BD 3HP Belt Drive Piston Air Compressors**

*SIP Code 06456 06458 06476 06477*

For help or advice please contact  
your distributor, or sip directly on:

Tel.: 01509 500400

Email:

[sales@sip-group.com](mailto:sales@sip-group.com)

or

[customerservices@sip-group.com](mailto:customerservices@sip-group.com)

Please read and fully understand the instructions in this manual before  
operation. Keep this manual safe for future reference.



# INDEX

<i>Page</i>	<i>Content</i>
4	Safety Symbols Used Throughout This Manual
4 - 5	Safety Instructions
6 - 7	Electrical Connection
8	Guarantee
9	Getting To Know Your Air Compressor
10	Technical Specification
11 - 12	Assembly Instructions
13 - 15	Operating Instructions
16 - 18	Maintenance
19	Troubleshooting
20	Parts Information
22	UK - Declaration of Conformity
23	EU - Declaration of Conformity

## ***SAFETY INSTRUCTIONS***

Before using your compressor it is in your own interest to read and pay attention to the following safety rules. This manual cannot cover all eventualities; common sense must be applied.

1. Compressed air is dangerous. Do not point the jet of air at persons or animals and do not discharge compressed air against the skin.
2. DO NOT operate your compressor with any protection guard removed.
3. Repairs must only be carried out by a qualified engineer. If problems occur, contact your dealer.
4. Before carrying out any maintenance, make sure that the pressure is released from the air tank and that the compressor is disconnected from the electrical supply.
5. DO NOT leave pressure in the receiver overnight, or when transporting.
6. DO NOT adjust, or tamper with the safety valves. The maximum pressure is factory set, and clearly marked on the compressor.
7. DO NOT operate in wet or damp conditions. Keep the compressor dry at all times. Similarly, clean air will allow the compressor to work efficiently.
8. Do not use in dusty or otherwise dirty locations; dust ingress will invalidate warranty.
9. Some of the metal parts can become quite hot during operation. Do not touch these until the compressor has cooled down.
10. Always set the pressure regulator to the recommended setting for the tool.
11. When spraying flammable materials e.g. cellulose paint, ensure that there is sufficient airflow and keep clear of any source of ignition.
12. Before spraying any material always consult paint manufacturers instructions for safety and usage.
13. Protect yourself. Goggles will protect your eyes from flying particles. Face masks will protect you against paint spray and fumes.
14. Do not apply strain to electrical cables and make sure that air hoses are not kinked or wrapped around the compressor.
15. When disconnecting air hoses or other equipment from your compressor, make sure that the air supply is turned off at the outlet and vent all pressurised air from within the tank and other equipment attached to it.
16. Make sure that children and animals are kept well away from the compressor and any equipment attached to it.

## SAFETY INSTRUCTIONS Cont...

Make sure that all individuals using the compressor have had the necessary training and have read and fully understand these operating instructions.

Make sure that any equipment or tool used in conjunction with your compressor has a safe working pressure exceeding that of the compressor.

Be careful when transporting the compressor to prevent tipping over

Permanently installed systems must be installed by a competent engineer.

These compressors produce noise levels in excess of 70dB(A). Persons working near the compressor must be supplied with ear protection.

The compressor must be in a suitable environment, well ventilated, with plenty of air flow around the pump to ensure cooling.

Always maintain a minimum of 4metres from the compressor to the working area; this is to maximise safety and reduce ingress of airborne particles blocking/clogging the cooling air vents & air filter.

Should excessive signs of built up around the air vents / intakes (including discoloration by over-spray), then clearly the distance needs to be increased.

Never modify the compressor in any way as this will automatically invalidate the warranty - if in doubt contact SIP Customer Services for advice.

Non-standard installation of the compressor will not be covered under warranty i.e. van / commercial vehicle installation.

The compressor is fitted with with a ON/OFF pressure switch; always use this to turn on and switch off the compressor, **do not** switch off at the mains supply or unplug from the mains supply to stop the compressor; Always press the OFF button on the pressure switch, this will prevent the compressor starting up with pressure in the cylinder head.

Always position the compressor at least 50cm from the wall / partition to permit optimal circulation of fresh air and guarantee correct cooling.



**Warning:** This compressor contains surfaces which may reach a high temperature during operation. Never operate with the motor housing removed.



**Warning:** Risk of electrical injury or damage

## ELECTRICAL CONNECTION

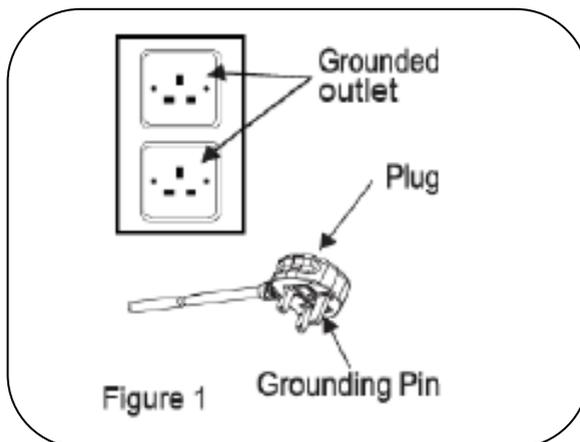


**Warning** Read these electrical safety instructions thoroughly before connecting the product to the mains supply.

This compressor is for use with a 230V UK domestic socket and should be grounded/earthed. Make sure that the product is connected to an outlet that has the same configuration as the plug (see Figure 1). If an extension lead is used, make sure the cable size is sufficient as to be able to take the current of the compressor.

Check with a qualified electrician if the grounding instructions are not understood or there is doubt as to whether the product is properly grounded. Do not modify the plug provided. If it will not fit the outlet, have the proper outlet installed by a licensed electrician.

Improper installation of the grounding plug will result in a risk of electric shock. If repair or replacement of the cable or plug is necessary, consult a qualified electrician.



We strongly recommend that this machine is connected to the mains supply through a Residual Current Device (RCD).

If you are not sure, consult a qualified electrician. DO NOT try to do any repairs.

## ELECTRICAL CONNECTION Cont...



**Note:** Always make sure the mains supply is of the correct voltage and the correct fuse protection is used. In the event of replacing the fuse always replace the fuse with the same value as the original.



**Warning:** Improper use of extension leads may cause inefficient operation of the item which can result in overheating and motor damage.



**Warning:** The wires in the power cable of this product are coloured in accordance with the following code:  
Blue = neutral / Brown = live / Yellow and Green = earth

### NOTE:

This compressor is designed for intermittent operation.

It is not designed to run continuously.

It is fitted with a S3 50 motor; simply speaking the motor can run for 5 minutes at a time, followed by a rest period. This is because the “50” in S3 50 indicates a 50% duty cycle, meaning the motor runs for half the time and rests for the other half within a 10-minute cycle.

The compressor is fitted with with a ON/OFF pressure switch; always use this to turn on/start and switch off/stop the compressor, do not switch off at the mains supply or unplug from the mains supply to stop the compressor.

Always press the OFF button on the pressure switch, this will prevent the compressor starting up with pressure in the cylinder head which in turn will prevent damage / failure of the motor.

## **GUARANTEE**

This item is covered by a 24 month parts and labour warranty covering failure due to manufacturers defects.

This does not cover failure due to misuse or operating the item outside the scope of this manual - any claims deemed to be outside the scope of the warranty may be subject to charges Including, but not limited to parts, labour and carriage costs.

Consumable items such as air filters, vee-belts, wheels, etc are not covered by the warranty.

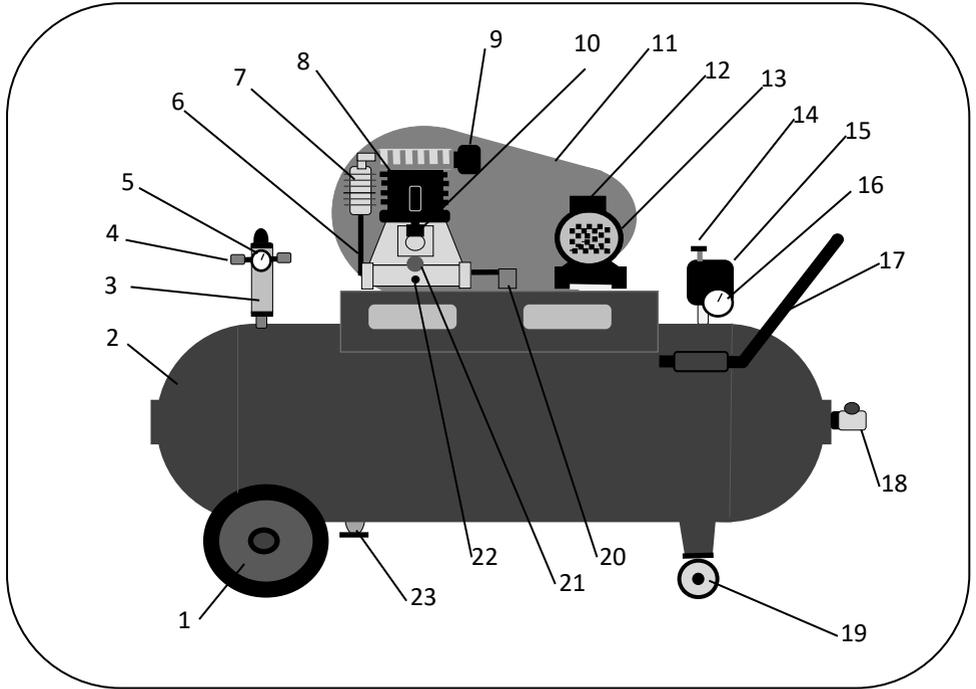


**Note:** Proof of purchase will be required before any warranty can be honoured.



**Note:** None standard installation of the compressor is not covered under warranty: i.e van / commercial vehicle installation

# GETTING TO KNOW YOUR COMPRESSOR



<i>Item</i>	<i>Description</i>	<i>Item</i>	<i>Description</i>	<i>Item</i>	<i>Description</i>
1	Large Wheel	9	Air Filter	17	Handle
2	Air Receiver	10	Oil Filler c/w Breather	18	Gate Valve
3	Air Regulator	11	Safety Guard	19	Front Castor
4	Air Quick Connector	12	Motor Enclosure	20	Non Return Valve
5	Working Pressure Gauge	13	Motor 3HP	21	Oil Sight Glass
6	Delivery Pipe	14	On/Off Switch	22	Oil Drain Bolt
7	Pump Aftercooler	15	Pressure Switch	23	Condensate Drain Valve
8	Pump	16	Receiver Pressure Gauge		

## TECHNICAL SPECIFICATION

<i>Model</i>	<i>06456 BD 3HP 50L</i>	<i>06458 BD 3HP 100L</i>	<i>06476 BD 3HP 150L</i>	<i>06477 BD 3HP 200L</i>
<i>Input Voltage</i>	220 - 240V ~ 50Hz			
<i>Motor Power</i>	3HP / 2.2kW			
<i>Air Receiver</i>	50L	100L	150L	200L
<i>Max Pressure</i>	10Bar / 145psi			
<i>Pump Speed</i>	1130rpm			
<i>Piston Displacement</i>	14cfm - 400L/Min			
<i>Free Air Delivered</i>	10cfm - 285L/Min			
<i>Insulation</i>	F			
<i>Protection</i>	IP54			
<i>Noise L<sub>w</sub>A</i>	97dB(A)			
<i>Dimension L x W x H</i>	820*380*730mm	1070* 380 *790mm	1270*460*890mm	1570*460*890mm
<i>Weight</i>	GW 58kG NW 55kG	GW 78kG NW 72kG	GW 104kG NW 90kG	GW 113kG NW 97kG

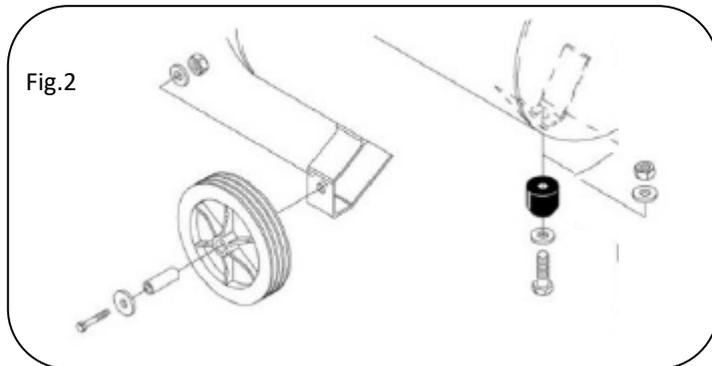
## ASSEMBLY INSTRUCTIONS - 06456 06458

### PREPARATION

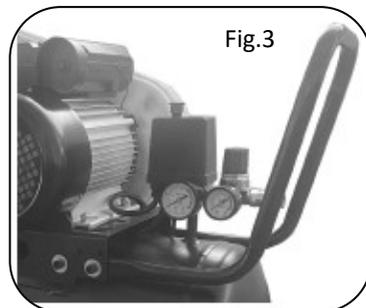
Before beginning the assembly of the product make sure the assembly area is clean and ready to carry out the different operations required to build the compressor. Tools will be required (not supplied).

### WHEEL & FOOT ASSEMBLY

1. Insert the bolt along with the washer through one of the wheels.
2. Fit the washer and screw in order to tighten the full assembly as indicated in the picture below (Fig.2).
3. Repeat this step for the second wheel.
4. Fit the rubber feet with the nuts, bolts & washers provided



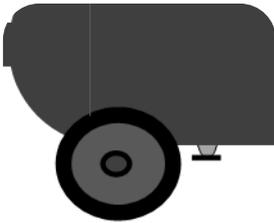
Fit the handle using the nuts & bolts provided (Fig.3)



## ASSEMBLY INSTRUCTIONS - 06476 06477

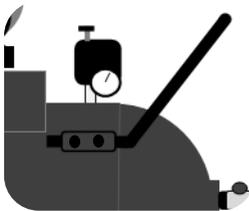
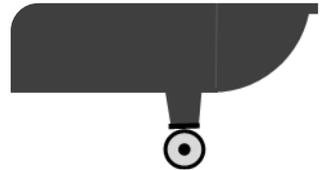
### PREPARATION

Before beginning the assembly of the product make sure the assembly area is clean and ready to carry out the different operations required to build the compressor. Tools will be required (not supplied).



Fit the large fix wheels to the receiver mount side holes with the nuts and bolts provided.

Fit the swivel castor wheels to the receiver mounts with bottom holes. Use the nuts & bolts provided.

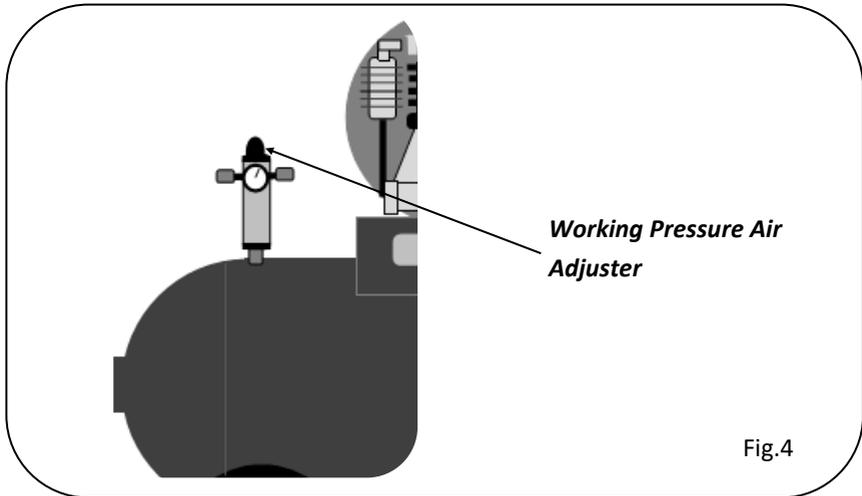


Slide the handle into the sockets on the air receiver. Retain in place with the bolts provided.

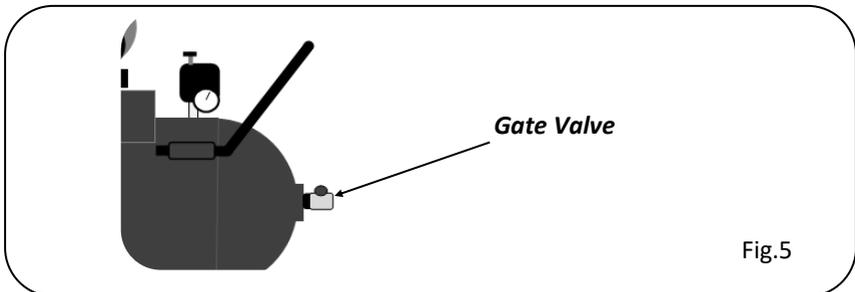
## OPERATING INSTRUCTIONS

### BEFORE EACH START-UP

1. Press the ON/OFF switch down to the OFF position.
2. When using the air pressure regulator, turn the knob anti - clockwise until it stops. Fig.4
3. Attach air hose/accessories or air tools (not included) to the airline outlet coupler.
4. Now adjust the working pressure on the regulator for your air tool. Most air tools work at @ 6Bar / 90psi. Check the specification before use.



Alternatively, connect your air equipment to the gate valve on the end of the air receiver. Fig.5



### HOW TO START THE COMPRESSOR

1. Ensure that the condensate drain valve is closed on the tank. Fig.6
2. Plug in the mains lead.
3. Pull the ON/OFF switch knob **UP** to the ON position and allow tank pressure to build. Motor will stop when tank pressure reaches “cut-out” pressure ( 10Bar).
4. Turn the air pressure regulator clockwise until desired working pressure is reached.
5. The compressor is ready for use.
6. Once air is drawn from the tank, the compressor will automatically cut back in when the pressure in the tank is reduced to “cut-in” pressure (8.5 Bar) and starts pumping.



**Danger / Caution:** This compressor contains surfaces which may reach a high temperature during operation. Never operate with the motor housing removed. Do not touch the compressor whilst it is running.



**Note:** Prior to first use check the oil level is correct.



**Danger / Caution:** Always fit ant-vibration mounts to floor standing air receivers. Air receivers welds / joints can fracture if not fitted with anti-vibration mounts



**Danger / Caution:** Always leave a minimum of 50cm from the rear of the guard to the wall / partition it is being placed against. Good ventilation is required at all times.



**Danger / Caution:** Never fully or partially box in the air compressor. Compressor will overheat and warranty will be invalid.

## OPERATING INSTRUCTIONS

### HOW TO STOP & SHUT-DOWN THE COMPRESSOR

1. Press the ON/OFF switch knob down to the OFF position.
2. Unplug the mains lead.
3. Reduce the pressure in the tank until empty.
4. Open the tank drain valve to allow condensate to drain (Fig.6). Collect and dispose of according to local regulations. You may need to tip the tank to remove all the condensate.



**Note:** Ensure that the air receiver is drained daily using the drain valve and that the condensate collected is disposed according to local regulations.



**Danger / Caution:** Connect all the fittings and adaptor before the tank is full of air. It will allow you to connect and remove your air tools safely.



**Danger / Caution:** Escaping air and moisture can propel debris that may cause eye injury. Wear safety glasses when opening the drain valve.

## MAINTENANCE

Before carrying out any operation, always pull out the plug and drain the receiver completely.

- **Drain the tank / air receiver (Fig.6).** (Refer to page 15)

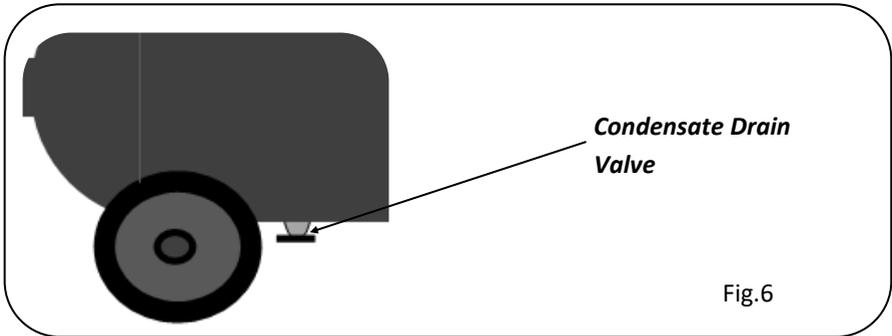


Fig.6

- **Changing the oil.**

Replace the oil after the first 100 hours of operation and every 300 hours subsequently.

Used oil and condensate must be disposed of in accordance with the environmental regulations. Seek advice from your local authority.

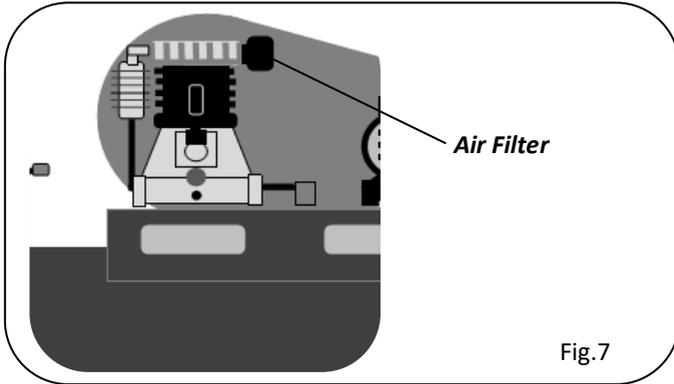
Never mix different grade oils and check the colour. If it changes to a darker colour, replace immediately the oil.

The drain plug is located beneath the oil sight glass.

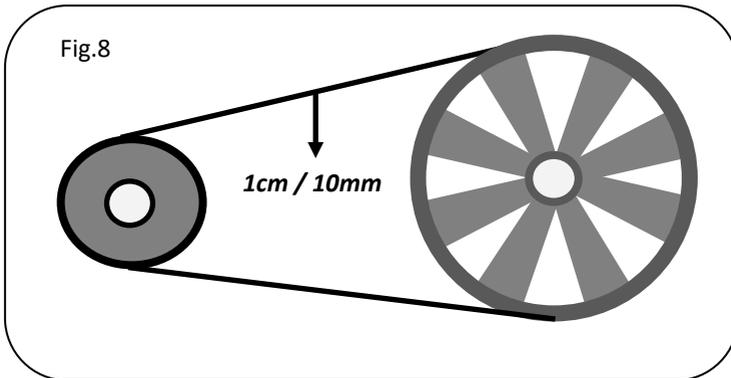
We recommend to use SIP Advanced Compressor Oil, for more information contact **SIP Customer Service**.

- **Changing the Air Filter.**

The air filter should be changed after 100 hours of use. Please, get in touch with SIP customer service for more information. Fig.7.



- **Checking the Belt Tension**  
Periodically (monthly) check the drive bet.  
Ideally it will have around 1cm (10mm) of movement when tensioned.  
(Fig.8)



**Note:** Loose drive belts cause excessive wear to the motor & pump pulleys which will not be covered under warranty.

## **MAINTENANCE Cont...**

- **Cleaning & Storage.**

Clear dust from the machine at regular intervals, if used in a dirty environment the machine should be cleaned after each use.

If the machine is not going to be used for a long time, store it in the original packing and in a dry place.

<b>SCREW RECOMMENDED TORQUE SETTINGS</b>		
	Min Torque / Nm	Max Torque / Nm
<b>Screw M6</b>	9	11
<b>Screw M8</b>	22	27
<b>Screw M10</b>	45	55
<b>Screw M12</b>	76	93
<b>Screw M14</b>	121	148

<b>GENERAL MAINTENANCE SCHEDULE</b>			
<b>FUNCTION</b>	After First 100Hrs	Every 100Hrs	Every 300Hrs
<b>Intake Filter</b>		✓	
<b>Oil Change</b>	✓		✓
<b>Head Bolts Tensioning</b>	Prior To Initial Starting		
<b>Drain Receiver Condensate</b>	Daily		
<b>V Belt Tension</b>	Periodically / Monthly		

## TROUBLESHOOTING

<i>FAULT</i>	<i>CAUSE</i>	<i>REMEDY</i>
<i>Air Leaking From Pressure Switch</i>	Dirt or ingress preventing pastille from seating	Unscrew the top of the NRV (Non Return Valve).  Remove pastille and clean.
<i>Poor performance; Frequent Start-ups.</i>	Duty cycle exceeded. Check gaskets & seals etc. Look for leaks.	Replace any faulty gas-kets etc inc valve plate.
<i>Compressor suddenly stops and restarts after several minutes</i>	Thermal cut-out stops motor due to overheating.	Clean air filter, guard vents, motor fan cowl ventilation, oil level and mains supply.  Confirm compressor is working within duty cycle.
<i>The compressor does not cut out at max pressure and safety valve blows off</i>	Potential pressure switch failure.	Replace pressure - competent trained personnel only

Always ensure that the air receiver is totally depressurised prior to working on the compressor - always isolate from the mains supply.

## ***EXPLODED DRAWING & PARTS INFORMATION***

- Visit [www.sip-group.com](http://www.sip-group.com) & enter you SIP 5 - digit product code.
- Contact SIP Customer Service:
- TEL 01509 500400
- Email: [customerservice@sip-group.com](mailto:customerservice@sip-group.com)



# UK - DECLARATION OF CONFORMITY

We  
SIP (Industrial Products) Ltd  
Gelders Hall Road  
Shepshed  
Loughborough  
Leicestershire  
LE12 9NH  
England

As the manufacturer within the UK, England, Scotland & Wales, declare that the

SIP 3HP 50L Air Compressor 230V - SIP Part No. 06456  
SIP 3HP 100L Air Compressor 230V - SIP Part No. 06458  
SIP 3HP 150L Air Compressor 230V - SIP Part No. 06476  
SIP 3HP 200L Air Compressor 230V - SIP Part No. 06477

Conforms to the requirements of the following regulation(s), as indicated.

Supply of Machinery (Safety) Regulations 2008  
Electromagnetic Compatibility - Directive 2014/30/EU  
The Restriction of the Use of Certain Hazardous Substances in Electrical and  
Electronic Equipment Regulations 2012  
Noise Emissions in the Environment for Equipment for use Outdoors Regulations 2001  
Simple Pressure Vessels (Safety) Regulations 2016

Noise measurements have been made in accordance with the internal control of production  
(Schedule 45/Annex V). The declared noise values are as follows:

Guaranteed sound power level : 97dB(A)

And the relevant harmonised standard(s), including

BS EN 60204-1:2018  
BS EN 1012-1:2010  
BS EN61000-6-1:2007  
BS EN61000-6-1:2007/A1:2011  
BS EN ISO 3744:2010



Mr P. Ippaso - Managing Director  
SIP (Industrial Products) Ltd  
Date: 04/12/2023



# EU - DECLARATION OF CONFORMITY

We

SIP (Machinery Europe) Ltd  
ASM Chartered Accountants  
First Floor Block One  
Quayside Business Park  
Dundalk  
County Louth  
Republic of Ireland

As the manufacturers authorised representative within the EC declare that the

SIP 3HP 50L Air Compressor 230V - SIP Part No. 06456  
SIP 3HP 100L Air Compressor 230V - SIP Part No. 06458  
SIP 3HP 150L Air Compressor 230V - SIP Part No. 06476  
SIP 3HP 200L Air Compressor 230V - SIP Part No. 06477

Conforms to the requirements of the following directive(s), as indicated.

2006/42/EC - Machinery Directive  
2014/30/EU - EMC Directive  
2011/65/EU - RoHS Directive  
2000/14/EC - Noise Emission Directive  
2014/29/EU - Pressure Equipment Directive

Noise measurements have been made in accordance with the internal control of production  
(Schedule 45/Annex V). The declared noise values are as follows:

Guaranteed sound power level: 97dB(A)

And the relevant harmonised standard(s), including

EN 60204-1:2018  
EN 1012-1:2010  
EN61000-6-1:2007  
EN61000-6-1:2007/A1:2011  
EN ISO 3744:2010



Mr P. Ippaso - Managing Director  
SIP (Machinery Europe) Ltd  
Date: 06/04/2023



Please dispose of packaging for the product in a responsible manner. It is suitable for recycling. Help to protect the environment, take the packaging to the local amenity tip and place into the appropriate recycling bin.

Never dispose of electrical equipment or batteries in with your domestic waste. If your supplier offers a disposal facility please use it or alternatively use a recognised recycling agent. This will allow the recycling of raw materials and help protect the environment.



FOR HELP OR ADVICE ON THIS PRODUCT  
PLEASE CONTACT YOUR DISTRIBUTOR,  
OR SIP

DIRECTLY ON:  
TEL: 01509 500400  
EMAIL:

[sales@sip-group.com](mailto:sales@sip-group.com)

or

[customerservice@sip-group.com](mailto:customerservice@sip-group.com)

[www.sip-group.com](http://www.sip-group.com)