



User Manual, Operating Instructions and Specifications



Air-Ex Soil Pick

Machine to be operated by trained personnel
Instructions to be read before use.



GENERAL TOOLING

• INNOVATION • DESIGN • MANUFACTURE • SUPPLY

Hy-Ram Engineering Co Ltd has a policy of continuous improvement in product quality and design. Hy-Ram Engineering Co Ltd therefore reserves the right to change the specification of its models at any time, without prior notice.

Important!

This manual forms a part of the product to which it relates. It should be kept for the life of the product. Any amendments issued by Hy-Ram Engineering Co Ltd should be incorporated in the text. The manual should be passed to any subsequent holder or user of this product.

Safety Information

This equipment should only be used by trained and competent operators.

As an operator, always ensure that you fully understand how the equipment functions and that you are fully aware of the dangers. Always wear the necessary protective clothing including adequate eye protection, hard hat, gloves, overalls, protective boots etc.





TRAINING & OPERATIONS MANUAL

This manual is applicable to the following serial number and above: 1001

air-exTM

THE FLEXIBLE MODULAR 'AIR-EX' SYSTEM
The safest, non-aggressive and non-invasive way to remove material
from unknown utilities, obstructions and tree roots.



This Safety Alert Symbol is used to call attention to items or operations that might be dangerous to operators working with the Air-Ex.

This Alert Symbol can be found throughout this manual.

Please read these warnings and cautions carefully before attempting to operate the Air-Ex.

Every operator must read this manual and be familiar with all the safety precautions

Safety Information

Whilst using the Air-Ex the following must be adhered to:

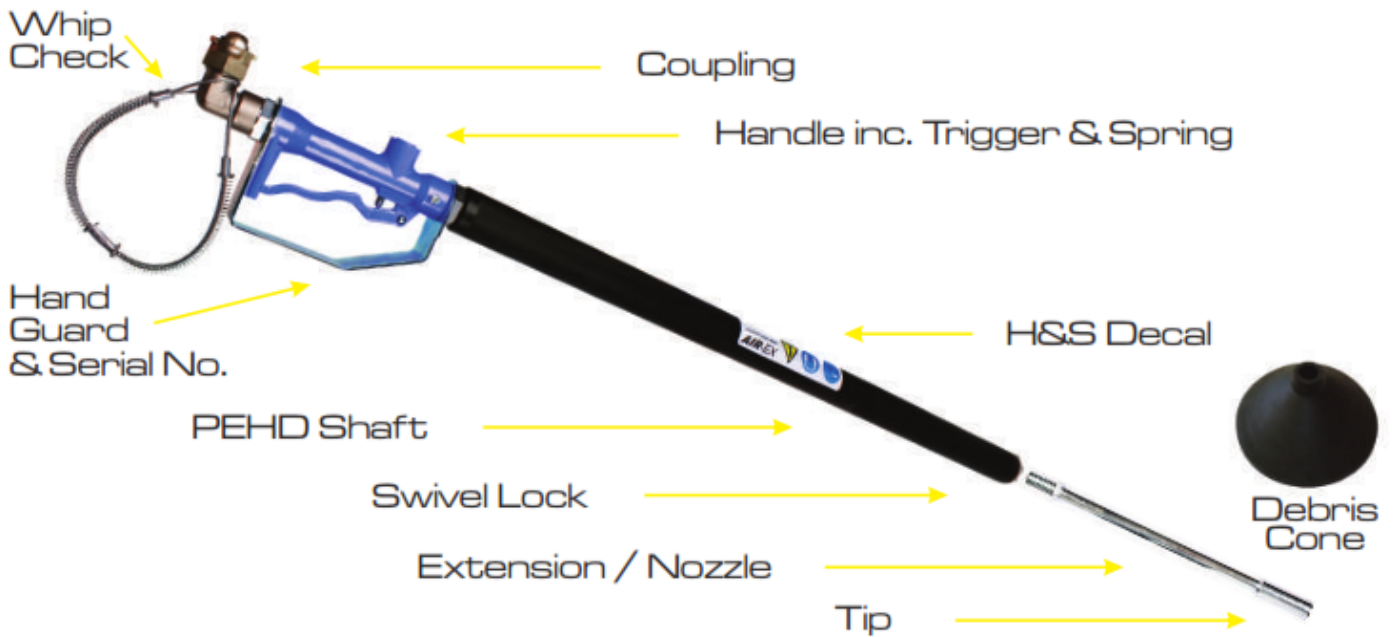
Safe Dress	Fire retardant overalls are recommended
Ear Protection	Ear protection must be worn
Eye Protection	Goggles must be worn (full face protection is recommended)
Foot Protection	Steel toe boots must be worn
Head Protection	Head protection must be used when appropriate
Dust Mask	A dust mask is recommended of FFP3 (min)
Hi Vis	High visibility clothing must be worn
Hand Protection	Gloves must be worn

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Air-Ex Labelling



Air-Ex Specifications

	Standard	Short
Length	1030mm	625mm
Weight Handle & Body	2kg	1.75kg
dB level Close proximity to Air Compressor	93dB	93dB
H.A.V.S.	0 (zero)	0 (zero)
Effective 'cut' Using recommended tip. See right	100mm	100mm
BS 3054:1959 Fireman's Axe	Complies	Complies
BS EN 61235:1995 Live working – Insulating hollow tubes for electrical purposes	Tested	Tested
Tested to:	75kV	75kV

Air Compressor (C.F.M)	Tip Bore (mm)
Up to 80	7
80 - 110	8
Over 110	10
These are guides and may vary depending on the application	

Nozzle Tips

We offer a range of materials for the Air-Ex tips, so that the tool can be used in different conditions.

To ensure that your Air-Ex is giving you the best outputs, please match Tip Bore to the Compressor you are using.

STEEL

Hard wearing, low spark

BRASS

Medium wearing, non spark

NYLON

Low wearing, non spark & non heat generating



Never aim the Air-Ex at anybody



Before you use the Air-Ex ensure that you have read & understood these instructions



Always ensure the air flow is off while changing nozzles

Operation

Connecting to Air Compressor

For effective operation, the compressed air supply must be of an adequate pressure and volume. The tips of the Air-Ex can be changed to suit the compressor. (Refer to Specification Page 5).

1. Connect an air hose to the compressor outlet & to the Air-Ex, ensuring that whip checks are used.
2. Check that any valves are in the 'OFF' position.
3. Start the compressor.
4. Open the Air flow Valve on the compressor & press any throttle boost buttons to be used.

The Air-Ex can now be used.

Using the Air-Ex

1. Hold the Air-Ex perpendicular to the surface to be worked.
2. Keep the debris cone as close to the surface as possible.
3. With the nozzle tip in contact with the surface, squeeze the trigger to allow air flow. You can control the amount of air flow by squeezing the trigger to varying degrees.
4. Once the ground begins to break up it is possible to submerge the nozzle into the loosened material. If possible, work the nozzle in a 'Up & Down' and 'Zig-Zag' motion. This will effectively aerate the material
5. After the material has been agitated & aerated it can be easily removed using a Vacuum Excavator or by conventional methods.

Operation

Ground Types

The Air-Ex can effectively aerate the majority of grounds. It is most effective in granular and made-up ground. When clay is encountered, the tool may be used in a different manner - push the nozzle into the clay as far as it will go, then fully squeeze the trigger. This should lift a plate of clay. Do this repeatedly to free-up the ground. If the ground is parched and solid, often found near vegetation, then we recommend introducing water and allowing to soak. Once the water has penetrated, then the Air-Ex can be used.

Connecting to Air Compressor Changing Nozzles

There are a number of nozzles that can be used with the Air-Ex. These allow the tool to be used for deeper and more congested excavations. It would be advised to start an excavation using a shorter nozzle. If you wish to change nozzles, ensure that it is safe to do so by turning off the air flow and venting any air in the line. The nozzles may be unscrewed by hand, or by using a 32mm spanner. The swivel lock allows the operator to set the 45° nozzle. If the area to be excavated is in an awkward position, then the tool can be set up to reach the area, rather than the operative having to stoop, bend or manipulate themselves into an unsafe/uncomfortable working position.

Debris Cone & Debris Netting

The debris cone should be used whenever possible as it prevents the majority of upward spray. The cone is most effective when it is closest to the material being agitated. We advise that debris netting is also used but this should only be as a secondary barrier, catching the material that passes the debris cone.

End of Use

When you have finished using the Air-Ex do not be tempted to clean yourself, or others, using the tool. Release the trigger and place the tool in a safe position - not aimed at anyone. Turn off the airflow from the compressor. Return to the Air-Ex and vent any residual air. It is now safe to remove the Air-Ex.



**High pressure air /
skin puncture hazard
Do not point nozzle
at people**

**High pressure air can
inject under skin resulting
in serious injury
including amputation**

**If skin injection happens,
seek IMMEDIATE
surgical treatment**

**Do not direct spray at
people or animals**

**The Air-Ex can be
set up in many different
ways, to suit to the
working conditions**

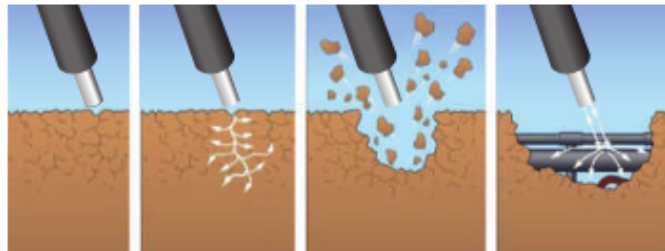
**For any sales, spares or
general enquiries
please contact**

**Hiram
Tel 01623 422982
www.hiram.com**

Parts

General Information

The Air-Ex is a selective excavator. The rapid decompression of air is sufficient to loosen porous materials but will have no effect on non-porous objects such as buried utilities or tree roots.



The following pictures show a number of the different parts that are available to make the Air-Ex fit for purpose & fit for person.



Powder Coat



Plastic Sleeve



Steel / Brass Tips



Air-Ex Bodies cut to customer's spec.

Standard lengths of: 1000mm & 610mm



Handle Angles



HV Test Sticker



Straight Nozzle
50mm to 1000mm



45° Nozzle



Fork Nozzle



Debris Netting



Training Certificate

Thank you for purchasing a

air-ex™

Warranty Registration Card

To register your warranty for this product, complete the information below and send back to the address stated.

Name	
Address	
Post Code	
Telephone	
E-Mail	
Air-Ex Serial Number	
Date Purchased	
Dealer (if used)	

Please return to: **Hynam Engineering Co Ltd
Pelham Street
Mansfield
Notts
NG18 2EY**

Warranty Policy & Procedures

Thank you for purchasing this **Air-Ex Ltd** product. We believe that it will serve you without fail. Ensure that you read the operator's manual carefully before use. With proper handling and maintenance, this **Air-Ex Ltd** product will provide excellent service over an extended period of time.

Liability

The warranty period begins when the product is delivered to and installed at the first purchaser. Only genuine parts may be used to carry out repairs.

FAILURE TO USE ONLY GENUINE PARTS MAY INVALIDATE THE MANUFACTURERS WARRANTY.

VAC-EX LTD will not be held responsible if:

the Air-Ex has been used to perform tasks that demand more than its design limitations, or the Air-Ex has undergone modifications not approved by VAC-EX LTD, or conditions of use have been abnormal, or normal maintenance, with regard to requirements as set out and detailed by the manufacturer, have not been adhered to. VAC-EX LTD will not pay for normal maintenance or servicing nor any materials used to carry out routine servicing. The warranty liability of VAC-EX LTD is limited to diagnosis, repair or replacement of the defective part, and actuating the repair – depending on the product terms and conditions, this will be free of charge. VAC-EX LTD shall be under no liability whatsoever to the customer for any indirect loss and / or expense (including loss of profit) suffered by the customer, arising out of a breach by VAC-EX LTD of this contract.

Serial Number:

Registration

A registration card accompanies each Air-Ex supplied by Vac-Ex Ltd. This card must be completed in full and returned to:

Warranty Manager

At Hynam



**FAILURE TO REGISTER
YOUR MACHINE MAY
INVALIDATE THE
MANUFACTURERS
WARRANTY**

Certificate of Calibration.

- This product has been inspected and tested in accordance with the ISO9001 quality control systems and procedures in place at Hynam Engineering Co Ltd.
- This product has no calibration period, periodic, safety inspections should be carried out by the operator if in any doubt please contact the manufacturer for further information.

Decommissioning & Disposal Instructions

These give the instructions for decommissioning and disposal of the equipment and confirm how it is to be taken out of service safely, in respect of the Essential Health and Safety Requirements.

- If a Hynam tool has reached the end of its useful working life and cannot be refurbished it must be disposed of through a licensed scrap or waste disposal facility. Alternatively, a reverse engineering company could be used to strip the equipment for recycling purposes.
- Disposal is the responsibility of the Customer this can also be achieved by returning the product back to the manufacturer.

Warranty Information.

1. Extent of Warranty.

- (a) Hy-Ram Engineering Co Ltd warrants to the end-user customer that its products will be free from defects in materials and workmanship, for six months after the date of purchase by the end-user customer, subject to providing proof of purchase.
- (b) If Hy-Ram Engineering Co Ltd receives, during the warranty period, notice of a defect in product which is covered by this warranty, Hy-Ram Engineering Co Ltd shall either repair or replace the product, at its option. Any replacement product may be either new or like-new, provided that it has functionality at least equal to that of the product being replaced.
- (c) All warranty work will be carried out by Hy-Ram Engineering Co Ltd unless otherwise agreed. On-site warranty and repair or replacement services are available from authorised Hy-Ram Engineering Co Ltd service facilities world-wide.
- (d) Customers shall prepay shipping charges for products returned to Hy-Ram Engineering Co Ltd for warranty service, and Hy-Ram Engineering Co Ltd will charge for return of the products back to the customer.
- (e) This warranty statement gives the customer specific legal rights. The customer may also have other rights which vary from country to country in the world.

Pre-conditions for Warranty Application.

Hy-Ram Engineering Co Ltd' warranty covers only those defects which arise as a result of normal use of the product, and this warranty shall only apply in the following circumstances:

- (a) All the instructions contained in the operating manual have been complied with
- (b) And none of the following apply:
 - (i) Improper or inadequate maintenance;
 - (ii) Physical abuse;
 - (iii) Unauthorised modification, misuse or any use not in accordance with the operating manual and good industry practice;
 - (iv) Operation outside the products specifications;
 - (v) Improper site preparation or maintenance; and
 - (vi) Faulty pipe or fittings.

Limitations of Warranty.

- (a) Hy-Ram Engineering Co Ltd does not warrant the operation of any product to be uninterrupted or error free.
- (b) Hy-Ram Engineering Co Ltd makes no other warranty of any kind, whether express or implied, with respect to its products. Hy-Ram Engineering Co Ltd

specifically disclaims the implied warranties of satisfactory quality and fitness for a particular purpose.

(c) To the extent that this warranty statement is inconsistent with the law of the locality where the customer uses the product, this warranty statement shall be deemed modified by the minimum necessary to be consistent with such local law.

(d) To the extent allowed by local law, the remedies provided in this warranty statement are the customer's sole and exclusive remedies.

(e) This tool has been designed for the range of fittings available at the time of its design and development. Hy-Ram Engineering Co Ltd can accept NO liability for the unit's ability or otherwise to work with new or different fittings that subsequently appear in the market place.

Please complete this information and keep it safely with your proof of purchase receipt. You will require it for any warranty claim.

Where purchased

Date of purchase

Name & address
Of purchaser

.....

.....

Type of tool

Serial number

For Service and repair please contact:

Hy-Ram Mansfield
Pelham Street
Mansfield
Nottinghamshire
NG18 2EY
Tel: 01623 422982
Fax: 01623 661022



For Sales, Hire and Repair support contact our admin team or scan the QR code for further details

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