



**Thorite**  
AIR • FLUID • POWER • PERFORMANCE



**THORITE  
ENERGY  
AUDITS**



**CARBON  
TRUST**

Making business sense  
of climate change

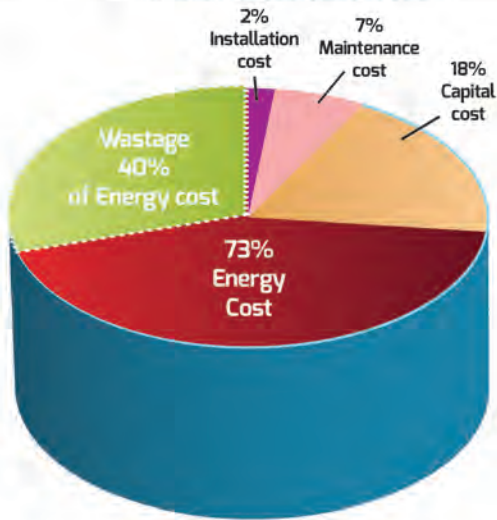
**Compressed air  
audits & surveys**



## COMPRESSED AIR LEAKS

Air leakage is the single largest waste of compressed air. A single 3mm diameter leak could cost you over £2000 per annum, with the potential for up to 40% of an unmanaged system's total air usage being lost to leakage while electricity costs continue to soar.

**True Cost of Compressed Air**



Leakage is the most common source of wasted energy in a compressed air system. A comprehensive program should be established to report leaks, enabling them to be repaired as soon as possible to minimise losses. Thorite offer a comprehensive compressed air leak detection service, either as part of a full compressed air audit or simply as an air leak reduction survey.

Sources of leaks are numerous, but the most frequent causes include:

- Manual condensate valves left open
- Shut-off valves left open
- Leaking hoses and couplings
- Leaking pipes and pipe joints
- Leaking pressure regulators
- Air-using equipment left in operation when not needed

Implementing a detection scheme provides the means to make very meaningful savings. As compressed air escapes from piping it generates a specific frequency of sound wave. Although the sound level may vary the frequency is consistent. This enables leaks to be detected ultrasonically without background noises distorting the measurement.

## ULTRASONIC SURVEYS – A VALUABLE INVESTMENT

Thorite carry out compressed air leak detection surveys, in accordance with the latest ISO standards (ISO11011:2013 compressed air energy efficiency assesment) which sets out requirements based on internationally recognised standards for conducting an energy efficiency assesment. We utilise the very latest ultrasonic survey handguns known as ULDs (Ultrasonic Leak Detectors). These very sensitive pieces of equipment pinpoint high frequency sound waves produced by leaks from compressed air pipework and components, hence the source of the leak is easy to pinpoint. Our technicians will tour the site identifying any leaks and classify them by their high cost and ease of repair. By categorising in this way we can offer quick savings for minimal outlay.

A comprehensive report will be provided comprising:

### COMPRESSOR HOUSE

- Running performance
- Suggestions for energy saving
- Integrity of connections
- Condensate drain operation

### DOWNSTREAM

- Identifying problem areas in pipework distribution and drop lines
- Faulty equipment
- Discharge into atmosphere
- Advice on energy saving alternatives e.g. air saver nozzles, air curtains
- Potential cost savings generally
- Repair estimates

**Example of Typical Data Collected**

Category	Estimated Size of Leak	Loss Per Leak (Ltrs/Sec) at 7 bar	Electrical Cost per (kWh) in pence	Hours Run Per Year	Number of Leaks Detected	Total Loss (Ltrs/Sec)	Estimated Cost
Light	0.5mm	0.2	10.0	8,000	5	1.0	£333
Medium	1.5mm	1.8	10.0	8,000	5	9.0	£2997
Heavy	3mm	7.1	10.0	8,000	1	7.1	£2364
Severe	6mm	28.0	10.0	8,000	0	0.0	£0
<b>Totals</b>					<b>11</b>	<b>17.1</b>	<b>£5,694</b>

Leaks need to be monitored regularly. A leak detection survey carried out at least twice a year can form part of an Air Quality Management Programme that will increase long term system efficiency. Based on experience, pay-back is 6 months or less. So don't delay, the costs could far exceed the cost of implementing a survey!

### PAYBACK

Payback on remedial work is typically achieved within 6 months following survey being undertaken



## CASE STUDY

West Yorkshire based  
Wire Drawing Business  
Leakage cost: £7,900  
Cost to repair: £1,900  
Payback time: 4 months  
Saving: 1st year £6,000  
£7,900p.a. thereafter

## CASE STUDY

Leeds based  
Specialist Engineering Company  
Leakage cost: £6,700  
Cost to repair: £2,115  
Payback time: 3 months  
Saving: 1st year £4,585  
£6,700p.a. thereafter

**we're different...**

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# THORITE COMPRESSED AIR SYSTEM SERVICES

## BREATHE SAFELY SERVICE

Ensure your breathing air complies with COSHH regulations L5 (Fourth Edition 2002)

## PIPEWORK & INSTALLATION

Design and installation of distribution pipework for compressed air systems, water, vacuum and other fluids, in accordance with British Compressed Air Society guidelines.

## COMPRESSOR SERVICING & TAILORED MAINTENANCE PROGRAMS

Tailored maintenance plans to keep your factory running at peak performance 24 hours a day, 7 days a week.

## PRESSURE SYSTEMS SAFETY REGULATIONS

Thorite produces all the necessary documentation, written schemes of examination, and drawings to comply with the Pressure Systems Safety Regulations (PSSR).

## COMPRESSOR ENERGY SURVEYS

Energy surveys of your compressed air systems to assess cost of ownership, heat recovery and machine control.



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