



Thermal Imaging Services Brochure

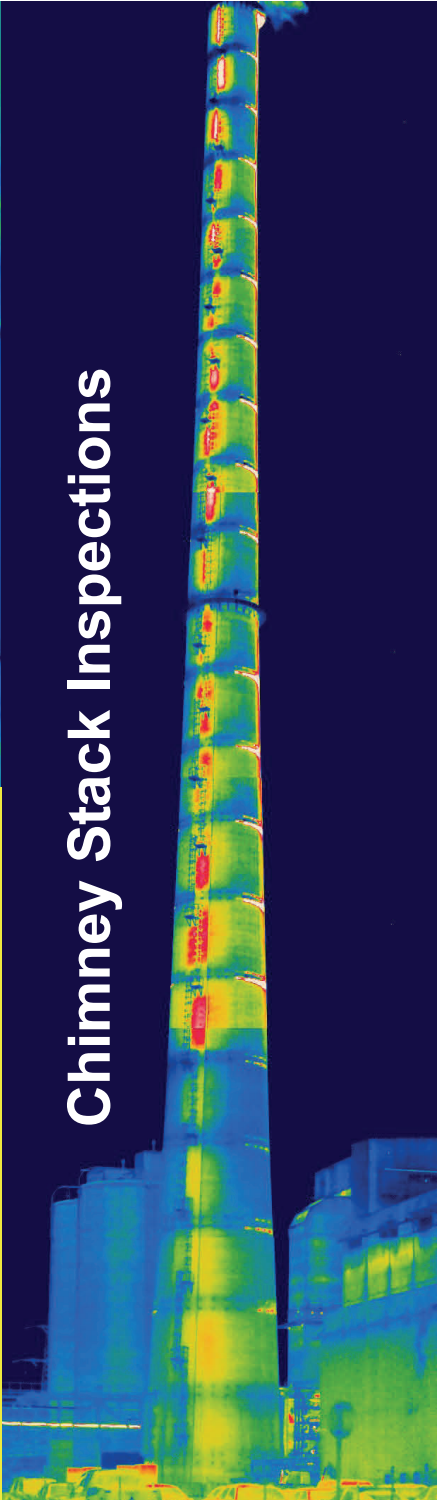
A thermal image showing electrical equipment, likely a switchgear or circuit breaker, with a prominent red and yellow area indicating a hot spot.

Electrical Surveys

A thermal image of a cold storage facility interior, showing a large, dark, and cold area with some warmer spots indicated by yellow and red.

Cold Storage Facility Inspection

2009 Edition

A vertical thermal image of a chimney stack, showing a series of repeating yellow and red segments indicating heat patterns along its length.

Chimney Stack Inspections

IRT Consult, Inc.
www.irtconsult.com

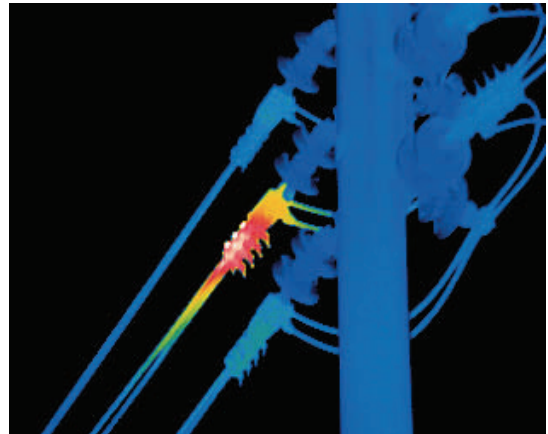


Thermal Imaging Services for A Safer, Greener World

IRT Consult, Inc. Services

We provide the following Thermal Imaging Services:

- ⊗ Electrical Inspections
- ⊗ Mechanical Inspections
- ⊗ Roof Leak Surveys
- ⊗ Building & Insulation Surveys
- ⊗ Water Intrusion / Leak Surveys
- ⊗ Chimney Inspections
- ⊗ Cold Storage Surveys
- ⊗ Industrial Process Monitoring & Inspections
- ⊗ Tank level Surveys
- ⊗ VOC / Gas Leak Detection
- ⊗ Environmental Monitoring
- ⊗ Research & Development Applications





We at IRT Consult, Inc. strive to provide Certified, Experienced Staff using the most up to date Thermal Imaging Technology, to provide a Service which is Efficient, Accurate and user friendly.

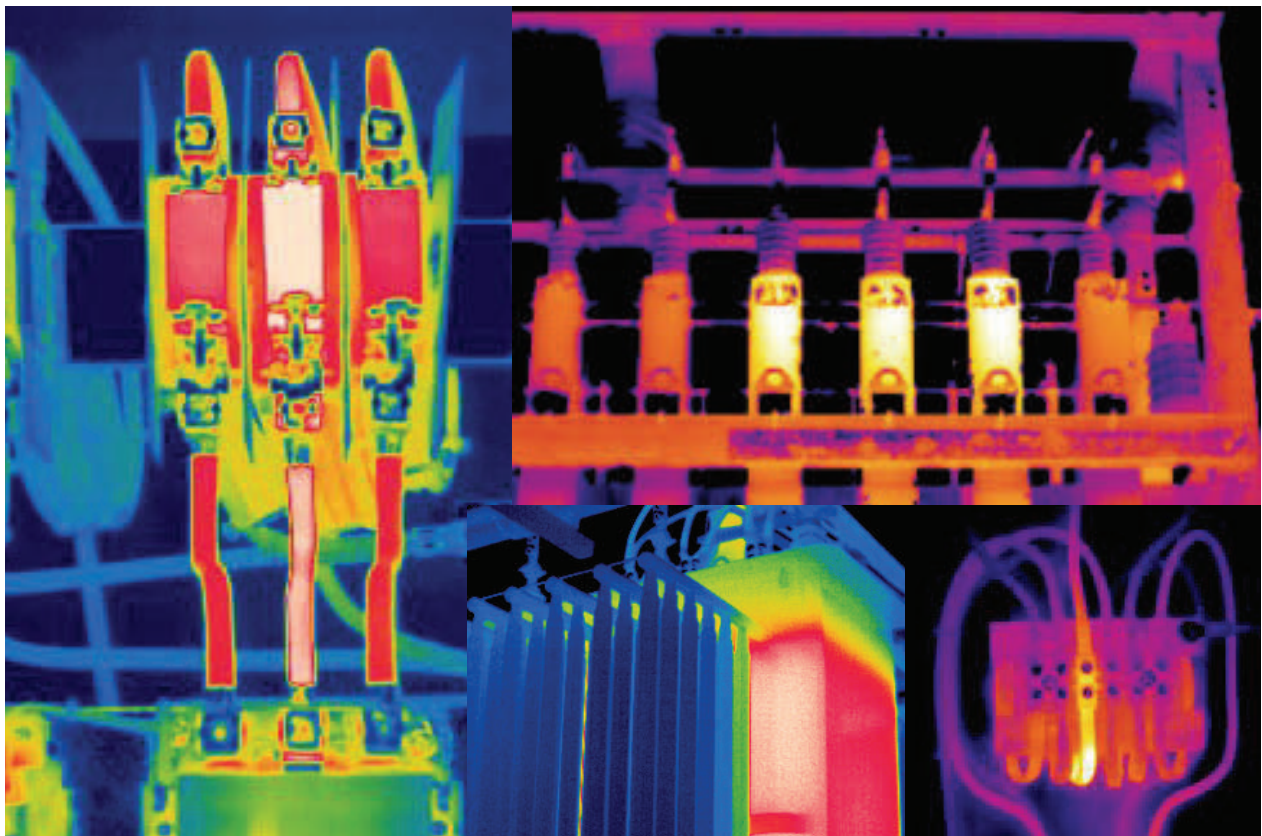
Our dedicated staff have travelled the globe conducting Thermal Imaging surveys for clients worldwide, let us give you the benefit of this vast experience.

Electrical Inspections

Thermal Imaging lends itself to Electrical Safety Inspections, be it to identify loose bus-bar connections or overloaded components in Electrical Cabinets.

Electrical faults can lead to catastrophic failures with the costs associated not often being obvious until it is too late.

An Electrical thermal imaging inspection will identify faults which all too often will only cost \$ 00's to repair where if left to fail, that same fault may cost \$ 000's in lost production, downtime, wages, insurance deductible, injury claims etc.



The survey is conducted whilst your equipment is working and under load, any faults will be quickly located thus allowing you time to plan maintenance.

Electrical Thermal Imaging surveys save businesses money when conducted as part of either a Risk Management Programme or Predictive Maintenance programme.

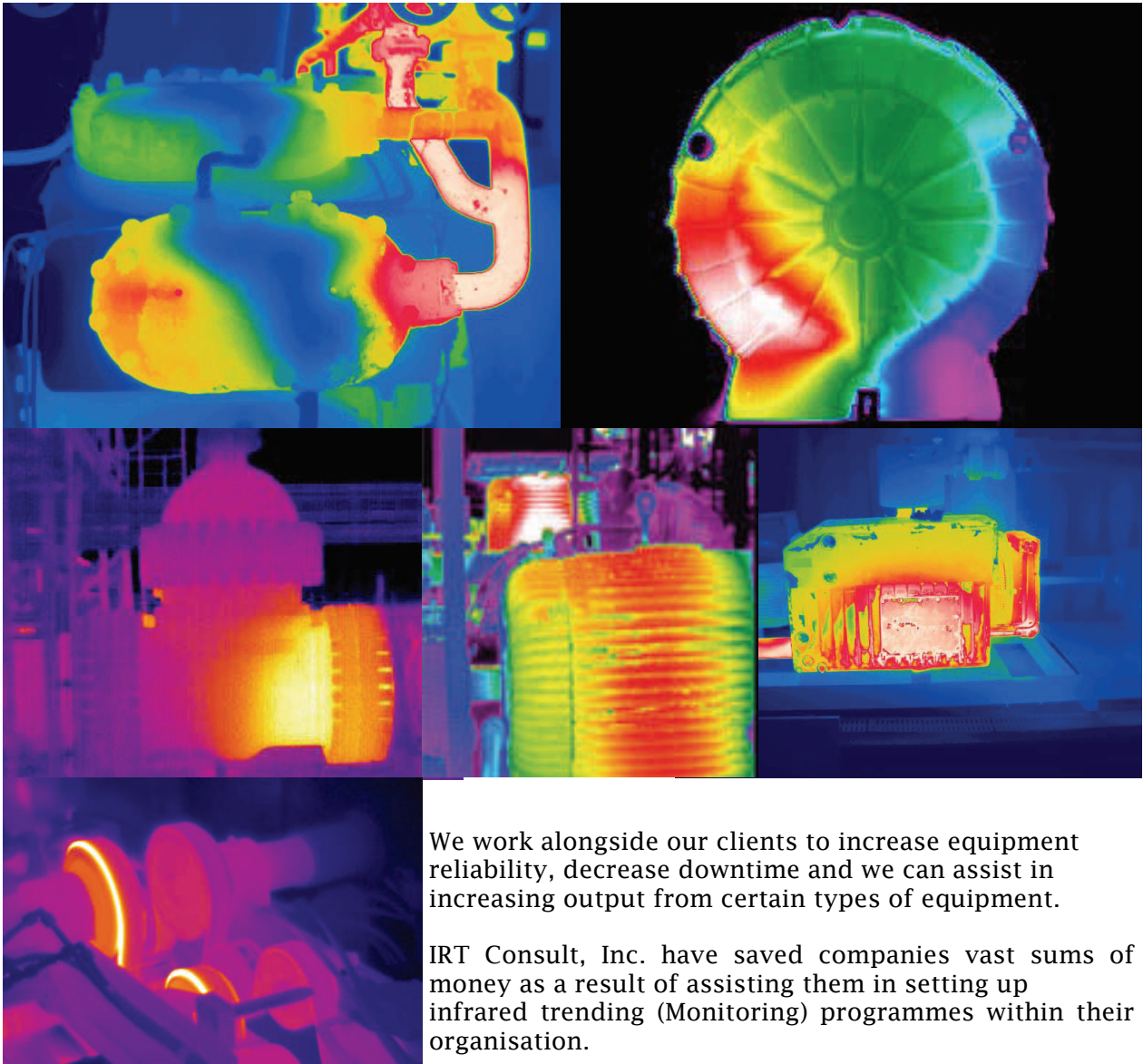
We will provide you with a free telephone consultation, during which we will discuss how a thermal imaging programme can benefit your company and what steps will be required to set up such a programme.

Mechanical Inspections

Mechanical equipment can and does fail and often without any prior warning. Unfortunately this failure can cost \$ 000's in lost production, delayed orders, wages and that is before we add the often costly repair or replacement of the failed component itself.

In this modern world of maximising machine running time coupled with often irregular or poor maintenance schedules, equipment will fail and not always when spare parts are available.

We can identify damaged or failing components in time, before costly failure occurs.



We work alongside our clients to increase equipment reliability, decrease downtime and we can assist in increasing output from certain types of equipment.

IRT Consult, Inc. have saved companies vast sums of money as a result of assisting them in setting up infrared trending (Monitoring) programmes within their organisation.

If your facility cannot afford the expense of production equipment failure, then you should contact us, and we will work with you to ensure that your facility is in production without any costly equipment failures.

Roof Leak Surveys

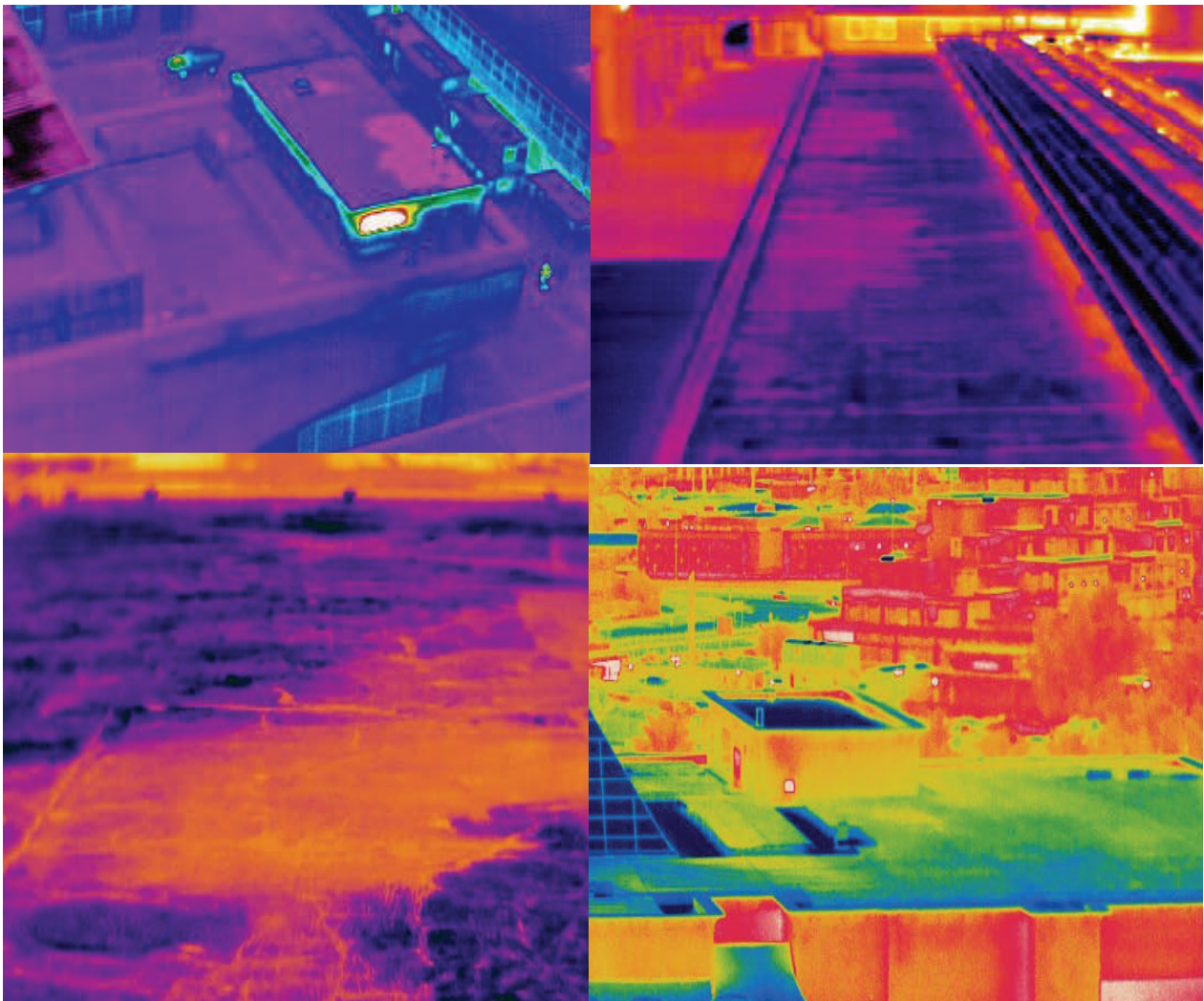
Thermal Imaging is an extremely cost effective technique for the evaluating of the integrity of a wide range of roof systems.

Where a roof sustains damage to it's outer membrane, water can migrate into sub-surface insulation and in some cases even cause damage to ceilings and equipment underneath.

This damage is both inconvenient and costly and all too often will affect the efficient running of the business.

A thermal imaging survey of the suspect roof will quickly locate any area where moisture is retained or trapped. Knowing the exact location of the trapped moisture will allow for an accurate decision to be made regarding the repairs or replacement of damaged materials.

Pinpointing these areas with an infrared camera will save on un-necessary repairs to undamaged areas of the roof and will also help extend the life-cycle of the roof.

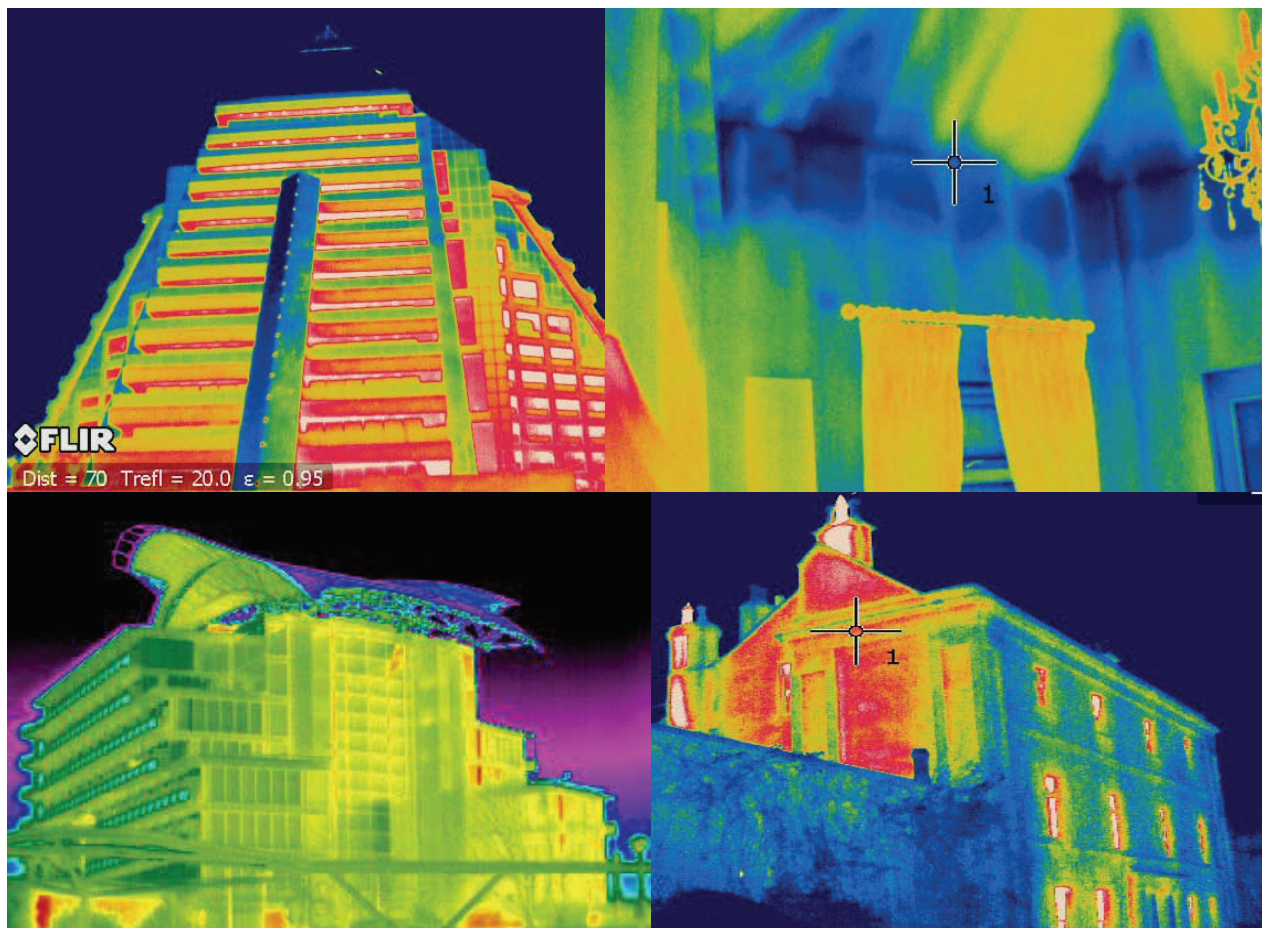


Building & Insulation Surveys

Are you a building owner, tenant or facilities manager?
If you are can you ask yourself the following questions?

- ⊗ Do you heat or cool your premises?
- ⊗ Do you feel that your utility bills are excessive?
- ⊗ Do you want to throw away hard earned revenue on wasted energy costs?
- ⊗ Would you like to save money on energy costs?

A thermal imaging survey of your building and it's associated heating, ventilation and air conditioning systems will identify areas where energy is being wasted and will save you money.



We can also identify areas where there are faults present in the insulation of your Building. Typical faults we have identified in the past are as follows:

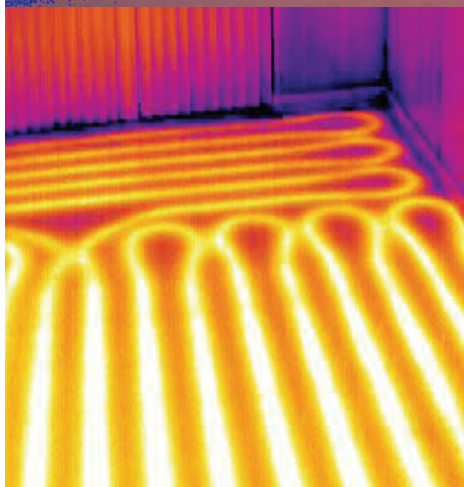
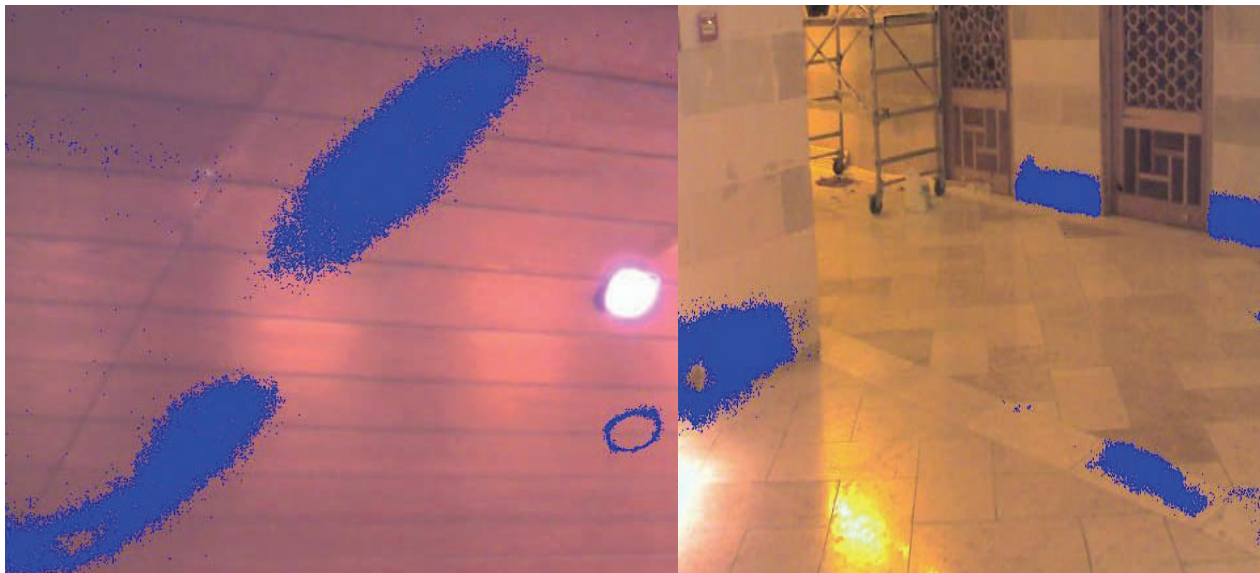
- ⊗ Missing Insulation
- ⊗ Insufficient insulation
- ⊗ Incorrect installation of insulating material

Water Intrusion / Leak Surveys

Thermal Imaging is an ideal technology to assist in the identification of water leaks and water/moisture intrusion.

As well as leak identification Thermal Imaging can also be used to assist in the location of radiant heating pipework, either to identify it's location or to look for possible leaks in the system.

Water intrusion can also be a problem because water can travel great distances from it's ingress point to where it eventually starts manifesting itself. This process can also take a considerable amount of time, so in most cases the problem has been in existence for a period of time before the obvious signs appear.



Other Faults/Conditions we can survey for:

- ⊗ Envelope faults
- ⊗ Insulation faults
- ⊗ Air leaks
- ⊗ Humid Walls—Condensation
- ⊗ Water ingress on terraces / balcony areas
- ⊗ Leaking heating systems
- ⊗ Location of water leaks
- ⊗ Location of timber/metal studs
- ⊗ Water ingress
- ⊗ Damaged glazing units

If you have an issue with a building, contact us and we will talk you through our services and discuss how we can assist you in identifying the problem.

Chimney Inspections

Using our long wave infra-red cameras, it is possible to identify and provide a qualitative assessment of chimney linings.

This is because the basic principles of achieving a temperature delta between the internal, hot and external, colder surfaces enable us to bring to light any areas where the chimney lining is breaking down and may require further inspection to discover the true extent of the damage/erosion.

With the use of a thermal imaging camera we can identify areas requiring further investigation from the ground thus reducing the amount of time which investigative staff have to spend climbing, so this inspection system will greatly increase levels of safety on site.



Chimney inspections are not only aimed at industrial applications, we can use this technology to identify faults with residential chimneys as well. All too often these faults if left unidentified in a residence may be the contributing factor of a fire.

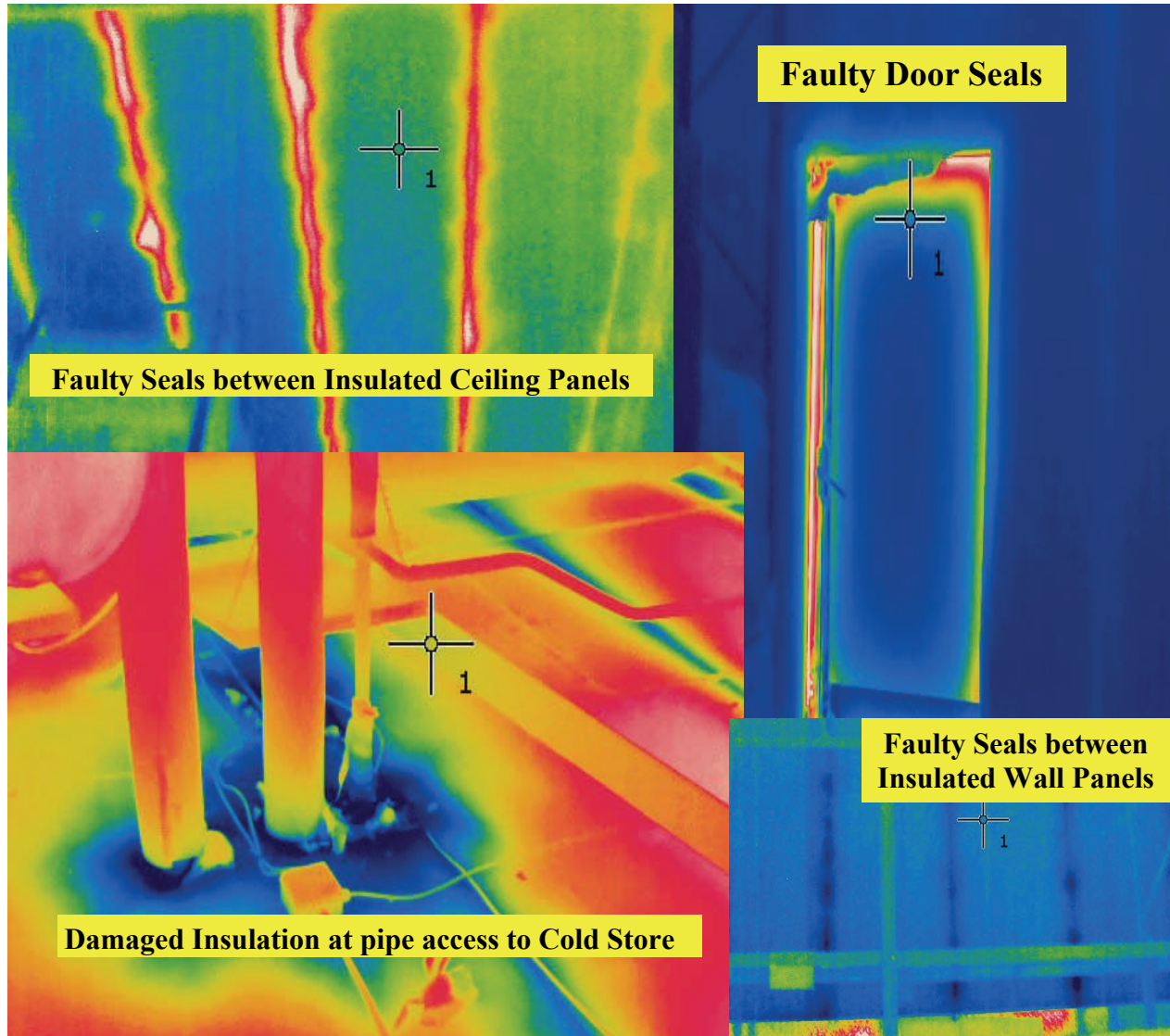
We can quickly and easily identify areas for repair or further investigation. This type of inspection is ideal where older buildings require inspection.

If you feel that this technology may be of assistance to you, please contact us and we will talk you through the inspection process.

Cold Storage Surveys

Cold storage facilities by their very nature have high running costs associated with them, with the majority of the running costs being attributed to electrical utility bills.

In this modern world of ever increasing energy costs it now makes strong financial sense to look towards energy savings and conservation.

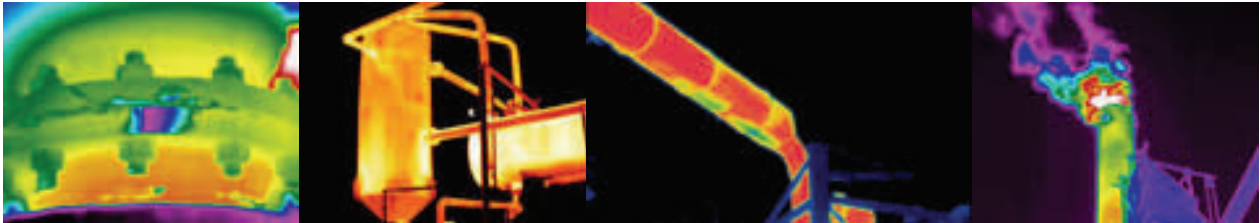


If you operate a cold storage facility, talk to us about our services which will highlight areas of poor / damaged / missing insulation, faulty door heaters, incorrectly closing doors, misaligned insulation panels. We can survey large areas very quickly and cost effectively with large facilities often being surveyed in one day.

In many cases the cost of the survey was re-couped in a short space of time through the energy savings which were made.

Industrial Process Monitoring & Inspections

Infrared inspections are a proven and cost effective way of protecting a companies Assets. Infrared inspections can be a valuable addition to any predictive maintenance programme and many companies have developed predictive maintenance programmes which include infrared inspections as part of their inspection regime.



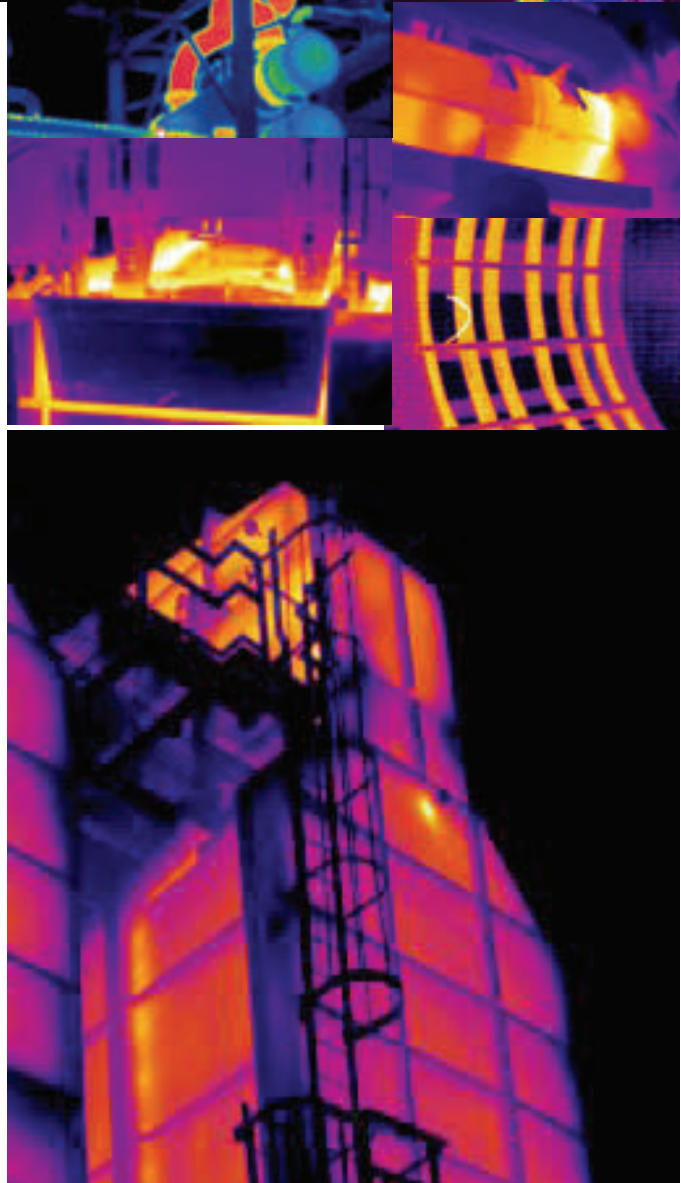
As well as the obvious benefits which thermal imaging has for predictive maintenance we can also apply thermal imaging to process improvement

Projects, in fact any where that heat or cold can be an issue, we can help.

Infrared Inspections can identify:

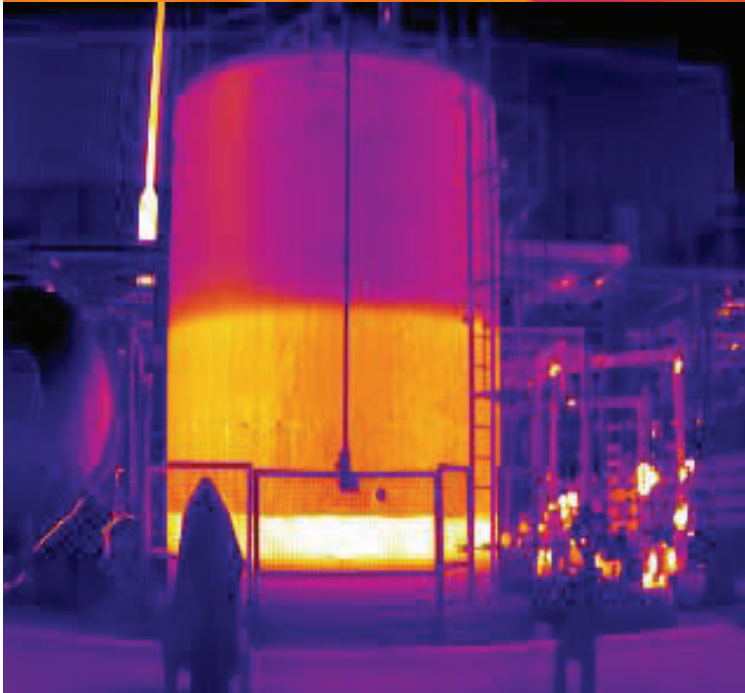
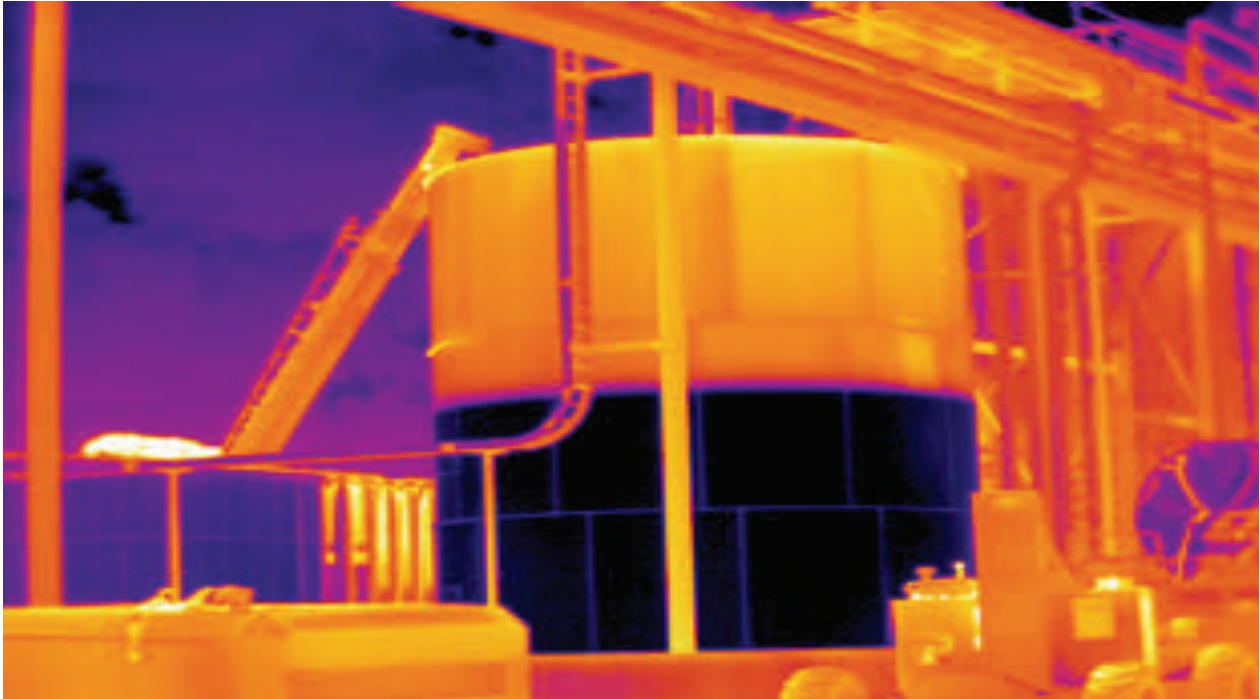
- ⊗ Insulation Integrity on process pipelines
- ⊗ Monitoring of vessel levels
- ⊗ Monitoring of process equipment
- ⊗ Identifying blockages in process lines
- ⊗ Hot surface surveys
- ⊗ Inspection of electrical equipment
- ⊗ Inspection of Bearings, Shafts, rotating equipment, ovens etc.
- ⊗ Inspection of Gas Flares
- ⊗ Inspection of moulds for even heat distribution
- ⊗ Inspection of hopper linings etc.

Whether you wish to set up an infrared inspection programme in your facility and just want some advice or assistance in programme setup or whether you want to improve a process we can assist you.



Tank Level / Sand Level Surveys

If you operate storage tanks/vessels on your site and want to ascertain the level of fluid within these, then thermal imaging is a very fast and efficient method of determining these levels. In the images below you can clearly see the level of fluid contained within these tanks.



Sand Level Detection

Certain vessels are prone to build up of either sand, sludge or other materials and it is sometimes difficult to ascertain when to open the vessel and remove the deposits.

Thermal imaging provides a fast, safe, and easy method of clearly identifying these levels. The great advantage of using thermal imaging is that the vessel can be inspected without any interruption to the ongoing process.

VOC / Gas Leak Detection

VOC (Volatile Organic Compounds) are harmful gases and fugitive VOC gas emissions cost companies money and time to locate.

On an annual basis, vast sums of hard earned revenue are being invested in the identification and tagging of these leaks as part of companies LDAR (Leak Detection and Repair) programmes.

Current “Sniffer” technology which is in widespread use will only be able to inspect typically in the region of 500 components on a daily basis. IRT Consult, Inc. will deploy specialist Thermal Imaging Equipment which can pinpoint the source of any leak which may be present on your site. Our equipment will typically monitor 2,000 + components per hour which offers considerable time and cost savings when compared with existing inspection technology.

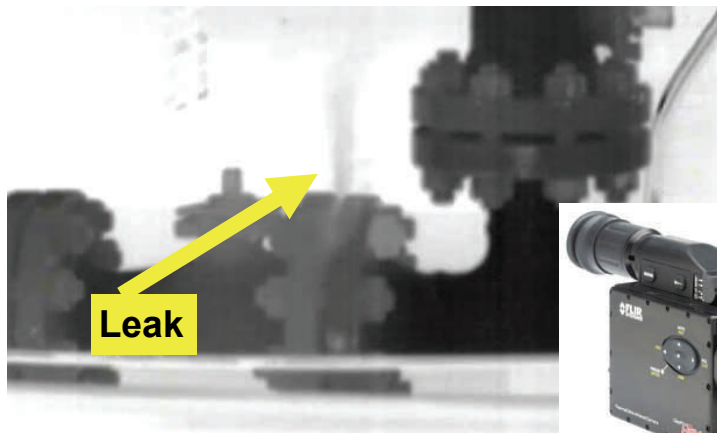
We have inspected the following equipment:

- ⊗ Tank Cars
- ⊗ Transmission Pipelines
- ⊗ Process Plant
- ⊗ Compressor Sites
- ⊗ Refineries
- ⊗ Chemical Plants
- ⊗ Power Generation Plants
- ⊗ Tank Farms
- ⊗ Manufacturing Facilities
- ⊗ LNG Transport Ships

With surveys being able to be undertaken either from the ground or the air we can provide both a safe and quick solution to your leak inspection requirements.



Venting Emissions



Leak



VOC / Gas Leak Detection



Gas leaks pose a considerable risk of fire and explosion as well as contributing to environmental damage. Our specialist Optical Gas Imaging Equipment can visually identify gas leaks. This visual identification assures that the leak location is identified quickly so that it can be repaired quickly.



Gases we can Detect	Sectors Serviced
⊗ Natural Gas ⊗ Butane ⊗ Methane ⊗ Propane ⊗ Benzene ⊗ Propylene ⊗ Ethanol ⊗ Ethylbenzene ⊗ Heptane ⊗ Hexane ⊗ Isoprene ⊗ Methanol ⊗ MEK ⊗ MIBK ⊗ Octane ⊗ Pentane ⊗ 1-Pentee ⊗ Toluene ⊗ Xylene ⊗ Ethane ⊗ Ethylene	⊗ Industrial ⊗ Gas Extraction ⊗ Gas Processing ⊗ Gas Transmission ⊗ Oil Extraction ⊗ Oil Refineries ⊗ Commercial ⊗ Utilities ⊗ Land Fill Sites ⊗ Residential ⊗ Development ⊗ LNG Transport ⊗ LNG Storage ⊗ Environmental monitoring ⊗ Environmental Enforcement

If you have concerns about possible gas leaks then please contact us and we will talk you through the inspection process and arrange to provide you with a competitive quotation.

An Infrared Thermal Imaging gas leak survey will ensure that all fugitive gas leaks are Identified and tagged so that repairs can be carried out quickly.

Environmental Monitoring

If your organisation currently monitors areas for sources of potentially harmful emissions to the environment then we have the perfect solution for you.

IRT Consult, Inc. can monitor the following areas more accurately and in real time as well as being quicker than current conventional monitoring techniques, results are also recorded to video to act as evidence if required at a later stage.

- ⊗ **Landfill Sites**
- ⊗ **Suspect illegal dumping grounds**
- ⊗ **Process & Monitoring Plants**
- ⊗ **Refineries**
- ⊗ **Tank Farms**
- ⊗ **Chemical & Pharmaceutical Plants**
- ⊗ **Oil & Gas Transport ships during loading & offloading**
- ⊗ **Gas Transmission Pipelines**
- ⊗ **Re-claimed landfill sites**



Gas leak on land fill surface

Solutions

At IRT Consult, Inc. we work closely with our clients so that we are able to offer the correct monitoring solution for their particular requirements. The solutions which we offer may include the following:

- ⊗ *Covert Surveillance & Monitoring*
- ⊗ *Monitoring contracts where we would monitor areas on a regular basis with situational updates being delivered at fixed intervals*
- ⊗ *Once off monitoring projects*
- ⊗ *Monitoring of offensive odours to ascertain their origin or source*

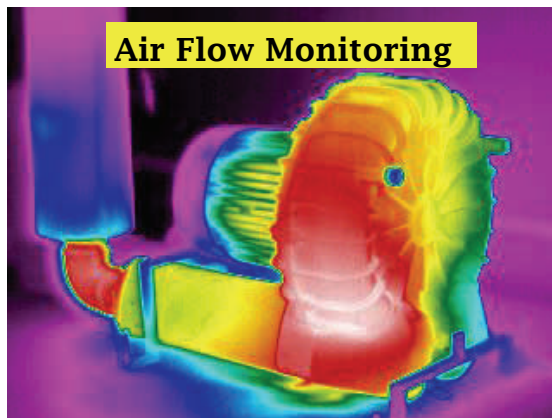


Research & Development Applications

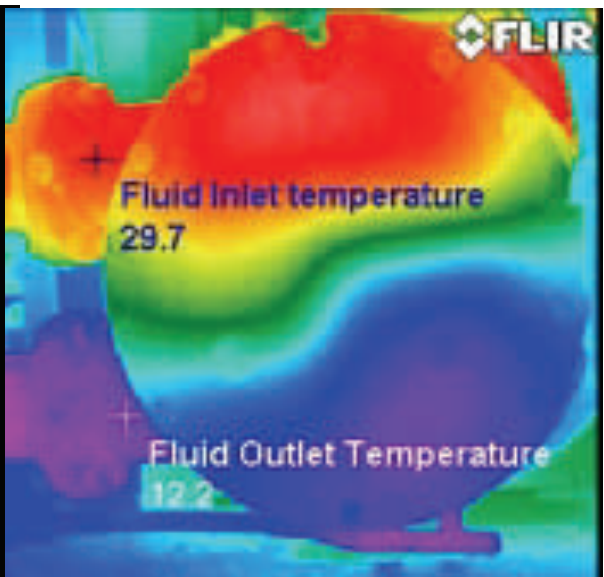
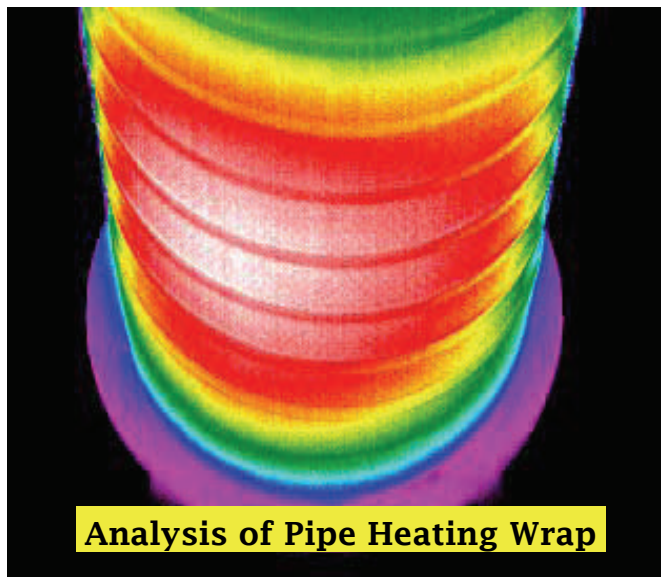
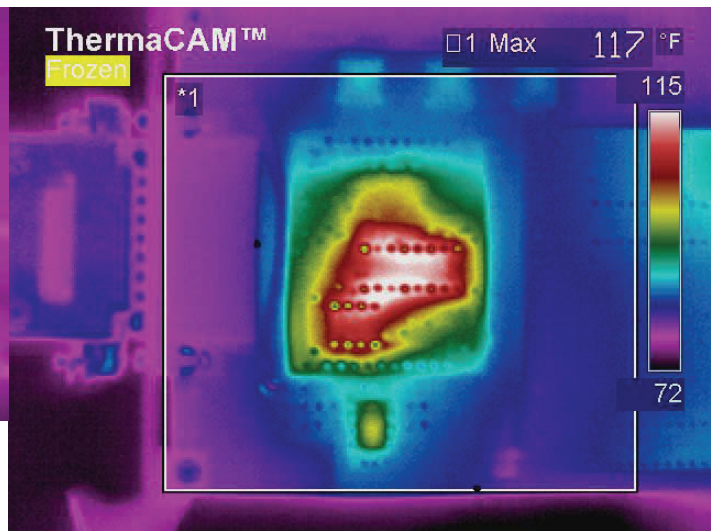
Are you or your company involved in Research & Development?

If you are, then we may be able to assist you with your product development and evaluation.

Using our state of the art cameras and researcher software we can detect the smallest temperature differences over a wide temperature range.



Frames can be captured, and stored, in real time, at high frame rates thus allowing for detailed and extensive analysis of highly dynamic events usually associated with R&D



Corporate Memberships



CERTIFIED
MEMBER



Corporate
Partner



Service Coverage

Our team of highly experienced and certified thermographers provide services throughout the entire United States and Worldwide.

Please feel free to contact us at any time and we will discuss your thermal Imaging requirements with you.
Competitive pricing and payment options are available, please ask for details.



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