

# PERMAWELD ENERGY EFFICIENCY SERVICES

## WHO WE ARE!

PERMAWELD PVT LTD has been vertically focused since 1988 on providing in plant maintenance solutions for critical areas in most Industry segments.

PERMAWELD ideally starts with a specialized "Maintenance survey" which has been developed and evolved over more than 10000 hours of in-plant audit service experience in Industry.

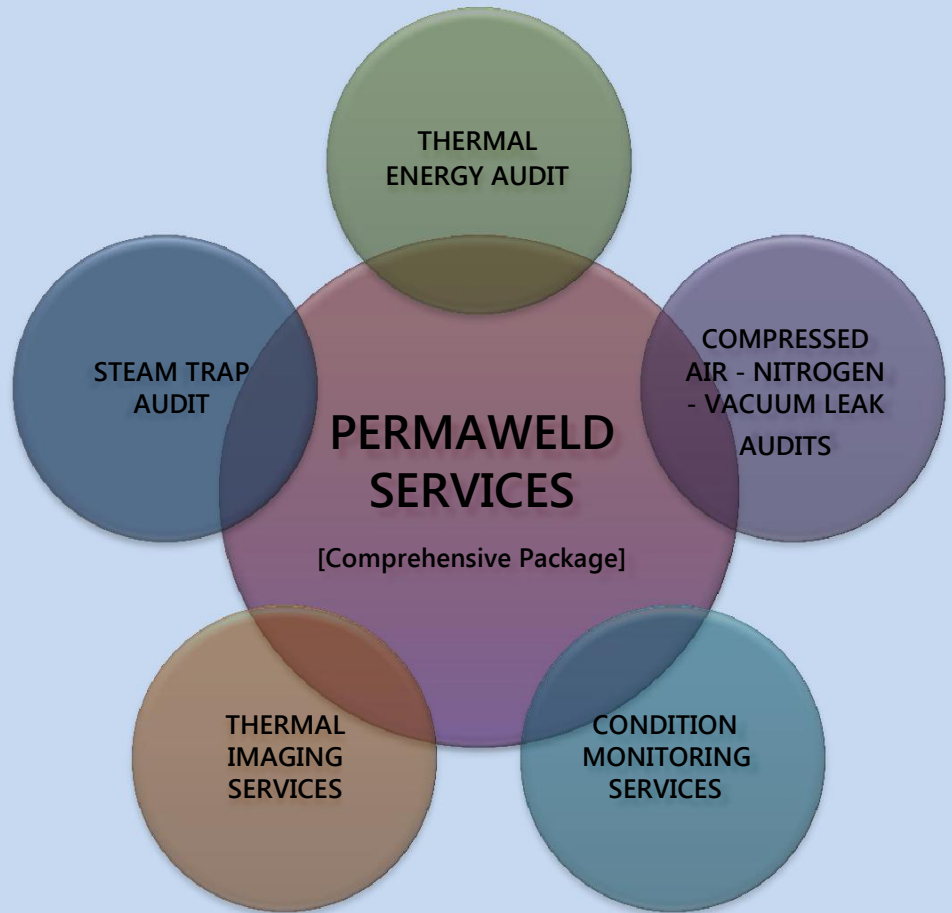
## WHAT WE DO!

PERMAWELD does audits/surveys intended to identify loss areas and quantify these as energy losses through leak detection of process resources like air, steam, gases. Additionally Condition Monitoring of rotating equipment provides predictive results that prevent potential breakdowns

We use ULTRASOUND DETECTION, VIBRATION, and THERMOGRAPHY besides fluid and lubricant testing to provide the reliable, safe and long term maintenance solution.

### OUR OBJECTIVE:

**To maximize the maintenance interval and change current Industry norms maximizing life of component, productive assets and machinery**



## STEAM TRAP AUDIT

Generating Steam Trap Database of



Steam trap audit



Generation of Report quantifying steam loss per TRAP so that solutions can be ROI based.

Segregation of traps with loss per trap in monetary terms

Steam Trap Health Audit

Trap Module & Manifold health status

Identification of inlet, downstream and bypass leaks

Aluminium tagging of each & every trap for unique identification

### WHAT IS PERIODIC STEAM TRAP SURVEY

- Generation of Trap database of whole unit/units.
- Segregation of traps unit wise with area of application and module details.
- Coding, tagging for continuous monitoring of every trap for lifespan and health.
- Regular steam trap audit (twice/thrice in a year to endorse savings).
- Generation of report at every term of audit with quantification of steam loss per trap to confirm savings.
- Sustaining the savings identified for the period of contract.



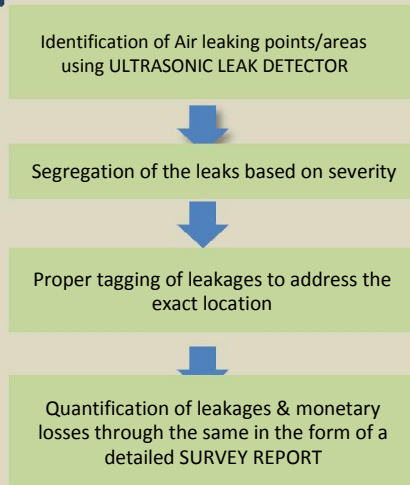
## OUR PRINCIPALS



## COMPRESSED AIR LEAK AUDIT

Compressed air is an energy which is costly. Compressed air leak survey accurately detects the minute spot where air leakages occur by using an Ultrasonic Leak Detector.

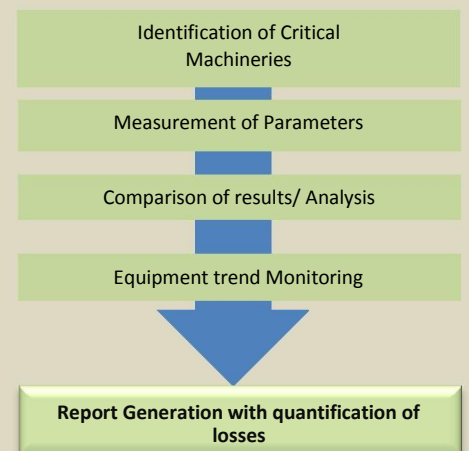
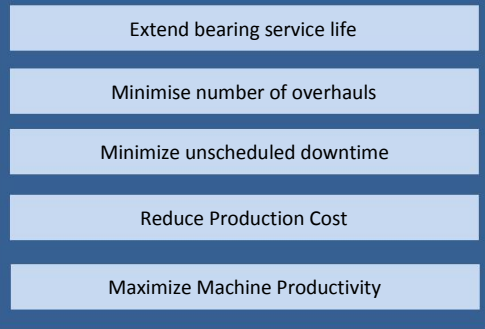
Compressed Air Leak Survey can bring down the air leakage rate to 5% from 25% thus minimizing the losses gradually.



## CONDITION MONITORING

The art of Predictive Maintenance is to Monitor the machine with the appropriate technologies, frequently enough to detect the anticipated failure modes.

### BENEFITS



## THERMAL ENERGY AUDIT

### WHAT IS A THERMAL ENERGY AUDIT:

Evaluation of optimisation of thermal energy in a plant from its generation, distribution, utilisation and recovery areas.

#### EVALUATING BOILER HOUSE EFFICIENCY

Evaluating the efficiency of boiler – DIRECT/ INDIRECT Method

#### ARRESTING STEAM/THERMIC FLUID LOSSES IN DISTRIBUTION

Checking proper functionality of valves, main line traps and health of insulation, air venting provisions, proper pipe line sizing catering the loads, etc

#### EFFECTIVE USAGE OF STEAM/THERMIC FLUID IN UTILISATION AREA

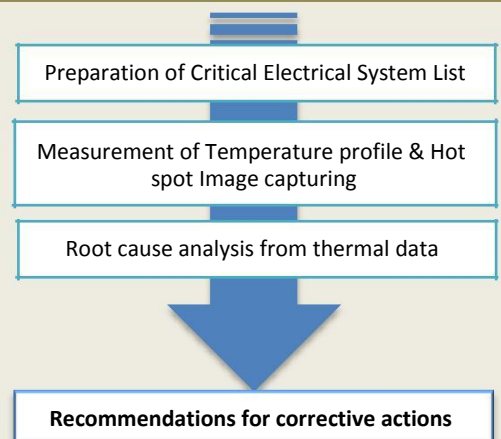
- Checking proper pressure reduction to steam using equipment, PRV health evaluation, proper selection/health of process traps and steam accessories.
- Heat Mass Balance of the direct and indirect steam users to evaluate peak and average steam requirements of the users
- Checking proper sizing of steam tapings to the users with respect to the steam load and steam pressure provided.
- Evaluating the heat load for thermic fluid users , checking the health of insulation of the TF Users

#### EFFECTIVE RECOVERY OF CONDENSATE/THERMIC FLUID

A. Evaluating existing condensate evacuation methods and system and determining the efficiency of the same. Recommending better/feasible ways to address the same.

## THERMAL IMAGING SERVICES

- ❖ Thermal Imaging uses a Thermal Camera which is essentially a heat sensor that is capable of detecting tiny differences in temperature.
- ❖ This device collects the infrared radiation from objects in the scene and creates an electronic image based on information about the temperature differences.



## OTHER SERVICES

- Other services like **Nitrogen Gas leak detection & Vacuum leak detection** are also been provided by M/s PERMAWELD, using ultrasonic leak detector equipment.
- We also undertake detailed **schematic diagrams**, drafting **layouts of plant & also P&ID Diagrams** of all utilities