

# VALTEST® TECHNOLOGY

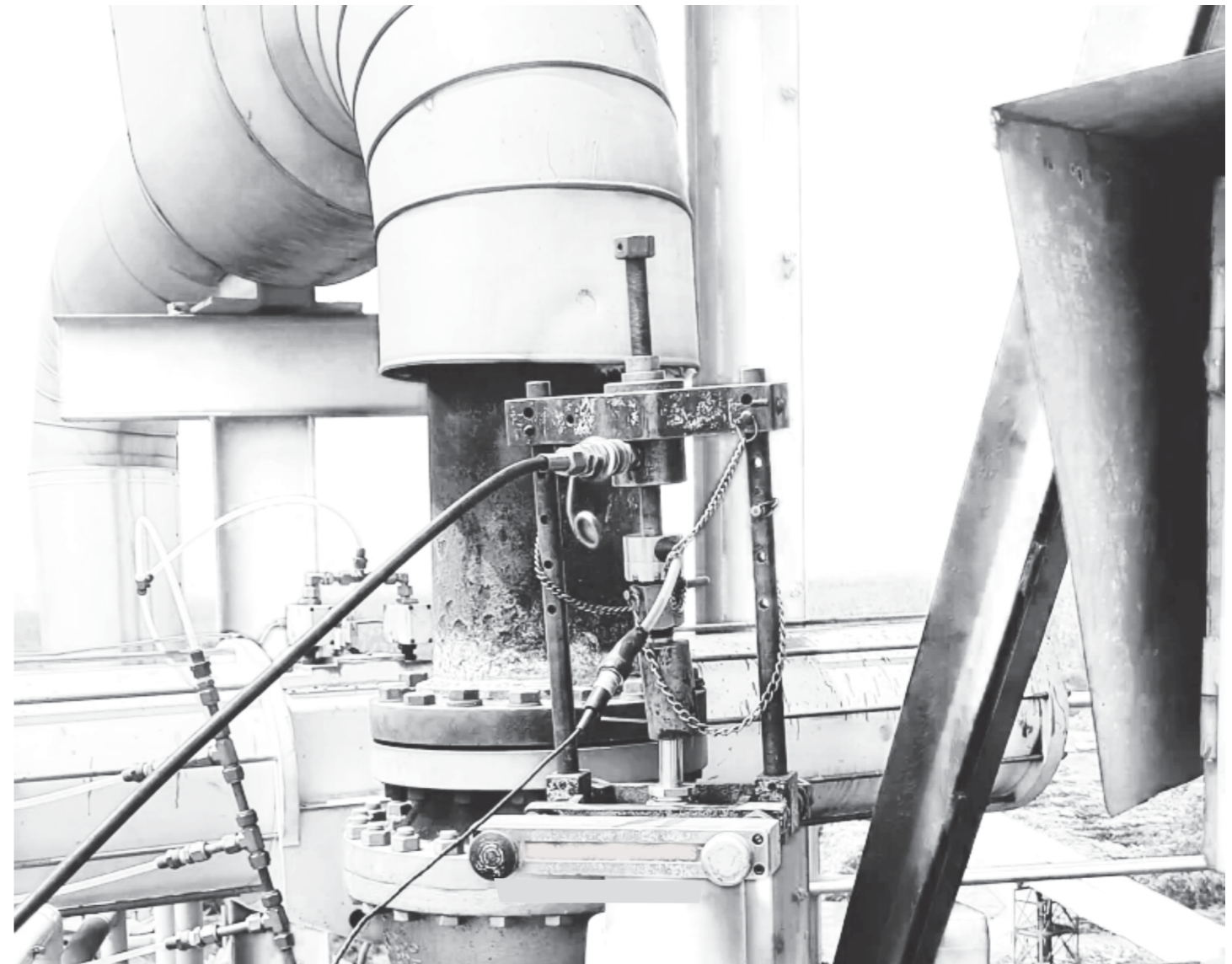
Safety Valve Testing and Calibration Service



## Over 100000 Valves Tested

Valtest® is an innovative technology that enables the calibration of spring-loaded safety valves using a computerized system. This method operates without disrupting production or requiring costly shutdowns.

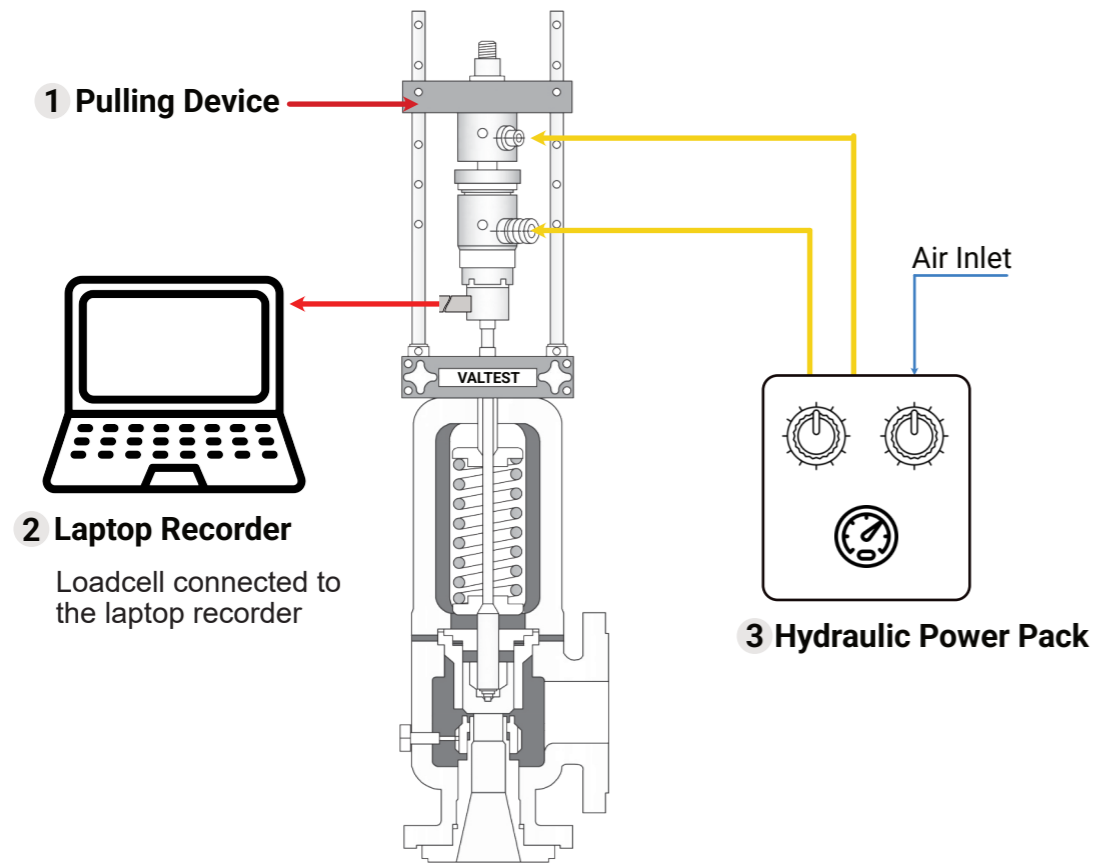
- NO SHUTDOWN NEEDED
- DON'T OVER-PRESSURE YOUR SYSTEM
- COMPLIANT WITH BOILER DIRECTORATE AND OTHER STATUTORY REGULATIONS



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# Components of Valtest® Equipment



# How does Valtest® Work

Here's the basic principle: A force is applied to the valve spindle to overcome the spring tension of the valve. This is achieved using a hydraulic power jack linked to an electronic transducer. A computer is then used to measure the force applied. By combining this data with information on the valve seat and line pressure of the valve it is possible to assess the set pressure.



# Conditions For Testing

- 1 A Valve should have projected threaded spindle for fixing adapter**
- 2 Normal Capacity: Extra Pressure x Seat Area ≤ 2000 kgf**
- 3 High Capacity: Extra Pressure x Seat Area ≤ 4500 kgf**

# Valtest® Process For Safety Valves

<b>Stabilize the System</b>	Ensure steady operating pressure and prepare the valve for testing.
<b>Attach Pulling Device</b>	Securely mount the device and connect it to the laptop.
<b>Power Up the Hydraulic Pack</b>	Connect the hydraulic pack to the pulling device using plant air.
<b>Lift the valve</b>	Hydraulic Ram displaces vertically upwards to overcome the valve springtension and causing the valve to lift.
<b>Capture the Data</b>	Monitor and record the applied force in real time.
<b>Compute Set Pressure</b>	Calculate the set pressure by adding extra and line pressures.
<b>Review and Reset</b>	Compare results to specifications and adjust if necessary.



# Hot Testing

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With Valtest Hot Testing you get a date marked certified print out of valve set pressure and the line pressure at the valve. From this information the set pressure, spring adjustment and displacement of the valve can be determined. Valtest also gives an indication of the effect of the nozzle ring, guide ring and reseal pressure.

## Major Applications Include

**Steam Service Valves** Boiler and turbine area safety valves at normal operating pressure can be tested by increasing the operating pressure.

**Clean Service Valves** Diagnose safety and relief valves that require maintenance while the plant is running normally prior to scheduled shutdowns.

# The Advantage of Hot Testing

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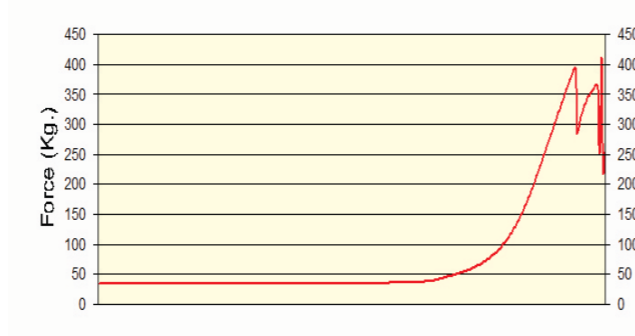
- No interruption to plant production during testing
- Reduced time needed to commission the plant after shutdown
- Reduced fuel costs with no need to raise system pressure
- Only valves that require an overhaul need to be removed from the line
- Welded-in valves can be adjusted without costly removal from the line
- Multiple tests and resetting of valves within a short timescale
- No need for temperature compensation to set pressure

## Hot Testing

Applied Force = Extra Pressure X Valve Seat Area

$$F = (SP-LP) \times A$$

HOT TESTING GRAPH



# Cold Testing

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With Valtest Cold testing you can determine the set pressure, spring rate and valve displacement.

## Major Applications Include

Primary applications encompass the pre-commissioning of safety and relief valves for new facilities and post-bench-test workshop evaluations that create a unique valve signature, which can subsequently be validated following on-site installation.

# The Advantage of Cold Testing

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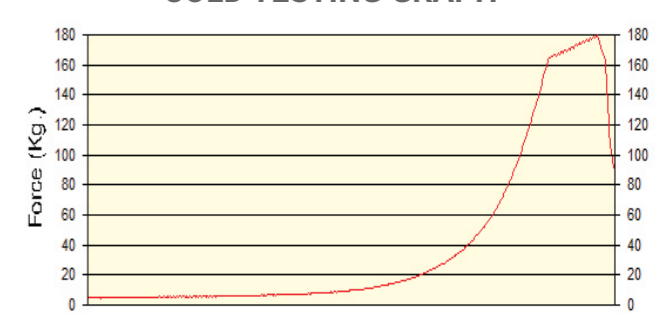
- Eliminate the cost of removing valves from their location prior to commissioning new plant
- Only valves requiring overhaul are removed from the line - reducing plant downtime
- Correct spline alignment of torsion bar safety valve saves unplanned shutdown

## Cold Testing

Applied Force = Set Pressure X Valve Seat Area

$$F = SP \times A$$

COLD TESTING GRAPH



## Trusted by Industry Leaders



## Our Branches & WorkShop Locations

### Head Office, Kolkata

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Unit No. 417, 4<sup>th</sup> Floor  
Raheja Tesla 1,  
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TTC Industrial Area, Junaigar,  
Navi Mumbai - 400705

### Titagarh (Workshop)

Holding No.2, Ward No.7,  
B.T.Road, Titagarh,  
North 24 Pgns,  
West Bengal  
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### Chennai

New No. 63, Old No.31,  
Wallajah Road,  
Chennai- 600002

### Kochi

Thandayil House, Amal Vihar,  
Poonithura P.O.,  
Peeta,  
Kochi- 682038

### Jamnagar (Office & Workshop)

Plot No.8 & 9, Survey No. 77/1,  
Opp. Laxmi Minerals,  
AT: Jhankar, TAL: Lalpur,  
Jamnagar- 361140

### Vadodara (Office & Workshop)

653, Makarpura,  
G.I.D.C.,  
Vadodara- 390010

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