

## Cooling & Heating Division



# PRS

**PRESSURE REDUCING STATION**

Improving your business  
is our business

Thermax offers products, systems and solutions in energy and environment engineering to industrial and commercial establishments around the world. Its business expertise covers heating, cooling, waste heat recovery, captive power, water treatment & recycling, air pollution control & waste management and performance chemicals.

Thermax brings to customers extensive experience in industrial applications and expertise through technology partnerships and strategic alliances.

Operating from its Head Quarters in Pune (Western India), Thermax has built an international sales & service network spread over South East Asia, Middle East Africa, Russia, UK and the US. It has a full-fledged ISO 9001, 2000 and ISO 14000 accredited manufacturing setup.

### Cooling & Heating Division

Offers a wide range of steam boilers, thermal oil heaters and hot water generators. It has expertise in a wide range of fuels - oil, gas, solid and agro - waste/biomass fuels. Supporting a broad array of industries to generate, transfer and conserve heat for a host of applications, the division's products are exported to South East Asia, Middle East, Africa, Europe, CIS and SAARC.

# STEAM GENERATION

Good steam engineering practice is to generate steam at high/maximum working pressure, distribute at higher pressure and utilize at low pressure with pressure reduction.

It is recommended to operate the boilers close to maximum operating / design pressure. This ensures good quality of steam with high dryness fraction. Process equipment are normally designed for much lower pressure of steam.

## ADVANTAGES OF PRESSURE REDUCTION

- Steam is transported to the point of utilization at higher pressure. This permits use of smaller pipe diameters leading to reduced steam piping and insulation cost.
- Reduces plant equipment cost due to use of small thickness plates leading to substantial saving in initial plant cost.
- Gives more latent heat, per Kg of steam to industrial equipment like heat exchangers, jacketed kettles, distillation column re-boilers, etc. resulting in **lower fuel consumption**.

To give above benefits to users of steam a well-designed Pressure Reducing Station is offered by Thermax as a ready to install equipment.

## TECHNICAL SPECIFICATIONS

Pressure Reducing Station (PRS) is an assembly of pipeline and components as given below

Component	Function
Moisture separator	Removes moisture from steam
Strainer	Remove suspended particles
Inlet Pressure Gauge with Siphon and Valve	Indicate inlet steam pressure
Inlet Valve	Isolate PRV
Pressure Reducing Valve (PRV)	Pressure Regulation
Outlet Valve	Isolate PRV
Safety Relief Valve	Relieve excess pressure
Outlet Pressure Gauge with Siphon and Valve	Indicate outlet steam pressure
By pass Valve	By pass operation of PRV

## MODELS

### TPRS STANDARD MODELS (LP)

Upstream Pressure	10.54 Kg/cm <sup>2</sup>
Downstream Pressure	3.5 Kg/cm <sup>2</sup>

Model No.	Steam Flow Capacity Kg/h
TPRS-LP-10-I	100
TPRS-LP-25-I	250
TPRS-LP-50-I	500
TPRS-LP-100-I	1,000
TPRS-LP-200-I	2,000
TPRS-LP-300-I	3,000
TPRS-LP-400-I	4,000
TPRS-LP-500-I	5,000
TPRS-LP-600-I	6,000
TPRS-LP-700-I	7,000
TPRS-LP-800-I	8,000

### TPRS STANDARD MODELS (HP)

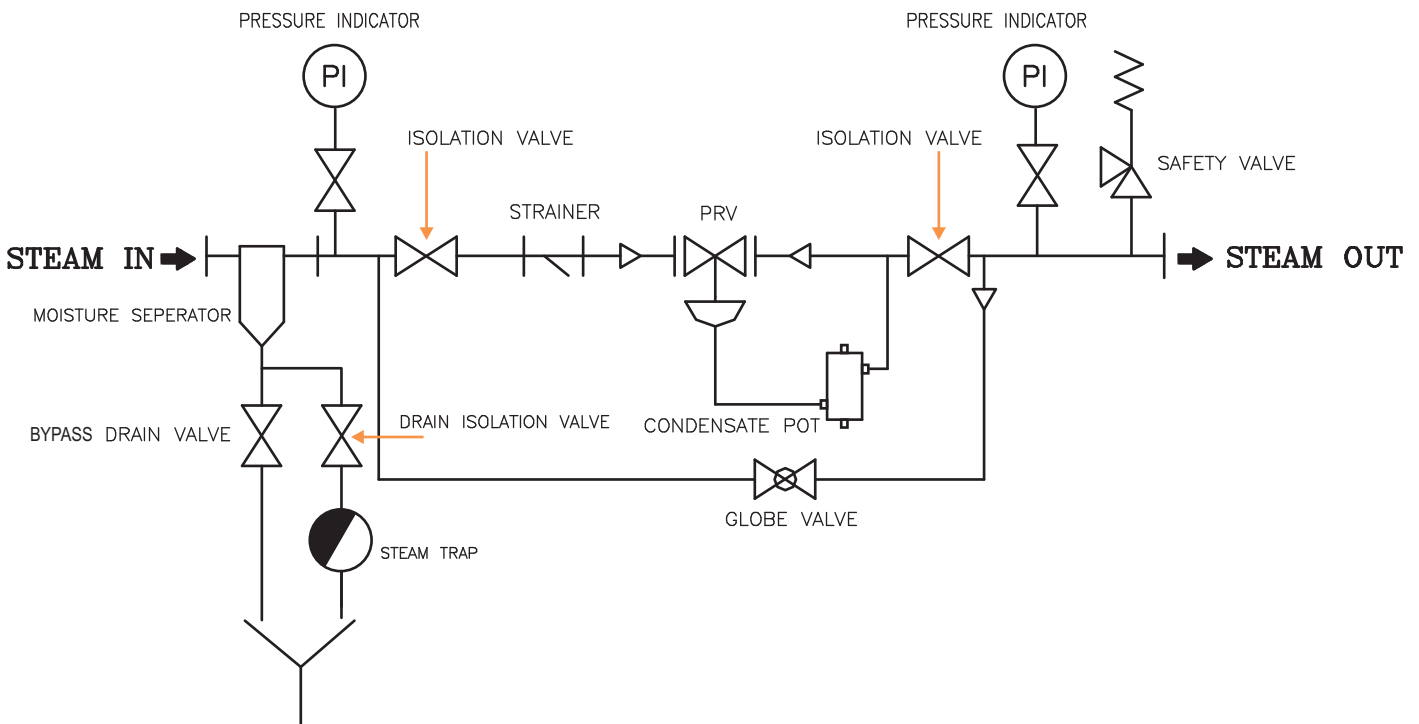
Upstream Pressure	17.5 Kg/cm <sup>2</sup>
Downstream Pressure	8 Kg/cm <sup>2</sup>

Model No.	Steam Flow Capacity Kg/h
TPRS-HP-10-I	100
TPRS-HP-25-I	250
TPRS-HP-50-I	500
TPRS-HP-100-I	1,000
TPRS-HP-200-I	2,000
TPRS-HP-300-I	3,000
TPRS-HP-400-I	4,000
TPRS-HP-500-I	5,000
TPRS-HP-600-I	6,000
TPRS-HP-700-I	7,000
TPRS-HP-800-I	8,000

For NON-IBR omit 'I' while ordering.

For example: for steam flow 1000Kg/hr model shall be TPRS-LP-100.

Contact THERMAX LIMITED Head Office for any other duty conditions not covered in standard range.



## ACCESSORIES

### Statutory Requirements

IBR covers the safety aspect of steam boilers and steam distribution system. The steam installation has to be checked every year by hydraulic testing and any piping modifications needs IBR approval and stage wise inspection while implementing it.

**This applies to the steam piping system operating at pressure above 50 psig (3.5 Kg/cm<sup>2</sup>).**

### IBR is Mandatory for installation in India.

The assembly is provided with ready to install inlet and outlet flanges and comes with an IBR certificate. Certification is not applicable for NON-IBR installations.



## THERMAX

Sustainable Solutions in  
Energy & Environment

### COOLING & HEATING DIVISION

#### Services SBU - FEMS

D - 13, MIDC Industrial Area, R. D. Aga Road,  
Chinchwad, Pune 411 019. INDIA  
Tel.: +91-20-2747 5941  
Fax: +91-20-2747 7080  
E-mail: info.c&hservices@thermaxindia.com

#### AHMEDABAD 380 006

Tel.: (079) 2657 5408 / 5341 / 7073  
Fax: (079) 2657 7270  
E-mail: mambiar@thermaxindia.com

#### BANGALORE 560 020

Tel.: (080) 2346 7761 - 64  
Fax: (080) 2346 7760  
E-mail: adminblr@thermaxindia.com

#### CHENNAI 600 018

Tel.: (044) 2435 3831 - 34  
Fax: (044) 2435 3841  
E-mail: chennaidivsupp@thermaxindia.com

#### HYDERABAD 500 482

Tel.: (040) 2339 6820, 2331 0254  
Fax: (040) 2331 2335  
E-mail: hyd\_sec@thermaxindia.com

#### MUMBAI 400 016

Tel.: (022) 2204 5391, 2204 5324  
Fax: (022) 2204 0859  
E-mail: psecretar@thermaxindia.com

#### NEW DELHI 110 057

Tel.: (011) 2614 5319, 2614 5701  
Fax: (011) 2614 5311, 2614 8679  
E-mail: psupport@thermaxindia.com

#### KOLKATA 700 016

Tel.: (033) 2282 6711 - 13  
Fax: (033) 2282 6769  
E-mail: mbiswas@thermaxindia.com

#### VADODRA 390 005

Tel.: (0265) 231 4802, 234 5442  
Fax: (0265) 231 0051  
E-mail: pbaroda@thermaxindia.com

#### www.thermaxindia.com

International offices at  
Indonesia, Russia, Kazakstan, Saudi Arabia,  
Malaysia, Bangladesh, Sri Lanka, Hong Kong, China  
Thailand, UAE, Kenya, Nigeria, Brazil, UK, USA

## Thermax Business Portfolio

Boilers & Heaters

Absorption Cooling

Air Pollution Control

Captive Power

Chemicals

Water & Waste Solutions

**Special inspection and certification available on request**

In view of our constant endeavor to improve the quality of our products, we reserve the right to alter or change specifications without prior notice.