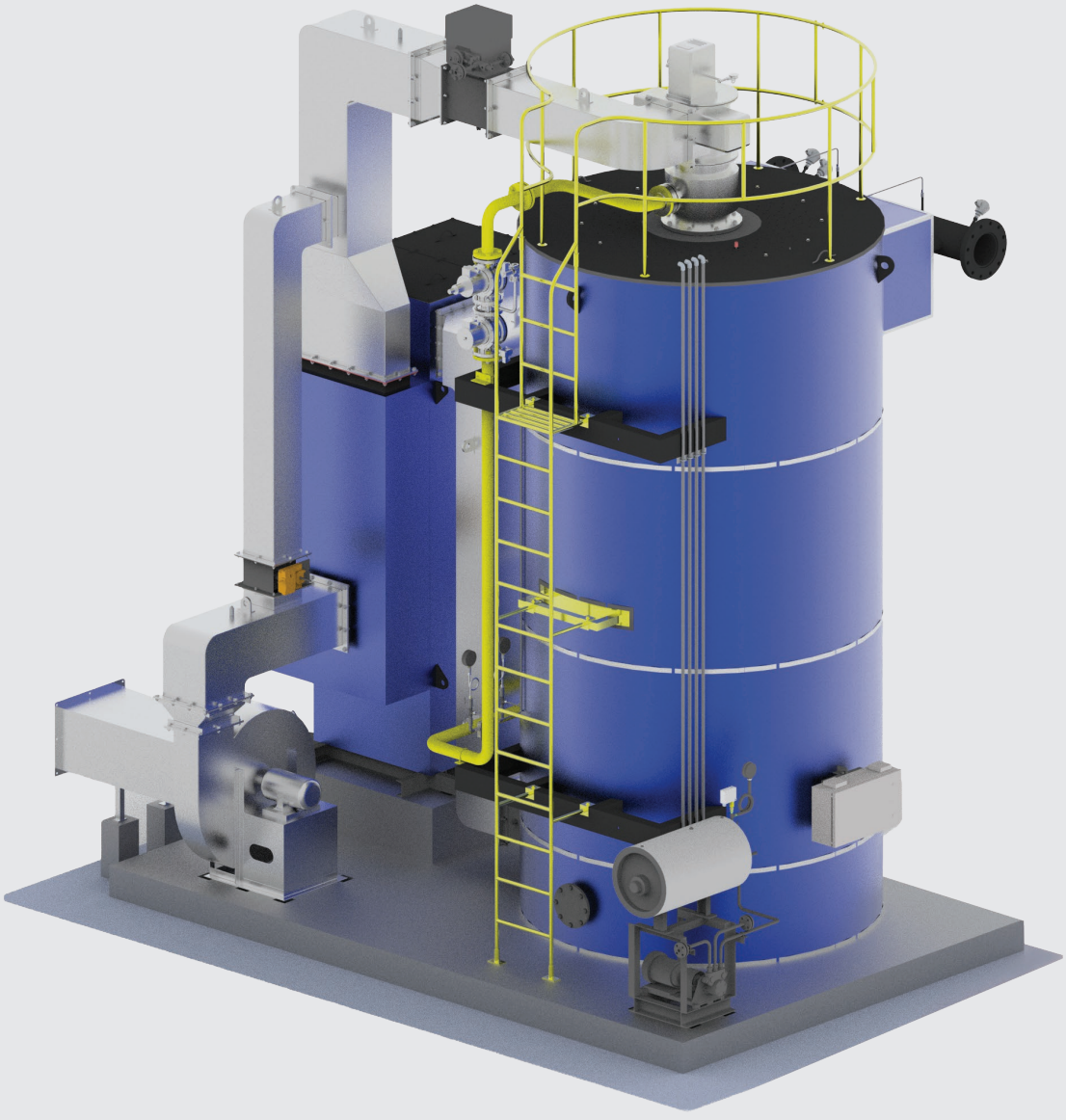
Process Heat Solutions

THERMAX

ThermoPac™ Global

Flexible. Modular. Robust.



Conserving Resources, Preserving the Future.

Thermax is a leading conglomerate in the energy and environment space and a trusted partner in energy transition. Thermax's extensive portfolio includes clean air, clean energy, clean water and chemical solutions. Backed by its longstanding industry partnerships across multiple sectors, Thermax has cultivated strong expertise in audit, consulting, execution, and maintenance coupled with digital solutions, ensuring a unified energy-management experience. Leveraging its distinctive engineering capabilities, Thermax converts costs to profits while protecting the environment – a win-win for the industry and society at large.

Legacy of Thermopac Series

- **1968** – The Dawn of Thermal Oil Heating in India
- **1970s** – European U-Series Thermopac Designs
- **1980s** – Thermopac Redefining Heating with a Two-Pass Design
- **1980s** – Pioneering Heaters for Heavy Oil and Gas Applications
- **1990s** – Thermopac A: Efficiency Meets Advanced Three-Pass Design
- **1996** – Thermopac B: Compact Solutions for Modern Needs
- **2000** – Expanding Possibilities, Enhanced Heating Capacities
- **2005** – Compact Excellence: Integral APH Solutions for Evolving Demands
- **2009** – TPDi & TPD Excel: A Leap in Efficiency and Innovation
- **2023** – Thermopac Global: Setting New Standards in Heating Solutions

Thermopac Global Series

Thermic fluid heating has become the preferred choice for high-temperature process heating requirements globally, offering superior efficiency and consistent performance. Thermax introduced this game-changing concept to India in 1971 with its revolutionary Thermopac. Over the decades, Thermopac has earned recognition as a reliable source of high-temperature heat and a proven productivity enhancer.

The latest advancement in this legacy, Thermopac Global, combines high performance and robust engineering with a sleek, modular design that ensures quick and hassle-free installation. Designed to cater to diverse industrial needs, it aligns with refined global aesthetics while delivering unmatched operational efficiency and reliability.

What makes ThermoPac Global best-in-class

- Footprint area reduction: 10% to 15%
- Heat recovery units for additional efficiencies
- Unparalleled pre-insulated modular compact design
- Efficiency of up to 93.5%
- Closed loop low pressure circuits
- Ease of maintenance leading to less Opex cost
- Low installation costs

Configurable Modules

Burner Technology

- Monobloc
- Dualbloc
- Multiple make options

Burner Regulation

- MCR
- ECR
- ECR + O_2 trimming

Heat Recovery Unit

- APH with corrosion management system
- TFPH

Control Panel

- Monobloc
- Dualbloc
- Multiple make options

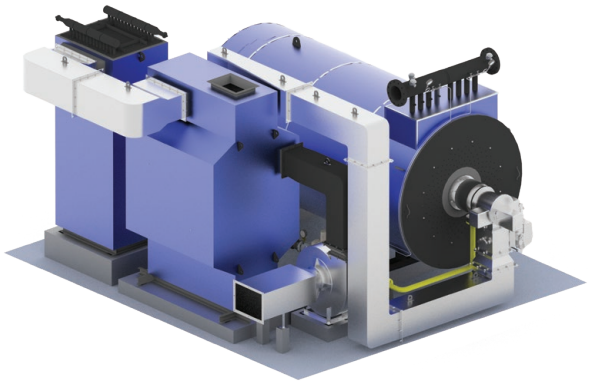
De-aerator-cum-Expansion Tank

- Thermax Design Combine DE tank
- For larger capacities
- Separate Deaerator & expansion tank

Unparalleled Features

- Patented coil assembly
- Cooled Turning Box
- Option of high flow
- Thermoclutch
- Orientation options as per space availability

Thermopac Global – TPG



Product Highlights

- Thermal efficiency up to 93.5%
- Modular design ensures compact layout and quick assembly
- Counter-parallel mix flow design
- Air Pre heater with counter parallel mix flow design
- Reduced footprint area by 10–15% compared to conventional heater
- Additional HRU options of Thermic Fluid Pre-Heater (TFPH) and Dewtherm
- Additional efficiency of up to 2% with TFPH on NG/LPG firing

Product Offering

- Capacity: 1 Million Kcal/hr to 4 Million Kcal/hr
- Fuel flexibility: LO/HSD, FO, LSHS, NG, and LPG
- Operating temperature: 280°C & 300°C (Non-std. offering till 350°C)

Available Options

- Complete heater house and accessories on turnkey basis
- High flow design with ΔT 28°C

Technical Specifications – TPG

OPERATING PARAMETER	UNIT	TPG-10	TPG-15	TPG-20	TPG-25	TPG-30	TPG-35	TPG-40
Heater Performance								
Heat Output	kcal/hr	1,000,000	1,500,000	2,000,000	2,500,000	3,000,000	3,500,000	4,000,000
Max. Outlet Temperature	deg C	280°C & 300°C as optional						
Design Flow Thermic Fluid	m^3/h	60	90	120	150	180	255	291
Thermic Fluid Temperature Rise - Standard	deg C	34	34	34	34	34	28	28
Burner		Thermax Oertli Dualbloc - Pressure Jet						
Thermal Efficiency (NCV Basis- As per BS 845 Indirect method at full load)								
HSD	% on NCV	92	92	92	92	92	92	92
LDO		92	92	92	92	92	92	92
FO		92	92	92	92	92	92	92
LSHS		91.5	91.5	91.5	91.5	91.5	91.5	91.5
LPG/Natural Gas		91.5	91.5	91.5	91.5	91.5	91.5	91.5
Natural Gas with TFPH		93.5	93.5	93.5	93.5	93.5	93.5	93.5
Electrical Connected Load (Approximate)								
Total Connected Load - FO	kW	27.3	38.4	50.1	58.2	69.7	74.7	89.7
Total Connected Load - HSD/LDO		18.3	26.1	35.1	40.2	51.7	55.2	70.2
Total Connected Load - NG/LPG		17.5	25.3	34	38	49.5	53	68
Total Connected Load - HSD-NG/LPG		18.25	26.1	35.1	40.2	51.7	55.3	70.2
Dimensions (Approximate) - Horizontal - with TFPH								
Length	metres	4.5	5.1	5.9	6	6.3	6.9	7.4
Width		4.5	5	5.3	5.8	6.3	6.6	7
Height		3.5	3.5	3.5	3.6	4.1	4.1	4.3
Dimensions (Approximate) - Vertical - with TFPH								
Length	metres	5.4	6.1	6.3	6.4	6.9	7.3	7.7
Width		3.2	3.6	4.1	4.6	4.9	5.3	5.6
Height		4.4	4.9	5.7	5.8	6.1	6.6	7.1

Note:

- Efficiency is calculated with heater operating at 280°C outlet temperature and at rated output.

*Connected load including control panel

Thermopac Global with Integral APH – TPGi

Product Offering

- Capacity: 1 Million Kcal/hr to 2.5 Million Kcal/hr
- Fuel Flexibility: LO/HSD, FO, LSHS, NG, and LPG
- Operating Temperature: 280°C & 300°C

Product Highlights

- Automatic control for maintaining predetermined thermic fluid temperature
- High system efficiency of 87%
- Internal APH ensures unit surface temperature

Available Options

- Complete heater house and accessories on turnkey basis
- High flow design with ΔT 28°C

Technical Specifications – TPGi

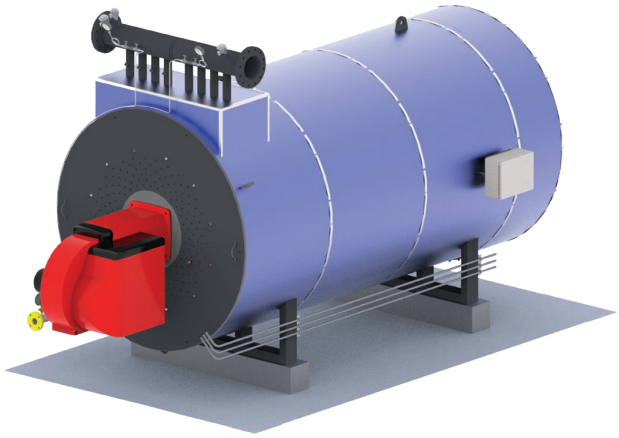
OPERATING PARAMETER	UNIT	TPGI-10	TPGI-15	TPGI-20	TPGI-25
Heat Output	kcal/hr	1,000,000	1,500,000	2,000,000	2,500,000
Max. Outlet Temperature	deg C	280°C & 300°C as optional			
Design Flow	m^3/h	60	90	120	150
Temperature Rise	deg C	34	34	34	34
Thermal Efficiency (NCV basis-As per BS 845 Indirect method at full load)					
HSD / LDO / FO	% on N CV	87			
Natural Gas / LPG		86.5			
Burner	Thermax Rod Type - Pressure Jet Burner				
Electrical Connected Load (Approximate)					
Total Load - FO	kW	25.5	33	44.5	54.5
Total Load - HSD		16.5	20.5	29.6	36.2
Total Load - NG/LPG		15.7	19.7	28.5	34
Load - HSD - NG/LPG		16.5	20.5	29.6	36.2
Dimensions (Approximate) - Horizontal					
Length	metres	4.3	5	6	5.6
Width		4.4	4.1	4.6	4.9
Height		2.8	2.3	3	3.3
Dimensions (Approximate) - Vertical					
Length	metres	3.4	3.9	4.1	4.6
Width		3.1	3.5	3.6	4
Height		4.3	5	5.8	5.9

Note:

- Efficiency is calculated with heater operating at 280°C outlet temperature and at rated output.

*Connected load including control panel

Technical Specifications – TPGM



Product Offering

- Capacity: 1 Million Kcal/hr to 3 Million Kcal/hr
- Fuel: FO, NG, and LPG
- Operating Temperature: 280°C & 300°C

Product Highlights

- Aptly designed for mid-range temperature requirements
- Imported monobloc burner
- Ideal for packaging, colour printing, pharmaceutical and leather industries
- Compact and reliable

Available Options

- Complete heater house and accessories on turnkey basis
- High flow design with ΔT 28°C

Technical Specifications – TPGM

OPERATING PARAMETER	UNIT	TPGM-10	TPGM-15	TPGM-20	TPGM-25	TPGM-30
Heat Output	kcal/hr	1,000,000	1,500,000	2,000,000	2,500,000	3,000,000
Max. Outlet Temperature	deg C	280 (Std) / 300 (Opt)				
Design Flow of Thermic Fluid	m^3/h	60	90	120	150	180
Thermic Fluid TemperatureRise	deg C	34	34	34	34	34
Thermal Efficiency (NCV basis-As per BS 845 Indirect method at full load)						
HSD / LDO / FO	% on NCV	85	85	85	85	85
Natural Gas		84.5	84.5	84.5	84.5	84.5
HSD/LDO/FO with TFPH		87	87	87	87	87
Natural Gas with TFPH		86.5	86.5	86.5	86.5	86.5
Burner	Type	Oilon Pressure Jet				
Electrical Connected Load (Approximate)						
Total Load - FO	kW	23.5	35.2	43.9	44.3	62.5
Total Load - HSD		17.5	23	32	32	43.5
Total Load - NG/LPG		16	21.5	30.5	30.5	42
Total Load - HSD-NG/LPG		17.5	23	32	32	43.5
Dimensions (Approximate) Horizontal - FO/LO/FO+GAS/LO+GAS with TFPH						
Length	metres	4.3	5	6	6.2	6.6
Width		3.8	4	4.1	4.5	5
Height		2.9	3	3.1	3.7	3.8
Dimensions (Approximate) Vertical- FO/LO/FO+GAS/LO+GAS with TFPH						
Length	metres	4.1	3.7	4.2	4.4	4.8
Width		3.4	3.3	3.7	3.7	4.1
Height		4.9	4.3	5.9	6	6.3
Width		3.2	3.6		4.1	4.6
Height		4.4	4.9		5.7	5.8

Note:

- Efficiency is calculated with heater operating at 280°C outlet temperature and at rated output.

*Connected load including control panel

Operation and Control System

Thermowiz™ Nxt

Experience the power of technology with Thermowiz™ Nxt, a digitally powered device for monitoring, control and protection of equipment.

- HMI – Touch screen graphical operator interface makes it highly user friendly
- MIS reporting enables real-time trends and data logging downloadable on a USB drive
- Networking – Embedded ports on Ethernet, Serial, CAN Open Protocols
- Program modification – Download programs through a USB drive

THERMAX EDGE™ Live

ThermoPac™ Global comes enabled with EDGE™ Live, an intelligent IIoT solution with ensured data security that enables:

- Efficiency monitoring and diagnostics
- Data-driven preventive maintenance scheduling
- Remote monitoring of all critical parameters

Major Applications

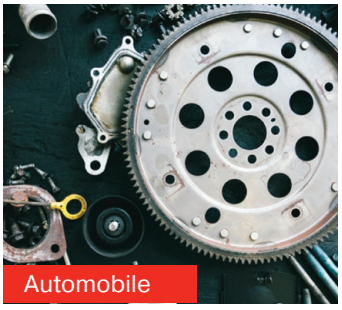

Pharmaceutical


Chemical


Textile


Corrugated Box


Packaged Food


Automobile


Rexin / Leather / Films

Conserving Resources,
Preserving the Future.

THERMAX

- Air Pollution Control
- Boiler and Heater
- Build-Own -Operate
- Chemical
- Cooling
- Projects and Energy Solutions
- Process Heating
- Renewable Energy
- Water and Waste Solutions

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