

## Brochure

Head Office:

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Phone: 021-7982574, Fax: 021-7983011, 7971870

Website: [www.yanfaseparation-phe.com](http://www.yanfaseparation-phe.com)

# Yanfa

PT. YANFA PUTRA ALAM

Separation and Plate Heat Exchanger Specialist



*The Right Choice in Heat Exchangers!*



## The Vitherm Heritage

**Vitherm** has a strong historical heritage to be the world leader in the design, production, applications, marketing and sales of industrial heat exchangers.

A strong alliance for supply chain and sales channels worldwide as well as superior R & D software and IT infrastructure makes **Vitherm** unique. This global experience and expertise results in design, engineering and manufacturing a full range of proprietary and technologically advanced heat exchangers to meet the needs of every segment of the world's process industries. **Vitherm's** products set the standards of excellence in their fields.

Located in a modern plant and office complex in Newmarket (Toronto), Ontario, Canada, **Vitherm** takes its global heritage from its past. This starts with the experiences of Bill Nixon, founder of Nixon Plate Coils Ltd. in 1954, who saw a market for custom-built heating units for use with liquid filled tanks employed in process industries. Nixon became the first in Canada to manufacture plate heating and cooling coils for industrial heat transfer. Acquiring a farm in Vandorf, north of Toronto, he converted the barn into a factory and went to work. The company had only three employees but sold its custom-built tank heating and cooling coils across Canada. The rural atmosphere belied the exciting research by skilled engineers behind the barn walls.

In 1974, Chandu Patel was recruited by Nixon as a chemical engineer. A newly arrived immigrant from Tanzania, Patel was instrumental in the drive to expand the product line by adding more types of heat exchangers. In 1979 he acquired the

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company from Bill Nixon, and arranged to become a licensee for a line of plate heat exchangers and associated technology from the Fayolle family owned French based **Vicarb**.



In 1986, Patel sold the majority share of the company to **Vicarb S.A.**, but stayed on as President and CEO of the new company. With its partner's European technology to absorb and its global customers in Europe and Asia for which to produce, the North American subsidiary of **Vicarb** made the most of its newly acquired family. The following year, it introduced a revolutionary, cost-cutting method of manufacturing plate coils. The company grew vigorously, profiting from its ability to work with industry to develop cost effective solutions to highly technical problems and to create new products that made processes such as heat recovery more economical. The company continued to develop new lines of heat exchanger products, expanded facilities to over 80,000 square feet, organized a strong R&D and established software and IT departments. The company successfully sustained over 35% compound annual growth from 1986 to 1998. The Fayolle family sold the company as part of worldwide **Vicarb** group sale in December 1998.

The Patel family has invested in a new plant and office complex in Newmarket to house the international head office and main plant of **Vitherm**. **Vitherm** has established, in addition to its own manufacturing, global supply chain and sales channel relation-ships. **Vitherm** continues to develop more proprietary technology. **Vitherm**, as a global heat exchanger company, intends to leverage its people, technology, alliances, knowledge base and other resources to offer a wide range of heat transfer products. **Vitherm** intends to be the single source of technically advanced heat exchangers that will meet the needs of our most demanding customers in the 21st century and beyond. **Vitherm's** research and development activities delve into all aspects of basic heat and mass transfer, process development and engineering, manufacturing technologies, new product concepts and development. While constantly improving and perfecting our technical knowledge of the existing products, we have a series of brand new products in the development pipeline to satisfy the emerging industrial process needs.

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## The Vitherm Future is in Today's Research & Development Vitherm



**Vitherm** Research and Development activities are closely linked to our persistent effort to bring the latest IT technologies, in particular, the Internet technology, into our business cycle. This allows us not only to incorporate our sophisticated heat exchanger technology into state-of-the-art software tools, but also to automate the entire sales channel management from customer inquiry, heat exchanger design and selection, engineering process and analysis, order entry and tracking to after sales support and services.

In addition to conducting research and development projects internally, we also work closely with numerous internationally renowned heat exchanger research organizations, such as TTC at the National Research Council of Canada and Texas-based Heat Transfer Research Inc., a world leader in heat transfer research. All of this is designed to make **Vitherm** an authoritative and responsive partner in our customer's search for cutting edge heat exchanger technologies.

## Builds Cutting Edge, Technically Advanced, Compact Heat Exchangers for Industry

Industries and organizations around the world are under mounting pressure to streamline operations, lower production costs and increase efficiency. Efficient heat transfer, accomplished with today's plate compact heat exchanger technology, can help achieve all that, with equipment that is smaller than older configurations, lighter in weight, and less expensive to install and operate.

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**Vitherm** is an international group in the design and manufacture of modern compact heat exchangers. Our products are used throughout the processes world wide, including applications in the chemical, nuclear, metallurgical, food and HVAC industries. Using our extensive research and development capacity, we work with our clients to craft a full range of heat exchanger designs to the specific needs of each. We draw on decades of international process experience and heat exchanger expertise, to ensure that our products will meet all of our client's operating parameters. **We engineer Vitherm compact heat exchangers to meet your process requirements instead of expecting your process to meet the needs of a plate heat exchanger.**

Because our heat exchangers are designed for a long, low-maintenance lifetime and with easy access for regular servicing, they represent a quality equipment purchase which will result in very low life-cycle costs. For instance, in our **Vithermbloc®** wide gap welded plate exchangers, the process side is totally accessible for mechanical cleaning and inspections. No piping disassembly is required for cleaning. As well, the wide gap side plates are smooth corrugations which produce minimal fouling. The **Vithermcoil®** exchangers are available in many varieties, materials and configurations to provide a very flexible prime heat transfer surface. Our **Vithermshell®** units combine the advantages of plate heat exchangers without gaskets and provide large surface area in a very compact unit.

**Vitherm's** ongoing research and development programs are focused on the process industries and our heat exchangers can be found installed in industrial facilities worldwide. Included among these are the chemical and petrochemical industries, pulp and paper, oil and gas, power, food processing, HVAC, marine, mining and metal production, refrigeration, automotive and metal finishing and water pollution control plants.

**Besides its facilities in Canada, Vitherm and its affiliates maintain plants in USA, France, and China.**

Unique among process equipment suppliers, **Vitherm** not only provides advice on repair and maintenance, but supplies application-specific training for clients. We provide a "total performance guarantee" and will readily supply all of the technical data required to satisfy even the most sophisticated and demanding customers.

## Vitherm Compact Heat Exchangers Quality Without Compromise

The efficient heat transfer capability, smaller size, and lighter weight, lower cost and greater flexibility of compact heat exchangers makes them the logical choice for most uses in today's process industries. **Vitherm's** full range of compact heat exchangers are designed for single and multi-phase liquid heat transfer. They are manufactured in materials that include mild steel, SS and nickel alloys, tantalum and titanium.

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**Vitherm's technology falls into two broad categories – pressure plate exchangers and frame plate exchangers.**

Pressure plate technology is utilized where at least one fluid stream must be pressure contained independently of the other. Each element of the exchanger is a stand-alone pressure boundary.

All-welded construction eliminates gaskets, enhances reliability, lowers installation costs and reduces maintenance costs.

**Vithermcoil® Plate Coil Heat Exchangers have structural strength and integrity, as well as the highest burst pressures of any comparable competing units.** Resistance and/or laser welding followed by hydro forming produces tightly controlled uniform corrugations which ensure optimum design heat transfer efficiency and pressure drops, and a smooth heat transfer surface which is exceptionally resistant to fouling. **Vithermcoil®** is the most versatile prime surface heat transfer product available and they come in a limitless array of materials, shapes and styles.

**The Vithermbloc® Wide gap Welded Plate Heat Exchanger is designed for highfouling services.** The process fluid side of the **Vithermbloc®** is completely accessible for mechanical cleaning and inspection. A wide gap between plates and smooth corrugations create minimal fouling. **Vithermbloc®** has no interplate gaskets, thus no gasket compatibility problems or temperature or pressure constraints. It gives high heat transfer efficiency and allows heating or cooling of up to four fluids in the same exchanger using various grades of service fluids.



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**Vithermplate® Gasketed Plate Heat Exchangers provide the basis for our frame plate technology.** It consists of a plate pack of a calculated number of embossed plates with perimeter gaskets clamped securely between two thick carbon steel plates. The plates have openings at the corners to direct process and service fluid flows through the interplate passageways. Fluids flow alternately between the plates in order to achieve high-efficiency heat transfer. The thin fluid flow and the high turbulence created by **Vitherm's** proprietary embossed plate patterns produce low pressure drops and extremely high heat transfer coefficients. **Vithermplate®** heat exchanger plates are pressed in a single stroke by large tonnage presses. This enables compliance to extremely tight tolerances, allowing large plate packs to be perfectly aligned in an assembled plate heat exchanger. We use plate material of the highest quality and optimum thickness, making our plates more reliable and longer lasting. **Vitherm** gaskets are thicker and wider than most, ensuring that they can be reused many times, and reducing the cost of spare parts.

**Vithermshell® welded plate heat exchanger, is technologically advanced, compact and very efficient.** Fully welded but totally accessible on shell side, it combines high performance, safety, maintenance and economy. **Vithermshell®** has no interplate gaskets, is of compact size, and is easy to clean and maintain. Built with an alloy plate core and steel and alloy lined shell, it provides heat transfer performance similar to conventional gasketed PHE and also has temperature cross capability. The bolted design means **Vithermshell®** is simple to disassemble so the heat transfer plates can be inspected or cleaned.

**Whether it's our unique pressure plate exchangers or our process designed frame plate exchangers, you can be sure that every heat transfer product from Vitherm will combine the highest levels of technology and fabrication to provide the best solution to any energy handling problem.**

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## Gasketed Plate Heat Exchanger

High quality Vitherm gasket plate heat exchangers are designed with easy access for regular servicing and for a long, low-maintenance lifetime with low life-cycle costs. Vitherm designs plate heat exchanger to meet your process having to meet the needs of a plate heat exchanger. Our gasketed plate heat exchangers offer many advantages over commodity-oriented conventional plate heat exchangers.

The gasketed plate and frame heat exchanger consists of a plate pack of calculated number of embossed plates with perimeter gaskets clamped securely with tie rods between two thick carbon steel plates. The plates have openings at the corners to direct process and service fluid flows through the interplate passageways. Fluids flow alternately between plates in order to achieve high-efficiency heat transfer. The thin fluid flow and the high turbulence created by Vitherm's proprietary embossed plate patterns produce low pressure drops and extremely high heat transfer coefficients.



Plates are pressed in a single stroke by large tonnage hydraulic presses. This enables compliance to extremely tight tolerances, allowing large plate packs to be perfectly aligned in an assembled plate heat exchanger. We use plate material of the highest quality and optimum thickness (thin plates are extremely difficult to reseat after use), making our plates more reliable and longer-lasting. Vitherm gaskets are thicker and wider than most, ensuring that they can be reused many times.

Vitherm heat exchangers, efficient and technologically advanced, are installed worldwide in various industries. It is ideal for any industry application requiring an efficient and economical heat transfer product.



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## Vitherm GASKETED PHE SIZE RANGE

Model No.	Approximate Dimensions of PHE								Standard Connection	
	Width		Height		Min Length		Max Length		(in)	(mm)
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)		
VX2	6	152	16	406	8	203	22	558	¾	20
VX4	7	178	24	610	13	330	32	813	1	25
VX8	10	254	30	762	14	356	35	889	2	50
VX13	13	330	33	838	14	356	49	1245	2	50
VX20	13	330	43	1092	25	635	49	1245	2	50
VX28	20	508	49	1245	53	1346	93	2362	4	100
VX45	20	508	66	1676	53	1346	93	2362	4	100
VX60	26	660	71	1803	44	1118	170	4318	6	150
VX85	33	838	86	2184	51	1295	197	5004	8	200
VX100	26	660	100	2540	44	1118	170	4318	6	150
VX110	45	1143	82	2081	59	1499	191	4851	12	300
VX130	39	991	93	2362	58	1473	190	4826	10	250
VX170	47	1200	86	2181	77	1960	181	4585	16	400

### PLATE MATERIALS

SS 304, 316, 316L

Titanium

Nickel 200

HASTELLOY® C-276, C-22, B-2

AVESTA® 254-SMO

Other plate materials available

### GASKET MATERIALS

Nitrile

EPDM

Viton

Neoprene

Hypalon

Other gasket materials available

### FEATURES :

- High heat transfer efficiency
- Compact design
- Low maintenance cost
- Single stroke plate pressing
- Glued or V-clip gasket
- Wide range of choices

### APPLICATION :

- HVAC industry
- Vegetable oil industry
- Chemical/Petrochemical industry
- Mining/Metal process
- Oil and gas industry
- Food processing and beverages
- Marine industry
- Pulp and Paper
- Pharmaceutical industry
- General industry



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### ***OTHER PRODUCTS :***



**Vitherbloc®**  
Welded Plate  
Heat Exchanger

**Max. Design Pressure: 36.0 barg**  
**Max. Design Temperature: 320°C**

**Application:**

- ✓ Oil & Gas Industry
- ✓ Vegetable Oil Industry
- ✓ Chemical/Petrochemical Industry
- ✓ Pharmaceutical Industry  
(without gasket between plates)



**Vithershell®**  
Plate & Shell  
Heat Exchanger

**Max. Design Pressure: 55.0 barg**  
**Max. Design Temperature: 320°C**

**Application:**

- ✓ Refrigeration System
- ✓ Thermal Oil System
- ✓ Chemical/Petrochemical  
(an ideal replacement for semi-welded PHE)



**Vithermbox®**  
Wide Gap Welded  
Plate Heat Exchanger

**Max. Design Pressure: 20.0 barg**  
**Max. Design Temperature: 320°C**

**Application:**

- ✓ Pulp & Paper Industry
- ✓ Vegetable Oil Industry
- ✓ Mining Industry
- ✓ Sugar Industry
- ✓ Fuel Alcohol Production  
(an ideal replacement for spiral heat exchanger, wide gap up to 20mm)

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