

**RESPECTED,
RELIABLE,
RESILIENT**



 **POLFROST**
air-con pvt. ltd.
FREEZE IT !

CHILLERS

Chillers

At Polfrost, we manufacture Chillers that not only fulfill your business needs but are also environmentally viable. Chillers are integral components that enable multiple functions in industries which use central station air handling units, terminal units, or process applications. They are indispensable while producing wide variety of products ranging from life-saving drugs and critical chemicals to cheese and chocolates. If you have a Chiller requirement, count on us. We are confident about exceeding your expectations.



Polfrost Universal Series:

Polfrost Air-cooled and water-cooled chillers are extremely versatile machines, offering an ideal solution for industrial and process cooling. Easily adaptable for wide range of applications such as pharmaceutical, brine cooling, process cooling, medical and paramedical applications for scanning machines, imaging systems, thermal management of CNC machines, ice thermal storage, and heat pump applications.

Polfrost reciprocating, scroll and screw chillers provide chilled water for all applications that use central station air handling units, terminal units or process applications. Chillers are completely self-contained and are designed for indoor installation. Each unit includes hermetic reciprocating / scroll / screw compressors, a water - cooled / air-cooled condenser, liquid evaporator and a user-friendly Control Center with advanced control and connectivity systems mounted on a rugged steel base.

Polfrost branded chillers can utilize variable speed drive technology to deliver outstanding performance. The industrial design yields a reliable, long lasting operation for a variety of installations and applications.

- **High Efficiency** – Designed for maximum efficiency in the real world, where maximum hours of the cooling season are clocked at off-design conditions.
 - **Lowest Possible Sound Levels** – Extremely Low real time sound levels.
 - **Polfrost Indigenous Control Panel** – Ensures optimum performance and easy operation.
 - **Application Versatility** – Polfrost chillers acclimatize comfortably to brine cooling, ice thermal storage, and pharmaceutical control processes.
 - **Low Operating Costs** – Rugged design for low maintenance costs and a long design life.
 - **Environment Friendly** – HFC-404a refrigerant has zero ozone-depletion potential and low total global-warming potential
 - **The HFC Refrigerant Advantage** – Positive pressure design eliminating requirements of purge unit, annual oil maintenance, filter changes, etc. No issues of refrigerant availability, no penalty on efficiency due to ingress of moisture or condensables in the system. High motor life.
 - **Simple single stage design advantage** – Optimized designs. Very high efficiency.
 - **Protects Temperature-Sensitive Applications** – In the event of a power failure, Polfrost chillers restart hassle free when emergency power is established.
 - **Unloading advantage for bigger chillers** - simple hydraulically operated inlet guide vane control Movable discharge diffuser, ensuring excellent stability at low load condition, minimizes likelihood of surging at low load conditions Unloads to 10% of full load Thermostatic / Electronic Expansion Valve Superior refrigerant flow control over a range of operating conditions. Better control of suction superheat. Efficient operation at part loads compared to orifice plates / float devices.
 - **The Reliability Advantage** – Highly energy efficient & reliability compressor Selection.
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Chiller Range & Features Varying Accordingly:

Polfrost Chillers can be made according to specific customer requirements, based on four basic criteria –

Temperature – Ranging from + 15°C to – 40°C

Universal Series: Ambient to 4°C

Low Universal Series: 4°C to -40°C

Ultra Universal Series: Specialised chillers from -20°C to -40°C available on request as per process needs

Capacity: Comfortably customizable according to customer needs or requirements Standard Chillers Upto 71 kW (20TR)

Media / Circulation: • Water • Brine

Compressor type: • Reciprocating • Scroll • Screw

Condenser type: • Air Cooled • Water Cooled

Controls: PID / POLFROST PLC

Specialised Chillers of higher capacities customized according to needs



Polfrost Ultra Universal Series

Apart from positive temperature chillers, Polfrost has a knack in designing process chillers upto -65°C temperature with world class technology and components, controls and refrigerants to sustain stringent environmental clearances and long life of technology.

- **Guaranteed Ultra Low Temperature:** Polfrost chillers pledge to deliver the affirmed temperatures.
- **Ultra Precision Subcomponents:** Right from the screw to the scroll, from the structural elements to the brine, precision controls, suitable refrigerants, selection of right pumps, valves and materials is the real test of our skill, knowledge and exposure to the industry.
- **Tailor Made Units:** Polfrost has designed chillers for automotive components in the ultimate technology of shrink fitting assembly of gearboxes where the gearbox is subjected to varying pressures and loads such as earth moving equipments, tractors and accessories to overcome the unsafe loads.
- Primary chillers for low temperature first stage cooling in equipments such as freeze driers, ULT freezers and many specialised applications as per customer requirements.
- Our medical and analytical range consists of small circulating baths, which are devised to achieve product specific results in very specific range of temperatures and flow rates, so that there is no excess or low circulation rate, precise temperature control over a long duration so that there is no variation over long trials of equipments under testing.



Universal Series Specifications:

Sr. no.	Universal					
1	Model	UNS 1-15	UNS 2-21	UNS 3-26	UNS 4-29	UNS 5-45
2	Capacity [Kw]	4.9	7.1	9.4	11.7	14.5
3	Operating Temp [°C]	Ambient to + 4 °C	Ambient to + 4 °C	Ambient to + 4 °C	Ambient to + 4 °C	Ambient to + 4 °C
4	Tank Size [Ltr] Volume	40	40	40	40	80
5	Compressor [KW] Power	1.72	2.53	2.78	3.23	4.72
6	Compressor [A] Current	3.19	4.37	4.76	5.42	7.91
7	Noise Level [dba]	> 50	> 50	> 50	> 50	> 50
8	Pump Flow Rate [Ltr / Min]	15	20.1	26.6	33.3	43.8

Pump Pressure depending upon the selection of secondary pump

The above capacities are worked with consideration of + 40°C ambient

Series

UNS 6-58	UNS 7-76	UNS 8-95	UNS 9-114	UNS 10-120	UNS 11-130	UNS 12-145
22	26.3	34.1	43.3	48.7	64.4	71
Ambient to + 4 °C	Ambient to + 4 °C	Ambient to + 4 °C	Ambient to + 4 °C	Ambient to + 4 °C	Ambient to + 4 °C	Ambient to + 4 °C
80	80	100	100	100	100	100
6.11	8.04	11.5	12.35	13.04	14.08	16.5
11.4	14.83	15.8	24.18	28.19	32.8	38.7
> 50	> 50	> 50	> 50	> 50	> 50	> 50
62.6	84.1	98	123	150	196	215



REFRIGERATED LAB EQUIPMENT:

- Freezers -20°C to -86°C for Labs – Pathology, Medicine, Life Science, Pharma.
- Circulating Baths - Cryostat
- Blood Bank Cold Chain : -14°C, -30°C, -45°C to -86°C.
- Platelet Agitator Incubator, Cryobath, Centrifuge, Bag sealer, Blood Bag Collector, Vaccine carrier.

COOL & COLD ROOMS:

- +22°C to + 4°C, -10°C, -25°C, -45°C, -70°C. Digital Microprocessor / PLC Controls.

INDUSTRIAL REFRIGERATION:

- Chillers : 5 to 5000 Liters; 22°C to -70°C; Process & Industrial Circulation, Digital Microprocessor / PLC Controls.
- Unit Coolers, Condensing Units.
- PUF / Insulation Panels.
- Door Systems.
- Tailor made refrigeration & HVAC products.

Contact us:



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