




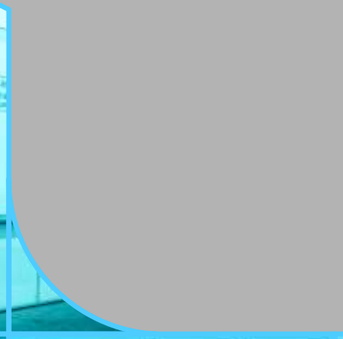





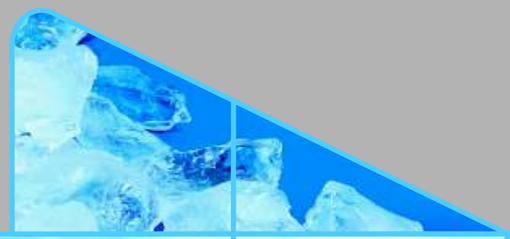


NIK®

INDUSTRIAL REFRIGERATION

NIK®

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NIK R&D Dept. B:CA-016/02-91

Equipment of:

- Industrial Refrigeration
- Air Conditioning
- Oil, Gas, & Petrochemical Plants

TÜV NORD ISO 9001

CE

Company Profile

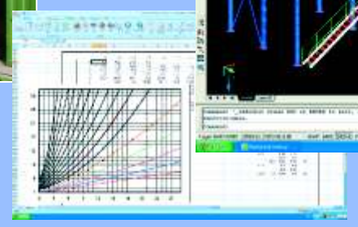
C2

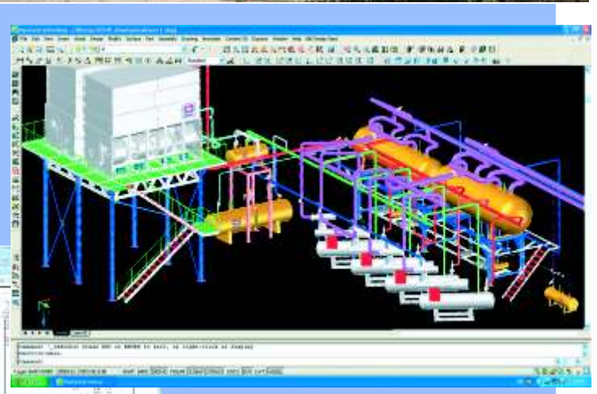
Introduction

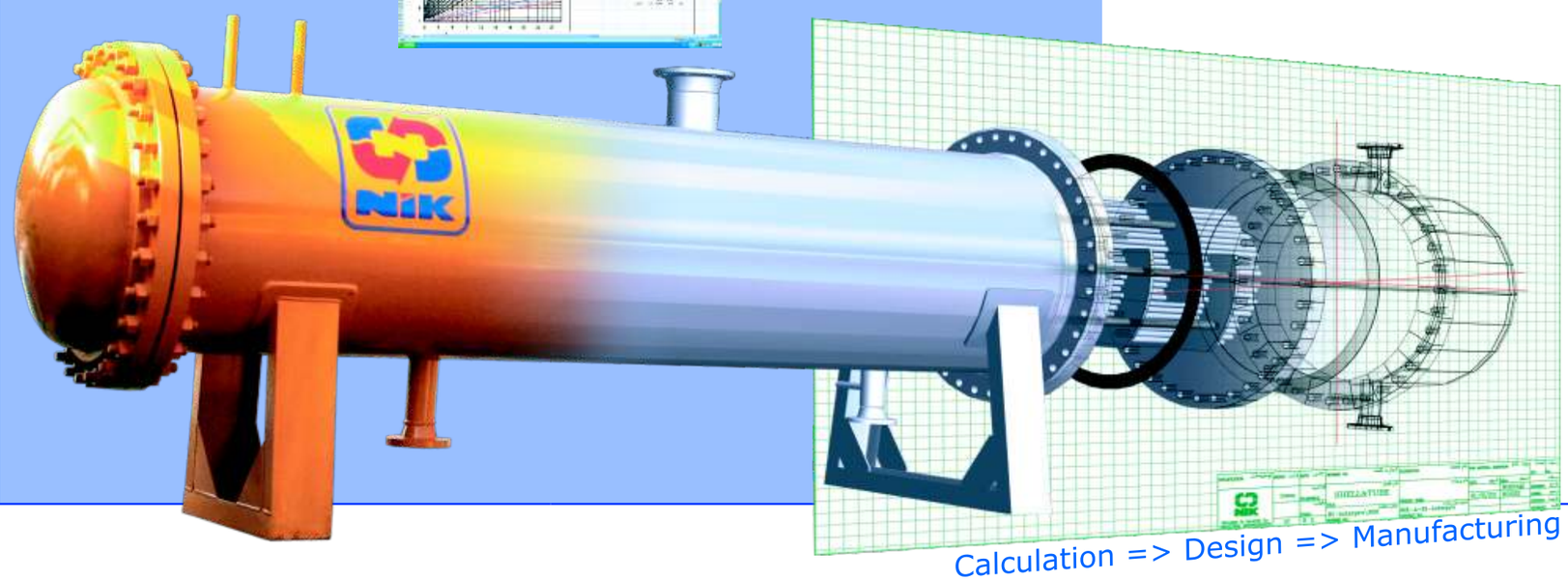
In 1968 NIK Broodati & Hararati Co. was established with the purpose of development and production of cooling & industrial refrigeration systems in order to help the food industries. It started its activities with producing Industrial freezers and soft Ice cream machines and continued to enter to a new stage with design and production of Ammonia systems whose technology was assumed to be inaccessible on that time and it succeeded to equip an enormous part of Iranian food industries with this new technology at lowest expenses.

One of these outstanding achievements was designing and producing Ammonia Ice Banks which are needed for dairy factories to produce and process their products such as milk, ice-cream and relieved these industries from import of the costly technology. This denoted an honor to NIK Co. while many new dairy factories were established and could offer their new products to the market. As NIK Co. suffused the internal market it started to export its products.

Now a day we are producing Oil & Gas systems as well, which are very important for our country just like food industries, by manufacturing different kinds of heat exchangers required for Oil & Gas industry and also VI, VII, VIII phases of South Pars Gas Complex (Asalouyeh). We hope to succeed in this new field as we did in industrial refrigeration field for food industries.







Calculation => Design => Manufacturing

Research & Development

Success of NIK Co. in design, production & implementation of different projects is based on continuous research.

Experienced engineers of NIK R&D department try to atone the customers more & more by constant improvement and being connected to the reliable research centers all around the world, such as ASHRAE, IIR & Mayekawa Japan. in order to innovate in the design of the product and to produce more efficient goods.

Utilizing different CAD/CAM/CAE software and new scientific methods and doing amendment and correction in the products' design according to the customer feedback has propelled NIK Co. in her conspicuous progress for the last decade.

NIK
INDUSTRIAL REFRIGERATION

Manufacturing

Using up-to-date systems & machines in the production line of NIK Co. has improved the quality, precision and production rate and has decreased the expectancy of Human errors. Now production line of NIK is equipped with machines such as:

- Fully automated and complete line of fin production consisting of fin press, expander, U-bender, hair pin bender & …
- Fully automated and complete line of Steel fin production consisting of fin press, U-bender & pertinent accessories.
- CNC punching machines with up-to-date German technology.
- CNC press brake machines.
- CNC milling and lathe machines.
- Different cutting and welding machines.









Quality Assurance






NIK Company has decreased the probability of human errors by taking advantage of its quality assurance department with experienced technicians equipped with advanced measurement systems.

Quality control inspectors accompany the production personnel in different stages of manufacturing and try to control technical details as well as propose the better & new methods in both production and control.

NIK Co. by utilizing ISO 9001:2000 as the pattern of quality management system confirmed by TUV NORD, European products quality standard of CE and setting up the required basis of continual improvement exploits the abilities of its personnel to improve the quality level of the products and customers' satisfaction and guarantees the quality of its products.

IIR Member
ASHRAE Member
ISHRAI Member

INDUSTRIAL REFRIGERATION

Evaporative Condensers & Cooling Towers

1. Evaporative condensers CNE for Ammonia & Freon refrigeration & air conditioning systems
2. Close circuit cooling towers FNC for specific industrial systems such as metal casting, plastic injection, and petrochemical plants
3. Open circuit cooling towers LNT & modular open circuit cooling towers VNT for refrigeration systems, air conditioning, power plants and…

Evaporative Condensers **CNE**
Capacity Range 147 to 5000 kW
No of Fans 2 to 8 Centrifugal Fans
Air Flow Range 18000 to 358180 m^3/h
Fan Diam. 18″, 22″, 25″ or 30″

Cooling Towers **VNT** (Open Circuit)
Capacity Range 220 to 4680 Ref. Tons
No of Fans 2 to 8 Centrifugal Fans

Cooling Towers **LNT** (Open Circuit)
Capacity Range 100 to 1030 Ref. Tons
No of Fans 1 or 2 Centrifugal Fans

Industrial Fluid Coolers **FNC**
Capacity Range 199 to 4620 kW
No of Fans 2 to 8 Centrifugal Fans

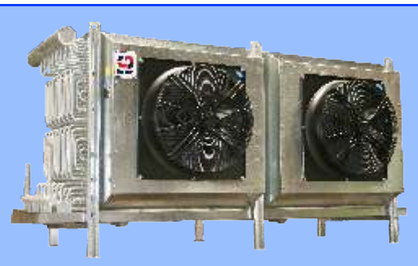
INDUSTRIAL REFRIGERATION

Ammonia Unit Coolers

Industrial Ammonia Air Coolers in two different versions (routine & custom-made) for refrigeration systems and freezing of food products such as poultry, fish, meat, ice-cream, yogurt, dairy products, vegetable and agriculture products.

For more details on Ammonia air cooler units **AND** please refer to our technical catalogue NO.2

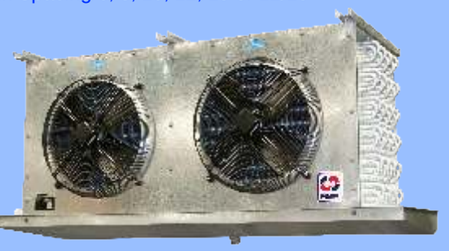
Tunnel Freezer Ammonia Unit Coolers **AND-T**
Capacity Range 48 to 295kW
Fan Diameter 630 or 710 mm
No of Fans 2,3,4 or 5 Fans
Fin Spacing 6, 8, 10, 12, 15, or 12/15



Industrial Ammonia Unit Cooler **AND-I**
Capacity Range 48 to 203.3 kW
Fan Diameters 630 or 710 mm
No of fans 2 to 5 Fans
Fin Spacing 6, 8, 10, 12, 15 or 12/15

Angle Type Ammonia Unit Cooler **AND-A**
Capacity Range 48 to 203.3 kW
Fan Diameters 630 or 710 mm
No of fans 2, 3, 4 or 5 Fans
Fin Spacing 6, 8, 10, 12, 15, or 12/15

Dual Discharge Ammonia Unit Cooler AND-D
Capacity Range 3.5 to 65 kW
Fan Diameters 400, 450, 500, or 560 mm
No of fans 1, 2 or 3 Fans
Fin Spacing 6, 8, 10, 12, 15 or 12/15



Commercial Ammonia Unit Cooler AND-C
Capacity Range 4 to 100.9 kW
Fan Diameters 450, 500 or 560 mm
No of fans 1,2,3 or 4 Fans
Fin Spacing 6, 8, 10, 12, 15 or 12/15

Spiral Freezer Ammonia Unit Cooler AND-S
Capacity Range 28.6 to 365.9 kW
Fan Diameters 630 or 710 mm
No of fans 2, 3, 4 or 5 Fans
Fin Spacing 6, 8, 10, 12, 15 or 12/15

INDUSTRIAL REFRIGERATION

CE

TÜV NORD ISO 9001

Pressure Vessels & Shell & Tube Heat Exchangers

CE 0408

1. Vertical & Horizontal pressure vessels for refrigeration systems such as liquid separator, Inter cooler, liquid receiver, air purger, oil separator, oil receiver, safety vessel, accumulator, surge drum, CO2 vessel equipped with refrigeration system and other pressure vessels for oil, gas & petrochemical industry according to the customer's order.
The pressure vessels of NIK Co. are manufactured and delivered under the European standard CE certified by TUV Austria with code 0408. These vessels are inspected by the representatives of the certifying company one by one, and every vessel with the CE plaque particular to its serial number along with its CE standard inspection identification is delivered to the customer.
2. Shell & Tube heat exchangers consisting of brine Ammonia evaporators with evaporation temp. -50°C, shell & tube condensers, steam heat exchangers, and special heat exchangers for oil & gas industries.

Ammonia Liquid Seperator NLS
Diameter Range up to 2 m
Length Range up to 12 m
Temperature Range -50 to 50°C
Working Pressure Range up to 20 bar

Ammonia Intermediate Cooler NLSI
Diameter Range up to 2 m
Length Range up to 12 m
Temperature Range -50 to 50°C
Working Pressure Range up to 20 bar

Shell & Tube Heat Exchangers NSTE
Diameter Range up to 2m
Length Range up to 6m
Temperature Range -50 to 150°C
Capacity According to the order

Ammonia Receiver NRC
Diameter Range up to 2 m
Length Range up to 12 m
Temperature Range -10 to 50°C
Working Pressure Range up to 20 bar

CO2 Receiver NRC-C
Diameter Range up to 2 m
Length Range up to 8 m
Working Pressure Range up to 25 bar

Ammonia Thermosiphon NTS
Diameter Range up to 1 m
Length Range up to 3 m
Working Pressure Range up to 20 bar

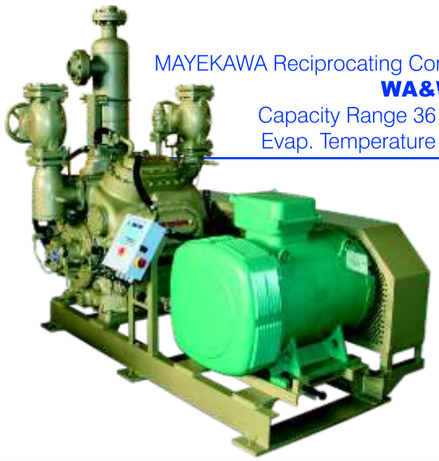
Ammonia Surge Drum NSD
Diameter Range up to 1 m
Length Range up to 3 m
Working Pressure Range up to 20 bar

INDUSTRIAL REFRIGERATION

MAYEKAWA (MYCOM) Compressor Units & Chiller Units

1- MAYEKAWA screw & reciprocating unit compressors for Ammonia and Freon systems.
2- MAYEKAWA screw & reciprocating advanced unit chillers for Freon & Ammonia systems equipped with plate cooler evaporator & plate cooler condenser.

MAYEKAWA Screw Compressors
V&FM Series
Capacity Range 75 to 9678 kW
Evap. Temperature -50 to 0°C



MAYEKAWA Reciprocating Compressors
WA&WB Series
Capacity Range 36 to 690 kW
Evap. Temperature -50 to 0°C

MAYEKAWA Screw Chillers
Capacity Range 75 to 9823 kW
Refrigerant: Ammonia Or Freon
Temperature Range + 12 to -30°C

MAYEKAWA Reciprocating Chillers
Capacity Range 41 to 677 kW
Refrigerant: Ammonia or Freon
Temperature Range +12 to -30°C

INDUSTRIAL REFRIGERATION

Ice Bank, Ice Bank Silo

Ice bank and modular ice bank silo for ice storage (energy storage) to produce industrial chilled water used in dairy factories, beverage plants, air conditioning and…

Ammonia Prefabricated Ice Banks NIB-A
Thermal Storage Capacity 244 to 1220 kW.hr

Ice Bank Coils **NIB-C**
Thermal Storage Capacity Range 122 to 305 kW.hr

Modular Ice Bank Silos NIS
Thermal Storage Capacity Range 488 to 2440 kW.hr

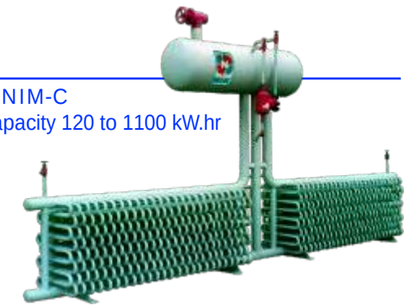
Plate Freezers NPF
Capacity Range 600 to 2000 kg/run

Flake Ice Maker NFI
Capacity 2 to 50 tons/24hr

Plate Freezer, Flake Ice Maker

1- Horizontal & vertical plate freezer.
2- Flake ice maker for poultry slaughterhouses, fishery industries, chemical plants, concrete batching plants, paint industries and...

Freon Prefabricated Ice Banks NIB-F
Thermal Storage Capacity Range 90 to 450 kW.hr



Ice Maker Coil NIM-C
Ice Storage Capacity 120 to 1100 kW.hr

INDUSTRIAL REFRIGERATION

Freon Unit Coolers

1. Freon evaporators **NBC** & **NBD** series for industrial and commercial cold stores, facilities , foods processing & research requiring refrigeration. (For more details please refer to the technical catalogue NO.6
2. Freon industrial evaporators specially for blast freezers, yogurt tunnels, ice-cream tunnels and special purposes based on the customer request, equipped with high static pressure, high speed air outlet & high air throw fans.

Angle Type Tunnel Freezer NBT-A
Capacity Range 29 to 175.4 kW
Fan Diameter 630 or 710 mm
No of Fans 2, 3, or 4 Fans
Fin Spacing 8 or 10 mm

Down Venttilation Tunnel Freezer NBT-D
Capacity Range 29 to 175.4 kW
Fan Diameter 630 or 710 mm
No of Fans 2, 3, or 4 Fans
Fin Spacing 8 or 10 mm

Vertical Unit Cooler NBC-V
Capacity Range 3.4 to 153.4 kW
Fan Diameter 350, 400, 450 or 500 mm
No of Fans 2 up to 8 Fans

Angel Type Unit Cooler NBC-A
Capacity Range 1 to 6.6 kW
Fan Diameter 250 or 300 mm
No of Fans 1, 2 or 3 Fans

Double Discharge Unit Cooler NBC-D
Custom-made

Industrial Unit Cooler NBC-I
Fin Spacing 6, 8 and 10 mm
Custom-made

Horizontal Unit Cooler NBC-H
Capacity Range 1.7 to 76.7 kW
Fan Diameter 350, 400, 450 or 500 mm
No of Fans 1, 2, 3 or 4 Fans
Fin Spacing 4, 6 or 8 mm

Wall Type Vertical Tunnel Freezer NBT-V
Capacity Range 14.4 to 175.4 kW
Fan Diameter 630 or 710 mm
No of Fans 1, 2, 3 or 4 Fans
Fin Spacing 8 and 10 mm

Wall Type Horizontal Tunnel Freezer NBT-H
Capacity Range 14.4 to 219.3 kW
Fan Diameter 630 or 710 mm
No of Fans 1, 2, 3, 4 or 5 Fans
Fin Spacing 8 and 10 mm

Air Cooled Condensers & Condensing Units

NGC Air cooled condensers and **NUC** condensing units for Freon refrigeration systems. (For more details please refer to the technical catalogue NO.3 & NO.8

Air Cooled Horizontal Condenser NGC-H
Capacity Range 13.3 to 241.7 kW
Fan Diameter 400 or 500 mm
No of Fans 1 up to 10 Fans

Air Cooled V-type Condenser NGC-V
Capacity Range 64.8 to 838.3 kW
Fan Diameter 630, 710 or 800 mm
No of Fans 2 up to 10 Fans

Refrigeration Condensing Unit NUC
Heat Rejection Capacity 4.4 to 175 kW
Suitable Compressors 1 to 27 hp
Fan Diameter 350, 400, 450 or 500 mm
No of Fans 1 up to 6 Fans

Air Cooled Vertical Condenser NGC-V
Capacity Range 13.3 to 241.7 kW
Fan Diameter 400 or 500 mm
No of Fans 1 up to 10 Fans

Mobile Truck Units

Key Points :

- High cooling capacity on the road.
- High cooling capacity on electric standby.
- Designed for frozen or chill applications.
- Ultra Slim evaporator for maximum load space and high airflow volume for superior temperature control.
- Low noise.

Standard Features :

- In-cab controls with digital graphical LCD thermometer.
- Automatic hot gas defrost.
- Electronic thermostat.

Design Features :

- Styled with rounded angles.
- Smooth curvature of the front panel.
- Updated design of the electric box panel.
- Ultra Slim Evaporator(only 245 mm in height) to maximize pa

TN 500 Specifications :

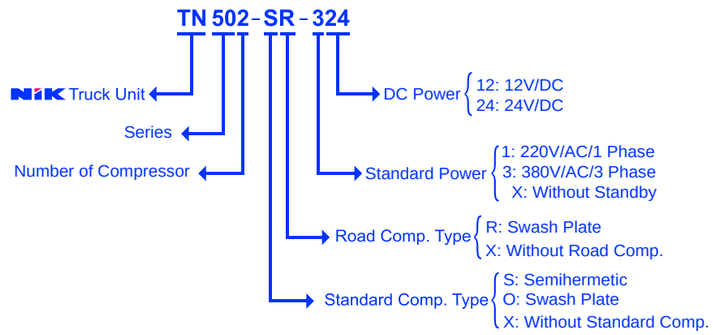
Description :

- The TN 500 Thermonik unit comprises two-piece split units designed for fresh and frozen application on medium-sized trucks. The road compressor is powered by the vehicle's engine. In models with electric stand-by, the second one is a semihermetic compressor or is an open type compressor wich is powered by an electric motor.

Room temp. / vol.	Road Capacity(Watt)	Standby Capacity (Watt)		
	All Models With Room Comp.	3~ With Open type Comp.	3~ With Semi-hermetic Comp	1~ With Open type Comp.
+2(°C) / 23(m^3)	4150	3050	2670	1950
-18(°C) / 18(m^3)	1970	1640	1435	1040
-29(°C) / 16(m^3)	1140	870	760	550

Refrigeration Capacity : System net cooling capacity at (38°C) ambient and 2400 compressor rpm.

The Naming Method of Thermonik :



System Components :

- Condenser
- TN 500 Evaporator
- Installation kit
- In-cab control box
- Swash plate compressor (TM16)

Defrost :

- Automatic hot gas defrost

Dimensions (TN 502)	Hight	Width	Depth	Net Weight	Gross Weight
Condensing Unit (With Semihermetic Standard By Comp.)	490 mm	1480 mm	615 mm	182 kg	217 kg
Condensing Unit (With Open type Comp.)	490 mm	1480 mm	615 mm	160 kg	195 kg
Condensing Unit (Without Standby Comp.)	490 mm	1480 mm	615 mm	130 kg	165 kg
TN 500 Ultra Slim Evaprator	245 mm	1330 mm	605 mm	26 kg	46 kg
Swash Plate Compressor(TM16)	–	–	–	7.5 kg	–
Semihermetic Compressor(Frascold)	–	–	–	50 kg	–

Liquid Chillers,
Packaged Condensing Units & Packaged Air Conditioning Units

Liquid chillers, packaged condensing units & packaged air conditioning units for different system of industrial & residential air conditioning.

Water Cooled Liquid Chiller(Reciprocating)NCW-R
Cooling Capacity Range 10 to 120 Ref. Tons
Power Input Range 8.2 to 114.9 kW

Condenserless Liquid Chiller(Scroll) NCX-S
Cooling Capacity Range 10 to 110 Ref. Tons
Power Input Range 7.7 to 83.9 kW

Air Cooled Liquid Chiller(Screw) NCA-C
Cooling Capacity Range 50 to 360 Ref. Tons
Power Input Range 44.5 to 336.3 kW

Condenserless Liquid Chiller(Reciprocating) NCX-R
Cooling Capacity Range 10 to 120 Ref. Tons
Power Input Range 8.2 to 114.9 kW

Air Cooled Liquid Chiller(Reciprocating) NCA-R
Cooling Capacity Range 10 to 120 Ref. Tons
Power Input Range 9.8 to 122 kW

V-type Packaged Condensing Unit NPC-V
Heat Rejection Capacity 135.5 to 938.3 kW

L-type Packaged Air Conditioning Unit NPU-L
Cooling Capacity Range 10 to 180 Ref.tons
Heating Capacity Range 63 to 1310 kW
Air Flow Range 3400 to 68000 m^3/hr

Standing Packaged Condensing Unit NPC-S
Heat Rejection Capacity 17.2 to 175 kW

Horizontal Packaged Air Conditioning Unit NPU-H
Cooling Capacity Range 10 to 180 Ref.tons
Heating Capacity Range 63 to 1310 kW
Air Flow Range 3400 to 68000 m^3/hr

NIK AIR CONDITIONING

Air Handling Units & Air Washers

Air Handling Units, Air Washers for different systems of industrial & residential air conditioning

Standing Air Handling Unit NAH-S
Cooling Capacity Range 33 to 675 kW
Heating Capacity Range 63 to 1310 kW
Air Flow Range 3400 to 68000 m^3/hr

Hygienic Air Handling Unit NAH-H
Cooling Capacity Range 33 to 675 kW
Heating Capacity Range 63 to 1310 kW
Air Flow Range 3400 to 68000 m^3/hr

Longitudinal Air Handling Unit NAH-L
Cooling Capacity Range 33 to 675 kW
Heating Capacity Range 63 to 1310 kW
Air Flow Range 3400 to 68000 m^3/hr

Longitudinal Air Handling Unit NAW-U
Cooling Capacity Range 13.4 to 432 kW
Air Flow Range 3400 to 68000 m^3/hr

NAH 35000 CFM

NAH 25000 CFM

NAW 15000 CFM

NAH 10000 CFM

NAH 2500 CFM

Fan Coils

Fan coil units for different installations including floor mounted, concealed and cassette ceiling mounted type for commercial and residential air conditioning systems

Ceiling Concealed Fan Coil NFC-C
Cooling Capacity Range 1.4 to 10.2 kW
Heating Capacity Range 2.9 to 21.5 kW
Air Flow Range 200 to 2160 m^3/hr

Floor Mounted Cabinet Fan Coil NFC-D
Cooling Capacity Range 2.7 to 6.2 kW
Heating Capacity Range 6.5 to 15.8 kW
Air Flow Range 505 to 1370 m^3/hr

One Way Cassette Fan Coil NFC-O
Cooling Capacity Range 1.4 to 10.2 kW
Heating Capacity Range 2.9 to 21.5 kW
Air Flow Range 200 to 2160 m^3/hr

Four Way Cassette Fan Coil NFC-F
Cooling Capacity Range 1.6 to 10.9 kW
Heating Capacity Range 2.5 to 14.1 kW
Air Flow Range 330 to 1750 m^3/hr

Wall Mounted Fan Coil NFC-W
Cooling Capacity Range 2.2 to 4.8 kW
Heating Capacity Range 2.8 to 6.9 kW
Air Flow Range 360 to 935 m^3/hr

OIL, GAS & PETROCHEMICAL

Oil, Gas and Petrochemical Industries' Equipments

1. Seal Air-cooler, Oil-cooler & Dry-cooler for different processes of heat exchanging in oil & gas industry, petrochemical plant, power plants, metal casting, …
2. Lube Oil-cooler & Seal Air-cooler for gas turbo compressor.

Lube Oil Cooler **NLO-C**
Capacity up to 600 kW
Fan Diameter 1200 to 2000 mm
Working Temperature up to 90°C

Seal Air Cooler **NSA-C**
Capacity up to 200 kW
Fan Diameter 500 to 800 cm
Working Temperature up to 400°C
Full Stainless Steel

V-type Dry Coolers **NDC-V**
Capacity Range 15 up to 500 kW
No of Fans 2~10 Fans
Fan Diam. 630, 710 or 800 mm

Lubrication Oil Supply System
for SIEMENS Gas Turbine(SGT600)
Stainless Steel

Dry Cooler - Oil Cooler **NDC-H**
Capacity Range up to 240 kW
No of Fans 1 to 10 Fans
Working Temperature up to 90°C

Explosion proof Unit Coolers
Capacity Range 1.7 to 76.7 kW
Fin Spacing 4, 6 or 8 mm
No of Fans 1, 2, 3 or 4 Fans
Fan Diam. 350, 400, 450 or 500 mm

FOOD PROCESSING

Soft Ice Cream Machine

1. New soft ice cream machines model **DELARAM 1** & **DELARAM 3** with new design, equipped with digital control board, temperature display and other capabilities as well as the features of the previous models such as TS12 and TS32.
NIK Co's Ice cream machines are designed and manufactured based on the latest technologies and is liable to wear by European CE mark.
2. Soft ice cream machines model TS12 & TS32 equipped with automatic ice-cream consistency control system, 2 separate compressors for producing ice-cream and keeping the ice-cream liquid in suitable temperature condition.

Soft Ice Cream Machine
No. of Ice Cream per hour 400 to 600 Cones 75gr

DELARAM Soft Ice Cream Machine
Equiped with Control Panel & Digital Display
No. of Ice Cream per hour 400 to 600 Cones 75gr

Sales & After Sale Services
Products Selection Software

Straightforward User Interface

Electric Catalogs (PDF)

Printable Reports

Sales department with its skillful engineers presents technical council to the customers, and also calculates required capacity and system base on their requirements.
Considering NIK products are well spread around the country we have proceeded to establish after sales department of NIK Co.
After sales department skillful experts in mechanical, electrical and electronics can simply cover all customers' requirements and do the services at the least possible time.
we keep records of our prior services in order to give our customers complete and on time services in future.
NIK Co. also trains some local technicians to give services where it is required.

Products Selection Software:
To atone the customers, NIK Co. proceeds to design a new and simple software for product selection in order to simplify the selection process.
The selection software by entering operating conditions such as refrigerant type, evaporating, condensing temp. and required refrigerating load, comes up with the complete list of suitable products.
NIK selection software packages are accessible in two different versions for Ammonia & Freon systems. Each software package can be set up automatically.

INDUSTRIAL REFRIGERATION

Some of the Established Projects by NIK Co.

- Electric control boxes of a cold store and freezing tunnel with capacity of 100 tons per day
- Separator (-45°C) and intermediate cooler (-10°C) vessels
- Compressor room of a 10,000 ton fruit cold store
- Compressor room of a dairy and ice cream factory with capacity of 400 tons milk per day
- Corridor of a cold store
- A part of attic and valve station of a cold store and freezing tunnel
- A part of attic and valve station of a big cold store with capacity of 50,000 tons
- A part of attic and valve station of a big fruit cold store with capacity of 10,000 tons

INDUSTRIAL REFRIGERATION

Some of the Established Projects by NIK Co.

- Inside of saloon of a cold store
- Gas compressor station of Iranian gas pipe lines (IGAT 3, 4, & 5)
- Air coolers in a cold room
- Ice bank pool of a dairy factory
- Control room of a 10,000 ton cold store
- Cold store corridor
- Inside the saloon of a cold store with Freon system
- Inside the saloon of a cold store with Ammonia system
- Evaporative condensers of a dairy factory
- Evaporative condensers of a 28,000 ton cold store