



FRIGERA

Cooling and deep-freezing equipment for health service



Health Service

To trace the origins of the trade mark **FRIGERA**, one would have to go back more than 90 years. As early as in 1924, a Prague company, Vobořil and Co., became general agent for „General Motors New York”, the car manufacturer. Apart from automobiles, this industrial group also produced refrigerating systems, and that is why in 1926 the Prague company became general agent for these products under the trade mark „FRIGIDAIRE“.



Their activity in the field of refrigerating systems consisted in assembling refrigeration units and imported components. Due to the mounting interest in refrigerating systems, the original company was divided in 1929 into the original general automobile agency and into a new plant for producing technical and refrigeration equipment **FRIGERA**, a.s. At this time, also other companies were established in Lužec, Beroun, Hořice and Hronov. Thanks to its experience, Frigera was able to maintain its exclusive position. It produced its own line of commercial refrigerating cabinets, but continued to import basic refrigerating units. As results of the experience and expertise it had gained, in 1934 Frigera was granted the licence by General Motors to manufacture refrigeration compressors and refrigerating units. The subsequent years were years of great expansion of refrigeration equipment which began to penetrate into other industries. The first refrigeration systems, capable of producing temperatures down to -60 °C and designed for laboratory purposes, were manufactured in 1939.

After the second world war, the production-batch volumes of refrigerating equipment and cooling plants increased considerably.

In 1949, the company assumed the name Frigera, N.C., (National Corporation), Kolín. After several reorganizations. The base factory in Kolín with a subsidiary in Beroun continued the production.

Since then and until 1989, the production programme for the health service consisted mostly of the following product groups:

- Freeze-drying equipment for dehydrating blood plasma, blood plasma fractionation products, vitamins, penicillin, vaccination products, viruses, mother's milk, various products of animal and vegetal origin, etc. The most produced equipment types were the KS 30, LZ 9, and later the LZ 45 and LZ 45.27 U.
- Fractionation systems FS 50 for the fractionation and concentration of blood proteins and animal blood plasma.
- Equipment for freezing liquid materials or suspensions of solid particles in a liquid to be freeze-dried by sublimation under deep vacuum in freeze-drying machines. The best known types were ZZ 150/50, ZA 650/40 and later the HZ 12/50 and HC 700/50.
- Deep-freezing laboratory cases and cabinets for the storing of substances at temperatures down to -80 °C, used in laboratories, and for preserving highly sensitive and precious materials. The best known types were the HC 150/35, HCL 250/70, HC 280/70, HC 300/70, NZ 280/75 and the NZ 350/75.

Since 1989 Frigera has been manufacturing an innovated product line of deep-freezing laboratory cases and cabinets (types NS 600, NS 500/20, NS 400/40 and NS 300/80 BD, NP 200/40, NP 400/40, NP 150/80, NP 400/80, NZKP 18/80, NZKP 20/40).

The new product line for the health service has been designed in accordance with the global development trends in this field. The new products are fitted with hermetic refrigerating systems, using chlorine-free and environmentally safe refrigerants (R 134a, R 404a, R 508B) and heat-insulating foams. The controlling elements for the refrigerating systems are purchased from the world's foremost manufacturers.

CONDENSATION UNITS

Production of condensation units with air or water cooled condensers, in one - stage, two stage or cascade connection.

- * condensation units with semihermetic compressors FRASCOLD (piston, screw)
- * condensation units with hermetic compressors MANEUROP, DANFOSS, COPELAND (piston, scroll, screw).
- * special tube evaporators for cooling of liquids
- * aggregated condensation units
- * parallel condensation units
- * recuperation of condensation heat

APPLICATION OF CONDENSATION UNITS IN INVESTING WHOLES

Complete investing wholes in Czech Republic and abroad. Construction of isolated boxes, assemblies of cooling and freezing appliances.

- * cold and freeze storages
- * freezing tunnels
- * fruit and vegetable stores
- * banana ripening boxes
- * special rooms with conditioned atmosphere

INDUSTRIAL COOLING

Production of appliances for industrial cooling of liquids in compact or SPLIT version, flow or stationary. Cooling power 100 W to 700 kW in both standard and tailor - made version.

- * cooling of liquids
- * water and glycol cooling
- * oil cooling
- * cooling of machine tools emulsions
- * industrial switchboards cooling

LOW TEMPERATURE APPLIANCES FOR HEALTH SERVICE

Production of low temperature appliances and freezers of plasma, including additional equipment for use not only in health service but also in research, industry and education

- * blood storage cabinets
- * cooling cabinets for preserving diagnostics
- * low temperature cabinets and counters for storage at temperatures -40 °C and -86 °C
- * freezers of blood plasma

APPLIANCES FOR TEMPERATURE TESTS

Production of appliances for temperature tests coming out of requests of concrete users with possibility of temperature setting at range -80 °C to +200 °C, including humidity setting and data monitoring.

- * appliances for aircraft parts testing
- * appliances for testing gear boxes used in motor and aircraft industries
- * appliances for testing electronical parts
- * oil testing
- * appliances for testing geological, concrete, plast samples, etc.

Within the range of its activities Frigera performs:

- * development and design activities
- * production
- * assemblies and revisions
- * dismantling and liquidation of old industrial cooling appliances
- * service focused especially on low temperature cooling appliances

Refrigerating cabinet NS 600 VV,
NS 600 VVN, NS 600.3 VV, NS 500/20 VV

❄ -6 °C > +12 °C
-20 °C > 0 °C

Freezing Cabinet NS 400/40 VV,
NP 200/40, NP 400/40 VV

❄ -40 °C

Refrigerating cabinets for storing various substances used in the health service, veterinary medicine and elsewhere – cabinet capacity see TECHNICAL DATA.

STANDARD EQUIPMENT

Environmentally safe chlorine-free insulations • environmentally safe refrigerants • exterior surface painted white • stainless steel interior • digital temperature controller • forced air circulation inside cooling area.



OPTIONAL EQUIPMENT

Interior stainless-steel surface • exterior stainless-steel surface • glazed door • interior illumination • lockable door • door-operated evaporator-fan switch • refrigerating unit for temperatures from -6 °C to +12 °C • refrigerating unit for temperatures from -20 °C to 0 °C • interior evaporator with automatic electric defrosting • wire-mesh baskets • stainless-steel plates and wire grid • castors for easy handling • temperature deviation signal • mains-independent temperature recording (see Accessories).

TECHNICAL DATA

TYPE	TEMPERATURE RANGE	VOLUME	EXTERIOR DIMENSIONS (WxDxH)	INTERIOR DIMENSIONS (WxDxH)	WEIGHT
NS 600 VV NS 600 VVN NS 600.3 VV	-6 °C to +12 °C -20 °C to 0 °C	462 l	790 × 730 × 1820 mm	695 × 570 × 1200 mm	150 Kg
NS 500/20 VV	-20 °C to 0 °C	462 l	790 × 730 × 1820 mm	695 × 570 × 1200 mm	175 Kg

Freezing Cabinet type NS for preserving blood plasma at temperatures down to -40 °C (max. capacity 240 × 300 ml bags in stainless-steel baskets, or 180 × 300 ml bags in wire baskets) - see TECHNICAL DATA.

STANDARD EQUIPMENT (NS 400/40 VV)

Environmentally safe chlorine free insulations • environmentally safe refrigerant • exterior surface painted white • interior stainless-steel surface • forced air circulation inside cooling area • lockable door • door operated evaporator-fan cut-switch • heated door seal • digital-display temperature control for compressor cycling with switch-off temperature -40 °C switch-on temperature -37 °C • external alarm connector • acoustic power-failure signal • mains-independent alarm system with back-up supply for acoustic or optical alarm; adjustable temperature alarm setting • alarm system with back-up cooling control of liquid CO₂ injection; even during power failure the interior temperature continues to be displayed • alarm testing circuit.



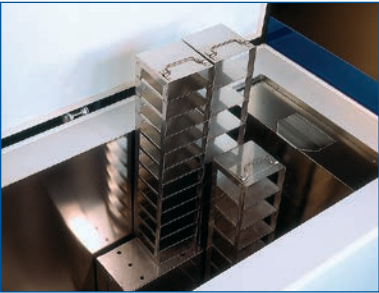
STANDARD EQUIPMENT (NP 200/40, NP 400/40 VV)

Environmentally safe chlorine-free insulation • environmentally safe refrigerant • exterior surface painted white • interior stainless-steel surface • lockable lid • additional special thermally insulated lid (to reduce power consumption) • digital display temperature control for compressor cycling with switch-off temperature -40 °C, switch-on temperature -37 °C • external alarm connector • acoustic alarm • acoustic power-failure signal • forced air circulation inside cooling area (except NP 200/40) • mains-independent alarm system with back-up supply for acoustic or optical alarm; adjustable temperature alarm setting • alarm system with back-up cooling control of liquid CO₂ injection; even during power failure the interior temperature continues to be displayed • alarm testing circuit.



OPTIONAL EQUIPMENT

Mains-independent temperature recording • external alarm box • refrigeration back-up system • wire baskets • stainless-steel baskets • castors for easy handling • NP-cabinet for preserving blood plasma at temperatures down to -40 °C (max. capacity of the cabinet NP 400/40 VV 300 × 300 ml bags in stainless-steel baskets, or 150 × 300 ml bags in wire baskets). (See Accessories)



TECHNICAL DATA

TYPE	TEMPERATURE RANGE	VOLUME	EXTERIOR DIMENSIONS (WxDxH)	INTERIOR DIMENSIONS (WxDxH)	WEIGHT
NS 400/40 VV	-10 °C to -40 °C	340 l	790 × 880 × 1820 mm	530 × 605 × 1050 mm	205 Kg
NP 200/40	-10 °C to -40 °C	204 l	1020 × 890 × 1040 mm	525 × 995 × 725 mm	200 Kg
NP 400/40 VV	-20 °C to -40 °C	350 l	1910 × 890 × 1040 mm	990 × 520 × 685 mm	250 Kg



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Freezing cabinet NS 300/80 DB,
NP 400/80 VV, NP 150/80

❄ -86 °C

Plasma freezing boxes NZKP 5/80 VK,
NZKP 18/80 VK, NZKP 48/80 VK

❄ -80 °C ➤ -60 °C

NS-freezing cabinet for preserving biological materials at temperatures down to -86 °C (for max. capacity of the cabinet for various uses – see TECHNICAL DATA).

STANDARD EQUIPMENT (NS 300/80 DB)

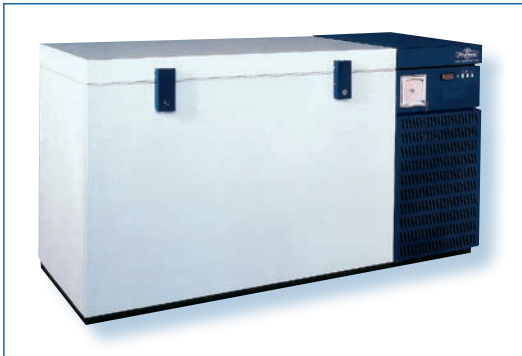
Environmentally safe chlorine-free insulations • environmentally safe refrigerant • exterior surface painted white • interior stainless-steel surface • lockable door • special lock (for perfect door tightness) • heated door seal • 5 individual doors with separate plate evaporators • digital-display temperature control • external alarm connector • acoustic alarm signal • acoustic power failure signal • mains-independent alarm system with back-up supply for acoustic or optical alarm; adjustable temperature alarm setting • alarm system with back-up cooling control of liquid CO₂ injection; even during power failure the interior temperature continues to be displayed • alarm testing circuit.



The box-type design of the plasma freezers meets the highest requirements for air shock freezing blood plasma.

STANDARD EQUIPMENT

Environmentally safe chlorine-free insulations • environmentally safe refrigerants • exterior surface painted white • stainless steel interior surface • special air evaporator for freezing • the possibility of freezing in bags and bottles . the possibility of water cooled condenser.



STANDARD EQUIPMENT (NP 400/80 VV, NP 150/80)

Environmentally safe chlorine-free insulations • environmentally safe refrigerant • exterior surface painted white • interior stainless-steel surface • forced air circulation inside cooling area (except NP 150/80) • lockable lid • additional special thermally insulated lid (to reduce power consumption) • digital-display temperature control • acoustic alarm signal • acoustic power failure signal • mains-independent alarm system with back-up supply for acoustic or optical alarm; adjustable temperature alarm setting • alarm system with back-up cooling control of liquid CO₂ injection; even during power failure the interior temperature continues to be displayed • alarm testing circuit.



OPTIONAL EQUIPMENT

Mains-independent temperature recording • castors for easy handling • back-up system • wire-mesh baskets • stainless steel baskets • exterior alarm box • NP-freezing cabinet for preserving biological materials at temperatures down to -86 °C (see Accessories).



STAINLESS-STEEL BAG CONTAINERS

Stainless-steel bag containers for freezing of blood plasma in bags from 200 ml. to 1000 ml.
Stainless-steel holder for freezing of blood plasma in bottles 1000 ml.



TECHNICAL DATA

TYPE	TEMPERATURE RANGE	VOLUME	EXTERIOR DIMENSIONS (WxDxH)	INTERIOR DIMENSIONS (WxDxH)	WEIGHT
NS 300/80 DB	-60 °C to -86 °C	255 l	800 × 880 × 1820 mm	495 × 520 × 200 mm	225 Kg
NP 400/80 VV	-60 °C to -86 °C	350 l	890 × 1910 × 1040 mm	520 × 990 × 685 mm	300 Kg
NP 150/80	-60 °C to -86 °C	136 l	890 × 1020 × 1040 mm	525 × 755 × 345 mm	205 Kg

TECHNICAL DATA

TYPE	TEMPERATURE RANGE	EXTERIOR DIMENSIONS (WxDxH)	VOLTAGE FREQUENCY	WEIGHT	FREEZING CAPACITY
NZKP 5/80 VK	-80 °C to -60 °C	820 × 690 × 1040 mm	230 V/50 Hz	205 Kg	10 × 250/5 × 3x 600 ml
NZKP 18/80 VK	-80 °C to -60 °C	890 × 1020 × 1020 mm	3x400 V/50 Hz	250 Kg	36 × 250/10 × 600 ml
NZKP 48/80 VK	-80 °C to -60 °C	890 × 2150 × 1040 mm	3x400 V/50 Hz	385 Kg	96 × 250/24 × 600 ml



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Contact shock freezers DZKP 15/50, DZKP 18/50, DZKP 21/50, DZKP 24/50

❄ -50 °C > -30 °C

ACCESSORIES

The contact type design of the plasma freezers meets the highest requirements for contact freezing blood plasma.



OPTIONAL ACCESSORIEC:

Set – automatic record and monitoring of freezing process of plasma, consisting of:

- ❄ notebook
- ❄ bar-code reader
- ❄ service and monitoring SW
- ❄ control bag with temperature sensor

TECHNICAL DATA

TYPE	TEMPERATURE RANGE	EXTERIOR DIMENSIONS (WxDxH)	WEIGHT	FREEZING CAPACITY
DZKP 15/50	-50 °C to -30 °C	1500 × 750 × 1580 mm	480 kg	15 × 250/10 × 750 ml
DZKP 18/50	-50 °C to -30 °C	1500 × 750 × 1580 mm	490 kg	18 × 250/12 × 750 ml
DZKP 21/50	-50 °C to -30 °C	1500 × 750 × 1580 mm	530 kg	21 × 250/14 × 750 ml
DZKP 24/50	-50 °C to -30 °C	1500 × 750 × 1580 mm	535 kg	24 × 250/16 × 750 ml

EQUIPMENT TYPE	MAX. NUMBER OF BASKETS PER EQUIPMENT UNIT	MAX. NUMBER OF 300 ml BAGS PER BASKET	BASKET DIMENSIONS (WxDxH)
NS 400/40 VV	12	20	500 × 180 × 185 mm
NP 400/40 VV	15	20	500 × 180 × 230 mm
NS 300/80 DB	15	17	450 × 150 × 180 mm



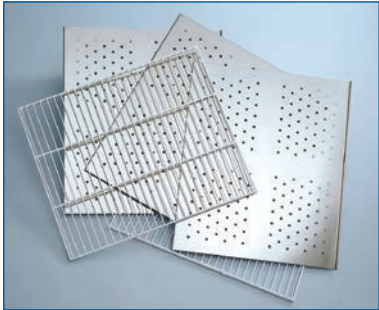
EQUIPMENT TYPE	MAX. NUMBER OF BASKETS PER EQUIPMENT UNIT	MAX. NUMBER OF CONTAINERS PER BASKET H 50 mm / H 75 mm	CONTAINERS DIMENSIONS (LxW) H 50 mm / H 75 mm
NS 300/80 DB	15	9 / 6	135 × 135 / 135 × 135
NP 400/80 VV	18	12 / 8	135 × 135 / 135 × 135
NS 150/80	15	6 / 4	141 × 141 / 141 × 141



EQUIPMENT TYPE	BASKET DIMENSIONS	MAX. NUMBER OF WIRE BASKETS	MAX. NUMBER OF BAGS IN 1 WIRE BASKET
NS 600 VV	560 × 160 × 150 mm	20	17
NP 200/40	(4 per grid for NS)	5	17
NS 400/40 VV	520 × 180 × 150 mm (3 per grid for NS)	12	15
NP 400/40 VV		10	15
NP 400/80 VV		10	15



EQUIPMENT TYPE	NS 600 VV	NS 400/40VV
Wire grids	yes	yes
Stainless-steel grids	yes	yes
Max. number of grids	31	26
Grid height pitch	33,5 mm	33,5 mm



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Cooling and freezing rooms for storing biological materials and blood plasma at temperatures down to -80 °C.



Stationary and mobile morgues.



ZERTIFIKAT
CERTIFICATE
CERTIFICADO
СЕРТИФИКАТ
認証証書

TYPE CERTIFICATE

Registration Number 01.110.771/09/07/02/0

issued for the manufacturer:
FRIGERA 21, a.s.
Politických vězňů 912/10
CZ - 110 00 Praha 1, Nové Město
Ident.-No.: 257 66 953

for the product:
Name: Contact shock freezer
Type designation: DZKP
Modification: DZKP 15/50, DZKP 18/50, DZKP 21/50
Production Facility: Zengrova 110, 280 59 Kolin IV

At which the certification in accordance with the certification schema appendix No. 3 OA No. 145/2009 according to the certification system of TÜV SÜD Czech which results are stated in the Evaluation report No.1853/70/09/BT/IZ/E from 6th December 2009.

The product type mentioned above fulfils the applicable requirements of following regulations/standards which was the basis for its evaluation:
ČSN EN 60335-1 ed.2:2003+A11:04+A1:05+A12:06+A2:07+Z1:07+A13:09 (idt EN 60335-1:2002+A11:04+A1:04+A12:06+A2:06+A1/Cor:07+A13:08), ČSN EN 60335-2-24 ed.4:2004+A11:05+A1:05+A2:2007 (idt EN 60335-2-24:2003+A11:04+A1:05+A2:07), ČSN EN 55014-1 ed.3:2007 (idt EN 55014-1:2006), ČSN EN 55014-2:1998+A1:02+Z1:08+A2:09 (idt EN 55014-2:1997+A1:01+IS1:07+A2:08), ČSN EN 61000-3-2 ed.3:2006 (idt EN 61000-3-2:2006), ČSN EN 61000-3-3 ed.2:2009 (idt EN 61000-3-3:2008).

This certificate is valid till: 14th December 2014

Details and validity conditions are stated in the annex which forms an integral part of this Certificate and contains 1 page.

Prague, 14th December 2009

TÜV SÜD Czech s.r.o., Novodvorská 994, 142 21 Prague 4, Czech Republic

Head of the certification body

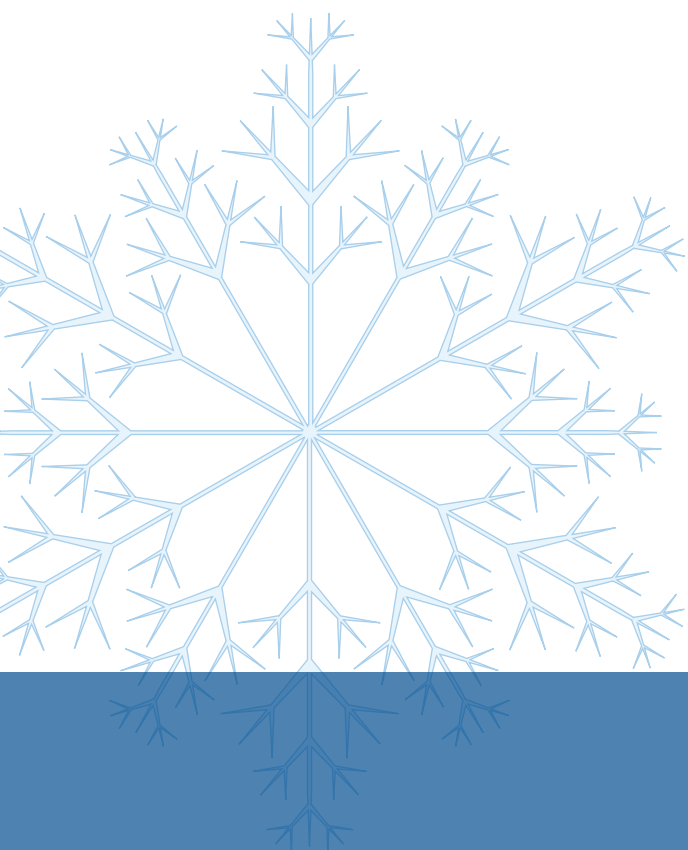
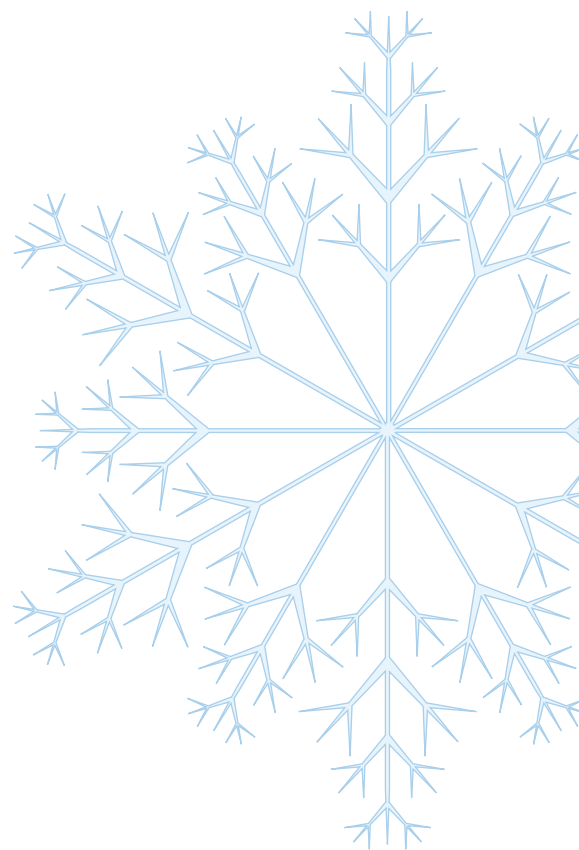
Certification
Awarded to
FRIGERA 21, a.s.
Head office: Politických vězňů 912/10, Praha 1
Production site: Zengrova 110, Kolin
Czech Republic

Bureau Veritas certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standard detailed below:
Standards
ČSN EN ISO 9001:2009
Scope of supply
DESIGN, PRODUCTION, COSTUMER INSTALLATION AND SERVICE OF SPECIAL COOLING AND FREEZING EQUIPMENTS

Original Approval: 16th DECEMBER 2008
Subject to the continuous satisfactory operation of the organisation's Management System, this certificate is valid until: 15th DECEMBER 2014
To check this certificate validity please call: +420 210 088 215
Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation

Date: 16th DECEMBER 2011
Certificate Number: 11000551

S 3100



FRIGERA s.r.o.
Hájecká 14A
618 00 Brno
Czech Republic
www.frigera.cz