

Cool boxes and accessories









TM Company



TM - Company

The owner-run family business TM Technischer Gerätebau GmbH was originally developed from an electrical wholesalers which still exists to this day. The company, which was officially launched by Hermann Fixl in 1991, started off by constructing cool boxes for the automotive industry and developed into what it is today. TM has its head-quarters in Neu-Ulm and is now run by the fourth generation of the founding family.



TM - Specialist

Known as a refrigeration and small-scale assembly specialist, **TM** perfectly serves its niche markets in particular. Product solutions are designed and implemented in-house and independently or manufactured according to the customer's detailed specifications.



Our products are used in mobile as well as static installations. Speed, flexibility and many years of experience in manufacturing and development make the company a strong and reliable partner in the industry.

TM - Products

Since its founding, **TM** has been producing components for mobile passenger services, mainly used in buses as well as in trucks and rail vehicles. TM has developed product solutions for a wide range of applications over the years and has firmly established itself in a wide range of industries such as, for example, in the field of fully automatic coffee machines.

The wide-ranging product portfolio includes the classic dashboard cool box, board kitchens and toilets for the bus industry as well as milk coolers for coffee machines, and many more.









TM - International

In 2007, **TM** established a subsidiary company near Istanbul to respond to increasing globalisation and the integration of markets. **TM**-Turkey mainly operates in the expanding bus and truck sector in its home market, as well as in neighbouring Arab countries.

In the same year, Jincen-TM was established as a joint venture company in China's Anhui Province to serve the Chinese market and to create more synergies. The Chinese company is mainly focused on producing injection moulded parts for the automotive, electrical and household industries as well as assembling on-board kitchens and cool boxes.

Being close to our customers and quick response times are of paramount importance for **TM** so our customers can rely on a Europe-wide network of service partners. **TM** can guarantee a seamless and fast on-site service through the continuous expansion of our partners.





TM - Philosophy

TM Technischer Gerätebau GmbH is a family-run business, distinguished by our short and direct lines of communication, as well as continuity.

From product design, through quality assurance of the materials used, right up to the final product test, we place the highest value on the perfect processing and precision of our products. Naturally, our products are certified according to relevant EU directives as well as our quality management system being certified according to ISO guidelines.

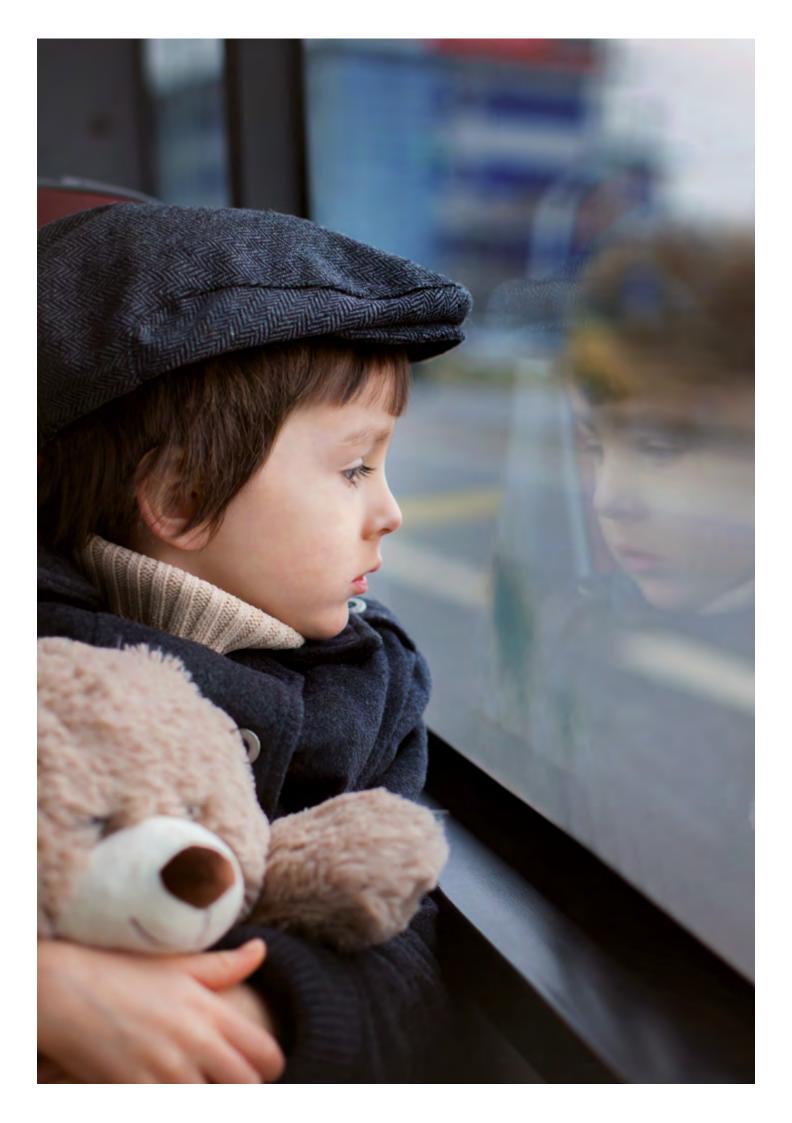


TM - Customer satisfaction

Innovative concepts to a high technical standard, together with excellent materials and processing quality, create outstanding products. Our product solutions are constantly setting new standards due to their functionality, compact dimensions and attractive design.

Experience, reliability, quality and long-term success are the building blocks of the current product range and the foundation for satisfied customers throughout the world.





On the way home







Cool boxes by TM

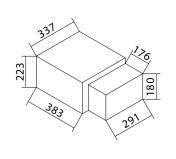
We have a wide variety of cool boxes for you to choose from. We are happy to advise you – ask our specialists!



Universal and mobile cool box for bus und truck KBU series: For the installation in e.g. mini and midibuses

Type KBU 15 horizontal

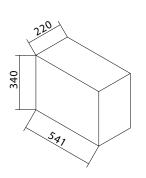




order no.:	
)1.1515.00.00	
voltage:	12 / 24 V DC
oower:	35 W
current consumption:	3,0/1,5 A
weight:	15,5 kg
volume:	15 l

Type KBU 15 vertical rear

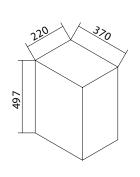




01.1516.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	15,5 kg
volume:	15 l

Type KBU 15 vertical below

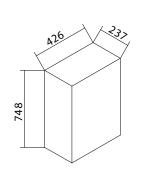




01.1517.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	15 kg
volume:	15 l

Type KBU 40

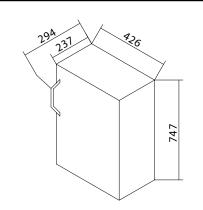




order no.:	
01.1570.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	22 kg
volume:	40 l

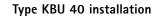




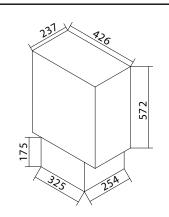


Type KBU 40 with handle

order no.:	
01.1577.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	22 kg
volume:	40 l



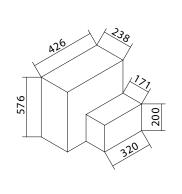




order no.:	
01.1572.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	22 kg
volume:	40 l

Type KBU 40 refrigeration unit at the rear

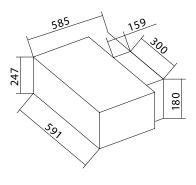




01.1578.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	22 kg
volume:	40 l

Type KBU 40 horizontal





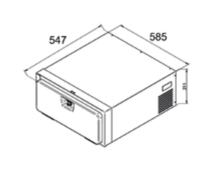
01.1579.00.00	
01.1373.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	22 kg
volume:	40



Universal and mobile cool box for bus und truck KBU series: For the installation in e.g. mini and midibuses

Type KBU 43

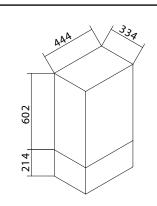




12 / 24 V DC
35 W
3,0/1,5 A
40 l

Type KBU standard

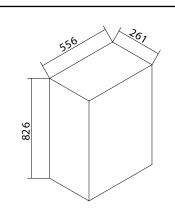




order no.:	
01.1559.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	25 kg
volume:	58 l

Type KBU 60

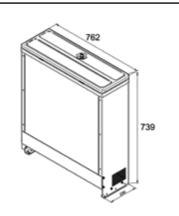




order no.:	
01.1560.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	26 kg
volume:	58 l

Type KBU 80





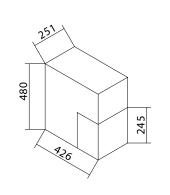
01.1584.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0 / 1,5 A
weight:	36 kg
volume:	82 l



Universal and mobile cool box for bus und truck CoolFix series: For the installation in e.g. caravans, boats,

mini and midibuses

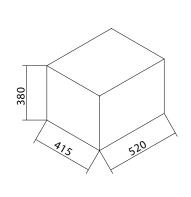




order no.:	
01.0210.00.00	
voltage:	12 / 24 V DC
undervoltage protection:	11,3 / 24,6 V
power:	54 W
current consumption:	4,6 / 2,3 A
thermostat:	infinitely variable
weight:	17 kg
volume:	20



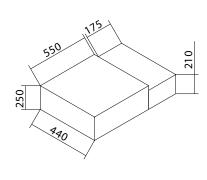




order no.:	
01.0225.00.00	
01.0226.00.00 with separating gr	id
voltage:	12/24 V DC
undervoltage protection:	10,4/22,8 V
power:	35 W
current consumption:	3,0/1,5 A
thermostat:	infinitely variable
weight:	18 kg
volume:	30 l
mounting kit order no.:	
01.0225.00.01 universal	
50.0225.00.02 ACTROS not for M	egaspace

Type CoolFix 35 – DAF/VOLVO/RENAULT





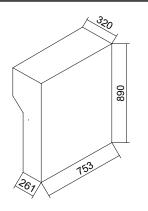
order no.:	
01.0035.00.00	
voltage:	12 / 24 V DC
undervoltage protection:	10,4/22,8 V
power:	60 W
current consumption:	2,6/1,3 A
thermostat:	infinitely variable
weight:	16 kg
volume:	35,5



Universal and mobile cool box for bus und truck KT series: For the installation in e.g. mini and midibuses

Type KT 80



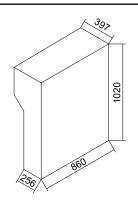


01.4038.00.00	
voltage:	12 / 24 V DC
power:	60 W
current consumption:	5,0 / 2,5 A
weight:	42 kg
volume:	80 l

scope of delivery 01.4038.00.00:

- folding table
- luggage net
- cup holder





Type KT 100

order no.:	
01.3040.00.00	
voltage:	12 / 24 V DC
power:	60 W
current consumption:	4,6 / 2,3 A
weight:	56 kg
volume:	100 l

No head crash test, rear passengers must be secured with a three-point seatbelt.

scope of delivery 01.3040.00.00:

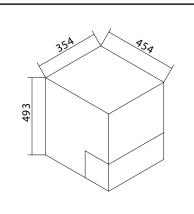
- cup holder
- luggage net



Universal and mobile cool box for bus und truckBuilt in cool box: For installation in transporters, trucks and touring coaches e.g. in the dashboard area

Type KT-Outdoor

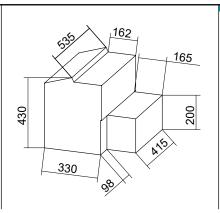




12/24/230 V DC
35 W
3,0/1,5/0,5 A
17 kg
35 l

Type Transporter cool box



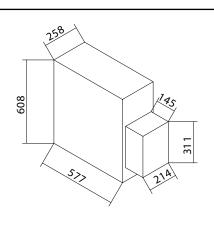


order no.:	
01.1460.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	17 kg
volume:	40 l

Ideal for installation in the dashboard area of transporters and mini/midibuses

Type A-KT TM

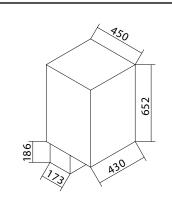




12 / 24 V DC
35 W
3,0/1,5 A
18 kg
60 l

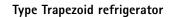




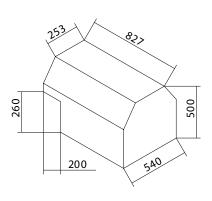


Type A-KT Volvo

01.1301.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	18 kg
volume:	60 l





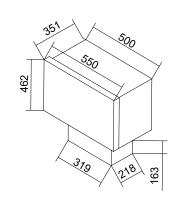


01.9001.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	34 kg
volume:	87 l



Mobile cool box for medicine transportAmbulance series: For the installation in e.g. the side-panel of rescue vehicles



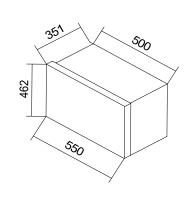


Type Ambulance

04 4040 00 00	1 1
01.1210.00.00	normal cooling
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	19 kg
volume:	34 l
temperature range:	+11,0 to -4,5°C
order no.: 01.1211.00.00	freezer
	freezer
01.1211.00.00	freezer
01.1211.00.00	
01.1211.00.00 voltage:	12/24 V DC
01.1211.00.00 voltage: power:	12/24 V DC 90 W
01.1211.00.00 voltage: power: current consumption:	12/24 V DC 90 W 7,5/3,8 A

Type Ambulance temperate

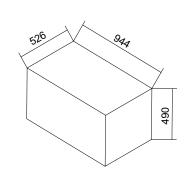




order no.:	
S01.1210.00.00	hot cabinet,
	controllable by
	thermostat
voltage:	12 / 24 V DC
power:	25 W
current consumption:	2,0 A
weight:	12 kg
volume:	34 l
temperature range:	+30,0 to +35°C

Mobile cool box for blood and medicine transport BTK series: For the transportation of e.g. blood samples or other sensitive medicines which need to be cooled from +4°C to +8°C





Type BTK

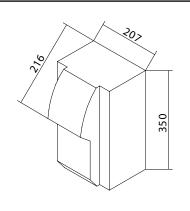
order no.:	
01.1215.00.00	
0.112.10100100	
voltage:	12 / 24 V DC
undervoltage protection:	10,4/22,8 A
power:	93 W
current consumption:	7,8/3,9 A
weight:	40 kg
volume:	105 l
temperature range:	+4,0 to +8°C



Cool boxes with thermoelectric cooling technology – Peltier Summertime series: Abrasion and maintainance free technology, high cooling capacity by a peltier element. Efficiency up to 22°C to ambient temperature.

Type Summertime E

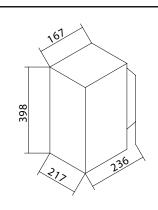




order no.:		
01.0016.00.00		
voltage:	24 V DC	
power:	36 W	
current consumpt	ion: 1,5 A	
weight:	4,5 kg	
volume:	4,6	

Type Summertime 2





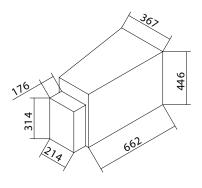
order no.:	
01.0024.00.00	
voltage:	12/ 24 V DC
power:	36 W
current consumption:	1,5/3,0 A
weight:	2,9 kg
volume:	5,5 l



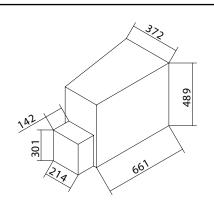
Cool boxes for EVOBUS – MERCEDES BENZ Series 400

Type KTD 583/57 Liter TRAVEGO from 11/2008





12 / 24 V DC
60 W
5/2,5 A
16 kg
57 l



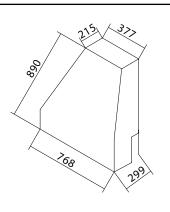
order no.:	
01.0580.00.00	
voltage:	12 / 24 V DC
power:	50 W
current consumption:	4,0/2,0 A
weight:	18 kg

Type KTD 580 TRAVEGO HD/HDH

Type KTS 590 Toilet annex TRAVEGO

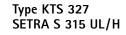
volume:



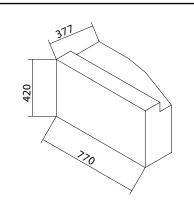


order no.:	
01.0590.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	23 kg
volume:	60 l







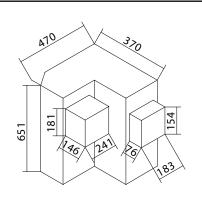


order no.:	
01.0327.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	18 kg
volume:	43

¹ separating grid

Type KTS 364 SETRA S 328 DT



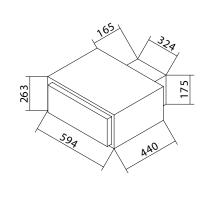


order no.:	
01.3640.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	26 kg
volume:	60 l

Assembled on removable floor panel; digital temperature indicator

Cool boxes for EVOBUS – SETRA Series 400



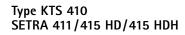


Type KTS 420 SETRA 411/415 HD/415 HDH

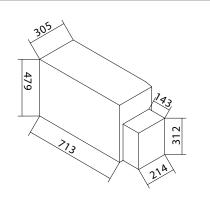
01.4200.00.00	
voltage:	12 / 24 V DC
power:	50 W
current consumption:	4,0/2,0 A
weight:	20 kg
volume:	43 l

stainless steel inside







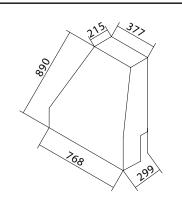


order no.:	
01.4100.00.00	
voltage:	12 / 24 V DC
power:	50 W
current consumption:	4,0/2,0 A
weight:	19 kg
volume:	56 l

² separating grids

Type KTS 590 toilet annex SETRA series 300 + 400



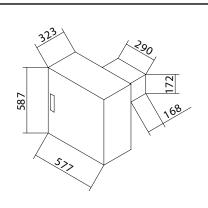


01.0590.00.00	
01.0000.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	23 kg
volume:	60 l

stainless steel inside

Type KTS 440 SETRA 415/417 HDH – three-axle



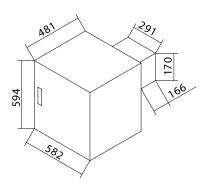


01.4400.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	25 kg
volume:	65 l

Adjustable internal floor; stainless steel inside

Type KTS 450 SETRA 415/417 HDH – three-axle





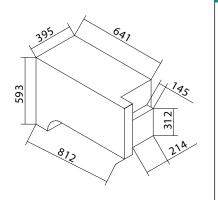
order no.:	
01.4500.00.00	
voltage:	12 / 24 V DC
power:	50 W
current consumption:	4,0/2,0 A
weight:	27 kg
volume:	110

Adjustable internal floor; stainless steel inside



Type KTS 460 SETRA 415 GT/415 GT-HD/ 416 GT-HD/417 GT-HD

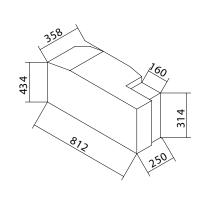




order no.:	
01.4600.00.00	
voltage:	12 / 24 V DC
power:	60 W
current consumption:	5,0/2,5 A
weight:	26 kg
volume:	67 l

Type KTS 470 SETRA 412 UL/415 UL/417 UL/419 UL

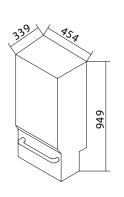




order no.:	
01.4700.00.00	
voltage:	12 / 24 V DC
power:	60 W
current consumption:	5,0/2,5 A
weight:	19 kg
volume:	50 l

Type KTS 471 SETRA/Mercedes



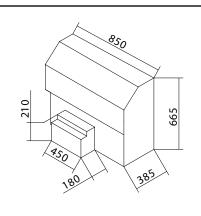


01.4710.00.00	
voltage:	12 / 24 V DC
power:	60 W
current consumption:	5,0/2,5 A
weight:	27 kg
volume:	60 l

Tour guide refrigeration cabinet

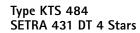
Type KTS 483 SETRA 431 DT 3 stars





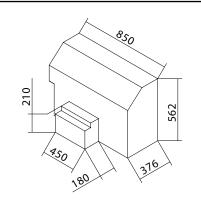
order no.:	
01.4830.00.00	
voltage:	12 / 24 V DC
power:	50 W
current consumption:	4,0/2,0 A
weight:	25 kg
volume:	110





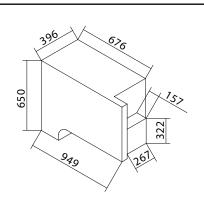
Type A-KT TC4





order no.:	
01.4840.00.00	
voltage:	12 / 24 V DC
power:	50 W
current consumption:	4,0/2,0 A
weight:	24 kg
volume:	85

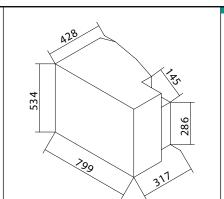




order no.:	
01.4800.00.00	
voltage:	12 / 24 V DC
power:	60 W
current consumption:	5,0/2,5 A
weight:	26 kg
volume:	67 l



Cool boxes for EVOBUS – SETRA Series 500

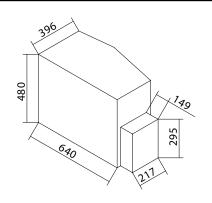


Type KT NCR MD and RHD SETRA ComfortClass S 515 and S 516 MD for Interurban–Cockpit

order no.:	
01.5100.00.00	
voltage:	12 / 24 V DC
power:	60 W
current consumption:	5,0/2,5 A
weight:	22 kg
volume:	55 l

Type A-KT NCR SETRA CC500 and TC500



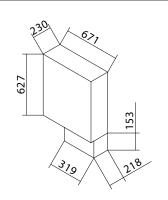


12 / 24 V DC
60 W
5,0/2,5 A
19 kg
67 l



Cool boxes for MCV





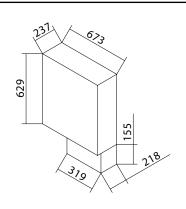
Type MCV 500

01.1201.00.00 cooling unit right side 01.1203.00.00 cooling unit left side	
voltage:	12 / 24 V DC
power:	50 W
current consumption:	4,0/2,0 A
weight:	23 kg
volume:	40

2 baskets, removable

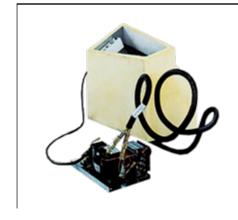
Type MCV 600

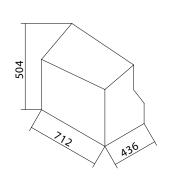




order no.:	
01.1202.00.00	
voltage:	12 / 24 V DC
power:	50 W
current consumption:	4,0/2,0 A
weight:	23 kg
volume:	40 l

Cool boxes for MERKAVIM





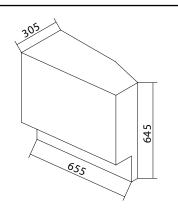
Type MERKAVIM/VOLVO

01.0004.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	18 kg
volume:	56 l

Cooling unit self-contained with coupling; stainless steel inside





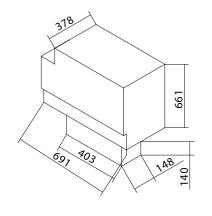


Type MERKAVIM/Apollo

order no.:	
01.0002.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	23 kg
volume:	60 l

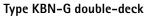
Cool boxes for NEOMAN - NEOPLAN



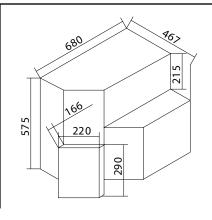


Type KBN-Starliner 2

01.1115.00.00	
voltage:	12 / 24 V DC
ower:	60 W
current consumption:	5,0/2,5 A
weight:	20 kg
volume:	56





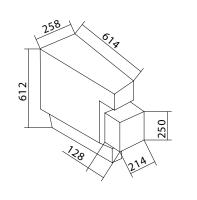


order no.:	
01.1102.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	18 kg
volume:	69 l



Cool boxes for TEMSA



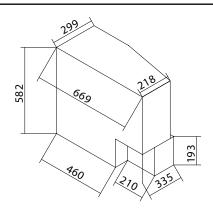


Type Aventurin

order no.: 01.1911.00.00	
01.1912.00.00 RHD	
voltage:	12/24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	13 kg
volume:	25 l



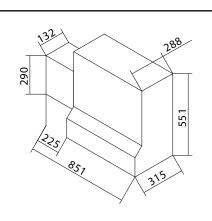




order no.:	
01.1910.00.00	
voltage:	12 / 24 V DC
power:	35 W
current consumption:	3,0/1,5 A
weight:	16 kg
volume:	50 l

Type A-KT EX

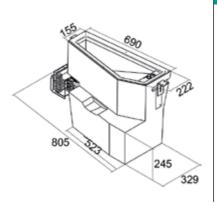




01.3102.00.00	
voltage:	12/24 V DC
power:	60 W
current consumption:	5,0/2,5 A
weight:	27 kg
Inhalt:	51 l

Type A-KT EX A624



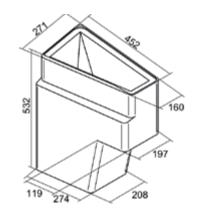


order no.:	
01.3103.00.00	
voltage:	12 / 24 V DC
power:	48 W
current consumption:	5,0/2,5 A
weight:	17 kg
volume:	50 l



Type A-KT EX-SD-RHD-UK

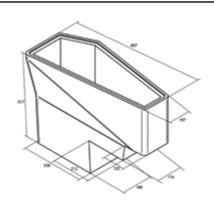




Artikel-Nr.:	
01.3104.00.00	
Spannung:	12/24 V DC
Leistung:	60 W
Stromaufnahme:	5,0/2,5 A
Gewicht:	27 kg
Inhalt:	26 l

Type A-KT EX-DD

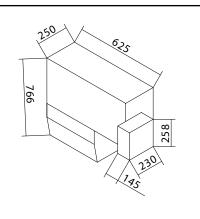




Artikel-Nr.:	
01.3105.00.00	
Spannung:	12/24 V DC
Leistung:	60 W
Stromaufnahme:	5,0/2,5 A
Gewicht:	27 kg
Inhalt:	35

Cool boxes for VDL





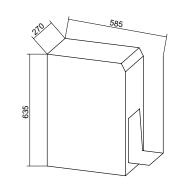
Type VDL

01.6010.00.00	
01.6011.00.00 RHD	
voltage:	12 / 24 V DC
power:	60 W
current consumption:	5,0/2,5 A
weight:	17 kg
volume:	55 l



TK behind the toilet

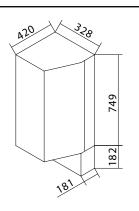




order no.:	
01.6015.00.00	
voltage:	12 / 24 V DC
power:	48 W
current consumption:	4,0 / 2,0 A
weight:	12 kg
volume:	50 l

Type KS Toplader

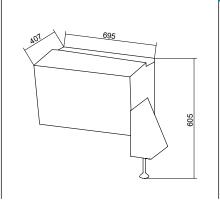




order no.:	
01.6000.00.00	
voltage:	12 / 24 V DC
power:	60 W
current consumption:	5,0/2,5 A
weight:	24 kg
volume:	50 l

Cool boxes for Volvo





A-KT P9420

01.1305.00.00 LHD	
01.1306.00.00 RHD	
voltage:	12 / 24 V DC
power:	48 W
current consumption:	4,0 / 2,0 A
weight:	15 kg
volume:	50 l

On the way home







Accessories by TM

We have a wide variety of accessories for you to choose from. We are happy to advise you – ask our specialists!

Aluminium plate evaporator ROLLBOND



Other individual model versions available upon request white, powder-coated



order no.:

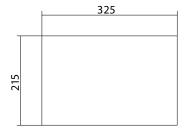
27.0000.00.00

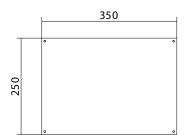
order no.:

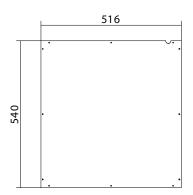
27.0544.31.01

order no.:

27.4500.10.20





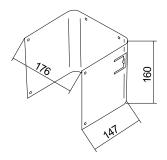


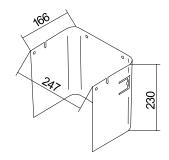


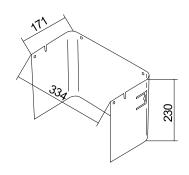
order no.:

27.1400.00.01

order no.: 27.0220.00.01 order no.: 27.0225.00.01





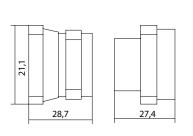


Aluminium plate evaporator ROLLBOND



Coupling





order no.:

50.6060.01.01 Vent sleeve

50.6060.01.02 Vent coupling

Coupling self-sealing; several evaporators deliverable with soldered coupling

Cooling Units



SECOP BD 35 F/50 F/80 F Direct current compressor R 134 a 12 - 24 V



General

SECOP refrigeration compressor type BD 35 F/50 F/80 F is designed for connection to 12V and 24V batteries and for refrigerant R 134 a. The compressor is intended especially for the use in mobile applications, e.g. pleasure craft, commercial shipping, caravans, trucks, busses etc. The compressor can be used in refrigerators and freezers and is designed for capillary tube as the throttling device. The compressor is used together with an electronic unit containing overload protection and protection against destructive battery discharge. The electronic unit has internal voltage recording and calibration to the applied voltage. It will operate under continual heeling of 30° such as it occurs on yachts.

Electrical connection

The BD compressor is fitted with a brushless direct current motor which through an electronic unit becomes electronically commutated. The electronic unit must always be connected directly to the battery poles. For the protection of the installation an external fuse (max. 15 A, blue) must be installed close to the battery (or power supply) in the power supply cable. The cables to the battery must be connected with screws. Avoid extra cable connections. If the wrong polarity is used, the electronic unit will not work. If the chassis is used as a conductor a good connection at the lead end must be established. The electronic unit will calibrate to the applied voltage. This means that if the battery voltage is less than 17V, the system assumes that it is working in a 12V system. If the voltage is higher than 17V, the electronic unit assumes that it is working in a 24V system. Consequently, the compressor does not run at power supply voltages between about 17V and the desired battery protection cut-out voltage for 24V systems.

Protection system

The BD compressor protection system protects the compressor from overload and start failure. It also prevents destructive battery discharge.

Overload protection

The start and overload protection cuts off power to the compressor when the compressor speed drops below approximately 1900 r/min. At start this can be caused by lack of pressure equalizing or too high a pressure during operation.

Battery protection

To ensure sufficient battery power for the engine re-start, or to avoid permanent damage to the battery, because of heavy discharge, the BD electronic unit is fitted with a protection device. The compressor is stopped and re-started again according to the decided voltage limits measured on the + and - terminals of the electronic unit.

Troubleshooting

It is recommended to install a LED between terminals +and D to see, why the compressor comes to an unintentional stop. The LED shows the reason for an interrupted compressor operation, provided that the electronic unit is correctly connected to the power supply and that the thermostat is switched on. The compressor windings can be checked for defects by measuring the resistance on the current lead-in pins. If the measured values between all 3 pins are approximately the same, the compressor motor is ok. The electronic unit cannot be repaired and should not be opened.

Thermostat connection

The BD compressor can operate with normal mechanical type thermostats used in refrigeration appliances or with electronic thermostats. Always use new thermostats. The thermostat is normally connected across terminals C and T of the electronic unit. Compressor current does not flow through the thermostat contacts. When the thermostat is switched off there will still be power on the electronic unit.

Fan connection

If a fan is to be used, it must be connected to the electronic unit terminals + and F. Always use a 12 V fan, also in 24 V systems, as the electronic unit will automatically reduce the applied voltage to 12 V for the fan. If the fan becomes overloaded, both fan and compressor will be cut out by the overload protection

LED connection

A 10 mA light emitting diode (LED) can be connected between the terminals + and D to observe the compressor operation. In case the electronic unit records an operational error, the diode will flash a number of times. The number of flashes depends on what kind of operational error was recorded. Each flash will last 1/4 second.

DC Cooling Units





Wire dimensions

To guarantee a correct operation you have to pay attention to the following wire dimensions:

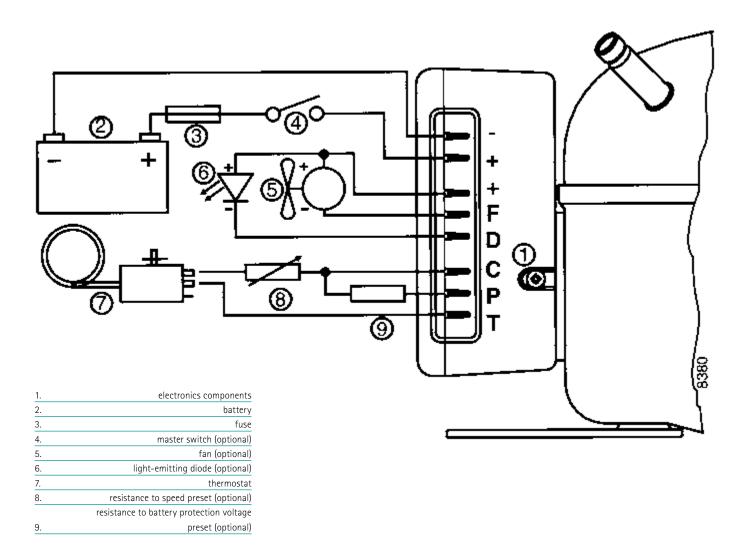
cable diameter	max. lenght*	24 V
	12 V	5,0 m
2,5 mm ²	2,5 m	8,0 m
4,0 mm ²	4,0 m	12,0 m
6,0 mm ²	6,0 m	20,0 m
10,0 mm ²	10,0 m	

^{*} Wire lenght between battery and electronic control

Number of flash	nes Errortype
1 x	battery protection cut out
2 x	fan over-current cut out
3 x	motor start error
4 x	minimum motor speed error
5 x	nermal cut out of electronic unit

Standard battery protection settings

standard battery protection s	ettings
12 V AUS bei 10,4 V	12 V EIN bei 11,7 V
24 V AUS bei 22.8 V	24 V EIN bei 24,2 V

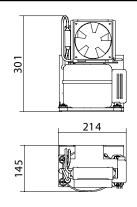


DC Cooling Units



DC Cooling Units 12/24 V With the reliable SECOP full hermetic compressors BD 35 F und BD 50 F

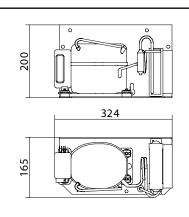




order no.:
03.0580.00.00 (BD 35 F)
03.0580.50.00 (BD 50 F)

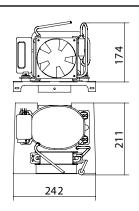
	BD 35 F		BD	50 F
voltage:	12/24 V	12 / 24 V		
current consumption:	depending	on technic	cal	
	product de	sign		
refrigerant:	R 134 A	R 134 A		
operating noise:	25 db (A)		25 (db (A)
weight:	4,7 kg		(6,7 kg





03.2524.02.00 (BD 3	5 F)	
03.2524.50.00 (BD 5	0 F)	
	BD 35 F	BD 50 F
voltage:	12 / 24 V	12 / 24 V
current consumpti	on: depending on te	chnical
	product design	
refrigerant:	R 134 A	R 134 A
operating noise:	25 db (A)	25 db (A)
weight:	7,5 kg	7,5 kg

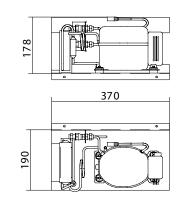




03.0220.00.00 (BD 35 F)	
03.0220.50.00 (BD 50 F)	

	BD 35 F	BD 50 F
voltage:	12 / 24 V	12 / 24 V
current consumption: depending on technical		
	product design	
refrigerant:	R 134 A	R 134 A
operating noise:	25 db (A)	25 db (A)
weight:	5,7 kg	5,7 kg





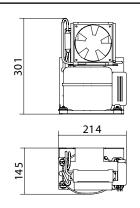
order no.:		
03.1300.10.00 (BD 3	5 F)	
03.1300.50.00 (BD 5	60 F)	
	BD 35 F	BD 50 F
voltage: 1	2/24 V	12 / 24 V
current consumpti	on: depending on to	echnical
	product design	
refrigerant:	R 134 A	R 134 A
operating noise:	25 db (A)	25 db (A)
weight:	7 kg	7 kg

DC Cooling Units



DC Cooling Units 12/24 V
Including refrigerant R 600A and the reliable
SECOP full hermetic compressors BD 35 K und BD 50 K

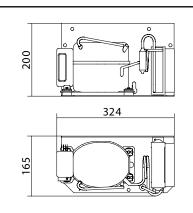




order no.:	
03.0581.00.00 (BD 35 K)	
03.0581.50.00 (BD 50 K)	

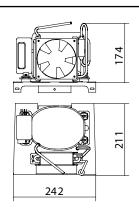
	BD 35 K	BD 50 K
voltage:	12 / 24 V	12 / 24 V
current consumption	on: depending on to	echnical
	product design	
refrigerant:	R 600 A	R 600 A
operating noise: 25 db (A) 25 d		25 db (A)
weight:	4,7 kg	6,7 kg



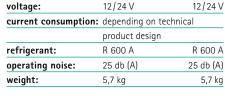


order no.:		
03.2525.02.00 (BD 3	5 K)	
03.2526.50.00 (BD 5	0 K)	
	BD 35 K	BD 50 K
voltage:	12/24 V	12 / 24 V
current consumpti	on: depending on t	echnical
	product design	
refrigerant:	R 600 A	R 600 A
operating noise:	25 db (A)	25 db (A)
weight:	7.5 ka	7.5 ka

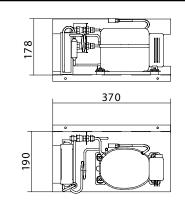




order no.:		
03.0221.00.00 (B	BD 35 K)	
03.0221.50.00 (B	BD 50 K)	
	BD 35 K	BD 50 K
voltage:	12/24 V	12 / 24 V
current concum	ntion: depending on t	echnical







order no.:	
03.1301.00.00 (BD 35 K)	
03.1301.50.00 (BD 50 K)	
BD 35 K	BD 50 K

	BD 35 K	BD 50 K
voltage:	12/24 V	12/24 V
current consumption	on: depending on to	echnical
	product design	9
refrigerant:	R 600 A	R 600 A
operating noise:	25 db (A)	25 db (A)
weight:	7 kg	7 kg

Direct current compressor







operation panel

TM is one of the first users of Secop full hermetic compressors. From the beginning till today TM developed a huge know-how in the use of Secop full hermetic compressors. This explains TM's top class position in the field of bus cooling. Therefore TM only uses Secop compressors. Since the beginning TM has been convinced of the advantages of the constant voltage full hermetic compressors with the high quality of the cast iron series production.

The Secop compressor types BD 35 F and BD 50 F are developed for 12 V and 24 V direct current supply connection and for the refrigerant R 134 A. The compressor comprises an electronic device with an overload protection and protection against battery discharge. The compressor is almost noiseless, has a low energy consumption and works under an angle of inclination of 30°, as it occurs on boats.

Our quality standard provides every cooling box with a clear operation panel. This panel allows an easy and clear operation. The operation panel contains:

- Thermostat with knob for continuous adjustment
- Indoor lighting
- Fuse for the electronic
- Function indicator

Another **TM** quality characteristic is that most of the cooling boxes are equipped with foamed aluminum rollbond evaporators. Due to this method we reach optimal efficiency. This processing makes it impossible to develop condensed moisture between the evaporator and the insulation, thus the PU insulation cannot be affected. The layout of the evaporator tubes will be designed for each cooling casing according to the request, so that the best cooling performance can be reached. The aluminum rollbond evaporator is powder coated and easy to handle.

An important contribution for a good cooling performance is the insulation, naturally CFC-free. **TM** foams the cooling casings with a high pressure procedure via computer controlled, modern foaming machines. TM also foams the cover frame, cover lid and all hollow spaces with PU foam. Before starting series production the cooling boxes will be tested in various long term check programs, for example in our climatic chamber under different ambient temperatures and operating conditions. The cooling boxes will also be checked on the shaking table. All materials of the casing, like outside casing, foam, evaporator or other plastic casing parts, are certified by the German authorities for vehicle registra-



aluminium rollbond evaporator



insulation

Direct current compressor





Interior compressor

BD 35 F BD 50 F BD 80 F BD 1.4F MICRO

Wire dimensions

To guarantee a correct operation you have to pay attention to the following wire dimensions:

cable diameter	max. length*	
	12 V	24 V
2,5 mm ²	2,5 mm ²	5,0 m
4,0 mm ²	4,0 mm ²	6,0 m
6,0 mm ²	6,0 mm ²	12,0 m
10,0 mm ²	10,0 mm ²	20,0 m

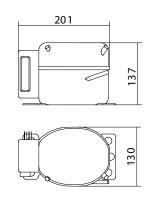
^{*} wire length between battery and electronic control

Standard battery protection settings

12 V OFF bei 10,4 V	12 V ON bei 11,7 V
24 V OFF bei 22.8 V	24 V ON bei 24.2 V

Type BD 35 F



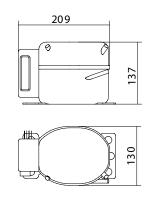


compressor/electronic unit 2	25.2412.10.00
compressor seperate 25.241	2.10.01
electronic unit seperate 24.2	2412.10.02
voltage:	12 / 24 V DC
undervoltage protection:	10,4/22,8 V
power:	35 W
current consumption:	depending on technical
	product design
weight:	4,5 kg
revolutions:	2.000 min*
refrigerant:	R134a
operating noise:	25 db (A)

^{*} higher compressor capacity can be reached by increasing revolutions up to max. 3.500.

Type BD 50 F





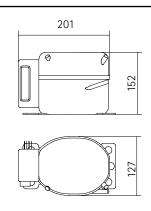
compressor/electronic unit 2	25.0050.24.02
compressor seperate 25.005	50.24.01
electronic unit seperate 25.2	2412.10.02
voltage:	12 / 24 V DC
undervoltage protection:	10,4/22,8 V
current consumption:	depending on technical
	product design
weight:	4,5 kg
revolutions:	2.000 min*
refrigerant:	R134a
operating noise:	25 db (A)

^{*} higher compressor capacity can be reached by increasing revolutions up to max. 3.500.

Direct current compressor







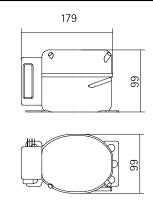
Type BD 35 K

compressor/elektronic unit 2	5.0600.24.00
compressor seperate 25.060	0.24.01
electronic unit seperate 25.0	600.24.02
voltage:	12 / 24 V DC
undervoltage protection:	10,4/22,8 \
current consumption:	depending on technica
	product design
weight:	4,5 kg
revolutions:	2.500 min*
refrigerant:	R600A
operating noise:	25 db (A)

^{*} higher compressor capacity can be reached by increasing revolutions up to max. 4.400.

Type BD 80 F





the second	
compressor/electronic unit :	25.6114.10.00
compressor seperate 25.611	4.10.08
electronic unit seperate 25.0	6114.10.10
,	
voltage:	12 / 24 V DC
undervoltage protection:	19-27 V
current consumption:	depending on technical
	product design
weight:	2,3 kg
refrigerant:	R600A
operating noise:	k A

^{*} higher compressor capacity can be reached by increasing revolutions up to max. 4.400.



- Dashboard integrated cool box
 QS Multiplus 2 G Kitchen
 Transporter cool box

- 4. Summertime 2
- 5. Cool box KBU60
- 6. Central access toilet





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TM Teknik Otomotiv

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Jincen-TM

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Our company is ISO 9001 certified.

Our products are tested according to the following standards: Burning behavior according to ECE R118. Electromagnetic compatibility according to ECE R10. Energy absorption test according to ECE R21. Bus comfort according to RAL-GZ 791.