

NT 50/70/90 Classic Service Manual



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Preface

Good service work requires extensive and practice-oriented training as well as well-structured training materials. Hence we offer regular basic and advanced training programmes covering the entire product range for all service engineers.

In addition to this, we also prepare service manuals for important appliances - these can be initially used as instruction guides and later on as reference guides.

Apart from this, we also regular information about product enhancements and their servicing.

If you should require supplements, have corrections or questions regarding this document, please address these citing the following subject to:

international-service@de.kaercher.com

Subject:	Fall 118591
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The responsible product specialist will take care of your issue.

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Safety instructions

Service and maintenance tasks may only be performed by qualified and specially trained specialists.

Observe safety information in the chapters!

⚠ DANGER

Prior to all work on the appliance, switch off the appliance and pull the power plug.

⚠ CAUTION

Risk of damage by electrostatic discharge (ESD)! Take suitable measures for discharging electrostatic charge prior to performing work on the appliance electronics.

Hazard levels

⚠ DANGER

For an immediate danger which can lead to severe injuries or death.

⚠ WARNING

For a possibly dangerous situation which could lead to severe injuries or death.

⚠ CAUTION

For a possibly dangerous situation which can lead to minor injuries or property damage.

ATTENTION

Pointer to a possibly dangerous situation, which can lead to property damage.

Note

Indicates useful tips and important information.

Description in this service manual

Service groups

Example:

Install/uninstall ANRA wheel axle

AN	RA	Install/uninstall wheel axle
Service group	Component	Activity

Observe the allocation of service groups to the appliance components in the overview diagram in Chapter "Overview over the service and functional groups".

Functional group structure

010	Safety instructions
020	Overview
030	Function
040	Service activities
050	Maintenance and inspection
060	Error diagnosis
070	Peculiarities/ others
080 - 100	Not assigned

Textual description

→ Instruction

■ *Preparatory operations*

1

2 Key numerical

A

B Key alphanumerical

– Enumeration / General list

⚠ **Safety note**

Pointer to hazards, sources of errors.

Technical Features

- Two suction turbines

Intended use

⚠ WARNING

The appliance is not suitable for vacuuming dust which endangers health.

- The machine is meant for dry and wet cleaning of floors and walls.
- This appliance is suited for the commercial use, e.g. at construction sites, in industrial systems, in workshops and rental companies.

Field of application

This service manual describes the appliance family:

- NT 50/1 Me Classic
- NT 50/2 Me Classic
- NT 70/2 Me Classic
- NT 90/2 Me Classic

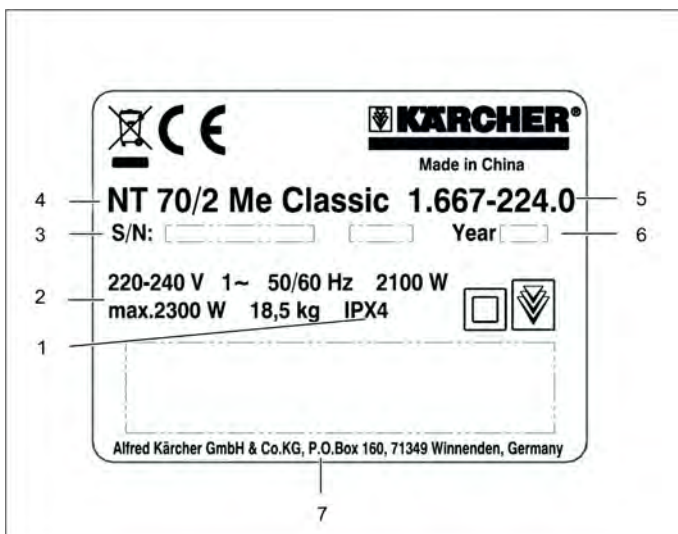
The devices differ in the size of the catch pan and the number of suction turbines.

Safety installations

Safety devices serve to protect the user and must not be rendered in operational or their functions bypassed.

Observe safety information in the chapters!

Type plate



The type plate is located at the bottom of the appliance.

- 1 Protective class
- 2 Performance data
- 3 Serial number
- 4 Appliance description
- 5 Part number
- 6 Year of manufacture
- 7 Address of manufacturer

Overview of the appliance

Front view



- 1 Storage area
- 2 Suction head
- 3 Suction head lock
- 4 Dirt receptacle
- 5 Impeller
- 6 Steering roller
- 7 Bumper
- 8 Suction support
- 9 Air outlet opening
- 10 Appliance switch suction turbine 2
(NT 50/2, NT 70/2, NT 90/2 only)
- 11 Appliance switch suction turbine 1
- 12 Carrying handle

View from behind



- 1 Push handle
- 2 Suction tube
- 3 Air outlet opening
- 4 Holder accessories
- 5 Floor nozzle
- 6 Suction tube
- 7 Power cord
- 8 Air outlet opening
- 9 Crevice nozzle
- 10 Hose/cable holder

AB Service group setup

010 Safety information

General

Service and maintenance tasks may only be performed by qualified and specially trained specialists.

⚠ DANGER

First pull out the plug from the mains before carrying out any tasks on the machine.

Observe general safety information!

020 Overview



ABAS Uninstall/ install suction turbine cover

ABBU Uninstall / install bumper

ABFK Uninstall / install filter basket

ABGH Uninstall / install appliance hood

ABHZ Uninstall / install holder accessories

ABLR Uninstall / install steering rollers

ABRH Uninstall / install wheels in the back

ABSB Uninstall / install push handle

ABSC Uninstall / install float

ABTG Uninstall / install carrying handle

ABVS Uninstall / install locking mechanism suction head

030 Function

Casing

In the casing

- Power switch suction turbine
- Suction turbine
- Chassis

are installed

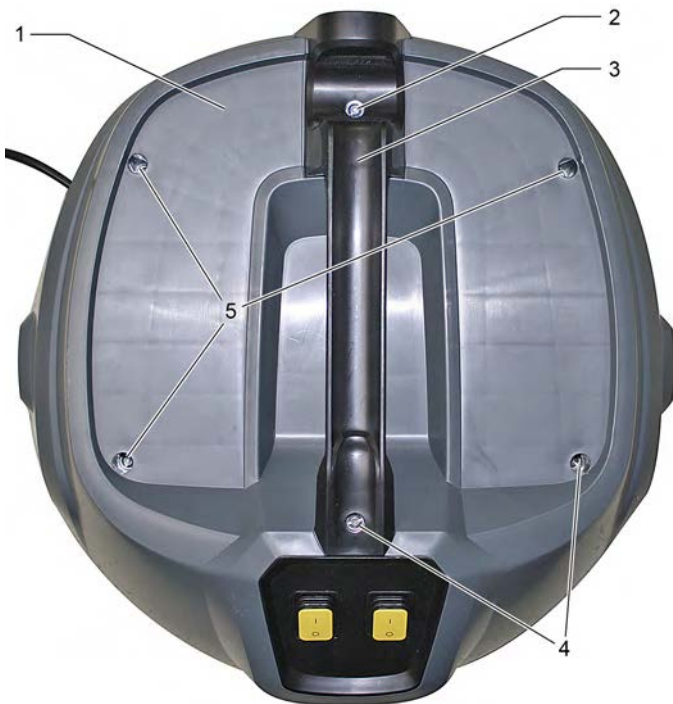
040 Service activities

ABTG Uninstall / install carrying handle

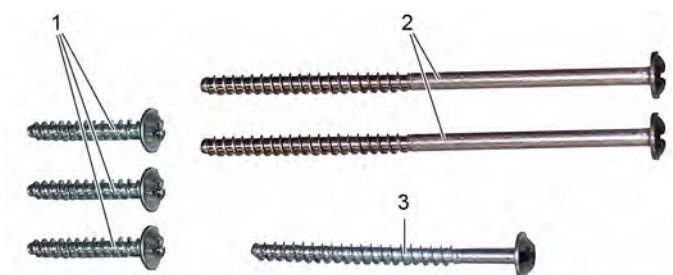


- 1 Carrying handle
 - 2 Screws
- ➔ Unscrew the screws.
 - ➔ Remove the carrying handle.

ABGH Uninstall / install appliance hood



- *ABTG Uninstall / install carrying handle*
- 1 Cover
 - 2 Screw, medium length
 - 3 Carrying handle
 - 4 Screws, long length
 - 5 Screws, short length
- ➔ Unscrew the screws.
 - ➔ Remove the appliance cover.



- 1 Screws, short length
- 2 Screws, long length
- 3 Screw, medium length

Note

Pay attention to the correct placement of the screws during assembly.

ABAS Uninstall/ install suction turbine cover

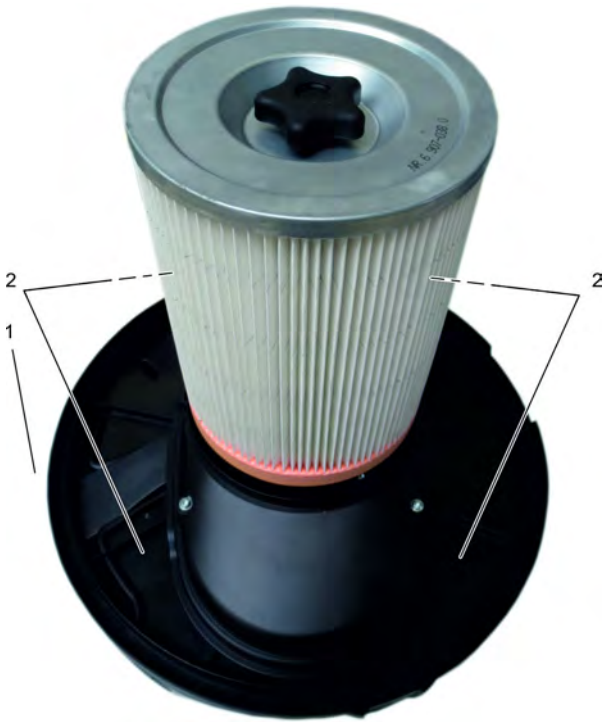
■ *Remove the suction head.*

1 Inside cover

2 Screws

➔ Unscrew the screws.

➔ Remove inside cover.



1 Sound insulation mat

➔ Remove sound insulation mat.



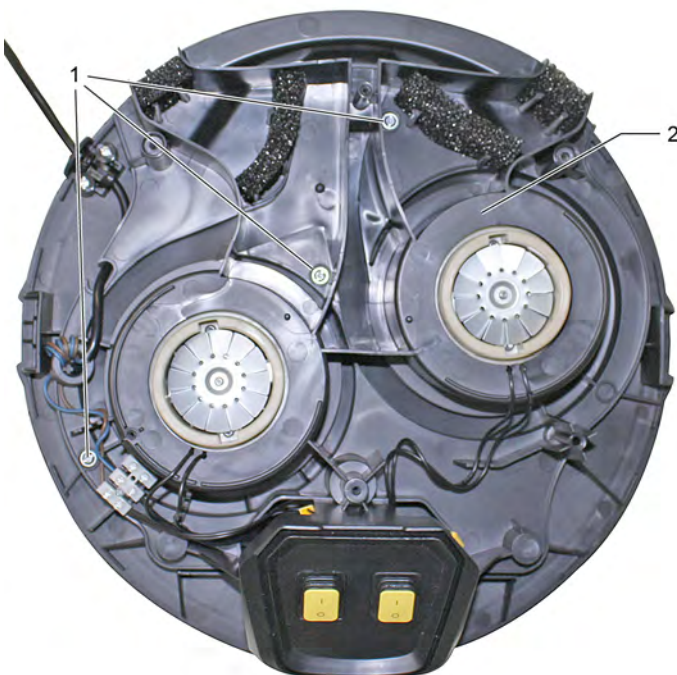
1 Screws

2 Cover of the suction turbine

➔ Unscrew the screws.

➔ Remove cover of suction turbine.

➔ Reattach the sound insulation mat upon installation.



ABFK Uninstall / install filter basket



- Remove suction head from the dirt receptacle.
- ACPF Uninstall / install cartridge filter
- 1 Filter basket
- 2 Screws
- ➔ Unscrew the screws.
- ➔ Remove the filter basket.

ABSC Uninstall / install float



- ABFK Uninstall / install filter basket
- 1 Filter basket
- 2 Float
- ➔ Remove float from the filter basket.

Note

Mind the correct alignment of the float upon installing the float.
The open side of the float must face away from the suction head.

ABVS Uninstall / install locking mechanism suction head



- *Remove suction head from the dirt receptacle.*
- 1 Suction head lock
- 2 Rivets
- ➔ Drill out rivets.
- ➔ Remove locking mechanism.
- ➔ Fasten the locking mechanism by means of new rivets.

ABBU Uninstall / install bumper



- *Remove the accessories on the back of the bumper.*
- *Remove the suction hand.*
- *Empty the dirt receptacle.*
- *Place the dirt receptacle on the side.*
- 1 Tensioning ring
- 2 Bumper
- 3 Dirt receptacle bottom
- ➔ Remove clamping ring.
- ➔ Remove bumper.

ABHZ Uninstall / install holder accessories



- *Remove the suction hand.*
- *Empty the dirt receptacle.*
- 1 Holder accessories
- 2 Screws
- 3 Push handle
- ➔ Unscrew the screws.
- ➔ Pull the push handle out of the bumper.
- ➔ Remove the accessories holder from the push handle.

ABSB Uninstall / install push handle



■ ABHZ Uninstall / install holder accessories

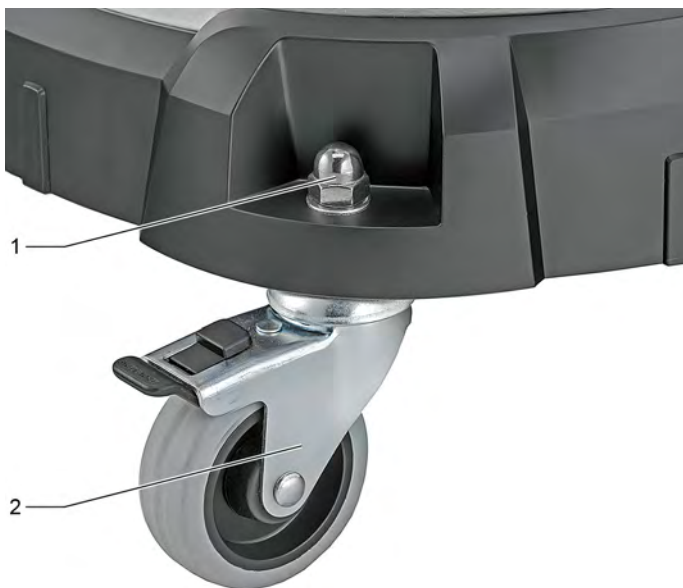
1 Holder accessories

2 Screws

3 Push handle

➔ Sequence as described in Chapter "ABHZ Uninstall / install holder accessories".

ABLR Uninstall / install steering rollers



■ Remove the suction hand.

■ Empty the dirt receptacle.

■ Place the dirt receptacle on the accessories holder .

1 Nut

2 Steering roller



1 Inner hexagonal screw

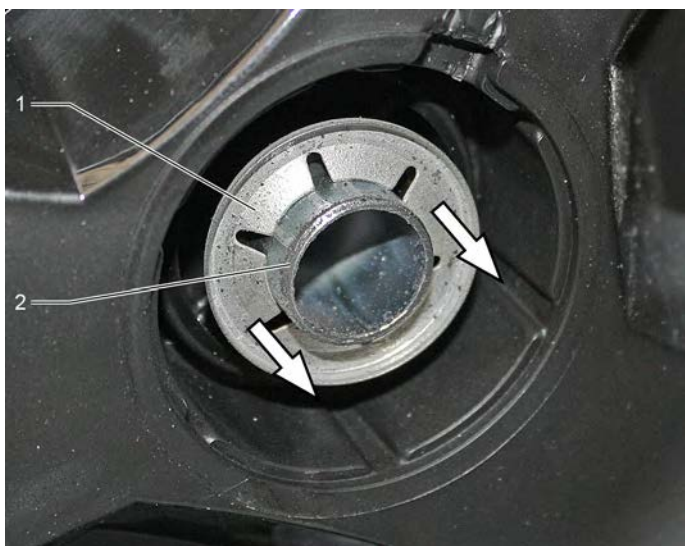
➔ Hold up hexagon socket screw.

➔ Loosen the nut.

ABRH Uninstall / install wheels in the back



- 1 Wheel rear
- 2 Cover
- ➔ Remove the cover.



- 1 Clamping washer
- 2 Axle
- ➔ Lever the clamping washer off the axle.
- ➔ Use a new clamping washer upon installation.

050 Maintenance and inspection

- ➔ Check wheels for ease of movement.
- ➔ Check whether the axle is bent.

060 Error diagnosis

Findings	Possible cause	Correction
Water leak during vacuuming	Float is jammed.	Loosen and clean the jammed float using a damp cloth. Check float for ease of movement.

070 Peculiarities/ others

The service group does not contain any peculiarities.

AC Service group suction system

010 Safety information

For this service group there is no special safety information.

Observe general safety information!

020 Overview



ACAS Uninstall / install connection nozzle

ACGT Uninstall / install sliding contacts suction turbines (2)

ACPF Uninstall / install cartridge filter

ACSU Uninstall / install suction turbines (2)

030 Function

Casing

Dirt and fluids are sucked through the suction hose into the dirt receptacle via the floor nozzle.

The suction turbine generates the necessary vacuum in the dirt receptacle.

In order to protect the suction turbine from damage caused by water ingress, the float closes the air duct when the dirt receptacle is full.

040 Service activities

ACPF Uninstall / install cartridge filter



- *Remove the suction hand.*
- 1 Cartridge filter
- 2 Star handle screw
- ➔ Screw out the star handle screws.
- ➔ Remove the cartridge filter.

ACSU Uninstall / install suction turbines (2)



- *ABAS Uninstall/ install suction turbine cover*
- 1 Suction turbine
- 2 Connecting cable
- ➔ Remove the connecting cable.
- ➔ Remove the suction turbine.



- 1 Cover of the suction turbine
- 2 Suction turbine
- 3 Connecting cable
- ➔ Upon installation, ensure that the connecting cables run in the cable guides.

ACGT Uninstall / install sliding contacts suction turbines (2)

■ ACSU Uninstall / install suction turbines (2)

1 Sliding contacts



1 Glide contact

2 Screw

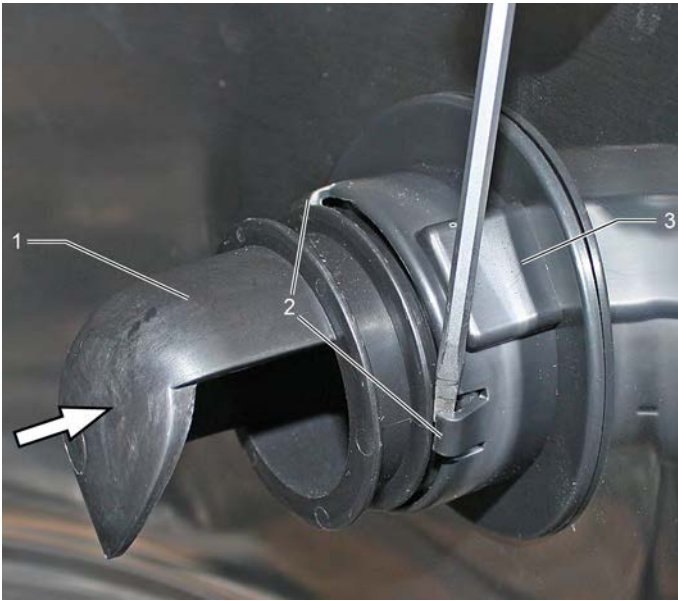
→ Loosen screws.

→ Pull the sliding contact out of the duct.



Sliding contact uninstalled.

ACAS Uninstall / install connection nozzle



- Remove the suction hand.
- Empty the dirt receptacle.
- 1 Connection nozzle
- 2 Clips
- 3 Counter support
- ➔ Bent up all three clips on the counter support.
- ➔ Push the connection nozzle outwards through the counter support.
- ➔ Upon installation, ensure that all three clips snap into the connection nozzle.

050 Maintenance and inspection

Service group does not contain any maintenance and inspection points.

060 Error diagnosis

Findings	Possible cause	Correction
Suction turbine does not run	Electrics defective.	Check the receptacle and the fuse of the power supply.
	Connection defective.	Check power cable, mains plug and mechanical overflow protection.
	Device is not switched on.	Turn on the appliance.
Vaccum turbine is running but the machine is not sucking in dust/dirt	?	Turn off the appliance and wait for 5 seconds, turn it on again after 5 seconds.
	Float is jammed.	Loosen and clean the jammed float using a damp cloth. Check float for ease of movement.
	Float is blocking the suction canal.	Empty the dirt receptacle.
	Dirt receptacle is full.	Empty the dirt receptacle.
Suction capacity decreases	Suction system is blocked.	Remove choking of suction nozzle, suction tube, suction hose, or cartridge filter.
		NT 50/1, NT 50/2 only: Exchange the fleece filter bag (option).
		Clean or replace the membrane filter (special accessory) under running water.
	Change cartridge filter.	
Drain hose leaking.	NT 70/2, NT 90/2 only: Check drain pipe for leaks.	
Dust comes out during the vacuuming	Cartridge filter not properly installed.	Check the proper installation of the cartridge filter.
	Cartridge filter defective.	Change cartridge filter.

070 Peculiarities/ others

The service group does not contain any peculiarities.

AH Service group electrics

010 Safety information

⚠ DANGER

First pull out the plug from the mains before carrying out any tasks on the machine.

020 Overview



AHEK Uninstall / install anti-interference capacitor

AHGB Uninstall / install power switches (2)

AHNK Uninstall / install power cable

030 Function

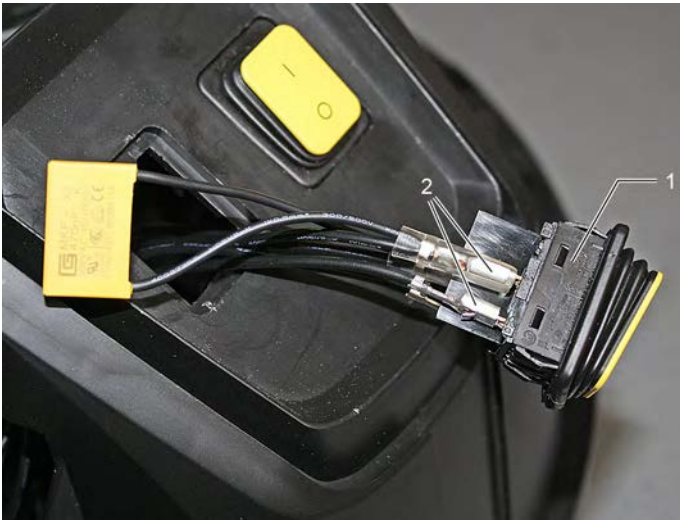
The suction turbines are switch on and off via the power switches.

040 Service activities

AHGB Uninstall / install power switches (2)



- 1 Power switch
 - 2 Tools for levering out
- ➔ Lever out the power switch.



- 1 Power switch
 - 2 Cable plug
- ➔ Remove the cable plug.

AHEK Uninstall / install anti-interference capacitor



■ AHGB Uninstall / install power switches (2)

- 1 De-interference capacitor
 - 2 Cable plug
 - 3 Power switch
- ➔ Remove the cable plug.
➔ Replace anti-interference capacitor.

Note

Anti-interference capacitors are located on both power switches.

AHNK Uninstall / install power cable



■ ABAS Uninstall/ install suction turbine cover

- 1 Cable mount
- 2 Screws
- ➔ Remove inside cover.
- ➔ Unscrew the screws.
- ➔ Remove cable mount.



- 1 Cable mount
- 2 Power cord
- 3 Cable inlet
- 4 Ferrite ring (anti-interference ring)
- 5 Cable inlet
- 6 Connector
- ➔ Detach power cord at the lustre terminal.
- ➔ Remove power cord from the cable inlets.
- ➔ Remove ferrite ring.
- ➔ Route new power cord through the ferrite ring three times prior to installation.

050 Maintenance and inspection

Service group does not contain any maintenance and inspection points.

060 Error diagnosis

Findings	Possible cause	Correction


070 Peculiarities/ others


The service group does not contain any peculiarities.

Technical Documentation

Appliance type	Appliance no.:	Circuit diagram	Operating instructions	Spare parts list
NT 50/1 Me Classic *SEA		0.089-578.0		
NT 50/1 Me Classic *CN		0.089-578.0		
NT 50/2 Me Classic *SEA	1.667-022.0	0.089-578.0	5.396-045.0	5.973-448.0
NT 50/2 Me Classic *CN	1.667-023.0	0.089-578.0	5.396-045.0	5.972-448.0
NT 70/2 Me Classic *SEA	1.667-225.0	0.089-578.0	5.396-045.0	5.973-122.0
NT 70/2 Me Classic *CN	1.667-226.0	0.089-578.0	5.396-045.0	5.972-640.0
NT 90/2 Me Classic *SEA	1.667-702.0	0.089-578.0	5.396-045.0	5.973-445.0
NT 90/2 Me Classic *CN	1.667-703.0	0.089-578.0	5.396-045.0	5.972-965.0

Technical specifications

		NT 50/1 Me Classic *SEA	NT 50/1 Me Classic *CN	NT 50/2 Me Classic *SEA	NT 50/2 Me Classic *CN
Mains voltage	V	220-240	220	220-240	220
Frequency	Hz	1~ 50/60	1~ 50/60	1~ 50/60	1~ 50/60
Max. performance	W	1150	1100	2300	2200
Rated power	W	1050	1000	2100	1950
Container capacity	L	50	50	50	50
Filling quantity (liquid)	L	24	24	24	24
Air volume (max.)	l/s	53	53	2x 53	2x 53
Negative pressure (max.)	kPa (mbar)	22,5 (225)	22,5 (225)	22,5 (225)	22,5 (225)
Type of protection	--	IPX4	IPX4	IPX4	IPX4
Protective class		II	II	II	II
Suction hose connection (C-DN/C-ID)	mm	40	40	40	40
Length x width x height	mm	576 x 506 x 848	576 x 506 x 848	576 x 506 x 848	576 x 506 x 848
Typical operating weight	kg	14,5	14,5	17,5	17,5
Max. ambient temperature	°C	+40	+40	+40	+40
Values determined to EN 60335-2-69					
Sound pressure level L_{pA}	dB(A)	76	76	76	76
Uncertainty K_{pA}	dB(A)	2	2	2	2
Hand-arm vibration value	m/s ²	<2,5	<2,5	<2,5	<2,5
Uncertainty K	m/s ²	1	1	1	1

		NT 70/2 Me Classic *SEA	NT 70/2 Me Classic *CN	NT 90/2 Me Classic *SEA	NT 90/2 Me Classic *CN
Mains voltage	V	220-240	220	220-240	220
Frequency	Hz	1~ 50/60	1~ 50/60	1~ 50/60	1~ 50/60
Max. performance	W	2300	2200	2300	2200
Rated power	W	2100	1950	2100	1950
Container capacity	L	70	70	90	90
Filling quantity (liquid)	L	44	44	64	64
Air volume (max.)	l/s	2x 53	2x 53	2x 53	2x 53
Negative pressure (max.)	kPa (mbar)	22,5 (225)	22,5 (225)	22,5 (225)	22,5 (225)
Type of protection	--	IPX4	IPX4	IPX4	IPX4
Protective class		II	II	II	II
Suction hose connection (C-DN/C-ID)	mm	40	40	40	40
Length x width x height	mm	576 x 506 x 848	576 x 506 x 848	576 x 506 x 993	576 x 506 x 993
Typical operating weight	kg	18,5	18,5	19,0	19,0
Max. ambient temperature	°C	+40	+40	+40	+40
Values determined to EN 60335-2-69					
Sound pressure level L _{pA}	dB(A)	76	76	76	76
Uncertainty K _{pA}	dB(A)	2	2	2	2
Hand-arm vibration value	m/s ²	<2,5	<2,5	<2,5	<2,5
Uncertainty K	m/s ²	1	1	1	1

Power cord	H05VV-F 2x1,0 mm ²	
	Part no.:	Cable length
SEA	9.770-936.0	7.5 m
Power cord	H05VV-F 2x1,0 mm ² 60227 IEC 53	
	Part no.:	Cable length
CN	9.770-866.0	7.5 m

Special tools

There are no special tools necessary.

Circuit diagram

When working on the device, please always use the current circuit diagram in DISIS.