

## NT 25/1, 35/1, 65/2, 75/2 AP (Te) Service Manual



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## 2 Preface

Good service work requires extensive and practiceoriented 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 111302

The responsible product specialist will take care of your issue.

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## 3 Safety instructions

## 3.1 Hazard levels

## **∆** Danger

Immediate danger that can cause severe injury or even death.

#### **△** Warning

Possible hazardous situation that could lead to severe injury or even death.

#### Caution

Possible hazardous situation that could lead to mild injury to persons or damage to property.

#### Note

indicates useful tips and important information.

## 4 **Technical Features**

## 4.1 General

- Wet/dry vacuum cleaner to clean floors and walls for commercial use at construction sites, industrial sites and workshops.
- Storage surface for tools on the suction head.
- Container capacity: 25 75 l
- Drain hose for liquids.

## 4.2 Filter and vacuum system

- Closeable paper filter bag for dust-free disposal.
- Suction hose connection (DN 40) with bayonet system.
- Tact<sup>2</sup> filter cleaning technology (Triggered Air Draft Cleaning Technology). Switchable fully automatic filter cleaning.
- Electronic fill level monitoring (in wet vacuum mode) switches the turbine off automatically when the max. liquid fill level is reached.

## 4.3 Tools used

- Screwdriver T20
- Screwdriver T15
- Flat pliers

## 5 Installation NT 25/1 AP, NT 35/1 AP

5.1 Front view



- 1 Steering roller
- 2 Container 25/35 I
- 3 Suction air guide
- 4 Power switch
- 5 AP key
- 6 Cable hook
- 7 Air outlet

5.2 Rear view



- 1 Wheel
- 2 Container 25/35 I
- 3 Air outlet, working air
- 4 Handle to open the filter cover
- 5 Cable hook
- 6 AP key
- 7 Nameplate
- 8 Accessory compartment

## 5.3 Suction head (view from below)

5.4 Suction head, filter cover opened



- 1 Baffle plate
- 2 Flat fold filter
- 3 Container locking tab
- 4 Washer

## 5.3.1 Electrode overflow protection



#### Note

The appliance will switch off immediately if the container is filled with enough fluid so that it touches both electrodes. This is not the case, if non-conductive fluids such as oils, greases and drilling emulsions are vacuumed up.

The filling level must be continuously monitored and the container must be emptied in time.



- 1 Air outlet, working air
- 2 Flat fold filter
- 3 Rough dirt filter
- 4 AP filter cleaning system
- 5 Handle to open the filter cover
- 6 Hinge with stop bolt
- 7 Nameplate
- 8 Supply Cord

#### Note

For wet and dry vacuuming, the flat fold filter must always be installed.

Dry the flat fold filter after completion of the wet vacuuming.

To vacuum fine dust, you must use an additional paper filter bag or a membrane filter (special accessory). These must always be removed prior to wet vacuuming.

## 6 Installation NT 65/2 AP, NT 75/2 AP

## 6.1 Front view



- 1 Steering roller
- 2 Frame
- 3 Container 65/75 I
- 4 Suction air guide
- 5 Lock, suction head
- 6 Cover, appliance electronics
- 7 AP key
- 8 Push handle
- 9 Power switch
- 10 Air outlet

6.2 Rear view



- 1 Drain hose
- 2 Drain opening
- 3 Cable hook
- 4 Air outlet, working air
- 5 Push handle
- 6 Handle to open the filter cover
- 7 Nameplate
- 8 Accessory compartment
- 9 Container 65/75 I
- 10 Pickup for floor nozzle
- 11 Wheel

## 6.3 Suction head (view from below)

6.4 Suction head, filter cover opened



- 1 Flat fold filter
- 2 Electrode overflow protection
- 3 Container locking tab
- 4 Washer

#### Note

The appliance will switch off immediately if the container is filled with enough fluid so that it touches both electrodes. This is not the case, if non-conductive fluids such as oils, greases and drilling emulsions are vacuumed up.

The filling level must be continuously monitored and the container must be emptied in time.



- 1 Flat fold filter
- 2 Hinge with stop bolt
- 3 AP filter cleaning system
- 4 Rough dirt filter
- 5 Air outlet, working air
- 6 Nameplate

#### Note

For wet and dry vacuuming, the flat fold filter must always be installed.

Dry the flat fold filter after completion of the wet vacuuming.

To vacuum fine dust, you must use an additional paper filter bag or a membrane filter (special accessory). These must always be removed prior to wet vacuuming.

## 7 Function

## 7.1 Suction system



- 1 Suction turbine
- 2 Air input
- 3 Coarse dirt
- 4 Fine dust
- 5 Dirt receptacle
- 6 Air outlet
- 7 Flat fold filter
- 8 AP filter cleaning system

The air flows from the air input through the waste container and flat fold filter via the suction turbine to the exterior.

## 8 Basic settings and service tasks NT 25/1 AP and NT 35/1 AP

#### **△** Danger

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

## 8.1 Overview of the individual parts of the suction head

## 8.1.1 Cover





## 8.1.3 Turbine casing and suction turbine



## 8.1.4 Overview of the components of the container and the chassis



## 8.2 Replace the mechanics of the AP filter cleaner

- → Remove the screws from the filter cap.
- → Remove the filter cover.



- $\rightarrow$  Pull the pin out of the lever hinge.
- ➔ Remove the lever.



→ Remove the individual mechanical parts.



→ Check the function of the diaphragm.
→ Reassemble the AP system



- → Observe the alignment of the slide cap (arrow) during installation.
- 8.3 Replace the AP actuation key



➔ Press the locking tabs together with pliers and, at the same time pull the key out of the housing toward the top.

## 8.4 Electrical components of the appliance

- → Unscrew the screws of the hood.
- → Remove the hood.



- 1 Supply Cord
- 2 Power switch
- 3 Appliance electronics
- 4 Ferrit ring (anti-interference ring)
- 5 Connecting cable electrodes overflow protection (blue)

## 8.5 Replace appliance switch



- → Pull the appliance switch from its holder.
- → Pull the connecting cable out on the appliance switch.
- → Replace the appliance switch and install it in reverse order.

## 8.6 Replace the appliance switch key



➔ Press the locking tabs together with pliers and, at the same time pull the key out of the housing toward the top.



→ Replace the key with the broken locking tabs.

## 8.7 Replace the appliance electronics

#### Caution

Risk of damage by electrostatic discharge (ESD)! Prior to the installation, take the appropriate measures to discharge electrostatic charge.



- 1 Power connection (grey)
- 2 Electrodes overflow protection (blue)
- 3 Turbine (black)
- 4 Control chip
- → Pull all connecting plugs off the PCB.



- → Pull the PCB out of the casing toward the top.
- → Replace the circuit board.
- → Connect the new circuit board as per the circuit diagram.

## 8.8 Replacing the suction turbine

→ Separate the turbine carrier from the hood.





→ Remove the suction turbine from the turbine holder.



- 1 Top seal ring, to the applian
- 2 Suction turbine
- 3 Bottom seal ring, to the turbine holder
- → Replace the suction turbine.
- → Check the seal rings for damage.
- → Replace damaged seal rings.
- → Align the suction turbine inside the turbine holders by means of the seal rings during installation.
- 8.8.1 Replace the glide contacts of the suction turbine.



- 1 Glide contact (carbon brush)
- 2 Contact part
- → Unscrew the screws of the contact part.
- → Pull the contact part off toward the top, do not bend the plug contact.
- → Remove the glide contact and replace it.
- ➔ Install a new glide contact; no adjustments necessary.
- → Always replace both glide contacts at once.

## 8.9 Replacing the mains cable



→ Unscrew the fastening screws of the traction relief.

➔ Disconnect the connecting cable of the mains cable on the appliance electronics and on the appliance switch.

→ Replace the mains cable.

## 8.10 Remove the outlet (Te appliances)





<sup>→</sup> Remove the microswitch screw.
→ Remove the micro switch.

## Note

The microswitch monitors whether the cover of the receptacle is open or closed. The Te function is switched on when the cover is open. If the receptacle or the setting Te does not function, check the function of the microswitch prior to replacing the receptacle. → Unscrew the screws of the receptacle.



- → Pull out the receptacle towards the front.
- ➔ Replace the receptacle.

### 8.11 Maintenance jobs on the container

8.11.1Replace the suction air guidance



- → Turn the suction air guidance in a clockwise direction to unlock it.
- → Remove the suction air guidance toward the front.
- 8.12 Replacing the steering roller



- → Pull the steering roller out of the container and replace it.
- 8.13 Replace the wheel



→ Press the axle out of the container.



- → Remove the wheel cover. For this, lift the cover using a screwdriver and carefully release it.
- → Remove the safety ring.
- $\rightarrow$  Pull the wheel off the axle.



→ When installing the axle, observe the spacer between the wheel and the container.

## 9 Basic settings and service tasks NT 65/2 AP and NT 75/2 AP

**∆** Danger

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

## 9.1 Overview of the individual parts of the suction head

## 9.1.1 Appliance hood and filter cleaning system



## 9.1.2 Suction turbine



9.1.3 Overview of the components of the container and the chassis



## 9.2 Replace the mechanics of the AP filter cleaner

- → Remove the screws from the filter cap.
- → Remove the filter cover.



- $\rightarrow$  Pull the pin out of the lever hinge.
- → Remove the lever.



→ Remove the individual mechanical parts.



- → Check the function of the diaphragm.
- ➔ Reassemble the AP system



- → Observe the alignment of the slide cap (arrow) during installation.
- 9.3 Replace the AP actuation key



➔ Press the locking tabs together with pliers and, at the same time pull the key out of the housing toward the top.

#### 9.4 Electrical components of the appliance

- → Unscrew the screws of the hood.
- ➔ Remove the hood.



- 1 Supply Cord
- 2 Appliance electronics
- 3 Power switch
- 4 Hinge pin
- 5 Connecting cable electrodes overflow protection (blue)

## 9.5 Replace appliance switch



- $\rightarrow$  Pull the appliance switch from its holder.
- → Pull the connecting cable out on the appliance switch.
- → Replace the appliance switch and install it in reverse order.

#### 9.6 Replace the appliance switch key



- ➔ Press the locking tabs together with pliers and, at the same time pull the key out of the housing toward the top.
- → Replace the key with the broken locking tabs.

#### 9.7 Replace the appliance electronics

#### Caution

Risk of damage by electrostatic discharge (ESD)! Prior to the installation, take the appropriate measures to discharge electrostatic charge.



- 1 Turbine (black)
- 2 Power connection (grey)
- 3 Electrodes overflow protection (blue)
- → Pull all connecting plugs off the PCB.



- → Pull the PCB out of the casing toward the top.
- → Replace the circuit board.
- → Connect the new circuit board as per the circuit diagram.

#### 9.8 Replacing the suction turbine



- 1 Supply Cord
- 2 Power switch
- 3 Appliance electronics
- 4 Suction turbine
- 5 Electrodes, overflow protection
- 6 Baffle plate
- 7 Support grid of exhaust channel



→ Remove the turbine holder.

## 9.10 Maintenance jobs on the container





- → Turn the suction air guidance in a clockwise direction to unlock it.
- → Remove the suction air guidance toward the front.

## 9.11 Replacing the steering roller



→ Use an Allen key with ball head to loosen the screws.

## 9.12 Replace the wheel



 $\rightarrow$  Unscrew the screws on both axle bearings.



- → Replace the suction turbine.
- → Check the seal rings for damage.
- → Replace damaged seal rings.
- → Align the suction turbine inside the turbine holders by means of the seal rings during installation.

## 9.9 Replacing the mains cable



- → Unscrew the fastening screws of the traction relief.
- ➔ Disconnect the connecting cable of the mains cable on the appliance electronics and on the appliance switch.
- → Replace the mains cable.



- → Remove the wheel cover. For this, lift the cover using a screwdriver and carefully release it.
- → Remove the safety ring.
- → Remove the wheel from the axle and replace it.

## 9.13 Replace the push handle





→ Carefully knock the accessories container out of the intake.



→ Unscrew the screws of the push bow.



- → The counter parts in the container turn with it; therefore you must steady it.
- → Pull the push handle out of the appliance toward the top.

## 9.14 Replace drain hose.



- 1 Drain hose
- 2 Seal
- 3 Locknut



- → Unscrew the drain hose.
- → Check the gasket for damage.
- ➔ Replace defective seal.

## 10 Maintenance and care

## **△** Danger

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

10.1 Exchanging the flat pleated filter



- → Open filter door.
- → Replace the flat pleated filter.
- → Close the filter door, it must lock into place.

## 10.2 Clean the electrodes overflow prevention.



- $\rightarrow$  Release and remove the suction head.
- → Clean the electrodes.
- → Insert and lock the suction head.

## 11 Troubleshooting

## **∆** Danger

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

## 11.1 Suction turbine does not run

- → Turn on the appliance.
- → Container (in wet vacuuming mode) is full. Empty the container.
- → Check cables, plugs and mains supply.
- → Check/replace the appliance switch.
- → Check/clean the electrode overflow fuse.
- → Check/replace the suction turbine.
- → Check/replace the PCB.

# 11.2 The suction turbine will not switch off during wet vacuum cycles when the container is full.

- → Check/clean the electrode overflow fuse.
- → Check the fluid level with non-conductive fluid. Use the upgrade kit for "non-conductive media".
- → Check/replace the PCB.

## 11.3 Suction turbine turns off

→ Empty the container.

## 11.4 Suction turbine does not start again after the container has been emptied

- → Turn off the appliance and wait for 5 seconds, turn it on again after 5 seconds.
- → Clean the electrodes as well as the space between the electrodes.

#### **11.5 Suction capacity decreases**

- → Remove blockages in the suction nozzle, suction tube, suction hose, or flat pleated filter.
- → Exchange the paper filter bag.
- → Ensure the filter cover properly locks into place.
- → Check suction system to see if there are any leaks/repair leaks.
- → Replace the flat pleated filter.

## 11.6 Dust comes out while vacuuming

- → Check for proper installation of the flat pleated filter.
- → Replace the flat pleated filter.

## 11.7 Automatic shut-off (wet vacuum cleaning) does not react

- → Check/clean the electrode overflow fuse.
- → Continuously check the filling level in case of nonconductive liquid.

## **12 Technical Documentation**

Appliance type	Appliance no.:	Circuit dia- gram	Operating in- structions	Spare parts list	
NT 25/1 AP *EU	1.184-510.0	0.089-359.0	5.963-983.0	5.971-325.0	
NT 35/1 AP *EU	1.184-512.0	0.089-359.0	5.963-983.0	5.971-325.0	
NT 65/2 AP *EU	1.667-235.0	0.088-514.0	5.964-226.0	5.971-491.0	
NT 75/2 AP *EU	1.667-236.0	0.088-514.0	5.964-226.0	5.971-427.0	

## **12.1 Technical specifications**

## 12.1.1NT 25/1 AP / NT 35/1 AP

				NT	25/1 Ap		5/1 Ap Te	NT 35/1	Ар	NT 35/1 Ap Te	
Mains voltage			V	22	0-240	220	)-240	220-24	0	220-240	
Frequency			Hz	5	50/60		0/60	50/60		50/60	
Max. performance			W	1	1380		380	1380		1380	
Rated power			W	1	1200		200	1200		1200	
Container cap	acity		Ι		25			35		35	
Filling quantity	r (liquid)		I		13	13 13				26	
Air volume (ma	ax.)		l/s		61		61	61		61	
Negative pres	sure (max.)		kPa (mbar)	23,	0 (230)	23,0	(230)	23,0 (230)		23,0 (230)	
Power connect tools	tion data of the p	ower	W			100-2200				100-2200	
Type of protect	tion			IP X4		IP X4		IP X4		IP X4	
Protective class				II		I		II		I	
Suction hose connection (C-DN/C-ID)			mm		35	35		35		35	
Length x width x height			mm	510 x 370 x 480		510 x 370 x 480		510 x 370 x 575		510 x 370 x 575	
Weight	Weight				11,0		1,5	11,5		12,0	
Max. ambient	temperature		°C		+40	+40		+40		+40	
Values deterr	nined to EN 603	35-2-6	<b>59</b>								
Sound pressu	re level L <sub>pA</sub>		dB(A)	69		69		69		69	
Uncertainty K <sub>pA</sub>			dB(A)	1		1		1		1	
Hand-arm vibration value			m/s²	<2,5		<2,5		<2,5		<2,5	
Uncertainty K			m/s²	0,2		0,2		0,2		0,2	
Power cord	Power cord H05VV-F 2x1,0 mm <sup>2</sup>			· 	Ар Те	·	Part no	o.: Ca		able length	
Ар	Part no.:		ble length		EUR	6.649-3		385.0 7.5		m	
EUR	6.647-263.0		i m								

Power cord H07RN-F 3x1,5 mm<sup>2</sup>

## 12.1.2NT 65/2 Ap / NT 75/2 AP

					NT	65/2 Ap		NT 75/2 Ap	
Mains voltage			V		22	0-240		220-240	
Frequency			Hz		5	50/60		50/60	
Max. performan	се		W	/	2	2760		2760	
Rated power			W	/	2	2400		2400	
Container capac	1			65	75				
Filling quantity (	liquid)		Ι			48	52		
Air volume (max	(.)		I/s	S	2	x 74		2x 74	
Negative pressu	ire (max.)			Pa nbar)	25,4	4 (254)		25,4 (254)	
Type of protection	on				I	IP X4		IP X4	
Protective class					II		II		
Suction hose co	Suction hose connection (C-DN/C-ID)				40		40		
Length x width x height				ım	567 x -	567 x 482 x 920		700 x 505 x 995	
Weight	Weight				20,0		26,0		
Max. ambient te	mperature		°C		+40		+40		
Values determi	ned to EN 60335-2	2-69							
Sound pressure	level L <sub>pA</sub>		d	B(A)	74		74		
Uncertainty $K_{PA}$			d	B(A)	1		1		
Hand-arm vibrat	m	1/S <sup>2</sup>		<2,5		<2,5			
Uncertainty K				n/S²	0,2		0,2		
Dever eerd					<u>I</u>	6.650-074.0		10 m	
Power cord	H07RN-F 2x1,5			GB		6.650-152.0		10 m	
	Part no.:	Cable length		L					

## 12.2 Special tools

There are no special tools necessary.

## 12.3 Torques

No data.

## 12.4 Circuit diagram

The status of the attached circuit diagram represents the creation date of the service manual. This circuit diagram is not updated. When working on the device, **12.4.1NT 25/1 / NT 35/1**  please always use the current circuit diagram in DISIS.



#### 12.4.2NT 65/2 / NT 75/2



