

REMKO ATK 50-S

*Automatic oil heater
with built-in oil burner,
tank and exhaust gas connection*

Operation · Technology · Spare parts



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Carefully read this operating manual prior to commissioning or using the units!

This manual is an integral part of the unit and must always be kept in the vicinity of the installation location or on the unit itself.

Subject to modifications; no liability accepted for errors or misprints!

Safety notes

Always observe the respective local building code and fire prevention guidelines as well as the guidelines of the accident prevention and insurance associations when using the equipment.

The units have been subjected to extensive material, functional and quality inspections prior to delivery. However, dangers can arise from the units if they are used improperly or not as intended by untrained personnel!

The following notes must be observed in full:

- The power plug must be pulled out of the mains socket before maintenance and repair work
- The units may only be operated by persons that have been instructed in their operation
- The units must be installed and operated in such a way that personnel are not endangered by exhaust and radiant heat and that no fires may occur
- The units must then only be operated in areas where the units can be supplied with an adequate amount of air for combustion
- Without exhaust routing, the units may only be operated in well ventilated spaces. Personnel must not remain in the installation area.
Appropriate prohibition signs must be erected at the entrances!
- Set the units down on a level and non-combustible base
- The units may not be installed or operated in potentially flammable or explosive environments
- The units must not be installed or operated in atmospheres containing oil, sulphur or salt
- A safety zone of 1.5 m must be maintained around the units, incl. to non-combustible items
- The protective grid of the intake must always be kept free of dirt and loose objects
- Never insert foreign objects into the unit
- The units must not be exposed to direct jets of water e.g. **pressure washers, etc.**
- All electrical cables for the units must be protected against damage (e.g. by animals etc.)
- Safety devices must not be bypassed or disabled
- According to its design, permanent, fixed unit installation is not intended for this unit type



Environmental protection and recycling

Disposing of packaging

When disposing of packaging material, please consider our environment.

Our units are carefully packed and delivered in stable transport packaging and, if applicable, on a wooden pallet.

The packaging materials are environmentally friendly and can be recycled.

By recycling packaging materials, you make a valuable contribution to the reduction of waste and conservation of raw materials.

Therefore, only dispose of packaging material at appropriate collection points.

Disposal of the old unit

The manufacturing process for the units is subject to continuous quality control.

Only high-grade materials are processed, the majority of which are recyclable.

You also contribute to environmental protection by ensuring that your old equipment is only disposed of in an environmentally-friendly manner.

Therefore, only take the old unit to an authorised recycling business or to an appropriate collection point.



Unit description

The units are portable, directly fired fan-assisted heaters (WLE) with heat exchanger and exhaust gas connections exclusively for commercial applications.

The units can be directly fired with EL heating oil or diesel fuel and may be operated with or without an exhaust gas duct.

The units are equipped with a 4-part fuel filter system, high-pressure atomisation burner with optical flame monitoring, low-maintenance axial fan, room thermostat socket and mains cable with earthed safety plug in IP 67 design.

The filler cap is equipped with a surge-resistant venting valve. This generates a negative pressure in the fuel tank during operation (slight hissing when opening the filler cap).

The units conform to the fundamental health and safety requirements of the appropriate EU stipulations. The units are reliable and easy to operate.

The units may be used for the following (inter alia):

- Heating tents/marquees
- Spot heating workplaces in open, non-flammable manufacturing facilities and halls
- Temporarily heating enclosed and open spaces
- De-icing machines, vehicles and non-combustible warehoused goods
- Maintaining the temperature of frost-sensitive goods

Operating sequence

The supply air fan switches on once the units are switched on in heating mode or if heat is required (fully automatic unit operation with room thermostat).

The solenoid valve opens the fuel supply to the oil nozzle following burner pre-ventilation.

The fuel atomised under high pressure is enriched with a quantity of oxygen appropriate to the heating capacity and ignited by an electrical spark.

As soon as a flawless flame has been generated, the automatic burner begins optical flame monitoring.

Warm air is blown out after a short period of time.

The automatic burner executes all unit functions fully automatically and ensures reliable monitoring.

In the event of malfunctions or an unstable or extinguished flame, the automatic burner switches the units off.

The unit's fault lamp will light up in this case. The units can only be restarted after manually resetting the automatic burner.

After switching off the units via the operating switch or the room thermostat, the supply air fan runs to cool the combustion chamber for a certain time and then switches off automatically.

Depending on the heat requirement, the operating sequence described is repeated fully automatically when in thermostat mode.

Safety temperature limiter (STB)

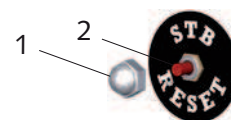
The heating function is permanently interrupted by the safety temperature limiter (STB) in the event of the units overheating or malfunctioning. In the event that the STB is triggered, a fault shutdown of the automatic burner occurs. A manual reset of the STB can only be implemented after the units have cooled down.

⚠ ATTENTION

If the safety temperature limiter has been triggered, the cause of the malfunction must be identified and rectified before a reset is performed.

The resetting of the STB is implemented by actuating the reset key 2.

1. Unscrew the protective cap 1.



2. Carefully press in the reset key 2 with a suitable tool.
3. Screw the protective cap 1 back on again.
4. Reset the automatic burner.

💡 NOTE

In order to prevent a renewed exceedance of the triggering temperature the operating conditions of the unit should be checked before resetting the STB.

⚠ ATTENTION

Safety devices must not be bypassed or disabled.

Installation instructions

The safety regulations of the accident prevention and insurance associations, the respective regional building regulations and the combustion appliances regulations apply to operation of the unit.

NOTE

Overpressure and underpressure in the installation area should be avoided as this will inevitably lead to combustion-related faults.

- Ensure that there is an adequate fresh air supply appropriate to the respective forced-air burner capacity (see name plate)

Outdoor installation

- Operation of the units must not present a hazard or unreasonable loading
- The unit operator must ensure that it is impossible for unauthorised persons to manipulate either the unit or the power supply
- To prevent damage due to inclement weather, units installed outdoors must be adequately protected

NOTE

The burner setting must be checked after every change of location and adapted to the new environmental conditions and atmospheric conditions if necessary.

Installation in enclosed, well ventilated areas without exhaust gas connection

- Operation of the units is permissible only if the minimum air quantity for combustion is supplied
- Reliable extraction of the combustion gases must be guaranteed in all cases in order to exclude impermissible contamination of the room air with hazardous substances
**Fresh air is fed from below.
Exhaust gases are routed upwards**

Room heating

- The units may only be operated for room heating with a room thermostat (accessories)
- The fresh air supply required for trouble-free combustion must be ensured. It is practical to have the fresh air supply provided by windows and doors or through appropriately dimensioned openings in the outside wall

ATTENTION

The units must only be installed in well ventilated spaces and not in living areas or similar recreational areas.

NOTE

For optimum operation the units should not be operated above an ambient temperature of 25 °C.

Safety distances

- In order to guarantee safe operation and maintenance of the units, a 1.5 m safety distance must be maintained around the unit
- Flooring and ceilings must be fire retardant
- Intake and outlet diameters must not be narrowed or blocked with foreign objects

Electrical wiring

- The units are operated with 230 V/50 Hz alternating current 
- The electrical connection is made using a built-in mains cable with earthed safety plug
- Extensions to the cable may only be carried out by authorised electricians, subject to the length of the cable, connected load of the unit and taking into consideration how the unit is used at its location

NOTE

The electrical connection for the units must be made at a separate feed point with a residual current device in accordance with VDE 0100, Section 55.

ATTENTION

In the event that the units are operated through a power generator, the generator must be properly grounded.

Exhaust gas routing

It is also possible to operate the units outdoors or in open spaces without exhaust routing. **We always recommend fitting an exhaust gas duct with a rain hood on top in order to rule out the ingress of rain water and dirt.**



- The minimum distance of 0.6 m to combustible parts must be met



NOTE

There must be no counter pressure arising from incorrect installation of the exhaust gas routing under any circumstances.

Notes for implementing the 1st. BImSchV

Units that are not expected to be operated for longer than 3 months in the same location are not subject to any approvals or monitoring as per the 1st. BImSchV.

Transport

The units can be transport in their normal operating position or in a vertical position to save space. Proceed as follows for a vertical position:

1. Secure the exhaust gas duct in its designated position with the belts.



2. Check the level of the fuel tank. The maximum capacity of 45 litres must not be exceeded (see sticker on side).



3. Tip the unit towards the outlet side and align on the 4 rubber buffers.



4. In this position, the unit can only be secured to the surrounding tubular frame for transport using suitable attachment material.



NOTE

The unit may only be loaded when cooled.

Commissioning

The units must be checked for visible defects on the operating and safety devices as well as proper installation and correct electrical wiring before commissioning.

One person, who has been adequately trained in the handling of the units, must be tasked with operation and monitoring of the units.

⚠ ATTENTION

In the event of defects that endanger the operational safety of the units, operation of the units must be discontinued immediately and the supervisor informed!

- The units must be installed to be stable in a horizontal position
- Ensure there is an adequate supply of combustion air
- Check that the inlet and outlet are free
- Prevent overpressure and underpressure in the installation area
- The fuel supply must be ensured with suitable fuel
- The fuel tank may only be filled when the unit is switched off.
Do not use biodiesel!
- Use only clean and suitable tanks for filling

💡 NOTE

The exhaust gas values must be checked and/or adjusted by authorised and qualified technicians according to the local conditions.

Paraffin formation with low outside temperatures.

Even at low temperatures, an adequate supply of flowing heating oil must be ensured.

- The in-built fuel pre-heating [①] is activated only when the power plug is connected to a functional mains socket and the ambient temperature is lower than 10°C
- It is not possible to rectify paraffin separation that has already occurred with the heating. If paraffin has already formed it is necessary to clean out the complete fuel system

💡 NOTE

Paraffin formation can start at temperatures below 5°C. To avoid this appropriate preventative measures must be implemented, e.g. winter Diesel.

Fuel filter

The fuel filter [②] must be checked for dirt or paraffin formation before the unit is started.



💡 NOTE

Only suitable and clean fuels may be used.

Connecting the units to the electrical power supply

1. Move the operating switch to the "0" (Off) position.



2. Connect the power plug to a properly installed and appropriately safeguarded **230 V/50 Hz** mains socket.



💡 NOTE

The electrical connection for the units must be made at a separate feed point with a residual current device in accordance with VDE 0100, Section 55.

Ventilation only operation

In this switch position, the supply air fan runs permanently. The units can be used for air recirculation or ventilation purposes.

1. Check the content of the fuel tank.
2. Move the operating switch to the "II" (Ventilate) position.



Thermostatic regulation and heating operation are not possible in this operating mode.

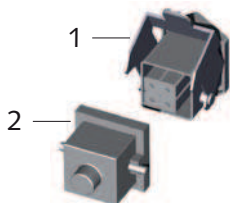
⚠ ATTENTION

In this operating mode, the fuel tank must always be filled with a basic quantity of heating oil. There is no warranty claim for pump damage due to dry running!

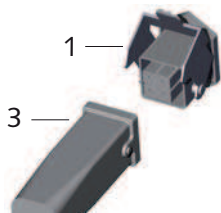
Heating with room thermostat

The units operate fully automatically and according to the room temperature.

1. Pull out the strapping plug [2].



2. Connect the room thermostat plug [3] to the thermostat socket [1] on the unit.



3. Place the room thermostat at a suitable location in the room. The thermostat sensor must not be located directly in the warm air flow and must not be placed directly on the cold floor.

4. Set the desired room temperature on the room thermostat.

5. Move the operating switch to the "I" (Heating) position.

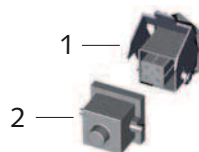


The unit starts automatically after a brief burner pre-ventilation if heat is required and then runs fully automatically.

Heating without room thermostat

The units operate in permanent operating mode.

1. Connect the supplied strapping plug [2] to the thermostat socket [1] on the unit.



2. Move the operating switch to the "I" (Heating) position.



Shutdown

1. Move the operating switch to the "0" (Off) position.



The supply air fan runs to cool the combustion chamber and switches off independently. The fan can switch on and run several times before the final shutdown!

2. With longer periods of inactivity, disconnect the units from the mains power supply.



⚠ ATTENTION

Never interrupt the power supply prior to the completion of the follow-up cooling phase. There is no warranty claim for damage to the units from overheating.

Care and maintenance

Regular care and observation of some basic requirements will ensure trouble-free operation and a long service life of the units. The units, including combustion chamber and burner, must be cleared of soot deposits, dust and dirt after every heating period or according to the operating conditions.

The oil filters must be cleaned and/or replaced at least once annually or more frequently according to the contamination of the fuel.

⚠ ATTENTION

Before undertaking any work on the units, the power plug must be removed from the mains socket. There is an acute risk of injury from automatic fan switch-on, especially when the unit enclosure is opened.

💡 NOTE

Adjustment and maintenance work may only be carried out by authorised and qualified technicians.

- Keep the units free of dust and other debris
- Only clean the units with a dry or moistened cloth
- Never subject to direct jets of water.
such as a high-pressure cleaner etc.
- Never use abrasive or solvent-based cleaners
- Use only suitable cleaners, even for heavy contamination



- Use only clean EL heating oil or diesel fuel. **Beware of paraffin formation!**

- Keep the burner head clean

- Wear parts such as the oil nozzle and seals must be checked regularly and replaced if necessary. **The oil nozzle must be replaced before the start of each heating season!**

- Depending on its condition, the fuel filter must be replaced before each heating season. **Note the direction of flow!**

- Check that the safety devices are operating correctly at regular intervals

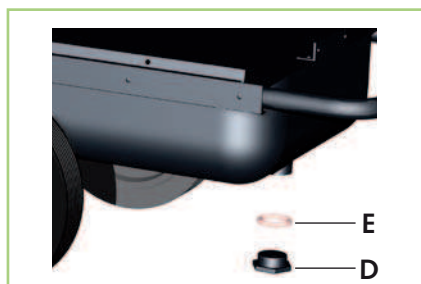
- In the event of diminishing heat capacity, smoke formation and/or poor ignition, perform a unit and burner inspection

Cleaning the fuel tank

The fuel tank must be cleaned:

- After each heating period or earlier according to the operating conditions
- Before and after extended periods out of operation
- In the event of frequent contamination of the fuel filter
- In the event of condensate formation in the fuel
- Following paraffin precipitation in the fuel tank

Proceed as follows to clean the fuel tank:



1. Unscrew the drain screw [D] and drain the remaining (old) fuel into a suitable container.

2. Rinse the fuel tank thoroughly with clean heating oil or other suitable agent (several times if necessary).

Do not use water for rinsing!

3. Do not use solvent-based cleaners.

This can damage the internal coating of the fuel tank!

4. Avoid the use of pressure washers.

5. After cleaning, replace the drain screw [D].

The sealing ring [E] must be replaced on each occasion!

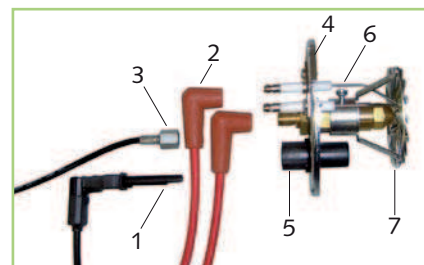
6. The fuel tank must be filled with clean heating oil or diesel fuel.

Do not use biodiesel!

7. Start the unit and run for approx. 5 min.

Maintaining the burner

Clean the burner components as described:



1. Remove the photocell [1] from its mounting [5].

2. Disconnect the ignition cable [2].

3. Remove the union nut [3] of the oil pressure line from the nozzle mounting. **Beware of dripping fuel!**

4. Remove the locking screw from the mounting plate [4] and, by turning the plate [4] slightly in an anti-clockwise direction, remove the burner from the burner pipe.

5. Clean the ignition electrodes [6], baffle plate [7] and photocell mounting [5].

6. Position the ignition electrodes [6] in accordance with reference values.

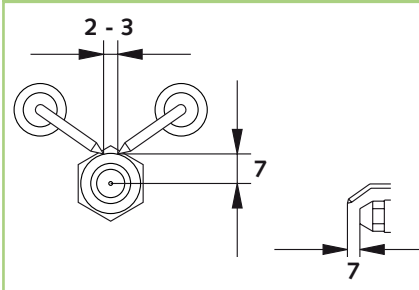
7. Following maintenance work, refit all parts carefully in reverse order.



NOTE

When positioning the baffle plate [7], always ensure that the aperture [5] is not obscured by a strut on the plate.

Setting the ignition electrodes



All sizes are approximate values and are in mm.

The optimum setting must be adapted to the unit-specific conditions.



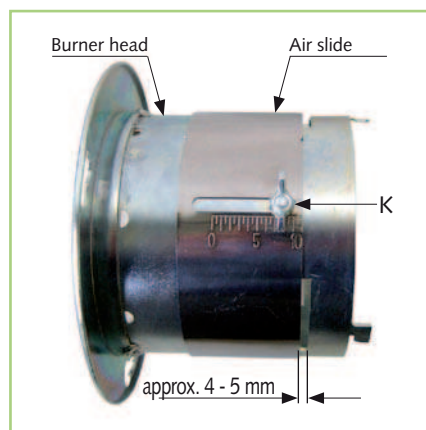
NOTE

Use only suitable tools to remove the oil nozzle and use the nozzle mounting for resistance!

Setting the air slide

The air slide is factory set. The combustion air may only be adjusted to the unit-specific or local conditions by an authorised and qualified technician.

After loosening the clamping screw [K], the air slide is fine adjusted by means of exhaust gas measurement.



CO₂ value: approx. 11 - 12%;
Soot level: 0 - 1 in acc. with Bacharach

Setting the pump pressure

The pump pressure may only be set and/or modified when a suitable oil pressure gauge is connected to the connection [P]. The pump pressure is modified by turning the pressure adjustment screw [A]:

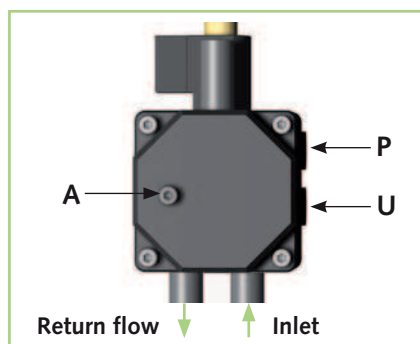
Clockwise:

Increase pressure

Anti-clockwise:

Decrease pressure

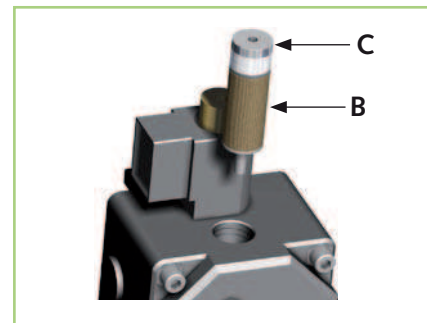
The pump pressure is determined according to the heating capacity of the unit and the size of the nozzle.



Cleaning the cartridge filter

Clean the cartridge filter [B] of the fuel pump at regular intervals and/or replace as necessary.

1. Turn the stopper [C] upwards out of the pump using a hexagon wrench.
2. Carefully remove the cartridge filter [B] from the stopper.
3. Clean and/or replace the cartridge filter [B].
4. Push the filter back onto the stopper and screw both back into the pump.



⚠ ATTENTION

Never let the pump run for extended periods without any fuel. Never leave the units for extended periods with a pump that has run dry.

Exhaust gas analysis

To perform the exhaust gas analysis, the exhaust gas measuring instrument probe must be placed in the centre of the heat exchanger pipe port.

Fig. Exhaust gas connection



The measurement may also be performed in an exhaust gas duct. For this, a corresponding measurement aperture must be created in the duct at a distance of approx. 300 mm behind the unit port.

Notes for implementing the 1st. BlmSchV

Units that are not expected to be operated for longer than 3 months in the same location are not subject to any approvals or monitoring as per the 1st. BlmSchV.

This exploded view diagram illustrates the assembly of a mechanical unit, likely a pump or motor housing. The main components are shown in their relative positions, with individual parts numbered for identification. The diagram includes three callout boxes: 'A' (bottom right), 'B' (top right), and '70' (bottom left).

Callout A (Bottom Right): Shows a detailed view of a mounting bracket assembly. It includes a main bracket (101), a mounting plate (102), and various fasteners (103, 104, 105) used to secure it to a surface.

Callout B (Top Right): Shows a detailed view of a shaft and pulley assembly. It includes a shaft (58), a pulley (56), and various fasteners (57, 59, 60, 61, 62, 63, 64) used to assemble the drive mechanism.

Callout 70 (Bottom Left): Shows a detailed view of a mounting bracket assembly. It includes a main bracket (71), a mounting plate (72), and various fasteners (73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90) used to secure it to a surface.

Main Assembly Components:

- Motor/Housing (1):** The central component, showing the motor housing and internal components.
- Shaft and Pulley (28):** The drive shaft and pulley assembly, shown in its relative position to the motor housing.
- Mounting Brackets (71, 101):** The main mounting brackets used to secure the unit to a surface.
- Fasteners (103, 104, 105):** Various screws, bolts, and nuts used to assemble the unit.
- Other Components:** Various other parts are shown, including a fan (39), a pulley (31), and various fasteners (111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815

Spare parts list

No.	Designation	EDP no.
01	Fuel tank	1103965
11	Carrier housing	1103966
15	OV mounting	1103967
18	Steel tubular frame	1103968
19	Locking ring	1101622
20	Hubcap	1101623
22	Oil pre-heater	1103969
23	Housing lower section	1103970
24	Axle support bracket	1103971
27	Axle	1103972
28	Wheel	1101621
29	Stand	1103973
30	Stabiliser	1103974
31	Intake connection port	1103975
32	Cover	1103976
34	Inspection cover	1103977
35	Rubber buffer	1103978
39	Fan housing	1103980
40	STB support bracket	1103981
41	Cable gland	1103982
42	Counter nut	1103983
50	Combustion chamber compl.	1103984
52	Burner pipe	1103985
53	Safety connector	1111680
54	Air slide	1103729
56	Mounting plate	1103731
57	Ignition electrode	1103986
58	Nozzle mounting	1103987
59	Nut M14	1107134
60	Baffle plate	1103730
61	Photocell mounting	1111676
62	Oil nozzle (1.0/80° W)	1103988
63	Photocell	1108209
64	Oil pressure line (flex)	1111673
69	Aftercooler thermostat	1107182
70	Electrical assembly compl.	1109953
76	PG plate	1102533
77	Ignition transformer	1107143
79	Thermostat socket	1101018
80	Strapping plug	1101019

No.	Designation	EDP no.
81	Terminal strip	1103781
82	Mounting	1103782
83	Auxiliary relay	1107375
84	O-ring	1103783
85	Ignition cable	1107137
88	6 A fuse	1103785
89	Mains cable with IP 67 plug	1109942
90	Safety temperature limiter	1103711
92	Tank cap with valve	1102166
95	Oil intake pipe	1103990
96	Bolted connection 1/4" M12 x 1.75	1103991
97	Air-inlet grille	1103992
98	Fan blade	1103993
99	Fan motor compl.	1103994
100	Condenser	1103995
101	Solenoid	1103766
102	Fuel pump compl.	1109946
103	Pump coupling	1102936
104	Connection nipple 1/4"	1111674
105	Connection nipple 1/8"	1111672
111	Fuel filter (one-way)	1102146
112	Hose connection port 350 Ø	1103997
113	Insulation	1103998
114	STB fastening clip	1103999
116	Hose clip	1103762
117	Oil hose flex.	1104000
118	Oil hose flex.	1104001
119	Connection nipple 1/4"	1111674
121	Oil hose flex.	1104002
122	Outlet nozzle	1103989
123	Mounting bracket for exhaust gas duct	1104003
124	Oil drain screw	1103778
125	Sealing ring	1103777
126	Hose clip	1107141
127	Bolted connection	1102146-4
Without figure:		
	Thermostat plug	1101020
	Cartridge filter for oil pump	1102088
	Connection cable for MV	1102825
	Fastening strap for exhaust gas duct	1000960

Troubleshooting

Malfunctions

- The supply air fan does not start.
- The supply air fan runs but the burner does not ignite.
The unit malfunctions without generating a flame.
- The unit switches off during operation.
(The fault lamp in the automatic burner lights up)
- Smoke formation during operation.
- The unit does not switch off in operating switch position "0".

Cause:

- 2 – 3 – 4 – 6 – 7 – 8 – 25
- 1 – 5 – 6 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17
20 – 21 – 23 – 24 – 26
- 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 13 – 15 – 16 – 17
19 – 20 – 21 – 22 – 23 – 24 – 26
- 7 – 10 – 11 – 13 – 15 – 17 – 19 – 21 – 22 – 24
- 18 – 25

ATTENTION

Repair work on the electrical installation and on the burner must be performed exclusively by authorised specialists for safety reasons.

Cause:

1. Air in fuel system during start-up.
2. The unit is not connected to the electricity supply.
3. No plug in the thermostat socket.
4. The room thermostat is set too low.
5. The fault lamp in the automatic burner lights up.
6. Malfunction in the automatic burner.
7. The motor is overloaded.
(The fan runs irregularly or is blocked)
8. The fuel pump is blocked.
9. The fuel tank is empty.
10. The fuel filter is contaminated.
11. The nozzle is blocked or of the wrong size.
12. The electrodes are incorrectly set, the insulation has cracked.
13. The air slide of the burner head has moved or is contaminated.
14. The solenoid valve does not open.
15. The pump pressure is improperly set.
16. The pump coupling is faulty.
17. Leak in the intake line or fuel filter.
18. The solenoid valve does not close.
19. The protection grid on the supply air fan is contaminated.
20. Shutdown by safety temperature limiter (STB).
21. Air bubbles in fuel system.
22. Insufficient ventilation.
23. The photocell is contaminated or faulty.
24. Improper exhaust gas routing.
25. Operating switch malfunction.
26. Paraffin precipitation in the heating oil.

Remedial measures:

- Press the fault key of the automatic burner.
Repeat if necessary (max. 3 times).
- Check the power plug, mains socket and mains voltage.
- Connect the thermostat/strapping plug to the thermostat socket.
- Set the room thermostat higher than room temperature.
- Reset the automatic burner by pressing the malfunction button.
- Replace the automatic burner.
- Allow the motor to cool.
Check the smooth running of the fuel pump.
Check the electrical and mechanical functioning of the motor.
- Check the fuel pump and replace if necessary.
- Fill the fuel tank with clean EL heating oil or diesel.
- Replace the fuel filter.
- Replace the nozzle (ensure correct type and size)!
- Adjust and replace if necessary.
- Adjust using CO₂ indicator and soot pump.
(CO₂: 11 - 12%, soot level in acc. with Bacharach: 0 - 1).
- Check the solenoid valve and replace if necessary.
The STB has triggered or is faulty.
- Replace the pump coupling.
- Replace the pump coupling.
- Check and replace faulty parts if necessary.
- Disconnect the fuel line at the main filter, the flame extinguishes.
- Clean the protection grid.
- Check the intake protection grid and clean if necessary.
Reset the STB and automatic burner.
- Start the unit to discharge the air through the nozzle.
Repeat this procedure up to 3 times if necessary.
- Open door or window.
- Clean the photocell and replace if necessary.
- See chapter "Exhaust gas routing".
- Check the operating switch and replace if necessary.
- Clean the entire burner system.
See also chapter "Commissioning".

Technical data

Series		ATK 50-S
Nominal heat load max.	kW	48
Nominal heat capacity	kW	43.5
Air volume	m ³ /h	2400
Temperature increase Δt	K	70
Fuel	Heating oil EL in accordance with DIN 51603-1 or diesel fuel	
Max. fuel consumption	l/h	4.8
Nozzle (DELAVAN) 80° W	USG	1.0
Pump pressure, approx.	bar	11
Tank capacity	ltr.	45
Power supply 1~	V/Hz	230/50
Elec. current consumption max. ¹⁾	A	4.0
Elec. power consumption max. ¹⁾	kW	0.85
Electrical protection (provided by the customer)	A	10
Sound pressure level L_{pA} 1m ²⁾	dB(A)	74
Exhaust connection Ø	mm	150
Dimensions:	Length	1535
	Width	650
	Height	1005
Weight	kg	102

¹⁾ Unit incl. tank heater

²⁾ Noise measurement in acc. with DIN 43635 - 01 KL 3

Electrical wiring diagram

