Speedking Booth System

Manual P/N 768 642 A
– English –

NORDSON (UK) LIMITED D STOCKPORT D UK

CE

Order number
P/N = Order number for Nordson products

Declaration of Conformity
98/37/EC
73/23/EEC

We,

Nordson (U.K.) Limited

of

Ashurst Drive, Cheadle Heath, Stockport, Cheshire, SK3 0RY, United Kingdom

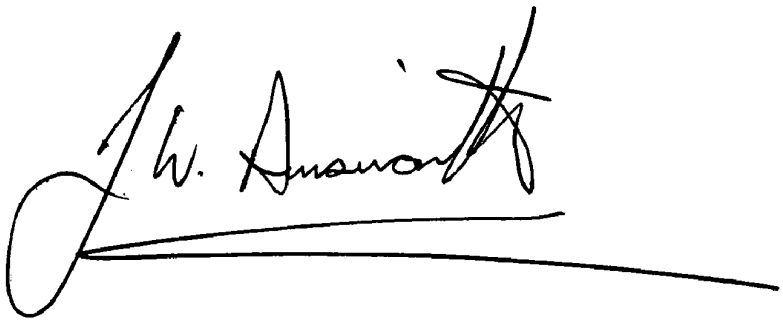
declare that under our sole responsibility for supply/manufacture of the product(s)

Product Name	Speedking Booth System
Model Number(s)	All
Product Options	All

to which this declaration relates, is in conformity with the following standards and other normative documents

Safety	BS EN 60204–1:1993 "Safety of Machinery – Electrical equipment of machines" EN 60335:Part 1:1988 "Safety of household and similar electrical appliances" BS EN 292:1991 "Safety of machinery – Basic concepts, general principles for design"

following the provisions of 98/37/EC and 73/23/EEC Directives



Jim Ainsworth
Engineering Director

Nordson (U.K.) Ltd., 1st January 2002

NB ref EN45014 (BS7514)

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Congratulations on the Purchase of Your Nordson Product

Nordson equipment is engineered and manufactured in accordance with strict specifications, using high quality components and state−of−the−art technologies that assure reliable, long−term performance. Your product was thoroughly tested for proper operation prior to shipment.

Before unpacking and installing your new equipment, please read this manual. It is your guide to safe installation, productive operation and effective maintenance. We recommend that you keep the manual available for future reference.

Your Safety is Important to Nordson

Carefully read the *Safety* section. Your product is designed for safe operation when used according to the published instructions. Potential hazards exist when operating instructions are not followed.

Manufacturer of Equipment

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SK3 0RY

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For a list of local Nordson organisations, see *Nordson International*.

Nordson International

Europe

Country		Phone	Fax
Austria		43-1-707 5521	43-1-707 5517
Belgium		31-13-511 8700	31-13-511 3995
Czech Republic		4205-4159 2411	4205-4124 4971
Denmark	*Hot Melt*	45-43-66 0123	45-43-64 1101
	Finishing	45-43-66 1133	45-43-66 1123
Finland		358-9-530 8080	358-9-530 80850
France		33-1-6412 1400	33-1-6412 1401
Germany	*Erkrath*	49-211-92050	49-211-254 658
	Lüneburg	49-4131-8940	49-4131-894 149
	Düsseldorf - Nordson UV	49-211-3613 169	49-211-3613 527
Italy		39-02-904 691	39-02-9078 2485
Netherlands		31-13-511 8700	31-13-511 3995
Norway	*Hot Melt*	47-23 03 6160	47-22 68 3636
	Finishing	47-22-65 6100	47-22-65 8858
Poland		48-22-836 4495	48-22-836 7042
Portugal		351-22-961 9400	351-22-961 9409
Russia		7-812-11 86 263	7-812-11 86 263
Slovak Republic		4205-4159 2411	4205-4124 4971
Spain		34-96-313 2090	34-96-313 2244
Sweden	*Hot Melt*	46-40-680 1700	46-40-932 882
	Finishing	46 (0) 303 66950	46 (0) 303 66959
Switzerland		41-61-411 3838	41-61-411 3818
United Kingdom	*Hot Melt*	44-1844-26 4500	44-1844-21 5358
	Finishing	44-161-495 4200	44-161-428 6716
	Nordson UV	44-1753-558 000	44-1753-558 100

Distributors in Eastern & Southern Europe

DED, Germany	49-211-92050	49-211-254 658

Outside Europe / Hors d'Europe / Fuera de Europa

- For your nearest Nordson office outside Europe, contact the Nordson offices below for detailed information.
- Pour toutes informations sur représentations de Nordson dans votre pays, veuillez contacter l'un de bureaux ci-dessous.
- Para obtener la dirección de la oficina correspondiente, por favor diríjase a unas de las oficinas principales que siguen abajo.

Contact Nordson		Phone	Fax
Africa / Middle East			
DED, Germany		49-211-92050	49-211-254 658
Asia / Australia / Latin America			
Pacific South Division, USA		1-440-988-9411	1-440-985-3710
Japan			
Japan		81-3-5762 2700	81-3-5762 2701
North America			
Canada		1-905-475 6730	1-905-475 8821
USA	*Hot Melt*	1-770-497 3400	1-770-497 3500
	Finishing	1-440-988 9411	1-440-985 1417
	Nordson UV	1-440-985 4592	1-440-985 4593

Section 1

Safety

Section 1
Safety

1. Introduction

Read and follow these safety instructions. Task and equipment specific warnings, cautions, and instructions are included in equipment documentation where appropriate.

Make sure all equipment documentation, including these instructions, is accessible to all persons operating or servicing equipment.

2. Qualified Personnel

Equipment owners are responsible for making sure that Nordson equipment is installed, operated, and serviced by qualified personnel. Qualified personnel are those employees or contractors who are trained to safely perform their assigned tasks. They are familiar with all relevant safety rules and regulations and are physically capable of performing their assigned tasks.

3. Intended Use

Use of Nordson equipment in ways other than those described in the documentation supplied with the equipment may result in injury to persons or damage to property.

Some examples of unintended use of equipment include

- using incompatible materials
- making unauthorized modifications
- removing or bypassing safety guards or interlocks
- using incompatible or damaged parts
- using unapproved auxiliary equipment
- operating equipment in excess of maximum ratings

4. Regulations and Approvals

Make sure all equipment is rated and approved for the environment in which it is used. Any approvals obtained for Nordson equipment will be voided if instructions for installation, operation, and service are not followed.

5. Personal Safety

To prevent injury follow these instructions.

- Do not operate or service equipment unless you are qualified.
- Do not operate equipment unless safety guards, doors, or covers are intact and automatic interlocks are operating properly. Do not bypass or disarm any safety devices.
- Keep clear of moving equipment. Before adjusting or servicing any moving equipment, shut off the power supply and wait until the equipment comes to a complete stop. Lock out power and secure the equipment to prevent unexpected movement.
- Relieve (bleed off) hydraulic and pneumatic pressure before adjusting or servicing pressurized systems or components. Disconnect, lock out, and tag switches before servicing electrical equipment.
- While operating manual electrostatic spray guns, make sure you are grounded. Wear electrically conductive gloves or a grounding strap connected to the gun handle or other true earth ground. Do not wear or carry metallic objects such as jewelry or tools.
- If you receive even a slight electrical shock, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.
- Obtain and read Material Safety Data Sheets (MSDS) for all materials used. Follow the manufacturer's instructions for safe handling and use of materials, and use recommended personal protection devices.
- To prevent injury, be aware of less-obvious dangers in the workplace that often cannot be completely eliminated, such as hot surfaces, sharp edges, energized electrical circuits, and moving parts that cannot be enclosed or otherwise guarded for practical reasons.

6. Fire Safety

To avoid a fire or explosion, follow these instructions.

- Ground all conductive equipment in the spray area. Check equipment and workpiece grounding devices regularly. Resistance to ground must not exceed one mega–ohm.
- Shut down all equipment immediately if you notice static sparking or arcing. Do not restart the equipment until the cause has been identified and corrected.
- Do not smoke, weld, grind, or use open flames where flammable materials are being used or stored.
- Provide adequate ventilation to prevent dangerous concentrations of volatile materials or vapors. Refer to local codes or your material MSDS for guidance.
- Do not disconnect live electrical circuits while working with flammable materials. Shut off power at a disconnect switch first to prevent sparking.
- Know where emergency stop buttons, shutoff valves, and fire extinguishers are located. If a fire starts in a spray booth, immediately shut off the spray system and exhaust fans.
- Shut off electrostatic power and ground the charging system before adjusting, cleaning, or repairing electrostatic equipment.
- Clean, maintain, test, and repair equipment according to the instructions in your equipment documentation.
- Use only replacement parts that are designed for use with original equipment. Contact your Nordson representative for parts information and advice.

7. Action in the Event of a Malfunction

If a system or any equipment in a system malfunctions, shut off the system immediately and perform the following steps:

- Disconnect and lock out electrical power. Close pneumatic shutoff valves and relieve pressures.
- Identify the reason for the malfunction and correct it before restarting the equipment.

8. Disposal

Dispose of equipment and materials used in operation and servicing according to local codes.

Section 2

Description

Section 2
Description

1. Intended Use

The “Speedking booth system” is a powder spray booth designed to be self cleaning to achieve rapid and certain colour change.

2. Functional Principle

The Speedking has been designed for fast, high quality colour change. The special sandwich structure of the booth and the electrical non-conducting synthetic material ensures consistant quality of the cleaning processes, in the shortest amount of time. The objects to be coated run through the coating booth on a overhead conveyor system. The booth and recovery system are designed to take into account the size of the parts to be coated and the configuration of the guns required to coat the product.

The air is drawn through the exhaust slot in the base of the booth through the ductwork to the cyclone, where the majority of powder is separated from the airstream by the centrifugal forces. Clean air is ducted to the Afterfilter where reverse jet cleaned filters clean the air to a high enough level whereby the air may be returned to the workshop.

Powder concentrated by the cyclone is filtered by the sieve then collects in a surge hopper, from which the powder is transported to the Powder Feed Centre for re−use.

Automatic cleaning of the booth side walls, floor and roof is achieved by the cleaning frame, which passes through the booth. On entry air nozzles blow the powder off the canopy. On it’s return the cleaning frame clamps damp sponges onto the canopy to wipe off any remaining powder.

Section 3

Installation

Section 3
Installation

WARNING: Allow only qualified personnel to perform the following tasks. Observe and follow the safety instructions in this document and all other related documentation.

1. Transport

Transport the unit so as to avoid damage. Use suitable packaging materials and sturdy cartons.

Protect the unit from exposure to humidity, dust and vibrations.

2. Unpacking

Carefully unpack the unit to avoid damaging it. Check for damage caused during transport.

Save packing materials for possible later use. Otherwise recycle or dispose of properly according to local regulations.

3. Removing

Switch off the mains supply, then disconnect all electrical connections from the unit.

4. Storage

Pack the unit in suitable packing materials and sturdy cartons. Protect from humidity, dust and large temperature fluctuations (condensation).

5. Disposal

Dispose of properly according to local regulations.

6. Electrical

WARNING: Allow only qualified personnel to perform electrical connections.

A single supply cable is required to the control panel. The supply should be fed from a suitable disconnect device. Introduce the cable into the panel using an IP6X cable gland. Ensure that all the electrical wires are suitably sized for the fan motor loading and adequate fuse/circuit protection is provided at the source of supply.

On starting the fan motor, check for correct rotation, normally clockwise looking at the motor from the impeller end, (air is pushed out of the exhaust on the fan scroll). Do this by starting and immediately stopping the fan motor. Proper fan rotation is extremely important. With the fan running in the wrong direction, it will deliver approximately 40% of its rated air volume. Correct by reversing any two leads on the load side of the fan motor starter.

7. Pneumatic

Before operating the system, ensure that the air supply has reached a suitable quality and that air has been drawn off the system through a drain leg. This will ensure that any materials left in the line during installation do not enter the system.

8. Setting Up the Unit

WARNING: Allow only qualified personnel to perform the installation. Observe safety instructions.

Site Preparation

NOTE: Installation of the Speedking should not be undertaken without the presence of a Nordson representative or a suitably qualified person.

- Prepare the site in accordance with drawings supplied by Nordson. Typically, but not in all cases, this would include the digging of a pit.
- Seal concrete floors with a suitable material to avoid dust. Other floor surfaces should be of a type that is easy to keep clean.

Section 4

Operation

Section 4
Operation

WARNING: Allow only qualified personnel to perform the following tasks. Observe and follow the safety instructions in this document and all other related documentation.

1. Operation Procedure

When switching on the booth, the cartridge cleaning procedure in the after-filter is set into operation by a control module. The fan switches on after a pre-adjusted time, thus, the peripheral equipment (application eqipment, powder feed centre, etc.) are ready for operation.

All operational functions in the control panel are now activated and may be operated.

The coating process can begin. It will only be interrupted if the fan motor shows a malfunction. Other malfunctions are indicated by a sounding of the alarm or by a flashing of the signal lamp on the control panel.

The exhaust efficiency of the filter is maintained by an automatic, periodical cleaning (time may be adjusted).

The booth control has an emergency shutdown. When releasing this function during the coating process, the booth and all locked installation parts are switched off. After having removed the failure, the installation may be put into operation again.

When releasing the emergency shutdown during a cleaning cycle, the program will be interrupted and reset to 0. The cleaning frame has then always to be re-positioned manually to the starting position (see 5. „Putting into operation“).

CAUTION: This process has to be carried out with care or perminant damage may result.

2. Initial Starting-Up

WARNING: Before starting-up:It is forbidden to operate the installation without instructions and starting-up operation training by the manufacturer!

- Read safety instructions (see section Safety).
- The booth area has to be free of objects (working pieces, supports, guns, etc.)
- All Speedking installation components have to be connected according to the electric and pneumatic scheme.
- All periferal equipment should be pre commisioned, for example: Application equipment, conveyor, extinguishing equipment etc. must be ensured.
- The complete installation parameters have to be entered in the putting into operation.

Mains On (4S3)

Close Isolator (453) and the installation is ready for operation.

Switching on the Installation at the Operation Panel in the Fluid King

OP7 → A ***ON***

- The fan(s) start. If all the fan(s) are in operation and the operation panel indicators turns green, the periphery equipment are ready for operation.
- The automatic filter cleaning system is activated (operating instr. Scheuch 320-001-907.01.a).
- The booth light and the Fluidking light are switched on.

Switching off the Installation

OP7 → booth B → ***OFF***

All functions mentioned under 6.2 are switched off. This control ensures that the ventilation is OK.

NOTE: Designations A to G Operating and message sequence QF 1 page 4–9

Booth Control and Cleaning Device during Manual Operation

Manual operation

OP7 → A ***ON*** → B O.S. → C MAN

Door actuation control

OP7 → INLET DOORS ABOVE C5 ***UP*** → INLET DOORS DOWN C6 ***UP***

OUTLET DOORS ABOVE C3 **UP** → OUTLET DOORS DOWN C7 **UP**

When opening the door, the automatic door blow-off device is actuated before the door reaches the end position.

Re-entering the sponge

OP7 → A ***ON*** → B O.S. → C MAN → SPONGE C8 ***OUT***

Re-entering into the booth

OP7 → A ***ON*** → B O.S. → C MAN → C4 ***FOR****:*

- Moving motions may only be executed if all doors are open.
- If pressing *Forward/Backward* the movement shows a retarded motion (movement carriage locking). The sponge fixing (supporting strap) is automatically set to the *inner position*. The button has to be pushed as long as the cleaning mechanism has reached the end position.

Extracting from the booth into the opposite direction

OP7 → A ***ON*** → B O.S. → C MAN → C4 ***RET***

NOTE: Set to manual operation until 0 increments. This position corresponds to the sarting position and has therefore to reach the end position switch.

NOTE: Designations A to G Operating and message sequence QF 1 page 4–9

2. Initial Starting-Up (contd.)

Automatic Operation of the Speedking Booth

Main Isolator switch

ON (4S3)

Switch on installation at operation panel

OP7 → A **ON**

S The inlet doors are opened, the outlet doors are closed. Before the process starts, dislodge any major accumilations of powder with a compressed air lance, in this way the majority of the powder will be recycled by the end of the automatic cleaning cycle.

Automatic Speedking booth Cleaning

Switch on booth cleaning

OP7 → C **ON**

S The locking mechanism is extended. The sponge fixing (supporting strap) is automatically set into the *inner position*. The cleaning mechanism is starting. The blow-off ring starts blowing the booth. The air is shut down at the gun gaps and other wall opening areas.

S When the cleaning frame is extended enough far into the cabin, the inlet doors close (enhanced exhaust efficiency).

S The cleaning frame stops in the waiting position in front of the outlet doors.

S The outlet doors open.

S The cleaning mechanism moves until it reaches the return position just outside of the booth.

S The wall, the key and the tube sponges are then pressed against the booth as the cleaning frame returns.

NOTE: Designations A to G Operating and message sequence QF 1 page 4−9

- The sponge ring is the automatic gun slots and manual openings.
- When reaching the end of the booth, the sponges are lifted and pulled out of the exhaust duct.
- When the cleaning procedure is finished and the starting position reached, the carriage lock is released and the sponges are extended to working position.
- The inlet doors and the outlet doors are automatically set into the predeterminded working position.

3. Briefly: What's Important

Before Switching on

Observe the safety instructions (see section *Safety*) before switching on the installation.

Switching on the Booth

- Switch on mains 4S3.
- Press function key F2 on operation panel.
- Fans are turning, lighting is on).
- Doors move automatically to *last operation position.*
- Key F3 allows to enter another door position. The booth is ready for operation after completion of the start-up phase (approx. 30 seconds). The electrostatic application equipment is then powered up.

Switching off the Booth

- Press function key F on operation panel OP7 to switch the system off. The mains switch 4S3 should only be turned off for repairs and maintenance work.

4. Colour Change Procedure

Pre Colour Change Preparation

The cleaned sponge has to be fitted onto the cleaning frame before the production of the current colour ceases. The V-floor of the booth should be pre-cleaned with the compressed-air lance by the operator.

Cleaning Processes

The cleaning process is activated as soon as the last work pieces leaves the booth area. The required instructions have to be entered at the operation panel OP7.

Cleaning procedure Powder Feed Centre

- Set back the operation selection key Light/Dark and activate the intermediate rinsing. The pump arms raise and the powder container locking opens. The original powder container is removed and the recirculation tube is connected to it, so that the residual quantity of powder may be recovered. After that, the cleaning of the suction unit begins.
- Push operation section key ON, the pump arms then lower into the blow off nozzles and pulses of compressed air clean the syphon tubes, pump, powder hosses and gun internals.
- Next the guns are cleaned extenally, the Z–Axis positioner moves the guns fully into the booth and the air nozzles clean the guns as they are withdrawn from the booth.

Cleaning procedure Speedking

- Push operation selection key Booth Cleaning ***ON***. The inlet doors open and the cleaning frame moves into the booth. At the same time, the residual powder which still adheres to the booth wall is blown off by the air nozzles on the cleaning frame. After having reached the booth end, the slightly damp sponges are pressed against the inner booth wall, so that fine cleaning is achieved. When reaching the start point, the doors are moved automatically to the coating position.
- Push operation selection key Powder Pump Cleaning ***ON***. During the sponge cleaning operation, the powder recycle tube is connected onto the blow-off manifold and is purge cleaned. After that, cleaning of the cyclone and of the sieve is carried out. The sieve is pivoted out of it's working position for cleaning. The cyclone surge hopper has to be re cleaned with compressed air lance by manually by the operator.

4. Colour Change Procedure (contd.)

Prepare new Job

After the cleaning process is finished, a new powder container may be placed into the Powder Feed Centre. By selection of the desired color group on the operation panel (light/dark), the next production may be executed.

5. Control Devices

Display and Input at Operation Panel 7 (OP7)

Input options and mode selection	
Installation ON	A ON
Setup	A Setup
Second control	A <<
Powder feed light	B BRI
Powder feed dark	B DAR
Booth off	B OFF
Manual operation selection	C MAN
Manual doors operation	C N/W
Clean booth	C ON
Powder container clamps	D CLO
Clean Fluidking	D ON
Clean pinch valves	D1 ON
Clean Fluidking cardridges	D1 FILT/ON
Hose flushing light	D1 HF ON
Hose flushing dark	D1 HF ON

Fault message with operation shutdown
Main circuit 1
Fan 1
Fan 2
Emergency shutdown box
Emergency shutdown powder center
Fire protection
Fault message without operation shutdown
Cleaning frame motor
Fluidking
Vibrator cyclone
Washing machine
ESTA
Fan Fluidking

Putting in Operation Data

System data may only be entered or modified by Nordson-trained personnel.

Initial data will be listed in the commissioning report.

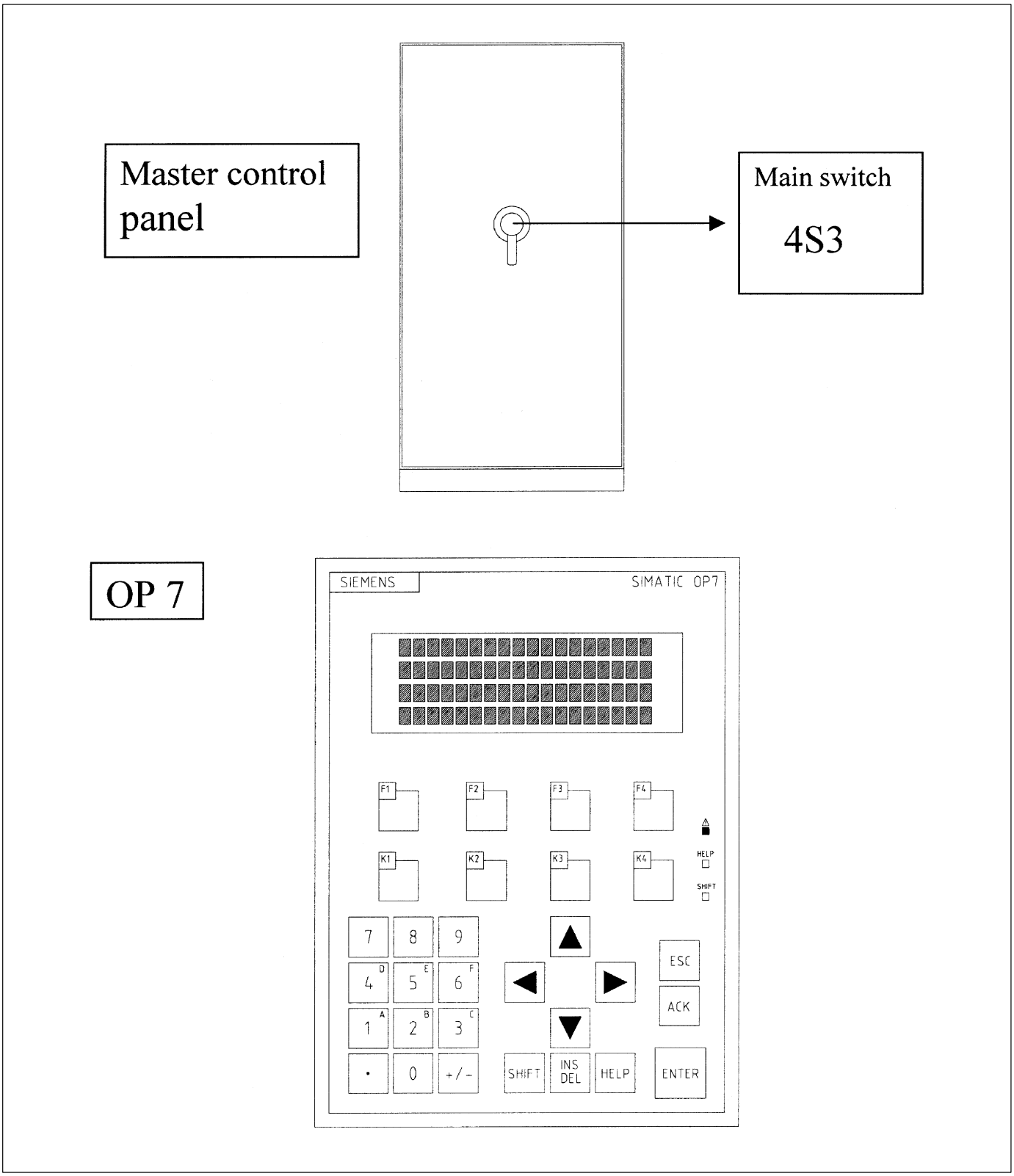

Fig. 4-1

Section 5

Maintenance

Section 5
Maintenance

WARNING: Allow only qualified personnel to perform the following tasks. Observe and follow the safety instructions in this document and all other related documentation.

1. Daily

- Clean Sponges, in washing machine provided, when dirty or if they become too dry. (Cleaning is not necessary after each colour change)
- Clean down booth with compressed air and/or wipe with a damp sponge.
- Check sieve screen for blockages or damage.
- Before the a working shift is finished, carry out a cleaning cycle, then, the sponge has to be removed, cleaned and stored in a close box. If the sponges are allowed to dry, their effectiveness is reduced, and damage could occur.
- Check the sponge after each colour change and replace or repair if necessary.

2. Dependant of Production Time

- Empty waste recovery box in the Powder Feed Centre.
- Empty collecting box below the after-filter.

3. Monthly

- Clean down the booth structure, follow the booth conditioning procedure, illustrated later in this section.
- Clean the cyclone of impacted powder by hand, or use Nordson cyclone cleaning pellets (Part No: 736 670)

4. After 2000 Operation Hours

- Clean the booth by hand including suction channel and duct. Use a cloth with solvent as detailed in the booth conditioning procedure.

WARNING: Do not touch the clear-view screens of the lighting with solvent!

- Check if cyclone and connection ducts and hoses show impact fused powder. If necessary, remove.
- Check sliding clutch of cleaning frame and adjust if necessary.

5. After 5000-8000 Operation Hours

- Clean connection tube booth/cyclone.
- Depending on filter strain, replace filter material.

6. Booth Conditioning Procedure

1. Remove any large items of contamination.
2. Switch on booth extraction system.
3. Recycle system should be in the spray to waste position.
4. With all doors closed, use the low pressure air lance to blow internal booth faces free of dust.
5. Damp sponge with water and wipe clean internal booth faces, base deflector and internal cyclone access area. A drop of detergent may be used for the first wash. Repeat the wash with water only.
6. While allowing the booth to dry, wipe the exterior of the booth. The blow lance may be used to decrease the drying time
7. With eye protection, mask and gloves:

WARNING: Use a sharp solvent (see below) and apply to the internal parts of the booth, base deflector and internal cyclone access area with clean lint free wipers.

- Polish dry.
- Wipe around one square metre and blow with air lance and proceed until complete.
- It is important not to touch the faces wiped with bare hands

8. Allow to dry.
9. Spray powder to waste for 5 minutes, solvent clean any areas which preferentially collect powder.
10. Clean cyclone and recycle in the normal way.
11. The system is now ready for use
12. Normal clean down procedures now apply but it may be necessary to condition the booth when necessary to ensure the best possible colour change.

7. Recommended Cleaning Solvent

Listed below is the composition of solvent we recommend in the initial set up and for maintenance cleaning. This solvent is available from Nordson upon request.

- Distillate: 5%
- Butylacetate: 17%
- Cellesolve–Acetate: 5%
- Acetone: 20%
- Benzene 80/110: 15%
- Xylol: 38%

Section 6

Troubleshooting

Section 6
Troubleshooting

WARNING: Allow only qualified personnel to perform the following tasks. Observe and follow the safety instructions in this document and all other related documentation.

1. Important Hints for Troubleshooting

The following tables provide general information for the troubleshooting of basic problems. Sometimes more detailed information, circuit diagrams or measuring devices are also needed for troubleshooting.

It must be noted that a fault can occur for several reasons. It is advisable to check all possible causes for a given fault. Obvious causes of malfunction such as broken wires, missing fasteners etc., should be noted during visual inspections and corrected immediately.

The unit does not contain any user serviceable parts; approved parts available from Nordson must replace any parts that fail.

2. Table of Troubleshooting

Problem	Possible Cause	Corrective Action
Hand marks inside of the booth	General usage	Follow clean down procedure
Powder leakage from booth	**In Normal Operation**	
	Air volume control damper incorrectly set	Set to design booth opening velocities.
	Filter elements blocked	See Afterfilter manual
	Final Filter elements blocked	See Afterfilter manual
	Excessive external draft	Close all doors or erect barrier to eliminate draft
	Parts are entering the booth too hot	Increase cool down time from dry off oven
	On Colour Change	
	Check reasons above	See above
	Check booth doors are closed	Close doors
	Auto guns positioned to far into booth	Move guns so nozzles are level with the booth internal wall
Contamination on colour change	Inadequate cleaning	Re−clean system
	Insufficient or no spray to waste on start up with new colour	Check recycle powder for contamination, collect on aluminium foil and cure with match until clean
	Booth retains powder	Clean and condition booth as per set up procedure
	Cyclone retains impact fused powder	Remove fused powder with solvent. Do not scratch the internal surface of the cyclone
	Sieve screen damaged	Repair or replace

Problem	Possible Cause	Corrective Action
System efficiency low	**High percentage overspray**	
	Poor jigging	Re–jig
	Poor gun triggering	Take corrective action
	Poor powder	Discuss with supplier
	Low gun Kv or wrong setting	See application manuals
	Cyclone loss	
	Surge hopper seal faulty	Repair or replace
	Surge hopper over filling	Check recycle system for blockages
	Inspection door seal leaking	Repair or replace

Section 7

Parts

Section 7
Parts

1. Introduction

To order parts, call the Nordson Customer Service Center or your local Nordson representative. Use this five-column parts list, and the accompanying illustration, to describe and locate parts correctly.

Using the Illustrated Parts List

Numbers in the Item column correspond to numbers that identify parts in illustrations following each parts list. The code NS (not shown) indicates that a listed part is not illustrated. A dash (—) is used when the part number applies to all parts in the illustration.

The six-digit number in the Part column is the Nordson Corporation part number. A series of dashes in this column (- - - - - -) means the part cannot be ordered separately.

The Description column gives the part name, as well as its dimensions and other characteristics when appropriate. Indentions show the relationships between assemblies, subassemblies, and parts.

Item	Part	Description	Quantity	Note
—	000 000	Assembly	1	
1	000 000	S Subassembly	2	A
2	000 000	S S Part	1	

- S If you order the assembly, items 1 and 2 will be included.
- S If you order item 1, item 2 will be included.
- S If you order item 2, you will receive item 2 only.

The number in the Quantity column is the quantity required per unit, assembly, or subassembly. The code AR (As Required) is used if the part number is a bulk item ordered in quantities or if the quantity per assembly depends on the product version or model.

Letters in the Note column refer to notes at the end of each parts list. Notes contain important information about usage and ordering. Special attention should be given to notes.

2. Spare Parts

Item	Part	Description	Quantity	Note
-	-	Speedking		
1	2100250	S Lower cross member Booth 1300	AR	
	2100251	S Lower cross member Booth 1550	AR	
	2100252	S Lower cross member Booth 1800	AR	
2	2100253	S Vertical support	AR	
3	2100254	S Main support beam upper	2	
4	2100255	S Main support beam lower	2	
5	2100256	S Upper cross member Booth 1300	AR	
	2100257	S Upper cross member Booth 1550	AR	
	2100258	S Upper cross member Booth 1800	AR	
6	2100135	S Clump plate	AR	
7	2100134	S Fixing plate	AR	
10	2100179	S Door support column right	2	
11	2100178	S Door support column left	2	
12	2100180	S Cross member	2	
13	2100184	S Angle left	4	
14	2100182	S Angle right	4	
15	2100181	S Angle left	4	
16	2100183	S Angle right	4	
17	2100185	S Safety clip	16	
25	2100156	S Frame guide left	1	
26	2100157	S Frame guide right	1	
27	2100192	S Vertical suport	AR	
28	2100146	S Chain connector	1	
29	2100147	S Tensioner	1	
30	2100140	S Chain wheel	1	
31	2100141	S Sprocket	1	
32	2100143	S Adjuster	1	
33	2100144	S Disc	1	
34	2100142	S Bracket	1	
35	2100199	S End stop	4	

NOTE A:
B:
C:
AR: As Required
NS: Not Shown

Continued on next page

Item	Part	Description	Quantity	Note
37	2100151	S Guide assembly left	1	
38	2100152	S Guide assembly right	1	
39	2100149	S Excentric adjuster	4	
40	2100145	S Support	1	
41	2100150	S Air manifold	1	
42	2100153	S Connection tube Booth 1300	1	
	2100262	S Connection tube Booth 1550	1	
	2100263	S Connection tube Booth 1800	1	
43	2100131	S Limit switch	1	
44	2100154	S Guide channel	1	
46	2100132	S Support	1	
47	2100130	S Support	1	
48	2100198	S Support bracket	3	
50	2100189	S Cleaning frame	1	
51	2100177	S Pneumatic ring main	1	
52	2100169	S Wedge sponge holder	1	
53	2100165	S Sponge holder support	2	
54	2100174	S Stud	2	
55	2100172	S Plate	1	
56	2100175	S Interloking plate	2	
57	2100191	S Guide	26	
58	2100164	S Actuator	52	
59	2100160	S Pressure plate	26	
60	2100162	S Support plate	26	
61	2100166	S Sponge holder compl.	2	
62	2100200	S Sponge backing	2	
65	2100101	S Booth lighting	2	
66	2100138	S Central tube	1	
67	2100137	S Support tube	1	
68	736 034	S Sponge holder Tube ∅ 400 (210 0243)	4	
	736 035	S Sponge holder Tube ∅ 450 (210 0242)	4	
	393 476	S Sponge holder Tube ∅ 500 (210 0241)	4	
	726 036	S Sponge holder Tube ∅ 600 (210 0136)	4	
69	2100231	S Cylinder mounting plate	4	
70	2100240	S Connecting tube	16	

Continued on next page

2. Spare Parts (contd.)

Item	Part	Description	Quantity	Note
80	2100065	S Duct closing plate ∅ 400	1	
	2100066	S Duct closing plate ∅ 450	1	
	2100067	S Duct closing plate ∅ 500	1	
	2100068	S Duct closing plate ∅ 600	1	
81	9600304	S Gear box	1	
84	9600202	S Torque limiter	1	
101	2100188	S Roller guide assembly Booth 1300	8	
	2100201	S Roller guide assembly Booth 1550	8	
	2100202	S Roller guide assembly Booth 1800	8	
102	2100186	S Roller guide assembly	2	
103	2100187	S Roller guide assembly	8	
115	9600450	S Chain	1	
116	9600405	S Chain tension	2	
117	9600403	S Chain connection belt	2	
118	9300904	S Bottle screw	4	
121	9200306	S Cylinder Booth 1300	8	
	9200310	S Cylinder Booth 1550	8	
	9200307	S Cylinder Booth 1800	8	
122	2100139	S Pneumatic cylinder	1	
123	9200301	S Short stroke cylinder	26	
124	9200313	S Cylinder	1	
125	9200300	S Short stroke cylinder	4	
126	9200312	S Cylinder ∅ 400	1	
	9200311	S Cylinder ∅ 450	1	
	9200308	S Cylinder ∅ 500	1	
	9200305	S Cylinder ∅ 600	1	
141	9200506	S Cylinder support	17	
143	9200503	S Clevis pin	9	
144	9200501	S Support	27	
145	9200507	S Support bracket	2	
146	9200173	S Stop valve	8	
147	9200172	S Restrictor	10	
148	9200198	S Pneumatic valve	2	
158	9200605	S Manifold	2	
159	9200901	S Air nozzle complete	60	

Continued on next page

Item	Part	Description	Quantity	Note
161	9200084	S Swivel elbow	6	
162	9200087	S Bulkhead	6	
163	9200134	S Swivel elbow	12	
164	9200088	S Bulkhead	10	
165	9200124	S Bulkhead	12	
166	9200125	S Bullkhed	20	
167	9200082	S T-connector	52	
168	9200086	S Swivel elbw	14	
177	9200079	S Reducer	2	
178	9200402	S Pneumatic connector	1	
179	9200401	S Pneumatic connector	1	
180	9200121	S Adaptor	2	
181	393 464	S Approximatiy switch	27	
182	9100601	S Limit switch	3	
183	9100602	S Limit switch actuator	3	
184	9100317	S Terminal	2	
185	9100102	S Encoder	1	
186	9100408	S Multicore cable	1	
187	9100603	S Lever	3	
190	9900101	S Cable chain	1	
191		S Sponge holder	2	A
192	9400101	S Door seal	4	
193	393 410	S Sponge piece per M	AR	
201	9100516	S Luminaire 3x18 W	AR	
202	9100517	S Luminaire 3x36 W	AR	
203	9100518	S Luminaire 3x58 W	AR	
221	9300201	S Guide roller	2	
222	9300200	S Guide roller	4	
278	9400302	S Tube PUR 8/4	1	
279	9400301	S Tube PUR 6/4	1	
280	9400300	S Tube PVC 25/4	1	

NOTE A: These parts are customer specific. Please contact your local Nordson Subsidury
B:
C:
AR: As Required
NS: Not Shown

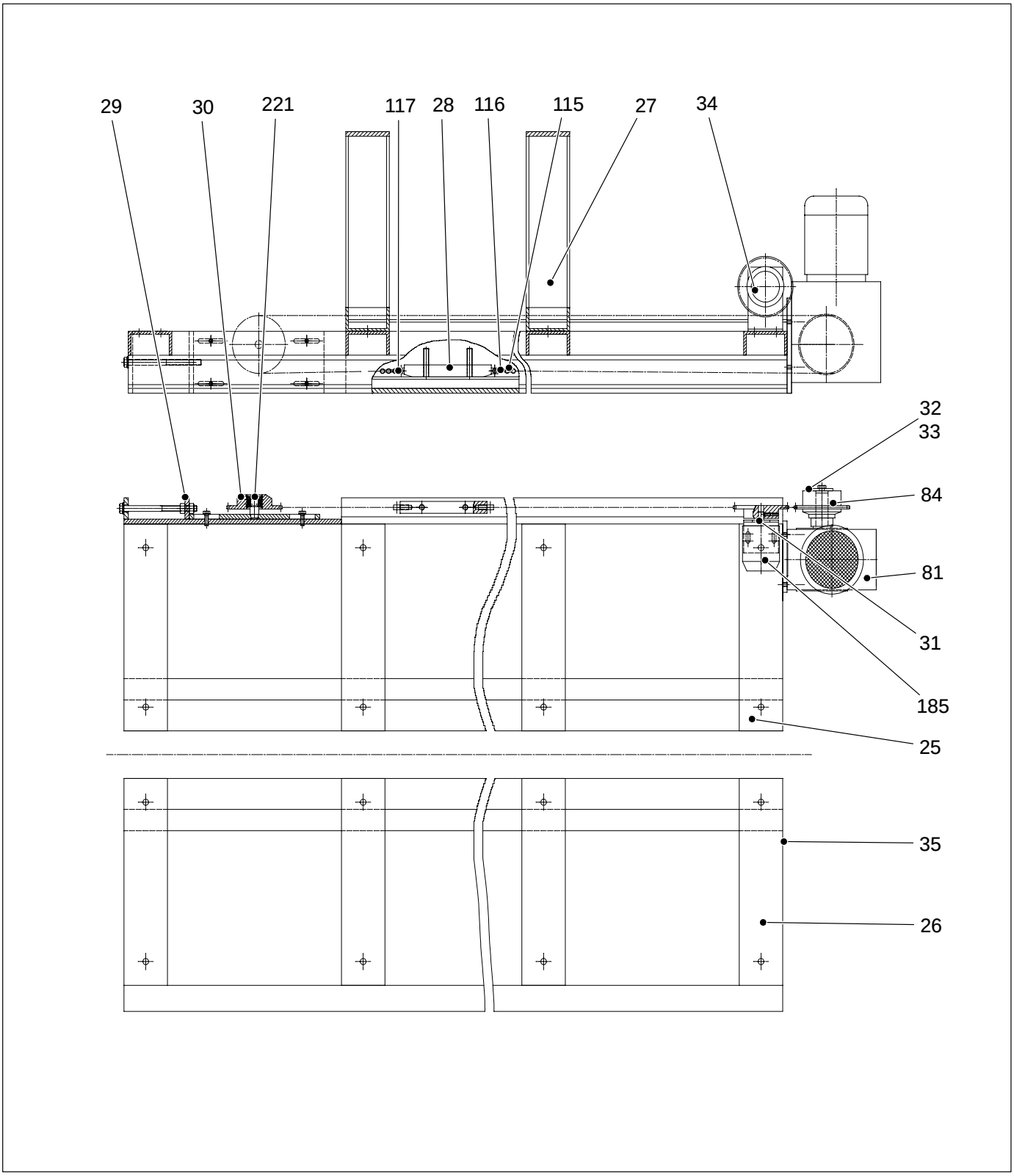

Fig. 7-1 Guide frame

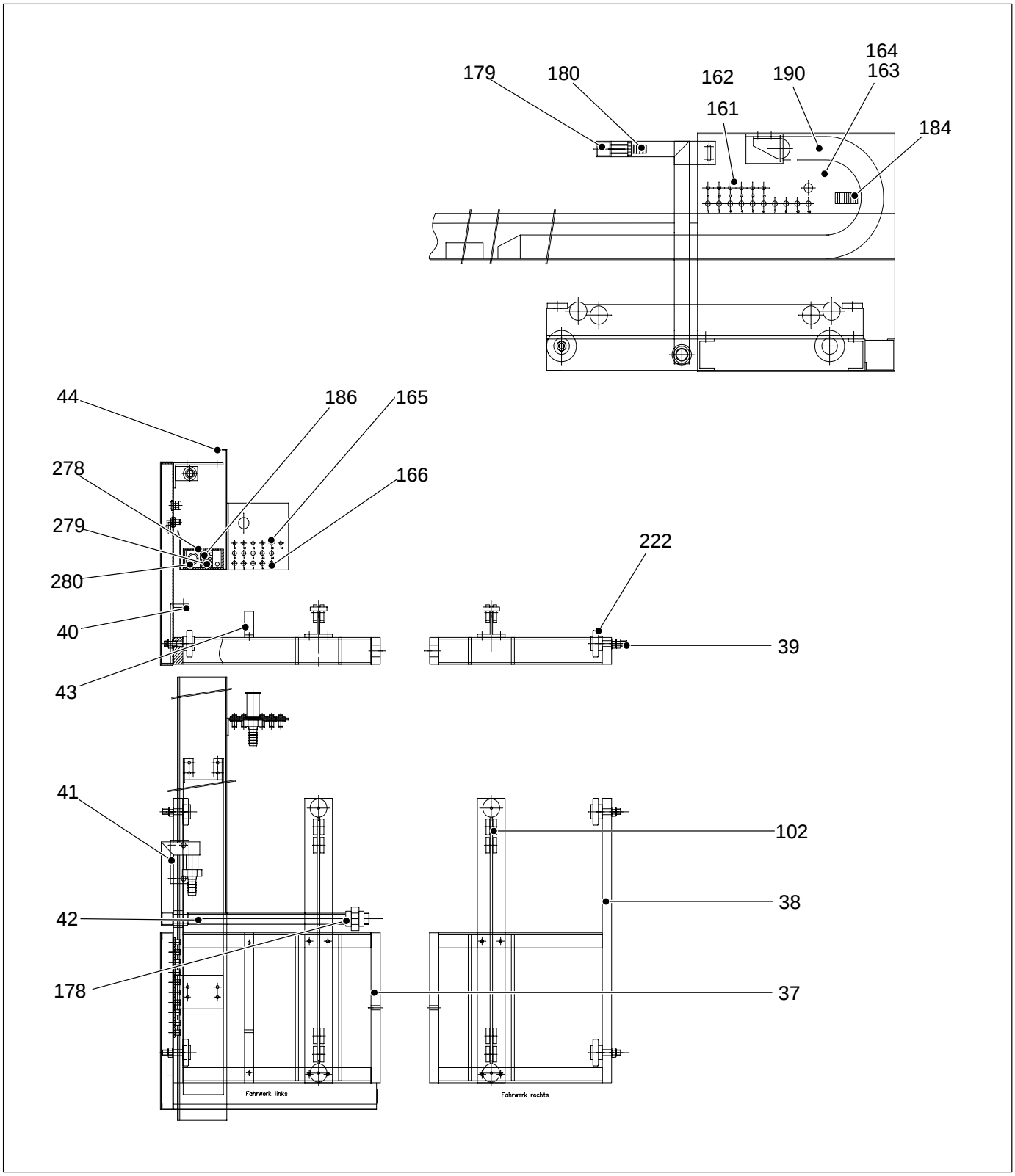

Fig. 7-2 Guide assembly

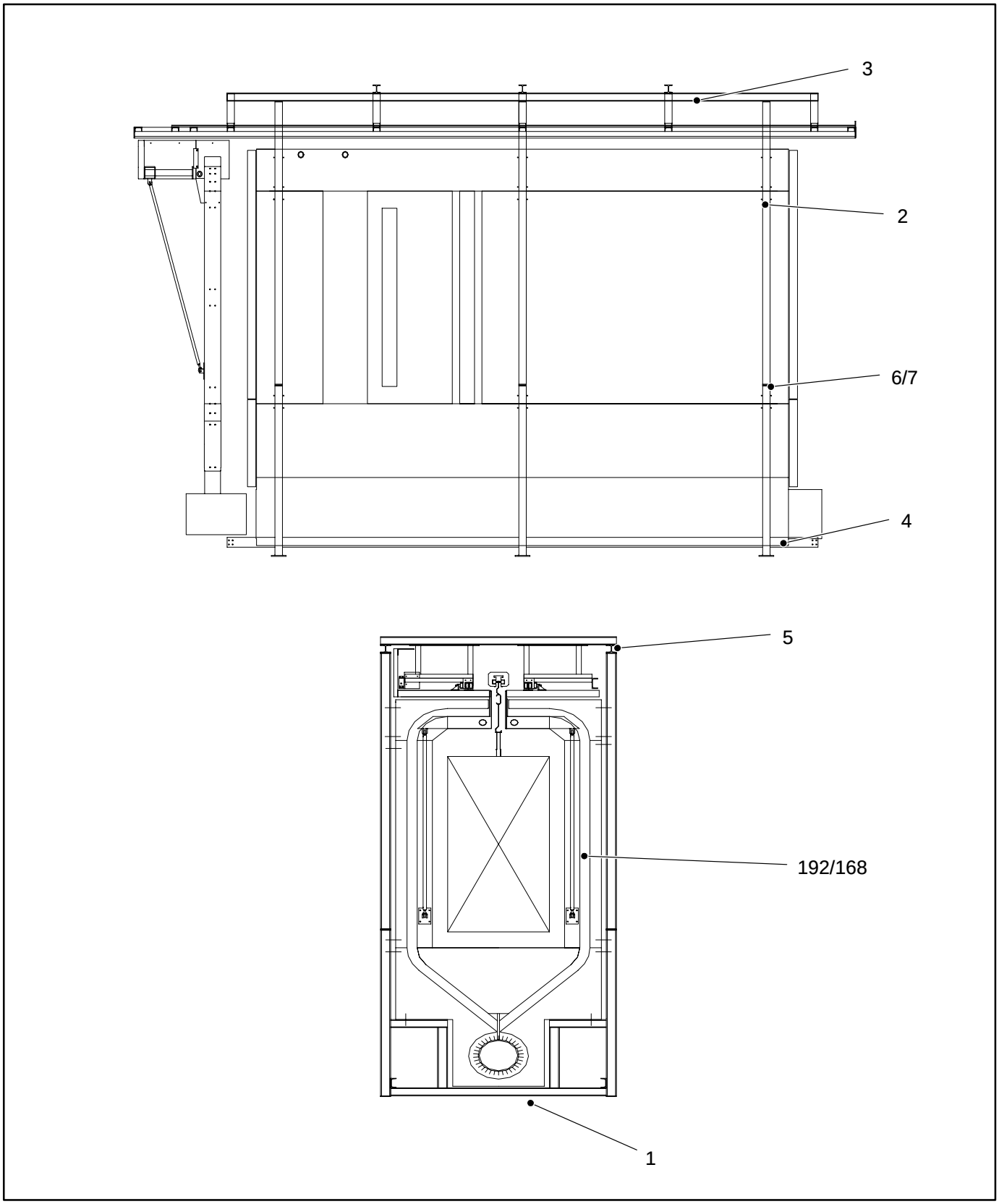

Fig. 7-3 Steel work

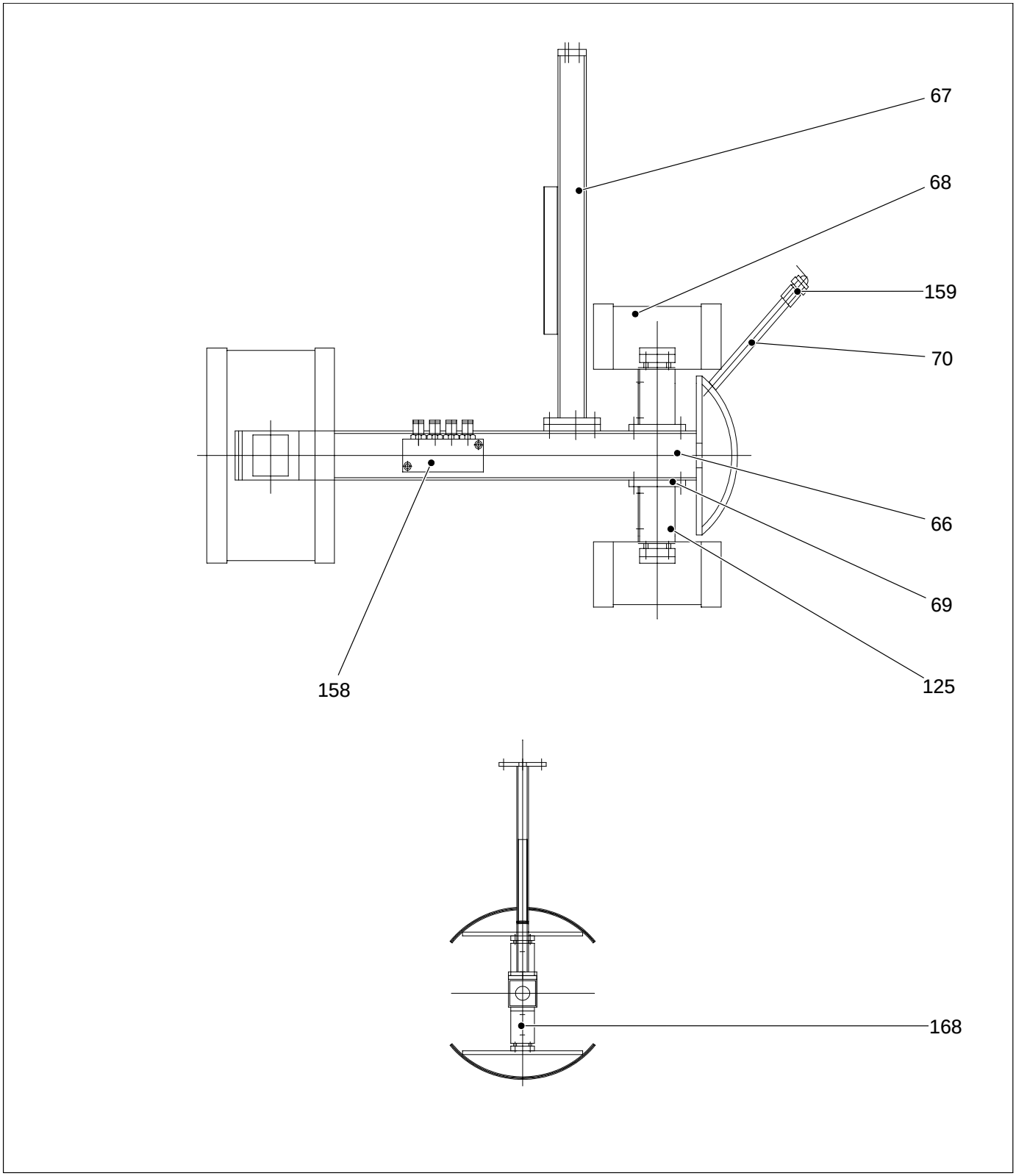

Fig. 7-4 Duct cleaner

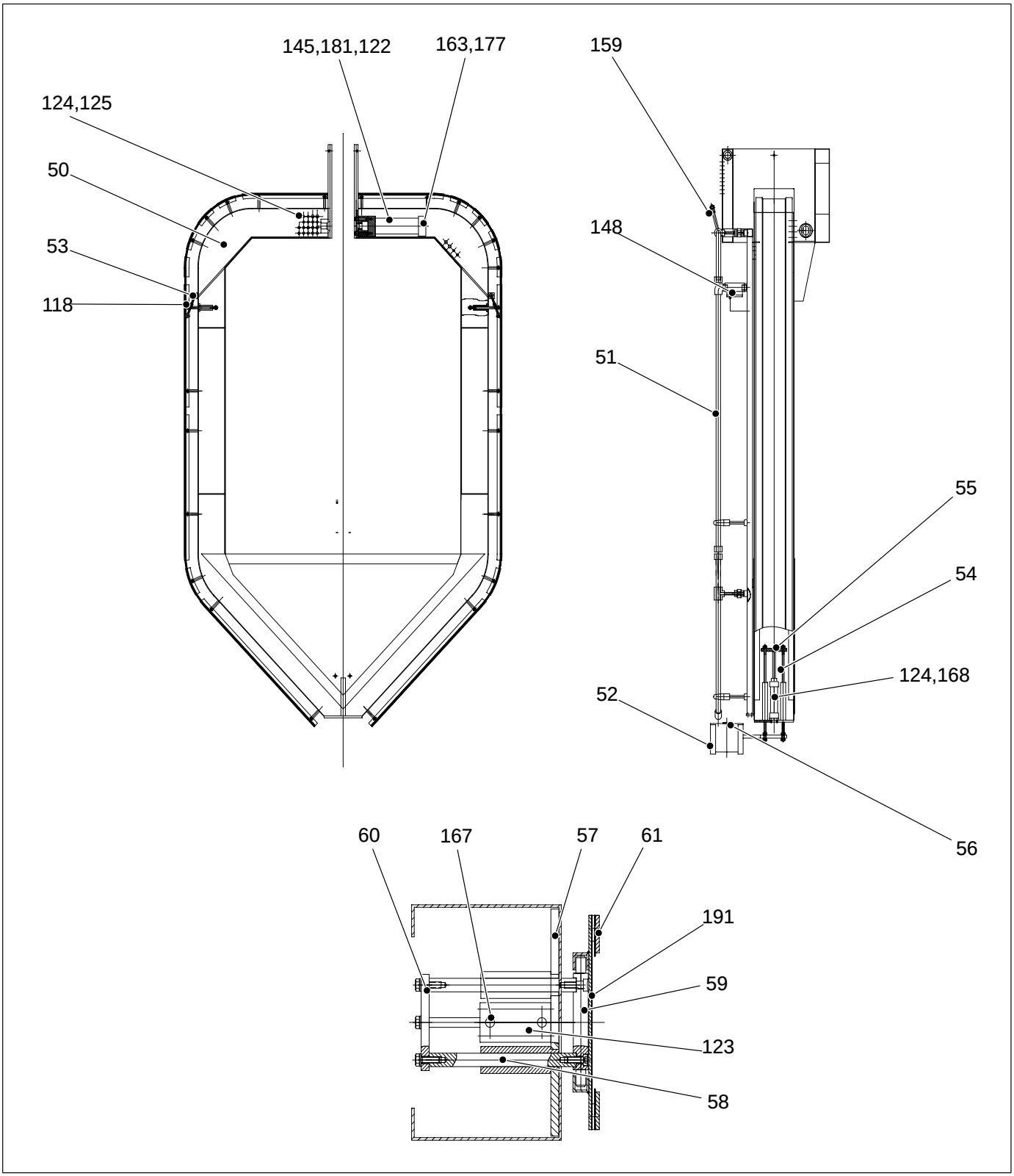

Fig. 7-5 Cleaning frame

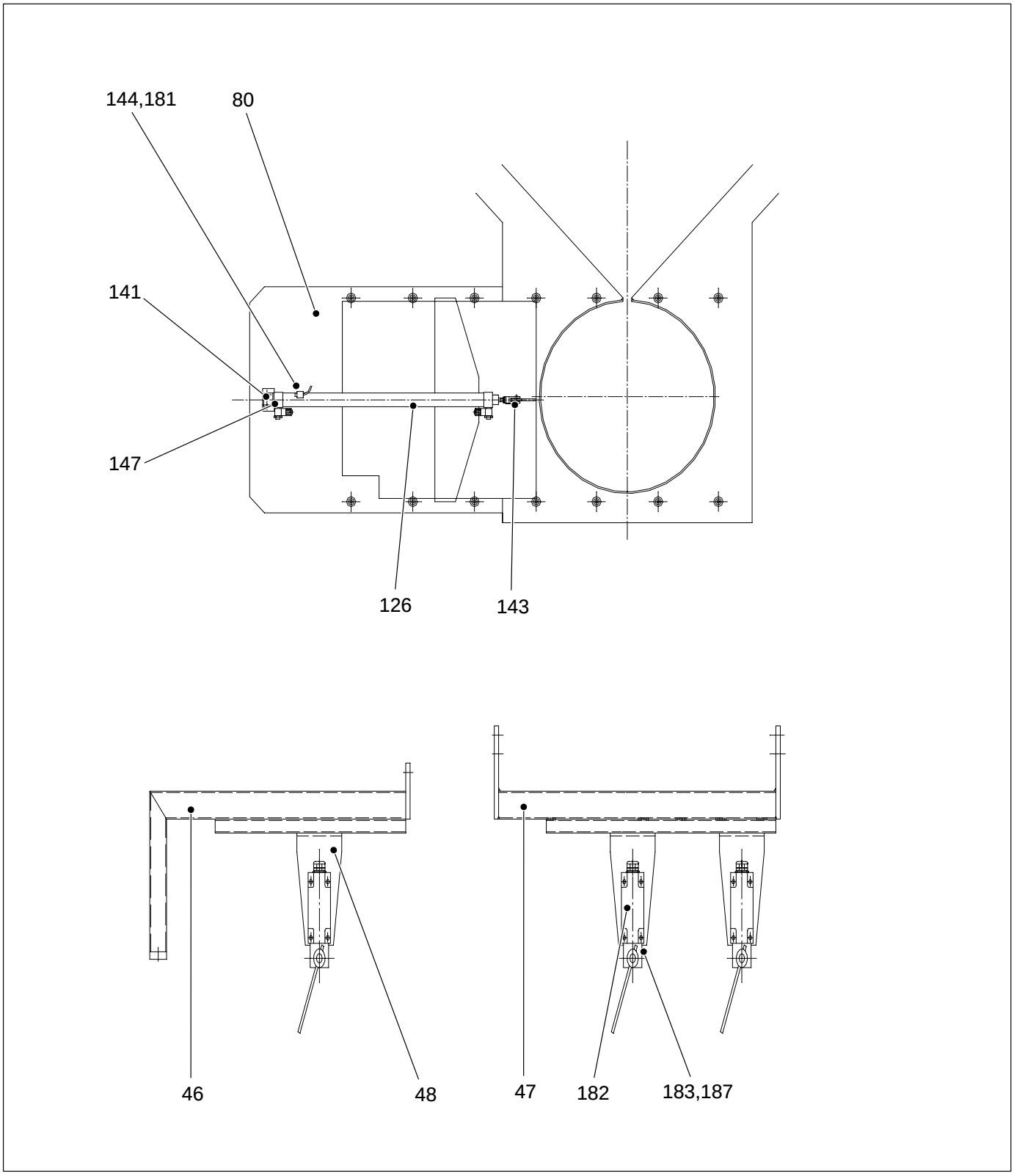

Fig. 7-6 Duct closing assembly, end switch

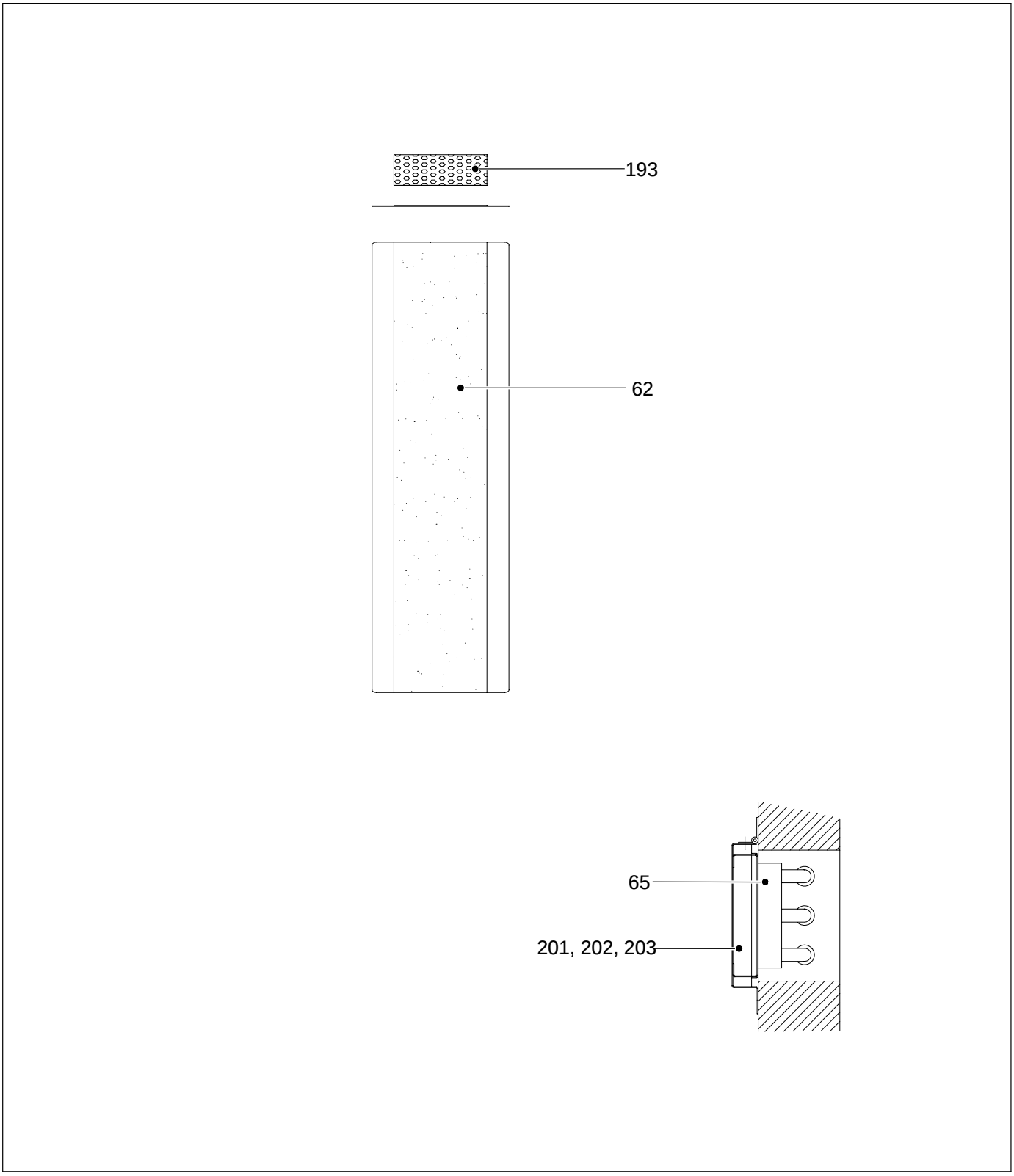

Fig. 7-7 Sponge, lightning

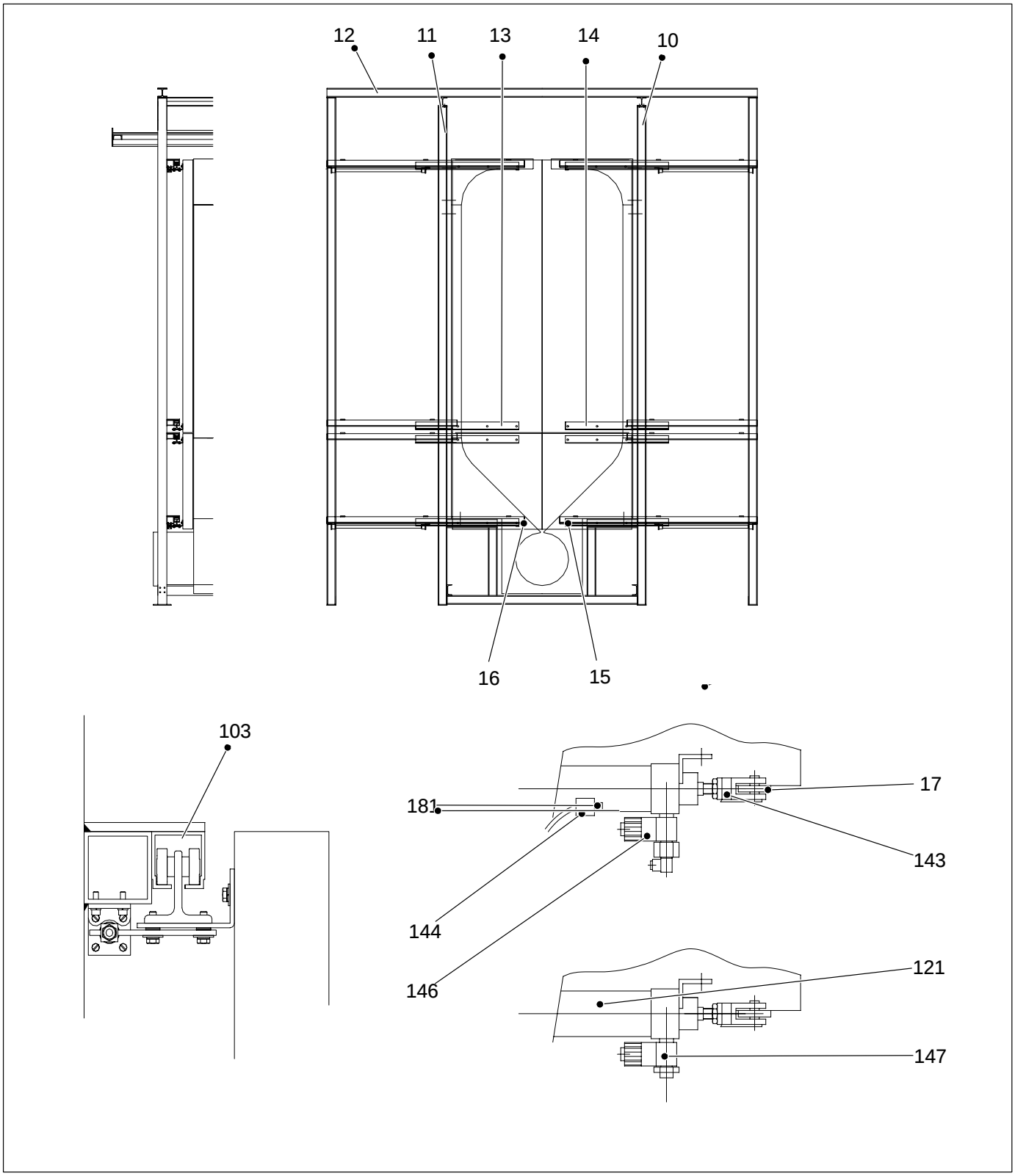

Fig. 7-8 Door frame

3. Accessories/Components

Item	Part	Description	Quantity	Note
	9200155	S Regulator 1“ Festo	AR	
	9200180	S Regulator 1“ Univer	AR	
	9200176	S Regulator ½ “ Univer	AR	
	9200156	S Regulator ½ “ Festo01	AR	
	9200151	S Valve 1“ Festo	AR	
	9200179	S Valve 1“ Sirei	AR	
	9200195	S Valve ½ “ Sirei	AR	
	9400907	S Clutch	2	
	2100221	S Manifold	4	
	736 051	S Sponge box	1	

NOTE A:
B:
C:
AR: As Required
NS: Not Shown

Section 8

Specifications

Section 8
Specifications

1. Pneumatic Data

Compressed-air connection	6 bar
Actual max. compressed-air quantity	300 to 400 Nm^3/h
Compressed-air quality	Residual Water content: max. 1,3 g/Nm^3 Residual Oil content: max 0,01 mg/Nm^3

2. Electrical Data

Electrical connection	3 x 380 V / 50 Hz
System earth	according to VDE 0141
Power output of complete installation	35 to 65 kW

3. Exhaust Air Data

Exhaust dust content	< 3 mg/m^3

4. Colour Change Data

Working piece gap	Typically 10 minutes
Operators required	1 to 2 operators

5. Service Loadings

Component	Electrical (Kw)	Air (Nm3/hr)
Afterfilter Fan 9000m3/hr	18.5	3.5
Afterfilter Fan 12000m3/hr	22	5
Afterfilter Fan 16000m3/hr	30	5
Afterfilter Fan 20000m3/hr	37	5
Afterfilter Fan 24000m3/hr	44	10
Afterfilter Fan 28000m3/hr	60	10
Air Ventilator for Air Curtain (each)	1.2	
Booth Lights (each)	0.4	
Cleaning Frame 1550mm	0.37	630
Cleaning Frame 1800mm	0.37	840
Cleaning Frame 2500mm	0.37	490
Cyclone Sieve Vibrator Motor	0.2	
Cyclone Surge Hopper Vibrator	0.2	