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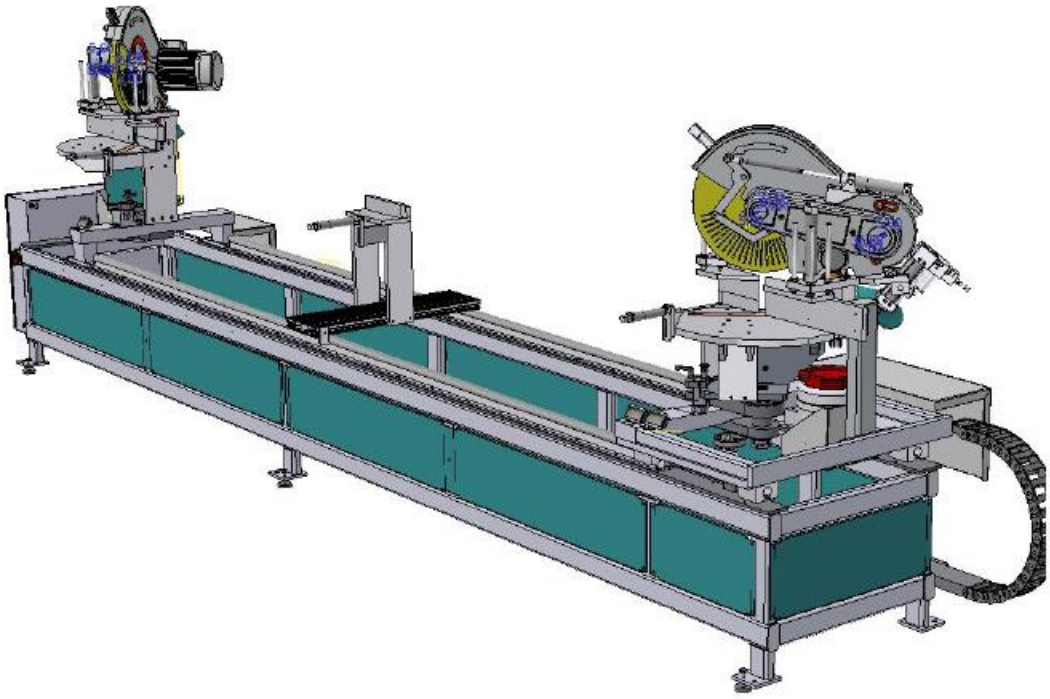

HOFFMANN Machine Company, Inc.

Operating Manual
SO7.276-1 MX-1
Double- End Miter Saw

Hoffmann Machine Company, Inc. 1386 Drexel Road
Valdese, NC 28690 – USA
Ph: (828) 430 - 4510
www.Hoffmann-USA.com

1 Table of contents

2 Symbols

Operator must read, understand and follow all safety rules, symbols and operating instructions at all times.

The following symbols are used in this operating manual:

Danger Symbol
This symbol warns of a serious danger.
Ignoring the safety instructions will lead to serious bodily harm and/or death!

Warning Symbol
This symbol warns of a possible danger.
Ignoring the safety instructions can lead to serious bodily harm and/or death!

Important Instructions
Instructions listed with this symbol must be strictly adhered to.

Safety Warning Symbol
This symbol warns of a possible danger.
Ignoring the safety instructions can lead to serious bodily harm and/or damage to the equipment and/or material being processed.

This symbol does not include a warning.
It is used to denote helpful hints and tips to improve the operation and performance of the equipment.

3 Intended Use and Operation

The HOFFMANN Double Miter Saw SO7.276-1 is designed solely for length cutting of solid wood and wood-related materials as well as aluminum profiles in conjunction with the installed coolant misting system.

The machine may not be used for any other processes or materials.

All work pieces must fall within the following dimensional parameters:

Dimension	MIN (mm)	MAX (mm)
Width*	**20**	**130**
Thickness*	**20**	**120**
Length	**520**	**4000**

* actual dimensions depending upon angle of cut
** min. cutting length with sequential cutting cycle only

Using the HOFFMANN Double Miter Saw SO7.276-1 for any other operation or material can result in unforeseen dangers and is hereby forbidden!

The manufacturer is not liable for any damages resulting from unapproved use or operation of the equipment.
The operator is solely responsible for any such risks and dangers.

The equipment may not be copied or dismantled for the purpose of duplication of all or part of the design or operation.

Technical changes to this equipment require the prior written consent of the manufacturer.
Any changes, additions, removal of components, etc. not expressly permitted in writing by the manufacturer will immediately void the warranty. Any risks, dangers or damages resulting from unauthorized modifications are solely the responsibility of the user/operator.

Adjustments to moveable components of the HOFFMANN Double Miter Saw SO7.276-1 during the operating process are only permitted if such adjustments are required for the proper operation of the equipment and if such adjustment procedures are outlined in this manual. All pertinent safety rules and regulations are to be strictly adhered to.

3.1 Transportation and Installation

Only trained and qualified personnel may transport, set-up and install this equipment and any auxiliary components.

You are required to assure a safe, clean and suitable environment for this equipment and its operation.

3.2 Technical Changes and Maintenance

Technical changes or alterations of any kind are only permitted if the prior written authorization from Hoffmann Machine Company, Inc. has been secured.

Never remove safety guards and shields, remove or by-pass safety devices, switches, sensors, use or install tooling other than originally supplied.

The manufacturer is not liable for any injuries or damages caused by unauthorized changes, removal or add-ons to this equipment.
Only trained, qualified personnel may perform installation, set-up and maintenance procedures as well as replacement of parts or components of any kind.

3.3 Operator and Maintenance Personnel

Machine operator and maintenance personnel may only perform activities described in this manual.
Persons working on or with this machine must be at least 18 years old, they must be thoroughly familiar with this operating manual and they must adhere to all local safety rules and regulations. All OSHA specified rules must be followed if applicable.

Persons working on or with this machine must wear suitable clothing designed to avoid entrapment in rotating machine components.
No loose fitting clothes e.g. ties or shawls, or bracelets, wristwatches, necklaces, etc. may be worn when operating this machine.
Persons with long hair must tie their hair securely and wear an appropriate hair covering to avoid entanglement.

3.4 Equipment Owner's Responsabilités

The owner of the equipment must make this operator manual available to all machine operators and maintenance personnel.
The equipment owner must assure that all operators and maintenance personnel are qualified to work on this equipment and that they have read and fully understand this operator manual, especially all sections pertaining to possible dangers and safety rules.

The owner must assure that all areas of responsibility, including set-up, operation, maintenance, etc. – are clearly defined and explained.
All responsibilities must be assigned to and understood by all involved persons to avoid the risk of injury and /or damage to material.

The owner is responsible for the adherence to all applicable safety rules and regulations.
The owner is responsible for the proper and safe condition of the machine; he is further responsible for the proper installation and set-up and he must provide a safe and secure work environment.
The owner must be familiar with and is responsible for the adherence to any and all local and national safety rules and regulations pertaining to this equipment.
The manufacturer is not liable for any injuries or damages as a result of non-compliance with, or adherence to, applicable safety rules and regulations.

If the operator and/or maintenance personnel do not understand English, the owner must provide a properly translated operator manual to assure the safety of all personnel.

3.5 Change of Ownership

In case of sale of this equipment all components, tools, manuals, safety instructions, accessories as well as any electronic or software updates you have originally received with the machine must be included.
This includes any and all operator manuals, maintenance instructions, equipment or components replacement parts, etc.

4 Machine Description

4.1 Terminology used in this manual

- SO7.276-1 = HOFFMANN MX-1 Double Miter Saw SO7.276-1
- Work piece = profiles made of solid wood or wood related material or aluminum profiles

4.2 Machine Description

HOFFMANN MX-1 Double Miter Saw SO7.276-1 system consists of:

- HOFFMANN MX-1 Double Miter Saw SO7.276-1
- Electrical enclosure (freestanding steel cabinet)
- Operator console with touchscreen
- Manually installed center support for long material
- Infeed support table
- Tool kit
- Operator manual

The HOFFMANN Double Miter Saw SO7.276-1 is designed to miter-cut to length profiles made of wood or wood related materials and aluminum profiles (requires special saw blades!) when using the installed coolant misting system.

Adjustments for material length and cutting angles allow the operator to process different products.

Machine performance:

- Up to 80 cycle per hour (depending on operator performance, material condition, work flow, etc.)

Work stations:

- 2x saw motor @ 2.2KW

5 Technical Data and Specifications

Electrical Power Supply	
Supply voltage	230 V / 60Hz / 3 phase / ground:
Supply wires	3x 4mm² ground wire: min. 10mm²
Frequency	60 Hz
Input Amperage	16 A
Total power requirement	6.5 kW
Safety Code	IP 54
Supply line breaker	32 A slow acting
Saw motors	2x Hoffmann saw heads with K21R90L2 HOF H 2850 1/min
Saw blades:	saw blade diameter 400mm / bore 30mm
Saw rotation:	1x left / 1x right
Saw blade type:	Saw blade D400 x 4,0/3,2 x B30 Z=96 max. 4800 1/min, NE positive

Pneumatics:	
Compressed air supply	6 bar – 90 psi (max. 8 bar)
Volume requirement	Up to 1 cubic feet per cycle
Air	lubricated
Filter mesh size	5µ

Other Specifications:	
Work piece material	Wood, wood related material, aluminum profiles (w. special saw blade)
Machine performance	Up to 80 cycles/hour (depending on operator, material flow, material quality, etc.)
Weight	Approx.1,870 lbs.
Dim. Length x depth x height	Approx.. 216” x 63” x 63”
Noise emissions: Sound Pressure Level (SPL):	Idle: 84.1 dB(A) / operating cycle: 102.1 dB(A)

Machine Environment:	
Temperature range for operation	59.... + 104 F
Temperature for storage / transport	32.... + 140 F
Temperature change during operation	max. 20 F
Temperature change during storage / transport	max. 40 F
Relative humidity according to DIN 40040	15... 80 % without condensation at 95 F
Air pressure during operation	860-1060 hPA (bar)
Air pressure during storage / transport	860-1060 hPA (bar)

6 Operator Environment

The work areas for the operator have been designed with ergonomic principles in mind.

The machine owner is responsible for ease of access, adequate lighting, fresh air supply, etc.

Specific work areas for this machine are:

⇒ In front of the machine to load and unload work pieces and to adjust settings.

⇒ In front of the operator panel to start the machine and to initiate the machining cycle.

⇒ At the back of the machine for maintenance procedures only.

Rules for safe work areas:

⇒ The work area must be free from clutter and must be kept neat and unobstructed. Local and national safety rules, including but not limited to all applicable OSHA Rules must be adhered to.

⇒ Access space of no less than 24” shall be available on all sides of the machine for set-up and maintenance procedures.

⇒ All electrical and compressed air supply lines must be securely fastened in accordance with all local and national safety codes. Secure all wires, hoses and lines and do not allow lines to lie on the floor as they may present a trip hazard to the operator. Supply lines, wires and hoses must be inspected periodically and replaced if any damage is observed.

⇒ The environmental conditions must meet the guide lines given under section 5 “Technical Data and Specifications”.

7 Potentially Dangerous Areas

Especially dangerous areas of the machine are:

- Areas around the miter cutting operations
- Areas around the dovetail routing and hole drilling operations

During set-up and maintenance procedures, the following dangers exist in the above areas:

Danger of entanglement and pinching!

During set-up and maintenance work, especially when access doors must be opened, additional dangers of entanglement or pinching on belts, sprockets, saw station, router station, drilling station, etc. are present. Do not wear loose fitting clothing. Long hairs must be covered with a hair net.

Danger of cutting of hands and fingers!

All sawing, routing and drilling areas present dangers of cutting of hands and fingers.

Danger of amputation!

All sawing areas present the danger of severe cutting or amputation of fingers.

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8 Potential Sources of Danger when Operating Machine

8.1 Unapproved Use

Only maintenance, set-up and operating procedures clearly explained and described in the accompanying operator manual may be performed on this machine.

Unapproved procedures are:

- Processing work pieces made of material other than solid wood, wood related material (MDF, particle board, plywood, etc.)
  Aluminum profiles may be cut on this machine provided appropriate saw blades are installed and the coolant misting system is used.
- Operating of the machine by more than one operator at the same time.

Unapproved use and/or misuse of the machine can result in the following:

⇒ Minor to severe injuries to the machine operator and/or bystanders.

⇒ Damage to the machine and/or work pieces.

8.2 Mechanical Dangers

⇒ During operation of this machine, saw blades, rack and pinion drives and timing belts rotate and sections or components of the machine are being moved and adjusted pneumatically, mechanically and/or electronically.
These components can cause severe injury or death if hair, clothing or extremities become entangled.
Never reach into the machine during operation!!

⇒ Only make adjustments during operation if these adjustments are absolutely necessary and if the procedure is fully outlined and approved in this operator manual.

8.3 Defective Equipment

If the machine does not function properly and if the fault cannot be rectified immediately, the equipment must be shut down by the person responsible for the operation.

Signs of defective are:

- ⇒ The machine shows signs of mechanical damage.
- ⇒ Electrical wires or cables are damaged.
- ⇒ Pneumatic air lines are damaged.
- ⇒ The machine was stored or has not been in use for an extended period of time in an unsuitable environment, for example in high relative humidity or too high or too low temperature.

8.4 Electrical Dangers

- ⇒ Dangerous electrical current is present in many different locations inside of the machine when the main power is switched on. Do not remove any covers or components unless the written guidelines instruct you to do so and you can do so without the use of a key or a tool. Warning symbols show areas and terminals where electrical currents may be present.
- ⇒ Be aware that if an uninterruptable power supply (UPS) is installed, some areas inside the machine may have electrical current present even if the main power is switched off.
- ⇒ Never use damaged or worn cables, wires, supply lines or electrical components or parts on this machine.
- ⇒ Only trained and authorized Service Technicians shall be allowed to replace parts on this machine.
- ⇒ Switch off and lock the main power supply before starting any maintenance procedures. Always follow proper Lock-Out / Tag-Out Protocol and all applicable OSHA Rules and Regulations.

8.5 Cleaning agents and chemicals

- ⇒ Review and observe all safety rules provided by the chemicals manufacturer while working with cleaning agents and other chemicals. Read and understand the Material Safety Data Sheets (MSDS) provided by the manufacturer and follow all safety precautions described therein.
- ⇒ Always wear proper protective gear, including safety glasses and gloves, when using cleaning agents, degreaser, etc.
- ⇒ Do not eat, drink or smoke when using chemicals.
- ⇒ Dispose off used cleaning agents and other chemicals in accordance with all State and local laws.

8.6 Remaining Risks

If the operator does not pay attention, it is possible to slightly squeeze ones' fingers when loading and pre-clamping a work piece. The maximum air pressure is limited to 2 bar and the maximum clamping force is thereby limited to 60N.

9 Noise Emissions

The machine generates a work place Sound Pressure Level (SPL) of 84.1 dB(A) when idle and 102.1 dB(A) when processing a work piece.

Local conditions could increase the SPL, which could cause hearing damage or loss.

The machine owner must provide suitable protective gear to protect employees from hearing damage, as required by local and state laws and OSHA regulations.

Measurement margin of error = 4dB

Noise emission was measured according to EN3746

Notes:

All listed values are measured noise emission levels – they are not necessarily safe working environment levels.

Local conditions, the proximity of walls and ceilings, the type of wall, ceiling and floor material as well other equipment in close proximity could affect the total noise emissions at the work place.

The SPL values are provided as information only and it is recommended that the machine owner measure the actual local noise levels after installation.

Machine is owner is responsible for providing suitable protective gear depending on total noise emissions and local and state laws and regulations.

All OSHA regulations pertaining to noise protection are to be adhered to.

10 General Safety Rules in accordance with DIN 1870-9

DANGER: The following safety rules must be followed at all times!

Read and understand this operator manual thoroughly and store it in a safe place for future reference.

Heed all safety warnings and all applicable rules and regulations, including but not limited to all applicable OSHA rules, when operating or performing maintenance or set-up procedures on this equipment.

1. HOFFMANN Service Technicians will instruct machine operators in the proper use of this equipment upon installation and set-up.
2. The HOFFMANN double miter saw SO7.276-1 may only be operated by trained personnel who have read and understood the operator manual. The manual shall be kept in a safe location, easily accessible for future reference.
3. Only trained and authorized persons may be allowed to operate the HOFFMANN double miter saw SO7.276-1 Untrained or unauthorized persons are to be kept away from the machine area. The operator(s) must disconnect the electrical and pneumatic power supplies when the machine is not under their control.
4. All applicable Safety Rules, including all applicable OSHA rules, are to be adhered to.
5. Only trained and qualified persons may perform work on the electrical components of the machine.
6. Before connecting the HOFFMANN double miter saw SO7.276-1 to the electrical power supply, all electrical specifications must be confirmed with the machine’s data sheet.
7. Never disable, remove or bypass any safety features, guards or devices!
8. HOFFMANN double miter saw SO7.276-1may only be energized if no danger for persons or materials is present.
9. All safety features, guards and safety devices must be checked for proper function at least every three months (always follow recommended maintenance schedule).
10. Upon discovery of any damage to any part or component of HOFFMANN double miter saw SO7.276-1, the machine must be shut off and locked to prevent further operation until all damager and/or faults are repaired.
11. The operator must inform his or her supervisor immediately upon notice of any damage or fault on the machine.

12. If the HOFFMANN double miter saw SO7.276-1 has been moved, or has been out of service for an extended period of time, all safety features, guards and safety devices must be checked and repaired or replaced if necessary before the machine is put back into operation.
13. Operator must always wear tight fitting clothes without loose straps, ties, etc. to avoid the danger of entanglement. Long hair must be tied together and covered with a hair net.
14. Always wear eye and ear protection when operating this equipment! Do not wear gloves when operating this equipment – danger of entanglement!
15. Ensure adequate light conditions on and around the machine, with an ambient temperature of around 70 degrees Fahrenheit.
16. Keep the floor around the machine free from debris, saw dust or wood chips, etc. Larger cut-offs and waste material may not be left in the machine and must be removed manually in compliance with all applicable safety rules!
17. Tooling Change:

    Danger – cutting tools can injure and cut! Safety gloves are recommended when handling saw blades, router bits and drill bits. Saw blades shall be compliant with prEN 847-1:2011.

    Do not change motor speeds or tooling speeds on saw, router or drill heads.

    All tooling (saw blades, router bits, drill bits) are to be inspected daily for sharpness and breakage – dull and/or defective tooling is to be replaced before operating the machine.
18. Do not expose this machine to moisture or water and do not expose this machine to flammable liquids or gases.
19. Route and place all electrical and pneumatic supply lines to avoid the possibility of creating a trip hazard. All supply lines shall be adequately protected from accidental mechanical damage.
20. Disconnect the machine from all electrical and pneumatic power sources when performing any maintenance, repair or set-up procedures. Follow all applicable OSHA Lock-Out – Tag-Out Procedures.

Guidelines for safe work practices in accordance with DIN1870-9:2000 sub-section B:

It is important for all machine operators to be:

a) Adequately trained in all set-up and operation procedures of the machine

b) Informed about factors which influence the noise emission of equipment, e.g.
i) Saw blades
ii) Optimum saw blade speed (rpm)
iii)Maintenance of saw blades and machine

c) Informed about factors which could contribute to a dust explosion, e.g.

i) Type of material being processed

ii) Importance of the individual dust collection ports

iii)Proper adjustment of dust collection guide panels

IV) Activation of the central dust collection system before starting the machine

d) Informed about the condition of the environment around the machine, e.g.

i) Floor shall be level, clean and free from debris, cut-off and other trash.

ii) There shall be adequate common as well as task lighting in place.

iii)The raw material and the finished material shall be placed close to the machine in a position to allow for proper work flow.

The operator shall always wear suitable personal protective gear, e.g.

- Hearing protection
- Breathing protection to avid breathing of wood dust
- Gloves should be worn whenever tooling is handled or changed.
- Saw blades should be transported in a saw blade carrier.

iv) The machine should be switched-off when not in use.

v) Any faults, error messages or damage to the machine must be reported to a supervisor immediately.

vi) The operator shall be trained in the proper procedures to remove cut-off, waste, dust and debris from the machine to reduce the risk of fire.

vii) The operator shall follow all rules and guidelines in regards to tooling maintenance, sharpening and installation.

viii) The operator shall not exceed the maximum speed engraved on the saw blades.

ix) The operator shall only use correctly sized and properly sharpened saw blades.

x) The operator shall assure that all saw spindle discs and nuts are of adequate size and condition.

xi) The operator shall not remove cut-offs or debris while the machine is in operation.

xii) The operator shall assure that all safety features, guards and safety devices are checked and repaired or replaced if necessary before the machine is put into operation.

Common safety rules for electrical drives, components and controllers

Protection from dangerous movements

Dangerous movements can be created by faults in the controls of electrical motors.

Reasons include:

- Faulty or improper wire connections
- Operator errors when operating the components
- Faulty sensors
- Faulty components
- Software errors in components controllers

These faults can be present immediately upon start-up the equipment, or they can surface after a period of time.

Fault-feedback and safety loops reduce the risk of faulty operation to a certain extend.

However, one must not rely solely on the built-in controls, especially in light of the possibility of personal injury and/or damage to the equipment or material.

In case of a fault, a dangerous movement of one or more components is still possible until the built-in safety loops react. The possibility and the amount of such dangerous movements depend in large part on the type of controls and operating state of the equipment when the fault occurred.

DANGER!

Dangerous Movements!

Potential for injury, death and/or damage to equipment and/or material!

The equipment has been designed and manufactured with the safety of the operator in mind. For this reason, a number of safety devices, shields, guard and sensors have been installed. These devices, in concert with the safety rules in this operator manual, provide the best possible protection for the operator. The safety devices have been tested and are found to provide the intended protection.

Any changes, damage or removal of any safety devices could result in unintended, uncontrolled or dangerous movements which could cause personal injury or death and/or damage to the equipment and/or the material.

11 Safety Devices

A number of safety devices have been designed and installed on the HOFFMANN double miter saw SO7.276-1 to provide the utmost protection for the operator.

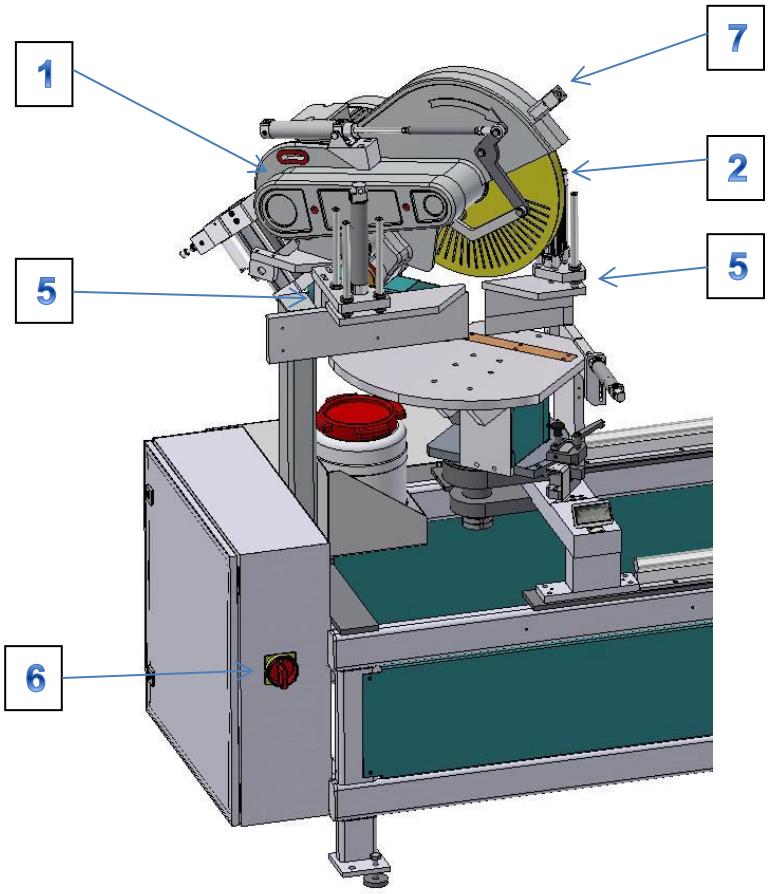
Warning: Strictly follow all safety rules!

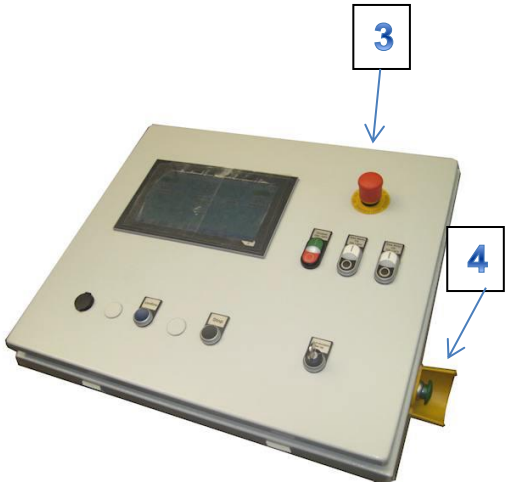
1. The machine features safety shields, doors and guards which must be in place and locked when operating the equipment.
2. Danger of personal injury and/or death exists if the safety shields, doors and guards are not place during operation.
3. Safety devices shall not be removed, damaged or by-passed.
4. Any unauthorized modifications, including but limited to by-passing of safety switches or sensor, immediately void the warranty on the equipment.
5. All safety features, guards and safety devices must be checked every time for proper operation before the machine is started and operated.
6. If any damage or malfunction on any safety feature, guard and safety device is found, it must be repaired or replaced before the HOFFMANN double miter saw SO7.276-1 is put into operation

11.1 Safety Devices

The machine is equipped with a variety of safety guards, shields, switches, safety floor mats and sensors. These devices are for the protection of the operator and other persons near the machine.
NEVER REMOVE OR DISABLE ANY SAFETY DEVICES!!

Safety devices may only be temporarily removed if necessary for approved maintenance or set-up procedures.
If safety devices have been removed or deactivated, they must immediately be re-installed and re-activated. Before the machine is put back into operation, all safety devices must be thoroughly checked for proper operation.





Part	Description
1	Fixed saw blade main covers
2	Pivoting saw blade covers
3	Emergency-Stop button on control panel Pushing the E-Stop immediately stops the machine. The material clamps stay in place. The E-Stop button remains in a locked position until unlocked by operator. To unlock, turn and pull-out knob
4	Two-Hand Safety Controls – musbe activated during the sawing ansd routing cycle.
5	Material clamps with low-pressure pre-clamp circuit
6	Main Power Switch (lockable)
7	Interlock for moveable saw blade safety covers

Push the E-Stop button (3) in an emergency to stop the machine immediately! I

11.2 What to do in an Emergency ?

In an emergency situation, push the E-Stop button (3) of the Hoffmann SO7.276-1!

The fault or danger must be rectified or removed after an emergency-stop activation and before the machine is put back into operation,

Use the E-Stop button ONLY in an emergency!
Do not use the E-Stop button for regular or controlled shut-down as this may cause operational faults in the control system.

11.3 Safety device check list

All safety devices must be checked for proper function.
upon installtion and sign-off and according to the maintenance schedule in this operator manual.

All safety switches, interlocks, sensors and emergency-stop buttons must be checked and tested daily.

Never damage, remove or by-pass any safety device, interlock switch, sensor or guard.

⇒ The machine is equipped with a red E-Stop button on the control panel and one on the electrical enclosure. Pushing the button in will active the emergency stop sequence.
⇒ Use the E-Stop button only in an actual emergency and to test the function of the button.
⇒ Do not use the E-Stop button for a regular and controlled shut-down of the machine.
⇒ The machine is equipped with safety switches, interlock and sensors which will interrupt the machine operation if triggered.

Testing the Emergency-Stop Button:

⇒ Start the machine and press the red E-Stop button. All functions of the machines must cease immediately and the saw blades must return to their home position. The material clamps must remain in the extended (clamped) position.

⇒ Release the E-Stop button and check all other E-Stop button before restarting the machine.

12 Warranty and Liability

The „Hoffmann Machine Company, Inc. Terms and Conditions of Sale“ are the basis for all dealings between the manufacturer and the customer. These Terms have been made available to the customer during the proposal and order processing stage.

In addition to the complete Terms and Conditions of Sale, any of the following conditions immediately voids the warranty and releases the manufacturer from any and all liability.

- ⇒ Unapproved use of the machine.
- ⇒ Improper installation, start-up, maintenance or operation of the machine.
- ⇒ Operation of machine with defective, missing or by-passed safety devices of any kind.
- ⇒ Non adherence to any rule or regulation in this operator manual.
- ⇒ Operation of machine without safety fence around the perimeter of the equipment.(see separate section in this manual)
- ⇒ Unauthorized changes to the machine or any of its components as well as unauthorized changes to control parameter (Off-set values for servo motors, etc.)
- ⇒ Insufficient supervision and maintenance of parts subject to normal wear and tear.
- ⇒ Damage due to unforeseen circumstances, acts of God, etc.
- ⇒ Improper or unauthorized repairs.

13 Transportation and Installation

This machine may only be transported, set-up and installed by qualified service technicians having received written authorization from Hoffmann Machine Company, Inc. to perform such work.

Danger of Injury!
The SO7.276-1 can tilt or fall!!!

Only use properly equipped and sufficiently sized equipment to lift and transport the SO7.276-1. Refer to the machine weight under section „Technical Data“

When transporting the SO7.276-1

- **Wear approved safety shoes with steel toes!**
- **Wear safety gloves!**
- **Consider the weight of the machine and use appropriate equipment!**
- **Lift SO7.276-1 only as high as necessary!**
- **Lift SO7.276-1 only on lift points marked on drawing below!**

13.1 Transportation

The SO7.276-1 may be lifted and moved with a pallet jack or fork lift having a lifting capacity of at least 6,000 lbs.

It is possible that the center of gravity is not exactly in the middle of the machine – position the lifting device accordingly.

Only lift the machine at the marked lift points and secure it against tipping or tilting during transport if necessary.

Electrical wires and compressed air supply lines as well as mechanical components on the underside of the machine shall not be damaged during lifting or transportation!!

13.2 Removal of shipping bracing

The machine is shipped secured to shipping timbers and covered with shrink-wrap. All manuals, toolkits and machine components are included.

The machine may be secured to a shipping pallet with angle brackets and bolts.

⇒ Remove machine covers on both sides and remove all angle brackets and bolts securing the machine base to the shipping timbers and/or pallets.

⇒ Remove shipping straps and brackets securing the electrical enclosure.

Check immediately upon receipt:

⇒ Does the shipment correspond to the packing list?

⇒ Does the shipment correspond to the purchase order and order confirmation?

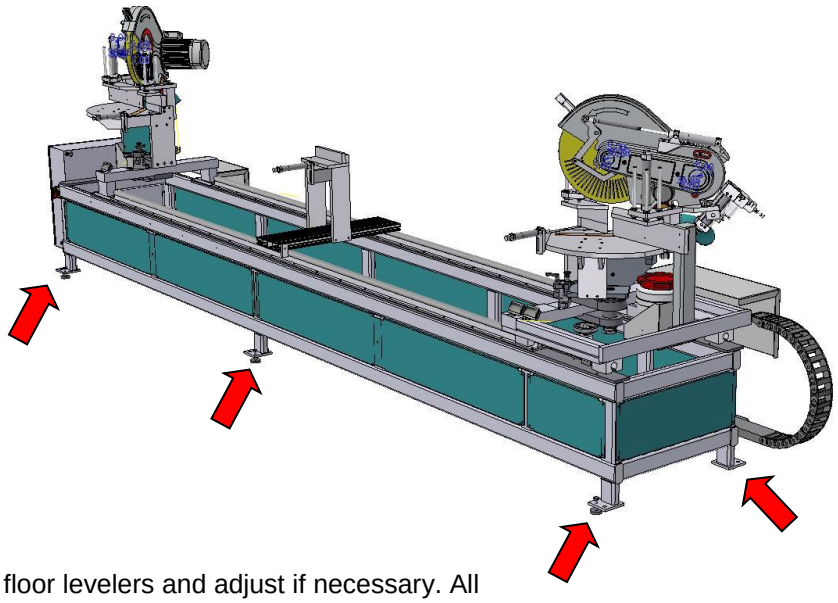
⇒ Is the shipment complete and without any damage?

Immediately report any shipping damage in writing to the carrier and to the manufacturer.

14 Installation and Set-Up

The SO7.276-1 must be installed plumb and level in all directions.

The load capacity of the floor must be at least 2 t/m². All machine legs have leveling bolts and must be adjusted to have full contact with the floor.



Check all floor levelers and adjust if necessary. All levelers must have contact with the floor.

Using a machinist's level, the machine must set plumb and level in all directions.

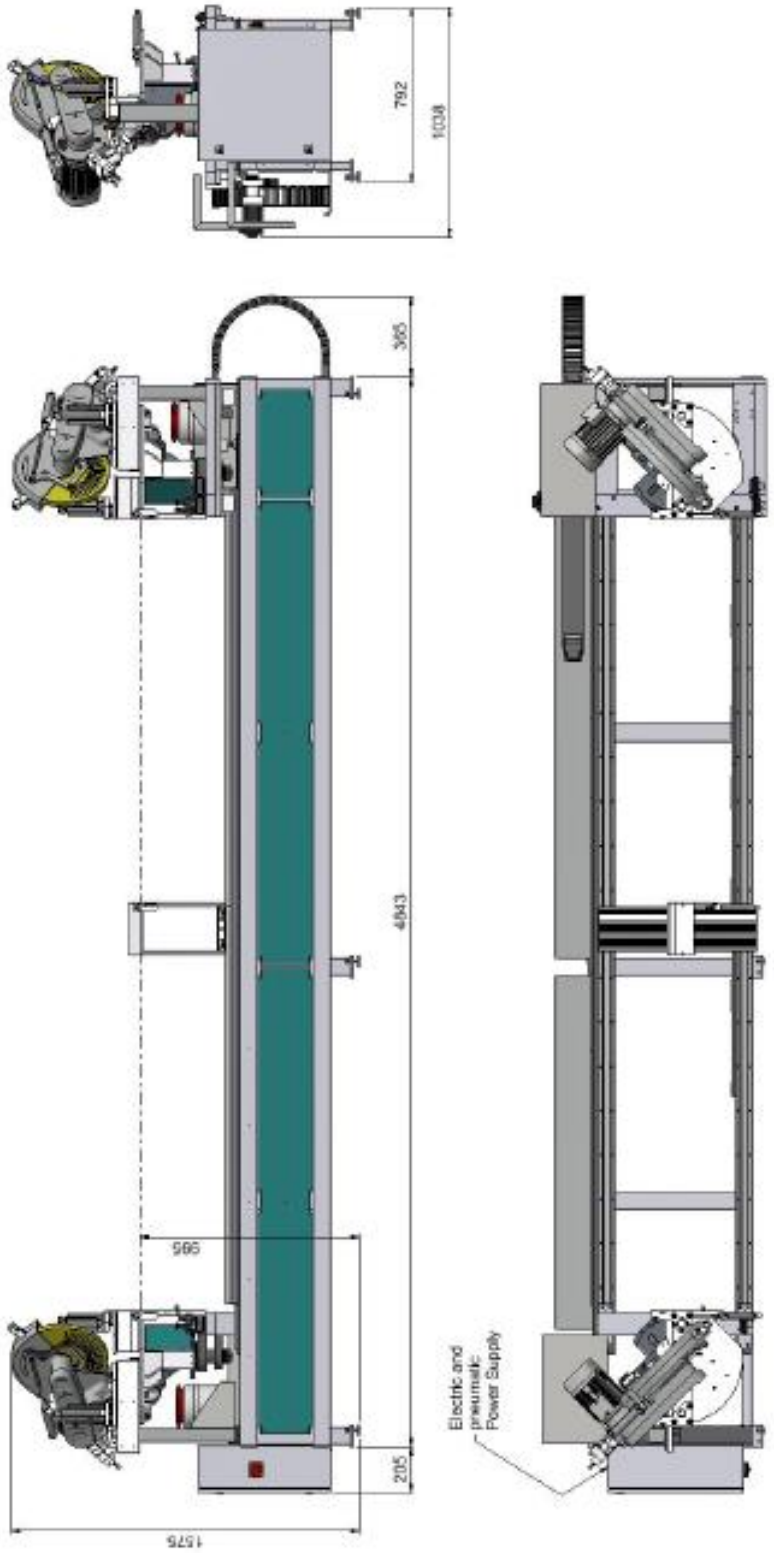
Make all electrical and pneumatic connections per the enclosed circuit diagrams and according to all local and state laws.

See section „Electrical and compressed air connections“

When first connected, the proper rotation of the saw blades must be verified.

Momentarily push the Start (1) and Stop (2) buttons on the control panel to check if the blades turn in the correct direction (see arrow)

14.1 Machine set-up diagram



14.2 Electrical and compressed air connections

The SO7.276-1 double miter saw is pre-wired and ready for on-site connections

Danger:
Follow these safety instructions!

Trip Hazard!
Lose wires and cables must be secured and covered with an appropriate cable cover to reduce the risk of tripping and falling.

The machine is equipped with separate electrical and pneumatic circuits, which must be connected and disconnected separately.

The proper resistance of the safety loop and the correct sizing of the supply breakers/fuses must be checked and verified on site.

1. Verify proper supply voltage and wire gauges before connecting SO7.276-1 to electrical supply lines.
2. Only trained technicians are authorized to perform work on this equipment.
3. Main power may not be connected until all electrical assemblies have installed and tested.
4. Always disconnected and lock main power supply prior to working on any electrical circuit. Use proper „Lock-Out / Tag-Out“procedures.
5. Separate circuit sections if possible and bleed off any residual compressed air before working on pneumatic circuits.

14.3 Connecting electrical enclosure to power supply

Electrocution danger!
Only trained technicians shall work on electrical circuits!

Verify proper supply voltage – see circuit diagrams and electrical enclosure labels.

Main switch must be OFF when connecting power supply lines!

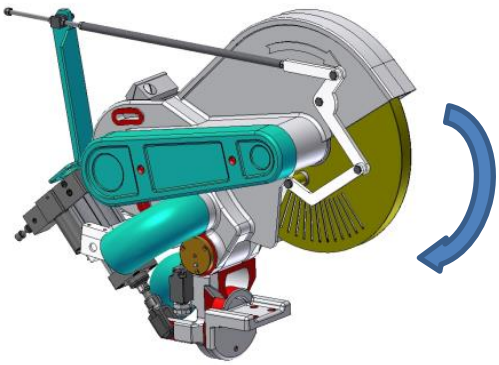
⇒ Connect power supply with appropriate parts and equipment to electrical enclosure.

⇒ Verify rotating magnetic field with suitable tester on main power switch inside of electrical enclosure.

The proper resistance of the safety loop and the correct sizing of the supply breakers/fuses must be checked and verified on site.

⇒ **Continue with installation only after correct rotating magnetic field has been verified.**

⇒ **Incorrect connection can cause damage to the system!**

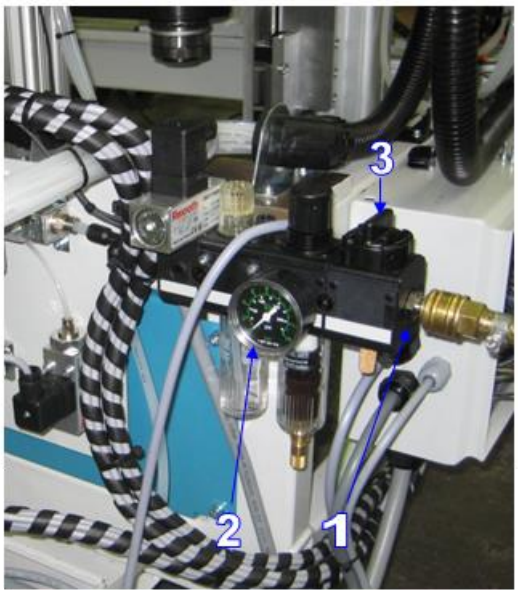


Confirm proper rotation of saw blades! Caution – sharp tooling! Wear gloves to protect hands and fingers!

14.4 Compressed air connections

Compressed air in proper Quality and Quantity is to be supplied by plant owner – see technical data section.

The air regulator-filter-lubricator assembly is installed on the left rear side of the machine.



Hoffmann SO 7.276-1 requires approx. 1/3 cubic feet (10 Liter) per cycle

Supply pressure must be

90 psi +/- 7 psi

Maximum supply pressure 115 psi.

Note:
The air pressure for the initial material clamping sequence is set to:

11.5 psi on the fixed station

8.8 psi on the moveable station

These pressures are factory-set for operator safety (higher pressures increase risk of pinching) and are locked and sealed at the factory. Seals may not be removed or broken!

The main shut-off cock of the air regulator-filter-lubricator assembly (open for machine operation, closed for maintenance and repair work) must be secured in its current position with a padlock.

CAUTION:
Switching off saw motors and/or main electrical power does not release or disconnect compressed air supply!!

⇒ Connect compressed air supply line without a quick-connect fitting to hose fitting (1)

⇒ Verify air pressure (2) is set to 90 psi – 6 bar

⇒ Lock shut-off cock with padlock (3)

14.5 Compressed air quality

Air supply shall meet industry standards for pressure consistency, oil content, water content and temperature.

While the machine is equipped with an air regulator-filter-lubricator assembly, it is recommend toinstall a water and oil separator in the supply line if plant compressed air quality is not to industry standards.

14.6 Check all connections!

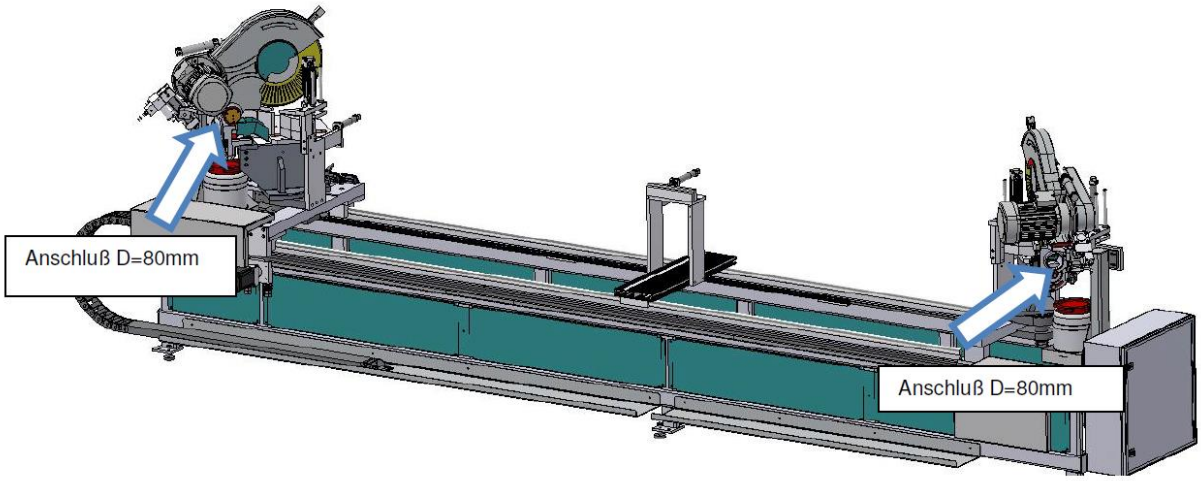
Check all electrical and pneumatic connections again prior to initial start up.

Verify that all wires are connected to the correct electrical terminals and that no stray wire strands are present.

Check all air pressure lines and hoses for tightness and leak-proof fittings.

Correct any problems prior to initial start-up!

15 Dust Collection Connections



- Connecting ports on saw heads are 80mm diameter

The Hoffmann SO7.276-1 must be connected to a suitable central dust collection system prior to use.

The machine is equipped with a number of dust collection ports – see drawing for locations.

Dust collections System requirements

1.) Min. collection volume = 450 cft/min = 750m³/h

2.) Pressure = 4.25 inches water column = 1050 Pa at 20ms-1

3.) Minimum velocity at dust collection port:
Dry wood chips: 65 ft/s = 20ms-1
Wet wood chips: 90 ft/s = 28ms-1
Wet chips are chips with moisture content greater than 18%.

16 Operation – Warnings and Safety Rules

Additional hazards exist during set-up and maintenance work, including:

Cutting and Amputation Hazard!

Router bits and drill bits are sharp and can cut fingers easily.
Saw blades are sharp and can cut and amputate fingers easily.
Never reach into cutting areas during operation!

Entanglement and Pinching Hazard!

When safety covers, shields, guards or access panels are open during set-up and maintenance additional dangers of entanglement and/or pinching hazards on rotating components (belts, sprockets, etc.) may be present.

Do not wear loose fitting clothing – always cover long hair with a hair net.

■ **Follow all safety rules during set-up and maintenance work.**

■ **Only trained and authorized personal may perform set-up and maintenance work.**

■ **Control parameters are adjusted at the factory for optimal performance and may not be changed or tampered with.**

16.1 Initial start-up

⇒ 1. Switch on main power switch on electrical enclosure (1)

⇒ 2. Wait for touch panel to complete boot-up process (30-45 sec.)

⇒ 3. Push CONTROL button on operator console to turn on console (2)

⇒ 4. Push CONFIRM button (5) to reset (remove) Warning Message “Load Supply Axes are missing”

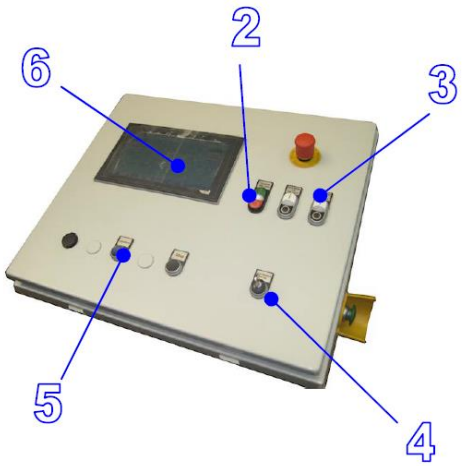
⇒ 5. Select REFERENCE field (6) on touchpanel (background shadow will change when selected)

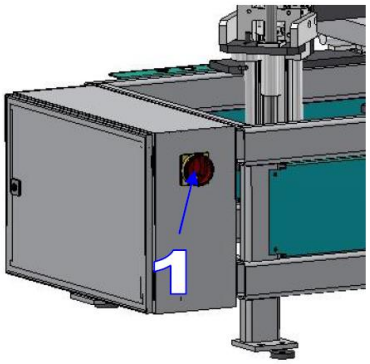
⇒ 6. Push CONFIRM button on console and START field on touchpanel simultaneously and keep depressed until machine has finished referencing sequence.

⇒ Right saw station will travel to far right end, trigger limit switch and reverse until switch is released.

⇒ 7. The CURRENT POSITION field on touchpanel will change from green to light yellow and indicate current position of right saw station.

⇒ 8. Machine is now ready for operation.





16.2 Saw blade change and installation

Always wear safety gloves when handling saw blades!

The saw blade is mounted to the saw arbor with a flange and arbor nut.

A fixed saw blade main cover and a pneumatically operated, yellow front cover are used to guard the saw blade.

Follow these steps to replace a saw blade:

⇒ Disconnect machine from compressed air supply by shutting off main valve and secure valve in CLOSED position with a padlock.

⇒ The moveable yellow front cover (1) is now without air pressure (3) and can be swiveled upward to change the saw blade.

⇒ Insert the included cabinet access key into the keyhole (2) on top of the fixed blade cover and pull the cylinder piston up 3/8” until you can swivel the moveable cover out of the way.

⇒ Losen the top screw of the arbor cover plate (7) and swivel the plate backward to access the arbor PROLOCK® bolt

⇒ Loosen the set-screw (4) in the PROLOCK® bolt (5) with an Allen Key and remove the PROLOCK® bolt and arbor flange (6).

⇒ Replace the saw blade – be sure to check for and remove any dirt on the blade and/or flange before installing. Check for proper orientation!!

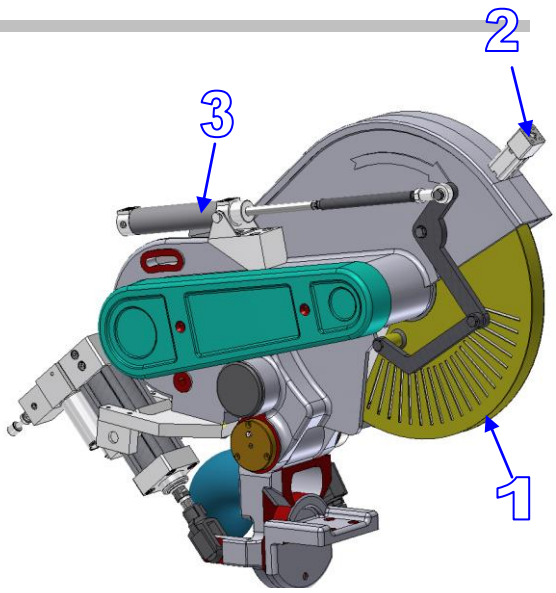
⇒ Re-tighten the PROLOCK®- bolt by hand, then with aid of the Allen key until hand-tight.

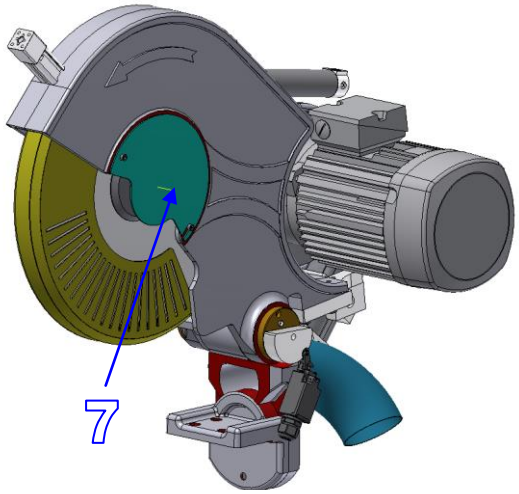
⇒ Tighten the allen set-screw!

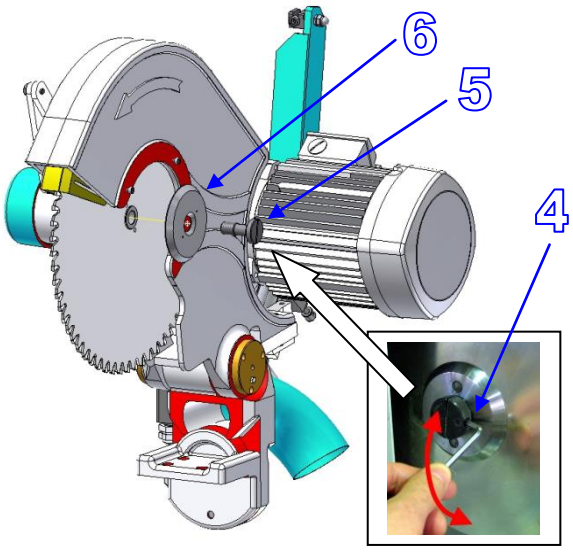
⇒ Re-install the arbor cover plate and tighten the mounting screws.

⇒ Swivel the front cover back into position and

double-check all screws and bolts for proper tightness.

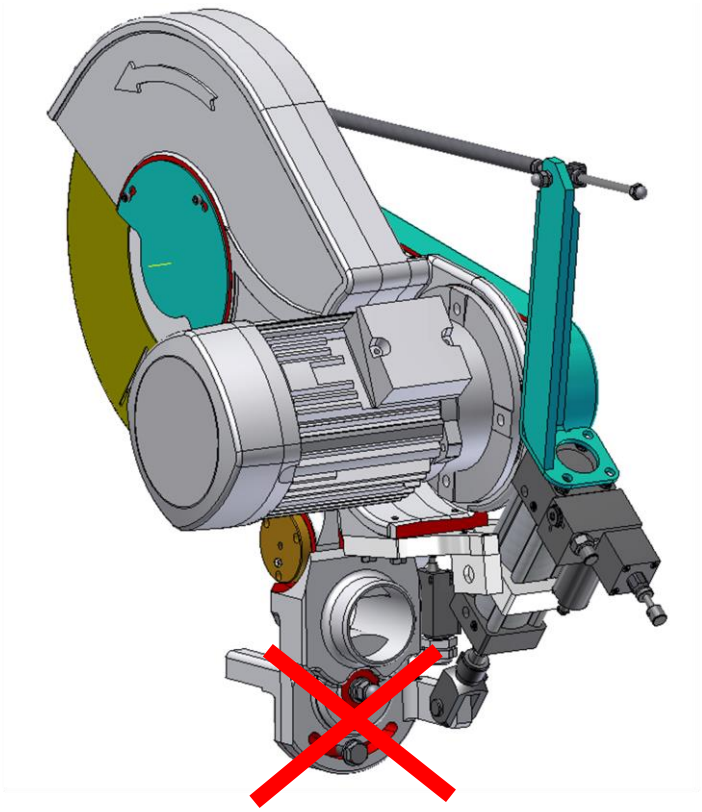






16.3 Compound Miter Adjustment

The saw head is equipped with a compound miter adjustment, which is factory set to exactly 90 degrees to the material support surfaces of the machine.



DO NOT TAMPER WITH THIS SETTING!

DO NOT ATTEMPT TO CHANGE OR ADJUST THIS SETTING!

Warning:

The saw drive belt may only be replaced by a HOFFMANN factory authorized technician.

16.5 Saw Head Feed Rate Adjustment

The feed rate on both saw heads is factory adjusted and changes should only performed by trained personnel. Only small incremental adjustment should be performed.

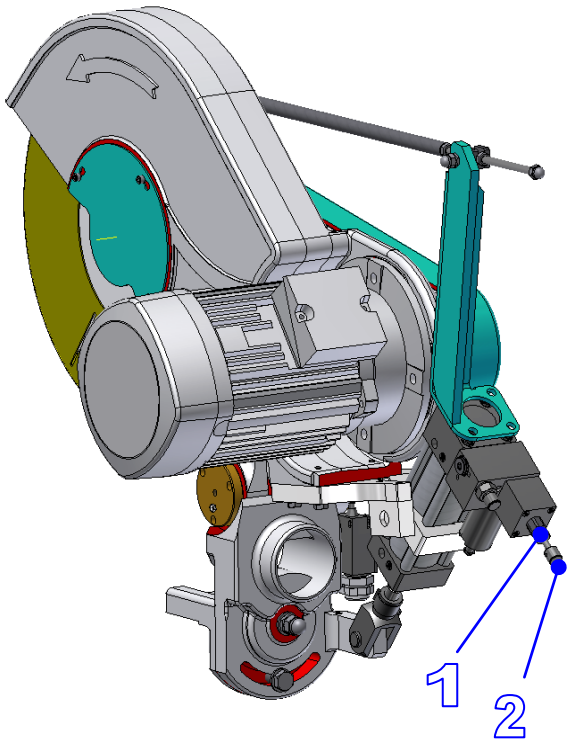
Follow these steps to adjust the saw head feed rate:

⇒ Losen lock-nut (1) and turn adjustment screw (2) to change feed rate.

⇒ Adjustment screw (2) regulates oil flow in the hydro-pneumatic cylinder.

Turning counterclock wise CCW:
Feed rate increases

Turning clock wise CW:
Feed rate decreases



⇒ Tighten lock nut (1) after adjustment is completed.

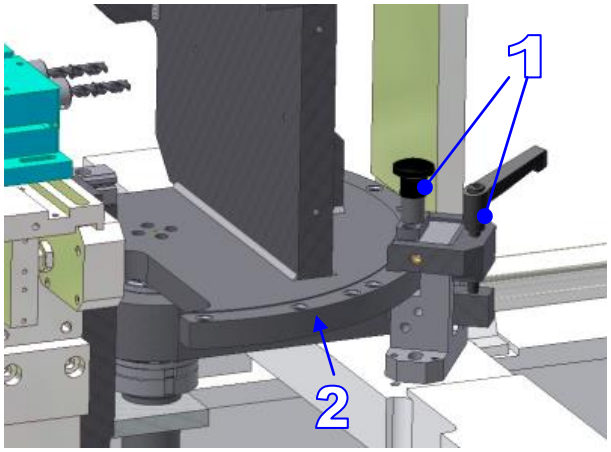
⇒ Perform test cuts with new saw blade to verify feed rate is appropriate for material type, density, size, etc.

Too high feed rate results in poor cutting quality, tearing, straining on saw motor and reduced saw blade life.

17 Adjustment of cutting angles

The HOFFMANN SO7.276-1 features two saw stations The cutting angles can be adjusted independent of each other – both stations are equipped with pre-set cutting angle locations at 22.5°, 30°, 45° and 90°

Intermediate angles are set manually by following these steps:

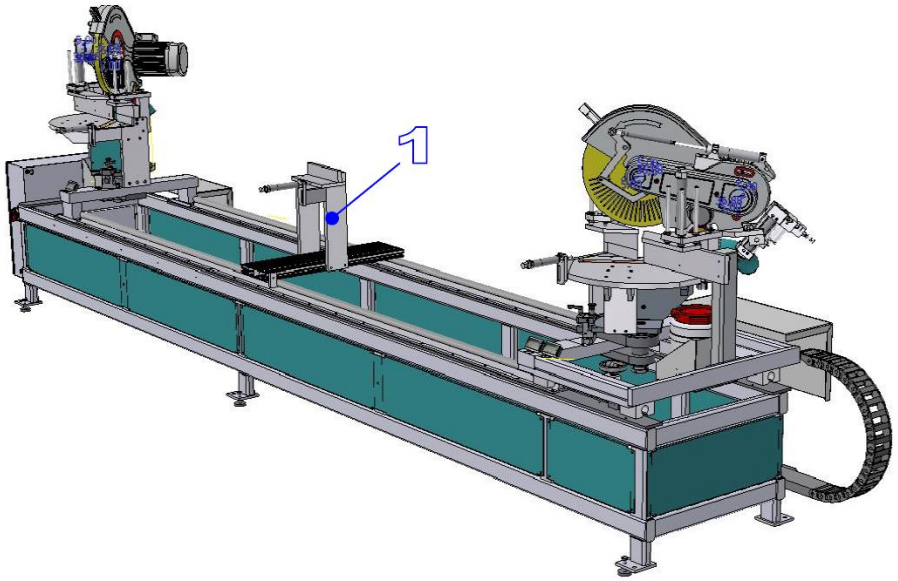


To adjust the saw cutting angle, pull-up the locking lever and loosen locking bolt (1) and move the saw station (2) manually to the desired angle.

More common cutting angles have pre-set registered holes (22,5° / 30 ° / 45°/ 90°)

Insert the locking bolt in the desired hole and lock the setting in place with the locking lever (1).

18 Adjustment of cutting length



The Hoffmann SO7.276-1 is equipped with two separate cutting stations.

The machine features automatic cutting length adjustment with a servo motor connected via gearhead to a pinion wheel which engages a tooth rack along the back of the machine frame.

To adjust cutting length, follow separate instructions for touchscreen operation.

Safety Regulation:
Material lengths over 2000mm = 78 ¾" require the installation of the center support (1) to avoid sagging of the material.

19 Using coolant misting system

WARNING!

Misting coolant contains chemicals that may be hazardous to your health.

Read and follow all safety instructions provided by the manufacturer.
Instructions are attached to the original container.

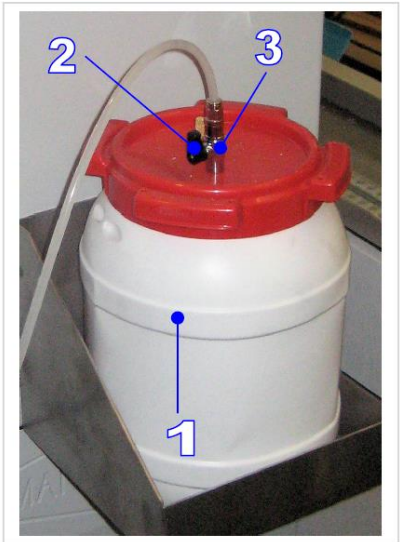
OPERATION:
A coolant reservoir is installed behind the fixed and behind the variable saw aggregate (1)

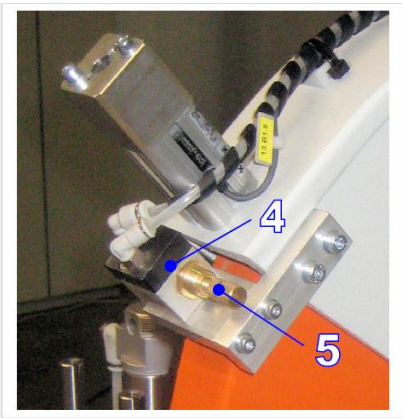
The coolant shut-valve (2) on the reservoir lid is used to shut-off coolant supply to the saw heads.

A quick-connect fitting (3) is used to disconnect the reservoir for easy refilling.

Misting nozzles (4) are installed on both saw heads to spray the coolant onto the saw blades. The misting adjustment screw (5) is used to decrease or increase the amout of coolant being dispensed.

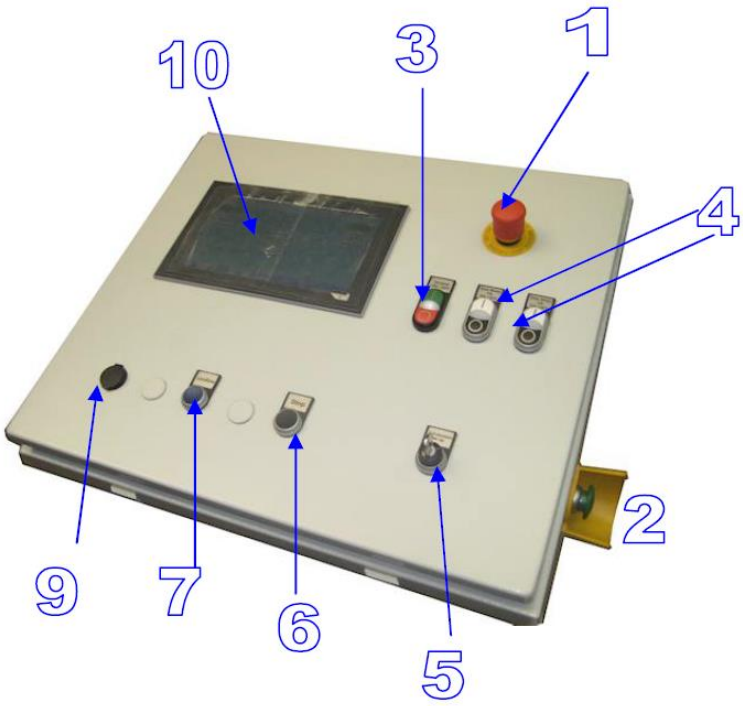
Misting Nozzle – part number DP200503.009.4
Coolant Type – Friozut L225

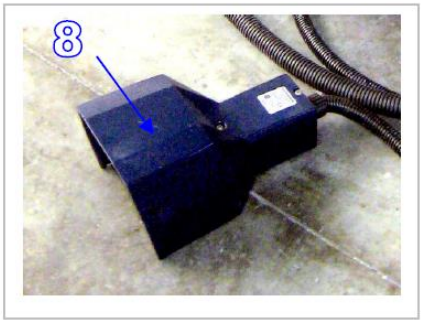




20 Machine Operation

20.1 Operator Console





Pos.	Description	Function
1	**EMERGENCY-STOP**	Emergency-Stop button. Instantly stops all machine functions. Material clamps remain in place and under pressure.
2	**Two-Hand Safety Controls**	Installed on left and right hand side of operator console Must be held during entire machining cycle.
3	**ON-OFF switch**	Turn console controls ON and OFF
4	**ON-OFF switch**	Saw motors ON-OFF – variable and fixed station
5	**Keyed switch**	To switch between automatic and set-up mode
6	**STOP switch**	To stop the working cycle
7	**CONFIRM button**	To confirm readiness
8	**Foot operated switch**	• To activate vertical material clamps with low pressure
9	**USB Port**	To import or export data files
10	**Touch Screen**	To control machine functions incl: • Cutting length • Referencing or homing sequence

20.2 Inital Test Run and Check List

An initial test run is used to assure correct settings of saws angles, feed rates and cutting length to reduce wasted material.

Verify that all settings allow obstruction free operation of the machine prior to start up.

It may be necessary to make adjustments during the initial test run.

⇒ **Check list prior to initial start up:**

- Verify compressed air supply at 90 psi (6 bar).
- Verify proper electrical connections
- Verify correct setting or sawing stations
- Verify proper type and installation of all tooling
- Verify proper setting of all machine parameters

20.3 Machine Operating Sequence

The main control and the saw motors are switched on the operator panel.

The desired cutting angles are adjusted manually on both sides.

The desired cutting length is adjusted automatically by entering the desired dimension on the touchscreen. The cutting length is displayed on the digital display.

Sawing Sequence on machine ordered without safety fence:

Raw material is loaded into the machine.

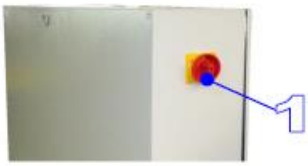
Activation of the foot valve clamps the material

Operator pushes both two-hand safety buttons at the same time and holds buttons depressed during the entire cutting cycle.

Upon completion of the machining cycle, the work piece clamps release and the operator can remove the finished panel.

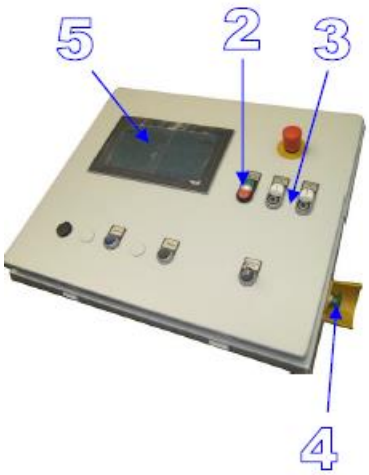
20.4 Machine operation

⇒ Switch-on the main power switch (1) on the electrical enclosure and release the emergency-stop(s) is necessary.



⇒ Push ON-OFF switch (2) on operator panel.

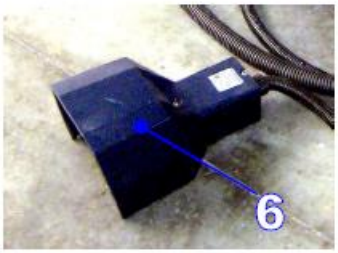
⇒ Push START button (3) to start saw blades.
WARNING: Saw blades will start-up immediately!



⇒ Enter desired cutting length and wait until variable (right hand) saw station has moved to desired position.

⇒ Place raw material on material supports and activate foot switch (6) to clamp material.

⇒ Press Two-Hand Safety Buttons (4) on left and right side of machine console. Buttons must be kept depressed during the entire sawing cycle for operator safety!



⇒ Remove waste pieces and/or remainder of raw stock on infeed side.

⇒ Upon completion of the operating sequence, the work piece clamps release automatically and the finished panel can be removed from the machine.

Important:
Releasing the Two-Hand Safety Buttons or activation of an Emergency-Stop button during the machining sequence will immediately stop all functions and the machine stations will move to their respective home positions. The material clamps remain in place and under pressure.

20.5 Machine shut-off sequence

⇒ Push OFF button (3) on operator panel to shut-off saw stations.

⇒ Push OFF button (2) on operator panel to shut-off operator panel.

⇒ Switch main power switch (1) on electrical enclosure to OFF

⇒ Optional: Lock main power switch (1) with padlock.

CAUTION:
Switching off saw motors and/or main electrical power does not release or disconnect compressed air supply!!

21 What to do in case of errors

■ **Only trained and qualified personnel may rectify errors or faults.**

■ **Keep other persons a safe distance away.**

Push EMGERGENCY-STOP button in case of any emergency or uncontrolled or unwanted movement.

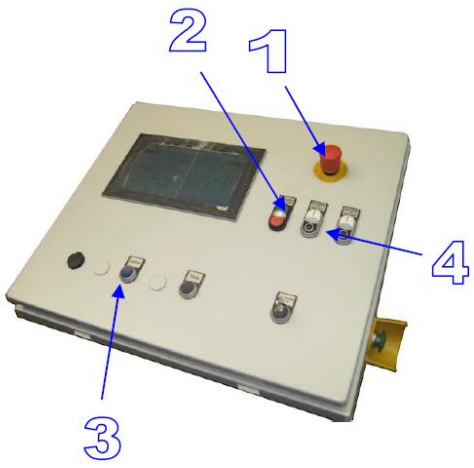
Activation of an Emergency-Stop switch during the machining sequence will immediately stop all functions and the machine stations will move to their respective home positions. The material clamps remain in place and under pressure.

CAUTION:
Switching off saw motors and/or main electrical power does not release or disconnect compressed air supply!!

21.1 Restart sequence after Emergency-Stop activation

Follow these steps after activation of an Emergency-Stop button:

1. Rectify fault or error and remove workpiece(s) and cut-off from machine.
2. Release Emergency-Stop (1) button by turning it sideways.
3. Push START button (2) to switch on control panel.
4. Push START button (4) to switch on saw motors.



21.2 Trouble shooting chart

Error Message Number	Error Message	Reason	Remedy
1	Motor won't start	Router motor is switched off. Power supply interrupted Motor is overheated	Switch on motor switch. Check power supply lines Allow motor to cool down
2	Reduced rpm	Tooling is dull or damaged. Motor size not appropriate for material being processed.	Change tooling (saw blades and router bits) Check all settings and machine specifications
3	Operating noise too high	Tooling is dull or damaged. Incorrect rotation.	Change tooling Check for proper rotation
4	Cutting quality getting worse	Tooling is dull or damaged.	Change tooling
5	Saw or routing or drilling unit does not move freely.	Guides or tracks dirt covered.	Remove debris and clean all guides and tracks.
6	Cutting angle is incorrect	Saw blade or mounting flange is dirty or damaged (burr) Cutting angle set incorrect.	Remove and clean blade and flange, Repair or replace flange. Re-set cutting angle

Electronic Error Message (Display in electrical cabinet)

Display	Reason	Remedy
Fuse / BR-NIO	1.) Motor protection Motor overheated 2.) Motor brake error Brake current set too high	Let motor(s) cool down. Re-set motor protector switch. Adjust brake current on brake modules.
Grundst.ok	Home Position missing	Verify proper air pressure. Check all sensors in home positons
B.Stunden	Operating Hours	Displays total operating hours
Prog.Version	Software Version	Displays Software version

22 Maintenance and cleaning procedures

Danger of entanglement and pinching!

During set-up and maintenance work, especially when access doors must be opened, additional dangers of entanglement or pinching on belts, sprockets, saw station, router station, drilling station, etc. are present. Do not wear loose fitting clothing. Long hairs must be covered with a hair net.

Danger of cutting of hands and fingers!

All sawing, routing and drilling areas present dangers of cutting of hands and fingers.

Danger of amputation!

All sawing areas present the danger of severe cutting or amputation of fingers.

.

Machine operator and maintenance personnel may only perform activities described in this manual.
Persons working on or with this machine must be at least 18 years old, they must be thoroughly familiar with this operating manual and they must adhere to all local safety rules and regulations. All OSHA specified rules must be followed if applicable.

Persons working on or with this machine must wear suitable clothing designed to avoid entrapment in rotating machine components.
No loose fitting clothes e.g. ties or shawls, or bracelets, wristwatches, necklaces, etc. may be worn when operating this machine.
Persons with long hair should tie their hair securely and wear an appropriate hair covering to avoid entanglement.

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22.1 Maintenance and cleaning chart

Warning – Safety Hazard!
Always disconnect electrical and compressed air supply and follow proper Lock-Out/Tag-Out procedures

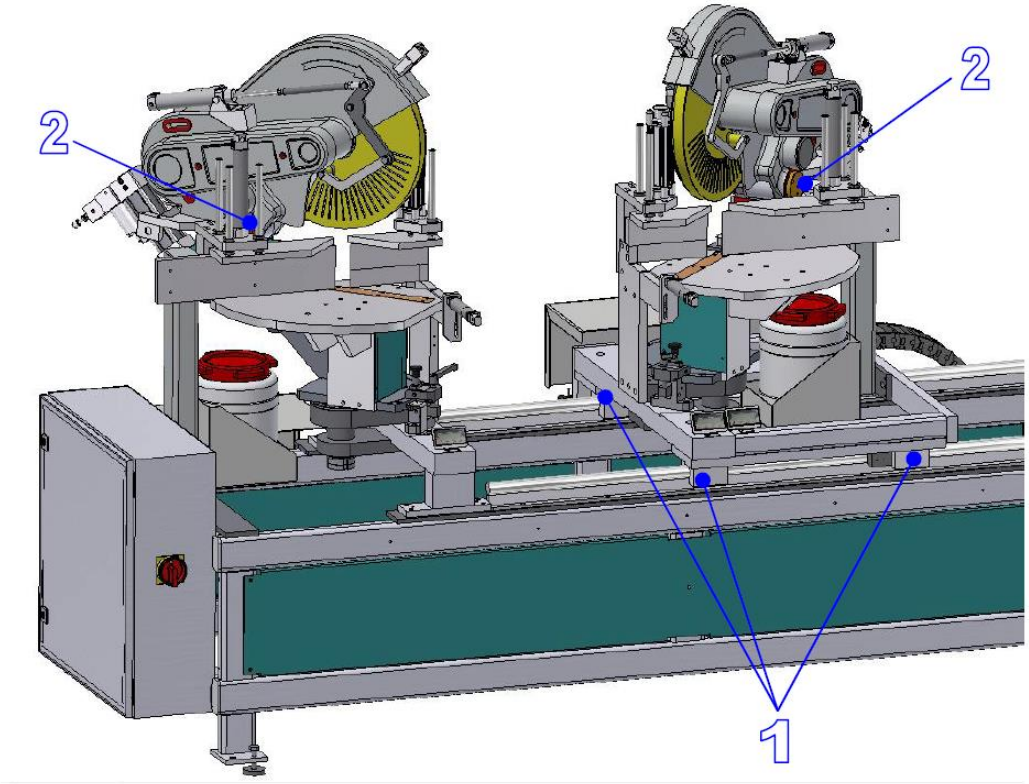
Frequency	Description
daily	Check tooling for wear and damage.
	Check all safety devices and motor brakes for proper function.
	Clean all guides, tracks, slides, etc. every day.
weekly	Clean debris from machine.
	Check wires, cable, switches, hoses, lines for damages.
	Drain condensate from air filter assembly.
	Clean safety floor mats with broom and check for proper wiring connections.
	Check cylinder switches and sensor for proper function.
	Clean threaded spindles on servo drives with soft cloth.
monthly	Remove dust and debris from all machine components.
	Clean cooling vents on all motors.
	Check chain and belt tension and re-tighten is necessary
	Grease chain on main axis.
	Grease sprocket on main axis.
quarterly	Remove grease expelled from grease fitting or bearings.
	Refill linear bearing with grease.
	Refill air lubricator with BOSCH S OL 20 pneumatic lubricant.
Semi-annually	Check pneumatic circuit for leaks and repair if necessary.
	 Belts may only be replaced by Hoffmann authorized technicians!

22.2 Lubrication

Warning – Safety Hazard!
Always disconnect electrical and compressed air supply and follow proper Lock-Out/Tag-Out procedures

All guides, bearings and tracks require periodical cleaning and lubrication.

22.3 Location of lubrication points

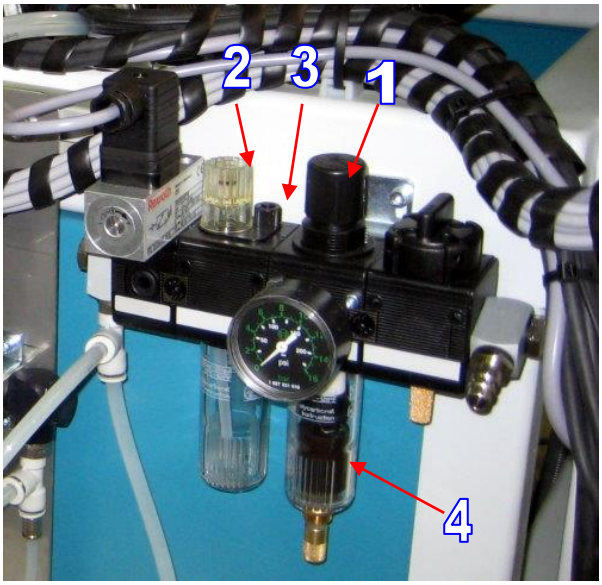


POS	Location	Procedure	Lubricant	INTERVALL
1	Linear bearings THK tracks	Fill grease fitting with appropriate grease	Semi-Synthetic high performance multi-use grease DIN 51825 / KP 2 P-30 (e.g.. ESSO / Grease LT2) (kinematic viscosity at 40°C = 80mm²/s(cSt) - ISO-VG 68 → ISO-VG 100	Every 3 months or 500 hrs – whichever comes first.
2	Saw Head pivot bearing	Fill bearings with appropriate grease	Semi-Synthetic high performance multi-use grease DIN 51825 / KP 2 P-30 (e.g.. ESSO / Grease LT2) (kinematic viscosity at 40°C = 80mm²/s(cSt) - ISO-VG 68 → ISO-VG 100	Every 3 months or 500 hrs – whichever comes first.

22.4 Pneumatic circuit and air regulator-filter-lubricator assembly

The machine is equipped with pneumatic components for various operating movements and sequences.

Warning – Safety Hazard!
Always disconnect electrical and compressed air supply and follow proper Lock-Out/Tag-Out procedures



POS	Description	Info
1	Air pressure adjustment cap	Factory set to 90 psi(6 bar)
2	Lubricant control screw	Factory set
3	Lubricant filler plug	Use a 6mm Allen key to remove plug and refill lubricant. **Warning:** **Air pressure must be switched-off and locked out!** **Note: Only use BOSCH Type: S OL 20 lubricant**
4	Condensate separator	See maintenance schedule
5	Shut-Off Cock	To manually shut-off air supply
6	Connecting Fitting	To connect to 90 psi air supply line
7	Pressure Sensor	Automatically shut-down machine in case of pressure drop or loss

Cleaning:
Air pressure must be switched-off and locked out!
Use only water, mineral spirits or WD 40 to clean pneumatic filters and bronze exhaust mufflers.
Clean or replace filters if pressure drop is noted in system.

23 EG-Conformity Certification

CE

EG-Konformitätserklärung
nach 2006/42/EG, Anhang II, Nr.1 A

Firmenanschrift: **Hoffmann Maschinenbau GmbH**
Mergelgrube 5, 76646 Bruchsal
Deutschland

Herr Arnd Wenz ist bevollmächtigt, die technischen Unterlagen zusammenzustellen.
Anschrift: Hoffmann GmbH, Arnd Wenz, Mergelgrube 5, 76646 Bruchsal

Hiermit erklären wir, dass die Maschine

Bezeichnung:	**Hoffmann MX-2 double-end miter saw**
Type:	**SO 7.276-1**
Typennummer:	**SO 7.276-1**
Baujahr:	**2019**

mit allen einschlägigen Bestimmungen der EG-Maschinenrichtlinie 2006/42/EG in Übereinstimmung ist.
Die Maschine ist auch in Übereinstimmung mit allen einschlägigen Bestimmungen der folgenden EG-Richtlinien:

2004/108/EG	EG-EMV-Richtlinie

Folgende harmonisierten Normen oder Teile dieser Normen wurden berücksichtigt:

EN 12100-1:2004-04	Sicherheit von Maschinen: Grundsätzliche Terminologie
EN 12100-2:2004-04	Sicherheit von Maschinen: Technische Leitsätze
EN 1870-9:2010-03	Sicherheit von Holzbearbeitungsmaschinen - Doppelgehrungssäge

Ort / Datum: Bruchsal, June 06, 2019

Unterschrift:

Martin Hoffmann, Leiter der Technik

24 Terms and Conditions of Sale and Warranty

1. Application and Scope:
The terms and conditions contained herein apply to proposals made, and to purchase orders received, by HOFFMANN MACHINE COMPANY, INC. (hereinafter called “Seller”), and sets forth the entire agreement between the parties hereto, and supersedes all communication, representations or agreements, whether oral or written, between the parties hereto with respect to the subject matter herein, and no agreement or understanding varying or extending the terms or conditions hereof will be binding unless expressly agreed to in writing by Seller. No conditions stated by Buyer in its purchase order or orders shall be binding upon Seller if in conflict with, inconsistent with, or in addition to, the terms and conditions contained herein, unless expressly accepted in writing by Seller. Seller’s failure to object to any provision contained in any communication or purchase order from Buyer shall not be deemed a waiver of the terms and conditions herein. All orders or contracts are subject to approval and acceptance by Seller at its main office in North Carolina. These Terms and Conditions are within the sole discretion of Seller and are subject to change with or without prior notice.

2. Quotations and F.O.B. Point:
Prices are quoted and all sales are made F.O.B. Sellers facility and, unless otherwise indicated in the proposal, prices quoted are effective for a maximum thirty (30) days after the date of any proposal.

3. Terms of Payment:
All invoices are due and payable as set forth on the front of the invoice. Each delivery shall be considered a separate and independent transaction and payment thereof shall be made on terms set forth on invoice covering same. If delivery is delayed by Buyer, payment shall become due when Seller is prepared to make delivery. If, in the sole judgment of the Seller, the financial condition of Buyer at any time does not justify continuation of manufacture or of delivery as originally specified, Seller may vary terms of payment by requiring full or partial payment in advance, or otherwise, or may ship to Buyer’s order against sight draft with bill of lading attached.
If payment is not received on or before payment due date and as set forth in terms on proposal and/or invoice, or if payment is delayed, or if payment amount is reduced, seller reserves the right to reduce or revoke equipment warranty, at seller’s sole discretion. Eventual payment of outstanding amount does not automatically reinstate warranty. Warranty can only be reinstated by seller and reinstatement must be confirmed by seller in writing to be valid.

4. Taxes:
Unless the quotation expressly provides otherwise, the amount of any present or future Federal, State or local sales, excise or other tax applicable to the products purchased hereunder, or to the manufacture or sale thereof (including, without limitation, state or local privilege or excise taxes based on gross revenue), and any taxes or amounts in lieu thereof paid or payable by Seller in respect of the foregoing (excluding, however, taxes based on net income), shall be added to the purchase prices and shall be paid by Buyer. In lieu thereof, Buyer may provide Seller with an appropriate tax exemption certificate acceptable to the taxing authorities.

5. Warranty:
The products covered herein are warranted, for a period of twelve (12) months from date of shipment, against defects in material and workmanship under normal use and service by Buyer. The liability of Seller under its warranty is limited to adjustment, in accordance with the Warranty Adjustment Terms set forth below, for products which are found to be defective by Seller in the form in which they were originally shipped. In no event will Seller be liable for collateral, consequential or other damages of any kind.
Parts replaced under Warranty are covered for a period of six (6) months from the date of shipment, unless otherwise specified on invoice, subject to the warranty adjustment terms set forth below.

SELLER MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

6. Warranty Adjustment Terms:
(a) Adjustments will be limited to claims which are presented promptly after the product is found to be defective, and within the aforesaid warranty period.
(b) All products claimed to be defective will be subject to inspection and test by Seller. Normally, Seller will request return of products for inspection and test, however, Seller reserves the right to make inspection and test on Buyer's premises. Returns are to be made only as and if authorized in writing by Seller.
(c) Buyer will pay all packaging, inspection, labor and transportation costs involved. Credit for the transportation costs only will be issued by Seller provided adjustment subsequently is allowed.
(d) No adjustments will be allowed for products which have been subjected to abuse, improper installation or application, alteration, accident or negligence in use, storage, transportation or handling; nor for products on which original identification markings have been removed, defaced or altered.
(e) Final determination as to whether any adjustment is allowable, and as to the extent thereof, rests with Seller. Full adjustment, if allowed, normally will be made by replacement in kind on an exchange basis. Pro rate adjustment, if allowed, normally will be made by the issuance of credit. In all cases, however, Seller reserves the right to make adjustment by repair, replacement or credit.
(f) Replacement for products found subject to adjustment, whether new or repaired, will be shipped F.O.B. city of destination with transportation charges prepaid by Seller.

7. Installation:
Buyer shall install machinery purchased from Seller at Buyer's cost and expense, unless otherwise expressly stipulated in writing.

8. Packaging and Shipment:
All products shipped hereunder will be packaged in accordance with standard commercial practice for domestic shipment. Seller's liability as to delivery ceases upon making delivery of products purchased hereunder to carrier at Seller's facility, in good condition, the carrier acting as Buyer's agent. All claims for damages must be filed with the carrier or Buyer's insurer as appropriate. Seller will select the method of shipment unless Buyer does so in writing at least ten (10) days in advance of the scheduled delivery date. Equipment held for Buyer because of Buyer's delay in acceptance, shall be at Buyer's risk and expense. Seller does not assume liability for shipping in the least expensive manner.

9. Deliveries:
It is the desire of Seller to meet requested delivery schedules, however, Seller shall not incur any liability, consequential, collateral or otherwise, due to any delay or failure to deliver for any reason, other than arbitrary refusal by Seller to perform. Any delivery indication furnished by Seller only represents the best estimate of the time required to make shipment.

10. Assignment:
Buyer shall not assign this purchase order or any interest herein or any rights thereunder, without the prior written consent of Seller

11. Termination:
Seller may terminate the purchase order or any part thereof herein referred to or any other purchase order or orders then outstanding by written, telegraphic or electronic mail notice to Buyer if Buyer becomes insolvent or is subject to proceedings under any law relating to bankruptcy, insolvency or relief of debtors. Upon such termination Seller shall be entitled to receive reimbursement for reasonable termination charges.

12. Cancellations or Returns:
Buyer shall not cancel any order nor return any equipment without first obtaining the written consent of Seller. In any event, in case of refusal or inability of Buyer to accept a delivery, the Buyer shall nevertheless be liable for freight, express, storage, handling, restocking and any other expense resulting. In no event are orders for machines or parts built to customers' specification subject to cancellation and Buyer shall be liable for work done and materials used.

13. Specifications:
(a) Phone order specifications are filled at Buyer's risk unless confirmed in writing prior to commencement of manufacture.
(b) If equipment is found not the meet original specifications, Seller shall have a reasonable time to make adjustments.

14. Law Governing:
Buyer's purchase order shall be governed by and construed according to the laws of the State of North Carolina. The courts of the State of North Carolina shall have jurisdiction over any controversy that may arise out of the dealings between Buyer and Seller.

15. Force Majure:
Seller shall not be liable under this agreement by reason of its delay in the performance of or failure to perform any of its obligations hereunder if such delay or failure is caused by acts of God or the public enemy, riots, incendiaries, interference by civil or military authority, compliance with government laws, rules and regulations or any fault beyond its control.

16. Acceptance:
Payment for or a deposit made for the products shall constitute a contract embodying all of terms and conditions stated herein.

17. Ownership:
All products remain the sole property of the Seller until all charges, including all transportation, crating and installation costs, are paid in full.

18. Severability:
The provisions of these Terms and Conditions are intended to be severable. If, for any reason, any of the above provisions should be found unenforceable or invalid in whole or in part, in any jurisdiction, such provision be ineffective only to the extend the determination of invalidity or unenforceability in that jurisdiction. Any such determination shall not affect the enforceability or validity of the remaining provisions.

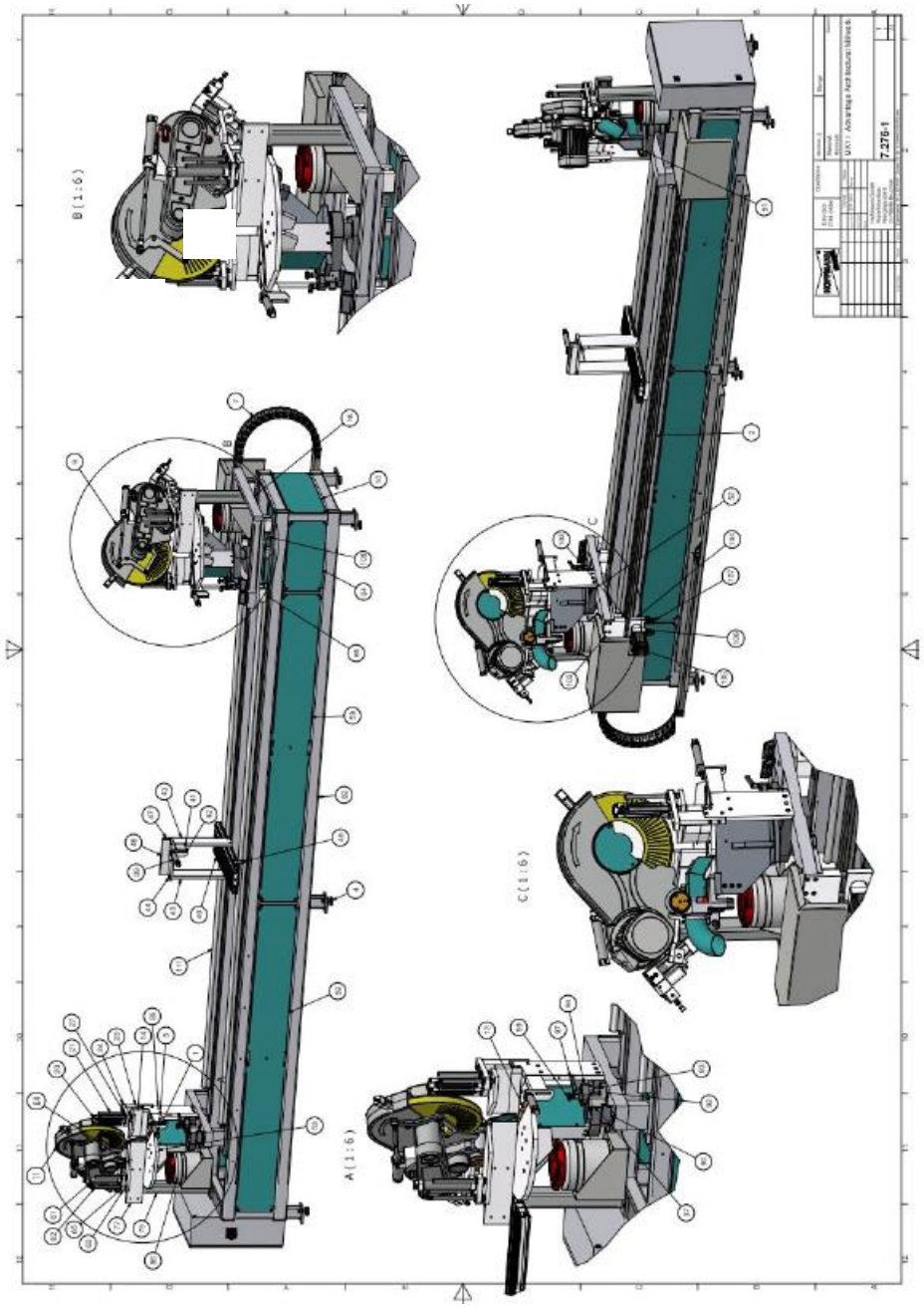
25 Technical Support Documentation - Addendum

25.1 Addendum Overview

Enclosed in the Machine Document Binder are the following documents:

⇒ Machine parts list
⇒ Electronic circuit diagrams
⇒ Saw head parts list
⇒ Machine drawings

26 Machine Drawings



26.1 Machine Parts List

Pos	Part Number	Description	Aty.
1	0822334504	Cylinder D25, H80	2
2	241 607 00	Toothed Rack, L-1500	2
3	3 4540-DU	Guide bushing	2
4	7.112029-01	Base Plate	6
5	7.209.02.66-01	Cylinder bracket, horizontal clamp 110mm	2
6	7.221.00.05	Lower Support plate	2
7	7.221.00.12-01	Pivot axle	2
8	7.221.00.18	Spacer	2
9	7.225.00.xxx	Saw head, right side, complete, D-400	1
10	7.227.00.34	Sheet metal cover	1
11	7.230.00.xxx	Saw head, left side, complete, D-400	1
12	7.233.00.04	Plate	2
13	7.233.00.14	Chip breaker	2
14	7.233.00.15-01	Rear fence, left, tall	1
15	7.233.00.16-01	Rear fence, right, tall	1
16	7.242.00.20	Dust collection port	2
17	7.249.00.02	Bridge – welded part	1
18	7.249.00.03	Frame MX-1	1
19	7.249.00.20	Clamping arm, left, compl.	1
20	0822121004	PRA-Cylinder D40 H100	1
21	7.121008-00-4	Guide rod D16 x 210, M6-M8	2
22	7.180.222.02	Fence rail	1
23	7.227.00.19-02	Cylinder bracket, left	1
24	7.227.00.21-02	Clamping plate, left, for D 40	1
25	7.227.00.23-02	Plate, vertical, left, for D-40	1
26	7.249.00.22-02	Fixed fence, left	1
27	LME-16-UU	Linear bearing	2
28	7.249.00.21	Clamping arm, right, compl.	1
29	0822121004	PRA-Cylinder D40 H100	1
30	7.121008-00-4	Guide rod D16 x 210, M6-M8	2
31	7.180.222.02	Fence rail	1
32	7.227.00.20-02	Cylinder bracket, right	1
33	7.227.00.22-02	Plate, vertical, right, for D-40	1
34	7.227.00.24-02	Plate, vertical, right, for D-40	1
35	7.249.00.23-02	Fixed fence, right	1
36	LME-16-UU	Linear bearing	2
37	7.249.00.42	Sensor shield left	1
38	7.249.02.100	Center Support, complete	1
39	0822234005	Cylinder, D25, H100, without magnet	1
40	101-3520-L	Profile 35 x 200	1
41	7.180.30.24	Front clamp, 100mm	1
42	7.209.02.66-01	Cylinder bracket, 110mm	1
43	7.249.02.101	Table bracket	2
44	7.249.02.102-01	Table	1
45	7.249.02.103	Spindle marker, rear	1
46	7.249.02.104	Clamp marker, right	1

47	7.249.02.106	Anschlagkante	1
48	7.249.02.107	Anschlagadapter50x18	1
49	7.269.00.01-T14-01	Kabelschlepp-Wanne	1
50	7.269.00.84	Distanz-Frontspanner 140mm	2
51	7.276.00.04	Drehteller-links-kpl.	1
52	7.276.00.05	Drehteller-rechts-kpl.	1
53	7.276.00.07	Spanbrechertisch-breit-links	1
54	7.276.00.08	Spanbrechertisch-breit-rechts	1
55	7.276.00.09	Tischstütze 1	2
56	7.276.00.10	Tischstütze 2	4
57	7.276.00.11	Zierblech	2
58	7.276.00.17	Zahnstangenhalterung	1
59	7.276.00.20	Frontblech f. 3,5m	4
60	7.276.00.30	Baugruppe Spannzylinder 2 –links	1
61	5217200040	CPC-Zylinder D32-H125	1
62	7.121008-00-4	Welle D16x210 M6-M8	3
63	7.276.00.34	Spannbrücke-links f. D32	1
64	7.276.00.36	Spannplatte-vertikal-links	1
65	LME-16-UU	Kugelbuchse	3
66	7.276.00.31	Baugruppe Spannzylinder 2 –rechts	1
67	5217200040-A	CPC-Zylinder D32-H125	1
68	7.121008-00-4	Welle D16x210 M6-M8	3
69	7.276.00.35	Spannbrücke-rechts f. D32	1
70	7.276.00.37	Spannplatte-vertikal-rechts	1
71	8915308704	Kreuzlochmutter M30x1,5	1
72	LME-16-UU	Kugelbuchse	3
73	7.276.00.32	Spannzylinderhalter-links	1
74	7.276.00.33	Spannzylinderhalter-rechts	1
75	7.276.00.50	Haltearm-links	1
76	7.276.00.51	Haltearm-rechts	1
77	7.276.00.52	Anschlagverlängerung	2
78	7.276.00.60-01	Ventilschutzblech-VA	1
79	7.276.00.61	Ventilschutzblech-FA	1
80	7.276.00.62	Schmiermittelwanne-VA	1
81	7.276.00.63	Schmiermittelwanne-FA	1
82	7.276.01.01	MX1-Maschinenständer, 4,0m, NC	1
83	7.276.01.01-T14	Kabelschlepp-Wanne	1
84	7.276.01.02	Frontblech-Verlängerung f. 4m	2
85	AG-OP-30-K-mit LMEUU-OPFX	Linearlagergehäuse	4
86	Curtec 1H2/X20/S/	Behälter	2
87	DIN 711 - 511 09 - 45 x 65 x 14	Axial-Rillenkugellager 45 x 65 x 14	2
88	DIN 912 - M5 x 10	Zylinderkopfschraube DIN 912 - M5 x 10	2
89	DIN 931-1 - M12 x 45	Sechskantschraube DIN 931-1 - M12 x 45	6
90	DMS10-Digitalanzeige komplett	DMS10-Digitalanzeige komplett	3
91	Drehtellerklemmung-kpl.	Drehtellerklemmung-kpl.	2
92	7.180.35.05-01	Indexaufnahme	1
93	7.180.35.06	Klemmbacke-unten	1
94	7.180.35.07	Klemmbacke-oben	1
95	DIN 179 - A 8 x 10	Bohrbuchse	1
96	KT-GGB-BB-0608-DU	DU-Bundbuchse	2
97	KT-GN300-63-M8-50-SW	Klemmhebel	1
98	KT-GN817.3-Teil1	Rastbolzen	1

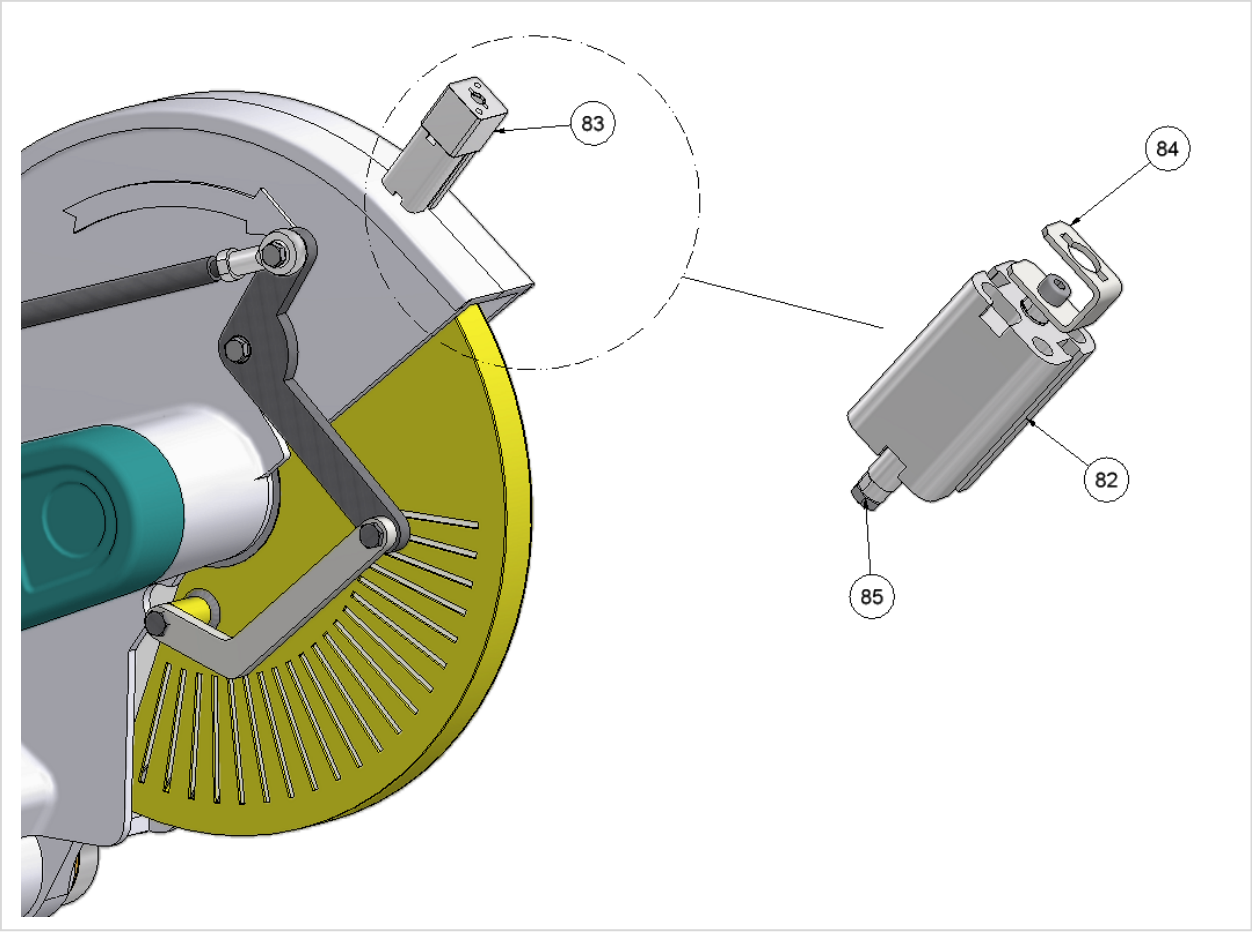
99	KT-GN817.3-Teil2	Rastbolzen	1
100	Längenantrieb	Antrieb kpl.	1
		Zahnrad, z25, D50, m2 mit Bund	
101	231 110 25-B14-P9	Bohrung= 14H7-P9	1
102	7.220.00.22	Welle 235mm	2
103	7.221.00.101	Wellenblock	1
104	7.228.00.105	Getriebehalterung	1
105	80MPH4.101D114-01	B&R-Getriebemotor	1
106	8GP40-060--008S2PH	Planetengetriebe i=8	1
107	Tellerfeder-Paket kpl.	Tellerfeder-Paket kpl.	2
108	MKR-3000A-30	L691-Mechanische Klemmung	1
109	P1-25/VSVB	Hauptschalter kpl.	1
110	SKF51120	Axial-Rillenkugellager,SKF D135x100x25	2
111	WUM30-L3690-T2-75-15	Wellenunterstützung	2
	Please contact Hoffmann Machine company, Inc. for assistance in sourcing OEM replacement parts.		

26.2 Saw Head Parts List

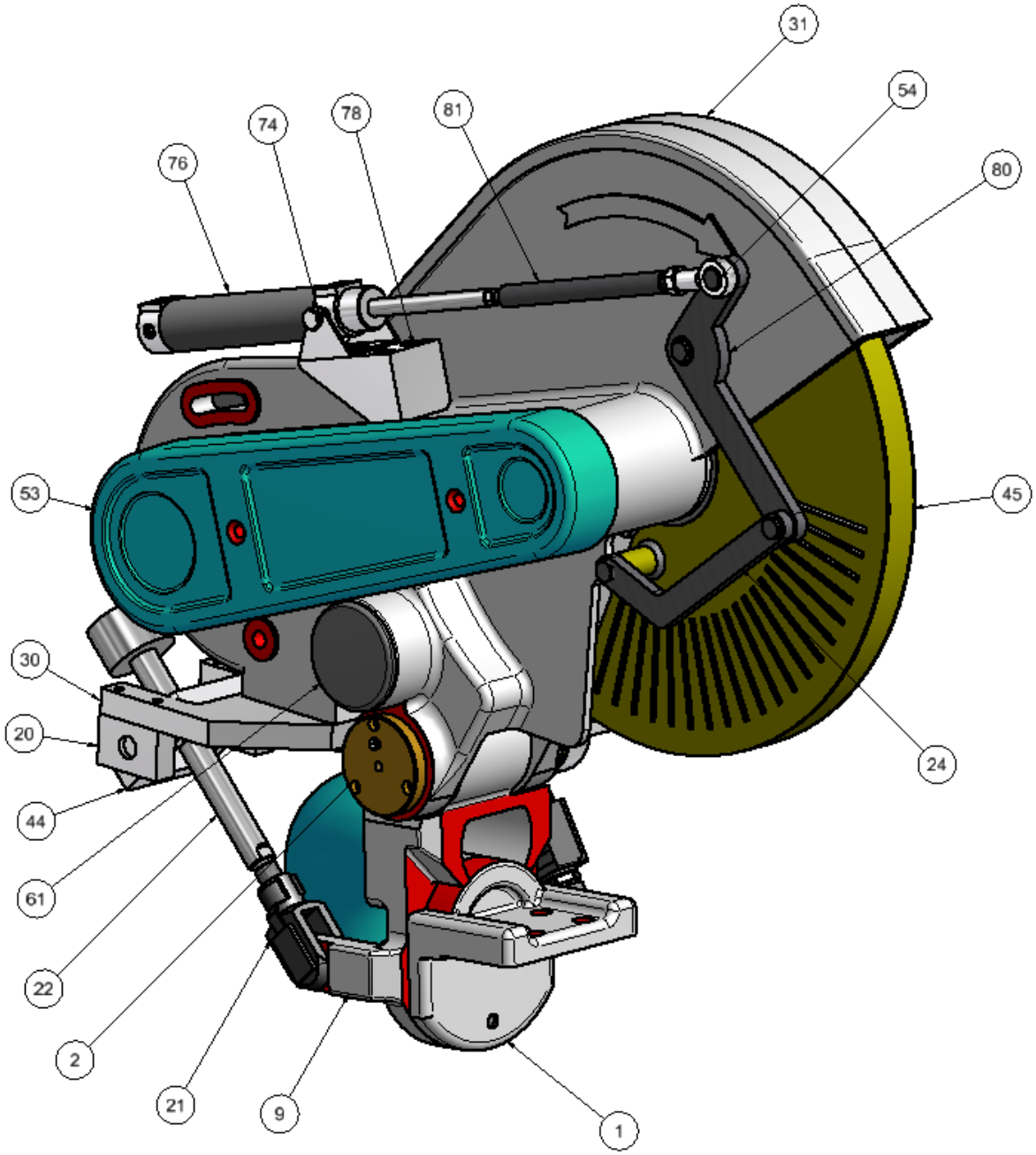
Pos	BAUTEILNUMMER	BEZEICHNUNG	Stk
1	7.225.00.07	Kappsägefuß-Nacharbeit	1
2	7.225.00.12	Schwenklager	2
3	7.148.01.07	Sägewelle D100 f. ProLock	1
4	400x30-TF-Z96	HM-Sägeblatt 400x30	1
5	7.214.01.45-01	Flansch für ProLock D=100	1
6	7.225.00.11-01	Schwenkwelle	1
7	SKF 6305-2RS1	Rillenkugellager,	2
8	7.148031-00-4	Deckel, hinten	1
9	7.225.00.05-01	Kippfuß-links-Nacharbeit	1
10	DIN 933 - M12 x 35	Sechskantschraube	1
11	DIN 125 - A 13	Unterlegscheibe	2
12	DIN 835 - M12 x 45	Stiftschraube	1
13	DIN 439 - M12	Sechskantmutter, flach	1
14	DIN 1587 - M12 - SW 18	Hutmutter	1
15	8 PJ 914 Lb	Optibelt-RB Rippenband i= 1:1,174	1
16	TB-PJ8-57.5-1108-D24	L848-Rippenkeilscheibe-Kompl	1
18	7.225.00.20-01	Flansch-Schutzblech	1
20	1827001604	Lager f. Mitten-Schwenkzapfen D40/50	2
21	1822122005	Gabelkopf-D-D50	1
23	7.225.00.10-01	Deckel-Lagerring	1
24	7.225.00.24-02	Zugstangenwinkel	1
30	7.225.00.13	Zylinderhalterung	1
31	7.225.00.01	Sägeschwinge-D400-links-Gußteil	1
32	3100724	Trichterschmiernippel SW7 / M6x10	2
33	DIN 125 - A 8,4	Unterlegscheibe DIN 125 - A 8,4	4
42	90° - 83 x 1,5	Rohrbogen D=80mm (innen) / 90°	1
43	050-RCM-0110	ÖPB-Zylinder D50-110.ipt	1
44	1827001488	schwenkzapfenbefestigung	1
45	7.225.00.22-02	Schwenkschutz, links, 45°-Schweißteil	1
46	DIN 912 - M5 x 10	Zylinderkopfschraube	2
48	36.016.02	Schraube M16-L50 Typ 3/5	1
51	TB-PJ8-57.5-1108-D28	Rippenkeilscheibe-Kompl	1
52	DIN 933 - M8 x 35	Sechskantschraube DIN 933 - M8 x 35	4
53	7.225.00.04-02	Getriebedeckel mit Streben	1
54	200022-01-4	Paßschraube	4
60	DIN 7991 - M8 x 70	Senkschraube DIN 7991 - M8 x 70	1
61	0850760	Lamellenstopfen	1
62	T3K 236-02z-M20-U180	Positionsschalter mit Winkelhebel 3K kpl.	1
63	7.225.00.15	Schaltdeckel	1
70	K21R-112M2-_Flansch FF165	Drehstrom-Motor 4,0kW	1

26.3 Saw Head Parts List - continued

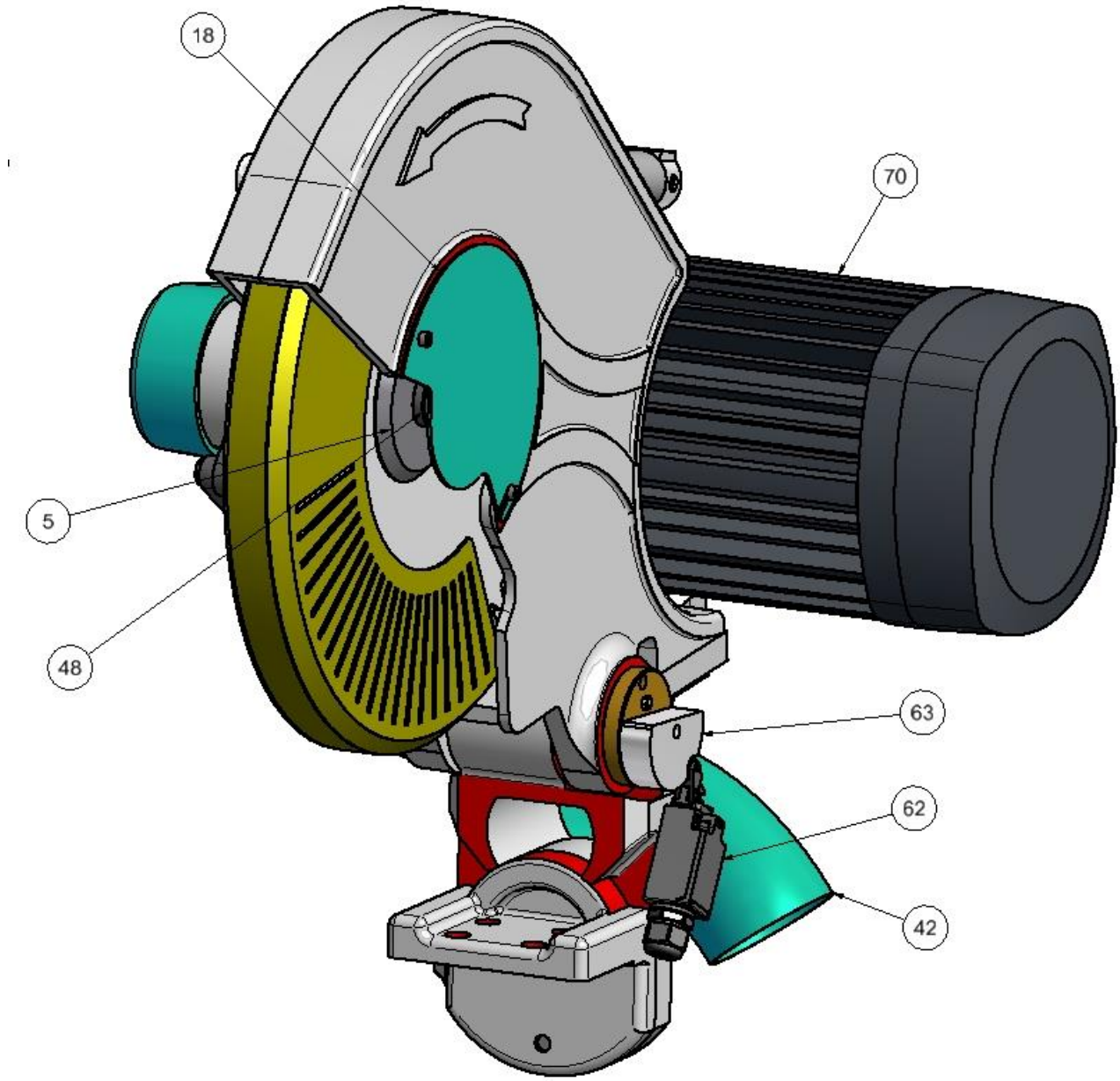
72	FF165	Flansch EN50347 mit Durchgangsbohrung	1
73	7.230.00.71	Wellenverlängerung 4KW	1
74	5217503452	Lager f. Schwenkzapfenbefestigung	1
75	8958206402	Gelenkkopf M10	1
76	5217505030	CPC-Zylinder, Kurzbauart D32-H100	1
78	7.230.00.75	Zylinderhalterung L-R	1
79	SKF 6000-2RS1	Rillenkugellager	1
80	7.230.00.73	Zugstangengabel-Nacharbeit L-R	1
81	7.230.00.74	Zugstange	1
82	0 822 490 501	KPZ-Zylinder mit durchgehender Kolbenstange	1
83	7.230.00.78	Zylinder-Verriegelung	1
84	7.230.00.79	Ziehblech	1
85	DIN933-M4x8	PE-Kunststoff-Schraube	1



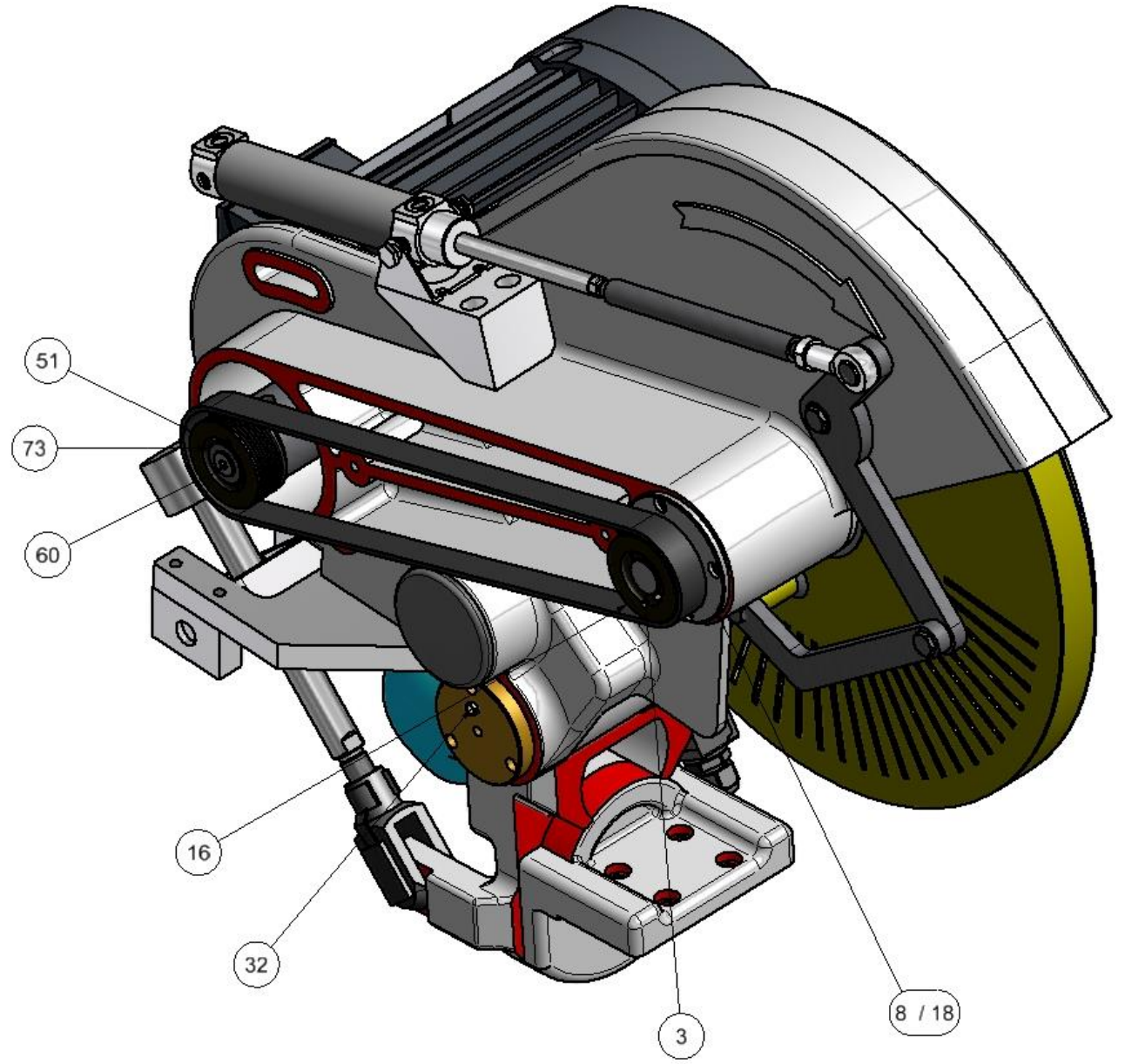
27 Saw Head Drawing



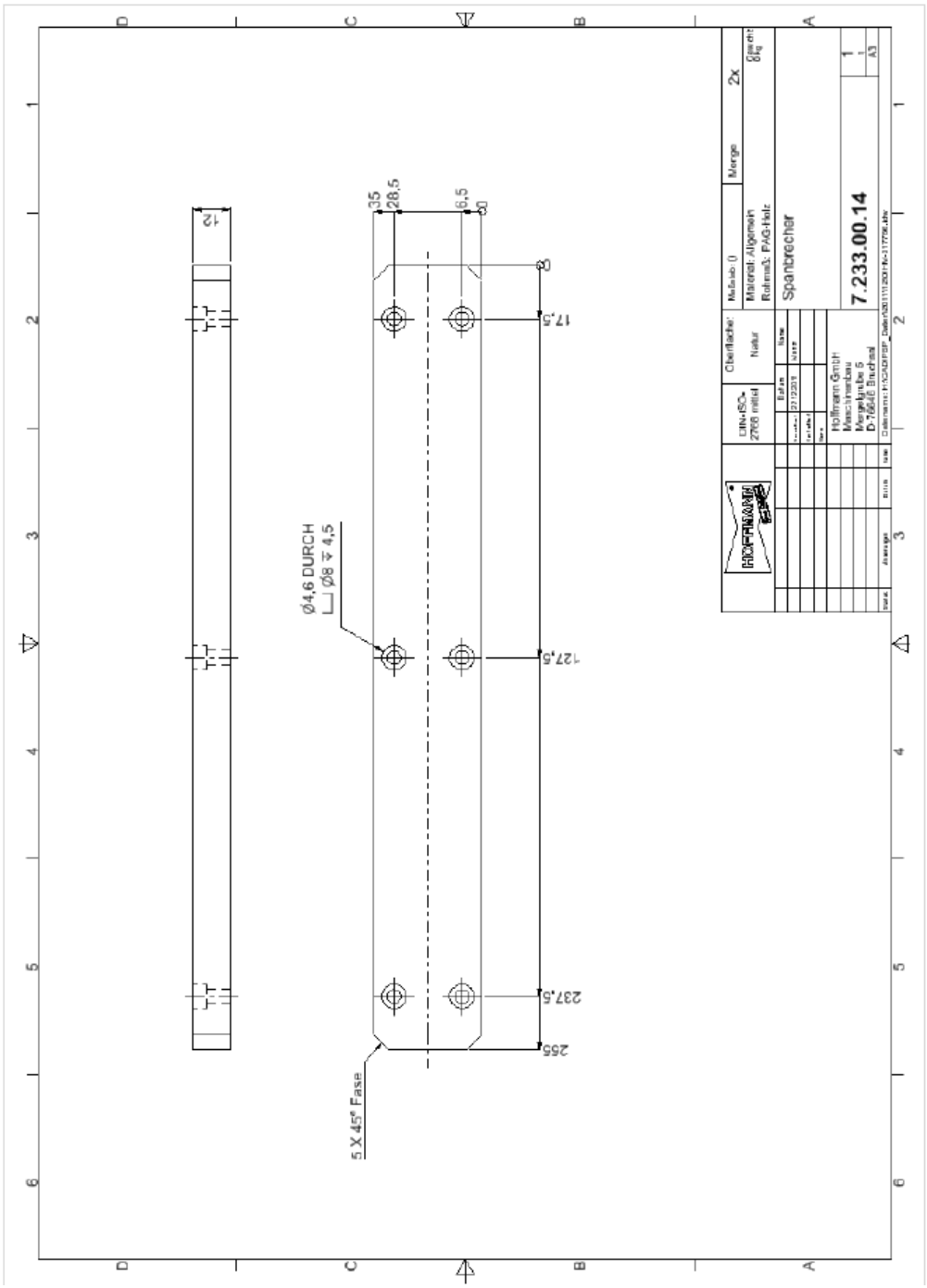
27.1 Saw Head Drawing



27.2 Saw Head Drawing



28 Chip Breaker (table insert) Drawing



29 IMPORTANT DISCLAIMER

This manual has been translated from the original German language manual.
Every effort has been made to translate all text as accurate and faithfully as possible.
If the reader finds any section of this manual unclear or difficult to understand for any reason, he or she is advised to contact Hoffmann Machine Company, Inc. for clarification before operating this machine.