BETEX

Mobile Hydraulic Heavy-Duty Hook Puller

HXPM-50T

User Manual

We pioneer motion

SCHAEFFLER

Contents

1 About the manual 5
1.1 Symbols 5
1.2 Signs 5
1.3 Availability 5
1.4 Legal guidelines 6
1.5 Images 6
1.6 Further information 6
2 General safety regulations 7
2.1 Intended use 7
2.2 Usage not for the intended purpose 7
2.3 Qualified personnel 7
2.4 Protective equipment 8
2.5 Safety equipment 8
2.6 Safety regulations 8
2.6.1 Transport 8
2.6.2 Commissioning 8
2.6.3 Operation 9
2.6.4 Maintenance and repair 9
2.7 Hazards 9
2.7.1 Danger of death 9
2.7.2 Risk of injury 9
2.7.3 Material damage 10
3 Scope of delivery 12
3.1 Check for defects 12
3.2 Check for transport damage 12
4 Product description 13
4.1 Control elements and valves 14
4.1.1 HXPM-50T-2-ARM 14
4.1.2 HXPM-50T-2/3-ARM-SHORT, HXPM-50T-2/3-ARM-LONG 15
4.2 Valves 16
5 Transport and storage 17
5.1 Transport 17
5.1.1 Internal transport 17
5.1.2 External transport 17
5.2 Storage 17
6 Mounting 18
6.1 Unpacking and installation 18
6.2 Filling the pump reservoir with hydraulic oil 18
7 Commissioning 19
7.1 Commissioning after extended storage 19
7.1.1 Basic inspection and lubrication 19
7.1.2 Inspection of electrical system, motor, valves, and pump reservoir 19

7.1.3 Inspection of hydraulic system ... 19
7.2 Checking the quick-action couplings and hose locks ... 20
7.3 Establishing the power supply ... 20
7.4 Performing a test run ... 20
7.5 Converting the arms ... 20
7.5.1 Required support aids ... 21
7.5.2 Converting from 3 arms to 2 arms ... 21
7.5.3 Converting from 2 arms to 3 arms ... 21
7.5.4 Fitting and dismantling the arms ... 21
8 Operation ... 23
8.1 Carrying out protective measures ... 23
8.2 Operating the puller ... 23
8.2.1 Rotating the puller about its central axis ... 23
8.2.2 Rotating the pump lever assembly about its central axis ... 24
8.2.3 Adjusting the working height ... 24
8.2.4 Adjusting the inclination of the puller ... 25
8.2.5 Opening and closing the arms ... 25
8.2.6 Moving the master cylinder ... 26
8.3 Brief overview of operation ... 27
8.4 Dismounting the component ... 28
8.4.1 Positioning the claws around the component ... 28
8.4.2 Preparing for the dismounting process ... 28
8.4.3 Carrying out the dismounting process ... 29
9 Troubleshooting ... 30
10 Maintenance ... 31
10.1 Maintenance plan ... 31
10.2 Cleaning the device ... 31
10.3 Replenishing the hydraulic oil ... 31
10.4 Bleeding the oil circuit ... 32
10.5 Checking the function of the pressure limitation valve ... 32
11 Decommissioning ... 33
12 Disposal ... 34
12.1 Draining the hydraulic oil ... 34
13 Technical data ... 35
13.1 Ambient conditions ... 36
13.2 CE Declaration of Conformity ... 37
14 Replacement parts ... 39
14.1 Hydraulic oil ... 39
14.2 Hoses ... 39
14.3 Other replacement parts ... 40
14.4 Service ... 40

1 About the manual

This manual is part of the product and contains important information. Read the manual thoroughly prior to use and follow the instructions precisely.

The original language of the manual is German. All other languages are translations from the original language.

1.1 Symbols

The warning and hazard symbols are defined in accordance with ANSI Z535.6-2011.

1 Warning and hazard symbols

Signs and descriptions	
⚠ DANGER	In case of non-compliance, death or serious injury will occur.
⚠ WARNING	In case of non-compliance, death or serious injury may occur.
⚠ CAUTION	In case of non-compliance, minor or moderate injury may occur.
NOTICE	In case of non-compliance, damage or malfunctions in the product or the adjacent construction may occur.

1.2 Signs

The warning, prohibition and mandatory signs are defined in accordance with DIN EN ISO 7010 or DIN 4844-2.

2 Warning, prohibition and mandatory signs

Signs and descriptions	
	General warning
	Electrical voltage warning
	Observe the manual
	Wear safety gloves
	Wear safety shoes
	Wear eye protection
	Wear ear protection
	General mandatory sign
	Disconnect mains plug from electrical outlet
	Earth before use

1.3 Availability

A current version of this manual can be found at:
https://www.schaeffler.de/std/2006

Ensure that this manual is always complete and legible and is available to all persons engaged in transporting, fitting, dismantling, commissioning, operating or maintaining the product.

Keep the manual in a safe place for immediate reference.

1.4 Legal guidelines

The information in this manual reflects the status at the time of publication.

Unauthorised modifications to or improper use of the product are not permitted. Schaeffler accepts no liability in these cases.

1.5 Images

The images in this manual may be schematic representations and may differ from the delivered device.

1.6 Further information

Address any questions on fitting to your local contact at Schaeffler.

2 General safety regulations

2.1 Intended use

The puller may only be used to dismantle pulleys, bearings, couplings and other rotationally symmetrical workpieces mounted on a shaft.

The outer contour of the component to be removed must allow the puller claws to grip securely and support the transfer of extraction forces.

The centring piece should sit fully against the shaft face. Small centring holes are permissible. The contact face must be large enough to prevent deformation or damage to both the shaft and the puller during dismantling.

The puller may only be operated in strict accordance with the technical data provided.

Only use original spare parts and accessories supplied by Schaeffler.

2.2 Usage not for the intended purpose

The device must not be used to transport components or tools.

2.3 Qualified personnel

Obligations of the operator:

- Ensure that only qualified and authorised personnel perform the activities described in this manual.
- Ensure that personal protective equipment is used.

Qualified personnel must:

- Ensure adequate product knowledge, e.g. through training on proper handling and use of the product
- be fully familiar with the contents of this manual, particularly all safety instructions
- be aware of any relevant country-specific regulations

2.4 Protective equipment

For certain work on the product, suitable protective equipment must be worn. Personal protective equipment consists of:

3 Required personal protective equipment

Personal protective equipment	Mandatory signs in accordance with DIN EN ISO 7010
Protective gloves	
Safety shoes	
Eye protection	
Ear protection	

2.5 Safety equipment

The following safety equipment is provided to protect both the user and the device from potential harm and damage:

- The device is equipped with an emergency stop switch.
- Use the safety blanket included with the device to protect the user from flying parts.
- The master cylinder is equipped with a pressure limitation valve. If the pressure exceeds 700 bar, the pressure limitation valve will open, allowing hydraulic oil to enter into the pump reservoir.

2.6 Safety regulations

Keep safety instructions, warning information and operating instructions on the device in a legible condition. Replace any damaged or obliterated signs or labels on the device immediately.

When handling hydraulic oil, observe the information and regulations provided in the corresponding safety data sheet.

2.6.1 Transport

In transport, the relevant safety and accident prevention regulations must be observed.

Transport the device using the appropriate transportation or lifting equipment only.

2.6.2 Commissioning

When converting the arms, use a suitable lifting tool to support the arm that is being dismantled or fitted.

2.6.3 Operation

As a result of the design principle, various hazards associated with the electric voltage, hydraulic unit or pump, height adjustments or the pressure cylinder may arise during operation.

Only operate the device under the environmental conditions provided.

2.6.4 Maintenance and repair

Maintenance work and repairs may only be carried out by qualified personnel.

Deactivate the device before performing maintenance work or repairs.

2.7 Hazards

2.7.1 Danger of death

Danger of death from flying components

1. Wear personal protective equipment.
2. Apply the safety blanket to the component.

Danger of death from exceeding the maximum permissible pressure

1. Do not alter the settings for the integrated pressure limitation valve.
2. Monitor the manometer display during operation.
3. Do not exceed a hydraulic pressure of 700 bar.

2.7.2 Risk of injury

Risk of injury during disassembly if components suddenly become detached

1. Wear personal protective equipment.
2. Maintain a distance of 1 m from the puller.
3. Assume a lateral position behind the puller during operation.
4. Use a chain or strap to limit the movement of the puller, ensuring that the master cylinder has sufficient stroke for operation.

Risk of injury from incorrect alignment of the master cylinder

1. Wear personal protective equipment.
2. Align the centre axis of the master cylinder with the centre of the shaft and the component to be removed.
3. Adjust the inclination of the master cylinder if necessary.

Risk of injury from hydraulic pressure

1. Wear personal protective equipment.
2. Check the hydraulic hoses for signs of wear and damage before each use.
3. Replace any damaged hoses immediately.
4. Observe the minimum bending radius for hydraulic hoses as specified by the manufacturer.
5. Do not touch pressurised hydraulic hoses.
6. Use hose protection.

Risk of injury from toppling puller

1. Place the device on an even, stable surface.
2. Release the brakes on the rollers, as the puller may shift during disassembly.
3. Use a lifting strap with a crane or forklift to secure any heavy components that are to be removed.

Risk of injury from leaking hydraulic oil

1. Wear personal protective equipment.
2. Remove any leaking hydraulic oil immediately.

Risk of injury from crushing when adjusting the working height or inclination of the master cylinder

1. Wear personal protective equipment.
2. Keep hands and feet clear of the danger area.

Risk of injury from hydraulic oil

1. Wear personal protective equipment.
2. Observe the safety instructions provided in the safety data sheet for the hydraulic oil.

2.7.3 Material damage

Material damage caused by the introduction of heat

1. Do not heat the component while the puller is in contact with it.
2. Do not expose the puller to heat or naked flames.

Material damage caused by incorrect alignment of the master cylinder

1. Align the centre axis of the master cylinder with the centre of the shaft and the component to be removed.
2. Adjust the inclination of the master cylinder if necessary.

Material damage caused by improper use of hoses and cables

1. Check the hydraulic hoses for signs of wear and damage before each use.
2. Check the cables for signs of wear and damage before each use.
3. Never expose hoses and cables to naked flames, sharp components, severe impacts and extreme temperatures.
4. Avoid kinking, twisting or bending hoses and cables.
5. Maintain a minimum bending radius of 60 mm for the hoses.
6. Do not apply paint to hoses and cables and keep them away from corrosive materials.
7. Do not apply any colour to hoses and couplings.
8. Never pull on hoses or cables to disconnect them from attached devices.

Material damage caused by an upended puller

1. Place the device on an even, stable surface.
2. Release the brakes on the rollers, as the puller may shift during disassembly.
3. Use a lifting strap with a crane or forklift to secure any heavy components that are to be removed.

Material damage and environmental damage caused by hydraulic oil

1. Observe the safety instructions provided in the safety data sheet for the hydraulic oil.

3 Scope of delivery

1 Scope of delivery HXPM-50T

1	Puller (1×)	2	Remote control (1×)
3	Safety blanket (1×)	4	Hydraulic oil LPS 78, ISO 15 (2×)
5	Adapter piece Ø40 mm, length 155 mm (2×)	6	Adapter piece Ø50 mm, length 155 mm (2×)
7	Centring piece (1×)	8	Mains connection cable (1×)
9	User manual		

3.1 Check for defects

1. Check the product immediately upon delivery for any visible defects.
2. Report any defects promptly to the distributor of the product.
3. Do not put damaged products into operation.

3.2 Check for transport damage

1. Check the product immediately upon delivery for transport damage.
2. Report any transport damage promptly to the carrier.

4 Product description

The mobile hydraulic heavy-duty hook puller is suitable for removing pulleys, bearings, couplings and other rotationally symmetrical workpieces mounted on a shaft. The workpieces should be axially and radially accessible and suitable for grasping from the outside.

The puller grasps behind the component to be dismantled with its claws. The component is removed axially from the shaft with the movement of the master cylinder.

The puller is self-centring. The arms move inwards and outwards at the same time when the grip width is adjusted, which prevents the bearing from tilting during the dismounting process, thus preventing any damage to the shaft and bearing.

The device is equipped with an electrically operated hydraulic unit for both height adjustment and master cylinder movement. The device is operated manually utilising valves and a remote control.

The device operates at a maximum hydraulic pressure of 700 bar. The manometer displays the current pressure within the master cylinder in both bar and psi.

The device includes a pressure limitation valve, which is integrated into the hydraulic unit. If the hydraulic pressure exceeds 700 bar, hydraulic oil is released into the pump reservoir.

If there is insufficient space for 3 arms, the puller can be simply converted to 2 arms.

Schaeffler recommends using 3 arms where work conditions permit. 3 arms ensure a more secure grip and a more evenly distributed pulling force.

4.1 Control elements and valves

4.1.1 HXPM-50T-2-ARM

2 Control elements and displays HXPM-50T-2-ARM

1	Hand pump	2	Master cylinder
3	Transport frame	4	Lifting cylinder
5	Remote control	6	Hydraulic unit
7	Valve block	8	Manometer

4 Control elements and displays

Control element	Use
Manometer	• Displaying the pressure
Remote control	• Moving the master cylinder ➤26|8.2.6 • Adjusting the working height ➤24|8.2.3
Hand pump	• Opening and closing the arms ➤25|8.2.5

4.1.2 HXPM-50T-2/3-ARM-SHORT, HXPM-50T-2/3-ARM-LONG

3 Control elements and displays HXPM-50T-2/3-ARM-SHORT, HXPM-50T-2/3-ARM-LONG

001B456D

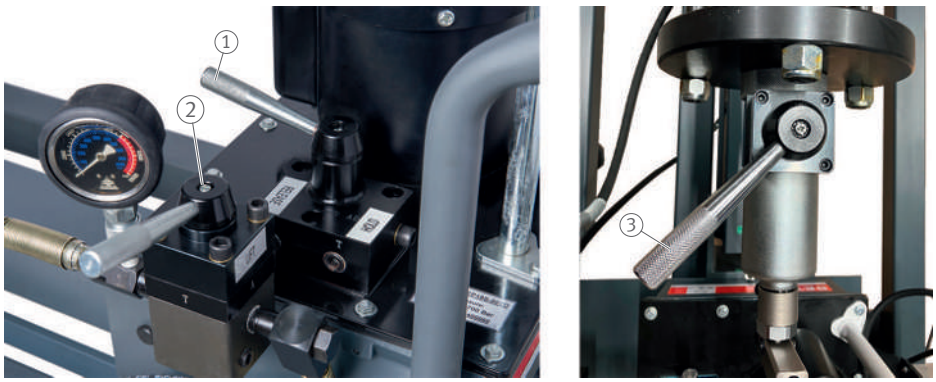
1	Hand pump	2	Master cylinder
3	Handwheel	4	Lifting cylinder
5	Transport frame	6	Remote control
7	Hydraulic unit	8	Manometer
9	Valve block		

5 Control elements and displays

Control element	Use
Manometer	• Displaying the pressure
Remote control	• Moving the master cylinder ➤26|8.2.6 • Adjusting the working height ➤24|8.2.3
Hand pump	• Opening and closing the arms ➤25|8.2.5
Handwheel	• Adjusting the inclination of the puller ➤25|8.2.4

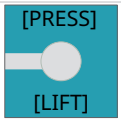
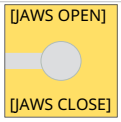
4.2 Valves

4 Valves



1	Action valve	2	Function valve
3	Arm valve		

6 Valves

Valve	Positions		Use
Action valve		[RET]	Retracting the piston
		[ADV]	Extending the piston
Function valve		[PRESS]	Moving the master cylinder
		[NEUTRAL]	Neutral position
		[LIFT]	Adjusting the working height
Arm valve		[JAWS OPEN]	Opening the arms
		[NEUTRAL]	Neutral position
		[JAWS CLOSE]	Closing the arms

5 Transport and storage

5.1 Transport

The safety regulations for transport must be observed.

5.1.1 Internal transport

1. Decommission the device ➤33|11.
2. Transport the device using the assembled trolley.

5.1.2 External transport

1. Decommission the device ➤33|11.
2. Pack the device in a box, adding sufficient filling material.
3. Alternatively, lift the device onto a pallet and tie it down securely, ensuring that no hoses or cables are pinched or crushed.

If the device is being transported by air, drain the hydraulic oil from the pump before shipping.

5.2 Storage

1. Decommission the device ➤33|11.
2. Apply the trolley brake.
3. Store the device in a dry, clean environment.
4. For extended storage periods, use a plastic cover to protect the device from dust.
5. Store hydraulic oil in accordance with the regulations specified in the corresponding data sheet.

After extended storage, special inspections must be performed before commissioning, the scope of which depends on the storage period ➤19|7.1.

6 Mounting

6.1 Unpacking and installation

✓ Suitable operating location selected ➤36|13.1.

1. Set down the pallet.
2. Remove the packaging.
3. Carefully lift the device off the pallet.
4. Remove the transport retainer on the lifting cylinder.

If using a lifting device, ensure that the entire transport frame is supported.

6.2 Filling the pump reservoir with hydraulic oil

The puller is delivered unfilled. The pump reservoir must be filled with hydraulic oil prior to initial operation.

✓ Use hydraulic oil LPS 78, ISO 15.

✓ Wear gloves to avoid contact with the hydraulic oil.

1. Fully retract the master cylinder.
2. Move the puller to the lowest working height ➤24|8.2.3.
3. Open the filling hole on the pump reservoir.
4. Using a funnel, fill the pump reservoir with hydraulic oil until a fill level of approx. 2 cm below the container lid is reached.

5 Filling the pump accumulator

001CE764

5. Close the filling hole using the plug.
6. Remove any drops of oil from the pump reservoir and puller.
7. Bleeding the oil circuit ➤32|10.4.
8. Carrying out a test run ➤20|7.4.

7 Commissioning

7.1 Commissioning after extended storage

If the device has not been used for an extended period, the following inspections must be performed before commissioning.

7 Inspections to be performed after extended storage

Inspection	Storage period in months		
	≤ 3	3 < ... < 10	≥ 10
Basic inspection and lubrication ➤19|7.1.1	✓	✓	✓
Inspection of electrical system, motor, valves, and pump reservoir ➤19|7.1.2	–	✓	✓
Inspection of hydraulic system ➤19|7.1.3	–	–	✓

7.1.1 Basic inspection and lubrication

1. Check device for visible damage.
2. Clean screws, pins, and moving components.
3. Lubricate screws, pins, and moving components with spray grease.

7.1.2 Inspection of electrical system, motor, valves, and pump reservoir

✓ The device is not connected to the power supply.

1. Check the power lines in the control box for corrosion and loose connections.
2. Check the motor for visible damage.
3. Clean the motor fan.

› The motor fan must be rotatable by hand.

4. Check that the valves are functioning correctly.

› The valves must be adjustable

5. Set the valves to [RETURN].
6. Check the fill level of the pump reservoir.

› The pump reservoir must be at least 80 % full ➤31|10.3.

7.1.3 Inspection of hydraulic system

✓ The hydraulic hoses must not show any signs of damage.

1. Check the quick-action couplings and hose locks ➤20|7.2.
2. Establish the power supply ➤20|7.3.
3. Set the valves to [RETURN].
4. Operate the electric pump for 15 s.
5. Retract and extend the master cylinder several times ➤26|8.2.6.
6. Fully extend the master cylinder and operate for 10 s at a maximum pressure of 700.bar.

› No oil must leak.

› The pressure must not drop.

7. Open and close the arms ➤25|8.2.5.
› The arms must open and close completely.
8. Move the puller to the minimum and maximum working height ➤24|8.2.3.
› The minimum and maximum working heights must be reached.

7.2 Checking the quick-action couplings and hose locks

1. Check that the quick-action couplings are securely seated.
2. Check that the hose locks are properly connected.

7.3 Establishing the power supply

✓ Ensure that the mains connection cable and plug are in perfect working condition.
✓ The power supply must comply with the technical data provided ➤35|▦12.
1. Lay the mains connection cable in such a way as to prevent a trip hazard.
2. Insert the mains connection plug into a suitable socket.
3. Switch on the device using the main switch.

7.4 Performing a test run

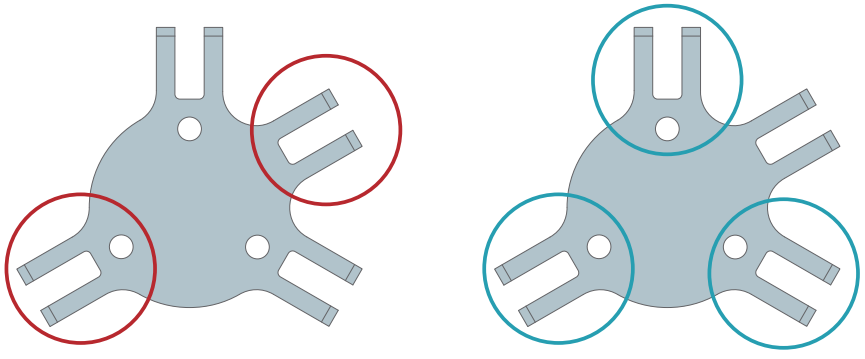
✓ The hydraulic hoses must not show any signs of damage.
1. Bleeding the oil circuit ➤32|10.4.
2. Checking the function of the pressure limitation valve ➤32|10.5.

7.5 Converting the arms

The arms can be converted for product variants HXPM-50T-2/3-ARM-SHORT and HXPM-50T-2/3-ARM-LONG.

Converting the arms may require the position of the pump lever assembly to be adjusted ➤24|8.2.2.

6 Mounting position for the arms



⚠ WARNING

Heavy product

Risk of herniated disc or back injury.

- Only lift without the use of support aids if the product weighs less than 23 kg.
- Use appropriate support aids where necessary.

7.5.1 Required support aids

The following support aids are required for commissioning:

- crane or forklift
- lifting strap with adequate load capacity
- wrench, size 27
- wrench, size 40

7.5.2 Converting from 3 arms to 2 arms

1. Dismantle the arms at the fixing points marked in blue on the upper and lower star ➤22|7.5.4.1.
2. Fit the arms at the fixing points marked in red on the upper and lower star ➤22|7.5.4.2.

7.5.3 Converting from 2 arms to 3 arms

1. Dismantle the arms at the fixing points marked in red on the upper and lower stars ➤22|7.5.4.1.
2. Fit the arms at the fixing points marked in blue on the upper and lower star ➤22|7.5.4.2.

7.5.4 Fitting and dismantling the arms

7 Components for fitting and dismantling the arms

001B46CD

1	Arm	2	Upper star
3	Lower star	4	Connecting strip

7.5.4.1 Dismantling an arm

✓ The arm is supported using a lifting strap with a crane or forklift.

1. Loosen the SW40 screw (yellow) between the arm and the upper star.
2. Loosen the SW27 screw (green) between the connecting strip and the lower star.
3. Remove the SW27 screw (green).
4. Remove the SW40 screw (yellow).

› The arm is now dismantled.

5. Store the dismantled arm and its components in a dry, clean environment, supporting them as necessary.

7.5.4.2 Fitting an arm

✓ The arm is supported using a lifting strap with a crane or forklift.

1. Position the arm so that its hole aligns with the hole in the upper star (yellow).
2. Insert the SW40 screw in the holes of the arm and upper star and secure it loosely with a nut.
3. Position the arm so that the hole in the connecting strip aligns with the hole in the lower star (green).
4. Insert the SW27 screw in the holes of the connecting strip and lower star (green) and tighten it loosely.
5. Tighten the SW40 screw in the upper star (yellow).
6. Do not tighten the screw in the lower star (green) to allow smooth movement of the arms. The stop nut secures the screw connection against loosening.
7. Remove the lifting strap.

» The arm is now fitted.

8 Operation

8.1 Carrying out protective measures

The following protective measures must be carried out prior to operation:

1. Wear personal protective equipment.
2. Ensure that the ambient conditions are appropriate ➤36|⊞13.
3. Check the hydraulic hoses for signs of wear and damage before each use.
4. Replace any damaged hoses immediately.
5. Use a lifting strap with a crane or forklift to secure any heavy components that are to be removed.
6. Do not exceed a maximum pressure of 700 bar.
7. Do not heat the component while the puller is in contact with it.

8.2 Operating the puller

The puller is operated using the control elements and valves ➤14|4.1.

8.2.1 Rotating the puller about its central axis

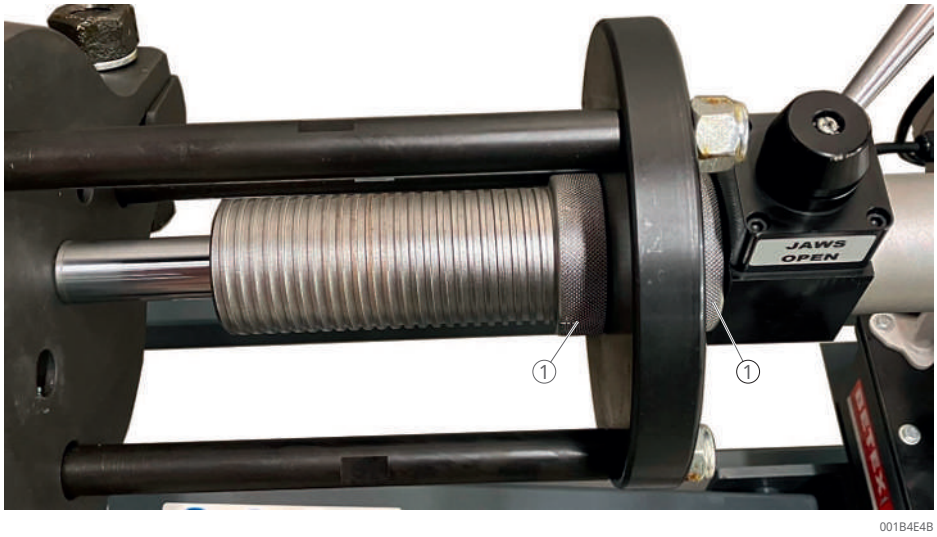
8 Rotation of the puller about its central axis

1	Fixing screws	

1. Loosen the 2 fixing screws on each side.
2. Rotate the arms about the central axis into the desired position.
3. Tighten the fixing screws fully.
4. Check that the arms are securely fixed against rotation.

8.2.2 Rotating the pump lever assembly about its central axis

9 Pump lever assembly



1	Knurled nut

If the puller has been rotated, it may also be necessary to adjust the position of the pump lever assembly.

1. Loosening the knurled nut
2. Rotate the entire pump lever assembly about its central axis.
3. Tighten the knurled nut to fix the pump lever assembly in place.

8.2.3 Adjusting the working height

Increasing the working height

1. Set the action valve to [RET].
2. Set the function valve to [LIFT].
3. Press the button on the remote control.

› Pressing and holding the button on the remote control raises the puller.

4. Release the button once the desired working height has been reached.
5. Set the function valve to [NEUTRAL].

Reducing the working height

Do not press the remote control button when reducing the working height.

1. Set the action valve to [ADV].
2. Set the function valve to [LIFT].
3. Set the action valve to [RET].

› Setting the action valve to [RET] lowers the puller.

4. Set the action valve to [ADV] once the desired working height has been reached.
5. Set the function valve to [NEUTRAL].

8.2.4 Adjusting the inclination of the puller

The inclination can be adjusted for product variants HXPM-50T-2/3-ARM-SHORT and HXPM-50T-2/3-ARM-LONG.

Tilting the master cylinder forwards

1. Turn the handwheel clockwise.

» The master cylinder will tilt forwards.

Tilting the master cylinder backwards

1. Turn the handwheel anti-clockwise.

» The master cylinder will tilt backwards.

8.2.5 Opening and closing the arms

Opening the arms

1. Set the arm valve to [JAWS OPEN].
2. Activate the hand pump.

› The arms will open.

3. Once the desired position is reached, set the arm valve to [NEUTRAL].

Closing the arms

1. Set the arm valve to [JAWS CLOSE].
2. Activate the hand pump.

› The arms will close.

3. Once the desired position is reached, set the arm valve to [NEUTRAL].

When the arm valve is set to [NEUTRAL], the arms will open slightly.

8.2.6 Moving the master cylinder

Extending the master cylinder

1. Set the function valve to [PRESS].
2. Set the action valve to [ADV].
3. Press the button on the remote control.

› Pressing and holding the remote control button extends the master cylinder.

4. To hold the cylinder in its current position, set the function valve to [NEUTRAL].

Retracting the master cylinder

Do not press the remote control button when retracting the master cylinder.

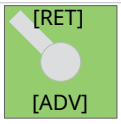
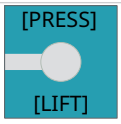
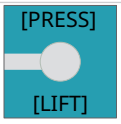
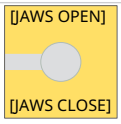
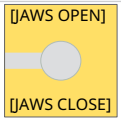
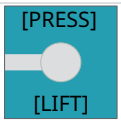
1. Set the function valve to [PRESS].
2. Set the action valve to [RET].

› Setting the action valve to [RET] retracts the master cylinder.

3. To stop this process, set the function valve to [NEUTRAL].
4. Set the action valve to [ADV].

8.3 Brief overview of operation

8 Brief overview of operation

Activity	Action steps					
	1	2	3	4	5	6
➤24 | 8.2.3						–
➤24 | 8.2.3						
➤25 | 8.2.4		–	–	–	–	–
➤25 | 8.2.4		–	–	–	–	–
➤25 | 8.2.5					–	–
➤25 | 8.2.5					–	–
➤26 | 8.2.6					–	–
➤26 | 8.2.6						–

8.4 Dismounting the component

8.4.1 Positioning the claws around the component

✓ Puller is appropriate for the component's dimensions.

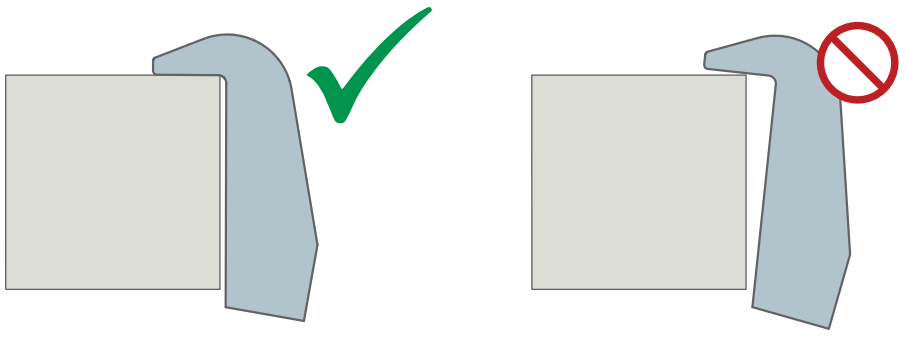
✓ The device is operational.

✓ All protective measures have been carried out.

1. Open the arms ➤25|8.2.5.
2. Adjust the puller to the target height ➤24|8.2.3.
3. Align the centre line of the master cylinder with the centre line of the shaft. Adjust the inclination of the puller if necessary ➤25|8.2.4.
4. Move the puller into position, placing the arms behind the component until they fully enclose it.
5. Close the arms ➤25|8.2.5.
6. Ensure that the claws are correctly positioned on the component.

› The component is lightly clamped.

10 Correct placement of the claws on the component



8.4.2 Preparing for the dismounting process

✓ Claws correctly positioned on the component ➤28|8.4.1.

1. Insert the centring piece.
2. Extend the master cylinder until the centring piece comes into contact with the shaft.
3. If a gap remains between the centring piece and shaft, insert an adapter piece ➤28|8.4.2.1.
4. Check that the centre line of the master cylinder aligns with the centre line of the shaft and adjust if necessary.
5. Apply the safety blanket to the component.

8.4.2.1 Using an adapter piece during operation

1. Retract the master cylinder sufficiently for an adapter piece to be inserted.
2. Remove the centring piece.
3. Insert one or more adapter pieces.
4. Insert the centring piece.

5. Extend the master cylinder until the centring piece comes into contact with the shaft.
6. Check that the centre line of the master cylinder aligns with the centre line of the shaft and adjust if necessary.
7. Apply the safety blanket to the component.
8. Assume a lateral position behind the puller to allow monitoring of the manometer, maintaining a distance of 1 m from the device.
9. Proceed with the dismounting process.

8.4.3 Carrying out the dismounting process

⚠ DANGER

Danger from exceeding the maximum permissible pressure

Danger of death from hydraulic oil spatter

Danger of death from flying parts caused by damage to the hydraulic hose

- Do not exceed a pressure of 700 bar.

⚠ WARNING

Flying components

Danger of death from flying components

- Use the safety blanket.

✓ Claws correctly positioned on the component ➤28|8.4.1.

✓ Preparations for the dismounting process are complete ➤28|8.4.2.

1. Assume a lateral position behind the puller to allow monitoring of the manometer, maintaining a distance of 1 m from the device.
2. Release the brakes on the rollers, as the puller may shift during disassembly.
3. If necessary, use a chain or strap to limit the movement of the puller if the components to be removed could suddenly come loose.
4. Insert an additional adapter piece if the master cylinder's travel distance is insufficient ➤28|8.4.2.1.
5. Continue to extend the master cylinder until the component has been removed.

› The component has now been removed.

6. Removing the safety blanket
7. Move the puller away.
8. Open the arms ➤25|8.2.5.
9. Remove the component from the arms.

If the removal process is unsuccessful, despite using a pressure of 700 bar, the removal force is insufficient. Observe the remedial measures provided ➤30|9.

9 Troubleshooting

Maintenance work and repairs may only be carried out by qualified personnel.

9 Malfunctions

Malfunction	Possible cause	Remedy
Dismounting process has been unsuccessful	The pressure is 700 bar, but the component could not be removed. The extraction force is insufficient.	1. Check supporting methods. 2. Use an alternative puller with a higher extraction force.
Motor fails to turn when remote control is pressed	No voltage present	1. Check that the power supply corresponds to the technical data provided. 2. Check for voltage at the socket.
	Emergency stop is activated	1. Deactivate the emergency stop
	Automatic backup has been triggered	1. Disconnect the device from the power supply. 2. Remove the control cabinet cover. 3. Check if the automatic backup has been triggered. 4. Reactivate the automatic backup. 5. Refit the control cabinet cover. 6. Restart the device. 7. If the device still does not work, contact the repair service ➤40|14.4.
	Break in the remote control cable	1. Disconnect the device from the power supply. 2. Check that the remote control is in good working order using a multimeter. 3. Replace the damaged cable.
	Faulty relay	1. Replace the faulty relay. 2. Contact the repair service ➤40|14.4.
	Faulty circuit board	1. Replace the entire electrical unit. 2. Contact the repair service ➤40|14.4.
Motor turns without any appreciable movement of the master cylinder	Oil level too low	1. Retract the master cylinder and lifting cylinder. 2. Check the oil level in the pump reservoir. 3. Replenish the hydraulic oil if required ➤31|10.3.
	Leaking hydraulic hose	✓ Never touch pressurised hoses. 1. Move the puller to its lowest position. 2. Retract the master cylinder to its fullest extent. › Hoses are depressurised. 3. Check the hoses and quick-action couplings for signs of damage or leaks. 4. Replace any damaged hoses or quick-action couplings ➤39|14.2.
	Quick-action couplings not properly closed	1. Tighten the quick-action coupling screw connection on the master cylinder. 2. Check the quick-action couplings for signs of damage or leaks. 3. Replace any damaged quick-action couplings.
Hydraulic oil is leaking from the front of the master cylinder	Master cylinder seal is leaking	1. Replace the master cylinder seal. 2. Contact the repair service ➤40|14.4.
Puller lowers without valve actuation	Function valve set incorrectly	1. Set the function valve to [NEUTRAL].
	Lifting cylinder hose is leaking	1. Replace the lifting cylinder hose ➤39|14.2.
	Lifting cylinder seal is leaking	1. Replace the lifting cylinder seal.

10 Maintenance

Maintenance work and repairs may only be carried out by qualified personnel.

10.1 Maintenance plan

10 Maintenance plan

Activity	If required	Monthly	Every 4 a (years)	Every 5 a (years)
Cleaning the device	✓			
Relubricating the pivot points	✓			
Lubricating the arm running surfaces	✓			
Checking the oil level (2 cm below the cover). Replenishing the hydraulic oil if necessary.		✓		
Replacing the hydraulic hoses			✓	
Oil change (≈ 7,5 l)				✓

After extended storage, special inspections must be performed before commissioning, the scope of which depends on the storage period ➤19|7.1.

10.2 Cleaning the device

Do not use aggressive cleaning agents.

1. Decommission the device ➤33|11.
2. Clean the device with a dry cloth.

10.3 Replenishing the hydraulic oil

✓ Use hydraulic oil LPS 78, ISO 15.

✓ Wear gloves to avoid contact with the hydraulic oil.

✓ Wear eye protection

1. Decommission the device ➤33|11.
2. Fully retract the master cylinder.
3. Move the puller to the lowest working height ➤24|8.2.3.
4. Open the filling hole on the pump reservoir.
5. Using a funnel, fill the pump reservoir with hydraulic oil until a fill level of approx. 2 cm below the container lid is reached.

11 Filling the pump accumulator

001CE764

6. Close the filling hole using the plug.
7. Remove any drops of oil from the pump reservoir and puller.
8. Bleeding the oil circuit ➤32|10.4.
9. Carrying out a test run ➤20|7.4.

10.4 Bleeding the oil circuit

The oil circuit must be bled prior to initial use and after each oil change to remove any air bubbles from the system.

- ▸ Retract and extend the master cylinder several times.
- » The oil circuit has now been bled.

10.5 Checking the function of the pressure limitation valve

1. Extend the master cylinder to the end position ➤26|8.2.6.
2. Press the remote control until the pressure in the master cylinder begins to rise.
3. Continue to press the remote control until the pressure stabilises.

» The valve is functioning correctly when the maximum pressure of 700 bar is not exceeded.

In the event of a non-functioning pressure limitation valve, contact Schaeffler ➤40|14.4.

11 Decommissioning

1. Move the puller to the lowest working height ➤24|8.2.3.
2. Fully retract the master cylinder ➤26|8.2.6.

› The system is depressurised.

3. Switch off the device using the main switch.
4. Disconnect the power supply.
5. Store the mains connection cable and remote control safely.

» The device is out of operation

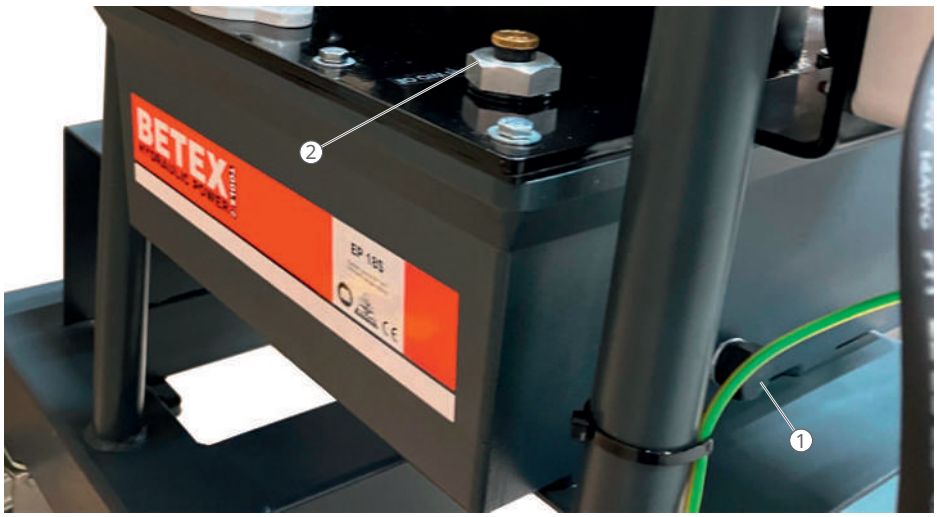
12 Disposal

Observe the locally applicable regulations for disposal.

1. Decommission the device ➤33|11.
2. Drain hydraulic oil from the system ➤34|12.1.
3. Cut the connection cable from the hydraulic unit.
4. Remove the mains plug from the mains connection cable.

12.1 Draining the hydraulic oil

12 Pump reservoir



1	Drain plug	2	Pump reservoir filling hole

The hydraulic oil can be removed using suction or by draining.

Removing the hydraulic oil using suction

1. Open the filling hole on the pump reservoir.
2. Use a pump to extract the hydraulic oil using suction.

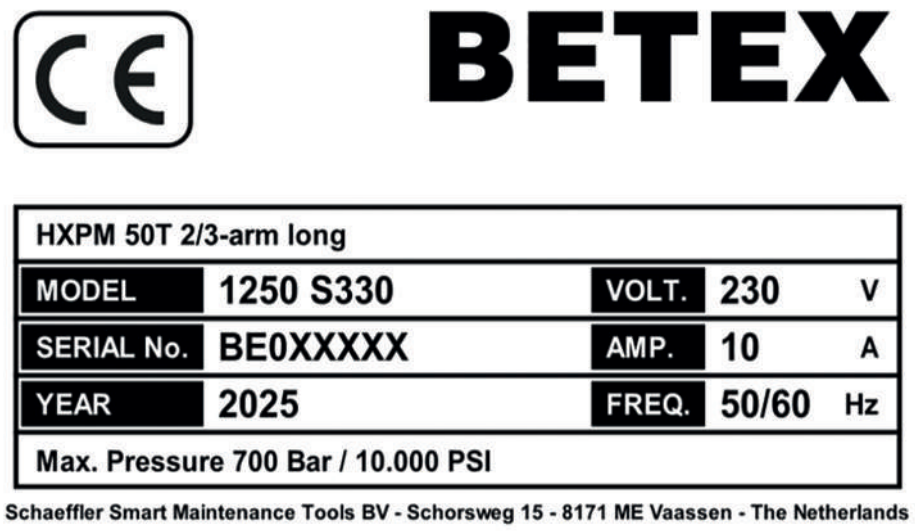
Draining the hydraulic oil using a drain plug

1. Place a container with a minimum capacity of 10 l under the drain port.
2. Open the drain screw at the drain port.
3. Allow the hydraulic oil to drain out completely.
4. Tilt the pump reservoir to ensure that all oil residues can drain out.
5. If necessary, use a pump to remove any remaining oil residues using suction.
6. Screw the drain plug into place.

13 Technical data

The device version is specified on the nameplate.

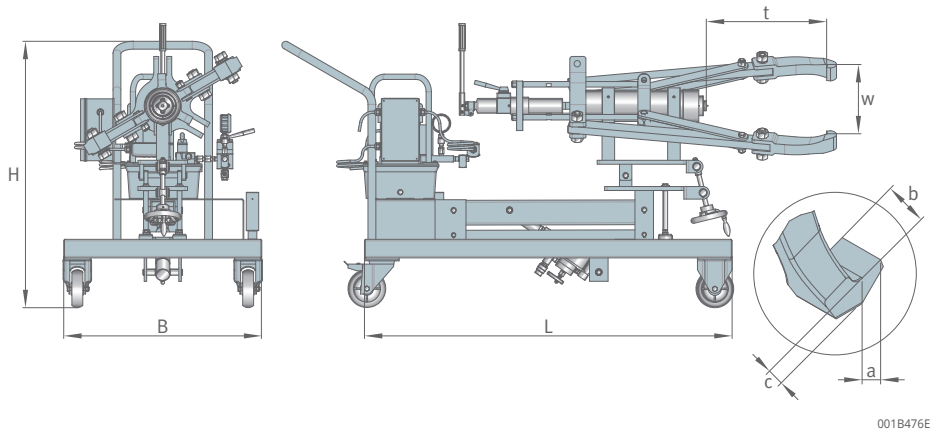
13 Nameplate



11 Available versions

Version	Article number
HXPM-50T-2-ARM	301257949-0000-10
HXPM-50T-2/3-ARM-SHORT	301257957-0000-10
HXPM-50T-2/3-ARM-LONG	301257965-0000-10

14 Dimensions



12 Technical data

Parameter		HXPM-50T-2-ARM	HXPM-50T-2/3-ARM-SHORT	HXPM-50T-2/3-ARM-LONG
w_{min}	mm	200	200	200
w_{max}	mm	1250	950	1250
t_{max}	mm	780	500	780
F_P	kN	490	490	490
p_{max}	bar	700	700	700
$s_{cm\ max}$	mm	330	330	330
AH_{min}	mm	310	820	820
AH_{max}	mm	1045	1370	1370
a	mm	23	23	23
b	mm	60	60	60
c	mm	35	35	35
U	V	230	230	230
f	Hz	50...60	50...60	50...60
L	mm	2700	2245	2545
B	mm	655	800	800
H	mm	900	1155	1155
m	kg	315	385	400

w	mm	Grip width
t	mm	Grip depth
F_P	kN	Extraction force
s_{cm}	mm	Working stroke
AH	mm	Working height
U	V	Voltage
f	Hz	Frequency
L	mm	Length
B	mm	Width
H	mm	Height
m	kg	Mass
p	bar	Pressure

13.1 Ambient conditions

Only operate the device under the following ambient conditions.

13 Ambient conditions

Designation	Value
Ambient temperature	0 °C to +50 °C
Humidity	5 % to 80 %, non-condensing
Operating location	• for industrial applications • flat, stable surface • in closed rooms only • no explosion risk in the environment

13.2 CE Declaration of Conformity

CE Declaration of Conformity

Manufacturer's name:	Schaeffler Smart Maintenance Tools BV
Manufacturer's address:	Schorsweg 15, 8171 ME Vaassen, NL www.schaeffler-smart-maintenance-tools.com

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Brand:	BETEX
Product description:	Hydraulic pullers
Product name/type:	• BETEX HXPM 50T 2/3-arm short • BETEX HXPM 50T 2/3-arm long • BETEX HXPM 50T 2-arm • HXPM-50T-2/3-ARM-SHORT • HXPM-50T-2/3-ARM-LONG • HXPM-50T-2-ARM
Comply with the requirements of:	• Machine Directive 2006/30/EC • Low Voltage Directive 2014/35/EU • EMC Directive 2014/30/EU
Applicable harmonized standards:	• EN-ISO 12100:2010 • EN-ISO 4413:2010

H. van Essen,
Managing Director
Schaeffler Smart Maintenance Tools BV

Place, Date:
Vaassen, 30-07-2025

CE

UKCA Declaration of Conformity

Manufacturer's name:	Schaeffler Smart Maintenance Tools BV
Manufacturer's address:	Schorsweg 15, 8171 ME Vaassen, NL www.schaeffler-smart-maintenance-tools.com

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Brand:	BETEX
Product description:	Hydraulic pullers
Product name/type:	• BETEX HXPM 50T 2/3-arm short • BETEX HXPM 50T 2/3-arm long • BETEX HXPM 50T 2-arm • HXPM-50T-2/3-ARM-SHORT • HXPM-50T-2/3-ARM-LONG • HXPM-50T-2-ARM
Comply with the requirements of:	• Electrical Equipment (Safety) Regulations S.I. 2016:1101 • Supply of Machinery (Safety) Regulations S.I. 2008:1597 • Electromagnetic Compatibility Regulations S.I. 2016:1091
Applicable harmonized standards:	• BS-EN-ISO 12100:2010 • BS-EN-ISO 4413:2010

H. van Essen,
Managing Director
Schaeffler Smart Maintenance Tools BV

Place, Date:
Vaassen, 30-07-2025

UK CA

14 Replacement parts

14.1 Hydraulic oil

15 Hydraulic oil

001B475E

The pump reservoir has a maximum holding capacity of 8 l.

14 Hydraulic oil BETEX LPS 78 ISO 15

Quantity	Ordering designation
l	
1	PUMP.HYDOIL-LPS78-1L
2	PUMP.HYDOIL-LPS78-2L
4	PUMP.HYDOIL-LPS78-4L
5	PUMP.HYDOIL-LPS78-5L

14.2 Hoses

16 Hoses and hose components

001B56A1

1	Master cylinder hose	2	Lifting cylinder hose

15 Hoses for HXPM-50T-2/3-ARM-SHORT and HXPM-50T-2/3-ARM-LONG

Description	Ordering designation
Master cylinder hose	PUMP.HPHOSE-HFHS333-900MM
Lifting cylinder hose	PUMP.HPHOSE-HS336-1800MM

16 Hoses for HXPM-50T-2-ARM

Description	Ordering designation
Master cylinder hose	PUMP.HPHOSE-HFHS336-1800MM
Lifting cylinder hose	PUMP.HPHOSE-HS332-600MM

14.3 Other replacement parts

17 Other replacement parts

1	Manometer	2	Adapter piece Ø40 mm, length 155 mm
3	Adapter piece Ø50 mm, length 155 mm	4	Centring piece

17 Other replacement parts

Description	Ordering designation
Manometer	PUMP.MANO-M0031B-700BAR
Adapter piece Ø40 mm, length 155 mm	HP.ADAPTER-D40/L155
Adapter piece Ø50 mm, length 155 mm	HP.ADAPTER-D50/L155
Centring piece	HP.SHAFT-PROTECTOR-D50

Other replacement parts available by agreement:
or-hzr-tool-repair@schaeffler.com

14.4 Service

Schaeffler service portal:
https://www.schaeffler.de/std/21F3

Service Smart Maintenance Tools:
service.smt@schaeffler.com

Schaeffler Smart Maintenance Tools B.V.
Schorsweg 15
8171 ME Vaassen
Netherlands
Tel.: +31 578 668 000
www.schaeffler-smart-maintenance-tools.com
info.smt@schaeffler.com

All information has been carefully compiled and checked by us, but we cannot guarantee complete accuracy. We reserve the right to make corrections. Therefore, please always check whether more up-to-date or amended information is available. This publication supersedes all deviating information from older publications. Printing, including excerpts, is only permitted with our approval.
© Schaeffler Smart Maintenance Tools B.V.
BA 101 / 02 / en-GB / 2026-06