



# Injection with the ram injection lance

- below building components
- into the ground



# Application below building components/in the ground

## Information

In Germany injections into the ground have to be authorised by the "Untere Wasserbehörde" (~ lower water authorities). Prior to starting the work (project) make sure that it will be carried out in accordance with applicable laws and regulations.



## Application Range

- Building ground stabilisation
- Rebuilding the foundation
- Consolidation of unconsolidated rock
- Creation of a sealing film
- Additional sealing
- Compensation grouting
- Preparation of machine foundations

## Objectives

- Sealing/waterproofing
- Stabilisation of the building ground  
(Hollows in the building ground are filled with injection material)

## Advantages

- The length of the ram injection lances can be perfectly adjusted to the injection depth.
- On placing the ram injection lance no gap is produced at the outside diameter so no injection material runs out unused.

## Procedure

- Determine the rehabilitation measure together with experts, e.g. planer, geotechnician etc.
- Mark the position of the holes to be drilled on the fundament according to the determined concept
- Drill the holes
- Drive the ram injection lance down to the determined depth using the battering ram and the pile hammer
- Fix the packer
- Mount the coupling system to the ram injection lance
- Inject the material
- Remove packer and coupling system after the injection work has been finished
- Seal borehole with appropriate material

## Application - Example

- Placing of the ram injection lance for injection below building components

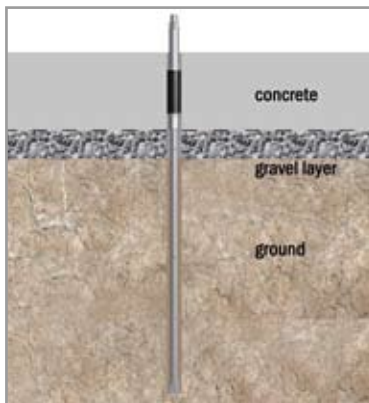
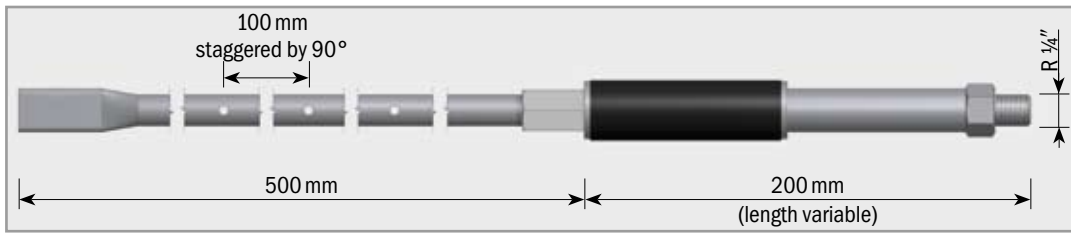


# Ram injection lances

## Information

The information on the methods is a recommendation and not binding. If required, please contact us for professional advice.

Order number



### Ram injection lance BP – complete

with external thread R 1/4", clamping rubber Ø 25 x 80 mm, lateral outlets

Ø 25 x 700 mm

Ø 25 x 1200 mm

Ø 25 x 1700 mm

20647

20648

20649

## Ram injection lances for individual combination



### Ram injection lance – basis element

with lateral outlets Ø 4 mm spaced at intervals of 100 mm, external thread R 1/4", pressed tip

500 mm long

1000 mm long

20639-01

20639-02



### Extension ML

with lateral outlets Ø 4 mm spaced at intervals of 100 mm, 2 x external thread R 1/4"

500 mm long

1000 mm long

20639-05

20639-06



### Extension OL

without outlets, 2 x external thread R 1/4"

500 mm long

1000 mm long

20639-08

20639-09



### Steel packer Ø 25 x 200 mm

for ram injection lance BP, with external thread R 1/4", free passage Ø 9 mm, internal thread R 1/4"

20639-11



### Connecting sleeve Ø 16 x 28 mm

with internal thread R 1/4"

20639-07

## Example of an individually combined ram injection lance

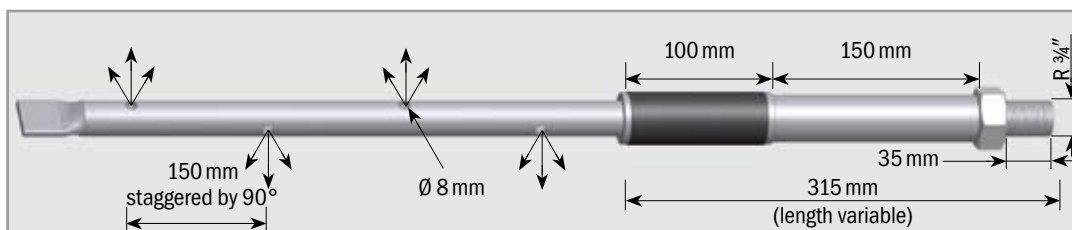


# Ram injection lances

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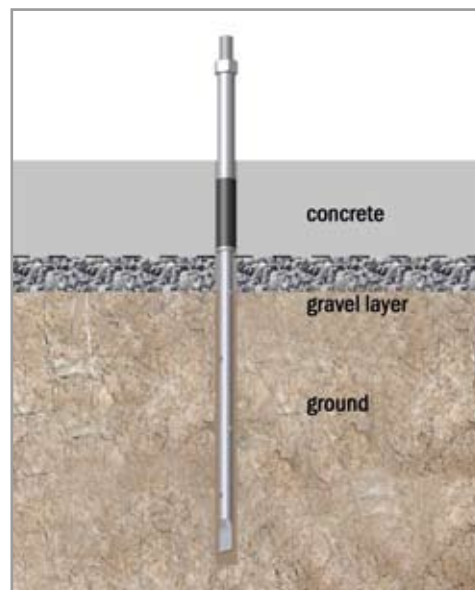
Outlets		
1000 mm	5 x 100 mm	500 mm
1500 mm	6 x 150 mm	900 mm
2000 mm	10 x 150 mm	1500 mm
3000 mm	16 x 150 mm	2400 mm

### Ram injection lance BP - complete

with external thread R 3/4", clamping rubber Ø 38 x 100 mm  
lateral outlets Ø 8 mm

20654	Ø 38 x 1000 mm
20657	Ø 38 x 1500 mm
20658	Ø 38 x 2000 mm
20659	Ø 38 x 3000 mm

Clamping rubbers Ø 41 mm and Ø 46 mm are also available.



## Accessories

31900 **Sealing lip valve**  
for lamella drive-in packer and adaptor

33070 **Adaptor**  
adaptor for sealing lip valve, with internal thread R 3/4"  
and connection for quick snap

33007 **Locking tappet**  
with internal thread R 3/4", connection for Geka coupling,  
free passage Ø 22 mm

20643 **Battering ram Ø 32 x 160 mm**  
with internal thread R 3/4" for ram injection lances

### Information

The battering ram is screwed on ram injection lances.

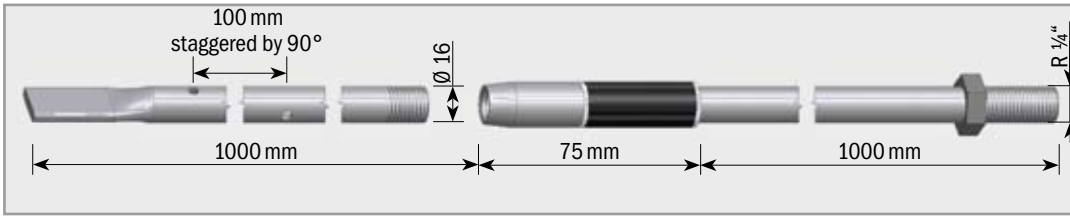
20644 **Pulling device**  
with internal thread R 3/4" for ram injection lances

# Ram injection lances

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Order number



clamping rubber fixed

**Ram injection lance ER Ø 16 x 2040 mm – complete**  
with external thread R 1/4", clamping rubber Ø 16 x 40 mm, lateral outlets

20639

## Ram injection lances for individual combination



**Sealing element**  
with sleeve Ø 16 x 35 mm, clamping rubber Ø 16 x 40 mm, external thread M10  
103 mm long

20639-10



**Ram injection lance – basis element**  
with lateral outlets Ø 4 mm spaced at intervals of 100 mm, external thread R 1/4", pressed tip  
500 mm long  
1000 mm long

20639-01  
20639-02



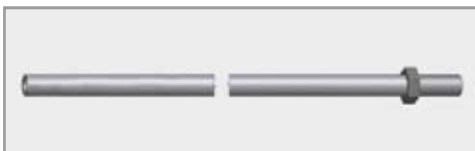
**Extension ML**  
with lateral outlets Ø 4 mm spaced at intervals of 100 mm, 2 x external thread R 1/4"  
500 mm long  
1000 mm long

20639-05  
20639-06



**Extension OL**  
without outlets, 2 x external thread R 1/4"  
500 mm long  
1000 mm long

20639-08  
20639-09



**Thrust piece ER**  
with internal thread M10, external thread R 1/4"  
500 mm long  
1000 mm long

20639-03  
20639-04



**Connecting sleeve Ø 16 x 28 mm**  
with internal thread R 1/4"

20639-07

## Example of an individually combined ram injection lance

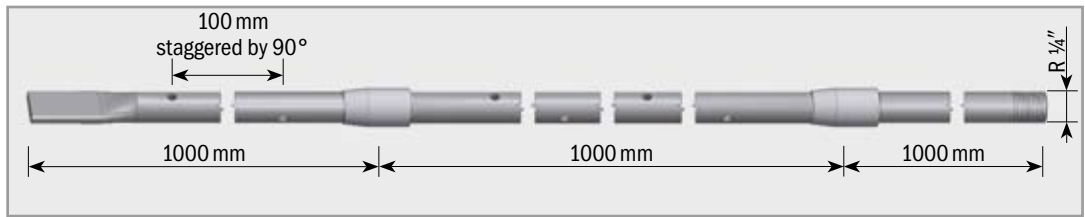


# Ram injection lances

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Order number



20631 **Ram injection lance ER Ø 13 x 3000 mm - complete**  
with external thread R 1/4", lateral outlets, combined of:  
ram injection lance basis element, extension ML,  
extension OL, 2 x connecting sleeve



## Ram injection lances for individual combination

20639-01 **Ram injection lance - basis element**  
with lateral outlets Ø 4 mm spaced at intervals of 100 mm,  
external thread R 1/4", pressed tip  
500 mm long  
20639-02 1000 mm long



20639-05 **Extension ML**  
with lateral outlets Ø 4 mm spaced at intervals of 100 mm,  
2 x external thread R 1/4"  
500 mm long  
20639-06 1000 mm long



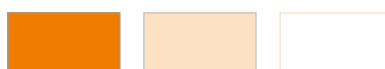
20639-08 **Extension OL**  
without outlets, 2 x external thread R 1/4"  
500 mm long  
20639-09 1000 mm long



20639-07 **Connecting sleeve Ø 16 x 28 mm**  
with internal thread R 1/4"



## Example of an individually combined ram injection lance





# Accessories for ram injection lances


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Order number

	<p><b>Battering ram Ø 40 x 150 mm</b> with bore Ø 27 x 70 mm, internal thread R ¼"</p>	<p>20641</p>
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	<p><b>Pulling device</b> with internal thread R ¼"</p>	<p>20634</p>
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	<p><b>Pile hammer</b> for placing the ram injection lances output power: 800 W, rated input power: 1600 W weight: 11 kg, single-blow energy: 7 - 27 J</p>	<p>10957</p>
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## Accessory


	<p><b>Mounting tool</b> with SDS-MAX</p>	<p>10958</p>
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## For injection with mineral material

	<p><b>Locking tappet</b> with internal thread R ¼", free passage Ø 7 mm</p>	<p>33000</p>
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## For injection with gel

	<p><b>HP pan head nipple</b> with rubber seal, internal thread R ¼"</p>	<p>20882-01</p>
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	<p><b>Connecting nipple DN10</b> with internal thread R ¼", internal-Ø 7 mm</p>	<p>22038</p>
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Injection technique

Mixing technique

Spraying technique

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