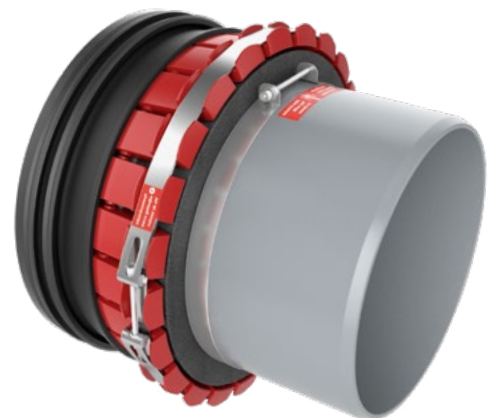


# Funke BSM-Adapter®

for chamber and pipe sockets made  
of concrete and vitrified clay



DN 150/200



DN 250-500

# Funke BSM-Adapter®

## Ideal for level invert transitions



With the BSM-Adapter®, Funke brings a solution to the market that enables level invert transitions from pipes to **chamber sockets** as well as from pipes to **pipe sockets** made of rigid materials such as vitrified clay and concrete. The following applies to nominal diameters DN 250-500: The BSM-Adapter® is universally applicable to concrete or vitrified clay sockets of any design with a given nominal diameter. This solution makes it possible to set up transitions to concrete bell sockets with or without integrated seals as well as transitions to high-load or normal-load sockets made of vitrified clay. As such, it does not matter whether the socket to which the connection will be made features an integrated seal (for the assignment of the BSM-Adapter® DN 150 and 200, see Table 2).

### The challenge of working with existing pipes

Using the BSM-Adapter® on site ensures efficient construction processes in pipe trenches. In the past, the pipe socket had to be cut off in order to create a transition to the socket and of an old pipe. Depending on the nominal diameter, this step was time-consuming and costly – and now the BSM-Adapter® makes it unnecessary. This component is also worthwhile when it comes to replacing old brackets. Integrating new pipes into existing chamber structures is usually difficult; however, the BSM-Adapter® enables tight connection of the new pipes directly to the old chamber sockets as required by DIN EN 1610.

One of challenge that often arises, particularly with nominal diameters 150 and 200, is that the sockets are set in



concrete in the foundation walls. In addition, some standards and therefore the dimensions of the old pipes have changed over time.

### The solution

Funke has developed the BSM-Adapter® DN 150 and 200 to create a tight connection in the existing pipework at these points. While the adapter was previously available in the DN 250-500 versions, the new development of the BSM-Adapter® DN 150/200 covers the smaller nominal diameter ranges.

The new product can also be used to create level invert transitions from plastic pipes to pipe and chamber sockets made from classic rigid materials such as vitrified clay and concrete. In addition to the BSM-Adapter®, the scope of delivery for the new nominal diameters includes a socket wrench, a 5 mm Allen key, Installation Instructions and, depending on the type, one or two insert seals.

# Funke BSM-Adapter® DN 150/200

## The product

The BSM-Adapter® DN 150/200 consists of a tubular body DN/OD 160 or 200, a permanently attached seal and a clamping mechanism integrated between the body and the seal and – depending on the version – one or two insert seals (TYPE1 and/or TYPE2).

It has an eccentric design in nominal diameter DN 200. This ensures a level invert transition to the inner diameter of a concrete or vitrified clay pipe for both nominal diameters. The BSM-Adapter® is sealed against the pipe socket by tightening the two integrated screws. A marking on the indicator above each screw indicates whether the screws are evenly tightened.



Scope of delivery  
BSM200UNI


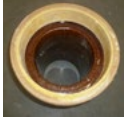



Table 1

Nominal diameter	Item no.	Product designation	Tightening torque	Accessories (not included in scope of delivery)
DN 150	<b>BSM150UNI</b>	BSM150 UNiversal incl. insert seal TYPE 1 and 2	4 Nm	
	<b>BSM150ED1</b>	BSM150ED1 incl. insert seal TYP1	4 Nm	Insert seal 150 TYP2
DN 200	<b>BSM200UNI</b>	BSM200 UNiversal incl. insert seal TYPE 1 and 2	4 Nm	
	<b>BSM200ED1</b>	BSM200 ED1 incl. insert seal TYP1	4 Nm	Insert seal 200 TYP2

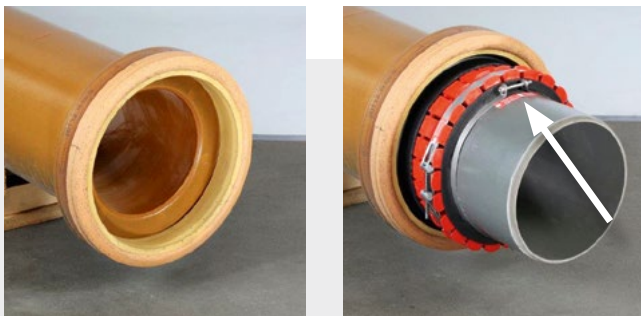


The striped indicators show whether the right and left screws are tightened to approximately the same degree.

Table 2: Assignment of BSM to pipe sockets

Connectable pipe sockets	For DN 150 pipe sockets		For DN 200 pipe sockets	
 <b>Socket with permanently connected seal</b> Vitrified clay DIN 295 socket L Connection system C	BSM150UNI	BSM150ED1	BSM200UNI	BSM200ED1
 <b>Socket without seal (normal load)</b> Vitrified clay DIN 295 socket K Connection system C			BSM200UNI	BSM200ED1
 <b>Socket without seal (high load)</b> Vitrified clay DIN 295 socket K Connection system C			BSM200UNI	
 <b>Very old socket without seal</b> Vitrified clay DIN 1230 (before 1965)	BSM150UNI		coming soon	
 <b>Concrete pipe with seal</b>	BSM150UNI ID socket 186–220 mm Socket depth 40 mm	BSM150ED1 ID socket 186–200 mm Socket depth 40 mm	BSM200UNI ID socket 241–275 mm Socket depth 50 mm	BSM200ED1 ID socket 241–260 mm Socket depth 50 mm

# Funke BSM-Adapter® DN 250 - 500



*Level invert connection: After pre-tensioning the clamping bolts, level invert is achieved by turning the top set screw (arrow) T-socket wrench. The design ensures that the shear load is also now absorbed.*

*Please follow the detailed Installation Instructions supplied with the BSM-Adapter®.*



*Scope of delivery  
BSM-Adapter® DN 300*

**Table 3**

Nominal width	Item no.	Socket inner diameter: (clamping range) mm	Tightening torque
DN 250	<b>BSM250</b>	315–350	6 Nm
DN 300	<b>BSM300</b>	370–405	7 Nm
DN 400	<b>BSM400</b>	480–520	9 Nm
DN 500	<b>BSM500</b>	580–645	12 Nm

## The product

The Funke BSM-Adapter® in nominal diameters 250 to 500 consists of a body encircled by a row of toggles. These are contracted with the help of a robust stainless steel clamp – the seal encircling the device expands and is compressed into the vitrified clay or concrete socket. The toggle's clamping range design is particularly worthy of note. Depending on the nominal diameter, 35 to 40mm diameter changes of the „clamping seal“ are possible. This makes the system a versatile solution. Moreover, the eccentric arrangement of the toggles ensures that the transition is always at level invert. In addition, the invert height can be adjusted as required to create a smooth flow channel.

The scope of delivery includes a BSM-Adapter® with pre-assembled jacketed gasket, a 6 mm Allen T-socket wrench and Installation Instructions. In nominal diameters 150 and 200, a wedge mechanism is used that expands the seal of the BSM-Adapter® with the aid of just two clamping bolts.



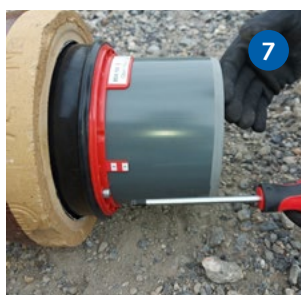
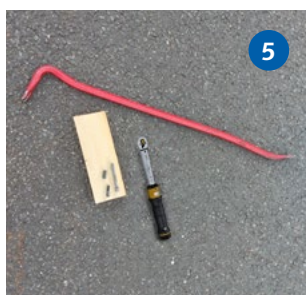
*Inserting the BSM-Adapter® into the chamber socket*



*Fitting a sewer pipe to the BSM-Adapter®*

# Funke BSM-Adapter® DN 150/200

## Quick Installation Guide



Before installing the BSM-Adapter®, first check which socket type is present (see Table 2). The further installation steps for the different socket types are described in detail in the Installation Instructions, which are included in the scope of delivery.

Essentially, the following points must be observed:

### Cleaning the socket

The socket of the vitrified clay pipe must be thoroughly cleaned on the front and inside. Depending on the type of soiling and the type of socket, a cleaning cloth and/or water may be used. A wire brush can also be used for sockets without a seal.

### Checking the socket for damage

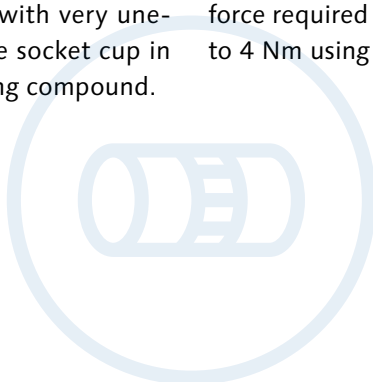
If there are continuous cracks, it is not possible to use the BSM-Adapter®. It should then be checked whether the socket can be cut off and a Funke VPC® Pipe Coupling, for example, can be used for a tight transition to the pipe requiring connection. In exceptional cases – such as very old vitrified clay sockets with very uneven surfaces – it is necessary to treat the socket cup in advance with a suitable levelling or sealing compound.

### Installation

Depending on the socket type, an insert seal TYPE1 (the thinner of the enclosed seals) or TYPE2 is then inserted (1). The supplied lubricant is only used if the BSM-Adapter® is inserted into a vitrified clay socket with a firmly connected seal (2+3). If the BSM-Adapter® can simply be inserted into the insert seal, no lubricant is required. Depending on the insertion force, the BSM-Adapter® is inserted into the socket by hand or alternatively pressed in using a squared timber and a crowbar (4+6). **Important:** Under no circumstances should the BSM-Adapter® be struck with a hammer. The labelling on the BSM-Adapter® must always face upwards during installation. This ensures that the screws are easily accessible for tightening.

### Tightening the BSM-Adapter®

The screws are tightened alternately two turns at a time using a hexagonal socket screwdriver (5 mm) (7). The two red and white striped indicators show whether the screws have been screwed in evenly on both sides. If the force required for turning increases, tighten both screws to 4 Nm using a torque wrench (8).



# Funke BSM-Adapter® DN 250 - 500

## Quick Installation Guide



### Cleaning/visual inspection/repairing the socket

In the first step, check that the inner diameter of the socket is within the clamping range according to the table. For concrete sockets with an integrated seal, the inner dimension of the seal is decisive. Remove dirt from the socket using a hand brush, cleaning rag and/or wire brush (1). It may be possible to mend any chipping or denting in the socket using appropriate filler material. The BSM-Adapter® cannot be used in the event of visible cracks in or considerable damage to the socket.

### Inserting the BSM-Adapter® into the socket (without lubricant!)

First, place the BSM-Adapter® at the bottom of the socket (2), and then lift it until it comes to rest fully against the back of the socket. If the BSM-Adapter® is too big, the jacketed gasket must be removed (3). Slight pressure during installation ensures that the socket opening is constant around the circumference and kept as small as possible.

### Applying pre-tension

The two clamping bolts (on the right and left on the clamping strip) are alternately tightened by five (4) turns each, until slight resistance is felt in the T-socket wrench. The BSM-Adapter® must fit so tightly that it remains stuck in the socket when it is let go. Perform a visual inspection

(9) and check that the socket opening is as small as possible and the same all around the circumference.

### Setting the height of the flow bed

Now, using the set screw, adjust the height of the flow bed of the BSM-Adapter® with respect to the pipe (or chamber) being connected (6). Also see Figure 9 (prior to the adjustment of the flow bed) and Figure 10 (after adjustment).

**Important information:** In any case, the set screw must be turned until the invert of the BSM-Adapter® moves up slightly against the pipe invert or until there is clear resistance at the set screw. Only then is the height adjustment/shear-load protection is activated.

### Tightening the BSM-Adapter®

Check the match between the pipe invert and the flow bed of the BSM-Adapter® again visually (10) and using your fingers. Then alternately tighten the clamping bolts by about five turns until clear resistance can be felt in the wrench (6). Subsequently tighten both clamping bolts according to table 3 using a torque wrench (7). Finally, check whether the BSM-Adapter® fits properly (8). Transitions to other pipe materials can be implemented using, for example, a Funke VPC® Pipe Coupling.

*This document is a translation of the German brochure. All mentioned approvals and standards pertain to those in Germany. For details on the corresponding approvals and standards in your country, please contact us.*

**Funke Kunststoffe GmbH**

Germany

Tel.: +49 2388 3071-0

info@funkegruppe.de

www.funkegruppe.com

