

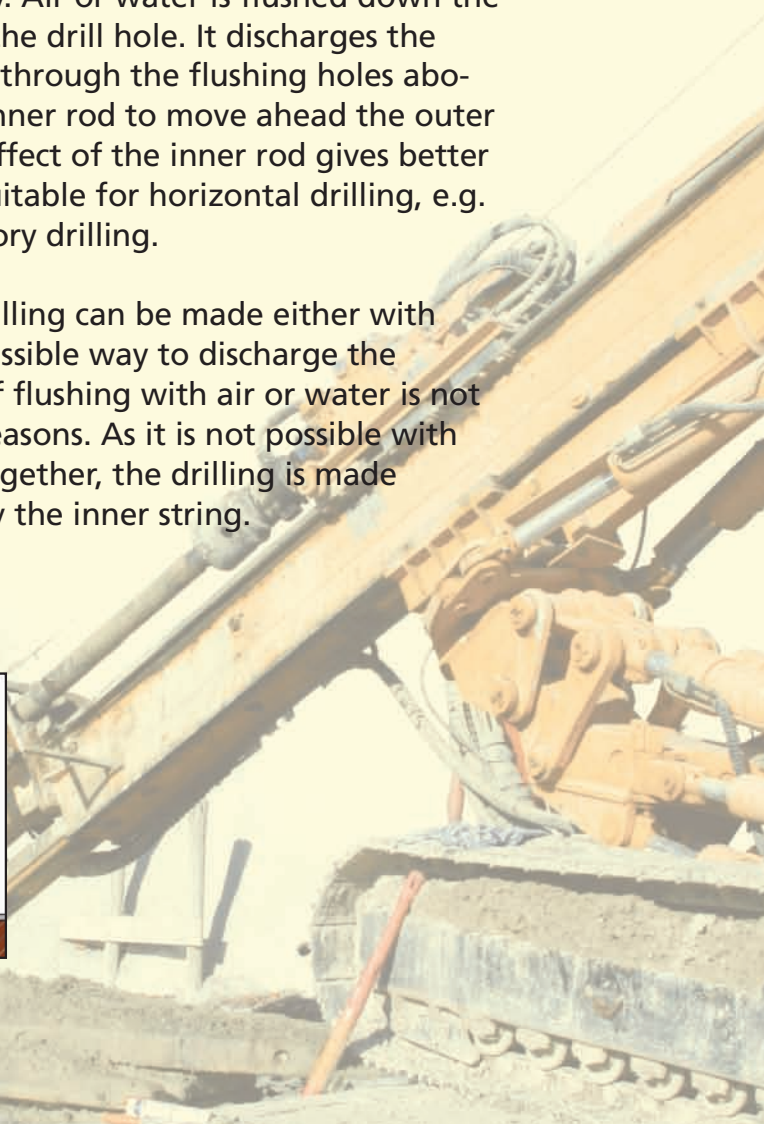
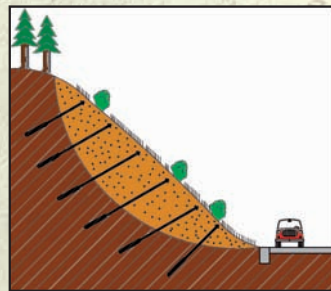
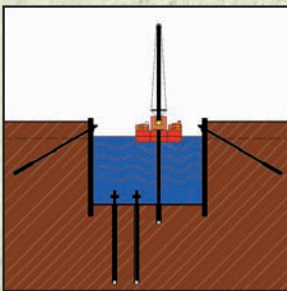
### Overburden Drilling Systems D 114.3 – D 244.5 with rotary head

The name „Overburden Drilling“ results from the composition of the earth crust. The bedrock is covered with loose layers of earth consisting of sand, gravel, boulders combined with loose ground and other deposits. All these formations are grouped together under the umbrella term „Overburden“, which overlies the bedrock.

Certain drilling processes make it necessary to support the wall with tubes. The system shown here has two rotary units that can rotate opposite to each other. The rods counter-rotate independently. Air or water is flushed down the centre of the inner drill string to the end of the drill hole. It discharges the borings in the ring space between both rods through the flushing holes above. The slide of the rotary drives allows the inner rod to move ahead the outer rod and can even be pulled back. The pilot effect of the inner rod gives better alignment. So, these systems are especially suitable for horizontal drilling, e.g. injection drilling for tunnelling and exploratory drilling.

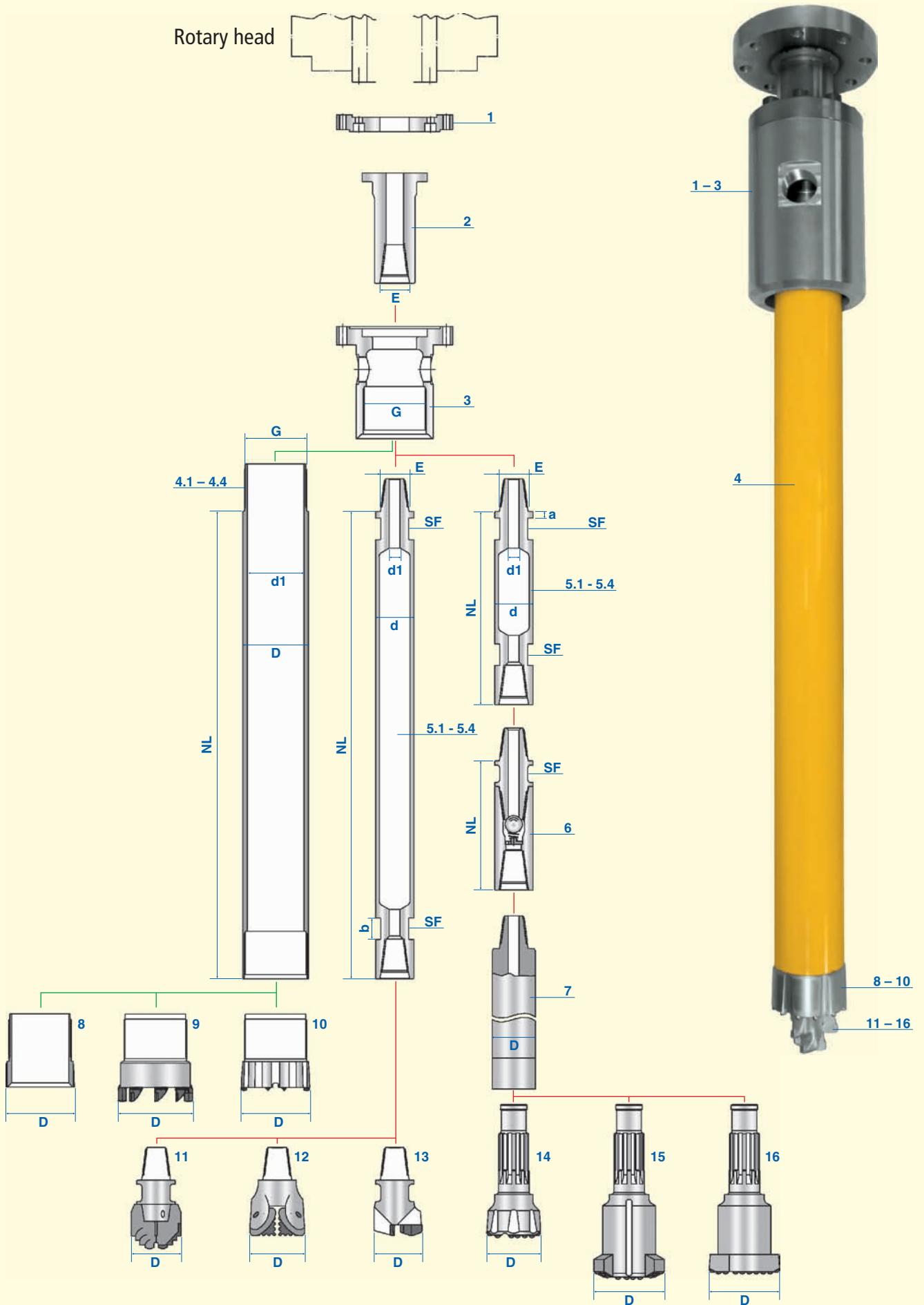
Depending on the ground conditions, the drilling can be made either with rotary drill bits or DTH-hammers. Another possible way to discharge the borings is to use auger drill rods, especially, if flushing with air or water is not allowed for construction or environmental reasons. As it is not possible with this system to drill the whole drill string in together, the drilling is made separately. First the outer casing, followed by the inner string.

Examples of application:



# Overburden Drilling Systems

with rotary head



# Overburden Drilling System D 114.3

with rotary head

Pos.	Description
1	Connecting flange, suitable for rotary head (indicated with order)
2	Flange d 76.1, 2 3/8" API Reg. RHT female (E), with external toothing suitable for flange D 114.3, 2 starts, cyl. LHT female (G), with internal toothing
3	Flange D 114.3, 2 starts, cyl. LHT female (G), with internal toothing
4	Casing D 114.3, 2 starts, cyl. LHT (G) x 10mm wth x 94mm (d1). Quality: high tempered steel, machined thread
4.1	3000 mm length
4.2	2000 mm length
4.3	1500 mm length
4.4	1000 mm length
5	DTH rods d 76.1, 2 3/8" API Reg. RHT (E) x 8.8mm wth x 30mm (d1), with square spanner flats SW 65, measurements: a = 20mm, b = 65mm. Quality tubes: S355J2H; Welding ends: high tempered steel, nitrated surface, friction welded
5.1	3000 mm length
5.2	2000 mm length
5.3	1500 mm length
5.4	1000 mm length
6	Back pressure valve d 76.1, 2 3/8" API Reg. RHT female/male x length adapted for type of DTH-hammer (indicated with order), opening to female side (option)
7	DTH-hammer D = 80mm x connecting 2 3/8" API Reg. RHT male
8	Casing shoe D 114.3, 2 starts, cyl. LHT female x D 115mm, armored version
9	Casing bit D 114.3, 2 starts, cyl. LHT male x D 130mm, with welding teeth, TC fitted
10	Casing bit D 114.3, 2 starts, cyl. LHT male x D 120mm, with special TC inserts, relief grooves and lateral wear protection
11	Rotary bit d 76.1 x 2 3/8" API Reg. RHT male x D 89mm, 3 wings, stepped form
12	Roller bit d 76.1 x 2 3/8" API Reg. RHT male x D 88.9mm (3 1/2")
13	Rotary bit d 76.1 x 2 3/8" API Reg. RHT male x D 89mm, 3 wings, with TC plates
14	DTH-hammer drill bit D = 89mm, button type, shaft adapted for type of DTH-hammer (indicated with order)

## Tools

Fishing tap D 76.1, 2 3/8" API Reg. male thread

Fishing bell D 76.1, 2 3/8" API Reg. male thread

Spanner SW 65 x 500mm long

## Signs & Symbols

SW = key width; LHT = left hand thread; RHT = right hand thread; D = outer diameter; d = inner diameter; cyl. = cylindrical; con. = conical  
SF = spannerflat; L = length; wth = wall thickness; G = thread connection.

The following threads are on offer: right hand, left hand, cylindrical or conical. All casings can be made friction-welded or with nipples.

Please note that this production sheet shows only standard versions due to the many possible tool variations. Special designs on request.

# Overburden Drilling System D 139.7

with rotary head

Pos.	Description
1	Connecting flange, suitable for rotary head (indicated with order)
2	Flange d 88.9, 2 3/8" API Reg. RHT female (E), with external toothing suitable for flange D 139.7, 2 starts, cyl. LHT female (G), with internal toothing
3	Flange D 139.7, 2 starts, cyl. LHT female (G), with internal toothing
4	Casing D 139.7, 2 starts, cyl. LHT (G) x 10mm wth x 117mm (d1). Quality: high tempered steel, machined thread
4.1	3000 mm length
4.2	2000 mm length
4.3	1500 mm length
4.4	1000 mm length
5	DTH rods d 88.9, 2 3/8" API Reg. RHT (E) x 8.8mm wth x 30mm (d1), with square spanner flats SW 65, measurements: a = 20mm, b = 60mm. Quality tubes: S355J2H; Welding ends: high tempered steel, nitrated surface, friction welded
5.1	3000 mm length
5.2	2000 mm length
5.3	1500 mm length
5.4	1000 mm length
6	Back pressure valve d 88.9, 2 3/8" API Reg. RHT female/male x length adapted for type of DTH-hammer (indicated with order), opening to female side (option)
7	DTH-hammer D = 92mm x connecting 2 3/8" API Reg. RHT male
8	Casing shoe D 139.7, 2 starts, cyl. LHT male x D 140mm, armored version
9	Casing bit D 139.7, 2 starts, cyl. LHT male x D 150mm, with welding teeth, TC fitted
10	Casing bit D 139.7, 2 starts, cyl. LHT male x D 145mm, with special TC inserts, relief grooves and lateral wear protection
11	Rotary bit d 88.9 x 2 3/8" API Reg. RHT male x D 115mm, 3 wings, stepped form
12	Roller bit d 88.9 x 2 3/8" API Reg. RHT male x D 114.3mm (4 1/2")
13	Rotary bit d 88.9 x 2 3/8" API Reg. RHT male x D 115mm, 3 wings, with TC plates
14	DTH-hammer drill bit D = 115mm, button type, shaft adapted for type of DTH-hammer (indicated with order)

## Tools

Fishing tap D 88.9, 2 3/8" API Reg. male thread

Fishing bell D 88.9, 2 3/8" API Reg. male thread

Spanner SW 65 x 500mm long

## Signs & Symbols

SW = key width; LHT = left hand thread; RHT = right hand thread; D = outer diameter; d = inner diameter; cyl. = cylindrical; con. = conical  
SF = spannerflat; L = length; wth = wall thickness; G = thread connection.

The following threads are on offer: right hand, left hand, cylindrical or conical. All casings can be made friction-welded or with nipples.

Please note that this production sheet shows only standard versions due to the many possible tool variations. Special designs on request.

# Overburden Drilling System D 152.4

with rotary head

Pos.	Description
1	Connecting flange, suitable for rotary head (indicated with order)
2	Flange d 88.9, 2 3/8" API Reg. RHT female (E), with external toothing suitable for flange D 152.4, 2 starts, cyl. LHT female (G), with internal toothing
3	Flange D 152.4, 2 starts, cyl. LHT female (G), with internal toothing
4	Casing D 152.4, 2 starts, cyl. LHT (G) x 10mm wth x 130mm (d1). Quality: high tempered steel, machined thread
4.1	3000 mm length
4.2	2000 mm length
4.3	1500 mm length
4.4	1000 mm length
5	DTH rods d 88.9, 2 3/8" API Reg. RHT (E) x 8.8mm wth x 25mm (d1), with square spanner flats SW 65, measurements: a = 20mm, b = 60mm. Quality tubes: S355J2H; Welding ends: high tempered steel, nitrated surface, friction welded
5.1	3000 mm length
5.2	2000 mm length
5.3	1500 mm length
5.4	1000 mm length
6	Back pressure valve d 88.9, 2 3/8" API Reg. RHT female/male x length adapted for type of DTH-hammer (indicated with order), opening to female side (option)
7	DTH-hammer D = 92mm x connecting 2 3/8" API Reg. RHT male
8	Casing shoe D 152.4, 2 starts, cyl. LHT male x D 155mm, armored version
9	Casing bit D 152.4, 2 starts, cyl. LHT male x D 170mm, with welding teeth, TC fitted
10	Casing bit D 152.4, 2 starts, cyl. LHT male x D 160mm, with special TC inserts, relief grooves and lateral wear protection
11	Rotary bit d 88.9 x 2 3/8" API Reg. RHT male x D 125mm, 3 wings, stepped form
12	Roller bit d 88.9 x 2 3/8" API Reg. RHT male x D 120,7mm (4 3/4")
13	Rotary bit d 88.9 x 2 3/8" API Reg. RHT male x D 125mm, 3 wings, with TC plates
14	DTH-hammer drill bit D = 125mm, button type, shaft adapted for type of DTH-hammer (indicated with order)
15	DTH-hammer drill bit type "Super Jaws T 130" x D 165mm/d 127mm, button type, shaft adapted for type of DTH-hammer
16	DTH-hammer drill bit type "EBEX 130" x D 162mm/d 125mm, button type, shaft adapted for type of DTH-hammer

## Tools

Fishing tap D 88.9, 2 3/8" API Reg. male thread

Fishing bell D 88.9, 2 3/8" API Reg. male thread

Spanner SW 65 x 500mm long

## Signs & Symbols

SW = key width; LHT = left hand thread; RHT = right hand thread; D = outer diameter; d = inner diameter; cyl. = cylindrical; con. = conical  
SF = spannerflat; L = length; wth = wall thickness; G = thread connection.

The following threads are on offer: right hand, left hand, cylindrical or conical. All casings can be made friction-welded or with nipples.

Please note that this production sheet shows only standard versions due to the many possible tool variations. Special designs on request.

# Overburden Drilling System D 177.8

with rotary head

Pos.	Description
1	Connecting flange, suitable for rotary head (indicated with order)
2	Flange d 114.3, 3 1/2" API Reg. RHT female (E), with external toothing suitable for flange D 177.8, 2 starts, cyl. LHT female (G), with internal toothing
3	Flange D 177.8, 2 starts, cyl. LHT female (G), with internal toothing
4	Casing D 177.8, 2 starts, cyl. LHT (G) x 10mm wth x 155mm (d1). Quality: high tempered steel, machined thread
4.1	3000 mm length
4.2	2000 mm length
4.3	1500 mm length
4.4	1000 mm length
5	DTH rods d 114.3, 3 1/2" API Reg. RHT (E) x 8.8mm wth x 45mm (d1), with square spanner flats SW 95, measurements: a = 20mm, b = 60mm. Quality tubes: S355J2H; Welding ends: high tempered steel, nitrated surface, friction welded
5.1	3000 mm length
5.2	2000 mm length
5.3	1500 mm length
5.4	1000 mm length
6	Back pressure valve d 114.3, 3 1/2" API Reg. RHT female/male x length adapted for type of DTH-hammer (indicated with order), opening to female side (option)
7	DTH-hammer D = 122mm x connecting 3 1/2" API Reg. RHT male
8	Casing shoe D 177.8, 2 starts, cyl. LHT male x D 180mm, armored version
9	Casing bit D 177.8, 2 starts, cyl. LHT male x D 190mm, with welding teeth, TC fitted
10	Casing bit D 177.8, 2 starts, cyl. LHT male x D 185mm, with special TC inserts, relief grooves and lateral wear protection
11	Rotary bit d 114.3 x 3 1/2" API Reg. RHT male x D 150mm, 3 wings, stepped form
12	Roller bit d 114.3 x 3 1/2" API Reg. RHT male x D 152,4mm (6")
13	Rotary bit d 114.3 x 3 1/2" API Reg. RHT male x D 150mm, 3 wings, with TC plates
14	DTH-hammer drill bit D = 150mm, button type, shaft adapted for type of DTH-hammer (indicated with order)
15	DTH-hammer drill bit type "Super Jaws T 150" x D 197mm/d 150mm, button type, shaft adapted for type of DTH-hammer
16	DTH-hammer drill bit type "EBEX 150" x D 191mm/d 150mm, button type, shaft adapted for type of DTH-hammer

## Tools

Fishing tap D 114.3, 3 1/2" API Reg. male thread

Fishing bell D 114.3, 3 1/2" API Reg. male thread

Spanner SW 95 x 500mm long

## Signs & Symbols

SW = key width; LHT = left hand thread; RHT = right hand thread; D = outer diameter; d = inner diameter; cyl. = cylindrical; con. = conical  
SF = spannerflat; L = length; wth = wall thickness; G = thread connection.

The following threads are on offer: right hand, left hand, cylindrical or conical. All casings can be made friction-welded or with nipples.

Please note that this production sheet shows only standard versions due to the many possible tool variations. Special designs on request.

# Overburden Drilling System D 219.1

with rotary head

Pos.	Description
1	Connecting flange, suitable for rotary head (indicated with order)
2	Flange d 114.3, 3 1/2" API Reg. RHT female (E), with external toothing suitable for flange D 219.1, 2 starts, cyl. LHT female (G), with internal toothing
3	Flange D 219.1, 2 starts, cyl. LHT female (G), with internal toothing
4	Casing D 219.1, 2 starts, cyl. LHT (G) x 10mm wth x 197mm (d1). Quality: high tempered steel, machined thread
4.1	3000 mm length
4.2	2000 mm length
4.3	1500 mm length
4.4	1000 mm length
5	DTH rods d 114.3, 3 1/2" API Reg. RHT (E) x 8.8mm wth x 45mm (d1), with square spanner flats SW 95, measurements: a = 20mm, b = 60mm. Quality tubes: S355J2H; Welding ends: high tempered steel, nitrated surface, friction welded
5.1	3000 mm length
5.2	2000 mm length
5.3	1500 mm length
5.4	1000 mm length
6	Back pressure valve d 114.3, 3 1/2" API Reg. RHT female/male x length adapted for type of DTH-hammer (indicated with order), opening to female side (option)
7	DTH-hammer D = 146mm x connecting 3 1/2" API Reg. RHT male
8	Casing shoe D 219.1, 2 starts, cyl. LHT female x D 220mm, armored version
9	Casing bit D 219.1, 2 starts, cyl. LHT male x D 230mm, with welding teeth, TC fitted
10	Casing bit D 219.1, 2 starts, cyl. LHT male x D 225mm, with special TC inserts, relief grooves and lateral wear protection
11	Rotary bit d 114.3 x 3 1/2" API Reg. RHT male x D 195mm, 3 wings, stepped form
12	Roller bit d 114.3 x 3 1/2" API Reg. RHT male x D 193,7mm (6")
13	Rotary bit d 114.3 x 3 1/2" API Reg. RHT male x D 195 mm, 3 wings, with TC plates
14	DTH-hammer drill bit D = 195mm, button type, shaft adapted for type of DTH-hammer (indicated with order)
15	DTH-hammer drill bit type "Super Jaws T 190" x D 237mm/d 191mm, button type, shaft adapted for type of DTH-hammer
16	DTH-hammer drill bit type "EBEX 190" x D 232mm/d 195mm, button type, shaft adapted for type of DTH-hammer

## Tools

Fishing tap D 114.3, 3 1/2" API Reg. male thread

Fishing bell D 114.3, 3 1/2" API Reg. male thread

Spanner SW 95 x 500mm long

## Signs & Symbols

SW = key width; LHT = left hand thread; RHT = right hand thread; D = outer diameter; d = inner diameter; cyl. = cylindrical; con. = conical  
SF = spannerflat; L = length; wth = wall thickness; G = thread connection.

The following threads are on offer: right hand, left hand, cylindrical or conical. All casings can be made friction-welded or with nipples.

Please note that this production sheet shows only standard versions due to the many possible tool variations. Special designs on request.

# Overburden Drilling System D 244.5

with rotary head

Pos.	Description
1	Connecting flange, suitable for rotary head (indicated with order)
2	Flange d 139.7, 4 1/2" API Reg. RHT female (E), with external toothing suitable for flange D 244.5, 2 starts, cyl. LHT female (G), with internal toothing
3	Flange D 244.5, 2 starts, cyl. LHT female (G), with internal toothing
4	Casing D 244.5, 2 starts, cyl. LHT (G) x 10mm wth x 220mm (d1). Quality tubes: S355J2H; Welding ends: high tempered steel
4.1	3000 mm length
4.2	2000 mm length
4.3	1500 mm length
4.4	1000 mm length
5	DTH rods d 139.7, 4 1/2" API Reg. RHT (E) x 8.8mm wth x 60mm (d1), with square spanner flat SW 120, measurements: a = 20mm, b = 60mm. Quality tubes: S355J2H; Welding ends: high tempered steel, nitrated surface, friction welded
5.1	3000 mm length
5.2	2000 mm length
5.3	1500 mm length
5.4	1000 mm length
6	Back pressure valve d 139.7, 4 1/2" API Reg. RHT female/male x length adapted for type of DTH-hammer (indicated with order), opening to female side (option)
7	DTH-hammer D = 162mm x connecting 4 1/2" API Reg. RHT male
8	Casing shoe D 244.5, 2 starts, cyl. LHT male x D 246mm, armored version
9	Casing bit D 244.5, 2 starts, cyl. LHT male x D 265mm, with welding teeth, TC fitted
10	Casing bit D 244.5, 2 starts, cyl. LHT male x D 255mm, with special TC inserts, relief grooves and lateral wear protection
11	Rotary bit d 139.7 x 4 1/2" API Reg. RHT male x D 215mm, 3 wings, stepped form
12	Roller bit d 139.7 x 4 1/2" API Reg. RHT male x D 215.9mm (6 1/2")
13	Rotary bit d 139.7 x 3 1/2" API Reg. RHT male x D 215mm, 4 wings, with TC plates
14	DTH-hammer drill bit D = 200mm, button type, shaft adapted for type of DTH-hammer (indicated with order)
15	DTH-hammer drill bit type "Super Jaws T 215" x D 263mm/d 211mm, button type, shaft adapted for type of DTH-hammer
16	DTH-hammer drill bit type "EBEX 215" x D 260mm/d 215mm, button type, shaft adapted for type of DTH-hammer

## Tools

Fishing tap D 139.7, 4 1/2" API Reg. male thread

Fishing bell D 139.7, 4 1/2" API Reg. male thread

Spanner SW 120 x 500mm long

## Signs & Symbols

SW = key width; LHT = left hand thread; RHT = right hand thread; D = outer diameter; d = inner diameter; cyl. = cylindrical; con. = conical  
SF = spannerflat; L = length; wth = wall thickness; G = thread connection.

The following threads are on offer: right hand, left hand, cylindrical or conical. All casings can be made friction-welded or with nipples.

Please note that this production sheet shows only standard versions due to the many possible tool variations. Special designs on request.