

Examples of our product range

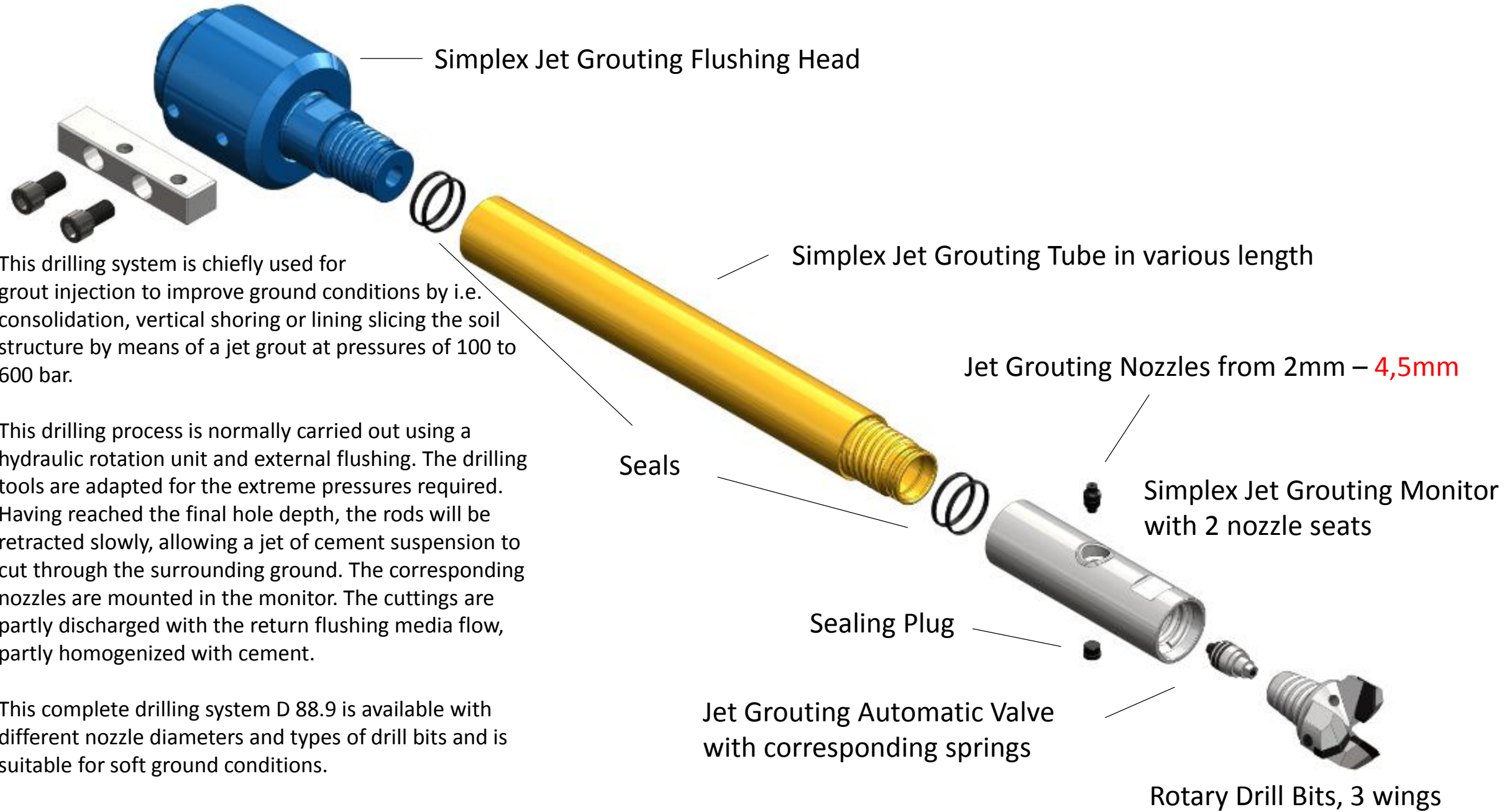
- 1 Simplex Jet Grouting System (HDI) with hydraulic drifter
- 2 Rotary Drilling System with Single rotary head and DTH
- 3 Overburden Drilling System with hydraulic drifter

- 4 Auger Drilling System with rotary head
- 5 Overburden Drilling System with rotary head and DTH

- 6 Duplex and triple Jet Grouting System (HDI) with rotary head
- 7 Overburden Drilling System with double head drilling unit (rotary/rotary)

- 8 Overburden Drilling System with double head drilling unit (rotary/rotary-percussion)
- 9 Geothermal Drilling System with double head drilling unit

① Simplex Jet Grouting Systems (HDI) with rotary head and hydraulic chuck



This drilling system is chiefly used for grout injection to improve ground conditions by i.e. consolidation, vertical shoring or lining slicing the soil structure by means of a jet grout at pressures of 100 to 600 bar.

This drilling process is normally carried out using a hydraulic rotation unit and external flushing. The drilling tools are adapted for the extreme pressures required. Having reached the final hole depth, the rods will be retracted slowly, allowing a jet of cement suspension to cut through the surrounding ground. The corresponding nozzles are mounted in the monitor. The cuttings are partly discharged with the return flushing media flow, partly homogenized with cement.

This complete drilling system D 88.9 is available with different nozzle diameters and types of drill bits and is suitable for soft ground conditions.

Jet Grouting Nozzles from 2mm – 4,5mm

Jet Grouting Automatic Valve with corresponding springs

Rotary Drill Bits, 3 wings

6 Duplex Jet Grouting Systems (HDI) with rotary head and hydraulic chuck

Mounting Brackets

Duplex Jet Grouting Flushing Head

This drilling system is especially used for grout injection to improve ground conditions by i.e. consolidation, vertical shoring or lining slicing the soil structure by means of a jet grout at pressures of 100 to 600 bar.

This drilling process is normally carried out using a rotary head and external flushing. The drilling tools are adapted for the extreme pressures required. Having reached the final depth, the rods will be retracted slowly, allowing a jet of cement suspension to cut through the surrounding ground. The depth of penetration of the jet can be increased by an air shroud via a separate nozzle. The cuttings are partly discharged with the return flushing media flow, partly homogenized with cement.

There are complete systems of D76.1 – D114.3 with different nozzle diameters and types of drill bits and reamers available. The system is suitable for boulders and loamy grounds.

Seals for Outer Rods

Duplex Jet Grouting Tube in various lengths

Seals for Inner Rods

Duplex Jet Grouting Monitor with 2 nozzle seats

Jet Grouting Air Ring Nozzle

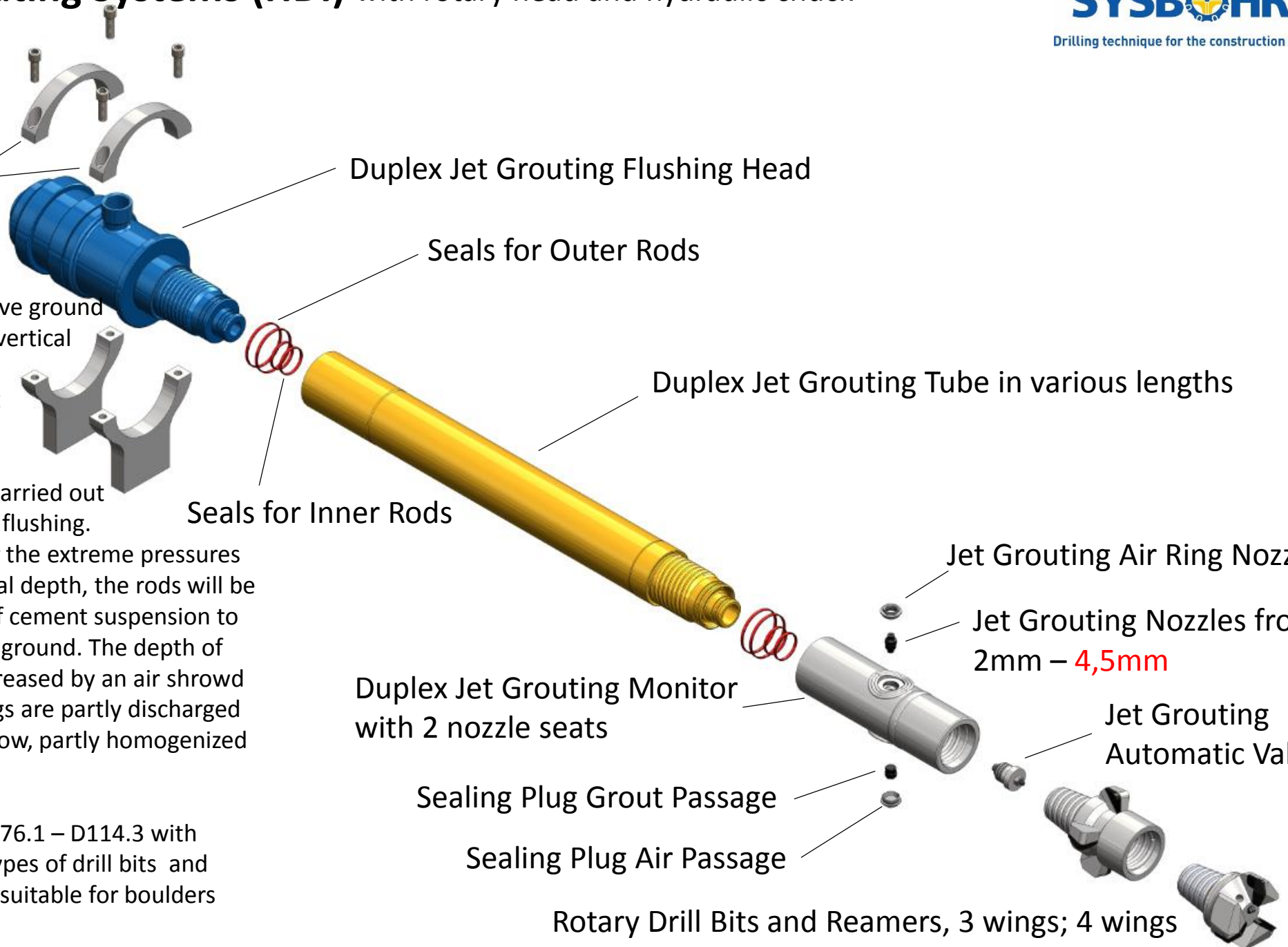
Jet Grouting Nozzles from 2mm – 4,5mm

Jet Grouting Automatic Valve

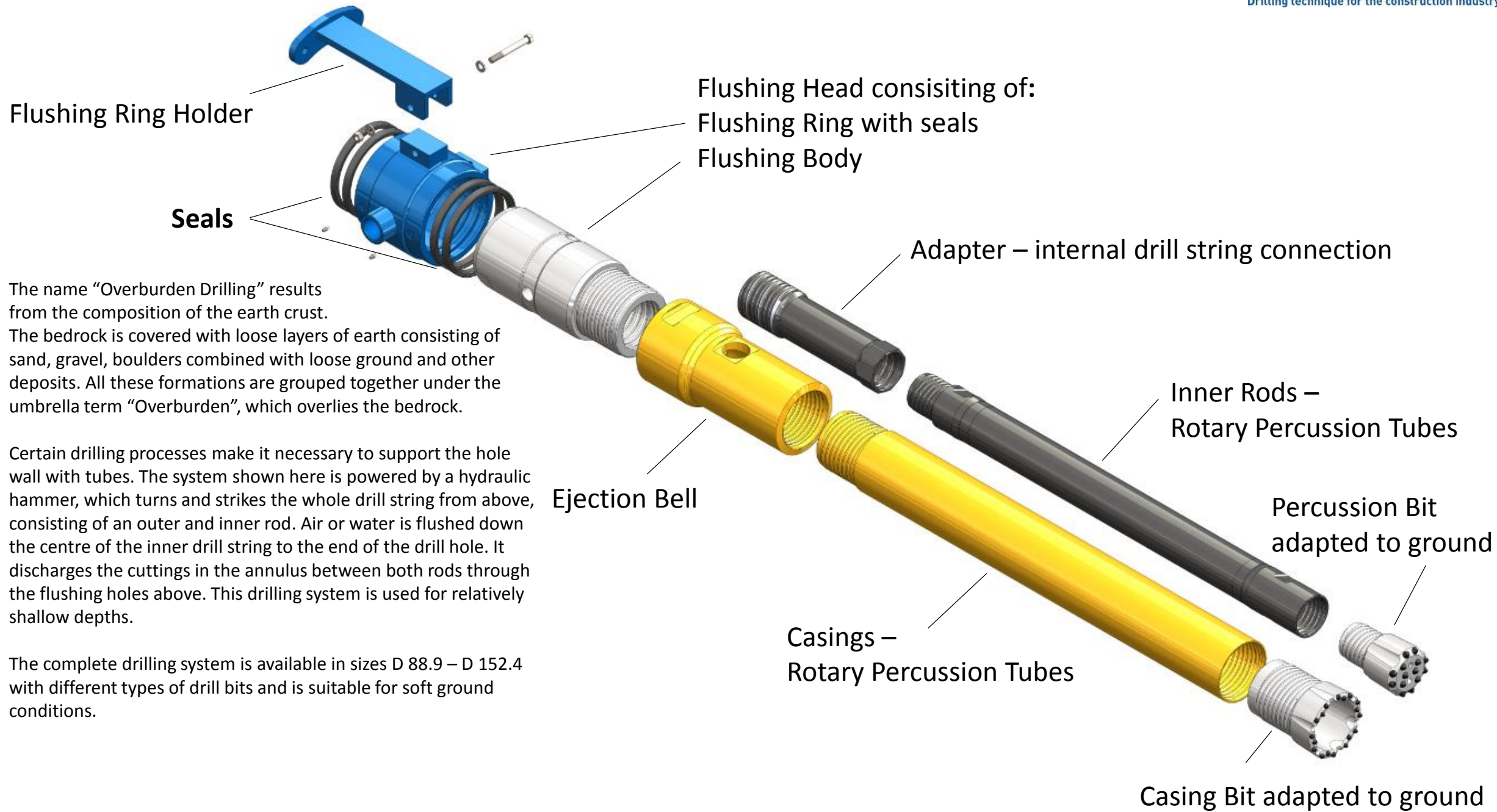
Sealing Plug Grout Passage

Sealing Plug Air Passage

Rotary Drill Bits and Reamers, 3 wings; 4 wings



3 Overburden Drilling Systems with hydraulic drifter (DUPLEX)

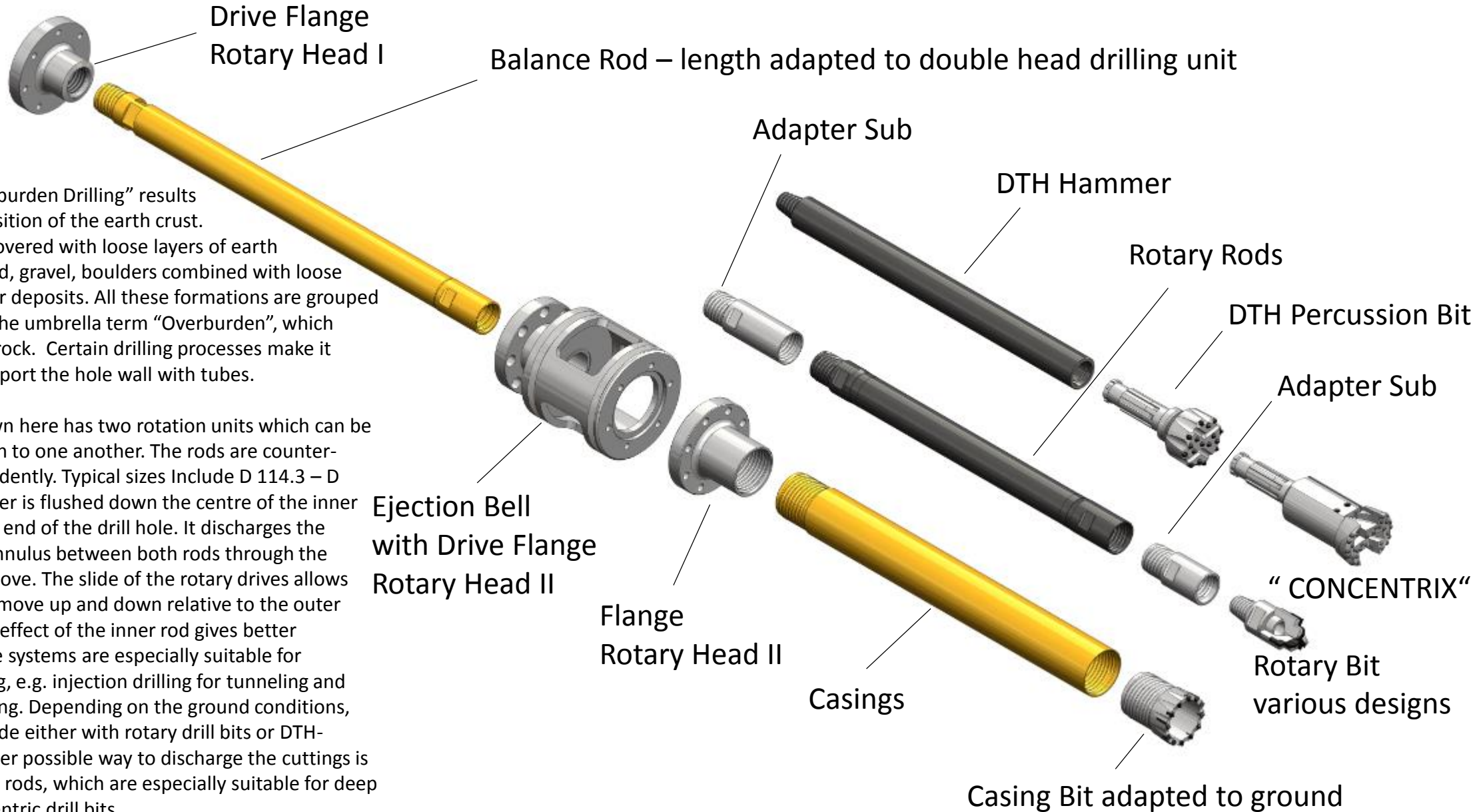


The name “Overburden Drilling” results from the composition of the earth crust. The bedrock is covered with loose layers of earth consisting of sand, gravel, boulders combined with loose ground and other deposits. All these formations are grouped together under the umbrella term “Overburden”, which overlies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

Certain drilling processes make it necessary to support the hole wall with tubes. The system shown here is powered by a hydraulic hammer, which turns and strikes the whole drill string from above, consisting of an outer and inner rod. Air or water is flushed down the centre of the inner drill string to the end of the drill hole. It discharges the cuttings in the annulus between both rods through the flushing holes above. This drilling system is used for relatively shallow depths.

The complete drilling system is available in sizes D 88.9 – D 152.4 with different types of drill bits and is suitable for soft ground conditions.

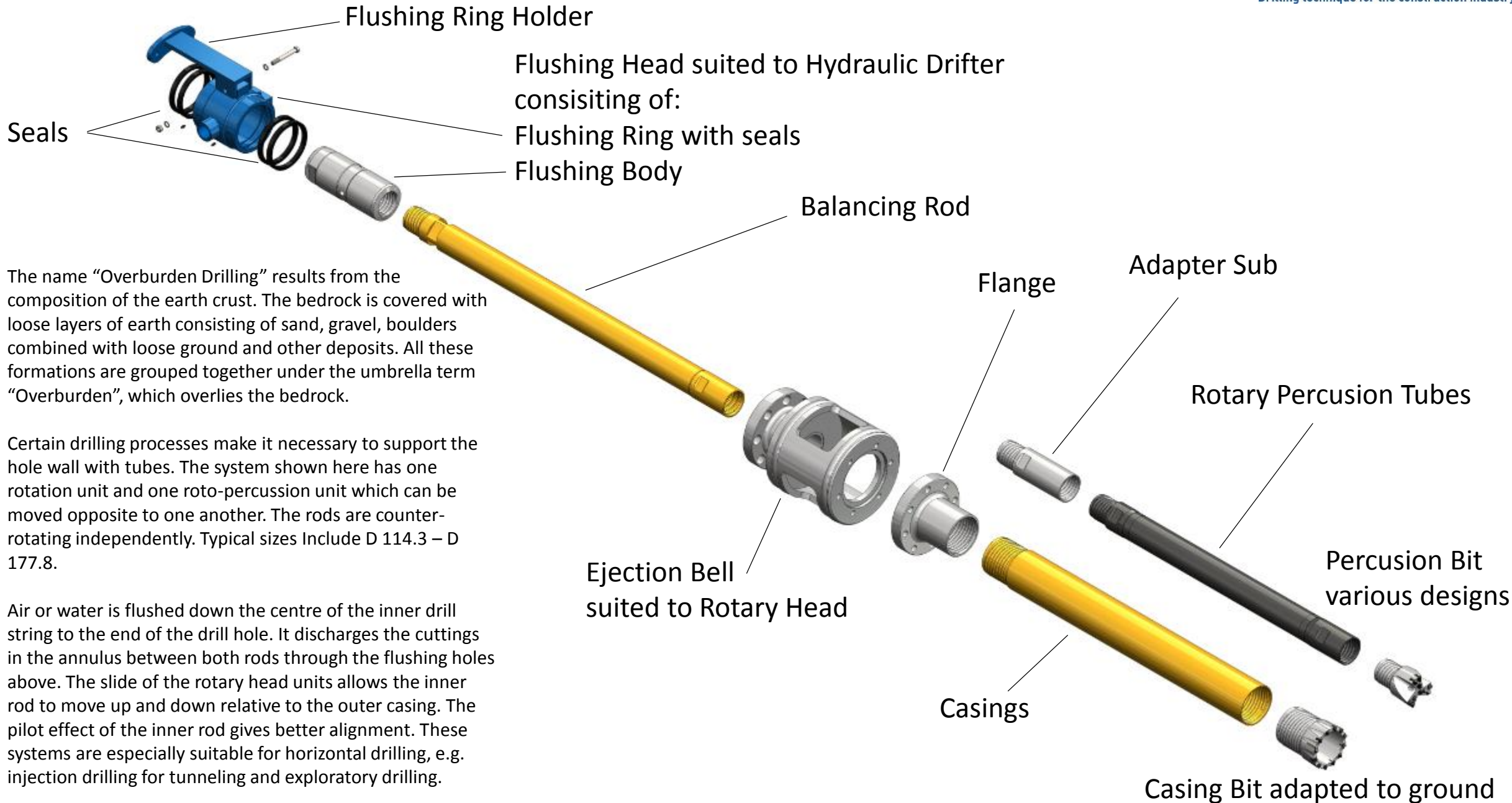
7 Overburden Drilling Systems with double head drilling unit (rotary / rotary)



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 hole wall with tubes.

The system shown here has two rotation units which can be moved in relation to one another. The rods are counter-rotating independently. Typical sizes include D 114.3 – D 219.1. Air or water is flushed down the centre of the inner drill string to the end of the drill hole. It discharges the cuttings in the annulus between both rods through the flushing holes above. The slide of the rotary drives allows the inner rod to move up and down relative to the outer casing. The pilot effect of the inner rod gives better alignment. These systems are especially suitable for horizontal drilling, e.g. injection drilling for tunneling and exploratory drilling. Depending on the ground conditions, the drilling is made either with rotary drill bits or DTH-hammers. Another possible way to discharge the cuttings is to use auger drill rods, which are especially suitable for deep drilling with eccentric drill bits.

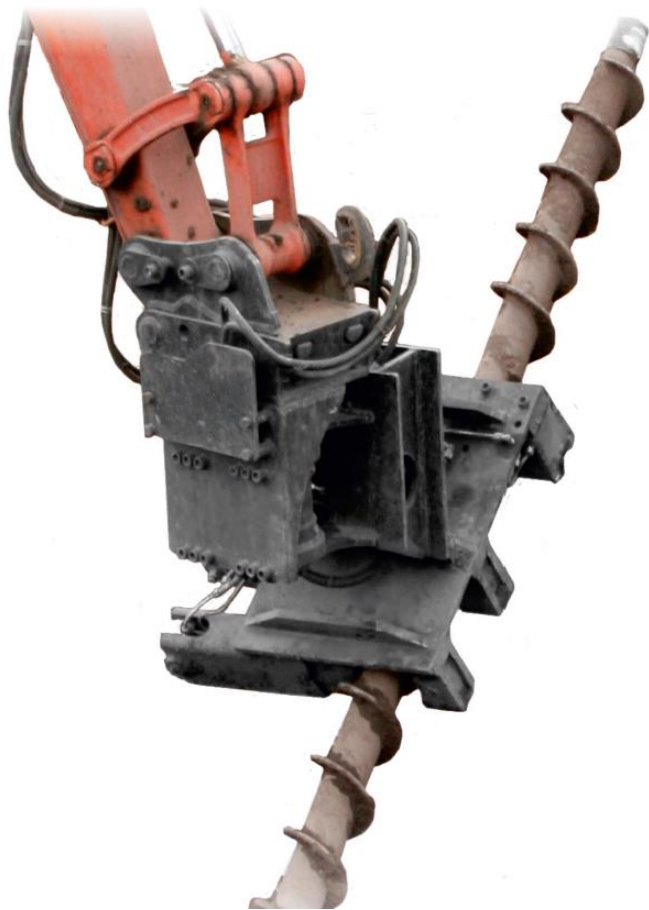
8 Overburden Drilling Systems with double head drilling unit (rotary / rotary-percussion)



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 hole wall with tubes. The system shown here has one rotation unit and one roto-percussion unit which can be moved opposite to one another. The rods are counter-rotating independently. Typical sizes Include D 114.3 – D 177.8.

Air or water is flushed down the centre of the inner drill string to the end of the drill hole. It discharges the cuttings in the annulus between both rods through the flushing holes above. The slide of the rotary head units allows the inner rod to move up and down relative to the outer casing. The pilot effect of the inner rod gives better alignment. These systems are especially suitable for horizontal drilling, e.g. injection drilling for tunneling and exploratory drilling.



Hydraulic casing lifters

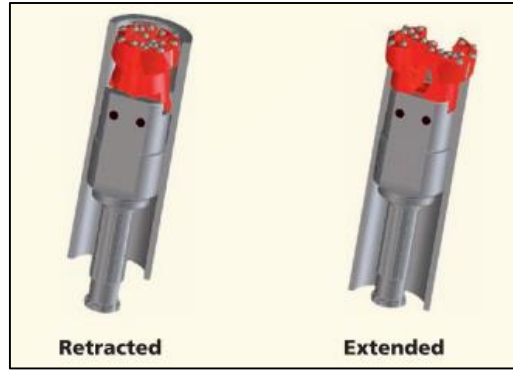
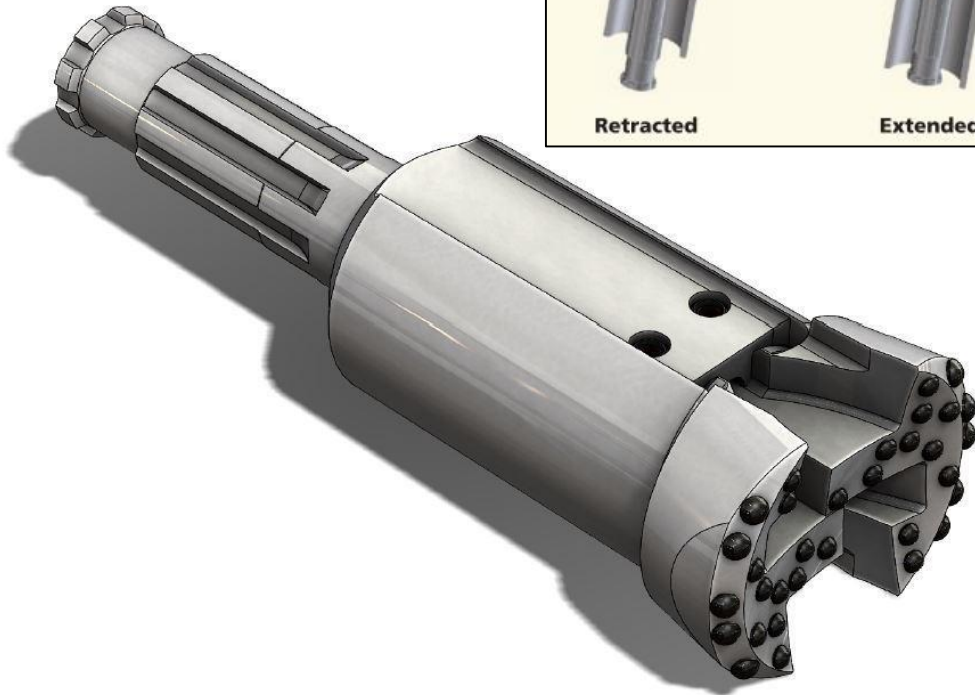
Hydraulic casing lifters suitable for casing diameters up to 250mm (simplex or duplex rods) with rotational swivel angle 0 – 110 degrees



Drill bits and other drilling tools

Various types of casing, rotary, percussion and extensions bits in custom designs as well as all other necessary drilling tools

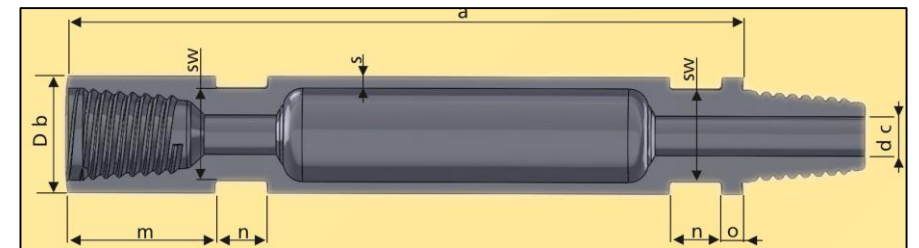
New



“ CONCENTRIX ” folding overburden drill bit

New generation of reaming drill bit, suitable for drilling with DTH and Top Hammer, used mainly in overburden formations with rock incusions

Vibro Drilling with PFS



“ PFS ” thread profile – (“The All-rounder”)

New thread profile PFS as alternative to API threads likewise for rotary and rotary-percussion drilling with DTH, Top Hammer, Vibro, Sonic drill heads