

# EXTRA STRAIGHT DRILLING WITH WASSARA

Wassara is well known for the water-powered drilling technology and the long straight boreholes in vertical, horizontal as well as inclined direction.

To enable Extra Straight Drilling, Wassara can offer several setups with bits, hammers and guided drill rods.

## WE RECOMMEND THE FOLLOWING THREE STEPS, EACH WITH ITS OWN SETUP:

### STEP 1

Start drilling with a new bit and first set of hammer and guided drill rods. Drill until the bit is worn down to the size of the hammer case. Extract the drill string and grind the bit.

### STEP 2

Continue drilling with the grinded bit from Step 1 and the second set of hammer and guided drill rods. Drill until the bit is worn down to the size of the hammer case. Extract the drill string and grind the bit.

### STEP 3

Continue drilling with the grinded bit from Step 2 and the third set of hammer and guided drill rods.

Keeping the tight clearness between the bit and hammer diameter is key to straight holes.

Wassara offers grinding equipment for bits.

## THE EXTRA STRAIGHT DRILLING SYSTEM

1. Drill bit
2. Wassara water-powered DTH hammer
3. Guided drill rod
4. Check valve
5. Drill rod
6. High pressure water swivel

### BIT

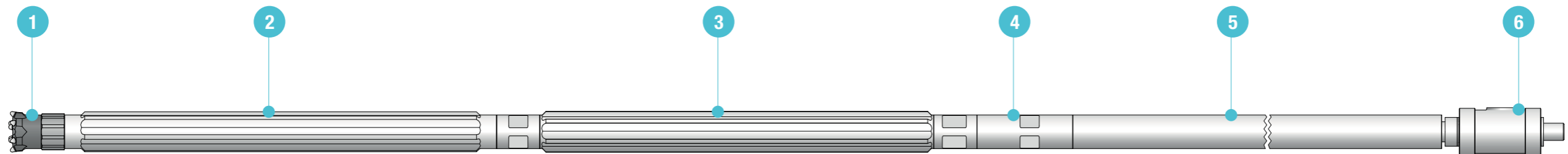
Standard Wassara bits. Face and inserts design as seen in chart at next page.

### HAMMERS

Extra Wear Protection (EWP) on hammer to keep the diameter intact for a longer period of time.

### GUIDED DRILL RODS

Extra Wear Protection (EWP) to keep the diameter intact.



# WASSARA PRODUCT SELECTION GUIDE **EXTRA STRAIGHT DRILLING**

Updated November, 2018

	Hole Size Ø	Drill Bit Diameter Face, inserts	Wassara Hammer Model - diameter, thread	Guided Drill Rod Diameter, thread	Check Valve Diameter Thread	Drill Rod Diameter, length, thread	Swivel Model, Mounting, thread	High Pressure Hose Diameter, length	Water Pump Model, performance
<b>W50</b>	Ø64mm 2 ½"	64 mm (new bit)	W50 - Ø63mm, NC13 EWP <sup>2)</sup>	Ø63mm, NC13 EWP <sup>2)</sup>	Ø50mm NC13 Part No 2000009	Ø48mm, 1.0m, NC13, Part No 1500593-1000 Ø48mm, 1.5m, NC13, Part No 1500593-1500 Ø48mm, 2.0m, NC13, Part No 1500593-2000 Ø48mm, 3.0m, NC13, Part No 1500593-3000	WS150, Top-mounted, M45x2 LH Part No 1500072 WIS50, In-line, NC13 Part No 1002404	Ø25mm, 20m, Part No 1002607	
		62 mm (worn bit)	W50 - Ø61mm, NC13 EWP <sup>2)</sup>	Ø61mm, NC13 EWP <sup>2)</sup>					
		60 mm (worn bit)	W50 - Ø59mm, NC13 EWP <sup>2)</sup>	Ø59mm, NC13 EWP <sup>2)</sup>					
<b>W70</b>	Ø89mm 3 ½"	89 mm (new bit)	W70 - Ø88mm, WT70 EWP <sup>2)</sup>	Ø88mm, WT70 EWP <sup>2)</sup>	Ø70mm WT70 Part No 1500043	Ø63.5mm, 1.0m, WT70, Part No 1500594-1000 Ø63.5mm, 1.5m, WT70, Part No 1500594-1500 Ø63.5mm, 2.0m, WT70, Part No 1500594-2000 Ø63.5mm, 3.0m, WT70, Part No 1500594-3000	WS150, Top-mounted, M45x2 LH Part No 1500072 WIS70, In-line, WT70 Part No 1002791	Ø32mm, 20m Part No 1002608	
		87 mm (worn bit)	W70 - Ø86mm, WT70 EWP <sup>2)</sup>	Ø86mm, WT70 EWP <sup>2)</sup>					
		85 mm (worn bit)	W70 - Ø84mm, WT70 EWP <sup>2)</sup>	Ø84mm, WT70 EWP <sup>2)</sup>					
<b>W80</b>	Ø95mm 3 ¾"	95 mm (new bit)	W80 - Ø94mm, API 2 ¾" REG EWP <sup>2)</sup>	Ø94mm, API 2 ¾" REG EWP <sup>2)</sup>	Ø76mm API 2 ¾" REG Part No 1000407	Ø76mm, 1.0m, API 2 ¾" REG, Part No 1500595-1000 Ø76mm, 1.5m, API 2 ¾" REG, Part No 1500595-1500 Ø76mm, 2.0m, API 2 ¾" REG, Part No 1500595-2000 Ø76mm, 3.0m, API 2 ¾" REG, Part No 1500595-3000	WS150, Top-mounted, M45x2 LH Part No 1500072 WIS100, In-line, API 2 ¾" REG Part No 1002152	Ø32mm, 20m Part No 1002608	
		93 mm (worn bit)	W80 - Ø92mm, API 2 ¾" REG EWP <sup>2)</sup>	Ø92mm, API 2 ¾" REG EWP <sup>2)</sup>					
		91 mm (worn bit)	W80 - Ø90mm, API 2 ¾" REG EWP <sup>2)</sup>	Ø90mm, API 2 ¾" REG EWP <sup>2)</sup>					
<b>W100</b>	Ø115mm 4 ½"	115 mm (new bit)	W100 - Ø113mm, API 2 ¾" REG EWP <sup>2)</sup>	Ø113mm, API 2 ¾" REG EWP <sup>2)</sup>	Ø89mm API 2 ¾" REG Part No 1000365	Ø89mm, 1.0m, API 2 ¾" REG, Part No 1500596-1000 Ø89mm, 1.5m, API 2 ¾" REG, Part No 1500596-1500 Ø89mm, 2.0m, API 2 ¾" REG, Part No 1500596-2000 Ø89mm, 3.0m, API 2 ¾" REG, Part No 1500596-3000	WS150, Top-mounted, M45x2 LH Part No 1500072 WIS100, In-line, API 2 ¾" REG Part No 1002152	Ø32mm, 20m Part No 1002608	
		113 mm (worn bit)	W100 - Ø111mm, API 2 ¾" REG EWP <sup>2)</sup>	Ø111mm, API 2 ¾" REG EWP <sup>2)</sup>					
		111 mm (worn bit)	W100 - Ø109mm, API 2 ¾" REG EWP <sup>2)</sup>	Ø109mm, API 2 ¾" REG EWP <sup>2)</sup>					
<b>W120</b>	Ø140mm 5 ½"	140 mm (new bit)	W120 - Ø138mm, API 3 ½" REG EWP <sup>2)</sup>	Ø138mm, API 3 ½" REG EWP <sup>2)</sup>	Ø114mm API 3 ½" REG Part No 1001320	Ø102mm, 1.0m, API 3 ½" REG, Part No 1500597-1000 Ø102mm, 1.5m, API 3 ½" REG, Part No 1500597-1500 Ø102mm, 2.0m, API 3 ½" REG, Part No 1500597-2000 Ø102mm, 3.0m, API 3 ½" REG, Part No 1500597-3000	WS150, Top-mounted, M45x2 LH Part No 1500072 WIS150, In-line, API 3 ½" REG Part No 1002153	Ø38mm, 20m Part No 1002609	
		138 mm (worn bit)	W120 - Ø136mm, API 3 ½" REG EWP <sup>2)</sup>	Ø136mm, API 3 ½" REG EWP <sup>2)</sup>					
		136 mm (worn bit)	W120 - Ø134mm, API 3 ½" REG EWP <sup>2)</sup>	Ø134mm, API 3 ½" REG EWP <sup>2)</sup>					
<b>W150</b>	Ø165mm 6 ½"	165 mm (new bit)	W150 - Ø163mm, API 3 ½" REG EWP <sup>2)</sup>	Ø163mm, API 3 ½" REG EWP <sup>2)</sup>	Ø140mm API 3 ½" REG Part No 1001321	Ø114mm, 1.0m, API 3 ½" REG, Part No 1500598-1000 Ø114mm, 1.5m, API 3 ½" REG, Part No 1500598-1500 Ø114mm, 2.0m, API 3 ½" REG, Part No 1500598-2000 Ø114mm, 3.0m, API 3 ½" REG, Part No 1500598-3000	WS150, Top-mounted, M45x2 LH Part No 1500072 WIS150, In-line, API 3 ½" REG Part No 1002153	Ø38mm, 20m Part No 1002609	
		163 mm (worn bit)	W150 - Ø161mm, API 3 ½" REG EWP <sup>2)</sup>	Ø161mm, API 3 ½" REG EWP <sup>2)</sup>					
		161 mm (worn bit)	W150 - Ø159mm, API 3 ½" REG EWP <sup>2)</sup>	Ø159mm, API 3 ½" REG EWP <sup>2)</sup>					
	203 mm 8"	203 mm (new bit)	W150 - Ø201mm, API 3 ½" REG EWP <sup>2)</sup>	Ø201mm, API 3 ½" REG EWP <sup>2)</sup>		Ø140mm, 1.0m, API 3 ½" REG, Part No 1500599-1000 Ø140mm, 1.5m, API 3 ½" REG, Part No 1500599-1500 Ø140mm, 2.0m, API 3 ½" REG, Part No 1500599-2000 Ø140mm, 3.0m, API 3 ½" REG, Part No 1500599-3000			
		201 mm (worn bit)	W150 - Ø199mm, API 3 ½" REG EWP <sup>2)</sup>	Ø199mm, API 3 ½" REG EWP <sup>2)</sup>					
		199 mm (worn bit)	W150 - Ø197mm, API 3 ½" REG EWP <sup>2)</sup>	Ø197mm, API 3 ½" REG EWP <sup>2)</sup>					

<sup>1)</sup> Semi Ballistic inserts

<sup>2)</sup> Extra Wear Protection

1400072, Product Selection Guide for Extra Straight Drilling, 2020.01. All specifications can be changed without notice.



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