

Successful projects with Wassara™ Drilling System



Göteborg – Sweden
Foundations in water rich formation.



Ohra Dam, Oberhof – Germany
Drilling of grout holes at the Ohra Dam.



Citybanan, Stockholm – Sweden
Construction of a ground water cut-off wall at the Central Station.



Chikushi tunnel – Japan
Drilling of 200 m long horizontal survey holes.



Södra Länken, Stockholm – Sweden
Ground water infiltration prevention at Södra Länken high-way link.



Wolf Creek Dam, Kentucky – USA
Installation of grout curtain to prevent seepage.



Malmö Citytunnel – Sweden
Ground water screening during the construction of the City Tunnel.



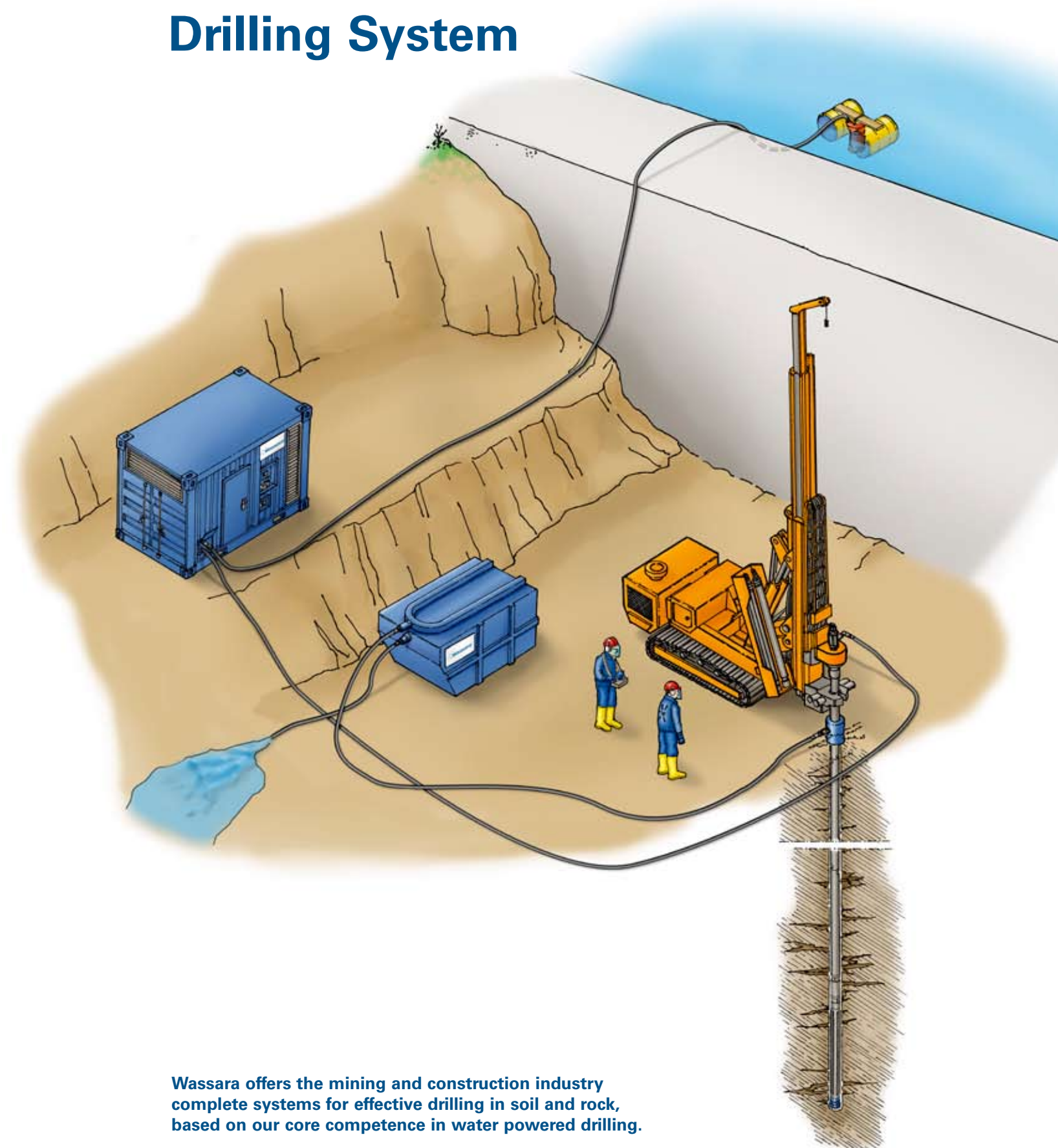
Niagara – Canada
Construction of foundations for an 11 km long turbine tunnel.



Keller – Wales
Grout curtain creation at Marchlyn Mawr-Reservoir, Wales.

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Wassara™ Drilling System



Wassara's water-powered drilling system is cost-effective and environmentally friendly.

Doesn't that sound like a good day on the job?

Wassara's water-powered drilling system offers entirely new possibilities for efficient drilling.

The system demonstrates its superiority most clearly on jobs where the environment is sensitive and has to be handled with care, e.g. when drilling in urban environments or at hydroelectric or water dams.

Wassara's system is also in a class by itself when it comes to projects that are subject to strict hole straightness requirements.

Wassara is a complete water-powered drilling system developed in Sweden. All its components have been optimized for maximum performance as a unit, making the system economical to use.

Yet another advantage is that our technology has lower environmental impact than traditional drilling systems, and it also offers a significantly better work environment in terms of noise and air pollution. **Doesn't that sound like a good day on the job? – Every day.**

CONSTRUCTION



Wassara™ Hammers.						
Hammer model	A mm	B mm	C mm	Weight Kg (Excl Bit)	Water Cons. New to Worn (l/min)	Rec. Oper. Pres. (Bar)
W50	895 mm	950 mm	Ø 54–58	13.5	80–130	150
W 80 HD	977 mm	1049 mm	Ø 80–92	32	130–200	180
W 100	1185 mm	1270 mm	Ø 102–111	56.5	200–350	180
W 120	1495 mm	1572 mm	Ø 120–128	99	300–450	180
W 150	1495 mm	1605 mm	Ø 140–162	165	350–500	150



WASP – Wassara high pressure water pump units.				
Pump model	Max flow	Max pressure	Required power	Diesel engine power
WASP 50 Diesel	137 l/min	170 bar	43 kW	76 kW
WASP 80 Diesel	219 l/min	200 bar	80 kW	110 kW
WASP 150 Diesel	476 l/min	200 bar	173 kW	183 kW

WASSARA™ DRILLING SYSTEM – CONSTRUCTION

Hole size	Drill bit	Hammer	Check valve	Drill tube (OD, thickness, length in mm)	Swivel	High pressure hose pump unit to swivel (Standard EN856 4SP)	Pump unit	Sedimentation container	Hose hole to sedimentation container. Max length 15 meter	Submersible drainage pump	Hose submersible pump to pump unit. Max height 15 meter, max length 100 meter
Ø											
60 mm	Flat Face Semiballistic, No 3000015	W50S/56/1000321 NC13 API pin	50 mm, NC 13 API No 2000009	48.3x6.3x1000 NC13, No 4000001	Stenberg 600	Hydroscand* Deltaflex 4 CO Art nr 1015-14-16, ID 25 mm Parker* 701 Spiral Hose Part No 701-16, ID 1" (25 mm)	WASP 50 Diesel	TBD	ID 32 mm (1 1/4")	Grindex* Minette 3 phase ITT Flygt* 2620 3 phase	OD 50 mm (2")
62 mm	Flat Face Semiballistic, No 3000016			48.3x6.3x1500 NC13, No 4000002							
64 mm	Flat Face Semiballistic, No 3000017			48.3x6.3x2000 NC13, No 4000003							
95 mm	Flat Face Spherical, No 3000002 Flat Face Spherical + Semiballistic, No 3000006	W80S/HD/90/1000281 2 3/8" API REG pin	76 mm, 2 3/8" API REG. PIN/BOX No 1000407	76x6.3x1000 2 3/8" API REG, No 4000015 76x6.3x1500 2 3/8" API REG, No 4000014 76x6.3x2000 2 3/8" API REG, No 4000011 76x6.3x3000 2 3/8" API REG, No 4000005	Stenberg 600 or 2 3/8 API REG	Hydroscand* Deltaflex 4 CO Art nr 1015-14-20, ID 32 mm Parker* 701 Spiral Hose Part No 701-20, ID 1-1/4" (32 mm)	WASP 80 Diesel	TBD	ID 45 mm (1 3/4")	Grindex* Minette 3 phase ITT Flygt* 2620 3 phase	OD 75 mm (3")
115 mm	Flat Face Spherical + Semiballistic, No 3000007 Flat Face Spherical, No 3000008	W100S/111/1000292 2 3/8" API REG pin	89 mm, 2 3/8" API REG. PIN/BOX No 1000365	89x6.3x2000 2 3/8" API REG, No 4000013	Stenberg 600 or 2 3/8 API REG	Hydroscand* Deltaflex 4 CO Art nr 1015-14-20, ID 32 mm Parker* 701 Spiral Hose Part No 701-20, ID 1-1/4" (32 mm)	WASP 150 Diesel	TBD	ID 50 mm (2")	Grindex* Minor N 3 phase ITT Flygt 2630 MT 3 phase	OD 75 mm (3")
120 mm	Flat Face Spherical, No 3000009			89x6.3x3000 2 3/8" API REG, No 4000012							
130 mm	Flat Face Spherical, No 3000012 Convex Semiballistic, No 3000013	W120S/125/1001067 3 1/2" API REG pin	102 mm, 3 1/2" API REG. PIN/BOX No 1000585-102	102x8.8x1000 3 1/2" API REG, No 4000007 102x8.8x1500 3 1/2" API REG, No 4000008 102x8.8x2000 3 1/2" API REG, No 4000009 102x8.8x3000 3 1/2" API REG, No 4000010	Stenberg 600	Hydroscand* Deltaflex 4 CO Art nr 1015-14-24, ID 38 mm Parker* 701 Spiral Hose Part No 701-24, ID 1-1/2" (40 mm)	WASP 150 Diesel	TBD	ID 63 mm (2 1/2")	Grindex* Minor H 3 phase ITT Flygt* 2630 HT 3 phase	OD 75 mm (3")
165 mm	Flat Face Spherical, No 3000014	W150S/160/20317 3 1/2" API REG pin	114 mm, 3 1/2" API REG. PIN/BOX No 1000716-114	114x8.8x1000 3 1/2" API REG, No 4000016 114x8.8x1500 3 1/2" API REG, No 4000017 114x8.8x2000 3 1/2" API REG, No 4000018 114x8.8x3000 3 1/2" API REG, No 4000019	Stenberg 600	Hydroscand* Deltaflex 4 CO Art nr 1015-14-24, ID 38 mm Parker* 701 Spiral Hose Part No 701-24, ID 1-1/2" (40 mm)	WASP 150 Diesel	TBD	ID 63 mm (2 1/2")	Grindex* Minor H 3 phase ITT Flygt* 2630 HT 3 phase	OD 75 mm (3")

*Recommended manufacturer