

ECCS ring system



Environmental Concentric Casing System



No air leakages

No pressure to the ground

No disturbance the surroundings



ECCS ring system

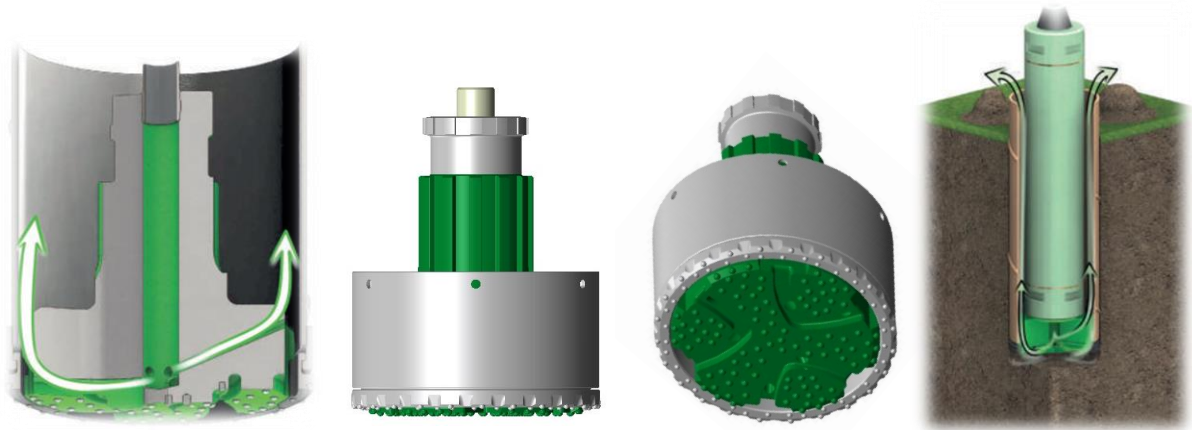


Environmental Concentric Casing System

Nowadays consultants are increasingly interested in utilizing DTH hammers in foundation construction. At the same time they are concerned about the environmental impact of using compressed air among existing structures, risking air leakage and overdrilling. In sensitive ground DTH drilling in foundation works gives one great challenge controlling the removal of cuttings from the hole with compressed air. The flow of compressed air needs to be strong enough to transport the cuttings up to the surface but must not escape into the surrounding ground or remove excessive soil. This issue is most demanding in sensitive ground conditions. In clay, air from the DTH drilling can escape to surrounding working foundations and weaken the adhesion between soil and load-bearing elements. This brings a risk for sudden settlements. In sand, excessive flushing can unconsolidate the ground, decreasing the capacity of existing friction piles, which in turn might cause pile buckling and result in settlements of buildings.

Ming is now to present new generation ECCS system for drilling in Sensitive Ground Conditions.

ECCS system minimizes the air escape to the surrounding ground as the high-pressure air never directly faces to the ground. The system is built on redirection of the air flow. The side air lift holes just keep enough air to get an efficient flushing.



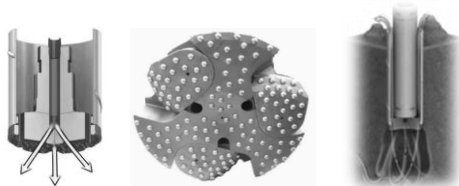
How ECCS system works:

- 1) High-pressure air is travelling down from the DTH hammer to the center of main air holes of the ECCS system.
- 2) Most of the compressed air travels to the side air lift holes and goes to the casing shoe and end of the casing, that preventing air and cuttings from going outside of the casing.
- 3) Only few air goes to the holes between the wings and the bit bace to clear the cuttings back to the ground.

Hence, ECCS system can be the solution that disturbance to the surrounding soil is minimized significantly.

Conventional Concentric Casing System

The conventional DTH drilling system directs the high-pressure air from the flushing grooves straight into the ground this will cause severe damages in nearby buildings and structures.



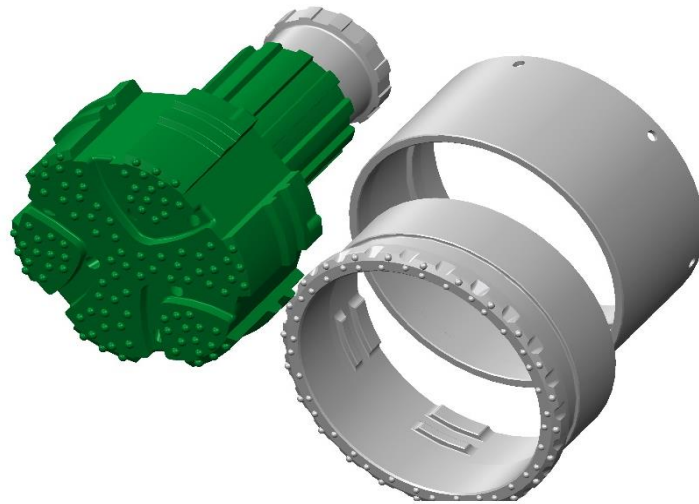
ECCS ring system



Environmental Concentric Casing System

SPECIFICATION

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Model	Bit Diameter				Casing Size				Shank
	Expanded		Retracted		I.D.		O.D.		
	inch	mm	inch	mm	inch	mm	inch	mm	
ECCS-ring 219	9.37	238	7.48	190	8.11	206	8.62	219	DHD360
ECCS-ring 254	10.86	276	8.46	215	9.45	240	10	254	DHD380,SD8
ECCS-ring 273	11.54	293	9.29	236	10	254	10.75	273	DHD380,SD8
ECCS-ring 273	11.54	293	9.49	241	10.24	260	10.75	273	DHD380,SD8
ECCS-ring 323	13.58	345	11.02	280	11.89	302	12.72	323	SD10
ECCS-ring 356	14.69	373	12.4	315	13.27	337	14.02	356	N120,N125,SD12
ECCS-ring 406	16.93	430	14.37	365	15.24	387	15.98	406	N120,N125,SD12
ECCS-ring 457	18.82	478	16.22	412	17.13	435	17.99	457	N120,N125,SD12
ECCS-ring 508	20.87	530	17.95	456	19.02	483	20	508	N180,SD18
ECCS-ring 559	22.83	580	19.92	506	20.98	533	22.01	559	N180,SD18
ECCS-ring 610	25	635	21.89	556	22.99	584	24.02	610	N180,SD18
ECCS-ring 660	26.85	682	23.82	605	24.88	632	25.98	660	N240
ECCS-ring 711	28.86	733	25.83	656	26.97	685	27.99	711	N240
ECCS-ring 813	32.99	838	29.53	750	30.71	780	32.01	813	N240
ECCS-ring 914	36.93	938	32.48	825	34.49	876	35.98	914	M240S
ECCS-ring 965	38.58	980	35.63	905	36.81	935	37.99	965	M240S
ECCS-ring 1016	41.5	1054	37.4	950	38.82	986	40	1016	M240S
ECCS-ring 1219	49.02	1245	45.08	1145	46.5	1181	47.99	1219	M330

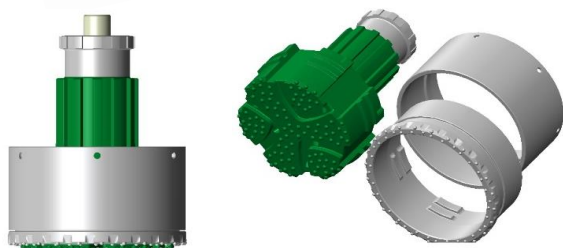
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SPECIFICATION

Ming System : ECCS-ring 610/12.7



PART LIST

NO.	Part Name	Part No.
1	Driver Bit	MRXECCSGD560N180
2	Ring	MRX560

SPECIFICATION

ITEM	SIZE
Driver Bit Upper Body	581mm
Casing Bit Outer Dia.	645mm
Casing Bit Inner Dia.	558mm

APPLICABLE

ITEM	SIZE
Casing Outer Dia.	610mm
Casing Wall Max.	12.5mm
Hammer	Chuck N180

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