



ISEKI
ISEKI POLY-TECH, INC.

UNCLEMOLE

Patented

Micro -and Medium Bore Tunnelling System for Mixed and Water -Bearing Soil with Cobbles and Boulders



Unclemole lowering down to shaft



JICA demonstration machine in Jakarta!



2000 customers can't be wrong.

Advantages of using the UNCLEMOLE

1. Shield machine, main jack, slurry circulation system, and slurry separation equipment (DESANDMAN) are systemized.
2. Cone-crusher head excavates and reduces cobbles and boulders of up to 30% of the machine outside diameter and up to 196 MPa (2000kg/cm) UCS.
3. Shield machine can cope with the wide range of ground conditions, i.e. clay, and sand and gravel, sand and gravel with cobbles, and soft rock.
4. The main jack can install an excess of 100m in a single drive.
5. Shield machine is remote - controlled via one-man operation on the ground.
6. TV monitoring and steering control are always carried out on operation board to maintain good levels of accuracy.
7. A single jacking pipe can be jacked exclusively in one stroke using the main jack.
8. DESANDMAN is a compact, flexible slurry separation system which can save installation space.
9. Larger size than below table are available upon request.



Digital operation board is now available upon request.

SPECIFICATIONS OF UNCLEMOLE

Model		TCC600	TCC800	TCC1000	TCC1200	TCC1350	TCC1500	TCC1800	TCC2000
1. Dimensions									
Nominal	I.D. (mm)	600	800	1000	1200	1350	1500	1800	2000
Outside diameter	(mm)	780	980	1220	1450	1620	1800	2170	2370
Length	(mm)	2340	2592	2968	3315	3425	3490	4000	4020
Weight	(tonf)	2.65	4.80	8.4	13.3	16.1	16.7	13.3	30
2. Cutter head									
Drive motor		7.5kW × 1No.	15kW × 1No.	30kW × 1No.	45kW × 1No.	55kW × 1No.	30kW × 2No.	45kW × 2No.	45kW × 2No.
Torque	(50Hz: kN-m)	27.6	60.8	121.5	214.6	298	342	572	573
	(60Hz: kN-m)	23.4	50.7	100.9	182.3	247.9	283	477	478
Revolution speed	(50Hz: rpm)	2.2	2.0	2.0	1.7	1.5	1.5	1.3	1.3
	(60Hz: rpm)	2.6	2.4	2.4	2.0	1.8	1.8	1.5	1.6
Eccentric radial motion	(50Hz: rpm)	50	50	50	47	47	36	47	33
	(60Hz: rpm)	60	60	60	57	57	44	32.5	40
Earth pressure	(kN/m ²)	490	490	490	490	490	490	490	490
Crushable cobble diameter	(mm)	250	320	400	480	540	480	540	590
Max. Unconfined compressive strength of cobble or boulder	(MPa)	196	196	196	196	196	196	196	196
Crushed fragment size	(mm)	max.30	max.30	max.40	max.40	max.40	max.40	max.40	max.60
3. Steering jacks									
Number		2	2	2	2	2	4	3	3
Thrust force	(Extend: kN)	310	509	723	1074	1074	1170	1650	1650
	(Up or Down)	1.7°	1.7°	1.7°	1.7°	1.7°	2.3°	1.4°	1.4°
	(Right of Left)	1.2°	1.2°	1.2°	1.2°	1.2°	2.3°	1.4°	1.4°
4. Hydraulic unit									
Pressure	(MPa)	13.7	13.7	13.7	13.7	13.7	20	13.7	13.7
Flow rate	(50Hz: liters/min)	2.2	2.2	6.5	6.5	6.5	14.7	6.5	9.9
Drive motor		0.75kW × 1No.	0.75kW × 1No.	2.2kW × 1No.	2.2kW × 1No.	2.2kW × 1No.	7.5kW × 1No.	5.5kW × 1No.	5.5kW × 1No.
5. Transportation									
Slurry line	(mm[inch])	80[3"]	80[3"]	100[4"]	100[4"]	100[4"]	100[4"]	100[4"]	150[6"]
6. Power source									
	(50Hz/60Hz)	400V/440V	400V/440V	400V/440V	400V/440V	400V/440V	400V/440V	400V/440V	400V/440V

Notes : The above specifications are subject to change without notice.



Design and manufactured by

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