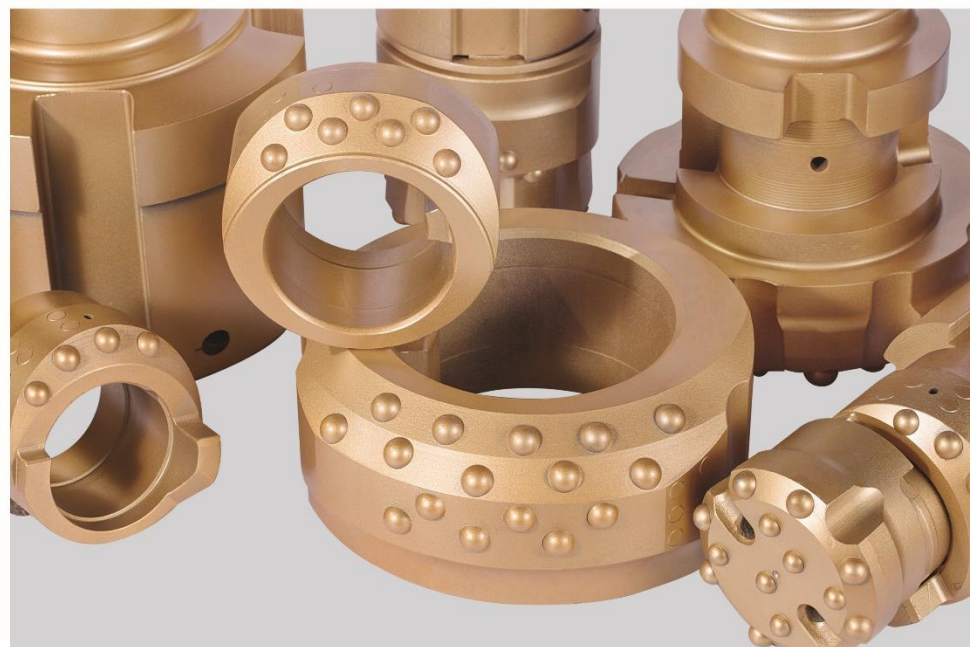




ECCENTRIC (ODEX) CASING SYSTEM



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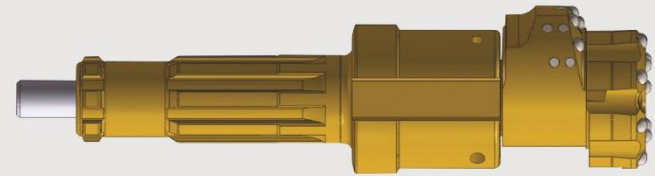


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CHANGSHA TIANHE DRILLING TOOLS AND MACHINERY CO.,LTD

Eccentric Casing System

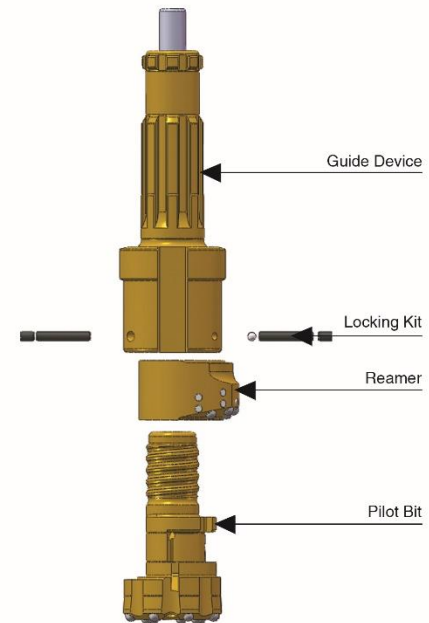
Drilling through formations with loose, unconsolidated material always comes with problems such as the bore hole cave-in or collapse. How to avoid these problems? With years of field practice and research, Teamwhole has developed its Eccentric Casing System applicable for strata with silt, sand or small-sized pebbles. With its simple structure, easy operation and reliable performance, this system can advance the casing easily for depth within 30 meters, and it's retrievable with long service life.



Applicable overburden formations

Land surface covered with loose, unconsolidated material such as soil, clay, silt, sand, gravel and boulders.

Structure of the Eccentric (ODEX) Casing System



Structure Features

The structure of the reamer is improved from (a) to (b), in order to strengthen the wearing resistance on the back, and extend the service life of the whole reamer.



figure(a)

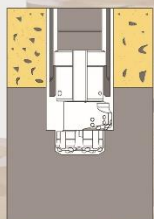


figure(b)

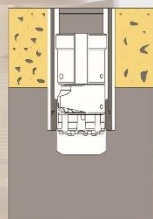


Deformation concession at the thread end of the pilot bit for easy disassembly.

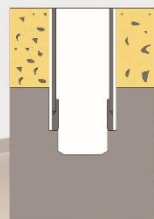
Working Procedure



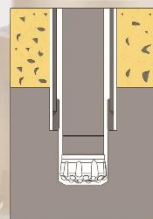
1. when drilling starts, the reamer opens.



2. When the drilling is finished, reverse the rotation to close the reamer.



3. Keep the casing tube left in the hole, or pull out and pour in grout sealing material.



4. Use conventional drilling tools to continue drilling.

Applications



Water well drilling

Eccentric system is the main drilling tool in water well projects, which can keep drilling the hole and protecting it from caving in at the same time, and it can significantly reduce the drilling time when drilling through the overburden.



Micro piling

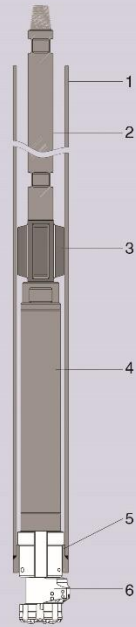
In soil, clay, and sand rock formations, eccentric system is the most economic and fastest in protecting the hole from collapsing with permanent or temporary casing tubes.



Anchoring

Eccentric system can meet the requirements of anchoring projects better when reinforcing the slope.

Related Parts List



NO	Products	Instruction
1	Casing tube	a. Threaded casing tube, left-hand b. Welded casing tube
2	Drill pipe	Thread: API (REG/ IF)/NC
3	Stabilizer	Thread of stabilizer consistent with drill rod
4	Hammer	Thread: API REG
5	Casing shoe	a. Threaded casing shoe, left-hand b. Welded casing shoe
6	Eccentric system	See the data sheet as below

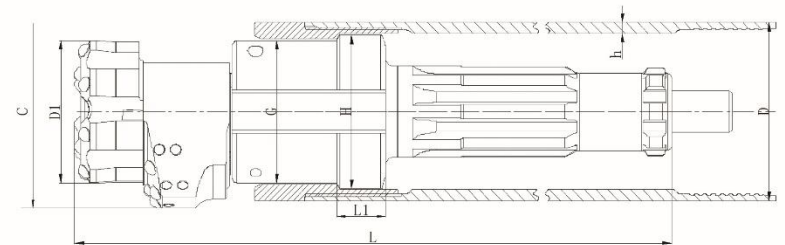


Eccentric Casing System



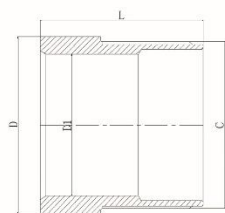
Model	D O.D of casing tube (mm)	h I.D of casing tube (mm)	H Wall thickness of casing (mm)	C Guide device max. diameter	G Reamed Dia (mm)	Min.I.D of casing shoe (mm)	Max.O.D of normal bit (mm)	Hammer Type	Weight (kg)
ODEX85	108	94	7	92	117	86	85	COP34/DHD3.5	11.6/12.2
ODEX90	114	101	6.5	99	125	92	90	COP34/DHD3.5	13.4/14
ODEX98	127	109	9	107	138	100	98	COP34/DHD3.5	15.2/15.9
ODEX115	140	126	10	123.5	155	117	115	COP44/DHD340/SD4/QL40	25/27.9
ODEX140	168	148	10	146	180	138	136	COP54/DHD350/SD5/QL50	38/42
ODEX145	178	158	10	156	192	147	145	COP54/DHD350/SD5/QL50	44.1
ODEX152	183	163	10	161	196	153	151	COP54/DHD350/SD5/QL50 COP64/DHD360/SD6/QL60	48 56
ODEX165	194	174	10	172	206	162	160	COP64/DHD360/SD6/QL60	61.7
ODEX190	219	199	10	196	234	187	185	COP64/DHD360/SD6/QL60	75.1
ODEX208	245	225	10	222	263	210	208	COP84/DHD380/SD8/QL80	113.3
ODEX240	273	253	10	251	305	241	240	COP84/DHD380/SD8/QL80	137.2
ODEX280	325	300	12.5	298	350	282	280	DHD112/DHD380/TH8/TH10	209.5/225.5

Other Specifications are available upon request



Casing Shoe

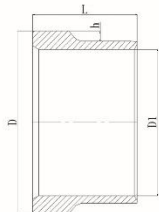
► Threaded Model



D	D1	h				
O.D of casing tube (mm)	O.D of casing shoe (mm)	Min.I.D of casing shoe (mm)	Wall thickness of the casing tube (mm)	Thread Model	Direction of rotation	Weight (kg)
108	108	86	7	Square thread	left	2.4
114	114	92	6.5	Square thread	left	3
127	127	100	9.5	Round thread	left	3.3
140	140	117	10	Round thread	left	4.4
168	168	138	10	Round thread	left	6.1
178	178	147	10	Round thread	left	7.5
183	183	153	10	Round thread	left	8.6
194	194	162	10	Round thread	left	8.8
219	219	187	10	Round thread	left	12.8
245	245	210	10	Round thread	left	13.5
273	273	241	10	Round thread	left	15
325	325	282	12.5	Round thread	left	18

Other threaded casing shoes are available upon request

► Welded Model



D	D1	h		
O.D of casing tube (mm)	O.D of casing shoe (mm)	Min.I.D of casing shoe (mm)	Wall thickness of the casing tube (mm)	Weight (kg)
108	108	86	7	1.6
114	114	91	6.5	2.5
127	127	100	9.5	3
140	140	117	10	3.8
168	168	138	10	5
178	178	148	10	6
183	183	153	10	7.5
194	194	162	10	7.8
219	219	186	10	10
245	245	210	10	12
273	273	241	10	13.5
325	325	282	12.5	16

Other welded casing shoes are available upon request

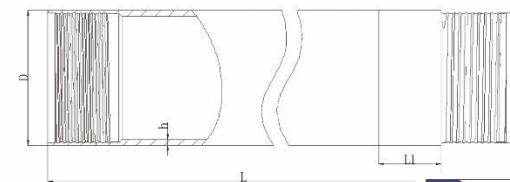
Casing Tube



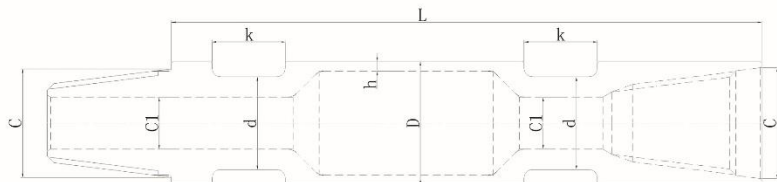
Casing Tube Assembly							
D	h	Product	C	L	Weight	Product Code	
Model	Wall thickness		Thread Model	Direction of rotation	Length		
108	7	108 Casing tube with joint	Square thread	left	1500	27.1	F2-108J1-15070
114	6.5	114 Casing tube(with Tool joint)	Square thread	left	1500	31	F2-114J2-15065
127	9.5	127Casing tube with joint	Round thread	left	1500	43.7	F2-12705-15095
127	6.5	127Casing tube with joint	Round thread	left	1500	35	F2-12706-15065
146	10	146Casing tube with joint	Round thread	left	1500	53.7	F2-14606-150K0
168	10	168Casing tube with joint	Round thread	left	1500	62.4	F2-16807-150K0
178	9	178Casing tube with joint	Round thread	left	1500	61.8	F2-17808-15090
194	10	194Casing tube with joint	Round thread	left	1500	73	F2-19409-150K0
219	10	219Casing tube with joint	Round thread	left	1500	85.7	F2-21910-150K0
273	10	173Casing tube with joint	Round thread	left	1500	107.7	F2-27311-150K0
325	12	325Casing tube with joint	Round thread	left	1500	154.7	F2-32512-150K2

Casing tube					Joint		
Model (D)	Wall thickness (h)	Product	Weight	Product Code	Product	Length (L1)	Weight
108	7	108 casing tube	24.6	F2-108J1-15070-01	108 joint	80	2.5
127	9.5	127 casing tube	38.8	F2-12705-15095-01	127 joint	90	4.9
127	6.5	127 casing tube	30.1	F2-12706-15065-01	127 joint	90	4.9
146	10	146 casing tube	47.3	F2-14606-150K0-01	146 joint	80	6.4
168	10	168 casing tube	55	F2-16807-150K0-01	168 joint	80	7.4
178	9	178 casing tube	52.9	F2-17808-15090-01	178 joint	100	8.9
194	10	194 casing tube	64	F2-19409-150K0-01	194 joint	100	9
219	10	219 casing tube	72.7	F2-21910-150K0-01	219 joint	100	13
273	10	173 casing tube	91.5	F2-27311-150K0-01	273 joint	100	16.2
325	12	325 casing tube	130.7	F2-32512-150K2-01	325 joint	100	24

Other specifications are available upon request



Drill Pipe



Model	h Wall thickness	Product	C Thread	C1 I.D	d Wrench flat	k	L Length of the drilling pipe	Weight	Product code
76 (3)	6.5	76 drill pipe	API2 3/8REG	32	57	45	3000	40	D1-076A1-30065
	8.5	76 drill pipe	API2 3/8REG	32	57	45	3000	48	D1-076A1-30085
	6.5	89 drill pipe	API2 3/8REG	32	70	45	3000	48	D1-089A1-30065
89 (3 1/2)	8.5	89 drill pipe	API2 3/8REG	32	70	45	3000	58	D1-089A1-30085
	6.5	89 drill pipe	API2 3/8 IF	40	70	45	3000	48	D1-089N1-30065
	8.5	89 drill pipe	API2 3/8 IF	40	70	45	3000	58	D1-089N1-30085
102 (4)	6.5	104 drill pipe	API3 1/2REG	45	83	51	3000	56	D1-102A3-30065
	8.5	104 drill pipe	API3 1/2REG	45	83	51	3000	67	D1-102A3-30085
	6.5	104 drill pipe	API3 1/2 IF	45	83	51	3000	56	D1-102N2-30065
	8.5	104 drill pipe	API3 1/2 IF	45	83	51	3000	67	D1-102N2-30085
	6.5	114 drill pipe	API3 1/2REG	45	95	51	3000	63	D1-114A3-30065
114 (4 1/2)	8.5	114 drill pipe	API3 1/2REG	45	95	51	3000	76	D1-114A3-30085
	6.5	114 drill pipe	API4 1/2 IF	60	95	51	3000	63	D1-114N4-30065
	8.5	114 drill pipe	API4 1/2 IF	60	95	51	3000	76	D1-114N4-30085

Other drilling pipes are available upon request



DTH Hammer

TH series Hammer

Model	Length without bit(mm)	O.D (mm)	Thread Connection	Working pressure	Weight (KG)	Product code
TH3.5	807	82	API 2 3/8 REG	1.0-1.5Mpa	25	B1-TH3HD-A1001
TH45	927	99	API 2 3/8 REG	1.0-2.4Mpa	42	B1-TH04T-A1001
TH55	987	126	API 2 3/8 REG	1.0-2.4Mpa	81	B1-TH05T-A1001
TH65	1163.5	146	API 3 1/2 REG	1.0-2.4Mpa	100	B1-TH06T-A3001
TH85	1364.5	182	API 4 1/2 REG	1.4-2.4Mpa	197	B1-TH08T-A4001
TH12	1937	274	API 6 5/8 REG	1.5-2.4Mpa	675	B1-TH10T-A5001

