



MSD | Your Trusted Partner for Rock Drilling Solutions

Drill Faster. Drill Longer. Drill Smarter.

The MSD name stands for "More Meters, More Value." This is our promise to you—a commitment built on a foundation of manufacturing excellence and material science. We are dedicated to providing tools that deliver superior performance, a long and reliable service life, and an exceptional return on investment for our clients.

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# ECCENTRIC CASING SYSTEMS

— THE HIGH-EFFICIENCY SOLUTION FOR OVERBURDEN DRILLING —

Engineered for Rapid Advancement and Ultimate Reliability

## ECCENTRIC OVERBURDEN CASING DRILLING TOOLS



MSD | MSD IS A BRAND OF ZHUZHOU JINGDE MACHINERY CO., LTD.



► BRAND INTRODUCTION

At MSD, we believe true performance is engineered from the inside out. Our story begins with a deep legacy in tungsten carbide science—a two-decade commitment that has culminated in our proprietary technology. From this scientific foundation, our meticulous manufacturing process forges strength into steel, ensuring every tool we create embodies a single, uncompromising standard of excellence.

We are more than a supplier; we are a team of engineers and problem-solvers. This expertise is demonstrated across our complete toolkit—from our industry-leading Overburden Casing Systems to our full range of DTH and Top Hammer tools. We don't just sell products; we deliver intelligent solutions designed to conquer the world's most challenging geological conditions.

Ultimately, all our science and engineering expertise is focused on a single commitment to you: More Meters, More Value. This isn't just our promise; it's a proven reality, trusted by leading mining corporations, quarries, and drilling contractors in over 50 countries worldwide.

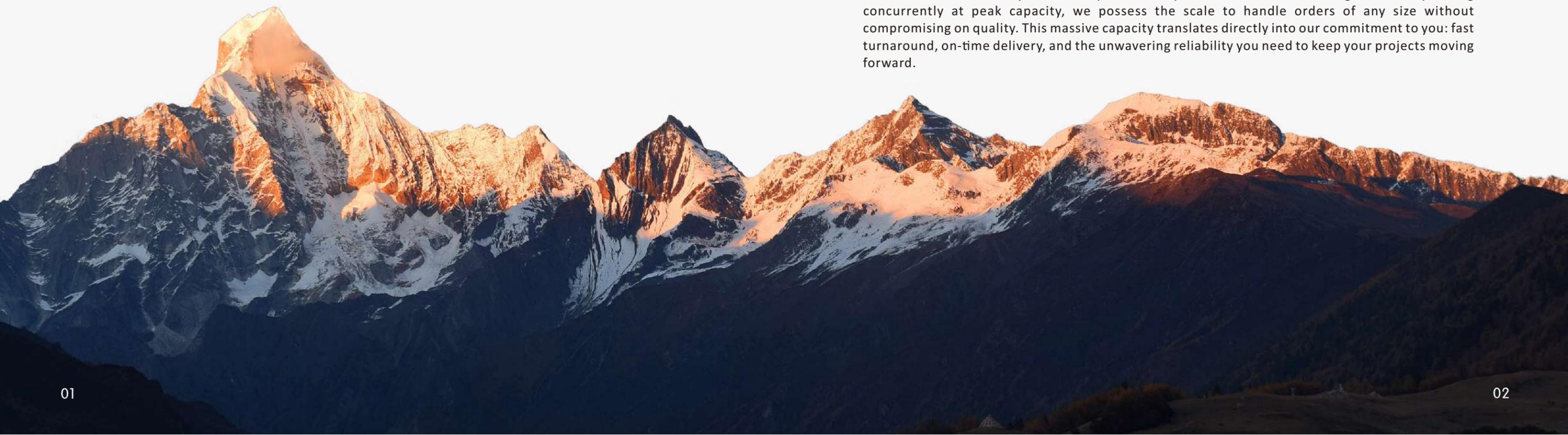
► PLANT AND EQUIPMENT



At MSD, our promise of quality is forged in steel. Our state-of-the-art facility is equipped with over 55 sets of professional equipment, headlined by advanced Turn-mill machining centers. This technology empowers us to machine every component with absolute precision, ensuring the flawless performance and reliability that our brand stands for.



Precision is matched by immense production power. With 50 machining centers operating concurrently at peak capacity, we possess the scale to handle orders of any size without compromising on quality. This massive capacity translates directly into our commitment to you: fast turnaround, on-time delivery, and the unwavering reliability you need to keep your projects moving forward.



MASTERING DIFFICULT GROUND:  
THE MSD CONCENTRIC CASING SYSTEM

► THE CHALLENGE

Drilling in loose, unstable ground—such as overburden, boulder fields, or fractured rock—presents significant operational risks. Conventional drilling methods often lead to hole collapse, tool burial, and costly project delays. How can you ensure hole integrity and maintain drilling efficiency in these demanding conditions?

The MSD Solution

Through years of field research and engineering refinement, MSD has developed its Concentric Casing System—a robust and highly versatile solution designed to conquer these challenges. Our system drills and advances the casing simultaneously, effectively sealing the hole and preventing collapse as you drill.

This method not only excels in the typical conditions handled by eccentric or block-type systems but is also highly effective in formations with large boulders and even karst cavities. With the capability to case holes to depths of approximately 100 meters, the MSD system offers a powerful combination of high drilling efficiency and exceptional reliability.

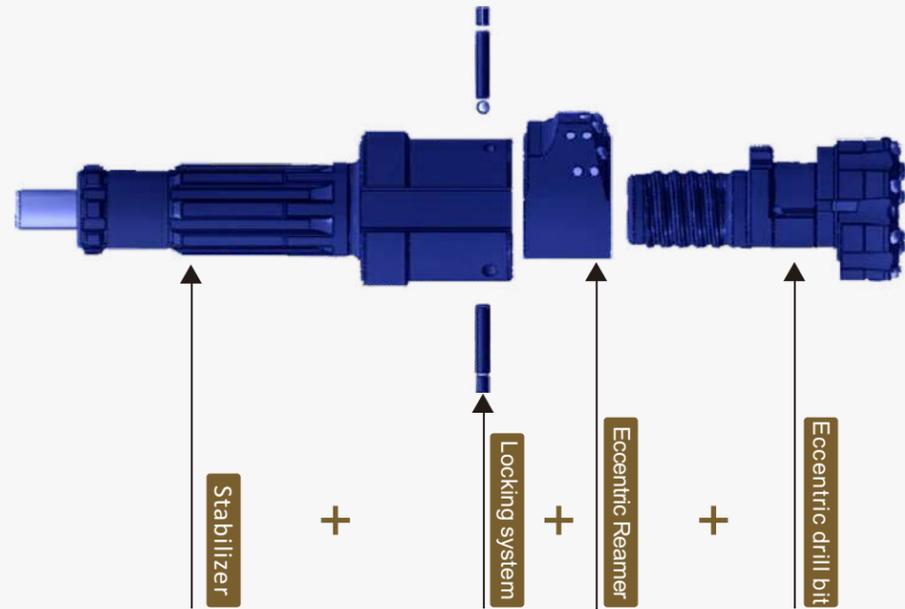


► SCOPE OF APPLICATION

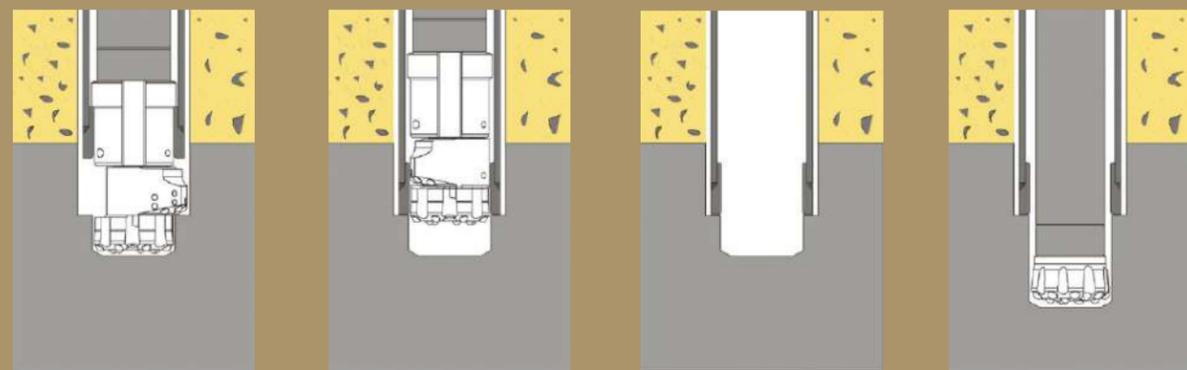
The reliability and precision of the MSD Concentric System make it the ideal choice for a wide range of critical ground engineering applications, from piling, micropiling, and foundation underpinning to complex anchoring and tunneling projects. It is also extensively used for geotechnical site investigation, deep hole production drilling, and the construction of water and geothermal wells.



► ECCENTRIC SYSTEM COMPONENTS



► WORKING DIAGRAM



During operation, the eccentric reamer swings out to drill.

At completion, a slight reverse rotation retracts the drill bit.

The casing can be left in the hole or grouted during withdrawal.

Continue drilling deeper with a conventional drill bit. Advance.

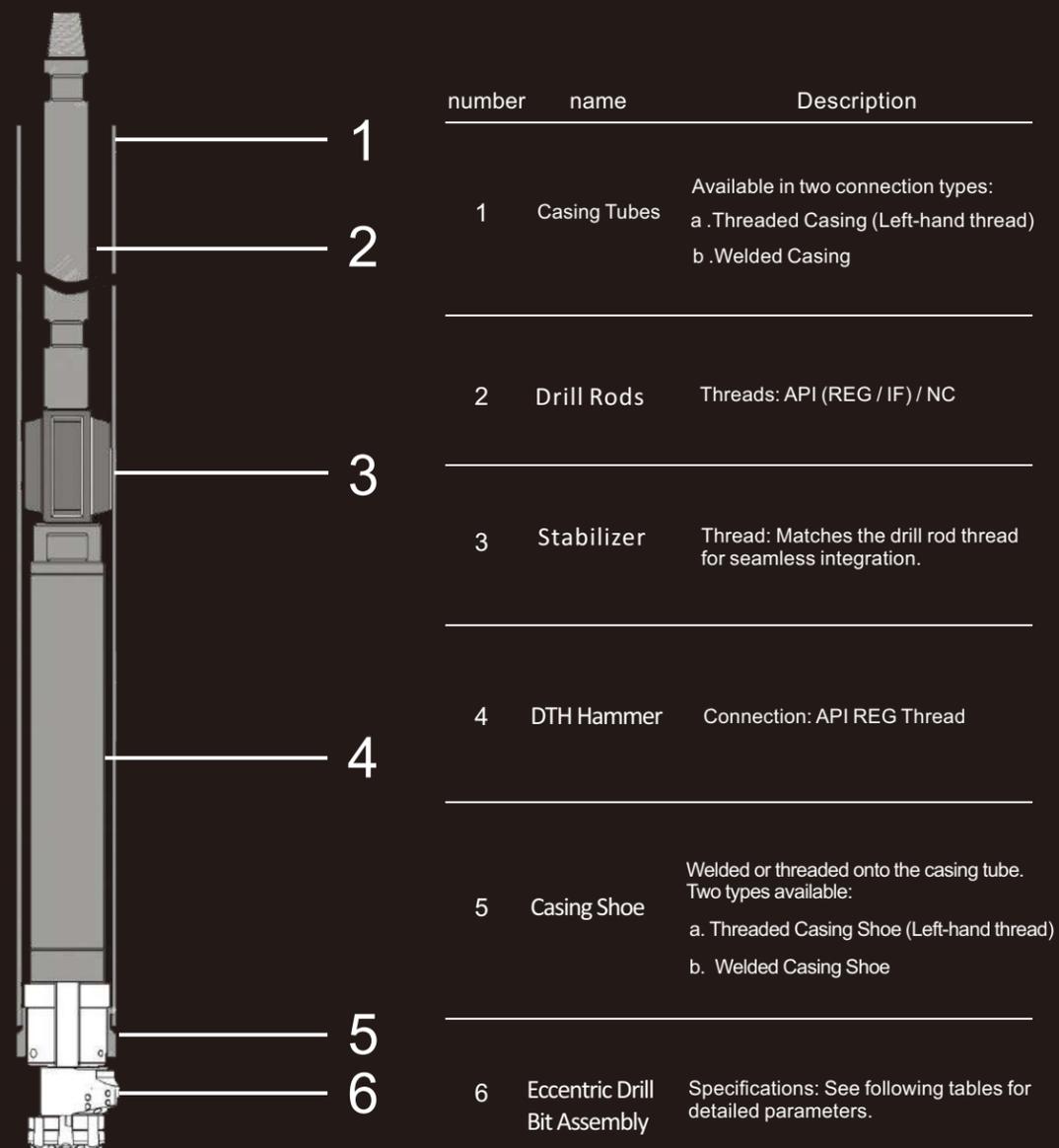
► STRUCTURAL FEATURES

The reamer structure has been redesigned (from Fig. a to Fig. b) with enhanced material on the backside to significantly increase wear resistance and extend its service life.



A relief groove has been engineered into the threaded end of the pilot bit, allowing for slight deformation and ensuring easy disassembly after high-torque operations.

► ECCENTRIC SYSTEM COMPONENTS



► SCOPE OF APPLICATION



WATER WELL DRILLING

As a primary tool for water well construction, the MSD Eccentric System drills and cases the well simultaneously. This significantly reduces the time required to penetrate the overburden, allowing for faster access to the water-bearing strata.



FOUNDATION SUPPORT

In geological conditions such as soil, silt, and sand, the MSD Eccentric System is the fastest and most economical method for installing permanent or temporary steel casing. It provides reliable wall protection, ensuring the integrity of foundation support structures.



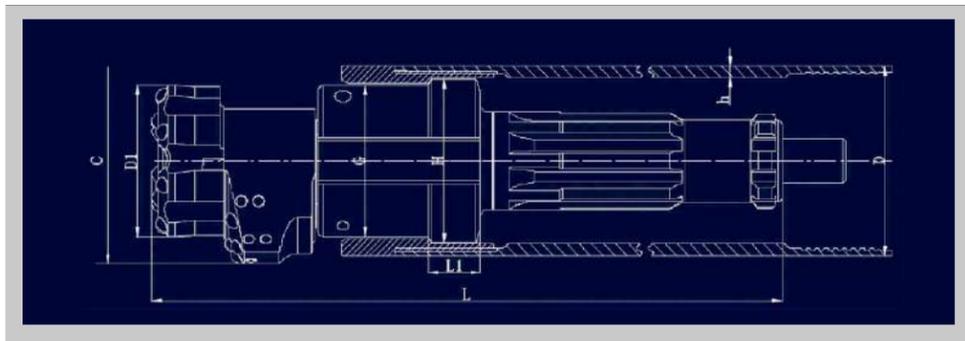
ANCHORING & SLOPE STABILIZATION

When rock reinforcement is required for slope stabilization, the MSD Eccentric System effectively meets the demands of anchoring projects. It provides a reliable method for installing rock bolts and anchors in challenging ground.

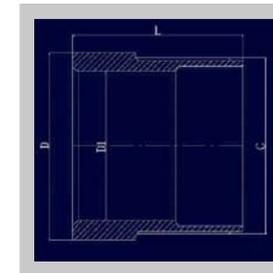


Casing OD	Casing ID	Casing Wall Thickness	Stabilizer Max. Dia	Hole Dia	Casing Shoe Min. ID	Max. Conventional	Bit Dia	Recommended DTH Hammer	Weight
mm	mm	mm	mm		mm		mm		kg
ODEX85	108	94	7	92	117	86	85	COP34/DHD3.5	11.6/12.2
ODEX90	114	101	6.5	99	125	92	90	COP34/DHD3.5	13.4/14
ODEX98	127	109	9	107	138	100	98	COP34/DHD3.5	15.2/15.9
ODEX115	145	126	10	123.5	155	117	115	COP44/DHD340(MSD4A)/SD4/QL40	25/27.9
ODEX140	168	148	10	146	160	138	136	COP54/DHD350(MSD5A)/SD5/QL50	38/42
ODEX145	178	158	10	156	192	147	145	COP54/DHD350(MSD5A)/SD5/QL50	44.1
ODEX152	183	163	10	161	196	153	151	COP54/DHD350(MSD5A)/SD5/QL50 COP64/DHD360(MSD6A)/SD6/QL60	48 56
ODEX165	194	174	10	172	206	162	160	COP64/DHD360(MSD6A)/SD6/QL60	61.7
ODEX190	219	199	10	196	234	187	185	COP64/DHD360(MSD6A)/SD6/QL60	75.1
ODEX208	245	225	10	222	263	210	208	COP84/DHD380(MSD8A)/SD8/QL80	113.3
ODEX240	273	263	10	251	306	241	240	COP84/DHD380(MSD8A)/SD8/QL80	137.2
ODEX280	325	300	12.5	296	350	282	280	DHD112/(MSD10A)	209.5/225.5

● CUSTOM SPECIFICATIONS AND CONFIGURATIONS ARE AVAILABLE UPON REQUEST



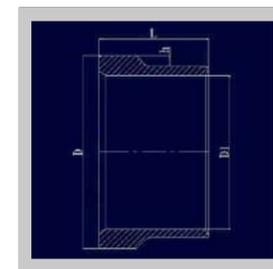
● THREADED CASING SHOE SPECIFICATIONS



For Casing OD	Outer Diameter (OD)	Min. Inner Diameter (ID)	For Casing Wall Thickness	Thread Form	Thread Direction	Weight
mm	mm	mm	mm			kg
108	108	86	7	Square Thread	Left-hand	2.4
114	114	92	6.5	Square Thread	Left-hand	3
127	127	100	9.5	Rounded Thread	Left-hand	3.3
146	146	117	10	Rounded Thread	Left-hand	4.4
168	168	138	10	Rounded Thread	Left-hand	6.1
178	178	147	10	Rounded Thread	Left-hand	7.5
183	183	153	10	Rounded Thread	Left-hand	8.6
194	194	162	10	Rounded Thread	Left-hand	8.8
219	219	187	10	Rounded Thread	Left-hand	12.8
245	245	210	10	Rounded Thread	Left-hand	13.5
273	273	241	10	Rounded Thread	Left-hand	15
325	325	282	12.5	Rounded Thread	Left-hand	18

Threaded Casing Shoes for other wall thicknesses can be custom-made

● WELDED CASING SHOE SPECIFICATIONS



For Casing OD	Outer Diameter (OD)	Min. Inner Diameter (ID)	For Casing Wall Thickness	Weight
mm	mm	mm	mm	kg
108	108	86	7	1.6
114	114	91	6.5	2.5
127	127	100	9.5	3
146	146	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

● Welded Casing Shoes for other wall thicknesses can be custom-made



CASING ASSEMBLY SPECIFICATIONS



OD	Wall Thickness	Assembly Description	Thread Type	Thread Direction	Length	Weight	Part No
mm	mm				l	kg	
108	7	108 Casing Assembly	Square Thread	Left-hand	1500	27.1	F2-108J1-15070
114	6.5	114 MF Casing Assembly	Square Thread	Left-hand	1500	31	F2-114J2-15065
127	9.5	127Casing Assembly	Rounded Thread	Left-hand	1500	43.7	F2-12705-15095
127	6.5	127Casing Assembly	Rounded Thread	Left-hand	1500	35	F2-12706-15065
146	10	146Casing Assembly	Rounded Thread	Left-hand	1500	53.7	F2-14606-150K0
168	10	168Casing Assembly	Rounded Thread	Left-hand	1500	62.4	F2-16807-150K0
178	9	178Casing Assembly	Rounded Thread	Left-hand	1500	61.8	F2-16807-150K0
194	10	194Casing Assembly	Rounded Thread	Left-hand	1500	73	F2-19409-150K0
219	10	219Casing Assembly	Rounded Thread	Left-hand	1500	85.7	F2-21910-150K0
273	10	273Casing Assembly	Rounded Thread	Left-hand	1500	107.7	F2-27311-150K0
325	12	325Casing Assembly	Rounded Thread	Left-hand	1500	154.7	F2-32512-150K2



CASING TUBES

Specification	Wall Thickness	Name	Weight	Coding
			kg	
108	7	108mm Casing Tube	24.6	F2-108J1-15070-01
127	9.5	127mm Casing Tube	38.8	F2-12705-15095-01
127	6.5	127mm Casing Tube	30.1	F2-12706-15065-01
146	10	146mm Casing Tube	47.3	F2-14606-150K0-01
168	10	168mm Casing Tube	55	F2-16807-150K0-01
178	9	178mm Casing Tube	52.9	F2-17808-15090-01
194	10	194mm Casing Tube	64	F2-19409-150K0-01
219	10	219mm Casing Tube	72.7	F2-21910-150K0-01
273	10	273mm Casing Tube	91.5	F2-27311-150K0-01
325	12	325mm Casing Tube	130.7	F2-32512-150K2-01

COUPLINGS

Name	Length	Weight	Name
	mm	kg	
Coupling for 108mm Casing	80	24.6	F2-108J1-15070-02
Coupling for 127mm Casing	90	38.8	F2-12705-15095-02
Coupling for 127mm Casing	90	30.1	F2-12705-15095-02
Coupling for 146mm Casing	80	47.3	F2-14606-150K0-02
Coupling for 168mm Casing	80	55	F2-16807-150K0-02
Coupling for 178mm Casing	100	52.9	F2-17808-15090-02
Coupling for 194mm Casing	100	64	F2-19409-150K0-02
Coupling for 219mm Casing	100	72.7	F2-21910-150K0-02
Coupling for 273mm Casing	100	91.5	F2-27311-150K0-02
Coupling for 325mm Casing	100	130.7	F2-32512-150K2-02

● Custom wall thicknesses are available upon request

