MSD米数多®

MSD | Your Trusted Partner for Rock Drilling Solutions

IDrill 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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MSD

CONCENTRIC CASING SYSTEMS

THE SPECIALIST'S SOLUTION FOR DRILLING IN DIFFICULT GROUND

Engineered for Stability, Precision, and Performance

DRILLING TOOL PRODUCTION EXPERT

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

THE PROFESSIONAL'S CHOICE FOR ROCK DRILLING SOLUTIONS

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.

MSD
THE PROFESSIONAL'S CHOICE FOR ROCK DRILLING SOLUTIONS

THE PROFESSIONAL'S CHOICE FOR ROCK DRILLING SOLUTIONS

CONCENTRIC SYSTEM COMPONENTS

CASING SHOE

Welded to the casing to drive it and house the drill bits

\+

REAMER BIT

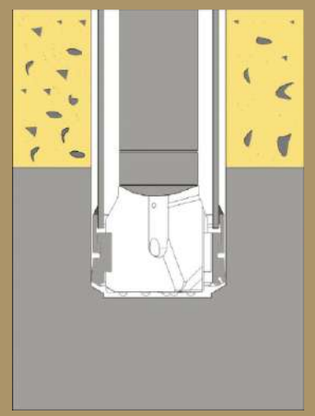
Enlarges the hole to allow the casing to advance.

\+

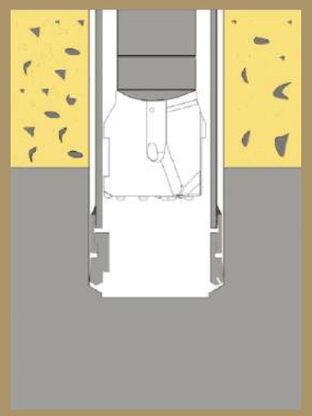
PILOT BIT

Drills the guide hole and transmits impact energy

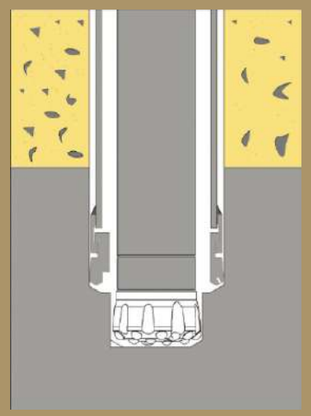
WORKING DIAGRAM



Step 1: Drill Through Overburden



Step 2: Retrieve the Pilot Bit



Step 3: Switch to Conventional Drilling

STRUCTURAL ADVANTAGE

01 Superior Hole Straightness

The inherent stability of the concentric design minimizes hole deviation, ensuring consistently straight holes even in varied and complex geological structures.

02 Exceptional Adaptability & Efficiency

Our system excels in difficult mixed ground, efficiently penetrating formations containing boulders and even construction debris. Compared to eccentric systems, it requires less rotational torque, resulting in smoother operation and easier unlocking and retrieval of the drill string.

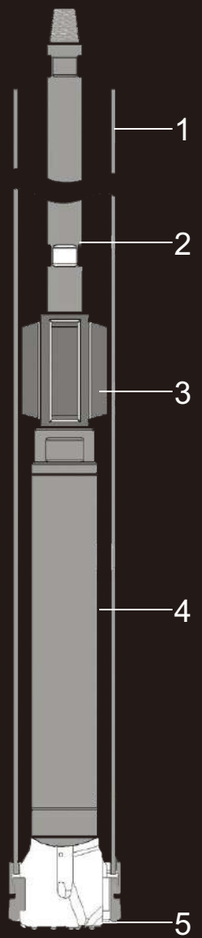
03 Full Multi -Angle Capability

Engineered for maximum operational flexibility, the MSD Concentric System performs reliably at any angle—vertical, horizontal, or inclined.

04 Low-Disturbance Operation

The smooth and stable rotation of the concentric system significantly reduces operational vibration and noise compared to eccentric methods. This makes it the ideal choice for projects in noise-sensitive or urban environments.

CONCENTRIC DRILLING SYSTEM COMPONENTS



number	name	Description
1	Casing Tubes	a. Threaded Casing (Left-hand thread) b. Welded Casing
2	Drill Rods	API (REG/ IF)/NCThreads: API (REG / IF) / NC
3	Stabilizer	Stabilizer threads match the drill rod threads.
4	DTH Hammer	API REGThreaded Connection, Form: API REG
5	Concentric Drill Bit Assembly	See following tables for detailed specifications.

APPLICATION AREA

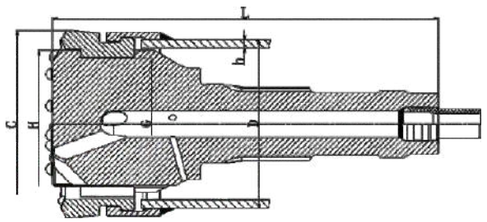
PILING & FOUNDATIONS

Due to its smooth operation and superior hole straightness, the MSD Concentric System is the ideal choice for piling and foundation projects. It maintains performance and accuracy even in difficult ground conditions containing boulders and cobbles, ensuring the integrity of every foundation pile.

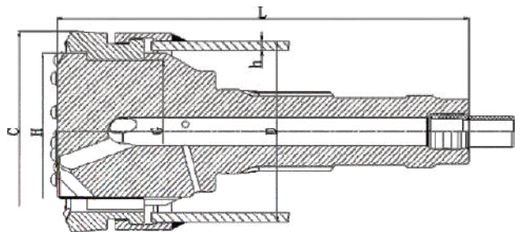
ANCHORING & GROUND SUPPORT

Anchoring applications often involve complex ground conditions and non-vertical drilling angles. The MSD Concentric System is engineered to perform reliably at any inclination. This multi-angle capability allows it to meet the demanding and varied requirements of ground anchoring and support projects.

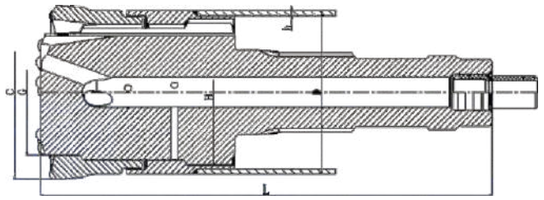
A, B, C FACE SHAPE



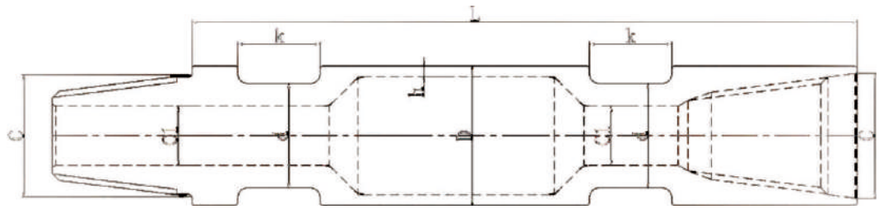
specification	Casing OD	Casing ID	Casing Wall Thickness	Pilot Bit Max. Diameter	Hole Diameter	Max. Conventional Bit Dia	Recommended Hammer / Drifter	Weight
	mm	mm	mm	mm	mm	mm		
For use with Top Hammer Drifters								
R76/7-39	76	62	7	57	84	39	R32	32
R89/8-58	89	73	8	70	96	58	T38	5.8
R114/9-80	114	94	10	92	122	84	T45	7.5
R127/10-90	127	107	10	105	136	90	T45	10
R140/10-97	140	120	10	116	148	97	T45,T51	15
For use with DTH Hammers								
R114/9-80	114	94	10	10	92	80	COP34/DHD3.5/TH3.5	10
R127/10-90	127	107	10	10	105	90	COP34/DHD3.5/TH3.5	16
R140/10-97	140	120	10	10	116	97	COP44/DHD340(TH4)/SD4/QL40	21
R146/10-110	146	126	10	10	124	110	COP44/DHD340(TH4)/SD4/QL40	22
R168/12.7-125	168	142.6	12.7	12.7	141	125	COP54/DHD350(TH5)/SD5/QL50/M50	27
R178/12.7-135	178	152.6	12.7	12.7	150	135	COP54/DHD350(TH5)/SD5/QL50/M50	32.5
R194/12.7-145	194	168.6	12.7	12.7	166	145	COP64/DHD360(TH6)/SD6/QL60/M60	42.5
R219/12.7-170	219	193.6	12.7	12.7	191	170	COP64/DHD360(TH6)/SD6/QL60/M60	58
R245/12.7-195	245	219.6	12.7	12.7	214	195	COP84/DHD380(TH8)/SD8/QL80	78
R254/12.7-203	254	228.6	12.7	12.7	224	203	COP84/DHD380(TH8)/SD8/QL80	84.5
R273/12.7-223	273	247.6	12.7	12.7	241	223	COP84/DHD380(TH8)/SD8/QL80	100
R325/12.7-276	325	299.6	12.7	12.7	292	276	COP84/DHD380(TH8)/SD8/QL80	135
R406/12.7-350	406	380.6	12.7	12.7	377	350	DHD112/12(TH12)/QL120/SD12/NUMA120	280
R508/12.7-416	508	482.6	12.7	12.7	478	416	QL200/SD18/NUMA180/TH18	522
R560/12.7-475	560	534.6	12.7	12.7	528	575	QL200/SD18/NUMA180/TH18	620
R610/12.7-513	610	584.6	12.7	12.7	558	513	QL200/SD18/NUMA180/TH18	710



specification	Casing OD	Casing ID	Casing Wall Thickness	Pilot Bit Max. Diameter	Hole Diameter	Max. Conventional Bit Dia	Recommended Hammer / Drifter	Weight
	mm	mm	mm	mm	mm	mm		
For use with Top Hammer Drifters								
R76/7-39	76	62	7	57	88	39	R32	32
R89/8-58	89	73	8	70	100	58	T38	5.8
R114/9-84	114	94	10	92	126	84	T45	7.5
R127/10-93	127	107	10	105	142	93	T45	10
R140/10-97	140	120	10	116	161	97	T45,T51	15
For use with DTH Hammers								
R114/9-84	114	94	10	94	126	84	COP34/DHD3.5/TH3.5	10
R127/10-93	127	107	10	105	142	93	COP34/DHD3.5/TH3.5	16
R140/10-97	140	120	10	116	161	97	COP44/DHD340(TH4)/SD4/QL40	21
R146/10-110	146	126	10	124	165	110	COP44/DHD340(TH4)/SD4/QL40	22
R168/12.7-127	168	142.6	12.7	141	188	127	COP54/DHD350(TH5)/SD5/QL50/M50	27
R178/12.7-131	178	152.6	12.7	150	196	131	COP54/DHD350(TH5)/SD5/QL50/M50	32.5
R194/12.7-145	194	168.6	12.7	166	214	145	COP64/DHD360(TH6)/SD6/QL60/M60	42.5
R219/12.7-170	219	193.6	12.7	191	243	170	COP64/DHD360(TH6)/SD6/QL60/M60	58
R245/12.7-195	245	219.6	12.7	214	268	195	COP84/DHD380(TH8)/SD8/QL80	78
R254/12.7-203	254	228.6	12.7	224	276	203	COP84/DHD380(TH8)/SD8/QL80	84.5
R273/12.7-223	273	247.6	12.7	241	298 (305)	223	COP84/DHD380(TH8)/SD8/QL80	100
R325/12.7-276	325	299.6	12.7	292	350	276	COP84/DHD380(TH8)/SD8/QL80	135
R406/12.7-350	406	380.6	12.7	377	442	350	DHD112(TH12)/QL120/SD12/NUMA120	280
R508/12.7-416	508	482.6	12.7	478	545	416	QL200/SD18/NUMA180/TH18	522
R560/12.7-475	560	534.6	12.7	528	595	475	QL200/SD18/NUMA180/TH18	620
R610/12.7-513	610	584.6	12.7	558	645	513	QL200/SD18/NUMA180/TH18	710



specification	Casing OD	Casing ID	Casing Wall Thickness	Pilot Bit Max. Diameter	Hole Diameter	Max. Conventional Bit Dia	Recommended Hammer / Drifter	Weight
	mm	mm	mm	mm	mm	mm		
For use with Top Hammer Drifters								
R76/8-39	76	60	8	58	88	39	R32	2.5
R89/8-52	89	73	8	71	100	62	T38	5.5
R114/10-80	114	94	10	92	125	80	T45	9.5
R140/10-96	140	120	10	118	158	96	T45,T51	10
For use with DTH Hammers								
R108/6.5-75	108	95	6.5	94	120	75	COP34/DHD3.5/TH3.5	10.1
R114/6.5-82	114	101	6.5	99	126	82	COP34/DHD3.5/TH3.5	13.8
R127/9-85	127	109	9	107	138	85	COP34/DHD3.5/TH3.5	18
R140/10-96	140	120	10	118	154	96	COP44/DHD340(TH4)/SD4/QL40	21
R146/10-103	146	126	10	124	158	103	COP44/DHD340(TH4)/SD4/QL40	23.5
R168/10-125	168	148	10	153	188	125	COP54/DHD350(TH5)/SD5/QL50/M50	27.5
R178/10-140	178	158	10	157	196	140	COP54/DHD350(TH5)/SD5/QL50/M50	42
R194/10-148	194	174	10	172	214	148	COP64/DHD360(TH6)/SD6/QL60/M60	57.5
R219/10.5-170	219	198	10.5	196	243	170	COP64/DHD360(TH6)/SD6/QL60/M60	75
R245/12.7-185	245	219.6	12.7	218	260	185	COP84/DHD380(TH8)/SD8/QL80	105
R273/12.7-203	273	247.6	12.7	245	298	203	COP84/DHD380(TH8)/SD8/QL80	122
R325/12.7-255	325	299.6	12.7	294	350	255	COP84/DHD380(TH8)/SD8/QL80	135
R406/12.7-340	406	380.6	12.7	378	438	340	DHD112(TH12)/QL120/SD12/NUMA120	420
R508/12.7-445	508	482.6	12.7	478	538	445	SD18/NU180/TH18	522
R560/12.7-495	560	534.6	12.7	521	580	495	SD18/NU180/TH18	608
R610/14.2-514	610	581.6	14.2	574	630	514	QL200/SD18/NUMA180/TH18	703
R660/14.2-590	660	631.6	14.2	618	680	590	QL200/SD18/NUMA180/TH18	788
R711/14.2-606	711	682.6	14.2	674	731	606	QL200/SD18/NUMA180/TH18	934.5
R76/16-669	762	730	16	725	782	669	TH24/NUMA240	1247
R813/16-709	813	781	16	769	835	709	TH24/NUMA240	1380
R914/16-818	914	882	16	851	935	818	TH24/NUMA240	1657
R1016/16-913	1016	984	16	973	1040	913	TH24/NUMA240/TH28/QL300	2100
R1220/20-1136	1220	1180	20	1174	1250	1136	TH28/QL300	3270
R1550/20-1464	1550	1510	20	1504	1580	1464	TH36	5405



Diameter / OD	Wall Thickness	Description	Thread Type	Flushing Hole Dia	Wrench	Flats	Length	weight	Part No
mm	mm			mm	mm		m	kg	
76(3)	6.5	76mm Drill Rod	API2 2/8REG	32	57	45	3000	40	D1-076A1-30065
	8.5	76mm Drill Rod	API2 3/8REG	32	57	45	3000	48	D1-076A1-30085
89(3 1/2)	6.5	89mm Drill Rod	API2 3/8REG	32	70	45	3000	48	D1-089A1-30065
	8.5	89mm Drill Rod	API2 3/8REG	32	70	45	3000	58	D1-089A1-30085
	6.5	89mm Drill Rod	NC26	40	70	45	3000	48	D1-089N1-30065
	8.5	89mm Drill Rod	NC26	40	70	45	3000	58	D1-089N1-30085
102(4)	6.5	102mm Drill Rod	API2 1/2REG	45	83	51	3000	56	D1-102A3-30065
	8.5	102mm Drill Rod	API3 1/2REG	45	83	51	3000	67	D1-102A3-30085
	6.5	102mm Drill Rod	NC31	45	83	51	3000	56	D1-102N2-30065
	8.5	102mm Drill Rod	NC31	45	83	51	3000	67	D1-102N2-30085
114(4 1/2)	6.5	114mm Drill Rod	API3 1/2REG	45	95	51	3000	63	D1-114A3-30065
	8.5	114mm Drill Rod	API3 1/2REG	45	95	51	3000	76	D1-114A3-30085
	6.5	114mm Drill Rod	NC35	60	95	51	3000	63	D1-114N4-30065
	8.5	114mm Drill Rod	NC35	60	95	51	3000	76	D1-114N4-30085
127(5)	8.5	127mm Drill Rod	API3 1/2REG	45	108	51	3000	86	D1-127A3-30085
	8.5	127mm Drill Rod	NC38	60	108	51	3000	86	D1-127N4-30085
133(5 1/4)	10	133mm Drill Rod	API3 1/2REG	45	114	51	3000	102	D1-133A3-300K0
140(5 1/2)	9.2	140mm Drill Rod	API3 1/2REG	45	121	51	3000	101	D1-140A3-30092
146(5 3/4)	10	146mm Drill Rod	API4 1/2REG	60	127	55	3000	113	D1-146A4-300K2
152(6)	8.5	152mm Drill Rod	API4 1/2REG	60	127	55	3000	113	D1-146A4-300K0
168(6 5/8)	10	168mm Drill Rod	NC50	60	149	55	3000	132	D1-168N8-300K0
178(7)	10	178mm Drill Rod	API4 1/2REG	60	159	55	3000	140	D1-178A4-300K0

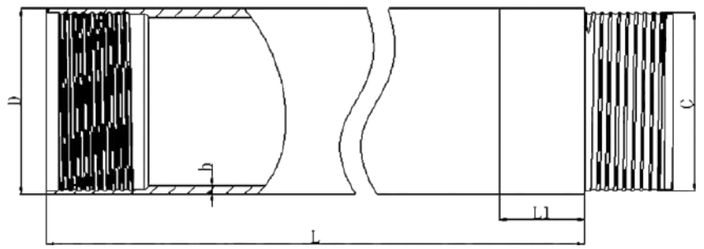
※ Custom diameters, lengths, and specifications are available upon request.

HAMMER & DRIFTER MODEL

Model	Overall Length	Outer Diameter	Top Sub Thread	Working Air Pressure (Bar/PSI)	Weight	Part No
	mm	mm			kg	
MSD3.5A	992	80	API 2 3/8 REG	1.0-1.5Mpa	25	B1-MSD3A-A1001
MSD3.5A	992	80	API 2 3/8 REG	1.0-1.5Mpa	25	B1-MSD3A-A1001
MSD4A	1045	98	API 2 3/8 REG	1.0-2.4Mpa	42	B1-MSD4A-A1001
MSD5A	1126	126	API 2 3/8 REG	1.0-2.4Mpa	81	B1-MSD5A-A1001
MSD6A	1306	142	API 3 1/2 REG	1.0-2.4Mpa	100	B1-MSD6A-A3001
MSD8A	1465	180	API 4 1/2 REG	1.4-2.4Mpa	197	B1-MSD8A-A4001
MSD12A	1938	274	API 6 5/8 REG	1.7-2.4Mpa	791	B1-MSD12A-A6001
MSD14A	2235	330	2.73" Hexagonal Six parties	1.7-2.4Mpa	950	B1-MSD14A-L1001
MSD18A	2425	406	2.73" Hexagonal Six parties	1.7-2.4Mpa	1530	B1-MSD18A-L1001
MSD24A	2495	525	3.2" Hexagonal Six parties	1.7-2.4Mpa	2540	B1-MSD24A-L2001
MSD28A	2610	650	3.2" Hexagonal Six parties	1.7-2.5Mpa	4236	B1-MSD28A-L2001

CASING ASSEMBLY

OD (D)	Wall Thickness (h)	Description	Thread (c)	Thread Direction	Length(L)	Weight	Part No
mm	mm				m	kg	
108	7	108mm Casing Assembly	Square Thread	Left-hand	1500	27.1	F2-108J1-15070
114	6.5	114mm MF Casing Assembly	Square Thread	Left-hand	1500	31	F2-114J2-15065
127	9.5	127mm Casing Assembly	Rounded Thread	Left-hand	1500	43.7	F2-12705-15095
127	6.5	127mm Casing Assembly	Rounded Thread	Left-hand	1500	35	F2-12705-15065
146	10	146mm Casing Assembly	Rounded Thread	Left-hand	1500	53.7	F2-14606-150K0
168	10	168mm Casing Assembly	Rounded Thread	Left-hand	1500	62.4	F2-16807-150K0
178	9	178mm Casing Assembly	Rounded Thread	Left-hand	1500	61.8	F2-17808-15090
194	10	194mm Casing Assembly	Rounded Thread	Left-hand	1500	73	F2-19409-150K0
219	10	219mm Casing Assembly	Rounded Thread	Left-hand	1500	85.7	F2-21910-150K0
273	10	173mm Casing Assembly	Rounded Thread	Left-hand	1500	107.7	F2-27311-150K0
325	12	325mm Casing Assembly	Rounded Thread	Left-hand	1500	154.7	F2-32512-150K2



※ Custom specifications and lengths are available upon request

CASING ASSEMBLY

Specification	name	weight	coding
108	108mm Casing Tube	24.6	F2-108J1-15070-01
127	127mm Casing Tube	38.8	F2-12705-15095-01
127	127mm Casing Tube	30.1	F2-12706-15065-01
146	146mm Casing Tube	47.3	F2-14606-150K0-01
168	168mm Casing Tube	55	F2-16807-150K0-01
178	178mm Casing Tube	52.9	F2-17808-15090-01
194	194mm Casing Tube	64	F2-19409-150K0-01
219	219mm Casing Tube	72.7	F2-21910-150K0-01
273	274mm Casing Tube	91.5	F2-27311-150K0-01
325	325mm Casing Tube	130.7	F2-32512-150K2-01

COUPLING

name	length	weight	coding
Coupling for 108mm Casing	80	2.5	F2-108J1-15070-02
Coupling for 127mm Casing	90	4.9	F2-12705-15095-02
Coupling for 127mm Casing	90	4.9	F2-12705-15095-02
Coupling for 146mm Casing	80	6.4	F2-14606-150K0-02
Coupling for 168mm Casing	80	7.4	F2-16807-150K0-02
Coupling for 178mm Casing	100	8.9	F2-17808-15090-02
Coupling for 194mm Casing	100	9	F2-19409-150K0-02
Coupling for 219mm Casing	100	13	F2-21910-150K0-02
Coupling for 273mm Casing	100	16.2	F2-27311-150K0-02
Coupling for 325mm Casing	100	24	F2-32512-150K2-02

※ Custom specifications and lengths are available upon request