

TECHINICAL INFORMATION

CUTTING SPEED REQUIRED

WET CORE DRILL



Ø	Concrete	Reinforced Concrete	Recommended Power					Water lt/min
	2-3 M/SEC	1,2/1,3 M/SEC	1Kw	1,5Kw	2,0Kw	3,0Kw	6Kw	
20	2000-3000	1100-1700	X	XX	XXX	XXXX	XXXXX	0,5 - 1,0
30	1200-1800	750 - 1100	X	XX	XXX	XXXX	XXXXX	0,5 - 1,0
40	900 -1400	550 - 850	X	XX	XXX	XXXX	XXXXX	1,0 - 2,0
50	700-1100	450 - 650	X	XX	XXX	XXXX	XXXXX	1,0 - 2,0
60	600 - 950	350 - 150		XX	XXX	XXXX	XXXXX	2,0 - 3,0
70	550 - 800	320 - 480		XX	XXX	XXXX	XXXXX	2,0 - 3,0
80	450 - 700	280 - 420		XX	XXX	XXXX	XXXXX	2,0 - 3,0
100	350 - 550	220 - 340		XX	XXX	XXXX	XXXXX	3,0 - 4,0
120	300 - 450	180 - 280			XXX	XXXX	XXXXX	3,0 - 4,0
140	250 - 400	160 - 230			XXX	XXXX	XXXXX	3,0 - 4,0
160	250 - 350	140 - 200			XXX	XXXX	XXXXX	3,0 - 4,0
180	200 - 320	120 - 180			XXX	XXXX	XXXXX	4,0 - 6,0
200	180 - 270	110 - 170			XXX	XXXX	XXXXX	4,0 - 6,0
250	150 - 230	90 - 140				XXXX	XXXXX	4,0 - 6,0
300	130 - 190	70 - 110				XXXX	XXXXX	6,0 - 8,0
350	110 - 150	60 - 100				XXXX	XXXXX	6,0 - 8,0
400	90 - 140	55 - 85					XXXXX	8,0 - 12,0
500	70 - 120	40 - 70					XXXXX	8,0 - 12,0

CUTTING SPEED REQUIRED

DRY CUTTING



Ø	R.P.M	SPEED
115	13.300	80 MT/SEC.
125	12.230	80 MT/SEC.
150	10.200	80 MT/SEC.
230	6.600	80 MT/SEC.

TECHINICAL INFORMATION

CUTTING SPEED REQUIRED

WET CORE DRILL - MASONRY SAW



Ø	PRM Soft	PRM Hard	DEPTH Soft	DEPTH Hard
	50MT/SEC.	30MT/SEC.	50MT/SEC.	30MT/SEC.
250	3820	2670	40 mm	20 mm
300	3180	2230	60 mm	30 mm
350	2730	1910	70 mm	35 mm
400	2390	1670	80 mm	40 mm
450	2120	1490	90 mm	45 mm
500	1910	1340	100 mm	50 mm
600	1590	1110	120 mm	60 mm
650	1470	1030	130 mm	65 mm
700	1360	960	140 mm	70 mm
750	1270	890	150 mm	75 mm
800	1190	840	160 mm	80 mm
900	1060	740	180 mm	90 mm
1000	960	670	200 mm	100 mm

CUTTING SPEED REQUIRED

WET CORE DRILL - JOINT CUTTER



Ø	PRM Soft	PRM Hard	DEPTH Soft	DEPTH Hard
	50MT/SEC.	30MT/SEC.	50MT/SEC.	30MT/SEC.
300	3180	2230	90 mm	45 mm
350	2730	1910	110 mm	55 mm
400	2390	1670	140 mm	70 mm
450	2120	1490	170 mm	85 mm
500	1910	1340	190 mm	95 mm
600	1590	1110	240 mm	120 mm
650	1470	1030	260 mm	130 mm
700	1360	960	290 mm	145 mm
750	1270	890	310 mm	155 mm
800	1190	840	340 mm	170 mm
900	1060	740	380 mm	190 mm
1000	960	670	420 mm	210 mm

TRUBLESHOOTING

DIAMOND BLADE

PROBLEM

CAUSE

SOLUTION

BLADE DOES NOT CUT

1. Irregular direction of rotation
2. Material is too hard
3. Belt is loose
4. Insufficient power of cutting machine
5. The blade has segments without diamond exposure

1. Set the right one
2. Make sure the type of blade is correct
3. Tension the belt
4. Replace with one having adequate HP
5. Dress the blade with dressing stones or with very abrasive mat

FAST WEAR

1. Insufficient water flow
2. Loss of blade round-off
3. Bond wears very fast and diamond is therefore overexposed
Slow cutting because of reduced rotation speed

1. Increase water flow
2. Check for arbor bearing wear or the specification of the material to be cut
3. Check blade type or water quantity
4. Check belt tensioning

UNEVEN SEGMENT WEAR

1. Loss of blade round off
2. Insufficient water flow on one side causing higher segment wear

1. Check arbor bearing wear
2. Homogeneous water flow on both sides of the blade has to be assured

CORE WEARING (asphalt and fresh concrete)

1. Cutting under the asphalt blanking or concrete casting
2. Water flow not enough to remove the rest of the material
3. Wrong type of blade

1. Check where cut is made
2. Increase water flow
3. Use the right one

CUT DEVIATION

1. Blade with worn segments on one side
2. Blade misaligned with the cutting direction

1. Replace blade
2. Check right alignment and any problem of the machine

LOSS OF BLADE ROUND OFF

1. Specification is too soft compared to the material processed
2. Worn bearings

1. Check specification
2. Replace them

LOSS OF TENSIONING

1. Wrong type of cutting blade (too hard)
2. Machine not running smoothly
3. Wrong type of blade
3. Core overheating

1. Check blade type
2. Check: rpm, arbor and flange wear
3. Check adequate water flow (wet cutting)

HOLE IS DAMAGED

1. Imperfect blade surface due to incorrect alignment during assembly
2. Arbor is worn
3. Blade movement problems

1. Before assembling: make sure the diameter of the hole is suitable for the arbor and that the feeding holes are aligned with the flange
2. Replace with new one
3. Make sure the blade is correctly fastened

OVERHEATING

1. Wet cut: not enough water flow
2. Dry cut: too much cutting pressure

1. Look for any hose blockages or damage and make sure the pressure is not too low
2. Avoid too much pressure on the machine and let it run to and fro.

SEGMENT BREAK

1. Specification is too hard compared with the material (to be cut)

1. Check proper specification

SEGMENT DETACHES

1. Core is worn just under the segment
2. Core overheating
3. Blade twisting and cut jamming due to material movement during cutting
4. Blade changes direction while cutting because flange has not been secured
5. The rotation of the machine changes cutting direction while working
6. Faulty tool performance due to material becoming inserted between flange and core

1. Warning: make appropriate cuts
2. Proper core cooling during cutting
3. Make sure the material is correctly secured
4. Replace with new flange
5. Keep cutting direction continuously straight
6. Clean flange and blade

CORE BREAKAGE

1. Blade overheating
2. Material to be cut is very hard
3. Arbor is worn : bearings are damaged or blade wrongly set up
4. The machine is under too much pressure during cutting

1. Ensure enough and regular water supply during cutting
2. Fit type suitable for the material to be cut
3. Check correct blade mounting and general state of wear of parts
4. Reduce pressure on the machine

DRILL BITS

DRILL BIT DOES NOT CUT

1. Insufficient motor power
2. The material to be cut is too hard compared to the specification of the drill bit
3. Drill bit slips because of too much water flow
4. Excessive rotation speed
5. Excessive movement of the saddle guide

1. Use a motor with power adequate to the diameter of the drill bit
2. Make sure the drill bit is of the right type
3. Reduce the water supply
4. Reduce rotation speed
5. Fasten the saddle to the guide for reducing movement

SEGMENT WEARS OUT RAPIDLY

1. Drilling machine vibrates too much
2. Insufficient rotation speed
3. Insufficient water supply

1. Fasten it properly
2. Increase rotation speed
3. Increase water supply

UNUSUAL CORE BIT WEAR

1. Drilling machine incorrectly fastened
2. Thread incorrectly fastened on the motor shaft
3. Drill bit is buckled
4. Metal fragments on the bottom of the hole being made

1. Correctly fasten all machine parts and replace worn ones
2. Correctly align drill bit to motor shaft
3. A buckled drill bit is unusable, but if the diamond segments are not damaged, this can be refurbished by the supplier
4. Remove metal residues from hole

SEGMENTS DETACH FROM CORE BIT

1. Segment detachment caused by sudden start of operation
2. Segments detach due to knocks
3. Excessive rotation speed causes overheating and detachment of segments
4. Segments detach due to loose deposits or steel fragments in the hole knocked by drill bit
5. Segments detach due to overheating as a result of lack of lubrication

1. Replace drill bit or repair it. If necessary, clean hole before proceeding. Be careful when starting to work.
2. Replace drill bit or repair it.
3. Replace drill bit or repair it.
4. Replace drill bit and properly clean the hole before proceeding.
5. Clean the hole. Replace drill bit

DRILL BIT STOPS WHILE WORKING

1. Rotation is blocked either by residues between core and drill bit or by a piece of partially-cut metal
2. Segments do not protrude from the drill bit because of wear on one side of the drill bit. The latter does not therefore have enough space to turn causing friction against the walls of the hole and stopping the core

1. Remove the drill bit from the machine and release it by turning it in both directions using a wrench
2. Take the drill bit out and check the protrusion of the segments (shoulder): if the protrusion is very small the drill bit will have to be replaced.

LUBRICATION WATER IS TOO CLEAR

1. Loss of segment cutting capacity
2. Watch for any traces of filings, which means the reinforcement is being cut

1. Dress the drill bit with a dressing stone
2. Reduce rotation speed to prevent damaging the iron