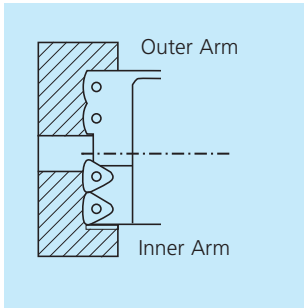




The AMEC Core Drill has 2 diametrically opposed cartridges that are phased to create an overlapping cut situation in use. The cartridges are exactly the same until one is selected to cut the finish diameter, outer cartridge. The other opposing cartridge would then become the inner cartridge. The inner cartridge would be adjusted to a smaller radius by a range of 4.06mm - 5.08mm. The phasing on the inner cartridge does not require close accuracy but using the mean size of 4.57mm is recommended.



- The AMEC Core Drill must be presented close to centre line. A stationary AMEC Core Drill must be on centre line with the part within 0.381mm total runout. AMEC strongly suggests that the turret pod be indicated from the chuck before tool mounting. Applications on a machining centre will typically find their own centre, but we recommend TIR to be within 0.127mm.
- We recommend utilising coolant when using the AMEC Core Drill. Through the tool is ideal, although flood coolant is acceptable. The tool is designed with large gullets to easily evacuate the chips from the hole.
- The AMEC Core Drill can be effectively used to core holes with 2 inserts, if both opposed cartridges are set to the same cut diameter. However, this application will not allow an enlargement greater than 12.7mm on diameter.

Set Up Procedure

Presetter:

In setting the AMEC Core Drill the use of a presetter will allow for the most accurate setting of the tool.

- Set the presetter axis to diameter. Designate one of the cartridges to be the outer cartridge (finish diameter), the opposing cartridge then becomes the inner cartridge. Set the outer cartridge to the finish diameter required.
- We recommend adjusting the cartridge using the side adjusting screws that push against the pin. After this initial adjustment is made, tighten the mounting screws to secure the cartridges and then slightly tension the adjusting screws to insure a friction fit in the screw threads.
- The inner cartridge is then adjusted to a smaller diameter within a range of 8.13mm - 10.16mm. The nominal \emptyset value of 9.14mm is recommended. However, anything within the range is acceptable, for the inner cartridge does not require a close accuracy.

Dial Test Indicator (DTI):

In the case that a presetter is unavailable the setting of the tool can be set accurately as follows:

Body Diameter	
OP1	46.7
OP2	56.4
OP3	71.3
OP4	88.9



Figure 1



Figure 2

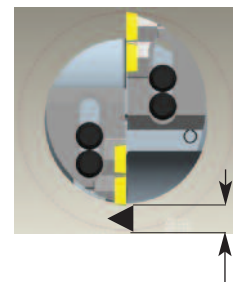


Figure 3

Figure 4

4.57 mean on radius	(Range 4.06mm - 5.08mm)
9.14mm mean on dia	(Range 8.13mm - 10.16mm)

1) Outer Cartridge Setting

Finish \emptyset Minus Body \emptyset (Figure 1) / 2 = Distance indicator will need to travel from tool body (Figure 2) to set outer cartridge at finish diameter (Figure 3)

2) Inner Cartridge Setting

Offset the inner cartridge inwards by \emptyset 9.14/2 = Distance indicator will need to travel from outer cartridge to set inner cartridge (Figure 4) ensuring optimum insert overlap.

Material	Material Hardness (BHN)	Speed M/min				Feed (mm/rev)
		AM200®	TiN	TiAlN	TiCN	
Free Machining Steel	110-250	76-198	61-152	70-175	64-168	0.10-0.23
Low Carbon Steel	85-275	76-198	61-152	70-175	64-168	0.10-0.20
Medium Carbon Steel	125-325	122-244	91-186	105-210	100-201	0.10-0.20
Alloy Steel	125-375	76-244	61-183	70-210	67-201	0.10-0.20
High Strength Alloy	225-400	76-122	61-91	70-105	67-101	0.07-0.15
Structural Steel	100-350	76-122	61-91	70-105	67-101	0.07-0.15
High Temperature Alloy Hastelloy B, Inconel 600	140-310	46-122	30-91	35-105	34-101	0.05-0.15
Stainless Steel	135-275	76-198	61-152	70-175	67-168	0.05-0.17
Tool Steel	150-250	122-152	85-122	98-140	95-134	0.05-0.15
Aluminium	30-180	229-335	183-259	210-297	201-285	0.05-0.15
Cast Iron Grey, Ductile, Nodular	120-320	122-228	91-183	105-210	101-201	0.05-0.15
Brass	30-125	305-396	244-305	280-350	268-335	0.10-0.22

Formulas: mm/min = RPM • mm/rev M/min = RPM • 0.003 • DIA RPM = M/min • 318.47/DIA

The speeds recommended for all coated tools are based on empirical data obtained under “Optimum Conditions”. Many applications do not exhibit “Optimum Conditions.” (Reductions in speed parameters may be required due to excessive tool wear generated in the application.)

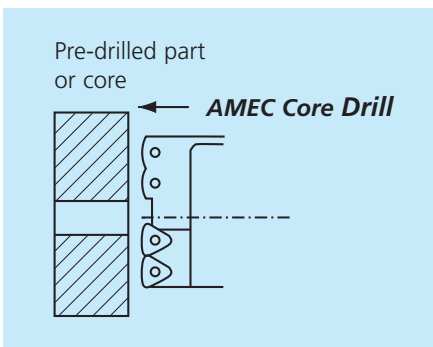
The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is also available for your specific applications through our Application Engineering Team. Please have item number, hole diameter, depth, material grade, BHN hardness and coolant pressure information available when you call. Additional information such as part and machine rigidity, horsepower and thrust limits, vertical or horizontal spindle, revolving or stationary tool, flood or through holder coolant will enable our Application Engineers to give you the best possible solution.

Minimum Pilot Hole Calculation

To determine the minimum diameter of the pilot hole, use the following calculation:

FINISH DIAMETER MINUS OPENING RANGE = MINIMUM PILOT HOLE DIAMETER

For example: To open up an existing diameter hole to 66mm diameter, OP2 tool would be used and the minimum pilot hole diameter would be 66mm-47.75mm = 18.25mm.



AMEC Core Drill Size	Adjustable O.D Range	Opening Range Diameter
OP1	50.80 - 63.50	47.75
OP2	63.50 - 76.20	47.75
OP3	76.20 - 104.65	47.75
OP4	104.65 - 143.75	68.07