





Bell Tip, Right Hand, Double End 33UM96



5-Pc. Set, Plain Tip, Right Hand, Double End 1DBT6

Center Drills 🥨

Center drills consist of a pilot drill and a countersink and are used to create holes at the center of a piece of stock so it can be turned between centers on a lathe in metal-working tasks. Drills with a **plain tip** are the standard choice for creating center holes. Drills with a **radius tip** have a tapered flute that allows them to create more accurate holes than other styles of center drills. Drills with a **bell tip** have a 120° chamfer on their tip that bevels the outer edge of the center hole to strengthen it and protect if from damage in applications where the piece of stock will go through multiple machining passes. **Jig-bore** drills have a flat on the shank for securing them to a jig borer machine with a set screw.

Secui	ing mem	w a ji	y borer i	Hacilli	e willi a s	et sciev
					Bright	TIM
Deill	Countersin	k Rody	Drill	Overall	(Uncoated) Item	TiN Item
Size	Angle	Dia.	Point Dia.	Length	No.	No.
Radiu	s Tip, Righ	t Hand,				
High-	Speed Stee	1				
#2	60°	3/16 in	5/64 in	1 % in	33UM22	
#3	60°	1/4 in	7∕64 in	2 in	33UL56	
Carbi	Tip, Right I	напа, и	ouble Ena			
#0	60 °	1/8 in	1/32 in	1 ½ in	1DBJ5	
#1	60°	1/8 in	3/64 in	1 ½ in	1DBJ6	_
#2	60 0	3/16 in	5/64 in	2 in	1DBJ7	_
#3	60°	1/4 in	7/64 in	2 in	1DBJ8	
#4	60°	5/16 in	½ in	2 ½ in	1DBJ9	
#4-0	60°	1/8 in	0.0150 in 3/16 in	1 ½ in 2 ¾ in	33UN80 1DBK1	
#5 #6	60°	7∕16 in 1⁄2 in	7/32 in	3 in	1DBK1	
#7	60°	5/8 in	1/4 in	3 ¾ in	1DBK3	
#8	82 °	3/4 in	5/16 in	4 in	33UP11	_
Cobal	lt .					
#0	60°	1/8 in	1/32 in	1 1/4 in	1DBF7	_
#1	60 °	½ in	3/64 in	1 1/4 in	1DBF8	
#2	60 °	3/16 in 1/8 in	5%4 in 0.0250 in	1 ½ in 1 ¼ in	1DBF9 1DBF6	
#2-0	60°	1/4 in	7/64 in	2 in	1DBF6	$-\equiv$
#4	60°	5/16 in	1/8 in	2 ½ in	1DBG1	=
#4-1/2	60°	3/8 in	%4 in	2 ½ IN	33UN75	_
#5	60°	7∕16 in	3/16 in	2 3/4 in	1DBG3	_
#6	60°	½ in	7∕32 in	3 in	1DBG4	
#7	UU	5% in	1/4 in	3 1/4 in	1DBG5	
#10	60 ° Speed Stee	1 in	3/8 in	3 ¾ in	1DBG8	
#()	60°	<u>1</u> /% in	1/32 in	1 1/4 in	3P277	1DBE4
#0	82 °	1/8 in	1/32 in	1 1/4 in	2RTW2	_
#0	90 °	1/8 in	1/32 in	1 1/4 in	1DBH1	_
#1	60°	⅓ in	3∕64 in	1 1/4 in	3P279	1DBE5
#1	UU	1/8 in	3/64 in	3 in	1DBK5	
#1	UU	1/8 in	3/64 in	4 in	1DBK6	
#1	60°	1/8 in 1/8 in	3/64 in 3/64 in	5 in 6 in	1DBK7 1DBK8	
#1	82 °	1/8 in	3/64 in	1 ½ in	2RTW3	
#1	90°	1/8 in	3/64 in	1 1/4 in	1DBH2	2RTX7
#2	60 °	3/16 in	5/64 in	1 7/8 in	3P281	1DBE6
#2	60°	3/16 in	5∕64 in	3 in	1DBK9	
#2	60 -	3/16 in	5/64 in	4 in	1DBL1	
#2	UU	3∕16 in	5/64 in	5 in	1DBL2	
#2	60 ° 82 °	3/16 in 3/16 in	5/64 in 5/64 in	6 in 1 % in	1DBL3 2RTW4	4FVX3
#2	90°	3/16 in	5/64 in	1 % in	1DBH3	2RTX8
#2-0	60°	½ in	0.0200 in	1 1/4 in	3P275	
#2-0 #2-0	60°	1/8 in	0.0250 in	1 ¼ in	_	1DBE3
#3	60 °	1/4 in	7/64 in	2 in	3P283	1DBE7
#3	60 -	1/4 in	7/64 in	3 in	1DBL4	_
#3	UU	1/4 in	7/64 in	4 in 5 in	1DBL5 1DBL6	
#3	60°	1/4 in 1/4 in	7/64 in 7/64 in	6 in	1DBL7	-=-
#3	82 °	1/4 in	7/64 in	2 in	2RTW5	
#3	90°	1/4 in	7/64 in	2 in	1DBH4	2RTX9
#4	60°	5∕16 in	1/8 in	2 1/8 in	3P285	1DBE8
#4	60°	5∕16 in	1⁄8 in	3 in	1DBL8	
#4	60 -	5/16 in	1/8 in	4 in	1DBL9	
#4	60°	5/16 in 5/16 in	1/8 in	5 in 6 in	1DBN1 1DBN2	
#4	82°	5/16 in	1/8 in 1/8 in	2 1/6 in	2RTW6	4FVX5
#4	90°	5/16 in	½ in	2 1/8 in	1DBH5	2RTY1
#4-1/2	60°	3/8 in	%4 in	2 ½ in	33UN71	33UN72
#4-1/2	60°	3/8 in	%4 in	4 in	1DBN3	
#4-1/2 #4-1/2	60°	3/8 in	%4 in	5 in	1DBN4	
#4-1/2	60°	3% in	%4 in	6 in	1DBN5	45000
#4-1/2 #4-1/2	82 ° 90 °	3% in 3% in	%4 in	2 ½ in 2 ½ in	2RTW7 1DBH6	4FVX6
#4-1/2	60°	7/16 in	3∕16 in 3∕16 in	2 ½ In 2 ¾ in	3P287	1DBE9
π.υ	00	/ 10 III	710 111	∠ 74 III	31 201	IDDES

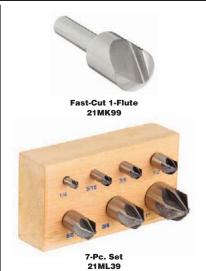
High-Speed Steel—Provides good wear resistance in a wide range of machining applications.

Cobalt Steel—Provides good wear resistance when machining hard materials at high speeds and is harder than high-speed steel.

Powdered Metal—Stronger than high-speed steel and cobalt steel.

Solid Carbide—Provides excellent wear resistance when machining the toughest materials, such as stainless steel.

					Bright	
					(Uncoated)	TiN
	Countersin		Drill	Overall	` Item ´	Item
Size	Angle	Dia.	Point Dia.			No.
#5	60°	₹/16 in	3/16 in	4 in	1DBN6	
#5	60°	7∕16 in	3∕16 in	5 in	1DBN7	
#5	60°	7∕16 in	3∕16 in	6 in	1DBN8	
#5	82 °	7∕16 in	3∕16 in	2 ¾ in	2RTW8	4FVX7
#5	90°	7/16 in	7/32 in	2 ¾ in	1DBH7	
#6	60°	1/2 in	7∕32 in	3 in	3P289	1DBF1
#6	60°	1/2 in	7∕32 in	4 in	1DBN9	
#6	60°	½ in	7∕32 in	5 in	1DBP1	
#6	60°	1/2 in	7∕32 in	6 in	1DBP2	
#6	82 °	½ in	7∕32 in	3 in	2RTW9	4FVX8
#6	90°	½ in	⅓₃₂ in	3 in 3 in		2RTY4
#6	90°	½ in	1/4 in		1DBH8	_
#7	60°	5⁄8 in	1/4 in	3 1/4 in	3P291	1DBF2
#7	60°	5⁄8 in	1/4 in	6 in	1DBP3	_
#7	82 °	5⁄8 in	1/4 in	3 1/4 in	2RTX1	_
#7	90°	5⁄8 in	1/4 in	3 1/4 in	1DBH9	_
#8	60°	3/4 in	5∕16 in	3 ½ in	3P293	1DBF3
#8	82 °	3/4 in	5∕16 in	3 ½ in	2RTX2	_
#8	90°	3/4 in	11/32 in	3 ½ in	1DBJ1	_
#9	60°	7/8 in	11/ ₃₂ in	3 % in	3P295	1DBF4
#9	82 °	7∕8 in	11/32 in	3 5/8 in	2RTX3	_
#10	60°	1 in	3/8 in	3 ¾ in	3P297	1DBF5
#10	82 °	1 in	3/8 in	3 ¾ in	2RTX4	_
Powd	ered Metal					
#4	60°	5/16 in	1/8 in	2 1/8 in	33UM36	_
#5	60°	7/16 in	3/16 in	2 3/4 in	33UM42	_
#6	60°	½ in	7/32 in	2 ¾ in 3 in	33UM48	_
Plain	Tip, Left H					
	Speed Stee					
#2	60°	3/16 in	5/64 in	1 % in	33UL55	_
#3	60°	1/4 in	7/64 in	2 in	33UL57	_
#4	60°	5/16 in	1/8 in	2 1/8 in	33UL59	_
#6	60°	½ in	7/32 in	3 in	33UM53	_
Jia-B	ore Style, F	tight Ha	nd. Sinale	End		
	Speed Stee		,			
1/4 in	60°	½ in	1/4 in	3 ½ in	33UN59	_
	Γip, Right H					
Carbi	de	, 20				
#15	60°	7/16 in	5∕32 in	2 3/4 in	33UN96	_
Coba						
#12	60°	3/16 in	½16 in	1 % in	33UL63	_
	Speed Stee					
#13	60°	1/4 in	3∕32 in	2 in	33UM95	33UM96
#17	60°	5% in	7/32 in	3 ½ in	33UN31	33UN32
					Bright	
				(Uncoated)	TiN
					Item	Item
	Si	zes Inc			No.	No.
5-Pc. Sets, Plain Tip, Right Hand, Double End						
High-	Speed Stee					
•	#1,#	2, #3, #	4, #5		1DBT6	4FUA2
Coba		0 #0 "	4 //5		451140	
•		2, #3, #	4, #5		4FUA3	
Carbi	de					



WESTWARD

High-Speed Steel Countersinks

- 82° countersink angle
- Bright finish

Countersinks expand the top of an existing hole in a workpiece to allow countersinking screws to install flush with the surface of the workpiece. This helps prevent the workpiece material from swelling when a screw is inserted in the hole and tightened down.

Fast-Cut 1-Flute—Leaves clean edges on holes and has a high, positive rake that reduces vibration.

3-Flute—Typically provides better chip clearance and performs better when machining stringy materials than countersinks with more flutes.

6-Flute—Provides fast material removal and leaves a smooth finish. Removes more material with each revolution and typically provides more wear resistance than countersinks with fewer flutes.

Body		Shank	Overall	Item				
Dia.	Shank Di		Length	No.				
	Fast Cut 1-Flute							
1 ½ in	½ in	1 1/4 in	3 in	4FWF4				
1 ¾ in	3/4 in	1 1/4 in	3 in	4FUH3				
1 ½ in	3/4 in	1 1/4 in	3 1/4 in	4FWF5				
1 3/4 in	3/4 in	1 1/4 in	3 in	33UT88				
2 in	3/4 in	1 1/4 in	3 1/4 in	4FUH4				
	3/4 in	1 1/4 in	3 1/4 in	33UT60				
1/4 in	1/4 in		1 ½ in	21ML02				
3/8 in	1/4 in	7⁄8 in	1 ¾ in	21MK98				
1/2 in	1/4 in	1 in	2 in	21MK97				
5⁄8 in	3/8 in	1 in	2 1/4 in	21ML01				
3/4 in	½ in	1 1/4 in	2 % in	21MK99				
1 in	½ in	1 1/4 in	2 ¾ in	21ML03				
1 1/4 in	½ in	1 ¼ in	2 ¾ in	21ML04				
3-Flute								
1/4 in	1/4 in		1 ½ in	21ML12				
3/8 in	1/4 in	7⁄8 in	1 3/4 in	21ML08				
1/2 in	1/4 in	1 in	2 in	21ML07				
5/8 in	3/8 in	1 in	2 1/4 in	21ML10				
3/4 in	½ in	1 ½ in	2 5/8 in	21ML09				
1 in	½ in	1 1/4 in	2 ¾ in	21ML11				
6-Flute								
1/2 in	1/4 in	1 in	2 in	21ML27				
	3/8 in	1 in	2 in	21ML34				
5/8 in	3/8 in	1 in	2 1/4 in	21ML30				
3/4 in	1/2 in	1 1/4 in	2 % in	21ML28				
7⁄8 in	1/2 in	1 1/4 in	2 3/4 in	21ML36				
1 in	½ in	1 1/4 in	2 ¾ in 2 ¾ in	21ML31				
1 1/4 in	½ in	1 1/4 in		21ML38				
No. of	No. of	Siz		Item				
Pieces	Flutes	Inclu	ded	No.				
Countersink Sets								
5	11	1/4", 3/8", 1/	2", 3/4", 1"	21ML06				
5 7	3	1/4", 3/8", 1/	2", ¾4", 1"	21ML13				
	6	1/4", 1/16", 3/8", 1/	2", 5/8", 3/4", 1"	21ML26				
7	6	1/4", 5/16", 3/8", 1/	′2", 5⁄8", 3⁄4", 1 "	21ML39				

#1, #2, #3, #4, #5

4FUA4