

POSIDRILL PLUS™



Stellram's new Posidrill Plus™ system offers excellent performance in short-hole drilling. The body and insert combination offer an unbeatable combination for 2x or 3x diameter short-hole drilling.

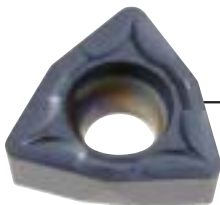
The bodies offer:

- A unique pocket design preventing slugs as the drill exits the component. This allows stacked plates and welded assemblies to be drilled.
- Multiple inserts in each flute for larger drills break the cut into smaller sections. This reduces the power consumption creating more manageable chips and allowing for excellent chip evacuation.
- Use in static or rotating applications.
- Standard length 3x diameter up to 2.5"; 2x diameter from 2 5/8" to 4".

The inserts offer:

- One grade and geometry for most materials.
- An insert geometry specifically designed for excellent chip control in stainless steels and soft steels.
- Reduced horsepower consumption from the insert and body design.

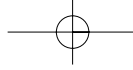
Special length-to-diameter ratios, up to 4x diameter, are available upon request. ABS, HSK and other special shanks are also available upon request.



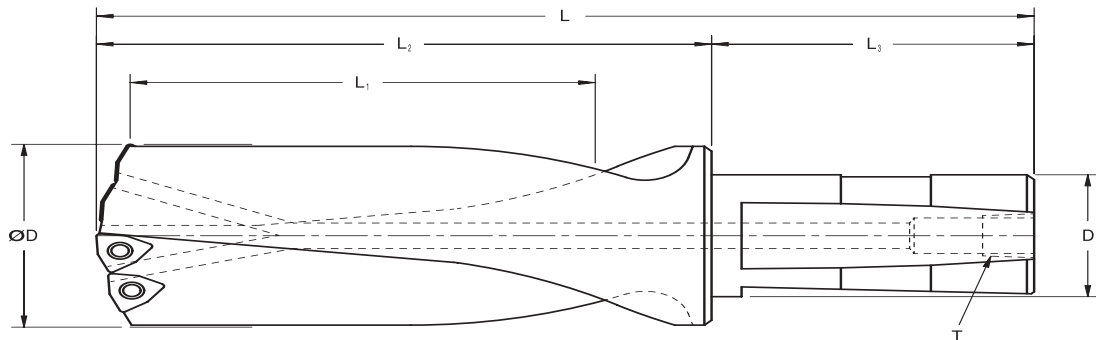
GEOMETRY 60 *Grade SP4034*

Micrograin carbide with TiAlN PVD coating and lubricity layer
 SP4034 offers excellent wear resistance due to its micrograin substrate. Its lubricity layer offers a lower coefficient of friction, especially in softer materials. The 60 geometry offers excellent performance in stainless steels and softer materials.





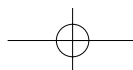
Posidrill Plus™

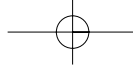


Posidrill Plus™

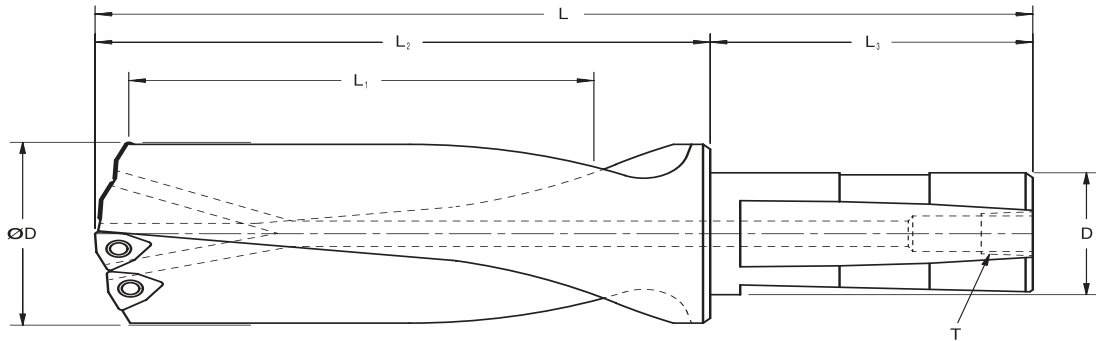
EDP #	Part Number	ØD	D	L	L ₁	L ₂	L ₃	T	Inserts	WCMX
029358	CP69003WX0515W154	0.515"	0.750	4.23	1.54"	2.13	2.03	1/8 NPT	2	030204E-60
029359	CP69003WX0531W159	0.531"	0.750	4.29	1.59"	2.19	2.03	1/8 NPT	2	030204E-60
029360	CP69003WX0563W170	0.563"	0.750	4.36	1.70"	2.25	2.03	1/8 NPT	2	030204E-60
029361	CP69003WX0594W178	0.594"	0.750	4.49	1.78"	2.38	2.03	1/8 NPT	2	030204E-60
029362	CP69003WX0625W187	0.625"	0.750	4.62	1.87"	2.50	2.03	1/8 NPT	2	030204E-60
029363	CP69003WX0656W196	0.656"	0.750	4.75	1.96"	2.63	2.03	1/8 NPT	2	030204E-60
029364	CP69004WX0687W206	0.687"	0.750	4.87	2.06"	2.75	2.03	1/8 NPT	2	040204E-60
029365	CP69004WX0718W215	0.718"	0.750	5.00	2.15"	2.88	2.03	1/8 NPT	2	040204E-60
029366	CP69004WX0750W225	0.750"	0.750	5.13	2.25"	3.00	2.03	1/8 NPT	2	040204E-60
029367	CP69004WX0781W234	0.781"	0.750	5.26	2.34"	3.13	2.03	1/8 NPT	2	040204E-60
029368	CP69004WX0812W244	0.812"	0.750	5.39	2.44"	3.25	2.03	1/8 NPT	2	040204E-60
029369	CP69004WX0844W253	0.844"	0.750	5.52	2.53"	3.38	2.03	1/8 NPT	2	040204E-60
029370	CP69005WX0875W263	0.875"	1.000	5.79	2.63"	3.38	2.28	1/8 NPT	2	050308E-60
029371	CP69005WX0906W271	0.906"	1.000	5.88	2.71"	3.46	2.28	1/8 NPT	2	050308E-60
029372	CP69005WX0937W281	0.937"	1.000	5.98	2.81"	3.56	2.28	1/8 NPT	2	050308E-60
029373	CP69005WX0968W291	0.968"	1.000	6.08	2.91"	3.66	2.28	1/8 NPT	2	050308E-60
029374	CP69005WX0984W295	0.984"	1.000	6.13	2.95"	3.70	2.28	1/8 NPT	2	050308E-60
029375	CP69005WX1000W300	1.000"	1.000	6.18	3.00"	3.75	2.28	1/8 NPT	2	050308E-60
029376	CP69005WX1031W309	1.031"	1.000	6.27	3.09"	3.84	2.28	1/8 NPT	2	050308E-60
029377	CP69005WX1062W318	1.062"	1.000	6.37	3.18"	3.93	2.28	1/8 NPT	2	050308E-60
029378	CP69005WX1093W328	1.093"	1.000	6.47	3.28"	4.03	2.28	1/8 NPT	2	050308E-60
029379	CP69005WX1125W337	1.125"	1.000	6.56	3.37"	4.12	2.28	1/8 NPT	2	050308E-60
029380	CP69005WX1156W347	1.156"	1.000	6.67	3.47"	4.22	2.28	1/8 NPT	2	050308E-60

Check local pricelist for stock availability.





Posidrill Plus™



Posidrill Plus™

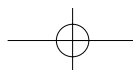
EDP #	Part Number	ØD	D	L	L ₁	L ₂	L ₃	T	Inserts	WCMX
029381	CP69006WX1187W356	1.187"	1.250	6.76	3.56"	4.31	2.28	1/4 NPT	2	06T308E-60
029382	CP69006WX1218W366	1.218"	1.250	6.86	3.66"	4.41	2.28	1/4 NPT	2	06T308E-60
029383	CP69006WX1250W375	1.250"	1.250	6.96	3.75"	4.50	2.28	1/4 NPT	2	06T308E-60
029384	CP69006WX1281W384	1.281"	1.250	7.05	3.84"	4.59	2.28	1/4 NPT	2	06T308E-60
029385	CP69006WX1312W394	1.312"	1.250	7.16	3.94"	4.69	2.28	1/4 NPT	2	06T308E-60
029386	CP69006WX1344W403	1.344"	1.250	7.25	4.03"	4.78	2.28	1/4 NPT	2	06T308E-60
029387	CP69006WX1375W412	1.375"	1.250	7.34	4.12"	4.87	2.28	1/4 NPT	2	06T308E-60
029388	CP69006WX1406W422	1.406"	1.250	7.45	4.22"	4.97	2.28	1/4 NPT	2	06T308E-60
029389	CP69006WX1437W431	1.437"	1.250	7.54	4.31"	5.06	2.28	1/4 NPT	2	06T308E-60
029390	CP69006WX1469W440	1.469"	1.250	7.63	4.40"	5.15	2.28	1/4 NPT	2	06T308E-60
029391	CP69006WX1500W450	1.500"	1.250	7.73	4.50"	5.25	2.28	1/4 NPT	2	06T308E-60
029392	CP69006WX1531W459	1.531"	1.250	8.08	4.59"	5.59	2.28	1/4 NPT	2	06T308E-60
029393	CP69006WX1562W468	1.562"	1.250	8.17	4.68"	5.68	2.28	1/4 NPT	2	06T308E-60
029394	CP69005WX1594W478	1.594"	1.500	8.68	4.78"	5.78	2.69	1/4 NPT	3	050308E-60
029395	CP69005WX1625W487	1.625"	1.500	8.77	4.87"	5.87	2.69	1/4 NPT	3	050308E-60
029396	CP69005WX1656W496	1.656"	1.500	8.87	4.96"	5.96	2.69	1/4 NPT	3	050308E-60
029397	CP69005WX1687W506	1.687"	1.500	8.97	5.06"	6.06	2.69	1/4 NPT	3	050308E-60
029398	CP69005WX1719W515	1.719"	1.500	9.20	5.15"	6.28	2.69	1/4 NPT	3	050308E-60
029399	CP69005WX1750W525	1.750"	1.500	9.30	5.25"	6.38	2.69	1/4 NPT	4	050308E-60
029400	CP69005WX1781W534	1.781"	1.500	9.38	5.34"	6.47	2.69	1/4 NPT	4	050308E-60
029401	CP69005WX1812W543	1.812"	1.500	9.48	5.43"	6.56	2.69	1/4 NPT	4	050308E-60
029402	CP69005WX1844W553	1.844"	1.500	9.58	5.53"	6.66	2.69	1/4 NPT	4	050308E-60
029403	CP69005WX1875W562	1.875"	1.500	9.68	5.62"	6.75	2.69	1/4 NPT	4	050308E-60
029404	CP69005WX1906W572	1.906"	1.500	9.79	5.72"	6.85	2.69	1/4 NPT	4	050308E-60
029405	CP69005WX1937W581	1.937"	1.500	9.89	5.81"	6.94	2.69	1/4 NPT	4	050308E-60
029435	CP69005WX1969W591	1.969"	1.500	9.99	5.91"	7.04	2.69	1/4 NPT	4	050308E-60
029406	CP69005WX2000W600	2.000"	1.500	10.09	6.00"	7.13	2.69	1/4 NPT	4	050308E-60
029407	CP69005WX2031W609	2.031"	1.500	10.30	6.09"	7.34	2.69	1/4 NPT	4	050308E-60

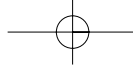
Check local pricelist for stock availability.

Star Guide

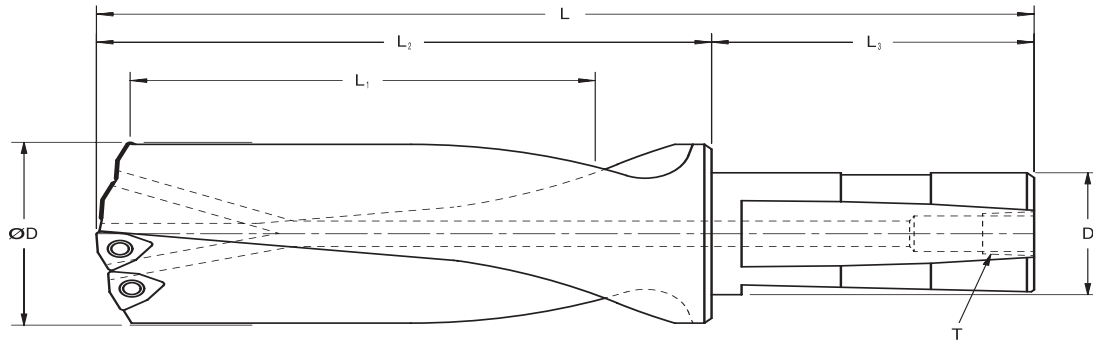
Key to Recommended Inserts

Material Designations			
	P Unalloyed Steels	M Stainless Steels	K Cast Irons
	P Alloyed Steels	M PH Stainless	N Aluminum & Alloys
			S High Temp. Alloys
			H Hard Materials





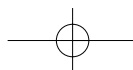
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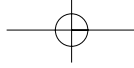


Posidrill Plus™										
EDP #	Part Number	ØD	D	L	L ₁	L ₂	L ₃	T	Inserts	WCMX
029408	CP69006WX2062W618	2.062"	2.000	10.94	6.18"	7.43	3.25	1/4 NPT	4	06T308E-60
029409	CP69006WX2094W628	2.094"	2.000	11.05	6.28"	7.53	3.25	1/4 NPT	4	06T308E-60
029410	CP69006WX2125W637	2.125"	2.000	11.14	6.37"	7.62	3.25	1/4 NPT	4	06T308E-60
029411	CP69006WX2156W647	2.156"	2.000	11.24	6.47"	7.72	3.25	1/4 NPT	4	06T308E-60
029412	CP69006WX2187W656	2.187"	2.000	11.33	6.56"	7.81	3.25	1/4 NPT	4	06T308E-60
029413	CP69006WX2219W666	2.219"	2.000	11.44	6.66"	7.91	3.25	1/4 NPT	4	06T308E-60
029414	CP69006WX2250W675	2.250"	2.000	11.53	6.75"	8.00	3.25	1/4 NPT	4	06T308E-60
029415	CP69006WX2281W684	2.281"	2.000	11.62	6.84"	8.09	3.25	1/4 NPT	4	06T308E-60
029416	CP69006WX2312W693	2.312"	2.000	11.72	6.93"	8.18	3.25	1/4 NPT	4	06T308E-60
029417	CP69006WX2344W703	2.344"	2.000	11.95	7.03"	8.41	3.25	1/4 NPT	4	06T308E-60
029418	CP69006WX2375W712	2.375"	2.000	12.05	7.12"	8.50	3.25	1/4 NPT	4	06T308E-60
029419	CP69006WX2406W722	2.406"	2.000	12.15	7.22"	8.60	3.25	1/4 NPT	4	06T308E-60
029420	CP69006WX2437W731	2.437"	2.000	12.25	7.31"	8.69	3.25	1/4 NPT	4	06T308E-60
029421	CP69006WX2469W741	2.469"	2.000	12.36	7.41"	8.79	3.25	1/4 NPT	4	06T308E-60
029422	CP69006WX2500W750	2.500"	2.000	12.46	7.50"	8.88	3.25	1/4 NPT	4	06T308E-60
029423	CP69006WX2625W525	2.625"	2.000	10.33	5.25"	6.75	3.25	1/4 NPT	4	06T308E-60
029424	CP69006WX2750W550	2.750"	2.000	10.59	5.50"	7.00	3.25	1/4 NPT	4	06T308E-60
029425	CP69006WX2875W575	2.875"	2.000	10.86	5.75"	7.25	3.25	1/4 NPT	4	06T308E-60
029426	CP69006WX3000W600	3.000"	2.000	11.12	6.00"	7.50	3.25	1/4 NPT	6	06T308E-60
029427	CP69006WX3125W625	3.125"	2.000	11.52	6.25"	7.88	3.25	1/4 NPT	6	06T308E-60
029428	CP69006WX3250W650	3.250"	2.000	11.77	6.50"	8.13	3.25	1/4 NPT	6	06T308E-60
029429	CP69006WX3375W675	3.375"	2.000	12.05	6.75"	8.38	3.25	1/4 NPT	6	06T308E-60
029430	CP69006WX3500W700	3.500"	2.000	12.32	7.00"	8.63	3.25	1/4 NPT	6	06T308E-60
029431	CP69006WX3625W725	3.625"	2.000	12.69	7.25"	9.00	3.25	1/4 NPT	6	06T308E-60
029432	CP69006WX3750W750	3.750"	2.000	12.96	7.50"	9.25	3.25	1/4 NPT	6	06T308E-60
029433	CP69006WX3875W775	3.875"	2.000	13.60	7.75"	9.88	3.25	1/4 NPT	6	06T308E-60
029434	CP69006WX4000W800	4.000"	2.000	13.86	8.00"	10.13	3.25	1/4 NPT	6	06T308E-60

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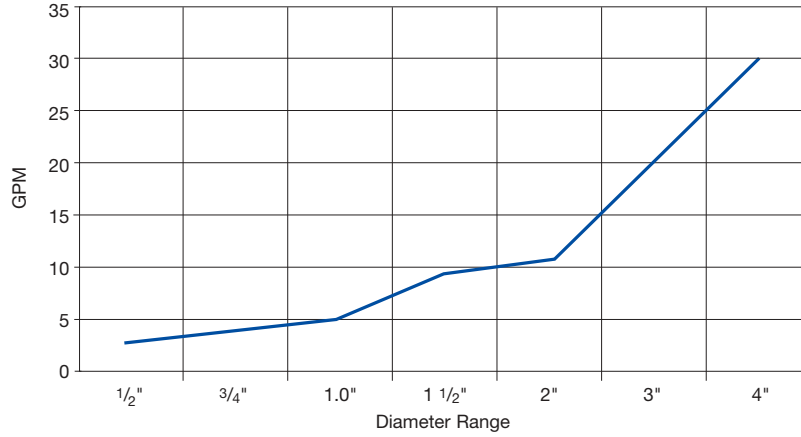
EDP	Description	Grade	Screw	EDP	Screw Driver	EDP
029354	WCMX 030204E - 60	SP4034	F2004TP	029341	T6	018487
029355	WCMX 040204E - 60	SP4034	F2507T	015061	T7	018488
029356	WCMX 050308E - 60	SP4034	F3008T	015063	T9	013214
029357	WCMX 06T308E - 60	SP4034	D3509T	029460	T10	013215



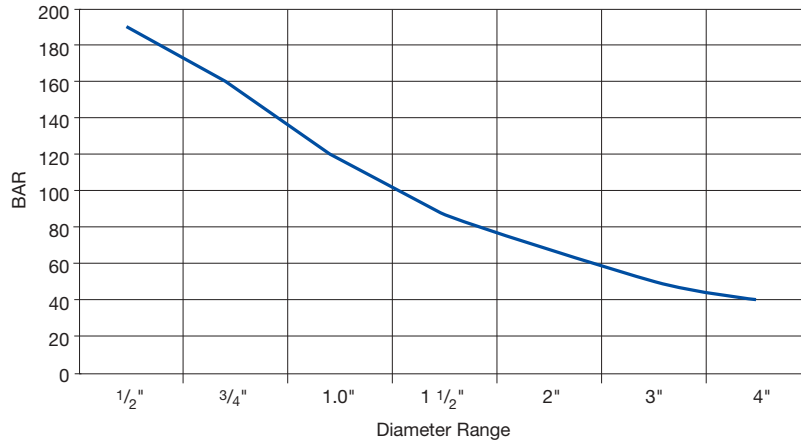


Posidrill Plus™ Technical Information

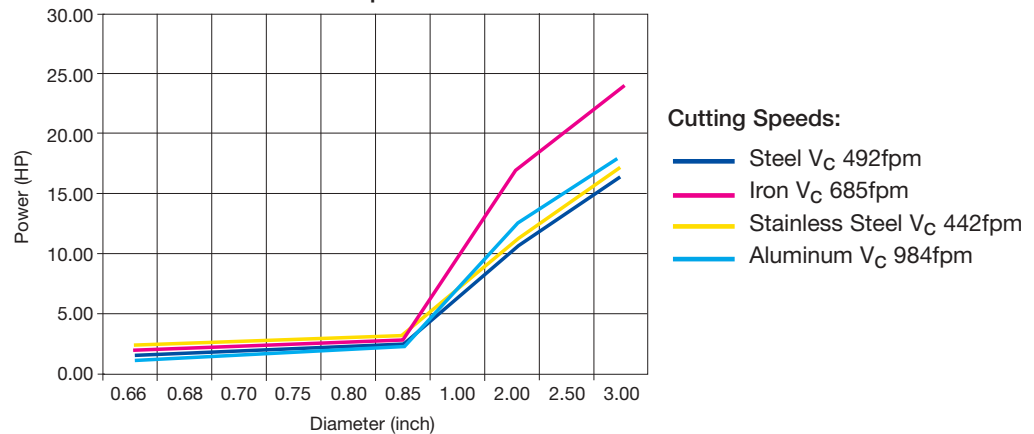
Coolant Flow – GPM by diameter



Coolant Pressure – PSI by diameter



Power Consumption Guidelines



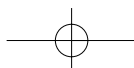
Cutting Speeds:

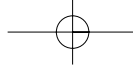
- Steel V_C 492fpm
- Iron V_C 685fpm
- Stainless Steel V_C 442fpm
- Aluminum V_C 984fpm

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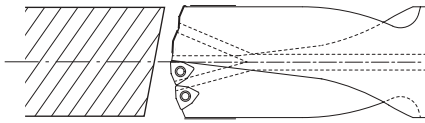
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	P Alloyed Steels	M PH Stainless	N Aluminum & Alloys
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			H Hard Materials

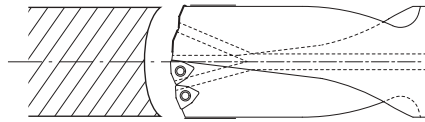




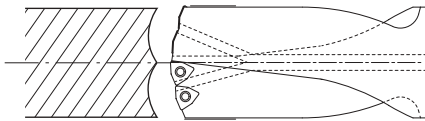
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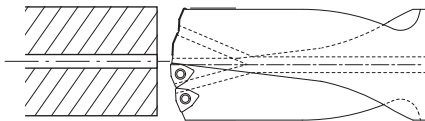
Drilled surfaces should be flat whenever possible. If the surface angle exceeds 2°, reduce feed by 1/3.



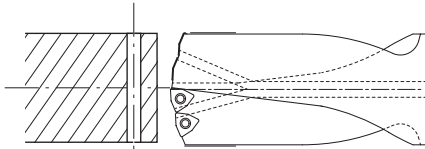
Reduce feed by 1/3 when drilling a concave surface.



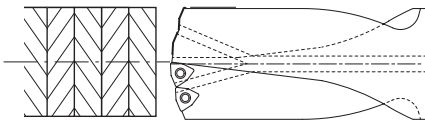
Reduce feed on irregular surfaces to prevent insert chipping. This may also be the case when breaking through the back end of the hole.



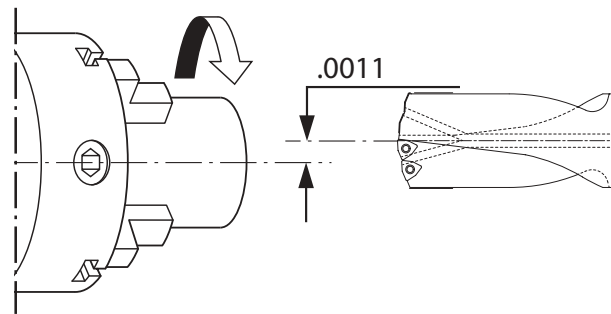
Drill deflection may occur if a predrilled hole exists larger than 1/4 of the finished hole.



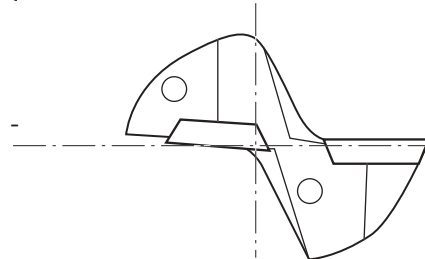
Reduce the feed when passing through a cross-drilled hole larger than 1/4 of the drill diameter.



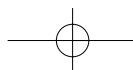
Stacked plates and welded assemblies can be drilled with Posidrill Plus™.

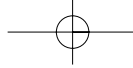


For best results, a runout of 0.0011" between the the workpiece and drill centerline should not be exceeded.



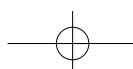
+ The peripheral insert should be parallel to the machine's axis of transverse movement when mounting the drill.

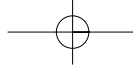




Posidrill Plus™ Trouble Shooting Chart

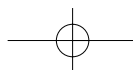
PROBLEM	SYMPTOM										SOLUTION
	Long unmanageable chips	Chips jamming in the hole	Excessive wear on outer insert	Outer insert chipping	Inner insert chipping	Hole oversize	Hole undersize	Drill body rubbing in hole	Bad surface finish	Drill back cutting on retraction	
Incorrect cutting conditions	■		■	■	■				■	■	Check recommended speeds and feeds and adjust accordingly
Insufficient coolant pressure	■	■	■						■		Check coolant lines for leaks. Increase pump pressure
Inferior coolant quality			■						■		Check emulsion; should be strongest recommended by supplier. Do not use synthetic coolant when drilling stainless steels
Drill off center			■	■	■	■	■	■	■	■	Check alignment; maximum allowable with stationary drills is +/- .001" per inch in X & Y axis. Maximum allowable with rotating drill is .005 TIR.
Deflection				■				■	■	■	Reduce feed. Check alignment
Vibration			■	■	■				■		Check rigidity of workpiece. Reduce speed. Increase feed
Recutting chips				■	■				■		Increase coolant pressure. Check speed and feed
Feed rate too high		■		■	■					■	Reduce Feed
Feed rate too low	■	■									Increase Feed
Speed too high			■								Reduce Speed
Drill incorrectly located			■	■	■	■	■	■	■	■	Check shank and toolholder for damage, clean thoroughly and replace
Inserts incorrectly located			■	■	■	■	■	■	■	■	Check pocket and screw for damage, clean thoroughly and replace

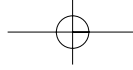




Cutting Speed (V_c) feet/minute

			SP4034
ISO	Material	Rm and Hardness	Speed (V_c)
P	Unalloyed Steels	<600 N/mm ² <180HB	600 - 950
		<950 N/mm ² <280HB	600 - 900
	Alloyed Steels	700-950 N/mm ² 200-280 HB	400 - 800
		950-1200 N/mm ² 280-355 HB	350 - 650
		1200-1400 N/mm ² 355-415 HB	220 - 450
M	Stainless Steels	Austenitic + Ferritic 300 series	400 - 700
		Martensitic 400 series	415 - 730
	Refractory P.H.	-	
K	Cast Irons	Grey GG-Ft	400 - 1100
		Spheroidal-Ductile GGG-FGS	400 - 900
		Malleable GTS - MN/MP	350 - 600
N	Aluminum & Alloys	< 16% Si 116HB	800 - 1700
		> 16% Si 92HB	500 - 1000
S	High Temperature Alloys	Iron Based	-
		Cobalt Based	-
		Nickel Based	-
		Titanium Based	70 - 150
H	Hard Materials (52-56 HRC)	Hard Materials (52-56 HRC)	-





Feed in IPR

ISO	Material	Rm and Hardness	Fn= Feed per revolution in/rev: min. & max.						
			Diameter range inserts inch						
			0.531 - 0.656	0.688 - 0.844	0.875 - 1.156	1.187 - 1.562	1.594 - 2.031	2.062 - 2.500	2.625 - 4.000
P	Unalloyed Steels	<600 N/mm ² <180HB	0.0015 - 0.0020	0.0025 - 0.0030	0.0025 - 0.0035	0.0025 - 0.0040	0.0025 - 0.0035	0.0025 - 0.0040	0.0025 - 0.0040
		<950 N/mm ² <280HB	0.0015 - 0.0020	0.0025 - 0.0030	0.0025 - 0.0035	0.0025 - 0.0040	0.0025 - 0.0035	0.0025 - 0.0040	0.0025 - 0.0040
	Alloyed Steels	700-950 N/mm ² 200-280 HB	0.0020 - 0.0030	0.0020 - 0.0050	0.0030 - 0.0060	0.0040 - 0.0070	0.0030 - 0.0060	0.0040 - 0.0070	0.0040 - 0.0070
		950-1200 N/mm ² 280-355 HB	0.0015 - 0.0025	0.0015 - 0.0040	0.0025 - 0.0050	0.0030 - 0.0060	0.0025 - 0.0050	0.0030 - 0.0060	0.0030 - 0.0060
		1200-1400 N/mm ² 355-415 HB	0.0010 - 0.0020	0.0020 - 0.0030	0.0020 - 0.0040	0.0025 - 0.0050	0.0020 - 0.0040	0.0025 - 0.0050	0.0025 - 0.0050
M	Stainless Steels	Austenitic + Ferritic 300 series	0.0015 - 0.0025	0.0020 - 0.0040	0.0030 - 0.0040	0.0035 - 0.0050	0.0030 - 0.0040	0.0035 - 0.0050	0.0035 - 0.0050
		Martensitic 400 series	0.0015 - 0.0022	0.0020 - 0.0035	0.0030 - 0.0035	0.0035 - 0.0045	0.0030 - 0.0035	0.0035 - 0.0045	0.0035 - 0.0045
		Refractory P.H.	-	-	-	-	-	-	-
K	Cast Irons	Grey GG-Ft	0.0015 - 0.0035	0.0025 - 0.0060	0.0030 - 0.0070	0.0030 - 0.0080	0.0030 - 0.0070	0.0030 - 0.0080	0.0030 - 0.0080
		Spheroidal-Ductile GGG-FGS	0.0015 - 0.0030	0.0020 - 0.0060	0.0030 - 0.0070	0.0030 - 0.0075	0.0030 - 0.0070	0.0030 - 0.0075	0.0030 - 0.0075
		Malleable GTS - MN/MP	0.0015 - 0.0025	0.0020 - 0.0050	0.0030 - 0.0060	0.0030 - 0.0060	0.0030 - 0.0060	0.0030 - 0.0060	0.0030 - 0.0060
N	Aluminum & Alloys	< 16% Si 116HB	0.0020 - 0.0040	0.0030 - 0.0060	0.0030 - 0.0075	0.0030 - 0.0090	0.0030 - 0.0075	0.0030 - 0.0090	0.0030 - 0.0090
		> 16% Si 92HB	0.0020 - 0.0030	0.0030 - 0.0050	0.0030 - 0.0060	0.0030 - 0.0070	0.0030 - 0.0060	0.0030 - 0.0070	0.0030 - 0.0070
S	High Temperature Alloys	Iron Based	-	-	-	-	-	-	-
		Cobalt Based	-	-	-	-	-	-	-
		Nickel Based	-	-	-	-	-	-	-
		Titanium Based	0.0020 - 0.0035	0.0025 - 0.0040	0.0020 - 0.0045	0.0025 - 0.0050	0.0020 - 0.0045	0.0025 - 0.0050	0.0025 - 0.0050
H	Hard Steel	>1400 N/mm ² >415 HB	-	-	-	-	-	-	-
	Chilled Cast Iron	1400 N/mm ² 400 HB	-	-	-	-	-	-	-

Star Guide Key to Recommended Inserts

Material Designations						
	P Unalloyed Steels	M Stainless Steels	K Cast Irons	S High Temp. Alloys		
	P Alloyed Steels	M PH Stainless	N Aluminum & Alloys	H Hard Materials		

