

**NACHI**

# **SG DRILL SERIES**

**POWDERED METAL COBALT DRILLS**



**High Precision Drilling**  
**for a Wide Range of Materials**

## Contributing to Progress in the World of Product Manufacture

### *The NACHI Difference ~*

**NACHI-FUJIKOSHI CORP.** is a pioneer of precision cutting tools in Japan and one of the leading manufacturers of tools worldwide. No manufacturer of cutting tools anywhere in the world exercises greater control over the quality of its products than **NACHI**. **NACHI** quality starts with the material itself because the High Speed Steel, premium Cobalt High Speed Steel, Powder High Speed and Cermet we use comes from our own mills. The technology of the coating, such as Mixed Component multi-layer coating and Diamond coating (thin film diamond) has been developed specifically for our cutting tools.

Cutting tools are basic products for the machine industries. Successful performance of machine tools cannot be expected without precise cutting tools and high quality. **NACHI** pursues the highest quality 100% of the time. **NACHI** is the first Japanese cutting tool manufacturer to be awarded the prestigious honor of the Deming Award for Quality.

## *When You Buy From NACHI ~*

When you purchase cutting tools from NACHI you are using products produced by one of the largest, most innovative manufacturers of industrial equipment in the world. Established more than 85 years ago, the NACHI FUJIKOSHI CORP. has grown into a world-class, worldwide leader in its industry. The company has approximately ten million square feet of plant area and facilities in Japan, production plants in the U.S.A., Singapore, Brazil, Taiwan, Spain and Korea, and sales & marketing subsidiaries in all major industrial nations.

# SG Drill Series - Technical Information

## Features

- 4-Facet self-centering point for stable and precise positioning
- Made from premium powdered metal cobalt substrate
- Composite Multi-layer SG Coating (Tin+TiCN)
- Precision ground end mill style shank for accurate and precise drilling

## Work Materials

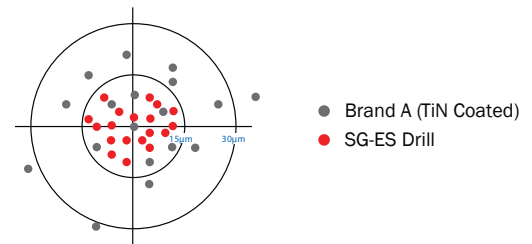
- Hi-temp Alloys
- Carbon Steels
- Stainless Steels
- Cast Irons
- Alloy Steels
- Structural Steels
- Aluminum Alloys
- Brass & Bronze

## Performance

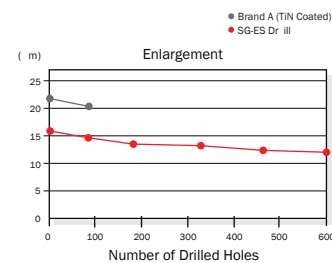
- Equals solid carbide drill in performance due to tough PM cobalt substrate
- Great substitute for carbide drills for short production runs
- 40-50% more tool life than HSS-Co drills
- Stable positioning within 0.0005"(12µm)
- Self-centering point eliminates need for center drill operations
- Streamlines the process & reduces machining time dramatically



## Positioning



Performance and Cutting Data of SG Drill Series



## Cutting Condition

Drill Dia : 9.0mm.  
 Hole Depth : 32mm  
 Cutting Speed : 20m/min. (65.6 SFM)  
 Feed : 142mm/min (5.6 IPM)  
 Work piece Material : Alloy steel (300HB)  
 Machine : Vertical machining center

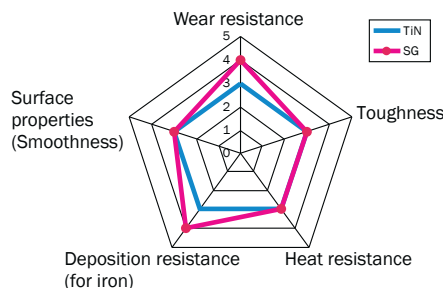
SG-ESS Drills (stub length)  
 Self centering point:



SG-ES Drill  
 (jobber length):



## Characteristics of SG Coating


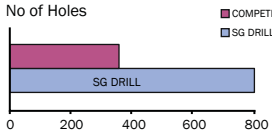



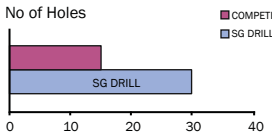
Composite multi-layer film coating method characterized by improved wear resistance as compared to TiN.


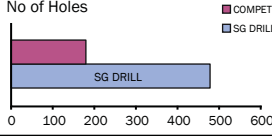
Stocked Size	Drill Name	List No.
SG-ESS Drill	Metric Sizes	7572P
	Fractional, Wire & Letter Sizes	7573P
SG-ESR Drill	Metric Sizes	7574P
	Fractional Sizes	7575P
SG-ES Drill	Metric Sizes	7570P
	Fractional, Wire & Letter Sizes	7571P
SG-OH Drill	Metric Sizes	7596P
	Fractional Sizes	7591P

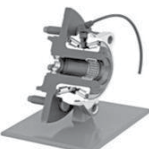
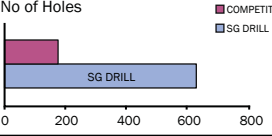
# SG Drills - Application Data

## ● SG Powdered Metal Cobalt Drill

Drill		● SG - ESS
WORK PIECE		
INDUSTRY		Aerospace
COMPONENT		Circular Aerospace/Defense Connectors
CUTTING CONDITIONS	DRILL DIAMETER	#38(0.1015")
	CUTTING SPEED (SFM)	80
	RPM	3000
	FEED (IPR)	0.001
	FEED (mm/rev)	0.025
	DOC	.554"(14mm)
	HOLE DESCRIPTION	Blind
COOLANT		Cutting Oil
MATERIAL		316L Stainless Steel
HARDNESS		20-22 HRC
MACHINE		CNC Lathe
PERFORMANCE		 <p>No of Holes</p> <p>COMPETITOR O</p> <p>SG DRILL</p>
RESULT		<b>15% Cheaper than HSS-PM (Competitor)</b> <b>3.5 - Times more tool life than Competitor</b>

Drill		● SG - ESS
WORK PIECE		
INDUSTRY		Aerospace
COMPONENT		Turbine Engine Components
CUTTING CONDITIONS	DRILL DIAMETER	1/4" (.250")
	CUTTING SPEED (SFM)	30
	RPM	450
	FEED (IPR)	0.004
	FEED (mm/rev)	0.101
	DOC	.7"(18mm)
	HOLE DESCRIPTION	Thru
COOLANT		Water Soluble
MATERIAL		Inconel 645
HARDNESS		28-32 HRC
MACHINE		CNC Vertical Mill
PERFORMANCE		 <p>No of Holes</p> <p>COMPETITOR M</p> <p>SG DRILL</p>
RESULT		<b>45% Cheaper Cost than Carbide</b> <b>2-times more tool life than Carbide</b>

Drill		SG - ESS
WORK PIECE		
INDUSTRY		Hardness Testing Equipment
COMPONENT		Micro Hardness Tester Parts
CUTTING CONDITIONS	DRILL DIAMETER	2.8mm
	CUTTING SPEED (SFM)	45
	RPM	1600
	FEED (IPR)	0.002
	FEED (mm/rev)	0.05
	DOC	.400"(10.1mm)
	HOLE DESCRIPTION	Thru
COOLANT		Water Soluble
MATERIAL		304 Stainless Steel
HARDNESS		25-28 HRC
MACHINE		CNC Vertical Mill
PERFORMANCE		 <p>No of Holes</p> <p>COMPETITOR T</p> <p>SG DRILL</p>
RESULT		<b>Same Price as Comp carbide TIALN Drill</b> <b>3-Times more tool life than Competitor Drill</b>

Drill		● SG - ESS
WORK PIECE		
INDUSTRY		Bearing
COMPONENT		Integrated Bearing Assemblies
CUTTING CONDITIONS	DRILL DIAMETER	1.2mm
	CUTTING SPEED (SFM)	40
	RPM	3000
	FEED (IPR)	0.0012
	FEED (mm/rev)	0.03
	DOC	.24"(6.2mm)
	HOLE DESCRIPTION	Thru
COOLANT		Water Soluble
MATERIAL		H-10 Tool Steel
HARDNESS		20-25 HRC
MACHINE		CNC lathe
PERFORMANCE		 <p>No of Holes</p> <p>COMPETITOR MA</p> <p>SG DRILL</p>
RESULT		<b>40% Cheaper Cost than Carbide</b> <b>3.5 - Times more tool life than Carbide</b>

# High Performance Powdered Metal Cobalt Drills

## SG-ESS Micro Drills

Diameter Range 0.5 to 0.99 mm (0.01mm increments)

New Micro Sizes

- Premium PM-Cobalt Substrate with composite SG Coating (TiN + TiCN)
- Equals Solid Carbide Drill in performance due to tough PM Cobalt Substrate
- 30 - 40% more tool life than conventional HSS/HSCO micro drills
- 3mm diameter end mill style shanks for highly precise and accurate drilling
- Precision ground end mill style shank for accurate and precision drilling



### Drilling Performance of SG-ESS Micro Drill

Diameter	Carbon Steel	304 Stainless Steel
0.5mm		
	SFM (RPM) 80 (15,500) Feed 0.0006 ipr / 9.3 ipm Hole Depth 1.5mm (Blind Hole) Cutting Fluid Water soluble	SFM (RPM) 26 (5000) Feed 0.0004 ipr / 2.0 ipm Hole Depth 1.5mm (Blind Hole) Cutting Fluid 0.25mm-peck depth Water Soluble
0.99mm		
	SFM (RPM) 80 (8,000) Feed 0.0015 ipr / 12 ipm Hole Depth 1.5mm (Blind Hole) Cutting Fluid Water Soluble	SFM (RPM) 30 (3,200) Feed 0.001 ipr / 2.5 ipm Hole Depth 3mm (Blind Hole) Cutting Fluid 0.5mm-peck depth Water Soluble

SG-ESS Drills made with Tough PM Material Suitable for drilling of wide variety materials from Steel to Stainless Steel.

SG-ESS 0.5mm (material: 304 SS) Cutting edge after drilling 1080 holes

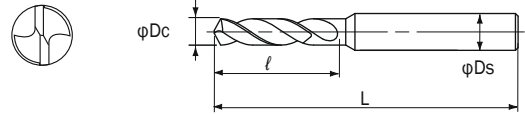
### Well Suited for Drilling:

◎: Great ○: Good ✕: Not recommended

Drill name	Structural Steels	Carbon Steels	Alloy Steels Pre-hardened Steels	Hardened Steels Mold Steels	Hardened Steels	Stainless Steels	Titanium Alloys Nickel Alloys	Cast Irons	Aluminum Alloys	Copper Alloys
SGESS	◎	◎	◎	◎	✕	◎	○	◎	◎	◎

# SG-ESS Drill - Micro & Stub Length

## SG-ESS Drill Micro



## SG-ESS Drill Stub Length



High Performance (3xD)  
PM-HSCO SG COATED

This drill having stub length is suited for high-speed drilling and precise positioning and diameter. This is useful in material from Carbon Steels and Stainless Steels to Aluminum.

### LIST 7572P

Metric: Micro & Stub Length

Metric Range .50 to 20.0

### LIST 7573P

Fractional, Wire & Letter

For Drilling Conditions see p. 11 ≤ 1.99  
For Drilling Conditions see p. 19 for ≥ 2.0

EDP No.	Size	Decimal	Wire/Fractional Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
EDP	Dc			ℓ	L	Ds	
0716602	0.50	0.0197		3			
0716705	0.51	0.0201	#76				
0716711	0.52	0.0205					
0716728	0.53	0.0209					
0716734	0.54	0.0213					
0716619	0.55	0.0217					
0716740	0.56	0.0220					
0716757	0.57	0.0224					
0716763	0.58	0.0228					
0716770	0.59	0.0232					
0716625	0.60	0.0236		3.5			
0716786	0.61	0.0240	#73				
0716792	0.62	0.0244					
0716808	0.63	0.0248					
0716814	0.64	0.0252					
0716631	0.65	0.0256					
0716820	0.66	0.0260	#71				
0716837	0.67	0.0264					
0716843	0.68	0.0268					
0716850	0.69	0.0272					
0716648	0.70	0.0276		4.5	38	3	•
0716866	0.71	0.0280	#70				
0716872	0.72	0.0283					
0716889	0.73	0.0287					
0716895	0.74	0.0291					
0716654	0.75	0.0295					
0716900	0.76	0.0299					
0716917	0.77	0.0303					
0716923	0.78	0.0307	#68				
0716930	0.79	0.0311					
0716660	0.80	0.0315		5			
0716946	0.81	0.0319					
0716952	0.82	0.0323	#67				
0716969	0.83	0.0327					
0716975	0.84	0.0331	#66				
0716677	0.85	0.0335					
0716981	0.86	0.0339					
0716998	0.87	0.0343					
0717002	0.88	0.0346					
0717019	0.89	0.0350	#65				
0716683	0.90	0.0354		5.5			
0717025	0.91	0.0358					
0717031	0.92	0.0362					
0717048	0.93	0.0366					
0717054	0.94	0.0370	#63				
0716690	0.95	0.0374					
0717060	0.96	0.0378					
0717077	0.97	0.0382					
0717083	0.98	0.0386					
0717090	0.99	0.0390	#61				

EDP No.	Size	Decimal	Wire/Fractional Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
EDP	Dc			ℓ	L	Ds	
0573780	1.00	0.0394		6	38		
0693862	1.01	0.0398					
0693879	1.02	0.0402	#60				
0693885	1.03	0.0406					
0693891	1.04	0.0409	#59				
0575347	1.05	0.0413					
0693907	1.06	0.0417					
0693913	1.07	0.0421	#58				
0693920	1.08	0.0425					
0693936	1.09	0.0429	#57				
0573797	1.10	0.0433		7	39		
0693942	1.11	0.0437					
0693959	1.12	0.0441					
0693965	1.13	0.0445					
0693971	1.14	0.0449					
0575353	1.15	0.0453					
0693988	1.16	0.0457					
0693994	1.17	0.0461					
0694009	1.18	0.0465	#56				
0694015	1.19	0.0469	3/64				
0573802	1.20	0.0472		8	40	3	•
0694021	1.21	0.0476					
0694038	1.22	0.0480					
0694044	1.23	0.0484					
0694050	1.24	0.0488					
0575360	1.25	0.0492					
0694067	1.26	0.0496					
0694073	1.27	0.0500					
0694080	1.28	0.0504					
0694096	1.29	0.0508					
0573819	1.30	0.0512		9	41		
0694101	1.31	0.0516					
0694118	1.32	0.0520	#55				
0694124	1.33	0.0524					
0694130	1.34	0.0528					
0575376	1.35	0.0531					
0694147	1.36	0.0535					
0694153	1.37	0.0539					
0694160	1.38	0.0543					
0694176	1.39	0.0547					
0573825	1.40	0.0551					
0694182	1.41	0.0555					
0694199	1.42	0.0559					
0694204	1.43	0.0563					
0694210	1.44	0.0567					
0575382	1.45	0.0571					
0694227	1.46	0.0575					
0694233	1.47	0.0579					
0694240	1.48	0.0583					
0694256	1.49	0.0587					

# SG-ESS Drill - Stub Length

## SG-ESS Drill Stub Length

LIST 7572P Metric

LIST 7573P Fractional, Wire & Letter

(Unit) : mm and inch

For Drilling Conditions see p. 19

EDP No.	Size	Decimal	Wire/Fractional Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
EDP	Dc			ℓ	L	Ds	
0573831	1.50	0.0591		9	41		
0694262	1.51	0.0594	#53				
0694279	1.52	0.0598					
0694285	1.53	0.0602					
0694291	1.54	0.0606					
0575399	1.55	0.0610					
0694307	1.56	0.0614					
0694313	1.57	0.0618					
0694320	1.58	0.0622					
0694336	1.59	0.0626	1/16				
0573848	1.60	0.0630		10	42		
0694342	1.61	0.0634	#52				
0694359	1.62	0.0638					
0694365	1.63	0.0642					
0694371	1.64	0.0646					
0575404	1.65	0.0650					
0694388	1.66	0.0654					
0694394	1.67	0.0657					
0694400	1.68	0.0661					
0694416	1.69	0.0665					
0573854	1.70	0.0669					
0694422	1.71	0.0673					
0694439	1.72	0.0677					
0694445	1.73	0.0681					
0694451	1.74	0.0685					
0575410	1.75	0.0689					
0694468	1.76	0.0693					
0694474	1.77	0.0697					
0694480	1.78	0.0701	#50				
0694497	1.79	0.0705					
0573860	1.80	0.0709		11	43	3	•
0694502	1.81	0.0713					
0694519	1.82	0.0717					
0694525	1.83	0.0720	#49				
0694531	1.84	0.0724					
0575427	1.85	0.0728					
0694548	1.86	0.0732					
0694554	1.87	0.0736					
0694560	1.88	0.0740					
0694577	1.89	0.0744					
0573877	1.90	0.0748					
0694583	1.91	0.0752					
0694590	1.92	0.0756					
0694605	1.93	0.0760	#48				
0694611	1.94	0.0764					
0575433	1.95	0.0768					
0694628	1.96	0.0772					
0694634	1.97	0.0776					
0694640	1.98	0.0780	5/64				
0694657	1.99	0.0783	#47	12	44		
0572514	2.00	0.0787					
0694663	2.01	0.0791					
0694670	2.02	0.0795					
0694686	2.03	0.0799					
0694692	2.04	0.0803					
0575440	2.05	0.0807					
0694708	2.06	0.0811	#46				
0694714	2.07	0.0815					
0694720	2.08	0.0819					
1363043	2.08	0.0820	#45	3/4	2	1/8	
0694737	2.09	0.0823		12	44	3	

• USA Stock Size

EDP No.	Size	Decimal	Wire/Fractional Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
EDP	Dc			ℓ	L	Ds	
0572520	2.10	0.0827					
0694743	2.11	0.0831		12	44		
0694750	2.12	0.0835					
0694766	2.13	0.0839					
0694772	2.14	0.0843		13	45	3	
0575456	2.15	0.0846					
0694789	2.16	0.0850					
0694795	2.17	0.0854					
0694800	2.18	0.0858					
1363050	2.18	0.0860	#44	3/4	2	1/8	
0694817	2.19	0.0862					
0572537	2.20	0.0866					
0694823	2.21	0.0870					
0694830	2.22	0.0874		13	45	3	
0694846	2.23	0.0878					
0694852	2.24	0.0882					
0575462	2.25	0.0886					
0694869	2.26	0.0890					
1363066	2.26	0.0890	#43	3/4	2	1/8	
0694875	2.27	0.0894					
0694881	2.28	0.0898					
0694898	2.29	0.0902					
0572543	2.30	0.0906					
0694903	2.31	0.0909		13	45	3	
0694910	2.32	0.0913					
0694926	2.33	0.0917					
0694932	2.34	0.0921					
0575479	2.35	0.0925					
0694949	2.36	0.0929					
0694955	2.37	0.0933		14	46		
1363072	2.37	0.0935	#42	3/4	2	1/8	•
0694961	2.38	0.0937		14	46	3	
1245365	2.38	0.0938	3/32	1/2	1-3/4	1/8	
0694978	2.39	0.0941					
0572550	2.40	0.0945					
0694984	2.41	0.0949		14	46	3	
0694990	2.42	0.0953					
0695005	2.43	0.0957					
1363089	2.44	0.0960	#41	13/16	2-1/16	1/8	
0695011	2.44	0.0961					
0575485	2.45	0.0965					
0695028	2.46	0.0969		14	46	3	
0695034	2.47	0.0972					
0695040	2.48	0.0976					
0695057	2.49	0.0980					
1280931	2.49	0.0980	#40	13/16	2-1/16	1/8	
0572566	2.50	0.0984					
0695063	2.51	0.0988		14	46	3	
0695070	2.52	0.0992					
1363095	2.53	0.0995	#39	13/16	2-1/4	1/8	
0695086	2.53	0.0996					
0695092	2.54	0.1000					
0575491	2.55	0.1004		14	46	3	
0695108	2.56	0.1008					
0695114	2.57	0.1012					
1363100	2.58	0.1015	#38	13/16	2-1/4	1/8	
0695120	2.58	0.1016					
0695137	2.59	0.1020					
0572572	2.60	0.1024		14	46	3	
0695143	2.61	0.1028					
0695150	2.62	0.1031					

0.01mm size Diameter Tolerance : 0~-0.009mm

# SG-ESS Drill - Stub Length

## SG-ESS Drill Stub Length

LIST 7572P Metric

LIST 7573P Fractional, Wire & Letter

(Unit) : mm and inch

For Drilling Conditions see p. 19

EDP No.	Size	Decimal	Wire/Fractional Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
0695166	2.63	0.1035		14	46	3	
0695172	2.64	0.1039					
1363117	2.64	0.1040	#37	13/16	2-1/4	1/8	
0575507	2.65	0.1043		14	46		
0695189	2.66	0.1047					
0695195	2.67	0.1051				3	
0695200	2.68	0.1055		16	48		
0695217	2.69	0.1059					
0572589	2.70	0.1063					
1245823	2.71	0.1065	#36	13/16	2-1/4	1/8	
0695223	2.71	0.1067					
0695230	2.72	0.1071					
0695246	2.73	0.1075					
0695252	2.74	0.1079		16	48	3	
0575513	2.75	0.1083					
0695269	2.76	0.1087					
0695275	2.77	0.1091					
0695281	2.78	0.1094					
1245371	2.78	0.1094	7/64	5/8	1-7/8	1/8	
0695298	2.79	0.1098					
0572595	2.80	0.1102		16	48	3	
0695303	2.81	0.1106					
0695310	2.82	0.1110					
1363130	2.82	0.1110	#34	7/8	2-5/16	1/8	
0695326	2.83	0.1114					
0695332	2.84	0.1118					
0575520	2.85	0.1122		16	48	3	
0695349	2.86	0.1126					
0695355	2.87	0.1130					
1363146	2.87	0.1130	#33	7/8	2-5/16	1/8	
0695361	2.88	0.1134					
0695378	2.89	0.1138					
0572600	2.90	0.1142					
0695384	2.91	0.1146					
0695390	2.92	0.1150					
0695406	2.93	0.1154					
0695412	2.94	0.1157		16	48	3	
0575536	2.95	0.1161					
0695429	2.96	0.1165					
0695435	2.97	0.1169					
0695441	2.98	0.1173					
0695458	2.99	0.1177					
0572617	3.00	0.1181					
0695464	3.01	0.1185					
0695470	3.02	0.1189					
0695487	3.03	0.1193					
0695493	3.04	0.1197					
0575542	3.05	0.1201					
0695509	3.06	0.1205					
0695515	3.07	0.1209					
0695521	3.08	0.1213					
0695538	3.09	0.1217					
0572623	3.10	0.1220		18	50	4	
0695544	3.11	0.1224					
0695550	3.12	0.1228					
0695567	3.13	0.1232					
0695573	3.14	0.1236					
0575559	3.15	0.1240					
0695580	3.16	0.1244					
0695596	3.17	0.1248					
1245388	3.18	0.1250	1/8	3/4	2	1/8	
0695601	3.18	0.1252					
0695618	3.19	0.1256					
0572630	3.20	0.1260					
0695624	3.21	0.1264					
0695630	3.22	0.1268		18	50	4	
0695647	3.23	0.1272					
0695653	3.24	0.1276					
0575565	3.25	0.1280					
0695660	3.26	0.1283					
1289836	3.26	0.1285	#30	15/16	2-3/8	3/16	
0695676	3.27	0.1287					
0695682	3.28	0.1291					
0695699	3.29	0.1295		18	50	4	
0572646	3.30	0.1299					

EDP No.	Size	Decimal	Wire/Fractional Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
0695704	3.31	0.1303					
0695710	3.32	0.1307					
0695727	3.33	0.1311				18	50
0695733	3.34	0.1315					
0575571	3.35	0.1319					
0695740	3.36	0.1323					
0695756	3.37	0.1327					
0695762	3.38	0.1331					
0695779	3.39	0.1335					
0572652	3.40	0.1339				20	52
0695785	3.41	0.1343					
0695791	3.42	0.1346					
0695807	3.43	0.1350					
0695813	3.44	0.1354					
0575588	3.45	0.1358					
0695820	3.46	0.1362					
1245817	3.46	0.1365	#29	15/16	2-3/8	3/16	
0695836	3.47	0.1366					
0695842	3.48	0.1370					
0695859	3.49	0.1374					
0572669	3.50	0.1378				20	52
0695865	3.51	0.1382					
0695871	3.52	0.1386					
0695888	3.53	0.1390					
0695894	3.54	0.1394					
0575594	3.55	0.1398					
0695900	3.56	0.1402					
1363169	3.57	0.1405	#28	15/16	2-3/8	3/16	
0695916	3.57	0.1406				20	52
1245394	3.57	0.1406	9/64	13/16	2-1/8	3/16	
0695922	3.58	0.1409					
0695939	3.59	0.1413					
0572675	3.60	0.1417				20	52
0695945	3.61	0.1421					
0695951	3.62	0.1425					
0695968	3.63	0.1429					
0695974	3.64	0.1433					
0575600	3.65	0.1437					
1363175	3.66	0.1440	#27	1	2-7/16	3/16	
0695980	3.66	0.1441					
0695997	3.67	0.1445					
0696001	3.68	0.1449					
0696018	3.69	0.1453				20	52
0572681	3.70	0.1457					
0696024	3.71	0.1461					
0696030	3.72	0.1465					
0696047	3.73	0.1469					
1363181	3.73	0.1470	#26	1	2-7/16	3/16	
0696053	3.74	0.1472					
0575616	3.75	0.1476				20	52
0696060	3.76	0.1480					
0696076	3.77	0.1484					
0696082	3.78	0.1488				22	54
0696099	3.79	0.1492					
1245800	3.80	0.1495	#25	1	2-7/16	3/16	
0572698	3.80	0.1496					
0696104	3.81	0.1500					
0696110	3.82	0.1504					
0696127	3.83	0.1508				22	54
0696133	3.84	0.1512					
0575622	3.85	0.1516					
0696140	3.86	0.1520					
1363198	3.86	0.1520	#24	1	2-7/16	3/16	
0696156	3.87	0.1524					
0696162	3.88	0.1528					
0696179	3.89	0.1531				22	54
0572703	3.90	0.1535					
0696185	3.91	0.1539					
1363203	3.91	0.1540	#23	1	2-7/16	3/16	
0696191	3.92	0.1543					
0696207	3.93	0.1547					
0696213	3.94	0.1551				22	54
0575639	3.95	0.1555					
0696220	3.96	0.1559					

• USA Stock Size

0.01mm size Diameter Tolerance : 0 ~-.009mm



# SG-ESS Drill - Stub Length

## SG-ESS Drill Stub Length

LIST 7572P Metric

LIST 7573P Fractional, Wire & Letter

(Unit) : mm and inch

For Drilling Conditions see p. 19

EDP No.	Size	Decimal	Wire/Fractional Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
0696236	3.97	0.1563		22	54	4	
1245400	3.97	0.1563	5/32	13/16	2-1/8	3/16	
0696242	3.98	0.1567		22	54	4	
1363210	3.99	0.1570	#22	1-1/16	2-7/16	3/16	
0696259	3.99	0.1571			54	4	
0572710	4.00	0.1575					
0696265	4.01	0.1579		22			
0696271	4.02	0.1583			66	6	
0696288	4.03	0.1587					
1245795	4.04	0.1590	#21	1-1/16	2-7/16	3/16	
0696294	4.04	0.1591					
0575645	4.05	0.1594					
0696300	4.06	0.1598					
0696316	4.07	0.1602		22	66	6	
0696322	4.08	0.1606					
0696339	4.09	0.1610					
1363226	4.09	0.1610	#20	1-1/16	2-7/16	3/16	
0572726	4.10	0.1614					
0696345	4.11	0.1618					
0696351	4.12	0.1622					
0696368	4.13	0.1626					
0696374	4.14	0.1630					
0575651	4.15	0.1634		22	66	6	
0696380	4.16	0.1638					
0696397	4.17	0.1642					
0696402	4.18	0.1646					
0696419	4.19	0.1650					
0572732	4.20	0.1654					
0696425	4.21	0.1657					
1363232	4.22	0.1660	#19	1-1/16	2-7/16	3/16	
0696431	4.22	0.1661					
0696448	4.23	0.1665		22			
0696454	4.24	0.1669					
0575668	4.25	0.1673					
0696460	4.26	0.1677					
0696477	4.27	0.1681					
0696483	4.28	0.1685					
0696490	4.29	0.1689			68	6	
0572749	4.30	0.1693					
0696505	4.31	0.1697		24			
0696511	4.32	0.1701					
0696528	4.33	0.1705					
0696534	4.34	0.1709					
0575674	4.35	0.1713					
0696540	4.36	0.1717					
1245416	4.37	0.1719	11/64	1	2-3/8	3/16	
0696557	4.37	0.1720					
0696563	4.38	0.1724					
0696570	4.39	0.1728					
0572755	4.40	0.1732					
0696586	4.41	0.1736					
0696592	4.42	0.1740					
0696608	4.43	0.1744					
0696614	4.44	0.1748					
0575680	4.45	0.1752					
0696620	4.46	0.1756					
0696637	4.47	0.1760		24	68	6	
0696643	4.48	0.1764					
0696650	4.49	0.1768					
0572761	4.50	0.1772					
0696666	4.51	0.1776					
0696672	4.52	0.1780					
0696689	4.53	0.1783					
0696695	4.54	0.1787					
0575697	4.55	0.1791					
0696700	4.56	0.1795					
0696717	4.57	0.1799					
1363278	4.57	0.1800	#15	1-1/8	2-9/16	3/16	
0696723	4.58	0.1803					
0696730	4.59	0.1807					
0572778	4.60	0.1811		24	68	6	
0696746	4.61	0.1815					
0696752	4.62	0.1819					
1363284	4.62	0.1820	#14	1-1/8	2-9/16	3/16	

• USA Stock Size

EDP No.	Size	Decimal	Wire/Fractional Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
0696769	4.63	0.1823					
0696775	4.64	0.1827					
0575702	4.65	0.1831					
0696781	4.66	0.1835					
0696798	4.67	0.1839					
0696803	4.68	0.1843					
0696810	4.69	0.1846		24	68	6	
0572784	4.70	0.1850					
0696826	4.71	0.1854					
0696832	4.72	0.1858					
0696849	4.73	0.1862					
0696855	4.74	0.1866					
0575719	4.75	0.1870					
0696861	4.76	0.1874		26	70	6	
1245422	4.76	0.1875	3/16	1	2-3/8	3/16	
0696878	4.77	0.1878					
0696884	4.78	0.1882					
0696890	4.79	0.1886					
0572790	4.80	0.1890					
0696906	4.81	0.1894					
0696912	4.82	0.1898		26	70	6	
0696929	4.83	0.1902					
0696935	4.84	0.1906					
0575725	4.85	0.1909					
0696941	4.86	0.1913					
0696958	4.87	0.1917					
0696964	4.88	0.1921					
0696970	4.89	0.1925					
0572806	4.90	0.1929					
0696987	4.91	0.1933					
1363329	4.91	0.1935	#10	1-3/16	3	1/4	
0696993	4.92	0.1937					
0697008	4.93	0.1941					
0697014	4.94	0.1945		26	70	6	
0575731	4.95	0.1949					
0697020	4.96	0.1953					
0697037	4.97	0.1957					
1363335	4.98	0.1960	#9	1-3/16	3	1/4	
0697043	4.98	0.1961					
0697050	4.99	0.1965					
0572812	5.00	0.1969					
0697066	5.01	0.1972		26	70	6	
0697072	5.02	0.1976					
0697089	5.03	0.1980					
0697095	5.04	0.1984					
0575748	5.05	0.1988					
1280954	5.05	0.1990	#8	1-3/16	3	1/4	
0697100	5.06	0.1992					
0697117	5.07	0.1996					
0697123	5.08	0.2000		26	70	6	
0697130	5.09	0.2004					
0572829	5.10	0.2008					
1245789	5.11	0.2010	#7	1-3/16	3	1/4	
0697146	5.11	0.2012					
0697152	5.12	0.2016					
0697169	5.13	0.2020		26	70	6	
0697175	5.14	0.2024					
0575754	5.15	0.2028					
0697181	5.16	0.2031					
1245439	5.16	0.2031	13/64	1-1/8	2-7/8	1/4	
0697198	5.17	0.2035		26	70	6	
0697203	5.18	0.2039					
1280960	5.18	0.2040	#6	1-1/4	3-1/16	1/4	
0697210	5.19	0.2043					
0572835	5.20	0.2047		26	70	6	
0697226	5.21	0.2051					
0697232	5.22	0.2055					
1363341	5.22	0.2055	#5	1-1/4	3-1/16	1/4	
0697249	5.23	0.2059					
0697255	5.24	0.2063					
0575760	5.25	0.2067		26	70	6	
0697261	5.26	0.2071					
0697278	5.27	0.2075					
0697284	5.28	0.2079					

0.01mm size Diameter Tolerance : 0 ~ -.009mm

# SG-ESSDrill - Stub Length

## SG-ESS Drill Stub Length

LIST 7572P Metric

LIST 7573P Fractional, Wire & Letter

(Unit) : mm and inch

For Drilling Conditions see p. 19

EDP No.	Size	Decimal	Wire, Fractional & Letter Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
0697290	5.29	0.2083		26	70	6	
0572841	5.30	0.2087					
1363358	5.31	0.2090	#4	1-1/4	3-1/16	1/4	
0697306	5.31	0.2091					
0697312	5.32	0.2094					
0697329	5.33	0.2098					
0697335	5.34	0.2102					
0575777	5.35	0.2106					
0697341	5.36	0.2110		28	72	6	
0697358	5.37	0.2114					
0697364	5.38	0.2118					
0697370	5.39	0.2122					
0572858	5.40	0.2126					
0697387	5.41	0.2130					
1363364	5.41	0.2130	#3	1-1/4	3-1/16	1/4	
0697393	5.42	0.2134					
0697409	5.43	0.2138					
0697415	5.44	0.2142					
0575783	5.45	0.2146					
0697421	5.46	0.2150					
0697438	5.47	0.2154					
0697444	5.48	0.2157		28	72	6	
0697450	5.49	0.2161					
0572864	5.50	0.2165					
0697467	5.51	0.2169					
0697473	5.52	0.2173					
0697480	5.53	0.2177					
0697496	5.54	0.2181					
0575790	5.55	0.2185					
1245445	5.56	0.2188	7/32	1-1/8	2-7/8	1/4	
0697501	5.56	0.2189					
0697518	5.57	0.2193					
0697524	5.58	0.2197		28	72	6	
0697530	5.59	0.2201					
0572870	5.60	0.2205					
0697547	5.61	0.2209					
1363370	5.61	0.2210	#2	1-5/16	3-1/8	1/4	
0697553	5.62	0.2213					
0697560	5.63	0.2217					
0697576	5.64	0.2220					
0575805	5.65	0.2224					
0697582	5.66	0.2228					
0697599	5.67	0.2232					
0697604	5.68	0.2236					
0697610	5.69	0.2240					
0572887	5.70	0.2244					
0697627	5.71	0.2248		28	72	6	
0697633	5.72	0.2252					
0697640	5.73	0.2256					
0697656	5.74	0.2260					
0575811	5.75	0.2264					
0697662	5.76	0.2268					
0697679	5.77	0.2272					
0697685	5.78	0.2276					
0697691	5.79	0.2280					
1363387	5.79	0.2280	#1	1-5/16	3-1/8	1/4	
0572893	5.80	0.2283					
0697707	5.81	0.2287					
0697713	5.82	0.2291					
0697720	5.83	0.2295					
0697736	5.84	0.2299					
0575828	5.85	0.2303					
0697742	5.86	0.2307					
0697759	5.87	0.2311					
0697765	5.88	0.2315		28	72	6	
0697771	5.89	0.2319					
0572909	5.90	0.2323					
0697788	5.91	0.2327					
0697794	5.92	0.2331					
0697800	5.93	0.2335					
0697816	5.94	0.2339					
0575834	5.95	0.2343					
1245451	5.95	0.2344	15/64	1-1/4	3	1/4	
0697822	5.96	0.2346					
0697839	5.97	0.2350					
0697845	5.98	0.2354		28	72	6	
0697851	5.99	0.2358					
0572915	6.00	0.2362					
1363409	6.05	0.2380	B	1-3/8	3-3/16	1/4	

• USA Stock Size

EDP No.	Size	Decimal	Wire/Letter Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
0572921	6.10	0.2402		31	75	8	
1363415	6.15	0.2420	C	1-3/8	3-3/16	1/4	
0572938	6.20	0.2441		31	75	8	
1363421	6.25	0.2460	D	1-3/8	3-3/16	1/4	
0572944	6.30	0.2480		31	75	8	
1245468	6.35	0.2500	1/4	1-1/4	3	1/4	
0572950	6.40	0.2520		31	75	8	
0572967	6.50	0.2559		31	75	8	
1245830	6.53	0.2570	F	1-7/16	3-1/4	3/8	
0572973	6.60	0.2598		31	75	8	
1363444	6.63	0.2610	G	1-7/16	3-1/4	3/8	
0572980	6.70	0.2638		31	75	8	
1245474	6.75	0.2656	17/64	1-3/8	3-3/16	3/8	
0572996	6.80	0.2677		34	78	8	
0573000	6.90	0.2717		34	78	8	
1363450	6.91	0.2720	I	1-1/2	3-5/16	3/8	
0573017	7.00	0.2756		34	78	8	
1363467	7.04	0.2770	J	1-1/2	3-5/16	3/8	
0573023	7.10	0.2795		34	78	8	
1245480	7.14	0.2813	9/32	1-3/8	3-3/16	3/8	
0573030	7.20	0.2835		34	78	8	
0573046	7.30	0.2874		34	78	8	
1363473	7.37	0.2900	L	1-9/16	3-3/8	3/8	
0573052	7.40	0.2913		34	78	8	
1363480	7.49	0.2950	M	1-9/16	3-3/8	3/8	
0573069	7.50	0.2953		34	78	8	
1245497	7.54	0.2969	19/64	1-3/8	3-3/16	3/8	
0573075	7.60	0.2992		37	81	8	
1363496	7.67	0.3020	N	1-5/8	3-7/16	3/8	
0573081	7.70	0.3031					
0573098	7.80	0.3071		37	81	8	
0573103	7.90	0.3110					
1245502	7.94	0.3125	5/16	1-1/2	3-3/8	3/8	
0573110	8.00	0.3150		37	81	8	
1363501	8.03	0.3160	O	1-11/16	3-1/2	3/8	
0573126	8.10	0.3189					
0573132	8.20	0.3228		37	87	10	
0573149	8.30	0.3268					
1245519	8.33	0.3281	21/64	1-1/2	3-3/8	3/8	
0573155	8.40	0.3307		37	87	10	
1363524	8.43	0.3320	Q	1-11/16	3-1/2	3/8	
0573161	8.50	0.3346		37	87	10	
0573178	8.60	0.3386		40	90	10	
1363530	8.61	0.3390	R	1-11/16	3-1/2	3/8	
0573184	8.70	0.3425		40	90	10	
1245525	8.73	0.3438	11/32	1-5/8	3-1/2	3/8	
0573190	8.80	0.3465					
0573206	8.90	0.3504		40	90	10	
0573212	9.00	0.3543					
0573229	9.10	0.3583					
1245531	9.13	0.3594	23/64	1-5/8	3-1/2	3/8	
0573235	9.20	0.3622		40	90	10	
0573241	9.30	0.3661		40	90	10	
1280977	9.35	0.3680	U	1-13/16	3-5/8	3/8	
0573258	9.40	0.3701		40	90	10	
0573264	9.50	0.3740		40	90	10	
1245548	9.53	0.3750	3/8	1-5/8	3-1/2	3/8	
1363560	9.58	0.3770	V	1-7/8	3-31/32	1/2	
0573270	9.60	0.3780					
0573287	9.70	0.3819					
0573293	9.80	0.3858		43	93	10	
0573309	9.90	0.3898					
1245554	9.92	0.3906	25/64	1-11/16	3-7/8	1/2	
0573315	10.00	0.3937		43	93	10	
1363582	10.08	0.3970		43	93	10	
0573321	10.10	0.3976	X	1-15/16	4-1/32	1/2	
0573338	10.20	0.4016		43	100	12	
1363599	10.26	0.4040	Y	1-15/16	4-1/32	1/2	
0573344	10.30	0.4055		43	100	12	
1245560	10.32	0.4063	13/32	1-11/16	3-7/8	1/2	
0573350	10.40	0.4094		43	100	12	
1363604	10.49	0.4130	Z	2	4-3/32	1/2	
0573367	10.50	0.4134		43	100	12	
0573373	10.60	0.4173		43	100	12	
0573380	10.70	0.4213		47	104	12	
1245577	10.72	0.4219	27/64	1-7/8	4-1/8	1/2	
0573396	10.80	0.4252					
0573401	10.90	0.4291		47	104	12	
0573418	11.00	0.4331					

0.01mm size Diameter Tolerance : 0 ~ -.009mm

# SG-ESS Drill - Stub Length

## SG-ESS Drill Stub Length

LIST 7572P Metric

LIST 7573P Fractional, Wire & Letter

(Unit) : mm and inch

For Drilling Conditions see p. 19

EDP No.	Size	Decimal	Wire/Fractional Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
0573424	11.10	0.4370		47	104	12	
1245583	11.11	0.4375	7/16	1-7/8	4-1/8	1/2	
0573430	11.20	0.4409					
0573447	11.30	0.4449					
0573453	11.40	0.4488		47	104	12	
0573460	11.50	0.4528					
1245590	11.51	0.4531	29/64	1-7/8	4-1/8	1/2	
0573476	11.60	0.4567					
0573482	11.70	0.4606		47	104	12	
0573499	11.80	0.4646					
0573504	11.90	0.4685		51	108	12	
1245605	11.91	0.4688	15/32	2	4-1/4	1/2	
0573510	12.00	0.4724					
0573527	12.10	0.4764					
0573533	12.20	0.4803		51	108	12	
0573540	12.30	0.4843					
1245611	12.30	0.4844	31/64	2	4-1/4	1/2	
0573556	12.40	0.4882					
0573562	12.50	0.4921					
0573579	12.60	0.4961		51	108	12	
0573585	12.70	0.5000					
1245628	12.70	0.5000	1/2	2	4-1/4	1/2	
0573591	12.80	0.5039					
0573607	12.90	0.5079		51	108	12	

1 per tube

EDP No.	Size	Decimal	Wire/Fractional Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
0573613	13.00	0.5118		51	108	12	
1280851	13.49	0.5313	17/32	2-7/8	5-3/16	5/8	
0573620	13.50	0.5315		72	132	16	
0573636	14.00	0.5512		72	132	16	
1280868	14.29	0.5625	9/16	3	5-3/8	1/2	
0573642	14.50	0.5709		76	136	16	
0573659	15.00	0.5906		76	142	20	
1280874	15.08	0.5938	19/32	3	5-5/8	3/4	
0573665	15.50	0.6102		80	146	20	
1280880	15.88	0.6250	5/8	3-3/16	5-3/4	3/4	
0573671	16.00	0.6299		80	146	20	
0573688	16.50	0.6496		84	150	20	
1280897	16.67	0.6563	21/32	3-3/8	5-15/16	3/4	
0573694	17.00	0.6693		84	150	20	
1280902	17.46	0.6875	11/16	3-7/16	6	3/4	
0573700	17.50	0.6890		87	153	20	
0573716	18.00	0.7087		87	153	20	
1280919	18.26	0.7188	23/32	3-7/16	6	7/8	
0573722	18.50	0.7283		90	156	20	
0573739	19.00	0.7480		90	164	25	
1280925	19.05	0.7500	3/4	3-9/16	6-1/2	7/8	
0573745	19.50	0.7677		94	168	25	
0573751	20.00	0.7874		94	168	25	

⚠ WARNING: Cancer - www.P65Warnings.ca.gov

## SG-Micro Drilling Conditions

Work Material	Structural Steel Carbon Steels		Alloy Steels Hardened Steels		Die Steels Hardened Steels		Stainless Steels  300-Series		Cast Iron		Aluminum Alloys Copper Alloys		Nickel Alloys Titanium Alloys	
	Diameter (mm)	RPM	IPR	RPM	IPM	RPM	IPM	RPM	IPM	RPM	IPM	RPM	IPM	RPM
0.5	16000	0.0006	13000	0.0005	9500	0.0003	5100	0.0004	20000	0.0006	23000	0.0005	2500	0.0003
0.99	9500	0.0012	8000	0.0009	6400	0.0008	3500	0.0007	12000	0.0013	15000	0.0013	1600	0.0006

- Adjust drilling condition according to the rigidity of machine or work clamp state.
- The table values are for drilling with water soluble cutting fluid.
- Provide suffice amount cutting fluid to the cutting point and in the flute.
- When for stainless drilling, add step feed.
- A work material and drilling condition to chip removal may be worse. In that case, add step feed.
- In step feed, return to the entrance hole.
- Step feel interval is about 0.5 ~ 1 x d. In small diameter, about 0.2 ~ 0.5 x d.
- Use a collet chuck, milling chuck.
- See page 19 for SG-ESS Stub Length Drilling Conditions

Selection Chart ●:Great ○:Good △:OK

Drilling Depth				Workpiece Material																	
≤3D	≤5D	≤7D	>7D	Carbon Steel		Alloy Steel	Die Steel	Hardened Steel			Stainless Steel		Titanium Alloys	Nickel Alloys	Cast Iron		Aluminum			Copper Alloys	
				Low Carbon	High Carbon			up to 35	35 to 45	45 to 65	Austenitic 300 Series	Martensitic 400 Series			Soft < 200HB	Hard > 200HB	6061 7075	Casting Si ≤ 12%	High Si Si > 13%		
●				●	●	●	●	○			●	●	●	●	●	△	●	○			●

# Improved SG-ESR Design - Jobber Length Drill

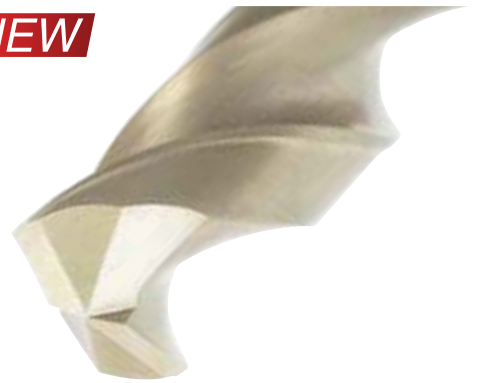
## SG-ESR Drills

## Designed & Engineered for Stainless Steel

### Features

- 4-Facet self-centering point
- Designed & engineered for drilling Stainless Steel & Hi-temp Alloys
- Made from premium powdered metal cobalt substrate
- Composite Multi-layer SG Coating (Tin+TiCN)
- Precision ground end mill style shank for accurate and precision drilling

**NEW**



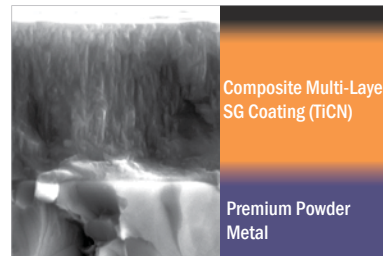
### Work Materials

- Hi-temp Alloys
- Stainless Steels
- Alloy Steels
- Aluminum Alloys
- Carbon Steels
- Cast Irons
- Structural Steels
- Brass & Bronze

### Performance

- Equals Solid Carbide drill in performance in Stainless, Inconel & Titanium
- 30 ~ 40% Cheaper than Carbide Drills
- Self-centering point eliminates need for center drill operations

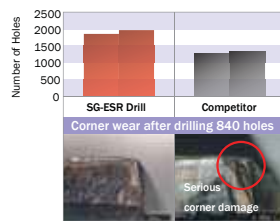
### SG Coating



SG Coating (Tin+TiCN)

### Well Suited for Drilling:

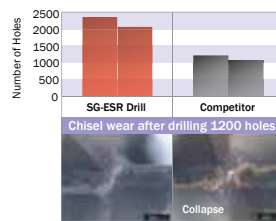
#### Tool life in Carbon Steel



#### Cutting Conditions

Drill Diameter 6mm  
SFM (RPM) 130 (2100)  
Feed 0.008 ipr / 16.5 ipm  
Work Material Carbon Steel  
Hole Depth 19mm (Through Hole)  
Cutting Fluid Water soluble

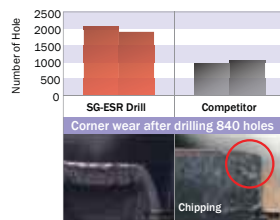
#### Tool life in Alloy Steel



#### Cutting Conditions

Drill Diameter 2mm  
SFM (RPM) 90 (4,400)  
Feed 0.004 ipr / 15.7 ipm  
Work Material Alloy Steel (32HRC)  
Hole Depth 6mm (Blind Hole)  
Cutting Fluid Water Soluble

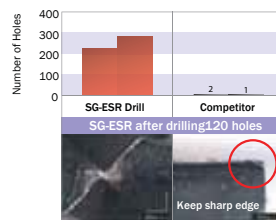
#### Tool life in 400-Series Stainless



#### Cutting Conditions

Drill Diameter 6mm  
SFM (RPM) 130 (2100)  
Feed 0.007 ipr / 15.7 ipm  
Work Material 400-Series Stainless  
Hole Depth 19mm (Through Hole)  
Cutting Fluid Water soluble

#### Tool life in 304 Stainless Steel



#### Cutting Conditions

Drill Diameter 12mm  
SFM (RPM) 40 (320)  
Feed 0.010 ipr / 3.1 ipm  
Work Material 304 Stainless Steel  
Hole Depth 28mm (Through Hole)  
Cutting Fluid Water soluble

### Well Suited for Drilling:

◎: Great ○: Good ✕: Not recommended

Drill name	Structural Steels	Carbon Steels	Alloy Steels Pre-hardened Steels	Hardened Steels Mold Steels	Hardened Steels	Stainless Steels		Titanium Alloys Nickel Alloys	Cast Irons	Aluminum Alloys	Copper Alloys
						304SS/316SS	400-Series				
SGESR Drill	◎	◎	◎	○	✕	✕	◎	◎	○	◎	◎

# SG-ESR Drills Series - Jobber Length for Stainless Steel

## SG-ESR Drill



High Performance (5xD)  
PM-HSCO SG COATED



Metric Range 2.0 to 32.0  
Fractional Range 3/32 to 3/4  
(Unit) : mm and inch

### LIST 7574P

Metric

*Designed & Engineered for Drilling Stainless Steel & Hi-temp Alloys*

### LIST 7575P

Fractional

\*Replacing SG-ES Drill L7570P, L7571P

For Drilling Conditions see p. 19

EDP No.	Size	Decimal Equivalent	Wire / Fractional Equivalent	Flute Length	Overall Length	Shank Dia.
EDP	Dc			ℓ	L	Ds
0721821	2.00	0.0787		24	56	3
1464190	2.08	0.0820	#45	1-1/8	2-3/8	1/8
0721838	2.10	0.0827		24	56	3
1464206	2.18	0.0860	#44	1-1/8	2-3/8	1/8
0721844	2.20	0.0866		25	56	3
1464212	2.26	0.0890	#43	1-1/4	2-1/2	1/8
0721850	2.30	0.0906		25	56	3
1464229	2.37	0.0935	#42	1-1/4	2-1/2	1/8
1464739	2.38	0.0938	3/32	1-1/8	2-3/8	1/8
0721867	2.40	0.0945		30	61	3
1464235	2.44	0.0960	#41			
1464241	2.49	0.0980	#40	1-3/8	2-5/8	1/8
0721873	2.50	0.0984		30	61	3
1464258	2.53	0.0995	#39	1-3/8	2-13/16	1/8
1464264	2.58	0.1015	#38	1-7/16	2-7/8	1/8
0721880	2.60	0.1024		30	61	3
1464270	2.64	0.1040	#37	1-7/16	2-7/8	1/8
0721896	2.70	0.1063		33	64	3
1464287	2.71	0.1065	#36	1-7/16	2-7/8	1/8
1464745	2.78	0.1094	7/64	1-1/4	2-1/2	1/8
0721901	2.80	0.1102		33	64	3
1464293	2.82	0.1110	#34			
1464309	2.87	0.1130	#33	1-1/2	2-15/16	1/8
0721918	2.90	0.1142				
0721924	3.00	0.1181		33	64	3
0721930	3.10	0.1220		36	68	4
1464751	3.18	0.1250	1/8	1-3/8	2-5/8	1/8
0721947	3.20	0.1260		36	68	4
1464315	3.26	0.1285	#30	1-5/8	3-1/16	3/16
0721953	3.30	0.1299		36	68	4
0721960	3.40	0.1339		39	71	4
1464321	3.47	0.1365	#29	1-3/4	3-3/16	3/16
0721976	3.50	0.1378		39	71	4
1464338	3.57	0.1405	#28	1-3/4	3-3/16	3/16
1464768	3.57	0.1406	9/64	1-1/2	2-7/8	3/16
0721982	3.60	0.1417		39	71	4
1464344	3.66	0.1440	#27	1-7/8	3-5/16	3/16
0721999	3.70	0.1457		39	71	4
1464350	3.73	0.1470	#26			
1464367	3.80	0.1495	#25	1-7/8	3-5/16	3/16
0722003	3.80	0.1496		43	75	4
1464373	3.86	0.1520	#24	2	3-7/16	3/16
0722010	3.90	0.1535		43	75	4
1464380	3.91	0.1540	#23	2	3-7/16	3/16
1464774	3.97	0.1563	5/32	1-3/4	3-1/8	3/16
1464396	3.99	0.1570	#22	2	3-7/16	3/16
0722026	4.00	0.1575		43	75	4
1464401	4.04	0.1590	#21			
1464418	4.09	0.1610	#20	2-1/8	3-9/16	3/16
0722032	4.10	0.1614		43	85	6
0722049	4.20	0.1654				
1464424	4.22	0.1660	#19	2-1/8	3-9/16	3/16
0722055	4.30	0.1693		47	89	6
1464780	4.37	0.1719		1-7/8	3-1/4	3/16
0722061	4.40	0.1732				
0722078	4.50	0.1772		47	89	6
1464430	4.57	0.1800	#15	2-3/16	3-5/8	3/16

EDP No.	Size	Decimal Equivalent	Wire / Fractional Equivalent	Flute Length	Overall Length	Shank Dia.
EDP	Dc			ℓ	L	Ds
0722084	4.60	0.1811		47	89	6
1464447	4.62	0.1820	#14	2-3/16	3-5/8	3/16
0722090	4.70	0.1850		47	89	6
1464797	4.76	0.1875	3/16	2	3-3/8	3/16
0722106	4.80	0.1890				
0722112	4.90	0.1929		52	94	6
1464453	4.91	0.1935	#10			
1464460	4.98	0.1960	#9	2-7/16	4-1/4	1/4
0722129	5.00	0.1969		52	94	6
1464476	5.05	0.1990	#8	2-7/16	4-1/4	1/4
0722135	5.10	0.2008		52	94	6
1464482	5.11	0.2010	#7	2-7/16	4-1/4	1/4
1464802	5.16	0.2031	13/64	2-1/16	3-7/8	1/4
1464499	5.18	0.2040	#6	2-7/16	4-1/4	1/4
0722141	5.20	0.2047		52	94	6
1464504	5.22	0.2055	#5	2-1/2	4-5/16	1/4
0722158	5.30	0.2087		52	94	6
1464510	5.31	0.2090	#4	2-1/2	4-5/16	1/4
0722164	5.40	0.2126		57	99	6
1464527	5.41	0.2130	#3	2-1/2	4-5/16	1/4
0722170	5.50	0.2165		57	99	6
1464819	5.56	0.2188	7/32	2-1/16	3-7/8	1/4
0722187	5.60	0.2205		57	99	6
1464533	5.61	0.2210	#2	2-5/8	4-7/16	1/4
0722193	5.70	0.2244		57	99	6
1464540	5.79	0.2280	#1	2-5/8	4-7/16	1/4
0722209	5.80	0.2283		57	99	6
0722215	5.90	0.2323				
1464825	5.95	0.2344	15/64	2-3/8	4-1/4	1/4
0722221	6.00	0.2362		57	99	6
1464556	6.05	0.2380	B	2-3/4	4-9/16	1/4
0722238	6.10	0.2402		63	107	8
1464562	6.15	0.2420	C	2-3/4	4-9/16	1/4
0722244	6.20	0.2441		63	107	8
1464579	6.25	0.2460	D	2-3/4	4-9/16	1/4
0722250	6.30	0.2480		63	107	8
1464831	6.35	0.2500	1/4	2-3/8	4-1/4	1/4
0722267	6.40	0.2520				
0722273	6.50	0.2559		63	107	8
1464585	6.53	0.2570	F	2-7/8	4-11/16	3/8
0722280	6.60	0.2598		63	107	8
1464591	6.63	0.2610	G	2-7/8	4-11/16	3/8
0722296	6.70	0.2638		63	107	8
1464848	6.75	0.2656	17/64	2-3/4	4-5/8	3/8
0722301	6.80	0.2677				
0722318	6.90	0.2717		69	113	8
1464607	6.91	0.2720	I	2-7/8	4-11/16	3/8
0722324	7.00	0.2756		69	113	8
1464613	7.04	0.2770	J	2-7/8	4-11/16	3/8
0722330	7.10	0.2795		69	113	8
1464854	7.15	0.2813	9/32	2-3/4	4-5/8	3/8
0722347	7.20	0.2835				
0722353	7.30	0.2874		69	113	8
1464620	7.37	0.2900	L	2-15/16	4-3/4	3/8
0722360	7.40	0.2913		69	113	8
1464636	7.49	0.2950	M	3-1/16	4-7/8	3/8
0722376	7.50	0.2953		69	113	8

• USA Stock Size

# SG-ESR Drills Series - Jobber Length for Stainless Steel

## SG-ESR Drill

LIST 7574P

Metric

LIST 7575P

Fractional

\*Replacing SG-ES Drill L7570P, L7571P

For Drilling Conditions see p. 19

EDP No.	Size	Decimal Equivalent	Wire / Fractional Equivalent	Flute Length	Overall Length	Shank Dia.
EDP	Dc			ℓ	L	Ds
1464860	7.54	0.2969	19/64	2-7/8	4-3/4	3/8
0722382	7.60	0.2992		75	119	8
1464642	7.67	0.3020	N	3-1/16	4-7/8	3/8
0722399	7.70	0.3031				
0722404	7.80	0.3071		75	119	8
0722410	7.90	0.3110				
1464877	7.94	0.3125	5/16	2-7/8	4-3/4	3/8
0722427	8.00	0.3150		75	119	8
1464659	8.03	0.3160	0	3-3/16	5	3/8
0722433	8.10	0.3189				
0722440	8.20	0.3228		75	125	10
0722456	8.30	0.3268				
1464883	8.33	0.3281	21/64	2-7/8	4-3/4	3/8
0722462	8.40	0.3307		75	125	10
1464665	8.43	0.3320	Q	3-7/16	5-1/4	3/8
0722479	8.50	0.3346		75	125	10
0722485	8.60	0.3386		81	131	10
1464671	8.61	0.3390	R	3-7/16	5-1/4	3/8
0722491	8.70	0.3425		81	131	10
1464890	8.73	0.3438	11/32	3-1/4	5-1/8	3/8
0722507	8.80	0.3465				
0722513	8.90	0.3504		81	131	10
0722520	9.00	0.3543				
0722536	9.10	0.3583				
1464905	9.13	0.3594	23/64	3-1/4	5-1/8	3/8
0722542	9.20	0.3622		81	131	10
0722559	9.30	0.3661				
1464688	9.35	0.3680	U	3-5/8	5-7/16	3/8
0722565	9.40	0.3701		81	131	10
0722571	9.50	0.3740				
1464911	9.53	0.3750	3/8	3-1/4	5-1/8	3/8
1464694	9.58	0.3770	V	3-5/8	5-23/32	1/2
0722588	9.60	0.3780				
0722594	9.70	0.3819		87	137	10
0722600	9.80	0.3858				
0722616	9.90	0.3898				
1464928	9.92	0.3906	25/64	3-3/8	5-1/2	1/2
0722622	10.00	0.3937		87	137	10
1464700	10.08	0.3970	X	3-3/4	5-27/32	1/2
0722639	10.10	0.3976		87	144	12
0722645	10.20	0.4016				
1464716	10.26	0.4040	Y	3-7/8	5-31/32	1/2
0722651	10.30	0.4055		87	144	12
1464934	10.32	0.4063	13/32	3-3/8	5-1/2	1/2
0722668	10.40	0.4094		87	144	12
1464722	10.49	0.4130	Z	3-7/8	5-31/32	1/2
0722674	10.50	0.4134		87	144	12
0722680	10.60	0.4173				
0722697	10.70	0.4213		94	151	12
1464940	10.72	0.4219	27/64	3-3/4	5-7/8	1/2
0722702	10.80	0.4252				
0722719	10.90	0.4291		94	151	12
0722725	11.00	0.4331				
0722731	11.10	0.4370				
1464957	11.11	0.4375	7/16	3-3/4	5-7/8	1/2
0722748	11.20	0.4409				
0722754	11.30	0.4449		94	151	12
0722760	11.40	0.4488				
0722777	11.50	0.4528				
1464963	11.51	0.4531	29/64	3-3/4	5-7/8	1/2
0722783	11.60	0.4567				
0722790	11.70	0.4606		94	151	12
0722805	11.80	0.4646				

EDP No.	Size	Decimal Equivalent	Wire / Fractional Equivalent	Flute Length	Overall Length	Shank Dia.
EDP	Dc			ℓ	L	Ds
0722811	11.90	0.4685		101	158	12
1464970	11.91	0.4688	15/32	4	6-1/4	1/2
0722828	12.00	0.4724				
0722834	12.10	0.4764		101	158	12
0722840	12.20	0.4803				
0722857	12.30	0.4843				
1464986	12.30	0.4844	31/64	4	6-1/4	1/2
0722863	12.40	0.4882				
0722870	12.50	0.4921		101	158	12
0722886	12.60	0.4961				
0722892	12.70	0.5000				
1464992	12.70	0.5000	1/2	4	6-1/4	1/2
0722908	12.80	0.5039				
0722914	12.90	0.5079		101	158	12
0722920	13.00	0.5118				
1465007	13.50	0.5313	17/32	4-1/4	6-3/4	5/8
0722937	13.50	0.5315		108	168	16
0722943	14.00	0.5512				
1465013	14.29	0.5625	9/16	4-1/2	7	5/8
0722950	14.50	0.5709		114	173	16
1465020	14.68	0.5781	37/64	4-1/2	7	5/8
0722966	15.00	0.5906		114	180	20
1465036	15.08	0.5938	19/32	4-3/4	7-1/4	3/4
0722972	15.50	0.6102		120	185	20
1465042	15.88	0.6250	5/8	4-3/4	7-1/4	3/4
0722989	16.00	0.6299		120	185	20
0722995	16.50	0.6496		125	189	20
1465059	16.67	0.6563	21/32	5	7-1/2	3/4
0723000	17.00	0.6693		125	189	20
1465065	17.46	0.6875	11/16	5-1/8	7-5/8	3/4
0723016	17.50	0.6890		130	194	20
0723022	18.00	0.7087		135	206	20
1465071	18.26	0.7188	23/32	5-3/8	7-3/4	7/8
0723039	18.50	0.7283		140	210	20
0723045	19.00	0.7480		135	206	25
1465088	19.05	0.7500	3/4	5-1/2	7-7/8	7/8
0723051	19.50	0.7677				
0723068	20.00	0.7874		140	210	
0723074	20.50	0.8071			214	
0723080	21.00	0.8268		145		
0723097	21.50	0.8465		150	218	25
0723102	22.00	0.8661				
0723119	22.50	0.8858				
0723125	23.00	0.9055		155	223	
0723131	23.50	0.9252				
0723148	24.00	0.9449		160	237	
0723154	24.50	0.9646				
0723160	25.00	0.9843				
0723177	25.50	1.0039		165	241	
0723183	26.00	1.0236				
0723190	26.50	1.0433				
0723205	27.00	1.0630				
0723211	27.50	1.0827		170	245	
0723228	28.00	1.1024				32
0723234	28.50	1.1220				
0723240	29.00	1.1417		175	248	
0723257	29.50	1.1614				
0723263	30.00	1.1811				
0723270	30.50	1.2008				
0723286	31.00	1.2205		180	252	
0723292	31.50	1.2402				
0723308	32.00	1.2598		185		

USA Stock Size

⚠ WARNING: Cancer - www.P65Warnings.ca.gov

# SG-ES Drill - Jobber Length

## SG-ES Drill Jobber Length



High Performance (5xD)  
PM-HSCO SG COATED

**Not recommended for Austenitic Stainless Steel or Hi-temp Alloys.**

**LIST 7570P** Metric

**LIST 7571P** Fractional, Wire & Letter

**\*Series being DISCONTINUED, See L7574P & 7575P for replacement**  
(Unit) : mm and inch

For Drilling Conditions see p. 20

EDP No.	Size	Decimal	Wire/Fractional Equivalent	Flute Length	Overall Length	Shank	Stock
EDP	Dc			ℓ	L	Ds	
0562242	2.00	0.0787		24	56	3	
1362339	2.08	0.0820	#45	1 1/8	2 3/8	1/8	
0562259	2.10	0.0827		24	56	3	
1362345	2.18	0.0860	#44	1 1/8	2 3/8	1/8	
0562265	2.20	0.0866		25	56	3	
1362351	2.26	0.0890	#43	1 1/4	2 1/2	1/8	
0562271	2.30	0.0906		25	56	3	
1362368	2.37	0.0935	#42	1 1/4	2 1/2	1/8	
1245009	2.38	0.0938	3/32	1 1/8	2 3/8	1/8	
0562288	2.40	0.0945		30	61	3	
1362374	2.44	0.0960	#41	1 3/8	2 5/8	1/8	
1362380	2.49	0.0980	#40	1 3/8	2 5/8	1/8	
0562294	2.50	0.0984		30	61	3	
1362397	2.53	0.0995	#39	1 3/8	2 13/16	1/8	
1362402	2.58	0.1015	#38	1 7/16	2 7/8	1/8	
0562300	2.60	0.1024		30	61	3	
1362419	2.64	0.1040	#37	1 7/16	2 7/8	1/8	
0562316	2.70	0.1063		33	64	3	
1362425	2.71	0.1065	#36	1 7/16	2 7/8	1/8	
1245015	2.78	0.1094	7/64	1 1/4	2 1/2	1/8	
0562322	2.80	0.1102		33	64	3	
1362448	2.82	0.1110	#34	1 1/2	2 15/16	1/8	
1362454	2.87	0.1130	#33	1 1/2	2 15/16	1/8	
0562339	2.90	0.1142		33	64	3	
0562345	3.00	0.1181		33	64	3	
0562351	3.10	0.1220		36	68	4	
1245021	3.18	0.1250	1/8	1 3/8	2 5/8	1/8	
0562368	3.20	0.1260		36	68	4	
1362483	3.26	0.1285	#30	1 5/8	3 1/16	3/16	
0562374	3.30	0.1299		36	68	4	
0562380	3.40	0.1339		39	71	4	
1362490	3.47	0.1365	#29	1 3/4	3 3/16	3/16	
0562397	3.50	0.1378		39	71	4	
1362505	3.57	0.1405	#28	1 3/4	3 3/16	3/16	
1245038	3.57	0.1406	9/64	1 1/2	2 7/8	3/16	
0562402	3.60	0.1417		39	71	4	
1362511	3.66	0.1440	#27	1 7/8	3 5/16	3/16	
0562419	3.70	0.1457		39	71	4	
1362528	3.73	0.1470	#26	1 7/8	3 5/16	3/16	
1362534	3.80	0.1495	#25	1 7/8	3 5/16	3/16	
0562425	3.80	0.1496		43	75	4	
1362540	3.86	0.1520	#24	2	3 7/16	3/16	
0562431	3.90	0.1535		43	75	4	
1362557	3.91	0.1540	#23	2	3 7/16	3/16	
1245044	3.97	0.1563	5/32	1 3/4	3 1/8	3/16	

EDP No.	Size	Decimal	Wire/Fractional Equivalent	Flute Length	Overall Length	Shank	Stock
EDP	Dc			ℓ	L	Ds	
1362563	3.99	0.1570	#22	2	3-7/16	3/16	
0562448	4.00	0.1575		43	75	4	
1362570	4.04	0.1590	#21	2-1/8	3-9/16	3/16	
1362586	4.09	0.1610	#20	2-1/8	3-9/16	3/16	
0562454	4.10	0.1614		43	85	6	
0562460	4.20	0.1654		43	85	6	
1362592	4.22	0.1660	#19	2-1/8	3-9/16	3/16	
0562477	4.30	0.1693		47	89	6	
1245050	4.37	0.1719	11/64	1-7/8	3-1/4	3/16	
0562483	4.40	0.1732		47	89	6	
0562490	4.50	0.1772		47	89	6	
1362637	4.57	0.1800	#15	2-3/16	3-5/8	3/16	
0562505	4.60	0.1811		47	89	6	
1362643	4.62	0.1820	#14	2-3/16	3-5/8	3/16	
0562511	4.70	0.1850		47	89	6	
1245067	4.76	0.1875	3/16	2	3-3/8	3/16	
0562528	4.80	0.1890		52	94	6	
0562534	4.90	0.1929		52	94	6	
1362689	4.91	0.1935	#10	2-7/16	4-1/4	1/4	
1362695	4.98	0.1960	#9	2-7/16	4-1/4	1/4	
0562540	5.00	0.1969		52	94	6	
1362700	5.05	0.1990	#8	2-7/16	4-1/4	1/4	
0562557	5.10	0.2008		52	94	6	
1362717	5.11	0.2010	#7	2-7/16	4-1/4	1/4	
1245073	5.16	0.2031	13/64	2-1/16	3-7/8	1/4	
1362723	5.18	0.2040	#6	2-7/16	4-1/4	1/4	
0562563	5.20	0.2047		52	94	6	
1362730	5.22	0.2055	#5	2-1/2	4-5/16	1/4	
0562570	5.30	0.2087		52	94	6	
1362746	5.31	0.2090	#4	2-1/2	4-5/16	1/4	
0562586	5.40	0.2126		57	99	6	
1362752	5.41	0.2130	#3	2-1/2	4-5/16	1/4	
0562592	5.50	0.2165		57	99	6	
1245080	5.56	0.2188	7/32	2-1/16	3-7/8	1/4	
0562608	5.60	0.2205		57	99	6	
1362769	5.61	0.2210	#2	2-5/8	4-7/16	1/4	
0562614	5.70	0.2244		57	99	6	
1362775	5.79	0.2280	#1	2-5/8	4-7/16	1/4	
0562620	5.80	0.2283		57	99	6	
0562637	5.90	0.2323		57	99	6	
1245096	5.95	0.2344	15/64	2-3/8	4-1/4	1/4	
0562643	6.00	0.2362		57	99	6	
1362798	6.05	0.2380	B	2-3/4	4-9/16	1/4	
0562650	6.10	0.2402		63	107	8	
1362803	6.15	0.2420	C	2-3/4	4-9/16	1/4	

• USA Stock Size

Not recommended for 300 Series Stainless Steel - For information on L7574P see p. 12-14

1 per tube

# SG-ES Drill - Jobber Length

## SG-ES Drill Jobber Length

**Not recommended for Austenitic Stainless Steel or Hi-temp Alloys.**

**LIST 7570P** Metric

**\*Series being DISCONTINUED, See L7574P & 7575P for replacement**

**LIST 7571P** Fractional & Letter

(Unit) : mm and inch

For Drilling Conditions see p. 20

EDP No.	Size	Decimal	Wire/Fractional Equivalent	Flute Length	Overall Length	Shank	Stock
EDP	Dc			ℓ	L	Ds	
0562666	6.20	0.2441		63	107	8	
1362810	6.25	0.2460	D	2-3/4	4-9/16	1/4	
0562672	6.30	0.2480		63	107	8	
1245101	6.35	0.2500	1/4	2-3/8	4-1/4	1/4	
0562689	6.40	0.2520		63	107	8	
0562695	6.50	0.2559		63	107	8	
1362832	6.53	0.2570	F	2-7/8	4-11/16	3/8	
0562700	6.60	0.2598		63	107	8	
1362849	6.63	0.2610	G	2-7/8	4-11/16	3/8	
0562717	6.70	0.2638		63	107	8	
1245118	6.75	0.2656	17/64	2-3/4	4-5/8	3/8	
0562723	6.80	0.2677		69	113	8	
0562730	6.90	0.2717		69	113	8	
1362855	6.91	0.2720	I	2-7/8	4-11/16	3/8	
0562746	7.00	0.2756		69	113	8	
1362861	7.04	0.2770	J	2-7/8	4-11/16	3/8	
0562752	7.10	0.2795		69	113	8	
1245124	7.14	0.2813	9/32	2-3/4	4-5/8	3/8	
0562769	7.20	0.2835		69	113	8	
0562775	7.30	0.2874		69	113	8	
1362878	7.37	0.2900	L	2-15/16	4-3/4	3/8	
0562781	7.40	0.2913		69	113	8	
1362884	7.49	0.2950	M	3-1/16	4-7/8	3/8	
0562798	7.50	0.2953		69	113	8	
1245130	7.54	0.2969	19/64	2-7/8	4-3/4	3/8	
0562803	7.60	0.2992		75	119	8	
1362890	7.67	0.3020	N	3-1/16	4-7/8	3/8	
0562810	7.70	0.3031		75	119	8	
0562826	7.80	0.3071		75	119	8	
0562832	7.90	0.3110		75	119	8	
1245147	7.94	0.3125	5/16	2-7/8	4-3/4	3/8	
0562849	8.00	0.3150		75	119	8	
1362906	8.03	0.3160	O	3-3/16	5	3/8	
0562855	8.10	0.3189					
0562861	8.20	0.3228		75	125	10	
0562878	8.30	0.3268					
1245153	8.33	0.3281	21/64	2-7/8	4-3/4	3/8	
0562884	8.40	0.3307		75	125	10	
1362929	8.43	0.3320	Q	3-7/16	5-1/4	3/8	
0562890	8.50	0.3346		75	125	10	
0562906	8.60	0.3386		81	131	10	
1362935	8.61	0.3390	R	3-7/16	5-1/4	3/8	
0562912	8.70	0.3425		81	131	10	
1245160	8.73	0.3438	11/32	3-1/4	5-1/8	3/8	
0562929	8.80	0.3465		81	131	10	

EDP No.	Size	Decimal	Wire/Fractional Equivalent	Flute Length	Overall Length	Shank	Stock
EDP	Dc			ℓ	L	Ds	
0562935	8.90	0.3504					
0562941	9.00	0.3543		81	131	10	
0562958	9.10	0.3583					
1245176	9.13	0.3594	23/64	3-1/4	5-1/8	3/8	
0562964	9.20	0.3622		81	131	10	
0562970	9.30	0.3661					
1362964	9.35	0.3680	U	3-5/8	5-7/16	3/8	
0562987	9.40	0.3701		81	131	10	
0562993	9.50	0.3740					
1245182	9.53	0.3750	3/8	3-1/4	5-1/8	3/8	
1362970	9.58	0.3770	V	3-5/8	5-23/32	1/2	
0563008	9.60	0.3780					
0563014	9.70	0.3819		87	137	10	
0563020	9.80	0.3858					
0563037	9.90	0.3898					
1245199	9.92	0.3906	25/64	3-3/8	5-1/2	1/2	
0563043	10.00	0.3937		87	137	10	
1362993	10.08	0.3970	X	3-3/4	5-27/32	1/2	
0563050	10.10	0.3976					
0563066	10.20	0.4016		87	144	12	
1363008	10.26	0.4040	Y	3-7/8	5-31/32	1/2	
0563072	10.30	0.4055		87	144	12	
1245204	10.32	0.4063	13/32	3-3/8	5-1/2	1/2	
0563089	10.40	0.4094		87	144	12	
1363014	10.49	0.4130	Z	3-7/8	5-31/32	1/2	
0563095	10.50	0.4134		87	144	12	
0563100	10.60	0.4173		87	144	12	
0563117	10.70	0.4213		94	151	12	
1245210	10.72	0.4219	27/64	3-3/4	5-7/8	1/2	
0563123	10.80	0.4252					
0563130	10.90	0.4291		94	151	12	
0563146	11.00	0.4331					
0563152	11.10	0.4370					
1245227	11.11	0.4375	7/16	3-3/4	5-7/8	1/2	
0563169	11.20	0.4409					
0563175	11.30	0.4449		94	151	12	
0563181	11.40	0.4488					
0563198	11.50	0.4528					
1245233	11.51	0.4531	29/64	3-3/4	5-7/8	1/2	
0563203	11.60	0.4567					
0563210	11.70	0.4606		94	151	12	
0563226	11.80	0.4646					
0563232	11.90	0.4685		101	158	12	
1245240	11.91	0.4688	15/32	4	6-1/4	1/2	

• USA Stock Size  
Not recommended for 300 Series Stainless Steel - For information on L7574P see p. 12-14

1 per tube



# SG-ES Drill - Jobber Length

## SG-ES Drills Jobber Length

**Not recommended for Austenitic Stainless Steel or Hi-temp Alloys.**

**LIST 7570P** Metric

**LIST 7571P** Fractional

**\*Series being DISCONTINUED, See L7574P & 7575P for replacement**

(Unit) : mm and inch

**For Drilling Conditions see p. 20**

EDP No.	Size	Decimal	Wire/Fractional Equivalent	Flute Length	Overall Length	Shank	Stock
EDP	Dc			ℓ	L	Ds	
0563249	12.00	0.4724					
0563255	12.10	0.4764					
0563261	12.20	0.4803		101	158	12	
0563278	12.30	0.4843					
1245256	12.30	0.4844	31/64	4	6-1/4	1/2	
0563284	12.40	0.4882					
0563290	12.50	0.4921		101	158	12	
0563306	12.60	0.4961					
0563312	12.70	0.5000					
1245262	12.70	0.5000	1/2	4	6-1/4	1/2	
0563329	12.80	0.5039					
0563335	12.90	0.5079		101	158	12	
0563341	13.00	0.5118					
1245279	13.49	0.5313	17/32	4-1/4	6-3/4	5/8	
0563358	13.50	0.5315		108	168	16	
0563364	14.00	0.5512					
1245285	14.29	0.5625	9/16	4-1/2	7	5/8	
0563370	14.50	0.5709		114	173	16	

EDP No.	Size	Decimal	Wire/Fractional Equivalent	Flute Length	Overall Length	Shank	Stock
EDP	Dc			ℓ	L	Ds	
1245291	14.68	0.5781	37/64	4-1/2	7	5/8	
0563387	15.00	0.5906		114	180	20	
1245307	15.08	0.5938	19/32	4-3/4	7-1/4	3/4	
0563393	15.50	0.6102		120	185	20	
1245313	15.88	0.6250	5/8	4-3/4	7-1/4	3/4	
0563409	16.00	0.6299		120	185	20	
0563415	16.50	0.6496		125	189	20	
1245320	16.67	0.6563	21/32	5	7-1/2	3/4	
0563421	17.00	0.6693		125	189	20	
1245336	17.46	0.6875	11/16	5-1/8	7-5/8	3/4	
0563438	17.50	0.6890		130	194	20	
0563444	18.00	0.7087		130	194	20	
1245342	18.26	0.7188	23/32	5-3/8	7-3/4	7/8	
0563450	18.50	0.7283		135	198	20	
0563467	19.00	0.7480		135	206	25	
1245359	19.05	0.7500	3/4	5-1/2	7-7/8	7/8	
0563473	19.50	0.7677		140	210	25	
0563480	20.00	0.7874					

• USA Stock Size  
Not recommended for 300 Series Stainless Steel - **For information on L7574P see p. 12-14**

**⚠ WARNING:** Cancer - www.P65Warnings.ca.gov

Selection Chart      ●:Great      ○:Good      △:OK

	Drilling Depth				Workpiece Material																
	≤3D	≤5D	≤7D	>7D	Carbon Steel		Alloy Steel	Die Steel	Hardened Steel			Stainless Steel		Titanium Alloys	Nickel Alloys	Cast Iron		Aluminum			Copper Alloys
					Low Carbon	High Carbon			HRc			Austenitic	Martensitic			Soft	Hard	6061	Casting	High Si	
					1010,1018	1045,1065	4140,4330	D2	up to 35	35 to 45	45 to 65	300 Series	400 Series	< 200HB	> 200HB	7075	Si ≤ 12%	Si > 13%			
L7570P	●	●	●		●	●	●	●	○				●			●		○		●	
L7571P	●	●	●	○	●	●	●	●	○				●			●		○		●	

## SG Drill Oil Hole



**High Performance (7xD)  
PM-HSCO SG COATED**

This oil hole drill is suitable for high-speed and long life drilling, and adapted in workpiece materials from Carbon Steels and Stainless Steels to Aluminum.

**LIST 7596P** Metric Range 5.0 to 20.0 mm

**LIST 7591P** Fractional Range 15/64 to 3/4

For Drilling Conditions see p. 20

EDP No.	Size	Decimal Equivalent	Fractional Equivalent	Flute Length	Overall Length	Stock
1314751	5.0	0.1969		52	94	
1314768	5.5	0.2165		57	99	
1315065		0.2344	15/64	2-3/8	4-1/4	
1314774	6.0	0.2362		57	99	
1315071		0.2500	1/4	2-3/8	4-1/4	
1314780	6.5	0.2559		63	107	
1315088		0.2656	17/64	2-3/4	4-5/8	
1314797	7.0	0.2756		69	113	
1315094		0.2813	9/32	2-3/4	4-5/8	
1314802	7.5	0.2953		69	113	
1315100		0.2969	19/64	2-7/8	4-3/4	
1315116		0.3125	5/16	2-7/8	4-3/4	
1314819	8.0	0.3150		75	119	
1315122		0.3281	21/64	2-7/8	4-3/4	
1314825	8.5	0.3346		75	125	
1315139		0.3438	11/32	3-1/4	5-1/8	
1314831	9.0	0.3543		81	131	
1315145		0.3594	23/64	3-1/4	5-1/8	
1314848	9.5	0.3740		81	131	
1315151		0.3750	3/8	3-1/4	5-1/8	
1315168		0.3906	25/64	3-3/8	5-1/2	
1314854	10.0	0.3937		87	137	
1315174		0.4063	13/32	3-3/8	5-1/2	
1314860	10.5	0.4134		87	144	
1315180		0.4219	27/64	3-3/4	5-7/8	
1314877	11.0	0.4331		94	151	
1315197		0.4375	7/16	3-3/4	5-7/8	
1314883	11.5	0.4528		94	151	
1315202		0.4531	29/64	3-3/4	5-7/8	

EDP No.	Size	Decimal Equivalent	Fractional Equivalent	Flute Length	Overall Length	Stock
1315219		0.4688	15/32	4	6-1/4	
1314890	12.0	0.4724		101	158	
1315225		0.4844	31/64	4	6-1/4	
1314905	12.5	0.4921		101	158	
1315231		0.5000	1/2	4	6-1/4	
1314911	13.0	0.5118		101	158	
1315248		0.5313	17/32	4-1/4	6-3/4	
1314928	13.5	0.5315		108	168	
1314934	14.0	0.5512		108	168	
1315254		0.5625	9/16	4-1/2	7	
1314940	14.5	0.5709		114	173	
1315260		0.5781	37/64	4-1/2	7	
1314957	15.0	0.5906		114	180	
1315277		0.5938	19/32	4-3/4	7-1/4	
1314963	15.5	0.6102		120	185	
1315283		0.6250	5/8	4-3/4	7-1/4	
1314970	16.0	0.6299		120	185	
1314986	16.5	0.6496		125	189	
1315290		0.6563	21/32	5	7-1/2	
1314992	17.0	0.6693		125	189	
1315305		0.6875	11/16	5-1/8	7-5/8	
1315007	17.5	0.6890		130	194	
1315013	18.0	0.7087		130	194	
1315311		0.7188	23/32	5-3/8	7-3/4	
1315020	18.5	0.7283		135	198	
1315036	19.0	0.7480		135	206	
1315328		0.7500	3/4	5-1/2	7-7/8	
1315042	19.5	0.7677		140	210	
1315059	20.0	0.7874				

• USA Stock Size

1 per tube

⚠ WARNING: Cancer - www.P65Warnings.ca.gov

Selection Chart

●:Great ○:Good △:OK

Drilling Depth				Workpiece Material																
≤3D	≤5D	≤7D	>7D	Carbon Steel		Alloy Steel	Die Steel	Hardened Steel			Stainless Steel		Titanium Alloys	Nickel Alloys	Cast Iron		Aluminum			Copper Alloys
				Low Carbon	High Carbon			Hrc			Austenitic	Martensitic			Soft	Hard	6061	Casting	High Si	
				1010,1018	1045,1065	4140,4330	D2	up to 35	35 to 45	45 to 65	300 Series	400 Series	< 200HB	> 200HB	7075	Si ≤ 12%	Si > 13%			
●	●	●	○	●	●	●	●	○			●	●			●		●	○		●

# SG DRILLS - STANDARD DRILLING CONDITIONS

## SG-ESS Drill List No. 7572P, 7573P

Workpiece Material			Structural Steels, Carbon Steels		Alloy Steels		Mold Steels Stainless Steels 300-400 series		Nickel Alloys, Titanium Alloys		Cast Irons		Aluminum Alloys, Copper Alloys, Nonferrous Alloys	
Speed (SFM)			115 - 135 SFM		95 - 105 SFM		40 - 50 SFM		20 SFM		130 - 150 SFM		200 - 230 SFM	
Drill Diameter			115 - 135 SFM		95 - 105 SFM		40 - 50 SFM		20 SFM		130 - 150 SFM		200 - 230 SFM	
Fractional	Metric mm	Decimal	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)
—	1.000	0.0039	9,500	0.001	8,000	0.001	3,500	0.001	1,600	0.001	12,000	0.001	15,000	0.001
—	2.000	0.0787	5,700	0.002	4,600	0.002	1,900	0.002	800	0.001	6,300	0.003	9,700	0.003
3/32	2.381	0.0938	5,000	0.003	4,100	0.003	1,700	0.002	680	0.002	5,600	0.004	8,500	0.004
—	3.000	0.1181	4,200	0.004	3,400	0.004	1,300	0.003	530	0.002	4,700	0.005	7,200	0.005
1/8	3.175	0.1250	4,000	0.005	3,300	0.004	1,300	0.003	510	0.002	4,500	0.006	6,900	0.006
5/32	3.969	0.1563	3,200	0.006	2,600	0.005	980	0.003	410	0.003	3,600	0.007	5,500	0.007
3/16	4.763	0.1875	2,700	0.006	2,200	0.005	810	0.004	340	0.003	3,000	0.008	4,600	0.008
—	5.000	0.1969	2,500	0.007	2,000	0.006	760	0.004	320	0.003	2,800	0.008	4,300	0.008
1/4	6.350	0.2500	2,000	0.008	1,700	0.007	610	0.005	260	0.004	2,300	0.010	3,400	0.010
5/16	7.938	0.3125	1,700	0.009	1,400	0.008	490	0.006	210	0.005	1,900	0.012	2,800	0.011
—	8.000	0.3150	1,600	0.009	1,300	0.008	480	0.006	200	0.005	1,800	0.012	2,700	0.012
3/8	9.525	0.3750	1,400	0.010	1,100	0.009	400	0.007	170	0.006	1,500	0.013	2,300	0.013
—	10.000	0.3937	1,300	0.010	1,000	0.009	380	0.008	160	0.006	1,400	0.013	2,200	0.013
—	12.000	0.4724	1,100	0.011	850	0.010	320	0.009	130	0.008	1,200	0.014	1,800	0.015
1/2	12.700	0.5000	1,100	0.012	810	0.010	310	0.009	130	0.008	1,200	0.015	1,800	0.015
—	16.000	0.6299	800	0.014	640	0.012	240	0.010	100	0.009	880	0.017	1,400	0.017
—	20.000	0.7874	640	0.016	510	0.014	190	0.012	80	0.010	700	0.020	1,100	0.020
—	25.000	0.9843	510	0.019	410	0.015	150	0.013	64	0.012	560	0.023	870	0.023
—	32.000	1.2598	400	0.018	320	0.015	120	0.013	50	0.013	440	0.022	680	0.022

- The above values apply when coolant is used in vertical machine & horizontal machine.  
When drilling in stainless steel and hard to cut material using pecking.
- Adjust drilling condition when unusual vibration or different sound occurs.
- Recommended feeds and speeds are starting points only. Actual performance will be determined by specific material, the condition of equipment being used and coolant.
- See page 11 for SG-ESS Micro Drill Drilling Conditions

Formulas:  $RPM = \frac{SFM \times 3.82}{\text{Drill dia.}}$ , Feed Rate (in/min) = RPM x IPR

## SG-ESR Drill List No. 7574P, 7575P

Workpiece Material			Structural Steels, Carbon Steels		Alloy Steels		Mold Steels Stainless Steels 300-400 series		Nickel Alloys, Titanium Alloys		Cast Irons		Aluminum Alloys, Copper Alloys, Nonferrous Alloys	
Speed (SFM)			115 - 135 SFM		95 - 105 SFM		40 - 50 SFM		20 SFM		130 - 150 SFM		200 - 230 SFM	
Drill Diameter			115 - 135 SFM		95 - 105 SFM		40 - 50 SFM		20 SFM		130 - 150 SFM		200 - 230 SFM	
Fractional	Metric mm	Decimal	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)
—	2.000	0.0787	5,700	0.002	4,600	0.002	1,800	0.001	800	0.001	6,300	0.003	9,700	0.003
3/32	2.381	0.0937	5,000	0.003	4,100	0.002	1,500	0.002	700	0.001	5,600	0.003	8,500	0.003
—	3.000	0.1181	4,200	0.004	3,400	0.003	1,100	0.002	580	0.002	4,700	0.004	7,200	0.004
1/8	3.175	0.1250	4,000	0.004	3,300	0.003	1,100	0.002	550	0.002	4,500	0.005	6,900	0.005
5/32	3.969	0.1563	3,200	0.005	2,600	0.004	900	0.003	430	0.002	3,600	0.006	5,500	0.006
3/16	4.763	0.1875	2,700	0.005	2,200	0.005	790	0.004	340	0.003	3,000	0.007	4,600	0.007
—	5.000	0.1969	2,500	0.006	2,000	0.005	760	0.004	320	0.003	2,800	0.007	4,300	0.007
1/4	6.350	0.2500	2,000	0.007	1,700	0.006	610	0.005	260	0.004	2,300	0.008	3,400	0.008
5/16	7.938	0.3125	1,700	0.008	1,400	0.006	490	0.007	210	0.004	1,900	0.010	2,800	0.010
—	8.000	0.3150	1,600	0.008	1,300	0.006	480	0.007	200	0.004	1,800	0.010	2,700	0.010
3/8	9.525	0.3750	1,400	0.008	1,100	0.007	400	0.008	170	0.005	1,500	0.011	2,300	0.011
—	10.000	0.3937	1,300	0.008	1,000	0.007	380	0.008	160	0.005	1,400	0.011	2,200	0.011
—	12.000	0.4724	1,100	0.009	850	0.008	320	0.010	132	0.006	1,200	0.012	1,800	0.012
1/2	12.700	0.5000	1,100	0.010	810	0.009	310	0.010	130	0.007	1,200	0.012	1,800	0.013
—	16.000	0.6299	800	0.012	640	0.010	240	0.011	100	0.008	880	0.015	1,400	0.014
—	20.000	0.7874	640	0.014	510	0.012	190	0.012	80	0.009	700	0.017	1,100	0.016
—	25.000	0.9843	510	0.015	410	0.013	150	0.013	64	0.011	560	0.019	870	0.019
—	32.000	1.2598	400	0.015	320	0.014	120	0.015	50	0.012	440	0.019	680	0.019

- The above values apply when coolant is used in vertical machines & horizontal machines.  
When drilling in stainless steel and hard to cut material using pecking.
- Adjust drilling condition when unusual vibration or different sound occurs.
- Recommended feeds and speeds are starting points only. Actual performance will be determined by specific material, the condition of equipment being used and coolant.

Formulas:  $RPM = \frac{SFM \times 3.82}{\text{Drill dia.}}$ , Feed Rate (in/min) = RPM x IPR

# SG DRILLS - STANDARD DRILLING CONDITIONS

## SG-ES Drill List No. 7570P, 7571P

Workpiece Material			Structural Steels, Carbon Steels		Alloy Steels		Die Steels Hardened Steels (35-45HRC) 400 Series Stainless Steel		Cast Irons		Aluminum Alloys, Copper Alloys, Nonferrous Alloys	
Speed (SFM)			115 - 135 SFM		95 - 105 SFM		40 - 50 SFM		130 - 150 SFM		200 - 230 SFM	
Drill Diameter			RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)
Fractional	Metric mm	Decimal										
—	2.000	0.0787	4600	0.002	4600	0.002	1800	0.001	6300	0.003	9700	0.003
3/32	2.381	0.0938	4000	0.003	4100	0.002	1500	0.002	4600	0.003	8500	0.003
—	3.000	0.1181	3400	0.004	3400	0.003	1100	0.002	4700	0.004	7200	0.004
1/8	3.175	0.1250	3200	0.004	3300	0.003	1100	0.002	4500	0.005	6900	0.005
5/32	3.969	0.1563	2600	0.005	2600	0.004	900	0.003	3600	0.006	5500	0.006
3/16	4.762	0.1875	2200	0.005	2200	0.005	790	0.004	3000	0.007	4600	0.007
—	5.000	0.1969	2000	0.006	2000	0.005	760	0.004	2800	0.007	4300	0.007
1/4	6.350	0.2500	1600	0.007	1700	0.006	610	0.005	2300	0.008	3400	0.008
5/16	7.938	0.3125	1400	0.008	1400	0.006	490	0.007	1900	0.010	2800	0.010
—	8.000	0.3150	1300	0.008	1300	0.006	480	0.007	1800	0.010	2700	0.010
3/8	9.525	0.3750	1200	0.008	1100	0.007	400	0.008	1500	0.011	2300	0.011
—	10.000	0.3937	1100	0.008	1000	0.007	380	0.008	1400	0.011	2200	0.011
—	12.000	0.4724	880	0.009	850	0.008	320	0.010	1200	0.012	1800	0.012
1/2	12.700	0.5000	880	0.010	810	0.009	310	0.010	1200	0.012	1800	0.013
—	16.000	0.6299	640	0.012	640	0.010	240	0.011	880	0.015	1400	0.014
—	20.000	0.7874	520	0.014	510	0.012	190	0.012	700	0.017	1100	0.016
—	25.000	0.9843	410	0.015	410	0.013	150	0.013	560	0.019	870	0.019
—	32.000	1.2598	320	0.015	320	0.014	120	0.015	440	0.019	680	0.019

- 1) The above values apply when coolant is used in vertical machine & horizontal machine. When drilling in stainless steel and hard to cut material using pecking.
  - 2) Adjust drilling condition when unusual vibration or different sound occurs.
  - 3) SG-ES is not recommended for 300-series Stainless Steels.
  - 4) SG-ES is suitable for drilling into 400-series Stainless Steels.
  - 5) Recommended feeds and speeds are starting points only. Actual performance will be determined by specific material, the condition of equipment being used and coolant.
- Formulas:  $RPM = \frac{SFM \times 3.82}{Drill\ dia.}$ , Feed Rate (in/min) = RPM x IPR

## SG Drill Oil Hole List No. 7596P, 7591P

Workpiece Material			Structural Steels, Carbon Steels		Alloy Steels		Die Steels Hardened Steels (35-45HRC)		Stainless Steels		Cast Irons		Aluminum Alloys, Copper Alloys, Nonferrous Alloys	
Speed (SFM)			120 - 130 SFM		105 - 110 SFM		40 - 50 SFM		60 - 70 SFM		130 - 150 SFM		200 - 230 SFM	
Drill Diameter			RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)
Fractional	Metric mm	Decimal												
—	5.000	0.1969	2,400	0.007	1,900	0.006	850	0.005	1,200	0.005	2,700	0.009	4,100	0.009
1/4	6.350	0.2500	1,900	0.008	1,500	0.008	650	0.006	1,000	0.006	2,100	0.011	3,300	0.011
5/16	7.938	0.3125	1,500	0.008	1,250	0.008	550	0.007	800	0.007	1,700	0.013	2,650	0.013
—	8.000	0.3150	1,500	0.009	1,200	0.009	550	0.009	750	0.008	1,700	0.014	2,600	0.014
3/8	9.525	0.3750	1,250	0.010	1,000	0.010	500	0.009	700	0.009	1,500	0.014	2,200	0.014
—	10.000	0.3937	1,200	0.011	950	0.011	450	0.010	650	0.010	1,400	0.016	2,000	0.016
—	12.000	0.4724	1,000	0.011	800	0.011	400	0.010	550	0.010	1,200	0.016	1,700	0.016
1/2	12.700	0.5000	950	0.013	750	0.013	350	0.012	500	0.013	1,100	0.019	1,600	0.019
—	16.000	0.6299	750	0.014	600	0.014	250	0.014	400	0.015	850	0.021	1,300	0.021
—	20.000	0.7874	600	0.015	450	0.015	200	0.014	300	0.015	650	0.022	1,000	0.021

- 1) The above values apply when coolant is used in vertical machine & horizontal machine. When drilling in stainless steel and hard to cut material using pecking.
  - 2) Adjust drilling condition when unusual vibration or different sound occurs.
  - 3) Recommended feeds and speeds are starting points only. Actual performance will be determined by specific material, the condition of equipment being used and coolant.
- Formulas:  $RPM = \frac{SFM \times 3.82}{Drill\ dia.}$ , Feed Rate (in/min) = RPM x IPR



**WARNING:** This product can expose you to chemicals including cobalt, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**NACHI**  
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