

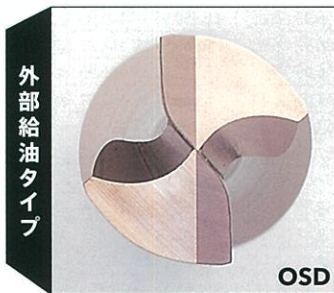
## 鑄鉄加工用 超硬コーティングドリル

Solid carbide drill with coating for cast iron



OSドリルは、鑄鉄を高精度且つ高能率に加工できる、  
鑄鉄加工専用ドリルです。

OS drill for high accuracy and efficiency machining of cast iron.

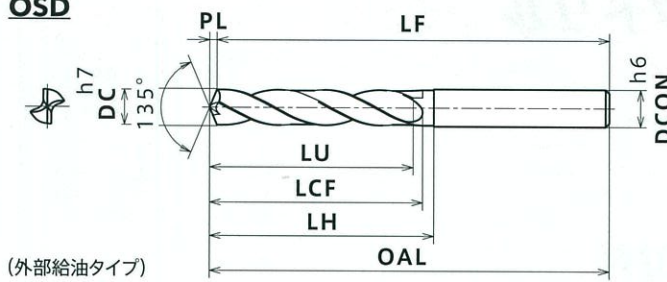


### 特徴 Features

- 1 ガイドマージンの位置を最適化したダブルマージンを採用する事で安定した高精度加工を可能にしています。  
Optimized double guide margin position can achieve higher accuracy machining.
- 2 切削性と刃先強度を高度に両立したホーニングを施しています。  
Unique honing has an effect on cutting performance and the strength of cutting teeth at the same time.
- 3 独自のシンニングとポケット形状で切削抵抗を低減しながらも切り屑をコンパクト化し、切り屑排出性能を高めています。  
Unique thinning and flute shape reduce cutting load and break chips into the minimum size for streamlined flow.
- 4 ドリル専用コーティングで耐熱性・耐溶性を高めています。  
Special coating for drill provide excellent heat and abrasion resistance.
- 5 外部給油タイプと内部給油タイプの2タイプを用意しています。  
Drill with oil hole, non oil hole also available.
- 6 鋼用としても使えます。  
Highly effective for steel work also.

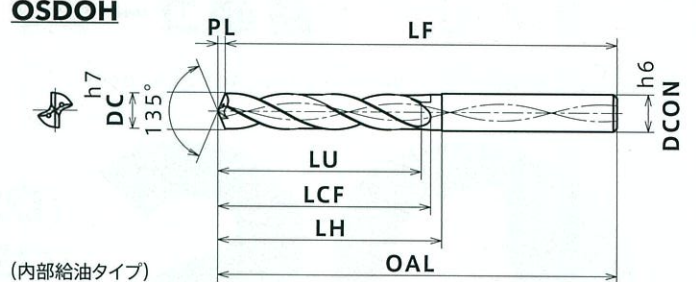
# OS Drill [OSD][OSDOH]

## OSD



(外部給油タイプ)

## OSDOH



(内部給油タイプ)

DC=加工径(切削径)・LU=使用可能長さ・LCF=フルート長さ・LH=首下長さ・OAL=全長・LF=機能長さ・PL=先端と肩部寸法差・DCON=接統径

### ■ 外部給油タイプ 寸法表 Specification

呼び記号	在庫	外径		溝長	全長1	首下長		シャンク径	先端長さ					
		DC	LU			LH	OAL							
OSD0300	●	3.00	15.62	25.62	60	28.62	60.62	3	0.62					
OSD0310	●	3.10	15.64	25.64										
OSD0320	●	3.20	15.66	25.66										
OSD0330	●	3.30	15.68	25.68										
OSD0340	●	3.40	15.70	25.70										
OSD0350	●	3.50	15.72	25.72										
OSD0360	●	3.60	15.75	25.75										
OSD0370	●	3.70	15.77	25.77										
OSD0380	●	3.80	15.79	25.79										
OSD0390	●	3.90	15.81	25.81										
OSD0400	●	4.00	15.83	25.83										
OSD0410	●	4.10	20.85	30.85						70	33.85	70.85	4	0.85
OSD0420	●	4.20	20.87	30.87										
OSD0430	●	4.30	20.89	30.89										
OSD0440	●	4.40	20.91	30.91										
OSD0450	●	4.50	20.93	30.93										
OSD0460	●	4.60	20.95	30.95										
OSD0470	●	4.70	20.97	30.97										
OSD0480	●	4.80	20.99	30.99										
OSD0490	●	4.90	21.01	31.01										
OSD0500	●	5.00	21.04	31.04										
OSD05100	●	5.10	26.06	36.06	75	39.06	76.06	5	1.06					
OSD0520	●	5.20	26.08	36.08										
OSD0530	●	5.30	26.10	36.10										
OSD0540	●	5.40	26.12	36.12										
OSD0550	●	5.50	26.14	36.14										
OSD0560	●	5.60	26.16	36.16										
OSD0570	●	5.70	26.18	36.18										
OSD0580	●	5.80	26.20	36.20										
OSD0590	●	5.90	26.22	36.22										
OSD0600	●	6.00	26.24	36.24										
OSD0610	●	6.10	31.26	41.26						85	44.26	86.26	6	1.26
OSD0620	●	6.20	31.28	41.28										
OSD0630	●	6.30	31.30	41.30										
OSD0640	●	6.40	31.33	41.33										
OSD0650	●	6.50	31.35	41.35										
OSD0660	●	6.60	31.37	41.37										
OSD0670	●	6.70	31.39	41.39										
OSD0680	●	6.80	31.41	41.41										
OSD0690	●	6.90	31.43	41.43										
OSD0700	●	7.00	31.45	41.45										
OSD0710	●	7.10	36.47	46.47	90	49.47	91.47	7	1.47					
OSD0720	●	7.20	36.49	46.49										
OSD0730	●	7.30	36.51	46.51										
OSD0740	●	7.40	36.53	46.53										
OSD0750	●	7.50	36.55	46.55										
OSD0760	●	7.60	36.57	46.57										
OSD0770	●	7.70	36.59	46.59										
OSD0780	●	7.80	36.62	46.62										
OSD0790	●	7.90	36.64	46.64										
OSD0800	●	8.00	36.66	46.66										
OSD0810	●	8.10	41.68	51.68						100	54.68	101.68	8	1.68
OSD0820	●	8.20	41.70	51.70										
OSD0830	●	8.30	41.72	51.72										

### ■ 鋼 ● / ステンレス鋼 ○ / 鋳物 ◎

呼び記号	在庫	外径		溝長	全長1	首下長		シャンク径	先端長さ																									
		DC	LU			LH	OAL																											
OSD0840	●	8.40	41.74	51.74	100	54.74	101.74	9	1.74																									
OSD0850	●	8.50	41.76	51.76																														
OSD0860	●	8.60	41.78	51.78																														
OSD0870	●	8.70	41.80	51.80																														
OSD0880	●	8.80	41.82	51.82																														
OSD0890	●	8.90	41.84	51.84																														
OSD0900	●	9.00	41.86	51.86																														
OSD0910	●	9.10	46.88	56.88						105	59.88	106.88	10	1.88																				
OSD0920	●	9.20	46.91	56.91																														
OSD0930	●	9.30	46.93	56.93																														
OSD0940	●	9.40	46.95	56.95																														
OSD0950	●	9.50	46.97	56.97																														
OSD0960	●	9.60	46.99	56.99																														
OSD0970	●	9.70	47.01	57.01																														
OSD0980	●	9.80	47.03	57.03																														
OSD0990	●	9.90	47.05	57.05																														
OSD1000	●	10.00	47.07	57.07																														
OSD01010	●	10.10	52.09	62.09	110	65.09	112.09	11	2.09																									
OSD1020	●	10.20	52.11	62.11																														
OSD1030	●	10.30	52.13	62.13																														
OSD1040	●	10.40	52.15	62.15																														
OSD1050	●	10.50	52.17	62.17																														
OSD1060	●	10.60	52.20	62.20																														
OSD1070	●	10.70	52.22	62.22																														
OSD1080	●	10.80	52.24	62.24																														
OSD1090	●	10.90	52.26	62.26																														
OSD1100	●	11.00	52.28	62.28						115	65.28	112.28	12	2.28																				
OSD1110	●	11.10	57.30	67.30																														
OSD1120	●	11.20	57.32	67.32																														
OSD1130	●	11.30	57.34	67.34																														
OSD1140	●	11.40	57.36	67.36																														
OSD1150	●	11.50	57.38	67.38																														
OSD1160	●	11.60	57.40	67.40																														
OSD1170	●	11.70	57.42	67.42																														
OSD1180	●	11.80	57.44	67.44																														
OSD1190	●	11.90	57.46	67.46																														
OSD1200	●	12.00	57.49	67.49	130	75.59	132.59	13	2.59																									
OSD1250	●	13.00	67.69	77.69																														
OSD1350	●	13.50	67.80	77.80						135	80.80	137.80	14	2.80																				
OSD1400	●	14.00	67.90	77.90																														
OSD1450	●	14.50	73.00	83.00											150	86.00	153.00	15	3.00															
OSD1500	●	15.00	73.11	83.11																														
OSD1550	●	15.50	78.21	88.21																155	91.21	158.21	16	3.21										
OSD1600	●	16.00	78.31	88.31																														
OSD1650	●	16.50	83.42	93.42																					160	96.42	163.42	16.5	3.42					
OSD1700	●	17.00	83.52	93.52																														
OSD1750	●	17.50	88.62	98.62																										165	101.62	168.62	17.5	3.62
OSD1800	●	18.00	93.73	103.73																														
OSD1850	●	18.50	93.83	103.83	170	106.83	173.83	18.5	3.83																									
OSD1900	●	19.00	98.94	108.94																														
OSD1950	●	19.50	99.04	109.04						175	111.94	178.94	19	3.94																				
OSD2000	●	20.00	104.14	114.14																														

在庫有り ● / 在庫無し ○

OSDの加工例 Processing Example

- 1. FCD500・FCD600 フォークシフト (φ5油圧加工)  
OSDOHφ5 (S=6,000 f=0.3/rev)
- 2. FCD500 ナックル (φ12.2 (H6) 穴ワンパス加工)  
OSDOHφ12.2 (S=1,800 f=0.13/rev)
- 3. FCD250 キャリア (φ17.7 穴ワンパス加工)  
OSDOHφ17.7 (S=2,700 f=0.2/rev)
- 4. FCD500 マスターシリンダー (φ11.7 穴ワンパス加工)  
OSDOHφ11.7 (S=2,000 f=0.2/rev)

- 5. FCD500 ブラケット (φ19 (H8) 穴ワンパス加工)  
OSDOHφ19 (S=1,500 f=0.15/rev)
- 6. FCD500 M12下穴 (φ10.8 下穴加工)  
OSDOHφ10.8 (S=4,100 f=0.2/rev)
- 7. FCD700 油圧バルブボディ (φ10 穴加工)  
OSDOHφ10 (S=2,600 f=0.2/rev)

※加工条件・環境によってはメーカー推奨切削条件と合わない値になっている場合もありますのでご承知おきください。

■ 内部給油タイプ 寸法表 Specification

呼び記号	在庫	外径	有効刃長	溝長	全長1	首下長	全長2	シャンク径	先端長さ
		DC	LU	LCF	LF	LH	OAL	DCON	PL
OSDOH0300	●	3.00	15.62	25.62	60	28.62	60.62	3	0.62
OSDOH0310	●	3.10	15.64	25.64		28.64	60.64		0.64
OSDOH0320	●	3.20	15.66	25.66		28.66	60.66		0.66
OSDOH0330	●	3.30	15.68	25.68		28.68	60.68		0.68
OSDOH0340	●	3.40	15.70	25.70		28.70	60.70		0.70
OSDOH0350	●	3.50	15.72	25.72		28.72	60.72	4	0.72
OSDOH0360	●	3.60	15.75	25.75		28.75	60.75		0.75
OSDOH0370	●	3.70	15.77	25.77		28.77	60.77		0.77
OSDOH0380	●	3.80	15.79	25.79		28.79	60.79		0.79
OSDOH0390	●	3.90	15.81	25.81		28.81	60.81		0.81
OSDOH0400	●	4.00	15.83	25.83	28.83	60.83		0.83	
OSDOH0410	●	4.10	20.85	30.85	33.85	70.85		0.85	
OSDOH0420	●	4.20	20.87	30.87	33.87	70.87		0.87	
OSDOH0430	●	4.30	20.89	30.89	33.89	70.89		0.89	
OSDOH0440	●	4.40	20.91	30.91	33.91	70.91		0.91	
OSDOH0450	●	4.50	20.93	30.93	33.93	70.93	5	0.93	
OSDOH0460	●	4.60	20.95	30.95	33.95	70.95		0.95	
OSDOH0470	●	4.70	20.97	30.97	33.97	70.97		0.97	
OSDOH0480	●	4.80	20.99	30.99	33.99	70.99		0.99	
OSDOH0490	●	4.90	21.01	31.01	34.01	71.01		1.01	
OSDOH0500	●	5.00	21.04	31.04	34.04	71.04		1.04	
OSDOH0510	●	5.10	26.06	36.06	39.06	76.06		1.06	
OSDOH0520	●	5.20	26.08	36.08	39.08	76.08		1.08	
OSDOH0530	●	5.30	26.10	36.10	39.10	76.10		1.10	
OSDOH0540	●	5.40	26.12	36.12	39.12	76.12		1.12	
OSDOH0550	●	5.50	26.14	36.14	39.14	76.14	6	1.14	
OSDOH0560	●	5.60	26.16	36.16	39.16	76.16		1.16	
OSDOH0570	●	5.70	26.18	36.18	39.18	76.18		1.18	
OSDOH0580	●	5.80	26.20	36.20	39.20	76.20		1.20	
OSDOH0590	●	5.90	26.22	36.22	39.22	76.22		1.22	
OSDOH0600	●	6.00	26.24	36.24	39.24	76.24		1.24	
OSDOH0610	●	6.10	31.26	41.26	44.26	86.26		1.26	
OSDOH0620	●	6.20	31.28	41.28	44.28	86.28		1.28	
OSDOH0630	●	6.30	31.30	41.30	44.30	86.30		1.30	
OSDOH0640	●	6.40	31.33	41.33	44.33	86.33		1.33	
OSDOH0650	●	6.50	31.35	41.35	44.35	86.35		1.35	
OSDOH0660	●	6.60	31.37	41.37	44.37	86.37	7	1.37	
OSDOH0670	●	6.70	31.39	41.39	44.39	86.39		1.39	
OSDOH0680	●	6.80	31.41	41.41	44.41	86.41		1.41	
OSDOH0690	●	6.90	31.43	41.43	44.43	86.43		1.43	
OSDOH0700	●	7.00	31.45	41.45	44.45	86.45		1.45	
OSDOH0710	●	7.10	36.47	46.47	49.47	91.47		1.47	
OSDOH0720	●	7.20	36.49	46.49	49.49	91.49		1.49	
OSDOH0730	●	7.30	36.51	46.51	49.51	91.51		1.51	
OSDOH0740	●	7.40	36.53	46.53	49.53	91.53		1.53	
OSDOH0750	●	7.50	36.55	46.55	49.55	91.55	8	1.55	
OSDOH0760	●	7.60	36.57	46.57	49.57	91.57		1.57	
OSDOH0770	●	7.70	36.59	46.59	49.59	91.59		1.59	
OSDOH0780	●	7.80	36.62	46.62	49.62	91.62		1.62	
OSDOH0790	●	7.90	36.64	46.64	49.64	91.64		1.64	
OSDOH0800	●	8.00	36.66	46.66	49.66	91.66		1.66	
OSDOH0810	●	8.10	41.68	51.68	54.68	101.68		1.68	
OSDOH0820	●	8.20	41.70	51.70	54.70	101.70	9	1.70	
OSDOH0830	●	8.30	41.72	51.72	54.72	101.72		1.72	

P 鋼 ◎ M ステンレス鋼 ○ K 鋳物 ◎

呼び記号	在庫	外径	有効刃長	溝長	全長1	首下長	全長2	シャンク径	先端長さ	
		DC	LU	LCF	LF	LH	OAL	DCON	PL	
OSD0840	●	8.40	41.74	51.74	100	54.74	101.74	9	1.74	
OSD0850	●	8.50	41.76	51.76		54.76	101.76			1.76
OSD0860	●	8.60	41.78	51.78		54.78	101.78			1.78
OSD0870	●	8.70	41.80	51.80		54.80	101.80			1.80
OSD0880	●	8.80	41.82	51.82		54.82	101.82			1.82
OSD0890	●	8.90	41.84	51.84		54.84	101.84			1.84
OSD0900	●	9.00	41.86	51.86		54.86	101.86			1.86
OSD0910	●	9.10	46.88	56.88		59.88	106.88			1.88
OSD0920	●	9.20	46.91	56.91		59.91	106.91			1.91
OSD0930	●	9.30	46.93	56.93		59.93	106.93			1.93
OSD0940	●	9.40	46.95	56.95	59.95	106.95		1.95		
OSD0950	●	9.50	46.97	56.97	59.97	106.97	10	1.97		
OSD0960	●	9.60	46.99	56.99	59.99	106.99		1.99		
OSD0970	●	9.70	47.01	57.01	60.01	107.01		2.01		
OSD0980	●	9.80	47.03	57.03	60.03	107.03		2.03		
OSD0990	●	9.90	47.05	57.05	60.05	107.05		2.05		
OSD1000	●	10.00	47.07	57.07	60.07	107.07		2.07		
OSD01010	●	10.10	52.09	62.09	65.09	112.09		2.09		
OSD1020	●	10.20	52.11	62.11	65.11	112.11		2.11		
OSD1030	●	10.30	52.13	62.13	65.13	112.13		2.13		
OSD1040	●	10.40	52.15	62.15	65.15	112.15		2.15		
OSD1050	●	10.50	52.17	62.17	65.17	112.17	11	2.17		
OSD1060	●	10.60	52.20	62.20	65.20	112.20		2.20		
OSD1070	●	10.70	52.22	62.22	65.22	112.22		2.22		
OSD1080	●	10.80	52.24	62.24	65.24	112.24		2.24		
OSD1090	●	10.90	52.26	62.26	65.26	112.26		2.26		
OSD1100	●	11.00	52.28	62.28	65.28	112.28		2.28		
OSD1110	●	11.10	57.30	67.30	70.30	117.30		2.30		
OSD1120	●	11.20	57.32	67.32	70.32	117.32		2.32		
OSD1130	●	11.30	57.34	67.34	70.34	117.34		2.34		
OSD1140	●	11.40	57.36	67.36	70.36	117.36		2.36		
OSD1150	●	11.50	57.38	67.38	70.38	117.38	12	2.38		
OSD1160	●	11.60	57.40	67.40	70.40	117.40		2.40		
OSD1170	●	11.70	57.42	67.42	70.42	117.42		2.42		
OSD1180	●	11.80	57.44	67.44	70.44	117.44		2.44		
OSD1190	●	11.90	57.46	67.46	70.46	117.46		2.46		
OSD1200	●	12.00	57.49	67.49	70.49	117.49		2.49		
OSD1250	●	12.50	62.59	72.59	130	75.59	132.59	13	2.59	
OSD1300	●	13.00	67.69	77.69	135	80.69	137.69		2.69	
OSD1350	●	13.50	67.80	77.80	135	80.80	137.80	14	2.80	
OSD1400	●	14.00	67.90	77.90	135	80.90	137.90		2.90	
OSD1450	●	14.50	73.00	83.00	150	86.00	153.00	15	3.00	
OSD1500	●	15.00	73.11	83.11	150	86.11	153.11		3.11	
OSD1550	●	15.50	78.21	88.21	155	91.21	158.21	16	3.21	
OSD1600	●	16.00	78.31	88.31	155	91.31	158.31		3.31	
OSD1650	●	16.50	83.42	93.42	160	96.42	163.42	16.5	3.42	
OSD1700	●	17.00	83.52	93.52	160	96.52	163.52	17	3.52	
OSD1750	●	17.50	88.62	98.62	165	101.62	168.62	17.5	3.62	
OSD1800	●	18.00	93.73	103.73	170	106.73	173.73	18	3.73	
OSD1850	●	18.50	93.83	103.83	170	106.83	173.83	18.5	3.83	
OSD1900	●	19.00	98.94	108.94	175	111.94	178.94	19	3.94	
OSD1950	●	19.50	99.04	109.04	175	112.04	179.04	19.5	4.04	
OSD2000	●	20.00	104.14	114.14	180	117.14	184.14	20	4.14	

在庫有り ● / 在庫無し ○

■ 切削条件 Cutting Condition

被削材 Material to be cut	ドリル径 Drill Diameter	φ3~φ6		~φ9		~φ14		~φ20	
	条件 Condition	切削速度 (V) Cutting Speed m/min	送り量 Feed Rate mm/rev	切削速度 (V) Cutting Speed m/min	送り量 Feed Rate mm/rev	切削速度 (V) Cutting Speed m/min	送り量 Feed Rate mm/rev	切削速度 (V) Cutting Speed m/min	送り量 Feed Rate mm/rev
鑄鉄 Cast Iron FC250	内部給油タイプ Internal Coolant	60~150	0.1~0.25	70~160	0.15~0.3	60~160	0.2~0.35	90~160	0.2~0.35
	外部給油タイプ External Coolant	50~120	0.1~0.25	60~130	0.15~0.3	50~130	0.2~0.35	70~130	0.2~0.35
ダクタイル鑄鉄 Ductile Cast Iron FCD500	内部給油タイプ Internal Coolant	50~120	0.1~0.25	60~130	0.15~0.25	70~130	0.2~0.35	70~130	0.2~0.35
	外部給油タイプ External Coolant	40~100	0.1~0.25	50~120	0.15~0.25	60~120	0.2~0.35	60~120	0.2~0.35
炭素鋼 Carbon Steel S50C	内部給油タイプ Internal Coolant	60~150	0.1~0.2	70~160	0.15~0.25	80~160	0.2~0.3	90~160	0.2~0.35
	外部給油タイプ External Coolant	50~120	0.1~0.2	60~130	0.15~0.25	70~130	0.2~0.3	70~130	0.2~0.35
合金鋼 Steel Alloy SCM440	内部給油タイプ Internal Coolant	60~150	0.1~0.2	70~160	0.15~0.25	80~160	0.2~0.3	90~160	0.2~0.35
	外部給油タイプ External Coolant	50~120	0.1~0.2	60~130	0.15~0.25	70~130	0.2~0.3	70~130	0.2~0.35
ステンレス鋼 Stainless Steel SUS304	内部給油タイプ Internal Coolant	30~80	0.05~0.1	40~90	0.08~0.15	40~90	0.1~0.2	50~90	0.1~0.2
	外部給油タイプ External Coolant	25~60	0.05~0.1	30~70	0.08~0.15	30~70	0.1~0.2	40~70	0.1~0.2

※在庫品以外の特殊寸法や段付き等特殊品承ります。



Webサイト

 **三洋工具株式会社**  
SANYO TOOL MFG, Co., Ltd.  
<http://www.sanyotool.co.jp>

**本社** / 東京都品川区大崎3-6-21 ニュー大崎ビル213号 TEL.03-3490-6821 FAX.03-3490-0027  
Head Office 213 New Osaki Bldg. 3-6-21 Osaki Shinagawa-ku, Tokyo 141-0032 JAPAN Phone:+81-3-3490-6821 Fax:+81-3-3490-0027

**長野事業所** / 長野県下伊那郡高森町吉田393 TEL.0265-35-3231 FAX.0265-35-8773  
Nagano Plant 393 Yoshida, Takamori-machi, Shimoina-gun, Nagano 399-3102 JAPAN Phone:+81-265-35-3231 Fax:+81-265-35-8773

**名古屋営業所** / 愛知県名古屋市中区古渡町18-9 TSUNOKYU名古屋ビル404号室 TEL.052-339-5281 FAX.052-339-5282  
Nagoya Office 404 TSUNOKYU Nagoya Bldg. 18-9 Furuwatari-cho, Naka-ku, Nagoya-shi, Aichi 460-0025 JAPAN Phone:+81-52-339-5281 Fax:+81-52-339-5282

**大阪営業所** / 大阪府吹田市広芝町4-1 ミタカビル4F TEL.06-6310-6167 FAX.06-6310-6168  
Osaka Office 4F Mitaka Bldg. 4-1 Hiroshiba-cho, Suita-shi, Osaka 564-0052 JAPAN Phone:+81-6-6310-6167 Fax:+81-6-6310-6168